Chapter 1
Items 1-1-12 through 1-10-12
August 7, 2013.

This is one of ten documents containing those proposed changes to the A117.1 Standard, 2009 edition; for which A117.1 Committee received Ballot or Proponent Comments. Each item was discussed at the meeting of Committee during the week of July 15, 2013, in Washington D.C. The Committee took action on each proposal and such action is specified herein. The actions listed here are subject reconfirmation by the Committee via the Committee's ballot process.

Please note: This document does not contain proposals for which no comments were received. Those proposals, and the Committee decision on each one, can be viewed in the Committee Action Report (CAR) under the title: First Draft Standard Development at this following location: http://www.iccsafe.org/cs/standards/A117/Pages/default.aspx

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1-2 – 12

Committee Review of Comments and Action – July 2013

The committee concluded that the proposal was editorial in nature and has referred it to the Editorial Task Group.

1-4 – 12
102

Proposed Change as Submitted

Proponent: Edward Steinfeld, IDEA Center, School of Architecture and Planning, University at Buffalo, State University of New York

Revise as follows:

102 ~~Anthropometric~~ Provisions and Considerations. The technical criteria in this standard are based on a variety of important design technology and design considerations. These include such things as technological and economic feasibility. It is also based in part on the physical body sizes and functional abilities of adults and children so to accommodate the largest range of people possible given the current technological and economic constraints. ~~adult dimensions and anthropometrics. This standard also contains technical criteria based on children's dimensions and anthropometrics for drinking fountains, water closets, toilet compartments, lavatories and sinks, dining surfaces, work surfaces and benches.~~

Reason: The language above acknowledges the fact that the standard is based on a variety of issues that impact recommended architecture as opposed to only anthropometric considerations. As worded, the current standard is redundant (e.g., "…adult dimensions and anthropometrics…" while anthropometry does include both the measurement and analysis of physical and functional body dimensions). The new language is more accurate.

102-STEINFELD.doc

Staff note: The original publication incorrectly showed the proposal. Not all the new proposed text was shown as underlined. The version shown above is correct with respect to all new text being underlined.

Committee Action

Disapproved

Committee Reason: The Committee objected to the vagueness introduced by the text of this proposal. A key concern is that the Standard is a minimum standard for design and construction of accessible facilities. The language of the proposal would imply that they are mere 'suggestions' to be considered.

Ballot Comments

1-4.1
Commenter: Gene Boecker, Representing NATO
Ballot: Affirmative with comment:

Comment: While I agree with the basis for the vote, the current "laundry list" of "drinking fountains, water closets, toilet compartments, etc." could be eliminated. It has the potential for omitting something important. Anthropomorphic dimensions apply to practically everything in the standard.

1-4.2
Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Depending on the resolution of the changes to sizes used in the standard, this section should be re-thought. I agree with it not changing until this process is resolved.

1-4.3

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: The problem identified by the proponent has not been addressed. Propose re-wording.

Proponent Comment

1-4.4

Commenter: Edward Steinfeld, Representing RESNA

Alternative Proposal:

102 Human Factors ~~Anthropometric~~ Provisions. The technical criteria in this standard are based on body sizes and functional abilities of adults and, in some sections, children. They provide minimum conditions of accessibility. ~~adult dimensions and anthropometrics. This standard also contains technical criteria based on children's dimensions and anthropometrics for drinking fountains, water closets, toilet compartments, lavatories and sinks, dining surfaces, work surfaces and benches.~~

Reason: I agree with the reason for disapproval however, it does not address the basis for the proposal, which suggests that the need for a revision is still valid. The reason for the proposal is to correct the mistake in the language, implying that the criteria are solely based on anthropometry, which is not the case. On one hand, there are other human performance issues that are addressed in the standard, including perception, biomechanics and cognition. Moreover, as it is, it gives the impression to designers that by following the standards, everyone with a disability is accommodated. Again, this is not the case. Economics and other design factors play a role in the development of the criteria. Thus, I offer this alternative revision for consideration.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The committee found the reasoning provided in Comment 1-4.4 compelling and concluded that the revised proposal should be included in the next standard. The discussion also included concerns that the term 'anthropometric' had meaning in legal circles and it was better to not use the term in the standard. The laundry list of elements was found to be unneeded. Concerns raised in other comments are addressed by the accepted text.

Modification

102 Human Factors ~~Anthropometric~~ Provisions. The technical criteria in this standard are based on body sizes and functional abilities of adults and, in some sections, children. They provide minimum conditions of accessibility. ~~adult dimensions and anthropometrics. This standard also contains technical criteria based on children's dimensions and anthropometrics for drinking fountains, water closets, toilet compartments, lavatories and sinks, dining surfaces, work surfaces and benches.~~

1-5 – 12
104.2

Proposed Change as Submitted

Proponent: Kimberly Paarlberg, International Code Council

Delete and substitute as follows:

~~**104.2 Dimensions.** Dimensions that are not stated as "maximum" or "minimum" are absolute. All dimensions are subject to conventional industry tolerances.~~

104.2 Dimension tolerances. All dimensions are subject to conventional industry tolerances except where the requirement is stated as a range with specific minimum and maximum end points.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

Many people find the existing language confusing. Is 34" maximum absolute? Or is 16" to 18" absolute? Are the absolute dimensions (ranges) also subject to industry tolerances? The proposed language is very similar to ADA.

104.2 #1-PAARLBERG.doc

Committee Action

Approval as Modified

Modification

104.2 Dimension tolerances. All dimensions are subject to conventional industry tolerances except where the requirement ~~is stated~~ as a range with ~~specific~~ stated minimum and maximum end points.

Committee Reason: The Committee felt that the proposed statement on tolerances was clearer, provided amended as shown and approved by the Committee.

Ballot Comments

1-5.1
Commenter: Marsha K. Mazz, Representing ATBCB
Ballot: Affirmative with comment:

Comment: There is a grammatical error in the CAR; the modification should read:

Revise as follows:

104.2 Dimension tolerances. All dimensions are subject to conventional industry tolerances except where the requirement is ~~stated as~~ a range with specific stated minimum and maximum end points.

1-5.2
Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Slight correction for correct English.

Revise as follows:

104.2 Dimension tolerances. All dimensions are subject to conventional industry tolerances except where the requirement is ~~stated as~~ a range with ~~specific~~ stated minimum and maximum end points.

1-5.3

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Affirmative with comment:

Comment: While this proposal does eliminate dimensional tolerances in some circumstances, they are still subject to interpretation where absolute. The standard should provide guidance.

1-5.4

Commenter: Gina Hilberry, representing United Cerebral Palsy
Ballot: Negative with comment:

Comment: Would recommend that it read: ". . . except where the requirement is a range with specified minimum and maximum end points," Not "where the requirement as a range . . ."

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments

Committee Reason: Most of the comments focused on awkwardness of the sentence in the original version approved by the committee. It was concluded that the revision provided in Comment 1-5.2 best reflected the committee's intent.

Modification

104.2 Dimension tolerances. All dimensions are subject to conventional industry tolerances except where the requirement is ~~stated as~~ a range with ~~specific~~ stated minimum and maximum end points.

1-7– 12
104.2(NEW)

Proposed Change as Submitted

Proponent: Kimberly Paarlberg, International Code Council

Add new text as follows:

104.2. Calculation of Percentages. Where the required number of *elements* or *facilities* to be provided is determined by calculations of ratios or percentages and remainders or fractions result, the next greater whole number of such *elements* or *facilities* shall be provided. Where the determination of the required size or dimension of an *element* or *facility* involves ratios or percentages, rounding down for values less than one half shall be permitted.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

Scoping provisions typically require you to always round up, however, this idea of addressing rounding is in the ADA.

104.2 #2-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The proposal is addressing scoping issues and not accessible design standards, therefore it doesn't belong in the Standard.

Ballot Comments

1-7.1
Commenter: Todd Andersen
Ballot: Negative with comment:

Comment: The committee threw out the baby with the bath water. Yes, the first sentence was about scoping, but the second sentence belongs in our document and will help forestall many di minimus instances of noncompliance from becoming complaints.

1-7.2
Commenter: Marsha K. Mazz, Representing
Ballot: Negative with comment:

Comment: The committee's reason for disapproval is that the proposal addresses scoping, not relevant to this standard. However, the second sentence addresses dimensions, effectively providing a dimensional tolerance for accessible elements specified in terms of percentages e.g. slope and cross slope. For this reason, we propose to modify the proposal to retain the second sentence as follows:

Revise as follows:

104.2 Calculation of Percentages. Where the determination of the required size or dimension of an *element* or *facility* involves ratios or percentages, rounding down for values less than one half shall be permitted.

1-7.3

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: While the A117.1 does not typically work with numbers, it does address slope. The committee should consider the proposal for just that sentence. This might address some of the concerns dealing with construction tolerances. This would partially coordinate with ADA.

Revise as follows:

104.2 Calculation of Percentages. ~~Where the required number of *elements* or *facilities* to be provided is determined by calculations of ratios or percentages and remainders or fractions result, the next greater whole number of such *elements* or *facilities* shall be provided.~~ Where the determination of the required size or dimension of an *element* or *facility* involves ratios or percentages, rounding down for values less than one half shall be permitted.

Proponent Comment

1-7.4

Proponent: Kim Paarlberg, Representing ICC

Revise the proposal as follows:

104.2 Calculation of Percentages. ~~Where the required number of *elements* or *facilities* to be provided is determined by calculations of ratios or percentages and remainders or fractions result, the next greater whole number of such *elements* or *facilities* shall be provided.~~ Where the determination of the required size or dimension of an *element* or *facility* involves ratios or percentages, rounding down for values less than one half shall be permitted.

Reason: While the A117.1 does not typically work with numbers, it does address slope. The committee should consider the proposal for just that sentence. This might address some of the concerns dealing with construction tolerances. This would partially coordinate with ADA.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The committee concluded based on the comments that the second sentence of the original proposal has merit and doesn't include the issue of scoping which is found in the first sentence. Based on many of the comments a revised proposal was accepted.

Modification

Replace the original proposal as follows:

104.2 Calculation of Percentages. Where the determination of the required size or dimension of an *element* or *facility* involves ratios or percentages, rounding down for values less than one half shall be permitted.

1-8 – 12
105.2.1, 105.2.2, 105.2.4, 105.2.6, 105.2.8

Proposed Change as Submitted

Proponent: Kimberly Paarlberg, International Code Council

Revise as follows:

105.2.1 Manual on Uniform Traffic Control Devices: MUTCD ~~2003~~ 2009 (The Federal Highway Administration, Office of Transportation Operations, Room 3408, 400 7th Street, S.W., Washington, DC 20590).

105.2.2 National Fire Alarm Code: NFPA 72 ~~2007~~ 2010 (National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02269-9101).

105.2.4 Power Operated Pedestrian Doors: ANSI/ BHMA A156.10 ~~2005~~ 2011(Builders Hardware Manufacturers' Association, 355 Lexington Avenue, 15th Floor, New York, NY 10017).

105.2.6 Safety Standard for Platform Lifts and Stairway Chairlifts: ASME A18.1 ~~2005~~ 2008(American Society of Mechanical Engineers International, Three Park Avenue, New York, NY 10016-5990).

~~**105.2.8 Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment** ASTM F 1292-99. (ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428-2959).~~

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The latest versions of standard should be referenced unless there is a specific reason not to update. There should not be earlier editions of a standard referenced. Section 105.2.8 lists an earlier edition of a standard also listed in Section 105.2.9.

The revisions shown above are based the current editions of these standards listed in the 2012 *International Building Code*. Staff will determine for the August 2012 Committee meeting if other standards listed in Section 105.2 have more current editions

105.2-PAARLBERG.doc

Committee Action

Approval as Modified

Modification

105.2.2 National Fire Alarm and Signaling Code: NFPA 72 ~~2007~~ 2010 (National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02269-9101).

105.2.6 Safety Standard for Platform Lifts and Stairway Chairlifts: ASME A18.1- ~~2008~~ 2011(American Society of Mechanical Engineers International, Three Park Avenue, New York, NY 10016-5990).

Staff Note: *The modifications are simply to provide correct title for NFPA 72 and to change ASME A18.1 to reference the 2011 edition of the standard.*

Committee Reason: The Standard needs to reference the most up to date of the listed standards.

Ballot Comments

1-8.1

Commenter: Kevin Brinkman, Representing AEMA
Ballot: Negative with comment:

Comment: Section 105.2.6. Safety Standard for Platform Lifts and Stairway Chairlifts should be updated to ASME A18.1 – 2011 which is the latest edition in print. I have attached a separate sheet outlining the changes from 2008 to 2011.

Committee Review of Comments and Action – July 2013

Approval as Modified.

Committee Reason: The author of comment 1-8.1 realized that his concern had been included in the original committee action to approve 1-8-12 as modified. The committee reconfirmed its original action to approve as modified.

1-10 – 12
106.5

Proposed Change as Submitted

Proponent: Ed Roether, representing the ADA/A117 Harmonization Task Group

Revise or add the following definitions:

106.5 Defined terms

assembly area. A *building* or *facility*, or portion thereof, used for the purpose of entertainment, worship, educational or civic gatherings, or similar purposes. For the purposes of these requirements, *assembly areas* include, but are not limited to, classrooms, lecture halls, courtrooms, public meeting rooms, public hearing rooms, legislative chambers, motion picture houses, auditoria, theaters, playhouses, dinner theaters, concert halls, centers for the performing arts, amphitheaters, arenas, stadiums, grandstands, or convention centers.

assistive listening system (ALS). An amplification system utilizing transmitters, receivers, and coupling devices to bypass the acoustical *space* between a sound source and a listener by means of induction loop, radio frequency, infrared, or direct-wired equipment.

space. A definable area, such as a room, toilet room, hall, *assembly area*, *entrance*, storage room, alcove, courtyard, or lobby.

transition plate. A sloping pedestrian walking surface located at the ends of a *gangway*.

vehicular way. A route provided for vehicular traffic, such as in a street, driveway, or parking *facility*.

Reason: The ADA/A117 Harmonization Task Group (HTG) was created as a task group of the A117.1 Committee to compare the 2010 ADA with the 2009 A117.1 Standard. The HTG has recommend a series of changes through a set of change proposals. The HTG is recommending changes, for the most part, address where the ADA was viewed as more stringent than the A117. Where the A117 contained provisions not addressed in the ADA, these were not considered a conflict needing action to amend the A117. In addition there are a number of places where the ADA and A117.1 are different as a result of specific actions, by the A117.1 Committee during the development of the 2009 edition, to remain or create a difference where, in the judgment of the committee the ADA was deficient.

Definitions: These definitions are contained in the 2010 ADA but are not in the A117.1, or not in the way. The terms are used and the definitions will assist the users.

106.5-ROETHER.doc

Committee Action

Approval as Modified

Modification

106.5 Defined terms

assembly area. A *building* or *facility*, or portion thereof, used for the purpose of entertainment, worship, educational or civic gatherings, or similar purposes. For the purposes of these requirements, *assembly areas* include, but are not limited to, classrooms, lecture halls, courtrooms, public meeting rooms, public hearing rooms, legislative chambers, ~~motion picture houses~~ cinemas, auditoria, theaters, playhouses, dinner theaters, concert halls, centers for the performing arts, amphitheaters, arenas, stadiums, grandstands, or convention centers.

assistive listening system (ALS). An amplification system utilizing transmitters, receivers, and coupling devices to bypass the acoustical *space* between a sound source and a listener by means of induction loop, radio frequency, infrared, or direct-wired equipment.

space. A definable area, such as a room, toilet room, hall, *assembly area*, *entrance*, storage room, alcove, courtyard, or lobby.

transition plate. A sloping pedestrian walking surface located at the ends of a *gangway*.

vehicular way. A route provided for vehicular traffic, such as in a street, driveway, or parking *facility*.

Committee Reason: The terms are defined as shown in the ADA 2010. The committee modernized the term from 'motion picture houses' to 'cinemas'.

Ballot Comments

1-10.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Section 802.10.4 deals with spaces utilized primarily for viewing motion picture projection. To make it clear that these areas are considered an assembly area, they should be added to the list. If you want to keep the modification to have cinemas instead of motion picture houses approved by the committee, that is okay too.

In addition, the IBC does pick up religious facilities. Since the assembly criteria is applicable to them, then should be included in this list. The committee could also choose to add the definition in the IBC, or just use the definition in the IBC.

Further revise as follows:

assembly area. A *building* or *facility*, or portion thereof, used for the purpose of entertainment, worship, educational or civic gatherings, or similar purposes. For the purposes of these requirements, *assembly areas* include, but are not limited to, classrooms, lecture halls, courtrooms, public meeting rooms, public hearing rooms, legislative chambers, cinemas, spaces utilized for viewing motion picture projections, auditoria, theaters, playhouses, dinner theaters, concert halls, centers for the performing arts, amphitheaters, arenas, stadiums, grandstands, places of religious worship or convention centers.

Place of religious worship. A building or a portion thereof intended for the performance of religious services.

(Portions of proposal not shown remain unchanged)

1-10.2

Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: The definition for vehicular way does not appear to coordinate with what is proposed by the public right-of-way provisions. Vehicular way is currently used in 502.4.1 and 503.3.1. My concern is the new proposal from the raised route from site arrival points to accessible entrances.

Further revise as follows:

vehicular way. A route provided for vehicular traffic, such as in a street, driveway, or parking *facility*.

(Portions of proposal not shown remain unchanged)

From federal document - Public Right-of-Way. Public land or property, usually in interconnected corridors, that is acquired for or dedicated to transportation purposes.

1-10.3

Commenter: David S. Collins, Representing AIA
Ballot: Negative with comment:

Comment: This definition of assembly conflicts with the definition of assembly in the IBC. “Assembly Group A occupancy includes, among others, the use of a building or structure, or a portion thereof, for the gathering of persons for purposes such as civic, social or religious functions; recreation, food or drink consumption or awaiting transportation.” A definition shouldn’t include a list of specific types of facilities that will tend to limit the application of the standard. The IBC includes a list of 33 such distinct function areas such as bowling alleys that are not included in this list.

Proponent Comments

1-10.4

Commenter: Ed Roether, representing the ADA/A117 Harmonization Task Group

Further revise the proposal as follows:

assembly area. A *building* or *facility*, or portion thereof, used for the purpose of entertainment, worship, educational or civic gatherings, or similar purposes. For the purposes of these requirements, *assembly areas* include, but are not limited to, classrooms, lecture halls, courtrooms, public meeting rooms, public hearing rooms, legislative chambers, ~~cinemas~~, spaces utilized for viewing motion picture projections, auditoria, theaters, playhouses, dinner theaters, concert halls, centers for the performing arts, amphitheaters, arenas, stadiums, grandstands, or convention centers.

(Portions of proposal not shown remain unchanged)

Reason: Section 802.10.4 deals with spaces utilized primarily for viewing motion picture projection. To make it clear that these areas are considered an assembly area, they should be added to the list. If you want to keep the modification to have cinemas instead of motion picture houses approved by the committee, that is okay too.

1-10.5

Commenter: Ed Roether, representing the ADA/A117 Harmonization Task Group

Further revise the proposal as follows:

assembly area. A *building* or *facility*, or portion thereof, used for the purpose of entertainment, worship, educational or civic gatherings, or similar purposes. For the purposes of these requirements, *assembly areas* include, but are not limited to, classrooms, lecture halls, courtrooms, public meeting rooms, public hearing rooms, legislative chambers, cinemas, auditoria, theaters, playhouses, dinner theaters, concert halls, centers for the performing arts, amphitheaters, arenas, stadiums, grandstands, places of religious worship or convention centers.

Place of religious worship. A building or a portion thereof intended for the performance of religious services.

(Portions of proposal not shown remain unchanged)

Reason: The IBC does includes religious facilities in assembly. Since the assembly criteria in ICC A117.1 is applicable to them, then should be included in this list. The committee could also choose to add the definition in the IBC, or just use the definition in the IBC.

1-10.6

Commenter: Ed Roether, representing the ADA/A117 Harmonization Task Group

Further revise the proposal as follows:

vehicular way. A route provided for vehicular traffic, such as in a street, or driveway, ~~or parking *facility*~~.

(Portions of proposal not shown remain unchanged)

Reason: The definition for vehicular way does not appear to coordinate with what is proposed by the public right-of-way provisions. Vehicular way is currently used in 502.4.1 and 503.3.1. My concern is the new proposal from the raised route from site arrival points to accessible entrances.

From federal document - Public Right-of-Way. Public land or property, usually in interconnected corridors, that is acquired for or dedicated to transportation purposes.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason*:* The committee considered the various comments and concluded that the definition of assembly area needed to be clarified in two ways based on comments 1-10.4 and 1-10.5. Those changes are reflected in the modified definition below. The definition of place of religious worship was added to clarify the change in the definition of assembly area. It is the same definition as found in the *International Building Code.*

Modification:

assembly area. A *building* or *facility*, or portion thereof, used for the purpose of entertainment, worship, educational or civic gatherings, or similar purposes. For the purposes of these requirements, *assembly areas* include, but are not limited to, classrooms, lecture halls, courtrooms, public meeting rooms, public hearing rooms, legislative chambers, ~~cinemas~~, spaces utilized for viewing motion picture projections, auditoria, theaters, playhouses, dinner theaters, concert halls, centers for the performing arts, amphitheaters, arenas, stadiums, grandstands, places of religious worship or convention centers.

Place of religious worship. A building or a portion thereof intended for the performance of religious services.

(The balance of Item 1-10-12 remains as originally approved by the Committee.)

Chapter 3
Items 3-1-12 through 3-31-12
August 7, 2013.

This is one of ten documents containing those proposed changes to the A117.1 Standard, 2009 edition; for which A117.1 Committee received Ballot or Proponent Comments. Each item was discussed at the meeting of Committee during the week of July 15, 2013, in Washington D.C. The Committee took action on each proposal and such action is specified herein. The actions listed here are subject reconfirmation by the Committee via the Committee's ballot process.

Please note: This document does not contain proposals for which no comments were received. Those proposals, and the Committee decision on each one, can be viewed in the Committee Action Report (CAR) under the title: First Draft Standard Development at this following location: http://www.iccsafe.org/cs/standards/A117/Pages/default.aspx

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3-1 – 12
301.3 (New)

Proposed Change as Submitted

Proponent: Hope Reed, New Mexico Governor's Commission on Disability (NMGCD)

Add new text as follows:

301.3 Children's Standards. Children standards are provided as exceptions to adult standards in order to provide facilities for children's use. Where children are the primary user group children's standards can be applied. The specifications of the chosen age group shall be applied consistently in the area, room, or space.

Reason: Provide a clear statement for application of children's standards. Standards must be written to 'support' those who are expected to enforce those standards.

301.3 (New)-REED.doc

Committee Action

Disapproved

Committee Reason: This proposal was considered in conjunction with other proposal regarding children's standards. There was even an attempt to modify this proposal. The Committee remains concerned that putting children's standards in the Standard will result in confusion in application unless it is done with very clear direction in the adopted text. The term 'primary user' is troubling and the issue of overlapping age groups which often use the same facility.

BALLOT COMMENTS

3-1.1
Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: Consider approving this with the second sentence is stricken. This eliminates the concern over the "primary" age group. It will allow children's fixtures to be counted as part of the overall accessible elements. Of importance is the third sentence that states that the intent is to apply the age group throughout the area - preventing the "cherry-picking" which could be allowed as the rules are presently written.

Committee Review of Comments and Action – July 2013

Disapproved.

***Committee Reason**:* While there was support among committee members for the standard to include a statement regarding the use of the children's design values, the committee could not reach consensus on appropriate text. In addition, it was expressed that such text would be more appropriate to Chapter 1.

3-2 – 12
302.1, 303.1

Proposed Change as Submitted

Proponent: Ed Roether, representing the ADA/A117 Harmonization Task Group

Revise as follows:

302.1 General. Floor surfaces shall be stable, firm, and slip resistant, and shall comply with Section 302. Changes in level in floor surfaces shall comply with Section 303.

EXCEPTIONS:

1. Within animal containment areas not exempted by Section 1101.2.1, floor and ground surfaces shall not be required to be stable, firm, and slip resistant.

2. Within areas of sports activity exempted in Chapter 11, the floor and ground surfaces shall not be required to comply with this section.

303.1 General. Changes in level in floor surfaces shall comply with Section 303.

EXCEPTIONS:

1. Animal containment areas not exempted by Section 1101.2.1 shall not be required to comply with this section.

2. Within areas of sports activity exempted in Chapter 11, the changes in level shall not be required to comply with this section.

Reason: The ADA/A117 Harmonization Task Group (HTG) was created as a task group of the A117.1 Committee to compare the 2010 ADA with the 2009 A117.1 Standard. The HTG has recommend a series of changes through a set of change proposals. The HTG is recommending changes, for the most part, address where the ADA was viewed as more stringent than the A117. Where the A117 contained provisions not addressed in the ADA, these were not considered a conflict needing action to amend the A117. In addition there are a number of places where the ADA and A117.1 are different as a result of specific actions, by the A117.1 Committee during the development of the 2009 edition, to remain or create a difference where, in the judgment of the committee the ADA was deficient.

The changes reflect new ADA provisions not in A117. Provides clarity and coordination with exceptions found in Chapter 11.

302.1-ROETHER.doc

Committee Action

Approved

Committee Reason: Provides better reference to provisions contained in Chapter 11. Provides consistency with the ADA 2010.

BALLOT COMMENTS

3-2.1
Commenter: Edward Steinfeld, Representing RESNA
Ballot: Affirmative with comment:

Comment: Refer to editorial committee: This should not be in building blocks section. Chapter 11 should address this, stating that these specific areas shall not be required to comply with 302.1 and 303.1

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: After consideration of the comment, the committee sustained its original action to approve the proposed text in the current location for consistency with the ADA.

3-3 – 12
302.1

Proposed Change as Submitted

Proponent: Russell Kendzior, The National Floor Safety Institute (NFSI), representing NFSI and the ANSI B101 Committee on slip, trip and fall prevention

Revise as follows:

302.1 General. Floor surfaces shall be stable, firm, and ~~slip resistant,~~ High-Traction, and shall comply with Section 302. Changes in level in floor surfaces shall comply with Section 303.

Reason: - Per ANSI/NFSI B101.1-2009 (wet SCOF) or ANSI/NFSI B101.3-2012 (wet DCOF)

The term slip-resistant is not defined within the A117.1 standard nor is the term adequately defined in any other national standard (ANSI, ASTM, NFPA, etc.) and because of such has been the source of great confusion for both property owners as well as pedestrians and should be removed from the revised A117.1 standard. Prior to 2009, there was no nationally recognized test method by which a property owner can perform as to confirm the slip resistance of their accessible routes/walkways making it difficult to actually insure that such routes/walkways were in compliance with the slip resistant requirement set forth by the A117.1 standard.

In 2009 the ANSI B101 "committee on slip, trip and fall prevention" published a new standard, which addresses this very issue. The ANSI/NFSI B101.1-2009 standard and the recently published ANSI/NFSI B101.3-2012 standards have replaced the term slip resistant with that of "High-Traction" to which both standards provide a specific test method, wet SCOF and DCOF respectively, as well as a table to which the resultant data is defined by one of three "Traction Ranges" to which the High-Traction range provides the highest level of slip resistance and the least level of risk for a slip-and-fall event.

The replacement of the term slip resistant with High-Traction provides clarity to the user of the A117.1 standard and will serve to harmonize the A117.1 standard with that of the newly released ANSI standards.

302.1-KENDZIOR.doc

Committee Action

Disapproved

Committee Reason: The Committee had a number of concerns regarding the proposal and the potential to reference the standards referenced in the proponent's Reason statement. The term 'high-traction' was not defined in the proposal. Without definition, application would be unclear. There is concern that the standards may allow only one test method and the testing doesn't result in replicable results. The Committee was concerned about the enforceability of the standard in the field. There were questions regarding how this affected persons with different disabilities. Finally there was concern that there lacked consensus in the industry of these materials and the testing of slip resistance, and that such should be resolved before a proposal focusing on one method be brought before the A117.1 Committee.

Staff note: The proponent's intent to have the NSFI standards referenced in the A117.1 standard was unclear to staff, therefore the standards were not provided to the Committee members for their consideration. If the proponent seeks reconsideration of their proposal, the materials appropriate to their reconsideration will be made available.

Proponent Comment

3-3.1
Commenter: Russell Kendzior, The National Floor Safety Institute (NFSI), representing NFSI and the ANSI B101 Committee on slip, trip and fall prevention

Reason: I would like to submit a comment on section 3.3-12 of the proposed revision of the ICC A117.1-2015 standard. As you know we had submitted comments on the same section and had spoken at the August 27-31 ICC A117.1 meeting in D.C. It is my understanding that the ICC A117.1 committee chose not to adopt our recommendation to replace the term "slip resistant" with the term "High-Traction" as used within the published ANSI/NFSI B101 standards based on the following two points:

(a.) Although we had forwarded the ANSI B101 standards which now define and use the term High-Traction, the committee had not received them in advance of the August meeting and therefore were not comfortable with making the recommended to change the current language and

(b.) the A117 committee felt that our recommendation should be presented to the ICC/IBC first.

We firmly believe that our recommendation to change the terms be re-reconsidered and adopted by the ICC A117.1 committee based on the fact that all of the new ANSI B101 standards no longer use the term slip resistant and now use the term high-traction to define the slip resistance requirements of walkways and if unchanged, the revised A117.1 standard will serve to both contradict and confuse the reader of the ICC A117.1 standard as to the current walkway safety requirements. In short, the phase slip-resistant is undefined and incapable of being measured and therefore is an ambiguous and somewhat meaningless term that does not protect those with a disability while the term High-Traction is well defined, capable of measurement and provides a better understanding as to the level of slip resistance required to insure safe ambulation for those with or without a disability.

As of date there are five published American National Standards which use the term High-Traction in lieu of slip resistant to which we are requesting that the ICC A117 committee reconsider their decision and replace the phase slip resistant with the term high-traction in section 302.1 "General" of the proposed revision of the ICC A117.1-2015 standard. We are further requesting that in an effort to assist the user of the revised ICC A117.1-2015 standard that the committee agree to provide a reference to the following approved ANSI standards in the appendix of the revised ICC A117.1-2015 standard each of which uniformly use the term high-traction. I am enclosing .pdf copies of each standard to which you are granted permission to distribute to the members of the committee.

ANSI/NFSI B101.0 Walkway Surface Auditing Procedure for the Measurement of Walkway Slip Resistance

ANSI/NFSI B101.1 Test Method for Measuring Wet SCOF of Common Hard-Surface Floor Materials

ANSI/NFSI B101.3 Test Method for Measuring Wet DCOF of Common Hard-Surface Floor Materials (Including Action and Limit Thresholds for the Suitable Assessment of the Measured Values)

ANSI/NFSI B101.5 Standard Guide for Uniform Labeling Method for Identifying the Wet Static Coefficient of Friction (Traction) of Floor Coverings, Floor Coverings with Coatings, and Treated Floor Coverings

ANSI/NFSI B101.6 Standard Guide for Commercial Entrance Matting in Reducing Slips,Trips and Falls.

Please note that we intend to present the same recommendation to the ICC when the IBC comes up for renewal in 2016 and intend to present our make another presentation at the July 15-19 ICC 117.1 meeting.

STAFF NOTE: Mr. Kendizor's supporting documentation can be viewed under the Agendas tab; July 15-19, 2013; Supporting Documentation at the following link: http://www.iccsafe.org/cs/standards/A117/Pages/default.aspx

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Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee reconfirmed its earlier disapproval of the item. The proponent failed to provide any modification which would address the committee's earlier concerns. He stated that the term is defined in the standard, yet his proposal doesn't provide text for inclusion in the A117.1 standard which would reference the new standards.

3-4 – 12
303.3

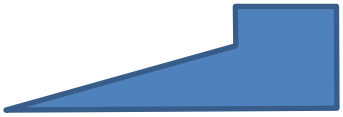
Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

Add a new figure which is similar to the existing figure (a). Have the new figure show that the bottom ¼ inch can be beveled and that the ¼ inch vertical change of elevation can be at the top of the figure.

Similar to this configuration.



Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The addition of a third figure may help eliminate some questions that have been received regarding the correct application of the change in level requirements. This type of arrangement with the beveled portion of the level change in the lower ¼ inch and the ¼ inch vertical portion located in the upper portion of the ½ inch maximum level change corresponds to what is used for most thresholds.

When reading the text of Section 303.3 it indicates that "Changes in level greater than ¼ inch in height and not more than ½ inch maximum in height shall be beveled. Unfortunately that language is sometimes being interpreted to limit the ¼ inch vertical change to being the bottom or first change and not allowing the vertical change to occur between the height of ¼ and ½ inches from the floor.

Providing this new configuration will show that the ¼ inch vertical is permitted at any point in the ½ inch level change. Unfortunately I have also received calls which indicate that Sections 303.2 and 303.3 cannot be combined [as shown in Figure 303.3(a)] and that Section 303.3 requires any level change which is greater than ¼ inch in height to be done only by a beveled slope.

While we will never eliminate all potential bad interpretations, showing the various options will eliminate most confusion and debate.

If the committee would prefer to change the text of the standard, an option would be as follows.

> **303.3.1 Beveled and vertical change.** Changes in level not more than ½ inch (13 mm) maximum in height shall be permitted to be done by a combination of a beveled change complying with Section 303.3 and vertical change complying with Section 303.2. The vertical change may occur at any location within the ½ inch maximum height that is allowed by Section 303.3.

I don't believe a change in text is needed and would probably prefer that the committee did not take this option.

303.3(FIGURE)-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The Committee concluded that the proposed figure doesn't reflect the intent of the section. The provisions should not be interpreted to reach this conclusion. Such a figure would encourage misunderstanding of the standard.

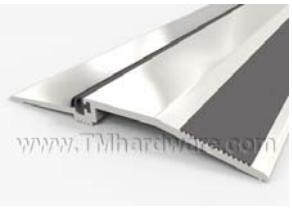
BALLOT COMMENTS

3-4.1
Commenter: Kimberly Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: As the standard currently is worded, I do not believe there is anything which prohibits the 1/4 inch vertical rise from occurring at the top portion of the 1/2 inch level change. However, given the committee's reason statement it appears as if they believe otherwise. If the committee truly believes the addition of a figure or the proposed alternate text does not reflect the intent of the section, then they should make an effort to clarify the requirement. It would provide better guidance to manufacturers so they are aware of the committee's opinion on this issue and can eliminate many of the existing products currently on the market and available for use at level changes on an accessible route.

The various sections and photos shown are a quick example of the types of thresholds which comply with the standard's current 1/2 inch maximum level change (Section 303.3) as well as the requirement that the maximum vertical change is 1/4 inch (Section 303.2).

To help further illustrate the need for the clarification the proposed alternate text can provide, the committee should reread Sections 303.2 and 303.3 as the separate sections they are. Sometimes trying to read the standard in a literal fashion or trying to see how it can be read incorrectly will help to identify problems. Taken separately and in a literal way, the current Figure 303.3(a) which shows a condition similar to the use of a bull-nose tile should be eliminated from the standard since it does not show a beveled level change and is allowing the use of Sections 303.2 and 303.3 to a single level change. If Section 303.3 is to be "properly" or literally applied it would require the entire level change to be beveled when the total height of the level change is greater than 1/4 inch and less than 1/2 inch. Therefore the committee should create additional language such as the proposed Section 303.3.1 to indicate that 303.2 either can or cannot be combined with Section 303.3 and in which order they are to be applied.



3-4.2

Commenter: Michael Tierney, Representing BHMA
Ballot: Negative with comment:

Comment: I am voting in opposition to the committee disapproval and reasoning. The wording in the current paragraph 303.3 allows for the configuration proposed by Kimberly Paarlberg. As a result, hundreds of thousands of thresholds meeting that profile have been produced for over 30 years, are offered by virtually every manufacturer, and have not been reported to hinder accessibility.
There are several functions for the configuration:

- windstorm protection by sealing against wind and water
- energy conservation by reducing air infiltration
- providing latching points to secure the door

If the Committee action were allowed to stand, business owners who have complied in good faith with A117 would be required to replace existing thresholds. Further, Kim's proposed wording for 303.3.1 would eliminate the ambiguity, and "reduce the unnecessary confusion and debate". There does not appear to be any justifiable reason to reject this proposal, and a host of reasons for acceptance.

Proponent Comment

3-4.3

Commenter: Kimberly Paarlberg, Representing ICC

Replace the proposal with the following:

303 Changes in Level

303.1 General. Changes in level in floor surfaces shall comply with Section 303.

303.2 Vertical. Changes in level of 1 /4 inch (6.4 mm) maximum in height shall be permitted to be vertical.

303.3 Beveled. Changes in level greater than 1/4 inch (6.4 mm) in height and not more than 1/2 inch (13 mm) maximum in height shall comply with one of the following:

1. The change in level shall be beveled with a slope not steeper than 1:2.

2. The change in level shall be a combination of vertical change in level of ¼ inch (6.4 mm) maximum and a bevel with a slope not steeper than 1:2.

303.4 Ramps. Changes in level greater than 1/2 inch (13 mm) in height shall be ramped and shall comply with Section 405 or 406.

Reason: The current graphics allow for a vertical and beveled combination (Figure 303.3(a)). The text should specifically state this allowance. The comment submitted with the ballot explains why how this change is accomplished should not make any difference. If the text is accepted, there should be an additional figure to allow for the bevel first and the change in elevation 2nd.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The committee debated the issue extensively because some perceived there to be an issue with the current text and others felt the current text was not 'broken'. The final consensus was that text should be added to the code that clearly stated the arrangement of vertical and bevel elements in a change of level. Based on the text in Comment 3-4.3, and order was established by changing the proposal such that the vertical change was below the bevel in a combination change of level.

Modification

303 Changes in Level

303.1 General. Changes in level in floor surfaces shall comply with Section 303.

303.2 Vertical. Changes in level of 1 /4 inch (6.4 mm) maximum in height shall be permitted to be vertical.

303.3 Beveled. Changes in level greater than 1/4 inch (6.4 mm) in height and not more than 1/2 inch (13 mm) maximum in height shall comply with one of the following:

1. The change in level shall be beveled with a slope not steeper than 1:2.
2. The change in level shall be a combination of vertical change in level of ¼ inch (6.4 mm) maximum below a bevel with a slope not steeper than 1:2.

3-5 – 12
304.2, 305.2, 404.2.3.1, 404.2.4, 405.4, 405.7.1, 502.5, 503.4, 504.4, 802.2,

Proposed Change as Submitted

Proponent: Ed Roether, representing the ADA/A117 Harmonization Task Group

Revise as follows:

304 Turning Space

304.2 Floor Surface. Floor surfaces of a turning space shall have a slope not steeper than 1:48 and shall comply with Section 302. Changes in level exceeding that permitted by Section 303.3 are not permitted within the turning space.

~~**EXCEPTION:** Slopes not steeper than 1:48 shall be permitted.~~

305 Clear Floor or Ground Space

305.2 Floor Surfaces. Floor surfaces of a clear floor space shall have a slope not steeper than 1:48 and shall comply with Section 302. Changes in level exceeding that permitted by Section 303.3 are not permitted within the clear floor space.

~~**EXCEPTION:** Slopes not steeper than 1:48 shall be permitted.~~

403 Walking Surfaces

403.4 Changes in Level. Changes in level shall comply with 303.

404.2 Manual doors

404.2.3.1 Floor Surface. Floor surface within the maneuvering clearances shall have a slope not steeper than 1:48 and shall comply with Section 302. Changes in level exceeding that permitted by Section 303.3 are not permitted within the maneuvering clearances.

404.2.4 Thresholds. If provided, thresholds at doorways shall be 1/2 inch (13 mm) maximum in height. Raised thresholds and changes in level at doorways shall comply with Sections 302 ~~and 303~~.

EXCEPTION: An existing or altered threshold shall be permitted to be 3/4 inch (19 mm) maximum in height provided that the threshold has a beveled edge on each side with a maximum slope of 1:2 for the height exceeding 1/4 inch (6.4 mm).

404.3 Automatic doors

404.3.3 Thresholds. Thresholds and changes in level at doorways shall comply with Section 404.2.4.

405 Ramps

405.4 Floor Surfaces. Floor surfaces of ramp runs shall comply with Section 302. Changes in level exceeding that permitted by Section 303.3 other than the running slope and cross slope are not permitted on ramp runs.

405.7.1 Slope. Landings shall have a slope not steeper than 1:48 and shall comply with Section 302. Changes in level exceeding that permitted by Section 303.3 are not permitted within the landings.

407.4 Elevator Cars

407.4.2 Floor Surfaces. Floor surfaces in elevator cars shall comply with Section 302.

408.4 LULA cars

408.4.2 Floor Surfaces. Floor surfaces in elevator cars shall comply with Section 302.

409.4 Private residence elevator cars

409.4.2 Floor Surfaces. Floor surfaces in elevator cars shall comply with Section 302.

410.2 Platform lifts

410.3 Floor Surfaces. Floor surfaces of platform lifts shall comply with Section 302.

502 Parking spaces

502.5 Floor Surfaces. Parking spaces and access aisles shall comply with Section 302 and have surface slopes not steeper than 1:48. Access aisles shall be at the same level as the parking spaces they serve. Changes in level exceeding that permitted by Section 303.3 are not permitted within the parking spaces and access aisles.

503 Passenger loading zones

503.4 Floor Surfaces. Vehicle pull–up spaces and access aisles serving them shall comply with Section 302 and shall have slopes not steeper than 1:48. Access aisles shall be at the same level as the vehicle pull–up space they serve. Changes in level exceeding that permitted by Section 303.3 are not permitted within the vehicle pull-up spaces and access aisles.

504 Stairways

504.4 Tread Surface. Stair treads shall comply with Section 302 and shall have a slope not steeper than 1:48. Changes in level exceeding that permitted by Section 303.3 are not permitted within the stair tread.

802 Wheelchair spaces

802.2 Floor Surfaces. The floor surface of wheelchair space locations shall have a slope not steeper than 1:48 and shall comply with Section 302. Changes in level exceeding that permitted by Section 303.3 are not permitted within the floor surface of wheelchair space locations.

1103 Recreational Boat Launches

1103.2.1 Boat Slips. An accessible route shall serve boat slips.

Exceptions:
8. Changes in level complying with 303.3 and 303.4 shall be permitted on the surfaces of gangways and boat launch ramps.

Reason: The ADA/A117 Harmonization Task Group (HTG) was created as a task group of the A117.1 Committee to compare the 2010 ADA with the 2009 A117.1 Standard. The HTG has recommend a series of changes through a set of change proposals. The

HTG is recommending changes, for the most part, address where the ADA was viewed as more stringent than the A117. Where the A117 contained provisions not addressed in the ADA, these were not considered a conflict needing action to amend the A117. In addition there are a number of places where the ADA and A117.1 are different as a result of specific actions, by the A117.1 Committee during the development of the 2009 edition, to remain or create a difference where, in the judgment of the committee the ADA was deficient.

Reason statement for change of level: The preceding sections are where the phrase "changes in level are not permitted" is used, or there is a specific reference to 303. The idea is to try and allow surfaces such as tile and deck boards, but not a threshold or other ¼" to ½" change in vertical surface that will be a 'hitch' in access. I included titles to help put the sections into context. There is also the issue of consistently using the 1:48 within the requirement or as an exception. Suggested revisions in legislative text are based on emails, consistency throughout for A117.1 and the Access Board advisory.

ADA Advisory 304.2 Floor or Ground Surface Exception. As used in this section, the phrase "changes in level" refers to surfaces with slopes and to surfaces with abrupt rise exceeding that permitted in Section 303.3. Such changes in level are prohibited in required clear floor and ground spaces, turning spaces, and in similar spaces where people using wheelchairs and other mobility devices must park their mobility aids such as in wheelchair spaces, or maneuver to use elements such as at doors, fixtures, and telephones. The exception permits slopes not steeper than 1:48.

304.1 Roether .docx

Committee Action

Approval as Modified

Modification

All portions of the original proposal were approved with the exception of the proposed revision to Section 405.4

Ramps.

405.4 Floor Surfaces. Floor surfaces of ramp runs shall comply with Section 302. ~~Changes in level exceeding that permitted by Section 303.3 other than the running slope and cross slope are not permitted on ramp runs.~~

Committee Reason: The proposal addresses in multiple locations the change in level language and provides consistency between the Standard and the ADA advisory regarding the text also used in the ADA 2010. The proposal affecting the ramp provisions were of concern to the Committee in that it might allow materials which would be difficult to negotiate travel across.

BALLOT COMMENTS

3-5.1

Commenter: Kimberly Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: I object only to the modification. The provisions for ramps should be consistent with all other 'level' surfaces such as parking spaces, passenger loading zones, stairways treads, floor surfaces at wheelchair spaces, etc.

3-5.2

Commenter: Gina Hilberry, Representing UCP
Ballot: Negative with comment:

Comment: This proposal inserts the phrase "Changes in level exceeding that permitted by Section 303.3 are not permitted within…." for a series of locations including turning spaces, all required clear floor spaces (305.2), door maneuvering spaces, landings, parking spaces and access aisles, treads of stairs, etc. This means that changes in level (1/4" vertical, ½" beveled will be clearly permitted at all of these locations. I do not agree that changes in level of this sort should be (or seem to be) permitted at locations such as maneuvering spaces, turning spaces, landings (e.g. at ramps) or treads of stairs.

Committee Review of Comments and Action – July 2013

Approval as Modified.

Committee Action Report on Ballot and Proponent Comments- July 15-19, 2013:
Proposals of 2012 submitted on the ICC A117.1-2009

Committee Reason: Committee members were concerned that the text allowed a threshold like change of level within various spaces we have always required to be level. On the other side, without some exception, minor changes in level caused by materials such as floor tiles would make absolutely level unachievable. Without any alternative text available to allow the standard to be consistent with the ADA, the committee reconfirmed its original approval as modified action.

3-6 – 12
304.3.1

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

304.3.1 Circular Space. The turning space shall be a circular space with a ~~60~~ 67 inch (~~1525~~ 1700 mm) minimum diameter. The turning space shall be permitted to include knee and toe clearance complying with Section 306.

Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

This increase is as recommended by the IDEA Final Report and is expected to increase the percentage of manual and power wheelchair users accommodated from 80 to 95 % and almost double the percentage of scooters served.

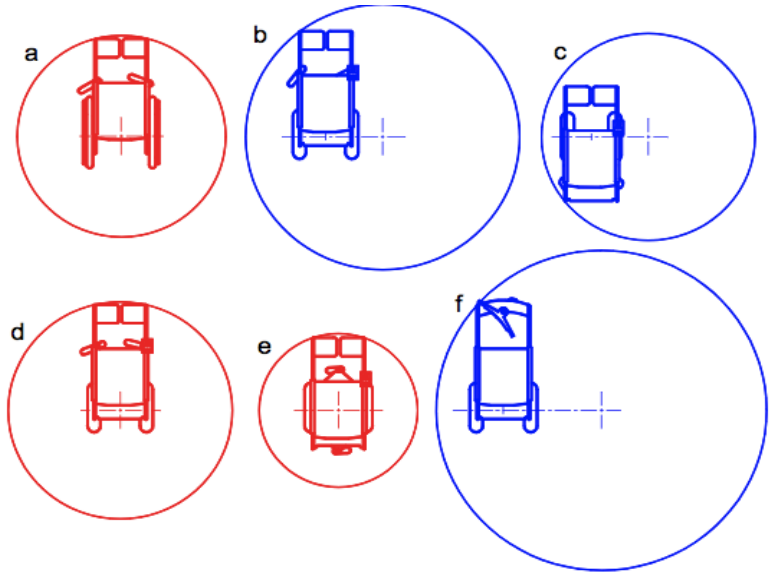
Discussion:

The IDEA team provided very helpful diagrams illustrating the 5 different 180 turns used by the subjects in the IDEA report. The Spot and Pivot turning techniques appear to need a width just a few inches greater than the diagonal of the user's wmd. The Shuffle turn uses whatever space is available though repeated short back and forth shuffles while turning around incrementally. The Three Point turn is a T turn with upraised arms. It was the Full U turn where both wheels move forward but the outside wheel moves faster that required the most width. The Pivot and Three Point turns use a 'corner'. The subjects were allowed to choose their preferred method for turning, but the IDEA report does not identify who used which technique, so a question exists as to who needs the extra space to successfully turn or to avoid excessive energy expenditure and who could function with less space than they used.

Further, we were informed that the best shape for a 180 turning space is a lozengen. The IDEA team recommended that the long dimension be 88 inches and the short dimension be 68 inches. Because the shape only works if a user enters the space through one of the short ends, a turning space that could be entered from either the long or short sides would have to be 88 inches along both sides.

In examining what design features were driving the space to be so large it became apparent that lack of differential steering in scooters and some power chairs was a major factor. Differential steering, as found in manual wheelchairs and center wheel power wheelchairs, is the ability to drive one drive wheel forward while the other goes backward. Where both wheels are driven by a common motor or direct drive transmission both wheels must go in the same direction, hence the turning radia are much larger.

From The Working Area of Wheelchairs by Johann Ziegler
This observation raises the question – should the built environment be changed to accommodate poorly designed wmds or ought those choosing poorly designed wmds be informed that their vehicle may not be well accommodated? The analogy is the parking lot at the grocery store. If you choose to drive a stretch limo, RV, bus, or other vehicle that is bigger than a typical parking space you are welcome to shop, but don't expect a parking space near the entry. Ultimately this is a political and not a technical question.



Key:
a manual wheelchair
b electrically powered wheelchair with rear wheel drive and direct steering
c electrically powered wheelchair with front wheel drive and direct steering
d electrically powered wheelchair with rear wheel drive and full differential steering
e electrically powered wheelchair with mid wheel drive and full differential steering
f electrically powered wheelchair with scooter design and direct steering

Figure 4 - Turning diameter (examples for various wheelchair types)

304.3.1-HILBERRY.doc

Committee Action

Approved

Committee Reason: The WMTG was able to bring forth 2 key proposals as a result of its review of the studies of persons using wheeled mobility devices. This is one of the proposals; the other found in 3-13-12 addresses the clear floor space. Many Committee members were unsure of approving either change without knowing the implications in the balance of the Standard. The WMTG a working decision on this proposal and 3-13-12 before considering the balance of the Standard and where additional correlating changes would be needed. Those changes developed between the August and January meetings are reflected in proposals 3-6A-12 through 3-6F-12 and 3-13A-12 through 3-13K-12.

A significant discussion was made regarding the impact a 67 inch turning circle would have on the design of dwelling units. The potential to develop exceptions for dwelling units either in this section or Chapter 10 were considered. No action as accepted by the Committee to amend 3-6-12 for dwelling units. It was pointed out in the discussion that the Type B standards do not include a turning space requirement.

The Committee discussed the growing use of powered chairs and scooters which are larger in size and have differing maneuvering capabilities. The Committee debated whether the Standard should be changed to accommodate changes in the technologies or wheeled mobility or whether the manufacturers of the devices needed to be designed equipment to work within the standard. Of concern is not just the current mix of equipment being used, but trying to anticipate what will be of use through the life of buildings being designed and built today.

The Committee recognized that increasing the base dimensions of the circular turning space and the clear floor space have space and therefore cost implications throughout a building design and the design of site features. Specifically mentioned during the debate were dwelling units, kitchens and single occupant toilet/bathrooms.

BALLOT COMMENTS

3-6.1

Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: This will have major impacts in typical small areas such as concession stands and arcade areas. In the responses I received from NATO, one individual who responded uses a wheelchair and stated that the 60" dimension is adequate for his use and it is not necessary to increase the turning space.

3-6.2

Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Negative with comment:

Comment: There has been no evidence presented that this is a necessary change and will be a burden on the public due to a 25% increase in the area required for the circular turning space. The evidence presented only addresses the wide variety of mobility devices in service today. It does not address whether the problem is in the manufacture of these mobility devices that do not conform to the current 60" diameter requirement or whether the built-environment needs to change to accommodate mobility devices that need a larger diameter and cannot be designed and manufactured in such a way as to fit within the current 60" diameter space. We don't continue to let automobile manufacturers build wider and wider autos to go on our roads… they must be built to standards that allow them to work with our current road system.

3-6.3

Commenter: Gerald Gross, Representing AHLA
Ballot: Negative with comment:

Comment: The existing turning space standards have been in existence for over 50 years. Reportedly, the AHLA has never had a complaint regarding complaint turning spaces.

The new proposed 67" turning space by IDEA will increase turning area approximately 25%.
This increase as recommended by the IDEA Final Report is expected to increase the percentage of manual and power wheelchair users accommodated from 80 to 95% and almost double the percentage of scooter served. Of the existing 2.8 million wheelchair and scooter users this calculates to an approximate increase of 220,000 occupants.

Today's technology can accommodate all non-institutional wheelchair and scooter users.
Our current standards for the built environment now accommodate 99.998% of the US population. Ideally it would be wonderful to accommodate 100% of all people with mobility disabilities however; the proposed turning diameter area and construction cost increase would be prohibitive.

3-6.4

Commenter: Dominic Marinelli, Representing USA
Ballot: Negative with comment:

Comment: Landing size at ramp's change of direction should be increased to 67" by 67" to be consistent with other changes/increases.

3-6.5

Commenter: Ronald G. Nickson, Representing NMHC
Ballot: Negative with comment:

Comment: The committee is holding proponents of proposed changes to two different levels. For items they do not agree with (changing handrail requirements) the committee disapproves changes because the study has not had a peer review. In contrast, the committee is proposing major changes to the basic buildings blocks for clear floor space based on a single study that has had no peer review. In addition, the information and data from the single study does not address the entire population and the ability and options people have in making decisions on what type of mobility devices are available. It was clearly evident during the A117.1 meeting that mobility devices with great mobility are available. I understand the dilemma, in that the less expensive mobility devices, because of design, do not have some of the mobility features of the more expensive equipment. However, the basis of the A117.1 standard should not be based on people making the incorrect decision as to what they really need for mobility in their daily needs.

Increasing the building block dimensions for wheel chair clear floor space, turning circles and other accessibility features will have a dramatic impact on the design and construction of accessibility features and may have a negative impact on the entire disabled population because of the increased costs that in turn impact the ability of the design and construction industry to provide cost effective buildings. This is most evident in affordable housing. The changes approve by the committee will increase the cost of affordable housing and impact the design and livability of each individual dwelling unit. The increased area needed for kitchen, bathrooms, hallways and other features of the dwelling unit will have to come from other rooms in the dwelling unit resulting in smaller living rooms, dining rooms and bedrooms. One alternative is to make the dwelling unit larger which means fewer dwelling units in a given size building. The other is to increase the overall size of the building. In either case the cost per unit increases

resulting in higher rents or increased subsidies. Net effect, fewer units available for the people that really need and depend on affordable housing.

3-6.6

Commenter: Steve Orlowski, Representing NAHB
Ballot: Negative with comment:

Comment: We do not agree with the committee actions to increase the building block and clear floor space as proposed in several proposed changes to the standard based upon the use of WhMD that are currently available on the market primarily designed for outside use. It is unclear as to which kind of scooters were represented in the 2010 Anthropometry Report along with manual and motorized chairs. Were they 'travel,' 'full-sized,' 'heavy duty,' or 'luxury' scooters? These are terms used by the manufacturers when selling their scooters, but since scooters can be any size—restricted only by market influences—they are important. Heavy duty and luxury scooters are marketed as primarily outdoor scooters, and their greater size and maneuverability requirements could skew the results of the Anthropometry Report significantly. NAHB disagrees with the argument that dwelling units need to accommodate mobility devices which are not designed for indoor use.

Secondly, the report does not tell us whether or not scooter owners used them inside buildings or their dwellings. If scooter use is limited to outdoors and not intended for use in public buildings, then this would suggest that dwellings should have dimensions that differ from other areas within the scope of the standard, being based on smaller WhMDs. These dimensions would include turning radius, clear floor spaces, reach ranges, etc. Making changes to the standard based on a percentage of all WhMDs tested in the report without regard as to how they are being used would be neither constructive nor responsible.

Furthermore, we are in danger of setting up a spiral of increasing dimensions. At this time we do not know whether manufacturers of WhMDs are taking the current A117.1 Standard into consideration when designing devices for indoor use. As we stated during the committee meeting, manufactures of these devices need to work within the current dimensional criteria established by the standard and not be the driver for increasing the dimensions for these poorly designed devices.

Similar to the last code cycle, the stair manufacturers brought studies trying to validate their proposed changes and were disapproved because their studies did not go out for peer review. Shouldn't this report be given the same scrutiny? These changes will significantly impact new and existing buildings that the codes require to be compliant with the referenced A117.1 standard, yet there has been no effort to correlate the findings of this report to determine how many people in the general public will be positively or negatively impacted by these increased dimensions. In addition, fair housing references the 1986 ANSI A117.1 standards as the baseline which would set up the argument that if the older reference standard is deemed a safe harbor, there will be no reason to continue maintaining this document or to reference any newer version in the building code.

Finally, the proposed increase for clear turning would dramatically decrease the usable floor space in a dwelling since you now have to increase the bathroom and kitchen spaces at the cost of other living areas. Based on the 2010 Census data more than 50% of the 2.1 million disabled persons in America are living in dwelling units that are less than 700 square feet, these increased dimensions will have a negative impact by reducing the usable space of the areas within the dwelling to accommodate for those areas that must meet the building block increases.

3-6.7

Commenter: Kimberly Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The size increase in the building blocks and accessible routes proposed by the series of changes from the Wheeled Mobility Task Group will have significant impacts on the design of buildings and facilities as well as the cost of construction. There has not been adequate study of the impact of these changes. Proto-type designs should be prepared to determine the impact of these standards. The Appendix B of the ADA, which did a series of bathrooms to show the impact of new requirements, is a wonderful example of what the Committee really needs to see in order to understand the impact of these requirements on tight spaces like bathrooms, kitchens, dressing rooms, locker rooms, configurations with 36" wide corridors or aisles, doorways in alcoves, etc. What is the impact on an residential, such as apartments, dormitories, assisted living facilities – Accessible/Type A vs. Type B units?

The proposals are further incomplete because the impact on reach ranges, especially reaching over obstructions has not been fully explored. There were conversations that aimed at eliminating allowance for use of knee and toe clearances as part of these features. If such were to happen, what again is the impact on building design?

The standards eliminate the ability to have the intersection of 36 inch wide corridors without widening one corridor or 'chamfering' the corner. The 36" wide corridor and aisle is the minimum width established by the building codes in small business occupancies, within apartments, in restaurant and theater layouts, etc. The committee has not discussed the ramifications for aisles. In addition, what are the impacts on theaters and stadiums with the change in wheelchair space size on top of the line of site requirements?

The ICC A117.1 is a minimum standard for accessibility – not a best practice or universal design standard. We question whether these new dimensions still reflect the minimum needed for accessibility. We acknowledge that certain wheeled mobility devices have larger footprints and more limited turning capability, but are we comfortable that we know the true size of the population using such devices? What is the increase of population served? Perhaps a solution would be to move these scooter and reclining/powered chair dimension into an appendix to the standard (something along the line of 'best practices') which could be selected by building designers, but not mandatory for all new buildings until this is fully understood. This might allow the industry to

evaluate the impact before the requirements become mandatory. Or to allow for the options in scoping – an example being to ask for the larger spaces in the family use/assisted use bathrooms.

While there is nothing to say that the A117.1 can't require greater access than the ADA, what are the ramifications of having the base building blocks significantly different? Would it not be better for compliance with accessibility standards for the two predominant standards in the country to be in sync for the next few years?

Finally, the ramifications of these new base standards on the remodeling of existing buildings needs to be fully considered. Are we really wanting to say buildings built under the 2012 IBC and the 2009 A117.1 standard are no longer accessible? The committee already understands the impact of just the change in reach range from 48" to 54" (Section 308.3.1 Exception). How much greater the ramification to corridors, bathrooms, etc.?

3-6.8

Commenter: Ron Burton, representing BOMA
Ballot: Negative with comment:

The committee has proposed major changes to the basic buildings blocks for clear floor space based on a single study that, as far as we can tell, has had no peer review. The samples in the study were also not correlated to the general population. We don't believe it is prudent to use data from a single study, especially one the major shortcomings mentioned above, to propose such far-reaching changes that will have extremely significant impacts throughout the construction and real estate industries. During the A117.1 meetings, we were provided information that mobility devices with less impact to building design are in fact available. The A117.1 standard should not be based on a limited field of products on the market but we should look at the characteristics of all products and how that information might influence changes to the standard. In addition, it is unclear if the 2010 Anthropometry Report was based at least in part upon wheeled mobility devices that are intended only for outdoor use. If so, the greater size and maneuverability requirements of such products could skew the results of significantly. We do not believe that all interior spaces, and especially dwelling units, need to accommodate devices which are not designed for indoor use.

Increasing the building block dimensions for wheel chair clear floor space, turning radii, turning circles and other features clearly has a dramatic impact on the design and construction of accessibility elements. We do not believe the true costs of the proposed changes have been determined, but it is fair to say that it will have significant negative impact on building design and construction, and even on those with disabilities because of the impacts on affordable housing and accessible buildings.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee reconfirmed it original approval of the 67 inch turning circle. The committee debated a proposal to relocate the collection of changes related to the wheeled mobility study and efforts of the Wheeled Mobility Task Group to a 'best practices' appendix. Many on the committee are concerned that the studies justifying the changes to the fundamental dimensions of the A117.1 standard are not sufficient. There remains concerns that the full impact on the design of buildings hasn't been sufficiently analyzed.

A majority of the committee are satisfied with the studies and the results of such studies which point to the clear need for greater minimums for turning circles and clear floor spaces. The appendix concept was rejected. Further the committee's decision reflects the long history of the A117.1 standard being the leader in accessibility and it again should lead with new base (building block) dimensions based on the needs of the communities using a variety of mobility devices.

3-6A – 12
405.7.4

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

405.7.4 Change in Direction. Ramps that change direction at ramp landings shall be ~~sized to provide a turning space complying with Section 304.3~~ 67 inches (1700 mm) minimum in width and 67 inches (1700 mm) minimum in length.

Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

Rationale for 3-6A: Addresses concern that encroachments on a minimum square turning space will obstruct turning.
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Committee Action

Disapproved

Committee Reason: The Committee preferred the action taken through the approval of Proposal 4-40-12

BALLOT COMMENTS

3-6A.1
Commenter: Kimberly Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: See comment for 3-6-12.

Ramps are part of existing accessible routes. This change would require all existing ramps to be rebuilt as part of the accessible route improvements.

3-6A.2
Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Negative with comment:

Comment: There has been no evidence presented that this is a necessary change and will be a burden on the public due to a 25% increase in the area required for the circular turning space. The evidence presented only addresses the wide variety of mobility devices in service today. It does not address whether the problem is in the manufacture of these mobility devices that do not conform to the current 60" diameter requirement or whether the built-environment needs to change to accommodate mobility devices that need a larger diameter and cannot be designed and manufactured in such a way as to fit within the current 60" diameter space. We don't continue to let automobile manufacturers build wider and wider autos to go on our roads… they must be built to standards that allow them to work with our current road system.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee sustained its first action to disapprove this change. Although it is appropriate to increase the turning circle and other turning elements, the 60 by 60 inch space for a turn in a ramp is adequate.

3-6B – 12
Table 407.4.1

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

Table 407.4.1—Minimum Dimensions of Elevator Cars

Door Location	Door Clear Opening Width	Inside Car, Side to Side	Inside Car, Back Wall to Front Return	Inside Car, Back Wall to Inside Face of Door
Centered	42 inches (1065 mm)	80 inches (2030 mm)	51 inches (1295 mm)	54 inches (1370 mm)
Side (Off Center)	36 inches (915 mm)[1]	68 inches (1725 mm)	51 inches (1295 mm)	54 inches (1370 mm)
Any	36 inches (915 mm)[1]	54 inches (1370 mm)	80 inches (2030 mm)	80 inches (2030 mm)
Any	36 inches (915 mm)[1]	60 inches (1525 mm)[2]	60 inches (1525 mm)[2]	60 inches (1525 mm)[2]

[1]A tolerance of minus 5/8 inch (16 mm) is permitted.

[2]Other car configurations that provide a 36-inch (915mm) door clear opening width and a 60 inch (1525 mm) turning space ~~complying with Section 304~~ with the door closed are permitted.

Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

Rationale for 3-6B: An elevator car that can provide a 60 inch diameter turning space with the doors closed is larger than the cars permitted by Table 407.4.1 and should still be permitted. Increasing the size to a 67 inch diameter would in all probability increase the elevator car capacity and thus increase the cost of the elevator system and related structural support of the building. There is no evidence that cars providing a 60 inch diameter are unusable to persons using larger wheeled mobility devices.

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Committee Action

Approved as Modified

[2]Other car configurations that provide a 36-inch (915mm) door clear opening width and a 60 inch (1525 mm) ~~turning~~ diameter space with the door closed are permitted.

Committee Reason: The intent is to clarify that the space within the elevator car is not specifically a turning space, but provides space to reach the controls.

BALLOT COMMENTS

3-6B.1

Commenter: Brian Black, Representing NEII
Ballot: Affirmative with comment:

Comment: The committee modification improved the proposed change as submitted.

It should be noted that the turning diameter allowance in footnote 2 is often used for non-rectangular observations elevators (see example), often installed in atria. Requiring a larger car to accommodate a 67 inch (1700 mm) turning diameter would have made these types of elevators either extremely expensive or impractical to install.

3-6B.2

Commenter: Kimberly Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Why is the committee assuming the change in size to 67" will adversely affect elevator sizes? This should be an example the full ramifications should be investigated.

3-6B.3

Commenter: Gerald Gross, Representing AHLA
Ballot: Negative with comment:

Comment: The existing turning space standards have been in existence for over 50 years. Reportedly, the AHLA has never had a complaint regarding complaint turning spaces.

The new proposed 67" turning space by IDEA will increase turning areas approximately 25%.
This increase as recommended by the IDEA Final Report is expected to increase the percentage of manual and power wheelchair users accommodated from 80 to 95% and almost double the percentage of scooter served. Of the existing 2.8 million wheelchair and scooter users this calculates to an approximate increase of 220,000 occupants.

Today's technology can accommodate all non-institutional wheelchair and scooter users.
Our current standards for the built environment now accommodate 99.998% of the US population. Ideally it would be wonderful to accommodate 100% of all people with mobility disabilities however; the proposed turning diameter area and construction cost increase would be prohibitive.

Committee Review of Comments and Action – July 2013

Approval as Modified.

Committee Reason: Consistent with its action to sustain its decision on Item 3-6-12, the committee sustained the original action on this item.

3-6C – 12
502.4.2

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

502.4.2 Width. Access aisles serving car and van parking spaces shall be ~~60~~ 67 inches (xxx mm) minimum in width.

Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

Rationale for 3-6C: This reflects our previous action changing the changing the size of a turning circle (Section 304) to 67 inches.

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Committee Action

Approved

Committee Reason: The increased size of a turning circle needs to be included in the access aisle for parking spaces. Turning around in such spaces is commonplace.

BALLOT COMMENTS

3-6C.1
Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: The exception to Section 502.2 for van stalls should be changed to reflect an access aisle width of 103 inches (96" + the additional 7" diameter of the turning space).

3-6C.2
Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: If the purpose of this is to address the 67 inch turning space, it is also important to note that the width of the accessible parking space and the width of the vehicles are not the same. The standard vehicle is generally quite a bit less than the required 96 inch parking space. There is no reason to increase the overall width of the access aisle when the adjoining space will not be obstructed to its full extent. The 67-inch dimension should still be available between vehicles without the need to increase the striping.

3-6C.3
Commenter: Ron Burton, Representing BOMA
Ballot: Negative with comment:

Comment: See reason on 3-6-12

3-6C.4

Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Negative with comment:

Comment: There has been no evidence presented that this is a necessary change and will be a burden on the public due to an increase in the area required. The evidence presented only addresses the wide variety of mobility devices in service today. It does not address whether the problem is in the manufacture of these mobility devices that do not conform to the current requirement or whether the built-environment needs to change to accommodate mobility devices that need a larger space and cannot be designed and manufactured in such a way as to fit within the current space. We don't continue to let automobile manufacturers build wider and wider autos to go on our roads… they must be built to standards that allow them to work with our current road system.

3-6C.5

Commenter: Ronald G. Nickson, Representing NMHC
Ballot: Negative with comment:

Comment: See comment for Item 3-6-12.

3-6C.6

Commenter: Steve Orlowski, Representing NAHB
Ballot: Negative with comment:

Comment: See comment for Item 3-6-12.

3-6C.7

Commenter: Kimberly Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: See comment 3-6.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee thoroughly discussed the concepts raised by the comments, specifically that because access aisles are next to parking spaces, that there is space available because vehicles don't take up the whole width of a parking space. The committee concluded that its original action was correct and that extra space on the margins can't be assumed and larger maneuvering space in access aisles is appropriate.

3-6D – 12
503.3.2

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

503.3.2 Width. Access aisles serving vehicle pull-up spaces shall be ~~60~~ 67 inches (~~1525~~ 1700 mm) minimum in width.

Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

Rationale for 3-6D: Accommodate 67 inch (1700) turning diameter.

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Committee Action

Approved

Committee Reason: Consistent with the action to approve proposal 3-6C-12.

BALLOT COMMENTS

3-6D.1
Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: Like the access aisle for parking, the passenger loading zone access aisle are defined by the location of the vehicle. Given the desired turning space, for consistency, this increase is not warranted. If it is necessary to increase this dimension, it should be based on another reason such as the loading platform extension from the vehicle.

3-6D.2
Commenter: Ron Burton, Representing BOMA
Ballot: Negative with comment:

Comment: See reason on 3-6-12

3-6D.3

Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Negative with comment:

Comment: There has been no evidence presented that this is a necessary change and will be a burden on the public due to an increase in the area required. The evidence presented only addresses the wide variety of mobility devices in service today. It does not address whether the problem is in the manufacture of these mobility devices that do not conform to the current requirement or whether the built-environment needs to change to accommodate mobility devices that need a larger space and cannot be designed and manufactured in such a way as to fit within the current space. We don't continue to let automobile manufacturers build wider and wider autos to go on our roads… they must be built to standards that allow them to work with our current road system.

3-6D.4

Commenter: Gerald Gross, Representing AHLA
Ballot: Negative with comment:

Comment: The existing turning space standards have been in existence for over 50 years. Reportedly, the AHLA has never had a complaint regarding complaint turning spaces.

The new proposed 67" turning space by IDEA will increase turning areas approximately 25%.
This increase as recommended by the IDEA Final Report is expected to increase the percentage of manual and power wheelchair users accommodated from 80 to 95% and almost double the percentage of scooter served. Of the existing 2.8 million wheelchair and scooter users this calculates to an approximate increase of 220,000 occupants.

Today's technology can accommodate all non-institutional wheelchair and scooter users.
Our current standards for the built environment now accommodate 99.998% of the US population. Ideally it would be wonderful to accommodate 100% of all people with mobility disabilities however; the proposed turning diameter area and construction cost increase would be prohibitive.

3-6D.5

Commenter: Steve Orlowski, Representing NAHB
Ballot: Negative with comment:

Comment: See comment for 3-6-12.

3-6D.6

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Same comment as 3-6-12

3-6D.7

Commenter: Ron Nickson, Representing NMHC
Ballot: Negative with comment:

Comment: See reason for proposal 3-6-12.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: Consistent with its action to sustain approval of Items 3-6-12 and 3-6C-12, the committee sustained its approval of 3-6D-12.

3-6E – 12
804.2.2

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

804.2.2 U-Shaped Kitchens. In kitchens enclosed on three contiguous sides, clearance between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas shall be ~~60~~ 67 inches (~~1525~~ 1700 mm) minimum.

Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

Rationale for 3-6E: Accommodate 67 inch (1700) turning diameter.

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Committee Action

Approved

Committee Reason: The provision applies many to kitchens other than those within a dwelling unit. There was concern over the space demands that this dimension would impose.

BALLOT COMMENTS

3-6E.1
Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: I would support a modification of the language to: Where a kitchen is enclosed on three contiguous sides, clearance between opposing base cabinets, counter tops, appliances, or walls within kitchen work areas shall be 40 inches minimum. A turning space complying with Section 304.3.1 shall be provided at the enclosed end. The modified language would result in the same configuration for square-shaped kitchens but would be comparable to pass-through kitchens for rectangular-shaped kitchens, allowing more flexibility. This also addresses the committee's concern over the space demands of the 67-inch clearance between opposing sides. This would be similar to proposal 8-8-12 (disapproved by the committee) but includes a turning space.

3-6E.2
Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Negative with comment:

Comment: There has been no evidence presented that this is a necessary change and will be a burden on the public due to an increase in the area required. The evidence presented only addresses the wide variety of mobility devices in service today. It does not address whether the problem is in the manufacture of these mobility devices that do not conform to the current requirement or whether the built-environment needs to change to accommodate mobility devices that need a larger space and cannot be designed and manufactured in such a way as to fit within the current space. We don't continue to let automobile manufacturers build wider and wider autos to go on our roads… they must be built to standards that allow them to work with our current road system.

3-6E.3

Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: Although this does not affect the NATO design needs, consistent with my vote on 3-6, if I am hearing from people who use wheelchairs that the dimension is adequate, then there is no reason to change.

3-6E.4

Commenter: Ron Burton, Representing BOMA
Ballot: Negative with comment:

Comment: See reason on 3-6-12

3-6E.5

Commenter: Gerald Gross, Representing AHLA
Ballot: Negative with comment:

Comment: The existing turning space standards have been in existence for over 50 years. Reportedly, the AHLA has never had a complaint regarding complaint turning spaces.

The new proposed 67" turning space by IDEA will increase turning areas approximately 25%.
This increase as recommended by the IDEA Final Report is expected to increase the percentage of manual and power wheelchair users accommodated from 80 to 95% and almost double the percentage of scooter served. Of the existing 2.8 million wheelchair and scooter users this calculates to an approximate increase of 220,000 occupants.

Today's technology can accommodate all non-institutional wheelchair and scooter users.
Our current standards for the built environment now accommodate 99.998% of the US population. Ideally it would be wonderful to accommodate 100% of all people with mobility disabilities however; the proposed turning diameter area and construction cost increase would be prohibitive.

3-6E.6

Commenter: Ronald G. Nickson, Representing NMHC
Ballot: Negative with comment:

Comment: See comment for 3-6-12.

3-6E.7

Commenter: Steve Orlowski, Representing NAHB
Ballot: Negative with comment:

Comment: See comment for 3-6-12

3-6E.8

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Same comment as 3-6-12.

The turning space in a kitchen (U-shaped or galley) is under the sink or work surface. The 60" in the kitchen is based on the alcove provisions, which the committee decides not to change. This also goes against standard kitchen design of 15 step work triangle for all persons using the kitchen that are not in wheelchairs.

3-6E.9

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: There is no evidence presented that a circular turning space is needed in any U-shaped kitchen, whether residential or non-residential. A T-shaped turning space could be an acceptable alternative.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the information and options provided in the comments, but concluded that for consistency with previous actions to establish the 67 inch turning circle and apply it to various elements, that the space available between cabinets in kitchens should have the same ease of maneuvering as they do now under the 60 inch minimum. There was concern that the option suggested in Comment 3-6E.1 would provide less accessibility in the A117.1 than is required in the ADA.

3-6F – 12
1003.12.1.2

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

1003.12.1.2 U-Shaped Kitchens. In kitchens with counters, appliances, or cabinets on three contiguous sides, clearance between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas shall be ~~60~~ 67 inches (~~1525~~ 1700 mm) minimum.

Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

Rationale for 3-6F: Accommodate 67 inch (1700) turning diameter.
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Committee Action

Disapproved

Committee Reason: The Committee was not convinced that a full 67 inch turning circle needed to be accommodated in kitchens of Type A dwellings.

BALLOT COMMENTS

3-6F.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Same comment as 3-6-12.

The turning space in a kitchen (U-shaped or galley) is under the sink or work surface. The 60" in the kitchen is based on the alcove provisions, which the committee decides not to change. This also goes against standard kitchen design of 15 step work triangle for all persons using the kitchen that are not in wheelchairs.

3-6F.2
Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: Although this does not affect the NATO design needs, consistent with my vote on 3-6, if I am hearing from people who use wheelchairs that the dimension is adequate, then there is no reason to change.

3-6F.3

Commenter: Dominic Marinelli, Representing USA
Ballot: Negative with comment:

Comment: Dimension should be increased in U-Shaped Kitchen to be consistent with other changes/increases.

3-6F.4

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: There is no evidence presented that a full circular turning space is needed in any U-shaped kitchen, whether residential or non-residential. A T-shaped turning space could be an acceptable alternative.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee sustained its previous disapproval of the concept of requiring the 67 inch turning circle in Type A dwelling units. Accessible units will have a 67 inch circle. The committee was not convinced that the larger circle is fully justified in Type A dwelling units.

3-7 – 12
304.3.1, Figure 304.3(a)

Proposed Change as Submitted

Proponent: Edward Steinfeld, IDEA Center, School of Architecture and Planning, University at Buffalo, State University of New York

Revise as follows:

304.3.1 Circular Space. The turning space shall be a circular space with a ~~60 inch~~ 67-inch (~~1525~~ 1700 mm) minimum diameter. The turning space shall be permitted to include ~~knee and~~ toe clearance complying with Section 306.3.

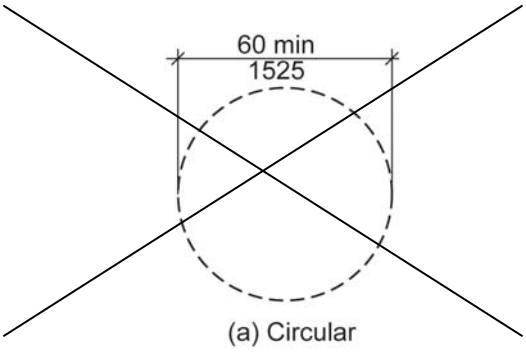


Figure 304.3(a)
SIZE OF TURNING SPACE

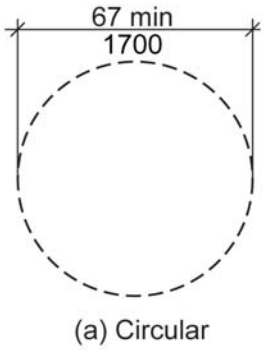


Figure 304.3(a)
SIZE OF TURNING SPACE

Reason: Many of the technical requirements of the ICC/ANSI A117.1 (2009) Accessible and Usable Buildings and Facilities (ICC/ANSI) designed to accommodate wheeled mobility users are based on research completed from 1974 to 1978 using a research sample that included about 60 individuals who used manual wheelchairs (Steinfeld et al., 1979).

The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users (Steinfeld, et al., 2010). Measurements of body and device size were captured in three dimensions. The functional anthropometric measurements required measuring reaching ability, grip strength and the minimum space needed for turning. It is the most extensive anthropometric study of wheeled mobility device users in the United States. Additional information about the study can be found at http://www.udeworld.com/ansi-standards-review. The proposed revisions are based on new anthropometric information that was generated from the database of anthropometric measurements developed as part of the study.

Analysis

The results of our analysis suggest that the existing standard on clear floor space (60" diameter) does not accommodate the occupied lengths and widths of the wheeled mobility user population and excludes powered wheeled mobility device users disproportionately as compared to manual device users. A diameter of 60" accommodates only 75% of manual and power wheelchair users when performing a 180-degree turn. **A 180-degree turn diameter of 67 inches would accommodate 95% of manual and power wheelchair users.**

The analysis was summarized in the Final Project Report to the U.S. Access Board and in a memorandum entitled "Evaluation of Clear Floor Space Requirements," that was submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Clear Floor Space Clearances.

References (See http://www.udeworld.com/ansi-standards-review)

Steinfeld, E., Paquet, V., D'Souza, C., Joseph, C, and Maisel, J. (2010). *Final Report: Anthropometry of Wheeled Mobility Project*. Washington, DC: U.S. Access Board.

Steinfeld, E. Schroeder, S. and Bishop, M. (1979). *Accessible buildings for people with walking and reaching limitations.* Washington, DC: U.S. Department of Housing and Urban Development.

304.3.1-STEINFELD.doc

Committee Action

Disapproved

Committee Reason: The Committee's action to approve 3-6-12 is not affected by the action on this proposal. This proposal made additional changes to the turning circle which the Committee did not accept. The Committee concluded that the flexibility of allowing knee and toe clearances to be included in the measurement of the circle was essential, especially in light of changing the dimension from 60 to 67 inches.

BALLOT COMMENTS

3-7.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Same comment as 3-6-12

Revise as follows:

3-7.2 -

Comment rescinded.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee maintained its disapproval of this proposal in favor of the approval of proposal 3-6-12.

3-8 – 12
304.3.1

Proposed Change as Submitted

Proponent: Kimberly Paarlberg, International Code Council

Revise as follows:

304.3.1 Circular Space. The turning space shall be a circular space with a 60-inch (1525 mm) minimum diameter. The turning space shall be permitted to include knee and toe clearance complying with Section 306 only on one side of the circle and not encompass more than 90 degrees of the arc of the circle.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The T-turn limits you to one arm, so it seems appropriate to not allow for using knee and lot clearance on more than one side of the circle. The double underline is a choice if the committee would also like to limit the extent of 'one side.'

304.3.1-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: While the intent of the proposal found favor among Committee members, the language of the proposal was found wanting. Questions were raised about whether the 90 degree limit worked, or how one had one side of a circle.

BALLOT COMMENTS

3-8.1
Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: This would also be difficult to evaluate on plans submitted for permit.

3-8.2
Comment rescinded

3-8.3
Commenter: Marsha K. Mazz, Representing Access Board
Ballot: Negative with comment:

Comment: The committee disapproved this proposal because it was concerned that the proposed language was unclear and because they were not convinced that the turning circle would be usable with this change. Because we believe that the proponent was correct to want to limit the amount of space that elements can intrude into a turning space, even those with knee and toe space beneath, we propose two options for amending this proposal. Option #1 would allow on obstruction approximately 8.8" deep (30 - (30 / 1.4142) = 8.8) or, for a circle with a 67" diameter 9.9". Because a 90° arc will for an equilateral triangle, we divide the radius by the square root of 2, we get a segment of a 30" or 33 ½" long radius. That sum subtracted from the radius is the depth of the circle between the chord and the perimeter of the circle. Option #2 would simply not allow intrusions into the turning space.

Option #1:
Revise as follows:

304.3.1 Circular Space. The turning space shall be a circular space with a 60-inch (1525 mm) minimum diameter. The turning space shall be permitted to include knee and toe clearance complying with Section 306 overlapping the portion of the circle located outside a chord connecting the endpoints of a 90 degree arc of the circle.

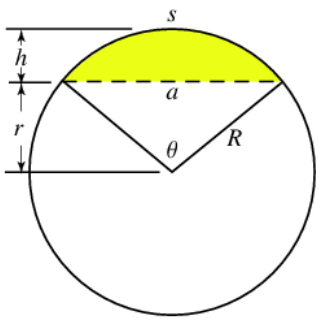
Option #2:
Revise as follows:

304.3.1 Circular Space. The turning space shall be ~~a~~ an unobstructed circular space with a 60-inch (1525 mm) minimum diameter. ~~The turning space shall be permitted to include knee and toe clearance complying with Section 306.~~

3-8.4

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The ICC A117.1 committee have spoken about disallowing any use of knee and toe clearance under counters and lavatories. The current language would allow a donut, so there should be a limit on the reliance with knee and toe clearance. However, even when a person cannot go totally under a counter, there is a portion that fits in the knee clearance. This proposal should be revised based on further discussion of allowances for what knee clearances can be used.



Assuming a 60" diameter circle (Section 304.3.1), and a maximum knee and toe clearance of 25" (Section 306.3.2 and (*h*)). The diameter is 188.5 inches. The chord (*a*) is 59" and the angle is 156 degrees.

The formula for the chord is $2\sqrt{(R^2-r^2)} = 2\sqrt{(30^{2-}5^2)} = 2\sqrt{(900-25)} = 59$"

The formula for the angle is sin angle/2= *a*/2R; angle is 156 degrees

Given an angle of 90 degrees, the chord would be 2x30 sin(90/2) = 42.6" and the sagittal (*h*) is only 8.9"

The shaded area is called a circular segment.

Proponent Comment

3-8.5

Commenter: Kim Paarlberg, Representing ICC

Replace the proposal with the following:

304.3.1 Circular Space. The turning space shall be a circular space with a 67-inch (1525 mm) minimum diameter. The turning space shall be permitted to include knee and toe clearance complying with Section 306. Where a sink, lavatory, drinking fountain, counter, work surface or similar an obstruction overlaps the turning space, the circular segment of the overlap shall not form a chord more than 59 inches and the sagittal shall not exceed the depth of the knee and toe clearance.

Reason: See the graphic in the ballot statement. The current circle language would allow a 'doughnut' effect. This language would allow for the current 25" maximum knee and toe clearance under a straight counter along a turning space. If the committee desires less of an overlap, the length of the cord and the depth of the sagittal could be revised accordingly.

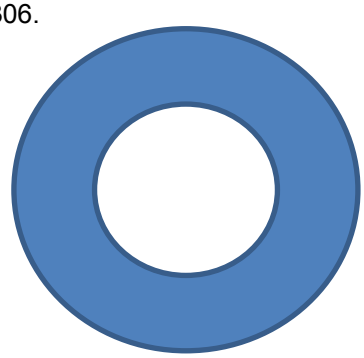
Committee Review of Comments and Action – July 2013

Approval as Modified based on Comments.

Committee Reason: The debated the geometry of intrusions allowed in the turning circle based on the current text. As there is no limit on the intrusion, the standard technically allows intrusions for the full

circle which results in the donut shape seen below. The committee felt that the concept of the original proposal of limiting intrusions to a portion of the circle was appropriate, but struggled to find text and figure which would be clear to users of the standard. The committee accepted the modified text and figure 304.3.1 as the best expression of the intrusion limit they find appropriate.

304.3.1 Circular Space. The turning space shall be a circular space with a 60-inch (1525 mm) minimum diameter. The turning space shall be permitted to include knee and toe clearance complying with Section 306.



Replace the proposal with the following:

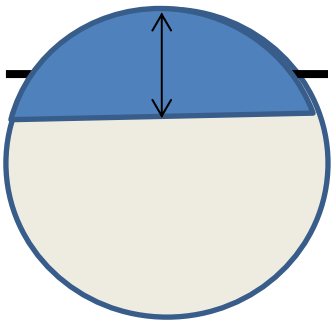
304.3.1 Circular Space. The turning space shall be a circular space with a 60-inch (1525 mm) minimum diameter. The turning space shall be permitted to include knee and toe clearance complying with Section 306. Where the turning space includes knee and toe clearances under an obstruction, the overlap shall comply with all of the following:

1. The depth of the overlap shall not be more than 10 inches, and

2. The depth shall not exceed the depth of the knee and toe clearances provided, and

3. The overlap shall be permitted only within the turning circle area shown shaded in Figure 304.3.1.

Figure 304.3.1



3-9 – 12
304.3.2

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

304.3.2 T–Shaped Space. The turning space shall be a T–shaped space within a 60 inch (1525 mm) minimum in depth by 68 inch (1730 mm) minimum in width space, with arms 40 inches (1015 mm) minimum in width and base 36 inches (915 mm) minimum in width. The space shall be entered and exited throught the base. Each arm of the T shall be clear of obstructions ~~12~~ 16 inches (~~305~~ 405 mm) minimum in each direction, and the base shall be clear of obstructions 24 inches (610 mm) minimum. The turning space shall be permitted to include knee and toe clearance complying with Section 306 only at the end of either the base or one arm.

EXCEPTION: Where the interior corners of the intersection where the base and arms meet are chamfered for 8 inches (205 mm) minimum along both walls; both legs of the arms shall be 36 inches (915 mm) minimum in width.

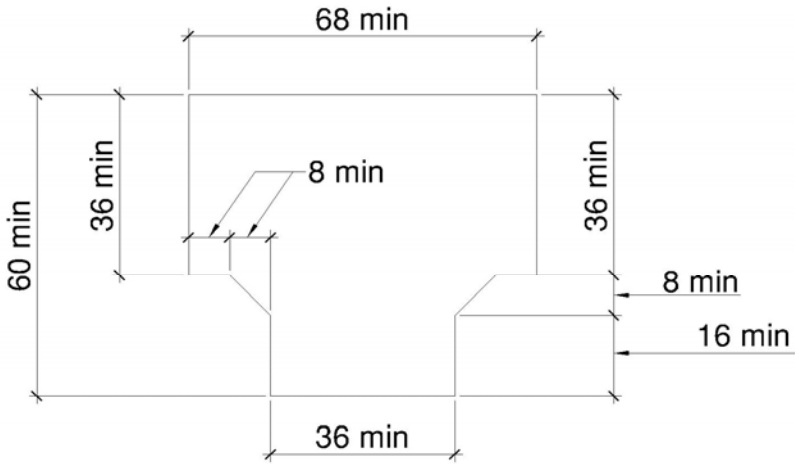
Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

304.3.2-HILBERRY.doc

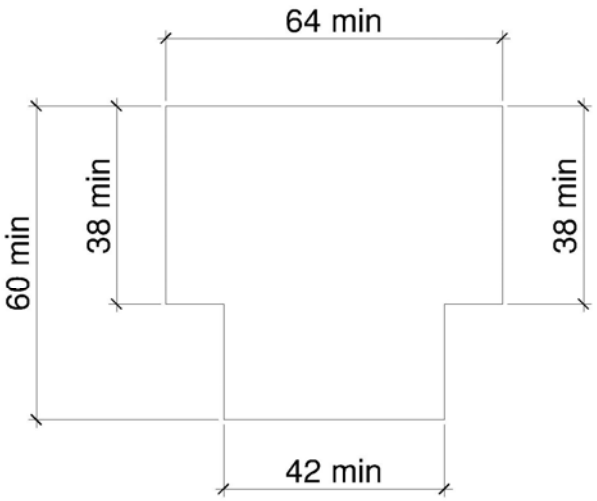
Committee Action

Approval as Modified

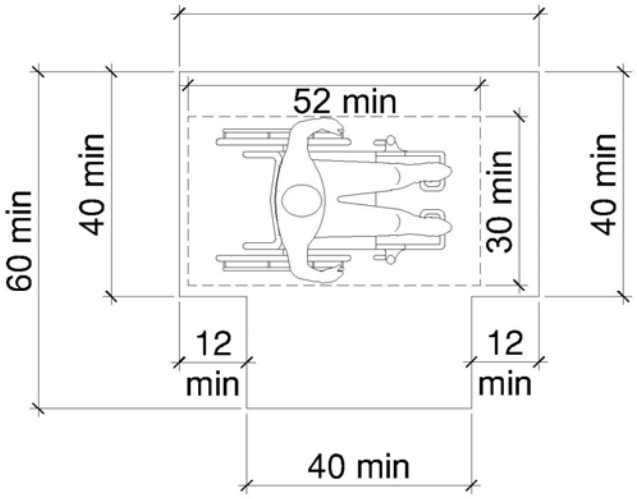
Modification The diagrams were prepared and accepted, the text was not prepared.



Proposal 3-9 Excpt. 1



Proposal 3-9 Excpt. 2



Proposal 3-9

Committee Reason: The Committee explored the various options and limitations for regarding making the T-shaped turn. While the dimensions shown in the figure labeled Proposal 3-9 were the base of the discussions, the Committee concluded that the 3 designs should be shown in the text (perhaps in a table) as 3 equal options for design the space. The Committee approved the figures; asked staff to develop text.

BALLOT COMMENTS

3-9.1

Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Affirmative with comment:

Comment: There has been no evidence presented that this is a necessary change and will be a burden on the public due to an increase in the area required. The evidence presented only addresses the wide variety of mobility devices in service today. It does not address whether the problem is in the manufacture of these mobility devices that do not conform to the current requirement or whether the built-environment needs to change to accommodate mobility devices that need a larger space and cannot be designed and manufactured in such a way as to fit within the current space. We don't continue to let automobile manufacturers build wider and wider autos to go on our roads… they must be built to standards that allow them to work with our current road system.

3-9.2

Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: The "base" entry should be shown in the diagrams as the intended entry point is not clear from the code language (nor can I think of a clearer way of stating the requirement!)

3-9.3

Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: According to the Committee reason, text must be prepared. Although the illustration is provided, without text, it is not possible for me to vote in favor of something I have not reviewed.

3-9.4

Commenter: Gerald Gross, Representing AHLA
Ballot: Negative with comment:

Comment: The existing turning space standards have been in existence for over 50 years. Reportedly, the AHLA has never had a complaint regarding complaint turning spaces.

The new proposed 67" turning space by IDEA will increase turning areas approximately 25%.
This increase as recommended by the IDEA Final Report is expected to increase the percentage of manual and power wheelchair users accommodated from 80 to 95% and almost double the percentage of scooter served. Of the existing 2.8 million wheelchair and scooter users this calculates to an approximate increase of 220,000 occupants.

Today's technology can accommodate all non-institutional wheelchair and scooter users.
Our current standards for the built environment now accommodate 99.998% of the US population. Ideally it would be wonderful to accommodate 100% of all people with mobility disabilities however; the proposed turning diameter area and construction cost increase would be prohibitive.

3-9.5

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Same comment as 3-6-12

3-9.6

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: We studied the impact of the required entry at the base on a series of apartment plans. We find that the requirement of entering at the base will add up to 12" to the depth of a typical apartment, but, if we allow entry from any arm it has little impact. Logically, there should be no difference where the entry to the T shaped area should be. I propose a modification of the original proposal to strike the language regarding entering and exiting though the base. Further, the entry and exit through the base restriction would be practically impossible, as there are many circumstances that would have multiple entry points, such as at a T-intersection of two hallways.

Approval with Modifications based on Comments.

Committee Reason: The original action by the committee after considerable discussion during the first 2 meetings was to accept the 3 diagrams shown above as describing three acceptable alternatives to the minimum design of T-turns. The committee accepted as a modification to the approved diagrams the following text as the best descriptors of the accepted figures. The standard must include text for each provisions.

Modification:

Replace the original proposal as follows: The figures approved shall be included in the standard to provide interpretation of the following text. The text would replace the existing text in Section 304.3.2

304.3.2 T–Shaped Space. The turning space shall be a T–shaped space complying with one of the following:

1. A T-shaped space, clear of obstruction, that fits within an area 68 inches wide and 60 inches deep, with two arms and one base that are all 36 inches minimum in width. Each arm shall extend 16 inches minimum from each side of the base located opposite the other, and the base shall extend 24 inches minimum from the arms. At the intersection of each arm and the base, the interior corners shall be chamfered for 8 inches minimum along both the arm and along the base.
2. A T-shaped space, clear of obstruction, that fits within an area 64 inches wide and 60 inches deep, with two arms 38 inches minimum in width and a base 42 inches minimum in width. Each arm shall extend 11 inches minimum from each side of the base, located opposite the other, and the base shall extend 22 inches minimum from each arm.
3. A T-shaped space, clear of obstruction, that fits within an area 64 inches wide and 60 inches deep, with two arms and one base 40 inches minimum in width. Each arm shall be 16 inches minimum in each direction from the base and the base shall extend 24 inches minimum from each arm.

T-TURN DIMENSIONS

	Rectangular Space		Widths		Chamfer	Length Clear of Obstructions	
	Width	Depth	Arms	Base		Arms	Base
1	68	60	36	36	8	16	24
2	64	60	38	42		11	22
3	64	60	40	40		12	20

(Notes to the Task Group and the Committee: the language for the chamfer in Option 1 is based on the 90 degree turn description found at 4-9-12, page 4-14. The dimensions of option 1 and 3 are the same as those for 403.5.2. The geometries of the 180 degree turn around an object less than 52 inches in width are found on page 4-12. A 180-degree turn requires a double L-turn that does not include “back and fill” and is not comparable with the 90 degree turn or the T-turn.)

3-10 – 12
304.3.2, 1003.3.2

Proposed Change as Submitted

Proponent: Todd Andersen, representing the CFS in motion subcommittee

Revise as follows:

304.3.2 T-Shaped Space. The turning space shall be a T-shaped space within a 60-inch (1525 mm) minimum square, with arms and base 36 inches (915 mm) minimum in width. Each arm of the T shall be clear of obstructions 12 inches (305 mm) minimum in each direction, and the base shall be clear of obstructions 24 inches (610 mm) minimum. ~~The turning space shall be permitted to include knee and toe clearance complying with Section 306 only at the end of either the base or one arm~~.

1003.3.2 Turning Space. All rooms served by an accessible route shall provide a turning space complying with Section 304.

EXCEPTIONS:

1. A turning space is not required in toilet rooms and bathrooms that are not required to comply with Section 1003.11.2.
2. A turning space is not required within closets or pantries that are 48 inches (1220 mm) maximum in depth.
3. The turning space shall be permitted to include knee and toe clearance complying with Section 306 only at the end of either the base or one arm.

Reason: Dropping permission to let part of a T turn slip under obstructions serves two groups – some power wheelchair users and scooter users. The geometry of scooters does not allow them to take advantage of floor areas that are under fixed objects (eg the front tiller and the seat back are in the way). Figure 3-6 of of the IDEA report shows that approximately 20 percent of power chair users sit too high to make use of space beneath obstructions 27 inches aff (ie the lowest a knee space permitted). Where the space beneath the obstruction is 29 inches aff. Approximately 95 percent of them would fit under. Thus requiring the T turn space to extend to 80 inches aff will serve approximately 20 percent of power chair users. The exemption for Type A dwellings is based on the idea that users of scooters have greater control over the use of alternative mobility devices and the arrangement of furnishings in their homes than they do in public.

304.3.2 ANDERSEN.doc

Committee Action

Disapproved

Committee Reason: The Committee felt the proposal was too restrictive and would result in expansions of floor space devoted to such turning spaces. It would affect dwelling units as well as non-residential buildings. The impact needs to be narrowed.

BALLOT COMMENTS

3-10.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Same comment as 3-6-12

3-10.2

Commenter: Dominic Marinelli, Representing USA
Ballot: Negative with comment:

Comment: Eliminating language that allows the turning space to include knee and toe clearance simplifies this requirement and is consistent with other increases the committee has approved.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee found the proposal would result in overly restrictive design for turning spaces. The original action of disapproval was reaffirmed.

3-11 – 12
304.3.2

Proposed Change as Submitted

Proponent: Jonathan White, representing himself

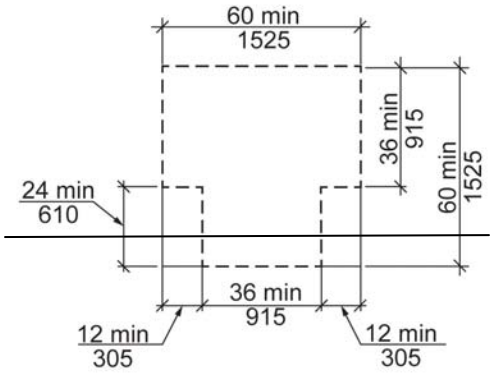
Revise as follows:

304.3.2 T-Shaped Space. The turning space shall be a T-shaped space within a ~~60-inch~~ 68-inch (~~1525~~ 1725 mm) minimum square, with arms and base ~~36~~ 40 inches (~~915~~ 1015 mm) minimum in width. Each arm of the T shall be clear of obstructions ~~12~~ 14 inches (~~305~~ 355 mm) minimum in each direction, and the base shall be clear of obstructions ~~24~~ 28 inches (~~610~~ 710 mm) minimum. The turning space shall be permitted to include knee and toe clearance complying with Section 306 only at the end of either the base or one arm.

EXCEPTIONS:

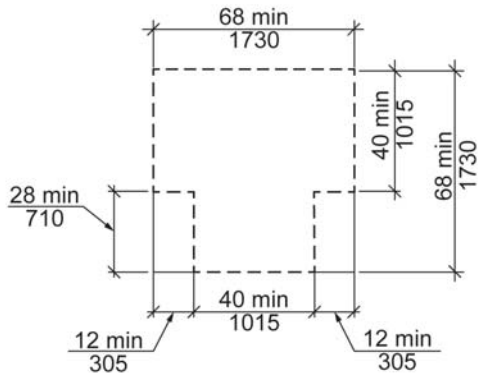
1. Where the arms of the T-shaped space are 42 inches (1065 mm) minimum in width, the base of the T shall be permitted to be 38 inches (965 mm) minimum in width, with the arms of the T clear of obstructions 15 inches (380 mm) minimum in each direction.

2. Where the arms of the T-shaped space are 44 inches (1115 mm) minimum in width, the base of the T shall be permitted to be 36 inches (915 mm) minimum in width, with the arms of the T clear of obstructions 16 inches (405 mm) minimum in each direction.



(b) T-shaped

FIG. 304.3
SIZE OF TURNING SPACE



(b) T-shaped

FIG. 304.3
SIZE OF TURNING SPACE

Reason: Many of the technical requirements of the ICC/ANSI A117.1 (2009) Accessible and Usable Buildings and Facilities (ICC/ANSI) designed to accommodate wheeled mobility users are based on research completed from 1974 to 1978 using a research sample that included about 60 individuals who used manual wheelchairs (Steinfeld et al., 1979).

The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users (Steinfeld, et al., 2010). Measurements of body and device size were captured in three dimensions. The functional anthropometric measurements required measuring reaching ability, grip strength and the minimum space needed for turning. It is the most extensive anthropometric study of wheeled mobility device users in the United States. Additional information about the study can be found at http://www.udeworld.com/ansi-standards-review. The proposed revisions are based on new anthropometric information that was generated from the database of anthropometric measurements developed as part of the study.

Analysis

The results of our analysis suggest that the existing standard on a T-turn does not accommodate the occupied lengths and widths of the wheeled mobility user population and excludes powered wheeled mobility device users disproportionately as compared to manual device users. This is based on the IDEA center's 90-degree turn data in *Final Report: Anthropometry of Wheeled Mobility Project.* Fewer than 75% of manual and power wheelchair users could negotiate a L-turn that was 36 inches width (pg. 154). **A width of 40 inches would accommodate 94% of manual wheelchair users, 99% of power wheelchair users, and 92% of scooter users.**

The exceptions are the results of estimated percentages by the IDEA center in a memorandum by Edward Steinfeld, to the ANSI subcommittee on Turning. The estimated percentages for Option B, C and D are the actual percentages for the narrower 90 degree turns. In other words, we tested a 90 degree turn of 38 x 38 without a chamfer. We are using that data to estimate the minimum percentage accommodated by the chamfered version. Thus, this is a conservative estimate because widening one side and adding the chamfer would clearly increase the percentage accommodated.

The table in the memorandum is below:

Proportion of the sample accommodated in each of the four alternatives for a L-turn

% Accommodated	Data Source	Manual (n=208)	Power (n=150)	Scooter (n=23)
Option A (40"x40")	Measured data for 40" x 40"	94%	99%	92%
Option B (42"x38")	Estimate based on data for 38"x38"	Min. 85%	Min. 87%	Min. 67%
Option C (44"x36")	Estimate based on data for 36"x36"	Min. 71%	Min. 71%	Min. 46%
Option D (36"x36" w/chamfer)	Estimate based on data for 36"x36"	Min. 71%	Min. 71%	Min. 46%

The analysis was summarized in the Final Project Report to the U.S. Access Board and in a memorandum entitled "Evaluation of Clear Floor Space Requirements," that was submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Clear Floor Space Clearances.

References (See http://www.udeworld.com/ansi-standards-review)

Steinfeld, E. (2012). *Summary of Turning Discussion and Responses and Recommended Dimensions for Turning Spaces.* A memorandum submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Turning Spaces.

Steinfeld, E., Paquet, V., D'Souza, C., Joseph, C, and Maisel, J. (2010). *Final Report: Anthropometry of Wheeled Mobility Project*. Washington, DC: U.S. Access Board.

Steinfeld, E. Schroeder, S. and Bishop, M. (1979). *Accessible buildings for people with walking and reaching limitations.* Washington, DC: U.S. Department of Housing and Urban Development.

Committee Action

Disapproved

Committee Reason: The Committee preferred the maneuvering space dimensions approved in proposal 3-9-12.

BALLOT COMMENTS

3-11.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Same comment as 3-6-12

3-11.2

Comment rescinded

3-11.3

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: The maneuvering space dimensions in this proposal reflect the research findings better than 3-9-12.

Proponent Comment

3-11.4

Commenter: Jonathan White

Replace the proposal as follows:

304.3.2 T–Shaped Space. The turning space shall be a T–shaped space within a 60 inch (1525 mm) minimum in depth by 68 inch (1730 mm) minimum in width space, with arms 40 inches (1015 mm) minimum in width and base 36 inches (915 mm) minimum in width. ~~The space shall be entered and exited throught the base.~~ Each arm of the T shall be clear of obstructions ~~12~~ 16 inches (~~305~~ 405 mm) minimum in each direction, and the base shall be clear of obstructions 24 inches (610 mm) minimum. The turning space shall be permitted to include knee and toe clearance complying with Section 306 only at the end of either the base or one arm.

Reason: The 3-11-12 proposal for T space turning area had an important difference from 3-9-12 that was overlooked at the meeting because we did not have enough information to understand the implications. In the 3-11-12 proposal, the direction of entry could be through any arm. But in 3-9-12 as approved, there is a requirement that the T turn area be entered from the "base." We did an analysis to apply the T turn to several apartment designs. This demonstrated that requiring entry from the base increases the size of bathrooms significantly, which also has an impact on the overall size of apartments using both Type A and B requirements. In contrast, if any arm can be used as entry, then there is only minor impact on the size of bathrooms, compared to the 2009 standard. In our opinion, there is no impact on accessibility if entry from any arm is allowed and this is a needless restriction.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal. Newly approved text in Item 3-9-12 addresses the same topic and was accepted.

3-13 – 12
305.3, 305.7.2

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

305.3 Size. The clear floor space shall be ~~48 inches (1220 mm)~~ 52 inches (1320 mm) minimum in length and 30 inches (760 mm) minimum in width.

305.7.2 Forward Approach. Where the clear floor space is positioned for a forward approach, the alcove shall be 36 inches (915 mm) minimum in width where the depth exceeds ~~24~~ 20 inches (~~610~~ 508 mm).

Staff Note: In previous publications of this proposal, the dimensions in Section 305.7.2 showed both the 24 and 20 inch depth crossed out. The intent has always been that the current standard's depth of 24 inches be replaced with a new depth threshold of 20 inches.

Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

For 305.3 While never explicitly stated in ANSI 1980, either ADAAG or our current standard, all four show the clear floor space as being wider and longer than the wmd itself. The IDEA report indicates this is not true for significant percentages of wmd users. 22% of occupied wmds are longer and 12% are wider than today's mimima. However, when unoccupied wmds are considered the percentages drop to less than 12% for length and less than 4% for width. Based on these findings we have several options. One approach is to increase the width to accommodate 90% of unoccupied wmds and add 2 inches on either side for knuckles etc. An alternative approach would be to revise the concept of clear floor space width to represent the solid wmd solely and revise the forward approach alcove trigger condition. This proposal advocates the second approach as the inclusion of power chairs and scooters distorts the potential impact on manual wheelchair users (ie the group whose knuckles are at risk). Thus, no change to cfs width is proposed. Clear floor space length is a different matter as the percentages of those not served are higher and it can be imagined that the user has less ability to significantly change his/her length. Increasing the cfs to 52 inches will accommodate more than 95% of unoccupied and 89% of occupied wmds. All the scenarios described above also were studied to see what would happen if in the future power chair and scooter uses were to double at the expense of manual wheelchairs. Occupied width accommodation drops one percent to 87% and occupied length drops to 88%.

For 305.7.2 By defining a cfs width as representing the space taken up by an occupied wmd without allowance for additional space for knuckles and elbows, it becomes necessary to consider situations where such knuckle etc space are needed to successfully enter and exit an alcove. This proposal is largely driven by consideration of situations where access to the push rims of manual wheelchairs is required. From Figure 4-3 (page 92) of the IDEA Final Report we learn that the 25 centile manual wheelchair user's torso to toe dimension is about 22 inches. The report does not describe the length of corresponding wmd, but until such time as toe space depth is modified, underlap is restricted to 19 inches. The proposed dimension of 20 inches is a compromise of these two observations.

305.3-HILBERRY.doc

Committee Action

Approved

Committee Reason: The Committee debated the need to increase the clear floor space (CFS) by discussing proposals 3-13-12 and 3-14-12 at the same time. CFS is one of the key building blocks which, if changed, will have implications in the balance of the standard. Changes to its width and its length impact different provisions throughout the balance of the Standard.

The discussion focused on the size of wheeled mobility devices including powered chairs and scooters, the percentages of the target populations which are not served by the current standard because of the size of the devices.

The consensus was that wheeled mobility devices are getting larger. To accommodate a wider range of the devices the CFS needed to be increased. The Committee was not of a consensus on the size CFS needed to be increased to. This dimension was approved.

BALLOT COMMENTS

3-13.1

Commenter: Alan Gettelman
Ballot: Affirmative with comment:

Comment: In 305.7.2 text why is does proposed dimension of 20 inches have a strikeout through it "~~20~~"?

3-13.2

Commenter: Gene Boecker, Representing NATO
Ballot: Affirmative with comment:

Comment: Although there is recognition of a potential need to increase the size, it is not clear that 52 inches is the proper dimension. When soliciting NATO for input, one of the individuals responding was a person who uses a wheelchair and who indicated that the 48 inch dimension was more than adequate for his needs.

For the companion portion of this relative to the alcove depth there is no objection. Perhaps these can be divided for future discussion.

3-13.3

Commenter: Ron Burton, Representing BOMA
Ballot: Negative with comment:

Comment: See reason on 3-6-12

3-13.4

Commenter: David S. Collins, Representing AIA
Ballot: Negative with comment:

Comment: The work of the study group isn't finalized and the research that formed the basis for this change has not been validated.

3-13.5

Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Negative with comment:

Comment: There has been no evidence presented that this is a necessary change and will be a burden on the public due to an increase in the area required. The evidence presented only addresses the wide variety of mobility devices in service today. It does not address whether the problem is in the manufacture of these mobility devices that do not conform to the current requirement or whether the built-environment needs to change to accommodate mobility devices that need a larger space and cannot be designed and manufactured in such a way as to fit within the current space. We don't continue to let automobile manufacturers build wider and wider autos to go on our roads… they must be built to standards that allow them to work with our current road system.

3-13.6

Commenter: Gerald Gross, Representing AHLA
Ballot: Negative with comment:

Comment: The existing turning space standards have been in existence for over 50 years. Reportedly, the AHLA has never had a complaint regarding maneuvering spaces.

The new proposed 52" length increase will increase the clear floor area approximately 8.3%.
This increase as recommended by the IDEA Final Report is expected to increase the percentage of manual and power wheelchair users accommodated from 80 to 95% and almost double the percentage of scooter served. Of the existing 2.8 million wheelchair and scooter users this calculates to an approximate increase of 220,000 occupants.

Today's technology can accommodate all non-institutional wheelchair and scooter users.
Our current standards for the built environment now accommodate 99.998% of the US population. Ideally it would be wonderful to accommodate 100% of all people with mobility disabilities however; the proposed turning diameter area and construction cost increase would be prohibitive.

3-13.7
Comment rescinded

3-13.8
Commenter: Ronald G. Nickson, Representing NMHC
Ballot: Negative with comment:

Comment: See comment for 3-6-12

3-13.9
Commenter: Steve Orlowski, Representing NAHB
Ballot: Negative with comment:

Comment: See comment for 3-6-12

3-13.10
Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Same comment as 3-6-12

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee sustained its original approval of the increased minimum footprint of a clear floor space. See also the committee reason for Item 3-6-12. The proposal doesn't increase the width of clear floor space, but it should be assumed with larger wheeled mobility devices that the user and their device will occupy more of the space, leaving little room for movement within the space. Therefore the need to have the alcove provisions triggered at a shallower depth – which in turns give the users more space in an alcove.

3-13A – 12
405.7.3

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

405.7.3 Length. Landings shall have a clear length of ~~60~~ 64 inches (~~1525~~ 1625 mm) minimum

Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

Rationale for 3-13A: Add 4 inches (100 mm) to landing length to reflect increase in clear floor space.

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Committee Action

Disapproved

Committee Reason: The landing size should be tied to the wheelbase of the wheeled mobility devices. It is understood that the overall device length is longer, but there is not data provided to indicate that 60 inch landing isn't still sufficient.

BALLOT COMMENTS

3-13A.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Same comment as 3-6-12

3-13A.2
Comment rescinded

3-13A.3
Commenter: Dominic Marinelli, Representing USA
Ballot: Negative with comment:

Comment: Landing dimension should be increased to 64 inches to be consistent with other changes/increases.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee reaffirmed its decision to maintain a 60 inch minimum requirement for landings. This is consistent with the decision to retain the 60 by 60 landing dimension where ramps are turning.

3-13B – 12
409.4.1

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

409.4.1 Inside Dimensions. Elevator cars shall provide a clear floor area 36 inches (915 mm) minimum in width and ~~48~~ 52 inches (~~1220~~ 1322 mm) minimum in depth.

Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

Rationale for 3-13B: Update requirement to coordinate with proposed changes to 305.3 Size (Clear Floor Space).

-HILBERRY.doc

Committee Action

Approved

Committee Reason: Consistent with the action on Proposal 3-13-12 to increase the clear floor space.

BALLOT COMMENTS

3-13B.1
Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Affirmative with comment:

Comment: There has been no evidence presented that this is a necessary change and will be a burden on the public due to an increase in the area required. The evidence presented only addresses the wide variety of mobility devices in service today. It does not address whether the problem is in the manufacture of these mobility devices that do not conform to the current requirement or whether the built-environment needs to change to accommodate mobility devices that need a larger space and cannot be designed and manufactured in such a way as to fit within the current space. We don't continue to let automobile manufacturers build wider and wider autos to go on our roads… they must be built to standards that allow them to work with our current road system.

3-13B.2
Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: This should only be added to the next edition if the increase in wheelchair length in 3-13 is approved. Otherwise the standard will be disjointed and inconsistent.

3-13B.3

Commenter: Ron Burton, Representing BOMA
Ballot: Negative with comment:

Comment: See reason on 3-6-12

3-13B.4

Commenter: David Collins Representing AIA
Ballot: Negative with comment:

Comment: The work of the study group isn't finalized and the research that formed the basis for this change has not been validated.

3-13B.5

Commenter: Gerald Gross, Representing AHLA
Ballot: Negative with comment:

Comment: We not accept the results of a single anthropometric study conducted by the Center for Inclusive Design and Environmental Access. It is understood that the work of the Wheelchair Mobility Task Group is ongoing and has submitted a series of proposal changes to the base building blocks of A117.1 Standard. At this time we believe that the proposed changes to the building blocks are unacceptable and should not be adopted by the Committee; therefore no additional changes are required in this portion of the standard with reference to the building block changes.

3-13B.6

Comment rescinded

3-13B.7

Commenter: Ronald G. Nickson, Representing NMHC
Ballot: Negative with comment:

Comment: See comment for 3-6-12

3-13B.8

Commenter: Steve Orlowski, Representing NAHB
Ballot: Negative with comment:
Comment: See comment for 3-6-12

3-13B.9

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Same comment as 3-6-12

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee discussed whether increasing the standard dimension for private residence elevators would be in conflict with the elevator standard and possible eliminate the use of a certain class of elevators. The committee maintained its decision to approve this change after assurances from the industry representative that the size was still within the private residence elevator category.

3-13C – 12
410.5, 410.5.1

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

410.5 Clear Floor Space. Clear floor space of platform lifts in new construction shall comply with Section 410.5.

410.5.1 Lifts with Single Doors or Doors on Opposite Ends. Platform lifts with a single door or doors on opposite ends shall provide a clear floor width of 36 inches (915 mm) minimum and a clear floor depth of ~~48~~ 52 inches (~~1220~~ 1322 minimum).

Exception: Incline platform lifts with passenger restraining arms, shall be permitted to provide a clear floor width of 36 inches (915 mm) minimum and a clear floor depth of 48 inches (1220) mm.

Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

Rationale for 3-13C: Update the basic requirement to coordinate with proposed changes to 305.3 Size (Clear Floor Space). The exception was added to deal with the special circumstances involving inclined platform lifts with passenger restraining arms. Because inclined platform lifts are typically installed on existing staircases, any increase in size may result in the inability to install the lift which would actually reduce the accessibility of the building. Also, inclined platform lifts with passenger restraining arms consist of a platform with ramps that typically angle up at approximately 45 degrees and passenger restraining arms around the perimeter at a height of 38 inches. Since the area in between in open and the ramps angle out, the wheeled mobility device can overhang the platform (over the ramps) allowing a larger device to fit onto a 36 x 48 platform.

-HILBERRY.doc

Committee Action

Approved

Committee Reason: The Committee discussed briefly that the wheelbase of the device would be important, but as platform lifts with enclosing doors need to accommodate the whole device, the longer length is essential. There was a request that an exception for existing buildings be developed.

BALLOT COMMENTS

3-13C.1
Commenter: Ron Burton, Representing BOMA
Ballot: Negative with comment:

Comment: See reason on 3-6-12

3-13C.2
Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Negative with comment:

Comment: There has been no evidence presented that this is a necessary change and will be a burden on the public due to an increase in the area required. The evidence presented only addresses the wide variety of mobility devices in service today. It does not address whether the problem is in the manufacture of these mobility devices that do not conform to the current requirement or whether the built-environment needs to change to accommodate mobility devices that need a larger space and cannot be designed and manufactured in such a way as to fit within the current space. We don't continue to let automobile manufacturers build wider and wider autos to go on our roads… they must be built to standards that allow them to work with our current road system.

3-13C.3

Commenter: Gerald Gross, Representing AHLA
Ballot: Negative with comment:

Comment: We not accept the results of a single anthropometric study conducted by the Center for Inclusive Design and Environmental Access. It is understood that the work of the Wheelchair Mobility Task Group is ongoing and has submitted a series of proposal changes to the base building blocks of A117.1 Standard. At this time we believe that the proposed changes to the building blocks are unacceptable and should not be adopted by the Committee; therefore no additional changes are required in this portion of the standard with reference to the building block changes

3-13C.4

Commenter: Ronald G. Nickson, Representing NMHC
Ballot: Negative with comment:

Comment: See comment for 3-6-12

3-13C.5

Commenter: Steve Orlowski, Representing NAHB
Ballot: Negative with comment:

Comment: See comment for 3-6-12

3-13C.6

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Same comment as 3-6-12

There was no study done on if such platform lifts are available, or if the size would work with the allowed rise/run angle of stairways for inclined lifts.

3-13C.7

Commenter: Gene Boecker, representing NATO
Ballot: Negative with comment:

Comment: This should only be added to the next edition if the increase in wheelchair length is approved. Otherwise the standard will be disjointed and inconsistent.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: After discussing the 'geometry' concerns raised in the public comments and with input from the representative of the industry, the committee reaffirmed its decision to approve this change in the minimum requirement.

3-13D – 12
802.5.1

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

802.5.1 Overlap. A wheelchair space location shall not overlap the required width of an aisle.

Exception: The wheelchair space shall be permitted to overlap the aisle a maximum of 4 inches (100 mm).

Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

Rationale for 3-6D: Accommodate 67 inch (1700) turning diameter.

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Committee Action

Approval as Modified

802.5.1 Overlap. A wheelchair space location shall not overlap the required width of an aisle.

Exception: The depth of the wheelchair space shall be permitted to overlap the aisle a maximum of 4 inches (100 mm).

Committee Reason: The Committee had considerable discussion regarding allowing the wheelchair space to overlap the aisle. There is concern that such would cause people to view persons in wheelchairs and other mobility devices as obstructions in the operation of a theater. Without considering the overlap, site line requirements would cause substantial redesign of theaters and stadiums. The proposal was amended to clarify that it would be the length of the clear floor space allowed to overlap.

BALLOT COMMENTS

3-13D.1
Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: I realize this overlap is intended to provide some maneuvering space but a drawing would be helpful as it's not entirely clear where the overlap is permitted to occur.

3-13D.2
Commenter: Gerald Gross, Representing AHLA
Ballot: Negative with comment:

Comment: We not accept the results of a single anthropometric study conducted by the Center for Inclusive Design and Environmental Access. It is understood that the work of the Wheelchair Mobility Task Group is ongoing and has submitted a series of proposal changes to the base building blocks of A117.1 Standard. At this time we believe that the proposed changes to the building blocks are unacceptable and should not be adopted by the Committee; therefore no additional changes are required in this portion of the standard with reference to the building block changes.

3-13D.3

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Same comment as 3-6-12

It is not clear if this allowance would address the changes for line of sight requirements with the new wheelchair space size.

3-13D.4

Commenter: Laurel Wright, Representing NCOSFM
Ballot: Negative with comment:

Comment: This is in direct conflict with the model building code which states (in the 2012 IBC – Section 1003.6 Means of Egress Continuity)*The path of egress travel along a means of egress shall not be interrupted by any building element other than a means of egress component as specified in this chapter. Obstructions shall not be placed in the required width of a means of egress except projections permitted by this chapter. The required capacity of a means of egress system shall not be diminished along the path of egress travel.* This language is in both the International Building and Fire Code.

The original exception complies with both the International Building and Fire Codes.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The committee discussed the need to preserve and clarify the exception, otherwise the greater clear floor space would require reconsideration of basic sight lines in stadiums, theaters and similar spaces. Even with the clarification, there is concern that fire marshals will object to any such protrusion in aisles. The fact that many aisles are larger than the minimum required should lessen the impact of this exception.

Modification:

Exception: The depth of the wheelchair space shall be permitted to overlap the required aisle width a maximum of 4 inches (100 mm).

3-13E – 12
802.7.2

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

802.7.2 Companion Seat Alignment. In row seating, the companion seat shall be located to provide shoulder alignment with the wheelchair space occupant. The shoulder of the wheelchair space occupant is considered to be 36 inches (915 mm) from the front or ~~12~~ 16 inches ~~(305~~ ??? mm) from the rear of the wheelchair space. The floor surface for the companion seat shall be at the same elevation as the wheelchair space floor surface.

Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

Rationale for 3-13E: To accommodate longer clear floor space.

-HILBERRY.doc

Committee Action

Approved

Committee Reason: The added length accommodates that longer clear floor space and adjusts the measurement to align the shoulders of the person in the mobility device and those in the companion seat.

BALLOT COMMENTS

3-13E.1
Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: This should only be added to the next edition if the increase in wheelchair length is approved. Otherwise the standard will be disjointed and inconsistent. In the proposal, the "???" metric dimension for 16 inches should be 405 mm to be consistent with its measure elsewhere in the standard.

3-13E.2
Commenter: Gerald Gross, Representing AHLA
Ballot: Negative with comment:

Comment: We not accept the results of a single anthropometric study conducted by the Center for Inclusive Design and Environmental Access. It is understood that the work of the Wheelchair Mobility Task Group is ongoing and has submitted a series of proposal changes to the base building blocks of A117.1 Standard. At this time we believe that the proposed changes to the building blocks are unacceptable and should not be adopted by the Committee; therefore no additional changes are required in this portion of the standard with reference to the building block changes.

3-13E.3
Commenter: Kim Paarlberg, Representing ICC

Ballot: Negative with comment:

Comment: Same comment as 3-6-12

It is not clear if this allowance would address the changes for line of sight requirements with the new wheelchair space size.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval.

3-13F – 12
805.2.2

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

805.2.2 Dimensions. Bus stop boarding and alighting areas shall have a ~~96~~ 100-inch (~~2440~~ 2540 mm) minimum clear length, measured perpendicular to the curb or vehicle roadway edge, and a 60-inch (1525 mm) minimum clear width, measured parallel to the vehicle roadway.

Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

Rationale for 3-13F: Add 4 inches (100 mm) to alighting area to reflect increase in Clear floor space.

-HILBERRY.doc

Committee Action

Approved

Committee Reason: With a 4 inch longer clear floor space, the 4 inches needs to be added to the area designed to allow people to negotiate around the equipment. This isn't assuming a larger apparatus on the bus, but the need for space for larger mobility equipment.

BALLOT COMMENTS

3-13F.1
Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: This should only be added to the next edition if the increase in wheelchair length is approved. Otherwise the standard will be disjointed and inconsistent.

3-13F.2
Commenter: David Collins, Representing AIA
Ballot: Negative with comment:

Comment: The work of the study group isn't finalized and the research that formed the basis for this change has not been validated.

3-13F.3
Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Negative with comment:

Comment: There has been no evidence presented that this is a necessary change and will be a burden on the public due to an increase in the area required. The evidence presented only addresses the wide variety of mobility devices in service today. It does not address whether the problem is in the manufacture of these mobility devices that do not conform to the current requirement or whether the built-environment needs to change to accommodate mobility devices that need a larger space and cannot be designed

and manufactured in such a way as to fit within the current space. We don't continue to let automobile manufacturers build wider and wider autos to go on our roads… they must be built to standards that allow them to work with our current road system.

3-13F.4

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Same comment as 3-6-12

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee discussed the geometric and maneuvering issues of such bus stops and wheeled mobility devices of larger sizes and concluded, once again that the larger space approved the committee in 3-14F-12 was still an appropriate change.

3-13G – 12
1102.4.4.1

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

1102.4.4.1 Width and Length. Wheelchair spaces shall provide a clear width of 30 inches (760 mm) minimum and a clear length of ~~48~~ 52 inches (~~1220~~ 1320 mm) minimum measured to 9 inches (230 mm) minimum above the floor.

Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

Rationale for 3-13G: Add 4 inches (100 mm) to alighting area to reflect increase in Clear floor space.
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-HILBERRY.doc

Committee Action

Disapproved

Committee Reason: The Committee was not convinced that the longer clear floor space in this case needed to be addressed. The question raised was the longer space needed to accommodate a longer wheelbase for the wheeled mobility devices.

BALLOT COMMENTS

3-13G.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Same comment as 3-6-12

This section is for the amusement ride provision for spaces within the equipment. No input was received from the amusement industry on effects of this change.

3-13G.2
Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: This should only be added to the next edition if the increase in wheelchair length is approved. Otherwise the standard will be disjointed and inconsistent.

3-13G.3
Comment rescinded

3-13G.4

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: Disapproval of this proposal is incongruous with approval of 3-13. For consistency in the standard, the 30 x 52 space should be throughout.

3-13G.5

Commenter: Dominic Marinelli, representing United Spinal Association
Ballot: Negative with comment:

Comment: Landing dimension should be increase to 64" to be consistent with other changes/increases.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

3-13H – 12
1107.3.2

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

1107.3.2 Golf Club Reach Range Area. All areas within holes where golf balls rest shall be within 36 inches (915 mm) maximum of a clear floor space 36 inches (915 mm) minimum in width and ~~48~~ 52 inches (1220 mm) minimum in length complying with Section 305 having a running slope not steeper than 1:20. The clear floor space shall be served by an accessible route.

Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

Rationale for 3-13H: References 52 inch (1320) long Clear floor space.
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-HILBERRY.doc

Committee Action

Approved

Committee Reason: The provision is a clear floor space requirement which, for consistency with other actions, was approved to the new 52 inch length.

BALLOT COMMENTS

3-13H.1
Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: This should only be added to the next edition if the increase in wheelchair length is approved. Otherwise the standard will be disjointed and inconsistent.

3-13H.2
Commenter: David Collins, Representing AIA
Ballot: Negative with comment:

Comment: The work of the study group isn't finalized and the research that formed the basis for this change has not been validated.

3-13H.3

Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Negative with comment:

Comment: There has been no evidence presented that this is a necessary change and will be a burden on the public due to an increase in the area required. The evidence presented only addresses the wide variety of mobility devices in service today. It does not address whether the problem is in the manufacture of these mobility devices that do not conform to the current requirement or whether the built-environment needs to change to accommodate mobility devices that need a larger space and cannot be designed and manufactured in such a way as to fit within the current space. We don't continue to let automobile manufacturers build wider and wider autos to go on our roads… they must be built to standards that allow them to work with our current road system.

3-13H.4

Commenter: Gerald Gross, Representing AHLA
Ballot: Negative with comment:

Comment: We not accept the results of a single anthropometric study conducted by the Center for Inclusive Design and Environmental Access. It is understood that the work of the Wheelchair Mobility Task Group is ongoing and has submitted a series of proposal changes to the base building blocks of A117.1 Standard. At this time we believe that the proposed changes to the building blocks are unacceptable and should not be adopted by the Committee; therefore no additional changes are required in this portion of the standard with reference to the building block changes.

3-13H.5

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Same comment as 3-6-12

This section is for the miniature golf provisions. No input was received from the industry on effects of this change.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval of this proposal.

3-13J – 12
1108.4.1.4.2

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

1108.4.1.4.2 Elevated. The clear width of accessible routes connecting elevated play components shall be 36 inches (915 mm) minimum.

EXCEPTIONS:

1. The clear width of accessible routes connecting elevated play components shall be permitted to be reduced to 32 inches (815 mm) minimum for a distance of 24 inches (610 mm) maximum provided that reduced width segments are separated by segments that are ~~48~~ 52 inches (~~1220~~ 1320 mm) minimum in length and 36 inches (915 mm) minimum in width.

2. *(text not changed*)

Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

Rationale for 3-13J: Add 4 inches (100 mm) to alighting area to reflect increase in Clear floor space.
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-HILBERRY.doc

Committee Action

Disapproved

Committee Reason: The technical information which was the basis of increasing the clear floor space and turning circle was based on adults in wheeled mobility devices. This exception is addressing segments that are up in the play equipment. Investigation needed to address children size increases, if any.

BALLOT COMMENTS

3-13J.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Same comment as 3-6-12

This section is for the playground provision for spaces within the equipment. No input was received from the playground industry on effects of this change. None of the studies were based on child sizes.

3-13J.2
Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: This should only be added to the next edition if the increase in wheelchair length is approved. Otherwise the standard will be disjointed and inconsistent.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

3-13K – 12
1109.2.3

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

1109.2.3 Clear Deck Space. On the side of the seat opposite the water, a clear deck space shall be provided parallel with the seat. The space shall be 36 inches (915 mm) minimum in width and shall extend forward ~~48~~ 52 inches (~~1220~~ 1320 mm) minimum from a line located 12 inches (305 mm) behind the rear edge of the seat. The clear deck space shall have a slope not steeper than 1:48.

Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

Rationale for 3-13K: Add 4 inches (100 mm) to alighting area to reflect increase in Clear floor space.
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-HILBERRY.doc

Committee Action

Approved

Committee Reason: This is a clear floor space adjacent to a pool transfer. It should be large enough to accommodate all mobility devices.

BALLOT COMMENTS

3-13K.1
Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: This should only be added to the next edition if the increase in wheelchair length is approved. Otherwise the standard will be disjointed and inconsistent.

3-13K.2
Commenter: David Collins, Representing AIA
Ballot: Negative with comment:

Comment: The work of the study group isn't finalized and the research that formed the basis for this change has not been validated.

3-13K.3
Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Negative with comment:

Comment: There has been no evidence presented that this is a necessary change and will be a burden on the public due to an increase in the area required. The evidence presented only addresses the wide variety of mobility devices in service today. It does not address whether the problem is in the manufacture of these mobility devices that do not conform to the current requirement or

whether the built-environment needs to change to accommodate mobility devices that need a larger space and cannot be designed and manufactured in such a way as to fit within the current space. We don't continue to let automobile manufacturers build wider and wider autos to go on our roads… they must be built to standards that allow them to work with our current road system.

3-13K.4

Commenter: Gerald Gross, Representing AHLA
Ballot: Negative with comment:

Comment: We not accept the results of a single anthropometric study conducted by the Center for Inclusive Design and Environmental Access. It is understood that the work of the Wheelchair Mobility Task Group is ongoing and has submitted a series of proposal changes to the base building blocks of A117.1 Standard. At this time we believe that the proposed changes to the building blocks are unacceptable and should not be adopted by the Committee; therefore no additional changes are required in this portion of the standard with reference to the building block changes.

3-13K.5

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Same comment as 3-6-12

This section is for the swimming pool provision for space next to the lift.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the issues raised by the existence of a wide variety of pools which are used for a wide variety of purposes. Representatives of pools and spa industry stated their belief that the larger space is appropriate at recreation facilities. The committee wasn't to make sure that there wasn't an assumption that this space wouldn't be appropriate at facilities used for therapy. Besides exercise isn't always therapy. The committee sustained its previous approval of this item.

3-13L – 12
1004.3.3, 1004.9. 1004.10.1, 1004.11.2, 1004.11.2.1, 1004.11.3.1.1, 1004.12.2

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

1004.3.3 Clear Floor Space. For the purposes of Type B units, the clear floor space shall be 48 inches (1220mm) minimum in length and 30 inches(760 mm) minimum in width.

1004.9 Operable Parts. Lighting controls, electrical switches and receptacle outlets, environmental controls, electrical panelboards, and user controls for security or intercom systems shall comply with Sections ~~309.2 and~~ 309.3 and 1004.3.3.

EXCEPTIONS:
(No change to the exceptions)

1004.10.1 Clear Floor Space. A clear floor space complying with Section ~~305.3~~ 1004.3.3 shall be provided. A parallel approach shall be provided for a top loading machine. A forward or parallel approach shall be provided for a front loading machine.

1004.11.2 Clear Floor Space. Clear floor spaces required by Section 1004.11.3.1 (Option A) or 1004.11.3.2 (Option B) shall comply with Sections 1004.11.2 and ~~305.3~~ 1004.3.3.

1004.11.2.1 Doors. Doors shall not swing into the clear floor space or clearance for any fixture.

EXCEPTION: Where a clear floor space complying with Section ~~305.3~~ 1004.3.3, excluding knee and toe clearances under elements, is provided within the room beyond the arc of the door swing.

1004.11.3.1.1 Lavatory. A clear floor space complying with Section ~~305.3~~ 1004.3.3, positioned for a parallel approach, shall be provided at a lavatory. The clear floor space shall be centered on the lavatory.

EXCEPTION:
A lavatory complying with Section 606 and1004.3.3 shall be permitted. Cabinetry shall be permitted under the lavatory provided the following criteria are met:

(a) The cabinetry can be removed without removal or replacement of the lavatory; and

(b) The floor finish extends under the cabinetry; and

(c) The walls behind and surrounding the cabinetry are finished.

1004.12.2 Clear Floor Space. Clear floor space at appliances shall comply with Sections 1004.12.2 and ~~305.3~~ 1004.3.3.

Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

Committee Action Report on Ballot and Proponent Comments- July 15-19, 2013:
Proposals of 2012 submitted on the ICC A117.1-2009

Rationale for 3-13L: This proposal establishes a distinct clear floor space for Type B dwelling units. The larger clear floor space established under proposal 3-13-12.

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-HILBERRY.doc

Committee Action

Approved

Committee Reason: The proposal retains the existing clear floor space for Type B dwelling units. The impact of the larger CFS has yet to be fully analyzed with respect to dwelling units.

BALLOT COMMENTS

3-13L.1

Commenter: Steve Orlowski, Representing NAHB
Ballot: Affirmative with comment:

Comment: We agree with the committee that the changes proposed to the CFS increases need to be fully researched and studied before any change is approved, for type B units and all existing buildings.

3-13L.2

Commenter: Gerald Gross, Representing AHLA
Ballot: Negative with comment:

Comment: We not accept the results of a single anthropometric study conducted by the Center for Inclusive Design and Environmental Access. It is understood that the work of the Wheelchair Mobility Task Group is ongoing and has submitted a series of proposal changes to the base building blocks of A117.1 Standard. At this time we believe that the proposed changes to the building blocks are unacceptable and should not be adopted by the Committee; therefore no additional changes are required in this portion of the standard with reference to the building block changes.

3-13L.3

Commenter: Dominic Marinelli, Representing USA
Ballot: Negative with comment:

Comment: As many jurisdictions do not require Type A units from scoping additional (the new) clear floor space may be more important for Type B units.

3-13L.4

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Same comment as 3-6-12. While this appears to be a break for Type B units, this is another 'concession' without a complete investigation of the impacts.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval of this proposal.

3-14 – 12
305.3, Figure 305.3, 305.7.1, 305.7.2

Proposed Change as Submitted

Proponent: Edward Steinfeld, IDEA Center, School of Architecture and Planning, University at Buffalo, State University of New York

Revise as follows:

305.3 Size. The clear floor space shall be ~~48~~ 54 inches (~~1220~~ 1360 mm) minimum in length and ~~30~~ 32 inches (~~760~~ 802 mm) minimum in width.

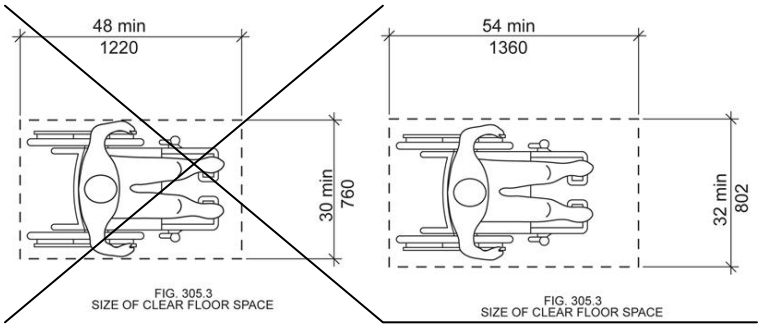


FIG. 305.3
SIZE OF CLEAR FLOOR SPACE

FIG. 305.3
SIZE OF CLEAR FLOOR SPACE

305.7.1 Parallel Approach. Where the clear floor space is positioned for a parallel approach, the alcove shall be ~~60~~ 66 inches (~~1525~~ 1676 mm) minimum in width where the depth exceeds 15 inches (380mm).

305.7.2 Forward Approach. Where the clear floor space is positioned for a forward approach, the alcove shall be ~~36~~ 38 inches (~~915~~ 965 mm) minimum in width where the depth exceeds 24 inches (610mm).

Reason: Many of the technical requirements of the ICC/ANSI A117.1 (2009) Accessible and Usable Buildings and Facilities (ICC/ANSI) designed to accommodate wheeled mobility users are based on research completed from 1974 to 1978 using a research sample that included about 60 individuals who used manual wheelchairs (Steinfeld et al., 1979).

The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users (Steinfeld, et al., 2010). Measurements of body and device size were captured in three dimensions. The functional anthropometric measurements required measuring reaching ability, grip strength and the minimum space needed for turning. It is the most extensive anthropometric study of wheeled mobility device users in the United States. Additional information about the study can be found at http://www.udeworld.com/ansi-standards-review. The proposed revisions are based on new anthropometric information that was generated from the database of anthropometric measurements developed as part of the study.

Analysis

Unlike turning spaces that are based on dynamic requirements, clear floor space represents the space required for a stationary wheeled mobility device. This area is typically depicted as a rectangular space the dimensions of which are based on measurements of occupied length and occupied breadth of wheeled mobility devices, which are defined as follows:

- Occupied length: measured as the horizontal distance between the forward-most point and the rear-most point on the wheelchair or occupant.
- Occupied width: measured as the horizontal distance between the side-most points of the wheelchair or participant on the right and left sides.

The results of our analysis suggest that the existing standard on clear floor space (48” length, 30” width) does not accommodate the occupied lengths and widths of the wheeled mobility user population and excludes powered wheeled mobility device users disproportionately as compared to manual device users. A length of 48” accommodates the occupied length of 75% of manual wheelchair users and only about 50% of powered chair and scooter users. A width of 30” accommodates the occupied width of 90% of manual wheeled mobility device users and only 75% of powered chair users.

We have taken the position that the clear floor space standards should accommodate the occupied lengths and widths of at least 90% of manual and powered wheeled mobility device users. A length of 54” accommodates the occupied lengths of 95% of manual

chair users, and 90% of the powered chair users. A width of 32" accommodates the occupied widths of over 95% of manual wheeled mobility device users and 90% of the powered wheelchair users. Proposed changes to subsection 305.7.1 Parallel Approach reflect the 6-inch adjustment in basic clear floor space in order to be consistent with the current standard. The proposed changes to subsection 305.7.2 reflect the 2-inch adjustment in basic clear floor space in order to be consistent with the current standard.

These calculations are based on the three-dimensional database of wheeled mobility device user dimensions developed by the IDEA Center for the Anthropometry of Wheeled Mobility Project. The analysis was summarized in the Final Project Report to the U.S. Access Board and in a memorandum entitled "Evaluation of Clear Floor Space Requirements," that was submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Clear Floor Space Clearances.

References (See http://www.udeworld.com/ansi-standards-review)

Paquet, V. (2012). *Evaluation of Clear Floor Space Requirements*. A memorandum submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Clear Floor Space Clearances.

Steinfeld, E., Paquet, V., D'Souza, C., Joseph, C, and Maisel, J. (2010). *Final Report: Anthropometry of Wheeled Mobility Project*. Washington, DC: U.S. Access Board.

Steinfeld, E. Schroeder, S. and Bishop, M. (1979). *Accessible buildings for people with walking and reaching limitations.* Washington, DC: U.S. Department of Housing and Urban Development.

305.3-STEINFELD.doc

Committee Action

Disapproved

Committee Reason: The Committee disapproved this proposal in favor of approving Proposal 3-13-12. Clear floor space is a key building block for the rest of the Standard, after considerable debate and reconsideration, this proposal was disapproved in favor 3-13-12.

Staff Note: The history of the vote on this item and 3-13-12 will be reflected in the minutes of the Committee's meetings.

BALLOT COMMENTS

3-14.1

Commenter: Steve Orlowski, Representing NAHB
Ballot: Affirmative with comment:

Comment: The standard dimensions have long been established based on the type of WhMD available at the time that the standard was developed. As more WhMD users purchase larger WhMDs, it doesn't justify need to increase the code and if it is permitted we will see ever. Similar to the last code cycle, the stair manufacturers brought studies trying to validate their proposed changes and were disapproved because their studies did not go out for peer review. In addition, fair housing references the 1986 ANSI A117.1 standards as the baseline which would make the argument that if the older reference standard is deemed a safe harbor, then there will be no reason to continue maintaining this document or to reference any newer version in the code. Proposal 3-13-12 was approved by a slim margin and NAHB disagrees with those members of the committee that would require dwelling units to accommodate these mobility devices that are primarily designed for outdoor use.

3-14.2

Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Same comment as 3-6-12

3-14.3

Commenter: Christopher Bell, Representing ACB
Ballot: Negative with comment:

Comment: This proposal should be approved, as the Committee had done at one point. Remember that a clear floor space needs to accommodate, not only a wheelchair itself, but an occupied wheelchair. A manual wheelchair user must reach his/her hand and bent arm (not just "knuckles") around the wheels' rims in order to grasp the wheel and propel it.

If the Committee maintains 30 inches, the same specification as in the previous edition, but believes, as the research shows, that wheeled mobility devices are larger than they used to be, it means we are giving the individual less room for their body than we did before. CFS needs to be as functional in the future as it has been in the past.

The research shows that 30 inches only accommodates 75% of powered wheelchair users, and 90% of manual wheeled mobility device users. But 32 inches accommodates over 95% of manual wheeled mobility device users and 90% of powered wheelchair users.

3-14.4

Commenter: Marilyn Golden, Representing DREDF
Ballot: Negative with comment:

Comment: This proposal should be approved, as the Committee did at one point. A clear floor space needs to accommodate, not only a wheelchair itself, but the occupant as well. A manual wheelchair user must reach his/her hand and bent arm (not just "knuckles") around the wheels' rims in order to grasp the wheel and propel it.

If the Committee maintains 30 inches, the same specification as in the previous edition, but believes, as the research shows, that wheeled mobility devices are larger than they used to be, it means we are giving the individual less room for their body than we did before. CFS needs to be as functional in the future as it has been in the past.

The research shows that 30 inches only accommodates 75% of powered wheelchair users, and 90% of manual wheeled mobility device users. But 32 inches accommodates over 95% of manual wheeled mobility device users and 90% of powered wheelchair users.

3-14.5

Commenter: Gina Hilberry, Representing UCP
Ballot: Negative with comment:

Comment: My negative vote is based on the reasons originally given by the proponent. The IDeA research indicates that a 32”x 54” space is required to accommodate 90% of power chair users. This is a rapidly growing population and one that represents a large percentage of those served by UCP.

3-14.6

Comment rescinded

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: A large portion of the committee’s debate and consideration focused on the IDeA research. Many expressed the opinion that the results of the study point to needing a 32 by 54 inch clear floor space to accommodate a high percentage of all wheeled mobility device users and further that the 30 by 52 clear floor space approved under Item 3-13-12 is a compromise not fully justified by the background research. The majority of the committee voted to maintain the disapproval of this proposal in favor to the approval of 3-13-12 and the clear floor space of 30 by 52.

3-15 – 12
305.7.2, Figure 305.7(a)

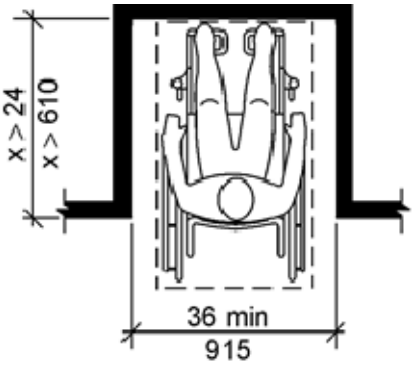
Proposed Change as Submitted

Proponent: Hank Falstad, Access Technologies Services, Inc., representing self

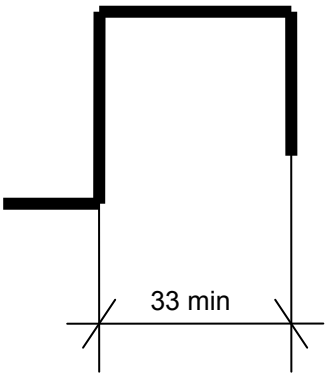
Revise as follows:

305.7.2 Forward Approach. Where the clear floor space is positioned for a forward approach, the full alcove shall be 36 inches (915 mm) minimum in width. Where the depth exceeds 24 inches; on only one side there is a partial alcove, the distance from that wall to the centerline of any element or fixture shall be 18 inches minimum.

Revise figure to change width from 36 to 30 inches.



(a) Forward Approach
Full Alcove
FIGURE 305.7(a)



(a-1) Forward Approach
Partial Alcove

Reason: This allows the hand of the wheelchair user that extra 3 inches that is required in a full alcove.

305.7.2-FALSTAD.doc

Committee Action

Disapproved

Committee Reason: The concept of a partial alcove was not clear to the Committee. Further the text and the figures of the proposal did not appear to be in agreement with each other. The proposal would not improve the Standard.

BALLOT COMMENTS

3-15.1
Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: Change the proposal to read:

Revise as follows:

"Where the alcove has one side greater than and one side less than 24 inches (610 mm) the alcove shall be 33 inches (840) in width." The original proposal makes sense if you think of it as requiring an additional 3 inches on the side where the alcove depth is greater than 24 inches. The added width on the deeper side addresses the concern for hand/knuckle clearance.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee did reconsider the geometry of partial alcoves and the impact of people more fully occupying the width of the alcove. The committee was not convinced a change provided any better access in such situations and reaffirmed its original decision.

3-16 – 12

306.2.1, Figure 306.2, 306.2.2, 306.2.4, 306.2.5, Figure 306.3, 306.3.1, 306.3.2, 306.3.3, 306.3.4, 306.3.5

Proposed Change as Submitted

Proponent: Edward Steinfeld, IDEA Center, School of Architecture and Planning, University at Buffalo, State University of New York

Revise as follows:

306.2.1 General. Space beneath an element between the floor and ~~9~~ 11 inches (~~230~~ 280 mm) above the floor shall be considered toe clearance and shall comply with Section 306.2.

306.2.2 Maximum Depth. Toe clearance shall be permitted to extend ~~25~~ 24 inches (~~635~~ 610 mm) maximum under an element.

306.2.4 Additional Clearance. Space extending greater than ~~6~~ 4 inches (~~150~~ 100 mm) beyond the available knee clearance at ~~9~~ 11 inches (~~230~~ 280 mm) above the floor is allowable but shall not be considered as part of the toe clearance.

306.2.5 Width. Toe clearance shall be ~~30~~ 32 inches (~~760~~ 810 mm) minimum in width.

306.3.1 General. Space beneath an element between ~~9~~ 11 inches (~~230~~ 280 mm) and ~~27~~ 29 inches (~~685~~ 735 mm) above the floor shall be considered knee clearance and shall comply with Section 306.3.

306.3.2 Maximum Depth. Knee clearance shall be permitted to extend ~~25~~ 24 inches (~~635~~ 610 mm) maximum under an element at ~~9~~ 11 inches (~~230~~ 280 mm) above the floor.

306.3.3 Minimum Depth. Where knee clearance is required beneath an element as part of a clear floor space complying with Section 305, the knee clearance shall be ~~11~~ 13 inches (~~280~~ 330 mm) minimum in depth at ~~9~~ 11 inches (~~230~~ 280 mm) above the floor, and ~~8~~ 11 inches (~~205~~ 280 mm) minimum in depth at ~~27~~ 29 inches (~~685~~ 735 mm) above the floor.

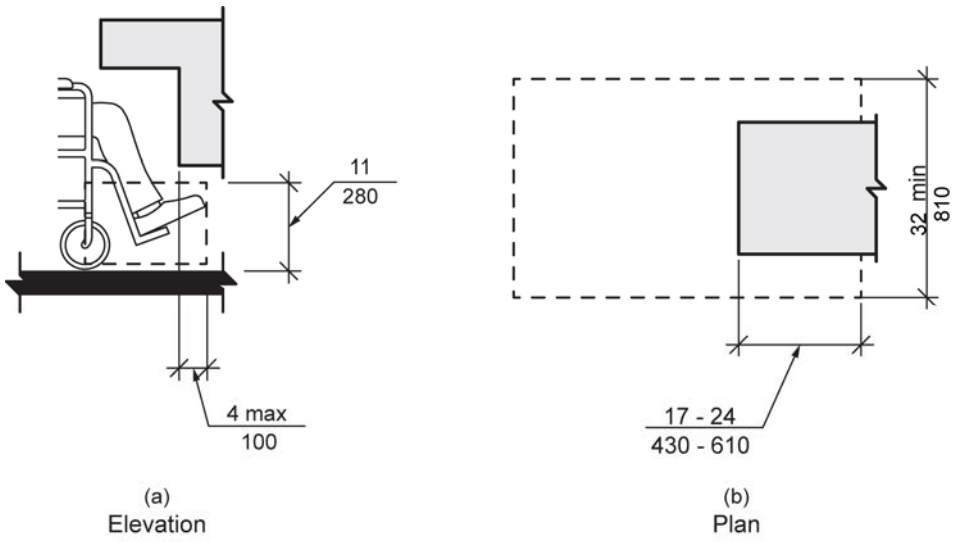


FIG. 306.2
TOE CLEARANCE

306.3.4 Clearance Reduction. Between ~~9~~ 11 inches (~~230~~ 280 mm) and ~~27~~ 29 inches (~~685~~ 735 mm) above the floor, the knee clearance shall be permitted to be reduced at a rate of 1 inch (25 mm) in depth for each ~~6~~ 9 inches (~~150~~ 230 mm) in height.

306.3.5 Width. Knee clearance shall be ~~30~~ 32 inches (~~760~~ 810 mm) minimum in width.

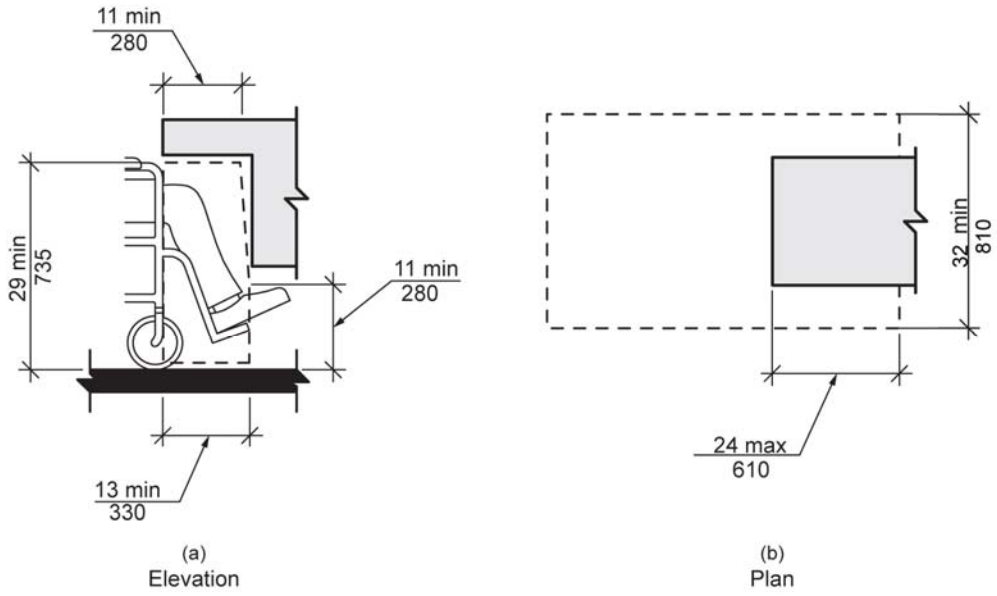


FIG. 306.3
KNEE CLEARANCE

Reason: Many of the technical requirements of the ICC/ANSI A117.1 (2009) Accessible and Usable Buildings and Facilities (ICC/ANSI) designed to accommodate wheeled mobility users are based on research completed from 1974 to 1978 using a research sample that included about 60 individuals who used manual wheelchairs (Steinfeld et al., 1979).

The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users (Steinfeld, et al., 2010). Measurements of body and device size were captured in three dimensions. The functional anthropometric measurements required measuring reaching

ability, grip strength and the minimum space needed for turning. It is the most extensive anthropometric study of wheeled mobility device users in the United States. Additional information about the study can be found at http://www.udeworld.com/ansi-standards-review. The proposed revisions are based on new anthropometric information that was generated from the database of anthropometric measurements developed as part of the study.

Analysis

An analysis based on the original findings of the study in Steinfeld, et al., 2010 was completed for a memorandum entitled "Evaluation of Clear Floor Space Requirements," submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Clear Floor Space Clearances (posted online at website above). This analysis revealed the following:

1. The **current ANSI** knee and toe clearance dimensions **exclude 22.7% of manual** wheelchair users and **48.1% of power** wheelchair users from fitting within a 54-inch clear floor length, given a minimum counter depth. They **exclude 31.4% manual and 58.7% power** wheelchair users at the maximum counter depth. (Paquet, 2012, pg. 12)
2. The **current ANSI** standards place the shoulders of 50% of manual wheelchair users **12.46 inches away from the counter edge (17.2 inches for power wheelchair users)** when the counter is at maximum depth, greatly reducing the likelihood of being able to complete tasks over the target (writing on the surface, or reaching faucet controls). At minimum depth, the shoulder offset is **19.3 inches manual, and 22.2 inches for power** wheelchair users. This indicates that many would encounter a barrier at either the knees or toes, preventing them from moving closer to the target. (Paquet, 2012, pg. 12).

3. Raising the **toe clearance height in 306.2.1 to 11 inches (280 mm)** would decrease the percentages of manual and power wheelchair users excluded from fitting within a 54-inch clear floor length to **17% and 43.4%** respectively (with a minimum counter depth) and **26% and 56.1%** (maximum counter depth) (Paquet, 2012, pg. 21, simulations 13 and 2, respectively). This would reduce the shoulder offsets for manual and power to **11.5 inches and 16 inches** (maximum counter depth) and **18.1 inches and 21.2 inches** (minimum counter depth), respectively. (Paquet, 2012, pg. 21).
4. Raising the **toe clearance height in 306.2.1 to 11 inches (280 mm)** while simultaneously **raising the knee clearance height in 306.3.1 to 29 inches (735 mm)** would further decrease the percentages of manual and power wheelchair users excluded from fitting within a 54-inch clear floor length to **16.2% and 29.6%** respectively (with a minimum counter depth) and **18.4% and 34.4%** (maximum counter depth). This would reduce the shoulder offsets for manual and power to **10.5 inches and 11.4 inches** (maximum counter depth) and **17.8 inches and 18.2 inches** (minimum counter depth), respectively. (Paquet, 2012, pgs. 12-13).
5. The **change proposed** above will exclude only **11.9% of manual** wheelchair users and **25.9% of power** wheelchair users from fitting within a 54-inch clear floor length (with a minimum counter depth). Only **13.7% manual** and **31.2% power** wheelchair users are excluded from fitting within a 54-inch clear floor length given the proposed maximum counter depth. This would mean the shoulder offsets for manual and power would be **11.1 inches and 11.7 inches** (maximum counter depth) and **17 inches and 17.9 inches** (minimum counter depth), respectively. (Paquet, 2012, pgs. 12-13).

Thus, the analysis completed in Paquet, 2012 revealed that the proposed change will allow a greater number of wheeled mobility device users to be accommodated where a clear floor space overlaps knee and toe clearance space. While raising the toe clearance *only* does show some improvement, still this proposal in its entirety benefits a much larger population. Furthermore, the proposed change allows a greater proportion of wheeled mobility device users to get closer to their target before being stopped by a barrier at the knees or toes.

The width of the clear floor space is proposed to increase to 32 inches (810 mm) (see separate change proposal). Therefore, to maintain consistency in the standard, we have also proposed to increase the clear floor space width for the knee and toe clearances. A clear floor space of 32 inches will accommodate the occupied width of at least 95% of manual wheelchair users and at least 90% of power chair users, as opposed to the current standard which only accommodates 90% of manual wheelchair users and 75% of power wheelchair users (Paquet, 2012, pg. 2).

NOTE: This change necessitates a change to Fig. 306.2 and Fig. 306.3 to ensure consistency. Thus, the proposed revised figures have been attached, along with the existing figures for comparison purposes.

References (See http://www.udeworld.com/ansi-standards-review for full text)

Paquet, V. (2012). *Evaluation of Clear Floor Space Requirements.* Memorandum to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Clear Floor Space Clearances. Buffalo, NY: University at Buffalo Center for Inclusive Design and Environmental Access.

Steinfeld, E., Paquet, V., D'Souza, C., Joseph, C, and Maisel, J. (2010). *Final Report: Anthropometry of Wheeled Mobility Project*. Washington, DC: U.S. Access Board.

Steinfeld, E. Schroeder, S. and Bishop, M. (1979). *Accessible buildings for people with walking and reaching limitations.* Washington, DC: U.S. Department of Housing and Urban Development.

306.2.1-STEINFELD.doc

Committee Action

Disapproved

Committee Action Report on Ballot and Proponent Comments- July 15-19, 2013: Proposals of 2012 submitted on the ICC A117.1-2009

Committee Reason: Changing the dimensions of these clearances has significant impacts on many features. While the heights of counters, sinks or fountains are not addressed specifically, the proposal would make fountain designs, work surfaces, sinks and similar features difficult to provide if heights are not raised. There were many concerns that this increase in clearances would force increase height for these features; many of the Committee objected to the potential for these other elements to be affected.

BALLOT COMMENTS

3-16.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Same comment as 3-6-12

If the knee and toe clearance is raised, would accessibility be increased with the subsequent raise of the work surface to 36" in height?

3-16.2

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: This was not adequately discussed in the committee meetings and should be re-visited. The suggestion that this proposal would result in increases in height is purely conjecture and not supported by fact. The evidence supporting this proposal is clear and undisputed.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the impact of raising the sink and lavatory height on balance of the design of the facility as well as the usability of the fixtures to the full variety of persons with disabilities. There were concerns regarding reach ranges over these higher sinks as well as unforeseen impacts on plumbing designed. The committee's original action for disapproval was sustained.

3-17 – 12
306.2.2, 306.3.3

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

306.2.2 Maximum Depth. Where included as part of clear floor space in accordance with Section 306.1, toe clearance shall be permitted to extend 25 inches (635 mm) maximum under an element.

306.3.2 Maximum Depth. Where included as part of clear floor space in accordance with Section 306.1, knee clearance shall be permitted to extend 25 inches (635 mm) maximum under an element at 9 inches (230 mm) above the floor.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

This proposal clarifies the application of the "maximum" depth for knee and toe clearance. The problem is not that knee and toe clearance is not permitted beyond 25 inches, but that it does not qualify for use with the clear floor space.

This is covered by the text in Section 306.1 but it seems to get overlooked. We proposed the version you see above. Below are two other options of how to word the language.

While this revision is not a necessity since the standard is technically correct if users go back and follow Section 306.1; it will help connect the requirements and assist users by clarifying (reinforcing) the connection.

Option 1

306.2.2 Maximum Depth. Where located in accordance with Section 306.1, toe clearance shall be permitted to extend 25 inches (635 mm) maximum under an element.

306.3.2 Maximum Depth. Where located in accordance with Section 306.1, knee clearance shall be permitted to extend 25 inches (635 mm) maximum under an element at 9 inches (230 mm) above the floor.

Option 2

306.2.2 Maximum Depth. Toe clearance shall be permitted to extend 25 inches (635 mm) maximum under an element where included as part of clear floor space in accordance with Section 306.1.

306.3.2 Maximum Depth. Knee clearance shall be permitted to extend 25 inches (635 mm) maximum under an element at 9 inches (230 mm) above the floor where included as part of clear floor space in accordance with Section 306.1.

306.2.2 PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The Committee felt that the revision would result in misapplication of the Standard. More problems are created than solved by the change.

BALLOT COMMENTS

3-17.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Since you cannot reach past your toes with front approach, the allowances for knee and toe clearance set the reach over the obstructions. This needs to be clarified.

These revisions pull the depth requirements into a single section and use text similar to that found in Section 306.1 to clarify what the limits are. The new 306.3.2.4 shown above is based on the existing 306.2.4 and is and modified from Section 306.1 and the proposed 306.2.2.3.

Replace proposal as follows:

306.2 Toe Clearance.

306.2.1 General. Space beneath an element between the floor and 9 inches (230 mm) above the floor shall be considered toe clearance and shall comply with Section 306.2.

306.2.2 Depth. The depth of the toe clearance shall comply with Section 306.2.2.

306.2.2.1 Maximum Depth. Toe clearance shall be permitted to extend 25 inches (635 mm) maximum under an element.

~~**306.2.3**~~ **306.2.2.2 Minimum Depth.** Where toe clearance is required at an element as part of a clear floor space complying with Section 305, the toe clearance shall extend 17 inches (430 mm) minimum beneath the element.

~~**306.2.4**~~ **306.2.2.3 Additional Clearance.** Space extending greater than 25 inches (635 mm) under an element or greater than 6 inches (150 mm) beyond the available knee clearance at 9 inches (230 mm) above the floor shall not be prohibited, but shall not be considered as part of the clear floor space or turning space toe clearance.

~~**306.2.5**~~ **306.2.3 Width.** Toe clearance shall be 30 inches (760 mm) minimum in width.

306.3 Knee Clearance.

306.3.1 General. Space beneath an element between 9 inches (230 mm) and 27 inches (685 mm) above the floor shall be considered knee clearance and shall comply with Section 306.3.

306.3.2 Depth. The depth of the knee clearance shall comply with Section 306.3.2.

306.3.2.1 Maximum Depth. Knee clearance shall be permitted to extend 25 inches (635 mm) maximum under an element at 9 inches (230 mm) above the floor.

~~**306.3.3**~~ **306.3.2.2 Minimum Depth.** Where knee clearance is required beneath an element as part of a clear floor space complying with Section 305, the knee clearance shall be 11 inches (280 mm) minimum in depth at 9 inches (230 mm) above the floor, and 8 inches (205 mm) minimum in depth at 27 inches (685 mm) above the floor.

~~**306.3.4**~~ **306.3.2.3 Clearance Reduction.** Between 9 inches (230 mm) and 27 inches (685 mm) above the floor, the knee clearance shall be permitted to be reduced at a rate of 1 inch (25 mm) in depth for each 6 inches (150 mm) in height.

306.3.2.4 Additional Clearance. Space extending greater than 25 inches (635 mm) under an element or greater than the required knee clearance shall not be prohibited, but shall not be considered as part of the required clear floor space or turning space knee clearance.

~~**306.3.5**~~ **306.3.3 Width.** Knee clearance shall be 30 inches (760 mm) minimum in width.

Proponent Comment

3-17.2

Commenter: Kim Paarlberg, Representing ICC

Replace the proposal with the following:

306.2.2 Maximum Depth. Toe clearance shall be permitted to extend 25 inches (635 mm) maximum under an element where included as part of clear floor space in accordance with Section 306.1.

306.3.2 Maximum Depth. Knee clearance shall be permitted to extend 25 inches (635 mm) maximum under an element at 9 inches (230 mm) above the floor where included as part of clear floor space in accordance with Section 306.1.

Reason: This addresses the clear floor space more as a three dimensional space.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

3-19 – 12
308.1, Table 308.1 (New)

The proponent of 3-19-12 has withdrawn the proposal from consideration.

3-20 – 12
308.2.1, Figure 308.2.1

Proposed Change as Submitted

Proponent: Edward Steinfeld, IDEA Center, School of Architecture and Planning, University at Buffalo, State University of New York

Revise as follows:

308.2.1 Unobstructed. Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be ~~15~~ 23 inches (~~380~~ 585 mm) minimum above the floor.

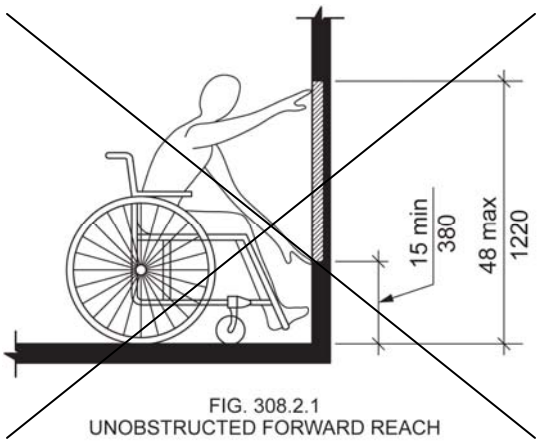


FIG. 308.2.1
UNOBSTRUCTED FORWARD REACH

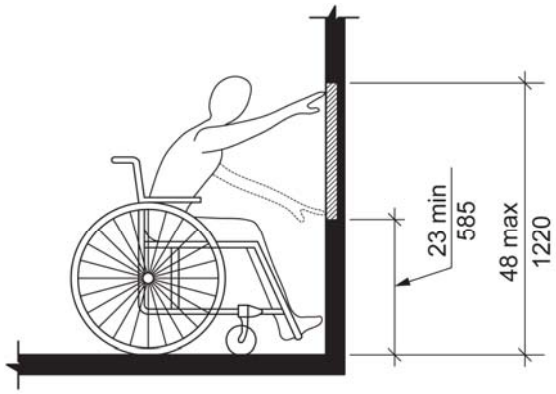


FIG. 308.2.1
UNOBSTRUCTED FORWARD REACH

Reason: Many of the technical requirements of the ICC/ANSI A117.1 (2009) Accessible and Usable Buildings and Facilities (ICC/ANSI) designed to accommodate wheeled mobility users are based on research completed from 1974 to 1978 using a research sample that included about 60 individuals who used manual wheelchairs (Steinfeld et al., 1979).

The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users (Steinfeld, et al., 2010). Measurements of body and device size were captured in three dimensions. The functional anthropometric measurements required measuring reaching ability, grip strength and the minimum space needed for turning. It is the most extensive anthropometric study of wheeled mobility device users in the United States. Additional information about the study can be found at http://www.udeworld.com/ansi-standards-

review. The proposed revisions are based on new anthropometric information that was generated from the database of anthropometric measurements developed as part of the study.

Analysis

In order to compare our measurements of maximum forward reach to the reach ranges in the ICC/ANSI A117.1 Standard, we analyzed our data on maximum forward reach using the forward-most point on the occupied wheeled mobility device as the reference point. This provides us an estimate of the percentage of wheeled mobility users that would be able to reach to or beyond the forward-most point, simulating an unobstructed forward reach. The analysis found that:

1) A substantial number of wheeled mobility users (about 15% of manual chair users and 42% of power chair users) did not possess any functional reach capability (defined as reaching and placing an empty canister above shoulder height), and

2) Of the remaining wheeled mobility users in our study that could perform the reach tests a large percentage could not reach beyond the most forward point of their device or foot. These percentages vary at different heights from the floor, and are also different for manual and power chair users. Figure 3-15 (pg. 68) in the Anthropometry of Wheeled Mobility (AWM) report (Steinfeld et al., 2010) summarizes these findings.

One finding of major concern is that in a functional reach task that involved object (canister) placement, none of the wheeled mobility users in our study that had reach capability could safely reach to the lower reach limit of 15" prescribed in the ICC/ANSI A117.1 Standard. To get a better understanding of reach capability at low reaches, we re-analyzed this data at 1-inch increments from the floor (in contrast to the 4 inch increments used in the AWM report). A sub-set of the data at lower reach heights is provided in Table 1 and forms the basis of our recommendation for identifying an alternate lower reach limit. The upper reach limit accommodated most wheeled mobility users that have reach capability, and thus did not require any change.

Table 1: Percentage of manual and power chair users capable of reaching to the forward-most point on the occupied device between the heights of 11"-28" from the floor

Height from the floor	***% capable of forward unobstructed reach***	
	Manual (n=236)	***Power (n=110)***
27" - 28"	74	52
26" - 27"	68	47
25" - 26"	68	46
24" - 25"	67	45
23" - 24"	51	36
22" - 23"	28	15
21" - 22"	28	14
20" - 21"	26	13
19" - 20"	15	3
18"- 19"	1	0
17" - 18"	1	0
16" - 17"	0	0
15" - 16"	0	0
14" - 15"	0	0
13" - 14"	0	0
12" - 13"	0	0
11" - 12"	0	0

The proportion of manual chair users able to reach to the forward-most point increases dramatically at heights above 23 inches (highlighted in yellow). Power chair users show a smaller but noticeable increase at this height. Hence, **we recommend raising the lower limit for the forward reach range from 15 inches to 23 inches**. Reaching to heights lower than the recommended are less accommodating and potentially unsafe to wheeled mobility users many of whom have poor postural and trunk control.

The proposed change would help accommodate a substantial number of manual chair users (51%) and a sub-set of power chair users (36%) that possess reach capability to accomplish a forward unobstructed reach at lower heights. Raising the lower reach limit would undoubtedly also benefit standing individuals and more so individuals that have trouble bending or kneeling (e.g. the elderly). Further, there are no constraints or requirements in building construction that require operable parts (e.g. electrical outlets) to be placed as low as 15 inches but not at 23 inches.

NOTE 1: This proposed change is also consistent with our recommendation for raising the lower reach limit for unobstructed side reach included in a separate proposal.

NOTE 2: This change necessitates a revision to Fig. 308.2.1 to ensure consistency. A revised figure is attached.

References (See http://www.udeworld.com/ansi-standards-review)

Steinfeld, E., Paquet, V., D'Souza, C., Joseph, C, and Maisel, J. (2010). *Final Report: Anthropometry of Wheeled Mobility Project*. Washington, DC: U.S. Access Board.

Steinfeld, E. Schroeder, S. and Bishop, M. (1979). *Accessible buildings for people with walking and reaching limitations.*Washington, DC: U.S. Department of Housing and Urban Development.

Committee Action

Approved

Committee Reason: In contrast to the side reach proposal which the Committee did not accept, change to forward reach was accepted at the Committee meeting. The case made by the proponent and others is that the forward reach is very restricted, especially when considering the range of mobility devices used. Some members remained concerned that this change would significantly reduce access to electrical outlets, shelving, other equipment and would force redesign of rooms and spaces to accommodate a parallel approach.

BALLOT COMMENTS

3-20.1

Commenter: Ron Burton, Representing BOMA
Ballot: Negative with comment:

Comment: Raising the lower reach range dimension would eliminate many common elements in the building such as kitchen drawers, casement window hardware, bathtub handles, storage units, mailbox locations, kitchen cabinets and other items that are located below the approved 23". It's clear that the current reach range creates issues for some as determined in the 2010 Anthropometry Report. However, as discussed in our comments to 3-6-12, this study has major flaws and the Committee should not base such a far-reaching change on this study alone.

3-20.2

Commenter: David Collins, Representing AIA
Ballot: Negative with comment:

Comment: The work of the study group isn't finalized and the research that formed the basis for this change has not been validated.

3-20.3

Commenter: Gerald Gross, Representing AHLA
Ballot: Negative with comment:

Comment: We not accept the results of a single anthropometric study conducted by the Center for Inclusive Design and Environmental Access. It is understood that the work of the Wheelchair Mobility Task Group is ongoing and has submitted a series of proposal changes to the base building blocks of A117.1 Standard. At this time we believe that the proposed changes to the building blocks are unacceptable and should not be adopted by the Committee; therefore no additional changes are required in this portion of the standard with reference to the building block changes.

3-20.4

Commenter: Ronald G. Nickson, Representing NMHC
Ballot: Negative with comment:

Comment: Raising the lower reach range creates a situation in which a lot of common elements in the building are no longer allowed. I agree that the current reach range creates issues for some as determined in the study. However, we need to take into consideration the needs of others also, and expect people to address and be responsible for individual activities and limitations. This change would have a major impact on storage units, mailbox locations, kitchen cabinets and other items that are normally located below the approved 23".

3-20.5

Commenter: Steve Orlowski, Representing NAHB
Ballot: Negative with comment:

Comment: There are several features within dwelling unit (kitchen drawers, casement window hardware, bath tub handles and hardware) that would be eliminated should the forward reach range be altered. Most electricians do not mount outlets more than 18 inches above the finished floor. Not to mention storage space and work stations in business areas, retail and mercantile. Again these changes, which are based on a single study, should be researched further before such changes occur in the standard.

3-20.6

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Same comment as 3-6-12.

This has a large implication on anything with a low reach – especially outlets and below window HVAC units.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval of this proposal.

3-21 – 12
308.2.1, 308.2.2

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

308.2.1 Unobstructed. Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the floor. For the purpose of this section an unobstructed high reach is permitted over an obstruction where all of the following conditions are met:

1. The clear floor space complying with Section 305 shall extend beneath the element for a distance not less than the required reach depth over the obstruction, and
2. The reach depth over the obstruction is 20 inches (510mm) maximum.

Where the reach depth exceeds 20 inches (510 mm), the high forward reach shall be considered as obstructed and shall comply with Section 308.2.2.

308.2.2 Obstructed High Reach. Where a high forward reach is over an obstruction, the clear floor space complying with Section 305 shall extend beneath the element for a distance not less than the required reach depth over the obstruction. ~~The high forward reach shall be 48 inches (1220 mm) maximum above the floor where the reach depth is 20 inches (510mm) maximum.~~ Where the reach depth over the obstruction exceeds 20 inches (510 mm), the high forward reach shall be 44 inches (1120 mm) maximum above the floor, and the reach depth shall be 25 inches (635 mm) maximum.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The resultant text from this proposal will be as follows:

308.2 Forward Reach.
308.2.1 Unobstructed. Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the floor. For the purpose of this section an unobstructed high reach is permitted over an obstruction where all of the following conditions are met:

1. The clear floor space complying with Section 305 shall extend beneath the element for a distance not less than the required reach depth over the obstruction, and
2. The reach depth over the obstruction is 20 inches (510mm) maximum.

Where the reach depth exceeds 20 inches (510 mm), the high forward reach shall be considered as obstructed and shall comply with Section 308.2.2.
308.2.2 Obstructed High Reach. Where a high forward reach is over an obstruction, the clear floor space complying with Section 305 shall extend beneath the element for a distance not less than the required reach depth over the obstruction. Where the reach depth over the obstruction exceeds 20 inches (510 mm), the high forward reach shall be 44 inches (1120 mm) maximum above the floor, and the reach depth shall be 25 inches (635 mm) maximum.

The intent of this proposal is to provide a clear distinction for when the forward reach is allowed a 48 inch reach height and when the reach height must be lowered to 44 inches. Format wise this also correlates with the side reach provisions of Section 308.3 by addressing an unobstructed reach over a limited depth obstruction and an obstructed reach when the depth of the obstruction exceeds that depth.

One portion of the proposal that the committee or an editorial task group may want to look at is the wording in the second sentence of the proposed Section 308.2.1. That sentence is currently proposed as being “For the purpose of this section an unobstructed high reach is permitted over an obstruction where all of the following conditions are met:”. It may be that the word “obstruction” should be revised to “element” so the sentence would read as “For the purpose of this section an unobstructed high reach is permitted over an element where all of the following conditions are met:”.

If the committee is uncertain of this revised format, another option would be to revise the text to create three separate sections that would address Unobstructed (the normal 15 to 48 inch height) Limited Obstruction (the 20 inch reach depth and its requirements) and then the Obstructed High Reach (with the 44 inch height and the 20 to 25 inch depth for the obstruction). I would be happy to provide that alternate if the committee indicates they are interested in reviewing that option during this development cycle.

308.2.2-Paarlberg.doc

Committee Action

Disapproved

Committee Reason: The Committee was not convinced that the revised text provided clarity over the existing provisions. It was unclear regarding obstructions below a counter.

BALLOT COMMENTS

3-21.1

Commenter: Gene Boecker, Representing NATO
Ballot: Affirmative with comment:

Comment: While the text of the proposal was not clear, this issue needs to be addressed with better clarity. The text and figures shows an unobstructed and obstructed reaches over an object, nothing is mentioned about reaches below. It is not clear how one should design for access to electrical outlets on the wall below a shelf/counter. If the projection is an inch it will likely have no effect on the lower reach range. Similarly, for a 24 inch counter, it can be assumed that access below is not possible. It is unclear where the break point is and whether various combinations are possible. It may be possible to investigate and solve this from the available anthropometric data but it is not included in that standard.

3-21.2

Comment rescinded

3-21.3

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: There is an overlap in the current text for obstructed and unobstructed reach range.
A modification will be developed for this proposal.

3-21.4

Commenter: Hope Reed, Representing NMGCD
Ballot: Negative with comment:

Comment: Reach ranges are provided as a minimum in ANSI. The NMGCD hears of frequent concerns about reach ranges. This section needs further details to improve understanding and enforcement.

Proponent Comment

3-21.5

Commenter: Kim Paarlberg, Representing ICC

Replace the proposal with the following:

308.2.1 Unobstructed. Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the floor.

308.2.2 Obstructed High Reach. Where a high forward reach is over an obstruction, the clear floor space complying with Section 305 and knee and toe clearance complying with Section 306 shall extend beneath the element for a distance not less than the

~~required~~ reach depth over the obstruction. The high forward reach shall be 48 inches (1220 mm) maximum above the floor where the reach depth over the obstruction is 20 inches (510mm) maximum. Where the reach depth over the obstruction is more than ~~exceeds~~ 20 inches (510 mm) and 25 inches (635 mm) or less, the high forward reach shall be 44 inches (1120 mm) maximum above the floor, ~~and the reach depth shall be 25 inches (635 mm) maximum~~.

Reason: The intent is two fold. To talk about this as a three dimensional shape rather than a two dimensional floor space and a wall height. The language also clarifies that you do not reach past your toes, both unobstructed or obstructed reach.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: Based on comment 3-21.5, the committee felt that the revised proposal more clearly expressed the intent of these existing provisions. The new text is to a great extent is an editorial revision of the existing text without any change to the substance of the provision.

Modification:

Replace the proposal with the following:

308.2.1 Unobstructed. Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the floor.

308.2.2 Obstructed High Reach. Where a high forward reach is over an obstruction, the clear floor space complying with Section 305 and knee and toe clearance complying with Section 306 shall extend beneath the element for a distance not less than the ~~required~~ reach depth over the obstruction. The high forward reach shall be 48 inches (1220 mm) maximum above the floor where the reach depth over the obstruction is 20 inches (510mm) maximum. Where the reach depth over the obstruction is more than ~~exceeds~~ 20 inches (510 mm) and 25 inches (635 mm) or less, the high forward reach shall be 44 inches (1120 mm) maximum above the floor, ~~and the reach depth shall be 25 inches (635 mm) maximum~~.

3-22 – 12
308.3.1, Figure 308.3.1

Proposed Change as Submitted

Proponent: Edward Steinfeld, IDEA Center, School of Architecture and Planning, University at Buffalo, State University of New York

Revise as follows:

308.3.1 Unobstructed. Where a clear floor space complying with Section 305 allows a parallel approach to an element and the edge of the clear floor space is 10 inches (255 mm) maximum from the element, the high side reach shall be 48 inches (1220 mm) maximum and the low side reach shall be ~~15~~ 23 inches (~~380~~ 585 mm) minimum above the floor.

EXCEPTION: Existing elements that are not altered shall be permitted at 54 inches (1370 mm) maximum above the floor.

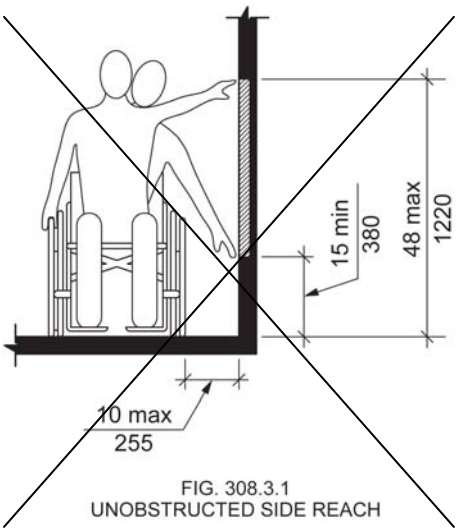


FIG. 308.3.1
UNOBSTRUCTED SIDE REACH

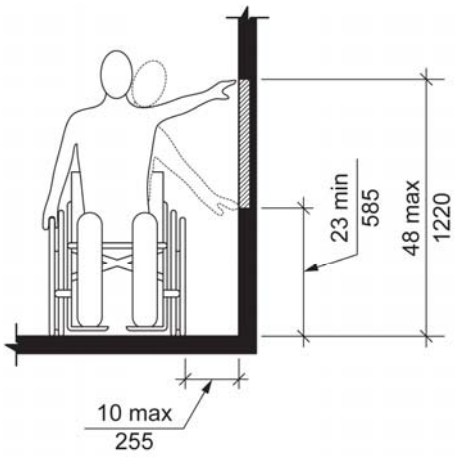


FIG. 308.3.1
UNOBSTRUCTED SIDE REACH

Reason: Many of the technical requirements of the ICC/ANSI A117.1 (2009) Accessible and Usable Buildings and Facilities (ICC/ANSI) designed to accommodate wheeled mobility users are based on research completed from 1974 to 1978 using a research sample that included about 60 individuals who used manual wheelchairs (Steinfeld et al., 1979).

The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users (Steinfeld, et al., 2010). Measurements of body and device size were captured in three dimensions. The functional anthropometric measurements required measuring reaching ability, grip strength and the minimum space needed for turning. It is the most extensive anthropometric study of wheeled mobility device users in the United States. Additional information about the study can be found at http://www.udeworld.com/ansi-standards-review. The proposed revisions are based on new anthropometric information that was generated from the database of anthropometric measurements developed as part of the study.

Analysis

In order to compare our measurements of maximum side reach to the reach ranges in the ICC/ANSI A117.1 Standard, we analyzed our data on maximum side reach using the lateral-most point on the occupied wheeled mobility device as the reference point. This provides us an estimate of the percentage of wheeled mobility users that would be able to reach to or beyond the lateral-most aspect of the occupied device, simulating an unobstructed side reach. The analysis found that:

1) A substantial number of wheeled mobility users (about 15% of manual chair users and 42% of power chair users) did not possess any functional reach capability (defined as reaching and placing an empty canister above shoulder height), and

2) Side reach access is far more preferable to forward reach access, which is quite restricted among the wheelchair user population. This was also evidenced by the percentages of wheeled mobility users reaching to different heights in a side reach being greater than that for a forward reach. These percentages vary at different heights from the floor, and are also different for manual and power chair users. Figure 3-16 (pg. 69) in the Anthropometry of Wheeled Mobility (AWM) report (Steinfeld, et al., 2010) summarizes these findings.

One finding of concern is that in a functional reach task that involved object (canister) placement none of the wheeled mobility users in our study that had reach capability could safely reach to the lower reach limit of 15" prescribed in the ICC/ANSI A117.1 Standard. To get a better understanding of reach capability at low reaches, we re-analyzed the data on side reach at 1 inch increments from the floor (in contrast to the 4 inch increments used in the AWM report). A sub-set of the results for lower reach heights is provided in Table 1 and forms the basis of our recommendation for identifying an alternate lower reach limit. The upper reach limit accommodated most wheeled mobility users that have reach capability, and thus did not require any change.

Table 1: Percentage of manual and power chair users capable of reaching to or beyond the lateral-most point on the occupied device between the heights of 11"-28" from the floor

Height from the floor	***% capable of side unobstructed reach***	
	Manual (n=236)	***Power (n=110)***
27" - 28"	96	86
26" - 27"	86	71
25" - 26"	85	71
24" - 25"	85	70
23" - 24"	68	56
22" - 23"	34	21

21" - 22"	34	19
20" - 21"	34	18
19" - 20"	20	8
18"- 19"	1	0
17" - 18"	1	0
16" - 17"	1	0
15" - 16"	0	0
14" - 15"	0	0
13" - 14"	0	0
12" - 13"	0	0
11" - 12"	0	0

The proportion of manual and power chair users able to reach to or beyond the lateral-most point increases dramatically at heights above 23 inches (highlighted in yellow). Hence, **we recommend raising the lower limit for the forward reach range from 15 inches to 23 inches**. Reaching to heights lower than the recommended are less accommodating and potentially unsafe to wheeled mobility users many of whom have poor postural and trunk control.

The proposed change would help accommodate a substantial number of manual chair users (68%) and power chair users (56%) that possess reach capability to accomplish a forward unobstructed reach at lower heights. Raising the lower reach limit would undoubtedly also benefit standing individuals and more so individuals that have trouble bending or kneeling (e.g. the elderly). Further, there are no constraints or requirements in building construction that require operable parts (e.g. electrical outlets) to be placed as low as 15 inches but not at 23 inches.

NOTE 1 - This proposed change is also consistent with our recommendation for raising the lower reach limit for unobstructed forward reach included in a separate proposal.

NOTE 2: This change necessitates a revision to Fig. 308.3.1 to ensure consistency. A revised figure is attached.

References (See http://www.udeworld.com/ansi-standards-review)

Steinfeld, E., Paquet, V., D'Souza, C., Joseph, C, and Maisel, J. (2010). *Final Report: Anthropometry of Wheeled Mobility Project*. Washington, DC: U.S. Access Board.

Steinfeld, E. Schroeder, S. and Bishop, M. (1979). *Accessible buildings for people with walking and reaching limitations.* Washington, DC: U.S. Department of Housing and Urban Development.

308.3.1-STEINFELD.doc

Committee Action

Disapproved

Committee Reason: Impact of raising the lower side reach would be significant. The information provided was not clear why the existing reach range have been adequate. Why transfer heights in this range have been working.

BALLOT COMMENTS

3-22.1

Commenter: Gina Hilberry, Representing UCP
Ballot: Affirmative with comment:

Comment: I am convinced that 15" unobstructed side reach is too low for a number of wheeled mobility users. However, I am not clear what that number of users is and how that relates to the position of the object relative to the occupied clear floor space. In other words, while I agree that this section probably needs to be changed, I am not sure that 23" is the right number.

3-22.2

Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: I am disturbed by the study showing that 0% are able to reach the current, 15-inch, unobstructed lower reach range – from the side or front. Either the study or the standard is flawed.

3-22.3

Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Same comment as 3-6-12

3-22.4

Commenter: Dominic Marinelli, Representing USA
Ballot: Negative with comment:

Comment: The committee approved 3-20-12 to change reach ranges for forward approach and I think we should be consistent and accept Ed's research on reach ranges for parallel approach as well.

3-22.5

Commenter: Marsha K. Mazz, Representing Access Board
Ballot: Negative with comment:

Comment: The committee approved 3-20-12 for an unobstructed forward approach. The committee reason for disapproving this item is inconsistent with that action given that the substantiation for the change is the same research that was deemed to be adequate to approve 3-20-12.

3-22.6

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: This is inconsistent with the approved change to forward reach so it will add complexity to the standard.

3-22.7

Commenter: Hale Zukas, Representing WID
Ballot: Negative with comment:

Comment: Two thirds of the Committee reason is so poorly worded that it does not even make sense. Our best *guess* as to what staff Intended to say In the second sentence is," The information provided does not make it clear that the existing reach range is not adequate." On the contrary! Rarely has so *much* data been presented in support of changing an existing standard.

As for the third sentence, we are at a loss as to its meaning/relevance.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee maintained the disapproval of this item. Side reach and forward reach have distinct parameters. While a side reach can be over or under an obstacle, it can also be without any obstacle. Comparatively, the forward reach is always one which is limited because the person's legs, feet and toes restrict how close they can get to an object. The standard contains heights for such features as benches, toilets, bathtubs and seats in showers which are at heights lower than 23 inches. These are intended for a side transfer. If the standard says the lowers side reach range is 23 inches, it places many of these features out of range for an acceptable side reach.

3-23 – 12
308.3.1

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

308.3.1 Unobstructed. Where a clear floor space complying with Section 305 allows a parallel approach to an element and the edge of the clear floor space is 10 inches (255 mm) maximum from the element, the high side reach shall be 48 inches (1220 mm) maximum and the low side reach shall be 15 inches (380 mm) minimum above the floor.

EXCEPTIONS:

1. Existing elements that are not altered shall be permitted at 54 inches (1370 mm) maximum above the floor.
2. Operable parts on fuel dispensers installed on an existing curbs shall be permitted at 54 inches (1370 mm) maximum above the floor.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The proposal is consistent with allowances for gas pumps on existing curbs found in ADA. The amount of work to take out the curb and connections is extensive.

308.3.1 #1(REVISED)-PAARLBERG.doc

Committee Action

Approved

Committee Reason: Provides consistency with the ADA 2010.

BALLOT COMMENTS

3-23.1
Commenter: Gerald Gross , Representing AHLA
Ballot: Negative with comment:

Comment: The AHLA does not accept the singular results of the anthropometric study conducted by the Center for Inclusive Design and Environmental Access. It is understood that the work of the Wheelchair Mobility Task Group is ongoing and has submitted a series of proposal changes to the base building blocks of A117.1 Standard. At this time we believe that the proposed changes to the building blocks are unacceptable and should not be adopted by the Committee; therefore no additional changes are required in this portion of the standard with reference to the building block changes.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval of this proposal.

Committee Action Report on Ballot and Proponent Comments- July 15-19, 2013:
Proposals of 2012 submitted on the ICC A117.1-2009

3-24 – 12
308.3.1

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

308.3.1 Unobstructed. Where a clear floor space complying with Section 305 allows a parallel approach to an element and the edge of the clear floor space is 10 inches (255 mm) maximum from the element, the high side reach shall be 48 inches (1220 mm) maximum and the low side reach shall be 15 inches (380 mm) minimum above the floor.

EXCEPTIONS:

1. Existing elements that are not altered shall be permitted at 54 inches (1370 mm) maximum above the floor.
2. Mailboxes serving Type B dwelling units shall be permitted at 54 inches (1370 mm) maximum above the floor.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

There is a code change to the IBC that is adding specific criteria for mailbox scoping. The current proposal is for 50% of the mailboxes required accessible, plus an addition 5% accessible. There has been concern from the post office about providing mailboxes below 29 inches so that the mailmen don't have to bend over too far. Therefore, in facilities with a large number of mailboxes, the additional reach on the high side is needed.

308.3#2(REVISED)-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The Committee was concerned that if this exception is included, it could be abused. It could result in few if any Type B dwelling unit mailboxes being accessible to people who are challenged by reach over 48 inches. The Committee was not convinced that the 'flexibility' resulting from allowing certain mailboxes to be up to 54 is needed.

BALLOT COMMENTS

3-24.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: HUD and the U.S. Post Office continue to debate over the percentage of mailboxes that must be within reach range. The limited reach range (which is less than permitted by HUD) has significant impact on large mailrooms in highrise apartment buildings and dormitories. This is magnified by the post office not wanted boxes below 26 inches for their mail delivery persons.

Proponent Comment

3-24.2

Commenter: Kim Paarlberg, Representing ICC

Requests the proposal be Approved as Submitted:

Reason: The Post office and HUD are still arguing about the scoping for mailboxes. Currently HUD is saying 100%. FHA allows for a maximum reach of 54". In large facilities, the additional 6" in height can be a significant. This could allow 2 additional rows of mailboxes. This proposed language would coordinate with FHA and not reduce the amount of mailboxes that currently are within the reach range for Accessible and Type A units. A significant number of mailboxes serving Type B units would still be within the lower reach.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: Based on information presented with the public comments, the Committee believes an exception for mailboxes associated with Type B dwelling units should be included in the standard. Since the Fair Housing Standard still allows an upper reach range of 54 inches, allowing associated mailboxes within that range is appropriate. It is anticipated that public comment will suggest relocating this proposal to Chapter 10 of the standard.

Modification

2. Mailboxes serving Type B dwelling units and complying with Section 1001.2 shall be permitted a high reach range at 54 inches (1370 mm) maximum above the floor~~.~~

3-26 – 12
308.3.2, 611.3

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

308.3.2 Obstructed High Reach. Where a clear floor space complying with Section 305 allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (865 mm) maximum above the floor and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (1220 mm) maximum above the floor for a reach depth of 10 inches (255 mm) maximum. Where the reach depth exceeds 10 inches (255 mm), the high side reach shall be 46 inches (1170 mm) maximum above the floor for a reach depth of 24 inches (610 mm) maximum.

~~**EXCEPTION:** At washing machines and clothes dryers, the height of the obstruction shall be permitted to be 36 inches (915 mm) maximum above the floor.~~

611.3 Operable Parts. Operable parts, including doors, lint screens, detergent and bleach compartments, shall comply with Section 309.

EXCEPTION: The height of the obstruction can be 36 inches (915 mm) maximum above the floor.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

Why send the user to Section 309, than 308.3.2 to tell them that the height of the washer and dryer can be 36 inches? Just put it in the provisions for washers and dryers.

308.3.2(replacement7-20)-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: Because obstruction is 'defined' in Section 308 and not in Section 611.3, moving this text would result in a disconnect between the exception and its charging provision.

BALLOT COMMENTS

3-26.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The requirements for the washing machines and dryers should be together, not two section references away. See also 6-69.
A modification will be developed for this 3-26 and 6-69.

Proponent Comment

3-26.2

Commenter: Kim Paarlberg, Representing ICC

Replace the proposal with the following:

308.3.2 Obstructed High Reach. Where a clear floor space complying with Section 305 allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (865 mm) maximum above the floor and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (1220 mm) maximum above the floor for a reach depth of 10 inches (255 mm) maximum. Where the reach depth exceeds 10 inches (255 mm), the high side reach shall be 46 inches (1170 mm) maximum above the floor for a reach depth of 24 inches (610 mm) maximum.

> ~~**EXCEPTION:** At washing machines and clothes dryers, the height of the obstruction shall be permitted to be 36 inches (915 mm) maximum above the floor.~~

611.3 Operable Parts. Operable parts, including doors, lint screens, detergent and bleach compartments, shall comply with Sections 308 and 309.

> **EXCEPTION:** The height of the obstruction in Section 308.3.2 shall be permitted to be 36 inches (915 mm) maximum above the floor.

Reason: The allowance for washing machines and clothes dryers in Section 308.3.2 is too remote from the base requirements and the not directly associated with the Section 309 reference (which does reference Section 308). This would not be a technical change, but would be clearer.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

3-27 – 12

309.1, 309.4, 309.5 (New), 309.5.1 (New), 309.5.2 (New), 309.5.3 (New), 309.5.4 (New)

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

309.1 General. Operable parts required to be accessible shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. In kitchens, kitchenettes, toilet and bathing facilities, receptacle outlets and switches shall comply with Section 309.5.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
7. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
8. Gas pump nozzles shall not be required to provide operable parts that have an activating force of 5.0 pounds (22.2 N) maximum in accordance with Section 309.4.
9. Equipment for emergency responders.

309.4 Operation. Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5.0 pounds (22.2 N) maximum.

~~**EXCEPTION:** Gas pump nozzles shall not be required to provide operable parts that have an activating force of 5.0 pounds (22.2 N) maximum.~~

309.5 Receptacle **outlets and switches in kitchens, kitchenettes and toilet and bathing facilities.** Receptacle outlets and switches in toilet and bathing facilities complying with Section 603 and kitchens shall be provided as specified in Sections 309.5.1 through 309.5.4. Outlets and switches in toilet and bathing facilities no complying with Section 603 and kitchenettes shall be provided as specified in Sections 309.5.3 and 309.5.4.

309.5.1 Receptacle outlets required in kitchens. In kitchens, receptacle outlets must be provided at the following locations:

1. A receptacle outlet must be provided over the accessible work surface and comply with Section 308.2.2 (forward obstructed reach range).
2. A receptacle outlet must be provided on one side of the accessible sink less than 12 inches horizontally from the inside face of the sink bowl and 44 inches maximum above the floor level. Receptacle outlets are permitted to be located over adjacent counters or cabinets that are 36 inches (915 mm) maximum.

309.5.2 Receptacle outlets required in toilet and bathing facilities. In toilet and bathing facilities complying with Section 603, an outlet shall be provided on one side of the accessible lavatory less than 12 inches horizontally from the inside face of the lavatory bowl.

309.5.3 Other receptacle outlets. In kitchens, kitchenettes and toilet and bathing facilities, receptacle outlets shall be provided in accordance with the electrical code. Where outlets are provided over counter tops 18 inches or greater in length, at least one outlet per counter length shall be located a minimum of 12 inches horizontally from a cabinet return, perpendicular wall or refrigerator. Receptacle outlets are permitted to be located over cabinets with counter tops 36 inches (915 mm) maximum in height and 25 $^{1}/_{2}$ inches (650 mm) maximum in depth.

Exception: Receptacle outlets within 36 inches horizontally from an inside corner at intersecting counter top runs are not required to comply with this section.

309.5.4 Switches. In kitchens, kitchenettes, and bathing and toilet facilities switches shall comply with the following as applicable:

1. Light switches are permitted to be located over cabinets or counter tops 36 inches (915 mm) maximum in height where the reach depth is 10 inches or less.
2. Switches for lights and for control of garbage disposals are permitted to be located in the same area as the receptacle outlets in Section 309.5.1 Item 2.
3. Redundant controls for range hoods shall be provided over the accessible work surface adjacent to the range, or adjacent to cooktops provide with front approach at a location where access to controls does not require reaching across burners.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The intent of this proposal is to pick up on the same idea for outlets and switches in public kitchens and bathrooms as what is found in the dwelling unit. Literally these areas are sent back to the general operable parts provisions in Section 309.

There is also the idea of providing the same logical exceptions for general spaces as found in dwelling units. The circuit breaker box is not included since this is currently located in areas accessed only be service personnel (which is exempted). There is an added exception for emergency equipment such as call and Knox boxes, fire hoses, hood extinguishers, etc.

Regarding the outlets and switches:

Kitchens, 804.5.2 and 1003.12.4.1 deals with appliance controls, but not the outlets or wall switches. The decision was rather than to go through an extensive exception list, the better approach would be where do we want outlets so they can be reached. There are four plans attached with examples.

The intent is to work with the electrical code, and at the same time place outlets where they would be the most accessible. In Accessible and Type A kitchens, an outlet would be required at the work surface and immediately adjacent to the sink. The immediately adjacent is so that the electrical cord would not fall into the water and cause a safety hazard. Switches for lights over the sink and the garbage disposal are permitted in the same area.

In Accessible and Type A bathrooms, an outlet would be required adjacent to the accessible lavatory.

For all kitchens, kitchenettes and bathrooms (Accessible, Type A and Type B), an outlet would be located so that they would fall in the best reach area. In order to allow this, you do not ask for compliance with outlets over less than 18" lengths of counter or in dead corners. See the attached graphics for application.

For Accessible and Type A units, switches are permitted

1) on the side wall over a standard counter if the reach was less than 10 inches
2) next to the sink
3) over the accessible work surface

In Type B units, the switch can be over a standard counter. Since switches tend to be next to doors or the sink where it might be confined, it was decided not to ask for distance from obstructions.

Is there an interest in allowing for outlets or switches to be provided under the upper cabinets? This would typically be 54 inches high and 15-18 inches deep.

309.1 (NEW)-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: Consistent with the action to disapproved proposal 10-7-12

Committee Action Report on Ballot and Proponent Comments- July 15-19, 2013:
Proposals of 2012 submitted on the ICC A117.1-2009

BALLOT COMMENTS

3-27.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: There are two reasons this proposal needs to be revisited.

The exceptions for operable parts listed in dwelling units are just as relevant in other locations, so they should be located in Section 309.

Reach range for outlets over counters needs to be addressed. Current language does not allow for outlets over any standard kitchen counter heights. The height of standard appliances and cabinets force many parts of the counter to be at 36" heights unless custom and expensive options are chosen. The electrical codes set where outlets are required.

Replace the proposal as follows:

309.1 General. Operable parts required to be accessible shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. Receptacle outlets located over counters in kitchens, other than those required by Section 309.5.
3. Receptacle outlets located over counters in kitchenettes, toilet and bathing facilities.
4. Floor receptacle outlets.
5. HVAC diffusers.
6. Controls mounted on ceiling fans.
7. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
8. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.

309.5 Receptacle outlets in kitchens. At least one receptacle outlet shall be provided over the accessible work surface and the receptacle outlet shall comply with Section 308.2.2 (forward obstructed reach range).

Proponent Comment

3-27.2

Commenter: Kim Paarlberg, Representing ICC

Revise the proposal as follows:

Change 1 -

309.1 General. Operable parts required to be accessible shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with 309.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
7. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.

Change 2 -

309.1 General. Operable parts required to be accessible shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. Receptacle outlets located over counters in kitchens and kitchenettes, other than those required by Section 309.5.
3. Receptacle outlets located over counters in toilet and bathing facilities.
4. Floor receptacle outlets.
5. HVAC diffusers.
6. Controls mounted on ceiling fans.
7. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
8. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.

309.5 Receptacle outlets in kitchens. At least one receptacle outlet shall be provided over the accessible work surface and the receptacle outlet shall comply with Section 309.

Change 3 –

309.1 General. Operable parts required to be accessible shall comply with Section 309.

EXCEPTION: Operable parts on equipment for emergency responders is not required to comply with Section 309.

Reason: There are three reasons this proposal needs to be revisited.

Change 1 - The exceptions for operable parts listed in dwelling units are just as relevant in other locations, so they should be located in Section 309.

Change 2 – Difference is dealing with outlets. Reach range for outlets over counters needs to be addressed. Current language does not allow for outlets over any standard kitchen counter heights. The height of standard appliances and cabinets force many parts of the counter to be at 36" heights unless custom and expensive options are chosen. The electrical codes set where outlets are required.

Change 3 – If Change 1 or 2 are accepted, this item would be an added exception. This can be stand alone. Emergency responders are not employees, so the exception in the IBC would not address this issue. Items such as knox boxes, connections on stand pipes, equipment within the fire command stations, should not have to comply with clear floor space, reach range and force. The exception located here would not exempt the provisions from the protruding object requirements in Section 307.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments

Committee Reason: The committee accepted the change indicated by Change 1 in Comment 3-27.2. It reflects exceptions already in the standard but which are located in other provisions. Duplicating them here eliminates the debate that one section is more stringent than the other.

Modification

Replace the original proposal as follows:

309.1 General. Operable parts required to be accessible shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with 309.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.

7. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.

3-28 – 12
309.2

Proposed Change as Submitted

Proponent: Edward Steinfeld, IDEA Center, School of Architecture and Planning, University at Buffalo, State University of New York

Revise as follows:

309.2 Clear Floor Space. A clear floor space complying with Section 305, positioned for a parallel approach, shall be provided at a minimum, unless otherwise specified.

Reason: Many of the technical requirements of the ICC/ANSI A117.1 (2009) Accessible and Usable Buildings and Facilities (ICC/ANSI) designed to accommodate wheeled mobility users are based on research completed from 1974 to 1978 using a research sample that included about 60 individuals who used manual wheelchairs (Steinfeld et al., 1979).

The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users (Steinfeld, et al., 2010). Measurements of body and device size were captured in three dimensions. The functional anthropometric measurements required measuring reaching ability, grip strength and the minimum space needed for turning. It is the most extensive anthropometric study of wheeled mobility device users in the United States. Additional information about the study can be found at http://www.udeworld.com/ansi-standards-review. The proposed revisions are based on new anthropometric information that was generated from the database of anthropometric measurements developed as part of the study.

Analysis

Unlike turning spaces that are based on dynamic requirements, clear floor space represents the space required for a stationary wheeled mobility device. This area is typically depicted as a rectangular space the dimensions of which are based on measurements of occupied length and occupied breadth of wheeled mobility devices, which are defined as follows:

- Occupied length: measured as the horizontal distance between the forward-most point and the rear-most point on the wheelchair or occupant.
- Occupied width: measured as the horizontal distance between the side-most points of the wheelchair or participant on the right and left sides.

Furthermore, clear floor space dimensions for reaching are different from seating because they require a specific orientation to the target. This type of clear floor space should be used for tasks that involve reaching or grasping to adjacent design elements such as sink faucets, door handles, wall outlets, and other wall-mounted elements. Further, they can be applied to the operation of automated teller machines, information kiosks, where there is a need for allowing flexibility in use by people that are right or left hand dominant, as well as taking into account how an individual will be oriented when reaching and seek to optimize the range of reach i.e., forward vs. sideways reach. **Our data suggest that only 50% of wheeled mobility device users can reach beyond the forward most boundary of their wheeled mobility device or foot, and therefore providing accommodations for lateral reach is critical for tasks involving operable parts.**

The ICC/ANSI A117.1 (2009) Accessible and Usable Buildings and Facilities (ICC/ANSI) prescribes minimum dimensions for a 'generic' clear floor area space to accommodate wheeled mobility users, but does not take into account task demands (e.g., reaching, grasping) or any variation in how users may accomplish the task. The minimum required clear floor area prescribed is 30 inches wide by 48 inches long.

We have taken the position that the clear floor space standards should accommodate the occupied lengths and widths of at least 90% of manual and powered wheeled mobility device users. A length of 54" accommodates the occupied lengths of 95% of manual chair users, and 90th%tile values of length and width for the power chair and scooter users. A width of 32" accommodates the occupied widths of over 95% of manual wheeled mobility device users and 90% of the powered wheeled mobility device users. **We propose that tasks involving operable parts require a minimum clear floor space that is 54" wide by 32" deep. We propose clearances that allow for a side (parallel) approach to all operable parts at a minimum, and recommend additionally providing a forward approach for use by those who are capable of operating parts with such an approach. Such a recommendation would therefore result in a "T" shape clearance having the recommended dimensions that we propose for section 305 of the standard.** We added, "unless otherwise specified," to account for the few circumstances, such as water fountains and lavatories, where a forward approach is more accommodating.

These calculations provided are based on the three-dimensional database of wheeled mobility device user dimensions developed by the IDEA Center for the Anthropometry of Wheeled Mobility Project. The analysis was summarized in the Final Project Report to the U.S. Access Board and in a memorandum entitled "Evaluation of Clear Floor Space Requirements," that was submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Clear Floor Space Clearances.

References (See http://www.udeworld.com/ansi-standards-review)

Paquet, V. (2012). *Evaluation of Clear Floor Space Requirements*. A memorandum submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Clear Floor Space Clearances.

Steinfeld, E., Paquet, V., D'Souza, C., Joseph, C, and Maisel, J. (2010). *Final Report: Anthropometry of Wheeled Mobility Project*. Washington, DC: U.S. Access Board.

Steinfeld, E. Schroeder, S. and Bishop, M. (1979). *Accessible buildings for people with walking and reaching limitations.* Washington, DC: U.S. Department of Housing and Urban Development.

Committee Action

Disapproved

Committee Reason: The proposal would set up a preference in the Standard for a parallel approach to any operable part. The Committee found that this would be a bad format for the Standard, requiring a review of operable parts throughout the Standard and require revision or restatement. Two examples raised is doors and elevators. The text may directly conflict with Section 305.

BALLOT COMMENTS

3-28.1

Comment rescinded

3-28.2

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: This issue was not given enough consideration during committee deliberations. The research shows that a forward reach is not feasible for a large number of wheelchair users without knee clearance. So, we should give considerable thought to how forward reach is used throughout the standard. Arguing that it is too difficult or too complicated to make the revisions is not an acceptable reason for ignoring this issue.

Proponent Comment

3-28.3

Commenter: Edward Steinfeld, Representing RESNA

Alternative Proposal

309.2 Clear Floor Space. A clear floor space complying with Section 305, positioned for a parallel approach or forward approach shall be provided. If a forward approach is the only possible approach, a toe kick space of 4 in. min. shall be provided under the target.

Reason: The reason for disapproval was not based on the merit of the proposal from a technical perspective. Rather it was based on the difficulty of tracking the changes throughout the document and potential conflicts with other criteria. Therefore, I propose an alternative proposal that would eliminate the need for changing the format of the standard. The IDeA Center research results shows that 90% of manual wheelchair users can complete a functional reach at 48 in. with a toe kick of 4 in. But, without the toe kick, only 70% could complete that same reach task. With regard to doors, handles project out from the surface of the door and usually it is possible to at least have an angled approach. The minimum dimensions for elevators allow a side reach to the standard panel locations on the front wall or side wall.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

3-29 – 12
309.3, 309.4 (New)

Proposed Change as Submitted

Proponent: Hale Zukas, representing World Institute on Disability

Revise as follows:

309.3 Height. Operable parts shall be placed within one ~~or more~~ of the reach ranges specified in Section 308

309.4 Horizontal Placement. Operable parts shall be placed 24 inches (610 mm) minimum from adjacent inside corners.

EXCEPTIONS:

1. Elevator control panels shall not be required to comply with Section 309.4.
2. In alcoves whose width is less than 48 inches, operable parts shall be located on the centerline of the alcove width.

~~**309.4**~~ **309.5 Operation**. (No change in text.)

Reason: 1. One recommendation in the IDeA study is that "Standards developers should consider requiring either side reach access to all targets within the scope of standards or limiting front reach to locations where knee clearance is provided beyond the plane on which the target is located." The purpose of this proposal is o implement this recommendation by a) requiring a side approach to almost all operable parts, and b) requiring that operable parts be located on the centerline of the associated clear floor space in order to accommodate the varying reaching abilities of as many wmd users as possible
2. The words "or more" in existing Section 309.3 are superfluous.

309.3-ZUKAS.doc

Committee Action

Disapproved

Committee Reason: The Committee found the proposal unclear. Was it intended to just apply to alcoves at doorways, or any alcove? The term 'inside corner' is unclear. The impact on toilet rooms and water closet compartments could be significant.

BALLOT COMMENTS

3-29.1
Comment rescinded

3-29.2
Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: This issue was not given enough consideration during committee deliberations. While the proposal was probably not well crafted, the issue is a real one. The research shows that access to controls in a corner location is very problematic. We need to revisit this proposal and develop a workable solution.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

3-30 – 12
309.4

Proposed Change as Submitted

Proponent: Gene Boecker, Code Consultants, Inc

Revise as follows:

309.4 Operation. Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5.0 pounds (22.2 N) maximum.

EXCEPTIONS:

1. Gas pump nozzles shall not be required to provide operable parts that have an activating force of 5.0 pounds (22.2 N) maximum.
2. Fire rated opening protectives shall have the minimum opening force allowed by the appropriate administrative authority. These forces do not apply to the force required to retract bolts or disengage other devices that hold the door or chute in a closed position.

Reason: Laundry chutes, trash chutes, and other rated openings may require a force greater than 5.0 pounds (22.2 N) maximum to remain in a closed position, especially in high rise buildings. The exception uses the same language of door opening force for fire doors in Section 404.2.8. However, because these access openings are not passage doors, they do not fall into the overview of Section 404 and require attention in another section of the standard. This Section is the appropriate location.

The last sentence is open for discussion. While access to these elements is important, it remains to be seen if the hardware is capable of the desired operation and also meet the required safety features. For example, it may be not possible to design the hardware on the trash chute to operate at 5 pounds force maximum due to the need for a tight fit when the chute is closed. If the provision is included here that requires the bolt retraction/disengagement to be subject to this force can it be achieved by the time the standard would be adopted and enforced?

309.4-BOECKER.doc

Committee Action

Disapproved

Committee Reason: The Committee found that text too broad in its application. The reason statement implies a much more limited proposal.

BALLOT COMMENTS

3-30.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: It is not clear if this is to address level handles on doors or items other than doors. Since doors are in Chapter 4, that should be clarified for this to be revisited.

3-30.2
Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: Substitute the text from 4-23 - 13 as follows for exception #2:

"2. Hardware operation by a rotational motion: 28 inch-pounds (315 N·cm) maximum."

This will set a standard for operable elements which require turning.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

3-31 – 12
309.4.1 (New)

Proposed Change as Submitted

Proponent: Hope Reed, New Mexico Governor's Commission on Disability (NMGCD)

Add new text as follows:

309.4.1 Card Key Operation. Card keys shall slide horizontally.

Reason: Add new section to make hotel card keys easier to use. Accessible card keys need to slide horizontally to allow gravity to work with them and allow the card key to fall into your open hand or on your lap. The vertical card keys are far more difficult to pinch and at the same time pull up, then rotate to place it in your other hand or on your lap before you lose your grip.

309.4.1 (New)-REED.doc

Committee Action

Disapproved

Committee Reason: The proposal controls the action of the card key versus stating that the card key reader shall accommodate a horizontal slide of the card keys. The Committee also expressed concern that many readers are becoming proximity readers and requiring a specific motion may be outdated. No evidence was provided justifying that the horizontal motion is appropriate for the range of disabilities.

BALLOT COMMENTS

3-31.1
Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: To address the committee's concerns and the proponent's intent, consider changing the text to read:

Revise as follows:

309.4.1 Card Key Reader. Card key readers which require a card to be swiped shall be mounted such that the reader will accommodate a horizontal swipe.

3-31.2
Comment rescinded

3-31.3
Commenter: Marsha K. Mazz, Representing Access Board
Ballot: Negative with comment:

Comment: The committee reason for disapproval reflects a belief that card readers are trending towards proximity cards. If this is the case, the committee should consider requiring these types of readers instead of card readers that require the user to insert and swipe the card. Modify and Approve the proposal as shown below. An exception for cards used in financial transactions is included because I don't believe that proximity cards are typical for ATM, fare machines, or similar self-service machines.

Revise as follows:

309.4.1 Card Key Operation. Card keys readers shall not require the user to swipe the card in any direction.

EXCEPTION: Card key readers used to conduct financial transactions shall not be required to comply with 309.4.1.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee did discuss the many uses of this type of device. There was concern that many are not accessible to persons with disabilities that restrict grip, pinching and turning. Yet the committee also recognized that technology is currently so varied and changing so rapidly that trying to establish an appropriate minimum standard would require more research and information.

Chapter 4
Items 4-1-12 through 4-58-12
August 7, 2013.

This is one of ten documents containing those proposed changes to the A117.1 Standard, 2009 edition; for which A117.1 Committee received Ballot or Proponent Comments. Each item was discussed at the meeting of Committee during the week of July 15, 2013, in Washington D.C. The Committee took action on each proposal and such action is specified herein. The actions listed here are subject reconfirmation by the Committee via the Committee's ballot process.

Please note: This document does not contain proposals for which no comments were received. Those proposals, and the Committee decision on each one, can be viewed in the Committee Action Report (CAR) under the title: First Draft Standard Development at this following location: http://www.iccsafe.org/cs/standards/A117/Pages/default.aspx

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4-1 – 12
402 (New), 402.1 (New)

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

402 Accessible means of egress

402.1 General. Means of egress shall comply with Section 1007 of the International Building Code.

EXCEPTIONS:

1. Where means of egress are permitted by local *building* or life safety codes to share a common path of egress travel, *accessible means of egress* shall be permitted to share a common path of egress travel.
2. Areas of refuge shall not be required in detention and correctional *facilities*.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The committee often says that other codes than IBC adopt A117.1. The A117.1 should refer to IBC for means of egress to be consistent with ADA 207.1 and to include safe egress in the technical criteria in this standard. I do not want to reference the older editions of the IBC. The latest IBC exceeds the requirements in the editions references.

The proposed language matches ADA 207.1. However, in my opinion, the exceptions are not needed.

402.1 (New)(Revised)-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The Committee was concerned that the proposal would set up an unintended conflict between the IBC and the Standard, especially where they had not yet been coordinated. The proposal also takes on the feeling of being scoping.

BALLOT COMMENTS

4-1.1

Commenter: Hansel Bauman, Representing NAD
Ballot: Negative with comment:

Comment: The intent of this proposal is sound. The proponent should be given a chance to revise and resubmit the text for more specificity to provide sufficient information to allow compliance.

4-1.2

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Exiting for persons with disabilities is just as important as getting into a building, if not more so. This reference would be consistent with the 2010 ADA Standard. Technical and scoping criteria is located within the building code. This is consistent with the ICC A117.1 reference to NFPA 72 for visible and audible alarm requirements.

Replace proposal as follows:

402 Accessible means of egress

402.1 General. Means of egress shall comply with Section 1007 of the *International Building Code*.

Proponent Comment

4-1.3

Commenter: Kim Paarlberg, Representing ICC

Replace the proposal with the following:

402 Accessible means of egress

402.1 General. Means of egress shall comply with Section 1007 of the International Building Code.

Reason: Exiting for persons with disabilities is just as important as getting into a building, if not more so. This reference would be consistent with the 2010 ADA Standard. Technical and scoping criteria is located within the building code. This is consistent with the ICC A117.1 reference to NFPA 72 for visible and audible alarm requirements.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee sustained it original action to disapprove this change. In addition it did consider simple references to the IBC, but were dissuaded that such 'simple' reference would get more complex as other model codes such as the NFPA 5000 should also be referenced.

4-3 – 12
402.2 (New)

Proposed Change as Submitted

Proponent: Melanie J. Hughes, VA Department for the Blind and Vision Impaired, representing Association for the Education and Rehabilitation of the Blind and Visually Impaired (AER)

Add new text as follows:

402.2. Conflict with Vehicular Routes. Accessible routes shall not overlap vehicular routes except at crossings.

Reason: Lack of protected accessible routes to shopping centers, malls and other public spaces separated from the roadway by large parking lots present a barrier to those who are dependent upon public transportation and pedestrian modes of travel. The need to walk through parking lots to get from public transportation stops, public streets, or sidewalks, makes it difficult and unsafe for persons who have visual impairments or mobility impairments and persons of short stature, including children, to access many facilities.

402.2 (New)-HUGHES.doc

Committee Action

Disapproved

Committee Reason: The Committee felt this proposal was too vague and didn't provide sufficient information to allow compliance. However the many are sympathetic to the issue. Persons using wheelchairs will generally need to use the accessible route to gain access, persons with vision impairments can use other routes to get from one location to another. Thus this proposal won't necessarily make those with visual impairments any safer. Many of the Committee believe this issue needs more attention.

BALLOT COMMENTS

4-3.1
Commenter: Hansel Bauman, Representing NAD
Ballot: Negative with comment:

Comment: The proposal is worthy of further refinement and re submittal by the proponent. The idea that this proposal could be improved to be accepted at a later date was supported by committee members.

4-3.2
Commenter: Hope Reed, Representing, NMGCD
Ballot: Negative with comment:

Comment: Accessible Route conflict with vehicular routes needs further consideration.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

4-5 – 12
403.5

Proposed Change as Submitted

Proponent: Ed Roether, representing the ADA/A117 Harmonization Task Group

Revise as follows:

403.5 Clear Width. Except as provided in 403.5.2 and 403.5.3, the clear width of an accessible route shall be 36 inches (915 mm) minimum.

Reason: The ADA/A117 Harmonization Task Group (HTG) was created as a task group of the A117.1 Committee to compare the 2010 ADA with the 2009 A117.1 Standard. The HTG has recommend a series of changes through a set of change proposals. The HTG is recommending changes, for the most part, address where the ADA was viewed as more stringent than the A117. Where the A117 contained provisions not addressed in the ADA, these were not considered a conflict needing action to amend the A117. In addition there are a number of places where the ADA and A117.1 are different as a result of specific actions, by the A117.1 Committee during the development of the 2009 edition, to remain or create a difference where, in the judgment of the committee the ADA was deficient.

Reason for 403.5. To provide consistent language with the ADA. This is a simple addition of text directing the users of the standard to provisions where the width is required to be other than 36 inches. A117.1 has the corresponding provisions, but not the text helping the users get to them.

403.5-ROETHER.doc

Committee Action

Approved

Committee Reason: The proposal provides clear reference to locations in the Standard where wider widths are required.

BALLOT COMMENTS

4-5.1
Commenter: Rick Lupton, Representing WABO
Ballot: Negative with comment:

Comment: This proposal creates a conflict with the existing exception to Section 403.5 and omits clear door widths specified in Section 404.2.2.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments

Committee Reason: The committee considered a revised proposal which changed the format of the code from a requirement and 2 exceptions into a 3 part requirement. Application of the sections will be clearer.

Modification

Replace the proposal with the following:

403.5 Clear width. The clear width of an accessible route shall comply with Section 403.5.1. 403.5.2 or 403.5.3 as applicable.

403.5.1 General. The clear width of an accessible route shall be 36 inches (915 mm) minimum.

EXCEPTION: The clear width shall be permitted to be reduced to 32 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum provided the reduced width segments are separated by segments that are 48 inches (1220 mm) minimum in length and 36 inches (915 mm) minimum in width.

403.5.2 ~~403.5.1~~ Clear Width at 180 Degree Turn. Where an accessible route makes a 180 degree turn around an object that is less than 48 inches (1220 mm) in width, clear widths shall be 42 inches (1065 mm) minimum approaching the turn, 48 inches (1220 mm) minimum during the turn, and 42 inches (1065 mm) minimum leaving the turn.

EXCEPTION: Section 403.5.2 ~~403.5.1~~ shall not apply where the clear width during the turn is 60 inches (1525 mm) minimum.

403.5.3 ~~403.5.2~~ Passing Space. An accessible route with a clear width less than 60 inches (1525 mm) shall provide passing spaces at intervals of 200 feet (61 m) maximum. Passing spaces shall be either a 60-inch (1525 mm) minimum by 60-inch (1525 mm) minimum space, or an intersection of two walking surfaces that provide a T-shaped turning space complying with Section 304.3.2, provided the base and arms of the T-shaped space extend 48 inches (1220 mm) minimum beyond the intersection.

4-6 – 12
403.5, Figure 403.5, 403.5.1, Figure 403.5.1(c) (New), 403.5.2

Proposed Change as Submitted

Proponent: Edward Steinfeld, IDEA Center, School of Architecture and Planning, University at Buffalo, State University of New York

Revise as follows:

403.5 Clear Width. The clear width of an accessible route shall be 36 inches (915 mm) minimum.

EXCEPTION: The clear width shall be permitted to be reduced to ~~32~~ 34 inches (~~815~~ 860 mm) minimum for a length of 24 inches (610 mm) maximum provided the reduced width segments are separated by segments that are ~~48~~ 54 inches (~~1220~~ 1370 mm) minimum in length and 36 inches (915 mm) minimum in width.

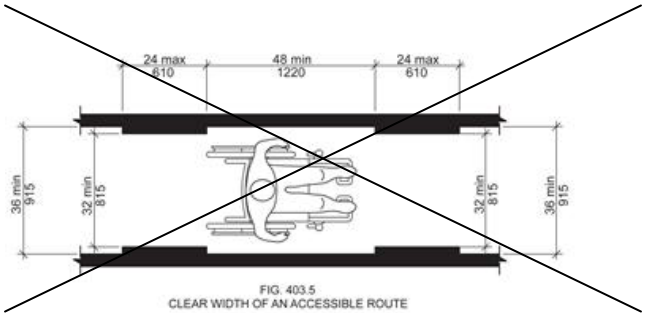


FIG. 403.5
CLEAR WIDTH OF AN ACCESSIBLE ROUTE

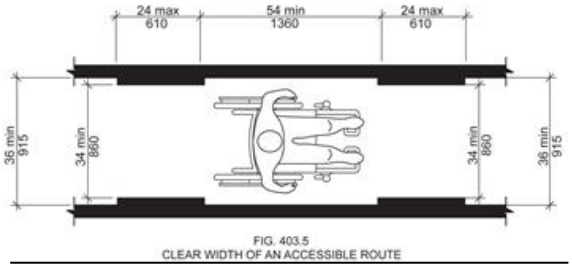


FIG. 403.5
CLEAR WIDTH OF AN ACCESSIBLE ROUTE

403.5.1 Clear Width at 180 Degree Turn Around Object. Where an accessible route makes a 180 degree turn around an object that is less than 48 inches (1220 mm) in width, clear widths shall be 42 inches (1065 mm) minimum approaching the turn, 48 inches (1220 mm) minimum during the turn, and 42 inches (1065 mm) minimum leaving the turn.

EXCEPTIONS:

1. Section 403.5.1 shall not apply where the clear width during the turn is 60 inches (1525 mm) minimum.

2. Section 403.5.1 shall not apply where a minimum clear width of 43 inches (1090 mm) is provided approaching, during, and leaving the turn.

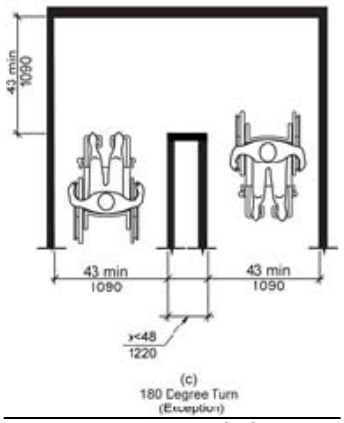


FIG. 403.5.1 (c)

403.5.2 Passing Space. An accessible route with a clear width less than ~~60~~ 64 inches (~~1525~~ 1625 mm) shall provide passing spaces at intervals of 200 feet (61 m) maximum. Passing spaces shall be either a 60-inch (1525 mm) minimum by ~~60-inch~~ 64-inch (~~1525~~ 1625 mm) minimum space, or an intersection of two walking surfaces that provide a T-shaped turning space complying with Section 304.3.2, provided the base and arms of the T-shaped space extend ~~48~~ 54 inches (~~1220~~ 1360 mm) minimum beyond the intersection.

Reason: Many of the technical requirements of the ICC/ANSI A117.1 (2009) Accessible and Usable Buildings and Facilities (ICC/ANSI) designed to accommodate wheeled mobility users are based on research completed from 1974 to 1978 using a research sample that included about 60 individuals who used manual wheelchairs (Steinfeld et al., 1979).

The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users (Steinfeld, et al., 2010). Measurements of body and device size were captured in three dimensions. The functional anthropometric measurements required measuring reaching ability, grip strength and the minimum space needed for turning. It is the most extensive anthropometric study of wheeled mobility device users in the United States. Additional information about the study can be found at http://www.udeworld.com/ansi-standards-review. The proposed revisions are based on new anthropometric information that was generated from the database of anthropometric measurements developed as part of the study.

Analysis

Clear floor space represents the space required for a stationary wheeled mobility device. This area is typically depicted as a rectangular space the dimensions of which are based on measurements of occupied length and occupied breadth of wheeled mobility devices, which are defined as follows:

- Occupied length: measured as the horizontal distance between the forward-most point and the rear-most point on the wheelchair or occupant.
- Occupied width: measured as the horizontal distance between the side-most points of the wheelchair or participant on the right and left sides.

The results of our analysis suggest that the existing standard on clear floor space (48” length, 30” width) does not accommodate the occupied lengths and widths of the wheeled mobility user population and excludes powered wheeled mobility device users disproportionately as compared to manual device users. A length of 48” accommodates the occupied length of 75% of manual wheelchair users and only about 50% of powered chair and scooter users. A width of 30” accommodates the occupied width of 90% of manual wheeled mobility device users and only 75% of powered chair users.

We have taken the position that the clear floor space standards should accommodate the occupied lengths and widths of at least 90% of manual and powered wheeled mobility device users. A length of 54” accommodates the occupied lengths of 95% of manual chair users, and 90% of the powered chair users. A width of 32” accommodates the occupied widths of over 95% of manual wheeled mobility device users and 90% of the powered wheelchair users. **Proposed changes to subsections 403 (Walking Surfaces) would accommodate an occupied length of 54 inches and occupied width of 32 inches (adjusted to 34 inches to be consistent with the 2 inch increase in the standard to accommodate width changes related to movement) for those parts of the standard based on occupied length and width.**

A new exception is proposed for the 180-degree turns, based on an analysis also completed for the Anthropometry of Wheeled Mobility report. The analysis suggested that 95% of manual wheelchair users, as well as 95% of power chair and scooter users could accomplish a turn around a barrier when all three sides of the turn were 43 inches (Steinfeld, et al., 2010, pg. 166).

The analysis was summarized in the Final Project Report to the U.S. Access Board and in a memorandum entitled “Evaluation of Clear Floor Space Requirements,” that was submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Clear Floor Space Clearances.

References (See http://www.udeworld.com/ansi-standards-review)

Paquet, V. (2012). *Evaluation of Clear Floor Space Requirements*. A memorandum submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Clear Floor Space Clearances.

Steinfeld, E., Paquet, V., D'Souza, C., Joseph, C, and Maisel, J. (2010). *Final Report: Anthropometry of Wheeled Mobility Project*. Washington, DC: U.S. Access Board.

Steinfeld, E. Schroeder, S. and Bishop, M. (1979). *Accessible buildings for people with walking and reaching limitations.* Washington, DC: U.S. Department of Housing and Urban Development.

403.5-STEINFELD.doc

Committee Action

Approval as Modified

Modification – The original proposal is replaced with the following

403.5 Clear Width. The clear width of an accessible route shall be 36 inches (915 mm) minimum.

> **EXCEPTION:** The clear width shall be permitted to be reduced to 32 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum provided the reduced width segments are separated by segments that are ~~48~~ 52 inches (~~1220~~ ???? mm) minimum in length and 36 inches (915 mm) minimum in width.

403.5.2 Passing Space. An accessible route with a clear width less than 60 inches (1525 mm) shall provide passing spaces at intervals of 200 feet (61 m) maximum. Passing spaces shall be either a 60-inch (1525 mm) minimum by 60-inch (1525 mm) minimum space, or an intersection of two walking surfaces that provide a T-shaped turning space complying with Section 304.3.2, provided the base and arms of the T-shaped space extend ~~48~~ 52 inches (~~1220~~ ???? mm) minimum beyond the intersection.

Committee Reason: The Committee agreed to a revised clear floor space of 30 by 52 inches in Proposal 3-13-12. The original proposal here assumed a larger clear floor space, therefore the Committee approved only changes needed to address the 30 by 52 dimensions. Changes to Section 403.5.1 were not approved because the Committee felt the changes approved in proposal 4-8-12 were more appropriate.

BALLOT COMMENTS

4-6.1

Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: This should only be added to the next edition if the increase in wheelchair length is approved. Otherwise the standard will be disjointed and inconsistent. In the proposal, the "???" metric dimension for 52 inches should be 1320 mm to be consistent with its measure elsewhere in the standard.

4-6.2

Commenter: Ron Burton, Representing BOMA
Ballot: Negative with comment:

Comment: 90% of the manual and powered Wheeled Mobility Devices (WhMD) users can navigate the current 32 Inch width according to the proponents own reason statement. This argues against making the change to 34 inches for the allowable width. In addition, data in the study does not support the need for the increased dimension because the study places emphasis on mobility devices that have limited mobility. As we previously emphasized, the study does not take into consideration the availability of mobility devices that have greater mobility, and in fact may include devices intended only for outdoor use. We also oppose the proposed 52 inch length as this will have a significant impact on the interior of dwelling units where the occupant may not utilize the larger wheeled mobility devices.

4-6.3

Commenter: David Collins, Representing AIA
Ballot: Negative with comment:

Comment: The work of the study group isn't finalized and the research that formed the basis for this change has not been validated.

4-6.4

Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Negative with comment:

Comment: There has been no evidence presented that this is a necessary change and will be a burden on the public due to an increase in the area required. The evidence presented only addresses the wide variety of mobility devices in service today. It does not address whether the problem is in the manufacture of these mobility devices that do not conform to the current requirement or whether the built-environment needs to change to accommodate mobility devices that need a larger space and cannot be designed and manufactured in such a way as to fit within the current space. We don't continue to let automobile manufacturers build wider and wider autos to go on our roads… they must be built to standards that allow them to work with our current road system.

4-6.5

Commenter: Gerald Gross, Representing AHLA
Ballot: Negative with comment:

Comment: The AHLA does not accept the singular results of the anthropometric study conducted by the Center for Inclusive Design and Environmental Access. It is understood that the work of the Wheelchair Mobility Task Group is ongoing and has submitted a series of proposal changes to the base building blocks of A117.1 Standard. At this time we believe that the proposed changes to the building blocks are unacceptable and should not be adopted by the Committee; therefore no additional changes are required in this portion of the standard with reference to the building block changes.

As an example: According to the IDEA analysis (4-6-12) a clear width of 30" accommodates the occupied width of 90% of manual wheelchair users and 75% of power chair users. An increase of the clear width to 32" would accommodate the occupied widths of 95% of manual users and 90% of powered chair users. The 2" would increase the manual wheelchair users by 5% and the power chair users by 15%. If this hypothesis is adopted than passage doors must comply with this theory.

According to the IDEA analysis (4-12-12) a width of 32" accommodates the width of over 95% of manual wheelchair users and 90% of power chair users. Therefore, the proposed changes to subsection 404 (Doors and Doorways) should be adjusted to 34" to be consistent with the increased standard to accommodate width changes related to movement.

4-6.6

Commenter: Gina Hilberry, Representing UCP
Ballot: Negative with comment:

Comment: Part of the justification the committee used for leaving the clear floor space building block at a width of 30" was that the building block applies only to a person and wheeled device in a stationary position. In this section, we are looking at the person in motion and the width of the person + hand and forearm should be considered. The proposal as modified should be additionally modified to say: "Exception: the clear width shall be permitted to be reduced to 34 inches minimum…." If the committee wishes to reduce the maximum depth of the reduced width segment, the 32" may be functional.

Revise as follows:

403.5 Clear Width. The clear width of an accessible route shall be 36 inches (915 mm) minimum.

> **EXCEPTION:** The clear width shall be permitted to be reduced to ~~32~~ 34 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum provided the reduced width segments are separated by segments that are 52 inches (???? mm) minimum in length and 36 inches (915 mm) minimum in width.

403.5.2 Passing Space. An accessible route with a clear width less than 60 inches (1525 mm) shall provide passing spaces at intervals of 200 feet (61 m) maximum. Passing spaces shall be either a 60-inch (1525 mm) minimum by 60-inch (1525 mm) minimum space, or an intersection of two walking surfaces that provide a T-shaped turning space complying with Section 304.3.2, provided the base and arms of the T-shaped space extend 52 inches (???? mm) minimum beyond the intersection.

4-6.7

Commenter: Ronald G. Nickson, Representing NMHC
Ballot: Negative with comment:

Comment: Data in the study does not support the need for the increased dimension because the study places emphasis on mobility devices that have limited mobility. The study does not take into consideration the availability of mobility devices that have great mobility and that are not limited because of improper design.

4-6.8

Commenter: Steve Orlowski, Representing NAHB
Ballot: Negative with comment:

Comment: In the proponents own reason statement… 90% of the manual and powered Wheeled Mobility Devices (WhMD) users can navigate the current 32 Inch width, thereby not supporting the need for the change to 34 inches for the allowable width. In addition the proposed 52 inch length will have a significant impact on the interior of dwelling units where the occupant may not utilize the larger WhMD.

4-6.9

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Same comment as 3-6-12.

Committee Review of Comments and Action – July 2013

Approval as Modified.

Committee Reason: After discussion of issues raised by the comments, the committee sustained its previous decision to approve as modified. A proposal to change the exception to a width of 34 inches rather than the current 32 was debated. The argument was that the study is indicating people will be occupying more of the 30 inch width of a moving chair or other device, and extra space is needed. The committee felt that for the short length of these excepted spaces that 32 inches was still acceptable and was consistent with the width of doors.

4-7 – 12
403.5, 406.1, 406.4, 406.7, 406.10, 705.5.4

Proposed Change as Submitted

Proponent: Gina Hilberry, United Cerebral Palsy Association

Revise as follows:

403.5 Clear Width. The clear width of an interior accessible route shall be 36 inches (915 mm) minimum. The clear width of an exterior accessible route shall be 48 inches (1220 mm) minimum.

Exceptions:

1. The clear width shall be permitted to be reduced to 32 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum provided the reduced width segments are separated by segments that are 48 inches (1220 mm) minimum in length and 36 inches (915 mm) minimum in width.

2. The clear width of an exterior ramp shall be permitted to be reduced to 36 inches (915 mm) minimum.

406.1 General. Curb ramps on accessible routes shall comply with Sections 406, 405.2, 405.3, and 405.10.

Exceptions:

1. The curb ramp running slope shall not exceed 8.3 percent maximum but shall not required the ramp length to exceed 15.0 feet (4.5 m).

2. The running slope of blended transitions shall be 5 percent maximum.

406.4 Width. Curb ramps shall be ~~36 inches (915 mm)~~ 48 inches (1220 mm) minimum in width, exclusive of flared sides.

406.7 Landings. Landings shall be provided at the tops of curb ramps. The clear length of the landing shall be ~~36 inches (915 mm)~~ 48 inches (1220 mm) minimum. The clear width of the landing shall be at least as wide as the curb ramp, excluding flared sides, leading to the landing. Where the turning space or landing is constrained at the back-of-sidewalk, the landing shall be 48 inches (1220 mm) wide minimum and 60 inches (1550 mm) deep minimum.

Exception: In alterations, where there is no landing at the top of curb ramps, curb ramp flares shall be provided and shall not be steeper than 1:12.

406.10 ~~Diagonal~~ Curb Ramps ~~Diagonal or corner type~~ Curb ramps with returned curbs or other well-defined edges shall have the edges parallel to the direction of pedestrian flow. ~~The bottom of diagonal curb ramps shall have 48 inches (1220 mm) minimum clear space outside active traffic lanes of the roadway. Diagonal~~ Curb ramps provided at marked crossings shall provide ~~the~~ 48 inches (1220 mm) minimum clear space within the markings. ~~Diagonal Curb ramps with flared sides shall have a segment of curb 24 inches (610 mm) minimum in length on each side of the curb ramp and within the marked crossing.~~

705.5.4 Alignment. Truncated domes shall be aligned in a square or radial grid pattern.

Reason: These proposals all relate to current best practices in the Public Right-of-Way and exterior environments.

Section 403.5 Width of exterior accessible route: this change matches the current language in the PROW guidelines. The edges of sidewalks and other accessible routes are clearly different from the edges of hallways and corridors and similar interior surfaces. Dropping off the edge of a sidewalk can have serious consequences. Passing oncoming pedestrians on 36 inch wide is impossible.

Section 406.4 Width of curb ramps and Section 406.7 Landings. These changes bring A117.1 into harmony with the current PROW guidelines.

Section 406.10 Diagonal ramps are no longer recommended design layouts. Deletion of the word diagonal allows the requirements to remain largely in place but to be applied to other curb ramps plan types.

Section 705.5.4 At blended transitions where the slope of the surface is at 5% maximum, it is important that the truncated domes align with the path of travel. Adding "or radial" permits the installation of domes aligned with the path of travel.

403.5-HILBERRY.doc

Committee Action

Approval as Modified

Modification – Only the revisions to Section 403.5 were accepted.

403.5 Clear Width. The clear width of an interior accessible route shall be 36 inches (915 mm) minimum. The clear width of an exterior accessible route shall be 48 inches (1220 mm) minimum.

Exceptions:

1. The clear width shall be permitted to be reduced to 32 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum provided the reduced width segments are separated by segments that are 48 inches (1220 mm) minimum in length and 36 inches (915 mm) minimum in width.

2. The clear width of an exterior ramp shall be permitted to be reduced to 36 inches (915 mm) minimum.

Committee Reason: The proposal was reduced to just addressing the width of exterior accessible routes. A few states already have adopted a greater exterior width. Ramps need to be exempted because of how ramps and their handrails located on both sides are used. Some members of the Committee expressed concern that changing the width from 36 to 48 moves the standard away from providing only the minimum needed for accessibility. It was questioned whether there is simply a need for better edge protection of such routes and not simply widening them.

BALLOT COMMENTS

4-7.1

Commenter: Todd Andersen
Ballot: Negative with comment:

Comment: No evidence was provided that there is a need for wider accessible routes outdoors. Other than donning a parka I think of nothing that would cause the person using a wmd to become wider after leaving a building.

4-7.2

Commenter: Ron Burton, Representing BOMA
Ballot: Negative with comment:

Comment: This change is based on proposals that have not been finalized and, because they could change, should not be used as the basis for a change to the A117.1 standard.

4-7.3

Commenter: Ronald G. Nickson, Representing NMHC
Ballot: Negative with comment:

Comment: The change is based on proposals that have not been finalized and, because they could change, should not be used as the basis for a change to the A117.1 standard.

4-7.4

Commenter: Rick Lupton, Representing WABO
Ballot: Negative with comment:

Comment: The reason statement appears to intend that this provision apply to such structures as sidewalks. However, the proposed language goes beyond that, also including such elements as an exterior balcony.

4-7.5

Commenter: Steve Orlowski, Representing NAHB
Ballot: Negative with comment:

Comment: The proposed PROW guidelines that were released for public comment in 2011 have not been finalized. The previous versions of the PROW still in the have not been accepted nor adopted by any federal agency since it was first developed by the US Access Board. In addition, in one section the maximum slope is given in percentages and the other is given in inches. Deleting diagonal curb ramps will be an additional hardship to those jurisdictions which spent funds to put them in the first place and will not be able to repair them or alter them in the future.

4-7.6

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: The 48 in. width for exterior routes is far too restrictive. It would be impossible to comply with this requirement in many existing sites and also would unnecessarily lead to excessive pavement, conflicting with other important design goals. There is no evidence that a 48 in. clear width is needed for one way passage on curb ramps nor on sidewalks. Beyond a width of 36 in. min., the width of circulation spaces should be based on the amount of traffic which is something to be considered by designers of each project, not standards. If the intent is to require enough space for two way traffic, the width has to be greater, e.g. 22+36 = 58. But there are many locations where two way traffic is not needed. A good example is a curb ramp leading to an access aisle at a reserved parking space.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The committee reconsidered whether it is appropriate to require a wider minimum width for exterior accessible routes. The different factors affecting exterior versus interior accessible routes and how people must use them continued to convince the committee that a wider exterior route is necessary. The modification reflects a clarification of the exterior ramp section. There is more to ramp width than 36 inches, therefore a reference to the ramp section provides better guidance to the users of the standard.

Modification

403.5 Clear Width. The clear width of an interior accessible route shall be 36 inches (915 mm) minimum. The clear width of an exterior accessible route shall be 48 inches (1220 mm) minimum.

Exceptions:

1. The clear width shall be permitted to be reduced to 32 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum provided the reduced width segments are separated by segments that are 48 inches (1220 mm) minimum in length and 36 inches (915 mm) minimum in width.

2. The clear width of an exterior ramp shall ~~be permitted to be reduced to 36 inches (915 mm) minimum~~ comply with Section 405.5.

4-8 – 12
403.5.1

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

403.5.1 Clear Width at 180 Degree Turn. Where an accessible route makes a 180 degree turn around an object that is less than 48 inches (1220 mm) in width, clear widths shall be 42 inches (1065 mm) minimum approaching the turn, 48 inches (1220 mm) minimum during the turn and 42 (1065 mm) inches minimum leaving the turn 52 inches (1320 mm) in width minimum, clear widths shall be as permitted for turn complying with 405.5.1. Where an accessible route makes a 180 degree turn around an object that is less than 52 inches (1320 mm) inches, the clear widths approaching the turn, during the turn and leaving the turn, shall be one of the following sets of dimensions:

1. Approaching 36 inches (915 mm) minimum, during 60 inches (1525 mm) minimum, and leaving 36 inches (915 mm) minimum.
2. Approaching 42 (1065 mm) inches minimum, during 48 inches (1220 mm) minimum, and leaving 42 (1065 mm) inches minimum.
3. Approaching 43 inches (1090 mm) minimum, during 43 inches (1090 mm) minimum, and leaving 43 inches (1090 mm) minimum.

Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

403.5.1-HILBERRY.doc

Committee Action

Approval as Modified

Modification

403.5.1 Clear Width at 180 Degree Turn. Where an accessible route makes a 180 degree turn around an object that is ~~less~~ equal to or greater than ~~48 inches (1220 mm) in width, clear widths shall be 42 inches (1065 mm) minimum approaching the turn, 48 inches (1220 mm) minimum during the turn and 42 (1065 mm) inches minimum leaving the turn~~ 52 inches (1320 mm) in width, the clear widths in the turn shall comply with Section 405.5.1. Where an accessible route makes a 180 degree turn around an object that is less than 52 inches (1320 mm) inches in width, the clear widths approaching the turn, during the turn and leaving the turn, shall be one of the following sets of dimensions:

1. Approaching width is 36 inches (915 mm) minimum, during width is 60 inches (1525 mm) minimum, and leaving width is 36 inches (915 mm) minimum.

2. Approaching width is 42 (1065 mm) inches minimum, during width is 48 inches (1220 mm) minimum, and leaving width is 42 (1065 mm) inches minimum.

3. Approaching width is 43 inches (1090 mm) minimum, during width is 43 inches (1090 mm) minimum, and leaving width is 43 inches (1090 mm) minimum.

~~**EXCEPTION:** Section 403.5.1 shall not apply where the clear width during the turn is 60 inches (1525 mm) minimum.~~

Committee Reason: The Committee looked at the geometries of the L-turn; 180 degree turn and the T-turn. This represents the options of the 180 degree turn. The Committee recognized that between these specific measurements are likely to be additional combinations that do provide adequate space. The text may be better presented in a table format.

BALLOT COMMENTS

4-8.1

Commenter: Gene Boecker, Representing NATO
Ballot: Affirmative with comment:

Comment: Figures should be provided to illustrate these dimensional options.

4-8.2

Commenter: Ron Burton, Representing BOMA
Ballot: Negative with comment:

Comment: We agree with the Committee vote to allow the three different options as that will provide increased maneuverability. However, this should be based on the current clear floor space of 30 x 48.

4-8.3

Commenter: Gerald Gross, Representing AHLA
Ballot: Negative with comment:

Comment: The AHLA does not accept the singular results of the anthropometric study conducted by the Center for Inclusive Design and Environmental Access. It is understood that the work of the Wheelchair Mobility Task Group is ongoing and has submitted a series of proposal changes to the base building blocks of A117.1 Standard. At this time we believe that the proposed changes to the building blocks are unacceptable and should not be adopted by the Committee; therefore no additional changes are required in this portion of the standard with reference to the building block changes.

4-8.4

Commenter: Ronald G. Nickson, Representing NMHC
Ballot: Negative with comment:

Comment: Allowing the three different options will provide increased flexibility in maneuvering, however they should be based on the current clear floor space of 30 x 48.

4-8.5

Commenter: Steve Orlowski, Representing NAHB
Ballot: Negative with comment:

Comment: We do not disagree with the committee's decision to allow the three additional options, but rather the increased dimension based upon a clear floor space dimension of 30 x 52.

4-8.6

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Same comment as 3-6-12.

Committee Review of Comments and Action – July 2013

Approved as Modified.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval as modified.

4-9 – 12
403.5.2 (NEW)

Proposed Change as Submitted

Proponent: Gina Hilberry and David Collins, Co-Chairs Wheeled Mobility Task Group

Revise as follows:

403.5.2 Clear Width at 90 Degree Turn. Where an accessible route makes a 90 degree turn the clear widths approaching the turn and leaving the turn shall be one of the following sets of dimensions:

1. Both legs of the turn shall be 40 inches (1016 mm) minimum.
2. Where one leg of the turn is 40 inches (1016 mm) minimum for a distance of 68 inches (1727 mm) from the interior corner of the turn, the other leg shall be 36 inches (915 mm) minimum.
3. Where the interior corners of the turn are chamfered for 8 inches minimum along both walls, both legs of the turn shall be 36 inches (915 mm) minimum.

Reason: The Wheeled Mobility Task Group (WMTG) was created as a task group of the A117.1 Committee to analyze the results of the anthropometric study of a variety of mobility device users conducted by The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users. The study indicates that the technical provisions contained in the A117.1 standard do not address the needs of the full range of users of mobility devices. The work of the WMTG is ongoing, but it has submitted a series of proposed changes to the base building blocks of the A117.1 standard. If the changes to the building blocks are adopted by the Committee, then additional changes will need to be made in other portions of the standard.

403.5.2 (NEW)-HILBERRY.doc

Committee Action

Approval as Modified

Modification

403.5.2 Clear Width at 90 Degree Turn. Where an accessible route makes a 90 degree turn the clear widths approaching the turn and leaving the turn shall be one of the following sets of dimensions:

1. Both legs of the turn shall be 40 inches (1016 mm) minimum.in width

2. ~~Where one leg of the turn is 40 inches (1016 mm) minimum in width for a distance of 68 inches (1727 mm) minimum in length from the interior corner of the turn, the other leg shall be 36 inches (915 mm) minimum in width.~~

2. Where the interior corners of the turn are chamfered for 8 inches minimum (205 mm) along both walls, both legs of the turn shall be 36 inches (915 mm) minimum in width.

Committee Reason: This WMTG, and the Committee concluded that the Standard needed to more clearly address how a 90 turn occurs in an accessible route. The options considered addressed the range of equipment used. After considerable evaluation of the geometry and use mechanics of various dimensions, the Committee concluded that the 2 options provided for a range of compliant designs.

BALLOT COMMENTS

4-9.1

Commenter: Gerald Gross, Representing AHLA
Ballot: Negative with comment:

Comment: The AHLA does not accept the singular results of the anthropometric study conducted by the Center for Inclusive Design and Environmental Access. It is understood that the work of the Wheelchair Mobility Task Group is ongoing and has submitted a series of proposal changes to the base building blocks of A117.1 Standard. At this time we believe that the proposed changes to

the building blocks are unacceptable and should not be adopted by the Committee; therefore no additional changes are required in this portion of the standard with reference to the building block changes.

4-9.2

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Same comment as 3-6-12.

Committee Review of Comments and Action – July 2013

Approved as Modified

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval as modified of this proposal.

4-10 – 12
403.5.3 (New)

Proposed Change as Submitted

Proponent: Jonathan White, representing himself

Add new text as follows:

403.5.3 Clear Width at 90 Degree Turn. Where an accessible route makes a 90 degree turn, the clear width shall be 40 inches (1015 mm) minimum. At least one leg of the turn shall be clear of obstructions for a length of 14 inches (355 mm) minimum with the other leg clear of obstructions for at least 28 inches (710 mm) minimum.

EXCEPTIONS:

1. Where one leg of the turn is 42 inches (1065 mm) minimum in width, the other shall be permitted to be 38 inches (965 mm) minimum in width, with the narrower leg being clear of obstructions for a length of 26 inches (660 mm) minimum, and the other leg being clear of obstructions for a length of 15 inches (380 mm) minimum.

2. Where one leg of the turn is 44 inches (1115 mm) minimum in width, the other shall be permitted to be 36 inches (915 mm) minimum in width, with the narrower leg being clear of obstructions for a length of 24 inches (610 mm) minimum, and the other leg being clear of obstructions for a length of 16 inches (405 mm) minimum.

Reason: Many of the technical requirements of the ICC/ANSI A117.1 (2009) Accessible and Usable Buildings and Facilities (ICC/ANSI) designed to accommodate wheeled mobility users are based on research completed from 1974 to 1978 using a research sample that included about 60 individuals who used manual wheelchairs (Steinfeld et al., 1979).

The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users (Steinfeld, et al., 2010). Measurements of body and device size were captured in three dimensions. The functional anthropometric measurements required measuring reaching ability, grip strength and the minimum space needed for turning. It is the most extensive anthropometric study of wheeled mobility device users in the United States. Additional information about the study can be found at http://www.udeworld.com/ansi-standards-review. The proposed revisions are based on new anthropometric information that was generated from the database of anthropometric measurements developed as part of the study.

Analysis

The results of our analysis suggest that the existing standard on a 90-degree turn does not accommodate the occupied lengths and widths of the wheeled mobility user population and excludes powered wheeled mobility device users disproportionately as compared to manual device users. This is based on the IDEA center's 90-degree turn data in *Final Report: Anthropometry of Wheeled Mobility Project.* Fewer than 75% of manual and power wheelchair users could negotiate a L-turn that was 36 inches width (pg. 154). **A width of 40 inches would accommodate 94% of manual wheelchair users, 99% of power wheelchair users, and 92% of scooter users.**

The exceptions are the results of estimated percentages by the IDEA center in a memorandum by Edward Steinfeld, to the ANSI subcommittee on Turning. The estimated percentages for Option B, C and D are the actual percentages for the narrower 90 degree turns. In other words, we tested a 90 degree turn of 38 x 38 without a chamfer. We are using that data to estimate the minimum percentage accommodated by the chamfered version. Thus, this is a conservative estimate because widening one side and adding the chamfer would clearly increase the percentage accommodated.

The table in the memorandum is below:

Proportion of the sample accommodated in each of the four alternatives for a L-turn

% Accommodated	Data Source	Manual (n=208)	Power (n=150)	Scooter (n=23)
Option A (40"x40")	Measured data for 40" x 40"	94%	99%	92%
Option B (42"x38")	Estimate based on data for 38"x38"	Min. 85%	Min. 87%	Min. 67%
Option C (44"x36")	Estimate based on data for 36"x36"	Min. 71%	Min. 71%	Min. 46%
Option D (36"x36" w/chamfer)	Estimate based on data for 36"x36"	Min. 71%	Min. 71%	Min. 46%

The analysis was summarized in the Final Project Report to the U.S. Access Board and in a memorandum entitled "Evaluation of Clear Floor Space Requirements," that was submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Clear Floor Space Clearances.

References (See http://www.udeworld.com/ansi-standards-review)

Steinfeld, E. (2012). *Summary of Turning Discussion and Responses and Recommended Dimensions for Turning Spaces.* A memorandum submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Turning Spaces.

Steinfeld, E., Paquet, V., D'Souza, C., Joseph, C, and Maisel, J. (2010). *Final Report: Anthropometry of Wheeled Mobility Project*. Washington, DC: U.S. Access Board.

Steinfeld, E. Schroeder, S. and Bishop, M. (1979). *Accessible buildings for people with walking and reaching limitations.* Washington, DC: U.S. Department of Housing and Urban Development.

403.5.3 (New)-WHITE.doc

Committee Action

Approval as Modified

Modification

403.5.3 Clear Width at 90 Degree Turn. Where an accessible route makes a 90 degree turn, the clear width shall be 40 inches (1015 mm) minimum. ~~At least one leg of the turn shall be clear of obstructions for a length of 14 inches (355 mm) minimum with the other leg clear of obstructions for at least 28 inches (710 mm) minimum.~~ The width of each leg of the turn shall be maintained for 28 inches minimum from the inner corner.

EXCEPTIONS:

1. Where one leg of the turn is 42 inches (1065 mm) minimum in width, the other shall be permitted to be 38 inches (965 mm) minimum in width, ~~with the narrower leg being clear of obstructions for a length of 26 inches (660 mm) minimum, and the other leg being clear of obstructions for a length of 15 inches (380 mm) minimum.~~

2. Where one leg of the turn is 44 inches (1115 mm) minimum in width, the other shall be permitted to be 36 inches (915 mm) minimum in width, ~~with the narrower leg being clear of obstructions for a length of 24 inches (610 mm) minimum, and the other leg being clear of obstructions for a length of 16 inches (405 mm) minimum.~~

Committee Reason: The Committee approved both Proposal 4-9-12 and 4-10-12 as providing optional geometries for accomplishing a 90 degree turn in an accessible route. It was the Committee's intent that 4-9 and 4-10 both be reflected in the standard. The committee recognized that merged text of these 2 proposals may be best presented in a table format. The Committee hopes the Editorial Task Group can develop the table format. Figures would also be helpful in presenting this information.

BALLOT COMMENTS

4-10.1

Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Negative with comment:

Comment: There has been no evidence presented that this is a necessary change and will be a burden on the public due to an increase in the area required. The evidence presented only addresses the wide variety of mobility devices in service today. It does not address whether the problem is in the manufacture of these mobility devices that do not conform to the current requirement or whether the built-environment needs to change to accommodate mobility devices that need a larger space and cannot be designed and manufactured in such a way as to fit within the current space. We don't continue to let automobile manufacturers build wider and wider autos to go on our roads… they must be built to standards that allow them to work with our current road system.

4-10.2

Commenter: Gerald Gross, Representing AHLA
Ballot: Negative with comment:

Comment: The AHLA does not accept the singular results of the anthropometric study conducted by the Center for Inclusive Design and Environmental Access. It is understood that the work of the Wheelchair Mobility Task Group is ongoing and has submitted a series of proposal changes to the base building blocks of A117.1 Standard. At this time we believe that the proposed changes to the building blocks are unacceptable and should not be adopted by the Committee; therefore no additional changes are required in this portion of the standard with reference to the building block changes.

4-10.3

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Same comment as 3-6-12.

Committee Review of Comments and Action – July 2013

Approved as Modified.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval as modified of this proposal.

4-11 – 12

404, 404.1, 404.2, 404.2.3, 404.2.3.2, 404.2.3.4, 404.2.3.5, 404.2.4.1, 404.2.5, 404.2.6, 404.2.7, 404.2.8, 404.2.9, 404.2.10, 404.3, 404.3.2, 404.3.4

Proposed Change as Submitted

Proponent: Ed Roether, representing the ADA/A117 Harmonization Task Group

Revise as follows:

404 Doors, ~~and~~ Doorways and Gates

404.1 General. **Doors, ~~and~~ doorways and gates that are part of an accessible route shall comply with Section 404.**

> **EXCEPTION:** Doors, doorways, and gates designed to be operated only by security personnel shall not be required to comply with 404.2.3, 404.2.6, 404.2.7, 404.2.8, 404.3.2 and 404.3.4 through 404.3.6.

404.2 Manual Doors, Doorways and Manual Gates. Manual doors and doorways, and manual gates, intended for user passage ~~including ticket gates~~, shall comply with Section 404.2.

> ~~**EXCEPTION:** Doors, doorways, and gates designed to be operated only by security personnel shall not be required to comply with Sections 404.2.6, 404.2.7, and 404.2.8.~~

404.2.3 Maneuvering Clearances. Minimum maneuvering clearances at doors and gates shall comply with Section 404.2.3.and shall include the full clear opening width of the doorway and the required latch side or hinge side clearance. ~~Required door maneuvering clearances shall not include knee and toe clearance.~~

404.2.3.2 Swinging Doors and Gates. Swinging doors and gates shall have maneuvering clearances complying with Table 404.2.3.2.

Fig. 404.2.3.2
Maneuvering Clearance at Manual Swinging Doors and Gates

Table 404.2.4.1 Maneuvering Clearances at Manual Swinging Doors and Gates

Table 404.2.3.2—Maneuvering Clearances at Manual Swinging Doors and Gates

TYPE OF USE		MINIMUM MANEUVERING CLEARANCES	
Approach Direction	**Door or Gate Side**	**Perpendicular to Doorway**	**Parallel to Doorway (beyond latch unless noted)**
From front	Pull	60 inches (1525 mm)	18 inches (455 mm)

(*Balance of table is not changes)*

404.2.3.4 Doorways without Doors or Gates. Doorways without doors or gates that are less than 36 inches (915 mm) in width shall have maneuvering clearances complying with Table 404.2.3.3

Fig. 404.2.3.4
Maneuvering Clearance at Doorways without Doors or Gates

Table 404.2.3.4—Maneuvering Clearances for Doorways without Doors or Gates

Approach Direction	MINIMUM MANEUVERING CLEARANCES Perpendicular to Doorway
From front	48 inches (1220 mm)

404.2.3.5 Recessed Doors and Gates. Where any obstruction within 18 inches (455 mm) of the latch side of a doorway projects more than 8 inches (205 mm) beyond the face of the door or gate, measured perpendicular to the face of the door, maneuvering clearances for a forward approach shall be provided.

Fig. 404.2.3.5
Maneuvering Clearance at Recessed Doors and Gates

404.2.5 Two Doors and Gates in Series. Distance between two hinged or pivoted doors or gates in series shall be 48 inches (1220 mm) minimum plus the width of any door or gate swinging into the space. The space between the doors shall provide a turning space complying with Section 304

Fig. 404.2.5
Two Doors or Gates in a Series

404.2.6 Door and Gate Hardware. Handles, pulls, latches, locks, and other operable parts on accessible doors and gates shall have a shape that is easy to grasp with one hand and does not require tight grasping, pinching, or twisting of the wrist to operate. Operable parts of such hardware shall be 34 inches (865 mm) minimum and 48 inches (1220 mm) maximum above the floor. Where sliding doors are in the fully open position, operating hardware shall be exposed and usable from both sides.

~~**EXCEPTION:** Locks used only for security purposes and not used for normal operation shall not be required to comply with Section 404.2.6.~~

404.2.7 Closing Speed. Door and gate closing speed shall comply with 404.2.8.

404.2.7.1 Door Closers and Gate Closers. Door closers and gate closers shall be adjusted so that from an open position of 90 degrees, the time required to move the door to an open position of 12 degrees shall be 5 seconds minimum.

404.2.7.2 Spring Hinges. Door and gate spring hinges shall be adjusted so that from an open position of 70 degrees, the door or gate shall move to the closed position in 1.5 seconds minimum.

404.2.8 Door and Gate Opening Force. Fire doors shall have the minimum opening force allowable by the appropriate administrative authority. The force for pushing or pulling open doors or gates other than fire doors shall be as follows:

1. Interior hinged doors and gates: 5.0 pounds (22.2 N) maximum

2. Sliding or folding doors: 5.0 pounds (22.2 N) maximum

These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door or gate in a closed position.

404.2.9 Door and Gate Surface. Door and gate surfaces within 10 inches (255 mm) of the floor, measured vertically, shall be a smooth surface on the push side extending the full width of the door or gate. Parts creating horizontal or vertical joints in such surface shall be within $^{1}/_{16}$ inch (1.6 mm) of the same plane as the other. Cavities created by added kick plates shall be capped.

EXCEPTIONS:

(Exceptions 1 and 2 are not changed)

3. Doors and gates that do not extend to within 10 inches (255 mm) of the floor shall not be required to comply with Section 404.2.9.

404.2.10 Vision Lites. Doors, gates and sidelites adjacent to doors or gates containing one or more glazing panels that permit viewing through the panels shall have the bottom of at least one panel on either the door or an adjacent sidelite 43 inches (1090 mm) maximum above the floor.

(Exception is not changed)

404.3 Automatic Doors and Power-Assisted Doors and Gates. Automatic doors and automatic gates shall comply with Section 404.3. Full powered automatic doors shall comply with ANSI/BHMA A156.10 listed in Section 105.2.4. Power–assist and low–energy doors shall comply with ANSI/BHMA A156.19 listed in Section 105.2.3.

~~**EXCEPTION**: Doors, doorways, and gates designed to be operated only by security personnel shall not be required to comply with Sections 404.3.2, 404.3.4, and 404.3.5.~~

404.3.2 Maneuvering Clearances. Maneuvering clearances at power–assisted doors and gates shall comply with Section 404.2.3.

404.3.4 Two Doors or Gates in Series. Doors or gates in series shall comply with Section 404.2.5.

Reason: The ADA/A117 Harmonization Task Group (HTG) was created as a task group of the A117.1 Committee to compare the 2010 ADA with the 2009 A117.1 Standard. The HTG has recommend a series of changes through a set of change proposals. The HTG is recommending changes, for the most part, address where the ADA was viewed as more stringent than the A117. Where the A117 contained provisions not addressed in the ADA, these were not considered a conflict needing action to amend the A117. In addition there are a number of places where the ADA and A117.1 are different as a result of specific actions, by the A117.1 Committee during the development of the 2009 edition, to remain or create a difference where, in the judgment of the committee the ADA was deficient.

Reason for 404 To provide consistent language with the ADA. ADA consistently uses gates when discussing doors. The amendments through this section are simply providing consistent coverage. The exception to Section 404.1 is relocating an existing exception found in A117.1 Section 404.2 and others to a location similar to ADA.

404 ROETHER.doc

Committee Action

Approved

Committee Reason: The change provides consistency in terminology between the Standard and the ADA.

BALLOT COMMENTS

4-11.1

Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: Gates should also be added to Section 402.2, regarding components of an accessible route.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comment.

Committee Reason: Comment 4.11-1 pointed out another section to which 'gates' should be added. The committee approved such as an editorial clarification to its original approval.

Modification:

402.2 Components. Accessible routes shall consist of one or more of the following components: Walking surfaces with a slope not steeper than 1:20, doors and doorways, gates, ramps, curb ramps excluding the flared sides, elevators and platform lifts. All components of an accessible route shall comply with the applicable portion of this standard.

(*The balance of the proposal remains unchanged.)*

4-12 – 12
404.2.2, Figure 404.2.2

Proposed Change as Submitted

Proponent: Edward Steinfeld, IDEA Center, School of Architecture and Planning, University at Buffalo, State University of New York

Revise as follows:

404.2.2 Clear Width. Doorways shall have a clear opening width of ~~32~~ 34 inches (~~815~~ 865 mm) minimum. Clear opening width of doorways with swinging doors shall be measured between the face of door and stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) in depth at doors and doorways without doors shall provide a clear opening width of 36 inches (915 mm) minimum. There shall be no projections into the clear opening width lower than 34 inches (865 mm) above the floor. Projections into the clear opening width between 34 inches (865mm) and 80 inches (2030 mm) above the floor shall not exceed 4 inches (100 mm).

EXCEPTIONS:

1. Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the floor.

2. In alterations, a projection of 5/8 inch (16 mm) maximum into the required clear opening width shall be permitted for the latch side stop.

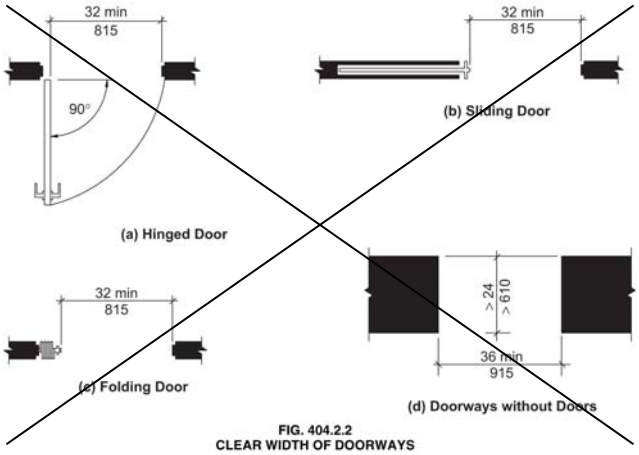


FIG. 404.2.2
CLEAR WIDTH OF DOORWAYS

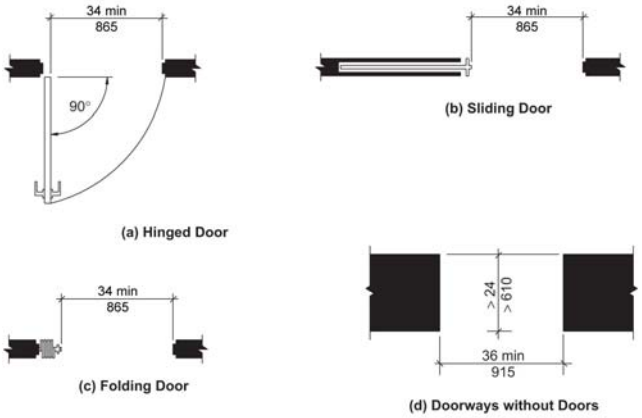


FIG. 404.2.2
CLEAR WIDTH OF DOORWAYS

Reason: Many of the technical requirements of the ICC/ANSI A117.1 (2009) Accessible and Usable Buildings and Facilities (ICC/ANSI) designed to accommodate wheeled mobility users are based on research completed from 1974 to 1978 using a research sample that included about 60 individuals who used manual wheelchairs (Steinfeld et al., 1979).

The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users (Steinfeld, et al., 2010). Measurements of body and device size were captured in three dimensions. The functional anthropometric measurements required measuring reaching ability, grip strength and the minimum space needed for turning. It is the most extensive anthropometric study of wheeled mobility device users in the United States. Additional information about the study can be found at http://www.udeworld.com/ansi-standards-review. The proposed revisions are based on new anthropometric information that was generated from the database of anthropometric measurements developed as part of the study.

Analysis

Clear floor space represents the space required for a stationary wheeled mobility device. This area is typically depicted as a rectangular space the dimensions of which are based on measurements of occupied length and occupied breadth of wheeled mobility devices, which are defined as follows:

- Occupied length: measured as the horizontal distance between the forward-most point and the rear-most point on the wheelchair or occupant.
- Occupied width: measured as the horizontal distance between the side-most points of the wheelchair or participant on the right and left sides.

The results of our analysis suggest that the existing standard on clear floor space (48” length, 30” width) does not accommodate the occupied lengths and widths of the wheeled mobility user population and excludes powered wheeled mobility device users disproportionately as compared to manual device users. A length of 48” accommodates the occupied length of 75% of manual wheelchair users and only about 50% of powered chair and scooter users. A width of 30” accommodates the occupied width of 90% of manual wheeled mobility device users and only 75% of powered chair users.

We have taken the position that the clear floor space standards should accommodate the occupied lengths and widths of at least 90% of manual and powered wheeled mobility device users. A length of 54” accommodates the occupied lengths of 95% of manual chair users, and 90% of the powered chair users. A width of 32” accommodates the occupied widths of over 95% of manual wheeled mobility device users and 90% of the powered wheelchair users. **Proposed changes to subsection 404 (Doors and Doorways) would accommodate an occupied length of 54 inches and occupied width of 32 inches (adjusted to 34 inches to be consistent with the 2 inch increase in the standard to accommodate width changes related to movement) for those parts of the standard based on occupied length and width**.

The analysis was summarized in the Final Project Report to the U.S. Access Board and in a memorandum entitled “Evaluation of Clear Floor Space Requirements,” that was submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Clear Floor Space Clearances.

References (See http://www.udeworld.com/ansi-standards-review)

Paquet, V. (2012). *Evaluation of Clear Floor Space Requirements*. A memorandum submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Clear Floor Space Clearances.

Steinfeld, E., Paquet, V., D’Souza, C., Joseph, C, and Maisel, J. (2010). *Final Report: Anthropometry of Wheeled Mobility Project*. Washington, DC: U.S. Access Board.

Steinfeld, E. Schroeder, S. and Bishop, M. (1979). *Accessible buildings for people with walking and reaching limitations.* Washington, DC: U.S. Department of Housing and Urban Development.

404.2.2-STEINFELD.doc

Committee Action

Disapproved

Committee Reason: The Committee has decided to retain the 30 inch width of the clear floor space. Increasing the minimum clear width of doors has not be justified based on current information. Changing to 34 inches would make most standard 3'0" doors not workable.

BALLOT COMMENTS

4-12.1

Commenter: Gene Boecker, Representing NATO
Ballot: Affirmative with comment:

Comment: A possible compromise would be to change the clear door width to 33 inches (840 mm). A standard 36 inch door leaf will afford a clear width slightly more than 33 using standard hardware. This would also allow use of a 34 inch door leaf with offset hinges. It would be a modest increase but not eliminate our standard door sizes and hardware.

Revise as follows:

4-12.2

Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Same comment as 3-6-12.

The suggested clear width would not work with most standard 36" doors. The study showed only one person of the 200 measured that could not use the 32" clear width requirements currently in the codes. There was no information on if this additional width was the wheelchair, the person, or a bag hanging on the side. This increase is not justified based on cost increases, effects on existing buildings, or percentage of population served.

4-12.3

Comment rescinded

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the option presented by comment 4-12.1 for a 33 inch minimum door width. The basis for the concept was most current doors on the market would comply. However issues raised about toilet compartment doors and similar special situation doors made it clear that the 33 inch minimum would need much greater review. Therefore the committee reconfirmed its original disapproval of this proposal.

4-13 – 12
404.2.3

Proposed Change as Submitted

Proponent: Ed Roether, representing the ADA/A117 Harmonization Task Group

Revise as follows:

404.2.3 Maneuvering Clearances. Minimum maneuvering clearances at doors shall comply with Section 404.2.3. Maneuvering clearances ~~and~~ shall include the full clear opening width of the doorway and the required latch side or hinge side clearance. ~~Required door maneuvering clearances shall not include knee and toe clearance~~.

> **EXCEPTION:** Entry doors to hospital patient rooms shall not be required to provide the clearance beyond the latch side of the door.

Reason: The ADA/A117 Harmonization Task Group (HTG) was created as a task group of the A117.1 Committee to compare the 2010 ADA with the 2009 A117.1 Standard. The HTG has recommended a series of changes through a set of change proposals. The HTG is recommending changes, for the most part, address where the ADA was viewed as more stringent than the A117. Where the A117 contained provisions not addressed in the ADA, these were not considered a conflict needing action to amend the A117. In addition there are a number of places where the ADA and A117.1 are different as a result of specific actions, by the A117.1 Committee during the development of the 2009 edition, to remain or create a difference where, in the judgment of the committee the ADA was deficient.

Reason for 404.2.3: The added text is ADA language not currently in A117.1. The text that is being struck out was an attempt in the standard to allow maneuvering clearances to go under some objects where the knees/toes of a wheelchair user would still have adequate space to operate the door. However, the text is unclear. Further, current interpretation of the ADA is that maneuvering spaces must be clear for the full height of 80 inches. The exception is also found in the IBC, but adding it here provides clarity as well as consistency with the ADA.

404.2.3-ROETHER.doc

Committee Action

Approval as Modified

Modification

404.2.3 Maneuvering Clearances. Minimum maneuvering clearances at doors shall comply with Section 404.2.3. Maneuvering clearances shall include the full clear opening width of the doorway and the required latch side or hinge side clearance.

> ~~**EXCEPTION:** Entry doors to hospital patient rooms shall not be required to provide the clearance beyond the latch side of the door.~~

Committee Reason: The Committee previously deleted this exception and keeping it out of the Standard will simply make the Standard more stringent than the ADA – not in conflict. The issue is centered on operational standards of hospital where historically patient room doors have remained open, therefore negating the need for this clearance. The Committee does not believe that such operational standards are universal and feels that the maneuvering clearances should be provided.

BALLOT COMMENTS

4-13.1
Commenter: Gene Boecker, Representing NATO
Ballot: Affirmative with comment:

Comment: The rationale that the maneuvering space extends upward from the floor for a height of 80 inches should be included in the standard in some manner. This is not clear. Can this be included in a definition for "maneuvering clearance" - such as "The area next to the face of a door and extending upward for 80 inches which is used for approach and operation of the door and door

hardware."? Such information would improve the ability to apply the standard and address the intent of this section. Otherwise, it should be included in the Commentary.

4-13.2

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The exception should remain in the proposal. This exception is found in ADA. The increased size of doors in hospitals to allow for the movement of beds provide a wider maneuvering clearance at the doors. No studies have showed that this is not adequate for opening the door. Requirements for visual supervision of patients will have the doors open except when a procedure requiring some privacy is being performed, and then there is staff in the room with the patient. Typical layouts for a patient hospital room is to walk in past the room's bathroom to get to the main room. Therefore, the required increase in maneuvering clearance will typically mean a loss of space in the bathroom. Since patients often need assistance in use of the toilet or bathing, the loss of space in the bathroom for door maneuvering space is not justified.

PROPONENT COMMENT

4-13.3

Commenter: Ed Rother, representing the ADA/A117 Harmonization Task Group

Further revise 4-13 as follows:

404.2.3 Maneuvering Clearances. Minimum maneuvering clearances at doors shall comply with Section 404.2.3. Maneuvering clearances and shall include the full clear opening width of the doorway and the required latch side or hinge side clearance. ~~Required door maneuvering clearances shall not include knee and toe clearance.~~

> **EXCEPTION:** Entry doors to hospital patient rooms shall not be required to provide the clearance beyond the latch side of the door.

Reason: The modification deleted the exception. The exception should remain in the proposal for several reasons. This exception is found in ADA. The increased size of doors in hospitals to allow for the movement of beds provide a wider maneuvering clearance at the doors. No studies have showed that this is not adequate for opening the door. Requirements for visual supervision of patients will have the doors open except when a procedure requiring some privacy is being performed, and then there is staff in the room with the patient. Typical layouts for a patient hospital room is to walk in past the room's bathroom to get to the main room. Therefore, the required increase in maneuvering clearance will typically mean a loss of space in the bathroom. Since patients often need assistance in use of the toilet or bathing, the loss of space in the bathroom for door maneuvering space is not justified.

Committee Review of Comments and Action – July 2013

Approval as Modified.

Committee Reason: The committee considered restoring the exception for hospital doors contained in the original proposal. Representatives of health care providers urged the committee to consider restoring the exception because it compounded with other demands to force larger and larger patient rooms. While some hospitals have a policy that patient room doors remain open, there was much anecdotal evidence presented that such policy is not universal. Also of concern are rehabilitation hospitals where closing these doors is more common. The committee reaffirmed its early action to approve with modifications which eliminates the exception for maneuvering clearances at patient room doors.

4-14 – 12
Table 404.2.3.2

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

TABLE 404.2.3.2—MANEUVERING CLEARANCES AT MANUAL SWINGING DOORS

TYPE OF USE		MANEUVERING CLEARANCES AT MANUAL	
Approach Direction	**Door Side**	**Perpendicular to Doorway**	**Parallel to Doorway (beyond latch unless noted)**
From front	Pull	60 inches (1525 mm)	18 inches (455 mm)
From front	Push	48 inches (1220 mm)	0 inches (0 mm)[3]
From hinge side	Pull	60 inches (1525 mm)	36 inches (915 mm)
From hinge side	Pull	54 inches (1370 mm)	42 inches (1065 mm)
From hinge side	Push	42 inches (1065 mm)[1]	22 inches (560 mm)[3 & 4]
From latch side	Pull	48 inches (1220 mm)[1]	24 inches (610 mm)
From latch side	Push	42 inches (1065 mm)[2]	24 inches (610 mm)

[1]Add 6 inches (150 mm) if closer and latch provided.
[2]Add 6 inches (150 mm) if closer provided.
[3]Add 12 inches (305 mm) beyond latch if closer and latch provided.
[4]Beyond hinge side.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

Coordination with the 2012 ADA Standards for Accessible Design.

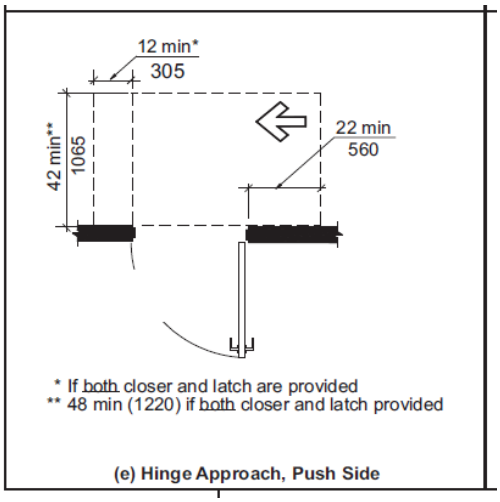
The A117.1 requires there 12 inches beyond the latch side on this door if both a closer and a latch are provided on the door. The ADA does not have this 12 inch requirement.

This requirement was added to the A117.1 standard between the 1998 and 2003 editions by proposal 4-015 and was modified by public comment that cleaned up the footnote reference for it. The proponent's reason statement said that figure (b) the front approach push side and figure (e) the hinge approach push side are similar situations and that having the 12 inches on the forward approach should also be provided on the hinge approach.

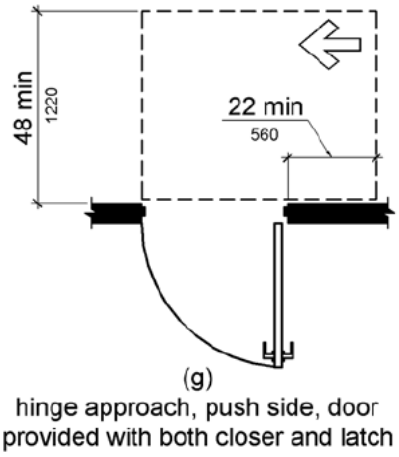
Because this extra requirement creates a discrepancy between the A117.1 and ADA which is not readily apparent and well known, the elimination of the footnote reference would help to coordinate the two standards and make this basic issue of door maneuvering clearances consistent. It seems that the addition of this requirement was probably not well justified when it was added into the 2003 A117.1 standard and with the change made in Section 404.2.3 of the 2009 edition which prevented door maneuvering clearances from including knee and toe clearance it made the difference between the A117.1 and the federal requirements that much greater. With some of the task groups looking at changing the 'building blocks' which could further affect maneuvering clearances, it would seem that this difference between the two standards should be eliminated or better justification should be provided so that it could be added into the federal requirements and coordinated that way.

The graphic representations of the various layouts are provided to better illustrate the differences. In the 2009 standard it is Fig 404.2.3.2(e) and in the 2010 ADA it is Figure 404.2.4.1(g). See ADA figure 404.2.4.1(f) for base condition.

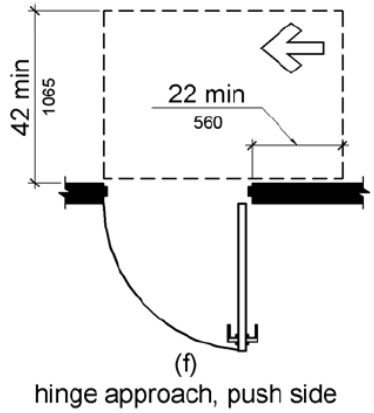
The following is Figure 404.2.3.2(e) from the A117.1-2009 standard.



The following is Figure 404.2.4.1(g) from the 2010 ADA Standards for Accessible Design. This is the comparable requirement for the door shown in Figure 404.2.3.2(e) from the A117.1-2009 standard.



The following is Figure 404.2.4.1(f) from the 2010 ADA Standards for Accessible Design. This is the comparable base requirement for the door shown in Figure 404.2.3.2(e) from the A117.1-2009 standard (hinge approach/push side of door which does not have BOTH a closer and a latch).



Committee Action

Approval as Modified

Modification

TABLE 404.2.3.2—MANEUVERING CLEARANCES AT MANUAL SWINGING DOORS

TYPE OF USE		MANEUVERING CLEARANCES AT MANUAL SWINGING DOORS	
Approach Direction	**Door Side**	**Perpendicular to Doorway**	**Parallel to Doorway (beyond latch unless noted)**
From front	Pull	60 inches (1525 mm)	18 inches (455 mm)
From front	Push	~~48~~ 52 inches (1220 mm)	0 inches (0 mm)[3]
From hinge side	Pull	60 inches (1525 mm)	36 inches (915 mm)
From hinge side	Pull	54 inches (1370 mm)	42 inches (1065 mm)
From hinge side	Push	42 inches (1065 mm)[1]	22 inches (560 mm)[4]
From latch side	Pull	48 inches (1220 mm)[1]	24 inches (610 mm)
From latch side	Push	42 inches (1065 mm)[2]	24 inches (610 mm)

[1]Add 6 inches (150 mm) if closer and latch provided.
[2]Add 6 inches (150 mm) if closer provided.
[3]Add 12 inches (305 mm) beyond latch if closer and latch provided.
[4]Beyond hinge side.

Committee Reason: The original purpose of the proposal was to eliminate the 12 inch beyond the latch requirement (footnote 3) from the provision of doors approached from the hinge side/push side. Such requirement isn't in the ADA. The proposal was amended to be consistent with earlier actions to increase the clear floor space to a length of 52 inches (see Proposal 3-13-12).

BALLOT COMMENTS

4-14.1

Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Negative with comment:

Comment: There has been no evidence presented that this is a necessary change and will be a burden on the public due to an increase in the area required. The evidence presented only addresses the wide variety of mobility devices in service today. It does not address whether the problem is in the manufacture of these mobility devices that do not conform to the current requirement or whether the built-environment needs to change to accommodate mobility devices that need a larger space and cannot be designed and manufactured in such a way as to fit within the current space. We don't continue to let automobile manufacturers build wider and wider autos to go on our roads… they must be built to standards that allow them to work with our current road system.

4-14.2

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: I agree with the original proposal. However, the modification is an increase in maneuvering clearance based on the building block changes. For the modification, by reason is the same comment as 3-6-12.

Proponent Comment

4-14.3

Commenter: Kim Paarlberg, Representing ICC

Request the Proposal be Approved as Submitted

Reason: I agree with the original proposal. However, the modification is an increase in maneuvering clearance based on the building block changes. I am asking for disapproval of the modification.

Note

The size increase in the building blocks and accessible routes proposed by the series of changes from the Wheeled Mobility Task Group will have significant impacts on the design of buildings and facilities as well as the cost of construction. There has not been adequate study of the impact of these changes. Proto-type designs should be prepared to determine the impact of these standards. The Appendix B of the ADA, which did a series of bathrooms to show the impact of new requirements, is a wonderful example of what the Committee really needs to see in order to understand the impact of these requirements on tight spaces like bathrooms, kitchens, dressing rooms, locker rooms, configurations with 36" wide corridors or aisles, doorways in alcoves, etc. What is the impact on an residential, such as apartments, dormitories, assisted living facilities – Accessible/Type A vs. Type B units?

The ICC A117.1 is a minimum standard for accessibility – not a best practice or universal design standard. We question whether these new dimensions still reflect the minimum needed for accessibility. We acknowledge that certain wheeled mobility devices have larger footprints and more limited turning capability, but are we comfortable that we know the true size of the population using such devices? What is the increase of population served? Perhaps a solution would be to move these scooter and reclining/powered chair dimension into an appendix to the standard (something along the line of 'best practices') which could be selected by building designers, but not mandatory for all new buildings until this is fully understood. This might allow the industry to evaluate the impact before the requirements become mandatory. Or to allow for the options in scoping – an example being to ask for the larger spaces in the family use/assisted use bathrooms.

While there is nothing to say that the A117.1 can't require greater access than the ADA, what are the ramifications of having the base building blocks significantly different? Would it not be better for compliance with accessibility standards for the two predominant standards in the country to be in sync for the next few years?

Finally, the ramifications of these new base standards on the remodeling of existing buildings needs to be fully considered. Are we really wanting to say buildings built under the 2012 IBC and the 2009 A117.1 standard are no longer accessible? The committee already understands the impact of just the change in reach range from 48" to 54" (Section 308.3.1 Exception). How much greater the ramification to corridors, bathrooms, etc.?

Committee Review of Comments and Action – July 2013

Approval as Modified.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval as modified for this proposal.

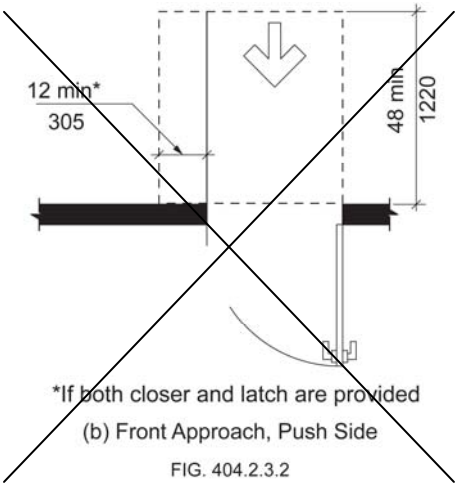
4-15 – 12

Figure 404.2.3.2, Table 404.2.3.2, Figure 404.2.3.3(a), Table 404.2.3.3, Table 404.2.3.4, Figure 404.2.3.4, Figure 404.2.3.5 (b), (c)

Proposed Change as Submitted

Proponent: Edward Steinfeld, IDEA Center, School of Architecture and Planning, University at Buffalo, State University of New York

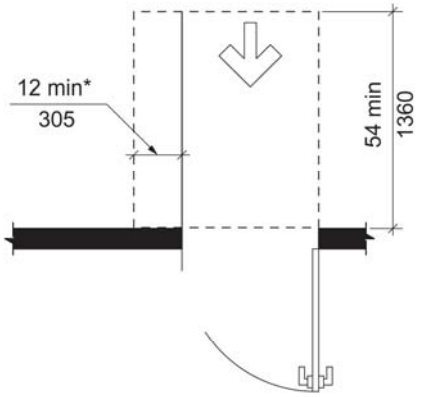
Delete and substitute as follows:



*If both closer and latch are provided

(b) Front Approach, Push Side

FIG. 404.2.3.2



*If both closer and latch are provided

(b) Front Approach, Push Side

FIG. 404.2.3.2

Table 404.2.3.2 – Maneuvering Clearances at Swinging Doors

TYPE OF USE		MINIMUM MANEUVERING CLEARANCES	
Approach Direction	Door Side	Perpendicular to Doorway	Parallel to Doorway (beyond latch unless noted)
From front	Pull	60 inches (1525 mm)	18 inches (455 mm)
From front	Push	~~48~~ inches (1220 mm)	0 inches (0 mm)[3]
From hinge side	Pull	60 inches (1525 mm)	36 inches (915 mm)
From hinge side	Pull	54 inches (1370 mm)	42 inches (1065 mm)
From hinge side	Push	42 inches (1065 mm)[1]	22 inches (560 mm)[3 & 4]
From latch side	Pull	~~48~~ inches (1220 mm)[2]	24 inches (610 mm)
From latch side	Push	42 inches (1065 mm)[2]	24 inches (610 mm)

Table 404.2.3.2 – Maneuvering Clearances at Swinging Doors

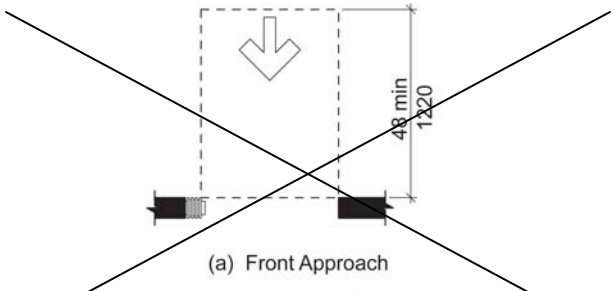
TYPE OF USE		MINIMUM MANEUVERING CLEARANCES	
Approach Direction	Door Side	Perpendicular to Doorway	Parallel to Doorway (beyond latch unless noted)
From front	Pull	60 inches (1525 mm)	18 inches (455 mm)
From front	Push	<u>54</u> inches (1220 mm)	0 inches (0 mm)[3]
From hinge side	Pull	60 inches (1525 mm)	36 inches (915 mm)
From hinge side	Pull	54 inches (1370 mm)	42 inches (1065 mm)
From hinge side	Push	42 inches (1065 mm)[1]	22 inches (560 mm)[3 & 4]
From latch side	Pull	<u>54</u> inches (1220 mm)[2]	24 inches (610 mm)
From latch side	Push	42 inches (1065 mm)[2]	24 inches (610 mm)

Table 404.2.3.2—Maneuvering Clearances at Sliding and Folding Doors

Approach Direction	MINIMUM MANEUVERING CLEARANCES	
	Perpendicular to Doorway	Parallel to Doorway (beyond stop or latch side unless noted)
From front	~~48~~ inches (1220 mm)	0 inches (0 mm)
From nonlatch side	42 inches (1065 mm)	22 inches (560 mm)[1]
From latch side	42 inches (1065 mm)	24 inches (610 mm)

Table 404.2.3.2—Maneuvering Clearances at Sliding and Folding Doors

Approach Direction	MINIMUM MANEUVERING CLEARANCES	
	Perpendicular to Doorway	Parallel to Doorway (beyond stop or latch side unless noted)
From front	<u>54</u> inches (1220 mm)	0 inches (0 mm)
From nonlatch side	42 inches (1065 mm)	22 inches (560 mm)[1]
From latch side	42 inches (1065 mm)	24 inches (610 mm)



(a) Front Approach

FIG. 404.2.3.3
MANEUVERING CLEARANCE AT SLIDING AND FOLDING DOORS

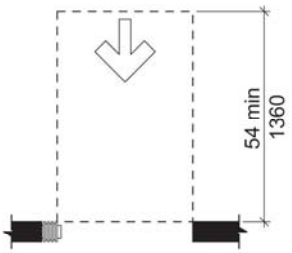


FIG. 404.2.3.3
MANEUVERING CLEARANCE AT SLIDING AND FOLDING DOORS

Revise Table as follows:

TABLE 404.2.3.4 - MANEUVERING CLEARANCES FOR DOORWAYS WITHOUT DOORS

Approach direction	MINIMUM MANEUVERING CLEARANCES Perpendicular to Doorway
From front	~~48~~ 54 inches (~~1220~~ 1370 mm)
From side	42 inches (1065 mm)

Delete and substitute Figure as follows:

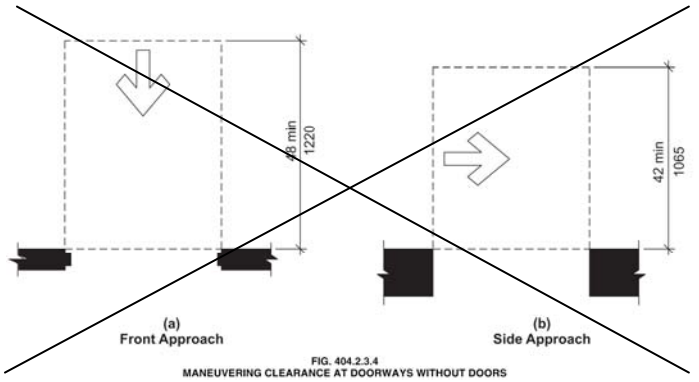


FIG. 404.2.3.4
MANEUVERING CLEARANCE AT DOORWAYS WITHOUT DOORS

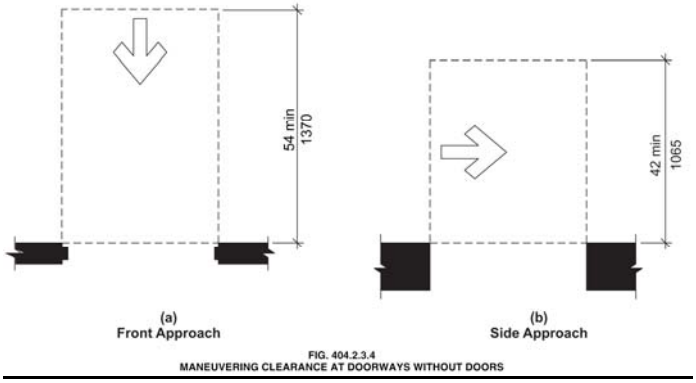


FIG. 404.2.3.4
MANEUVERING CLEARANCE AT DOORWAYS WITHOUT DOORS

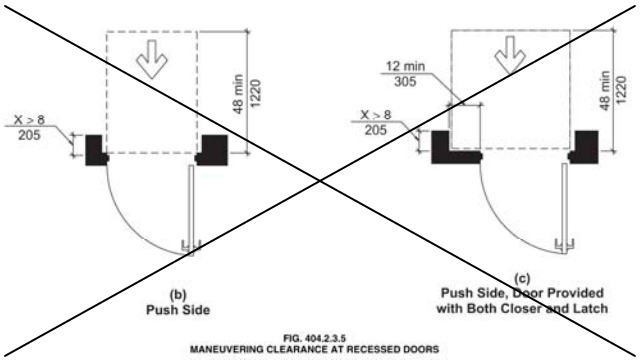


FIG. 404.2.3.5
MANEUVERING CLEARANCE AT RECESSED DOORS

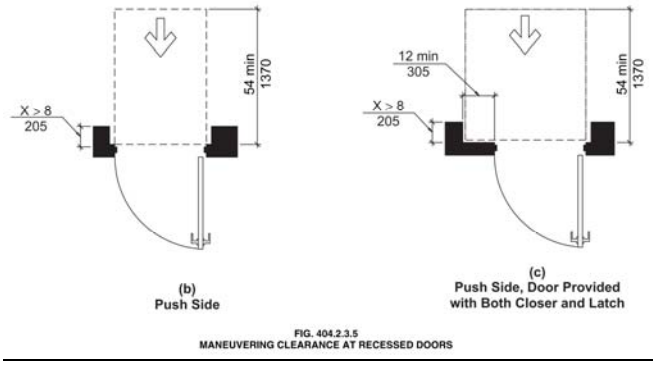


FIG. 404.2.3.5
MANEUVERING CLEARANCE AT RECESSED DOORS

Reason: Many of the technical requirements of the ICC/ANSI A117.1 (2009) Accessible and Usable Buildings and Facilities (ICC/ANSI) designed to accommodate wheeled mobility users are based on research completed from 1974 to 1978 using a research sample that included about 60 individuals who used manual wheelchairs (Steinfeld et al., 1979).

The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users (Steinfeld, et al., 2010). Measurements of body and device size were captured in three dimensions. The functional anthropometric measurements required measuring reaching ability, grip strength and the minimum space needed for turning. It is the most extensive anthropometric study of wheeled mobility device users in the United States. Additional information about the study can be found at http://www.udeworld.com/ansi-standards-review. The proposed revisions are based on new anthropometric information that was generated from the database of anthropometric measurements developed as part of the study.

Analysis

Clear floor space represents the space required for a stationary wheeled mobility device. This area is typically depicted as a rectangular space the dimensions of which are based on measurements of occupied length and occupied breadth of wheeled mobility devices, which are defined as follows:

- Occupied length: measured as the horizontal distance between the forward-most point and the rear-most point on the wheelchair or occupant.
- Occupied width: measured as the horizontal distance between the side-most points of the wheelchair or participant on the right and left sides.

The results of our analysis suggest that the existing standard on clear floor space (48” length, 30” width) does not accommodate the occupied lengths and widths of the wheeled mobility user population and excludes powered wheeled mobility device users disproportionately as compared to manual device users. A length of 48” accommodates the occupied length of 75% of manual wheelchair users and only about 50% of powered chair and scooter users. A width of 30” accommodates the occupied width of 90% of manual wheeled mobility device users and only 75% of powered chair users.

We have taken the position that the clear floor space standards should accommodate the occupied lengths and widths of at least 90% of manual and powered wheeled mobility device users. A length of 54” accommodates the occupied lengths of 95% of manual chair users, and 90% of the powered chair users. A width of 32” accommodates the occupied widths of over 95% of manual wheeled mobility device users and 90% of the powered wheelchair users. **Proposed changes to subsection 404 (Doors and Doorways) would accommodate an occupied length of 54 inches and occupied width of 32 inches for those parts of the standard based on occupied length and width**.

The calculation used to determine the appropriate clearances are based on the three-dimensional database of wheeled mobility device user dimensions developed by the IDEA Center for the Anthropometry of Wheeled Mobility Project. The analysis was summarized in the Final Project Report to the U.S. Access Board and in a memorandum entitled “Evaluation of Clear Floor Space

Requirements," that was submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Clear Floor Space Clearances.

References (See http://www.udeworld.com/ansi-standards-review)

Paquet, V. (2012). *Evaluation of Clear Floor Space Requirements*. A memorandum submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Clear Floor Space Clearances.

Steinfeld, E., Paquet, V., D'Souza, C., Joseph, C, and Maisel, J. (2010). *Final Report: Anthropometry of Wheeled Mobility Project*. Washington, DC: U.S. Access Board.

Steinfeld, E. Schroeder, S. and Bishop, M. (1979). *Accessible buildings for people with walking and reaching limitations.* Washington, DC: U.S. Department of Housing and Urban Development.

F404.2.3.2-STEINFELD.doc

Committee Action

Approval as Modified - The following revisions replace the original proposal.

TABLE 404.2.3.2—MANEUVERING CLEARANCES AT MANUAL SWINGING DOORS

TYPE OF USE		MANEUVERING CLEARANCES AT MANUAL SWINGING DOORS	
Approach Direction	**Door Side**	**Perpendicular to Doorway**	**Parallel to Doorway (beyond latch unless noted)**
From front	Pull	60 inches (1525 mm)	18 inches (455 mm)
From front	Push	~~48~~ 52 inches (~~1220~~ 1321mm)	0 inches (0 mm)[3]
From hinge side	Pull	60 inches (1525 mm)	36 inches (915 mm)
From hinge side	Pull	54 inches (1370 mm)	42 inches (1065 mm)
From hinge side	Push	42 inches (1065 mm)[1]	22 inches (560 mm)[3 & 4]
From latch side	Pull	48 inches (1220 mm)[1]	24 inches (610 mm)
From latch side	Push	42 inches (1065 mm)[2]	24 inches (610 mm)

[1]Add 6 inches (150 mm) if closer and latch provided.
[2]Add 6 inches (150 mm) if closer provided.
[3]Add 12 inches (305 mm) beyond latch if closer and latch provided.
[4]Beyond hinge side.

TABLE 404.2.3.3 – MANEUVERING CLEARANCES AT SLIDING AND FOLDING DOORS

Approach Direction	MINIMUM MANEUVERING CLEARANCES	
	Perpendicular to Doorway	**Parallel to Doorway (beyond stop or latch side unless noted)**
From front	~~48~~ 52 inches (~~1220~~ 1321 mm)	0 inches (0 mm)
From nonlatch side	42 inches (1065 mm)	22 inches (560 mm) [1]
From latch side	42 inches (1065 mm)	24 inches (610 mm)

[1.] Beyond pocket or hinge side.

TABLE 404.2.3.4 - *MAN*EUVERING CLEARANCES FOR DOORWAYS WITHOUT DOORS

Approach direction	MINIMUM MANEUVERING CLEARANCES Perpendicular to Doorway
From front	~~48~~ 52 inches (~~1220~~ 1321 mm)
From side	42 inches (1065 mm)

Committee Reason: These revisions reflect the decision in Proposal 3-13-12 to change the length of the clear floor space to 52 inches. Figures will be revised accordingly by the Editorial Task Group.

BALLOT COMMENTS

4-15.1

Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: This should only be added to the next edition if the increase in wheelchair length is approved. Otherwise the standard will be disjointed and inconsistent.

4-15.2

Commenter: Ron Burton, Representing BOMA
Ballot: Negative with comment:

Comment: See reason on 3-6-12.

4-15.3

Commenter: David Collins, Representing AIA
Ballot: Negative with comment:

Comment: The work of the study group isn't finalized and the research that formed the basis for this change has not been validated.

4-15.4

Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Negative with comment:

Comment: There has been no evidence presented that this is a necessary change and will be a burden on the public due to an increase in the area required. The evidence presented only addresses the wide variety of mobility devices in service today. It does not address whether the problem is in the manufacture of these mobility devices that do not conform to the current requirement or whether the built-environment needs to change to accommodate mobility devices that need a larger space and cannot be designed and manufactured in such a way as to fit within the current space. We don't continue to let automobile manufacturers build wider and wider autos to go on our roads… they must be built to standards that allow them to work with our current road system.

4-15.5

Commenter: Gerald Gross, Representing AHLA
Ballot: Negative with comment:

Comment: The AHLA does not accept the singular results of the anthropometric study conducted by the Center for Inclusive Design and Environmental Access. It is understood that the work of the Wheelchair Mobility Task Group is ongoing and has submitted a series of proposal changes to the base building blocks of A117.1 Standard. At this time we believe that the proposed changes to the building blocks are unacceptable and should not be adopted by the Committee; therefore no additional changes are required in this portion of the standard with reference to the building block changes.

4-15.6

Commenter: Ronald G. Nickson, Representing NMHC
Ballot: Negative with comment:

Comment: See comment on proposal 3-6-12.

4-15.7

Commenter: Steve Orlowski, Representing NAHB
Ballot: Negative with comment:

Comment: See comment on proposal 3-6-12.

4-15.8

Commenter: Kim Paarlberg, Representing
Ballot: Negative with comment:

Comment: Same comment as 3-6-12.

Committee Review of Comments and Action – July 2013

Approval as Modified.

Committee Reason: For the same reasons that the committee sustained Item 3-13-12 which establishes a 30 by 52 clear floor space, the committee reaffirmed this change to adjust the maneuvering clearances to accommodate the 52 inch length.

4-18 – 12
404.2.5, Figure 404.2.5

Proposed Change as Submitted

Proponent: Edward Steinfeld, IDEA Center, School of Architecture and Planning, University at Buffalo, State University of New York

Revise as follows:

404.2.5 Two Doors in a Series. Distance between two hinged or pivoted doors in series shall be ~~48~~ 54 inches (~~1220~~ 1370 mm) minimum plus the width of any door swinging into the space. The space between the doors shall provide a turning space complying with Section 304.

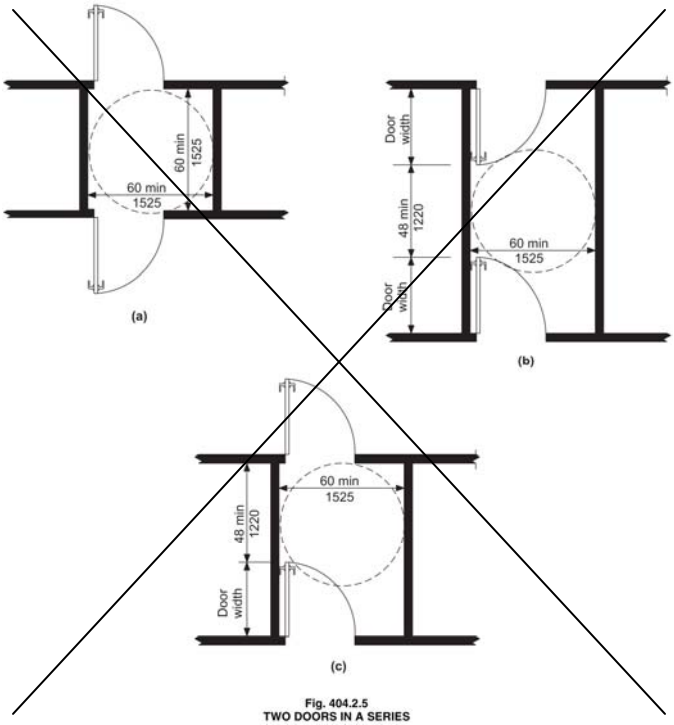


Fig. 404.2.5
TWO DOORS IN A SERIES

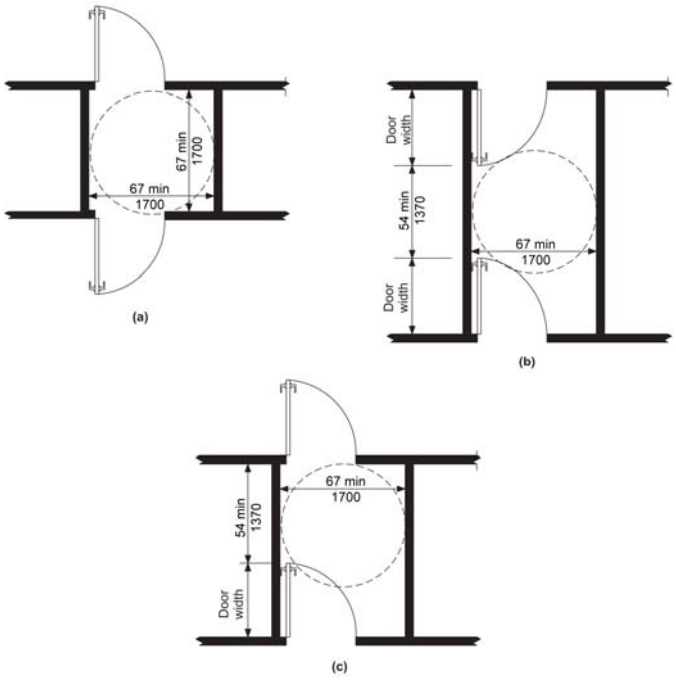


Fig. 404.2.5
TWO DOORS IN A SERIES

Reason: Many of the technical requirements of the ICC/ANSI A117.1 (2009) Accessible and Usable Buildings and Facilities (ICC/ANSI) designed to accommodate wheeled mobility users are based on research completed from 1974 to 1978 using a research sample that included about 60 individuals who used manual wheelchairs (Steinfeld et al., 1979).

The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users (Steinfeld, et al., 2010). Measurements of body and device size were captured in three dimensions. The functional anthropometric measurements required measuring reaching ability, grip strength and the minimum space needed for turning. It is the most extensive anthropometric study of wheeled mobility device users in the United States. Additional information about the study can be found at http://www.udeworld.com/ansi-standards-review. The proposed revisions are based on new anthropometric information that was generated from the database of anthropometric measurements developed as part of the study.

Analysis

Clear floor space represents the space required for a stationary wheeled mobility device. This area is typically depicted as a rectangular space the dimensions of which are based on measurements of occupied length and occupied breadth of wheeled mobility devices, which are defined as follows:

- Occupied length: measured as the horizontal distance between the forward-most point and the rear-most point on the wheelchair or occupant.
- Occupied width: measured as the horizontal distance between the side-most points of the wheelchair or participant on the right and left sides.

The results of our analysis suggest that the existing standard on clear floor space (48” length, 30” width) does not accommodate the occupied lengths and widths of the wheeled mobility user population and excludes powered wheeled mobility device users disproportionately as compared to manual device users. A length of 48” accommodates the occupied length of 75% of manual wheelchair users and only about 50% of powered chair and scooter users. A width of 30” accommodates the occupied width of 90% of manual wheeled mobility device users and only 75% of powered chair users. The 180-degree turning diameter accommodates only 75% of manual and power wheelchair users.

We have taken the position that the clear floor space standards should accommodate the occupied lengths and widths of at least 90% of manual and powered wheeled mobility device users. A length of 54” accommodates the occupied lengths of 95% of manual chair users, and 90% of the powered chair users. A width of 32” accommodates the occupied widths of over 95% of manual wheeled mobility device users and 90% of the powered wheelchair users. A 180-degree turn diameter of 67 inches would accommodate 95% of manual and power wheelchair users. **Proposed changes to subsection 404 (Doors and Doorways) would accommodate an occupied length of 54 inches and occupied width of 32 inches for those parts of the standard based on occupied length and width. It would also allow for a 180-degree turn at two-doors in a series.**

The analysis was summarized in the Final Project Report to the U.S. Access Board and in a memorandum entitled “Evaluation of Clear Floor Space Requirements,” that was submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Clear Floor Space Clearances and in a memorandum entitled “Summary of Turning Discussion and Responses

and Recommended Dimensions for Turning Spaces" that was submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Turning Spaces.

References (See http://www.udeworld.com/ansi-standards-review)

Paquet, V. (2012). *Evaluation of Clear Floor Space Requirements*. A memorandum submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Clear Floor Space Clearances.

Steinfeld, E. (2012). *Summary of Turning Discussion and Responses and Recommended Dimensions for Turning Spaces.* A memorandum submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Turning Spaces.

Steinfeld, E., Paquet, V., D'Souza, C., Joseph, C, and Maisel, J. (2010). *Final Report: Anthropometry of Wheeled Mobility Project*. Washington, DC: U.S. Access Board.

Steinfeld, E. Schroeder, S. and Bishop, M. (1979). *Accessible buildings for people with walking and reaching limitations.* Washington, DC: U.S. Department of Housing and Urban Development.

404.2.5-STEINFELD.doc

Committee Action

Disapproved

Committee Reason: The Committee concluded that with the provision of the turning space between the doors that the 48 inch distance between the open doors did not need to be increased to reflect the larger clear floor space. As the turning space was increased by approval of proposal 3-6-12 to a 67 inch diameter circle, the existing 48 inches is sufficient.

Note: It was suggested that the Editorial Task Group consider putting the maneuvering clearances in the figures – either instead of – or as a complement to the existing figures.

BALLOT COMMENTS

4-18.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Same comment as 3-6-12.

4-18.2

Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: This should only be added to the next edition if the increase in wheelchair length is approved. Otherwise the standard will be disjointed and inconsistent.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

4-20 – 12
404.2.7.1

Proposed Change as Submitted

Proponent: Robert D. Feibleman, HAND Construction, representing self

Revise as follows:

404.2.7.1 Door Closers. Door closers shall be adjusted so that from an open position of 90 degrees, the time required to move the door to an open position of 12 degrees shall be 5 seconds minimum.

Exception: Closers on toilet compartment doors are not required to be adjustable.

Reason: Section 604.9.3 requires toilet compartment doors to comply with Section 404, and Section 404.2.7 closing speed defines for closers and springs. The speed of closing should not be relevant to a toilet partitions. Hydraulic closers aren't used. The hinges are designed to self-close, but the speed of this mechanism isn't adjustable enough to accomplish the requirements of Section 404.2.7. I don't believe it's intended to be applicable to toilet partitions.

404.2.7.1-FEIBLEMAN.doc

Committee Action

Disapproved

Committee Reason: The Committee did not feel that the exception was addressing the issue in the proper place of the Standard. The issue may be definitional in that the things on toilet compartment doors aren't closers so much as gravity hinges. It would be better to address in a way that eliminates these from being considered closers.

BALLOT COMMENTS

4-20.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: See 4-21-12

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

4-21 – 12
404.2.7.2

Proposed Change as Submitted

Proponent: Robert D. Feibleman, HAND Construction, representing self

Revise as follows:

404.2.7.2 Spring Hinges. Door spring hinges shall be adjusted so that from an open position of 70 degrees, the door shall move to the closed position in 1.5 seconds minimum.

Exception: Spring hinges on toilet compartment doors are not required to be adjustable .

Reason: Section 604.9.3 requires toilet compartment doors to comply with Section 404, and Section 404.2.7 closing speed defines for closers and springs. The speed of closing should not be relevant to a toilet partitions. Hydraulic closers aren't used. The hinges are designed to self-close but the speed of this mechanism isn't adjustable enough to accomplish the requirements of Section 404.2.7. I don't believe it's intended to be applicable to toilet partitions.

404.2.7.2-FEIBLEMAN.doc

Committee Action

Disapproved

Committee Reason: The Committee disapproved this proposal because of it similarity with proposal 4-20-12. It was suggested that perhaps a provision be added to Section 604 addressing the doors to toilet compartments.

BALLOT COMMENTS

4-21.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Based on the committee recommendation, a stall door should not have to meet the provisions for closing speed for a standard door. However, they felt it should be located on the criteria for stall doors in Chapter 6.

Replace proposal as follows:

604.9.3 Doors. Toilet compartment doors, including door hardware, shall comply with Section 404, except if the approach is to the latch side of the compartment door clearance between the door side of the stall and any obstruction shall be 42 inches (1065 mm) minimum. The door shall be self-closing. A door pull complying with Section 404.2.6 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the required minimum area of the compartment.

Exception: Toilet compartment doors are not required to meet the closing speed in Section 404.2.7.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

4-25 – 12
404.2.8

Proposed Change as Submitted

Proponent: Joseph R. Hetzel, P.E., Thomas Associates, Inc, representing American Association of Automatic Door Manufacturers (AAADM)

Revise as follows:

404.2.8 Door Opening Force. Fire doors shall have the minimum opening force allowable by the appropriate administrative authority. The force for pushing or pulling open doors other than fire doors shall be as follows:

1. Interior hinged door: 5.0 pounds (22.2 N) maximum
2. Sliding or folding door: 5.0 pounds (22.2 N) maximum

These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door in a closed position.

EXCEPTION: Where 1 of every 8 door leafs at a single location is a full power automatic door, all doors at the same location, serving the same space, shall be permitted an opening force of 8.5 pounds (37.7 N) maximum.

Reason: Individuals needing accessibility normally seek an accessible route, and an automatic door is proposed to be the door closest to the accessible route. Thus, the minimum opening force for other manual doors at the single location can be increased to non-accessibility requirements without compromising accessibility. This proposal will assist some building owners who struggle with stack pressures by providing an alternative, superior means of providing accessibility.

404.2.8 #2-HETZEL.doc

Committee Action

Disapproved

Committee Reason: The Committee expressed concerns regarding the lack of statement about battery backup or other safeguard in case of a power failure. While an increase in pressure was addressed, why was 8.5 pounds proposed. Some members of the Committee expressed support for the concept.

BALLOT COMMENTS

4-25.1
Commenter: Hope Reed, Representing NBGCD
Ballot: Negative with comment:

Comment: Entrances are a major complaint. Entrances need to be usable. Further work is needed here.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

4-27– 12
404.2.9

Proposed Change as Submitted

Proponent: : Kim Paarlberg, International Code Council

Revise as follows:

404.2.9 Door Surface. Door surfaces within 10 inches (255 mm) of the floor, measured vertically, shall be a smooth surface on the push side extending the full width of the door. Door hardware, or any other obstruction or protrusion shall not be mounted in nor extend into the area within 10 inches (255 mm) of the floor. Parts creating horizontal or vertical joints in ~~such~~ the smooth surface shall be within $^{1}/_{16}$ inch (1.6 mm) of the same plane as the other. Cavities created by added kick plates shall be capped.

EXCEPTIONS:

1. Sliding doors shall not be required to comply with Section 404.2.9.
2. Tempered glass doors without stiles and having a bottom rail or shoe with the top leading edge tapered at no less than 60 degrees from the horizontal shall not be required to comply with the 10-inch (255 mm) bottom rail height requirement.

Doors that do not extend to within 10 inches (255 mm) of the floor shall not be required to comply with Section 404.2.9.

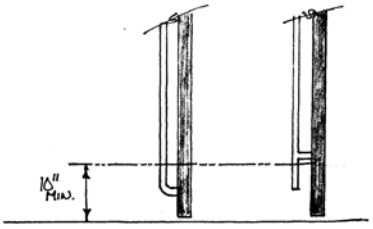
Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

This proposal is intended to address an issue that has come up on several interpretation requests. The added language should provide better clarity as to how the provision is to be applied and enforced. While the person raising the question knew the intent of the provision, they were being challenged on the issue because of a literal reading of what the standard says it is regulating.

As currently written, the provision regulates the "door surface" but does not indicate whether it also includes items like the door hardware or any other type of object that may not be on the "door surface". An example of the question I received dealt with a decorative door pull that went the full height of the door. The question was whether the "door surface" requirement only applied to the door itself or whether the hardware was also regulated.

Clearly the intent of the existing provision is to provide a minimum 10 inch smooth surface that would allow the footrest of a wheelchair or some other type of mobility device to slide along the door as the user opened it. A door pull or any other object which prevents this free movement along the lower 10 inches should be prohibited.

The attached figure illustrates the two door pulls that were being proposed. The first example shows the door hardware being attached within the 10 inch vertical distance. The second shows the hardware being attached above the 10 inch vertical height but with the door pull still extending to within 10 inches of the floor. Therefore, while the "door surface" is smooth the obstruction would prevent free movement along the bottom of the door.



404.2.9-Paarlberg.doc

Committee Action

Committee Action Report on Ballot and Proponent Comments- July 15-19, 2013:
Proposals of 2012 submitted on the ICC A117.1-2009

Approved

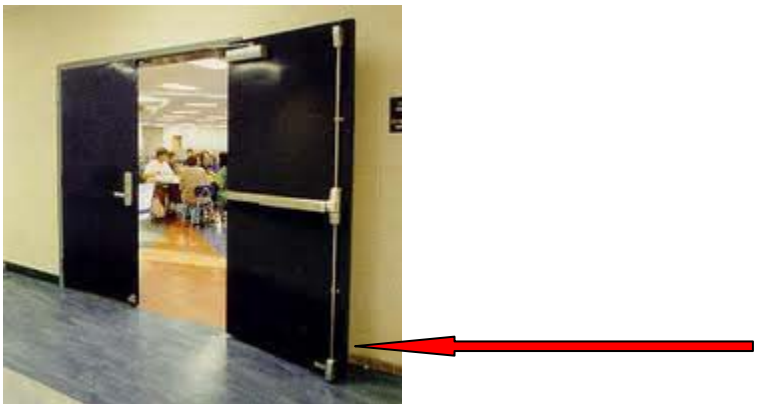
Committee Reason: The bottom 10 inches of a door, on its push side, is to be a smooth surface to prevent the toes and feet of persons pushing the door from being caught or restricted. The proposal clarifies that even door hardware should not be in this 10 inch range.

BALLOT COMMENTS

4-27.1

Commenter: Allan B. Fraser, Representing NFPA
Ballot: Negative with comment:

Comment: This is going to prohibit certain types of hardware that have been used for a long time without any clear data to demonstrate that there's a problem.



Committee Review of Comments and Action – July 2013

Approved

Committee Reason: The committee considered whether the proposed change would unduely restrict a certain type of hardware. The limitation is already in the code, and compliant designs are available.

4-30– 12
404.3, 404.3.2, 4043.5

Proposed Change as Submitted

Proponent: Ed Roether, representing the ADA/A117 Harmonization Task Group

Revise as follows:

404.3 Automatic Doors and Power-Assisted Doors and Gates. Automatic doors and automatic gates shall comply with Section 404.3. Full powered automatic doors shall comply with ANSI/BHMA A156.10 listed in Section 105.2.4. Power–assist and low–energy doors shall comply with ANSI/BHMA A156.19 listed in Section 105.2.3.

> **EXCEPTION**: Doors, doorways, and gates designed to be operated only by security personnel shall not be required to comply with Sections 404.3.2, 404.3.4, and 404.3.5.

404.3.2 Maneuvering Clearances. Maneuvering clearances at power–assisted doors shall comply with Section 404.2.3. Clearances at swinging automatic doors and gates without standby power and serving an *accessible means of egress* shall comply with Section 404.2.3.

> **EXCEPTION:** Where automatic doors and gates remain open in the power-off condition, compliance with Section 404.2.3 shall not be required.

404.3.5 Controls ~~Switches~~. Manually operated controls ~~switches~~ shall comply with Section 309. The clear floor space adjacent to the control ~~switch~~ shall be located beyond the arc of the door swing.

Reason: The ADA/A117 Harmonization Task Group (HTG) was created as a task group of the A117.1 Committee to compare the 2010 ADA with the 2009 A117.1 Standard. The HTG has recommend a series of changes through a set of change proposals. The HTG is recommending changes, for the most part, address where the ADA was viewed as more stringent than the A117. Where the A117 contained provisions not addressed in the ADA, these were not considered a conflict needing action to amend the A117. In addition there are a number of places where the ADA and A117.1 are different as a result of specific actions, by the A117.1 Committee during the development of the 2009 edition, to remain or create a difference where, in the judgment of the committee the ADA was deficient.

Reason: for 404.3.2: ADA specifies that automatic doors without standby power need to provide maneuvering clearances. Such is not currently in A117. In Section 404.3.5, the controls are not limited to switches.

404.3-ROETHER.doc

Committee Action

Approved

Committee Reason: Approved to provide consistency with the ADA and to provide for controls which aren't traditional 'switches'.

BALLOT COMMENT

4-30.1

Commenter: Gene Boecker, Representing NATO
Ballot: Affirmative with comment:

Comment: The text from 4-31 and this proposal should be blended and presented before a final vote is made so that the committee can determine whether the intent for each is maintained.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval of this proposal.

4-31– 12
404.3, 404.3.2, 404.3.4, 404.3.5, 404.3.6 (NEW)

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

404.3 Automatic Doors. Automatic doors and automatic gates shall comply with Section 404.3. Full powered automatic doors shall comply with ANSI/BHMA A156.10 listed in Section 105.2.4. Power-assist doors and low-energy automatic doors shall comply with ANSI/BHMA A1 56.19 listed in Section 105.2.3.

EXCEPTION: Doors, doorways, and gates designed to be operated only by security personnel shall not be required to comply with Sections 404.3.2, 404.3.4, and 404.3.5.

404.3.2 Maneuvering Clearances. Maneuvering clearances at power-assisted doors shall comply with Section 404.2.3. Maneuvering clearances shall be provided on the egress side of low-energy automatic doors and full power automatic doors that serve as part of the accessible means of egress.

EXCEPTIONS:

1. Low-energy automatic doors and full power automatic doors that have standby power or battery back-up shall not be required to comply with this section.
2. Low-energy automatic doors and full power automatic doors that remain open in the power-off condition shall not be required to comply with this section.
3. Full power automatic sliding doors that include a break-away feature shall not be required to comply with this section.

404.3.4 Two Doors in Series. Doors in series shall comply with Section 404.2.5.

EXCEPTION: Where both doors are power assist doors, low energy automatic doors or full power automatic doors, two doors in a series shall not be required to provide a turning space between the doors.

404.3.5 Controls ~~Switches~~. Manually operated controls ~~switches~~ shall comply with Section 309. The clear floor space adjacent to the control switch shall be located beyond the arc of the door swing.

404.3.6 Break Out Opening. Where full power automatic sliding doors and gates are equipped with a break out feature, the clear break out opening shall be 32 inches (815 mm) minimum when operated in emergency mode.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The purpose for the change is to align the standard content with terminology common to the automatic door industry, its products, and the standards that govern them.

There is confusion in the requirements for doors addressed by BHMA A156.10 and A156.19. The following information was provided by Joe Hetzel representing the American Association of Automatic Door Manufacturers (AAADM).

* A low energy automatic door is different from a power assist door
* A power assist door is more like a manual door that employs power to assist the user in manually operating the door
* An automatic door can be either a full power door or a low energy door

* Full power doors are addressed in BHMA A156.10
* Low energy doors are addressed in BHMA A156.19
* Power assist doors are also addressed in BHMA A156.19, but they are separate from low energy

Definitions from A156.19:

Low Energy Power Operated Door: A door with (a) power mechanism(s) that opens and closes the door upon receipt of an actuating signal and does not generate more kinetic energy than specified in this Standard.

Power Assist Door: A door with a power mechanism that reduces the opening resistance of a self closing door.

The reasons for the changes are as follows:

- 404.3 – this clarifies what is an automatic door and what is power assist regardless of the referenced standard
- 404.3.2 – clarify that means of egress is only maneuvering clearance is only on one side; exceptions are for when there is there is power or options that swing free
- 404.3.4 – Automatic doors do not need the extra turning space that is required in A117.1.
- 404.3.5 – controls can be other than switches
- 404.3.6 – trying to address ADA 404.3.6 where break out options are actually used, but not sure this is not addressed already in 404.3.1.

404.3-PAARLBERG.doc

Committee Action

Approved

Committee Reason: The Committee expressed concern that elements of this proposal were inappropriate to be located in the A117.1 Standard and perhaps should be located within the scoping document such as the International Building Code. It uses terms such as standby power and accessible means of egress that are defined in the IBC, not the Standard. The Committee voted to approve the change because it does coordinate better with industry terms. It enhances the information in the ADA, and therefore is not in conflict.

BALLOT COMMENT

4-31.1

Commenter: Gene Boecker, Representing NATO
Ballot: Affirmative with comment:

Comment: The text from 4-30 and this proposal should be blended and presented before a final vote is made so that the committee can determine whether the intent for each is maintained.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval of this proposal.

4-33– 12
404.3

Proposed Change as Submitted

Proponent: Joseph R. Hetzel, P.E., Thomas Associates, Inc., representing American Association of Automatic Door Manufacturers (AAADM)

Revise as follows:

404.3 Automatic Doors. Automatic doors and automatic gates shall comply with Section 404.3. Full powered automatic doors shall comply with ANSI/BHMA A156.10 listed in Section 105.2.4. Power-assist and low-energy doors shall comply with ANSI/BHMA A156.19 listed in Section 105.2.3.

Exception: Doors, doorways, and gates designed to be operated only by security personnel shall not be required to comply with Sections 404.3.2, 404.3.4 and 404.3.5.

A door that provides a barrier-free path of travel through a pedestrian entrance, and a door in a pedestrian entrance leading from a vestibule into the floor area, shall be a full power automatic door where the entrance serves a hotel, a government building, a building containing a care or detention occupancy, or a building more than 3225 square feet (300 m^2) containing an assembly occupancy, a business occupancy or a mercantile occupancy.

EXCEPTIONS:

1. These requirements shall not apply to an individual suite having an area of less than 3225 square feet (300 m^2) where located within a building classified as an assembly occupancy, a business occupancy, or a mercantile occupancy, where such suite is completely separated from the remainder of the building.
2. A non-active door leaf in a multiple leaf door in a barrier-free path of travel shall not be required to comply with these requirements.

Reason: The proposed language is based on code language currently in existence, and successfully used, in the province of Ontario, Canada. The occupancies cited as requiring automatic doors are associated with locations where a high degree of public use would be anticipated, and would maximize accessibility in these locations.

404.3 #2-HETZEL.doc

Committee Action

Disapproved

Committee Reason: While members of the Committee expressed support of the concept, the proposal was not appropriate for the Standard, but should be located in a scoping document such as the International Building Code. The term 'barrier-free path of travel' is not consistent with the Standard. 'Government building' is a form of ownership and not an occupancy category. The choice of 3,225 sq. ft. was not justified.

BALLOT COMMENTS

4-33.1
Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: The Committee rejected this proposal because they thought it was a scoping matter that belonged in the IBC. This proposal could easily be cast into the same format as the other requirements by making an automatic door a mandatory feature in an accessible route – Section 402. The IBC could then make exceptions based on the size of the building. I think this would recognize that automated doors are an essential feature of accessibility. In other countries automated doors are routinely included

as part of accessibility mandates. It is time that the US recognized the importance of door automation as a high priority. Working with the proponent, I will craft a specific proposal for July.

Proponent Comment

4-33.2

Commenter: Joseph R. Hetzel, P.E. Thomas Associates, representing American Association of Automatic Door Manufacturers (AAADM)

Revise the proposal as follows:

404.3 Automatic Doors. Automatic doors and automatic gates shall comply with Section 404.3. Full powered automatic doors shall comply with ANSI/BHMA A156.10 listed in Section 105.2.4. Power-assist and low-energy doors shall comply with ANSI/BHMA A156.19 listed in Section 105.2.3.

EXCEPTION: Doors, doorways, and gates designed to be operated only by security personnel shall not be required to comply with Sections 404.3.2, 404.3.4 and 404.3.5.

Where more than two accessible doors are located at an entrance to a building or facility, other than dwelling units and sleeping units, at least one automatic door shall be provided. Where an accessible entrance has a vestibule with more than two exterior entrance doors and more than two interior entrance doors, at least one exterior automatic door and one interior automatic door shall be provided.

Reason: We are opposed to the Committee action to disapprove 4-33 - 12, and we request that they approve 4-33 - 12 as modified by this public comment. The Committee agreed in concept that a threshold number of doors at entrances should be established at and above which automatic doors would be required.

Committee members referred us to language in the GSA Facilities Standard P100. Under information in "Accessible Public Entrances", the following language is found:

All public entrances provided in accordance with Paragraph F206.4.1 (Public Entrances) of the ABAAS must have at least one entrance door complying with Section 404.3 (Automatic and Power-Assisted Doors and Gates) of the ABAAS. Where an accessible public entrance has a vestibule with exterior and interior entrance doors, at least one exterior door and one interior door must comply with Section 404.3.

Our proposal is an expansion of the above language. The reason we are stipulating "more than two" in our proposed language is to allow for double doors which count as two doors.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments. Comment 4-33.2 was specifically discussed. The proposed text was found to be vague. It is unclear what is intended by 'accessible doors'? Is it clear that across a vestibule that these automatic doors should line up? Finally the proposal seemed to make what had been an exception in the original proposal, a requirement. The original disapproval of this item was sustained.

4-34– 12
404.3.4, 404.3.5, 404.3.6 (New)

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

404.3.4 Two Doors in Series. Doors in series shall comply with Section 404.2.5.

EXCEPTION: Automatic doors in a series are not required to provide a turning space complying with Section 304.

404.3.5 Control Switches. Manually operated control switches shall comply with Section 309. The clear floor space adjacent to the control switch shall be located beyond the arc of the door swing. Where automatic doors are doors in a series, the clear floor space for the control switches shall be located outside the arc of both doors.

404.3.6 Door Hardware. Handles, pulls, latches, locks, and other operable parts on accessible doors shall have a shape that is easy to grasp with one hand and does not require tight grasping, pinching, or twisting of the wrist to operate. Operable parts of such hardware shall be 34 inches (865 mm) minimum and 48 inches (1220 mm) maximum above the floor. Where sliding doors are in the fully open position, operating hardware shall be exposed and usable from both sides.

EXCEPTION: Locks and control switches used only for security purposes and not used for normal operation are not required to comply with Section 404.3.6.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing**.**

There is not an entrapment issue in vestibules with automatic doors on both sides. Therefore the turning space in the vestibule is should not be required. This exception may be appropriate for both automatic and power assist door.
In a two doors in a series situation, if a 2nd button for the 2nd door is provided inside the vestibule, it should be outside the swing of the 1st door as well as the 2nd. If someone outside hits the button for the 1st door, you do not want it to swing open and hit the person trying to reach the 2nd button.

Power assisted doors should have the same hardware requirements as manual doors. Power doors have switched on top of the door that is used to turn the power operation and/or sensor on and off at the beginning and end of the business day. Therefore the exception is needed for automatic door.

404.3.4-PAARLBERG.doc

Committee Action

Approval as Modified

Modification – Replace the original proposal with the following:

404.3.4 Two Doors in Series. Doors in series shall comply with Section 404.2.5.

EXCEPTION: Automatic doors in a series are not required to provide a turning space complying with Section 304.

404.3.5 Control Switches. Manually operated control switches shall comply with Section 309. The clear floor space adjacent to the control switch shall be located beyond the arc of ~~the~~ door swings.

404.3.6 Door Hardware. Handles, pulls, latches, locks, and other operable parts shall comply with Section 404.2.6.

Committee Reason: The proposal addressed issues which need to be clarified, however the Committee approved a version which does the clarification more simply and eliminates the repetition of requirements found elsewhere.

BALLOT COMMENTS

4-34.1

Commenter: Todd Andersen
Ballot: Negative with comment:

Comment: I object to the Exception at 404.3.4 that exempts vestibules with two automatic doors in a series from the obligation to provide a turning space. Imagine situations such as at many supermarkets, security check points, and similar conditions where the 'in' and 'out' traffic flows are segregated from each other. The proposed text would permit the vestibule to be no wider than the door leaf as the person using the vestibule only experiences these door from the push side. The IBC and NFPA 101 both require backup power for automatic doors that are part of a means of egress unless the space served has no more than 10 occupants. Even where backup power will be provided, these doors are required to be manually operable (ie after the backup power fails or is exhausted), however, the required forces are three to six times greater than 5 pounds. I summary: too little room to retreat and too heavy a door to move forward, sounds like the definition of being trapped.

Because we often use power and automatic doors to solve access problems where proper maneuvering space at an existing door is not to be had, I can support a partial exception from the turning space requirement in existing buildings.

4-34.2

Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: Although I sympathize with the intent, automatic doors, although requiring no manual action to operate, can still be switched off manually. If the interior set of automatic doors is not turned on because it is prior to the start of the day, but access is allowed into the vestibule for whatever reason, a turning space should be provided.

4-34.3

Commenter: Marsha K. Mazz, Representing Access Board
Ballot: Negative with comment:

Comment: Disapprove this proposal.

The new exception to 404.3.4 Two Doors in Series applies to “automatic doors” in a series. The concern with this proposal is that it isn’t clear that both doors in the series would be simultaneously opened by a single control or that the doors would have emergency back-up power. Therefore, a wheelchair user could be entrapped between the doors. Please review proposal 4-31-12 describing the differing types of automatic doors. Power-assist doors require the operator to exert force on the door before the mechanism engages so, opening the first door will have no effect on the second door in the series.

4-34.4

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: This proposal could trap wheelchair users in a vestibule when the outside door is open, the inside door is locked and the control or buzzers are out of reach. Locking the inside door is a very common situation in a multifamily apartment building or a small commercial building. Buzzers and intercoms are typically located in the vestibule. The door can be opened remotely by a resident in their apartment or an employee but if they are not present, the door cannot be opened. While it may not be necessary to turn to get back outside the vestibule, no thought as yet has been given to the space and configuration needed to activate the outside door control and back out. So more work on this is needed.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The committee realized the new exception to Section 404.3.4 covered too many installations unless it was clarified that these were full powered automatic doors. Unless they open without any assistance, there remains a potential need for a turn-around space.

Modification:

404.3.4 Two Doors in Series. Doors in series shall comply with Section 404.2.5.

EXCEPTION: Full power automatic doors in a series are not required to provide a turning space complying with Section 304.

4-35– 12
404.3.5

Proposed Change as Submitted

Proponent: Gail Himes, City of Tacoma, Washington

Revise as follows:

404.3.5 Control Switches. Manually operated control switches shall comply with Section 309. The control switch shall be along the path of travel and within of 10 feet of the door. The clear floor space shall be located adjacent to and centered on the control switch and shall be located beyond the arc of the door swing.

Reason: There is currently no requirement to have manually operated control switches along the path of travel or within a reasonable distance from the door. According to the Manual for Uniform Traffic Control Devices, the average walking speed of an individual is 3.5 feet per second. Once the average individual operates the control switch, it will take them nearly 3 seconds to reach the door threshold. People with more severe disabilities can take much longer to reach the door. Door timing can be adjusted; however, many building owners/managers are reluctant to let doors stay open very long due to energy loss, insects, etc.

404.3.5-HIMES.doc

Committee Action

Disapproved

Committee Reason: The standard which applies to this type of door already addresses the placement of the controls. Placing this requirement in the A117.1 Standard could result in a conflict.

BALLOT COMMENT

4-35.1
Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: A reference to the control switch Standard should be included in 309. Otherwise, it's not clear that these are intended to meet a Standard.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

4-36– 12
404.3.6 (New)

Proposed Change as Submitted

Proponent: Joseph R. Hetzel, P.E., Thomas Associates, Inc., representing American Association of Automatic Door Manufacturers (AAADM)

Add new text as follows:

404.3.6 Multiple Exterior Doors At The Same Location. Where multiple exterior doors at the same location serve the same interior space, 1 of every 8 exterior door leafs shall be a full power automatic door, subject to the following

1. The automatic door shall be closest to the accessible route.
2. The automatic door shall be provided with back-up battery or generator for occupancies of 150 or more.

Reason: The proposal will provide true accessibility. Individuals needing accessibility normally seek an accessible route, and an automatic door is proposed to be the door closest to the accessible route. The proposed language is based on code language currently in existence, and successfully used, in the province of Ontario, Canada.

404.3.6-HETZEL.doc

Committee Action

Disapproved

Committee Reason: While the Committee expressed support of the concept of requiring an automatic door, the proposal verges on being scoping and as such may be better placed in the International Building Code. The 150 occupant load implied by item 2 does not result in multiple doors, therefore it may not be a reasonable threshold for the requirement. The proposal needs to be better connected to the location of the accessible route.

BALLOT COMMENTS

4-36.1
Commenter: Gina Hilberry, Representing UCP
Ballot: Affirmative with comment:

Comment: UCP wishes to support the concept of requiring an automatic door in many locations. However, the proposal does need to be rewritten.

4-36.2
Commenter: Hansel Bauman, Representing NAD
Ballot: Negative with comment:

Comment: The intent of the proposal is sound and reasonable. The proponent should be given an opportunity to resubmit the text with revisions concerning scoping and other committee concerns.

4-36.3
Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: The Committee rejected this proposal because they thought it was a scoping matter that belonged in the IBC. This proposal could easily be cast into the same format as the other requirements by making an automatic door a mandatory feature in

an accessible route – Section 402. The IBC could then make exceptions based on the size of the building. I think this would recognize that automated doors are an essential feature of accessibility. In other countries automated doors are routinely included as part of accessibility mandates. It is time that the US recognized the importance of door automation as a high priority. Working with the proponent, I will craft a specific proposal for July.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

4-37– 12
405.1

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

405.1 General. Ramps along accessible routes shall comply with Section 405.

EXCEPTIONS:

1. In assembly areas, aisle ramps adjacent to seating and not serving elements required to be on an accessible route shall not be required to comply with Section 405.
2. Exterior sidewalks that are a minimum of 48 inches wide and slope with grade are not required to comply with Section 405.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

In hilly sites, sidewalks that move up with the grade may be sloped enough to be considered a ramp. However, to put curb protection and handrails on these sidewalks will block access to street parking and adjacent building entrances. This exception is consistent with Access Board's proposal- Public Right-of-way.

405.1 (NEW)-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The Committee was unsure that this was consistent with the draft ADA standards on public rights of way. The proposal could result in the elimination of accessible routes to facilities.

BALLOT COMMENTS

4-37.1
Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: Proposal would conflict with previous committee action.

4-37.2
Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Sidewalks that extend to the public way can be of substantial length. Or a building could be dealing with existing street slopes in the immediate area. This needs to be investigated further. This exterior route idea should also be coordinated with 4-7 and 4-42.

A modification will be submitted for this proposal.

Proponent Comment

4-37.3

Commenter: Kim Paarlberg, Representing ICC

Further modify as follows:

405.1 General. Ramps along accessible routes shall comply with Section 405.

EXCEPTIONS:

1. In assembly areas, aisle ramps adjacent to seating and not serving elements required to be on an accessible route shall not be required to comply with Section 405.

2. Exterior sidewalks, where the slope of the sidewalk is limited by the existing public way, ~~that are a minimum of 48 inches wide and slope with grade~~ are not required to comply with Section 405 where the width of the sidewalk is a minimum of 48 inches (1220 mm).

Reason: The committee expressed concern that the original proposal could allow site manipulation to avoid the accessible route. Sidewalks that extend to the public way can be of substantial length or very short. Or a building could be dealing with existing street slopes in the immediate area. This needs to be investigated further. This exterior route idea should also be coordinated with 4-7 and 4-42.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee reaffirmed its disapproval of this item. Comment 4-37.3 was specifically considered but found to be unclear. The belief that the standard already provides sufficient exceptions to address terrain issues on existing infill sites made consideration of another exception unnecessary.

4-42– 12
406, 406.1, 406.2, 406.3, 406.4, 406.5, 406.6, 406.7, 406.8, 406.9, 406.10, 406.11

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

~~**406 Curb Ramps**~~

~~**406.1 General.** Curb ramps on accessible routes shall comply with Sections 406, 405.2, 405.3, and 405.10.~~

~~**406.2 Counter Slope.** Counter slopes of adjoining gutters and road surfaces immediately adjacent to the curb ramp shall not be steeper than 1:20. The adjacent surfaces at transitions at curb ramps to walks, gutters and streets shall be at the same level.~~

~~**406.3 Sides of Curb Ramps.** Where provided, curb ramp flares shall comply with Section 406.3.~~

~~**406.3.1 Slope.** Flares shall not be steeper than 1:10.~~

~~**406.4 Width.** Curb ramps shall be 36 inches (915 mm) minimum in width, exclusive of flared sides.~~

~~**406.5 Floor Surface.** Floor surfaces of curb ramps shall comply with Section 302.~~

~~**406.7 Landings.** Landings shall be provided at the tops of curb ramps. The clear length of the landing shall be 36 inches (915 mm) minimum. The clear width of the landing shall be at least as wide as the curb ramp, excluding flared sides, leading to the landing.~~

~~**EXCEPTION:** In alterations, where there is no landing at the top of curb ramps, curb ramp flares shall be provided and shall not be steeper than 1:12.~~

~~**406.10 Diagonal Curb Ramps.** Diagonal or corner -type curb ramps with returned curbs or other well- defined edges shall have the edges parallel to the direction of pedestrian flow. The bottoms of diagonal curb ramps shall have 48 inches (1220 mm) minimum clear space outside active traffic lanes of the roadway. Diagonal curb ramps provided at marked crossings shall provide the 48 inches (1220 mm) minimum clear space within the markings. Diagonal curb ramps with flared sides shall have a segment of curb 24 inches (610 mm) minimum in length on each side of the curb ramp and within the marked crossing.~~

~~**406.11 Islands.** Raised islands in crossings shall be a cut-through level with the street or have curb ramps at both sides. Each curb ramp shall have a level area 48 inches (1220 mm) minimum in length and 36 inches (915 mm) minimum in width at the top of the curb ramp in the part of the island intersected by the crossings. Each 48 inch (1220 mm) by 36 inch (915 mm) area shall be oriented so the 48 inch (1220 mm) length is in the direction of the running slope of the curb ramp it serves. The 48 inch (1220 mm) by 36 inch (915 mm) areas and the accessible route shall be permitted to overlap.~~

406 Curb Ramps and Blended Transitions

406.1 General. Curb ramps and blended transitions on accessible route shall comply with Section 406

406.2 Perpendicular Curb Ramps. Perpendicular curb ramps shall comply with Sections 406.2 and 406.5.

406.2.1 Turning Space. A turning space 48 inches (1220 mm) minimum by 48 inches (1220 mm) minimum shall be provided at the top of the curb ramp and shall be permitted to overlap other turning spaces and clear spaces. Where the turning space is constrained at the back-of-sidewalk, the turning space shall be 48 inches (1220 mm) minimum by 60 inches (1525 mm) minimum. The 60 inches (1525 mm) dimension shall be provided in the direction of the ramp run.

406.2.2 Running Slope. The running slope of the curb ramp shall cut through or shall be built up to the curb at right angles or shall meet the gutter grade break at right angles where the curb is curved. The running slope of the curb ramp shall be 5 percent minimum and 8.3 percent maximum but shall not require the ramp length to exceed 15 feet (4573 mm). The running slope of the turning space shall be 2 percent maximum.

406.3 Parallel Curb Ramps. Parallel curb ramps shall comply with Sections 406.3 and 406.5.

406.3.1 Turning Space. A turning space 48 inches (1220 mm) minimum by 48 inches (1220 mm) minimum shall be provided at the bottom of the curb ramp and shall be permitted to overlap other turning spaces and clear spaces. If the turning space is constrained on 2 or more sides, the turning space shall be 4 feet (1.2 m) minimum by 60 inches (1525 mm) . The 60 inches (1525 mm) dimension shall be provided in the direction of the pedestrian street crossing.

406.3.2 Running Slope. The running slope of the curb ramp shall be in-line with the direction of sidewalk travel. The running slope of the curb ramp shall be 5 percent minimum and 8.3 percent maximum but shall not require the ramp length to exceed 15 feet (4573 mm). minimum. The running slope of the turning space shall be 2 percent maximum.

406.4 Blended Transitions. Blended transitions shall comply with Sections 406.4 and 406.5.

406.4.1 Running Slope. The running slope of blended transitions shall be 5 percent maximum.

406.5 Common Requirements. Curb ramps and blended transitions shall comply with Section 406.5.

406.5.1 Width. The clear width of curb ramp runs (excluding any flared sides), blended transitions, and turning spaces shall be 48 inches (1220 mm) minimum.

406.5.2 Grade Breaks. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.

406.5.3 Cross Slope. The cross slope of curb ramps, blended transitions, and turning spaces shall be 2 percent maximum. At pedestrian street crossings without yield or stop control and at midblock pedestrian street crossings, the cross slope shall be permitted to equal the street or highway grade.

406.5.4 Counter Slope. The counter slope of the gutter or street at the foot of curb ramp runs, blended transitions, and turning spaces shall be 5 percent maximum.

406.5.5 Clear Space. Beyond the bottom grade break, a clear space 48 inches (1220 mm) minimum by 48 inches (1220 mm) minimum shall be provided within the width of the pedestrian street crossing and wholly outside the parallel vehicle travel lane.

406.5.6 ~~406.3.2~~ Marking. If curbs adjacent to the ramp flares are painted, the painted surface shall extend along the flared portion of the curb.

406.5.7 ~~406.6~~ Location. Curb ramps and the flared sides of curb ramps shall be located so they do not project into vehicular traffic lanes, parking spaces, or parking access aisles. Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides.

406.5.9 ~~406.8~~ Obstructions. Curb ramps shall be located or protected to prevent their obstruction by parked vehicles.

406.5.10 ~~406.9~~ Handrails. Handrails shall not be required on curb ramps.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

This proposal is using the proposed regulations for curb cuts in Section R304 in the Access Board's proposal: Public right-or-way. Items currently in A117.1 that still seemed relevant are proposed to be maintained. The issue of detectable warnings is addressed in a separate proposal.

406 (New)-PAARLBERG.doc

Committee Action

Approved

Committee Reason: The proposal replaces existing curb cut/curb ramp standards with the updated provisions and terminology being developed in the Access Board's Public right of way. These are used within a large development where street like features are developed within a larger property. See also Proposal 4-44-12.

BALLOT COMMENTS

4-42.1

Commenter: Gina Hilberry, Representing UCP
Ballot: Affirmative with comment:

Comment: I would like to resubmit a revised last sentence for 406.5.2 as follows: "Grade breaks shall be flush."

Revise as follows:

406.5.2 Grade Breaks. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. ~~Surface slopes that meet at~~ Grade breaks shall be flush.

4-42.2

Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Some editorial correction to be consistent with ICC A117.1 format.

406.2.2 Running Slope. The running slope of the curb ramp shall cut through or shall be built up to the curb at right angles or shall meet the gutter grade break at right angles where the curb is curved. The running slope of the curb ramp shall be ~~5 percent~~ 1:20 minimum and ~~8.3 percent~~ 1:12 maximum but shall not require the ramp length to exceed 15 feet (4573 mm). The running slope of the turning space shall be ~~2 percent~~ 1:48 maximum.

406.3.1 Turning Space. A turning space 48 inches (1220 mm) minimum by 48 inches (1220 mm) minimum shall be provided at the bottom of the curb ramp and shall be permitted to overlap other turning spaces and clear spaces. If the turning space is constrained on 2 or more sides, the turning space shall be ~~4 feet (1.2 m)~~ 48 inches (1220 mm) minimum by 60 inches (1525 mm). The 60 inches (1525 mm) dimension shall be provided in the direction of the pedestrian street crossing.

406.3.2 Running Slope. The running slope of the curb ramp shall be in-line with the direction of sidewalk travel. The running slope of the curb ramp shall be ~~5 percent~~ 1:20 minimum and ~~8.3 percent~~ 1:12 maximum but shall not require the ramp length to exceed 15 feet (4573 mm) minimum. The running slope of the turning space shall be ~~2 percent~~ 1:48 maximum.

406.4.1 Running Slope. The running slope of blended transitions shall be ~~5 percent~~ 1:20 maximum.

406.5.3 Cross Slope. The cross slope of curb ramps, blended transitions, and turning spaces shall be ~~2 percent~~ 1:48 maximum. At pedestrian street crossings without yield or stop control and at midblock pedestrian street crossings, the cross slope shall be permitted to equal the street or highway grade.

406.5.4 Counter Slope. The counter slope of the gutter or street at the foot of curb ramp runs, blended transitions, and turning spaces shall be ~~5 percent~~ 1:20 maximum.

Additional modifications – Add the following definitions:

Blended transition. A raised pedestrian street crossing, depressed corner, or similar connection between the pedestrian access route at the level of the sidewalk and the level of the pedestrian street crossing that has a grade of 1:20 or less.

Curb line. A line at the face of the curb that marks the transition between curb and the gutter, street or highway.

Curb ramp. A short ramp cutting through a curb or built up to it. Curb ramps can be perpendicular or parallel, or a combination of parallel and perpendicular ramps.

Grade break. The line where tow surface planes with different grades meet.

4-42.3

Commenter: Todd Andersen
Ballot: Negative with comment:

Comment: I object to the inconsistency introduced into the standard when we say in the proposed text at Section 406.3.4 that a turning space at a curb ramp need be no bigger than 48 x 48 inches, but should the ramp not be at a curb the turning space must be 67 inches in diameter. Please understand that curb ramps exist indoors as well as out, so this text is not restricted to sidewalks. Further, the base requirement of providing a turning space should be based on situations where pedestrians must turn at the top or bottom of the curb ramp (i.e. a turning space ought not required where traveler does not change course. I recommend rejection of 406.3.4 in favor of reliance on the new turning spaces we appear to be ready to adopt.

I object to reducing the maximum curb ramp slope from 1:12 to 8.3 percent. No data were presented suggesting there will be any measurable gain in accessibility, nor why ramps not at curbs are permitted to be steeper.

4-42.4

Commenter: Ron Burton, Representing BOMA
Ballot: Negative with comment:

Comment: We disagree with the approval of the proposal since these proposed public right-of-way guidelines are still going through the federal rule making process and have not been adopted by any federal agency. No changes to the standard should be approved regarding any features that may be affected by the proposed guidelines, until the guidelines are have been finalized and adopted by the appropriate agency.

4-42.5

Commenter: Steve Orlowski, Representing NAHB
Ballot: Negative with comment:

Comment: We disagree with the approval of the proposal since these proposed public right-of-way guidelines are still going through the federal rule making process and have not been adopted by any federal agency. No changes to the standard should be approved regarding any features that may be affected by the proposed guidelines, until the guidelines are have been finalized and adopted by the appropriate agency. There is potential for some of the proposed guidelines to be changed and altered which would put the standard in conflict with the proposed guidelines.

Keep in mind that these proposed guidelines of the PROW are for public spaces to which this standard does not apply.

4-42.6

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: The 48 in. width for curb ramps is far too restrictive. It would be impossible to comply with this requirement in many existing locations. There is no evidence that a 48 in. clear width is needed for one way passage on curb ramps. Beyond a width of 36 in. min. the width of curb ramps should be based on the amount of traffic which is something to be considered by designers of each project, not standards. If the intent is to provide enough space for two way traffic, the width has to be greater, e.g. 22+36 = 58. But there are many locations where two-way traffic is not needed. A good example is a curb ramp leading to an access aisle at a reserved parking space. Just because the ADAAG has a requirement is not a reason for including something that is clearly excessive. Harmonization should apply only to the requirements that our committee confirms.

Proponent Comments

4-42.7

Commenter: Kim Paarlberg, Representing ICC

Further modify the proposal as follows:

406.2.2 Running Slope. The running slope of the curb ramp shall cut through or shall be built up to the curb at right angles or shall meet the gutter grade break at right angles where the curb is curved. The running slope of the curb ramp shall be ~~5 percent~~ 1:20 minimum and ~~8.3 percent~~ 1:12 maximum but shall not require the ramp length to exceed 15 feet (4573 mm). The running slope of the turning space shall be ~~2 percent~~ 1:48 maximum.

406.3.1 Turning Space. A turning space 48 inches (1220 mm) minimum by 48 inches (1220 mm) minimum shall be provided at the bottom of the curb ramp and shall be permitted to overlap other turning spaces and clear spaces. If the turning space is constrained on 2 or more sides, the turning space shall be ~~4 feet (1.2 m)~~ 48 inches (1220 mm) minimum by 60 inches (1525 mm). The 60 inches (1525 mm) dimension shall be provided in the direction of the pedestrian street crossing.

406.3.2 Running Slope. The running slope of the curb ramp shall be in-line with the direction of sidewalk travel. The running slope of the curb ramp shall be ~~5 percent~~ 1:20 minimum and ~~8.3 percent~~ 1:12 maximum but shall not require the ramp length to exceed 15 feet (4573 mm) minimum. The running slope of the turning space shall be ~~2 percent~~ 1:48 maximum.

406.4.1 Running Slope. The running slope of blended transitions shall be ~~5 percent~~ 1:20 maximum.

406.5.3 Cross Slope. The cross slope of curb ramps, blended transitions, and turning spaces shall be ~~2 percent~~ 1:48 maximum. At pedestrian street crossings without yield or stop control and at midblock pedestrian street crossings, the cross slope shall be permitted to equal the street or highway grade**.**

406.5.4 Counter Slope. The counter slope of the gutter or street at the foot of curb ramp runs, blended transitions, and turning spaces shall be ~~5 percent~~ 1:20 maximum.

Reason: Some editorial correction to be consistent with ICC A117.1 format.

4-42.8

Commenter: Kim Paarlberg, Representing ICC

Add the following definitions:

Blended transition. A raised pedestrian street crossing, depressed corner, or similar connection between the pedestrian access route at the level of the sidewalk and the level of the pedestrian street crossing that has a grade of 1:20 or less.

Curb line. A line at the face of the curb that marks the transition between curb and the gutter, street or highway**.**

Curb ramp. A short ramp cutting through a curb or built up to it. Curb ramps can be perpendicular or parallel, or a combination of parallel and perpendicular ramps.

Grade break. The line where two surface planes with different grades meet.

Reason: These definitions are in the PROWAG and would clarify requirements in the new language in the original proposal.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The committee accepted comments 4-42.7 and 4-42.8 as editorial corrections and adding useful definitions, respectively, to the approved version of 4-42. The committee again considered whether adopting these standards was premature as they had yet to be finalized by the Department of Justice. The committee remained comfortable that these standards which have been in existence for 10 years, although not finalized have been substantially implemented. The Committee believes they should be extended to address campus type facilities with interior roadways.

Modification

Further modify the proposal as follows:

406.2.2 Running Slope. The running slope of the curb ramp shall cut through or shall be built up to the curb at right angles or shall meet the gutter grade break at right angles where the curb is curved. The running slope of the curb ramp shall be ~~5 percent~~ 1:20 minimum and ~~8.3 percent~~ 1:12 maximum but shall not require the ramp length to exceed 15 feet (4573 mm). The running slope of the turning space shall be ~~2 percent~~ 1:48 maximum.

406.3.1 Turning Space. A turning space 48 inches (1220 mm) minimum by 48 inches (1220 mm) minimum shall be provided at the bottom of the curb ramp and shall be permitted to overlap other turning spaces and clear spaces. If the turning space is constrained on 2 or more sides, the turning space shall be ~~4 feet (1.2 m)~~ 48 inches (1220 mm) minimum by 60 inches (1525 mm). The 60 inches (1525 mm) dimension shall be provided in the direction of the pedestrian street crossing.

406.3.2 Running Slope. The running slope of the curb ramp shall be in-line with the direction of sidewalk travel. The running slope of the curb ramp shall be ~~5 percent~~ 1:20 minimum and ~~8.3 percent~~ 1:12 maximum but shall not require the ramp length to exceed 15 feet (4573 mm) minimum. The running slope of the turning space shall be ~~2 percent~~ 1:48 maximum.

406.4.1 Running Slope. The running slope of blended transitions shall be ~~5 percent~~ 1:20 maximum.

406.5.3 Cross Slope. The cross slope of curb ramps, blended transitions, and turning spaces shall be ~~2 percent~~ 1:48 maximum. At pedestrian street crossings without yield or stop control and at midblock pedestrian street crossings, the cross slope shall be permitted to equal the street or highway grade**.**

406.5.4 Counter Slope. The counter slope of the gutter or street at the foot of curb ramp runs, blended transitions, and turning spaces shall be ~~5 percent~~ 1:20 maximum.

Add the following definitions:

Blended transition. A raised pedestrian street crossing, depressed corner, or similar connection between the pedestrian access route at the level of the sidewalk and the level of the pedestrian street crossing that has a grade of 1:20 or less.

Curb line. A line at the face of the curb that marks the transition between curb and the gutter, street or highway**.**

Curb ramp. A short ramp cutting through a curb or built up to it. Curb ramps can be perpendicular or parallel, or a combination of parallel and perpendicular ramps.

Grade break. The line where two surface planes with different grades meet.

(Balance of the proposal remains unchanged)

4-43– 12
406.5

Proposed Change as Submitted

Proponent: Gina Hilberry, United Cerebral Palsy Association and the City of St. Louis, Office on the Disabled Advisory Council

Revise as follows:

406.5 Floor Surface. Floor surfaces of curb ramps shall comply with 302. Surfaces shall not be constructed of semi-permeable or porous asphalt or concrete paving materials.

Reason: In the current edition of the Public Right-of-Way Guidelines, Advisory R302.7.1 includes the following statement: "Pedestrian access route surfaces must be generally planar and smooth. Surfaces should be chosen for easy rollability. Surfaces that are heavily textured, rough, or chamfered and paving systems consisting of individual units that cannot be laid in plane will greatly increase rolling resistance and subject pedestrians who use wheelchairs, scooters and rolling walkers to the stressful and often painful effects of vibration. Such materials should be reserved for borders and decorative accents located outside of or only occasionally crossing the pedestrian access route. Surfaces should be designed, constructed, and maintained according to appropriate industry standards, specifications, and recommendations for best practice."

The City of St. Louis has experimented with semi-permeable and porous asphalt and concrete paving materials in a variety of locations. In addition, a series of videos were taken with a group of people with disabilities using several surfaces that were installed using specifications and methods beyond industry standards. Current standards as applied to porous and semi-permeable asphalt and concrete paving do not result in surfaces with easy rollability. This is particularly problematic when applied to curb ramps where rolling resistance and changes in level are particularly difficult for people using wheelchairs or rolling walkers. It should be noted, that people with visual impairments using long canes commented repeatedly that the rough porous surfaces also caught their cane tips and decreased their ability to move quickly and smoothly.

Semi-permeable rubber surfaces are specifically excluded from these comments. These surfaces tested out to be smooth, planar and very useable by all user experts.

406.5-HILBERRY.doc

Committee Action

Disapproved

Committee Reason: The Committee recognized the issue that such surfaces can result in the loss of accessibility if they are not maintained. The language was too broad for a complete prohibition of such materials.

BALLOT COMMENTS

4-43.1
Commenter: Gina Hilberry, Representing UCP
Ballot: Negative with comment:

Comment: In response to the committee's comments, I would like to submit the following language: 406.5.x (number to be determined later)

This is language lifted from PROWAG Advisory R302.7.2.

Revise as follow:

406.5.x "Pedestrian access route surfaces must be generally planar and smooth. Choose surfaces for easy rollability. Surfaces that are heavily textured, rough, or chamfered and paving systems consisting of individual units that cannot be laid in plane will greatly increase rolling resistance and subject pedestrians who use wheelchairs, scooters, and rolling walkers to the stressful and often painful effects of vibration. Such materials should be reserved for borders and decorative accents located outside of or only occasionally crossing the pedestrian access route."

4-43.2

Commenter: Melanie Hughes, Representing AERBVI
Ballot: Negative with comment:

Comment: Using semi permeable or porous concrete or asphalt elements for truncated dome floor surfaces feel and sound identical to the surrounding sidewalk when a vision impaired pedestrian strikes it with a white cane. Having a non-porous material provides important auditory and tactile clues that they have contacted truncated domes. The domes alone are not enough because it is not necessarily obvious, nonvisually, that the cane has contacted domes.

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Disapproved.

Committee Reason: The committee again discussed the need to make sure that these surfaces had functionable surface materials. The text proposed was still found to be unclear and therefore this proposal remained disapproved. Because item 4-42-13 is an approved change to the standard, proposals to fix surfacing language can be suggested as modifications to 4-42.

4-44– 12
406.12, 406.13, 406.13.1, 406.13.2, 406.14, 705.6 (New), 705.7 (New), 805.10

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

~~**406.12 Detectable Warnings at Raised Marked Crossings.** Marked crossings that are raised to the same level as the adjoining sidewalk shall be preceded by a detectable warning 24 inches (610 mm) in depth complying with Section 705. The detectable warning shall extend the full width of the marked crossing.~~

406.12 Where detectable warnings are required. Detectable warning surfaces complying with Section 705 shall be provided at the following locations on pedestrian access routes and at transit stops:

1. Curb ramps and blended transitions at pedestrian street crossings;
2. Pedestrian refuge islands;
3. Pedestrian at-grade rail crossings not located within a street or highway;
4. Boarding platforms at transit stops for buses and rail vehicles where the edges of the boarding platform are not protected by screens or guards; and
5. Boarding and alighting areas at sidewalk or street level transit stops for rail vehicles where the side of the boarding and alighting areas facing the rail vehicles is not protected by screens or guards.

Exception: Detectable warning surfaces are not required at pedestrian refuge islands that are cut-through at street level and are less than 6 feet (1829 mm) in length in the direction of pedestrian travel.

~~**406.13 Detectable Warnings at Curb Ramps.** Where detectable warnings are provided on curb ramps, they shall comply with Sections 406.13 and 705.~~

~~**406.13.1 Area Covered.** Detectable warnings shall be 24 inches (610 mm) minimum in depth in the direction of travel. The detectable warning shall extend the full width of the curb ramp or flush surface.~~

~~**406.13.2 Location.** The detectable warning shall be located so the edge nearest the curb line is 6 inches (150 mm) minimum and 8 inches (205 mm) maximum from the curb line.~~

~~**406.14 Detectable Warnings at Islands or Cut-through Medians.** Where detectable warnings are provided on curb ramps or at raised marked crossings leading to islands or cut-through medians, the island or cut-through median shall be provided with detectable warnings complying with Section 705, that are 24 inches (610 mm) in depth, and extend the full width of the pedestrian route or cut through. Where such island or cut-through median is less than 48 inches (1220 mm) in depth, the entire width and depth of the pedestrian route or cut-through shall have detectable warnings.~~

705.6 Size. Detectable warning surfaces shall extend 24 inches (610 mm) minimum in the direction of pedestrian travel. At curb ramps and blended transitions, detectable warning surfaces shall extend the full width of the curb ramp run excluding any flared sides or blended transition. At pedestrian at-grade rail crossings not located within a street or highway, detectable warnings shall extend the full width of the crossing. At boarding platforms for buses and rail vehicles, detectable warning surfaces shall extend the

full length of the public use areas of the platform. At boarding and alighting areas at sidewalk or street level transit stops for rail vehicles, detectable warning surfaces shall extend the full length of the transit stop.

705.7 Placement. The placement of detectable warning surfaces shall comply with Section 705.7.

705.7.1 Perpendicular Curb Ramps. On perpendicular curb ramps, detectable warning surfaces shall be placed as follows:

1. Where the ends of the bottom grade break are in front of the back of curb, detectable warning surfaces shall be placed at the back of curb.

2. Where the ends of the bottom grade break are behind the back of curb and the distance from either end of the bottom grade brake to the back of curb is 60 inches (1525 mm) or less, detectable warning surfaces shall be placed on the ramp run within one dome spacing of the bottom grade break.

3. Where the ends of the bottom grade break are behind the back of curb and the distance from either end of the bottom grade brake to the back of curb is more than 60 inches (1525 mm), detectable warning surfaces shall be placed on the lower landing at the back of curb.

705.7.2 Parallel Curb Ramps. On parallel curb ramps, detectable warning surfaces shall be placed on the turning space at the flush transition between the street and sidewalk.

705.7.3 Blended Transitions. On blended transitions, detectable warning surfaces shall be placed at the back of curb. Where raised pedestrian street crossings, depressed corners, or other level pedestrian street crossings are provided, detectable warning surfaces shall be placed at the flush transition between the street and the sidewalk.

705.7.4 Pedestrian Refuge Islands. At cut-through pedestrian refuge islands, detectable warning surfaces shall be placed at the edges of the pedestrian island and shall be separated by a 24 inches (610 mm) minimum length of surface without detectable warnings.

705.7.5 Pedestrian At-Grade Rail Crossings. At pedestrian at-grade rail crossings not located within a street or highway, detectable warning surfaces shall be placed on each side of the rail crossing. The edge of the detectable warning surface nearest the rail crossing shall be 72 inches (1829) minimum and 15 feet (4679 mm) maximum from the centerline of the nearest rail. Where pedestrian gates are provided, detectable warning surfaces shall be placed on the side of the gates opposite the rail.

705.7.6 Boarding Platforms. At boarding platforms for buses and rail vehicles, detectable warning surfaces shall be placed at the boarding edge of the platform.

705.7.7 Boarding and Alighting Areas. At boarding and alighting areas at sidewalk or street level transit stops for rail vehicles, detectable warning surfaces shall be placed at the side of the boarding and alighting area facing the rail vehicles.

805.10 Track Crossings. Where a circulation path crosses tracks, it shall comply with Section 402 and shall have a detectable warning ~~24 inches (610 mm) in depth~~ complying with Section 705 ~~extending the full width of the circulation path. The detectable warning surface shall be located so that the edge nearest the rail crossing is 6 foot (1830 mm) minimum and 15 foot (4570 mm) maximum from the centerline of the nearest rail.~~

EXCEPTION: Openings for wheel flanges shall be permitted to be $2^1/_2$ inches (64 mm) maximum.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

This language for where detectable warnings are required and how to size and locate them is consistent with R208.1 and R305 of the Access Board's Proposal: Public Right-of-way. The location and size is not in 705 and more specifically addressed.

406.12 (new)-PAARLBERG.doc

Committee Action

Approved

Committee Reason: The provisions were accepted to address street like development which was on private property such as large campus facilities such as universities, office complexes, government centers and large multiple building residential complexes.

BALLOT COMMENTS

4-44.1

Commenter: Melanie Hughes, Representing AERBVI
Ballot: Affirmative with comment:

Comment: Shopping centers should be included in the language. The area in front of large grocery stores and department stores is frequently a blended transition all the way across the length of the building but usually without detectable warning surfaces. Also, I'm wondering if there is an error in this sentence starting on pg 126. It seems to contradict itself on blended transitions: At curb ramps and blended transitions, detectable warning surfaces shall extend the full width of the curb ramp run excluding any flared sides or blended transition.

4-44.2

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Affirmative with comment:

Comment: It is questionable as to whether 24 in. is a sufficient length for a DWS. But, the re-write is better than before.

4-44.3

Commenter: Ron Burton, Representing BOMA
Ballot: Negative with comment:

Comment: See reason on 4-42-12.

4-44.4

Commenter: Steve Orlowski, Representing NAHB
Ballot: Negative with comment:

Comment: See negative comment on proposal 4-42-12.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval of this proposal.

4-45– 12
407.2.1.1, Figure 407.2.1.1

Proposed Change as Submitted

Proponent: Hale Zukas, representing World Institute on Disability

Revise as follows:

407.2.1.1 Height. Call buttons and keypads shall be located 42 inches (965 mm) above the floor ~~within one of the reach ranges specified in Section 308~~, measured to the centerline of the highest operable part.

EXCEPTION: Existing call buttons and existing keypads shall be permitted to be located 54 inches (1370 mm) maximum above the floor, measured to the centerline of the highest operable part.

Delete Figure 407.2.1.1

Reason:

1, This proposal merely reinstates a standard which had been in effect for decades and with which almost all existing call buttons comply.
2. By requiring call buttons to be at a single absolute height (rather than anywhere within one of the very wide reach ranges in Section 308), this proposal makes them easier to find for people with impaired or no vision.
3. Dr. Steinfeld has stated that, given his group's research findings, 42 inches is the optimum height for accommodating the needs both of standing adults and of wheeled mobility device users.
4. Specifying 42 inches as the height for call buttons eliminates need for a figure.

407.2.1.1-ZUKAS.doc

Committee Action

Disapproved

Committee Reason: The proposal is a previous elevator industry standard which is not reflected in the current ASME Standard. The current text allows flexibility to place the buttons appropriate for each design. A single measurement is too restrictive.

BALLOT COMMENTS

4-45.1
Commenter: Brian Black, Representing NEII
Ballot: Affirmative with comment:

Comment: It should be noted that the 42 inches came not from ASME but from the 1976 *NEII* Handicapped Standard on which many of the ANSI A117.1-1980 elevator requirements were based. The dimension was set to allow a cut-out for call buttons centered in an 84 high side door jamb so that the jamb could be installed on either the right or left side of the door and still meet the 42 inch requirement. It was more a convenience for the industry than an anthropometric-based dimension.

4-45.2
Comment Rescinded

4-45.3

Commenter: Hale Zukas, Representing WID
Ballot: Negative with comment:

Comment: We are mystified by the implied assertion that the appropriate height for call buttons depends on the design; the design of what? We submit that the supposed benefits of "design flexibility" are clearly outweighed by the benefits of reinstating the requirement that call buttons be centered 42 inches above the floor: a) it makes them easier to find for people with impaired or no vision, and b) according to Dr. Steinfeld's research findings, 42 inches is the optimum height for accommodating the needs both of standing adults and of wheeled mobility device users.

Another point: In his argument against this proposal at the January meeting, the NEII representative questioned whether the problem it addresses actually occurs in the real world. It definitely does. What prompted the proposal, in fact, was my observation that the call buttons at many elevators on the UC Berkeley campus are somewhere between 24 and 30 inches above the floor.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal. The committee does not believe that buttons should be restricted to the height proposed by 4-45-12.

4-49– 12
407.4.6.1

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

407.4.6.1 Location. Controls shall be located within one of the reach ranges specified in Section 308.

EXCEPTIONS:

1. Where the elevator panel complies with Section 407.4.8.
2. In existing elevators, where a parallel approach is provided to the controls, car control buttons with floor designations shall be permitted to be located 54 inches (1370 mm) maximum above the floor. Where the panel is changed, it shall comply with Section ~~407.4.6.1~~ 308.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The current reference accomplishes nothing other than referring back to the base paragraph and therefore to Section 308. It seemingly will also create a circular reference because as you work through 407.4.6.1 you end up back at exception 2 and then get sent right back up to the beginning. Why not just reference 308 directly at this point?

This issue came up based upon a revision that was made in the exception to Section 308.3.1 in the 2009 code. The 2009's revised exception says "existing elements that are not altered shall be permitted at 54 inches (1370 mm) above the floor." It seems that with the "that are not altered" text being added in 2009 it will now allow a direct reference to Section 308 and it will still coordinate with the exception in 407.4.6.1 that says "where the panel is changed."

407.4.6.1-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The proposal would appear to eliminate options for elevator numbering.

BALLOT COMMENTS

4-49.1
Comment Rescinded

4-49.2
Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The proposal does not eliminate any option for numbering. The committee reason statement does however show there is a problem with the existing 407.4.6.1, Exception 2. It is important that we clarify the intent of this exception and eliminate what appears to be a conflict within the standard.

Exception 2 as it currently is written would allow existing parallel approach elevator car control buttons to be located at 54 inches. The problem comes with the last sentence of Exception 2 which states "Where the panel is changed, it shall comply with Section 407.4.6.1" Is the purpose of that statement to (a) require the changed panel to comply with Section 308 as stated in the base paragraph, (b) allow the changed panel to be installed at any height provided a sequential step scanning system is installed as

required by 407.4.6.1, Exception 1, or (c) require the changed panel's buttons to be installed at 54 inches as required by the first sentence in Section 407.4.6.1, Exception 2?

How does that last sentence in Section 407.4.6.1, Exception 2 coordinate with the exception in 308.3.1? The language of 308.3.1 will only allow "existing elements that are not altered" to be at the 54 inch height. Does the last sentence in Section 407.4.6.1, Exception 2 override or conflict with the exception in 308.3.1? This relationship between the two provisions should be clarified or the exception should be revised to specifically address what the reach range requirements for a changed panel is intended to be.

The sequential step scanning requirements of Section 407.4.8 would still be applicable whether the user loops back up through 407.4.6.1 to Exception 1 or goes to 308 directly. As stated in Section 407.4.8 sequential step scanning is required to be provided "where car control buttons are provided more than 48 inches above the floor."

Perhaps a modification as indicated below will help clarify how the provisions should be applied.

Modify proposal as follows:

407.4.6.1 Location. Controls shall be located within one of the reach ranges specified in Section 308.

EXCEPTIONS:

1. Where the elevator panel complies with Section 407.4.8.
2. In existing elevators, where a parallel approach is provided to the controls, car control buttons with floor designations shall be permitted to be located 54 inches (1370 mm) maximum above the floor. Where the panel is changed, it shall comply ~~with Section 407.4.6.1.~~with one of the following:
   2.1. Be located within one of the reach ranges specified in Section 308, or
   2.2. Be reinstalled at the existing reach range, provided sequential step scanning in accordance with Section 407.4.8 is provided.

If the committee believes that the 54 inch maximum height should still be applicable to changed panels, then item 2.2 should be revised to reflect that fact.

Proponent Comment

4-49.3

Commenter: Kim Paarlberg, Representing ICC

Replace the proposal with the following:

407.4.6.1 Location. Controls shall be located within one of the reach ranges specified in Section 308.

EXCEPTIONS:

1. Where the elevator panel complies with Section 407.4.8.
2. In existing elevators, where a parallel approach is provided to the controls, car control buttons with floor designations shall be permitted to be located 54 inches (1370 mm) maximum above the floor. Where the panel is changed, it shall comply ~~with Section 407.4.6.1.~~with one of the following:
   2.1. Be located within the reach ranges specified in Section 308, or
   2.2. Be reinstalled at the existing height, provided sequential step scanning in accordance with Section 407.4.8 is provided.

Reason: The proposal does not eliminate any option for numbering. The committee reason statement does however show there is a problem with the existing 407.4.6.1, Exception 2. It is important that we clarify the intent of this exception and eliminate what appears to be a conflict within the standard.

Exception 2 as it currently is written would allow existing parallel approach elevator car control buttons to be located at 54 inches. The problem comes with the last sentence of Exception 2 which states "Where the panel is changed, it shall comply with Section 407.4.6.1" Is the purpose of that statement to (a) require the changed panel to comply with Section 308 as stated in the base paragraph, (b) allow the changed panel to be installed at any height provided a sequential step scanning system is installed as required by 407.4.6.1, Exception 1, or (c) require the changed panel's buttons to be installed at 54 inches as required by the first sentence in Section 407.4.6.1, Exception 2?

How does that last sentence in Section 407.4.6.1, Exception 2 coordinate with the exception in 308.3.1? The language of 308.3.1 will only allow "existing elements that are not altered" to be at the 54 inch height. Does the last sentence in Section 407.4.6.1, Exception 2 override or conflict with the exception in 308.3.1? This relationship between the two provisions should be clarified or the exception should be revised to specifically address what the reach range requirements for a changed panel is intended to be.

The sequential step scanning requirements of Section 407.4.8 would still be applicable whether the user loops back up through 407.4.6.1 to Exception 1 or goes to 308 directly. As stated in Section 407.4.8 sequential step scanning is required to be provided "where car control buttons are provided more than 48 inches above the floor."

Committee Review of Comments and Action – July 2013

Approved

Committee Reason: The proposal raises issues which the committee believes need to be resolved for the next edition but found the proposal and comments to provide insufficient clarity. The committee voted to approve this proposal as originally submitted in order to provide an opportunity to explore other language through the review of the Public Draft phase.

4-50– 12
407.4.6.2.2, 407.4.7.1.2 (New)

Proposed Change as Submitted

Proponent: Gene Boecker, Code Consultants, Inc.

Revise as follows:

407.4.6.2.2 Arrangement. Buttons shall be arranged with numbers in ascending order. ~~Floors shall be designated . . . -4, -3, -2, -1, 0, 1, 2, 3, 4, etcetera, with floors below the main entry floor designated with minus numbers. Numbers shall be permitted to be omitted, provided the remaining numbers are in sequence. Where a telephone keypad arrangement is used, the number key ("#") shall be utilized to enter the minus symbol ("-").~~ When two or more columns of buttons are provided they shall read from left to right.

407.4.7.1.2 Designation. Floors shall be designated . . . -4, -3, -2, -1, 0, 1, 2, 3, 4, etcetera, with floors below the main entry floor designated with minus numbers. Numbers shall be permitted to be omitted, provided the remaining numbers are in sequence. Where a telephone keypad arrangement is used, the number key ("#") shall be utilized to enter the minus symbol ("-"). Ancillary letters shall be permitted to be used in conjunction with the numbers provided the letters are located to the right of the numbers and not more than two letters are used for each floor designation.

Reason: The intent is two-fold: first, to relocate the designation information to the section which requires car control designations; and second, to clarify the intent that numbers must be used but letters can accompany the numbers to assist in the designation.

Relocation. The current text is in the section of the standard which deals with the arrangement of the buttons on the car control panel. The text which addresses the numbers to be in ascending order is appropriate in here as is the text relating to left/right arrangement where there are columns. The rest of the information deals with the actual content of what is supposed to be designated. The proposal moves this text to a new section in the existing section titled "Designations. . . ." The title of the new section is "Designation" to make it clear that the intent is that the arrangement is addressed in the arrangement section and the designation on the car buttons is in the designation section of the standard.

Numbers/Letters. The text is copied from the prior location beginning with the phrase "Floors shall be. . ." and ending with "the minus symbol ("-")." An additional sentence is added to indicate that letters may be used in conjunction with the numbers but that the primary designation is numeric while letters can be used to help identify levels based on local culture. For example, the negative floors are known as basements in some parts of the country but referred to as cellars in other parts. This would allow the "-1" level to be designated "-1B" (first basement) or "-1C" (first cellar) as well as the "-1" intended by the original text. Alternately, two letters could be used in a manner such as "-1LL" to indicate the Lower Level - common language for conference centers. However, the proposal is specific in that not more than two letters can be used. Otherwise, the size of the designation text and Braille grows and the subsequent length becomes too great to be able to quickly identify the desired floor.

The section is intended to be inserted near the beginning of the section so the subsection "Location" should be renumbered as will subsequent subsections.

407.4.6.2.2-BOECKER.doc

Committee Action

Approved

Committee Reason: The proposal improves the clarity of the requirement.

BALLOT COMMENTS

4-50.1

Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: The addition of identifying letters is an improvement –and while I recognize my complaint is outside the scope of the proposed change, the proposed floor identifiers are still problematic and may cause confusion with IBC story designations. What is the main entry floor on a sloped site where the building may have multiple main entry floors?

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval of this proposal.

4-53– 12
407.4.9.1.1

Proposed Change as Submitted

Proponent: Brian Black, BDBlack & Associates, representing National Elevator Industry Inc.

Revise as follows:

407.4.9.1.1 Size. Characters shall be ~~1/2~~ 5/8 inch (~~13~~ 16 mm) minimum in height.

Reason: ASME A17.1/CSA B44 includes *Nonmandatory Appendix E: Elevator Requirements for Persons with Physical Disabilities in Jurisdictions enforcing the National Building Code of Canada*. In 2011 the Appendix E Subcommittee of the Canadian Standards Association (CSA) B44 Technical Committee undertook an effort to harmonize its document with ICC/ANSI A117.1-2009. This item was identified as a Canadian requirement that the US standard should adopt. Note that it provides greater accessibility than the existing text.

407.4.9.1.1-BLACK.doc

Committee Action

Approved

Committee Reason: Provides consistency between the American and Canadian standards.

BALLOT COMMENTS

4-53.1
Commenter: Todd Andersen
Ballot: Affirmative with comment:

Comment: I support the increase in character height, but suggest we may wish to consider an exception for existing control panels not otherwise being modified.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval of this proposal.

4-54– 12
407.4.10

Proposed Change as Submitted

Proponent: Hansel Bauman, Architect, representing National Association of the Deaf

Revise as follows:

407.4.10 Emergency Communications. Visual and audible emergency two-way communication systems between the elevator car and a point outside the hoistway shall comply with Section 407.4.10 and ASME A17.1/CSA B44 listed in Section 105.2.5.

Reason: The addition of the term visual and audible is recommended to stress the need for emergency visual communication in elevators for deaf and hard of hearing individuals. In order to provide deaf and hard of hearing individuals with clear and immediate communication during emergency situations in elevators a text screen pad is recommended to be included in public elevators and at a location outside the hoistway.

407.4.10-BAUMAN.doc

Committee Action

Disapproved

Committee Reason: Were this change made to the Standard, the resulting changes to the communication systems is unclear. The original intent of the requirement was to simply provide notification.

BALLOT COMMENTS

4-54.1
Commenter: Brian Black, Representing NEII
Ballot: Affirmative with comment:

Comment: *NEII* agrees with the committee reason for disapproval. It should be noted that the current standard already requires visual and audible indicators, and that while the proponent's reason statement mentions a text screen pad, this is not specifically required in the proposal.

NEII supports the idea of making two-way communication systems in elevators more accessible for deaf persons where warranted, and has been in discussions with the US Access Board and a manufacturer in British Columbia toward this end. However, to require this type of system in every passenger elevator, including vandalism-prone installations like parking garages and public housing is not practical.

4-54.2
Commenter: Hansel Bauman, Representing NAD
Ballot: Negative with comment:

Comment: The intent of this proposal is just and reasonable. The proposal is intended to offer fair 2-way communication access to deaf individuals during emergency situations. The proponent should be given an opportunity to work with industry representatives and fellow committee members to re draft the text to address committee concerns.

4-54.3

Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: To address the proponent's original concern, retain the existing language as it is and add a second sentence: "A method shall be provided to visually indicate that the call has been received." This alternative is in keeping with the committee's statement regarding the intent and still addresses the need for visual notification for the hearing impaired.

PROPONENT COMMENT

4-54.4

Commenter: Hansel Bauman, Representing NAD

Revise the proposal as follows:

407.4.10 Emergency Communications. Visual and audible emergency two-way communication systems between the elevator car and a point outside the hoistway shall comply with Section 407.4.10 and ASME A17.1/CSA B44 listed in Section 105.2.5 and provide a two-way visual communication device.

407.4.10.1 Visual Display Device shall be provided for two-way visual communication to be activated by the elevator occupant. Visual communication devices shall consist of a key pad and monitor to enable text based or sign-language communication provided through a certified Visual relay Service.

Reason:
As written the current Standard does not allow fair communication access to deaf individuals. Two-way audible emergency communication allows for oral conversation during emergencies yet denies this same access to deaf individuals. As a result the proponent disagrees with the Committee Action. Text is provided here to address the Committee's stated reason for disapproval.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comment

Committee Reason: The committee had a long discussion regarding the need to improve these emergency communications to better serve all communities. There is concern that this proposal will be in conflict with the A17.1 standard. There is also concern that there will actually be sufficient room on the elevator panels to accomplish this. Because the issues need further exploration and resolution, the committee voted to approve the proposal with modifications in order to preserve the opportunity to discuss and amend further.

Modification:

407.4.10 Emergency Communications. Visual and audible emergency two-way communication systems between the elevator car and a point outside the hoistway shall comply with Section 407.4.10 and ASME A17.1/CSA B44 listed in Section 105.2.5 and provide a two-way visual communication device.

407.4.10.1 Visual Display Device shall be provided for two-way visual communication to be activated by the elevator occupant. Visual communication devices shall consist of a key pad and monitor to enable text based or sign-language communication provided through a certified Visual relay Service.

4-55– 12
407.4.10.3 (New)

Proposed Change as Submitted

Proponent: Brian Black, BDBlack & Associates, representing National Elevator Industry Inc.

Add new text as follows:

407.4.10.3 Instructions. If instructions for use are provided, essential information shall be presented in both visual form and raised characters and braille complying with Sections 703.2, 703.3 and 703.4.

Reason: ASME A17.1/CSA B44 includes *Nonmandatory Appendix E: Elevator Requirements for Persons with Physical Disabilities in Jurisdictions enforcing the National Building Code of Canada*. In 2011 the Appendix E Subcommittee of the Canadian Standards Association (CSA) B44 Technical Committee undertook an effort to harmonize its document with ICC/ANSI A117.1-2009. This item was identified as a Canadian requirement that should be added to the US standard.

This proposed change would ensure an equivalent level of accessibility for persons who are blind or visually impaired where visual instructions on the use of the emergency communications is provided.

407.4.10.3 (New)-BLACK.doc

Committee Action

Approval as Modified

Modification

407.4.10.3 Instructions. ~~If~~ Where instructions for use are provided, ~~essential information~~ they shall be presented in both visual form and raised characters and braille complying with Sections 703.2, 703.3 and 703.4.

Committee Reason: The change provides consistency between American and Canadian standards. The phrasing 'essential information' was not needed because such judgment assumes that some of the instructions are less important than others.

BALLOT COMMENTS

4-55.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Suggested editorial revision. The first is for clarification of what "they" is, and striking 'both' was in my notes for the floor modification.

407.4.10.3 Instructions. Where instructions for use are provided, ~~they~~ the instructions shall be presented in ~~both~~ visual form and raised characters and braille complying with Sections 703.2, 703.3 and 703.4.

4-55.2
Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: The Committee did not give this enough thought. This will result in manufacturers and owners eliminating instructions entirely when they are too extensive to fit in raised characters 5/8 in. high. There are other possible solutions to this problem, like recorded instructions that automatically are announced when the emergency button is pressed.

4-55.3

Commenter: Brian Black, Representing NEII
Ballot: Negative with comment:

Comment: NEII proposed this addition to the standard at the request of a Canadian Standards Association B44 Task Group in an attempt to harmonize the access requirements of our respective documents. The modifications made by the committee do not achieve this end.

The "essential information" language with which the committee took exception is performance language that permits the designer to distill the print information to what is critical for usability by riders that are blind or visually impaired. Requiring all of the instructions to be replicated in raised characters and braille would be virtually impossible for some products as the signage would take up all of the space required for the other buttons on a car operating panel (see example).

This proposal should either be approved as submitted in order to harmonize with our Canadian counterpart or should be disapproved. The committee's "fix" has made this a terrible requirement.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: Members of the committee remain concerned about who will be determining what is 'essential information'. The phrase is in the A17.1 standard and will remain even if the A117.1 committee removes it. The essence of the approved version, below is to make sure that all 3 relevant sections are referenced. The considerations regarding essential information will be able to continue.

Modification:

407.4.10.3 Instructions. ~~If~~ Where instructions for use are provided, essential information shall be presented in ~~both~~ visual form, ~~and~~ raised characters and braille complying with Sections 703.2, 703.3 and 703.4.

4-56– 12
408.4.1

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

408.4.1 Inside Dimensions. Elevator cars shall provide a clear floor width of 42 inches (1065 mm) minimum. The clear floor area shall not be less than 15.75 square feet (1.46 m^2). The elevator car shall provide a clear floor space complying with Section 305.3.

> **EXCEPTION:** For installations in existing buildings, elevator cars that provide a clear floor area of 15 square feet (1.4 m^2) minimum, and provide a clear inside dimension of 36 inches (915 mm) minimum in width and 54 inches (1370 mm) minimum in depth, shall be permitted. This exception shall not apply to cars with doors on adjacent sides.

Reason: This proposal is intended to ensure that the depth of the elevator car can accommodate the 48 inch depth requirement for a clear floor space. It will really have a fairly limited application but will close a loophole that exists when the elevator car is built to the minimum area requirements.

As it is currently written a 47.62 inch by 47.62 inch car would meet the currently imposed 42 inch minimum width and 15.75 sq. ft. size. However, it would not accommodate the 48 inch depth required for a clear floor space. Once the "width" goes over 47.25 inches, they would no longer get the 48 inch depth unless the car does exceed the 15.75 sq. ft. minimum area.

The possibility of a 47.62 by 47.62 inch elevator car would represent the worst case scenario for the minimum depth. This new text would address the situation where the width is between 47.25 and 47.62 inches and the car is exactly 15.75 square feet in area. If the car gets "wider" and is not "deep" enough, the door location provisions of Section 408.3.3 will kick in and move the door to the "narrow end" of the car.

Because this proposal does have a very limited range of application (minimum area elevator car with width between 47.25 and 47.62 inches) it may not be worth making this change; but approving it does close an apparent loophole which could allow the LULA elevator to have a depth which could not accommodate the generally required 48 inch clear floor space.

408.4.1-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The Committee preferred its action to approve as modified Proposal 4-57-12

BALLOT COMMENTS

4-56.1
Comment Rescinded

4-56.2
Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: This proposal was disapproved in favor of 4-57. In the last cycle the committee modified this section to allow additional options for the car sizes. This current proposal simply cleans up a problem with the committee action in the last cycle. During the last cycle the original proposal to modify Section 408.4.1 (proposal #62) was originally disapproved by the committee. Kevin Brinkman and Curt Wiehle submitted negative ballot comments which ultimately led to this item being reconsidered and ultimately approved based on Kevin's ballot comment. Part of Kevin's comment stated "As the width is increased, the length would be allowed to decrease but it not below the 48 inch minimum required elsewhere in this standard". Unfortunately this 48 inch requirement was not directly referenced within the approved code text and therefore it appears that Section 408.4.1 may in some situations allow an elevator car which is less than 48 inches in depth, which was NOT the intent of the committee. The currently submitted proposal does correct this problem.

The committee should approve 4-56 to keep the work of the last cycle and provide additional options for elevator car sizes. The committee should disapprove 4-57 since it would take the standard back to the 2003 text and create arbitrary limitations that would exclude certain size elevators which are usable and accessible.

See additional information under 4-57.

Proponent Comment

4-56.3

Commenter: Kim Paarlberg, Representing ICC

Request approval as submitted:

Reason: This proposal was disapproved in favor of 4-57. In the last cycle the committee modified this section to allow additional options for the car sizes. This current proposal simply cleans up a problem with the committee action in the last cycle. During the last cycle the original proposal to modify Section 408.4.1 (proposal #62) was originally disapproved by the committee. Kevin Brinkman and Curt Wiehle submitted negative ballot comments which ultimately led to this item being reconsidered and ultimately approved based on Kevin's ballot comment. Part of Kevin's comment stated "As the width is increased, the length would be allowed to decrease but it not below the 48 inch minimum required elsewhere in this standard". Unfortunately this 48 inch requirement was not directly referenced within the approved code text and therefore it appears that Section 408.4.1 may in some situations allow an elevator car which is less than 48 inches in depth, which was NOT the intent of the committee. The currently submitted proposal does correct this problem.

The committee should approve 4-56 to keep the work of the last cycle and provide additional options for elevator car sizes. The committee should disapprove 4-57 since it would take the standard back to the 2003 text and create arbitrary limitations that would exclude certain size elevators which are usable and accessible.

See additional information under 4-57 provided as part of the ballot.

If there is a change to the clear floor space, this revision needs to be re-evaluated**.**

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The committee first approved the original proposal amending Section 408.4.1 because the proposal added a direct reference to the requirement rather than the 2 step reference currently in the standard. Exception 2 was also approved to provide a secondary exception for existing buildings that is allowed under ADA. This incorporates the essence of proposal 4-57-12 into this change.

408.4.1 Inside Dimensions. Elevator cars shall provide a clear floor width of 42 inches (1065 mm) minimum. The clear floor area shall not be less than 15.75 square feet (1.46 m^2). The elevator car shall provide a clear floor space complying with Section 305.3.

EXCEPTIONS:

1. For installations in existing buildings, elevator cars that provide a clear floor area of 15 square feet (1.4 m^2) minimum, and provide a clear inside dimension of 36 inches (915 mm) minimum in width and 54 inches (1370 mm) minimum in depth, shall be permitted. This exception shall not apply to cars with doors on adjacent sides.

2. For installations in existing buildings, cars that provide a clear width 51 inches (1295 mm) minimum shall be permitted to provide a clear depth 51 inches (1295 mm) minimum provided that car doors provide a clear opening 36 inches (915 mm) wide minimum.

4-57– 12
408.4.1

Proposed Change as Submitted

Proponent: Francine Wai, Executive Director, Disability & Communication Access Board

Revise as follows:

408.4.1 Inside Dimensions. Elevator cars shall provide a clear floor width of 42 inches (1065 mm) minimum and a clear depth 54 inches (1370 mm) minimum. The clear floor area shall not be less than 15.75 square feet (1.46 m2).

EXCEPTIONS:

1. For installations in existing buildings, elevator cars that provide a clear floor area of 15 square feet (1.4 m2) minimum, and provide a clear inside dimension of 36 inches (915 mm) minimum in width and 54 inches (1370 mm) minimum in depth, shall be permitted. This exception shall not apply to cars with doors on adjacent sides.

2. For installations in existing buildings, cars that provide a clear width 51 inches (1295 mm) minimum shall be permitted to provide a clear depth 51 inches (1295 mm) minimum provided that car doors provide a clear opening 36 inches (915 mm) wide minimum.

Reason: The Department of Justice's 2010 ADA Standards requires a minimum depth of 54 inches. As currently written it is possible to achieve a minimum clear floor area of 15.75 square feet with a depth that may be less than 54 inches if the width is greater than 42 inches, which would not be compliant with the 2010 ADA Standards.

In addition, the 2010 Standards allow an exception that existing cars are permitted to have a clear width of 51 inches minimum and a clear depth of 51 inches minimum if the doors provide a minimum clear opening of 36 inches. For consistency with the 2010 ADA Standards, it is proposed that an additional exception mirroring the 2010 Standards be added.

The 2010 ADA Standards states:

408.4.1 Car Dimensions and Doors. Elevator cars shall provide a clear width 42 inches (1065 mm) minimum and a clear depth 54 inches (1370 mm) minimum. Car doors shall be positioned at the narrow ends of cars and shall provide 32 inches (815 mm) minimum clear width.

EXCEPTIONS:

1. Cars that provide a clear width 51 inches (1295 mm) minimum shall be permitted to provide a clear depth 51 inches (1295 mm) minimum provided that car doors provide a clear opening 36 inches (915 mm) wide minimum.
2. Existing elevator cars shall be permitted to provide a clear width 36 inches (915 mm) minimum, clear depth 54 inches (1370 mm) minimum, and a net clear platform area 15 square feet (1.4 m2) minimum.

408.4.1-WAI.doc

Committee Action

Approval as Modified

Modification

408.4.1 Inside Dimensions. Elevator cars shall provide a clear floor width of 42 inches (1065 mm) minimum and a clear depth 54 inches (1370 mm) minimum. The clear floor area shall not be less than 15.75 square feet (1.46 m^2).

(No change to the exception – no added exception)

Committee Reason: The changes to Sec. 408.4.1 provides consistency with the ADA 2010. The Committee felt that the second exception was not needed in the Standard.

BALLOT COMMENTS

4-57.1

Commenter: Kevin Brinkman, AEMA , Representing
Ballot: Negative with comment:

Comment: I support the change in the main paragraph, but do not agree with completely eliminating exception 2. LU/LA elevators often are installed in existing buildings, where it is not always feasible to install a full passenger elevator and space can be an issue. I would recommend putting the exception back in but adding the following words at the beginning of the sentence to restrict it to existing buildings.

Revise as follows:

2. For installations in existing buildings, cars that provide a clear width 51 inches (1295 mm) minimum shall be permitted to provide a clear depth 51 inches (1295 mm) minimum provided that car doors provide a clear opening 36 inches (915 mm) wide minimum.

4-57.2

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: This is a reversal of what the ICC A117.1 committee took out in the 2009 ICC A117.1. This proposal should be disapproved. See also 4-56.

The following information is provided simply as reference to show how the changes were made in the 2009 edition of the standard and serve to justify 4-56 and rejection of the action in 4-57 of the current cycle.

Original proposal and proponent's reason statement for proposal #62 which revised Section 408.4.1.

Proponent: Curt Wiehle, Minnesota Building Code Standards, representing Minnesota Building Code Standards

Revise as follows:

408.4.1 Inside Dimensions of Elevator Cars. Elevator cars shall provide a clear ~~floor area~~ width of 42 inches (1065 mm) minimum ~~in width, and 54 inches (1370 mm) minimum in depth~~. The clear floor area shall not be less than 15.75 square feet (1.46 m^2) or more than 18 square feet (1.67 m^2).

EXCEPTION~~S~~:

~~1. Cars that provide a 51 inches (1295 mm) minimum clear floor width shall be permitted to provide 51 inches (1295 mm) minimum clear floor depth.~~

~~2.~~ For installations in existing buildings, elevator cars that provide a clear floor area of 15 square feet (1.35 m^2) minimum, and provide a clear inside dimension of 36 inches (915 mm) minimum in width and 54 inches (1370 mm) minimum in depth, shall be permitted. This exception shall not apply to cars with doors on adjacent sides.

Reason: This modification allows cars sizes of any dimension so long as the minimum clear width requirement and the minimum and maximum clear floor area criteria are met. The minimum size of 15.75 SF is equivalent to the original minimum size of 42 inches by 54 inches. The original language exempts certain car sizes such as 50 by 52 even though the total size is within the maximum allowed. Establishing parameters of minimum width along with minimum and maximum total floor area is a better, all-inclusive approach to regulating car size.

Exception 1 is not necessary if a car of 51 inches by 51 inches is considered to be 18 square feet (51 by 51 is actually 18.05 SF). A car size of 51 by 51 is established as acceptable per Section 408.3.3.

It is difficult to maneuver the turn to doors on adjacent sides when the car is sized less than the maximum allowed. Therefore, the exception has been modified so that it does not apply to cars with doors on adjacent sides.

The committee initially disapproved this proposal for the following reason:

Committee reason: The proposal creates a variation that conflicts with the international elevator car sizes. The standard should not add a provision which will conflict with the 18 square foot size required in the ASME A17.1 standard. Accepting this proposal would mean that the standard would not be coordinated with the requirements of ADAAG.

Two negative ballot comments addressed the committee's concerns with the following comments:

Kevin Brinkman, representing AEMA

Negative with comment:
The intent of this proposal was to allow more options for car sizes to allow for increased accessibility in existing conditions. I do not believe it creates a conflict with international car sizes because it is allowing more options, not eliminating them. It also will not conflict with ASME A17.1 because it is just restating the 18 square feet maximum found in A17.1. The 15.75 square feet area will result in a 54 inch long car with the 42 inch minimum width. As the width is increased, the length would be allowed to decrease but it not below the 48 inch minimum required elsewhere in this standard. I propose approval as modified with the only change being to retain the word "floor" in the first line of the text shown in the public proposal.

Curt Wiehle, representing NCSBCS

Negative with comment:
I vote Negative on the Committee Action. The Committee Reason statement indicates that the proposed amendment creates a conflict with the ASME A17.1 standard. To the contrary, the existing language conflicts with A17.1 and the proposed language corrects this discrepancy. Car sizes in A17.1 are established in Table 2.16.1.1 which simply sets a maximum area for the platform. No limiting dimensions are given in A17.1. A117.1 establishes dimensional limitations that are not in A17.1. For example, 408.4.1 does not allow a car size of 43 inches by 53 inches even though the area of this car falls within the parameters stated in A17.1. There is no reason for A117.1 to disallow a car size of 43 inches by 53 inches as it is accessible to and usable by persons with disabilities. The maximum platform size of 18 square feet stated in the proposal complies with A17.1 section 5.2.1.16.1.
This proposal should be approved as submitted.

The proposal was ultimately modified and approved as follows:

Committee action: Approved as Modified

Modification: Keep the word "floor" in the first line of the base paragraph so it reads as "…a clear floor width of 42 inches…."

Proposal as modified and approved:
408.4.1 Inside Dimensions of Elevator Cars. Elevator cars shall provide a clear floor ~~area~~ width of 42 inches (1065 mm) minimum ~~in width, and 54 inches (1370 mm) minimum in depth~~. The clear floor area shall not be less than 15.75 square feet (1.46 m^2) or more than 18 square feet (1.67 m^2).

EXCEPTION~~S~~:
~~2. Cars that provide a 51 inches (1295 mm) minimum clear floor width shall be permitted to provide 51 inches (1295 mm) minimum clear floor depth.~~
~~2.~~ For installations in existing buildings, elevator cars that provide a clear floor area of 15 square feet (1.35 m^2) minimum, and provide a clear inside dimension of 36 inches (915 mm) minimum in width and 54 inches (1370 mm) minimum in depth, shall be permitted. This exception shall not apply to cars with doors on adjacent sides.

Committee reason: The intent of this proposal is to allow more options for car sizes to allow for increased accessibility in existing conditions. The committee did not believe it created a conflict with international car sizes because it is allowing more options, not eliminating them. It also will not conflict with ASME A17.1 because it is just restating the 18 square feet maximum found in A17.1. The 15.75 square feet area will result in a 54 inch long car with the 42 inch minimum width. As the width is increased, the length would be allowed to decrease but it not below the 48 inch minimum required elsewhere in this standard.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee addressed the issues raised by 4-57-12 through its modification and approval of 4-56.12

Chapter 5
Items 5-1-12 through 5-24-12 and 5-1-13.
August 7, 2013.

This is one of ten documents containing those proposed changes to the A117.1 Standard, 2009 edition; for which A117.1 Committee received Ballot or Proponent Comments. Each item was discussed at the meeting of Committee during the week of July 15, 2013, in Washington D.C. The Committee took action on each proposal and such action is specified herein. The actions listed here are subject reconfirmation by the Committee via the Committee's ballot process.

Please note: This document does not contain proposals for which no comments were received. Those proposals, and the Committee decision on each one, can be viewed in the Committee Action Report (CAR) under the title: First Draft Standard Development at this following location: http://www.iccsafe.org/cs/standards/A117/Pages/default.aspx

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5-1– 12
502.1, 502.9 (New), 502.10 (New)

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

502.1 General. Accessible car and van parking spaces in parking lots shall comply with Sections 502.2 through 502.8. Accessible car and van parking spaces provided as part of on-street parking shall comply with Sections 502.9 through 502.10.

502.9 Parallel Parking Spaces. On-street parallel parking spaces shall comply with Section 502.9.1. On-street perpendicular of angled parking shall comply with Section 502.9.2.

502.9.1 Wide Sidewalks. Where the width of the adjacent sidewalk or available right-of-way exceeds 14 feet (4267 mm), an access aisle 60 inches (1525 mm) wide minimum shall be provided at street level the full length of the parking space and shall connect to a pedestrian access route. The access aisle shall comply with Section 502.4 and shall not encroach on the vehicular travel lane.

502.9.1.1 Alterations. In alterations where the street or sidewalk adjacent to the parking spaces is not altered, an access aisle shall not be required provided the parking spaces are located at the end of the block face.

502.9.1.2 Narrow Sidewalks. An access aisle is not required where the width of the adjacent sidewalk or the available right-of-way is less than or equal to 14 feet (4267 mm). Where an access aisle is not provided, the parking spaces shall be located at the end of the block face.

502.9.2 Perpendicular or Angled Parking Spaces. Where perpendicular or angled parking is provided, an access aisle 96 inches (2440 mm) wide minimum shall be provided at street level the full length of the parking space and shall connect to a pedestrian access route. The access aisle shall comply with Section 502.4 and shall be marked so as to discourage parking in the access aisle. Two parking spaces are permitted to share a common access aisle.

502.10 Parking Meters and Parking Pay Stations. Parking meters and parking pay stations that serve accessible parking spaces shall comply with Section 309.

502.10.1 Location. At accessible parallel parking spaces, parking meters shall be located at the head or foot of the parking space.

502.10.2 Displays and Information. Displays and information shall be visible from a point located 40 inches (1016 mm) maximum above the center of the clear space in front of the parking meter or parking pay station.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The provisions from the Access Board's proposed Public Right-of-way requirements address street parking (R309). The current requirements in A117.1 really only works on a practical basis for parking lots.

502.9 (NEW)-PAARLBERG.doc

Committee Action

Approved

Committee Reason: The proposal provides standards not currently addressed in the Standard. The proposal is consistent with the Access Board's Public Rights of Way report. The Committee asked that one or more figures be added to the published Standard to illustrate the provisions.

BALLOT COMMENTS

5-1.1

Commenter: Ron Burton, Representing BOMA
Ballot: Negative with comment:

Comment: See reason on 4-42-12.

5-1.2

Commenter: Steve Orlowski, Representing NAHB
Ballot: Negative with comment:

Comment: See negative comment on proposal 4-42-12.

5-1.3

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: Reflecting on this proposal, I realized that 502.9.1 will often create a dangerous pedestrian condition that I observed in a local town. At an accessible on street parking location, the access aisle was at street level but it cut into the sidewalk presenting a drop off along the edge of the cut in, except at one end where the curb ramp was located. A pedestrian exiting a retail location did not notice that drop off in the middle of the sidewalk and was severely injured falling off the edge. This is a particularly bad problem for people with visual impairments. We should not be introducing unsafe conditions and causing disability in the name of accessibility. The access aisle would be safer if it was at the sidewalk elevation. 502.9.1.2 could apply to all sidewalks.

Committee Review of Comments and Action – July 2013

Approved

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval of this proposal. The provisions are related to those approved in 4-42-12. The committee sustained this decision for the same reasons as the approval of 4-42.

5-2– 12
502.3

Proposed Change as Submitted

Proponent: Gene Boecker, Code Consultants, Inc.

Revise as follows:

502.3 Vehicle Space Marking. Car and van parking spaces shall be marked to define the width. Where parking spaces are marked with lines, the width measurements of parking spaces and adjacent access aisles shall be made from the centerline of the markings.

EXCEPTIONS:

1. Where parking spaces or access aisles are not adjacent to another parking space or access aisle, measurements shall be permitted to include the full width of the line defining the parking space or access aisle.

2. Marked spaces are not required in valet or mechanical parking facilities provided all of the following conditions are met:

   2.1 Accessible van spaces are provided as follows:

      2.1.1. Not less than one space, or;
      2.1.2. Not less than two spaces where a facility has a total parking capacity of 200 or more.

   2.2. A passenger loading zone complying with Section 503 is provided;

   2.3. At least one accessible parking space is made available unless all required accessible parking spaces are occupied;

   2.4. Each van accessible space shall be permanently marked and provided with signage containing the International Symbol of Accessibility complying with Section 703.6.3.1 and accompanied by a sign stating "Vehicles parked in this space are subject to relocation if necessary to accommodate a vehicle that cannot be parked in another accessible parking space." Such signs shall not be obstructed by a vehicle parked in the space; and

   2.5 A plan is provided to the authority having jurisdiction indicating the following:

      2.5.1. An attendant shall park and retrieve all vehicles not equipped with special controls in which either the driver or passenger is a person with a disability;
      2.5.2 An attendant shall direct drivers of vehicles equipped with special controls to the accessible parking spaces, accompanying the driver to and from the space along the drive route and the accessible route from the parking space.

Reason: The Standard is not clear regarding how parking facilities are to be addressed where they are served by an attendant (valet) or by mechanical parking. In both of those instances, the operator of the vehicle does not actually park the vehicle but leaves it for an attendant to park. In these types of facilities, parking spaces are usually not marked so identifying specific accessible parking spaces is not easily found. As the standard is written now, all accessible spaces must be marked so it is in conflict with the use of these valet and mechanical parking facilities. Shall all accessible spaces be marked? If so where must these be? Why mark the spaces if an attendant parks the vehicle? Why mark access aisles if the aisles disappear as soon as the next vehicle is parked by the attendant?

This language is modeled from the exception in the New York City Building Code. It places some degree of responsibility on the method used for attendant parking. In order to be able to use this exception, all of the conditions must be met. The following describes each of the provisions:

2.1 Accessible van spaces must be provided in addition to regular accessible spaces.

2.1.1 and 2.1.2 At least one accessible van parking space must be provided and permanently marked. Where the facility has 200 or more parking spaces possible, two accessible van spaces must be provided. This is based on the scoping provisions in Section 1106.1 of the International Building Code (IBC) and Section 208.2 of the 2010 ADA Standards for Accessible Design (2010 Standards) as adopted by the US Department of Justice for one in six accessible spaces to be a van accessible space. Where the number of total parking spaces is not more than 200, only six accessible spaces are required, resulting in a single van accessible space. This makes the responsibility for van spaces consistent with other types of parking. (See 2.4 for additional discussion.)

2.2 The passenger loading zone is already required by the scoping provisions of Section 1106.7.3 and 1106.7.3 of the IBC as well as Sections 209.4 and 209.5 of the 2010 Standards. This provision acts as a pointer and reminder that this condition is required regardless of what other equivalencies may be provided.

2.3 Because this is an exception to required marked parking spaces, the ability to create an accessible parking space in valet parking is based on how the attendant parks the vehicle. The space is the size of the vehicle. The key is making sure that the access aisle is available for the persons seeking to use them. This is usually accommodated by parking the vehicle such that one or the other side has sufficient space next to a vehicular aisle or pedestrian path. The last part of this item is simply stating that at some time it may not be possible to provide the access aisle any longer due to the manner in which valet parking is accommodated. In mechanical parking facilities, the criteria are more along the lines of access to/from the vehicle parking position. The word "required" parking spaces is intentionally used to bring attention to the fact that there is a specific minimum number of accessible spaces required elsewhere which must be addressed.

2.4 The van accessible spaces required in 2.1 must be marked and provided with signage. Because van spaces require additional height these spaces should be identified and made available. The remainder of the parking facility may or may not have adequate height. This provision requires that at least these two spaces have adequate height and the proper access aisles. Should the facility have sufficient height, more than two van accessible spaces could be provided if the vehicles can be moved (subject to 2.4 and 2.5 above).

2.5 In order to be able to not have marked parking spaces, an operations plan must be submitted to the Authority Having Jurisdiction. The official receives the plan and files it with the project.

2.5.1 and 2.5.2 These two criteria address the method for getting the vehicle to the accessible parking space. If the vehicle does not have special controls, then it can be driven and parked by the attendant. If the vehicle has special controls, then the attendant assists the driver in parking the vehicle at what is an accessible space (albeit not marked) and directing the driver along the vehicular path to the parking space and then along the pedestrian path to available accessible routes into and through the parking facility.

This may allow for more accessible spaces to be provided and more accessible van spaces to be provided than what would be available with permanently marked parking lots. The minimum required number of accessible spaces must be provided. However, attendant parking gives the attendant the control over location and parking which means that in a valet arrangement almost all parking spaces could be accessible spaces.

The current text is not clear regarding what must be done to mark parking spaces in valet and mechanical parking facilities. This proposal seeks to maintain the requirement that accessible spaces be provided while removing the obligation to mark spaces in facilities where parking is either flexible in configuration (valet) or fixed in regard to position but flexible regarding usage (mechanical).

5-2-502.3-BOECKER-update.doc

Committee Action

Approved

Committee Reason: The change provides an equivalent facilitation that may actually increase parking available to people with disabilities.

BALLOT COMMENTS

5-2.1

Commenter: Todd Andersen
Ballot: Negative with comment:

Comment: I object to condition 2.3 of Exception 2 at 502.3. I can't imagine how to design for this to happen, nor how a code official could find that I did what was required. This is an operational and not a built environment issue.

Revise as follows:

502.3 Vehicle Space Marking. Car and van parking spaces shall be marked to define the width. Where parking spaces are marked with lines, the width measurements of parking spaces and adjacent access aisles shall be made from the centerline of the markings.

EXCEPTIONS:

1. ~~Where parking spaces or access aisles are not adjacent to another parking space or access aisle, measurements shall be permitted to include the full width of the line defining the parking space or access aisle.~~
2. Marked spaces are not required in valet or mechanical parking facilities provided all of the following conditions are met:
   ~~2.1 Accessible van spaces are provided as follows:~~
      ~~2.1.1. Not less than one space, or;~~
      ~~2.1.2. Not less than two spaces where a facility has a total parking capacity of 200 or more.~~
   ~~2.2. A passenger loading zone complying with Section 503 is provided;~~
   2.3. At least one accessible parking space is made available unless all required accessible parking spaces are occupied;
   2.4. Each van accessible space shall be permanently marked and provided with signage containing the International Symbol of Accessibility complying with Section 703.6.3.1 and accompanied by a sign stating "Vehicles parked in this space are subject to relocation if necessary to accommodate a vehicle that cannot be parked in another accessible parking space." Such signs shall not be obstructed by a vehicle parked in the space; and
   2.5 A plan is provided to the Authority Having Jurisdiction indicating the following:
      2.5.1. An attendant shall park and retrieve all vehicles not equipped with special controls in which either the driver or passenger is a person with a disability;
      2.5.2 An attendant shall direct drivers of vehicles equipped with special controls to the accessible parking spaces, accompanying the driver to and from the space along the drive route and the accessible route from the parking space.

5-2.2

Commenter: Marsha K. Mazz, Representing Access Board
Ballot: Negative with comment:

Comment: We request the committee to DISAPPROVE this proposal. It is in conflict with the 2010 ADA Standards which do not exempt valet parking facilities from providing marked accessible parking space. Furthermore, by exempting the marked spaces, the proposal removes the accessible elements from the section and, consequently, removes the requirement for an accessible route even though the plan required by 2.5 would require the facilities to allow some individuals with disabilities to self-park. The Access Board removed the exception for accessible spaces in valet parking facilities that was contained in the 1991 ADA Standards because for two reasons:

(1) Valet parking is a service, not a facility type. There is nothing in the design of a valet parking facility that would differentiate it from another type of parking facility. Often, these services are provided only during certain hours and they can be terminated without any change to the built environment; and
(2) Cars driven by individuals with disabilities are often not drivable by persons who are unfamiliar with the equipment. In some cases, there is no driver'

New Exception 2 added by this proposal is fraught with difficulties:

1. By using the word "or" between conditions 2.1.1 and 2.1.2, the proposal provides a choice of providing 1 van space *or*, where 200 or more parking spaces are provided, 2 van spaces. Who would ever opt to provide 2 when 1 van space will satisfy the requirement? The committee reasoning is flawed; it suggests that this proposal could result in more accessible parking than required by the ADA. Van parking spaces are scoped in the 2010 ADA Standards based on the number of accessible (car) spaces required. Three van spaces would be required when more than 12 car spaces are required. The ADA Standards require 13 accessible spaces when there are 650 spaces in a facility (2%) of the 13 accessible spaces 3 (1:6) must be van spaces.
2. 2.3 requires "at least one" accessible parking space to be "made available" unless "all required" accessible parking spaces are occupied. What on earth does this mean? What does "made available" mean in the context of a building code? This appears to be an operational concern, not a matter of design and construction – compliance would not be observable by an enforcing official. Since, at most, only one van space will ever be provided in any facility, what are the chances that it will be "occupied"?
3. 2.4 requires a sign stating that vehicles parked in the van space are "subject to relocation" when the space is needed by another vehicle that cannot be parked in an inaccessible space. While I think I understand the intent, nothing in this standard can compel a valet service to carry out the threat posted on the sign.
4. 2.5 requires the permit applicant to provide the AHJ a plan – nothing in these Standards can compel the AHJ to require the plan to be implemented. Furthermore, 2.5.1 and 2.5.2 require a parking attendant to determine if a car has "special controls" and whether an occupant of the car is a person with a disability. Inquires about a person's disability are

generally prohibited by the Americans with Disabilities Act and, even if they were permitted, a parking attendant is not likely to be qualified to make decisions about whether, or not, a person has a disability.

5. 2.5.1 and 2.5.2 are in conflict. One requires the parking attendant to park the car for a person with a disability in a car with special controls and the other requires the parking attendant to permit a person with a disability to self-park if their car has special controls.

Finally, this is a scoping issue that should be addressed in a building code, not the accessibility standards.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The proposal assumes that a service program is provided and will continue to be provided. The committee was uncomfortable assuming that the service would be maintained. The committee was also concerned that the provision would put the standard out of step with the ADA.

5-3– 12
502.4.2

Proposed Change as Submitted

Proponent: Gail Himes, City of Tacoma, Washington

Revise as follows:

502.4.2 Width. Access aisles serving car and van parking spaces shall be 60 inches (1525 mm) minimum in width. Building elements shall not reduce the width.

Reason: It is common for designers to locate obstructions in the access aisle. This will emphasize that this is not permissible. Reducing the width can impede or deny access to people with disabilities.

502.4.2-HIMES.doc

Committee Action

Disapproved

Committee Reason: The proposed statement is unneeded. The minimum widths are the minimums, they can't be reduced by building elements, even if the Standard doesn't have an explicit statement. 'Building elements' is undefined.

BALLOT COMMENTS

5-3.1
Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: While poorly worded, I think the proponent makes a good point. It is not clear that there can be no obstructions in the aisle space.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

5-5– 12
502.5

Proposed Change as Submitted

Proponent: Gail Himes, City of Tacoma, Washington

Revise as follows:

502.5 Floor Surfaces. Parking spaces and access aisles shall comply with Section 302 and have surface slopes not steeper than 1:48. Access aisles shall be at the same level as the parking spaces they serve. Ramps shall not be located in the access aisle.

Reason: Ramps in the access aisle may impede the deployment of a ramp or lift, or create an uneven surface when entering or exiting a vehicle.

502.5-HIMES.doc

Committee Action

Disapproved

Committee Reason: The Standard requires that access aisles be level (no more than 2% slope. This prohibits anything with a greater slope including ramps, therefore this text is unnecessary.

BALLOT COMMENTS

5-5.1
Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Negative with comment:

Comment: While this is already the requirement it is fairly obvious that it is confusing due to the number of ramps being built within the access aisle. This would clarify and out the issue to rest by making it obvious that ramps are not allowed in the access aisle.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

5-6– 12
502.7

Proposed Change as Submitted

Proponent: Gail Himes, City of Tacoma, Washington

Revise as follows:

502.7 Identification. Where accessible parking spaces are required to be identified by signs, the signs shall include the International Symbol of Accessibility complying with Section 703.6.3.1. Signs identifying van parking spaces shall contain the designation "van accessible." Such signs shall be located at the head and centered on each parking space. Such signs shall be 60 inches (1525 mm) minimum above the floor of the parking space, measured to the bottom of the sign.

Reason: Accessible parking signs that are off to one side of the parking stall or shared by two stalls make it confusing for drivers and parking enforcement staff. In Washington State, the ground symbol for the parking space is optional. Centering the parking sign on the stall would reduce confusion and violations.

502.7-HIMES.doc

Committee Action

Disapproved

Committee Reason: The Committee was concerned that this proposed text would prohibit placement of signs at locations such as on a wall across a sidewalk from the head of the parking space. Such a location would be less hazardous than signs always on a post at the head of the stall. 'Centered' is too restrictive. Overall it was concluded that the change don't address the issue raised in the proponent's reason statement.

BALLOT COMMENTS

5-6.1
Commenter: Hope Reed, Representing NMGCD
Ballot: Negative with comment:

Comment: Parking signs need to be centered at the head of each space and this is an amendment to the New Mexico Building Code. Perhaps a range could be designated.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

5-7– 12
502.9 (NEW)

Proposed Change as Submitted

Proponent: Robert D. Feibleman, HAND Construction, representing self

Add new text as follows:

502.9 Carport Structures. Carport structural supports posts are permitted to reduce the required width of parking spaces and access aisles provided the post complies with the following:

1. The post is centered on a line delineating two parking spaces or between a parking space and access aisle.
2. The post is 7 inches maximum in width and 16 inches maximum in length as measured along the delineating line;
3. , The post is located 72 inches maximum from the head of the parking space.

Reason: Carport supports are not addressed and are currently not allowed in the parking space nor access aisle. The resulting narrowed point will create a maneuvering issue. The location of the post in the front third of the space allows for the structural design and for most car/van doors to open without hitting them.

502.9 (NEW)-FEIBLEMAN.doc

Committee Action

Disapproved

Committee Reason: The Committee was not persuaded this is a significant issue which requires addressing in the Standard. The structure could easily be designed to avoid any intrusion into the dimensions required for parking, access aisles and accessible routes.

BALLOT COMMENTS

5-7.1

Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: Consistent with committee action on 5-3-12.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

5-9– 12
504

Proposed Change as Submitted

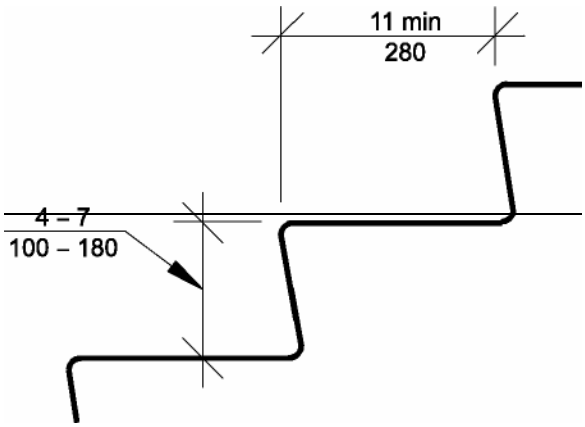
Proponent: Gail Himes, City of Tacoma, Washington

Delete without substitution as follows:

~~**504 Stairways**~~

~~**504.1 General.** Accessible stairs shall comply with Section 504.~~

~~**504.2 Treads and Risers.** All steps on a flight of stairs shall have uniform riser height and uniform tread depth. Risers shall be 4 inches (100 mm) minimum and 7 inches (180 mm) maximum in height. Treads shall be 11 inches (280 mm) minimum in depth.~~



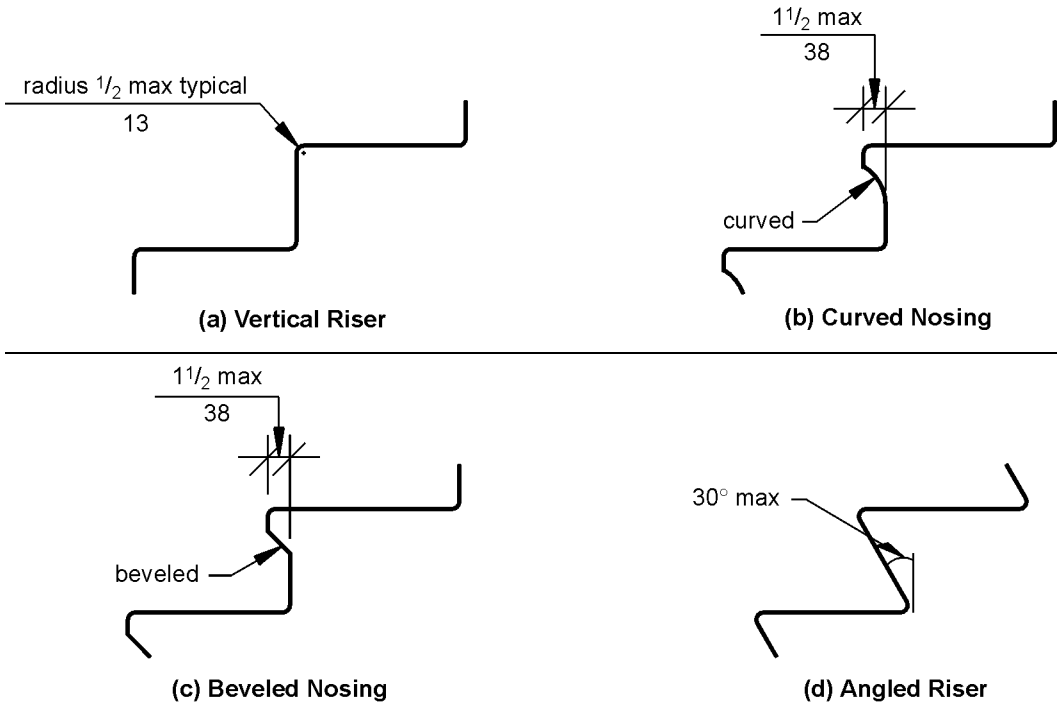
~~**Fig. 504.2**~~
~~**Treads and Risers for Accessible Stairways**~~

~~**504.3 Open Risers.** Open risers shall not be permitted.~~

~~**504.4 Tread Surface.** Stair treads shall comply with Section 302 and shall have a slope not steeper than 1:48.~~

~~**504.5 Nosings.** The radius of curvature at the leading edge of the tread shall be $^{1}/_{2}$ inch (13 mm) maximum. Nosings that project beyond risers shall have the underside of the leading edge curved or beveled. Risers shall be permitted to slope under the tread at an angle of 30 degrees maximum from vertical. The permitted projection of the nosing shall be $1^{1}/_{2}$ inches (38 mm) maximum over the tread or floor below.~~

~~**504.5.1 Visual contrast.** The leading 2 inches (51 mm) of the tread shall have visual contrast of dark-on-light or light-on-dark from the remainder of the tread.~~



~~Fig. 504.5~~
~~Stair Nosings~~

~~504.6 Handrails.~~ ~~Stairs shall have handrails complying with Section 505.~~

~~504.7 Wet Conditions.~~ ~~Stair treads and landings subject to wet conditions shall be designed to prevent the accumulation of water.~~

~~504.8 Lighting.~~ ~~Lighting for interior stairways shall comply with Section 504.8.~~

~~504.8.1 Illumination Level.~~ ~~Lighting facilities shall be capable of providing 10 foot candles (108 lux) of illuminance measured at the center of tread surfaces and on landing surfaces within 24 inches (610 mm) of step nosings.~~

~~504.8.2 Lighting Controls.~~ ~~If provided, occupancy-sensing automatic controls shall activate the stairway lighting so the illuminance level required by Section 504.8.1 is provided on the entrance landing, each stair flight adjacent to the entrance landing, and on the landings above and below the entrance landing prior to any step being used.~~

~~504.9 Stair Level Identification.~~ ~~Stair level identification signs in raised characters and braille complying with Sections 703.3 and 703.4 shall be located at each floor level landing in all enclosed stairways adjacent to the door leading from the stairwell into the corridor to identify the floor level. The exit door discharging to the outside or to the level of exit discharge shall have a sign with raised characters and braille stating "EXIT."~~

Reason: These requirements are in International Building Code Section 1009. Stairs are not considered an accessible route of travel under the 2009 International Building Code, Chapter 11 or ICC/ANSI A117.1, Chapter 4.

504-HIMES.doc

Committee Action

Committee Action Report on Ballot and Proponent Comments- July 15-19, 2013:
Proposals of 2012 submitted on the ICC A117.1-2009

Disapproved

Committee Reason: The proposal is inappropriate for two key reasons: 1. The Standard contains provisions for stairways which are not found in the IBC; deleting these provisions would eliminate those additional requirements. 2. IBC is not the only document which could be used to reference the A117.1; if the other referenced standard do not have adequate stairway provisions, again deleting such from the Standard would be a disservice.

There was considerable debate over this issue. Among the issues raised are:
1. Discrepancies between the IBC and the Standard, both have provisions not in the other.
2. A concern over how stairways have been addressed in the ICC processes.
3. The contrasting leading tread requirement is not in the IBC.
4. While stairways are not part of an 'accessible' route, people with disabilities do use stairways and therefore provisions regarding stairways should remain in the Standard.

BALLOT COMMENTS

5-9.1

Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: The committee's response to this proposal and 5-10-12 begs the question "what is an accessible stair". It appears, from committee comments that an accessible stair, though not part of an accessible means of egress, is one that serves an accessible portion of a building –thus recognizing that not all people with disabilities use a wheelchair. A definition would be helpful though it edges on scoping.

5-9.2

Commenter: Kim Paarlberg, Representing
Ballot: Negative with comment:

Comment: Stairways are addressed adequately in the building codes. The provisions in the ICC A117.1 do not address stairway provisions sufficiently (i.e., curved stairways, spiral stairways, guards).

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

5-10– 12

504.1, 504.2, 504.3, 504.4, 504.5, 504.5.1, 504.6, 504.6.1 (New), 504.6.2 (New), 504.6.3, 504.7, 504.8 (New), 504.9 (New), 504.10, 504.11

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

504.1 General. Accessible stairs shall comply with Section 504.

EXCEPTION: Stepped aisles providing access to tiered seating are not required to comply with this section.

504.2 Treads and Risers. All steps on a flight of stairs shall have uniform riser height and uniform tread depth. Risers shall be 4 inches (100 mm) minimum and 7 inches (180 mm) maximum in height. ~~Treads shall be 11 inches (280 mm) minimum in depth.~~ The riser height shall be measured vertically between the *nosings* of adjacent treads. Rectangular tread depths shall be 11 inches (279 mm) minimum measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's *nosing*. *Winder* treads shall have a minimum tread depth of 11 inches (279 mm) between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline and a minimum tread depth of 10 inches (254 mm) within the clear width of the *stair*.

504.3 Dimensional uniformity. *Stair* treads and risers shall be of uniform size and shape. The tolerance between the largest and smallest riser height or between the largest and smallest tread depth shall not exceed 3/8 inch (9.5 mm) in any *flight* of *stairs*. The greatest *winder* tread depth at the walkline within any *flight* of *stairs* shall not exceed the smallest by more than 3/8 inch (9.5 mm).

EXCEPTIONS:

1. Consistently shaped *winders*, complying with Section 504.2, differing from rectangular treads in the same *stairway flight*.
2. Risers complying with Section 504.3.1.

504.3.1 Sloping public way. Where the bottom or top riser adjoins a sloping *public way*, walkway or driveway having an established grade and serving as a landing, the bottom or top riser is permitted to be reduced along the slope to less than 4 inches (102 mm) in height, with the variation in height of the bottom or top riser not to exceed one unit vertical in 12 units horizontal (8-percent slope) of *stairway* width. The *nosings* or leading edges of treads at such nonuniform height risers shall have a distinctive marking stripe, different from any other *nosing* marking provided on the *stair flight*. The distinctive marking stripe shall be visible in descent of the *stair* and shall have a slip-resistant surface. Marking stripes shall have a width of at least 1 inch (25 mm) but not more than 2 inches (51 mm).

504.4 ~~504.3~~ ~~Open~~ Solid Risers. ~~Open risers shall not be permitted.~~ Risers shall be solid.

EXCEPTIONS:

1. Solid risers are not required for *stairways* provided that the opening between treads does not permit the passage of a sphere with a diameter of 4 inches (102 mm).

2. Solid risers are not required for occupancies in Group I-3 or in Group F, H and S occupancies other than areas accessible to the public. There are no restrictions on the size of the opening in the riser.
3. Solid risers are not required for *spiral stairways*.

504.5 ~~**504.4 Tread**~~ **Stairway walking Surface.** ~~Stair treads shall comply with Section 302 and shall have a slope not steeper than 1:48.~~ The walking surface of treads and landings of a *stairway* shall not be sloped steeper than one unit vertical in 48 units horizontal (2-percent slope) in any direction. *Stairway* treads and landings shall have a solid surface. Finish floor surfaces shall be securely attached.

EXCEPTIONS:

1. Openings in stair walking surfaces shall be a size that does not permit the passage of 1/2-inch-diameter (12.7 mm) sphere. Elongated openings shall be placed so that the long dimension is perpendicular to the direction of travel.
2. In Group F, H and S occupancies, other than areas of parking structures accessible to the public, openings in treads and landings shall not be prohibited provided a sphere with a diameter of 11/8 inches (29 mm) cannot pass through the opening.

504.6 ~~**504.5**~~ **Nosings.** The radius of curvature at the leading edge of the tread shall be ~~4 1/2~~ 9/16inch (~~13~~ 14.3 mm) maximum. Nosings that project beyond risers shall have the underside of the leading edge curved or beveled. Beveling of *nosings* shall not exceed 9/16 inch (14.3 mm). Risers shall be permitted to slope under the tread at an angle of 30 degrees maximum from vertical.

504.6.1 Nosing projection size. The permitted projection of the nosing shall be ~~1 1/2~~ 1-1/4 inches (38 32 mm) maximum over the tread or floor below.

504.6.2 Nosing projection uniformity. All *nosing* projections of the leading edges shall be of uniform size, including the projections of the *nosings* leading edge of the floor at the top of a *flight*.

~~**504.5.1**~~ **504.6.3 Visual contrast.** The leading 2 inches (51 mm) of the tread shall have visual contrast of dark on-light or light-on-dark from the remainder of the tread.

504.7 Stairway landings. There shall be a floor or landing at the top and bottom of each *stairway*. The width of landings shall not be less than the width of *stairways* they serve. Every landing shall have a minimum width measured perpendicular to the direction of travel equal to the width of the *stairway*. Where the *stairway* has a straight run the depth need not exceed 48 inches (1219 mm). Doors opening onto a landing shall not reduce the landing to less than one-half the required width. When fully open, the door shall not project more than 7 inches (178 mm) into a landing. When *wheelchair spaces* are required on the *stairway* landing as an area of refuge, the *wheelchair space* shall not be located in the required width of the landing and doors shall not swing over the *wheelchair spaces*.

504.8 Curved stairways. Curved *stairways* with *winder* treads shall have treads and risers in accordance with Section 504.2 and the smallest radius shall not be less than twice the required width of the *stairway*.

EXCEPTION: The radius restriction shall not apply to curved *stairways* for occupancies in Group R-3 and within individual *dwelling units*.

504.9 Spiral stairways. *Spiral stairways* are permitted to be used as a component in the *means of egress* only within *dwelling units* or from a space not more than 250 square feet (23 m2) in area and serving not more than five occupants, or from *technical production areas*.

A *spiral stairway* shall have a 71/2-inch (191 mm) minimum clear tread depth at a point 12 inches (305 mm) from the narrow edge. The risers shall be sufficient to provide a headroom of 78 inches (1981 mm)

minimum, but riser height shall not be more than 91/2 inches (241 mm). The minimum *stairway* clear width at and below the *handrail* shall be 26 inches (660 mm).

~~504.6~~ **504.10 Handrails.** Stairs shall have handrails complying with Section 505.

~~504.7~~ **504.11 Wet Conditions.** Stair treads and landings subject to wet conditions shall be designed to prevent the accumulation of water.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

If the A117 is going to address stairways, they should address straight, curved and spiral stairways. They should also include safety issues they do not currently address like uniformity, landings, walk lines, etc. The text of this proposal is based on the 2012 International Building Code.

504-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The Committee concluded that putting all of the IBC stairway provisions into the Standard was as inappropriate as is taking them out as proposed by 5-9-12. Of particular concern were provisions allowing winders and curved stairways; the clarity of provisions for spiral stairways; and the provisions regarding the size of openings allowed in risers.

BALLOT COMMENTS

5-10.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The ICC A117.1 needs to either delete the stairway provisions (see 5-9) or improve them to address all types of stairways (see 5-10).

Proponent Comment

5-10.2

Commenter: Kim Paarlberg, Representing ICC

Request the proposal be Approved as Submitted.

Reason: The current text for stairways in ICC A117.1 does not address several serious stairway safety issues. There are no provisions for curved or spiral stairways. Dimensional uniformity on treads and risers, limitations on opening and nosing shapes are serious safety issues for persons with mobility impairments. The current text does not address when a stairway intersects with a sloped sidewalk. There are no requirements for stairway landings, at the top, bottom or between flights.

The proposal does not change any requirements currently in the standard, but does address many gaps in requirements. If they committee wants to address stairways in ICC A117.1, the provisions should be complete.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

5-11– 12
504.5

Proposed Change as Submitted

Proponent: David W. Cooper, Stairway Manufacturing and Design Consulting, representing Stairway Manufacturers Association

Revise as follows:

504.5 Nosings. The ~~radius of~~ curvature or bevel at the nosing shall not exceed ½ inch (12.7 mm) maximum from at the leading edge of the tread ~~shall be ½ inch (13 mm) maximum~~. Nosings that project beyond risers shall have the underside of the leading edge curved or beveled. Risers shall be permitted to slope under the tread at an angle of 30 degrees maximum from vertical. The permitted projection of the nosing shall be 1 ½ inches (38 mm) maximum over the tread or floor below.

Reason: This proposal provides needed correlation with changes in the building code recognizing that the radius of the curvature is a nonfactor but rather the limitation of the distance from the leading edge.

504.5-COOPER.doc

Committee Action

Disapproved

Committee Reason: The Committee was not convinced that change improved the Standard. There was concern that a beveled nosing would present maintenance issues.

BALLOT COMMENTS

5-11.1
Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: A bevel is a standard way to address the edge of the nosing on concrete stair design. It has been used for years and should be included in the standard. The length of the nosing deformation is the same as that for a radius bust less costly to construct in concrete work. If there is a concern about potential maintenance issues then those should be identified. I am not aware of maintenance problems with the beveled edge design.

5-11.2
Commenter: David W. Cooper, Representing SMA
Ballot: Negative with comment:

Comment: The proposal correlates with the ICC building code. The SMA will submit a modification by public comment to clarify.

5-11.3
Comment rescinded.

Proponent Comment

5-11.4

Commenter: David W. Cooper, Representing SMA

Revise the proposal as follows:

504.5 Nosings. ~~The radius of curvature~~ Rounding or beveling at the leading edge of the tread shall ~~be~~ not exceed the limit of a ½ inch (13 mm) radius ~~maximum~~. Nosings that project beyond risers shall have the underside of the leading edge curved or beveled. Risers shall be permitted to slope under the tread at an angle of 30 degrees maximum from vertical. The permitted projection of the nosing shall be 1 ½ inches (38 mm) maximum over the tread or floor below.

Reason: I am opposed to the committee action but recognize that this modification meets the intent of the original proposal. It more simply allows the use of a bevel or curvature while succinctly describing safe limits based on that which is currently allowed in the standard and providing additional design options needed. The limit established would restrict encroachment on to the flat portion of the tread and prevent any beveling that would remove more material than that described by a ½ inch radius. Rounding and Beveling of the leading edge provide for contrast by modeling the reflected light, decreasing likely maintenance and the cost to repair chipped and broken edges that are common when the nosing is left sharp, and offer a softer edge when bumped.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comment

Committee Reason: There was discussion whether the beveling standard suggested by Comment 5-11.4 was an appropriate measure. Although there remained disagreement, the majority of the committee concluded that the proposed revision provided improved text. The existing provisions are difficult to achieve with certain materials. The revision will allow for a better edge than the sharp edge currently allowed. The new text will be more stringent than in the NFPA standard.

Modification

504.5 Nosings. ~~The radius of curvature~~ Rounding or beveling at the leading edge of the tread shall ~~be~~ not exceed the limit of a ½ inch (13 mm) radius ~~maximum~~. Nosings that project beyond risers shall have the underside of the leading edge curved or beveled. Risers shall be permitted to slope under the tread at an angle of 30 degrees maximum from vertical. The permitted projection of the nosing shall be 1 ½ inches (38 mm) maximum over the tread or floor below.

5-13– 12
504.5.1

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

504.5.1 Visual contrast. The leading 2 inches (51 mm) of the landing or tread shall have visual contrast of dark on-light or light-on-dark from the remainder of the tread.

> **EXCEPTION:** Where a stair has detectable warnings complying with Section 705 at the leading edge of each landing, visual contrast is not needed provided the detectable warnings extend the full width of the stairway and extend 24 inches minimum from the nosing.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

Cadence is established within two or three steps, so you do not look down at your feet. The application shown is in the Air and Space Museum in Washington D.C. This may be a good option for high traffic stairways where the contrasting stripe might be worn off, or if the stairway is patterned so that there contrasting color is in question, or in stairways where there is a requirement for photoluminescent striping also required.

Committee Action

Approval as Modified

Modification

504.5.1 Visual contrast. The leading 2 inches (51 mm) of the landing ~~or~~ and tread shall have visual contrast of dark on-light or light-on-dark from the remainder of the tread.

> ~~**EXCEPTION:** Where a stair has detectable warnings complying with Section 705 at the leading edge of each landing, visual contrast is not needed provided the detectable warnings extend the full width of the stairway and extend 24 inches minimum from the nosing.~~

Committee Reason: The Committee deleted the exception because of concerns that placing detectable warnings on a stairway landing introduces a hazard. The proposal does provide clarity by adding landings to the requirement, but it needs to be landings and treads. Landings are often the 'top step' tread of a stairway and therefore this change clarifies that, as such, landings need to be marked.

BALLOT COMMENTS

5-13.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: The IBC requires luminous path markings on stairways in highrises. The change in the depth of the stripe will allow for those markings to also serve as the visual contrast on stairways. The added language should improve understanding and increase consistency in application. In addition, this will allow a little bit of freedom in design with no impact on the visual contrast.

Further revise as follows:

504.5.1 Visual contrast. A solid and continuous stripe shall be applied to the horizontal leading edge ~~2 inches (51 mm)~~ of the landings and each tread and shall extend the full length of the step. The stripe shall have a minimum

horizontal width of 1 inch (25 mm) and a maximum width of 2 inches (51mm). The stripes shall have visual contrast of dark on-light or light-on-dark from the remainder of the tread or landing.

Proponent Comment

5-13.2

Commenter: Kim Paarlberg, Representing ICC

Further modify the proposal with the following:

504.5.1 Visual contrast. A solid and continuous stripe shall be applied to the horizontal leading edge ~~2 inches (51 mm)~~ of the landings and each tread and shall extend the full length of the step. The stripe shall have a minimum horizontal width of 1 inch (25 mm) and a maximum width of 2 inches (51mm). The leading edge of the stripe shall be placed a maximum of ½ inch (13mm) from the leading edge of the step and shall not overlap the leading edge of the step by more than ½ inch (13 mm). The stripes shall have visual contrast of dark on-light or light-on-dark from the remainder of the tread or landing.

Reason: The IBC requires luminous path markings on stairways in highrises. The change in the depth of the stripe will allow for those markings to also serve as the visual contrast on stairways. The added language should improve understanding and increase consistency in application. In addition, this will allow a little bit of freedom in design with no impact on the visual contrast.

Committee Review of Comments and Action – July 2013

Approval as Modified.

Committee Reason: The committee discussed issues of the placement of the visual contrast on steps. The committee's decision to sustain the original approval as modified supports the consensus that visual contrast is best placed at the leading edge of each step and not set back any distance. A setback from the actual edge can be visually confusing to persons of low vision and can result in missteps.

5-14– 12
504.8.1

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

504.8.1 Illumination Level. Lighting facilities shall be capable of providing ~~10~~ 1 foot-candles (~~108~~ 10.8 lux) of illuminance measured at the center of tread surfaces and on landing surfaces within 24 inches (610 mm) of step nosings.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The building code requires 1 footcandle for means of egress lighting. The standard to charge photoluminescent stripes requires 1 footcandle. OSHA asks for 5 footcandles for exit ways and 3 footcandles for access ways. What is the justification for 10 footcandles in ICC A117.1.

504.8 #1-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The change is not consistent with provisions in the NFPA 101 standard. The 101 requires 10 footcandle of light when a stairway is in use, but it can be reduced to 1 footcandles at other times.

BALLOT COMMENTS

5-14.1
Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: The commentary should clarify that while this standard requires capability of 10 foot candles, the scoping code has jurisdiction of required illumination levels. 10 foot candles is a lot of wasted energy in an unoccupied stair.

Revise as follows:

5-14.2
Commenter: Allan B. Fraser, Representing NFPA
Ballot: Negative with comment:

Revise as follows:

504.8.1 Illumination Level. Lighting facilities shall be capable of providing ~~10 foot-candles (108 lux) of illuminance~~ illumination of stairs measured at the center of tread surfaces and on landing surfaces within 24 inches (610 mm) of step nosings~~.~~ as follows:

1. A 1 foot candle (10.8 lux) minimum illumination at times other than conditions of stair use
2. A 10 foot candle (108 lux) minimum illumination during conditions of stair use
3. The transition from 1 foot candle (10.8 lux) to 10 foot candle (108 lux) under conditions of stair use shall be permitted to be achieved by automatic, motion sensor-type lighting switches provided the switch controllers comply with all of the following:
   a. The switch controllers are equipped for fail-safe operation and evaluated for this purpose
   b. The motion sensor is activated by occupant movement on the stair or stair landings
   c. The illumination timers are set for a minimum 15-minute duration

The 10 ft-candle illumination currently required for stairs and stair landings needs to be retained, as lesser lighting levels make stair use too dangerous for persons with low vision and most anyone with mobility impairment. Yet, the 10 ft-candle illumination level is needed only under conditions of stair use. Illuminating stairs to the 10 ft-candle illumination level under conditions other than stair use is wasteful of natural resources and can lead to disablement of the system. It is better to permit automatic, motion sensor-type lighting switches to control the transition from 1 ft-candle to 10 ft-candle than to foolishly believe that the stair will be illuminated to the full 10 ft-candle level at all times. Once the illumination level has been increased in response to occupant movement on the stair or stair landing, the illumination level needs to be maintained for a period of 15 minutes in recognition that stair users might stop to rest on the stair and another motion detector might not pick up occupant motion until the occupant has traveled an additional stair tread or two.

The criteria proposed are well founded in the NFPA 101®, *Life Safety Code*®, a code devoted wholly to occupant life safety. The criteria proposed also respond to the Committee Reason provided for the Disapproval of 5-14– 12. The proponent of 5-14–12 should be concerned with raising the level of safety in the IBC for all stair users, rather than lowering the level of safety in ANSI A117.1 from what is currently required.

5-14.3

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The committee's reason states that NFPA 101 still says 10 footcandles. I have been advised that the 2012 edition of NFPA has been revised to 1 footcandle. The IBC also uses 1 footcandle for means of egress lighting. This proposal originally went in because the 10 footcandles was in NFPA 101. This A117.1 standard should be consistent.

Proponent Comment

5-14.4

Commenter: Kim Paarlberg, Representing ICC

Request the proposal be Approved as Submitted:

Reason: The committee's reason states that NFPA 101 still says 10 footcandles. I have been advised that the 2012 edition of NFPA has been revised to 1 footcandle. The IBC also uses 1 footcandle for means of egress lighting. This proposal originally went in because the 10 footcandles was in NFPA 101. This A117.1 standard should be consistent with the two main safety standards in the United States.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The committee found the proposal contained in comment 5-14.2 to provide the best standard to give people with low vision the light levels needed when they are using the stairs, and allows the light to be reduced to a minimal level when the stair isn't in use. The reduction is also an appropriate energy conservation methodology. Concern that the higher light level may not be available when people enter the stairway is addressed by the fact that the motion sensors will be activated by the doors opening into the stairway. The text not only addresses illumination levels but the controls for such lighting.

Modification

504.8.1 Illumination Level. Lighting facilities shall be capable of providing ~~10 foot-candles (108 lux) of illuminance~~ illumination of stairs measured at the center of tread surfaces and on landing surfaces within 24 inches (610 mm) of step nosings~~.~~ as follows:

1. A 1 foot candle (10.8 lux) minimum illumination at times other than conditions of stair use
2. A 10 foot candle (108 lux) minimum illumination during conditions of stair use

3. The transition from 1 foot candle (10.8 lux) to 10 foot candle (108 lux) under conditions of stair use shall be permitted to be achieved by automatic, motion sensor-type lighting switches provided the switch controllers comply with all of the following:
   a. The switch controllers are equipped for fail-safe operation and evaluated for this purpose
   b. The motion sensor is activated by occupant movement on the stair or stair landings
   c. The illumination timers are set for a minimum 15-minute duration

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5-15– 12
504.8.2

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

~~**504.8.2 Lighting Controls.** If provided, occupancy sensing automatic controls shall activate the stairway lighting so the illuminance level required by Section 504.8.1 is provided on the entrance landing, each stair flight adjacent to the entrance landing, and on the landings above and below the entrance landing prior to any step being used.~~

504.8.2 Automatic lighting controls. Automatic lighting controls shall be permitted to activate the required illumination for the means of egress provided they meet all of the following conditions:

1. The controls shall be configured to provide the required illumination within each room or space while occupied.
2. Where provided, occupant sensors shall activate the required illumination for a minimum duration of 15 minutes.
3. Where the automatic lighting controls fail, the controls shall fail in the on or operating state.
4. Occupant sensors shall not turn extinguish lighting to charge luminous egress path markings
5. All designated emergency lighting luminaries in the means of egress path shall operate in the event of a loss of power.
6. The automatic lighting controls shall be tested as a component of the emergency lighting equipment in accordance with Section 604.5 of the *International Fire Code*.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

If there are automatic controls in stairways, they should be addressed in a totally safe manor or removed from the A117.1 standard as outside the scope.

504.8 #2-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: While the Committee felt the proposal had merit, there were concerns about specific provisions. Does this need to be limited to means of egress stairways? Why only 15 minutes; should it be as long as stairway is in use?

BALLOT COMMENTS

5-15.1
Commenter: Rick Lupton, Representing WABO
Ballot: Negative with comment:

Comment: I would recommend a modification that strikes only "by Section 504.8.1" from the current language because Section 504.8.1 does not require an illumination level, only a capability. The scoping code more properly addresses required illumination levels. Otherwise the proposal belongs in the scoping code.

5-15.2

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The ICC A117.1 committee felt that this proposal should be brought back with modifications.

A modification will be provided for this proposal.

5-15.3

Commenter: Hope Reed, Representing NMGCD
Ballot: Negative with comment:

Comment: This is a good start to improve automatic lighting in stairways.

Proponent Comment

5-15.4

Commenter: Kim Paarlberg, Representing ICC

Further revise the proposal as follows:

504.8.2 Automatic lighting controls. Automatic lighting controls shall be permitted to activate the required illumination for the means of egress provided they meet all of the following conditions:

1. The controls shall be configured to provide the required illumination within each room or space while occupied.
2. Where provided, occupant sensors shall activate the required illumination for a minimum duration of 15 minutes after the occupant sensor no longer detects movement within the space.
3. Where the automatic lighting controls fail, the controls shall fail in the on or operating state.
4. Occupant sensors shall not ~~turn extinguish~~ control lighting utilized to charge luminous egress path markings
5. All designated emergency lighting luminaries in the means of egress path shall operate in the event of a loss of power.
6. The automatic lighting controls shall be tested as a component of the emergency lighting equipment in accordance with Section 604.5 of the *International Fire Code*.

Reason: The proposal is modified to address the issue brought up by the committee regarding the duration of the lighting being on. While this might be an issue for locations other than at stairways, currently this is the only location that the A117.1 addresses lighting requirements.

The current language in 504.8.2 can be perceived as a conflict with the requirement stated in 504.8.1 as to where and how to measure appropriate lighting on a stairway.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal. Controls have been partially addressed by item 5-14-12.

5-17– 12
505.3

Proposed Change as Submitted

Proponent: David W. Cooper, Stair Manufacturing and Design Consulting, representing Stairway Manufacturers Association

Revise as follows:

505.3 Open Risers. Open risers shall not be permitted.

EXCEPTION:

1. Openings that do not allow the passage of a 4 inches (102 mm) diameter sphere shall be permitted in the lower 4 inches (102 mm) of the riser height.

Reason: This proposal provides needed correlation with the building code sphere rule limitation and improved specification to require the opening in the lower portion of the riser allowing for compliance with the ADA recommended nosing profiles.

505.3-COOPER.doc

Committee Action

Disapproved

Committee Reason: Consistent with the discussion of opening and the decision to disapprove Proposal 5-10-12.

BALLOT COMMENTS

5-17.1
Commenter: David W. Cooper, Representing SMA
Ballot: Negative with comment:

Comment: The proposal complies with the ICC building code. The SMA will submit a modification by public comment.

5-17.2
Comment rescinded

Proponent Comment

5-17.3
Commenter: David W. Cooper, Representing SMA

Revise the proposal as follows:

505.3 Open Risers. Open risers shall not be permitted.

EXCEPTION:

1. Openings that do not allow the passage of a 2 inches (51 mm) diameter sphere shall be permitted.

Reason: Although I would prefer the 4 inch sphere rule used in the ICC Codes, this modification of the proposal reduces the opening size based on the committees concerns and allows for more practical removal of snow, ice and debris from stairs with closed risers by describing a much smaller limit of the size of openings in closed risers.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the option presented by comment 5-17.3, but concluded that even a 2 inch opening present hazards of toe catches as well as catching the tip of canes. The committee acknowledged that there may be a solution that allows some openings for cleaning and maintenance of the stairway, but a solution is not currently at hand.

5-19– 12
505.6, 505.7.2

Proposed Change as Submitted

Proponent: David W. Cooper, Stairway Manufacturing and Design Consulting, representing Stairway Manufacturers Association

Revise as follows:

505.6 Gripping Surface. Gripping surfaces shall be continuous, without interruption by newel posts, other construction elements, or obstructions.

Exceptions:

1. Handrail brackets or balusters attached to the bottom surface of the handrail shall not be considered obstructions, provided they comply with one of the following ~~criteria~~ options:

Option 1

1.1 The perimeter dimension of the handrail cross section is 4 inches (102 mm) minimum and 6 ¼ inches (159 mm) maximum,

1.2 Not more than 20 percent of the handrail length is obstructed,

1.3 Horizontal projections beyond the sides of the handrail occur 1 1/2 inches (38 mm) minimum below the bottom of the handrail, and provided that for each 1/2 inch (13 mm) of additional handrail perimeter dimension above 4 inches (100 mm), the vertical clearance dimension of 1 1/2 inch (38 mm) can be reduced by 1/8 inch (3.2 mm), and

1.4 Edges ~~shall be~~ are rounded.

Option 2

2.1 The handrail has a noncircular cross section,

2.2. The perimeter dimension of the handrail cross section shall be greater than 6-1/4 inches (159 mm),

2.3. Horizontal projections beyond the sides of the handrail occur 2 1/4 inches (63 mm) minimum below the tallest portion of the handrail and

2.4 Edges are rounded.

2. Where handrails are provided along walking surfaces with slopes not steeper than 1:20, the bottoms of handrails ~~gripping surfaces~~ shall be permitted to be obstructed along their entire length where they are integral to crash rails or bumper guards.

505.7.2 Noncircular Cross Sections. Handrails with a noncircular cross section shall have a perimeter dimension of 4 inches (~~100~~102 mm) minimum. Handrails with a perimeter greater than ~~and~~ 6¼ inches (~~160~~159 mm) shall provide a graspable finger recess area on both sides of the profile. The finger recess shall begin within a distance of ¾ inch (19 mm) measured vertically from the tallest portion of the profile and achieve a depth of at least 5/16 inch (8 mm) within ⅞ inch (22mm) below the widest portion of the profile. This required depth shall continue for at least ⅜ inch (10 mm) to a level that is not less than 1¾ inches (45mm) below the tallest portion of the profile. The minimum width of the handrail above the recess shall be 1¼ inches (32 mm) to a maximum of 2¾ inches (70 mm). ~~maximum, and~~ Handrails with a perimeter less than 6 ¼ inches (102 mm) shall have a cross-section dimension of 1 inch (25.4 mm) minimum and 2¼ inches (57 mm) maximum.

Reason: This proposal provides needed handrail rail shape options for the majority of users both with and without disabilities that do not use the bottom surface of the handrail, by providing handrail shape options with recesses that provide surfaces and sizes that offer preferred visual and tactile recognition, guidance, ready stabilization, greater resistance to shear forces that cause slipping.

Handrail profiles with the grip surface designed in the upper portion are not prone to interrupted loss of grip caused by "hand hopping"
obstacles such as supporting elements. A constant stabilizing grip can be maintained during the full traverse of the stair or ramp. Such a grip is essential to prosthetic users.

This proposal also adds a needed minimum cross section dimension of 1 inch for non-circular cross sections to correlate with recent changes in the building code.

Dusenberry DO, Simpson H, Dellorusso SJ, 2009 Jul. Effect of handrail shape on graspability**.** Applied Ergonomics. ;40(4):657-69. Epub 2008 Oct 26.

Gray DB, 2009 Jan. Uses and Preferences of Handrails: People with Mobility and Visual Impairments and Limitations

505.6-COOPER.doc

Committee Action

Disapproved

Committee Reason: The Committee has considered similar proposals in the past. There is strong disagreement between committee members regarding the referenced studies. The proponent stated that additional studies will be available in the future. At this time the Committee was not convinced a change was warranted.

BALLOT COMMENTS

5-19.1

Commenter: David W. Cooper, Representing SMA
Ballot: Negative with comment:

Comment: The standard is too restrictive and eliminates the design and use of profiles that allow the use of a constant grip without interruption by supports. The study by DB Gray points to advantages recognized by many persons with disabilities. The SMA will submit a modification by public comment.

Proponent Comment

5-19.2

Commenter: David W. Cooper, Representing SMA

Replace with the following:

505.7 Cross Section. Handrails shall have a cross section complying with Section 505.7.1 or 505.7.2 or shall provide equivalent graspability.

Reason: The studies submitted by the proponent show that there is little difference in the performance of handrail shapes and that in a significant number of cases other profiles than those currently permitted provide additional benefits to persons with certain disabilities, benefits that are denied by the standard. Although equivalency is addressed elsewhere in the standard the language suggested in this modification was previously in the standard. Until further study can be done this change would more clearly identify that other design options could be used to benefit a wider range of disabilities. The fact that this language was dropped has implied that equivalent graspability is no longer an option.

The SMA fully intends to provide further testing of handrails for persons with disabilities in actual use on stairs and ramps. Economic conditions have not permitted this to occur during this cycle.

Dusenberry DO, Simpson H, Dellorusso SJ, 2009 Jul. Effect of handrail shape on graspability**.** Applied Ergonomics. 40(4):657-69. Epub 2008 Oct 26. Gray DB, 2009 Jan. Uses and Preferences of Handrails: People with Mobility and Visual Impairments and Limitations.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered whether the uniqueness of handrails and the need that handrails meet a minimum standard of graspability necessitates providing text in Section 505.7 which specifies how alternate compliance must be judged. The consensus of the committee was that the general language regarding compliance alternatives in Section 103 was adequate and additional direction was not needed for handrails.

5-22– 12
506.1, 506.2 (New), 1002.9, 1002.13, 1003.9, 1003.13

Proposed Change as Submitted

Proponent: ~~Ed Roether, representing ADA/A117 Harmonization Task Group~~
Proponent: Kim Paarlberg, representing International Code Council.

STAFF NOTE – This proposal was submitted by Kim and misidentified as coming from the task group.

Revise as follows:

506.1 General. Where operable ~~Accessible~~ windows are provided in an accessible room or space, at least one shall have operable parts complying with Section 309. Operable windows required to provide natural ventilation shall have operable parts complying with Section 309. Operable windows required to provide an emergency escape and rescue openings shall have operable parts complying with Section 309.

EXCEPTIONS:

1. Operable windows that are operated only by employees are not required to comply with this section.
2. Operable windows in Type A units that comply with Section 1003.13.

506.2 Opening force. The opening force for opening operable windows shall be as follows:

1. 8.5 pounds (37.7 N) maximum for casement or horizontal sliding windows
2. 25 pounds (111 N) maximum for double hung windows

1002.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, ~~operating hardware for operable windows,~~ plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

9. Receptacle outlets serving a dedicated use.
10. Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with 309.
11. Floor receptacle outlets.
12. HVAC diffusers.
13. Controls mounted on ceiling fans.
14. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
15. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
16. Electrical panelboards shall not be required to comply with Section 309.4.

1002.13 Windows. Operable windows shall comply with Section ~~1002.13~~ 506.1.

EXCEPTIONS:

1. Windows in kitchens are not required to comply with this section.
2. Windows in bathrooms are not required to comply with this section.

~~**1002.13.1 Natural ventilation.** Operable windows required to provide natural ventilation shall comply with Sections 309.2 and 309.3.~~

~~**1002.13.2 Emergency escape.** Operable windows required to provide an emergency escape and rescue opening shall comply with Section 309.2.~~

1003.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, ~~operating hardware for operable windows,~~ plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with Section 309.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
7. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
8. Electrical panelboards shall not be required to comply with Section 309.4.

1003.13 Windows. Operable windows shall comply with Section 1003.13.

1003.13.1 Natural ventilation. Operable windows required to provide natural ventilation shall comply with Sections 309.2 and 309.3.

1003.13.2 Emergency escape. Operable windows required to provide an emergency escape and rescue opening shall comply with Section 309.2.

Reason: The ADA/A117 Harmonization Task Group (HTG) was created as a task group of the A117.1 Committee to compare the 2010 ADA with the 2009 A117.1 Standard. The HTG has recommend a series of changes through a set of change proposals. The HTG is recommending changes, for the most part, address where the ADA was viewed as more stringent than the A117. Where the A117 contained provisions not addressed in the ADA, these were not considered a conflict needing action to amend the A117. In addition there are a number of places where the ADA and A117.1 are different as a result of specific actions, by the A117.1 Committee during the development of the 2009 edition, to remain or create a difference where, in the judgment of the committee the ADA was deficient.

Section: ADA 229 Windows

ADA 229.1 General. Where glazed openings are provided in *accessible* rooms or *spaces* for operation by occupants, at least one opening shall comply with 309. Each glazed opening required by an *administrative authority* to be operable shall comply with 309.

EXCEPTION:

1. Glazed openings in *residential dwelling units* required to comply with 809 shall not be required to comply with 229.
2. Glazed openings in guest rooms required to provide communication features and in guest rooms required to comply with 206.5.3 shall not be required to comply with 229.

506.1 - In ICC A117.1 terminology – The exceptions are basically for Type A dwelling units and non-accessible hotel rooms. 'Operation by occupants' is basically an employee only exception. The only operable windows 'required by the administrative authority' is for ventilation or emergency escape.

506.2 – This is not coordination, but there is the question if the operable parts includes not only opening the locks and latches, but lifting the sash. The pounds force is from the window standards as a start. This could be changed to any force the committee wants. Remember last cycle that they window industry said that there was no double hung on the market that could meet the force requirements. An option would be to say that an add on could get the 5 lbs. force.

1002.9 & 1003.9 – If 1002.13 and 1003.13 is going to address windows, then window hardware should not also be in the operable parts section. This is currently how we address doors and door hardware, so that would be consistent.

1002.13 – Accessible units are required to comply with the accessible window provisions. Question – I understand that hotel rooms and dorm rooms would be operated by residents, but is the same considered for hospitals and nursing homes? Or would their windows be operated by employees? The exceptions for kitchens and bathrooms is because the window in the kitchen is typically over the sink and the window in the bathroom may be elevated for privacy or have a fixture in the immediate area. I could not find a similar exception in ADA, but this seemed logical and was in ICC A117.1 last cycle.

1003.13 – Windows in Type A units are exempted under ADA. For a total match, this would be deleted. It is shown here to see if the committee wants to match, or would prefer to exceed as currently written.

506.1-ROETHER.doc

Committee Action

Disapproved

Committee Reason: Although this proposal was labeled as coming from the Harmonization Task Group, it was quickly recognized that this was not a harmonization issue. There were concerns expressed that the proposal was, in part, a scoping provision. Some felt this was reducing accessibility below that required by the Standard. While it addressing opening force, it is silent on closing forces. There were no consensus on how bathroom and kitchen windows are addressed. At the same time there were opinions seeking clarity on the application of this provision of the Standard.

BALLOT COMMENTS

5-22.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The door and window manufactures association would like to work with the ICC A117.1 committee to develop a complete proposal for windows.

There will be a modification for this proposal.

Proponent Comments

5-22.2

Commenter: Kim Paarlberg, Representing ICC

Further revise as follows:

506.1 General. Where operable windows are provided in an accessible room or space, at least one shall be accessible and have operable parts complying with ~~Section 309~~ Sections 309.2, 309.3 and an operating force complying with Section 506.2. Where operable windows are required to provide natural ventilation ~~shall have operable parts complying with~~ ~~Section 309.~~ or operable windows are required to provide an emergency escape and rescue openings ~~shall have operable parts complying with Section 309~~ that window shall be the accessible operable window.

EXCEPTIONS:

1. Operable windows that are operated only by employees are not required to comply with this section.
2. Operable windows in Type A units that comply with Section 1003.13.
3. Operable skylights are not required to comply with this section.

506.2 Opening Operating force. The operating force for windows includes forces for opening, closing, locking and unlocking and shall be determined in accordance with AAMA 513. Operable parts shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist. The force required for locking and unlocking shall be 22.5 pounds (100 N) maximum. The opening operating force for opening and closing operable windows shall be as follows:

1. 10 8.5 pounds (45 37.7 N) maximum for casement or horizontal sliding windows
2. 45 25 pounds (200 111 N) maximum for double hung windows
3. 30 pounds (135 N) for awning, hopper and projected windows
4. 25 pounds (115 N) for horizontal sliding windows

Reason: This proposal is indicated as coming from the ADA/A117 Harmonization study group. While this was discussed during the teleconferences, the timing was such that the study group did not have the opportunity to review it. Therefore, Kim Paarlberg proposed this instead. This fact was brought up during the testimony at the July meeting.

The ICC A117.1 committee was looking at appropriate forces for windows during the last cycle as well. The new requirements for wind resistance and energy efficiency has affected the weight and operation of many types of windows. For example, many homes now typically have double and triple pane glass windows instead of single pane windows that were common many years ago. While the original change was proposed by Kim Paarlberg of ICC, Kim is working with the AAMA in an effort to provide to the committee expert information on the design, construction and requirements placed on windows today.

The numbers provided in this proposal were maximum forces required based on 4580 windows tested in accordance with AAMA/WDMA/CSA 101/I.S.2/A440, as required by the IBC and IRC. The tests include four performance classes of windows and 8 operator types. The classes determined the tested window size, and is based on expected end use and common size. For example, a hung window in a high rise building would have a tested size of 59 inches x 98 inches (1500 x 2500 mm), while a hung window for a single family home would have a tested size of 40 inches x 63 inches (1000 x 1600 mm). The forces given here are based on the largest window.

A reference to the AAMA 513 standard would provide a consistent way to measure the forces required to open, close, lock and unlock many types of operable windows. This should improve compliance with whatever numbers are finally decided on.

The intent is not necessarily to set the operable window force at these proposed levels as much as it is to indicate to the committee the types of forces on these windows that exist in the current market. While there are add-ons for hung windows to reduce this force, there are not similar devices available for casement and awning type windows. The add-ons currently on the market are not very attractive, so if provided they are often removed. On the other hand, if needed by an individual, they can be added, similar to screwing up grab bars on walls where blocking is provided.

Regardless of operator type, there is additional cost incurred in providing a window that can operate with no more than 5 lbs. force. The difficulty of providing a window that can operate with no more than 5 lbs. force, the negative aesthetics and increase in cost all increase the likelihood that a fixed window will be provided instead of an operable one.

The AAMA would like the opportunity to work with the ICC A117.1 committee to establish requirements that could reasonably be met by at least a percentage of windows available on the market. The current requirement of 5 lbs. unfortunately leads to may Accessible and Type A units only having fixed windows.

5-22.3

Commenter: Kim Paarlberg, Representing ICC

Request for this portion as submitted:

1002.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, ~~operating hardware for operable windows,~~ plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with Section 309.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Where redundant controls other than light switches are provided for a single element, one

control in each space shall not be required to be accessible.
7. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
8. Electrical panelboards shall not be required to comply with Section 309.4.

1002.13 Windows. Operable windows shall comply with Section ~~1002.13~~ 506.1.

EXCEPTIONS:

1. Windows in kitchens are not required to comply with this section.
2. Windows in bathrooms are not required to comply with this section.

~~**1002.13.1 Natural ventilation.** Operable windows required to provide natural ventilation shall comply with Sections 309.2 and 309.3.~~

~~**1002.13.2 Emergency escape.** Operable windows required to provide an emergency escape and rescue opening shall comply with Section 309.2.~~

Reason: If we are going to deal with window hardware and opening force separately, it should be removed from the general operable parts list and dealt with in 1002.13. This would be consistent with how we handle doors.

The reference back to 506.1 would put the Accessible units in line with windows in public spaces. Requirements should be consistent regardless of what numbers are finally decided on. The exceptions for windows in kitchens is because the typical window is over the sink, and the exception for bathrooms is because windows are typically raised for privacy or over the tub. These exceptions would be consistent with what were the permitted in the 2003 ICC A117.1.

5-22.4

Commenter: Kim Paarlberg, Representing ICC

Request for this portion as submitted:

1003.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, ~~operating hardware for operable windows,~~ plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with Section 309.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
7. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
8. Electrical panelboards shall not be required to comply with Section 309.4.

1003.13 Windows. Operable windows shall comply with Section 1003.13.

1003.13.1 Natural ventilation. Operable windows required to provide natural ventilation shall comply with Sections 309.2 and 309.3.

1003.13.2 Emergency escape. Operable windows required to provide an emergency escape and rescue opening shall comply with Section 309.2.

Reason: Since the committee voted last cycle to just require windows to have clear floor space and reach ranges, the operating hardware for operable windows should be removed from the general operable parts section. This would be consistent with how we handle doors and door hardware.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The committee discussed the opening force numbers for various window types provided by the industry and reflected in Comment 5-22.2. While the numbers may reflect windows currently on the market, the committee concluded that such numbers can not be considered as accessible and shouldn't be used in a minimum accessibility standard. The committee accepted the first half of comment 5-22.2 and all of comment 5-22.4 as providing clearer language for the standard. The first half of comment 5-22.2 was amended to reflect the disapproval of the 2nd half of the comment.

Modification.

506.1 General. Where operable windows are provided in an accessible room or space, at least one shall be accessible and have operable parts complying with Section 309. Where operable windows are required to provide natural ventilation ~~shall have operable parts complying with Section 309.~~ or operable windows are required to provide an emergency escape and rescue openings ~~shall have operable parts complying with Section 309~~ that window shall be the accessible operable window.

EXCEPTIONS:

1. Operable windows that are operated only by employees are not required to comply with this section.
2. Operable windows in Type A units that comply with Section 1003.13.
3. Operable skylights are not required to comply with this section.

1003.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, ~~operating hardware for operable windows,~~ plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with Section 309.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
7. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
8. Electrical panelboards shall not be required to comply with Section 309.4.

1003.13 Windows. Operable windows shall comply with Section 1003.13.

1003.13.1 Natural ventilation. Operable windows required to provide natural ventilation shall comply with Sections 309.2 and 309.3.

1003.13.2 Emergency escape. Operable windows required to provide an emergency escape and rescue opening shall comply with Section 309.2.

5-23– 12
507 (New), 507.1 (New), 507.2 (New)

Proposed Change as Submitted

Proponent: Melanie J. Hughes, VA Department for the Blind and Vision Impaired, representing Association for the Education and Rehabilitation of the Blind and Visually Impaired (AER)

507. Accessible Routes Adjacent to Vehicular Drives

507.1. **Separation** Accessible routes located adjacent and parallel to vehicular drives shall be separated from the vehicular drive by one or more of the following:

1. A vertical change in level of 4 inches, minimum.
2. Barriers or railings.
3. Landscape area.

507.2 Barriers. Where parking spaces are immediately adjacent to the accessible walkway, wheelstops shall be required. Barriers used to separate an accessible route from the vehicular drive shall comply with current MUTCD requirements.

Reason: Lack of protected accessible routes to shopping centers, malls and other public spaces separated from the roadway by large parking lots present a barrier to those who are dependent upon public transportation and pedestrian modes of travel. The need to walk through parking lots to get from public transportation stops, public streets, or sidewalks, makes it difficult and unsafe for persons who have visual impairments or mobility impairments and persons of short stature, including children, to access many facilities.

507 (New)-HUGHES.doc

Committee Action

Approval as Modified

Modification

507 Accessible Routes through Parking. Where accessible routes pass through parking facilities, they shall be physically separated from vehicular traffic.

EXCEPTIONS:

1. Crossings at drive aisles shall not be required to comply with 507.
2. Parking spaces complying with 502 and passenger loading zones complying with 503 shall not be required to comply with 507.

Committee Reason: The Committee felt that this proposal addressed an issue that has been of concern for many years. It addresses a serious safety issue for the visually impaired when they need to travel from arrival points across parking lots (and facilities) in order to reach accessible entrances. The discussed and tabled the proposal multiple times to allow the proponent and interested parties to develop a solution. It will apply, to both surface parking lots and parking structures. The intent of exception #1 is to allow crosswalks that were not required to be raised. The intent of exception #2 is to allow for no obstructions between an accessible parking space and an access aisle if it happened to be along the route from another side arrival point.

BALLOT COMMENTS

5-23.1
Commenter: Ron Burton, Representing BOMA
Ballot: Affirmative with comment:

Comment: To avoid confusion by the code official, the language proposed should be accompanied by a figure to explain exactly what is intended.

5-23.2

Commenter: Gina Hilberry, Representing UCP
Ballot: Affirmative with comment:

Comment: The modification is not clear. Is this 507.3 Accessible Routes through Parking? Or is it 508? I want to be sure that 507 as written stands.

5-23.3

Commenter: David S. Collins, Representing AIA
Ballot: Negative with comment:

Comment: This is arbitrary and leaves the owner/designer without direction as to how to address this requirement. Either required or it isn't.

5-23.4

Commenter: Steve Orlowski, Representing NAHB
Ballot: Negative with comment:

Comment: The proposed language is vague in regards to where parking spaces are immediately adjacent to accessible walkways. Some walkways cross parking lots and run across the vehicular route or run parallel to the roadway. To avoid confusion by the code official, the language proposed should be accompanied by a figure to explain exactly what is intended.

5-23.5

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The term 'physically separated' is too broad to be uniformly enforced. I have a concern that some might interpret this as a raised sidewalk or barriers that would now allow for persons in wheelchairs to access this walkway easily. If we are going to provide a protected route, it should be useable by persons with all disabilities.

5-23.6

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: I am not opposed to this requirement per se but as an architect, I believe it is too restrictive in many locations without further clarification. What is a "parking facility"? In rural areas, in particular, driveways are used for parking and as pedestrian paths. This requirement could mean that a driveway used as a path of travel will need a sidewalk and curb alongside it. Also, code officials will interpret "barriers" to mean guardrails. Bollards would be sufficient in many locations. While the intent is good, more work is needed.

Proponent Comment

5-23.7

Commenter: Melanie Hughes, representing VA Department for the Blind and Vision Impaired, representing Association for the Education and Rehabilitation of the Blind and Visually Impaired (AER)

Comment: I support the committee's actions.

Committee Review of Comments and Action – July 2013

Approval as Modified.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original Approval as Modified for this proposal.

5-24– 12
507 (NEW)

Proposed Change as Submitted

Proponent: Robert D. Feibleman, HAND Construction, representing self

Add new text as follows:

507 Fire Safety Devices

507.1 General. Fire fighting devices such as fire extinguishers, hose connections, valve controls, gauges, and annunciator panels are not required to comply with this standard.

Reason: Basic fire alarm and suppression devices are not covered by this standard. However, fire extinguishers and the like are typically located in exit corridors and mistakenly treated as a device that should comply with reach ranges. Locating them low conflicts with placement of handrails. Fire officials prefer occupants leave the building or seek shelter until rescue they do not encourage occupants to fight fires.

507 (NEW)-FEIBLEMAN.doc

Committee Action

Disapproved

Committee Reason: The Committee disapproved this proposal after expressing a variety of concerns. The first was that this may be a scoping issue and therefore should be address in the IBC and other scoping documents. This would be a blanket exemption which would allow this equipment to become protruding objects. There is nothing in the IBC or IFC that says these devices are limited to use by staff or firefighters. If the issue is compliance with operable parts, it should be addressed in Chapter 3 and not a broad exemption from the standard.

BALLOT COMMENTS

5-24.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: There are many elements in a building that are intended for emergency responders (i.e., lock-boxed, elevator fire department recall, stand pipes, fire hoses, fire department communication devices in the stairway). None of these elements should be required to be within reach or meet operable parts requirements. Some facilities have trained staff that operate as emergency responders, but not all emergency responders are staff, so the exception for elements of employee work areas in the codes does not address this issue. To allow this in the standard is consistent with the allowances for doors do be controlled by security personnel. A modification could be made so that there was not an exception from the protruding objects provisions.

Replace proposal as follows:

309.1 General. Operable parts required to be accessible shall comply with Section 309.

Exception: Equipment used only for emergencies by emergency responders or emergency personnel shall not be required to comply with Section 309.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comment.

Committee Reason: The committee discussed the need to provide an exception based on the intent of this proposal and agreed that the text of Comment 5-24.1 was an improvement over the original proposal. The committee is also concerned that the text of 5-24.1 is open to varied interpretation and needs to be refined. Perhaps definitions of some of the terms would help. The committee agreed to the revised proposal to allow further consideration during this cycle.

Replace proposal as follows:

309.1 General. Operable parts required to be accessible shall comply with Section 309.

Exception: Equipment used only for emergencies by emergency responders or emergency personnel shall not be required to comply with Section 309.

5-1– 13
502.9 (NEW)

Proposed Change as Submitted

Proponent: Kimberly Paarlberg, representing International Code Council.

Add new text as follows:

502 Parking Spaces

502.9 Electrical vehicle charging stations. Where an electrical vehicle charging station is provided at an accessible parking space, it shall comply with Section 502.9.

502.9.1 Operable parts. Operable parts on the charging station intended for operation by the user, including card readers, shall comply with Section 309.

502.9.2 Accessible route. An accessible route shall be provided from the access aisle adjacent to the accessible parking space to the clear floor space complying with Section 502.9.1 adjacent to the vehicle charging station. When the vehicle is being charged, the accessible route shall not be obstructed by the cable between the car and charging station.

502.9.3 Obstructions. Protection bollards, curbs or wheel stops shall be located so that they do not obstruct the clear floor space required by Section 502.9.1 or the accessible route required by Section 502.9.2.

Reason: I respectively request that the ICC A117.1 committee review possible requirements for electrical vehicle charging stations. There is a safety standard being developed for these facilities (attached). Us of these stations are open to the public. Reports I have read predict that by 2020, the electric cars will perhaps be as many as 20% of new car sales. There are even electric cars specifically designed for persons using wheelchairs (see attached article from Austin newspaper).

There was a code change proposal this last cycle to IBC to require EVSP charging stations (E184-12). While this proposal was disapproved, there is the opportunity for scoping to be proposed to the IBC next cycle.

E184 – 12
1106.6 (New)

Proponent: Alan Manche, P.E., Schneider Electric representing self

Add new text as follows:

1106.6 Electric Vehicle Charging. Where electrical vehicle charging stations are provides, and more than 250 total parking spaces are provided, not less than one accessible space shall be served with an electric vehicle charging station. An electric vehicle charging station shall serve an additional accessible parking space for each additional 500 parking spaces or fraction thereof.

(Renumber subsequent sections)

Reason: Electric Vehicle Charging Stations are currently not location restricted and may not be located near an entrance providing accessibility. This code language seeks to provide electric vehicle charging for those with accessible needs that may choose to own an electric or plug-in hybrid car. The 250 parking space trigger seeks to provide electric vehicle charging for those parking lots with a high probably of an electric vehicle visiting the location. It also seeks to ensure those needing accessible parking are able to use their electric vehicle without being challenged by the location of those chargers. It should also be noted that proper placement of an electric vehicle charging station can also provide charging for other than accessible parking spaces, hence the reason for using the term "serve."

Cost Impact: The code proposal will increase construction cost for large commercial facilities with a large parking space. The 250 parking space requirement limits cost impact to small business.

Committee Action: Disapproved

Committee Reason: While accessibility to Electric Vehicle charging stations should be addressed in the code, the spirit of the ADA would require these stations for at least some of the accessible parking spaces whenever a facility choose to provide these charging stations for non-accessible spaces. The current requirements for LEED for the charging stations state that the stations have to be outside the accessible parking spaces. This possible conflict should be addressed.

When scoping requires accessible parking associated with EVSP charging stations, this will provide the technical criteria for the charging station and access to that station. This was developed after looking as guidelines set by Hawaii, California and New York. It includes basically access to the equipment and a route between the car and the station. I included card readers in the operable parts because California allows the height to be 54" in height, which is different from the reach range ICC A117.1 uses. The criteria for the access aisle and reach are the same as what is already required for accessible parking spaces and operable parts, so there is no need to repeat these requirements. There are other provisions in the California code, but they are dealing with general safety issues of the equipment, which will be covered within the EVSP standard. When the EVSP standard is finished, the ICC A117.1 committee may wish to reference it for the safety provisions similar to what we do for elevators and platform lifts.

Upon investigation of the different types of electrical cars on the market, at this time this is not a consistent location on the car where the plug in occurs. Therefore, orientation of the vehicle is not included in this proposal. I have attached pictures of charging stations and cars charging.

Committee Action – July 2013

Approval.

Committee Reason: There is a growing demand and use of electric vehicles. Charging stations for these vehicles are appearing in parking facilities and the various cities and states are developing standards for such charging facilities. While the Committee has resisted adding new proposals to its consideration during this cycle, the rapid expansion of these facilities demands the Committee address the accessibility aspects of them. The proposal was approved to generate comment and discussion during the review of the public draft. The committee will be open to revisions of the text of the proposal.

Chapter 6
Items 6-1-12 through 6-70-12
August 7, 2013.

This is one of ten documents containing those proposed changes to the A117.1 Standard, 2009 edition; for which A117.1 Committee received Ballot or Proponent Comments. Each item was discussed at the meeting of Committee during the week of July 15, 2013, in Washington D.C. The Committee took action on each proposal and such action is specified herein. The actions listed here are subject reconfirmation by the Committee via the Committee's ballot process.

Please note: This document does not contain proposals for which no comments were received. Those proposals, and the Committee decision on each one, can be viewed in the Committee Action Report (CAR) under the title: First Draft Standard Development at this following location: http://www.iccsafe.org/cs/standards/A117/Pages/default.aspx

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6-1– 12
602.1, 602.2 (New), 602.2.1, 602.2.2, 602.2.2.3, 602.3, 602.3.1 (New), 602.3.2 (New), 602.3.3 (New), 602.3.4 (New), 602.4, 602.5, 602.6

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

602.1 General. Wheelchair accessible drinking fountains shall comply with Sections 602.2 and 307. Drinking fountains for standing persons shall comply with Section 602.3 and 307.

602.2 Wheelchair accessible drinking fountains. Wheelchair accessible drinking fountains shall comply with Section 602.2.1 through 602.2.5.

~~602.2~~ **602.2.1 Clear Floor Space.** A clear floor space complying with Section 305, positioned for a forward approach to the drinking fountain, shall be provided. Knee and toe space complying with Section 306 shall be provided. The clear floor space shall be centered on the drinking fountain.

EXCEPTION~~S~~:

~~1. Drinking fountains for standing persons.~~
~~2.~~ Drinking fountains primarily for children's use shall be permitted where ~~the spout outlet is 30 inches (760 mm) maximum above the floor,~~ a parallel approach complying with Section 305 is provided and the clear floor space is centered on the drinking fountain.

602.2.2 ~~**602.3**~~ **Operable Parts.** Operable parts shall comply with Section 309.

602.2.3 ~~**602.4**~~ **Spout Outlet Height.** Spout outlets of wheelchair accessible drinking fountains shall be 36 inches (915 mm) maximum above the floor. ~~Spout outlets of drinking fountains for standing persons shall be 38 inches (965 mm) minimum and 43 inches (1090 mm) maximum above the floor.~~

EXCEPTION: At drinking fountains primarily for children's use, the spout outlet shall be 30 inches (760 mm) maximum above the floor.

606.2.4 ~~602.5~~ Spout Location. The spout shall be located 15 inches (380 mm) minimum from the vertical support and 5 inches (125 mm) maximum from the front edge of the drinking fountain, including bumpers.

EXCEPTION: ~~Where only a parallel approach is provided~~ At drinking fountains primarily for children's use, the spout shall be located $3^1/2$ inches (89 mm) maximum from the front edge of the drinking fountain, including bumpers.

606.2.5 ~~602.6~~ Water Flow. The spout shall provide a flow of water 4 inches (102 mm) minimum in height. The angle of the water stream from spouts within 3 inches (76 mm) of the front of the drinking fountain shall be 30 degrees maximum, and from spouts between 3 inches (76 mm) and 5 inches (125 mm) from the front of the drinking fountain shall be 15 degrees maximum, measured horizontally relative to the front face of the drinking fountain.

602.3 Drinking fountains for standing persons. Drinking fountains for standing persons shall comply with Section 602.3.1 through 602.3.4.

602.3.1Operable Parts. Operable parts shall comply with Section 309.3 and 309.4.

602.3.2 Spout Outlet Height. Spout outlets of drinking fountains for standing persons shall be 38 inches (965 mm) minimum and 43 inches (1090 mm) maximum above the floor.

EXCEPTION: Drinking fountains for standing persons and primarily for children's use shall be permitted where the spout outlet is 30 inches (760 mm) minimum and 43 inches (1090 mm) maximum above the floor.

602.3.3 Spout location. The spout shall be located 5 inches (125 mm) maximum from the front edge of the drinking fountain, including bumpers.

602.3.4 Water Flow. The spout shall provide a flow of water 4 inches (102 mm) minimum in height. The angle of the water stream from spouts within 3 inches (76 mm) of the front of the drinking fountain shall be 30 degrees maximum, and from spouts between 3 inches (76 mm) and 5 inches (125 mm) from the front of the drinking fountain shall be 15 degrees maximum, measured horizontally relative to the front face of the drinking fountain.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The purpose of this proposal for drinking fountains is two-fold. 1) put criteria for children's drinking fountains under the specific requirements. 2) separate criteria for drinking fountains serving wheelchair users from those serving standing persons.

With the exception for children only being for wheelchair drinking fountains, literally standing drinking fountains in a preschool would have to be at an adult height, making them too high for the children they are intended to serve. Also, there are no technical criteria for standing drinking fountains for children. The adult standing requirements are too high for toddlers and pre-schoolers.

This separation of the criteria for wheelchair and standing fountains helps identify which pieces of the criteria are appropriate for each type. Ex: New Section 602.3.1 - Since a wheelchair clear floor space is not needed for access to the drinking fountain for standing persons, a wheelchair clear floor space should not required for access to the controls through the reference to 309, which picks up a clear floor space under 309.2. (If a clear floor space is desired, it should be similar to that required for tactile signage.)

Are the spout location and water flow necessary for standing drinking fountains? For example, the location of the spout in relation to the back wall is only needed for knee clearance, not standing. Need input from the plumbing industry.

602.1-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The Committee was not convinced that the proposal wasn't adding requirements for children who don't have disabilities. For example, why address standing children unless there is data which substantiates a need for children who may not be able to stoop and use a fountain.

BALLOT COMMENTS

6-1.1

Comment rescinded

6-1.2

Commenter Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Drinking fountains are for the occupants of the space. The current requirements place the standing drinking fountain outside of the children's reach. Therefore, the current text is discriminatory against children who are not tall enough to reach the standing drinking fountain.

6-1.3

Commenter Hope Reed, Representing NMGCD
Ballot: Negative with comment:

Comment: The separation of wheelchair drinking fountains and standing person's drinking fountains is useful for adults and children. Children who are ambulatory and using leg braces, walkers, or crutches will need a standing drinking fountain.

Proponent Comment

6-1.4

Commenter: Kim Paarlberg, Representing ICC

Request the proposal be Approved as Submitted:

Reason: The intent is to separate the requirements for drinking fountains serving wheelchairs from drinking fountains serving standing persons. This is similar to what we did for the different types of showers. This should help clarify. For example: 1) you don't need an exception for clearances at the standing drinking fountain. 2) the spout height for children's fountains is located with the spout height, not in an exception under clear floor space. 3) since only children's fountains can use side approach, the depth of the spout requirements are clearer.

There is also the question of the standing drinking fountain required in pre-schools and day care facilities. Where the drinking fountains are for kids (not for the teachers), they should be able to be located at a height to serve standing kids, the same as in adult situations. The height chosen is between the child's wheelchair and standing adult heights. If the committee disagrees with this, the only thing that needs to change is this proposal is the removal of the exception in Section 602.3.2.

The committee reason argued about children stooping. This is more to allow for children to be able to reach the drinking fountain. The standing drinking fountain is too high for most small children.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal. The committee was not persuaded that the proposed organization was substantially better for the users of the standard.

6-2– 12
602.3

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

602.3 Operable Parts. Operable parts shall comply with Section 309.

EXCEPTION: Where bottled water fillers are provided as part of drinking fountains serving wheelchair and standing person, the bottled water filler in the drinking fountain for standing persons is not required to comply with Section 309.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

Bottled water fillers are being provided in many university and park settings. Not using disposable bottled water is an important part of recycling efforts. However, if the bottled water filler is behind the standing drinking fountain, it cannot be located in reach ranges. The intent of the exception is to allow for this option only if there is a bottled water filler over the accessible drinking fountain.

602.3 (NEW)-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: Committee was receptive to concept, but concerned the language didn't accomplish purpose. Perhaps a separate section would be better rather than an exception. Does it need both standing and seated levels?

BALLOT COMMENTS

6-2.1
Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: Bottle filling stations need to have a part in the standard. Major metropolitan areas are already addressing these within their plumbing codes. The means to address these elements from an accessibility standpoint is important. By the time the standard is effective hundreds of these will already be installed and many more on the way.

Revise as follows:

602 Drinking Fountains and Bottle Filling Stations.

602.7 Bottle Filling Stations. Bottle filling stations which shall comply with sections 602.7.1 and 602.7.2.

> **Exception:** Where bottle filling stations are part of the drinking fountain for standing persons, the bottle filling station is not required to comply with this section provided a bottle filling station is located at the wheelchair accessible drinking fountain.

602.7.1 Clear Floor Space. A clear floor space complying with Section 305, positioned for a forward or side approach, shall be provided.

602.7.2 Controls. Controls for bottle filling stations shall be hand operated or automatic. Hand operated controls shall comply with Section 309.

6-2.2

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: These bottled water fillers are increasing common in airports and university settings. They are an important part of 'green' considerations in many states. How to make them accessible needs to be addressed.

Replace proposal as follows:

602 Drinking Fountains and Bottle Filling Stations.

602.7 Bottle Filling Stations. Bottle filling stations which shall comply with sections 602.7.1 and 602.7.2.

> **Exception:** Where bottle filling stations are part of the drinking fountain for standing persons, the bottle filling station is not required to comply with this section provided a bottle filling station is located at the wheelchair accessible drinking fountain.

602.7.1 Clear Floor Space. A clear floor space complying with Section 305, positioned for a forward or side approach, shall be provided.

602.7.2 Controls. Controls for bottle filling stations shall be hand operated or automatic. Hand operated controls shall comply with Section 309.

6-2.3

Commenter: Hope Reed, Representing NMGCD
Ballot: Negative with comment:

Comment: Water bottle fillers, located at the top of drinking fountains, need to be accessible.

Proponent Comment

6-2.4

Commenter: Kim Paarlberg, Representing ICC

Replace the proposal with the following:

602 Drinking Fountains and Bottle Filling Stations.

602.7 Bottle Filling Stations. Bottle filling stations which shall comply with sections 602.7.1 and 602.7.2.

> **Exception:** Where bottle filling stations are part of the drinking fountain for standing persons, the bottle filling station is not required to comply with this section provided a bottle filling station is located at the wheelchair accessible drinking fountain.

602.7.1 Clear Floor Space. A clear floor space complying with Section 305, positioned for a forward or side approach, shall be provided.

602.7.2 Controls. Controls for bottle filling stations shall be hand operated or automatic. Hand operated controls shall comply with Section 309.

Reason: These bottled water fillers are increasing common in airports and university settings. They are an important part of 'green' considerations in many states. How to make them accessible needs to be addressed.

This new proposal will address when bottled water fillers are stand alone or part of a drinking fountain system. The exception is an allowance that the standing drinking fountain requirements would not allow for reach over the fountain. Therefore, the bottle water filler must be over both fountains or over the wheelchair fountain

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Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comment.

Committee Reason: The revised proposal contained in comment 6-2.4 addressed the concerns the committee had in disapproving the original proposal. The increased installation of these fixtures demands that the accessibility standard addresses them.

Modification.

Replace the proposal with the following:

602 Drinking Fountains and Bottle Filling Stations.

602.7 Bottle Filling Stations. Bottle filling stations which shall comply with sections 602.7.1 and 602.7.2.

> **Exception:** Where bottle filling stations are part of the drinking fountain for standing persons, the bottle filling station is not required to comply with this section provided a bottle filling station is located at the wheelchair accessible drinking fountain.

602.7.1 Clear Floor Space. A clear floor space complying with Section 305, positioned for a forward or side approach, shall be provided.

602.7.2 Controls. Controls for bottle filling stations shall be hand operated or automatic. Hand operated controls shall comply with Section 309.

6-4– 12
604.1

Proposed Change as Submitted

Proponent: Terri Stewart, The American Institute of Architects, representing The Task Force on Aging

Revise as follows:

604.1 General. Accessible water closets and toilet compartments shall comply with Section 604. Compartments containing more than one plumbing fixture shall comply with Section 603. Wheelchair accessible compartments shall comply with Section 604.9. Ambulatory accessible compartments shall comply with Section 604.10.

EXCEPTIONS:

1. Water closets and toilet compartment primarily for children's use shall be permitted to comply with Section 604.10 as applicable.
2. Water closets and toilet compartments for elder use in nursing home or assisted living facilities where fixtures are located in toilet or bath rooms directly accessible from a private or semiprivate bedroom, shall be permitted to comply with Section 604.12

Reason: Sufficient space is not provided for the space needed on both sides of the toilet for independent front approach transfers and assisted transfers.

604.1-STEWART.doc

Committee Action

Disapproved

Committee Reason: Consistent with the action to disapprove Proposal 6-31-12.

BALLOT COMMENTS

6-4.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: I believe that some specific criteria for assisted use in the Type B units would be acceptable to ICC A117.1 and not conflict with ADA. This idea should continue to be investigated.

6-4.2
Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: The committee was going to reconsider this if the proponents came back with another better proposal. I do not think they had the opportunity to do this and would like to give them that opportunity in the summer. See comment to 6-31-12

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

6-5– 12
604.4, Figure 604.4

Proposed Change as Submitted

Proponent: Edward Steinfeld, IDEA Center, School of Architecture and Planning, University at Buffalo, State University of New York

Revise as follows:

604.4 Height. The height of water closet seats shall be 17 inches (430 mm) minimum ~~and~~ to ~~19~~ 20 inches (~~485~~ 510 mm) maximum above the floor, measured to the top of the seat. Seats shall not be sprung to return to a lifted position.

EXCEPTIONS:

1. An accessible water closet which is adjustable in height or which provides multiple hinged seats is permitted to provide adjustability within a range of 11 inches (280 mm) minimum to 25 inches (635 mm) maximum, provided that at least one adjustment setting provides a seat within the range specified in Section 604.4.
2. A water closet in a toilet room for a single occupant, accessed only through a private office and not for common use or public use, shall not be required to comply with Section 604.4.

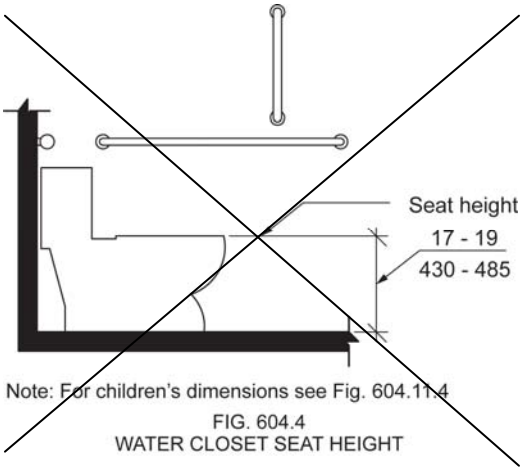


FIG. 604.4
WATER CLOSET SEAT HEIGHT

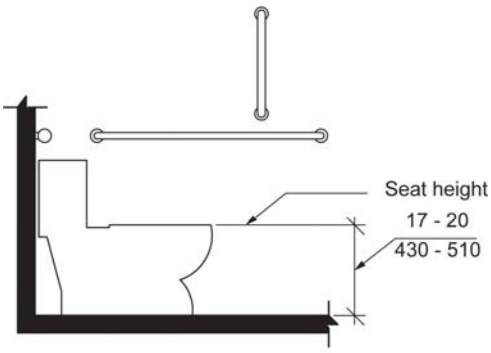


FIG. 604.4
WATER CLOSET SEAT HEIGHT

Reason: Many of the technical requirements of the ICC/ANSI A117.1 (2009) Accessible and Usable Buildings and Facilities (ICC/ANSI) designed to accommodate wheeled mobility users are based on research completed from 1974 to 1978 using a research sample that included about 60 individuals who used manual wheelchairs (Steinfeld et al., 1979).

The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users (Steinfeld, et al., 2010). Measurements of body and device size were captured in three dimensions. The functional anthropometric measurements required measuring reaching ability, grip strength and the minimum space needed for turning. It is the most extensive anthropometric study of wheeled mobility device users in the United States. Additional information about the study can be found at http://www.udeworld.com/ansi-standards-review. The proposed revisions are based on new anthropometric information that was generated from the database of anthropometric measurements developed as part of the study.

Analysis

In addition to the findings reported in Steinfeld, et al., 2010, the IDeA Center developed a Design Resource entitled, *Analysis of Seat Height for Wheeled Mobility Devices* that provides more detailed information about the study reported in Steinfeld, et al., 2010. *Analysis of Seat Height for Wheeled Mobility Devices* indicates that the current maximum height of 19 inches (485 mm) accommodates 51% of female manual wheelchair users, 30% of manual wheelchair users, and fewer than 20% of power and

scooter users. The report indicates a seat height of 25 inches (635 mm) would accommodate over 95% of all wheeled mobility device users (D'Souza and Steinfeld, 2011, pg. 5).

Increasing the maximum seat height to 20 inches (510 mm) would allow 75% of female manual wheelchair and 53% of male manual wheelchair users (D'Souza and Steinfeld, 2011, pg. 5) to transfer comfortably. Comfort in this case is determined by how closely the height of the transfer surface matches the height of a wheelchair seat. Steinfeld, et. Al., 2010 (pg. 85) report that "keeping the height of a transfer surface close to the height of a wheelchair seat reduces the effort necessary to transfer and provides a safer environment, especially in bathing and toilet rooms."

However, a fixed seat any higher than 20 inches (510 mm) would likely disadvantage people of short stature, particularly if it was the *only* water closet. Encouraging innovation would help to accommodate a greater number of wheeled mobility users without disadvantaging people of short stature. Adjustability is the best option to accommodate the widest population but in the meantime, the upper limit should be raised to 20 inches (Steinfeld, et al., 2010, pgs. 85-86).

Since the current standard indicates a seat height of 11 inches (280 mm) is acceptable for children's use (604.11.4), any product which is adjustable could reasonably lower to such a level at a minimum.

NOTE: This change necessitates a change to Fig. 604.4 to ensure consistency. Thus, the proposed revised figure has been attached, along with the existing figure for comparison purposes.

References (See http://www.udeworld.com/ansi-standards-review for full text)

D'Souza, C. and Steinfeld, E. (2011). *Analysis of Seat Height for Wheeled Mobility Devices.* Buffalo, NY: University at Buffalo Center for Inclusive Design and Environmental Access.

Steinfeld, E., Paquet, V., D'Souza, C., Joseph, C, and Maisel, J. (2010). *Final Report: Anthropometry of Wheeled Mobility Project*. Washington, DC: U.S. Access Board.

Steinfeld, E. Schroeder, S. and Bishop, M. (1979). *Accessible buildings for people with walking and reaching limitations.* Washington, DC: U.S. Department of Housing and Urban Development.

604.4-STEINFELD.doc

Committee Action

Disapproved

Committee Reason: The Committee was not convinced that changes in demography and equipment that raising the range to 20 inches was appropriate. Among the concerns was the application to ambulatory accessible compartments. Little persons would find the 20 inch height problematic. Regarding the exception, there was also concern about the durability and usability of the specified equipment.

BALLOT COMMENTS

6-5.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: See comments to 3-6-12.

In addition, the adjustable seat is not practical from the point of how it should be used and maintained in a safe and healthy manner.

6-5.2

Comment rescinded

6-5.3

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: The research results clearly shows that a higher range would be beneficial for wheeled mobility users but allowing fixed heights as high as 25 in. could cause difficulty for people who need low seat heights, as the committee noted in defeating the original proposal. I didn't think about an amendment when we voted on the proposal but only exception #1 was changed it would allow a range from 11-25 in. for adjustable water closets. This would mean that, as adjustable products come on the US market, they would provide a great alternative to the fixed seat height that would be too low for many people yet not disadvantage people of short stature or children with disabilities. At the July meeting, I will offer this proposal.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comment

Committee Reason: The committee was asked to consider just approving the proposed exception. There remain concerns regarding the structural stability and durability of the devices. There is also concerns regarding ability of keeping the devices sanitary. The proponent encouraged the approval of generic language which would allow the market to address the concept and make sure that any device could adjust to provide a height within the standard's range of accessibility.

Modification:

Replace the proposal with the following:

EXCEPTIONS:

1. An accessible water closet which is adjustable in height by the user is permitted provided that at least one adjustment setting provides a seat within the range specified in Section 604.4.
2. A water closet in a toilet room for a single occupant, accessed only through a private office and not for common use or public use, shall not be required to comply with Section 604.4

6-6– 12
604.5

Proposed Change as Submitted

Proponent: Terri Stewart, The American Institute of Architects, representing The Task Force on Aging

Revise as follows:

604.5 Grab Bars. Grab bars for water closets shall comply with Section 609 and shall be provided in accordance with Sections 604.5.1 and 604.5.2. Grab bars shall be provided on the rear wail and on the side wall closest to the water closet.

EXCEPTIONS:

1. Grab bars are not required to be installed in a toilet room for a single occupant, accessed only through a private office and not for common use or public use, provided reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with Section 604.5.
2. In detention or correction facilities, grab bars are not required to be in housing or holding cells or rooms that are specially designed without protrusions for purposes of suicide prevention.
3. In nursing home and assisted living facilities where fixtures are located in toilet or bath rooms directly accessible from a private or semiprivate bedroom, two swing up grab bars complying with Sections 604.5.3 and 609 shall be permitted

Reason: Grab Bar Type. Grab bars on both sides of the toilet permit individuals with limited lower body strength who require assistance to maintain balance while clothing is removed or replaced. For individuals with limited upper body strength who are capable of independent, standing transfer, grab bars on both sides enable them to pull up to a standing position and lower down to a sitting position.

604.5-STEWART.doc

Committee Action

Disapproved

Committee Reason: Consistent with the action to disapprove Proposal 6-31-12.

BALLOT COMMENTS

6-6.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: I believe that some specific criteria for assisted use in the Type B units would be acceptable to ICC A117.1 and not conflict with ADA. This idea should continue to be investigated.

6-6.2
Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: The committee was going to reconsider this if the proponents came back with another better proposal. I do not think they had the opportunity to do this and would like to give them that opportunity in the summer. See comment to 6-31-12

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

6-8– 12
604.5.1, Figure 604.5.1

Proposed Change as Submitted

Proponent: Alan Gettelman, Bobrick Washroom Equipment, Inc

Revise as follows:

604.5.1 Fixed Side Wall Grab Bars. Fixed side-wall grab bars shall be 42 inches (1065 mm) minimum in length, located 12 inches (305 mm) maximum from the rear wall and extending 54 inches (1370 mm) minimum from the rear wall. In addition, a vertical grab bar 18 inches (455 mm) minimum in length shall be mounted with the bottom of the bar located 39 inches (990 mm) minimum and 41 inches (1040 mm) maximum above the floor, and with the center line of the bar located 39 inches (990 mm) minimum and ~~41 inches (1040 mm)~~ 46 inches (1170 mm)) maximum from the rear wall.

EXCEPTION: The vertical grab bar at water closets primarily for children's use shall comply with Section 609.4.2

Revise Figure as follows:

Change dimension call out dimension showing the location of the vertical grab bar in relationship to the rear wall as follows:~~39 – 41 (990 – 1040)~~ to 39-46 (990 1170)

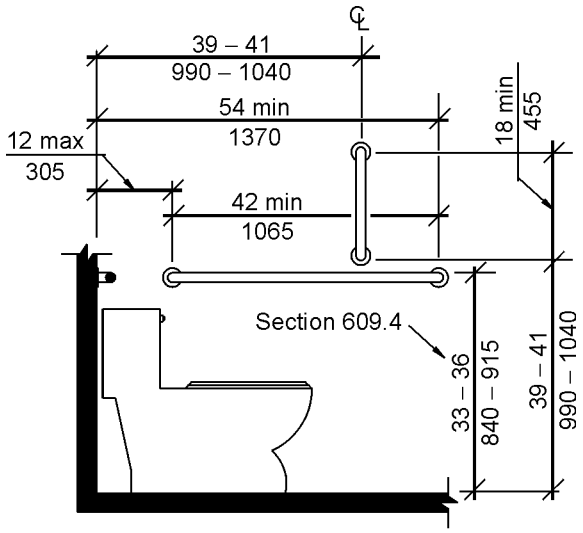


Fig. 604.5.1
Side Wall Grab Bar for Water Closet

Reason: Increasing mounting range of Fixed Side wall 18"Vertical Grab Bar to 39 inches to 46 inches from rear wall to accommodate washroom accessory industry standard recessed and partition-mounted combination toilet seat cover, sanitary napkin disposal and toilet tissue dispenser with ADA-compliant toilets that extend 30 inches plus from the rear wall.

It isn't clear that anthropometric or ergonomic data support a more restrictive dimension in this location.

604.5.1-GETTELMAN.doc

Committee Action

Disapproved

Committee Reason: The vertical grab bar is located in relationship to the water closet. Allowing it to be located further forward may reduce its functionality.

Ballot Comments

6-8.1

Commenter: Alan Gettelman, Bobrick Washroom Equipment, Inc
Ballot: Negative with comment:

Comment: Increasing maximum location of vertical grab bar 5 inches from 39 to 41 inches to 39 to 46 inches would accommodate more toilets (water closets) that are now projecting up to 34 inches from the rear wall.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal. The committee found that the relationship to the water closet was critical but couldn't be determined until the water closet is installed. The need to change these measurements was not clear.

6-10– 12
604.5.2, Figure 604.5.2

Proposed Change as Submitted

Proponent: Terry G. Wendt Jr, AIA, Wisconsin Department of Transportation

Revise as follows:

604.5.2 Rear Wall Grab Bars. The rear wall grab bar shall be 36 inches (915 mm) minimum in length ~~and extend from the centerline of the water closet between 12 inches (305) minimum on the side closest to the wall, and 24 inches (610 mm) minimum on the transfer side.~~ and located 5 inches (125 mm) from the side wall.

EXCEPTIONS:

1. The rear grab bar shall be permitted to be 24 inches (610 mm) minimum in length, centered on the water closet, where wall space does not permit a grab bar 36 inches (195 mm) minimum in length due to the location of a recessed fixture adjacent to the water closet.

2. Where an administrative authority requires flush controls for flush valves to be located ina position that conflicts with the location of the rear grab bar, that grab bar shall be permitted to be split or shifted to the open side of the toilet area.

Revise Figure 604.5.2 to reflect changes of text to Section 604.5.2

Reason: Suggested change will make compliance much easier to accomplish by enabling craftspeople to position the grab bar from a known point (the side wall). Having the grab bar position dependent on the location of the water closet often results in non-compliant installations because the exact position of the water closet fluctuates. The requirement of 5 inches from the side wall was calculated based on the water closet centerline being between 16 and 18 inches from the side wall as required by Section 604.2 – if the end of a 36 inch grab bar is positioned 5 inches from the side wall, the ends will be within 1 inch of the 12 inch / 24 inch relative position currently described in Section 604.5.2 (assuming the water closet is positioned in a compliant manner). This would streamline inspections by only requiring two measurements – distance from the side wall and length. It would also make the rear grab bar requirement similarly described as for the other grab bars (based on distance from walls, not fixtures).

604.5.2-WENDT.doc

Committee Action

Disapproved

Committee Reason: The Committee preferred the current text. The loss of the reference to the centerline of the water closet was not liked. The proposal doesn't specify which side wall the 5 inches is measured from.

BALLOT COMMENTS

6-10.1
Comment rescinded

6-10.2
Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: If this is a concern in the field, as indicated in the reason, the language could be revised to be consistent with the start of the side grab bars.

Replace the proposal as follows:

604.5.2 Rear Wall Grab Bars. The fixed rear wall grab bar shall be 36 inches (915 mm) minimum in length ~~and extend from the centerline of the water closet between 12 inches (305) minimum on the side closest to the wall, and 24 inches (610 mm) minimum on the transfer side.~~ , located 6 inches maximum (150 mm) from the side wall and extending 42 inches (1065 mm) from the side wall.

EXCEPTIONS:

1. The rear grab bar shall be permitted to be 24 inches (610 mm) minimum in length, centered on the water closet, where wall space does not permit a grab bar 36 inches (195 mm) minimum in length due to the location of a recessed fixture adjacent to the water closet.

2. Where an administrative authority requires flush controls for flush valves to be located in a position that conflicts with the location of the rear grab bar, that grab bar shall be permitted to be split or shifted to the open side of the toilet area.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The committee accepted the revised version proposed in comment 6-10.2 because it would provide better design and installation guidance than the current text as well as the original proposal.

Modification.

Replace the proposal as follows:

604.5.2 Rear Wall Grab Bars. The fixed rear wall grab bar shall be 36 inches (915 mm) minimum in length ~~and extend from the centerline of the water closet between 12 inches (305) minimum on the side closest to the wall, and 24 inches (610 mm) minimum on the transfer side.~~ , located 6 inches maximum (150 mm) from the side wall and extending 42 inches (1065 mm) from the side wall.

EXCEPTIONS: *(No change to exceptions)*

6-11– 12
Figure 604.5.3 (New)

Proposed Change as Submitted

Proponent: Terri Stewart, The American Institute of Architects, representing The Task Force on Aging

Add new Figure as follows:

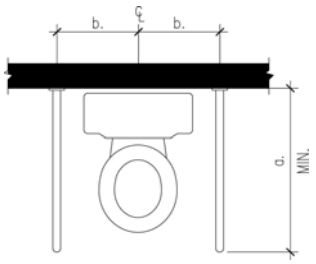


Figure 604.5.3
Swing-up Grab Bars for Water Closet *

* Dimension a. and b will be determined upon research results currently being conducted. (See Chapter 5 of White Paper, April 22, 2012.)

Reason: Rationale: Grab Bar Type. Grab bars on both sides of the toilet permit individuals with limited lower body strength who require assistance to maintain balance while clothing is removed or replaced. For individuals with limited upper body strength who are capable of independent, standing transfer, grab bars on both sides enable them to pull up to a standing position and lower down to a sitting position.

604.5.3(NEW)(FIGURE)-STEWART.doc

Committee Action

Disapproved

Committee Reason: Consistent with the action to disapprove Proposal 6-31-12.

BALLOT COMMENTS

6-11.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: I believe that some specific criteria for assisted use in the Type B units would be acceptable to ICC A117.1 and not conflict with ADA. This idea should continue to be investigated.

6-11.2
Comment Rescinded

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

6-12– 12
604.6, 604.11.6, 1003.11.2.4.6

Proposed Change as Submitted

Proponent: Len Swatkowski, Plumbing Manufacturers International

Revise as follows:

604.6 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with Section 309. Hand operated flush controls shall be located on the open side of the water closet or center mounted on the water closet or wall behind it as long as its location complies with one or more of the reach ranges specified in Section 308.

EXCEPTION: In ambulatory accessible compartments complying with Section 604.10, flush controls shall be permitted to be located on either side of the water closet.

604.11.6 Flush Controls. Flush controls primarily for children's use shall be hand operated or automatic. Hand operated flush controls shall comply with Sections 309.2 and 309.4 and shall be installed 36 inches (915 mm) maximum above the floor. Hand operated flush controls shall be located on the open side of the water closet or center mounted on the water closet or wall behind it as long as its location complies with one or more of the reach ranges specified in Section 308.

EXCEPTION: In ambulatory accessible compartments complying with Section 604.10, flush controls shall be permitted to be located on either side of the water closet.

1003.11.2.4.6 Flush Controls. Flush controls shall be hand-operated or automatic. Hand operated flush controls shall comply with Section 309. Hand-operated flush controls shall be located on the open side of the water closet or center mounted on the water closet or wall behind it as long as its location complies with one or more of the reach ranges specified in Section 308..

Reason: Provide reach ranges for flushing controls – acceptability of flush controls mounted on the center of toilet tanks Provide reach-range requirements for flush controls, especially those located in the center of the tank. 604.6, 604.11.6, 1003.11.2.4.6

604.6-SWATKOWSKI.doc

Committee Action

Approval as Modified

Modification

604.6 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with Section 309. Hand operated flush controls shall be located on the open side of the water closet or centered ~~mounted~~ on the water closet ~~or wall behind it as long as its location complies with one or more of the reach ranges specified in Section 308~~.

EXCEPTION: In ambulatory accessible compartments complying with Section 604.10, flush controls shall be permitted to be located on either side of the water closet.

604.11.6 Flush Controls. Flush controls primarily for children's use shall be hand operated or automatic. Hand operated flush controls shall comply with Sections 309.2 and 309.4 and shall be installed 36 inches (915 mm) maximum above the floor. Hand operated flush controls shall be located on the open side of the water closet or centered ~~mounted~~ on the water closet ~~or wall behind it as long as its location complies with one or more of the reach ranges specified in Section 308~~.

EXCEPTION: In ambulatory accessible compartments complying with Section 604.10, flush controls shall be permitted to be located on either side of the water closet.

1003.11.2.4.6 Flush Controls. Flush controls shall be hand-operated or automatic. Hand operated flush controls shall comply with Section 309. Hand-operated flush controls shall be located on the open side of the water closet or centered ~~mounted~~ on the water closet ~~or wall behind it as long as its location complies with one or more of the reach ranges specified in Section 308~~.

Committee Reason: Initially the Committee was concerned that the wall placement together with phrase about center mounted would lead to confusion. What would a wall mounted flush mechanism be centered on? The proposal was revised to eliminate the wall mounting option. While there was concern that this option lessened accessibility from the current standard, on balance the Committee felt the need to allow dual flush mechanisms was important.

BALLOT COMMENTS

6-12.1

Commenter: Christopher Bell, Representing ACB
Ballot: Negative with comment:

Comment: This proposal is a significant reduction in accessibility. One of the primary improvements in accessible restroom design over the last years has been the concept of providing the flush control on the open side of the toilet compartment, where it is reachable to a very high degree. Also, some of the center-mounted button models are quite difficult to push. Can they be operated without fine motor skills, with 5 pounds of force? Probably not.

Dual flush mechanisms are an excellent innovation, but should be provided on the open side in accessible units. A search on the Internet revealed models that can do this. An important principle is that the policy should drive the technology – the Committee should establish the correct specification and it, in turn, will push the mark

6-12.2

Commenter: Marilyn Golden, Representing DREDF
Ballot: Negative with comment:

Comment: This proposal is a significant reduction in accessibility. One of the primary improvements in accessible restroom design over the last years has been the concept of providing the flush control on the open side of the toilet compartment, where it is reachable to a very high degree. Also, some of the center-mounted button models are quite difficult to push. Can they be operated without fine motor skills? Probably not.

Dual flush mechanisms are an excellent innovation, but should be provided on the open side in accessible units. A search on the Internet revealed models that can do this. An important principle is that the policy should drive the technology – the Committee should establish the correct specification and it, in turn, will push the market to develop many additional models.

6-12.3

Commenter: Gina Hilberry, Representing UCP
Ballot: Negative with comment:

Comment: It is not clear that this does not reduce accessibility or that the flush mechanism is still required to be within reach ranges. In addition, wall mounted flush controls that are located on the open side of the toilet seem to be prohibited by this language.

6-12.4

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: The implications of this proposal were not well thought out. It may mean that accessible toilets cannot be water saving toilets. A simple fix would be to allow the control to be to provide more leeway in the location of the control vis a vis the clear floor space.

Committee Review of Comments and Action – July 2013

Approval as Modified.

Committee Reason: Committee members expressed concern that centered mounted dual flush controls reduce accessibility compared to controls being on the open side of a tank or other water closet. For some users it will require reaching across the water closet bowl to reach the flush control. Such is not the case for open side locations. There are some dual flush fixtures on the market where the controls are not center mounted and comply with the standard as it is currently written.

The committee voted to sustain its original action to approve as modified so that the dual flush technology wasn't discouraged by the standard, nor require seeking an alternative compliance approval each time it was proposed for installation.

6-14– 12
604.7, 604.11.7

Proposed Change as Submitted

Proponent: Ed Roether, ADA/A117.1 Harmonization Task Group

Revise as follows:

604.7 Dispensers. Toilet paper dispensers shall comply with Section 309.4. Where the dispenser is located above the grab bar, the outlet of the dispenser shall be located within an area 24 inches (610 mm) minimum and 36 inches (915 mm) maximum from the rear wall. Where the dispenser is located below the grab bar, the outlet of the dispenser shall be located within an area 24 inches (610 mm) minimum and 42 inches (1065 mm) maximum from the rear wall. The outlet of the dispenser shall be located 18 inches (455 mm) minimum and 48 inches (1220 mm) maximum above the floor. Dispensers shall comply with Section 609.3. Dispensers shall not be of a type that control delivery, or do not allow continuous paper flow.

EXCEPTION: Toilet paper dispensers that accommodate a maximum of 2 toilet paper rolls of not more than 5 inch diameter each shall be permitted to be located 7 inches minimum and 9 inches maximum in from the of the water closet measured to the centerline of the dispenser.

604.11.7 Dispensers. Toilet paper dispensers primarily for children's use shall comply with Section 309.4. The outlet of dispensers shall be located within an area 24 inches (610 mm) minimum and 42 inches (1065 mm) maximum from the rear wall. The outlet of the dispenser shall be 14 inches (355 mm) minimum and 19 inches (485 mm) maximum above the floor. There shall be a clearance of $1^{1/}2$ inches (38 mm) minimum below the grab bar. Dispensers shall not be of a type that control delivery or do not allow continuous paper flow.

EXCEPTION: Toilet paper dispensers that accommodate a maximum of 2 toilet paper rolls of not more than 5 inch diameter each shall be permitted to be located 7 inches minimum and 9 inches maximum in from the of the water closet measured to the centerline of the dispenser

Reason: The ADA/A117 Harmonization Task Group (HTG) was created as a task group of the A117.1 Committee to compare the 2010 ADA with the 2009 A117.1 Standard. The HTG has recommend a series of changes through a set of change proposals. The HTG is recommending changes, for the most part, address where the ADA was viewed as more stringent than the A117. Where the A117 contained provisions not addressed in the ADA, these were not considered a conflict needing action to amend the A117. In addition there are a number of places where the ADA and A117.1 are different as a result of specific actions, by the A117.1 Committee during the development of the 2009 edition, to remain or create a difference where, in the judgment of the committee the ADA was deficient.

Reason for dispensers. While the intent of the provisions in the 2009 ICC A117.1 was intended to allow for a larger toilet paper rolls and recessed dispensers within reach of a person using the water closet (and be considered equivalent to the intent of the 2010 ADA standard), there have been concerns that there may be some reviewers that would not consider the option equivalent to what is required by the 2010 ADA Standard. The committee has already identified that the 2010 ADA standard does not work with the mega roll design. Therefore the intent of the exception is to allow for someone using the standard toilet paper roll at the location addressed in the 2010 ADA standard.

802.10.1-Roether.doc

Committee Action

Approved

604.7 Dispensers. Toilet paper dispensers shall comply with Section 309.4. Where the dispenser is located above the grab bar, the outlet of the dispenser shall be located within an area 24 inches (610 mm) minimum and 36 inches (915 mm) maximum from the rear wall. Where the dispenser is located below the grab bar, the outlet of the dispenser shall be located within an area 24 inches (610 mm) minimum and 42 inches (1065 mm) maximum from the rear wall. The outlet of the dispenser shall be located 18 inches

(455 mm) minimum and 48 inches (1220 mm) maximum above the floor. Dispensers shall comply with Section 609.3. Dispensers shall not be of a type that control delivery, or do not allow continuous paper flow.

EXCEPTION: Toilet paper dispensers that accommodate a maximum of 2 toilet paper rolls of not more than 5 inch diameter each shall be permitted to be located 7 inches minimum and 9 inches maximum in front of the water closet measured to the centerline of the dispenser.

604.11.7 Dispensers. Toilet paper dispensers primarily for children's use shall comply with Section 309.4. The outlet of dispensers shall be located within an area 24 inches (610 mm) minimum and 42 inches (1065 mm) maximum from the rear wall. The outlet of the dispenser shall be 14 inches (355 mm) minimum and 19 inches (485 mm) maximum above the floor. There shall be a clearance of $1^{1}/2$ inches (38 mm) minimum below the grab bar. Dispensers shall not be of a type that control delivery or do not allow continuous paper flow.

EXCEPTION: Toilet paper dispensers that accommodate a maximum of 2 toilet paper rolls of not more than 5 inch diameter each shall be permitted to be located 7 inches minimum and 9 inches maximum in front of the water closet measured to the centerline of the dispenser

Committee Reason: The exceptions allow specific compliance with the 2010 ADA within the context of the Standard. The Standard's existing text has been judged as equivalent to the ADA provisions.

Note: The proposal had an editorial error with the use of 'from the' which should have simply been 'front'. The sentences did not read properly with the wrong words.

BALLOT COMMENTS

6-14.1

Commenter: Marsha K. Mazz, Representing Access Board
Ballot: Affirmative with comment:

Comment: The committee's reason statement should be modified for clarity. It says "The exceptions allow specific compliance with the 2010 ADA within the context of the Standard. The Standard's existing text has been judged as equivalent to the ADA provisions." In the first sentence, the meaning of the phrase "within the context of the Standard" is an ambiguous qualifier. The second sentence leaves it up to the reader to determine who or what entity "judged" this action "equivalent to the ADA provision". Given that, under the ADA, only the Department of Justice or a court of law can make this judgment, I recommend revising the statement to say that the "Committee" judged this action to be equivalent.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval of this proposal.

6-15– 12
604.7, Figure 604.7

Proposed Change as Submitted

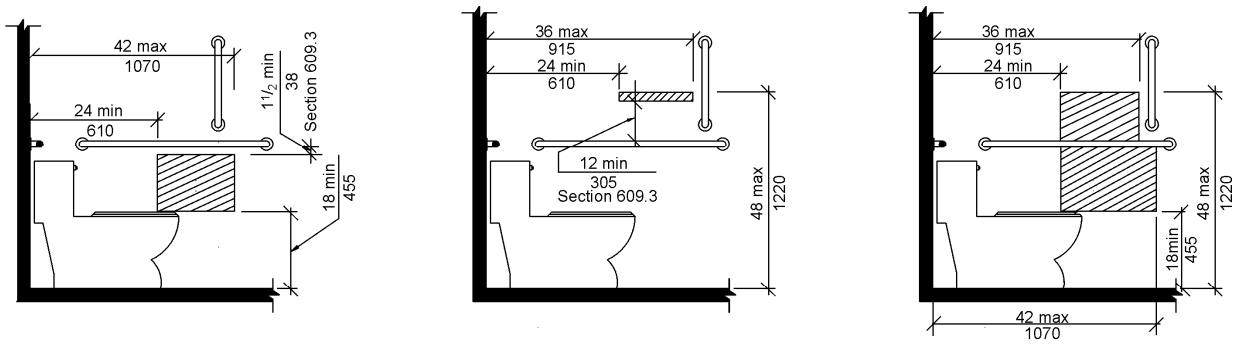
Proponent: Alan Gettelman, Bobrick Washroom Equipment, Inc.

Revise as follows:

604.7 Dispensers. Toilet paper dispensers shall comply with Section 309.4. Where the dispenser is located above the grab bar, the outlet of the dispenser shall be located within an area 24 inches (610 mm) minimum and 36 inches (915 mm) maximum from the rear wall, Where the dispenser is located below the grab bar, the outlet of the dispenser shall be located within an area 24 inches (610 mm) minimum and 42 inches (1070 mm) maximum from the rear wall. The outlet of the dispenser shall be located ~~18 inches (455 mm)~~ 15 inches (380 mm) minimum and 48 inches (1220 mm) maximum above the floor. Dispensers shall comply with Section 609.3. Dispensers shall not be of a type that control delivery, or do not allow continuous paper flow.

Revise Figure as follows:

Change the vertical dimension on figures (a) and (c) indicating the vertical placement of dispensers above the floor from : ~~18 min (455)~~ to 15 min (380).



(a) Protruding Dispenser Below Grab Bar (b) Protruding Dispenser Above Grab Bar (c) Recessed Dispenser

Note: For children's dimensions see Fig. 604.11.7 dispenser outlet location

Fig. 604.7
DISPENSER OUTLET LOCATION

Reason:

1. Inconsistent with ICC A117.1- 2009
   Section 3098.2 Forward Reach, 308.2.1 Unobstructed (Page 11), " low forward reach shall be 15 inches (380 mm) minimum"
   Figure 308.2.1 Unobstructed Forward Reach (Page 11), dimension call out "15 min (380 mm)"
   Section 308.3 Side Reach, 308.3.1 Unobstructed (Page 13, " low side reach shall be 15 min (380 mm)"
2. Inconsistent with 2010 ADA Standards
   Section 604.7 Dispensers (page 201), "the outlet of the dispenser shall be 15 inches (380 mm) minimum"
   Figure 604.7 Dispenser Outlet Location (page 202), dimension call out "15 min (380 mm)"
3. Having a common dimension of 15 inches minimum would be more efficient eliminating the current inconsistency which impacts installers and inspectors.
4. The change to a common dimension of 15 inches, in effect, may increase accessibility and encourage greater compliance.
5. It isn't clear that anthropometric or ergonomic data support an 18" dimension in this location.

604.7-GETTELMAN.doc

Committee Action Report on Ballot and Proponent Comments- July 15-19, 2013:
Proposals of 2012 submitted on the ICC A117.1-2009

Committee Action

Disapproved

Committee Reason: The action to approve Proposal 6-14-12 was preferred. This is a designed developed by the Committee during the last cycle and it is still preferred over the wording of the ADA 2010.

BALLOT COMMENTS

6-15.1

Commenter: Alan Gettelman
Ballot: Affirmative with comment:

Comment: For consistency the ADA should harmonize with preferred, approved Proposal 6-14-12, "The outlet of the dispenser shall be 14 inches minimum and 19 inches maximum above the floor."

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

6-18– 12
604.9.2.3 (New)

Proposed Change as Submitted

Proponent: Gina Hilberry, United Cerebral Palsy Association

Add new text as follows:

604.9.2.3 Compartments with Enhanced Approach Area: Where enhanced approach area is required at toilet compartments, the minimum area of an enhanced wheelchair accessible compartment shall be 60 inches (1525 mm) minimum width measured perpendicular to the side wall, and 82 inches (2083 mm) minimum in depth for both wall hung and floor mounted water closets measured perpendicular to the rear wall.

Reason: 604.9.2.3 Standard 56" and 59" deep toilet compartments do not have enough space for people using a front transfer approach to the fixture. By definition the area occupied by the full size chair and person exceeds the space in between the front of the fixture and the partition. Because of this, users are forced to solve the problem by leaving the door open. It should be noted that this is not a scoping suggestion. This is much like the enhanced lavatories or the Type C Units, adding the clause will allow for future editions of the IBC or local jurisdictions to include this requirement in specific circumstances.

604.9.2.3 (New)-HILBERRY.doc

Committee Action

Approved

Committee Reason: The Committee approved the proposal essentially endorsing the concept. However there was concern regarding using the term 'enhanced' here because it has been used in the Standard previously and, as such, may be confusing. While not a proposal of the Wheeled Mobility Task Group, it addresses similar issues of using other mobility devices.

BALLOT COMMENTS

6-18.1
Commenter: Gene Boecker, Representing NATO
Ballot: Affirmative with comment:

Comment: In addition, another exception must be added to the approved text for 6-19:

3. Toilet compartment doors with enhanced approach in accordance with Section 604.9.2.3 shall be allowed to swing inward, over the minimum compartment size, if the door is 66 inches (1675 mm) minimum from the rear wall.

Without this exception, only outward swinging doors would be permitted for the majority of these compartments. The 66-inch dimension was used because it is compatible with the additional depth needed where toe space is not provided (Section 604.9.5).

6-18.2
Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: While I appreciate the idea, I would like see the justification for the width and depth of the stall. With a 48" wheelchair space, this is assuming a water closet depth of (82-48=34) 34 inches? I also find the name confusing. If this is to allow for both a front and side approach option, we should state that for clarity. Maybe to just call this an alternate wheelchair compartment (similar to alternate roll-in shower) would be a better idea. Is the current graphic Figure 604.9.3.1(c) adequate? Then we might want to also revise the door overlap requirements in Section 604.9.3. The two options for exceptions would allot someone to get into the stall and maneuver. The 2nd option has the same language as 603.2.2 Exception 2.

Is this going to change if the wheelchair space size changes? Then it is even more important to understand the size justification.

Further modify proposal as follows:

604.9.2.3 Alternate wheelchair accessible Compartments ~~with Enhanced Approach Area~~: Where ~~enhanced approach area~~ an alternate wheelchair compartment is required ~~at toilet compartments~~, the minimum area of an ~~enhanced~~ alternate wheelchair accessible compartment shall be 60 inches (1525 mm) minimum width measured perpendicular to the side wall, and 82 inches (2083 mm) minimum in depth ~~for both wall hung and floor mounted water closets~~ measured perpendicular to the rear wall.

604.9.3 Doors. Toilet compartment doors, including door hardware, shall comply with Section 404, except if the approach is to the latch side of the compartment door clearance between the door side of the stall and any obstruction shall be 42 inches (1065 mm) minimum. The door shall be self-closing. A door pull complying with Section 404.2.6 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the required minimum area of the compartment.

> **Exception:** In an alternate wheelchair accessible compartment, the door can swing into the stall where the clear floor space past the swing of the door meets the clearance for a wheelchair accessible compartment.

-or-

> **Exception:** In an alternate wheelchair accessible compartment, the door can swing into the stall where a clear floor space complying with Section 305.3 is provided within the stall beyond the arc of the door swing.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comment.

Committee Reason: The committee was persuaded by the rationale of comment 6-18.2 regarding the format of the original proposal and the use of the term 'enhanced'. This further modification supports the original intent of the proposal.

Modification.

Further modify proposal as follows:

604.9.2.3 Alternate wheelchair accessible Compartments ~~with Enhanced Approach Area~~: Where ~~enhanced approach area~~ an alternate wheelchair compartment is required ~~at toilet compartments~~, the minimum area of an ~~enhanced~~ alternate wheelchair accessible compartment shall be 60 inches (1525 mm) minimum width measured perpendicular to the side wall, and 82 inches (2083 mm) minimum in depth ~~for both wall hung and floor mounted water closets~~ measured perpendicular to the rear wall.

604.9.3 Doors. Toilet compartment doors, including door hardware, shall comply with Section 404, except if the approach is to the latch side of the compartment door clearance between the door side of the stall and any obstruction shall be 42 inches (1065 mm) minimum. The door shall be self-closing. A door pull complying with Section 404.2.6 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the required minimum area of the compartment.

> **Exception:** In an alternate wheelchair accessible compartment, the door can swing into the stall where a clear floor space complying with Section 305.3 is provided within the stall beyond the arc of the door swing.

6-19– 12
604.9.3, 604.10.3

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

604.9.3 Doors. Toilet compartment doors, including door hardware, shall comply with Section 404~~, except if the approach is to the latch side of the compartment door clearance between the door side of the stall and any obstruction shall be 42 inches (1065 mm) minimum~~. The door shall be self-closing. A door pull complying with Section 404.2.6 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the required minimum area of the compartment.

EXCEPTIONS:

1. Outside of the compartment, where the approach is to the latch side of the compartment door clearance between the door side of the stall and any obstruction shall be 42 inches (1065 mm) minimum.
2. Within the compartment, maneuvering clearances at the door are not required to comply with Section 404.

604.10.3 Doors. Toilet compartment doors, including door hardware, shall comply with Section 404~~, except if the approach is to the latch side of the compartment door the clearance between the door side of the compartment and any obstruction shall be 42 inches (1065 mm) minimum~~. The door shall be self-closing. A door pull complying with Section 404.2.6 shall be placed on both sides of the door near the latch. Compartment doors shall not swing into the required minimum area of the compartment.

EXCEPTIONS:

1. Outside of the compartment, where the approach is to the latch side of the compartment door, clearance between the door side of the stall and any obstruction shall be 42 inches (1065 mm) minimum.
2. Within the compartment, maneuvering clearances at the door are not required to comply with Section 404.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

This proposal will do two things:

1. Relocating the existing text “except if the approach…..42 inches minimum” from the base paragraph into Exception 1 will match the normal format for exceptions and will clearly show that it is an exception which alters the base requirement to comply with Section 404.
2. It will clarify that the 42 inch requirement is intended for the exterior of the compartment and that the interior of the compartment does not need the door to comply with the maneuvering clearances of Section 404. This clarification does require exception 2 be added but it is consistent with the way the requirement has previously been applied.

In essence the only new text within the proposal is the wording “Outside of the compartment” at the beginning of Exception 1 and then all of the text within Exception 2.

604.9.3-PAARLBERG.doc

Committee Action

Approved

Committee Reason: The change clarifies the location of the maneuvering clearance requirements with respect to compartment doors.

BALLOT COMMENTS

6-19.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Editorial correction

Revise as follows:

604.9.3 Doors. Toilet compartment doors, including door hardware, shall comply with Section 404. The door shall be self-closing. A door pull complying with Section 404.2.6 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the required minimum area of the compartment.

EXCEPTIONS:

1. Outside of the compartment, where the approach is to the latch side of the compartment door clearance between the door side of the ~~stall~~ compartment and any obstruction shall be 42 inches (1065 mm) minimum.
2. Within the compartment, maneuvering clearances at the door are not required to comply with Section 404.

604.10.3 Doors. Toilet compartment doors, including door hardware, shall comply with Section 404. The door shall be self-closing. A door pull complying with Section 404.2.6 shall be placed on both sides of the door near the latch. Compartment doors shall not swing into the required minimum area of the compartment.

EXCEPTIONS:

1. Outside of the compartment, where the approach is to the latch side of the compartment door, clearance between the door side of the ~~stall~~ compartment and any obstruction shall be 42 inches (1065 mm) minimum.
2. Within the compartment, maneuvering clearances at the door are not required to comply with Section 404.

Proponent Comment

6-19.2

Commenter: Kim Paarlberg, Representing ICC

Further modify the proposal as follows:

604.9.3 Doors. Toilet compartment doors, including door hardware, shall comply with Section 404. The door shall be self-closing. A door pull complying with Section 404.2.6 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the required minimum area of the compartment.

EXCEPTIONS:

1. Outside of the compartment, where the approach is to the latch side of the compartment door clearance between the door side of the ~~stall~~ compartment and any obstruction shall be 42 inches (1065 mm) minimum.
2. Within the compartment, maneuvering clearances at the door are not required to comply with Section 404.

604.10.3 Doors. Toilet compartment doors, including door hardware, shall comply with Section 404. The door shall be self-closing. A door pull complying with Section 404.2.6 shall be placed on both sides of the door near the latch. Compartment doors shall not swing into the required minimum area of the compartment.

EXCEPTIONS:

1. Outside of the compartment, where the approach is to the latch side of the compartment door, clearance between the door side of the ~~stall~~ compartment and any obstruction shall be 42 inches (1065 mm) minimum.

2. Within the compartment, maneuvering clearances at the door are not required to comply with Section 404.

Reason: This should be an editorial correction.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comment

Committee Reason: The modification is based on comment 6-19.2. It simply provides consistency in text that the term is toilet compartments, not stalls.

Further modify the proposal as follows:

604.9.3 Doors. Toilet compartment doors, including door hardware, shall comply with Section 404. The door shall be self-closing. A door pull complying with Section 404.2.6 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the required minimum area of the compartment.

EXCEPTIONS:
1. Outside of the compartment, where the approach is to the latch side of the compartment door clearance between the door side of the ~~stall~~ compartment and any obstruction shall be 42 inches (1065 mm) minimum.
2. Within the compartment, maneuvering clearances at the door are not required to comply with Section 404.

604.10.3 Doors. Toilet compartment doors, including door hardware, shall comply with Section 404. The door shall be self-closing. A door pull complying with Section 404.2.6 shall be placed on both sides of the door near the latch. Compartment doors shall not swing into the required minimum area of the compartment.

EXCEPTIONS:
1. Outside of the compartment, where the approach is to the latch side of the compartment door, clearance between the door side of the ~~stall~~ compartment and any obstruction shall be 42 inches (1065 mm) minimum.
2. Within the compartment, maneuvering clearances at the door are not required to comply with Section 404.

6-20– 12
Table 604.9.3.1, Figure 604.9.3.1

Proposed Change as Submitted

Proponent: Alan Gettelman, Bobrick Washroom Equipment, Inc.

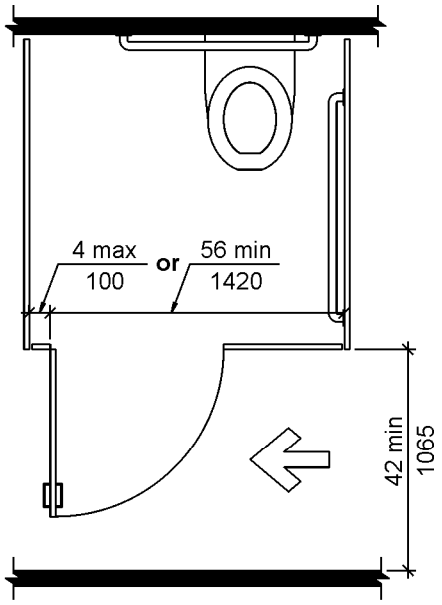
Revise as follows:

Table 604.9.3.1 – Door Opening Location

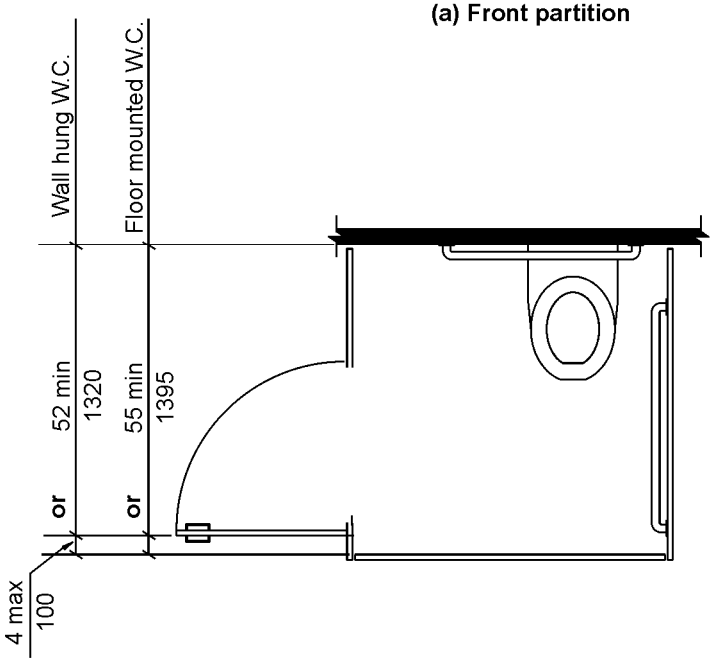
Door Opening Location	Measured From	Dimension
Front Wall or Partition	From the side wall or partition closest to the water closet	56 inches (1420 mm) minimum
	or	
	From the side wall or partition farthest from the water closet	~~4 inches (102 mm) maximum~~ 4 inches 100 mm) minimum to 6 inches maximum (150 mm)
Side Wall or Partition - Wall-Hung Water Closet	From the rear wall	52 inches (1320 mm) minimum
	or	
	From the front wall or partition	~~4 inches (102 mm) maximum~~ 4 inches 100 mm) minimum to 6 inches maximum (150 mm)
Side Wall or Partition - Floor-Mounted Water Closet	From the rear wall	55 inches (1395 mm) minimum
	or	
	From the front wall or partition	~~4 inches (102 mm) maximum~~ 4 inches 100 mm) minimum to 6 inches maximum (150 mm)

Revise Figure as follows:

Change the called dimension for door opening location to read: 4 inches (100 mm) minimum to 6 inches (150mm) maximum).



(a) Front partition



(b) Side wall or partition

Fig. 604.9.3.1
Wheelchair Accessible Compartment Doors

Reason:

1. Current absolute 4 inch (100 mm) maximum space from inside edge of side partition and door opening is an overly restrictive dimension creating installation and structural problems.
2. To maintain the 4 inch maximum space with a gap at the side all or with a coved floor into the wall the stile must be moved away from the wall and a 3" wide stile must be used. In many circumstances a 3" wide stile has a single floor anchor point providing minimum structural support for hinging the door.
3. As long as it would be allowed under the condition providing a wider compartment at the same time, allowing a range of 4 inches to 6 inches space for the door opening location would accommodate a number of field conditions; allowing the use

of a 4" to 6" wide stile with two floor anchor points would greatly enhance the stability of the partition and door without compromising accessibility.

4. The 4" to 6" range for the location of the door opening would alleviate a structural issue on the Wheelchair Accessible Compartments wider than 60". With the current 4 inch maximum space stile at the other side of the door must be very wide reducing design flexibility and installation options.

604.9.3.1(TABLE)-GETTELMAN updated.doc

Committee Action

Disapproved

Committee Reason: The change would make the table more difficult to understand and therefore use. Changing from 4 inches maximum to a 4 inch minimum/6 inch maximum range would eliminate currently acceptable installations which are less than 4 inches.

BALLOT COMMENTS

6-20.1

Commenter: Alan Gettelman
Ballot: Negative with comment:

Comment: Change to 4 inch minimum to 6 inch maximum space for stile would be more practical to install and comply. Tables and figures with 4 – 6 inch range would be consistent with other tables and figures that present ranges (Example: Table of Dimensions at Water Closets Serving Children Ages 3 through 12). Since 4 inch wide stiles are industry standard, acceptable installations less than 4 inches are in the minority. Additionally, the 4 inch or less wide stile is not the most ideal from a strength standpoint support from which to hinge a 32 inch plus wide outswing door.

6-20.2

Comment rescinded

Proponent Comment

6-20.3

Commenter: Alan Gettelman

Revise Table as follows:

Table 604.9.3.1 – Door Opening Locations

Door Opening Location	Measured From	Dimension
Front Wall or Partition	From the side wall or partition closest to the water closet	56 inches (1420 mm) minimum
	or	
	From the side wall or partition farthest from the water closet	~~4 inches (102mm) maximum 4 inches 100mm) minimum to~~ 6 inches maximum (150mm)
Side Wall or Partition - Wall-Hung Water Closet	From the rear wall	52 inches (1320 mm) minimum
	or	
	From the front wall or partition	~~4 inches (102mm) maximum 4 inches 100mm) minimum to~~ 6 inches maximum (150mm)
Side Wall or Partition	From the rear wall	55 inches (1395 mm) minimum

- **Floor-Mounted Water Closet**	**or**	
	From the front wall or partition	~~4 inches (102mm) maximum 4 inches 100mm) minimum to~~ 6 inches maximum (150mm)

Revise Figure as follows:

Change the called dimension for door opening location to read: ~~4 inches (100mm) minimum to~~ 6 inches (150mm) maximum.

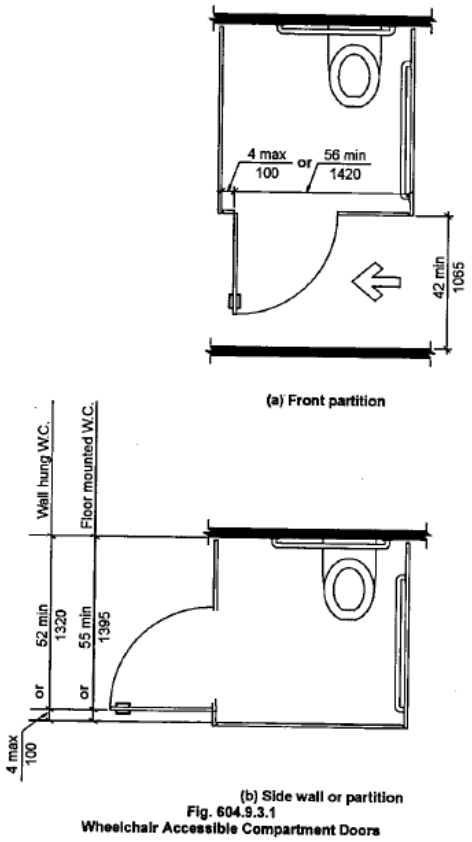


Fig. 604.9.3.1
Wheelchair Accessible Compartment Doors

Reasons:

1. Change to a single 6 inch maximum dimension is easily understood. This revision to the original proposal overcomes one of Committee' two reasons for disapproving the original proposal.
2. The 6 inch maximum dimension would include current acceptable installations which are less than 4 inches. This revision to the original proposal overcomes the second of Committee' two reasons for disapproving the original proposal.
3. Current 4 inch (100mm) maximum space for the door opening location from side partition or side wall surface to door opening is an overly restrictive dimension. The 4 inch maximum space creates installation problems with the stile and structural support issues with the out-swing door.
4. To maintain the 4 inch maximum space for the door opening location at the side wall with a coved floor a 3 inch wide stile must be moved away from the wall to accommodate the radius of the cove. A 3 inch wide stile has a single floor anchor point providing minimum structural support for hinging the 32 + inch wide out-swing door.
5. Allowing the 6 inch maximum space for the door opening location would allow the use of stiles wider than 3 inches having two floor anchor points increasing the structural support for hinging the 32+ inch wide out-swing door.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comment.

Committee Reason: The current 4 inch maximum results in support and stability issues when the partitions are supported from the floor. The 4 inch maximum usually only allows a single base support. Simply increasing to a 5 inch maximum will allow 2 anchoring supports when installed at the base of the partitions.

Revise Table as follows:

Table 604.9.3.1 – Door Opening Locations

Door Opening Location	Measured From	Dimension
Front Wall or Partition	From the side wall or partition closest to the water closet	56 inches (1420 mm) minimum
	or	
	From the side wall or partition farthest from the water closet	~~4~~ 5 inches (~~102~~ 127 mm) maximum
Side Wall or Partition - Wall-Hung Water Closet	From the rear wall	52 inches (1320 mm) minimum
	Or	
	From the front wall or partition	~~4~~ 5 inches (~~102~~ 127 mm) maximum
Side Wall or Partition - Floor-Mounted Water Closet	From the rear wall	55 inches (1395 mm) minimum
	Or	
	From the front wall or partition	~~4~~ 5 inches (~~102~~ 127 mm) maximum

Revise Figure as follows:

Revise Figure 604.9.3.1 to match table. Change the called dimension for door opening location to read 5 inches (127 mm) maximum.

6-22– 12
604.9.5, Figure 604.9.5, 609.5.1, 609.5.2

Proposed Change as Submitted

Proponent: Edward Steinfeld, IDEA Center, School of Architecture and Planning, University at Buffalo, State University of New York

Revise as follows:

604.9.5 Toe Clearance at Accessible Compartments. ~~Toe clearance for compartments primarily for children's use shall comply with Section 604.9.5.2. Toe clearance for other wheelchair accessible compartments shall comply with Section 604.9.5.1.~~

~~604.9.5.1 Toe Clearance at Compartments.~~ The front partition and at least one side partition of compartments shall provide a toe clearance of ~~9~~ 12 inches (~~230~~ 305 mm) minimum above the floor and extending ~~6~~ 8 inches (~~150~~ 205 mm) beyond the compartment side face of the partition, exclusive of partition support members.

EXCEPTIONS:

1. At compartments not designed for children's use, toe clearance at the front partition is not required in a compartment greater than ~~62~~ 64 inches (~~1575~~ 1625 mm) in depth with a wall-hung water closet, or greater than ~~65~~ 67 inches (~~1650~~ 1700 mm) in depth with a floor-mounted water closet.
2. At compartments designed for children's use, toe clearance at the front partition is not required in a compartment greater than 67 inches (1700 mm) in depth.
3. Toe clearance at the side partition is not required in a compartment greater than ~~66~~ 68 inches (~~1675~~ 1730 mm) in width.

~~**604.9.5.2 Toe Clearance at Compartments for Children's Use.** The front partition and at least one side partition of compartments primarily for children's use shall provide a toe clearance of 12 inches (305 mm) minimum above the floor and extending 6 inches (150 mm) beyond the compartment side face of the partition, exclusive of partition support members.~~

~~**EXCEPTIONS:**~~

~~1. Toe clearance at the front partition is not required in a compartment greater than 65 inches (1650 mm) in depth.~~

~~2. Toe clearance at the side partition is not required in a compartment greater than 66 inches (1675 mm) in width.~~

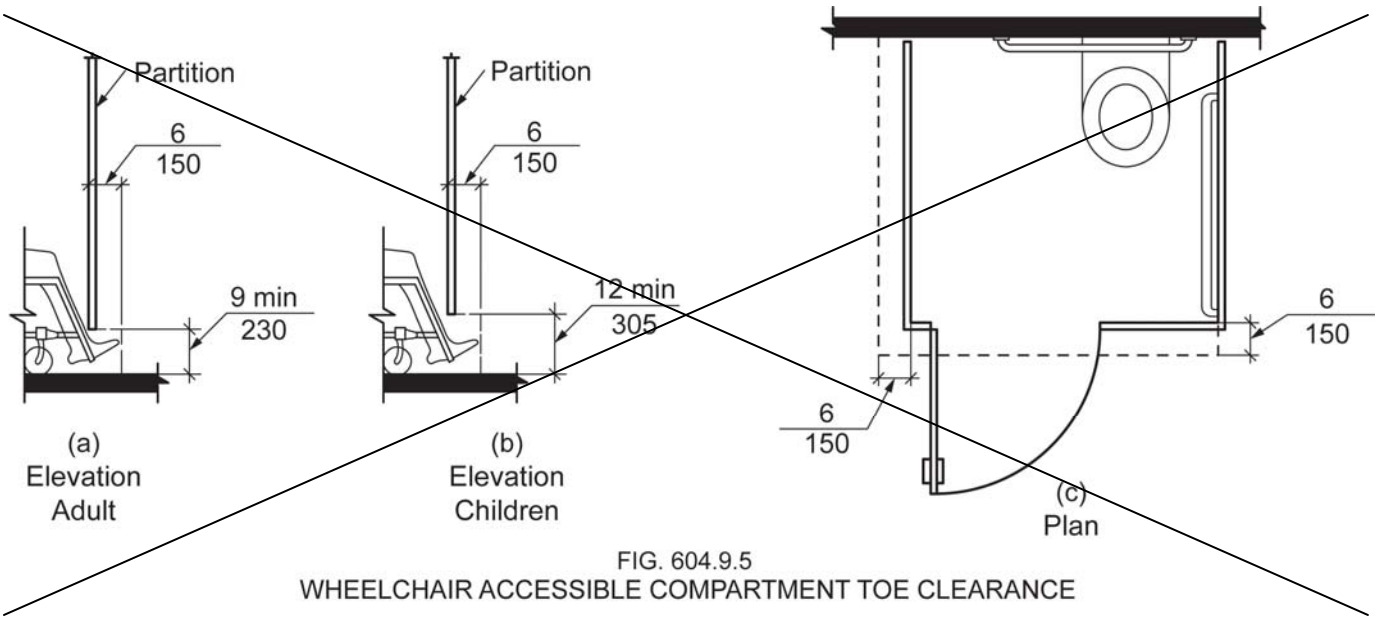


FIG. 604.9.5
WHEELCHAIR ACCESSIBLE COMPARTMENT TOE CLEARANCE

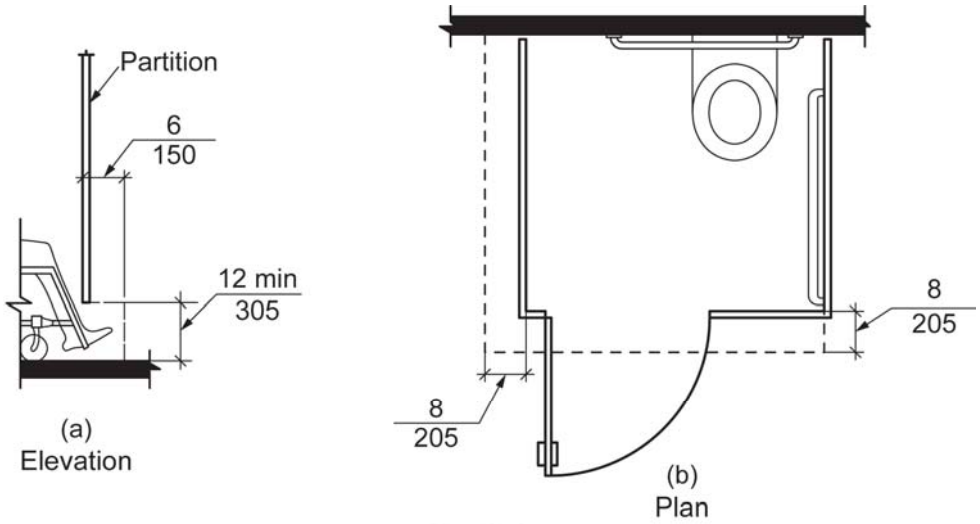


FIG. 604.9.5
WHEELCHAIR ACCESSIBLE COMPARTMENT TOE CLEARANCE

Reason: Many of the technical requirements of the ICC/ANSI A117.1 (2009) Accessible and Usable Buildings and Facilities (ICC/ANSI) designed to accommodate wheeled mobility users are based on research completed from 1974 to 1978 using a research sample that included about 60 individuals who used manual wheelchairs (Steinfeld et al., 1979).

The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users (Steinfeld, et al., 2010). Measurements of body and device size were captured in three dimensions. The functional anthropometric measurements required measuring reaching ability, grip strength and the minimum space needed for turning. It is the most extensive anthropometric study of wheeled mobility device users in the United States. Additional information about the study can be found at http://www.udeworld.com/ansi-standards-review. The proposed revisions are based on new anthropometric information that was generated from the database of anthropometric measurements developed as part of the study.

Analysis

In addition to the findings reported in Steinfeld, et al., 2010, the IDeA Center developed a Design Resource entitled, *Knee and Toe Clearances for Wheeled Mobility Users* that provides more detailed information about the study reported in Steinfeld, et al., 2010.

The toe clearance necessary in a toilet compartment is necessarily different from that which is necessary when reaching or using a fixture such as a sink. This is because the objective for providing such clearance in a toilet compartment is to provide sufficient space for a wheeled mobility user to maneuver within the confined space. Hence, the objective is turning, as opposed to moving as close to the wall as possible (as would be the case in reaching).

When a wheeled mobility user is limited by a barrier at the ankle (a toilet compartment partition, for example), the current ANSI height of 9 inches accommodates fewer than 50% of manual wheelchair users. The 6 inches horizontal extension of toe clearance into the adjacent compartment accommodates fewer than 25% of manual wheelchair users. Changing these numbers to 12 inches and 8 inches, respectively, would increase the percentage accommodated to 75%. (D'Souza, et al., 2011, fig. 2)

These figures assume the wheelchair occupant is as far forward to the partition as possible but it does not account for the total occupied length of the device. Based on the existing ANSI standard, we propose that the exceptions be changed accordingly to account for the additional 2 inches of space added for toe clearance. This means that if an adjacent compartment does not have the requisite 8 inches, the accessible compartment must have 2 more inches than previously required in order to be exempted. Further, Steinfeld, et al., 2010 (pg. 95, fig. 4-5) notes that in order to allow 95% of power and manual wheelchair users to perform a 180-degree turn, a 67-inch width is necessary, which is consistent with the proposed change to the exemptions.

There is no research to support changes to the children's figure, thus our proposal of a 12-inch toe clearance height now aligns with the existing children's toe clearance height, therefore we have eliminated the distinction in this proposal.
NOTE: This change necessitates a change to Fig. 604.9.5 to ensure consistency. Thus, the proposed revised figure has been attached, along with the existing figure for comparison purposes.

References (See http://www.udeworld.com/ansi-standards-review for full text)

D'Souza, C., White, J., Steinfeld, E., and Paquet, V. (2011). *Knee and Toe Clearances for Wheeled Mobility Users.* Buffalo, NY: University at Buffalo Center for Inclusive Design and Environmental Access.

Steinfeld, E., Paquet, V., D'Souza, C., Joseph, C, and Maisel, J. (2010). *Final Report: Anthropometry of Wheeled Mobility Project*. Washington, DC: U.S. Access Board.

Steinfeld, E. Schroeder, S. and Bishop, M. (1979). *Accessible buildings for people with walking and reaching limitations.* Washington, DC: U.S. Department of Housing and Urban Development.

604.9.5-STEINFELD.doc

Committee Action

Approved

Committee Reason: The Committee felt the changing range of wheeled mobility equipment in use necessitates these increases.

BALLOT COMMENTS

6-22.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: See the comment to 3-6-12.

In addition, it has proved to be necessary to keep the children's provisions in a separate section for ease of use of the standard. Even if this proposal goes through to change the size, the format for separate sections should be maintained.

6-22.2

Commenter: David S. Collins, representing American Institute of Architects
Ballot: Negative with comment:

Comment: The work of the study group isn't finalized and the research that formed the basis for this change has not been validated.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comment.

Committee Reason: The committee agreed with comment 6.22-1 that the existing format of the standard with separate sections for children's facilities and other facilities was easier to use. The intent of the original change was maintained and formatted into the existing organization.

Modification.

Replace the proposal as follows:

604.9.5 Toe Clearance at Accessible Compartments. Toe clearance for compartments primarily for children's use shall comply with Section 604.9.5.2. Toe clearance for other wheelchair accessible compartments shall comply with Section 604.9.5.1.

604.9.5.1 Toe Clearance at Compartments. The front partition and at least one side partition of compartments shall provide a toe clearance of ~~9~~ 12 inches (~~230~~ 305 mm) minimum above the floor and extending ~~6~~ 8 inches (~~150~~ 205 mm) beyond the compartment side face of the partition, exclusive of partition support members.

EXCEPTIONS:

1. Toe clearance at the front partition is not required in a compartment greater than ~~62~~ 64 inches (~~1575~~ 1625 mm) in depth with a wall-hung water closet, or greater than ~~65~~ 67 inches (~~1650~~ 1700 mm) in depth with a floor-mounted water closet.
2. Toe clearance at the side partition is not required in a compartment greater than ~~66~~ 68 inches (~~1675~~ 1730 mm) in width.

604.9.5.2 Toe Clearance at Compartments for Children's Use. The front partition and at least one side partition of compartments primarily for children's use shall provide a toe clearance of 12 inches (305 mm) minimum above the floor and extending ~~6~~ 8 inches (~~150~~ 205 mm) beyond the compartment side face of the partition, exclusive of partition support members.

EXCEPTIONS:

1. Toe clearance at the front partition is not required in a compartment greater than ~~65~~ 67 inches (~~1650~~ 1700 mm) in depth.

2. Toe clearance at the side partition is not required in a compartment greater than ~~66~~ 68 inches (~~1675~~ 1730 mm) in width.

6-23– 12
604.9.5.1, 604.9.5.2

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

604.9.5.1 Toe Clearance at Compartments. The front partition and at least one side partition shall provide a toe clearance of 9 inches (230 mm) minimum above the floor ~~and extending~~ that extends 6 inches (150 mm) minimum beyond the compartment side face of the partition, exclusive of partition support members.

EXCEPTIONS:

1. Toe clearance at the front partition is not required in a compartment greater than 62 inches (1575 mm) in depth with a wall-hung water closet, or greater than 65 inches (1650 mm) in depth with a floor-mounted water closet.
2. Toe clearance at the side partition is not required in a compartment greater than 66 inches (1675 mm) in width.

604.9.5.2 Toe Clearance at Compartments for Children's Use. The front partition and at least one side partition of compartments primarily for children's use shall provide a toe clearance of 12 inches (305 mm) minimum above the floor ~~and extending~~ that extends 6 inches (150 mm) minimum beyond the compartment side face of the partition, exclusive of partition support members.

EXCEPTIONS:

1. Toe clearance at the front partition is not required in a compartment greater than 65 inches (1650 mm) in depth.
2. Toe clearance at the side partition is not required in a compartment greater than 66 inches (1675 mm) in width.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

This proposal is intended to help clean up a problem that existed in the 2003 edition of the standard and then was partially addressed by the committee in the 2009 edition.

Figure 604.8.5 in the 2003 edition showed the toe space extending "6 Min" [6 inches minimum] beyond the compartment partition. At the committee's July 2006 meeting a decision was made by the committee to issue an errata and delete the word "min" from the figure. While deleting that wording from the figure does coordinate the figure with the actual text shown in the standard (604.9.5.1 in 2009 standard) it also established the 6 inch requirement as an absolute dimension. Since section 104.2 states "Dimensions that are not stated as "maximum" or "minimum" are absolute." it now appears that the open space beneath the partition may not extend beyond the 6 inch depth versus only allowing the 6 inches to count as toe clearance. It cannot be less than 6 inches, and cannot be more than 6 inches. To enforce this provision to the absolute, a barrier would be required to be installed to exactly 6 inches out from the inside portion of the toe clearance to ensure the clearance is maintained at an absolute 6-inch dimension.

Consideration needs to be given to Section 306.2 that outlines the minimum and maximum toe clearances.
During the final development work of the 2009 standard the editorial task group looked at this issue and made the following comment and suggestion:

It is more probable that errata should never have been issued to change Figure 604.8.5. It is the text of Section 604.8.5 as shown in the 2003 edition that needs to revised as follows:

604.8.5 Toe Clearance. The front partition and at least one side partition shall provide a toe clearance of 9 inches (230 mm) minimum above the floor ~~and~~ ~~extending~~ that extends 6 inches (150 mm) minimum beyond the compartment side face of the partition, exclusive of partition support members. *(Remainder unchanged)*

Since revising the 6 inch dimension from an absolute requirement to a minimum would have been considered a substantive change the task group was not able to approve this as an editorial revision. This proposal is being brought forward to allow the committee to consider the editorial task group's recommendation and to clarify that the 6 inch toe space is not an absolute dimension but that it may extend beyond the 6 inch depth and coordinate with Section 306.2.4 and allow the additional clearance but simply not count it as toe clearance.

604.9.5.1-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The text proposed is inappropriate as it implies that the toes could extend more than 6 inches beyond the partition. The existing language is preferred.

BALLOT COMMENTS

6-23.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The committee's reason statement is incorrect. The proposed language does not imply that the toes can extend more than 6 inches beyond the partition, merely that the TOE CLEARANCE is allowed beyond that point. As currently worded the toe clearance is limited to 6 inches which is both a minimum and a maximum. There is no justifiable reason to prevent the clearance from being larger than the 6 inch dimension.

Perhaps language similar to that in 306.1 is a solution. It could say "Additional space shall not be prohibited beyond the 6 inch dimension, but shall not be considered as part of the required toe clearance."

There will be a modification offered for this proposal.

Proponent Comment

6-23.2

Commenter: Kim Paarlberg, Representing ICC

Replace the proposal with the following:

604.9.5.1 Toe Clearance at Compartments. The front partition and at least one side partition shall provide a toe clearance of 9 inches (230 mm) minimum above the floor ~~and extending~~ and extends 6 inches (150 mm) minimum horizontally beyond the compartment side face of the partition, exclusive of partition support members.

EXCEPTIONS:

1. Toe clearance at the front partition is not required in a compartment greater than 62 inches (1575 mm) in depth with a wall-hung water closet, or greater than 65 inches (1650 mm) in depth with a floor-mounted water closet.
2. Toe clearance at the side partition is not required in a compartment greater than 66 inches (1675 mm) in width.

604.9.5.2 Toe Clearance at Compartments for Children's Use. The front partition and at least one side partition of compartments primarily for children's use shall provide a toe clearance of 12 inches (305 mm) minimum above the floor ~~and extending~~ and extends 6 inches (150 mm) minimum horizontally beyond the compartment side face of the partition, exclusive of partition support members.

EXCEPTIONS:

1. Toe clearance at the front partition is not required in a compartment greater than 65 inches (1650 mm) in depth.
2. Toe clearance at the side partition is not required in a compartment greater than 66 inches (1675 mm) in width.

Reason: The committee's reason statement is incorrect. The proposed language does not imply that the toes can extend more than 6 inches beyond the partition, merely that the TOE CLEARANCE is allowed beyond that point. As currently worded the toe clearance is limited to 6 inches which is both a minimum and a maximum. There is no justifiable reason to prevent the clearance from being larger than the 6 inch dimension.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal. The committee did not find that the revision proposed by comment 6-23.2 provides any further clarity to this requirement and may actually be confusing.

6-24– 12

This proposal was approved by the committee. No ballot or proponent comments were received. It will be included in the Public Draft. However, please note the editorial correction found after the committee decision.

604.10.2, 604.11.2, 605.2

Proposed Change as Submitted

Proponent: Ed Roether, representing the ADA/A117 Harmonization Task Group

Revise as follows:

604.10.2 Size. The minimum area of an ambulatory accessible compartment shall be 60 inches (1525 mm) minimum in depth and a width of 35 inches (890 mm) minimum and 37 inches (940 mm) maximum ~~-~~36 inches (915 mm) in width.

Fig. 604.10 Ambulatory Accessible Stall

Revise figure to be consistent with change to Section 604.10.2 -

604.11.2 Location. The water closet primarily for children's use shall be located with a wall or partition to the rear and to one side. The centerline of the water closet shall be 12 inches (305 mm) minimum and 18 inches (455 mm) maximum from the side wall or partition except that the water closet shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum from the side wall or partition in the ambulatory *accessible* toilet compartment specified in 604.10.1. Water closets located in ambulatory accessible toilet compartments specified in Section 604.10 shall be located as specified in Section 604.2.

605.2 Height and Depth. Urinals shall be of the stall type or shall be of the wall hung type with the rim at 17 inches (430 mm) maximum above the floor. ~~Wall hung~~ Urinals shall be 13 ½ inches (345 mm) minimum in depth measured from the outer face of the urinal rim to the wall.

Reason: The ADA/A117 Harmonization Task Group (HTG) was created as a task group of the A117.1 Committee to compare the 2010 ADA with the 2009 A117.1 Standard. The HTG has recommend a series of changes through a set of change proposals. The HTG is recommending changes, for the most part, address where the ADA was viewed as more stringent than the A117. Where the A117 contained provisions not addressed in the ADA, these were not considered a conflict needing action to amend the A117. In addition there are a number of places where the ADA and A117.1 are different as a result of specific actions, by the A117.1 Committee during the development of the 2009 edition, to remain or create a difference where, in the judgment of the committee the ADA was deficient.

This proposal incorporates all identified issues in Chapter 6

Reason for 604.10.2, 604.11.2, Figure 604.10: ADA has changed the width of the ambulatory accessible stall from a set 36 inches to a range of 35 to 37. This requires adjusting the A117.1.

Reason for 605.2: ADA does not limit the application of this section to just wall hung urinals.

604.10.2-ROETHER.doc

Committee Action

Approved

Committee Reason: Provides requirements consistent with the ADA 2010.

Editorial Correction

604.10.2 Size. The minimum area of an ambulatory accessible compartment shall be 60 inches (1525 mm) minimum in depth and a width of 35 inches (890 mm) minimum and 37 inches (940 mm) maximum ~~36 inches (915 mm) in width~~.

Reason: The proposal fails to show the text to be crossed out.

6-27– 12
604.11.1, Table 604.11.1 (New)

Proposed Change as Submitted

Proponent: Hope Reed, New Mexico Governor's Commission on Disability (NMGCD)

Revise as follows:

604.11.1 General. Accessible water closets and toilet compartments primarily for children's use shall comply with Section 604.11. Table 604.11.1 provides the specifications for water closets for children according to the age group served and reflects the differences in the size, stature, and reach ranges of children ages 3 through 12. The specifications chosen shall correspond to the age of the primary user group. The specifications of one age group shall be applied consistently in the installation of a water closet and related elements.

Table 604.11.1 – Specifications for Water Closets Serving Children Ages 3 through 12

	Ages 3 and 4	**Ages 5 through 8**	**Ages 9 through 12**
Water closet centerline	12 inches (305 mm)	12 to 15 inches (305 to 380 mm)	15 to 18 inches (380 to 455 mm)
Toilet Seat Height	11 to 12 inches (280 to 305 mm)	12 to 15 inches (305 to 380 mm)	15 to 17 inches (380 to 430 mm)
Horizontal Grab Bar Height	18 to 20 inches (455 to 510 mm)	20 to 25 inches (510 to 635 mm)	25 to 27 inches (635 to 685 mm)
Vertical Grab Bar Height at bottom	21 to 30 inches (535 to 760 mm)	21 to 30 inches (535 to 760 mm)	21 to 30 inches (535 to 760 mm)
Vertical Grab Bar Distance to rear wall	34 to 36 inches (865 to 915 mm)	34 to 36 inches (865 to 915 mm)	34 to 36 inches (865 to 915 mm)
Dispenser Height	14 inches (355 mm)	14 to 17 inches (355 to 430 mm)	17 to 19 inches (430 to 485 mm)

Reason: This guide provides useful information **within** the A117.1, provides compliance with 2010 ADA Advisory 604.9, and it includes the ANSI vertical grab bar. Standards should be written so they "support" those who are expected to enforce them.

604.11.1-REED.doc

Committee Action

Disapproved

Committee Reason: The Committee was not sure this should be codified into the Standard as a requirement. Jurisdictions which previously adopted similar provisions found them difficult to enforce. Without removing existing text in a number of places of the Standard, this would create an internal conflict. Some of the proposed text is 'explanation' and not a standard. This may be better placed in commentary.

BALLOT COMMENTS

6-27.1
Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: Having worked with many childcare proposals over the years I am supportive of including such standards –however the provisions basically need to say use of these dimensions will not conflict with the accessibility standard to give the designer the necessary flexibility to use them. I believe this could be accomplished by changing "shall comply with" to "shall be permitted to comply with" in the 1st sentence of 604.11.1.

6-27.2

Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: If we develop an appendix for best practices, this table for children's sizes could be added.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal. The committee attempted a variety of modifications to work standards into the code which are more age specific than the 'general' children's standard. There was continuing concerns that forcing one standard or another in a facility reduces flexibility of the use of the space. The committee concluded that the detailed children's provisions are best found in advisories or guidance manuals.

6-28– 12
604.11.4

Proposed Change as Submitted

Proponent: Edward Steinfeld, IDEA Center, School of Architecture and Planning, University at Buffalo, State University of New York

Revise as follows:

604.11.4 Height. The height of water closet seats primarily for children's use shall be 11 inches (280 mm) minimum and 17 inches (430 mm) maximum above the floor, measured to the top of the seat. Seats shall not be sprung to return to a lifted position. The height of water closet seats primarily for children's use shall not be less than the toe clearance height of any adjacent partition.

Reason: Section 604.9.5.2 requires a 12-inch (305 mm) toe clearance under the partition at children's water closets. The current minimum standard of only 11 inches (280 mm) height could then be visible under the partition. This contradiction would reduce privacy of those using the water closet, particularly in larger restrooms with greater viewing angles and viewers of short stature (such as other children). Since the standard allows a range, this would not *always* pose a privacy problem, but could. Adding the proposed language ensures that any seat within or adjacent to the accessible stall would be high enough to not be visible by any standing person, regardless of room size, or the viewer's eye height.

604.11.4-STEINFELD.doc

Committee Action

Approved

Committee Reason: Consistent with the action on proposal 6-22-12.

BALLOT COMMENTS

6-28.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: This is a design issue, not an accessibility issue. This should not be in ICC A117.1.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The issue of privacy is one that should not be specifically addressed in the accessibility standard; rather it is an issue for the building or plumbing code. There was concern that the change as written would allow changing the height of the water closet to maintain privacy when the partition is cut higher.

6-29– 12
604.11.7

Proposed Change as Submitted

Proponent: Hope Reed, New Mexico Governor's Commission on Disability (NMGCD)

Revise as follows:

604.11.7 Dispensers. Toilet paper dispensers primarily for children's use shall comply with Section 309.4. The outlet of dispensers shall be located within an area 24 inches (610 mm) minimum and ~~42~~ 36 inches (~~1065~~ 915 mm) maximum from the rear wall. The outlet of the dispenser shall be 14 inches (355 mm) minimum and 19 inches (485 mm) maximum above the floor. There shall be a clearance of 1½ inches (38 mm) minimum below the grab bar. Dispensers shall not be of a type that control delivery or do not allow continuous paper flow.

Reason: For adults the reach range to the dispenser below the grab bar is 42 inches maximum. Provide a standard maximum useable reach range for all children.

604.11.7-REED.doc

Committee Action

Disapproved

Committee Reason: The Committee was unclear that this would be consistent with the ADA 2010. The depth of the toilet would seem to affect this requirement. Better documentation for this dimension was needed.

BALLOT COMMENTS

6-29.1
Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: Needs to be tied to toilets using dimensions in proposal 6-27-12.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal. The presumption of the proposal is that the water closets used in children's facilities were shorter - in their projection from the rear wall - then those installed for adults.

6-31– 12

604.12 (New), 604.12.1 (New), 604.12.2 (New), Figure 604.12.2 (New), 604.12.3 (New), Figure 604.12.3 (New), 604.12.3.1 (New), 604.12.3.2 (New), 604.12.4 (New), 604.12.5 (New), 604.12.6 (New), 604.12.7 (New)

Proposed Change as Submitted

Proponent: Terri Stewart, The American Institute of Architects, representing The Task Force on Aging

Add new text as follows:

604.12 Water Closets and Toilet Compartments for Elder Use.

604.12.1 General. Accessible water closets and toilet compartments primarily for elder use shall comply with Section 604.12.

604.12.2 Location. The water closet shall be located with a wall or partition to the rear. The centerline of the water closet shall be 30 inches (760 mm) minimum from any side wall, partition or fixture. Water closets located in ambulatory accessible toilet compartments specified in Section 604.9 shall be located as specified in Section 604.2.

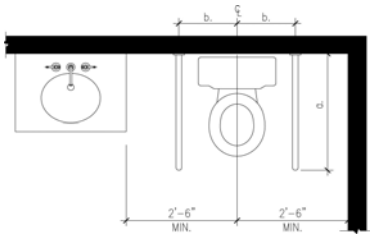


Fig. 604.12.2
Elder Water Closet Location*

** Dimension a. and b will be determined upon research results currently being conducted. (See Chapter 5)*

604.12.3 Clearance.

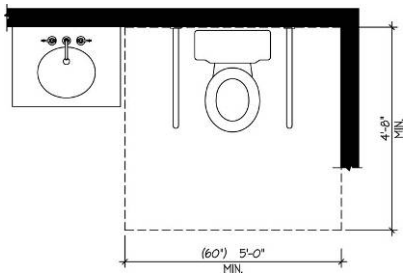


Fig. 604.12.3
Elder Size of Clearance for Water Closet

604.12.3.1 Size A clearance around a water closet 60 inches (1525 mm) minimum, measured perpendicular from the sidewall, and 56 inches (1420 mm) minimum, measured perpendicular from the rear wall, shall be provided.

604.12.3.2 Overlap. The required clearance around the water closet shall be permitted to overlap the water closet, associated grab bars, paper dispensers, sanitary napkin receptacles, coat hooks, shelves, accessible routes, clear floor space at other fixtures and the turning space. No other fixtures or obstructions shall be within the required water closet clearance.

604.12.4 Height. The height of water closet seats complying with Section 604.4 shall be provided.

604.12.5 Grab Bars. Grab bars for water closets shall comply with Section 604.5.3

604.12.6 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with Section 309. Flush controls shall be permitted to be located on either side of the water closet.

604.12.7 Dispensers. Toilet paper dispensers shall comply with Section 309.4 and shall be located on the fold-up grab bar 3 inches (76 mm) maximum behind the front of the water closet measured to the center line of the dispenser. The outlet of the dispenser shall be 21 inches (533 mm) minimum above the floor. There shall be a clearance of 1 inch (38 mm) minimum below the grab bar. Dispensers shall not be of a type that control delivery or do not allow continuous paper flow.

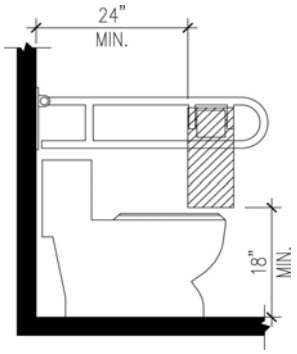


Fig. 604.12.7
Dispenser Location

Reason: Increased side wall clearance. Space is needed on both sides of the toilet to accommodate the range of transfer techniques including the front approach normally used in independent sit to stand transfers; caregivers to stand on either or both sides, for one- or two-person assisted transfers as necessary; and for use of a mechanical lifting device.

Dispenser Location for Caregivers. For both independent and assisted toileting, dispensers need to be located for both resident and caregiver, convenience when using fold up grab bars and when the distance from the center of the toilet exceeds 19 inches.

604.12 (New)-STEWART.doc

Committee Action

Disapproved

Committee Reason: The intent of the proposal is to establish standards for toilet facilities where elderly persons can be easily assisted in these functions. The Committee felt that the basic premise of this and the related proposals is contrary to the principal premise of the A117.1 Standard which is to provide design standards by which people with disabilities can do things for themselves without assistance. The Committee suggested that at best these provisions could be an appendix to this standard or perhaps a distinct standard developed under the umbrella of this Committee. The Committee identified provisions such as grab bars not installed to be in a permanent position. This presents an issue for people who need to push up on a grab bar. Location of grab bars eliminates the use of elbows during transfer. If transfer is an intended option, why is clear floor space not provided. Finally, the Committee was concerned that it had no control over the scoping of these designs and worried that such could be provided instead of the toilet facilities current contained in the standard. If they seek scoping via the International Building Code, the use of terminology similar to family/assisted use would conflict the current use of such term in the IBC. It describes a fully accessible facility.

The Committee expressed support of the issues raised by the proposal, but more discussions were needed, including how to address scoping.

BALLOT COMMENTS

6-31.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: I believe that some specific criteria for assisted use in the Type B units would be acceptable to ICC A117.1 and not conflict with ADA. This idea should continue to be investigated.

6-31.2

Comment rescinded.

6-31.3

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: The proponents should have a chance to revise and resubmit this very worthy idea. There is good documentation on the need for standards for assisted transfer and there should be a way to address this in some way. The Committee invited the group to resubmit a proposal.

6-31.4

Commenter: Hope Reed, Representing NMGCD
Ballot: Negative with comment:

Comment: Toilet room accommodations for the elderly population needs further consideration.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

6-32– 12
606.2

Proposed Change as Submitted

Proponent: Candace Biddle, City of Des Moines, IA

Revise as follows:

606.2 Clear Floor Space. A clear floor space complying with Section 305.3, positioned for forward approach, shall be provided. The clear floor space shall be centered on the fixture. Knee and toe clearance complying with Section 306 shall be provided. The dip of the overflow shall not be considered in the determining knee and toe clearances.

EXCEPTIONS:

1. A parallel approach complying with Section 305 and centered on the sink, shall be permitted to a kitchen sink in a space where a cook top or conventional range is not provided.
2. The requirement of knee and toes clearance shall not apply to a lavatory in a toilet or bathing facility for a single occupant, accessed only through a private office and not for common use or public use.
3. A knee clearance of 24 inches (610 mm) minimum above the floor shall be permitted at lavatories and sinks used primarily by children ages 6 through 12 where the rim or counter surface is 31 inches (785 mm) maximum above the floor.
4. A parallel approach complying with Section 305 and centered on the sink, shall be permitted at lavatories and sinks primarily by children ages 5 and younger.
5. The requirement for knee and toe clearance shall not apply to more than one bowl of a multi-bowl sink.
6. A parallel approach complying with Section 305 and centered on the sink, shall be permitted at wet bars.

Reason: 2009 IPC currently states the following:

"A water closet, urinal, lavatory or bidet shall not be set closer than 15 inches (381 mm) from its center to any side wall, partition, vanity or other obstruction, or closer than 30 inches (762 mm) center to center between adjacent fixtures'"

People who have mobility issues or who do not have use of one side of their body such as a stroke victim would be unable to reach the controls of a lavatory that is shoved into the corner of a restroom.

606.2-BIDDLE.doc

Committee Action

Approved

Committee Reason: The Committee believes that the added text states what many have assumed. There have occurred enforcement issues on this in the field, having specific text would be very helpful. As the location of the controls is also important, there may need to be more revision, but this change is important to accept.

BALLOT COMMENTS

6-32.1
Commenter: Gene Boecker, Representing NATO
Ballot: Affirmative with comment:

Comment: Consider combining the two sentences to say:

"A clear floor space complying with Section 305.3, positioned for a forward approach, shall be provided~~. The clear floor space shall be~~, centered on the fixture."

6-32.2

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: This section is for lavatories and sinks. The allowance for not centering on the sink was to allow for situations with double bowls or garbage disposals. The reason statement says their concern was that a fixture would be closer than 15" to the wall. The plumbing code already requires the center line of the fixture to be at least 15" from the wall. This proposal should be disapproved.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: Forcing centering on the sink would be problematic in kitchens where one of two bowls is provided with a disposal. The text is also unclear where there are multiple bowls in a toilet room. Part of the concern of the proposal is use of the term 'fixture' which in the case of sinks can mean multiple bowls. Centering on the 'accessible sink' may be a good provision, but was not proposed.

6-34– 12
606.3, Figure 606.3

Proposed Change as Submitted

Proponent: Edward Steinfeld, IDEA Center, School of Architecture and Planning, University at Buffalo, State University of New York

Revise as follows:

606.3 Height. The front of lavatories and sinks shall be ~~34~~ 36 inches (~~865~~ 915 mm) maximum above the floor, measured to the higher of the rim or counter surface.

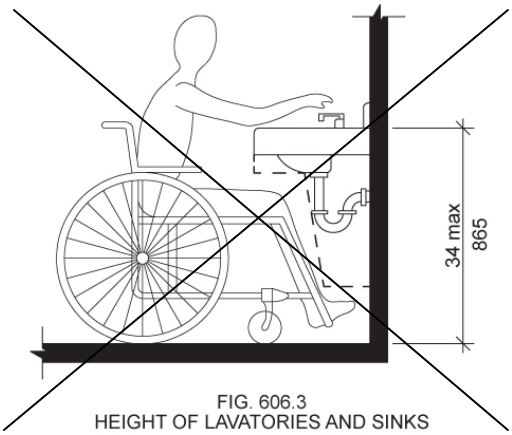


FIG. 606.3
HEIGHT OF LAVATORIES AND SINKS

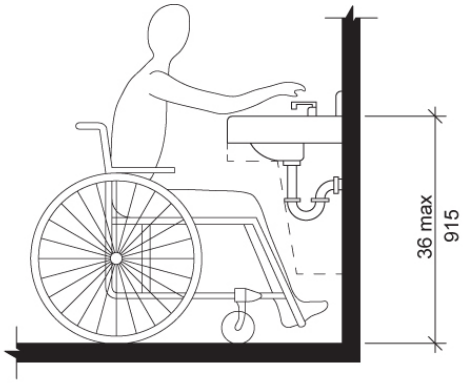


FIG. 606.3
HEIGHT OF LAVATORIES AND SINKS

Reason: Many of the technical requirements of the ICC/ANSI A117.1 (2009) Accessible and Usable Buildings and Facilities (ICC/ANSI) designed to accommodate wheeled mobility users are based on research completed from 1974 to 1978 using a research sample that included about 60 individuals who used manual wheelchairs (Steinfeld et al., 1979).

The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users (Steinfeld, et al., 2010). Measurements of body and device size were captured in three dimensions. The functional anthropometric measurements required measuring reaching ability, grip strength and the minimum space needed for turning. It is the most extensive anthropometric study of wheeled mobility device users in the United States. Additional information about the study can be found at http://www.udeworld.com/ansi-standards-review. The proposed revisions are based on new anthropometric information that was generated from the database of anthropometric measurements developed as part of the study.

Analysis

A proposed change to Section 306 would raise the knee clearance height minimum to 29 inches, up from 27 inches, a difference of 2 inches. Changing the maximum rim height by the same 2 inches would allow many existing lavatory products to still comply with the standard by only being mounted 2 inches higher. Steinfeld, et al., 2010 demonstrates that the limiting factor in reaching a target (faucet controls, for example) when using a forward approach is not the height of the obstruction; it is the depth that influences control reachability for people using wheeled mobility devices. This proposal will allow more wheelchair users to get a forward approach to the lavatory, as is often required for use of the lavatory.

Further, by raising the maximum height to 36 inches, it would now align with the common industry practice of 36-inch height countertops. It is reasonable to assume such a change would not affect other groups of individuals such as those with short stature because the proposed 36 inches is still lower than the current ANSI requirement of 38 inches maximum height for checkout counters.

NOTE: This change necessitates a change to Fig. 606.3 to ensure consistency. Thus, the proposed revised figure has been attached, along with the existing figure for comparison purposes.

References (See http://www.udeworld.com/ansi-standards-review for full text)

Steinfeld, E., Paquet, V., D'Souza, C., Joseph, C, and Maisel, J. (2010). *Final Report: Anthropometry of Wheeled Mobility Project*. Washington, DC: U.S. Access Board.

Steinfeld, E. Schroeder, S. and Bishop, M. (1979). *Accessible buildings for people with walking and reaching limitations.* Washington, DC: U.S. Department of Housing and Urban Development.

606.3-STEINFELD.doc

Committee Action

Disapproved

Committee Reason: The Committee did not find that the information provided justified raising the height of lavatories. Many users would be inconvenienced at this new height.

BALLOT COMMENTS

6-34.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Same comment as 3-6-12

If the knee and toe clearance is raised, would accessibility be increased with the subsequent raise of the work surface to 36" in height?

6-34.2

Comment rescinded.

6-34.3

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Abstain with reason:

Reason: Although as the proponent I don't agree with the conclusion, there is little hope of changing the Committee's mind.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

6-35– 12
606.4

Proposed Change as Submitted

Proponent: Len Swatkowski, Plumbing Manufacturers International

Revise as follows:

606.4 Faucets. Faucets, whether they are side mounted faucets or provisions for approaching the sink from the side if space is available, shall comply with Section 309. Hand-operated metering faucets shall remain open for 10 seconds minimum.

Reason: Clarify the use of dual-handles in side sink locations by addressing dual faucet handles in side sink mounting situations to ensure adequate access to both controls. This also needs to address side mounted faucets and provisions for approaching the sink from the side if space is available.

606.4-SWATKOWSKI.doc

Committee Action

Disapproved

Committee Reason: The existing text covers all faucet installations as it is currently written. The proposal is unclear what is to be accomplished.

BALLOT COMMENTS

6-35.1
Commenter: Len Swatkowski, Representing PMI
Ballot: Negative with comment:

Comment: The proposal clarifies the use of dual-handles in side sink locations by addressing dual faucet handles in side sink mounting situations to ensure adequate access to both controls. This also addresses the installation of side mounted faucets and provisions for approaching the sink from the side if space is available.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee sustained its original action to disapprove this change. It was pointed out, again, that the current text doesn't prohibit placement at the side of the sink. The language of the proposal, as written, would result in prohibiting faucets at the back of a sink.

6-37– 12
606.5 (New)

Proposed Change as Submitted

Proponent: Judith K. Pipher, IndependenceFirst

Add new text as follows:

606.5 Basin Location. The interior edge of the rim of the lavatory basin shall be located 3 inches (75 mm) maximum from the front edge of the fixture or countertop.

Reason: Lavatory basins need to be accessible not only regarding reach ranges for faucets but for persons performing hygiene activities such as brushing their teeth or using mouthwash. Quite simply, basins need to be located to allow a person in a wheelchair to move his or her head and mouth over the basin to spit out toothpaste, mouthwash or other waste materials. Particularly where lavatories are dropped into countertops (but also where pedestal lavatories have especially deep horizontal ledges between their leading edges and the bowl) the location of the basin should be within a range that makes it usable to persons in a seated position.

A dimension of ±3 inches (75 mm) is typical of kitchen sink locations and should be sufficient to providing this level of access to wheelchair users and persons of short stature at bathroom and toilet room lavatories.

While this issue is greatest in dwelling units, many persons perform hygiene activities in commercial facilities such as office or airport toilet rooms. Because of this, the change in Section 606 is appropriate.

606.5 (New)-PIPHER.doc

Committee Action

Approved

Committee Reason: The proposal provides a reasonable standard to address a growing issue of the placement of lavatory basins. Three inches provide a reasonable setback from the edge of the countertop for inset basins.

BALLOT COMMENTS

6-37.1
Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: To be consistent with our usual policy, the proponent really should provide data that shows the 3-inches is within neck reach range –though it does "seem" adequate.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee discussed concerns that a 3 inch set back could result in structural support issues for certain counter top materials. For example a stone counter top may not be able to be cut to a 3 inch minimum without breaking. The committee sees this as an important improvement to the standard and maintained its approval for the public review draft.

6-38– 12
606.6

Proposed Change as Submitted

Proponent: : Kim Paarlberg, International Code Council

Revise as follows:

606.6 Exposed Pipes and Surfaces. Water supply and drainpipes under lavatories and sinks shall be ~~insulated~~ padded or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

There are some suppliers that are using the word 'insulated' to interpret that the pipes must meet the same flame spread and smoke development as specified in the building code for pipe insulation The differing interpretations of the requirement have led to significant competitive actions between various manufacturers. It is not the intent of this language to specify piping insulation.

606.6-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The proposal doesn't address the real issue of misinterpretation of the IBC requirements.

BALLOT COMMENTS

6-38.1
Comment rescinded.

6-38.2
Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The committee did not like the word 'padded'. This is another option.

Replace the proposal as follows:

606.6 Exposed Pipes and Surfaces. Water supply and drainpipes under lavatories and sinks shall be ~~insulated~~ shielded or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks.

Proponent Comment

6-38.3
Commenter: Kim Paarlberg, Representing ICC

Replace the proposal with the following:

606.6 Exposed Pipes and Surfaces. Water supply and drainpipes under lavatories and sinks shall be ~~insulated~~ covered or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks.

Reason: The committee felt that the proposed language of 'padded' doesn't address the real issue of misinterpretation of the IBC requirements. However, the term 'insulated' has totally different connotations that what most people considered the word to mean. In addition, there are requirements for very high temperature pipes to be insulated to prevent heat loss. It is hoped that this proposal can address the concerns of the committee and the misinterpretation.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

6-39– 12
607.2

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

607.2 Clearance. A clearance in front of bathtubs extending the length of the bathtub and 30 inches (760 mm) minimum in depth shall be provided. Where a permanent seat is provided at the head end of the bathtub, the clearance shall extend the depth of the seat and 12 inches (305 mm) minimum beyond the wall at the head end of the bathtub.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

Section 607.4.1 sets the 'depth' of the seat. The current language skips the piece between the 'length of the tub' and the and of the extension. This is a technical issue that just gives you all the pieces. Please see graphic revision attached.

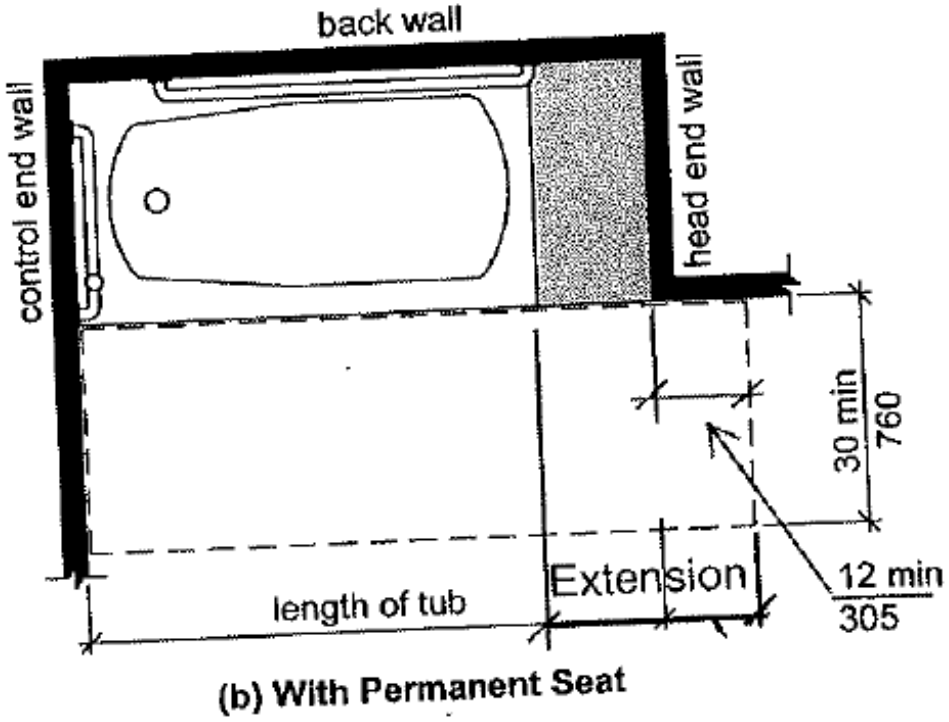


FIG. 607.2(b)
CLEARANCE FOR BATHTUBS

607.2(NEW)-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The Committee believes that the current text is clear and no amendment is needed.

BALLOT COMMENTS

6-39.1

Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: The language is clear but not precise and I've found that imprecision leads to more questions and more mistakes. That said most use the graphics anyway –even though they're not really the Standard language.

6-39.2

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The language needs to match Figure 607.2(b). The current text has a gap between the end of the tub and the space past the end wall.

Replace proposal as follows:

607.2 Clearance. A clearance in front of bathtubs extending the length of the bathtub and 30 inches (760 mm) minimum in depth shall be provided. Where a permanent seat is provided at the head end of the bathtub, the clearance shall extend along the seat and an additional 12 inches (305 mm) minimum beyond the wall at the head end of the bathtub.

6-39.3

Commenter: Hope Reed, Representing NNGCD
Ballot: Negative with comment:

Comment: The permanent seat and extra 12" beyond needs better description.

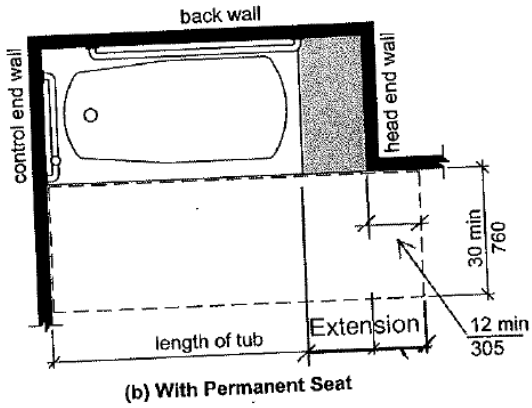
Proponent Comment

6-39.4

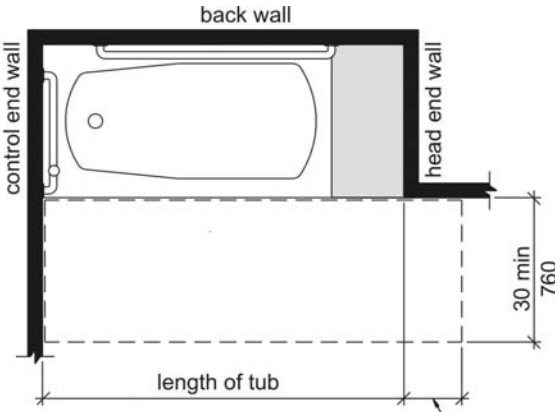
Commenter: Kim Paarlberg, Representing ICC

Replace the proposal with the following:

607.2 Clearance. A clearance in front of bathtubs extending the length of the bathtub and 30 inches (760 mm) minimum in depth shall be provided. Where a permanent seat is provided at the head end of the bathtub, in addition to the length of the tub, the clearance shall extend the depth of the seat and 12 inches (305 mm) minimum beyond the wall at the head end of the bathtub.



(b) With Permanent Seat



(b) With Permanent Seat

Reason: The committee said the current language was clear, however, I sincerely believe they were looking at my corrected drawing, and not the existing Figure 607.2(b). See below. Definitely what is shown is not the length of the tub. If the language is clear, the drawing should be corrected – or both.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal. The committee concluded that the existing text is sufficiently clear and does not need to repeat the depth of the seat measurement. The clear floor space is measured from the wall regardless if there is a building in seat or not.

6-40-12
607.2, 607.2.1 (New)

Proposed Change as Submitted

Proponent: Thomas Hirsch FAIA, Hirsch Group LLC, representing Thomas Hirsch & Henry Kosarzycki

Revise as follows:

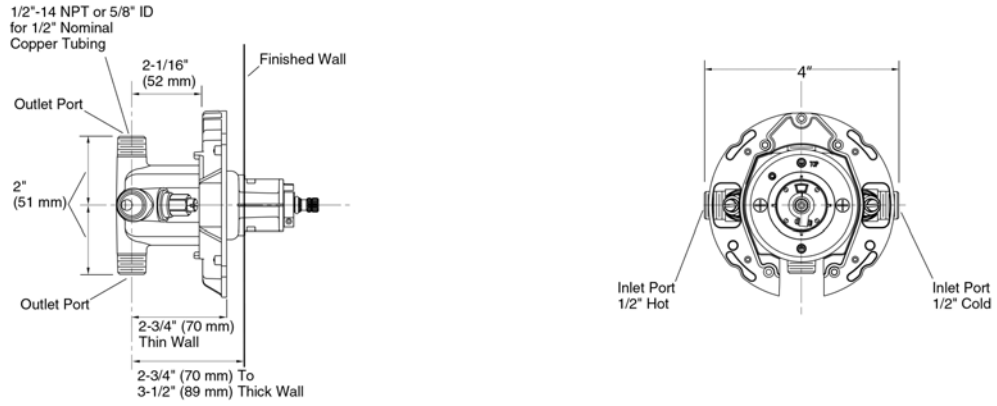
607.2 Transfer Clearance. A clearance in front of bathtubs extending the length of the bathtub and 30 inches minimum in depth shall be provided. Where a permanent seat is provided at the head end of the bathtub, the clearance shall extend 12 inches minimum beyond the wall at the head end of the bathtub.

607.2.1 Control Clearance. Where the controls are located within 5" from the approach side of the bathtub the clearance shall extend 5 inches minimum beyond the control end wall. Where the controls measured from the approach side of the bathtub are located between 5 and 9 inches from the approach side of the tub the clearance shall extend 9 inches minimum beyond the control end wall.

Reason: Current Reach Ranges permit controls which realistically can only be used by 15% of persons with upper body mobility (those likely to bathe without assistance). 2012 Anthropometry of Wheeled Mobility Report, page 105, and elsewhere, indicates side reach is possible for far greater numbers of persons if feet extend beyond plane of the controls ("toe space").

1. Closest valve installation is 5" from approach side to center line, and not higher than 29" AFF to avoid conflict with in-wall blocking for grab bars. (Kohler valve installation diagrams, attached)
2. For toe space at 5" if offset is 5" 58% of sample could reach; if offset is 9" then 45% of sample could reach.
3. For toe space at 9" if offset is 5" then 72% of sample could reach, and if offset is 9" then 65% of sample could reach.

Tub/Shower valve installation diagrams, based on Kohler 304-PS



607.2 #2-HIRSCH.doc

Committee Action

Disapproved

Committee Reason: The Committee felt the result of the proposed text is unclear other than there is a concern that it will result in an increase in the size of bathrooms. The ergonomics of using this and the bathtub doesn't seem correct. There was concern this was based on the equipment of a single manufacturer.

BALLOT COMMENTS

6-40.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: This proposal does address the idea of appropriate reach for a person in a wheelchair. However, this should be part of the coordination with the research from Dr. Steinfeld. See comments to 3-6-12.

Proponent Comment

6-40.2

Commenter: Tom Hirsch FAIA, Hirsch Group LLC, representing Thomas Hirsch & Henry Kosarzycki

We believe the Committee erred in disapproving this provision as it applies to Bathtubs (608.2.1), for the following reasons:

Reason:

1. Increases size of the bathroom: the toe space provided past the control end has the potential but not inevitability of increasing size; that is a designer's challenge. At the same time proposed changes in "building blocks" will cause much more substantial increased in room sizes at which point any increase this proposal would cause will not be material. More importantly both the "building blocks'" changes as well as this one are needed to make the Standard effective and truly workable.

2. The ergonomics of this proposal were supported by the 2012 Anthropometry of Wheeled Mobility Report, page 105, and elsewhere.

3. The Kohler valve information was supportive only, not part of the governing language, and was intended only to be illustrative for non-architect members of the Committee to demonstrate practical limitations in valve placement.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

6-45– 12
106.5, 607.6, 608.5

Proposed Change as Submitted

Proponent: Len Swatkowski, Plumbing Manufacturers International

Revise as follows:

106.5 Defined Terms.

Hand-held shower. An accessory to a supply fitting, that can be held or fixed in place for the purpose of spraying water on a bather, and which is connected to a flexible hose.

607.6 Hand-held Shower. A hand shower with a hose 59 inches (1500 mm) minimum in length, that can be used as both a fixed shower head and as a hand shower, shall be provided. ~~The hand shower shall have a control with a nonpositive shut-off feature.~~ Where provided, an adjustable-height hand shower mounted on a vertical bar shall be installed so as to not obstruct the use of grab bars.

608.5 Hand-held Showers. A hand shower with a hose 59 inches (1500 mm) minimum in length, that can be used both as a fixed shower head and as a hand shower, shall be provided. ~~The hand shower shall have a control with a nonpositive shut-off feature.~~ Where provided, an adjustable-height hand shower mounted on a vertical bar shall be installed so as to not obstruct the use of grab bars.

EXCEPTION: In other than Accessible units and Type A units, a fixed shower head located 48 inches (1220 mm) maximum above the shower floor shall be permitted in lieu of a hand shower.

Reason: The reference in Hand showers to non-positive shutoffs has created confusion and potential safety issues in the field. Remove the reference to non-positive shutoffs to align with the language in ADAAG, CSA B651, California and Texas.

Also, the term "hand-held shower" is not defined in standard ASME/ICC A117.1 and therefore is being proposed for this standard as it is also being proposed for ASME A112.18.1-2011/CSA B125.1-11.

607.6-SWATKOWSKI.doc

Committee Action

Disapproved

Committee Reason: The Committee had previously worked extensively to get this requirement in the standard. Contrary to the proponent's reason, deleting this provision would move the standard out of consistency with the 2010 ADA. The Committee is open to exploring other ways to accomplish the goal of this section, but is not willing to eliminate it altogether. If a revised version were to be suggested by the proponent, the defined term should also appear in the text of the sections, not just the title.

BALLOT COMMENTS

6-45.1

Commenter: Gene Boecker, Representing NATO
Ballot: Affirmative with comment:

Comment: A concern exists over the term "non-positive shut-off." That is not defined in the standard and is difficult to find outside of the plumbing industries own jargon. Even searches on the internet lead to confusing and often conflicting understandings. Consider retaining the language but adding a definition or expanding the terminology to describe the intended function so that designers and inspectors know what they should be looking for.

6-45.2

Comment rescinded.

6-45.3

Commenter: Len Swatkowski, Representing PMI
Ballot: Negative with comment:

Comment: The reference in Hand showers to non-positive shutoffs has created confusion and potential safety issues in the field. Remove the reference to non-positive shutoffs to align with the language in ADAAG, CSA B651, California and Texas. Also, the term "hand-held shower" is not defined in standard ASME/ICC A117.1 and therefore is being proposed for this standard as it is also being proposed for ASME A112.18.1-2011/CSA B125.1-11.

The use of a non-positive shutoff can reduce the flow of water at the hand-held shower and create a dangerous thermal shock or scalding situation for the user. Pressure balancing or thermostatic shower valves provide the level of safety to prevent the bather from being exposed to a thermal shock (cold) or scalding event. A shutoff or throttling of the water at the hand-held device cannot provide this safety and is subject to mixing of too much cold or hot water while in the throttled state.
The reference to a "non-positive" shutoff creates an unintended consequence that was not accounted for in the original language and needs to be deleted.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee had an extensive discussion about trying to keep the concept of this provision of the standard alive, yet recognize that the plumbing industry is saying that the technology is problematic. Veteran committee members remember that the current provision was worked out with the plumbing industry before it went into the standard. The issue today is with water conservation standards and lower flow fixtures being required, the technology is not working as hoped. It is compromising the function of compensating valves. There is a concern that the shut offs will result in temperature spikes when flow is re-established, possibly resulting in scalding. The committee voted to approve the proposal so that it remained available for further review and revision during this cycle.

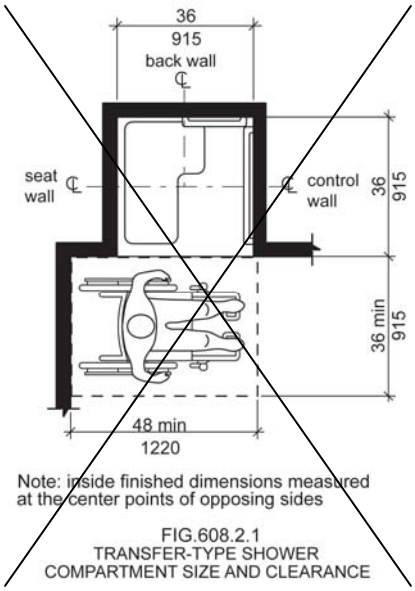
6-46– 12
608.2.1.2, Figure 608.2.1

Proposed Change as Submitted

Proponent: Edward Steinfeld, IDEA Center, School of Architecture and Planning, University at Buffalo, State University of New York

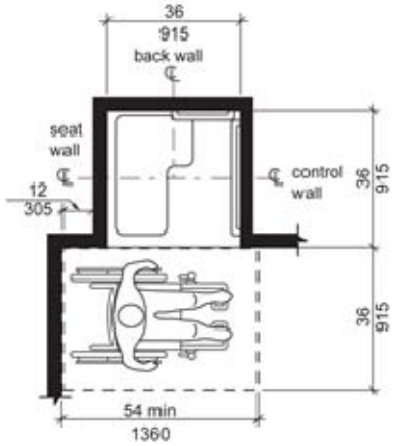
Revise as follows:

608.2.1.2 Clearance. A clearance of ~~48~~ 54 inches (~~1220~~ 1360 mm) minimum in length measured perpendicular from 12 inches beyond the ~~control~~ seat wall, and 36 inches (915 mm) minimum in depth shall be provided adjacent to the open face of the compartment.



Note: inside finished dimensions measured at the center points of opposing sides

FIG.608.2.1
TRANSFER-TYPE SHOWER
COMPARTMENT SIZE AND CLEARANCE



Note: inside finished dimensions measured at the center points of opposing sides

FIG.608.2.1
TRANSFER-TYPE SHOWER
COMPARTMENT SIZE AND CLEARANCE

Reason: Many of the technical requirements of the ICC/ANSI A117.1 (2009) Accessible and Usable Buildings and Facilities (ICC/ANSI) designed to accommodate wheeled mobility users are based on research completed from 1974 to 1978 using a research sample that included about 60 individuals who used manual wheelchairs (Steinfeld et al., 1979).

The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users (Steinfeld, et al., 2010). Measurements of body and device size were captured in three dimensions. The functional anthropometric measurements required measuring reaching ability, grip strength and the minimum space needed for turning. It is the most extensive anthropometric study of wheeled mobility device users in the United States. Additional information about the study can be found at http://www.udeworld.com/ansi-standards-review. The proposed revisions are based on new anthropometric information that was generated from the database of anthropometric measurements developed as part of the study.

Analysis

Unlike turning spaces that are based on dynamic requirements, clear floor space represents the space required for a stationary wheeled mobility device. This area is typically depicted as a rectangular space the dimensions of which are based on measurements of occupied length and occupied breadth of wheeled mobility devices, which are defined as follows:

- Occupied length: measured as the horizontal distance between the forward-most point and the rear-most point on the wheelchair or occupant.
- Occupied width: measured as the horizontal distance between the side-most points of the wheelchair or participant on the right and left sides.

The results of our analysis suggest that the existing standard on clear floor space (48” length, 30” width) does not accommodate the occupied lengths and widths of the wheeled mobility user population and excludes powered wheeled mobility device users disproportionately as compared to manual device users. A length of 48” accommodates the occupied length of 75% of manual

wheelchair users and only about 50% of powered chair and scooter users. A width of 30" accommodates the occupied width of 90% of manual wheeled mobility device users and only 75% of powered chair users.
We have taken the position that the clear floor space standards should accommodate the occupied lengths and widths of at least 90% of manual and powered wheeled mobility device users. A width of 32" accommodates the occupied widths of over 95% of manual wheeled mobility device users and 90% of the powered wheelchair users. **Proposed changes to subsection 608.2.1.2 Clearance would accommodate an occupied length of 54" while not changing the overall dimensions of the shower facility. Instead, we propose allowing the front of the wheelchair and/or person to extend beyond the control wall by the additional 6" in order to accommodate those with large occupied wheelchair lengths.**

The analysis was summarized in the Final Project Report to the U.S. Access Board and in a memorandum entitled "Evaluation of Clear Floor Space Requirements," that was submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Clear Floor Space Clearances.

References (See http://www.udeworld.com/ansi-standards-review)

Paquet, V. (2012). *Evaluation of Clear Floor Space Requirements*. A memorandum submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Clear Floor Space Clearances.

Steinfeld, E., Paquet, V., D'Souza, C., Joseph, C, and Maisel, J. (2010). *Final Report: Anthropometry of Wheeled Mobility Project*. Washington, DC: U.S. Access Board.

Steinfeld, E. Schroeder, S. and Bishop, M. (1979). *Accessible buildings for people with walking and reaching limitations.* Washington, DC: U.S. Department of Housing and Urban Development.

608.2.1.2-STEINFELD.doc

Committee Action

Approval as Modified

Modification

608.2.1.2 Clearance. A clearance of ~~54~~ 52 inches (1360 mm) minimum in length measured perpendicular from 12 inches beyond the seat wall, and 36 inches (915 mm) minimum in depth shall be provided adjacent to the open face of the compartment.

Committee Reason: With the increase in the clear floor space approved in Proposal 3-13-12, the clearance needs to be revised to accommodate the larger space. The result of the modification is to change the current 48 inches to 52 inches. The added 4 inches will occur 'at the toes' of the user. There was considerable debate whether the added space should be at the toes or at the back of the wheelchair or balanced. Information provided by the proponent is the location of the shoulders adjacent to the seat is the most important for this transfer.

Note: The Editorial task group should make sure that the figure clearly shows the measurement of the 12 inches be from the inside of the wall of the shower.

BALLOT COMMENTS

6-46.1

Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: This should only be added to the next edition if the increase in wheelchair length is approved. Otherwise the standard will be disjointed and inconsistent.

6-46.2

Commenter: Ron Burton, Representing BOMA
Ballot: Negative with comment:

Comment: No technical substantiation was provided in the report to support this change, primarily because the report did not include any anthropometric study on transferring to and from a shower seat. The requirement has been in the standard for several cycles and should not be changed without adequate justification.

6-46.3

Commenter: David S. Collins, Representing AIA

Ballot: Negative with comment:

Comment: The work of the study group isn't finalized and the research that formed the basis for this change has not been validated.

6-46.4

Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Negative with comment:

Comment: There has been no evidence presented that this is a necessary change and will be a burden on the public due to an increase in the area required. The evidence presented only addresses the wide variety of mobility devices in service today. It does not address whether the problem is in the manufacture of these mobility devices that do not conform to the current requirement or whether the built-environment needs to change to accommodate mobility devices that need a larger space and cannot be designed and manufactured in such a way as to fit within the current space. We don't continue to let automobile manufacturers build wider and wider autos to go on our roads… they must be built to standards that allow them to work with our current road system.

6-46.5

Commenter: Ronald G. Nickson, Representing NMHC
Ballot: Negative with comment:

Comment: The clearance of 48" should not be changes 54" to align with previous comments to not increase the clear floor space size.

6-46.6

Commenter: Steve Orlowski, Representing NAHB
Ballot: Negative with comment:

Comment: No technical substantiation was provided in the report to support the added requirement of 12 inches beyond the seat wall, since the report did not include any anthropometric study on transferring to and from a shower seat. The requirement has been in the standard for several cycles and should not be changed without adequate justification. Also see negative comment 3-13-12 regarding the CFS increase.

6-46.7

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: See comment to 3-6-12.

Committee Review of Comments and Action – July 2013

Approved as Modified.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original action on this proposal to approve it as modified. Consistent with the decision to stay with the 30 by 52 clear floor space (Item 3-13-12), a 52 inch space is needed adjacent to these showers.

6-47– 12
608.2.1.2, 608.2.1.4(NEW), 608.2.2.2, 608.2.2.4(NEW)

Proposed Change as Submitted

Proponent: Thomas Hirsch FAIA, Hirsch Group LLC, representing Thomas Hirsch & Henry Kosarzycki

Revise as follows:

608.2.1.2 Transfer Clearance. A clearance in front of bathtubs extending the length of the bathtub and 30 inches minimum in depth shall be provided. Where a permanent seat is provided at the head end of the bathtub, the clearance shall extend 12 inches minimum beyond the wall at the head end of the bathtub.

608.2.1.4 Control Clearance. Where the controls are located within 5 inches from the approach side of the bathtub the clearance shall extend 5 inches minimum beyond the control end wall. Where the controls measured from the approach side of the bathtub are located between 5 and 9 inches from the approach side of the tub the clearance shall extend 9 inches minimum beyond the control end wall.

608.2.2.2 Transfer Clearance. A clearance in front of bathtubs extending the length of the bathtub and 30 inches minimum in depth shall be provided. Where a permanent seat is provided at the head end of the bathtub, the clearance shall extend 12 inches minimum beyond the wall at the head end of the bathtub.

608.2.2.4 Control Clearance. Where the controls are located within 5 inches from the approach side of the bathtub the clearance shall extend 5 inches minimum beyond the control end wall. Where the controls measured from the approach side of the bathtub are located between 5 and 9 inches from the approach side of the tub the clearance shall extend 9 inches minimum beyond the control end wall.

Reason: Current Reach Ranges permit controls which realistically can only be used by 15% of persons with upper body mobility (those likely to bathe without assistance). 2012 Anthropometry of Wheeled Mobility Report, page 105, and elsewhere, indicates side reach is possible for far greater numbers of persons if feet extend beyond plane of the controls ("toe space").

1. Closest valve installation is 5" from approach side to center line, and not higher than 29" AFF to avoid conflict with in-wall blocking for grab bars. (Kohler valve installation diagrams, attached)
2. For toe space at 5" if offset is 5" 58% of sample could reach; if offset is 9" then 45% of sample could reach.
3. For toe space at 9" if offset is 5" then 72% of sample could reach, and if offset is 9" then 65% of sample could reach.

608.2.1.2-HIRSCH.doc

Committee Action

Disapproved

Committee Reason: The proposal would, in concept, work for transfer showers, but it is unneeded for roll-in showers. The text of the proposal was not clear to all Committee members.

BALLOT COMMENTS

6-47.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: This proposal does address the idea of appropriate reach for a person in a wheelchair. However, this should be part of the coordination with the research from Dr. Steinfeld. See comments to 3-6-12.

Proponent Comment

6-47.2

Commenter: Tom Hirsch Hirsch, Group LLC, representing Thomas Hirsch & Henry Kosarzycki

We believe the Committee was correct in disapproving the provision for Roll-in showers (608.2.2) since the shower valve is required to be located on the long (rear) wall, but erred in disapproving this provision as it applies to Transfer Showers (608.2.1), for the following reasons:
>
> 1. Most importantly both the "building blocks'" changes as well as this one are needed to make the Standard effective and truly workable; increasing clear floor spaces alone without the provision of toe space past the control end does not provide true useability.
>
> 2. The ergonomics of this proposal were supported by the 2012 Anthropometry of Wheeled Mobility Report, page 105, and elsewhere.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

6-48– 12
608.2.1.3

Proposed Change as Submitted

Proponent: Francine Wai, Executive Director, Disability & Communication Access Board

Revise as follows:

608.2.1.3 Seat. A folding or non-folding seat complying with Section 610 shall be provided on the wall opposite the control wall.

~~**EXCEPTION:** A seat is not required to be installed in a shower for a single occupant, accessed only through a private office and not for common use or public use, provided reinforcement has been installed in walls and located so as to permit the installation of a shower seat.~~

Reason: The Department of Justice's 2010 ADA Standards do not appear to allow a transfer shower accessed only through a private office and not for common or public use to be exempt from providing a shower seat. As currently written the A117.1 exception does not comply with the 2010 ADA Standards.

For consistency and harmonization, it is recommended that the exception be deleted.

608.2.1.3-WAI.doc

Committee Action

Disapproved

Committee Reason: The Committee felt eliminating this adaptability feature would be inconsistent with the other adaption features allowed for single user facilities accessed through a private office.

BALLOT COMMENTS

6-48.1
Comment rescinded.

6-48.2
Commenter: Marsha K. Mazz, Representing Access Board
Ballot: Negative with comment:

Comment: We request the committee to APPROVE the proposal as submitted. The proponent is correct that the ADA Standards do not permit the seat in a transfer stall to be omitted.

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Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal. There is concern that having the standard provide this exception, it will not be judged consistent with the ADA. There is also a concern that in practicality, if such seats are installed they will be quickly removed by the user of the space.

6-49– 12
608.2.2.2

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

608.2.2.2 Clearance. A clearance ~~of 60 inches (1525 mm) minimum in length~~ located adjacent to the ~~60-inch (1525 mm) width of the~~ full length of the open face of the shower compartment~~, and~~ with a depth of 30 inches (760 mm) minimum ~~in depth~~, shall be provided.

EXCEPTION: A lavatory complying with Section 606 shall be permitted at the end of the clearance opposite the seat.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

This is to clarify the exact location of the 30x60 clearance location. Otherwise, the clearance might be parallel to but not align with the shower compartment, thus reducing accessibility into and out of the shower.

This proposal came out of the previous development cycle in response to work that the editorial task group considered. While the task group did understand the suggested wording it was viewed as being a substantive changed and therefore ruled to be beyond their assigned task.

This proposed language will provide greater clarity to ensure that the 60 x 30 clear space is not offset from the 60 inch opening. The argument being that 60 x 30 space would still be "adjacent to" the opening even if it was offset some distance.

Providing more precision regarding the relationship of the clearance to the element it serves may call into question the intent of other clearance requirements. The committee may wish to discuss this issue and then determine how to proceed. If a change is made, it could be applied throughout the document. This concern for alignment or limiting offsets has been used in other places within the document (608.2.1.2, 611.2, 804.5.6, etc.)

608.2.2.2-PAARLBERG update.doc

Committee Action

Disapproved

Committee Reason: The Committee was concerned that the change would allow a reduction of the open clearance area to less than 60 inches.

BALLOT COMMENTS

6-49.1
Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: Revise the existing language and add a second sentence such that the section reads:

608.2.2.2 Clearance. A clearance of 60 inches (1525 mm) minimum in length ~~adjacent to the 60-inch (1525 mm) width of the open face of the shower compartment~~ measured perpendicular to the side wall closest to the controls, and 30 inches (760 mm) minimum, shall be provided adjacent to the open face of the shower.

The text is similar to that for the transfer shower. It requires the space to be 60"x30" minimum and that the 60 inches is measured perpendicular to the side wall so it aligns with the long dimension. The text reinforces this by stating that the space is adjacent to the open side of the shower. It does two additional things: First, by removing the reference to the 60-inch width of the open face it does not imply the size of the open face, making the section applicable for larger showers. Second, the text makes the 60-inch

length align with the side wall closest to the controls to address transfer concerns where a permanent seat is installed and control access where there is no permanent seat required.

6-49.2

Comment rescinded.

6-49.3

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The text is similar to that for the transfer shower. It requires the space to be 60"x30" minimum and that the 60 inches is measured perpendicular to the side wall so it aligns with the long dimension. The text reinforces this by stating that the space is adjacent to the open side of the shower. It does two additional things: First, by removing the reference to the 60-inch width of the open face it does not imply the size of the open face, making the section applicable for larger showers. Second, the text makes the 60-inch length align with the side wall closest to the controls to address transfer concerns where a permanent seat is installed and control access where there is no permanent seat required.

Replace proposal as follows:

608.2.2.2 Clearance. A clearance of 60 inches (1525 mm) minimum in length adjacent to the 60-inch (1525 mm) width of the open face of the shower compartment measured perpendicular to the side wall closest to the controls, and 30 inches (760 mm) minimum, shall be provided adjacent to the open face of the shower.

Proponent Comment

6-49.4

Commenter: Kim Paarlberg, Representing ICC

Replace the proposal with the following:

608.2.2.2 Clearance. A clearance of 60 inches (1525 mm) minimum in length adjacent to the 60-inch (1525 mm) width of the open face of the shower compartment measured perpendicular to the side wall closest to the controls, and 30 inches (760 mm) minimum, shall be provided adjacent to the open face of the shower.

Reason: This revised proposal will address the committee's concern regarding the 60" minimum dimension.
This proposal for roll-in showers text is similar to that for the current language transfer shower. It requires the space to be 60"x30" minimum and that the 60 inches is measured perpendicular to the side wall so it aligns with the long dimension. The text reinforces this by stating that the space is adjacent to the open side of the shower.
The proposal does two additional things: First, by removing the reference to the 60-inch width of the open face it does not imply the size of the open face, making the section applicable for larger showers. Second, the text makes the 60-inch length align with the side wall closest to the controls to address transfer concerns where a permanent seat is installed and control access where there is no permanent seat required.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal. The text proposed in the public comments was found to be vague and would not result in consistent enforcement.

6-50– 12

608.2.3, Figure 608.2.3, 608.2.3.1, 608.3.3, Figure 608.3.3, 608.4.3, Figure 608.4.3, 610.3

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

608.2.3 ~~Alternate Roll-in-Type~~ Combination Shower Compartments. ~~Alternate roll-in type~~ Combination shower compartments shall comply with Section 608.2.3.

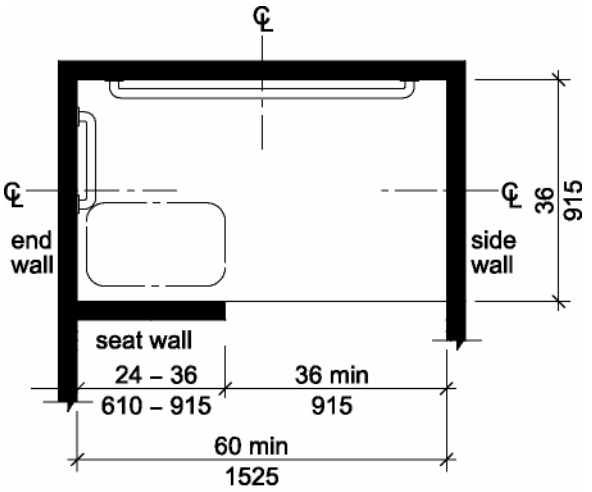


Fig. 608.2.3
~~Alternate Roll-in-Type~~ Combination Shower Compartment Size and Clearance

608.2.3.1 Size. ~~Alternate roll-in~~ Combination shower compartments shall have a clear inside dimension of 60 inches (1525 mm) minimum in width, and 36 inches (915 mm) in depth, measured at the center point of opposing sides. An entry 36 inches (915) mm) minimum in width shall be provided at one end of the 60-inch (1525 mm) width of the compartment. A seat wall, 24 inches (610 mm) minimum and 36 inches (915 mm) maximum in length, shall be provided on the entry side of the compartment.

608.3.3 ~~Alternate Roll-in-Type~~ Combination Showers. In ~~alternate roll-in type~~ combination showers, grab bars shall be provided on the back wall and the end wall adjacent to the seat. Grab bars shall not be provided above the seat. Grab bars shall be 6 inches (150 mm) maximum from the adjacent wall.

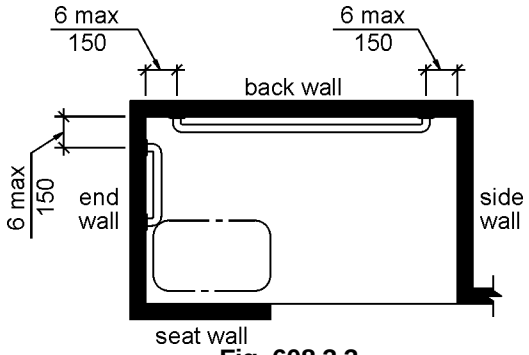


Fig. 608.3.3
Grab Bars in ~~Alternate Roll-in Type~~ Combination Showers

608.4.3 ~~Alternate Roll-in~~ Combination Showers. In ~~alternate roll-in~~ combination showers, the controls and hand shower shall be located 38 inches (965 mm) minimum and 48 inches (1220 mm) maximum above the shower floor. In ~~alternate roll-in~~ combination showers with controls and hand shower located on the end wall adjacent to the seat, the controls and hand shower shall be 27 inches (685 mm) maximum from the seat wall. In ~~alternate roll-in~~ combination showers with the controls and hand shower located on the back wall opposite the seat, the controls and hand shower shall be located within 15 inches (380 mm), left or right, of the centerline of the seat.

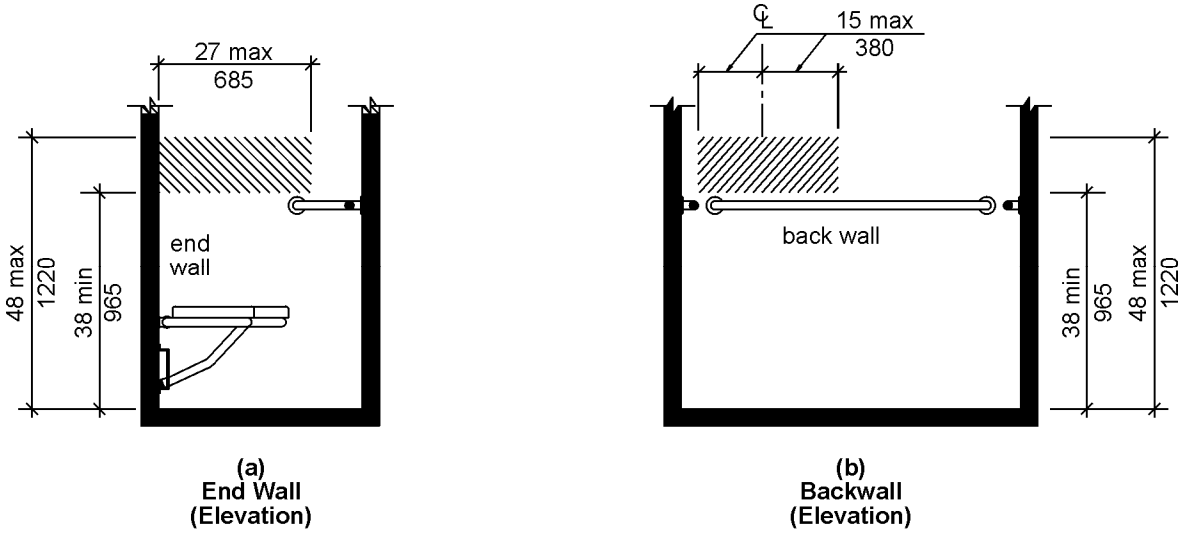


Fig. 608.4.3
~~Alternate Roll-in Type~~ Combination Shower Control and Handshower Location

610.3 Shower Compartment Seats. The height of shower compartment seats shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the bathroom floor, measured to the top of the seat. In transfer-type and ~~alternate roll-in-type~~ combination showers, the seat shall extend along the seat wall to a point within 3 inches (75 mm) of the compartment entry. In standard roll-in-type showers, the seat shall extend from the control wall to a point within 3 inches (75 mm) of the compartment entry. Seats shall comply with Section 610.3.1 or 610.3.2.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

This change (or something similar) may be more appropriate in the scoping documents, but providing the revision in the A117.1 standard will help to clarify that there are truly three separate types of showers within the standard and provide further distinction between a standard roll-in shower and an alternate roll-in shower.

Table 1107.6.1.1 of the *International Building Code* and Table 224.2 of the federal *2010 Standards for Accessible Design* require that a certain number Accessible dwelling or sleeping units be provided with roll-in showers and a certain number units are "without roll-in showers." This leads to the question of whether an alternate roll-in shower is allowed in the units "without roll-in showers" or not. While it may ultimately be better if these scoping documents clarify the types of bathing fixtures that are acceptable in these units "without roll-in showers" the A117 committee has the opportunity to make its position known and show through the technical requirements that the alternate roll-in shower does offer a variety of options which make it different from a standard roll-in shower.

Because the "alternate roll-in shower" does provide the user a choice of options (roll-in or transfer) they should be acceptable in the units required to be "without roll-in showers". Since the real intent of that requirement is to provide some units which have a bathtub or a transfer shower, the alternate roll-in shower should also be acceptable since it may be used in a variety of ways and it will allow for a transfer which is comparable to that of a transfer shower.

I do not hold any strong feelings for the terminology "combination shower" and if the committee can determine a more appropriate term it should feel free to make a change.

I have included a portion of Table 224.2 from the 2010 Standards for Accessible Design so the scoping language can be seen.

Table 224.2 Guest Rooms with Mobility Features

Total Number of Guest Rooms Provided	Minimum Number of Required Rooms Without Roll-in Showers	Minimum Number of Required Rooms With Roll-in Showers	Total Number of Required Rooms
1 to 25	1	0	1
26 to 50	2	0	2
51 to 75	3	1	4
76 to 100	4	1	5

608.2.3-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: Changing this term in Standard would cause confusion with the ADA 2010 which uses the 'Alternate' language.

BALLOT COMMENTS

6-50.1

Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: If the committee thinks that the term "combination" better reflects the designation of the shower type; and, that it removes confusion about whether the design is allowed or whether it must be treated as an alternate design according to Section 103 which also uses the term "Alternate." If this is appropriate, then whether it causes the text to be different than the 2010 ADA should be the secondary consideration. The committee should act on what is right.

6-50.2

Commenter: Hope Reed, Representing NMGCD
Ballot: Negative with comment:

Comment: "Combination shower" is a better description than "alternative shower**.**

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

6-52– 12
608.2.4 (New), Figure 608.2.4 (New)

Proposed Change as Submitted

Proponent: Terri Stewart, The American Institute of Architects, representing The Task Force on Aging

Add new text as follows:

608.2.4 Alternate Roll-In Type Shower Compartments for Elder Use. Roll-in type shower compartments for elder use shall be 48 inches (1220 mm) wide and 60 inches (1525 mm) deep minimum clear inside dimensions measured at center points of opposing sides. A 36 inch (915 mm) wide minimum entry shall be provided at one end of the long side of the compartment. A grab bar shall be provided on the back wall beginning at 6 inches (150 mm) maximum from the adjacent wall. The back wall grab bar shall extend the length of the wall but shall not be required to exceed 48 inches (1220 mm) in length. A grab bar shall be provided on the side wall. The side wall grab bar shall extend the length of the wall beginning at 6 inches (150 mm) maximum from the adjacent back wall but shall not be required to exceed 30 inches (760 mm) in length.

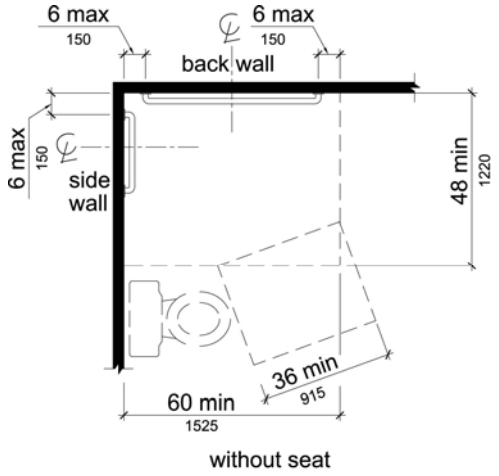


Fig. 608.2.4
Alternate Roll-In Shower
Compartment Size and Clearance

Reason: Provides equivalent size and clearance as Section 608.2.3 without seat and front wall for assistance in bathing. Also provides shower overlap for toilet clearance. Also, see White Paper of April 22, 2012.

608.2.4 (New)-STEWART.doc

Committee Action

Disapproved

Committee Reason: Consistent with the action to disapprove Proposal 6-31-12.

BALLOT COMMENTS

6-52.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: I believe that some specific criteria for assisted use in the Type B units would be acceptable to ICC A117.1 and not conflict with ADA. This idea should continue to be investigated.

6-52.2

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: See comment on 6-31-12

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

6-60– 12
608.4.1, 608.4.2, 608.4.3, 608.5

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

608.4.1 Transfer-Type Showers. In transfer-type showers, the controls and hand shower shall be located:

1. On the control wall opposite the seat,
2. At a height above the grab bar and ~~of 38 inches (965 mm) minimum and~~ 48 inches (1220 mm) maximum above the shower floor, and
3. 15 inches (380 mm) maximum, from the centerline of the control wall toward the shower opening.

608.4.2 Standard Roll-in Showers. In standard roll-in showers, the controls and hand shower shall be located:

1. On the back wall,
2. At a height above the grab bar and 48 inches (1220 mm) maximum above the shower floor, and
3. 16 inches (405 mm) minimum and 27 inches (685 mm) maximum from the ~~end~~ wall behind the seat.

608.4.3 Alternate Roll-in Showers. In alternate roll-in showers, the controls and hand shower shall be located:

1. ~~38 inches (965 mm) minimum and~~ At a height above the grab bar and 48 inches (1220 mm) maximum above the shower floor~~.~~, and
2. ~~In alternate roll-in showers with controls and hand shower~~ Where located on the end wall adjacent to the seat, the controls and hand shower shall be 16 inches (405 mm) minimum and 27 inches (685 mm) maximum from the wall behind the seat ~~wall.~~, or
3. ~~In alternate roll-in showers with the controls and hand shower~~ Where located on the back wall opposite the seat, the controls and hand shower shall be located within 15 inches (380 mm) maximum, ~~left or right, of~~ from the centerline of the seat toward the transfer space.

608.5 Hand Showers. A hand shower with a hose 59 inches (1500 mm) minimum in length, that can be used both as a fixed shower head and as a hand shower, shall be provided. The hand shower shall have a control with a nonpositive shut-off feature. Where provided, an adjustable-height hand shower mounted on a vertical bar shall be installed so as to not obstruct the use of grab bars.

EXCEPTIONS:

1. Redundant shower head mounts shall be permitted to be installed above 48 inches above the shower floor.
2. The vertical bar for adjustable-height shower head mounts shall be permitted to extend above 48 inches maximum above the shower floor.
3. In other than Accessible units and Type A units, a fixed shower head located 48 inches (1220 mm) maximum above the shower floor shall be permitted in lieu of a hand shower.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

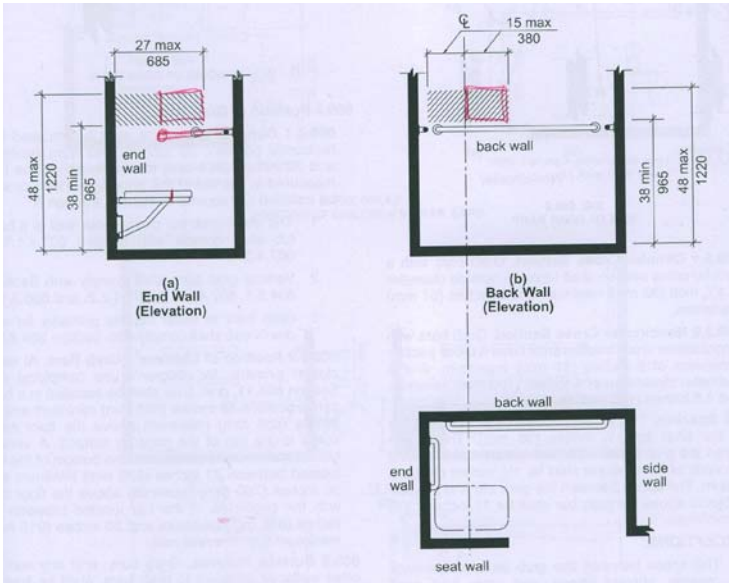
There are multiple reasons for this proposal.

1) To make the format of the controls for all three types of showers the same

2) Last cycle 608.4.2 has taken out the 38" minimum height as part of an ADA coordination item. The requirement to be 1-1/2 inches above the grab bar (Section 609.3 Exception 1) would set a lower height depending on what elevation the grab bar was located (33-36 height). 608.4.1 and 608.4.3 should be addressed the same.

3) Section 608.4.3 allows for alternate roll-in shower to locate controls over the seat (which is in conflict with the roll-in shower) or away from the transfer location (which is in conflict with the transfer shower). This proposal would match the other showers for control locations.

4) Section 608.4 says the hand showers have to comply with 608.4 (location) and (608.5) which says the hand showers have to work as both a fixed head and hand shower. This really means either a mount post on the wall, or a vertical bar with an adjustable mount. Many standing persons cannot shower with a head at 48 inches. For family members or for persons with mobility impairments that are standing, the shower head should be able to work for everyone. The additional exceptions would allow for redundant heights.



608.4.1(NEW)-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The Committee disapproved the proposal over concerns that the next text would allow a shower head placed over the seat and the attempt to regulate extra shower heads versus simply the regulation of the single head which need to be accessible.

BALLOT COMMENTS

6-60.1

Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: The proposal should be approved with amendment. The committee's decision to vote for disapproval hinged on the added text in Exception #1 to Section 608.4.3 regarding "redundant shower head mounts." There were no problems with the rest of this proposal. If that language is stricken, then the proposal should be approved.

6-60.2

Comment rescinded

6-60.3

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: This proposal does not do what the committee was concerned about. I will prepare three separate modifications to break this into parts to make it easier to understand.

There will be modifications for this proposal.

6-60.4

Commenter: Hope Reed, representing NMGCD
Ballot: Negative with comment:

Comment: This provides clarification for shower controls in three types of showers.

Proponent Comment

6-60.5

Commenter: Kim Paarlberg, Representing ICC

Replace the proposal with the following 3 comments. This will split the discussion by topic.

608.4.1 Transfer-Type Showers. In transfer-type showers, the controls and hand shower shall be located:

1. On the control wall opposite the seat,
2. At a height above the grab bar and ~~of 38 inches (965 mm) minimum and~~ 48 inches (1220 mm) maximum above the shower floor, and
3. 15 inches (380 mm) maximum, from the centerline of the control wall toward the shower opening.

608.4.2 Standard Roll-in Showers. In standard roll-in showers, the controls and hand shower shall be located:

1. On the back wall,
2. At a height above the grab bar and 48 inches (1220 mm) maximum above the shower floor, and
3. 16 inches (405 mm) minimum and 27 inches (685 mm) maximum from the ~~end~~ wall behind the seat.

608.4.3 Alternate Roll-in Showers. In alternate roll-in showers, the controls and hand shower shall be located:

1. ~~38 inches (965 mm) minimum and~~ At a height above the grab bar and 48 inches (1220 mm) maximum above the shower floor~~.~~, and
2. ~~In alternate roll-in showers with controls and hand shower located~~ On the end wall adjacent to the seat, the controls and hand shower shall be 27 inches (685 mm) maximum from the seat wall~~.~~, or
3. ~~In alternate roll-in showers with the controls and hand shower located~~ On the back wall opposite the seat, the controls and hand shower shall be located within 15 inches (380 mm), left or right, of the centerline of the seat.

Reason: The committee felt the proposed language would either place a shower head over the seat, or require extra shower heads. That is not the case. The proposal has been split and revised so that each point can be reviewed separately.

This makes the controls addressed the same in all three types of showers. The format and control height requirements for all three shower types should be the same. Currently only the transfer shower is numbered. Last cycle the 38 inches was removed from standard roll-in shower (as ADA coordination), but not transfer and alternate roll-in. The grab bar clearance requirements will require 1-1/2" clearance above the grab bar.

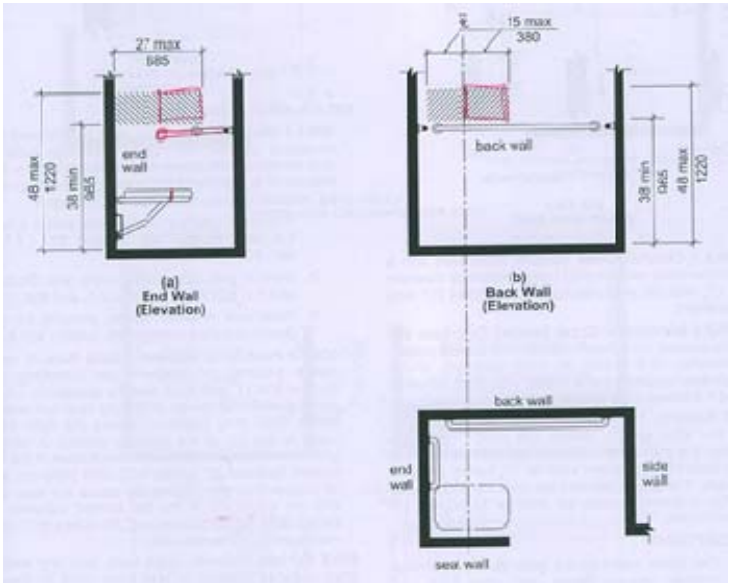
6-60.6

Commenter: Kim Paarlberg, Representing ICC

608.4.3 Alternate Roll-in Showers. In alternate roll-in showers, the controls and hand shower shall be located 38 inches (965 mm) minimum and 48 inches (1220 mm) maximum above the shower floor. In alternate roll-in showers ~~with~~ where the controls and hand shower are located on the end wall adjacent to the seat, the controls and hand shower shall be 16 inches (405 mm) minimum and 27 inches (685 mm) maximum from the wall behind the seat wall. In alternate roll-in showers ~~with~~ where the controls and hand shower are located on the back wall opposite the seat, the controls and hand shower shall be located within 15 inches (380 mm) maximum, ~~left or right, of~~ from the centerline of the seat toward the transfer space.

Reason: The committee felt the proposed language would either place a shower head over the seat, or require extra shower heads. That is not the case. The proposal has been split and revised so that each point can be reviewed separately.

6-62-12 AS addressed the issue of over the seat, but not to the right of the center line. Section 608.4.3 allows for alternate roll-in shower to locate controls over the seat (which is in conflict with the roll-in shower) or away from the transfer location (which is in conflict with the transfer shower). This proposal would match the other showers for control locations.



6-60.7

Commenter: Kim Paarlberg, Representing ICC

608.5 Hand Showers. A hand shower with a hose 59 inches (1500 mm) minimum in length, that can be used both as a fixed shower head and as a hand shower, shall be provided. The hand shower shall have a control with a nonpositive shut-off feature. Where provided, an adjustable-height hand shower mounted on a vertical bar shall be installed so as to not obstruct the use of grab bars.

EXCEPTIONS:

1. The vertical bar for adjustable-height shower head mounts shall be permitted to extend above 48 inches maximum above the shower floor.
2. In other than Accessible units and Type A units, a fixed shower head located 48 inches (1220 mm) maximum above the shower floor shall be permitted in lieu of a hand shower.

Reason: The committee felt the proposed language would either place a shower head over the seat, or require extra shower heads. That is not the case. The proposal has been split and revised so that each point can be reviewed separately.

Section 608.4 says the hand showers have to comply with 608.4 (location) and (608.5) which says the hand showers have to work as both a fixed head and hand shower. This really means either a mount post on the wall, or a vertical bar with an adjustable mount. Many standing persons cannot shower with a head at 48 inches. For family members or for persons with mobility impairments that are standing, the shower head should be able to work for everyone. The additional exceptions would allow for redundant heights.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The committee considered the revisions based on comments 6-60.5 and 6-60.6, provided the clearest statement of the 3 requirements. The text was revised to make sure the requirements follow the same pattern for each shower type.

Modification.

Replace the proposal as follows:

608.4.1 Transfer-Type Showers. In transfer-type showers, the controls and hand shower shall be located:

1. On the control wall opposite the seat,
2. At a height of 38 inches (965 mm) minimum and 48 inches (1220 mm) maximum above the shower floor, and
3. 15 inches (380 mm) maximum, from the centerline of the control wall toward the shower opening.

608.4.2 Standard Roll-in Showers. In standard roll-in showers, the controls and hand shower shall be located:

1. On the back wall,
2. At a height ~~above the grab bar~~ of 38 inches minimum and 48 inches (1220 mm) maximum above the shower floor, and
3. 16 inches (405 mm) minimum and 27 inches (685 mm) maximum from the ~~end~~ wall behind the seat.

608.4.3 Alternate Roll-in Showers. In alternate roll-in showers, the controls and hand shower shall be located:

1. At a height of 38 inches (965 mm) minimum and 48 inches (1220 mm) maximum above the shower floor~~.~~, and
2. ~~In alternate roll-in showers with~~ Where the controls and hand shower are located on the end wall adjacent to the seat, the controls and hand shower shall be 16 inches (405 mm) minimum and 27 inches (685 mm) maximum from the wall behind the seat wall~~.~~, or
3. ~~In alternate roll-in showers with~~ where the controls and hand shower are located on the back wall opposite the seat, the controls and hand shower shall be located within 15 inches (380 mm) maximum from, ~~left or right, of~~ the centerline of the seat toward the transfer space.

6-61– 12
608.4.2

Proposed Change as Submitted

Proponent: Hope Reed, New Mexico Governor's Commission on Disability (NMGCD)

Revise as follows:

608.4.2 Standard Roll-in Showers. In standard roll-in showers, the controls and hand shower shall be located on the back wall above the grab bar, 48 inches (1220 mm) maximum above the shower floor and 16 inches (405 mm) minimum and 27 inches (685 mm) maximum from the end wall behind the seat.

EXCEPTION: Additional controls and hand shower shall be permitted on the end wall opposite the seat wall of a standard roll-in shower.

Reason: The roll-in-type shower needs to be usable by able-bodied, ambulatory, and disabled individuals. Many people prefer the walk-in shower and grab bars to maintain a safe balance. Most able-bodied people and many ambulatory people prefer to stand when showering. Requiring the hand shower to be installed on the back wall makes it more difficult to contain water within the shower area.

The additional hand shower will allow more flexibility and usability for a greater number of people.

608.5 -REED.doc

Committee Action

Disapproved

Committee Reason: Similar to Proposal 6-60-12, this proposal is trying to regulate shower heads above the one head required to be accessible.

BALLOT COMMENTS

6-61.1
Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: The committee's comment should refer to Proposal 6-60-12.

6-61.2
Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: Delete the exception and change the initial sentence of the section to read as follows:

608.4.2 Standard Roll-in Showers. In addition to other controls and shower spray units which are provided, in standard roll-in showers, the controls for the hand shower and the hand shower unit shall be located on the back wall above the grab bar, 48 inches (1220 mm) maximum above the shower floor and 16 inches (405 mm) minimum and 27 inches (685 mm) maximum from the end wall behind the seat.

.

Revise as follows:

The proposal seeks to focus on the manner in which this section is often misinterpreted as limiting the shower controls and shower spray unit to only that which is addressed in the standard. The revised text makes it clear that other controls and shower spray units

are allowed - as the committee indicated - as long as these items are provided in the locations indicated. Note that this could also be included for other types of showers but it is in the roll-in shower where the condition most often occurs.

6-61.3

Comment rescinded.

6-61.4

Commenter: Hope Reed, Representing NMGCD
Ballot: Negative with comment:

Comment: In the roll-in shower provide an exception for an additional shower head, opposite the fixed seat. Standing ambulatory people need this shower head and this location allows a longer spray to stay within the shower.

Proponent Comment

6-61.5

Commenter: Hope Reed, Representing NMGCD

Revise the proposal as follows:

608.4.2 Standard Roll-in Showers. In standard roll-in showers, the controls and hand shower shall comply with 608.4.2.

608.4.2.1 Roll-in Shower Controls and Hand Showers at Seat. In standard roll-in showers, the control and hand shower shall be located:

1. On the back wall above the grab bar.

2. At a height of 48 inches (1220 mm) maximum above the shower floor.

3. 16 inches (405 mm) minimum and 27 inches (685 mm) maximum from the end wall behind the seat.

608.4.2.2 Roll-in Shower Controls and Hand Showers for Ambulatory. In standard roll-in showers a second ambulatory shower control and hand shower shall be located:

1. On the end wall opposite the seat.

2. At a height of 38 inches (mm) minimum to 48 inches (1220 mm) maximum above the shower floor.

3. 15 inches (mm) maximum from the centerline of the control wall toward the shower opening.

Reason: The roll-in-type shower needs to be usable by ambulatory and semi-ambulatory people, disabled individuals, and an able-bodied spouse or assistant Many people with walking disabilities prefer the walk-in shower and grab bars to maintain a safe balance. Many of these ambulatory people prefer to stand when showering. Requiring the hand shower on the back wall makes it more difficult to contain water within the shower area.

The additional controls and hand shower on the end wall opposite the seat will allow more flexibility and usability for a greater range of people with disabilities.

See companion revision to #6-65 section 608.5 Hand Showers.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee aggressively discussed various comments to address providing reasonable accessible shower heads and controls. The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

6-63– 12
608.4.4 (New), Figure 608.4.4 (New)

Proposed Change as Submitted

Proponent: Terri Stewart, The American Institute of Architects, representing The Task Force on Aging

Add new text as follows:

608.4.4 Alternate Roll-In Type Shower Compartments for Elder Use. The controls and hand shower provided in a roll-in type shower compartment for elder use shall be located on the back wall above the grab bar, 48 inches (1220 mm) maximum above the shower floor and 16 inches (405 mm) minimum and 44 inches (1120 mm) maximum 33 inches (840 mm) from the side wall.

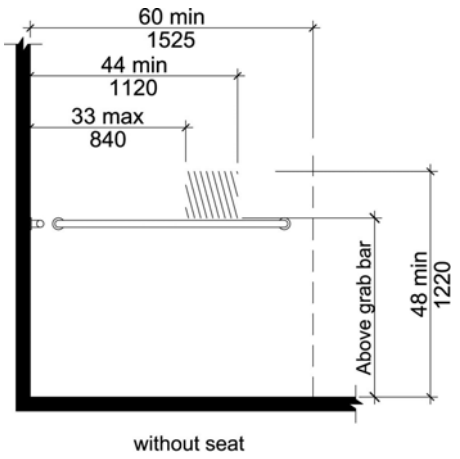


Fig. 608.4.4
Alternate Roll-In Shower
Compartment for Elder Use
Control and Hand Shower Location

Reason: Provides location for assistance in bathing. See , also White Paper, dated April 22, 2012

608.4.4 new-STEWART.doc

Committee Action

Disapproved

Committee Reason: Consistent with the action to disapprove Proposal 6-31-12.

BALLOT COMMENTS

6-63.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: I believe that some specific criteria for assisted use in the Type B units would be acceptable to ICC A117.1 and not conflict with ADA. This idea should continue to be investigated.

6-63.2
Comment rescinded

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

6-65– 12
608.5

Proposed Change as Submitted

Proponent: Hope Reed, New Mexico Governor's Commission on Disability (NMGCD)

Revise as follows:

608.5 Hand Showers. A hand shower with a hose 59 inches long (1500 mm) minimum in length, that can be used both as a fixed shower head and as a hand shower, shall be provided. The hand shower shall have a control with a nonpositive shut-off feature. Where provided, an adjustable-height hand shower mounted on a vertical bar shall be installed so as to not obstruct the use of grab bars. A hook,to hold the hand shower wand, while water is running, shall be provided above the grab bar.

EXCEPTIONS: In other than Accessible units and Type A units, a fixed shower head located 48 inches (1220 mm) maximum above the shower floor shall be permitted in lieu of a hand shower.

Reason: Many people with disabilities have to get the hotel staff to come up and unhook the hand shower. Then the hand shower hangs down. Depending on water pressure, kinks in the hose, and similar the hand shower can be difficult to grab and keep from spraying outside the shower when adjusting temperatures.

Some hotels have several hooking places at the bottom of the vertical bar or a hook on the wall to hang the hand shower wand. This keeps the hand shower at a convenient location and allows the spray to be directed back into the shower while adjusting temperatures and soaping up.

608.5-REED.doc

Committee Action

Disapproved

Committee Reason: There was support for the concept among the members of the Committee, but the wording of the proposal was found wanting. A 'hook' is too restrictive, perhaps a 'means'. The location needs more clarity. Some wondered if this was a minimum requirement of accessibility or simply a nice convenience. The proper term may be hand shower wand.

BALLOT COMMENTS

6-65.1
Commenter: Gina Hilberry, Representing UCP
Ballot: Affirmative with comment:

Comment: Providing a means of hanging the hand shower wand within reach range during a shower is important. This proposed change appears to address this need but needs revision.

6-65.2
Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: Perhaps the term "hook" could be replaced by "device".

6-65.3

Commenter: Hope Reed, Representing NMGCD
Ballot: Negative with comment:

Comment: A "means" to hold the hand shower wand is needed while people soap up or adjust their wheelchair. People with disabilities who lose their grasp of the hand shower wand have great difficulty grabbing it again, especially with high water pressure pushing the free hanging wand around the compartment.

Proponent Comment

6-65.4

Commenter: Hope Reed, Representing NMGCD

Revise the proposal as follows:

608.5 Hand Showers. A hand shower with a hose 59 inches long (1500 mm) minimum in length, that can be used both as a fixed shower head and as a hand shower, shall be provided. The hand shower shall have a control with a nonpositive shut-off feature. Where provided, an adjustable-height hand shower mounted on a vertical bar shall be installed so as to not obstruct the use of grab bars. A means to hold the hand shower wand while in the on or off position shall be located ~~above the grab bar~~ 38 inches minimum and 48 inches maximum above the shower finish floor.

EXCEPTIONS:

1. In other than Accessible units and Type A units, a fixed shower head located 48 inches (1220 mm) maximum above the shower floor shall be permitted in lieu of a hand shower.

Reason: Water pressure pushes the hand shower wand around and often sprays out onto the bathroom floor. Provide a means to secure the shower hand wand while a person is using both hands to soap up, shampoo their hair, grab a wash cloth, etc.. See companion revision to 608.4.2 for Roll-in Showers.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comment.

Committee Reason: The proposal was approved based on comment 6-65.4 and wording approved in proposal 6-60. The committee feels it is a good requirement to add to the standard.

Modification.

608.5 Hand Showers. A hand shower with a hose 59 inches long (1500 mm) minimum in length, that can be used both as a fixed shower head and as a hand shower, shall be provided. The hand shower shall have a control with a nonpositive shut-off feature. Where provided, an adjustable-height hand shower mounted on a vertical bar shall be installed so as to not obstruct the use of grab bars. A means to hold the hand shower wand while in the on or off position shall be located at a height of 38 inches minimum and 48 inches maximum above the shower finish floor.

EXCEPTIONS:

1. In other than Accessible units and Type A units, a fixed shower head located 48 inches (1220 mm) maximum above the shower floor shall be permitted in lieu of a hand shower.

6-67– 12
609.8.1

Proposed Change as Submitted

Proponent: Thomas Hirsch FAIA, Hirsch Group LLC, representing Thomas Hirsch & Henry Kosarzycki

Revise as follows:

609.8 Structural Strength. Allowable stresses shall not be exceeded for materials used where a vertical or horizontal force of 250 pounds is applied at any point on the grab bar, fastener mounting device, or supporting structure.

609.8.1 Bathtub and Shower Modules. Where a bathtub or shower module is installed additional blocking shall be installed between the module and supporting structure.

Reason: My experience in architectural practice is that in-wall blocking is not sufficient. In-wall blocking is useful alongside toilets and showers that are site-built, that is, have their grabs bars mounted directly on the wall surfaces. However, where pre-manufactured tub or shower modules are used, however, the bars will mount on the module surface and typically there is a substantial gap between the module and the wall or wall framing behind it. The screws for the bars, therefore, have substantial unsupported length in that gap and because the modules have flexibility will tend to rock cracking the surface finish of the module and/or causing the screw to break.

608.2.4 new-HIRSCH.doc

Committee Action

Disapproved

Committee Reason: The Committee believes the proposal is unrelated to accessibility and if it belongs any place it would be in the installation instructions for the modules.

BALLOT COMMENTS

6-67.1
Comment rescinded.

6-67.2
Commenter: Hope Reed, Representing NMGCD
Ballot: Negative with comment:

Comment: Improved language is needed for securing grab bars in shower modules. This is a frequent problem in the field. Providing this additional language helps us get good grab bars when installing shower modules.

Proponent Comment

6-67.3
Commenter: Tom Hirsch FAIA, Hirsch Group LLC, representing Thomas Hirsch & Henry Kosarzycki

Reason: We believe the Committee erred in disapproving this proposal. The proposal furthers an existing section concerning structural strength of grabs' installation in 2 ways:

1. it specifies that unsupported length of fasteners is not allowed where modules are used, and
2. the word "additional" is intended to preclude omitting in-wall blocking so that when a module is removed grounding for future grab bars is provided without the need to open up the wall.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

6-68– 12
610.2, Figure 610.2, 610.3

Proposed Change as Submitted

Proponent: Edward Steinfeld, IDEA Center, School of Architecture and Planning, University at Buffalo, State University of New York

Revise as follows:

610.2 Bathtub Seats. The height of bathtub seats shall be 17 inches (430 mm) minimum and ~~19~~ 20 inches (~~485~~ 510 mm) maximum above the bathroom floor, measured to the top of the seat. Removable in-tub seats shall be 15 inches (380 mm) minimum and 16 inches (405 mm) maximum in depth. Removable in-tub seats shall be capable of secure placement. Permanent seats shall be 15 inches (380 mm) minimum in depth and shall extend from the back wall to or beyond the outer edge of the bathtub. Permanent seats shall be positioned at the head end of the bathtub.

EXCEPTION: An accessible seat which is adjustable in height is permitted to provide adjustability within a range of 15 inches (380 mm) minimum to 25 inches (635 mm) maximum, provided that at least one adjustment setting provides a seat within the range specified in Section 610.2.

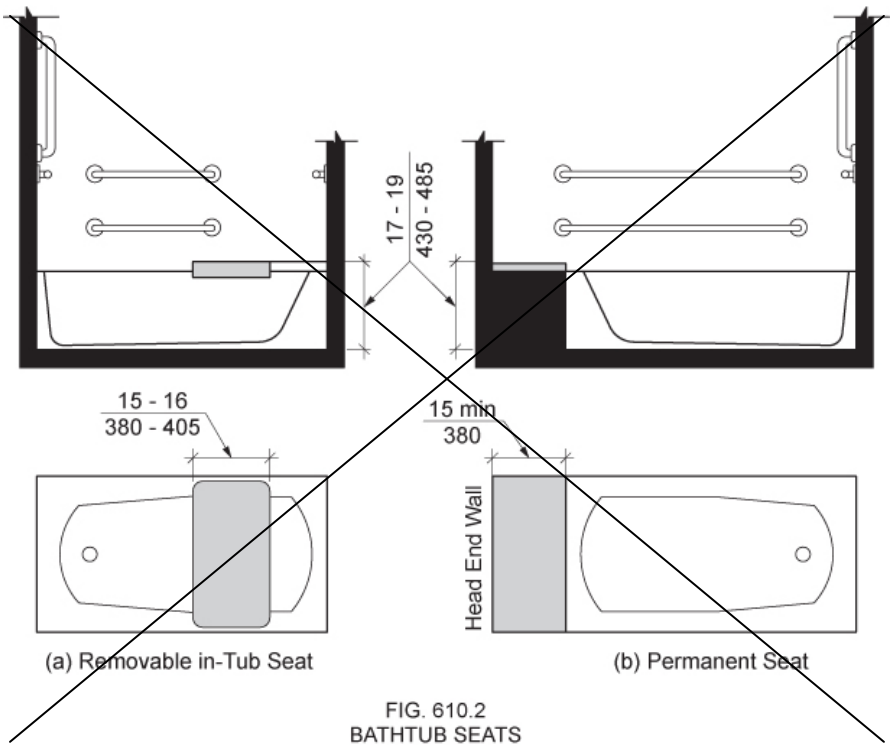


FIG. 610.2
BATHTUB SEATS

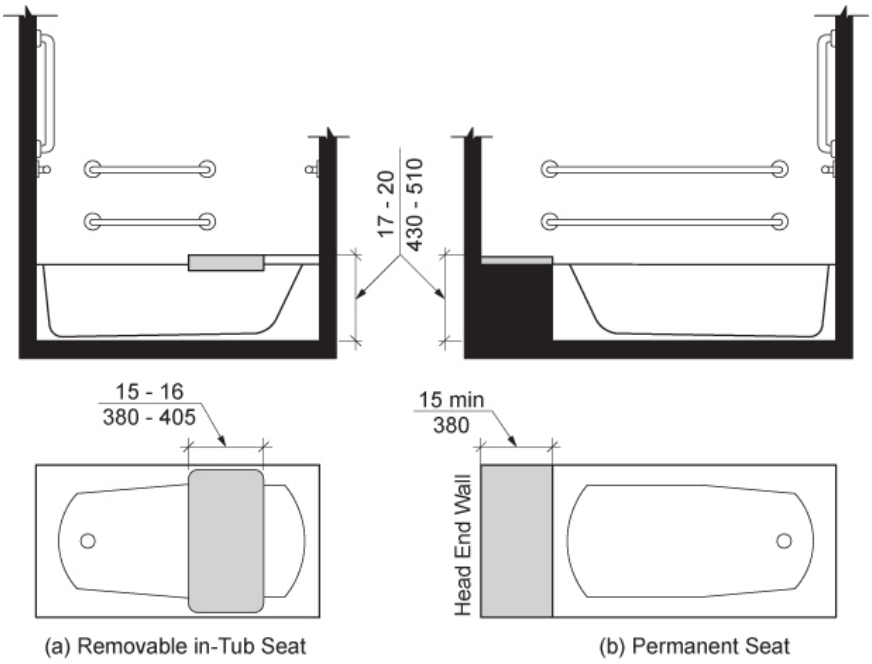


FIG. 610.2
BATHTUB SEATS

610.3 Shower Compartment Seats. The height of shower compartment seats shall be 17 inches (430 mm) minimum and ~~19~~ 20 inches (~~485~~ 510 mm) maximum above the bathroom floor, measured to the top of the seat. In transfer-type and alternate roll-in-type showers, the seat shall extend along the seat wall to a point within 3 inches (75 mm) of the compartment entry. In standard roll-in-type showers, the seat shall extend from the control wall to a point within 3 inches (75 mm) of the compartment entry. Seats shall comply with Section 610.3.1 or 610.3.2.

> **EXCEPTION:** An accessible seat which is adjustable in height is permitted to provide adjustability within a range of 15 inches (380 mm) minimum to 25 inches (635 mm) maximum, provided that at least one adjustment setting provides a seat within the range specified in Section 610.2.

Reason: Many of the technical requirements of the ICC/ANSI A117.1 (2009) Accessible and Usable Buildings and Facilities (ICC/ANSI) designed to accommodate wheeled mobility users are based on research completed from 1974 to 1978 using a research sample that included about 60 individuals who used manual wheelchairs (Steinfeld et al., 1979).

The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users (Steinfeld, et al., 2010). Measurements of body and device size were captured in three dimensions. The functional anthropometric measurements required measuring reaching ability, grip strength and the minimum space needed for turning. It is the most extensive anthropometric study of wheeled mobility device users in the United States. Additional information about the study can be found at http://www.udeworld.com/ansi-standards-review. The proposed revisions are based on new anthropometric information that was generated from the database of anthropometric measurements developed as part of the study.

Analysis

In addition to the findings reported in Steinfeld, et al., 2010, the IDeA Center developed a Design Resource entitled, *Analysis of Seat Height for Wheeled Mobility Devices* that provides more detailed information about the study reported in Steinfeld, et al., 2010. *Analysis of Seat Height for Wheeled Mobility Devices* indicates that the current maximum height of 19 inches (485 mm) accommodates 51% of female manual wheelchair users, 30% of manual wheelchair users, and fewer than 20% of power and scooter users. The report indicates a seat height of 25 inches (635 mm) would accommodate over 95% of all wheeled mobility device users (D'Souza and Steinfeld, 2011, pg. 5).

Increasing the maximum seat height to 20 inches (510 mm) would allow 75% of female manual wheelchair and 53% of male manual wheelchair users (D'Souza and Steinfeld, 2011, pg. 5) to transfer comfortably. Comfort in this case is determined by how closely the height of the transfer surface matches the height of a wheelchair seat. Steinfeld, et. Al., 2010 (pg. 85) report that

"keeping the height of a transfer surface close to the height of a wheelchair seat reduces the effort necessary to transfer and provides a safer environment, especially in bathing and toilet rooms."

However, a fixed seat any higher than 20 inches (510 mm) would likely disadvantage people of short stature, particularly if it was the *only* seat. Encouraging innovation would help to accommodate a greater number of wheeled mobility users without disadvantaging people of short stature. Adjustability is the best option to accommodate the widest population but in the meantime, the upper limit should be raised to 20 inches (Steinfeld, et al., 2010, pgs. 85-86).

NOTE: This change necessitates a change to Fig. 610.2 to ensure consistency. Thus, the proposed revised figure has been attached, along with the existing figure for comparison purposes.

References (See http://www.udeworld.com/ansi-standards-review for full text)

D'Souza, C. and Steinfeld, E. (2011). *Analysis of Seat Height for Wheeled Mobility Devices.* Buffalo, NY: University at Buffalo Center for Inclusive Design and Environmental Access.

Steinfeld, E., Paquet, V., D'Souza, C., Joseph, C, and Maisel, J. (2010). *Final Report: Anthropometry of Wheeled Mobility Project*. Washington, DC: U.S. Access Board.

Steinfeld, E. Schroeder, S. and Bishop, M. (1979). *Accessible buildings for people with walking and reaching limitations.* Washington, DC: U.S. Department of Housing and Urban Development.

610.2-STEINFELD.doc

Committee Action

Disapproved

Committee Reason: Consistent with the action to disapprove proposal 6-5-12. Concerns include the impact of raising the height on some users and the reliability and durability of adjustable height equipment. Also of concern was safety during wet conditions.

BALLOT COMMENTS

6-68.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: See comment to 3-6-12.

In addition, the idea of the adjustable seat has serious concerns for use, maintenance and cleanliness.

6-68.2

Comment rescinded.

6-68.3

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Abstain with reason:

Reason: Disagree with the decision but there is little hope of passage.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

6-69– 12
611.3

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

611.3 Operable Parts. Operable parts, including doors, lint screens, detergent and bleach compartments, shall comply with Section 309.

EXCEPTION: The height of the obstruction can be 36 inches (915 mm).

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

You let the door for the top loader be at 36" high, but you literally do not allow for the operable parts to be located over the unit.

611.3 (revised)-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The Committee wanted more study information on reach ranges in order to approve this proposal. The information was not available for the Committee.

BALLOT COMMENTS

6-69.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The requirements for the washing machines and dryers should be together, not two section references away. See also 3-26.

A modification will be developed for this 3-26 and 6-69.

6-69.2
Commenter: Hope Reed, Representing NMGCD
Ballot: Negative with comment:

Comment: The height of controls for top loading washer/dryers is allowed to be 36 in. high. This exception is needed within 611.

Proponent Comment

6-69.3

Commenter: Kim Paarlberg, Representing ICC

Replace the proposal with the following:

308.3.2 Obstructed High Reach. Where a clear floor space complying with Section 305 allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (865 mm) maximum above the floor and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (1220 mm) maximum above the floor for a reach depth of 10 inches (255 mm) maximum. Where the reach depth exceeds 10 inches (255 mm), the high side reach shall be 46 inches (1170 mm) maximum above the floor for a reach depth of 24 inches (610 mm) maximum.

~~**EXCEPTION:** At washing machines and clothes dryers, the height of the obstruction shall be permitted to be 36 inches (915 mm) maximum above the floor.~~

611.3 Operable Parts. Operable parts, including doors, lint screens, detergent and bleach compartments, shall comply with Sections 308 and 309.

EXCEPTION: The height of the obstruction in Section 308.3.2 shall be permitted to be 36 inches (915 mm) maximum above the floor.

Reason: The allowance for washing machines and clothes dryers in Section 308.3.2 is too remote from the base requirements and the not directly associated with the Section 309 reference (which does reference Section 308). This would not be a technical change, but would be clearer.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The revision included in comment 6-69.3 provides a better organization of the standard, placing the exception with the requirements applying to washers and dryers versus as an exception to the building block requirement.

Modification.

Replace the proposal with the following:

308.3.2 Obstructed High Reach. Where a clear floor space complying with Section 305 allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (865 mm) maximum above the floor and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (1220 mm) maximum above the floor for a reach depth of 10 inches (255 mm) maximum. Where the reach depth exceeds 10 inches (255 mm), the high side reach shall be 46 inches (1170 mm) maximum above the floor for a reach depth of 24 inches (610 mm) maximum.

~~**EXCEPTION:** At washing machines and clothes dryers, the height of the obstruction shall be permitted to be 36 inches (915 mm) maximum above the floor.~~

611.3 Operable Parts. Operable parts, including doors, lint screens, detergent and bleach compartments, shall comply with Sections 308 and 309.

EXCEPTION: The height of the obstruction in Section 308.3.2 shall be permitted to be 36 inches (915 mm) maximum above the floor.

6-70– 12
612.2

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

612.2 Bench. Where seating is provided in saunas and steam rooms, at least one bench shall comply with Section 903. Doors shall not swing into the clear floor space required by Section 903.2.

> **EXCEPTION:** Where the room is for individual use and a clear floor space complying with Section 305.3 is provided within the room beyond the arc of the door swing, the door shall not be required to comply with Section 612.2.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

This proposal is intended to coordinate with other sections of the standard which do allow a door to swing into a room or floor space if there is adequate space to maneuver away from the swing of the door. This proposed exception was copied from the toilet and bathing room requirements of Section 603.2.2 (with the section reference being revised to be Section 612.2).

If the user can maneuver away from the door, it should not be a problem for the door to swing into the space.
If the committee was feeling more generous, the proposal could be modified to coordinate with the door swing requirements for dressing, fitting and locker rooms in Section 803.3. That section also allows for a door to swing into the room but it does not contain the limitation of the space being "for an individual user."

612.2-PAARLBERG.doc

Committee Action

Approved

Committee Reason: The Committee accepted the proposal as a good solution to address individual use sauna's.

BALLOT COMMENTS

6-70.1
Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: Somebody tell me what this actually requires. Although the intent is good, as written it is incomprehensible and needs a rewrite.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval of this proposal.

Chapter 7
Items 7-1-12 through 7-26-12
August 7, 2013.

This is one of ten documents containing those proposed changes to the A117.1 Standard, 2009 edition; for which A117.1 Committee received Ballot or Proponent Comments. Each item was discussed at the meeting of Committee during the week of July 15, 2013, in Washington D.C. The Committee took action on each proposal and such action is specified herein. The actions listed here are subject reconfirmation by the Committee via the Committee's ballot process.

Please note: This document does not contain proposals for which no comments were received. Those proposals, and the Committee decision on each one, can be viewed in the Committee Action Report (CAR) under the title: First Draft Standard Development at this following location: http://www.iccsafe.org/cs/standards/A117/Pages/default.aspx

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7-1– 12
504.5.1, 701.1.2 (NEW), 703.2.1.1 (New), 703.2.1.2 (New), 703.5.3.1 (New), 703.5.3.2 (New), 703.6.3.1 (New), 703.6.3.2 (New), 705.3

Proposed Change as Submitted

Proponent: Sharon Toji, Access Communication, representing self

Add the following new section

Add the following new section

701.1.2 Contrast and Light Reflectance Value. The contrast of surfaces shall be determined in accordance with Equation 7-1.

Contrast = [(B1-B2)/B1] x 100 percent **Equation 7-1**

Where

B1 = light reflectance value (LRV) of the lighter surface,
B2 = light reflectance value (LRV) of the darker surface.

Light Reflectance Value (LRV) shall be determined in accordance with British Standard BS 8493:2008 + A1: 2010 "Light reflectance value (LRV) of a surface. Method of Test."

Revise as follows

703.2.1 General. Visual characters shall comply with the following:

(Balance of section is not changed)

703.2.1.1 Nonglare Finish. Gloss on the finish of characters and their background shall not exceed 19 as measured on a 45-degree gloss meter.

703.2.1.2 Contrast. The Light Reflectance Value (LRV) of characters and their background shall contrast 70 percent minimum as determined in accordance with Equation 7-1. The lighter surface shall have a LRV of not less than 45.

703.5.3 Finish and Contrast. Pictograms and their fields shall have a nonglare finish. Pictograms shall contrast with their fields, with either light pictograms on a dark field, or dark pictograms on a light field.

703.5.3.1 Nonglare Finish. Gloss on the finish of pictograms and their fields shall not exceed 19 as measured on a 45-degree gloss meter.

703.5.3.2 Contrast. The Light Reflectance Value (LRV) of pictograms and their fields shall contrast 70 percent minimum as determined in accordance with Equation 7-1. The lighter surface shall have a LRV of not less than 45.

703.6.2 Finish and Contrast. Symbols of accessibility and their backgrounds shall have non-glare finish. Symbols of accessibility shall contrast with their backgrounds with either a light symbol on a dark background or a dark symbol on a light background.

703.6.3.1 Nonglare Finish. Gloss on the finish of symbols of accessibility and their backgrounds shall not exceed 19 as measured on a 45-degree gloss meter.

703.6.3.2 Contrast. The Light Reflectance Value (LRV) of symbols of accessibility and their backgrounds shall contrast 70 percent minimum, as determined in accordance with Equation 7-1. The lighter surface shall have a LRV of not less than 45.

705.3 Contrast. Detectable warning surfaces shall contrast visually with adjacent surfaces, either light-on-dark or dark-on-light.

The Light Reflectance Value (LRV) of the surfaces shall contrast 70 percent minimum, as determined in accordance with Equation 7-1r. The lighter surface shall have a LRV of not less than 45.

504.5.1 Visual Contrast. The leading 2 inches (51 mm) of the tread shall have visual contrast of dark-on-light or light-on-dark from the remainder of the tread.

The Light Reflectance Value (LRV) of the 2-inch stripe and tread shall contrast 70 percent minimum, as determined in accordance with Equation 7-1. The lighter surface shall have a LRV of not less than 45.

Reason: Glare: Glare is a very important issue to many people with vision impairments. It is a particular problem to older people, who are often developing cataracts, and who form a very large group of persons with age related vision impairments, in addition to others with vision impairments developed at a much younger age. Glare on sign surfaces makes them virtually unreadable in many cases. Because brushed metals are such a popular architectural material, and there is no measurable standard for glare or gloss, they are used frequently for signs. Unfortunately, such surfaces are almost never non-glare according to the standard previously given in the ADAAG Appendix.

The original ADAAG did have an appendix item that gave a measurement for what is called, technically, in paints, “eggshell” finish, which was one of the suggested terms for non-glare finishes. That finish is measured with a gloss meter, and measures between 9 and 19.

The ANSI Sign Committee, working on the 1998 changes, decided to abandon the term “eggshell” because it is also the name of a color, and usually applies only to paint finishes. It had been confusing to some graphic designers. However, the maximum amount of allowed gloss, 19, is an appropriate limit for gloss or glare for all sign finishes that must be accessible. Manufacturers of various materials and finishes can easily supply the gloss meter reading of their materials, and these readings tend to be made by manufacturers, because they are required for many architectural purposes. Therefore, architects, designers and fabricators can obtain the gloss reading for materials they are specifying, and submit them with their plans.

I am therefore proposing that ANSI add a measurable standard for glare or gloss to standards that have to do with sign surfaces. Because I am proposing a maximum amount of glare, and not tying it to “eggshell” paint, I have omitted the lower number, because I do not believe it is relevant to many sign surfaces, including some non-glare paint finishes.

Contrast: During the last ANSI cycle, a subcommittee composed of individuals, some of whom were acknowledged vision or color experts, worked for a substantial period of time on a specific measurement proposal for contrast. This is a contentious topic, because many designers understandably worry that they will be denied the opportunity to choose from a large array of colors. However, the ANSI A117.1 standard as it now reads, as well as the ADA Standard for Accessible Design, make it very clear that “color,” (known more scientifically as “hue,”) is not the issue when we are dealing with vision impairment. The reason that only “dark”

and “light” are to be considered is that many people with an entire range of vision impairments do not see color, or see only limited colors. Even those individuals that we speak of as “red-green color blind” — perhaps as many as 10 percent of the male population — become visually impaired when they are confronted with black or green contrasted with red or brown, or many shades of those colors in between. These colors appear to them as barely contrasting shades of gray. Older people also often find various colors more difficult to discern as their vision deteriorates. For anyone with impaired color vision — and that is a large percentage of people who are defined as legally blind, and therefore disabled — colors with similar “darkness” or “lightness,” often make signs unreadable.

The contrast standard introduced in the last cycle suffered from the fact that we did not have a recognizable method of measurement that was effective for various material finishes. This was a major objection on the part of the SEGD and ISA. They were concerned about being able to use wood finishes, for instance, since the measurement standard was very limited as to surface type. However, that has now changed, and I think it provides us with the scientific support we need to reintroduce a measurable standard for contrast with a way to measure it uniformly.

The British Standards Institute has done the work we need, and has developed a standard for the measurement of the Light Reflective Values (LRVs) of a variety of architectural finishes. This standard is actually used by another ANSI Committee’s standards, and is available in the ANSI Standards Store, so it is part of an accepted ANSI standard. The standard was developed to use for all kinds of architectural elements where contrast is an issue.

In the United Kingdom, there was been much more research on the needs of vision impaired individuals for dark/light contrast in the environment, than has taken place in this country. An important study called the “Rainbow Project” determined that many architectural elements, such as door handles, and doors on buses and trains, needed to contrast with their surrounding materials.

Just as we proposed in the last cycle, the British Standards uses Light Reflectance Value, or LRV, as the standard of measurement. They turned the 70 percent standard that is normally used, into a requirement for a difference in LRV numbers of 30. I have attached a paper written by an industry member about the standard, and its development.

However, just as with the 70 percent formula, there is an unfortunate flaw caused by the fact that the distances between the points on the scale of 100, used for LRV measurements, are not equal. The “visual” difference between a finish with an LRV of 4 and one of 8 is quite noticeable, whereas the difference between a finish with an LRV of 90 and 94 is barely noticeable. Therefore, if you use the formula and compare two dark finishes, they will show a large percentage of difference, whereas two lighter colors, even though far apart numerically, will fail the percentage test.

Nevertheless, there appears to be general agreement that the LRV is the proper measurement to use if one is comparing darkness and lightness of various surface colors, since it is independent of hue. It remains only to determine a reasonable minimum that will allow the use of a reasonable choice of colors, and still meet the needs of a large group of people who have impaired, though usable vision. Seventy percent minimum contrast appears to be well established, and already is used in some building codes in the United States, including for detectable warning surfaces and the Cleaner Air Symbol, in California.

Our committee agreed with the conclusion drawn by the individuals who prepared a study on contrast in detectable warning surfaces prepared for the Access Board, and cited in the last cycle’s attempt, that the formula included in the original ADAAG Appendix, and some building codes, could only be used successfully if a minimum LRV was established for the lighter of the two numbers. A scientist working at NIST on the light and dark comparison of colored electrical wires for aircraft came to the same conclusion. Accordingly, after much studying of color graphs and formulas, the contrast committee determined on a minimum number of 45.

The contention of the color specialist who spoke on behalf of the SEGD and ISA against the proposed standard during one of the final meetings of the last cycle, that the standard is meaningless without a reference to hue, goes against the entire intent of the accessibility standards not only in the United States, but also other countries that adopt contrast standards for the built environment, and accept the LRV as the standard unit of measurement.

A bright red and white sign was circulated as a sample of a sign that would fail the percentage formula the committee proposed. This was understandably disturbing to committee members. However, it appeared that assessment was actually based on a completely different measurement standard, one that included hue, which would produce different numbers. During the recess, the sign was checked with a Spectrometer that measures LRV and the reading showed a contrast, using the formula, significantly greater than 70 percent. The vote was called before this could be demonstrated to the Committee. Color is admittedly a complicated issue, and it is indeed difficult, particularly among people with adequate color vision, to separate the concept of hue out from the other attributes that make up what we refer to collectively as “color.” I am attaching a document that gives a clear explanation of color terminology.

In preparation for resubmitting a measurable standard for contrast, I went to a single swatch book of just one popular paint manufacturer, Dunn Edwards, and sorted all the colors by LRV. I am attaching the list. I then counted the number of swatches that measure the most extreme, or minimum (darkest) “light” color, LRV 45, and found there were 10 of them. I found that, in order to get a minimum percentage of 70, I needed to choose a dark color with an LRV of 13. There were actually 199 swatches that ranged from 4 (black) up to various shades that measured 13. That means that using the least possible contrast range, and only matching colors in this one swatch book, the designer has 1990 different colors or shades of hues with which to work. It is difficult to imagine the designer who could not be creative within that range. Of course, as lighter colors with higher LRVs are used, different choices are available. If you choose DE “white,” which has an LRV of 93, you can use all the shades with an LRV of 27 or less for the darker color. Note that there are decimals for the LRV measurements, so using the exact numbers, not rounded, may give you slightly different choices.

Unfortunately, I did not have a budget to purchase the actual British Standard, but am attaching the abstract. It should be readily available through ANSI. I believe the abstract along with the discussion in the attached document about the standard makes it clear that it is the appropriate one.

I urge the ANSI A117.1 Committee to give us another opportunity to pass a measurable standard. Code officials do not feel secure in checking contrast and glare, because they have no definition at all of what these terms mean. In some cases, we see signs with “dark” that is only a shade or two darker than “light.”

Contrast may possibly be the issue that affects the largest group of persons with a variety of vision disabilities.

Admittedly, we do not yet have a scientific instrument that would be affordable and convenient for every inspector to carry onto a site. However, there are many elements of construction that are important, such as certification of hidden welds or the composition of concretes and adhesives, that are certified by the designer and required to be stated for plan checkers. There is no way for inspectors to check them on site, even though they are vital to the building structure. There is no reason why the measurements for gloss (glare) and dark/light contrast — items with no structural importance — cannot be listed in the specifications and plans by designers. Then, if there appear to be signs during the actual site check that have too much glare or insufficient contrast, swatches of the materials used can be requested and checked to be sure that they have been provided in compliance with those specifications and plans. I have no doubt that it is only a matter of time before a device can be invented that will measure those attributes on site.

I plan to submit additional materials to support the standard as I am able to gather them. Several people, such as a professor I met who does research on light, have recently expressed interest in the topic. It may even be possible to get some focus groups together of individuals with impaired color vision, who can look at some of the combinations from specific distances to determine if they are visible. Attachments will be provided as separate pdf documents.

703.2.1.1(New)-TOJI.doc

Committee Action

Approved

Committee Reason: The Committee has considered the issues surrounding signage for many years. This proposal provides a measurable standard based on the cited British standard. The Committee debated again the importance that contrast of the sign itself, the amount of light available and the role of glare of the surface. While sign materials fade over time and the contrast can be lost, that was judged to be an issue of maintaining a building (facility) in compliance and not a definitive concern for the Standard at new construction/installation. The Committee discussed whether the provision results in a measureable standard. It considered the concern that some measurement devices are costly and that many sign providers are smaller businesses with few employees - making the requirement of costly equipment problematic. The Committee concluded that better standards helped all, regardless the size of the providers or enforcement organizations.

BALLOT COMMENTS

7-1.1

Commenter: Todd Andersen
Ballot: Negative with comment:

Comment: We are buying a pig in a poke. We heard from the signage industry that these required meters are expensive, we heard from the regulators that they would rely on representations made to them by licensed professionals, and we heard from everybody that post construction changes to lamps, wall colors etc may change readings. I imagine this is what litigators will come to call a target rich environment.

7-1.2

Commenter: David S. Collins, Representing AIA
Ballot: Negative with comment:

Comment: The wording “Gloss on” should be deleted from Nonglare. Whatever the finish, the gloss meter will measure it. This language implies that only finishes that have a gloss must be measured. Glare can be caused by various finishes, not only glossy ones. If the finish is flat, but a glass covering placed over it does it become gloss on the finish? The language should be clear.

7-1.3

Commenter: Ann Makowski, Representing SEGD
Ballot: Negative with comment:

Comment: We would like to divide the question and consider the proposed changes related to contrast and glare separately as additional research is needed on both subjects.

The proponent made a math error claiming that in one paint book, they found 10 color swatches with an LRV of 45 (darkest of the light end) and 199 color swatches with an LRV of 13 or less (the dark end). They then state that that these swatches give the designer "1990 different colors" to work with. The correct statement would be that the designer has 209 colors (10 light colors + 199 dark colors) that can be paired in 1990 combinations (10 light colors x 199 dark colors).

Other reasons to divide the question and address contrast separately include:

- Differences in LRV contrast readings under different lighting conditions either in a controlled environment (e.g., a

manufacturing facility or a testing body facility) and what will actually be present in the field under which the products will be used
- Even with the required contrast level, restricted light color LRV, and a defined formula for calculating contrast, there are still results that would not be recommended for good visual contrasts, such as a yellow on white example.
- The unavailability of LRV values on all coatings and material substrates, which could curtail the use of such elements within a program that would otherwise still achieve the contrasts levels but that would not have the ability to be formally tested to meet a "required" contrast level
- The prevalence of multi-colored signs that address various functional reasons such as color coding (e.g., trying to make all adjacent colors on NYC subway signs or on a multi-color orientation map contrast at 70% will be almost impossible)

7-1.4

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The British standard BS 8493:2008 was not provided to the committee. It should be verified that this standard is an open consensus standard and written in enforceable language. If this is approved, the standard needs to be added to Section 105. Not having seen the standard, I am not clear on how this contrast and light reflective value can be determined consistently in the field or be identified as compliant by manufactures. Is this due able with standard signage available on the market. Without this information I believe this proposal should be disapproved.

7-1.5

Commenter: Teresa Cox, Representing ISA
Ballot: Negative with comment:

Comment: We would like to divide the question and consider the proposed changes related to contrast and glare separately. Additional research is needed on both subjects. The proponent also made a mistake in the terminology when recommending a 45 degree measurement for gloss. The LRV is measured with a spectrophotometer at a 45 degree angle, but that is not a function of gloss. While there is a 45 degree measurement for gloss, it is rarely used and not recommended in the paint and coating industry. It is most commonly used in ceramics and textiles. The correct measurement should be 60 degree gloss meter, as referenced by the proponent in 7-8-12, who stated, "An eggshell finish (11 to 19 degree gloss on 60 degree glossimeter) shall be used".

Much of the evidence cited by the proponent was anecdotal in nature, rather than evidence-based. Many references were given regarding the "contrast committee", but this group's research and findings were not made available to the ANSI A117.1 Committee members. There is no record of such a committee in the minutes of previous meetings, nor are the members of this contrast committee listed.

We ask the committee to separate the different issues of contrast and gloss, wait for empirical data & research on the two issues to be presented at the July meeting, and the proponent to make the correction for gloss measurement at 60 degrees.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The committee considered value of setting light reflectance value (LRV) as the measure by which contrast is measured and whether the British standard - BSI 8493 was an adequate standard. The committee discussed the availability and cost of the evaluation devices. The discussions revealed that the standard may not be useful for all surface materials. The original proposal was amended to address the limitation of the standard.

Modification:

Revise as follows:

105.2.13 Light reflectance value (LRV) of a surface. Method of Test. BS 8493:2008 + A1: 2010 (British Standards Institution, 389 Chiswick High Road, London W4 4AL, United Kingdon).

701.1.2 ~~Contrast and~~ Light Reflectance Value. The light reflectance value (LRV) ~~contrast~~ of surfaces shall be determined in accordance ~~with Equation 7-1~~ with BS 8493 for the following surface types:

1. Opaque paint coatings and paint systems, including those that cause extreme angular dependences of reflected light and those that have a surface texture of less than 2 mm;

2. Opaque coverings including those that cause extreme angular dependences of reflected light, and those that have an unyielding texture of less than 2 mm;

3. Opaque coverings with a yielding pile, e.g. carpet;

4. Opaque materials, including those that cause extreme angular dependences of reflected light, and those that have a texture of less than 2 mm, e.g. finished metals;

5. Opaque materials coated with non-opaque coatings or coverings, e.g. timber door coated with a woodstain, including those that cause extreme angular dependences of reflected light, and those that have a texture of less than 2 mm;

6. Multi-colored surfaces;

701.1.2.1 Other Surfaces. Other surfaces shall comply with Section 703.1.3.1.

701.1.3 Contrast Value. The contrast between the LRVs of adjacent surfaces required by Sections 703.2.1.2, 703.5.3.2, 703.6.3.2, 705.3, and 504.5.1 shall be determined by Equation 7-1,

Contrast = [(B1-B2)/B1] x 100 percent **Equation 7-1**

Where

B1 = light reflectance value (LRV) of the lighter surface,
B2 = light reflectance value (LRV) of the darker surface.

701.1.3.1 Other Surfaces. Surfaces not within the scope of BS 8493 shall provide contrast between adjacent surfaces that are either light on dark or dark on light.

703.2.1.1 Nonglare Finish. The glare from coverings, ~~Gloss on~~ the finish of characters and their background shall not exceed 19 as measured on a ~~45~~ 60-degree gloss meter.

703.2.1.2 Contrast. The Light Reflectance Value (LRV) of characters and their background shall contrast 70 percent minimum as determined in accordance with Equation 7-1. The lighter surface shall have a LRV of not less than 45.

703.5.3 Finish and Contrast. Pictograms and their fields shall have a nonglare finish. Pictograms shall contrast with their fields, with either light pictograms on a dark field, or dark pictograms on a light field.

703.5.3.1 Nonglare Finish. The glare from coverings and ~~Gloss on~~ the finish of pictograms and their fields shall not exceed 19 as measured on a ~~45~~ 60-degree gloss meter.

703.5.3.2 Contrast. The Light Reflectance Value (LRV) of pictograms and their fields shall contrast 70 percent minimum as determined in accordance with Equation 7-1. The lighter surface shall have a LRV of not less than 45.

703.6.2 Finish and Contrast. Symbols of accessibility and their backgrounds shall have non-glare finish. Symbols of accessibility shall contrast with their backgrounds with either a light symbol on a dark background or a dark symbol on a light background.

703.6.3.1 Nonglare Finish. The glare from coverings and ~~Gloss on~~ the finish of symbols of accessibility and their backgrounds shall not exceed 19 as measured on a ~~45~~ 60-degree gloss meter.

703.6.3.2 Contrast. The Light Reflectance Value (LRV) of symbols of accessibility and their backgrounds shall contrast 70 percent minimum, as determined in accordance with Equation 7-1. The lighter surface shall have a LRV of not less than 45.

705.3 Contrast. Detectable warning surfaces shall contrast visually with adjacent surfaces, either light-on-dark or dark-on-light.

The Light Reflectance Value (LRV) of the surfaces shall contrast 70 percent minimum, as determined in accordance with Equation 7-1r. The lighter surface shall have a LRV of not less than 45.

504.5.1 Visual Contrast. The leading 2 inches (51 mm) of the tread shall have visual contrast of dark-on-light or light-on-dark from the remainder of the tread.

The Light Reflectance Value (LRV) of the 2-inch stripe and tread shall contrast 70 percent minimum, as determined in accordance with Equation 7-1. The lighter surface shall have a LRV of not less than 45.

7-3– 12
702.2 (NEW)

Proposed Change as Submitted

Proponent: Hansel Bauman, Architect, representing National Association of the Deaf

Add new text as follows:

702.2 Alarm Location. Visual alarms and notification appliances shall be located where view of the appliances is unobstructed from anywhere in the space served by the appliance. The appliance shall not be located where exposed to high levels of illumination generated by natural or artificial sources.

Reason: This text is added to mitigate situations where high levels of light fall directly upon strobe lights thus reducing their visual impact. And to further direct designers to carefully select visual alarm locations within rooms to ensure the highest degree of visual impact.

702.2 (NEW)-BAUMAN.doc

Committee Action

Disapproved

Committee Reason: The Committee found the language to be unclear. The important factor for this standard is the visibility of the light from the appliances, not views of the appliance themselves. The proposal doesn't specify where the observer is located, so it would prohibit many installations that adequately light a room. Finally, if the issue is with the interpretation and application of the NFPA 72 standard, the proponent should work through NFPA's process to amend that standard.

BALLOT COMMENTS

7-3.1
Commenter: Allan B. Fraser, Representing NFPA
Ballot: Affirmative with comment:

Comment: The NFPA 72 minimum required light output (effective intensity) provisions for visible alarm appliances were established for indoor spaces. It is reasonable to assume that the performance of visible appliances installed, in compliance with NFPA 72, in an atrium lobby with glass ceiling and glass walls on a sunny day would be less effective than similarly placed appliances in a room with opaque ceiling and walls. NFPA 72 provide advisory annex material explaining: "The application of visible notification appliances in outdoor areas has not been tested and is not addressed in this standard. Visible appliances that are mounted outdoors should be listed for outdoor use and should be located for direct viewing because reflected light will usually be greatly reduced." NFPA 72 is open for Public Input for its next edition until May 20, 2013. The proponent of 7-3– 12 is encouraged to submit public input on the 18.5.3's of NFPA 72 even if such input calls out the problem but does not have all the solutions. The technical committee for NFPA 72 might accept the challenge to address the issue with all its technical expertise.

7-3.2
Commenter: Hansel Bauman, Representing NAD
Ballot: Negative with comment:

Comment: The intent is strong and reasonable. The proponent should be given an opportunity to resubmit the proposal coordinated with NFPA 72 and amended language to address committee concerns.

7-3.3
Comment rescinded.

7-3.4
Commenter: Hope Reed, Representing NMGCD

Ballot: Negative with comment:

Comment: The direction of the flashing alarm in relation to partial walls, shelving, kitchen equipment, desk layout, natural light, and similar are a frequent concern in plan review. This proposal is a good attempt to provide a minimum of useful information for design and enforcement.

PROPONENT COMMENT

7-3.5

Commenter: Hansel Bauman, Representing NAD

Revise the proposal as follows:

702.2 Alarm Location. Visual alarms and notification appliances shall be provided in accordance with NFPA 72 and further be located in such a way the visual signal is detectable from any location during full day-light conditions. ~~located where view of the appliances is unobstructed from anywhere in the space served by the appliance. The appliance shall not be located where exposed to high levels of illumination generated by natural or artificial sources.~~

Reason:
Field experience in recent projects demonstrates that visual strobes can be undetectable under direct daylight conditions that minimizes the light level contrast that makes the devices detectable. Given the importance to ensure visual access to emergency alarms under all conditions the Proponent disagrees with the Committee's action and has provided revised language to address the Committee's Reason statement.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

7-10– 12
703.3.11

Proposed Change as Submitted

Proponent: Carroll Lee Pruitt, FAIA, APA, representing Accessibility Professionals Association

Revise as follows:

703.3.11 Location. Where a sign containing raised characters and braille is provided at a door, the sign shall be alongside the door at the latch side. Where a sign containing raised characters and braille is provided at double doors with one active leaf, the sign shall be located on the inactive leaf. Where a sign containing raised characters and braille is provided at double doors with two active leaves, the sign shall be to the right of the right-hand door. The edge of the sign closest to the arc of the door shall be located 9 inches maximum from the edge of the door. . Where there is no wall space on the latch side of a single door, or to the right side of double doors, signs shall be on the nearest adjacent wall. Signs containing raised characters and braille shall be located so that a clear floor area 18 inches (455 mm) minimum by 18 inches (455 mm) minimum, centered on the raised characters is provided beyond the arc of any door swing between the closed position and 45 degree open position.

EXCEPTION: Signs containing raised characters and braille shall be permitted on the push side of doors with closers and without hold-open devices.

Reason: Alongside the door is a vague unenforceable term. The current language could allow the sign to be mounted several inches to several feet from the door. This change sets a maximum distance the sign can be mounted from the door's edge. Similar requirements were used in Texas from 1994 to 2012 (1994 Texas Accessibility Standards 4.30.6, Figure 43(e).

703.3.11-PRUITT.doc

Committee Action

Disapproved

Committee Reason: The Standard could be improved in this area, but the proposal was not the solution needed. The geometry represented by the change proposal doesn't work for doors.

BALLOT COMMENTS

7-10.1
Commenter: Hope Reed, Representing NMGCD
Ballot: Negative with comment:

Comment: The sign location at double doors is a frequent question during plan review. This proposal is a good attempt.

7-10.2
Commenter: Sharon Toji, Representing HLAA
Ballot: Negative with comment:

Comment: Although I agree this proposal is unworkable “as is,” I would like an opportunity to try to come up with better language prior to the July meeting and see if it can be modified. This is a constant problem, and the result is that signs are often placed so far away from doors they identify, and in locations that have no reasonable relationship to the doors, that they are useless to everyone, sighted, visually impaired, and functionally blind.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered a revised set of standards to address the placement of signs at various door configurations. The committee acknowledged there are problems with some installations, but the proposed language was found to be vague and would not result in consistent application. The original action to disapprove this proposal was sustained.

7-16– 12
704.8(NEW), 704.8.1 (NEW), 704.8.2 (NEW)

Proposed Change as Submitted

Proponent: Hansel Bauman, Architect, representing National Association of the Deaf

Add new text as follows:

704.8 Visual Relay Service. Where accessible public telephones are required, provide a minimum of one Visual Relay Service interface.

704.8.1 Equipment. Each Visual Relay Service interface shall accommodate one user with seating, a visual monitor, control device, lighting to illuminate sign language privacy enclosure with a muted color back drop for clear visual communication.

704.8.2 Booth Accessibility. Each booth shall be fully accessible in compliance with all applicable dimensions as stipulated in Sections 304, 305, 306, 308 and 309.

Reason: Submitted reasons statement addressed another proposal.

704.8-BAUMAN.doc

Committee Action

Disapproved

Committee Reason: There was considerable committee discussion on this proposal. There is an explosion of equipment and changing technology surrounding this topic. Sharon Toji encouraged the committee to establish a task force to address these issues. Part of this proposal is scoping which would need to be proposed for the *International Building Code* or other scoping document. The proposal seems to be trying to address a person who is both hard of hearing and using a wheelchair. Historically the Standard hasn't addressed multiple disabilities. Such may be a next step for the standard. This current proposal needs further study and refinement.

BALLOT COMMENTS

7-16.1
Commenter: Gene Boecker, Representing NATO
Ballot: Affirmative with comment:

Comment: I am in agreement with the committee but want to stress that a task force needs to be created to study this item for the next edition.

7-16.2
Commenter: Gina Hilberry, Representing UCP
Ballot: Affirmative with comment:

Comment: Would like confirmation that a task force will be formed to address this and other similar issues.

7-16.3
Commenter: Hansel Bauman, Representing NAD
Ballot: Negative with comment:

Comment: The intent of this proposal is to provide equal communication access for deaf people using sign language that is the same as that provided to hearing individuals. The proponent should be given an opportunity to resubmit the proposal with revisions to address committee concerns.

7-16.4

Comment rescinded.

7-16.5

Commenter: Sharon Toji, Representing HLAA
Ballot: Negative with comment:

Comment: Although I agree this proposal is not usable "as is," I hope that a reasonable substitute that will allow the use of video phones and video relay systems to be placed in locations with necessary public phones can be offered prior to the July meeting. The TTY is seldom used now, and we need to make a first attempt to substitute more recent technology in the standard.

PROPONENT COMMENT

7-16.6

Commenter: Hansel Bauman, Representing NAD

Revise the proposal as follows:

704.8 Visual Relay Service. ~~Where accessible public telephones are required, provide a minimum of one Visual Relay Service interface.~~ Telephones intended for public use shall be accompanied with a minimum of one Visual Relay Service interface.

704.8.1 Equipment. Each Visual Relay Service interface shall accommodate one user with seating, a visual monitor, control device, lighting to illuminate sign language privacy enclosure with a muted color back drop for clear visual communication.

704.8.2 Booth Accessibility. Each booth shall be fully accessible in compliance

Reason: The proponent disagrees with the Committee's action on this proposal as it limits fair access to communication. The proposed Standard does not intent to provide scoping but rather to provide Visual Relay Service as an expanded communication option for when telephones are provided. Revised text is provided here to address the Committee's comments. Additionally it is the intent of this Standard to meet the needs of individuals with multiple disabilities—a comprehensive approach in keeping with current Universal Design trends.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The revised proposal eliminates any scoping provisions and simply provides a framework for design of such spaces. Scoping would have to be done by adopting jurisdictions. The committee concurred that the concept needs to be seriously considered for the next standard. The committee wants to be able to further revise the proposal during the cycle.

Revise the proposal as follows:

704.8 Visual Relay Service Booth. ~~Where accessible public telephones are required, provide a minimum of one Visual Relay Service interface.~~

~~**704.8.1 Equipment.**~~ Each public Visual Relay Service Booth ~~interface~~ shall be accessible and accommodate one user with seating, a visual monitor, control device, diffuse lighting with a minimum lighting level of 20 foot candles ~~source illuminate sign language~~ , and a privacy enclosure with a flat, non-textured surface and finish color in contrast with the full range of human skin tones ~~with a muted color back drop for~~ to provide a background for clear visual communication.

~~**704.8.2 Booth Accessibility.** Each booth shall be fully accessible in compliance with all applicable dimensions as stipulated in Sections 304, 305, 306, 308 and 309.~~

7-19– 12
706.1, 706.3 (New)

Proposed Change as Submitted

Proponent: Sharon Toji, Access Communications, representing Hearing Loss Association of America

Revise as follows:

706.1 General. Accessible assistive listening systems ~~in assembly areas~~, where provided, shall comply with Section 706.

706.3 Inductive Loop Systems. Where inductive loop systems are provided, they shall comply with the following international standard: IEC-60118-4.

(Note: Where existing standards in ANSI A117, 706.4, 5 or 6 conflict or do not comply with the IEC Standard for Inductive Loop Systems, an exception shall be added as follows:)

Exception: Inductive loop systems, where provided, shall comply with 706.3.

Reason: 1. Revision to 706.1: Since accessibility codes in some states require assistive listening systems in occupancies other than assembly areas, the standard should apply to all such systems, in whatever type of occupancy they are installed.

2. Revision to 706.3: Although there are several types of assistive listening systems, and no particular system is required by the ADA Design Standards, the Induction Loop (or T-Coil) System can be used automatically by anyone who has a hearing aid fitted with the technology. We understand that 50 percent or more of the hearing aids sold in the United States have this technology. Also, people who have cochlear implants can use the T-Coil technology. Therefore, so that the many facilities that choose to install an Induction Loop System will install one that will perform satisfactorily for the most users, we recommend that the international performance standard for such systems, the IEC-60118.4, as revised in 2007, be added to the ANSI Standard. This standard is widely adopted internationally, and is recognized by quality manufacturers of these systems, sold both in the United States and abroad. One of the values of the IEC Standard, is that it is applicable to any size room and system.

3. ANSI already adopts this standard for use in AS 60118.4-2007: “Hearing aids – Magnetic field strength in audio-frequency induction loops for hearing aids operating with an induction pickup coil.”

4. IEC, the International Electrochemical Commission, is a nonprofit organization that develops and publishes standards concerning electrical technologies.

Here is the Abstract for the IEC Standard, as it appears on the ANSI Standards Store site, where it may be purchased:
Electroacoustics - Hearing aids - Part 4: Induction loop systems for hearing aid purposes - Magnetic field strength
"Applies to audio-frequency induct ion loop systems producing an alternating magnetic field at audio frequencies and intended to provide an input signal for hearing aids operating with an induct ion pick-up coil . The standard specifies requirements for the field strength in audio-frequency induct ion loops for hearing aid purposes, which will give adequate signal -to-noise ratio without overloading the hearing aid. The standard also specifies the minimum frequency response requirements for acceptable intelligiblity. Methods for measuring the magnetic field strength are specified, and information is given on appropriate measuring equipment (see Annex B), information that should be provided to the operator and users of the system (see Annex C), and other important considerations. "

The following is from a document prepared by a British manufacturer of induction loop systems describing the revised IEC Standard.

New Requirements for Audio Induction Loops in 2007
A major revision of the Audio Induction Loop performance standard means better hearing assistance systems for the hearing impaired. It also changes the way that loop systems are specified, designed, commissioned and maintained.

Providing hearing assistance is a vital way for many organizations to help their customers and staff. With over 10% of the population suffering significant hearing loss, the benefit of hearing assistance systems can be very significant for both the provider and for those who suffer from hearing loss.

However, simply installing a system is not sufficient; a hearing assistance system such as an Audio Induction Loop must provide a genuine benefit to the hearing aid user. A poorly designed or installed hearing assistance system is unlikely to meet legislative requirements as the provider is not giving assistance to the hearing impaired. Standards can provide performance benchmarks that will ensure that systems provide a genuine benefit.

The international standard for audio induction loop systems — IEC60118-4 — sets out requirements and test methods for any loop system. As hearing assistance is increasingly mandated by equal access legislation around the world, IEC60118-4 has become the reference for all loop systems, often appearing in specifications and tenders or directly in hearing assistance legislation.

IEC60118-4 has been revised and republished in 2007. The revised standard is more complex but also sets a clearer performance standard for loops. There are four main requirements:

Field Strength: Sets the output level for the system, ensuring sufficient signal is delivered to the hearing aid to provide enough volume but no distortion.
Test:
• Capable of 400mA/m RMS with 1kHz sine
• Variation ≤ +/-3dB over the required volume of use
Frequency: Sets the requirement for flat frequency response to give good speech intelligibility, the most critical requirement for loop system and the most frequently failed.
Test: Field strength variation ≤ +/-3dB from 100Hz to 5kHz over the required volume of use (reference to the level at 1KHz)
Background Noise: Sets a requirement for a maximum acceptable level of background noise. Suppression of background noise is essential to give the intelligibility required by the hearing impaired.
Test: • A-weighted background noise to be <32dB relative to the signal (400mA/m RMS)
• Ideally <47dB where possible.
Subjective Test: To ensure the system provides an undistorted clear signal to hearing aid users using the actual system sources (microphones etc.)
Test:
• Ideally hearing aid users will validate the system performance
• If not, someone from the service provider must assess the system with suitable receiving equipment.
Here is a document about the new standard submitted by company in the United States

Basic Review of lEe 60118-4 as Revised

The original lEe 60118-4 document was written to establish a standard for the installation of AFIL systems defining required signal levels and installation standards. The required signal strength was chosen to be high enough to produce an acceptable signal to noise ratio over background magnetic noise and yet not so high as to cause overloading of the hearing aid.

In many countries throughout Europe AFILS systems were thought to be required by law. The bad part – many venues installed what was felt to be the minimum system required and much was left up to interpretation. One manufacturer stated that at first they sold only their smallest induction loop drivers and felt many venues had installed marginal systems. In reality some studies indicated that fewer the 50% of the systems in Europe worked properly and often the users were not satisfied with the benefits of AFIL systems. Many of the revisions were meant to better define terms and clarify procedures like commissioning a new system. The desire was to have systems installed where any user could walk into any hearing loop system, sit anywhere and receive a good signal.

Basic points of the revised specification

1. Defines two different types of AFIL systems: large loop or small loop and gives different parameters for each. The small loop is a counter loop, tv loop or cushion loop. In this document we will be dealing with the large loop side of this document.
2. The 0 dB level has now been defined as a 400mA/meter as created by a 1KHz sine wave signal.
3. The useful magnetic field volume now defines the height dimension in detail (the perpendicular distance between the hearing aid pick up coil and the plane of the loop.
4. Suitability of the site is now defined by three items: the magnetic background noise level, the influence of materials in the structure and the presence of other induction loop systems in the area.
5. Background noise levels should be read using an A weighted meter with a.125 sec averaging of the RMSvalue. In a perfect environment the signal tonoise ratio should be 47dB. In other words a noise level reading -47dBA or lower is preferred, however if the actual signal to noise ratio is less than 32dB - it should be analyzed to determine if it is comprised of any undesirable tones and this information shall be reported.
6. The test signals were defined in more detail especially the pink noise signal, which is used often. Sinusoidal signals of 100Hz, 1KHz and 5KHz were defined as the three minimum test frequencies for testing amplifier characteristics and system response.
7. Induction loop system measurements should be taken under conditions deemed to be normal use including other powered sources such slighting. Once the system has been commissioned it recommends that multiple users evaluate the system as a final test.
8. Typical values for the maximum field strengths (peak)(400mA/m) produced by a test signal will vary depending upon the test signal and whether the amplifier uses peak detecting AGe. For a 1KHz sine it would be 400mA/m or OdB, for pink noise it would be 200mAjm or -6dB and for male simulated speech 225mA/m or -5dB. Readings should be taken over at least 60s and the maximum indication read.
9. Commissioning the system requires that the signal levels shall be within ±3dB of the level as indicated in #8 and performed at 100Hz, 1KHz and 5KHz throughout the useful magnetic field volume.
10. Pink noise should be bandwidth limited in a manner similar to speech.
11. Information which should be provided to the hearing aid user and system operators include: signage, instructions on how to use the system, a plan showing the useful magnetic field volume, name and position of the person responsible for proper operation, documented field strength levels, how to monitor the AFIL level and operation, any special audio microphones or other equipment required for proper operation.
12. Appendix E gives a very good overview of induction loop system theory. One major point is the need for a constant loop plane and to keep the loop plane distance from the listening plane consistent and generally in the range of .12 to .16 times the loop width. Also the worst location for the loop plane is at ear height and going up and over doorways should be avoided. It was noted that loops have both resistance and inductance - therefore the amplifier should have sufficient voltage to drive the required current through the loop - especially at the higher frequencies.

We are also sending a letter of support from Listen Technologies, a United States Company that supplies Assistive Listening Systems in the United

States.

Don't miss a single sound. Listen

June 28, 2012

TO WHOM IT MAY CONCERN:

Listen Technologies Corporation is a leading supplier of assistive listening systems in North America. As such we support the Hearing Loss Association of America (HLAA) efforts in establishing guidelines and recommendations for induction loops.

We believe that the current version of the IEC-60118-4 standard is the best choice as a referenced standard for the following reasons:

- The product standards included in the IEC-60118-4 standard are comprehensive and have been vetted over many years of use in Europe.
- They are clear and concise and provide a performance standard that applies non-discriminatorily to either large or small venues.
- Induction Loops products are inexpensive enough to be used in facilities such as colleges or movie theaters and houses of worship.
- Induction Loop products are readily available around the world.

Best regards,

LISTEN TECHNOLOGIES CORPORATION

Keldon A. Paxman
VP-Operations.

Listen Technologies Corporation • 14912 Heritagecrest Way • Bluffdale • Utah 84065-4818
T 801.233.8992 • T 800.330.0891 North America • F 801.233.8995 fax

SWBR

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387 East Main Street
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200 South Franklin Street
Syracuse NY 13202
Voice 315.422.5325
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June 29, 2012

SWBR Architects
387 East Main Street
Rochester, NY 14604

To: To Whom It May Concern:

Re: ANSI 117.1, Section 706 Assistive Listening Systems

I am a practicing Architect with SWBR Architects & Engineering, P.C., which is one of the top 250 Architectural firms (Architectural Record, June 2012), directly responsible for the design of Induction Loop Systems for variety of public, educational, and private projects.

I wear (2) behind the ear digital hearing aids that include T-Coil Programs. I am currently the Board President of the Hearing Loss Association of America Rochester Chapter, and have presented workshops on Induction Loop Systems based on IEC-60118-4.

I prepare Induction Loop Design and Specification Documents for small and large areas based on IEC-60118-4 (IEC) and endorse the following proposed adoption of IEC-60118-4 standards:

1. Conformance with the IEC is beneficial because conformance provides a constant field strength level to everyone (within a +/- 3dB level), within the Induction Loop Space.
2. IEC establishes 0 dB as a standard basis, (defined as 400mA/meter created by a 1 kHz sine wave signal), allowing a standard metric and development of measuring equipment.
3. IEC provides performance and commissioning requirements for small or large Induction Loop installations with parameters for each, ensuring that operators have the ability to provide and maintain proper system operation.
4. IEC defines "useful magnetic field volume" level and height dimension beneficial for hearing aid or headphone with pick up T-Coil users.
5. IEC defines (pre-design) area suitability requirements: magnetic background noise level, structure material influence and presence of other induction loops.

Respectfully submitted,

Donald W. Baraffe, AIA, CCS
Architect / Specification Writer

DWB:jmd

PERFECT BALANCE

Disapproved

Committee Reason: The Committee was concerned that this was promoting a technology that has not a proven track record and may be promoting equipment of a single company. There is already an acknowledged standard for this, how would this proposal compare to it. The proposed exception seems unnecessary.

BALLOT COMMENTS

7-19.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: The referenced standard, IEC 60118-4 was not provided for the committee. Is the standard developed using a consensus process and written in enforceable language. Are there systems available that can meet this standard?

Revise as follows:

7-19.2

Commenter: Hansel Bauman, Representing NAD
Ballot: Negative with comment:

Comment: The intent of this proposal improves upon existing standards. The proponent should be given an opportunity to re submit the proposal with revisions that address the committee's concerns.

7-19.3

Commenter: Gina Hilberry, Representing UCP
Ballot: Negative with comment:

Comment: The committee's actions relate to 706.3. 706.1 has merit.

7-19.4

Commenter: Melanie Hughes, Representing AERBVI
Ballot: Negative with comment:

Comment: For complex but valid reasons explained by the proponent in an email.

7-19.5

Comment rescinded

7-19.6

Commenter: Cheryl D. Kent, Representing HUD
Ballot: Negative with comment:

Comment: I am voting negative based on the information provided in an email from Sharon Toji, as follows:

For all who have not yet sent in their ballot. I am hoping to get a reconsideration of the item on ALS. (7-19– 12). I found that items that I submitted that were necessary if you wanted to understand the exception, were left out when it was printed, and I unfortunately got very flustered and couldn't figure out myself why it didn't make sense.

Also, I was very shocked when I saw the "reasons" why it was so soundly defeated. This technology (hearing or induction loop) is the oldest of all the technologies for wireless assistive listening, far from being "unproven." Also, although I did include a letter from a well respected company that installs the loop systems, as well as from an architect who is hard of hearing, is an expert in the systems, and consults on them and specifies them, this is hardly anything to do with the equipment manufactured by any one company.

I have finally been able to get many more responses from experts in this field, and the whole point is that induction loop systems, of all the systems listed by the Access Board in their commentary, require very specific installation testing if they are to be

useful. That is why the IEC standard was written. I know that many people on the committee are in favor of objective testing standards, and the current ADA/ANSI standard is a "one size fits all" standard for the equipment itself, and does not require testing of the installation. The IEC Standard is specific to induction (hearing) loop systems, and what I am getting from the experts is that it is vital to ending up with a very usable system.

It is possible to purchase components that would comply with ADA/ANSI standards and have a "do-it-yourself" installation by someone who had the proper contractor's license, but did not understand how to test it, and the system would be inferior and would work poorly. That is what I understand, and what was happening in Europe and why they worked on, and passed the standard. The best professional companies here do, I believe, use the standard and they all say that, but it is possible to go a route that does not provide that kind of installation, and it's undoubtedly less expensive.

By the way, small, portable testing kits are available, so this is something that an inspector could probably learn to test.
I would like to be able to present this in more detail, and I think that this time, I will have technical experts to explain things and back it up. Therefore, I am requesting that those who have not yet sent in their ballot will consider putting in a negative ballot on this item.

Sharon Toji

7-19.7

Commenter: R. Duane Wilson, Representing ASTC
Ballot: Negative with comment:

Comment: Having specified these systems in the past, I never had a good way to know they were working satisfactorily. The European standard provides that test.

7-19.8

Commenter: Sharon Toji, Representing HLAA
Ballot: Negative with comment:

Comment: At the July meeting, I believe I will be able to present convincing reasons for the acceptance of this proposal, including a modified “exception” if that is appropriate. The reasons given for the negative vote by the committee are not reasonable, since this is very tried and true technology (inductive loop systems), and is no way confined to one or two manufacturers. These standards are promoted by many experts, consultants, manufacturers, and installers as vital for the needed end result of inductive loop systems that are effective for their users. They add standards for the testing of the systems AFTER installation, which are not in the current standard, which is a “one size fits all” standard for every type of system.

Proponent Comment

7-19.9

Commenter: Sharon Toji, Representing HLAA

Reason: Here are items I would like to submit in support of my negative ballot on the committee action on my item 7-19-12 having to do with the adoption of international standards for installation of Hearing Loop (Induction Loops) types of assistive listening systems. Please distribute this material as per your regular procedure. These letters were all received by me via email.

I would also like to add the following remarks myself:
In support of the adoption of the IEC Standard for Hearing Loop Installation, when that is the system chosen assistive listening system:

I have now been able to speak much more extensively with a number of experts on assistive listening systems. The major flaw in our current standard, in regard to the Hearing Loop, is that the standard relates equally to all kinds of approved systems, and does not take into account the necessity for strict and regulated testing of Loop installations. The installation is the deciding factor in most cases between an excellent outcome for the user of the Loop system, and a substandard one. That was the experience in Europe, where substandard installations gave Loop systems a bad reputation. With the development of the IEC Standard, which includes testing protocol for the installation, Loop systems have become widespread, and very popular.

A major reason for the popularity of the Loop system is that those with hearing aids and cochlear implants with a T-Coil do not have to wear headphones. And yet, someone who does not have a hearing aid, or a T-Coil can get the advantage of the system by using headphones. It is really a universal system, and a system that provides the least effort on the part of the user who does not need to ask for, or use, cumbersome special equipment. In addition, since the sound comes through the individuals own hearing aid or implant, it is a remarkably clear sound, and does not vary from location to location, when it is correctly installed.

My only concern earlier was that ANSI was not adopting something that would conflict directly with the current standard. That is the reason why I was suggesting, that if anything in the IEC Standard did conflict with the current "one size fits all" standards for assistive listening systems, that we adopt an exception to that part of the standard specifically for Loop systems. I will be submitting a slightly rewritten (amended) standard under the advisement of the technical experts involved with the HLAA to be sure that the standard we adopt is clear, and not in conflict with ADA Standards, but supplements them, to the advantage of those with hearing loss.

Sharon Toji

ITEM 1

Dear Sharon,

Thanks so much for writing, and thank you, especially, for your volunteer leadership on behalf of HLAA and all Americans with hearing loss.

Your recommendation—to let the international consensus standard for hearing loops be our national standard—is not just prudent, it is important, and I am very eager to support your effort to propose this to the ANSI committee. As you can see here, the nonprofit informational website that advocates hearing aid compatible assistive listening (via hearing loops) *strongly* encourages that installations meet the standard for strength and evenness of coverage. This is in response to reports of inferior installations, sometimes done by well-intentioned people and sometimes by less-than-scrupulous installers who get jobs by placing low bids and then doing slapdash, inferior installations and pocketing the profit.

Mandating the international standard would help level the playing field for would-be installers, and would also incentivize installers to become trained to do such installations. As HLAA executive director Brenda Battat surely has indicated to you, she and others associated with the HLAA/American Academy of Audiology "Get in the Hearing Loop" joint initiative strongly support respecting people with hearing loss via a mandate for installations that serve their needs.

To help your fellow ANSI committee members appreciate what effective hearing aid compatible assistive listening means to those of us with hearing loss, see here for one example (from this week) and here for a synopsis of accelerating progress in our efforts to transform the way America provides listening assistance to people with hearing loss. (I will also attach a couple items that provide further information, including my remarks to hearing industry leader Oticon, this past Thursday, on accepting an award that salutes our grassroots effort to make American assistive listening hearing aid compatible.)

FYI (to assure you and others that I have no financial interest in any hearing-related product or service) I have just been appointed by HHS Secretary Janet Sebelius as Brenda Battat's replacement (representing Americans with hearing loss) on the National Deafness and Other Communication Disorders Advisory Council (which advises NIDCD on its priorities and grantmaking).

Please feel free to forward this to your fellow ANSI committee members, with my gratitude for their efforts to define national standards that make America accessible to all, including to those of us in the biggest sensory-challenged group—the 36 million Americans with the invisible disability of hearing loss.

Cordially,
David Myers

STAFF NOTE: Ms. Toji's supporting documentation can be viewed under the Agendas tab; July 15-19, 2013; Supporting Documentation at the following link: http://www.iccsafe.org/cs/standards/A117/Pages/default.aspx

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Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: Based on the information provided regarding the technology and the international standard which the devices must comply, the committee approved referencing induction loop systems as another alternative for compliance with the assistive listening requirements.

Modification:

Revise as follows:

105.2.12 Hearing aids – Magnetic field strength in audio-frequency induction loops for hearing aids operating with an induction pickup coil IEC 60118.4-2007 (International Electrotechnical Commission, 3 rue de Varenbe, PO Box 131, 1211 Geneva 20, Switzerland.)

706.1 General. Where installed, ~~A~~assistive listening systems ~~required in assembly areas~~ shall comply with 706.

706.3 ~~Inductive~~ Induction Loop Systems. Where ~~inductive~~ induction hearing loop systems are provided, they shall comply with IEC-60118-4.

~~Exception: Inductive loop systems, where provided, shall comply with 706.3.~~

(*Existing sections will be renumbered)*

Committee Action Report on Ballot and Proponent Comments- July 15-19, 2013: Proposals of 2012 submitted on the ICC A117.1-2009

7-22– 12
703.2.4

Proposed Change as Submitted

Proponent: Ann Makowski, representing Society for Environmental Graphic Design (SEGD)

Revise as follows:

703.2.4 Character Height for the Primary Message of a Sign. The uppercase letter "I" shall be used to determine the allowable height of all characters of a font. The uppercase letter "I" of the font used for primary messages shall have a minimum height complying with Table 703.2.4. Secondary or support messages provided in addition to primary messages, to the maximum extent practicable, shall comply with Section 703.2.4. Viewing distance shall be measured as the horizontal distance between the character and an obstruction preventing further approach towards the sign.

> **EXCEPTION:** In assembly seating where the maximum viewing distance is 100 feet (30.5 m) or greater, the height of the uppercase "I" of fonts shall be permitted to be 1 inch (25.4 mm) for every 30 feet (9.1 m) of viewing distance, provided the character height is 8 inches (205 mm) minimum. Viewing distance shall be measured as the horizontal distance between the character and where someone is expected to view the sign.

Reason: The purposed addition of language to this section to provide differentiation between "primary" and "secondary" or "support" message to the primary message are provided in order to allow variations of character sizes for such messages that will permit more appropriate hierarchies of messaging without creating sign sizes that will become intrusive and unmanageable.

The representation of various character heights in the delineations of message hierarchies, including supportive or secondary messages, help convey the relative and respective importance of these elements in the message and add effectiveness to message communication. Utilizing the minimum character heights as defined in Table 703.2.4 for required character heights of secondary or supportive messages to the primary message will reduce or eliminate the use of such supportive or secondary copy due to the large message panels that would be required. Failure to provide the proposed variance in character sizes could potentially reduce the overall effectiveness of sign message communication by eliminating secondary and supportive messages to primary messages of a sign.

Use of 5/8 inch character height as the minimum size for secondary and supportive messages to primary sign messages would require proportionately increased sizes of the primary message characters to create the referenced visual hierarchy of information and the most effective message communication. This increase in size of primary messaging will then require increasing sizes of the physical sign itself and begin to create architectural encumbrances that will either limit the content or even use of standard sign messaging.

703.2.4-MAKOWSKI.doc

Committee Action

Disapproved

Committee Reason: The Committee was concerned that it requires someone to make a judgment call regarding the importance of some information. The building owner may feel one message is primary, the sign provider another and the person with a disability yet another message is more important that either one chosen by the building owner or sign provider. And then one would need to ask the enforcing agency what is the primary message.

BALLOT COMMENTS

7-22.1
Commenter: Teresa Cox, Representing ISA
Ballot: Negative with comment:

Comment: The proposal will be modified and resubmitted to address the Committee's concerns.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and additional graphic examples displayed at the meeting and decided to take no action to change its original disapproval of this proposal.

7-23– 12
703.3.8

Proposed Change as Submitted

Proponent: Ann Makowski, representing Society for Environmental Graphic Design (SEGD)

Revise as follows:

703.3.8 Character Spacing. Character spacing shall be measured between the two closest points of adjacent raised characters within a message, excluding word spaces. Spacing between individual raised characters shall be ~~1/8 inch (3.2 mm)~~ 15 percent minimum and 35 percent maximum of the character height measured at the top surface of the raised character. ~~minimum measured at the top surface of the characters, 1/16 inch (1 .6 mm) minimum measured at the base of the characters, and four times the raised character stroke width maximum.~~ Characters shall be separated from raised borders and decorative elements 3/8 inch (9.5 mm) minimum.

Reason: The proposed changes to the language of this section are provided in order to allow for a proportionate minimum and maximum raised character spacing to be achieved as opposed to a measurement based requirement that will be difficult to administer, produce and confirm. The language proposed to be removed regarding variations of measurement in spacing of characters from the top or base is proposed to eliminate confusion and provide a single measurement point at the tope surface of a raised character, which is where it is read.

Uniform dimensionally based spacing between character pairs is not recommended for use at is perceived to impair legibility of words. Proper spacing between characters varies based on the shape of the specific character, for example there should be more space between “AC” than “CO”. Character spacing is understood by the graphics design profession to be most effective and legible when created in proportion to character height.

It is understood that the objective of creating minimum and maximum character spacing of raised characters is to enhance the ability for raised characters to serve their tactile reading function and creating standards to achieve the maximum effectiveness of this purpose is supported. However, in the majority of applications a raised character is also acting in function as a visual character and the effectiveness of this purpose should not be sacrificed. It is proposed that the necessary restrictions on spacing be maintained but in a measurement protocol that will allow for proper proportional spacing to ensure both tactile and visual function is most effectively achieved.

703.3.8-MAKOWSKI.doc

Committee Action

Disapproved

Committee Reason: The Committee felt that additional research was needed. There was concern that the 15% would be difficult and time consuming to accomplish. Of further concern is equal spacing isn't required and could be visually confusing.

BALLOT COMMENTS

7-23.1
Commenter: Gene Boecker, Representing NATO
Ballot: Affirmative with comment:

Comment: The proposal has merit and should be researched. Kerning is the concern of spacing between adjacent letters and is a part of every font layout. It relies on proportional spacing for better reading. The 15-30 percent is reasonable. In fact, for certain types of fonts, a zero (0) spacing would be preferred. If you compare the spacing between the letters “A” and “W” when used next to one another as in “AWFUL,” the space between them is actually a negative number for some fonts. Whether the specific range should be 15-30 should be the focus. Arbitrarily relying on a particular dimension as is done in the existing standard will not improve readability.

7-23.2

Commenter: Teresa Cox, Representing ISA
Ballot: Negative with comment:

Comment: The proposal will be modified and resubmitted to address the Committee's concerns.

7-23.3

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: This was a good proposal that came from a knowledgeable proponent. The current requirements are far too restrictive and lead to poor legibility for all as demonstrated in the presentation. Moreover, they were developed with little research also, demonstrated by the fact that they violate principles of good graphic design. So, the argument for disapproval is not valid.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on comments.

Committee Reason: The proponents are seeking flexibility of spacing of raised letters, but appear to assume the measurements provided in the standard are absolutes and not minimum's as stated. The committee felt it was essential that the location of the measurement be maintained in the language for consistency of application. All parties agreed that more research was needed on this topic, and the proposal was approved so that further action can be taken this cycle.

Modification.

Replace the proposal as follows:

703.3.8 Character Spacing. Character spacing shall be measured between the two closest points of adjacent raised characters within a message, excluding word spaces. Spacing between individual raised characters shall be 15% or 1/8 inch (3.2 mm) minimum, whichever is greater, and 35% maximum of the character height measured at the top of the surface of the characters, 1/16 inch (1.6 mm) minimum measured at the base of the characters, ~~and four times the raised character stroke width maximum.~~ Characters shall be separated from raised borders and decorative elements 3/8 inch (9.5 mm) minimum.

7-26– 12
703.6.3.1

Proposed Change as Submitted

Proponent: Ann Makowski, representing Society for Environmental Graphic Design (SEGD)

Revise as follows:

703.6.3.1 International Symbol of Accessibility. The International Symbol of Accessibility shall comply with the basic format of Figure 703.6.3.1.

Reason: Provide language in the standard that will provide for appropriate stylistic variations of the ISA to conform to aesthetic and décor needs of respective projects while still maintaining a level of consistent size, placement and use of the ISA in unique environments.

Allowing minor stylistic variations in the ISA will allow more aesthetically complimentary symbols to be utilized on projects which will in turn encourage architects and end users to promote their more plentiful use and prominent location on architectural finishes. This will enhance the use and visibility of this important accessible entrance and pathways wayfinding and identification device.

Building architects, designers, developers and owners will inherently be opposed to use of any elements that are not complimentary to the architecture and décor of their facilities and will be drawn to applying only minimal requirements for such use of generic symbol. If provided the ability to produce designs that will meet the requirements of the ISA for identification and wayfinding purpose but in a slightly stylized design that will compliment architecture and décor it is anticipated that increased use and more prominent display of such symbols will be achieved.

703.6.3.1-MAKOWSKI.doc

Committee Action

Approval as Modified

Modification

703.6.3.1 International Symbol of Accessibility. The International Symbol of Accessibility shall comply with ~~the basic format of~~ Figure 703.6.3.1.

703.6.3.1.1. Alternative Symbols. The symbols of accessibility complying with Figures 703.6.3.1.1(a) and 703.6.3.1.1(b) are acceptable as equivalent compliance alternatives to the International Symbol of Accessibility.

Committee Reason: The additional symbols provide more modern versions of the official ISA and should be available and recognized as equivalent facilitation.

Staff Note: Only one of the 2 symbols was available at the time the ballot was prepared.

BALLOT COMMENTS

7-26.1

Commenter: Todd Andersen
Ballot: Affirmative with comment:

Comment: I request that the reason statement be expanded to cover the committee discussion of copyright concerns. By this I mean, that should ICC not be presented with copyright permissions as it deems adequate, our vote is nullified.

7-26.2

Commenter: Teresa Cox, Representing ISA
Ballot: Affirmative with comment:

Comment: Only one of the 2 proposed stylistic variants of the ISA symbol was available at the time of the meeting. Both are available now through SEGD.

7-26.3

Commenter: Christopher Bell, Representing ACB
Ballot: Negative with comment:

Comment: Introducing alternative symbols will cause unnecessary confusion and questions such as, do different symbols indicate bathrooms or entrances with different features or services? The current icon is widely recognized, accepted and useful as it is; there is no pressing need to match the decor. It is just not a good practice to have many different symbols for the same thing.

Another concern is the specific symbols. If the Committee persists in the direction of diversifying the ISA, there should be a more deliberative process to select the symbols that incudes other designers, various stakeholders in the disability community, etc.

Further, there may have been some mention in the Committee discussion of one or more of the symbols in the diagram being proprietary, which is inappropriate for the standard.

(Co-written with Michael Tierney, BHMA)

7-26.4

Commenter: Marilyn Golden, Representing DREDF
Ballot: Negative with comment:

Comment: Introducing alternative symbols will cause unnecessary confusion and questions such as, do different symbols indicate bathrooms or entrances with different features or services? The current icon is widely recognized, accepted and useful as it is; there is no pressing need to match the decor. It is just not a good practice to have many different symbols for the same thing.

Another concern is the specific symbols. If the Committee persists in the direction of diversifying the ISA, there should be a more deliberative process to select the symbols that incudes other designers, various stakeholders in the disability community, etc.

Further, there may have been some mention in the Committee discussion of one or more of the symbols in the diagram being proprietary, which is inappropriate for the standard.

(Co-written with Michael Tierney, BHMA)

7-26.5

Commenter: Marsha K. Mazz, Representing Access Board
Ballot: Negative with comment:

Comment: We request the committee to DISAPPROVE this proposal. The proposal allows two “alternate” accessibility symbols but illustrates only one. We cannot approve as “equivalent” a symbol not presented in the ballot. In any case, the International Symbol of Accessibility (ISA) as depicted in the current Standard is the only symbol recognized by the Access Board guidelines and the U.S. Department of Justice ADA Standards. Use of alternate symbols defeats the purpose of the symbols and potentially adds confusion for people with vision impairments who depend on consistently in order to decipher the environment. The ISA is a recognized ISO symbol. The symbol was formally adopted by the World Congress in 1969 and, in 1974, Rehabilitation International organized a United Nation’s Experts meeting where a resolution (see http://www.riglobal.org/wp-content/uploads/2010/04/symbol-of-access-resolution-.pdf) was adopted ensuring that the symbol would be properly used and protected from any changes.

7-26.6

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: I want to see all three graphic options. If this is acceptable, then we should say so, not offer it up as equivalent compliance – that is permitted as an option under Section 103. Just say use one of the three.

Further modify the proposal as follows:

703.6.3.1 International Symbol of Accessibility. The International Symbol of Accessibility shall comply with Figure 703.6.3.1(a), (b) or (c).

~~**703.6.3.1.1. Alternative Symbols.** The symbols of accessibility complying with Figures 703.6.3.1.1(a) and 703.6.3.1.1(b) are acceptable as equivalent compliance alternatives to the International Symbol of Accessibility.~~

7-26.7

Commenter: Michael Tierney, Representing BHMA
Ballot: Negative with comment:

Comment: Introducing alternative symbols will cause unnecessary confusion and questions such as, do different symbols indicate bathrooms or entrances with different features or services? The current icon is widely recognized, accepted and useful as it is; there is no pressing need to match the decor. It is just not a good practice to have many different symbols for the same thing.

Another concern is the specific symbols. If the Committee persists in the direction of diversifying the ISA, there should be a more deliberative process to select the symbols that incudes other designers, various stakeholders in the disability community, etc.

Further, there may have been some mention in the Committee discussion of one or more of the symbols in the diagram being proprietary, which is inappropriate for the standard.
(Co-written with Marilyn Golden, DREDF)

7-26.8

Commenter: Sharon Toji, Representing HLAA
Ballot: Negative with comment:

Comment: Although I actually support the ability of local officials to approve symbols with slight alterations, such as the "SEGD" wheelchair pictogram, and particularly support the use of left facing symbols when coupled with left directional arrows as more accessible, I nevertheless question having an ANSI standard that clearly violates an ADA standard. Perhaps this is best left up to local judgment as to whether it is equivalent facilitation. I am afraid it will open up the possibility of lawsuits based on the ADA in states that use the ANSI standard. Also, the acceptance of only two symbols precludes the design of other symbols that may be even closer to the original.

STAFF NOTE: After the Ballot was distributed, Ann Makowski of SEGD supplied a copy of the second alternate symbol.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee concluded that flexibility sought by the proponents in the use of different versions of the accessibility symbol already existed when used for signs not required. But the final consensus of the committee was that where signs are provided in the few places actually required by the building code, that the symbol must be that approved and accepted internationally. Inconsistency that would result from using various symbols could be confusing to those dependent on consistent information to find their way.

Chapter 8
Items 8-1-12 through 8-15-12
August 7, 2013.

This is one of ten documents containing those proposed changes to the A117.1 Standard, 2009 edition; for which A117.1 Committee received Ballot or Proponent Comments. Each item was discussed at the meeting of Committee during the week of July 15, 2013, in Washington D.C. The Committee took action on each proposal and such action is specified herein. The actions listed here are subject reconfirmation by the Committee via the Committee's ballot process.

Please note: This document does not contain proposals for which no comments were received. Those proposals, and the Committee decision on each one, can be viewed in the Committee Action Report (CAR) under the title: First Draft Standard Development at this following location: http://www.iccsafe.org/cs/standards/A117/Pages/default.aspx

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8-3– 12
802.4, Figure 802.4

Proposed Change as Submitted

Proponent: Edward Steinfeld, IDEA Center, School of Architecture and Planning, University at Buffalo, State University of New York

Revise as follows:

802.4 Depth. Where a wheelchair space can be entered from the front or rear, the wheelchair space shall be ~~48~~ 54 inches (~~1220~~ 1360 mm) minimum in depth. Where a wheelchair space can only be entered from the side, the wheelchair space shall be 60 inches (1525 mm) minimum in depth.

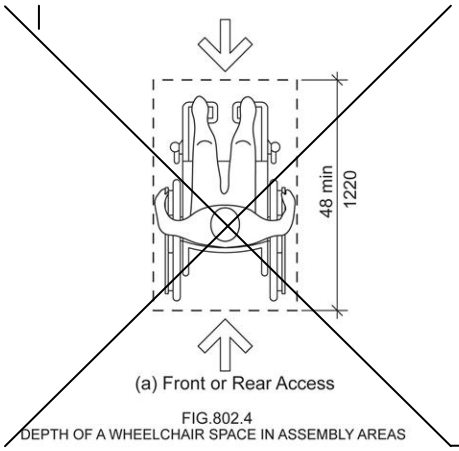


FIG.802.4
DEPTH OF A WHEELCHAIR SPACE IN ASSEMBLY AREAS

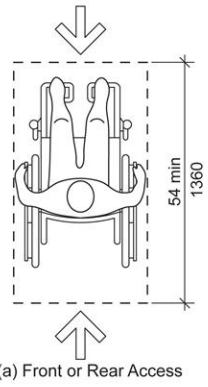


FIG.802.4
DEPTH OF A WHEELCHAIR SPACE IN ASSEMBLY AREAS

Reason: Many of the technical requirements of the ICC/ANSI A117.1 (2009) Accessible and Usable Buildings and Facilities (ICC/ANSI) designed to accommodate wheeled mobility users are based on research completed from 1974 to 1978 using a research sample that included about 60 individuals who used manual wheelchairs (Steinfeld et al., 1979).

The Center for Inclusive Design and Environmental Access (IDeA) at the University at Buffalo, SUNY recently completed an anthropometric study of 500 wheeled manual and powered mobility device users (Steinfeld, et al., 2010). Measurements of body and device size were captured in three dimensions. The functional anthropometric measurements required measuring reaching ability, grip strength and the minimum space needed for turning. It is the most extensive anthropometric study of wheeled mobility device users in the United States. Additional information about the study can be found at http://www.udeworld.com/ansi-standards-review. The proposed revisions are based on new anthropometric information that was generated from the database of anthropometric measurements developed as part of the study.

Committee Action Report on Ballot and Proponent Comments- July 15-19, 2013:
Proposals of 2012 submitted on the ICC A117.1-2009

Analysis

Unlike turning spaces that are based on dynamic requirements, clear floor space represents the space required for a stationary wheeled mobility device. This area is typically depicted as a rectangular space the dimensions of which are based on measurements of occupied length and occupied breadth of wheeled mobility devices, which are defined as follows:

- Occupied length: measured as the horizontal distance between the forward-most point and the rear-most point on the wheelchair or occupant.
- Occupied width: measured as the horizontal distance between the side-most points of the wheelchair or participant on the right and left sides.

The results of our analysis suggest that the existing standard on clear floor space (48" length, 30" width) does not accommodate the occupied lengths and widths of the wheeled mobility user population and excludes powered wheeled mobility device users disproportionately as compared to manual device users. A length of 48" accommodates the occupied length of 75% of manual wheelchair users and only about 50% of powered chair and scooter users. A width of 30" accommodates the occupied width of 90% of manual wheeled mobility device users and only 75% of powered chair users.

We have taken the position that the clear floor space standards should accommodate the occupied lengths and widths of at least 90% of manual and powered wheeled mobility device users. A length of 54" accommodates the occupied lengths of 95% of manual chair users, and 90% of the powered chair users. A width of 32" accommodates the occupied widths of over 95% of manual wheeled mobility device users and 90% of the powered wheelchair users. **Proposed changes to section 802 Assembly Areas reflect the 6-inch adjustment in occupied wheelchair length needed to accommodate over 90% of the manual and powered wheelchair user population.**

The analysis was summarized in the Final Project Report to the U.S. Access Board and in a memorandum entitled "Evaluation of Clear Floor Space Requirements," that was submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Clear Floor Space Clearances.

References (See http://www.udeworld.com/ansi-standards-review)

Paquet, V. (2012). *Evaluation of Clear Floor Space Requirements*. A memorandum submitted to the ICC/ANSI A117 Task Force on Anthropometry of Wheeled Mobility Subcommittee on Clear Floor Space Clearances.

Steinfeld, E., Paquet, V., D'Souza, C., Joseph, C, and Maisel, J. (2010). *Final Report: Anthropometry of Wheeled Mobility Project*. Washington, DC: U.S. Access Board.

Steinfeld, E. Schroeder, S. and Bishop, M. (1979). *Accessible buildings for people with walking and reaching limitations.* Washington, DC: U.S. Department of Housing and Urban Development.

802.4-STEINFELD.doc

Committee Action

Approval as Modified

Modification

802.4 Depth. Where a wheelchair space can be entered from the front or rear, the wheelchair space shall be ~~48~~ 52 inches (~~1220~~ 1321 mm) minimum in depth. Where a wheelchair space can only be entered from the side, the wheelchair space shall be 60 inches (1525 mm) minimum in depth.

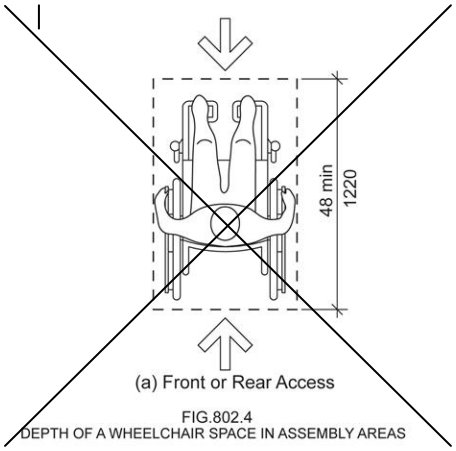


FIG.802.4
DEPTH OF A WHEELCHAIR SPACE IN ASSEMBLY AREAS

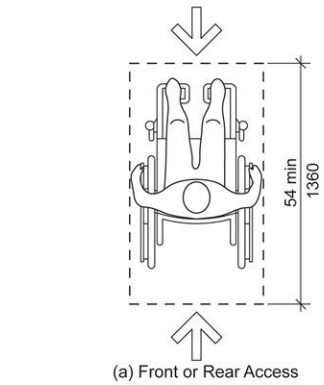


FIG.802.4
DEPTH OF A WHEELCHAIR SPACE IN ASSEMBLY AREAS

Committee Reason: Consistent with other actions to increase the clear floor space to 52 inches.

BALLOT COMMENTS

8-3.1

Commenter: Ron Burton, Representing BOMA
Ballot: Negative with comment:

Comment: See reason on 3-6-12.

8-3.2

Commenter: David S. Collins, Representing AIA
Ballot: Negative with comment:

Comment: The work of the study group isn't finalized and the research that formed the basis for this change has not been validated.

8-3.3

Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Negative with comment:

Comment: There has been no evidence presented that this is a necessary change and will be a burden on the public due to an increase in the area required. The evidence presented only addresses the wide variety of mobility devices in service today. It does not address whether the problem is in the manufacture of these mobility devices that do not conform to the current requirement or whether the built-environment needs to change to accommodate mobility devices that need a larger space and cannot be designed and manufactured in such a way as to fit within the current space. We don't continue to let automobile manufacturers build wider and wider autos to go on our roads… they must be built to standards that allow them to work with our current road system.

8-3.4

Commenter: Ronald G. Nickson, Representing NMHC
Ballot: Negative with comment:

Comment: See reason on 3-6-12.

8-3.5

Commenter: Steve Orlowksi, Representing NAHB
Ballot: Negative with comment:

Comment: See negative comment on proposal 3-13-12.

8-3.6

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: See comments to 3-6-12.

The increase in wheelchair space size for assembly seating has not addressed the shoulder alignment with companion seats (which will significantly affect the line of sight) and the effects of the increased space size will have on aisles (due to no overlap) or loss of general seating (will the space take out another row of seats. It already takes out two rows.

Committee Review of Comments and Action – July 2013

Approved as Modified.

Committee Action Report on Ballot and Proponent Comments- July 15-19, 2013:
Proposals of 2012 submitted on the ICC A117.1-2009

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval as modified of this proposal.

8-5– 12
802.10.3.1 (New), 906.1 (New), 906.2 (New), 906.3 (New)

Proposed Change as Submitted

Proponent: Dominic Marinelli, representing United Spinal Association

Add new text as follows:

802.10.3.1 Charging Stations. Where charging stations are provided at wheelchair space locations they shall comply with Section 906.

906 Charging Stations.

906.1 General. A charging station shall consist of a grounded duplex outlet.

906.2 Clear Floor Space. A clear floor space complying with Section 305 shall be provided.

906.3 Height. Accessible charging stations shall comply with at least one of the reach ranges specified in Section 308.

Reason: Today's Wheelchairs and assistive technology equipment require re-charging. At places of assembly people often gather for extended periods of time and their mobility device and/or assistive technology equipment may require recharging. Section 906.1 clarifies that a charging station consists of a grounded duplex outlet.

The Exception to 802.10.3.1 recognizes that in smaller assembly venues, the electrical wiring may not extend to each wheelchair space location.

802.10.3.1(NEW)-MARINELLI.doc

Committee Action

Disapproved

Committee Reason: The Committee was concerned that this proposal is unclear and needs further refinement before it could be placed in the Standard. Questions include: What is this a charging space for? Section 906 doesn't specify location on an accessible route.

BALLOT COMMENTS

8-5.1
Commenter: Gina Hilberry, Representing UCP
Ballot: Affirmative with comment:

Comment: Although this needs clarification, UCP supports this concept and inclusion in the standard. This does not required an outlet to be provided, it simply states that were it is provided, certain conditions should be met.

8-5.2

Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: I think this is a good change that needs a little work.

8-5.3

Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Negative with comment:

Comment: I think that this is a fundamental requirement that should be provided. In lieu of disapproval this could have been referred to a committee to resolve the issues that the committee identified.

8-5.4

Commenter: Hope Reed, Representing NMGCD
Ballot: Negative with comment:

Comment: Wheelchair charging stations need to be in the standard.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee wished to continue to explore the concept of charging stations during this cycle. Most of the proposal simply establishes design criteria for a station. The proposal also requires compliance with the criteria where they are included in wheelchair locations. Similar provisions could be elsewhere in the standard or scoped by the adopting jurisdiction.

8-6– 12
802.11 (NEW)

Proposed Change as Submitted

Proponent: Hansel Bauman, Architect, representing National Association of the Deaf

Revise as follows:

802.11 Assembly Room Presentation Lighting. Room lighting shall be provided which will illuminate a presentation area in the foreground of each assembly space. The illuminated presentation area shall be 10 square feet minimum and shall be illuminated between 3 feet minimum and 6 feet maximum above the finish floor. The illumination shall be 10 footcandles minimum.

Reason: This recommendation addresses the visual conflict that arises when sign language is used during visual slide/powerpoint presentations. One the one hand the room is darkened to better view the visual presentation yet the darkened conditions make it difficult to see sign language by either the presenter or by interpreters. Thus obstructing access to communication.

802.11 (NEW)-BAUMAN.doc

Committee Action

Disapproved

Committee Reason: The Committee was concerned that the proposal raised more questions than it answered. Should there be different standards for different types of assembly spaces. Facial expression is important in this type of communication; it is unclear if the height of the lighting is in the proper range. Would the light requirement be an independent minimum or is this above the ambient light in the space? The source of the light is also important as well as the level of contrast.

BALLOT COMMENT

8-6.1
Commenter: Hansel Bauman, Representing NAD
Ballot: Negative with comment:

Comment: The intent sets a new standard for lighting that provides fair communication access for deaf people using sign language. The proponent is able to address the concerns the committee expressed related to measurable lighting conditions and parameters for the area to be illuminated.

Proponent Comment

8-6.2
Commenter: Hansel Bauman, Representing NAD

Revise the proposal as follows:

802.11 Assembly Room Presentation Lighting. Room lighting shall be provided which will illuminate a presentation area in the foreground of each assembly space. The illuminated presentation area shall be 10 square feet minimum measured at 48" above the finished floor and a minimum of 36 inches measured from the presentation wall. The illumination shall be provided by directional light fixtures controlled independently from the general room lighting. The fixtures shall be located as necessary to provide a diagonal cast of light for facial illumination. ~~and shall be illuminated between 3 feet minimum and 6 feet maximum above the finish floor.~~ The illumination shall be 10 footcandles minimum greater than the ambient light level measured with the general room lighting switched off.

Reason: The proponent disagrees with the Committee's action on this proposal and has provided amended language to address the concerns raised by the Committee.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The committee considered and approved a revised version provided by the proponent. The concept and text need further refinement and in order to accomplish such this cycle, the revised version was approved. The essential concept is to make sure that there is sufficient light provided where sign language interpreters will be working so that their interpretations can be read. Of concern is the definition of 'stage' for this requirement; that the systems to provide such lighting is available, and whether there does need to be a wall behind the presentation location.

Modification.

Revise as follows:

802.11 ~~Assembly Room Presentation~~ Stage Lighting for Sign Language Interpreters. ~~Room~~ Lighting shall be provided at each side of a stage for the purposes of ~~which will~~ illuminating a ~~presentation~~ Sign Language Interpreter. ~~in the foreground of each assembly space.~~ The illuminated presentation area shall be 25 square feet minimum measured in a vertical plane with the bottom edge at 48 inches above the finished floor and a minimum of 36 inches measured from the presentation wall. The illumination shall be provided by directional light fixtures controlled independently from the general room lighting. The fixtures shall be located as necessary to provide a diagonal cast of light for facial illumination at no less than 15 degrees from the vertical plane. ~~and shall be illuminated between 3 feet minimum and 6 feet maximum above the finish floor.~~ The illumination shall be 10 footcandles minimum greater than the least light level.

8-7– 12
802.12 (NEW), 802.12.1 (NEW), 802.12.2 (NEW)

Proposed Change as Submitted

Proponent: Hansel Bauman, Architect, representing National Association of the Deaf

Add new text as follows:

802.12 Visual communication in Meeting Rooms. Meeting rooms with an occupant load of more than 6 shall be designed to comply with this section.

802.12.1 Arrangement of Space. Table and seating in meeting rooms shall be arranged in a radius configuration to enable direct lines of visual communication in sign language between all occupants. The arrangement shall include a clear aisle of 36 inches minimum behind each seated occupant.

802.12.2 Lighting. Lighting shall comply with Section 802.11. The lighting for the presentation are shall be on a separate circuit so that it can remain illuminated when other areas of the room are darkened.

Reason: These recommendations address the visual needs of deaf and hard of hearing individuals who communicate visually through sign language in group meeting situations.

802.12 (NEW)-BAUMAN.doc

Committee Action

Disapproved

Committee Reason: The proposal, like 8-7-12, needs more specificity. Committee members were concerned that it would work well in really small room or really large facilities. It was noted that these provisions wouldn't be enforceable unless it was for a fixed seating facility. The application to places of worship needs to be clarified.

BALLOT COMMENTS

8-7.1
Commenter: Hansel Bauman, Representing NAD
Ballot: Affirmative with comment:

Comment: As the proponent I acknowledge that the intent of this proposal is good but the scope of proposal makes it difficult to measure and enforce.

8-7.2
Comment Rescinded.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

8-8– 12
804.2, 804.2.2

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

804.2 Clearance. Where a pass-through kitchen is provided, clearances shall comply with Section 804.2.1.

Where a ~~U-shaped~~ kitchen is ~~provided~~ enclosed on three contiguous sides, clearances shall comply with Section 804.2.2.

EXCEPTION: Spaces that do not provide a cooktop or conventional range shall not be required to comply with Section 804.2 provided there is a 40-inch (1015 mm) minimum clearance between all opposing base cabinets, counter tops, appliances, or walls within work areas.

804.2.1 Pass-through Kitchens. In pass-through kitchens where counters, appliances or cabinets are on two opposing sides, or where counters, appliances or cabinets are opposite a parallel wall, clearance between all opposing base cabinets, counter tops, appliances, or walls within kitchen work areas shall be 40 inches (1015 mm) minimum. Pass- through kitchens shall have two entries.

804.2.2 ~~U-Shaped~~ Enclosed Kitchens. In kitchens enclosed on three contiguous sides, clearance between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas shall be 60 inches (1525 mm) minimum.

Exception: In kitchens with counters, appliances of cabinets on only one wall or two opposing walls, the clearance between all opposing base cabinets, counter tops, and appliances, or walls within the kitchen work area is permitted to be 40 inches (1015 mm) minimum where the kitchen includes a turning space complying with Section 304.3.2 and 305.7.2 is provided under either the accessible sink or the accessible work surface.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The change for terminology from U-shaped kitchen to enclosed kitchen is for two reasons. 1) The term is confusing and not commonly used to represent the kitchens intended. Most people do not consider a kitchen with a wall at the end (see Figure 804.2.2) or a kitchen with walls on two sides a U-shaped kitchen. 2) The language should be revised for consistency with Type A and Type B. The U-shaped kitchens in the dwelling units means cabinets on three sided.

If a kitchen is not within a dwelling unit, literally a turning space is not required. Be adding the turning space requirement to kitchens, the space under the sink or work surface would have to be 36" wide in order to accommodate a T-turn, rather than both at 30". There would be no impact on typical U-shaped kitchens since they have 60" between counters already. While this is intended for access to appliances and work surfaces consistent with alcove provisions, this still gets you a turning space.

The galley kitchen would have knee and to clearance under the sink or work surface for a turning space. A 60" width between counters is not justified. This also shoots the efficiency of the kitchen for other family members that do not use wheelchairs.

Type A kitchens read as follows:

1003.12.1 Clearance. Clearance complying with Section 1003.12.1 shall be provided.

1003.12.1.1 Minimum Clearance. Clearance between all opposing base cabinets, counter tops, appliances, or walls within kitchen work areas shall be 40 inches (1 01 5mm) minimum.

Committee Action Report on Ballot and Proponent Comments- July 15-19, 2013:
Proposals of 2012 submitted on the ICC A117.1-2009

1003.12.1.2 U-Shaped Kitchens. In kitchens with counters, appliances, or cabinets on three contiguous sides, clearance between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas shall be 60 inches (1525 mm) minimum

804.2#1-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The proposal may result in designs that wouldn't be compliant with ADA 2010. There were concerns about eliminating the turning space requirement. There is so much activity in these rooms - not just entering, turning around and leaving - but moving from one appliance to a fixture to cabinets, that the clearances provided are essential. Many felt the proposal reduced accessibility. Eliminating the term U-shaped kitchen may be appropriate in terms of describing such spaces, but it has become a term of art and because it is used in ADA, determining equivalency will be difficult.

BALLOT COMMENT

8-8.1

Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: I generally agree with the proponent. This code change would, essentially, be equivalent to a pass-through kitchen – without using quite as much space. See my comment 3-6E-12.

8-8.2

Comment rescinded.

Proponent Comment

8-8.3

Commenter: Kim Paarlberg, Representing ICC

Replace the proposal with the following:

804.2.2 U-Shaped Kitchens. In kitchens enclosed on three contiguous sides, clearance between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas shall be 60 inches (1525 mm) minimum.

Exception: In kitchens with counters, appliances of cabinets on only one wall or two opposing walls, the clearance between all opposing base cabinets, counter tops, and appliances, or walls within the kitchen work area is permitted to be 40 inches (1015 mm) minimum where the kitchen includes a turning space complying with Section 304.3.2 and 305.7.2 is provided under either the accessible sink or the accessible work surface.

Reason: A U-shaped kitchen with appliances and counters on three sides should have the 60 inches on each side to match the alcove provisions so that someone can get in front of the counter. If the set up is a galley kitchen with a blank wall at the end, a person has the access to appliances and counters with the 40 inch width. However, so that someone does not have to back out, a turning space must be provided. In current text that could be by a T-turn under the accessible work surface or sink.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the proposed revision suggested in comment 8-8.3. The conclusion was that while it does appear to be an optional method of compliance, but if placed in the standard could be seen as reducing accessibility. The committee sustained its original decision to disapprove this proposal.

8-9– 12
804.2, 804.2.2, 1003.12.1.2, 1004.12.1.1

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

804.2 Clearance. Where a pass-through kitchen is provided, clearances shall comply with Section 804.2.1.

Where a ~~U-shaped~~ kitchen is ~~provided~~ enclosed on three contiguous sides, clearances shall comply with Section 804.2.2.

EXCEPTION: Spaces that do not provide a cooktop or conventional range shall not be required to comply with Section 804.2 provided there is a 40-inch (1015 mm) minimum clearance between all opposing base cabinets, counter tops, appliances, or walls within work areas.

804.2.1 Pass-through Kitchens. In pass-through kitchens where counters, appliances or cabinets are on two opposing sides, or where counters, appliances or cabinets are opposite a parallel wall, clearance between all opposing base cabinets, counter tops, appliances, or walls within kitchen work areas shall be 40 inches (1015 mm) minimum. Pass- through kitchens shall have two entries.

804.2.2 ~~U-Shaped~~ Enclosed Kitchens. In kitchens enclosed on three contiguous sides, clearance between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas shall be 60 inches (1525 mm) minimum.

EXCEPTION: In kitchens with islands, the clearance between all opposing base cabinets, counter tops, and appliances, or walls within the kitchen work area is permitted to be 40 inches (1015 mm) minimum where the kitchen includes a turning space complying with Section 304.3.2 and 305.7.2 is provided under either the accessible sink or the accessible work surface.

1003.12.1.2 U-Shaped Kitchens. In kitchens with counters, appliances, or cabinets on three contiguous sides, clearance between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas shall be 60 inches (1525 mm) minimum.

EXCEPTION: In kitchens with islands, the clearance between all opposing base cabinets, counter tops, and appliances, or walls within the kitchen work area is permitted to be 40 inches (1015 mm) minimum.

1004.12.1.2 U-Shaped Kitchens. In kitchens with counters, appliances, or cabinets on three contiguous sides, clearance between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas shall be 60 inches (1525 mm) minimum.

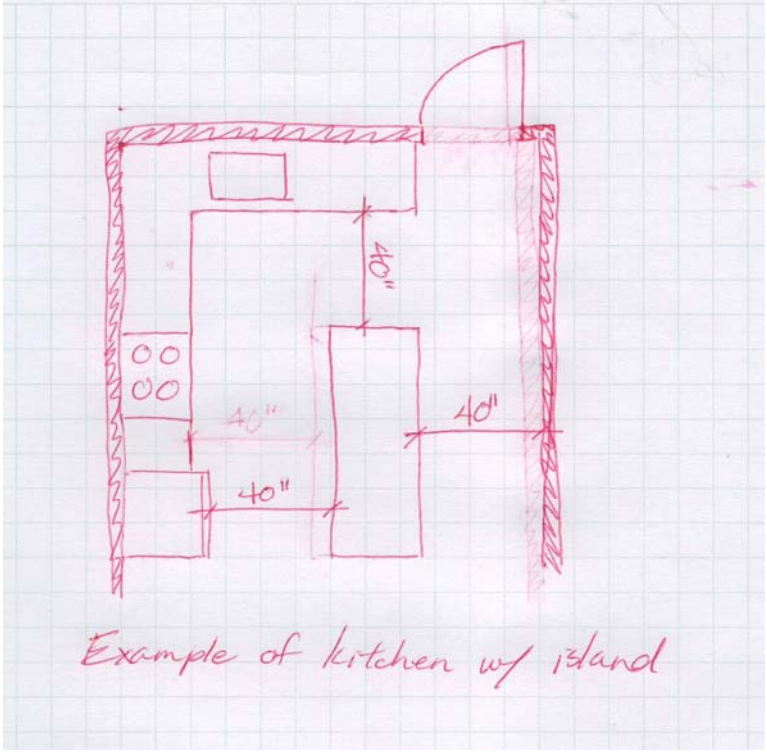
EXCEPTION: In kitchens with islands, the clearance between all opposing base cabinets, counter tops, and appliances, or walls within the kitchen work area is permitted to be 40 inches (1015 mm) minimum.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and

3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The change for terminology from U-shaped kitchen to enclosed kitchen is for two reasons. 1) The term is confusing and not commonly used to represent the kitchens intended. Most people do not consider a kitchen with a wall at the end (see Figure 804.2.2) or a kitchen with walls on two sides a U-shaped kitchen. 2) The language should be revised for consistency with Type A and Type B. The U-shaped kitchens in the dwelling units means cabinets on three sided.

The current terminology does not deal with kitchens with islands, which is the prevalent design at this time (at least in the Midwest). The propose language would deal with this issue for all three levels of accessibility.



804.2 #2-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The Committee could not reach a consensus that this was needed or not. Some viewed it as a pass-through kitchen and could already be done under the standard. Although this applied to Type B dwelling units, could there be a hidden conflict with ADA 2010. It might be solved simply by showing another figure using the existing standard provisions.

BALLOT COMMENTS

8-9.1

Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: The proposal should be reconsidered. The illustration that was used was probably not the best one to address this condition. The illustration should kitchen elements on only two sides. If kitchen counters/appliances were on three sides, with the island, it would be addressing the condition which the exception seeks to mitigate. The question is whether a turning space must be provided in a part of such a kitchen or if it is acceptable to go around the island to reach another portion of the kitchen. The committee debated a single condition as shown in the illustration and did not address the main concern. This would be a clarification of the issue and not something that would necessarily be in conflict with the 2010 ADA. If the exceptions are deemed not acceptable, consider the other terminology changes alone. That option was not done by the committee.

8-9.2

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The committee indicated that the idea of a kitchen with an island, regardless of the configuration around the island, is considered a type of pass through kitchen.

There will be a modification offered to this proposal that puts the requirements for around an island under the pass-through kitchen requirements. This will address the current style of kitchen design.

8-9.3

Commenter: Hope Reed, Representing NMGCD
Ballot: Negative with comment:

Comment: The different layouts of kitchen walls, cabinets, islands, etc. need to be further clarified in the standard.

Proponent Comment

8-9.4

Commenter: Kim Paarlberg, Representing ICC

Replace the proposal with the following:

804.2 Clearance. Where a pass-through kitchen is provided, clearances shall comply with Section 804.2.1.

Where a U-shaped kitchen is provided, clearances shall comply with Section 804.2.2.

EXCEPTION: Spaces that do not provide a cooktop or conventional range shall not be required to comply with Section 804.2 provided there is a 40-inch (1015 mm) minimum clearance between all opposing base cabinets, counter tops, appliances, or walls within work areas.

804.2.1 Pass-through Kitchens. In pass-through kitchens where counters, appliances or cabinets are on two opposing sides, or where counters, appliances or cabinets are opposite a parallel wall, clearance between all opposing base cabinets, counter tops, appliances, or walls within kitchen work areas shall be 40 inches (1015 mm) minimum. Pass- through kitchens shall have two entries.

804.2.2 U-Shaped Kitchens. In kitchens enclosed on three contiguous sides, clearance between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas shall be 60 inches (1525 mm) minimum.

EXCEPTION: A U-shaped kitchens with an island shall be permitted to comply with Section 804.2.1.

1003.12.1 Clearance. Clearance complying with Section 1003.12.1 shall be provided.

1003.12.1.1 Minimum Clearance. Clearance between all opposing base cabinets, counter tops, appliances, or walls within kitchen work areas shall be 40 inches (1015 mm)minimum.

1003.12.1.2 U-Shaped Kitchens. In kitchens with counters, appliances, or cabinets on three contiguous sides, clearance between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas shall be 60 inches (1525 mm) minimum.

EXCEPTION: A U-shaped kitchens with an island shall be permitted to comply with Section 1003.12.1.1.

1004.12.1 Clearance. Clearance complying with Section 1004.12.1 shall be provided.

1004.12.1.1 Minimum Clearance. Clearance between all opposing base cabinets, counter tops, appliances, or walls within kitchen work areas shall be 40 inches (1015 mm)minimum.

1004.12.1.2 U-Shaped Kitchens. In kitchens with counters, appliances, or cabinets on three contiguous sides, clearance between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas shall be 60 inches (1525 mm) minimum.

EXCEPTION: A U-shaped kitchens with an island shall be permitted to comply with Section 1004.12.1.1.

Reason: The committee looked at the drawing associated with the proposal and said "this is a pass-thru kitchen", so change the location of the exception and come back during comments. However, in looking at the literal code text, the L-shape or U-shaped kitchen with an island only meets the kitchen described as U-shaped. If it is felt that the 60" between cabinets is not required because you can move throughout the kitchen, then there should be a clarification.

An example is in the picture below. In the configuration with walls, counter tops and appliances on three sides, current text would require 60" on at least one side of the island. The committee said they did not want to do that.

In Type A and Type B, putting a wall on one or two of the three sides does not get you a U-shaped kitchen. However, you still need to the exception for the configuration in the example. This would also allow for all three types of units to have a consistent interpretation for islands.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The committee considered comment 8-9.4 in response to the comments in the original disapproval of the proposal. The example provided was convincing that the design of kitchens with an island should be treated as a pass through design.

Modification.

Replace the proposal with the following:

804.2.2 U-Shaped Kitchens. In kitchens enclosed on three contiguous sides, clearance between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas shall be 60 inches (1525 mm) minimum.

EXCEPTION: U-shaped kitchens with an island shall be permitted to comply with Section 804.2.1.

1003.12.1.2 U-Shaped Kitchens. In kitchens with counters, appliances, or cabinets on three contiguous sides, clearance between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas shall be 60 inches (1525 mm) minimum.

EXCEPTION: U-shaped kitchens with an island shall be permitted to comply with Section 1003.12.1.1.

1004.12.1.2 U-Shaped Kitchens. In kitchens with counters, appliances, or cabinets on three contiguous sides, clearance between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas shall be 60 inches (1525 mm) minimum.

EXCEPTION: U-shaped kitchens with an island shall be permitted to comply with Section 1004.12.1.1.

8-10– 12
804.3, 1002.12, 1003.12.3

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

804.3 Work Surface. At least one work surface shall be provided in accordance with Section 902. At least one accessible work surface shall be located in accordance with Section 804.5.5.2 or 804.5.5.3.

EXCEPTION: Spaces that do not provide a cooktop or conventional range shall not be required to provide an accessible work surface.

1002.12 Kitchens and kitchenettes**.** Kitchens and kitchenettes shall comply with Section 804. ~~At least one work surface, 30 inches (760 mm) minimum in length, shall comply with Section 902.~~

~~**EXCEPTION:** Spaces that do not provide a cooktop or conventional range shall not be required to provide an accessible work surface.~~

1003.12.3 Work Surface. At least one section of counter shall provide a work surface 30 inches (760 mm) minimum in length complying with Section 1003.12.3.

EXCEPTION: Spaces that do not provide a cooktop or conventional range shall not be required to provide an accessible work surface.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The current language for the work surface being next to the oven is hidden. Other revisions are for consistency between the levels of accessibility and kitchenettes.

804.3 (revised)-PAARLBERG.doc

Committee Action

Approved

Committee Reason: The provisions are rearranged for ease of understanding and application.

BALLOT COMMENTS

8-10.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Further modify as follows: The term 'accessible' should be in the body of the text as well as the exception.

Further modify proposal as follows:

804.3 Work Surface. At least one accessible work surface shall be provided in accordance with Section 902. At least one accessible work surface shall be located in accordance with Section 804.5.5.2 or 804.5.5.3.

EXCEPTION: Spaces that do not provide a cooktop or conventional range shall not be required to provide an accessible work surface.

1002.12 Kitchens and kitchenettes**.** Kitchens and kitchenettes shall comply with Section 804.

1003.12.3 Work Surface. At least one section of counter shall provide ~~a~~ an accessible work surface 30 inches (760 mm) minimum in length complying with Section 1003.12.3.

EXCEPTION: Spaces that do not provide a cooktop or conventional range shall not be required to provide an accessible work surface.

Proponent Comment

8-10.2

Commenter: Kim Paarlberg, Representing ICC

Further modify as follows:

804.3 Work Surface. At least one accessible work surface shall be provided in accordance with Section 902. At least one accessible work surface shall be located in accordance with Section 804.5.5.2 or 804.5.5.3.

EXCEPTION: Spaces that do not provide a cooktop or conventional range shall not be required to provide an accessible work surface.

1002.12 Kitchens and kitchenettes**.** Kitchens and kitchenettes shall comply with Section 804.

1003.12.3 Work Surface. At least one section of counter shall provide ~~a~~ an accessible work surface 30 inches (760 mm) minimum in length complying with Section 1003.12.3.

EXCEPTION: Spaces that do not provide a cooktop or conventional range shall not be required to provide an accessible work surface.

Reason: The term 'accessible' should be in the body of the text as well as the exception. This is also mentioned with 1-2-12 from the ADA/A117 Harmonization committee.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on comment.

Committee Reason: The committee approved revisions to the original proposal based on comment 8-10.2. It provides consistency of wording through the main provisions and exceptions of these provisions.

Modification.

Further modify proposal as follows:

804.3 Work Surface. At least one accessible work surface shall be provided in accordance with Section 902. At least one accessible work surface shall be located in accordance with Section 804.5.5.2 or 804.5.5.3.

EXCEPTION: Spaces that do not provide a cooktop or conventional range shall not be required to provide an accessible work surface.

1003.12.3 Work Surface. At least one section of counter shall provide ~~a~~ an accessible work surface 30 inches (760 mm) minimum in length complying with Section 1003.12.3.

EXCEPTION: Spaces that do not provide a cooktop or conventional range shall not be required to provide an accessible work surface.

8-11– 12
804.3

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

804.3 Work Surface. At least one work surface, 30 inches minimum in length shall be provided in accordance with Section 902.

EXCEPTION: Spaces that do not provide a cooktop or conventional range shall not be required to provide an accessible work surface.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

This proposal is being submitted in response to a question which is received on a frequent basis. The question is how much work surface is required in an employee break room or other space where the general kitchen requirements are applicable. This question is important to answer the typical follow-up question regarding how much of the counter top must be at the 34 inch height and how much can be at the standard height. The 30 inch minimum length was selected from the dwelling unit provisions of Sections 1002.12 and 1003.12.3. While the exception does help for spaces that do not provide a cooktop or conventional range, if the break room does include a cooktop (regardless of how small) the exception is not applicable.

It seems strange that in dwelling units only a small amount of work space is required and when you go to dining or food service lines or service counters we are typically given a specific length or percentage of the elements which must comply. However, when we get to this issue in the general kitchen requirements and look at spaces such as an employee break room, we don't have a maximum limit or specify a minimum length or percentage. Where the exception in Section 804.3 is not applicable the kitchen seems to be stuck with a requirement for 100 percent of the counter/work surface to be kept at the 34 inch maximum height. In a small break room with 20 feet of counter is it really necessary that all 20 feet of counter be at the lower height and that standard height cabinets cannot be used? And if it is set up as a galley kitchen with 10 feet of cabinets on both sides, do both counters have to comply with the work surface requirements?

This revision is also needed to ensure that the work surface is of an adequate size to be useful. If the standard does not specify a minimum length, then a designer could argue a 6 inch work surface is adequate. Therefore while the revision may be viewed as reducing an existing requirement (from possibly 100% of the counter down to 30 inches minimum) it will also ensure that the work surface is adequate and usable.

While this may ultimately be a scoping issue that should be addressed in the scoping document, it seems as if adding a minimum length is consistent with other locations of the standard and will assist users in determining how to properly apply the standard.

Because the standard cabinet/counter is 24 inches in depth, if the committee decided to make the work space requirement 36 inches minimum in length to match the alcove requirements of Section 305.7.2 that would seem reasonable.

804.3-PAARLBERG.doc

Committee Action

Approved

Committee Reason: The change establishes a reasonable minimum length for the work surface when it is required.

BALLOT COMMENT

8-11.1

Commenter: Gene Boecker, Representing NATO
Ballot: Affirmative with comment:

Comment: This action must be coordinated with the results of 3-13 - 12. If the alcove width must increase to 36 inches at a depth of 20 inches, then the committee must decide if that should also be applied to kitchen work surfaces since the base cabinets are typically 24 inches deep. If full extension under the counter is possible, then the width of the work surface must be increased to 36 inches to be consistent with the approval of 3-13.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval of this proposal.

8-12– 12

804.5.1, 804.5.3, 804.5.1, 804.5.5.1, 804.5.6.1 (New), 1003.12.5.1 (New), 1003.12.5.2, 1003.12.5.3, 1003.12.5.4.1, 1003.12.5.5.1, 1003.12.5.6.1

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

804.5.1 Clear Floor Space. A clear floor space complying with Sections 804.5 and 305 shall be provided at each kitchen appliance.

804.5.3 Dishwasher. ~~A clear floor space positioned adjacent to the dishwasher door, shall be provided.~~ The dishwasher door in the open position shall not obstruct the clear floor space for the dishwasher or an adjacent sink.

~~**804.5.4.1 Approach.** A clear floor space, positioned for a parallel or forward approach to the cooktop, shall be provided.~~

804.5.5.1 Clear floor space. ~~A clear floor space shall be provided.~~ The oven door in the open position shall not obstruct the clear floor space for the oven.

804.5.6.1 Clear floor space. A clear floor space~~, positioned for a parallel~~ ~~approach to~~ for the refrigerator/ freezer, shall be ~~provided~~ positioned for a parallel approach. The centerline of the clear floor space shall be offset 24 inches (610 mm) maximum from the centerline of the appliance.

1003.12.5.1 ~~**1003.12.5.2**~~ **Clear Floor Space.** A clear floor space, ~~positioned for a parallel or forward approach~~ complying with Sections 1003.12.5 and 305, shall be provided at each kitchen appliance.

1003.12.5.2 ~~**1003.12.5.1**~~ **Operable Parts.** All appliance controls shall comply with Section 1003.9.

EXCEPTIONS:

1. Appliance doors and door latching devices shall not be required to comply with Section 309.4.
2. Bottom-hinged appliance doors, when in the open position, shall not be required to comply with Section 309.3.

1003.12.5.3 Dishwasher. ~~A clear floor space, positioned adjacent to the dishwasher door, shall be provided.~~ The dishwasher door in the open position shall not obstruct the clear floor space for the dishwasher or an adjacent sink.

~~**1003.12.5.4.1 Approach.** A clear floor space, positioned for a parallel or forward approach to the cooktop, shall be provided.~~

1003.12.5.5.1 Clear floor space. ~~A clear floor space shall be provided.~~ The oven door in the open position shall not obstruct the clear floor space for the oven.

1003.12.5.6.1 Clear floor space. A clear floor space~~, positioned for a parallel~~ ~~approach to~~ for the refrigerator/ freezer, shall be ~~provided~~ positioned for a parallel approach. The centerline of the clear floor space shall be offset 24 inches (610 mm) maximum from the centerline of the appliance.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The purpose of this change is to reduce redundant language. If the clear floor space is required at each appliance at the beginning, it need not be repeated unless additional specifics are required.

804.5 (Revised)-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The Committee was not certain that the revisions were completely editorial and that a provision might be lost with the changes. Changes need to be coordinated between proposals 8-9-12, 8-12-12 and 8-13-12.

BALLOT COMMENT

8-12.1

Commenter: Hope Reed, Representing NMGCD
Ballot: Negative with comment:

Comment: This proposal provides a good start in clarifying kitchen appliance usability.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

8-13– 12
606.2, 804.2, 804.2.3 (New), 1002.12, 1003.12.1.1, 1004.12.1.1

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

606.2 Clear Floor Space. A clear floor space complying with Section 305.3, positioned for forward approach, shall be provided. Knee and toe clearance complying with Section 306 shall be provided. The dip of the overflow shall not be considered in determining knee and toe clearances.

EXCEPTIONS:

1. Where a turning space is provided in the room, a parallel approach complying with Section 305 and centered on the sink, shall be permitted to a kitchen sink in a kitchenette, a space where a cook top or conventional range is not provided.

(portions of section not shown remain unchanged)

804.2 Clearance. Where a pass-through kitchen is provided, clearances shall comply with Section 804.2.1. Where a U-shaped kitchen is provided, clearances shall comply with Section 804.2.2. Kitchenettes shall comply with Section 804.2.3.

~~**EXCEPTION:** Spaces that do not provide a cooktop or conventional range shall not be required to comply with Section 804.2 provided there is a 40-inch (1015 mm) minimum clearance between all opposing base cabinets, counter tops, appliances, or walls within work areas.~~

804.2.3 Kitchenettes. Kitchenettes, spaces that do not provide a cooktop or conventional range shall provided a 40-inch (1015 mm) minimum clearance between all opposing base cabinets, counter tops, appliances, or walls within work areas. A turning space shall be provided within the room and shall be permitted to use the knee and toe clearance under the sink.

1002.12 Kitchens and kitchenettes**.** Kitchens and kitchenettes shall comply with Section 804. At least one work surface, 30 inches (760 mm) minimum in length, shall comply with Section 902.

EXCEPTION: Kitchenettes, spaces that do not provide a cooktop or conventional range shall not be required to provide an accessible work surface.

1003.12.1.1 Minimum Clearance. In kitchens and kitchenettes, clearance between all opposing base cabinets, counter tops, appliances, or walls within ~~kitchen~~ work areas shall be 40 inches (1015mm) minimum. A turning space provided within the room and shall be permitted to use the knee and toe clearance under the sink.

1004.12.1.1 Minimum Clearance. In kitchens and kitchenettes, clearance between all opposing base cabinets, counter tops, appliances, or walls within ~~kitchen~~ work areas shall be 40 inches (1015mm) minimum.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

Clarify when clearances are required in kitchenettes. Otherwise, there is an argument that a kitchenette only has to have a 36" route between the counter and a wall. Also, include exception for work surface and parallel approach to sink, otherwise, Type A and Type B units could have a higher requirement than an Accessible unit.

In Accessible units and Type A units have to have a turning circle within the room. If there is a kitchenette, which currently does not require a work area and allows a side approach sink, is the intent to allow there to be a pull-in back-out scenario, or would the turning space over ride? If you have to have a turning space in the room, how about letting them use space under the sink?

Possible define kitchenette, and then get rid of the redundant language in the exceptions.

106 Definitions

Kitchenette: A kitchen or break room area where at least a counter and sink are provided, but a cooktop or convential range is not provided.

804-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The Committee was not certain that the revisions were completely editorial and that a provision might be lost with the changes. Changes need to be coordinated between proposals 8-9-12, 8-12-12 and 8-13-12.

BALLOT COMMENTS

8-13.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Kitchenettes are appearing in office spaces, dorm and assisted living suites, hotel rooms, etc. The standard must clarify how the requirements for kitchenettes differ from kitchens.

A modification will be prepared for this proposal.

8-13.2

Commenter: Hope Reed, Representing NMGCD
Ballot: Negative with comment:

Comment: This proposal had a close vote. NMGCD voted against this proposal in August and now we reverse our vote. The proposal needs some revision, but it will help when answering common questions about kitchens/kitchenettes without a cooktop.

Proponent Comment

8-13.3

Commenter: Kim Paarlberg, Representing ICC

Replace the proposal with the following. Several sections without revisions are shown because the committee asked for clarification that this is a coordination item between levels.

606.2 Clear Floor Space. A clear floor space complying with Section 305.3, positioned for forward approach, shall be provided. Knee and toe clearance complying with Section 306 shall be provided. The dip of the overflow shall not be considered in determining knee and toe clearances.

EXCEPTIONS:

2. A parallel approach complying with Section 305 and centered on the sink, shall be permitted to a kitchen sink in a space where a cook top or conventional range is not provided.

(portions of section not shown remain unchanged)

804.2 Clearance. Where a pass-through kitchen is provided, clearances shall comply with Section 804.2.1. Where a U-shaped kitchen is provided, clearances shall comply with Section 804.2.2. Kitchens where a cook top or conventional range are not provided shall comply with Section 804.2.3.

~~**EXCEPTION:** Spaces that do not provide a cooktop or conventional range shall not be required to comply with Section 804.2 provided there is a 40-inch (1015 mm) minimum clearance between all opposing base cabinets, counter tops, appliances, or walls within work areas.~~

804.2.1 Pass-through Kitchens. In pass- through kitchens where counters, appliances or cabinets are on two opposing sides, or where counters, appliances or cabinets are opposite a parallel wall, clearance between all opposing base cabinets, counter tops, appliances, or walls within kitchen work areas shall be 40 inches (1015 mm) minimum. Pass-through kitchens shall have two entries.

804.2.2 U-Shaped Areas. In kitchens enclosed on three contiguous sides, clearance between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas shall be 60 inches (1525 mm) minimum.

804.2.3 Spaces where a cook top or conventional range are not provided. In a kitchen space where a cooktop or conventional range is not provides, clearance between all opposing base cabinets, counter tops, appliances, or walls within work areas shall be 40-inch (1015 mm) minimum.

804.3 Work Surface. Work surfaces shall comply with Section 902.

EXCEPTION: Spaces that do not provide a cooktop or conventional range shall not be required to provide an accessible work surface.

804.4 Sinks. Sinks shall comply with Section 606.

Accessible units –

1002.12 Kitchens ~~and kitchenettes.~~ Kitchens ~~and kitchenettes~~ shall comply with Section 804. ~~At least one work surface, 30 inches (760 mm) minimum in length, shall comply with Section 902.~~

~~**EXCEPTION:** Spaces that do not provide a cooktop or conventional range shall not be required to provide an accessible work surface.~~

Type A units –

1003.12.1.1 Minimum Clearance. Clearance between all opposing base cabinets, counter tops, appliances, or walls within kitchen work areas shall be 40 inches (1015mm) minimum.

1003.12.3 Work Surface. At least one section of counter shall provide a work surface 30 inches (760 mm) minimum in length complying with Section 1003.12.3.

EXCEPTION: Spaces that do not provide a cooktop or conventional range shall not be required to provide an accessible work surface.

1003.12.3.1 Clear Floor Space. A clear floor space, positioned for a forward approach to the work surface, shall be provided. Knee and toe clearance complying with Section 306 shall be provided. The clear floor space shall be centered on the work surface.

EXCEPTION: Cabinetry shall be permitted under the work surface, provided:

a. The cabinetry can be removed without removal or replacement of the work surface,
b. The floor finish extends under such cabinetry, and
c. The walls behind and surrounding cabinetry are finished.

1003.12.4 Sink. Sinks shall comply with Section 1003.12.4.

Exception: A parallel approach complying with Section 305 and centered on the sink, shall be permitted to a kitchen sink in a space where a cook top or conventional range is not provided.

1003.12.4.1 Clear Floor Space. A clear floor space, positioned for a forward approach to the sink, shall be provided. Knee and toe clearance complying with Section 306 shall be provided. The clear floor space shall be centered on the sink bowl.

EXCEPTIONS:

1. The requirement for knee and toe clearance shall not apply to more than one bowl of a multi-bowl sink.
2. Cabinetry shall be permitted to be added under the sink, provided:
    a. The cabinetry can be removed without removal or replacement of the sink,
    b. The floor finish extends under such cabinetry, and
    c. The walls behind and surrounding cabinetry are finished.

Type B units –

1004.12.1.1 Minimum Clearance. Clearance between all opposing base cabinets, counter tops, appliances, or walls within kitchen work areas shall be 40 inches (1015mm) minimum.

Reason: The committee asked that 8-9, 8-12 and 8-13 be looked at together. Upon further examination, they are separate ideas and will work independently. I will only be putting forward suggestions for 8-9 and 8-12.

First, 804, 1002.12, 1003.12 and 1004.12 are sections for kitchens. If a kitchenette is a kitchen without a conventional range or cooktop, then the exceptions for side approach sink and no work surface make sense in their current location in Section 804. This should be carried through consistently for all types of spaces where kitchens, kitchenettes, break counter and wet bars occur.

Kitchenettes are appearing in office spaces, dorm and assisted living suites, hotel rooms, etc. The standard must clarify how the requirements for kitchenettes differ from kitchens. Some apartments will have both a kitchen and a wet bar or kitchenette.

The language is not needed in 1002, because Accessible units reference 804.

Type A units will get the same exception as Accessible units for the work surface and sink if they provide a kitchenette.

Type B units already allow for side approach, so no changes are necessary.

Option-

If "spaces that do not provide a conventional range or cooktop" is too long of a tern, there is the alternative a defining a kitchenette and using that as a defined term.

That 2nd option would possibly get rid of the misinterpretation that a kitchenette with a microwave can have side approach, but a counter for the same wet bar/kitchenette purpose with a sink and not a microwave has to have a front approach.

106.5 Defined terms

Kitchenette – A kitchen in a space or room that does not provide a cooktop or conventional range.

606.2 Clear Floor Space. A clear floor space complying with Section 305.3, positioned for forward approach, shall be provided. Knee and toe clearance complying with Section 306 shall be provided. The dip of the overflow shall not be considered in determining knee and toe clearances.

EXCEPTIONS:

1. A parallel approach complying with Section 305 and centered on the sink, shall be permitted to a kitchen sink in a kitchenette, ~~a space where a cook top or conventional range is not provided~~.

(portions of section not shown remain unchanged)

804.2 Clearance. Where a pass-through kitchen is provided, clearances shall comply with Section 804.2.1. Where a U-shaped kitchen is provided, clearances shall comply with Section 804.2.2. Kitchenettes shall comply with Section 804.2.3.

~~**EXCEPTION:** Spaces that do not provide a cooktop or conventional range shall not be required to comply with Section 804.2 provided there is a 40 inch (1015 mm) minimum clearance between all opposing base cabinets, counter tops, appliances, or walls within work areas.~~

804.2.3 Kitchenettes. Kitchenettes shall provide a 40-inch (1015 mm) minimum clearance between all opposing base cabinets, counter tops, appliances, or walls within work areas.

804.3 Work Surface. Work surfaces shall comply with Section 902.

EXCEPTION: ~~Spaces that do not provide a cooktop or conventional range~~ Kitchenettes shall not be required to provide an accessible work surface.

804.4 Sinks. Sinks shall comply with Section 606.

Accessible units –

1002.12 Kitchens and kitchenettes. Kitchens and kitchenettes shall comply with Section 804. ~~At least one work surface, 30 inches (760 mm) minimum in length, shall comply with Section 902.~~

EXCEPTION: Kitchenettes ~~spaces that do not provide a cooktop or conventional range~~ shall not be required to provide an accessible work surface.

Type A units –

1003.12.1.1 Minimum Clearance. In kitchens and kitchenettes, clearance between all opposing base cabinets, counter tops, appliances, or walls within kitchen work areas shall be 40 inches (1015mm) minimum.

1003.12.3 Work Surface. At least one section of counter shall provide a work surface 30 inches (760 mm) minimum in length complying with Section 1003.12.3.

EXCEPTION: Kitchenettes shall not be required to provide an accessible work surface.

1003.12.5 Sink. Sinks shall comply with Section 1003.12.4.

Exception: A parallel approach complying with Section 305 and centered on the sink, shall be permitted to a kitchen sink in a kitchenette.

Type B units –

1004.12.1.1 Minimum Clearance. In kitchens and kitchenettes, clearance between all opposing base cabinets, counter tops, appliances, or walls within kitchen work areas shall be 40 inches (1015mm) minimum.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The revised proposal eliminates the term 'kitchenette' from the standard. The term has caused confusion. The key to the regulation is the 'kitchen' doesn't provide a cooktop or range. In such kitchens, clearances are less.

Modification.

Replace the proposal as follows:

804.2 Clearance. Where a pass-through kitchen is provided, clearances shall comply with Section 804.2.1. Where a U-shaped kitchen is provided, clearances shall comply with Section 804.2.2. Kitchens where a cook top or conventional range are not provided shall comply with Section 804.2.3.

~~**EXCEPTION:** Spaces that do not provide a cooktop or conventional range shall not be required to comply with Section 804.2 provided there is a 40-inch (1015 mm) minimum clearance between all opposing base cabinets, counter tops, appliances, or walls within work areas.~~

804.2.3 Spaces where a cook top or conventional range are not provided. In a kitchen space where a cooktop or conventional range is not provides, clearance between all opposing base cabinets, counter tops, appliances, or walls within work areas shall be 40-inch (1015 mm) minimum.

1002.12 Kitchens ~~and kitchenettes.~~ Kitchens ~~and kitchenettes~~ shall comply with Section 804. ~~At least one work surface, 30 inches (760 mm) minimum in length, shall comply with Section 902.~~

~~**EXCEPTION:** Spaces that do not provide a cooktop or conventional range shall not be required to provide an accessible work surface.~~

1003.12.3 Work Surface. At least one section of counter shall provide a work surface 30 inches (760 mm) minimum in length complying with Section 1003.12.3.

EXCEPTION: Spaces that do not provide a cooktop or conventional range shall not be required to provide an accessible work surface.

1003.12.6 Sink. Sinks shall comply with Section 1003.12.4.

Exception: A parallel approach complying with Section 305 and centered on the sink, shall be permitted to a kitchen sink in a space where a cook top or conventional range is not provided.

8-14– 12
805.4, 805.6, 805.6.3

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

805.4 Bus Signs. Bus route identification signs shall have visual characters complying with Sections 703.2.2, 703.2.3, and 703.2.5 through 703.2.8. In addition, bus route identification numbers shall be visual characters complying with Section 703.2.4.

EXCEPTIONS:

1. Bus schedules, timetables and maps that are posted at the bus stop or bus bay shall not be required to comply with Section 805.4.
2. Bus route identification signage shall be permitted to comply with Section 703.7.

805.6 Rail Station Signs. Rail station signs shall comply with Section 805.6.

EXCEPTIONS:

1. Signs shall not be required to comply with Sections 805.6.1 and 805.6.2 where audible signs are remotely transmitted to hand-held receivers, or are user- or proximity-actuated.
2. Bus route identification signage shall be permitted to comply with Section 703.7.

805.6.3 Station Names. Stations covered by this section shall have identification signs with visual characters complying with Section 703.2. The signs shall be clearly visible and within the sight lines of a standing or sitting passenger from within the vehicle on both sides when not obstructed by another vehicle.

EXCEPTION: Station identification signage shall be permitted to comply with Section 703.7.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

Bus signs and rail station signs should be able to use variable message signage. This is not an option in ADA because they do not have requirements for these types of signs. However, it is logical to allow this option since variable message signage effectively meets visual signage requirement.

805.4-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The Committee was unclear how the revisions would be applied. Bus route information is typically not a variable message and therefore reference to Section 703.7 is not necessary. Bus route signs can have a lot of information other than route numbers and names. It is unclear if, or how, all the information can comply with 703.7.

BALLOT COMMENT

8-14.1

Commenter: Hope Reed, Representing NMGCD
Ballot: Negative with comment:

Comment: This proposal is proactive to include Variable Message Signs in transportation stations.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

8-15– 12
808 (New), 809 (New)

Proposed Change as Submitted

Proponent: Neil A. Snyder, American Speech-Language-Hearing Association

Add new text as follows:

808. Add the text of ANSI/ASA S12.60-2010/Parts 1 & 2, American National Standard Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools, Part 1: Permanent Schools; Part 2: Relocatable Classroom Factors at the end of A117.1, Chapter 8, Special Rooms and Spaces, as a new section 808 and 809 respectively.

809. Add the text of ANSI/ASA S12.60-2010/Parts 1 & 2, American National Standard Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools, Part 1: Permanent Schools; Part 2: Relocatable Classroom Factors at the end of A117.1, Chapter 8, Special Rooms and Spaces, as a new section 808 and 809 respectively.

Reason: The American Speech-Language-Hearing Association (ASHA) recommends an appropriate acoustical environment for all students in educational settings. Therefore, ASHA endorses ANSI S12.60-2010 Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools (ANSI S12.60-2010) as the national building and design standards for classroom acoustics. It is well recognized that the acoustical environment in a classroom or other educational environment is a critical variable in the academic, psychoeducational, and psychosocial development of children with normal hearing as well as children with hearing loss and/or other disabilities (e.g., auditory processing disorders, learning disabilities, attention deficit disorders). Inappropriate levels of reverberation and/or noise can deleteriously affect speech perception, reading/spelling ability, classroom behavior, attention, concentration, and educational achievement. In addition to compromising student function, poor classroom acoustics may also negatively affect teacher performance and increase vocal pathologies and absenteeism. Thus, all educational settings have an incentive to develop acoustical conditions that meet national standards. For children with hearing loss and/or other disabilities, the acoustics of the proposed educational setting(s) should be considered and addressed during the determination of a child's educational needs and placement.

Acoustical factors in a classroom include: (1) the level of the background (ambient) noise in the room; (2) the relative intensity of the information carrying components of the speech signal to the non-information carrying signal or noise (i.e., signal-to-noise ratio [SNR]); and (3) the reverberant characteristics of the environment.

It is important to note that these acoustical criteria are essentially identical to the recently approved ANSI Standard on classroom acoustics. Additionally, ANSI S12.60-20102 provides acoustic guidelines for learning spaces greater than 20,000 ft3.

It is imperative that all new construction adhere to the acoustical criteria indicated above and stipulated in ANSI S12.60-2010. The fundamental strategy for improving acoustics within existing classrooms is acoustical modification of that environment. Acoustical measurement and/or modifications of educational settings should be multidisciplinary in nature and conducted by trained qualified professionals, such as audiologists, architects, and acoustical engineers. It is important to realize that these acoustical criteria are considered minimal. Some students, for example those with hearing loss, may require further signal enhancement technology. For additional information on acoustical criteria and hearing assistive technology, see ASHA's Acoustics in Educational Settings: Technical Report and Guidelines for Addressing Acoustics in Educational Settings. http://www.asha.org/docs/html/TR2005-00042.html

Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools,

Part 1: Permanent Schools

1 Scope and purpose

1.1 Scope

1.1.1 Part 1 of ANSI/ASA S12.60 is applicable to core learning spaces and classrooms with interior volumes not exceeding 566 m3 (20 000 ft3) and to ancillary learning spaces of any volume. Learning spaces with volumes larger than 566 m3 (20 000 ft3) are considered ancillary learning spaces for purposes of this standard. Annex A provides testing procedures when optional tests are performed to determine conformance with the source background noise requirements and the noise isolation requirements of this standard. Annex B provides commentary information on various paragraphs of this standard. Annex C provides guidelines for controlling reverberation in classrooms and other learning spaces.

This Part does not apply for natatoria, auditoria, music performance spaces, teleconferencing rooms, or special education rooms such as those for severely acoustically challenged students, which all require special acoustical design and treatment that is not within the scope of this standard. This Part does not apply to relocatable classrooms or relocatable modular learning spaces, which are covered by Part 2 of ANSI/ASA S12.60.

1.1.2 Acoustical performance criteria are specified in this standard by limits on the greatest one-hour average A-weighted and C-weighted background noise levels and by limits on reverberation times when students are expected to be present.

1.1.3 The control of background noise levels in this standard is achieved, in part, by specifying the minimum outdoor-to-indoor transmission class (OITC) ratings and sound transmission class (STC) ratings, depending upon the sound source, to reduce noise that intrudes into the classroom or learning space from sources outside of the building envelope, and specifying minimum STC ratings for walls and floor-ceiling assemblies where noise that originates within the school building intrudes into the classroom through classroom walls and floor/ceiling assemblies. The control of noise from footsteps or other impacts on a floor above is achieved by specifying an impact insulation class (IIC) rating for the floor/ceiling assembly.
1.1.4 This standard applies to siting and building-design-dependent sources of intrusive noise in learning spaces in schools, including noise produced by heating, ventilating, and air-conditioning (HVAC) systems; building services; and exterior sound sources such as vehicular traffic and aircraft overflights. This standard applies to the design and performance of unoccupied spaces and does not apply to sound generated within a classroom by its occupants including voices and the sounds of classroom activities such as the moving of chairs, nor does it apply to the sound from portable or permanent built-in equipment used during the course of instruction, such as computers, as long as the equipment can be turned off in the room.

1.2 Purpose
This standard is intended to provide a minimum set of requirements, based on the best scientific evidence available at the time of publication, that can be adopted by reference to this standard and enforced by an authority having jurisdiction. This standard, in conjunction with the information provided in the annexes, is intended to help school planners and designers provide good acoustical characteristics for classrooms and other learning spaces in which speech communication is an important part of the learning process.
2 Normative references
The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.
ANSI S1.1, American National Standard Acoustical Terminology
ANSI/ASA S1.13, American National Standard Measurement of Sound Pressure Levels in Air
ANSI/ASA S12.9-1992/Part 2 (R2008), American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound, Part 2: Measurement of Long-Term Wide-Area Sound
ANSI/ASA S12.9-1993/Part 3 (R2008), American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound, Part 3: Short-Term Measurements with an Observer Present
ASTM E90-09, Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
ASTM E336-09, Standard Test Method for Measurement of Airborne Sound Attenuation between Rooms in Buildings
ASTM E41 3-04 (2009), Classification for Rating Sound Insulation
ASTM E966-04, Standard Guide for Field Measurements of Airborne Sound Insulation of Building Façades and Façade Elements
ASTM E1 007-04e1, Standard Test Method for Field Measurement of Tapping Machine Impact Sound Transmission through Floor-Ceiling Assemblies and Associated Support Structures
ASTM E1 332-90(2003), Standard Classification for Determination of Outdoor-Indoor Transmission Class
I EC 61672-1, Electroacoustics — Sound level meters — Part 1: Specifications ANSI/Infocomm 1 M-2009, Audio Coverage Uniformity in Enclosed Listener Areas
3 Definitions
For the purposes of this standard, the terms and definitions given in ANSI S1.1 and the following apply. The definitions of acoustical terms given here are consistent with those given in ANSI S1.1 but may be simplified for the purposes of this document.

3.1 General terms
3.1.1 classrooms and other learning spaces. Locations within school buildings where students assemble for educational purposes.
3.1.1.1 core learning spaces. Spaces for educational activities where the primary functions are teaching and learning and where good speech communication is critical to a student's academic achievement. These spaces include, but are not limited to, classrooms (enclosed or open plan), instructional pods or activity areas, group instruction rooms, libraries, offices used for educational purposes, therapy rooms, and music rooms for instruction or practice.
3.1.1.2 ancillary learning spaces. Spaces where good communication is important to a student's educational progress but for which the primary educational functions are informal learning, social interaction, or similar activity other than formal instruction. For purposes of this part, ancillary learning spaces include corridors, cafeterias, and gymnasia but do not include natatoria, auditoria, music performance spaces, teleconferencing rooms, or special education rooms such as those for severely acoustically challenged students.
3.1.1.3 relocatable classroom. Educational classroom structure that utilizes factory-built modular construction methods that can be efficiently, repeatedly transported over public roads without the removal of the floor, roof, or other significant structural modification, and that typically consists of one or two modules (units, boxes, floors), but can consist of multiple units. Relocatable classrooms are frequently called portable classrooms, temporary classrooms, mobile classrooms, or learning cottages.
3.1.2 acoustical privacy. The acoustical attenuation between spaces that is needed to prevent conversation in one space from being understood in an adjacent space.
3.2 Terms relating to acoustical performance and design
3.2.1 noise level or sound level. Terms employed interchangeably throughout this standard to represent the overall frequency-weighted sound pressure level of an airborne sound. This descriptor is used to express the strength of a sound in a manner related to how the ear perceives it. Noise level or sound level is expressed in decibels, unit symbol dB.
3.2.1.1 A-weighted sound level. Sound pressure level measured with a conventional frequency weighting that roughly approximates how the human ear hears different frequency components of sounds at typical listening levels for speech. The A-weighting (see IEC 61672-1) attenuates the low-frequency (or low-pitch) content of a sound. A-weighted sound level is expressed in decibels, unit symbol dB.

3.2.1.2 C-weighted sound level. Sound pressure level measured with a conventional frequency weighting (see IEC 61672-1) that does not significantly attenuate the low-frequency (or low-pitch) content of a sound. C-weighted sound level is expressed in decibels, unit symbol dB.
3.2.1.3 one-hour average A-weighted or C-weighted sound level. Level of the time-mean-square A-weighted or C-weighted sound pressure averaged over a one-hour period. One-hour average sound level is expressed in decibels, unit symbol dB.
3.2.2 background noise. Sound in a furnished, unoccupied learning space, including sounds from outdoor sources, building services and utilities. For the purposes of this standard, background noise excludes sound generated by people within the building or sound generated by temporary or permanent instructional equipment.
3.2.2.1 interior-source background noise. Noise from building services and utilities.
3.2.2.2 exterior-source background noise. Noise from transportation sources, such as aircraft, vehicle traffic, or from other outdoor noise sources (e.g., lawn maintenance, playground activities, or industrial sources).
3.2.3 reverberation. An acoustical phenomenon that occurs in an enclosed space, such as a classroom, when sound persists in that space as a result of repeated reflection or scattering from surfaces enclosing the space or objects in the space such as chairs, desks, or cabinets.
3.2.3.1 reverberation time. A measure of the degree of reverberation in a space and equal to the time required for the level of a steady sound to decay by 60 dB after it has been turned off. Reverberation time is expressedexpressed in seconds, unit symbol s.
3.2.4 sound absorption and reflection. Acoustical phenomena that occur whenever sound strikes a surface. For the calculation or measurement of reverberation time, absorbed sound is the portion of the sound energy striking a surface that is not returned as sound energy. Reflected sound is the remaining portion that bounces off the surface.
3.2.5 attenuation of airborne sound. A measure of the decrease in sound level when sound passes through construction assemblies between spaces within a building, or from outside to inside. Attenuation is expressed in decibels, unit symbol dB.
3.2.5.1 sound transmission class. A one-number rating of the sound-blocking ability of a partition, door, window, etc., calculated in accordance with ASTM E413 from measurements of one-third-octave band sound pressure levels and sound absorption made in a laboratory and in accordance with ASTM E90, abbreviation STC.
3.2.5.2 outdoor-indoor transmission class. A one-number rating of the sound-blocking ability of a partition, door, window, etc., calculated in accordance with ASTM E1 332 from measurements of one-third-octave band sound pressure levels and sound absorption made in a laboratory and in accordance with ASTM E90, abbreviation OITC.
3.2.5.3 composite sound transmission class. When a wall or other structure is made from multiple elements (for example concrete block, door, and window), the reduction in sound level is a function of the transmission loss and the area of each of the elements.
3.2.6 structure-borne impact sound. The acoustical phenomenon of sound generation and transmission due to impacts or other interaction of objects with a structure, the most common being footsteps on a floor.
3.2.6.1 impact insulation class. Single-number rating of structure-borne noise radiated below by a floor or floor-ceiling assembly when tested in a laboratory in accordance with ASTM E492 and calculated in accordance with ASTM E989; abbreviation IIC.
NOTE 1 The IIC rating is derived from the sound pressure levels measured in the receiving room when a standard tapping machine is operating on the floor assembly above, adjusted to what they would be for a specific amount of absorption in the receiving space below.
NOTE 2 The higher the IIC rating, the lower the impact sound pressure levels.
3.3 classroom audio distribution system. A system for which the primary design goal is to electro-acoustically distribute the audio portion of curricular content throughout a learning space. This content may include, but is not limited to, live voices from teachers and peers, as well as prerecorded or streaming media content from various sources, or both. The systems are not typically designed for public address purposes (such as building-wide announcements) or for the delivery of alert or warning signals, though they may include these capabilities. Classroom audio distribution systems may also include provisions to assist persons with low-amplitude voice levels or those with certain hearing conditions.

4 Applications
4.1 The acoustical performance criteria and design requirements of this standard apply to the design and construction of all new classrooms and learning spaces as specified in 1.1.
4.2 The acoustical performance criteria and design requirements of this standard apply to major renovations as defined by the adopting authority (e.g., State or local building authority, school board, or owner).
4.3 Alterations, renovations, repairs, and maintenance that diminish the acoustical performance of existing classrooms shall not be permitted.

5 Acoustical performance criteria and noise isolation design requirements and guidelines
5.1 Introduction
Acoustical performance criteria and design requirements are contained in the following sub-clauses and were selected to provide an appropriate acoustical learning environment. The performance criteria shall apply to classrooms and other core learning spaces and to ancillary learning spaces. For purposes of design calculations and field measurements used to determine conformance to the requirements of this standard, it shall be assumed that the learning spaces are furnished consistent with their use and the building is unoccupied with doors and windows closed.
5.2 Performance criteria for background noise levels 5.2.1 Exterior-source background noise levels
5.2.1.1 The one-hour average A- and C-weighted exterior-source background noise level within the enclosed space for the noisiest continuous one-hour period during times when learning activities take place shall not exceed the limits specified in Table 1.
5.2.1.2 When transportation or military sources are the dominant noise source(s), the yearly average, one-hour, or day-night (as available) A-weighted sound level shall, where practical, be predicted using the methods and computer programs developed by the U.S. Department of Transportation or U.S. Department of Defense. These include Integrated Noise Model (INM) and Noisemap for aircraft noise, Traffic Noise Model (TNM) for road noise, and the Federal Railroad Administration procedures for rail noise. These calculated levels shall be used in lieu of measured sound levels to determine the exterior-source background noise level.

5.2.1.3 The one-hour average A- and C-weighted sound level for exterior-source background noise, if measured, shall be measured in accordance with the procedures of Annex A based on guidance in ANSI/ASA S12.9 Part 2 or ANSI/ASA S12.9 Part 3 as applicable.

Table 1 — Limits on A- and C-weighted sound levels of background noise and reverberation times in unoccupied furnished learning spaces

Learning space a)	Greatest one-hour average A- and C-weighted sound level of exterior-source background noise b), f) (dB)	Greatest one-hour average A- and C-weighted sound level of interior-source background noise c), f) (dB)	Maximum permitted reverberation times for sound pressure levels in octave bands with midband frequencies of 500, 1000, and 2000 Hz (s)
Core learning space with enclosed volume ~ 283 m3 (~ 10 000 ft3)	35 / 55	35 / 55	0.6 s e)
Core learning space with enclosed volume > 283 m3 and ~ 566 m3 (> 10 000 ft3 and ~ 20 000 ft3)	35 / 55	35 / 55	0.7 s
Core learning spaces with enclosed volumes > 566 m3 (> 20 000 ft3) and all ancillary learning spaces	40 / 60 d)	40 /60 d)	No requirement

a) See 3.1.1.1 and 3.1.1.2 for definitions of core and ancillary learning spaces.
b) The greatest one-hour average A- and C-weighted interior-source and the greatest one-hour average A- and C-weighted exterior-source background noise levels are evaluated independently and will normally occur at different locations in the room and at different times of day.
c) See 5.2.2 for other limits on interior-source background noise level.
d) See 5.2.3 for limits in corridors adjacent to classrooms.
e) See 5.3.2 for requirement that core learning spaces ~ 283 m3 (~ 10 000 ft3) shall be readily adaptable to allow reduction in reverberation time to 0.3 s.
f) The design location shall be at a height of 1 m above the floor and no closer than 1 m from a wall, window, or fixed object such as HVAC equipment or supply or return opening. See A.1 .3 for measurement location.

5.2.2 Interior-source background noise levels
5.2.2.1 Limits on interior-source A- or C-weighted background noise levels from building services and utilities and calculation of HVAC noise levels
The levels of interior-source background noise shall be calculated using, as a minimum, the octave-band sound pressure levels with nominal midband frequencies from 63 Hz through 8 kHz unless the equipment rating standard specifies a different range. The calculation shall include the sound from all relevant HVAC sources and paths.
The one-hour average A- or C-weighted level of interior-source background noise shall not exceed the limits specified in Table 1. Multi-stage types of HVAC equipment may operate at multiple conditions resulting in different sound levels that contribute to the one-hour average A- or C-weighted sound level. The sound levels for the different conditions shall not exceed the limits in Table 2. The noise level of the different operational conditions, if measured, shall be measured in accordance with the procedures of Annex A. The one-hour average A- or C-weighted sound levels of any other building system sounds (e.g., lighting) for which sound power data are available, shall be combined on time¬mean-square basis with the calculated one-hour average A- or C-weighted sound level of the HVAC noise before determining conformance. Where sound power data are not available, estimated one-hour average A- or C-weighted sound levels shall be used.

Table 2 — Limits on one-hour average A- and C-weighted sound levels (designated by X / Y below) from sources associated with building services and utilities

Room type	HVAC operating condition	Building services a) sound level limits (dB) c) d)	
		Single mode HVAC Type 1	Multiple mode HVAC Type 2
Core learning space	Design or maximum capacity heating or cooling	35 / 55	37 / 57
	Reduced or low capacity heating or cooling or ventilation b)	Not applicable	34 / 54
Ancillary space	Design or maximum capacity	40 / 60	42 / 62

	heating or cooling		
	Reduced or low capacity heating or cooling or ventilation b)	Not applicable	39 / 59

Type 1 - represents systems that have a single operational mode of performance.
Type 2 - represents systems that have multiple stages of cooling or heating, multiple or variable fan speeds, or ventilation-only modes.
a> The level for HVAC sound shall be combined with the level of the sound from other building systems such as lights, plumbing, etc., if applicable. If present, the contribution of an outdoor condenser or chiller to the classroom sound level shall be combined with the sound from other building services.
b> The operating condition is one that occurs frequently and represents airflow less than design or reduced refrigeration capacity or both.
c> The HVAC design location shall be at the loudest position that is at a height of 1 m above the floor and no closer than 1 m from a wall or fixed object such as HVAC supply or return opening.
d) An HVAC unit designed to provide climate control and ventilation for individual classrooms that conforms to the 35 dB hourly equivalent level requirements of ANSI/ASA S12.60 Part 2 shall be considered to conform to the requirements of ANSI/ASA S12.60 Part 1.

5.2.2.2 Limits on disturbing sounds from building services and utilities
Disturbing tonal sounds, such as hums, buzzes, whines, or whistles generated by HVAC systems and other building services and utilities shall be controlled so as to not interfere with speech communication or be distracting or annoying to the occupants of the learning spaces. Such sounds, if any, that were not able to be controlled during the design process shall be mitigated after construction. The prominence of any tonal sounds shall be quantified using the methods in ANSI/ASA S1.13, and there shall be no "prominent discrete tones" as defined in ANSI/ASA S1.13.
5.2.3 Background noise in corridors
When corridors adjacent to classrooms are used solely for conveyance of occupants within the school building and structured learning activities do not occur there, the one-hour average A-weighted background noise level in such corridors shall not exceed 45 dB.
5.2.4 Equipment, machinery, and components associated with instruction
The limits on background noise level established in 5.2.1 through 5.2.3 do not apply to portable or permanent (built-in> equipment, machinery, and components associated with instruction, such as computers, audiovisual equipment, shop machinery, fume hoods, kitchen exhaust, and similar devices provided such equipment can be turned off from within the learning space. Calculations of background noise level shall not include such equipment and all measurements shall be made with such equipment and emergency equipment turned off. Calculations of background noise level shall include all equipment that cannot be turned off from within the learning space except for emergency equipment.
5.3 Performance criteria for reverberation times
5.3.1 The reverberation times shall conform to the limits specified in Table 1.
5.3.2 Core learning spaces ≤ 283 m3 (≤ 10 000 ft3) shall be readily adaptable to allow reduction in reverberation time to 0.3 s. A classroom is readily adaptable if it can be readily improved through adding the required sound absorption as calculated with the Sabine equation (Equation 1). According to this formula, the minimum total sound absorption A needed to achieve a reverberation time of T60 seconds or less in a room of enclosed volume V is given by:

$$A \geq kV / T60 \quad (1)$$

The constant k = 0.161 s/m when volume V is in cubic meters and the sound absorption A is in square meters. Constant k = 0.049 s/ft when volume V is in cubic feet and sound absorption A is in square feet.
It shall be shown, or be readily apparent, that available surface area to add new sound absorptive materials (carpet, wall panels, etc.) on existing sound reflective finishes and/or additional sound absorption from improving readily upgradable existing acoustical finishes, such as replacing ceiling panels, are together adequate to provide the required sound absorption. For purposes of this standard, no further calculations are required if it can be shown that the area of reflective wall or ceiling area readily available for adding sound absorptive finishes is at least the lesser of 80 m2 or 0.28 V m2 where V is the room volume in m3 (860 ft2 or 0.086 V ft2 where V is the room volume in ft3).
5.4 Noise isolation design requirements
5.4.1 Outdoor-to-indoor attenuation of airborne sound
5.4.1.1 The background noise level inside classrooms from exterior sources is a function of two independent factors: (1) the exterior noise environment, and (2) the reduction of the exterior noise from outdoors to indoors by the building shell. It shall be the responsibility of the user, e.g., the school board, to determine and specify the site exterior noise environment which is the one-hour average A-weighted sound level for the noisiest hour on the average (school) day during school hours. To this end, the user shall conduct a site assessment to determine the greatest outdoor one-hour average A-weighted sound level at the proposed location of the classroom or other core learning space.
5.4.1.2 In addition to the requirement of 5.2.1.1 to reduce the one-hour average interior A-weighted sound levels below 35 dB and the corresponding one-hour average C-weighted sound levels to less than 55 dB, all newly constructed core learning spaces shall be designed to conform to a minimum Outdoor-Indoor Transmission Class (OITC) shown in Table 3. Where a wall contains windows, doors, or penetrations for ventilation, the composite structure, including the window, doors, or penetrations, shall conform to the OITC requirement.
5.4.1.3 When there is an exterior walkway within 3 m (10 ft) or a playground within 9 to 15 m (30 to 50 ft) of the exterior wall of a core learning space, the basic wall shall have an STC rating of at least 45 and exterior doors shall have an STC rating of at least 30. If there are windows in such a wall within 3 m (10 ft) of an exterior walkway or within 9 to 15 m (30 to 50 ft) of a playground, the

composite STC rating of the wall including the windows and doors shall be at least STC 40. If a playground is closer than 9 m (30 ft) to the wall of a core learning space, the composite SIC rating of the exterior wall shall have a rating of at least SIC 50, except that this requirement shall not apply where the playground is dedicated for use only by the adjacent learning space and will therefore not be active while learning activities are occurring in the core learning space.

5.4.1.4 Verification measurements, if required, shall be performed in accordance with the procedures in Annex A.

Table 3 — Minimum OITC rating for core learning spaces

A-weighted outdoor noise level(dB) a), b)	OITC rating walls with windows	OITC rating roofs and walls without windows
<55	30	36
56	31	37
57	32	38
58	33	39
59	34	40
60	35	41
61	35	41
62	36	42
63	37	43
64	38	44
65	39	45
66	39	45
67	40	46
68	41	47
69	42	48
70	43	49
71	43	49
72	44	50
73	45	51
74	46	52
75	47	53
76	47	53
77	48	54
78	49	55
79	50	56
80	50	56
›80	Not permitted	Not permitted

a) See 5.4.1.1.
b) See 5.2.1.

5.4.2 Indoor-to-indoor attenuation of airborne sound

5.4.2.1 Wall and floor-ceiling assemblies that separate enclosed or open-plan core learning spaces from adjacent spaces shall be designed to achieve the minimum STC ratings specified in Table 4. The STC rating requirements of Table 4 also shall apply to the design of temporary partitions that subdivide a learning space.

Table 4 — Minimum STC ratings required for single or composite wall and floor-ceiling assemblies that separate a core learning space from an adjacent space

Adjacent space			
Other enclosed or open-plan core learning space, therapy room, health care room and space requiring a high degree of acoustical privacy a), b)	Common-use and public-use toilet room and bathing room a)	Corridor, staircase, office, or conference room c), d)	Music room, music performance space, auditorium, mechanical equipment room, e> cafeteria, gymnasium, or indoor swimming pool.
50	53	45	60

a> These requirements do not apply to toilets opening only into the core learning space and used only by occupants of the core learning space.
b> A 20 cm (8"> concrete masonry unit wall having a surface weight density of at least 180 kg/m2 painted and sealed on both sides, acoustically sealed at the entire perimeter and extending from the floor slab to the structural deck above, is an acceptable alternate assembly that conforms to the intent of 5.4.2.1.
c> For corridor, office, or conference room walls containing doors, the basic wall, exclusive of the door, shall have an STC rating as shown in the appropriate column in this table. The entrance door shall conform to the requirements of 5.4.2.4.
d> When acoustical privacy is required, the minimum composite STC rating, including the effects of doors, of

the partitions around an office or conference room, shall be increased to 50.
e> The isolation between core learning spaces and mechanical equipment rooms shall have a STC rating of 60 or greater unless it is shown that the sound level in the mechanical equipment room combined with a lower STC rating can achieve the required sound level in the core learning space. In no case shall the design STC between such spaces be less than 45.

5.4.2.2 All penetrations in sound-rated partitions shall be sealed and treated as necessary to achieve the required STC ratings. Attention shall be given to flanking paths that would reduce the isolation between spaces.
5.4.2.3 For walls containing doors between a core learning space and corridors or stairwells, the minimum STC ratings of Table 4 apply to the wall exclusive of the door. For walls containing doors between a core learning space and offices, conference rooms, or toilets that open only to the one core learning space, the minimum STC ratings of Table 4 apply to the wall exclusive of the door. In all other cases, the STC rating applies to the composite construction including the effects of doors, windows, penetrations, etc.
5.4.2.4 Interior door assemblies and up to 1 m2 (10 ft2> of window glazing area immediately adjacent to the door opening into core learning spaces from corridors, stairways, offices, or conference rooms shall achieve a STC rating of 30 or greater in their operable condition. The STC rating for interior entry doors into music rooms from corridors or staircase areas shall be at least 40 if such doors are within 9 m (30 ft> of a door to a core learning space. A vestibule entry composed of two sets of doors with STC ratings of 30 or greater shall be considered to conform to the STC 40 requirement.

5.4.2.5 It shall be the responsibility of the user, e.g., the school board, to determine if and when an office or conference room needs to have a high degree of acoustical privacy. If so, then the STC rating between these specifically designated spaces and adjacent spaces shall be at least 50.
5.4.2.6 Verification measurements, if required, shall be made in accordance with the procedures in Annex A.
5.4.3 Structure-borne impact sound isolation
The floor-ceiling assemblies of normally occupied rooms located above learning spaces shall be designed for a laboratory test rating of at least IIC 45 if they are located above core learning spaces and IIC 40 if they are located above ancillary learning spaces. These IIC ratings shall apply without carpeting on the floor in the room above the learning space. In new construction, gymnasia, dance studios, or other rooms with high floor-impact activity shall not be located above classrooms or other core learning spaces. In renovations, existing gymnasia, dance studios, and similar rooms with high floor-impact activity when it is located above core learning spaces shall either be relocated or the IIC rating of the separating floor-ceiling assembly shall be at least 70 when located above a core learning space with an enclosed volume not greater than 566 m3 (20 000 ft3); at least 65 when located above a core learning space with an enclosed volume greater than 566 m 3 (20 000 ft3); and at least 65 when located above an ancillary learning space.
5.5 Classroom audio distribution systems 5.5.1 Uniformity of coverage
Classroom audio distribution systems, if installed, shall not be used as a substitute for achieving the acoustical design requirements of this standard. Such systems, if installed, shall have uniform coverage within ±2.5 dB for octave-band sound pressure levels with midband frequencies of 500 Hz, 1000 Hz, 2000 Hz, and 4000 Hz. Measurements of the coverage uniformity, if performed, shall be conducted in accordance with the measurement procedures contained in ANSI/INFOCOMM 1 M-2009.
5.5.2 Limitations on sound intrusion into adjacent learning spaces
Classroom audio distribution systems shall be adjustable so that their sound output can be reduced to levels such that the sound from the system does not intrude on adjacent learning spaces.
5.6 Conformance testing
This standard does not require testing to demonstrate conformance. When optional tests are performed to verify conformance to the requirements of this standard, the procedures in Annex A shall be followed.
NOTE If the school is a prototype design that will be repeated at multiple sites, it is recommended that conformance testing be undertaken on the first structure.

Annex A
(normative)
Verification of conformance by measurement

A.1 Verification of conformance with interior-source background noise requirements

A.1 .1 Interior-source background noise level measurements shall be taken during time periods when the outdoor sound contribution to the indoor sound is minimal. Both background measurements and HVAC measurements shall be taken under nominally the same outdoor environment.
A.1 .2 Identify the listening area within the classroom where direct teacher and student speech communication generally takes place. With the HVAC and other noise sources operating in their respective design operational modes, perform an acoustical survey of the classroom within that listening area. This survey shall be done at what are potentially the noisiest locations within the room, including at the HVAC inlet or outlet air ducts, in the vicinity of the HVAC equipment, or at any other location that the observer identifies as a significant source of interior-generated noise. Identify the noisiest location within the listening area using a sound level meter that conforms to the requirements for either Class 1 or Class 2 performance as specified in IEC 61672-1. The meter shall have a minimum frequency range encompassing the octave bands from 63 Hz to 8 kHz. The location with the highest A-weighted sound level shall be termed the “key” location.
A.1 .3 Measurements, including the above screening for the "key" location, shall be taken at any time such that outdoor noise levels (except for HVAC equipment such as condensing sections or chillers) are at least 6 dB below the interior-source noise levels; that is, they contribute less than 0.5 dB to the measurement of the interior source background noise. The microphone shall be located at a height of 1.0 to 1.2 m (40 to 48 in.) above the floor and no closer than 1 m (40 in.) from a wall, fixed object such as HVAC plenum, or bookshelves, and no closer than 0.5 m (20 in.) from a readily movable object such as a desk, chair, or table.

A.1 .4 At the key location, first measure the sound with the HVAC equipment turned off. Then take five consecutive A- and C-weighted 60-second time-averaged sound level measurements with the HVAC operating. If each of the measured A- and C-weighted levels with HVAC equipment operating is at least 6 dB higher than the background A- and C-weighted levels, respectively, then the HVAC noise shall be considered to be the primary source of interior noise. If the HVAC sound is the primary source of interior-generated noise, then the steadiness of the noise shall be determined following the procedure in A.1.6.
A.1 .5 For heat pump systems, the sound testing shall be performed in the cooling mode if the outdoor ambient temperature is 10° C (50° F) or above and in the heating mode if the outdoor ambient temperature is below 10° C (50° F). For fuel furnaces and compressor cooling systems, the sound testing shall be performed in the cooling mode.
A.1 .6 The average of five consecutive 60-second measurements in each mode of operation shall be recorded. For each mode, it shall be determined if the background sound levels are steady. The criterion for steady background sound levels shall be that the difference between the highest and lowest data sound levels of the five 60-second samples is not more that 3 dB.
A.1 .7 If the background noise level is steady, then measurements shall be repeated in each operational mode of the HVAC equipment and the sound levels shall be compared to the limits in Table 2.

A.1 .8 If the background noise level is unsteady, then the source of the unsteadiness shall be determined—exterior or interior.
A.1 .8.1 If the source is exterior, then the interior-source background noise measurements shall be repeated at a time when the exterior noise is less. If no such time can be found, then it is likely that the outdoor sound is too great and it shall be measured and conformance verified for exterior-source background noise by the procedure in A.2.
A.1 .8.2 If the source is interior, then one-hour average A-weighted sound level measurements including operation at both design conditions and other typical conditions shall be taken and reported. These measurements shall be used in lieu of the five 60-second averages to determine the interior-source background noise level for the room at the key location. The one-hour measurements shall be compared to the limits in Table 2.
A.1 .9 Measured sound levels within 2 dB of the background noise criterion shall be reported as conforming to the background noise criterion.

A.2 Verification of conformance to the exterior-source background noise requirement

A.2.1 Verification of conformance with the outdoor-to-indoor noise level reduction requirement

A.2.1 .1 The outdoor-indoor noise isolation class (OINIC) shall be measured in accordance with the procedures of ASTM E966.
A.2.1.2 If present with sufficiently high sound level, the actual major outdoor noise source (e.g., aircraft, road or rail traffic, industrial noise) may be used for the OINIC measurements at a specific application site; otherwise, an artificial noise source(s) shall be used.
A.2.1 .3 The OINIC shall always be measured for a wall with windows. If the only wall with windows is shielded from direct exposure to the dominant exterior source sound, and a roof or another wall without windows is exposed to the dominant exterior source sound, then the OINIC shall also be measured for the roof or wall without windows.
A.2.1 .4 Where a requirement exists for a wall or room to conform to a specified OITC, a measured OINIC for that wall or room within 3 points of the specified OITC shall be considered as verifying the specified performance.

A.2.2 Determining or verifying the user-stipulated exterior-source, outdoor, free-field, loudest-hour environmental noise levels

A.2.2.1 The one-hour average A-weighted sound levels shall be measured in accordance with ANSI/ASA S12.9 Part 2 and ANSI/ASA S12.9 Part 3, as applicable, and in accordance with ANSI/ASA S1 .13. Extraordinary sounds such as a vehicle crash, a loud airplane where normally there are none, or siren where normally there are none, shall be excluded from the reported hourly environmental noise level.
A.2.2.2 Sound levels within 2 dB of a previously estimated and stipulated one-hour average A-weighted sound level shall be considered as verifying conformance to the estimated and stipulated result.

A.2.3 Overall outdoor-to-indoor tolerance

The sum of the deviations reported for A.2.1.2 and A.2.2.2 shall be ≤ 2 dB.

A.3 Verification of conformance to the inside-to-inside sound isolation requirements

A.3.1 Verification of inside-to-inside airborne sound isolation
A.3.1.1 The noise isolation class (NIC) between rooms shall be measured in accordance with the procedures in ASTM E336.
A.3.1 .2 Where a requirement exists for isolation to conform to a specified STC, a measured NIC within 3 points of the specified STC shall be considered as verifying conformance to the specified performance.
A.3.1 .3 In some cases walls containing doors and windows, such as corridor walls, are exempt from the overall STC requirement as affected by the doors and windows. For these cases calculate the composite STC based on the expected STC of the various elements such as wall, doors, and windows and their respective areas. To determine conformance, compare the composite STC with a measured NIC.
A.3.2 Verification of inside-to-inside impact sound isolation
A.3.2.1 The apparent impact insulation class (AIIC) shall be measured in accordance with the procedures in ASTM E1007.
A.3.2.2 A resulting AIIC within 5 points of the specified IIC shall be considered as verifying conformance to specified performance.

A.4 Verification of conformance to reverberation time requirements

Conformance with the reverberation time requirements of this standard may be verified by either of the two options below.

1) Calculation option: Absorption coefficients shall be provided in octave bands with mid-band frequencies of 500, 1000, and 2000 Hz for surface material and acoustic treatments used within the space. Using these absorption coefficients and the room dimensions, the Sabine equation [Equation (1)], shall be used to calculate conformance to the standard. These calculations are required during the design phase and may be used to demonstrate conformance.

2) Measurement options: If field measurements are made to demonstrate conformance, the methods described in ASTM E2235-04 and ISO 3382-2 can be referred to for general guidance on the test method. In either case, the following requirements shall be met. When using the interrupted noise method to obtain decays, a minimum of five decays shall be measured at each measurement position. These measurements shall be repeated for at least six combinations of three microphone positions

and two source positions. If the integrated impulse response method (described in ISO 3382-2) is used to obtain the decays, there is no need for repeated decays at each measurement position. However, measurements shall be made for a minimum of the six combinations of three microphone positions and two source positions.
The use of an approximately omni-directional loudspeaker source is preferred, but other types of loudspeakers may be used including corner loudspeakers and loudspeakers with directionality similar to a human talker. In all cases the source-to-receiver distance shall not be less than 1/3 of the largest dimension of the room.
If omni-directional or human-simulating sound sources are used, they shall be placed at positions that are typical for teachers and/or students when they are speaking to the class. Microphone locations shall be selected from locations where student listeners typically would be located.
Measurements shall be at a minimum for the octave bands including 250 Hz through 4000 Hz.
In determining the decay rate, the calculation shall begin with the first point of the decay that is more than 5 dB below the level when the sound was on.
A measured reverberation time ± 0.1 s shall be considered to conform to this standard.

A.5 Terms and definitions used in Annex A

A.5.1 apparent impact insulation class (AIIC). Single-number rating of the structure-borne noise radiated below by a floor or floor-ceiling assembly when tested in the field in accordance with ASTM E1007 and calculated in accordance with ASTM E989.
NOTE 1 The rating is derived from the sound pressure levels measured in the receiving room when a standard tapping machine is operating on the floor assembly above, adjusted to what they would be for a specific amount of absorption in the receiving space below.
NOTE 2 The higher the AIIC rating, the lower the impact sound pressure levels.
NOTE 3 AIIC is sometimes also referred to as "field impact insulation class" or FIIC.
A.5.2 noise isolation class (NIC). A one-number rating of the attenuation of airborne sound between enclosed spaces calculated in accordance with ASTM E413 from one-third octave band sound levels measured in accordance with ASTM E336 or from the attenuation of airborne sound calculated between the spaces during design.
A.5.3 outdoor-indoor noise isolation class (OINIC). A one-number rating of the attenuation of airborne sound between the outdoors and inside a building calculated in accordance with the procedures of ASTM E1332 from one-third octave band sound levels measured in accordance with ASTM E966 or from the attenuation of airborne sound from outdoors to indoors calculated during design.
NOTE The measured or calculated attenuation of airborne sound between the outdoors and indoor spaces issubstituted for the ASTM E90 data in the calculation method of E1332 to calculate the OINIC.

Annex B
(informative)
Commentary on specific paragraphs of this standard

Commentary-1.1.1. Special-purpose classrooms such as teleconferencing rooms, special-education rooms such as those for students with hearing and listening impairments, or other spaces such as large auditoria may have unique acoustical requirements that are different than the minimum requirements set forth in this standard. Requiring conformance to the minimum requirements of this standard therefore may not be suitable or appropriate for such rooms. While these spaces are exempt from the minimum requirements of this standard, designers are expected to consider and design for the unique acoustical requirements of these spaces.
Commentary-1.1.2. An objective of these performance criteria is to achieve a level of speech that is sufficiently high relative to the background noise level for listeners throughout the classroom or learning space. However, a requirement for the relative difference between speech levels and levels of background noise, usually referred to as the signal-to-noise ratio, is not within the scope of this standard.
Commentary-1.1.4. The background noise generated by occupants and instructional equipment can seriously degrade communication or speech intelligibility in learning spaces. This evaluation should be made to aid in the application of practical noise control measures for school designers or staff. The measures may take the form of using neoprene chair-leg tips to minimize the sound of scuffling chairs and avoiding locating noisy projectors close to students.
Commentary-3.2.3.1 reverberation time. The decay rate depends on the amount of sound absorption in a room, the room geometry, and the frequency of the sound. In practice, the reverberation time is often measured by measuring the time required for a 20 or 30 dB decay and extrapolating that decay rate to the time required for a 60 dB decay.
Commentary-3.2.4 sound absorption and reflection. The level of a reflected sound in a room is determined by the amount of sound absorption at the surfaces, the room geometry, and the frequency of the sound. As the distance between a sound source and a receiver in a classroom increases, the sound at the position of a receiver is increasingly dominated by reflected sound.
Commentary-3.2.5 attenuation of airborne sound. The attenuation of airborne sound depends on the sound reduction through these elements, on their size, on sound leakage around their periphery, on the sound absorption in the receiving space, and on the frequency of the sound.
Commentary-3.2.5.3 composite sound transmission class. Elements with very little transmission loss, such as openings or holes, reduce the effective transmission loss of the composite wall. The reduced effectiveness can be observed even when the opening is a small percent of the total wall, and may not be significantly increased by the greater sound transmission loss of the remaining elements of the wall.
Commentary-4.1. Conformance to the requirements and guidelines of this standard should be considered to be a minimum goal for the acoustical qualities of such spaces, excluding auditoria. The standard does not provide recommendations for electronic aids for persons with hearing impairment, though conformance to this standard will help ensure effective application of such aids.
Commentary-4.2. During renovation of some facilities, it may not be practical to achieve the targets for sound levels or transmission loss. In those cases, the intent of this standard should be followed to the extent practical.

Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools, Part 2: Relocatable Classroom Factors

1 Scope and purpose

1.1 Scope

1.1.1 This part of ANSI/ASA S12.60 is applicable to relocatable classrooms and other relocatable modular core learning spaces of small to moderate size. This standard includes siting requirements, acoustical performance criteria, and design requirements for relocatable classrooms. Annex A (informative) provides commentary information on this standard, and Annex B (normative) provides procedures for determining compliance with the background sound requirements. This standard seeks to provide design flexibility without compromising the goal of obtaining adequate speech intelligibility for all students and teachers in classrooms and learning spaces within the scope of this standard.

1.1.2 Acoustical performance criteria are specified in this standard by limits on maximum one-hour A-weighted and C-weighted background noise levels and limits on maximum reverberation times.

1.1.3 The control of background noise levels in this standard is achieved, in part, by specifying the minimum outdoor-to-indoor level reduction for noise that intrudes into the classroom or learning space from sources outside of the school building envelope, and noise isolation for school building elements for noise that originates within the school building and intrudes into the classroom through classroom walls and partitions, floor-ceiling assemblies, and ventilation systems.

1.1.4 This standard does not apply to noise generated within a classroom by its occupants. Occupant-generated noise sources include voices and the sounds of classroom activities such as the moving of chairs. Furthermore, this standard does not apply to the noise from portable or permanent built-in equipment used during the course of instruction, such as audiovisual equipment and computers.

1.1.5 The following annexes are provided to support this standard.

• Annex A: Commentary: Additional information, discussion, and explanation of various provisions of the standard (informative).

• Annex B: Determining compliance with the background sound requirements (normative). 1.2 Purpose

This standard, in conjunction with the information provided in the commentary and annexes, is intended to help school planners and designers provide the acoustical qualities necessary for good speech communication between students and teachers in classrooms and other learning spaces without the use of electronic amplification systems. This standard is also intended to provide a minimum set of requirements that can be adopted by reference to this standard and enforced by an authority having jurisdiction.

2 Normative references

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ANSI S1 .1-1 994 (R2004), American National Standard Acoustical Terminology

ANSI S1 .4-1 983 (R2006), American National Standard Specification for Sound Level Meters ANSI S1 .13-2005, American National Standard Measurement of Sound Pressure Levels in Air

ANSI/ASA S12.9-1992/Part 2 (R2008), American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound, Part 2: Measurement of Long-term, Wide-area Sound

ANSI/ASA S12.9-1993/Part 3 (R2008), American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound, Part 3: Short-term Measurements with an Observer Present

ASTM E90-09, Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements

ASTM E336-08, Standard Test Method for Measurement of Airborne Sound Attenuation between Rooms in Buildings

ASTM E966-04, Standard Guide for Field Measurements of Airborne Sound Insulation of Building Façades and Façade Elements

ASTM E1 007-04e1, Standard Test Method for Field Measurement of Tapping Machine Impact Sound Transmission Through Floor-Ceiling Assemblies and Associated Support Structures

ASTM E1 332-90(2003), Standard Classification for Determination of Outdoor-Indoor Transmission Class

IEC 61672-1 :2002, Electroacoustics — Sound level meters — Part 1: Specifications

3 Definitions

For the purposes of this standard, the terms and definitions given in ANSI S1.1 and the following apply. The definitions of acoustical terms given here are consistent with those given in ANSI S1.1 but may be simplified for the purposes of this document.

3.1 General terms

3.1.1 Classrooms and other learning spaces. Locations within buildings where students assemble for educational purposes.

3.1.1.1 Core learning spaces. Spaces for educational activities where the primary functions are teaching and learning and where good speech communication is critical to a student's academic achievement. These spaces include, but are not limited to, classrooms (enclosed or open plan), instructional pods or activity areas, group instruction rooms, libraries, and offices used for educational purposes.

3.1.1.2 Ancillary learning spaces. Spaces where good communication is important to a student's educational progress but for which the primary educational functions are informal learning, social interaction, or similar activity other than formal instruction. These areas include, but are not limited to, corridors, cafeterias, gymnasia, and indoor swimming pools.

3.1.1.3 Relocatable classroom. Educational classroom structure that utilizes factory-built modular construction methods that can be efficiently, repeatedly transported over public roads without the removal of the floor, roof, or other significant structural modification, and that typically consists of one or two modules (units, boxes, floors), but can consist of multiple units. Frequently called portable classrooms, temporary classrooms, mobile classrooms, or learning cottages.

3.1.1.4 special-purpose classrooms. Teaching areas designed for specific activities where the finishes and building systems including lighting and HVAC systems are specifically designed to support the unique activities occurring in the spaces they serve. Examples could include art studios, kitchens, chemistry labs, metal shops, wood shops, and classrooms used primarily for instruction of children with special hearing problems or other learning disabilities.
3.1.2 Acoustical privacy. Pertains to the acoustical attenuation between spaces that is needed to prevent conversation in one space from being understood in an adjacent space.

3.2 Terms relating to acoustical performance and design

3.2.1 Noise level or sound level. Generic terms employed interchangeably throughout this standard to represent the frequency-weighted sound pressure level of an airborne sound. This descriptor is used to express the magnitude of a sound in a manner related to how the ear perceives this magnitude. Noise level or sound level is expressed in decibels, unit symbol dB.
3.2.1.1 A-weighted sound level. Sound pressure level measured with a conventional frequency weighting that roughly approximates how the human ear hears different frequency components of sounds at typical listening levels for speech. The A-weighting (see ANSI S1.4 or IEC 61672-1) attenuates the low-frequency (or low-pitch) content of a sound. A-weighted sound level is expressed in decibels, unit symbol dB.
3.2.1.2 C-weighted sound level. Sound pressure level measured with a conventional frequency weighting (see ANSI S1.4 or IEC 61 672-1) that does not significantly attenuate the low-frequency (or low-pitch) content of a sound. C-weighted sound level is expressed in decibels, unit symbol dB.
3.2.1.3 one-hour average A-weighted or C-weighted sound level. Level of the time-mean-square A-weighted or C-weighted sound pressure energy averaged over a one-hour period. One-hour average sound level is expressed in decibels, unit symbol dB.
3.2.2 Background noise level. Sound in a furnished, unoccupied learning space, including sounds from outdoors, building services, and utilities. For the purposes of this standard, this excludes sound generated by people within the building or sound generated by temporary or permanent instructional equipment.
3.2.2.1 interior-source background noise. Noise from building services and utilities.
3.2.2.2 exterior-source background noise. Noise from transportation sources, such as aircraft, vehicle traffic, or from other outdoor noise sources (e.g., industrial sources).
3.2.3 Reverberation. An acoustical phenomenon that occurs in an enclosed space, such as a classroom, when sound persists in that space as a result of repeated reflection or scattering from surfaces enclosing the space or objects in the space, such as chairs or cabinets.
3.2.3.1 Reverberation time. A measure of the amount of reverberation in a space and equal to the time required for the level of a steady sound to decay by 60 dB after it has been turned off. Reverberation time is expressed in seconds, unit symbol s.
NOTE For measurement of reverberation time see ASTM E2235.
3.2.4 Sound absorption and reflection. Acoustical phenomena that occur whenever sound strikes a surface. For purposes of the calculation or measurement of reverberation time, absorbed sound is the portion of the sound energy striking the surface that is not returned as sound energy. Reflected sound is the remaining portion that bounces off the surface.
3.2.4.1 Sound absorption coefficient. A measure of the ability of a material to absorb sound and equal to the ratio of the intensity of the absorbed sound to the intensity of the incident sound.
3.2.5 Attenuation of airborne sound. A measure of the decrease in sound level when sound passes through structures between spaces within a building, or from outside to inside.
3.2.5.1 Sound transmission class (STC). A one-number rating of the sound blocking ability of a partition, door, window, etc., calculated in accordance with ASTM E413 from one-third-octave band measurements made in a laboratory in accordance with ASTM E90.
3.2.5.2 Noise isolation class (NIC). A one-number rating of the attenuation of airborne sound between enclosed spaces calculated in accordance with ASTM E41 3 from one-third octave band measurements made in accordance with ASTM E336.
3.2.5.3 outdoor-indoor level reduction (OILR). A measure of the decrease in sound level (attenuation) in one-third octave bands when airborne sound passes from outdoors to indoors.
3.2.5.4 outdoor-indoor noise isolation class (OINIC). A one-number rating of the decrease in sound level (attenuation) when airborne sound passes from outdoors to indoors calculated in accordance with ASTM E1 332 using values of outdoor-indoor level reduction instead of transmission loss.
3.2.6 structure-borne impact sound. The acoustical phenomenon of sound transmission due to impacts or other interaction of objects with a structure, the most common being footsteps on a floor.
3.2.6.1 Impact insulation class (IIC). Single number rating of structureborne noise radiated below by a floor or floor-ceiling assembly when tested in a laboratory in accordance with ASTM E492 and calculated in accordance with ASTM E989; abbreviation IIC.

NOTE 1 the rating is derived from the sound levels measured in the receiving room when a standard tapping machine is operating on the floor assembly above, adjusted to what they would be for a specific amount of absorption in the receiving space below
NOTE 2 The higher the FIIC rating, the lower the impact sound levels.
3.2.6.2 Field impact insulation class (FIIC). Single number rating of the structureborne noise radiated below by a floor or floor-ceiling assembly when tested in the field in accordance with ASTM E1007 and calculated in accordance with ASTM E989; abbreviation FIIC.
NOTE 1 The rating is derived from the sound levels measured in the receiving room when a standard tapping machine is operating on the floor assembly above, adjusted to what they would be for a specific amount of absorption in the receiving space below.
NOTE 2 The higher the FIIC rating, the lower the impact sound levels.
NOTE 3 FIIC is also known as apparent impact insulation class, AIIC.
3.3 major renovation. Any reconstruction, rehabilitation, addition, or capital improvement of a structure, the cost of which equals or exceeds fifty percent of the market value of the structure itself before the start of construction of the improvement.

4 Applications

4.1 This standard applies to relocatable classrooms and other relocatable modular core learning spaces of small to moderate size with volumes not exceeding 566 m3 (20 000 ft3) and to relocatable ancillary learning spaces of any volume. Learning spaces larger than the above volume limit shall be considered ancillary spaces for purposes of this standard. The standard does not apply to special-purpose classrooms such as music rooms, teleconferencing rooms, special-education rooms such as those for severely acoustically challenged students, or other spaces such as large auditoria that have unique or more stringent acoustical requirements.
4.2 The acoustical performance criteria and design requirements of this standard apply during the design and construction of all new relocatable classrooms or learning spaces of small to moderate size as specified in 4.1.
4.3 The acoustical performance criteria and design requirements of this standard apply during major renovation as defined in 3.3 of all relocatable classrooms or learning spaces of small to moderate size as specified in 4.1.
4.4 Relocation of a classroom shall not constitute new construction or major renovation. However, a relocated classroom shall continue to meet all the requirements of Clause 5 that were applicable to it before the relocation.
4.5 No renovations shall be allowed that diminish the acoustical performance of existing relocatable classrooms.
4.6 Sound reinforcement systems shall not be used as a substitute for meeting acoustical design requirements.

5 Acoustical performance criteria and noise isolation design requirements and guidelines

5.1 Introduction

Acoustical performance criteria and design requirements are contained in the following sub-clauses and are designed to ensure an appropriate acoustical learning environment. The performance criteria shall apply to relocatable classrooms and other relocatable modular core learning spaces and to ancillary learning spaces. For purposes of this standard it shall be assumed that the learning spaces are furnished consistent with their use and the building is unoccupied with doors and windows closed.
Acoustical design requirements for minimum noise isolation apply only to fully enclosed classrooms and learning spaces.

5.2 Performance criteria for background noise

5.2.1 Exterior-source background noise

5.2.1.1 The one-hour average A-weighted exterior-source background noise level within the enclosed space for the noisiest continuous one-hour period during times when learning activities take place shall not exceed the limits specified in Table 1. The limits for the exterior-source background noise shall apply for the following conditions:

1) for the noisiest continuous one-hour period during times when learning activities take place;
2) portable and permanent (built-in) instructional equipment, such as computers and audiovisual equipment, are turned off.

Table 1 — A-weighted sound levels of background noise and reverberation times in unoccupied, furnished learning spaces

Learning space a)	One-hour average A-weighted sound level of interior-source background noise b) (dB)	One-hour average A-weighted sound level of exterior-source background noise (dB)	Maximum reverberation time for sound pressure levels in octave bands with midband frequencies of 500, 1000, and 2000 Hz (s)
Core learning space with enclosed volume ≤ 283 m3 (≤ 10 000 ft3)	41 dBA upon adoption; 38 dBA in 2013; 35 dBA in 2017	35	0.5
Core learning space with enclosed volume > 283 m3 and ≤ 566 m3 (> 10 000 ft3 and ≤ 20 000 ft3)	41 dBA upon adoption; 38 dBA in 2013; 35 dBA in 2017	35	0.6
All ancillary learning spaces	40 c)	40 c)	No requirement

a) See 3.1.1.1 and 3.1.1.2 for definitions of core and ancillary learning spaces.
b) See 5.2.2.2 -5.2.2.4 for other limits on interior-source background noise.
c) See 5.2.3 for limits in corridors adjacent to classrooms.

5.2.1.2 When transportation or military sources are the dominant noise source(s), the one-hour average A-weighted sound level shall, where practical, be predicted using the methods and computer programs developed by the U.S. Department of Transportation or U.S. Department of Defense. These include Integrated Noise Model (INM) and Noisemap for aircraft noise, Traffic Noise Model (TNM) for road noise, and the Federal Transit Administration procedures for rail noise. These calculated levels shall be used in lieu of measured values to determine the exterior noise level.
5.2.1.3 The one-hour average A-weighted sound level for exterior source background noise, if measured, shall be measured in accordance with the procedures of Annex B based on guidance in ANSI/ASA S12.9 Part 2 or ANSI/ASA S12.9 Part 3 as applicable.

5.2.2 Interior-source background noise

5.2.2.1 Limits on interior-source A-weighted background noise levels from building services and utilities and calculation of HVAC noise

The one-hour average A-weighted level of interior-source background noise shall not exceed the limits specified in Table 1 when calculated as follows. The one-hour average A-weighted sound level for the HVAC shall be calculated using the duty cycles in Table 2 for 1-, 2-, and 3-stage HVAC systems. The noise level of the different stages, if measured, shall be measured in accordance with the procedures of Annex B. The one-hour average A-weighted sound level of any other building system noises (e.g., lighting) shall be added on an energy basis to the calculated one-hour average A-weighted sound level of the HVAC noise. Specifically, these "Integration Factors" shall be applied as indicated by the following example.

For a Type 3 unit, if the sound levels for the Maximum Capacity Heating, Low Capacity Heating, and Ventilation modes are 40, 35, and 32 dB, respectively, the energy average sound level for one-hour operation at the respective relative times of 17%, 25%, and 58%, will be:

$$10 \times \text{Log10}[0.17\times10(40/10) \sim 0.25\times10(35/10) \sim 0.58\times10(32/10)] = 35.3 \text{ dB}.$$

Table 2 — HVAC system duty cycles

	HVAC system operational modes integration factors a), b)		
	Single mode Type 1	**Dual mode Type 2**	**Triple mode Type 3**
Max. capacity heating or cooling	100%	34%	17%
Low capacity c) heating or cooling	Not applicable	Not applicable	25%
Ventilation d)	Not applicable	66%	58%

Type 1 - represents systems that have a single stage and operational mode of performance.
Type 2 - represents systems that have a single stage of cooling or heating and a ventilation-only mode.
Type 3 - represents systems that have two stages of cooling or heating with an additional ventilation-only mode.
a) See clause 5.2.2.1 for a worked example.
b) These duty cycles are based on testing done over a one-year period with classrooms sited in Modesto and Fontana, California. The buildings sited in Modesto were selected because of their cold winters and hot summers, and the Fontana units were selected because of their high cooling demand and long cooling season. Both of these are inland locations and, thus, they represent a more challenging HVAC environment than do temperate coastal areas. This study was conducted by Lawrence Berkeley National Laboratory with support from the DOE and the California Energy Commission.
c) Low capacity shall be no lower than 60% of maximum capacity for the given time weight values to apply. If other values are used for low capacity they shall be accompanied by appropriate time weighting and sufficient information to substantiate the values chosen.
d) Ventilation shall be at least at the rate required by applicable code.

5.2.2.2 Limits on interior-source C-weighted background noise levels from building services and utilities

The maximum one-hour average C-weighted steady background noise levels from the combination of HVAC systems, lighting, and other building services and utilities operating simultaneously shall not exceed the limits on A-weighted interior-source background noise levels in Table 1 by more than 20 dB.

5.2.2.3 Limits on disturbing sounds from building services and utilities

Disturbing sounds, such as rumble, or the tones from hums, buzzes, whines, or whistles generated by HVAC systems and other building services and utilities shall be controlled so as to not interfere with speech communication or be distracting or annoying to the occupants of the learning spaces. Rumble can be quantified using the methods in ANSI/ASA S12.2 and there shall be no "clearly perceptible vibration and rattles" as required in Clause 6 of ANSI/ASA S1 2.2. Also, the prominence of any tones shall be quantified using the methods in ANSI S1.13 and there shall be no "prominent discrete tones" as defined in ANSI S1.13.

5.2.2.4 Limits on time-varying noise levels from building services and utilities

The A-frequency-weighted and SLOW time-weighted noise level at any usable location in a room from HVAC systems and other building services shall not vary by more than 3 dB during any 5 s period, except during transition between operating modes of the HVAC system.

5.2.3 Background noise in corridors

When corridors adjacent to classrooms are used solely for conveyance of occupants within the school building and structured learning activities do not occur there, the one-hour A-weighted steady background noise level for such corridors shall not exceed 45 dB.

5.2.4 Computers and audio-visual equipment

The limits on background noise do not apply to portable or permanent (built-in) instructional equipment such as computers and audiovisual equipment. Calculations of background noise shall not include such equipment and all measurements shall be made with such equipment turned off.

5.3 Performance criteria for reverberation times

The reverberation times shall not exceed the limits specified in Table 1.

5.4 Noise isolation design requirements

5.4.1 Outdoor to indoor attenuation of airborne sound

5.4.1.1 The exterior-source background noise is a function of two independent factors: (1) the exterior noise environment, and (2) the reduction of the exterior noise from outdoors to indoors by the building shell. It shall be the responsibility of the user, e.g., the school board, to determine and specify the site exterior noise environment, Lsite, which is the one-hour average A-weighted sound level for the noisiest hour on the average (school) day during school hours. To this end, the user shall conduct a site assessment to determine the maximum outdoor one-hour average A-weighted sound level at the proposed location of the relocatable classroom. It shall be the responsibility of the user to specify, and the supplier to provide, a modular classroom with an Outdoor-Indoor Noise Isolation Class (OINIC) greater than:

OINICmin = Lsite - 35.

5.4.1.2 All newly constructed relocatable classrooms shall be designed to meet a minimum OINIC of 20 dB. For an OINIC of 20 dB, selected sites shall not exceed a one-hour average A-weighted sound level of 55 dB for the noisiest hour during the time of day that school is normally in session. For sites with a one-hour average A-weighted sound level exceeding 55 dB, schools shall follow the requirements in Table 3.

Table 3 — OINIC rating for relocatable classroom

A-weighted outdoor noise level	OINIC rating for relocatable classroom
≤ 55	20 dB
>55 dB and ≤ 60 dB	25 dB
>60 dB and ≤ 65 dB	30 dB

5.4.1.3 Sites with an outdoor one-hour average A-weighted sound level that exceeds 65 dB shall be acceptable only if the requisite sound reduction can be achieved.

5.4.1.4 Verification measurements, if required, shall be performed in accordance with Annex B.

5.4.2 Indoor to indoor attenuation of airborne sound

5.4.2.1 Wall and floor-ceiling assemblies that separate enclosed or open-plan core learning spaces from adjacent spaces shall be designed to achieve the minimum STC ratings specified in Table 4 when tested in accordance with ASTM E90 in a laboratory. The STC rating requirements of Table 4 also shall apply to the design of temporary partitions that subdivide a learning space.

5.4.2.2 All penetrations in sound-rated partitions shall be sealed and treated to maintain the required ratings. Attention shall be given to flanking paths that would reduce the isolation between spaces so as to achieve an overall isolation between two core learning spaces of at least NIC 45 if tested.

Table 4 — Minimum STC ratings required for single or composite interior wall and floor-ceiling assemblies that separate an enclosed core learning space from an adjacent space

Adjacent space			
Other core learning space, speech clinic, health care room	Common use and public use toilet room and bathing room a)	Corridor, staircase, office or conference room b)	Music room
50	53	45c)	60
a) This requirement does not apply to a toilet that opens only to a single core learning space. b) For corridor, staircase, office or conference room walls containing doors, the basic wall exclusive of the door shall meet the STC rating shown. The door shall meet the requirements of 5.4.2.4. c) STC 50 for critical privacy conditions.			

5.4.2.3 Except for walls containing doors between the core learning spaces and corridors, staircases, offices, or conference rooms, when a partition contains a door or window or is not of consistent construction throughout, the required minimum STC ratings in Table 4 apply to the overall composite partition. Basic wall assemblies which contain doors or interior windows with STC ratings less than those given in Table 4 shall have higher STC ratings sufficient to conform to the required minimum STC ratings of the composite construction. For walls containing doors to corridors or staircases, or to offices, conference rooms or toilets that open only to the one core learning space, the minimum STC ratings of Table 4 apply to the wall exclusive of the door. See B.3.1 .3 for the method to calculate the composite STC.

5.4.2.4 Interior doors into core learning spaces from corridors, stairways, offices, or conference rooms shall be capable of achieving STC 30 or higher in their operable condition. The STC rating for interior entry doors into music rooms from corridors or staircase areas shall be 40 or higher.

5.4.2. It shall be the responsibility of the user, e.g., the school board, to determine if and when the need for acoustical privacy around an office or conference room is critical. If so, then the minimum STC rating of the partitions around these specifically designated spaces shall be 50 or higher.

5.4.3 Structureborne impact sound isolation

The floor-ceiling assemblies of normally occupied rooms located above learning spaces shall be designed for an expected laboratory test rating of at least IIC 50 if above core learning spaces and IIC 45 if above ancillary learning spaces.

5.5 Compliance testing

This standard does not require compliance testing to demonstrate conformance. When optional tests are performed to verify conformance with the requirements of this standard, the procedures in Annex B shall be followed.

Annex A
(Informative)
Commentary

Commentary-1.1.2 An objective of these performance criteria is to achieve a level of speech that is sufficiently high relative to the background noise level for listeners throughout the classroom or learning space. However, a requirement for the relative difference between speech levels and levels of background noise, usually referred to as the signal-to-noise ratio, is not within the scope of this standard.

Commentary-1.1.4 The background noise generated by occupants and instructional equipment can seriously degrade communication or speech intelligibility in learning spaces. This background noise should be evaluated in terms of the one-hour average A-weighted sound level.

Commentary-3.2.3.1 reverberation time. The decay rate depends on the amount of sound absorption in a room, the room geometry, and the frequency of the sound. In practice, the reverberation time is often measured by measuring a 20 or 30 dB decay and extrapolating that to the time required for a 60 dB decay.
Commentary-3.2.4 sound absorption and reflection. The magnitude of the reflected sound in a room is determined by the amount of sound absorption at the surfaces, the room geometry, and the frequency of the sound. As distance from a sound source in a classroom increases, the sound is increasingly dominated by reflected sound.
Commentary-3.2.4.1 sound absorption coefficient. The sound absorption coefficient of a material normally varies with frequency. It ranges from about 0.2 to about 1.0 for sound-absorbing materials, to less than 0.05 for a smooth, painted concrete floor. Sound absorption coefficients measured in a laboratory (that is, in a reverberation room) can be larger than 1.0 because of test method and sample size effects.
Commentary-3.2.5 attenuation of airborne sound. The attenuation of airborne sound depends on the sound reduction through these elements, on their size, on sound leakage around their periphery, on the sound absorption in the receiving space, and on the frequency of the sound.
Commentary-4.1 Conformance to the requirements of this standard should be considered to be a minimum goal for the acoustical qualities of such spaces, excluding auditoria. The standard does not provide recommendations for electronic aids for persons with hearing impairment.
Commentary-Table 1 — Maximum A-weighted steady background noise levels and maximum reverberation times in unoccupied, furnished learning spaces. Regarding note c), the use of corridors for formal learning purposes should be avoided. Regarding reverberation in core learning spaces with enclosed volumes >566 m3 (>20 000 ft3) and all ancillary learning spaces, this standard does not specify a mandatory reverberation time for these spaces; however, spaces larger than 566 m3 are not likely when using relocatable/modular construction.
Commentary-5.2.4 Background noise from instructional equipment. Control of such noise, especially from permanent built-in instructional equipment, should be carefully addressed in the planning stages for new and renovated schools.
Commentary-Table 2 Other situations may be substantially different in terms of percentages, but the decibel change is usually modest if the HVAC is one that was designed for that climate zone. For

example, in the clause 5.2.2.1 example, if the percent time of Max Fan and Low Fan were each to increase by about 50% (with a corresponding decrease in ventilation) to the percentages for Max Fan, Low Fan, and Ventilate of 25%, 40%, 35%, respectively, then the computed level goes up by just over 1 dB.
Commentary-5.4 Noise isolation design requirements. The first and most cost-effective step in achieving good noise isolation between learning spaces and other spaces in a school is accomplished in the facility planning stage. This includes optimizing the location of noisy spaces and activities to protect sensitive learning spaces. Where this is not possible, adequate noise isolation is needed.
Need for noise isolation. The acoustical performance criteria for background noise levels in 5.2 apply to unoccupied facilities. However, in occupied facilities, activity noises generated in one space can be transmitted through walls, floors, ceilings, and doors to adjacent learning spaces, thus contributing to the overall background noise level in those spaces. Adequate sound isolation is required to limit noise transmission between core learning spaces and adjacent spaces in occupied facilities. The minimum STC ratings of Table 4 are intended to provide this noise isolation for normal activities in adjoining spaces. Certain educational styles (such as open plan and group learning) intentionally avoid the use of full enclosures between learning groups. Sometimes, partial height sound barriers or no barriers at all separate adjacent learning groups. Adequate noise isolation between adjacent learning groups cannot be assured unless each learning group is fully enclosed by ceiling-height sound barriers. Because of the inherent low noise isolation, partially enclosed or unenclosed learning spaces are not recommended when good speech communication is desired. In occupied multistory educational facilities, the transmission of impact noise through the floor of the room above to the learning space below also contributes to the overall background noise level. To limit impact noise disturbances in learning spaces, this standard also provides minimum impact insulation class (IIC) design requirements for the floor-ceiling assemblies above learning spaces for multi-story educational facilities.
Caution on variability of sound isolation test results. The same wall or floor-ceiling assembly design when tested in a laboratory can achieve results over a significantly wide range. With enough tests a typical expected result can be established. A single test result can be unrepresentative. Likewise, there is a variation when tests are conducted in the field. The apparent performance of the partition in the field when rated by the apparent STC or FIIC is virtually always less than the laboratory result due to flanking around the partition and possibly lesser quality construction. Flanking between adjacent classrooms in modular construction can be severe if details are not appropriately controlled. Specifically, the gypsum in side walls should not be continuous from one classroom to another. Floor flanking also can be a problem. On the other hand, the perceived overall isolation for airborne sound can be enhanced by strong absorption in the receiving room in comparison with the size of the partition. While this is factored into the NIC if measurements are done, the required STC values should not be reduced in anticipation of such absorption benefit still achieving the required NIC in a field test. Note that while a similar absorptive benefit can reduce the sound heard from impacts above, no credit for it is given in the required FIIC result if measurements are made.
Ancillary learning spaces. Recommendations are given in Table A.1 for STC ratings for partitions (that is, walls and floor-ceiling assemblies) that enclose an ancillary learning space or that separate two ancillary spaces. When the partition includes two or more elements, such as doors, windows, or penetrations of the partition for HVAC ducts or other services, the STC of this composite construction also should conform to the recommendations of Table A.1.

Commentary-Table A.1 — Minimum STC ratings recommended for single or composite wall, floor-ceiling and roof-ceiling assemblies separating an ancillary space from an adjacent space.

Receiving ancillary learning space	Adjacent space			
	Corridor or staircase a), common use, and public use toilet and bathing room b)	Music room	Office or conference room a)	Mechanical equipment Room f), cafeteria, gymnasium or indoor swimming pool
Corridor	45	60c)	45d)	55c)
Music Room	45	60	60e)	60
Office or conference room	45	60	45d)	60

a) For corridor, staircase, office or conference room walls containing entrance doors to the ancillary learning space, the STC rating of the basic wall, exclusive of the door, should be 45. The entrance door should conform to the requirements of 5.4.2.4.

b) The STC rating for an ancillary space/toilet partition does not apply when the toilet is private and connected to a private office. An STC rating higher than 45 may be required for separating a quiet office or conference room from a common use or public use toilet or bathing room.

c) When the corridor will not be used as an ancillary learning space, the minimum STC rating may be reduced to not less than 45. Use of corridors as ancillary learning spaces should be avoided when they are located next to the noisy spaces indicated in the table by the high STC ratings.

d) When the need for acoustical privacy is critical, the STC rating should be increased to 50.

e) This is justified to prevent the music space from interfering with the office or conference room.

f) When the adjacent space is a mechanical equipment room containing fans circulating 140 m3/min (5000 ft3/min) or more, the minimum STC rating should be 60. When the fan circulation is less than this rate, the STC rating may be as low as 40 providing the maximum A-weighted steady background noise level in the adjacent ancillary learning space does not exceed 40 dB. The minimum STC rating includes the effect of any entry door(s) into the mechanical equipment room.

Commentary-5.4.2.3 Core learning spaces. Composite assemblies are walls, floor-ceiling and roof-ceiling constructions composed of more than one element (for example, a wall with a door, window, or penetrations by HVAC ducts or other services). This standard requires that walls between core learning spaces meet the composite STC requirement, which means that any door in such a wall will need to be acoustically rated. See 5.4.2.4 for special requirements for doors in corridor, office or conference room walls that are not required to meet the STC requirements for composite walls including the doors. Walls and floor-ceiling assemblies may not maintain their design STC rating if penetrations or openings for piping; electrical devices; recessed cabinets; soffits; or heating, ventilating or exhaust ducts are unsealed.

Commentary-5.4.2.4 Entry doors into classrooms and other core learning spaces. The intent of the STC 30 requirement is to require solid core wood doors or heavy-duty steel doors with good seals. The location of classroom entry doors across a corridor should be staggered to minimize noise transmission between these classrooms. Provisions should be made to ensure that the perimeter seals of sound rated doors are well maintained. Seals for entrance doors should be inspected and adjusted, as necessary, every six months. The gaskets of door seals should never be painted.

Commentary-5.4.3 Structureborne impact sound isolation. There is no way to mathematically predict what an IIC rating will be. Structures have to be tested. Very little if any test data is available for classroom-type structures. Almost all test data is for residential structures with gypsum ceilings. Achieving this rating with frame-type construction usually requires an isolated gypsum ceiling and a cushioning agent under a hard surface floor or the use of carpet. ANSI/ASA S12.60 currently requires the IIC requirements be met without carpet even if carpet is to be used.

Annex B
(Normative)
Verifying Compliance with the Background Sound Level Requirements by Measurement

B.1 Verifying compliance with the interior source background noise requirement

B.1 .1 Interior source background noise measurements shall be taken during time periods when the outdoor sound contribution to the indoor sound is minimal. Both background measurements and HVAC measurements shall be taken under nominally the same outdoor environment.

B.1 .2 Identify the listening area within the classroom where direct teacher and student speech communication generally takes place. With the HVAC and other noise sources operating in their respective noisiest operational mode, perform a quick acoustical survey of the classroom within that listening area. This shall be done at the potentially noisiest locations within the room, including at the HVAC inlet or outlet air ducts, in the vicinity of the HVAC equipment, or at any other location that the observer feels could be a significant source of interior-generated noise. Identify the noisiest location within the listening area using a sound level meter that conforms to the requirements for Type 1 in ANSI S1.4 or Class 1 in IEC 61672. The location with the highest A-weighted sound level shall be termed the “key” location.

B.1 .3 Measurements, including the above screening for the "key" location, shall be taken at any time such that outdoor noise contributes less than 0.5 dB to the measurement of the interior source background noise. The microphone shall be located at a height of 1.0 to 1.2 m (40 to 48 in.) above the floor; no closer than 1 m (40 in.) from a wall or fixed object such as HVAC plenum or bookshelves; and no closer than 0.5 m (20 in.) from a readily movable object such as a desk, chair, or table.

B.1 .4 At the key location, first measure the sound with the HVAC equipment turned off. Then take five consecutive A- and C-weighted 60-second time-average sound level measurements with the HVAC operating. If the measured A- and C-weighted levels with HVAC equipment operating are at least 6 dB higher than the background A- and C-weighted levels, respectively, then the HVAC noise shall be considered to be the primary source of interior noise. If the HVAC sound is the primary source of interior generated noise, then measurements shall be repeated in each operational mode of the HVAC equipment as described in Table 2; otherwise, the method of clause B.1 .8.2 shall be used.
B.1 .5 For heat pump systems, the sound testing shall be performed in the cooling mode if the outdoor ambient temperature is 10 °C (50 °F) or above and in the heating mode if the outdoor ambient temperature is below 10 °C (50 °F). For fuel furnaces and compressor cooling systems, the sound testing shall be performed in the cooling mode.
B.1 .6 The average of five consecutive 60-second measurements in each mode of operation shall be recorded. For each mode, it shall be determined if the background sound data are steady. The criterion for steady background sound data shall be that the difference between the highest and lowest data points of the five 60-second samples is not more that 3 dB.
B.1 .7 These data, if steady, then shall be used to calculate an integrated single value sound level using the percent factors from Table 2.
B.1 .8 If the background noise level is unsteady, then the source of the unsteadiness shall be determined—exterior or interior.
B.1 .8.1 If the source is exterior, then the interior-source background noise measurements shall be repeated at a time when the exterior noise is less. If no such time can be found, then it is likely that the outdoor sound is too great and it shall be measured.
B.1 .8.2 If the source is interior, then one-hour average A-weighted sound level measurements shall be taken and reported. These measurements shall be used in lieu of the five 60-second averages to determine the interior-source background noise level for the room at the key location.
B.1 .9 Measured results within 2 dB of the background noise criterion shall be reported as passing the test for meeting the background noise criterion.

B.2 Verifying compliance with the exterior source background noise requirement
B.2.1 Verifying compliance with the outdoor-to-indoor noise level reduction requirement
B.2.1.1 The OINIC shall be computed using the following 2-step process.
B.2.1.1.1 The OILR shall be measured in one-third octave bands from 80 to 4000 Hz following the guidance in ASTM E966.
B.2.1.1.2 The OINIC shall be calculated using the OILR data in accordance with the procedure described in ASTM E1332 using the values of OILR instead of transmission loss.
B.2.1 .2 In situ, the source and geometry are defined. In this case, if present with sufficient intensity, the actual major outdoor noise source (e.g., aircraft, road or rail traffic, industrial noise) shall be used for the OILR measurements at a specific application site; otherwise, an artificial noise source(s) shall be used. The space shall be evaluated with the surfaces exposed that would be exposed to the exterior sound in the application. Results within 2 dB of the stipulated OINIC rating shall be reported as verifying the stipulated OINIC rating.
B.2.1 .3 At a factory when a classroom is being rated for general use, the source and exposure situation are not well defined. The classroom shall be rated based on the greatest exposure likely to occur. A modular classroom shall be assumed to have one, two, or three exposed surfaces (wall or roof section that can be the whole roof) as given in the following three cases:
B.2.1 .3.1 Case 1 – Three exposed surfaces. This case shall include two adjacent, (normally) perpendicular walls and the roof section adjacent to the two walls. This case occurs any time two or more adjacent walls of a classroom face the outdoors and the classroom is part of a single-story unit or on the top floor of a multi-story unit. Examples include a single, stand-alone classroom, a 2- classroom unit, or any corner unit that is either single story or occupies the top story.
B.2.1 .3.2 Case 2 – Two exposed surfaces. This case shall include either two adjacent walls or one wall with its adjacent roof section. The one wall with its adjacent roof section situation occurs for classrooms that adjoin three other interior spaces and that are part of a single-story facility or occupy part of the top floor of a multi-story facility. The two-wall situation occurs for any corner unit in a multistory facility that occupies any floor other than the top floor.
B.2.1 .3.3 Case 3 – One exposed surface. This case shall include one wall. It occurs for classrooms in a multi-story unit that horizontally adjoin three other interior spaces and that occupy any floor other than the top floor.
B.2.1.4 ASTM E966 describes methods to measure the OILR for single, individual partitions such as a wall alone or roof alone rather than a complete room with multiple surfaces exposed to the sound. When sound can enter the enclosed space through multiple surfaces, the sound through the various surfaces combines, and as a result the overall OILR and OINIC for the space will be less than (poorer than) that of the exposed surface that produces the lowest (poorest) OINIC.
B.2.1.4.1 If N multiple surfaces are sequentially exposed to sound and the OINIC determined for each without significant exposure of other surfaces, the overall OINIC for the room with all such surfaces exposed shall be computed from:

$$OINIC_{Room} = -10 \log (10^{-(OINIC1/10)} + 10^{-(OINIC2/10)} + \ldots + 10^{-(OINICN/10)}) \quad (B.1)$$

where N is the number of surfaces exposed.
B.2.1.4.2 If the OINIC is evaluated for one surface of a space exposed and it is assumed that additional surfaces that would be exposed have the same ability to block sound, then the OINIC shall be estimated by:

$$OINIC = OINICmeas - 10 \log (A / Ameas) \quad (B.2)$$

where OINICmeas is the OINIC for the surface that is evaluated, Ameas is the area of that surface, and A is the full area that would be exposed in the typical situation.
B.2.2 Determining or verifying the user-stipulated exterior-source, outdoor, free-field, loudest-hour environmental noise levels
B.2.2.1 The one-hour average A-weighted sound levels shall be measured in accordance with ANSI/ASA S12.9 Part 2 and ANSI/ASA S12.9 Part 3, as applicable, and in accordance with ANSI S1 .13. Extraordinary sounds such as a vehicle crash, a loud plane where normally there are none, or siren where normally there are none, shall be excluded from the reported hourly environmental noise level.

B.2.2.2 Results within 2 dB of a previously estimated and stipulated one-hour average A-weighted sound level shall be considered as verifying the estimated and stipulated result.

B.3 Verifying inside-to-inside sound isolation

B.3.1 Verifying inside-to-inside airborne sound isolation

B.3.1 .1 The noise isolation class (N IC) between rooms shall be measured in accordance with ASTM E336.

B.3.1.2 Where a requirement exists for a composite partition including floor-ceilings to meet a specified STC, an NIC within 5 points of the specified STC shall be considered as verifying the specified performance.

B.3.1 .3 In some cases walls containing doors, such as corridor walls, are exempt from the composite STC requirement. However, a minimum expected STC of the composite wall can be calculated based on the areas of the door and wall and the minimum required STC of each. The approximate expected composite STC of the wall with the door can be estimated from:

$$\text{Composite STC} = 10 \log (Aw \sim Ad) - 10 \log \{ Aw \times 10^{(-STCw/10)} \sim Ad \times 10^{(-STCd/10)} \} \quad \text{(B.3)}$$

where

Aw is the area of the wall exclusive of the door;
Ad is the area of the door;
STCw is the STC of the wall exclusive of the door;
STCd is the STC of the door and its seals.

This result can then be compared to a measured NIC for evaluation. For a more accurate result, the above equation should be applied to the result at each of the one-third-octave bands included in the STC to get a composite result in each band, and the composite STC determined from those results in accordance with ASTM E413.

B.3.2 Verifying inside-to-inside impact sound isolation

B.3.2.1 The field impact insulation class (FIIC) shall be measured in accordance with ASTM E1007.

B.3.2.2 A resulting FIIC within 5 points of the specified IIC shall be considered as verifying specified performance.

Bibliography

ANSI/ASA S1 2.2-2008, American National Standard Criteria for Evaluating Room Noise

ANSI/ASA S1 2.60-2002 (R 2009), American National Standard Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools

ASTM E41 3-04 (2009), Standard Classification for Rating Sound Insulation

ASTM E492-09, Standard Test Method for Laboratory Measurement of Impact Sound Transmission through Floor-Ceiling Assemblies Using the Tapping Machine

ASTM E989-06, Standard Classification for Determination of Impact Insulation Class (IIC)

Committee Action

Approval as Modified

Modification: **Add new text as follows:**

Section 808
Acoustics

808.1 Architectural design for speech clarity in unoccupied and furnished classrooms. The design and construction of Occupancy Type: Education – E, normal classrooms in schools (grades K – 12) shall ensure that the architectural acoustics will provide acceptable speech clarity as required by meeting the reverberation times listed in Section 5, Table 1 column 4 of ANSI S12.60-2010/Part 1, Acoustical Performance Criteria, Design Requirements and Guidelines for Schools – Part 1: Permanent Schools. Two types of classrooms are addressed according to the volume of the room, those under 10,000 cubic feet (small classroom), and those greater than 10,000 cubic feet but less than 20,000 cubic feet (large classroom). The maximum permitted reverberation times for sound levels in each of the octave frequency bands of 500, 1000, and 2000 Hz shall not exceed 0.6 seconds for the small classrooms, and not exceed 0.7 seconds for the large classrooms. Conformance to these requirements will be established according to the procedure outlined in Section 808.2 below.

808.2 Conformance with the speech clarity (reverberation time) requirements of Section 808.1 shall be determined according to the procedure outlined in ANSI S12.60-2010/Part 1, Appendix C, section C.2, Tables C.1 (808.2.1) and C.2 (808.2.2) for Minimum surface area of acoustical treatment for different sound absorption coefficients, ceiling heights, and reverberation time. Table 808.2.1 shall be utilized for the small classroom (reverberation time less that 0.6 seconds), and Table 808.2.2 shall be utilized for the large classroom (reverberation time less than 0.7 seconds). From Table 808.2.1 or 808.2.2, the designer shall select a ceiling and/or wall acoustical treatment of appropriate area of coverage for such materials according to the ceiling height of the classroom and the sound absorption values provided by the product manufacturers at each octave frequency band of 500, 1000, 2000 Hz. The appropriate ceiling and/or wall treatment must be applied to the ceiling/wall surface in accordance with the percentage coverage listed in the tables, and any quantities in excess of 100% means that materials must be applied to the walls as well as to the ceiling surface. For the chosen materials, the % coverage shall be determined at each octave band frequency of 500, 1000, 2000 Hz, and the greatest percentage coverage area of those 3 must be chosen for application to ensure that the reverberation time is not exceeded at any of the 3 frequency bands.

Table 808.2.1 —

Minimum surface area of acoustical treatment for different sound absorption coefficients, ceiling heights, and reverberation times, For small classroom less than 10,000 cubic feet, Reverberation time, *T*60, of 0.6 s,

Sound absorption coefficient, α_1	Ceiling height, H, ft.								
	8	9	10	11	12	13	14	15	16
	Ceiling height, H, m								
	2.44	2.74	3.05	3.35	3.66	3.96	4.27	4.57	4.88
	Minimum area of sound-absorbing material as a percentage of the floor area								
0.45	112	130	148	167	185	203	221	239	257
0.50	101	117	134	150	166	183	199	215	232
0.55	92	107	121	136	151	166	181	196	211
0.60	84	98	111	125	139	152	166	179	193
0.65	78	90	103	115	128	141	153	166	178
0.70	72	84	95	107	119	130	142	154	166
0.75	67	78	89	100	111	122	133	144	154
0.80	63	73	83	94	104	114	124	135	145
0.85	59	69	79	88	98	107	117	127	136
0.90	56	65	74	83	92	101	111	120	129
0.95	53	62	70	79	88	98	105	113	116
1.00	50	59	67	75	83	91	100	108	116

NOTE Sound absorption coefficients stated by a manufacturer to be greater than 1.0 based on laboratory tests may be taken as equal to 1.00 for purposes of this annex.

Table 808.2.2 —

For large classroom greater than 10,000 cubic feet, but less than 20,000 cubic feet, Reverberation time, *T*60, of 0.7 s,

Sound absorption coefficient, α_1	Ceiling height, H, ft.								
	8	9	10	11	12	13	14	15	16
	Ceiling height, H, m								
	2.44	2.74	3.05	3.35	3.66	3.96	4.27	4.57	4.88
	Minimum area of sound-absorbing material as a percentage of the floor area								
0.45	91	107	122	138	154	169	185	200	216
0.50	82	96	110	124	138	152	166	180	194
0.55	75	87	100	113	126	138	151	164	177
0.60	68	80	92	104	115	127	139	150	162
0.65	63	74	85	96	106	117	128	139	149
0.70	59	69	79	89	99	109	119	129	139
0.75	55	64	73	83	92	102	111	120	130
0.80	51	60	69	78	86	95	104	113	121
0.85	48	57	65	73	81	90	98	106	114
0.90	46	53	61	69	77	85	92	100	108
0.95	43	51	58	65	73	80	88	95	102
1.00	41	48	55	62	69	76	83	90	97

NOTE Sound absorption coefficients stated by a manufacturer to be greater than 1.0 based on laboratory tests may be taken as equal to 1.00 for purposes of this annex.

808.3 Architectural design for speech intelligibility in unoccupied and furnished classrooms. The design and construction of Occupancy Type: Education – E, normal classrooms in schools (grades K – 12) shall ensure that the architectural design will provide acceptable speech intelligibility by protecting the speech clarity with a low background noise within the classroom as required by meeting the background noise, dBA and dBC levels, listed in Section 5, Table 1 column 2 (exterior noise sources) and column 3 (interior noise sources) of ANSI S12.60-2010/Part 1, Acoustical Performance Criteria, Design Requirements and

Guidelines for Schools – Part 1: Permanent Schools. The one-hour average of 35 dB A and 55 dBC shall not be exceeded. These requirements are the same for both small classrooms (under 10,000 cubic feet), and for large classrooms (greater than 10,000 cubic feet but less than 20,000 cubic feet). Conformance to these requirements shall be established according to the procedure outlined in section 808.4 below.

808.4 Conformance with the speech intelligibility requirements of section 808.3 shall be determined according to the background noise calculation or measurement procedure outlined in ANSI S12.60-2010/Part 1, Section 5, Table 1 Notes b), c), and f) as listed below:

808.4.1 The greatest one-hour average A and C weighted (dBA, dBC) interior-source noise level, and the greatest one-hour average A and C weighted (dBA, dBC) exterior-source noise level shall be evaluated independently as they will normally occur at different room locations and at different times during the school day.

808.4.2 The levels of interior-source background noise shall be calculated using (as a minimum) the octave band sound pressure levels in the 63 to 8000 Hz bands unless the equipment rating standard specifies a different frequency range. The calculation shall include the sound from all relevant HVAC sources and sound paths.

808.4.3 The design location shall be at a height of 1m above the floor, and no closer than 1m from a wall, window, or fixed object such as HVAC equipment or supply or return opening.

Section 5, Table 1 column 4 of ANSI S12.60-2010/Part 1,

Table 1 – Limits on A- and C-weighted sound levels of background noise and reverberation times in unoccupied furnished learning spaces

Learning Space [a]	Greatest one-hour average A- and C-Weighted sound level of exterior-source background noise [b), f)] (dB)	Greatest one-hour average A- and C-Weighted sound level of interior source background noise [c), f)] (dB)	Maximum permitted reverberation times for sound pressure levels in octave bands with midband frequencies of 500, 1000, and 2000 Hz (s)
Core learning space with enclosed volume ≤ 283 m^3 (≤ 10 000 ft^3)	35 / 55	35 / 55	0.6 s [e)]
Core learning space with enclosed volume > 283 m^3 and ≤ 566 m^3 (> 10 000 ft^3 and ≤ 20 000 ft^3)	35 / 55	35 / 55	0.7 s
Core learning spaces with enclosed volumes > 566 m^3 (> 20 000 ft^3) and all ancillary learning spaces	40 / 60 [d)]	40 / 60 [d)]	No requirement

a) See 3.1.1.1 and 3.1.1.2 for definitions of core and ancillary learning spaces.
b) The greatest one-hour average A- and C- weighted interior-source and the greatest one-hour average A- and C-weighted exterior-source background noise levels are evaluated independently and will normally occur at different locations in room and at different times of the day.
c) See 5.2.2 for other limits on interior-source background noise level.
d) See 5.2.3 for limits in corridors adjacent to classrooms.
e) See 5.3.2 for requirement that core learning spaces ≤ 283 m^3 (≤ 10 000 ft^3) shall be readily adaptable to allow reduction in reverberation time to 0.3 s.
f) The design location shall be at a height of 1 m above the floor and no closer than 1 m from a wall, window, or fixed object such as HVAC equipment or supply or return opening. See A 1.3 for measurement location.

Section 5, Table 1 column 2 (exterior noise sources) and column 3 (interior noise sources) of ANSI S12.60-2010/Part 1

Learning Space [a]	Greatest one-hour average A- and C-Weighted sound level of exterior-source background noise [b), f)] (dB)	Greatest one-hour average A- and C-Weighted sound level of interior source background noise [c), f)] (dB)	Maximum permitted reverberation times for sound pressure levels in octave bands with midband frequencies of 500, 1000, and 2000 Hz (s)
Core learning space with enclosed volume ≤ 283 m^3 (≤ 10 000 ft^3)	35 / 55	35 / 55	0.6 s [e)]

Core learning space with enclosed volume > 283 m^3 and ≤ 566 m^3 (> 10 000 ft^3 and ≤ 20 000 ft^3)	35 / 55	35 / 55	0.7 s
Core learning spaces with enclosed volumes > 566 m^3 (> 20 000 ft^3) and all ancillary learning spaces	40 / 60 [d)]	40 / 60 [d)]	No requirement

a) See 3.1.1.1 and 3.1.1.2 for definitions of core and ancillary learning spaces.
b) The greatest one-hour average A- and C- weighted interior-source and the greatest one-hour average A- and C-weighted exterior-source background noise levels are evaluated independently and will normally occur at different locations in room and at different times of the day.
c) See 5.2.2 for other limits on interior-source background noise level.
d) See 5.2.3 for limits in corridors adjacent to classrooms.
e) See 5.3.2 for requirement that core learning spaces ≤ 283 m^3 (≤ 10 000 ft^3) shall be readily adaptable to allow reduction in reverberation time to 0.3 s.
f) The design location shall be at a height of 1 m above the floor and no closer than 1 m from a wall, window, or fixed object such as HVAC equipment or supply or return opening. See A 1.3 for measurement location.

Committee Reason: The Committee believes that the topic raised by the proponent should be addressed in the Standard. The text needs to be refined to provide a replicable set of design requirements. Scoping of when or how many such classrooms should be provided can not be placed in the standard but would need to be in a scoping document such as the *International Building Code.* The revised text is substantially too detailed and needs to be simplified.

BALLOT COMMENTS

8-15.1

Commenter: Todd Andersen
Ballot: Negative with comment:

Comment: I worked with the proponent after the January meeting to craft a more acceptable text. We got close to agreeing on revised technical text, but ultimately failed to close the deal. Proponent informed me of industry practice when measuring sound decay in the field, but insisted on text that will not comport with field practice. Further, proponent has not agreed to drop all scoping from their proposal.

8-15.2

Commenter: Brian Black, Representing NEII
Ballot: Negative with comment:

Further modify proposal as follows:

Section 808
Classroom and Learning Space Acoustics

808.1 General. Classrooms and learning spaces required to have acoustic features that provide acceptable speech clarity shall comply with ASA S12.60 listed in Section 105.2.1. ~~**Architectural design for speech clarity in unoccupied and furnished classrooms.** The design and construction of Occupancy Type: Education – E, normal classrooms in schools (grades K – 12) shall ensure that the architectural acoustics will provide acceptable speech clarity as required by meeting the reverberation times listed in Section 5, Table 1 column 4 of ANSI S12.60-2010/Part 1, Acoustical Performance Criteria, Design Requirements and Guidelines for Schools – Part 1: Permanent Schools. Two types of classrooms are addressed according to the volume of the room, those under 10,000 cubic feet (small classroom), and those greater than 10,000 cubic feet but less than 20,000 cubic feet (large classroom). The maximum permitted reverberation times for sound levels in each of the octave frequency bands of 500, 1000, and 2000 Hz shall not exceed 0.6 seconds for the small classrooms, and not exceed 0.7 seconds for the large classrooms. Conformance to these requirements will be established according to the procedure outlined in Section 808.2 below.~~

[delete remaining text]

ADD:

105.2.1 Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools, Part 1: Permanent Schools, ASA S12.60-2010. (Acoustical Society of America, 2 Huntington Quadrangle, Melville, NY 11747).

Reason:

NEII strongly supports accessibility for persons with disabilities and believes the addition of this section in the standard will benefit students with disabilities. We further suggest this proposal with the modifications we offer better achieves this goal.

On a personal note, I am the father of a child with autism that experienced severe auditory sensitivity in his early grade school years and am thus keenly aware and supportive of the needs addressed by the ASA standard.

This being said, the proposal, even as modified by the committee is severely flawed and should be further modified through our comment.

1. The title of the standard is incorrect. It is in fact an ASA standard that meets ANSI criteria, as are the ASME and NFPA codes and standards referenced in our document. The ANSI designation is not used in our standard and would be inappropriate here.
2. The text as modified contains scoping provisions that are inappropriate for a technical standard for accessible and usable buildings and facilities. "*The design and construction of Occupancy Type: Education – E*" clearly scopes where these accessible features must be provided, a provision that belongs in a building code and not a technical standard. Moreover, Occupancy Type E is specific to the ICC Codes and would not work with NFPA 5000 or other jurisdiction-specific codes.
3. By replicating many of the technical criteria found in the ASA standard, this proposal would have the A117 Committee "take ownership" of an area in which only one or two committee members have any expertise. Very few of us understand a "*sound absorption coefficient*" or "*average A and C weighted interior-source noise level*", much less being able to explain how these concepts are applied in the design and construction of a building. Conversely, I am confident that the ASA S12.60 committee has both the expertise and balance of interest needed to effectively manage the technical aspects of this standard.

NEII's concern is that the committee should keep to its areas of expertise and leave the highly technical aspects of an issue to those who understand the science of that particular field. To use elevators as an example, there are clearly accessibility features of an elevator that should be under the purview of the A117 Committee, but we would not want the A117 Committee to attempt replicating

the ASME A17.1/CSA B44 requirements affecting braking and sudden stopping, even though such conditions may have an exaggerated effect on riders using canes or walkers.

4. In a similar vein, the A117.1 standard (and the ADA Accessibility Guidelines) has a poor track record when overlaying its requirements with those of another ANSI standard. For example, numerous editions of A117.1 permitted "combination passenger/freight elevators" when such devices never existed in ASME A17.1 and passengers riding freight elevators was specifically prohibited by the ASME code. At one time we had requirements for visible alarm systems that conflicted with those prescribed by the (then) NFPA 72 *National Fire Alarm Code*. The modified proposal may comport with the 2010 edition of ASA 12.60, but what happens when that committee modifies its standard?
5 Finally, the wholesale replication of provisions from another ANSI standard would appear to conflict with the spirit, if not the strict mandates of the *ANSI Essential Requirements: Due Process requirements for American National Standards*:

*"**2.3 Balance**. …The interest categories appropriate to the development of consensus in any given standards activity are a function of the nature of the standards being developed. Interest categories shall be discretely defined, cover all materially affected parties and differentiate each category from the other categories. Such definitions shall be available upon request. In defining the interest categories appropriate to a standards activity, consideration shall be given to at least the following:*
a) producer;
b) user;
c) general interest."

The A117 Committee has neither producers nor users of the proposed Section 808, whereas the ASA 12.60 Committee has 40+ members, many of which design to or provide equipment affected by that standard. It would be wrong for us to adopt technical criteria without appropriate representation of the affected parties. We may be a balanced committee for the purposes of developing accessibility criteria, but clearly fall short in this particular field.

*"**2.4.2 Coordination/Harmonization.** ANSI-Accredited Standards Developers shall make a good-faith effort to resolve potential conflicts and to coordinate standardization activities intended to result in harmonized American National Standards . . . ".*

Our assuming the role of adopting and maintaining technical requirements for which we have little expertise when there already exists an ANSI committee that not only maintains but writes that standard can hardly be seen as a "good-faith" effort on our part, even if it were deemed to be technically permitted. Our proposal would defer to the experts in this field while accomplishing the goal of including acoustical requirements in the A117.1 accessibility standard.

8-15.3

Commenter: David S. Collins, Representing AIA
Ballot: Negative with comment:

Comment: Further examination of the standard and the language incorporating these criteria has been attempted following the last committee meeting. The full committee should reconsider how and if this standard should be incorporated into A117.1.

8-15.4

Commenter: Rick Lupton, Representing WABO
Ballot: Negative with comment:

Comment: I agree with the concept of providing classrooms with good acoustical characteristics. However, let me say this as strongly as possible:

- The combination of these standards requires expertise beyond the reasonable capacity of most jurisdictions and so requires either self-certification or third-party review.
- Meeting the standard requires testing for at least one year after occupancy and could be longer depending on adjustments, meaning a final Certificate of Occupancy is delayed until approval.
- Conformance is based on consistent exterior conditions over which the owner has minimal control. For example, a construction project next door would significantly alter the viability of a classroom, yet due to limited resources a school would have limited options but use the space anyway.
- Are there options, perhaps headphones, that are not so encumbering.
- Who would enforce limits on disturbing sounds from building services and utilities (such as mechanical equipment)? Could this result in legal action over a student's grades?

I would prefer to see a standard that leads to the best possible design at occupancy –considering those elements over which an owner has control. In addition, a requirement for having an adequate maintenance manual onsite would be reasonable. A good idea, this needs to be looked at a lot more.

8-15.5

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: This substantial modification was handed to the committee at the meeting and did not allow any time for review. No information was provided on the referenced standard. The language is unenforceable in many locations. The proposal is not written in code language or format. By requiring this for schools, this proposal has moved from technical to scoping criteria. The terminology used would not be understood by someone who is not an expert in this field. This proposal should have been disapproved, not accepted just in case it was fixed later!

An alternative that should be investigated is the ICC G2-2010 Guidelines for Acoustics.

STAFF NOTE: The ICC G2 2010 Guideline for Acoustics can be viewed under the Agendas tab; July 15-19, 2013; Supporting Documentation at the following link: http://www.iccsafe.org/cs/standards/A117/Pages/default.aspx

Proponent Comment

8-15.6

Commenter: Neil A. Snyder, American Speech-Language-Hearing Association

Revise the proposal as follows:

Add new text as follows:

Section 808
Acoustics

808.1 General. Classrooms not exceeding 20,000 cubic feet and required to provide enhanced acoustics shall comply with Section 808.

808.2 Reverberation Time. Classrooms shall provide reverberation times complying with 808.2.1 or 808.2.2. Reverberation times shall apply to fully furnished classrooms while not in use.

808.2.1 Compliance Method A. In each of the octave frequency bands of 500, 1000, and 2000 Hz, reverberation times for sound to decay by 60 dB (*T*60) shall not exceed the times specified below:

1. 0.6 seconds in classrooms 10,000 cubic feet maximum.
2. 0.7 seconds in classrooms more than 10,000 cubic feet but not exceeding 20,000 cubic feet.

Reverberation times shall be field verified and shall be measured over a minimum level decay of 20 dB for which the maximum time shall not exceed 0.2 seconds for classrooms listed in item #1 above and 0.23 seconds for classrooms listed in item #2 above.

808.2.2 Compliance Method B. Small classrooms 10,000 cubic feet maximum complying with Table 808.2.2(a) for T60 of 0.6 s., and large classrooms more than 10,000 cubic feet but not exceeding 20,000 cubic feet complying with Table 808.2.2(b) for T60 of 0.7s., shall be deemed to comply with Section 808.2.

Table 808.2.2(a) — Minimum surface area of acoustical treatment for small classrooms.

Sound absorption coefficient, α_1	Ceiling height, H, ft.								
	8	9	10	11	12	13	14	15	16
	Ceiling height, H, m.								
	2.44	2.74	3.05	3.35	3.66	3.96	4.27	4.57	4.88
	Minimum combined area of wall and ceiling sound-absorbing material as a percentage of the floor area								
0.45	112	130	148	167	185	203	221	239	257
0.50	101	117	134	150	166	183	199	215	232
0.55	92	107	121	136	151	166	181	196	211
0.60	84	98	111	125	139	152	166	179	193
0.65	78	90	103	115	128	141	153	166	178
0.70	72	84	95	107	119	130	142	154	166
0.75	67	78	89	100	111	122	133	144	154
0.80	63	73	83	94	104	114	124	135	145
0.85	59	69	79	88	98	107	117	127	136
0.90	56	65	74	83	92	101	111	120	129

0.95	53	62	70	79	88	98	105	113	116
1.00	50	59	67	75	83	91	100	108	116

Table 808.2.2(b) — Minimum surface area of acoustical treatment for large classrooms.

Sound absorption coefficient, α_1	Ceiling height, H, ft.								
	8	9	10	11	12	13	14	15	16
	Ceiling height, H, m.								
	2.44	2.74	3.05	3.35	3.66	3.96	4.27	4.57	4.88
	Minimum combined area of wall and ceiling sound-absorbing material as a percentage of the floor area								
0.45	91	107	122	138	154	169	185	200	216
0.50	82	96	110	124	138	152	166	180	194
0.55	75	87	100	113	126	138	151	164	177
0.60	68	80	92	104	115	127	139	150	162
0.65	63	74	85	96	106	117	128	139	149
0.70	59	69	79	89	99	109	119	129	139
0.75	55	64	73	83	92	102	111	120	130
0.80	51	60	69	78	86	95	104	113	121
0.85	48	57	65	73	81	90	98	106	114
0.90	46	53	61	69	77	85	92	100	108
0.95	43	51	58	65	73	80	88	95	102
1.00	41	48	55	62	69	76	83	90	97

808.3 Ambient Sound Level. Ambient sound levels within a classroom shall comply with Section 808.3. Ambient sound levels from exterior and interior sound sources shall be evaluated individually. The greatest one-hour averaged sound levels shall be evaluated at a height of 3 feet above the floor and no closer than 3 feet from any wall, window, or fixed object. Ambient sound levels shall apply to fully furnished classrooms while not in use.

808.3.1 Exterior Sound Sources. Ambient sound levels within a classroom 20,000 cubic feet maximum shall not exceed 35 dBA and 55 dBC for noise intrusion from exterior sound sources.

808.3.2 Interior Sound Sources. Ambient sound levels within a classroom not larger than 20,000 cubic feet shall not exceed 35 dBA and 55 dBC, for noise from interior sound sources.

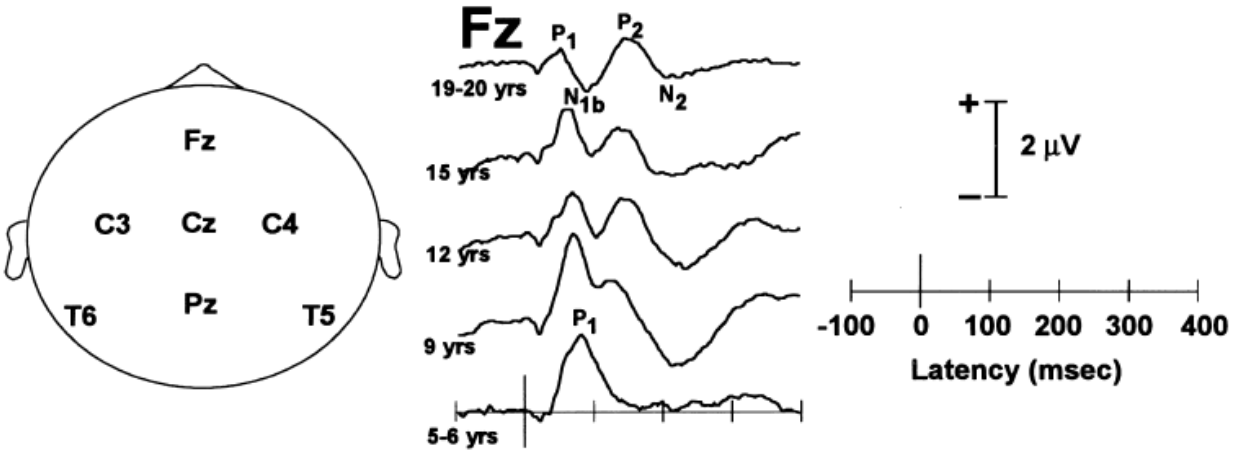
REASON:

Acoustics for Children Peggy Nelson
University of Minnesota
peggynelson@umn.edu

Evidence supports the report

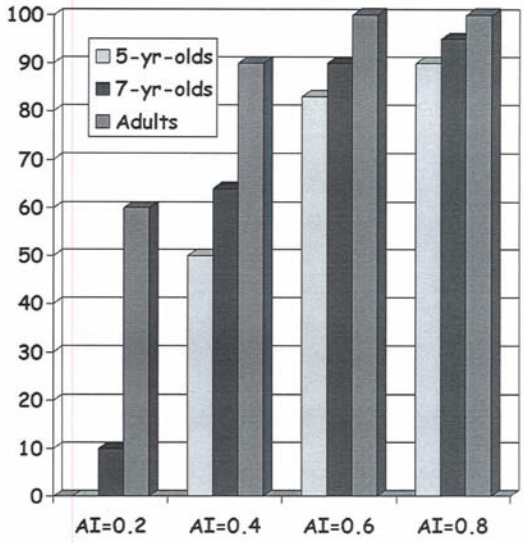
- Children's brains are immature until late adolescence
- They have difficulty hearing a signal (like speech) in background noise
- Brain and behavioral responses show the difficulty and maturation
- Acoustics that are good enough for adults are not necessarily good enough for our children

Brains need years of experience to represent complex sounds faithfully



Adults can fill in missing pieces; children do not

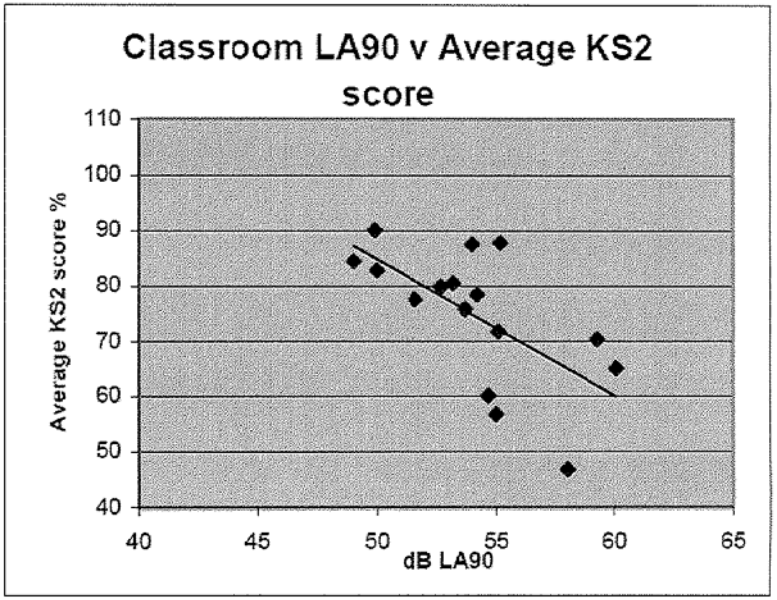
- When words are fully audible, children and adults perform very well
- When only a portion of the words are audible children's performance drops quickly
- At levels where adults can understand most of what's said, young children get very little to nothing



(adapted from Stelmachowicz et al., JSLHR 2000)

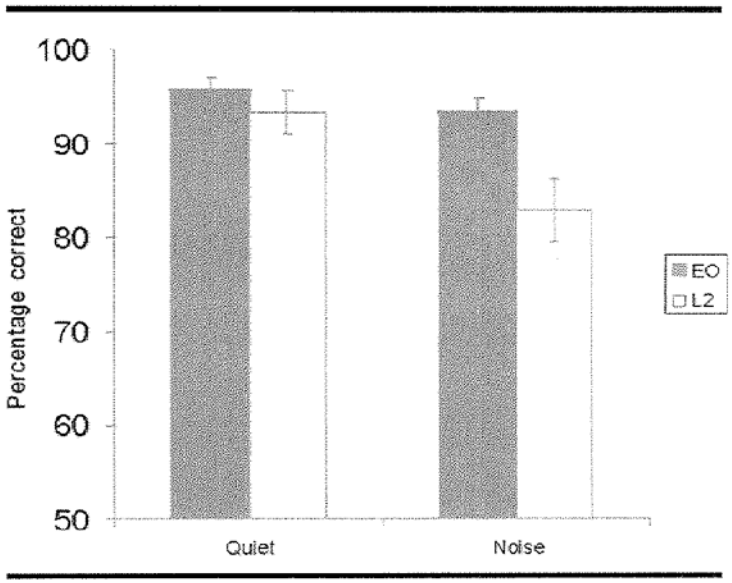
Noise in schools is related to learning

- In a large study of students in London schools, classroom noise levels were related to standardized achievement scores (when accounting for socioeconomic differences)
- Higher noise levels resulted in poorer standardized test scores



Some children are especially vulnerable: Children learning English

- Children who speak other languages at home take a double "hit"
- Children learning English (L2) perform more poorly in noise than their age-matched peers who speak English only (EO)



Why not just amplify all the teachers with microphones?

- Sound amplification can't solve the problem of too much noise or reverberation
- Reduce the noise at the source first, bringing all sound levels down.
  - Then if teachers with voice problems or students with hearing loss need a higher signal level, amplification may be able to help.

Summary: Data are convincing that children need better acoustics

- Young children are ineffective listeners until they reach adolescence,
- Children with hearing loss, auditory disorders, or who are learning English are more affected by background noise and reverberation.
- Higher noise levels results in poorer school achievement
- Amplification only isn't going to solve the problem; good acoustics comes first
- Children aren't just unpredictable small adults. They deserve the acoustics that they need.

References

- Nelson, P., Kohnert, K., Sabur, S., & Shaw, D. (2005). Classroom noise and children learning through a second language: Double jeopardy? Language, Speech, and Hearing Services in Schools, 36, 219 – 229.
- Ponton CW, Eggermont JJ, Kwong B, Don M. (2002) Maturation of human central auditory system activity: evidence from multi-channel evoked potentials. Clin Neurophysiol. 111(2):220-36.
- Shield. B and Dockrell J (2008) The effects of environmental and classroom noise on the academic attainments of primary school childrenJ. Acoust. Soc. Am. Volume 123, 133-144
- Stelmachowicz PG, Hoover BM, Lewis DE, Kortekaas RW, Pittman AL. (2000) The relation between stimulus context, speech audibility, and perception for normal-hearing and hearing-impaired children. J Speech and Hearing Research 43: 902-914

Committee Review of Comments and Action – July 2013

Approval with Modifications based on comment.

Committee Reason: The committee believes this is an important addition to the standard. It allows jurisdictions to establish scoping to use these design requirements. As the ASA standard on which this is based is improved over time, the committee will consider referencing that standard. At this time classrooms larger than 20,000 cubic feet are not included because rooms of that size are still being evaluated, and therefore there is not sufficient information to set a standard. The revised version approved by the committee was contained in comment 8-15.6 provided by the proponent after extensive work to refine the version approved earlier. The work involved a number of Committee members providing input to the proponent.

Modification.

Replace the proposal as follows:

Section 808
Acoustics

808.1 General. Classrooms not exceeding 20,000 cubic feet (566 m^3) and required to provide enhanced acoustics shall comply with Section 808.

808.2 Reverberation Time. Classrooms shall provide reverberation times complying with Sections 808.2.1 or 808.2.2. Reverberation times shall apply to fully furnished classrooms while not in use.

808.2.1 Compliance Method A. In each of the octave frequency bands of 500, 1000, and 2000 Hz, reverberation times for sound to decay by 60 dB (*T*60) shall not exceed the times specified below:

1. 0.6 seconds in classrooms 10,000 cubic feet (283 m^3) maximum.

2. 0.7 seconds in classrooms more than 10,000 cubic feet (283 m^3) but not exceeding 20,000 cubic feet (566 m^3).

Reverberation times shall be field verified and shall be measured over a minimum level decay of 20 dB for which the maximum time shall not exceed 0.2 seconds for classrooms listed in item #1 and 0.23 seconds for classrooms listed in item #2 .

808.2.2 Compliance Method B. Small classrooms 10,000 cubic feet (283 m^3) maximum complying with Table 808.2.2(a) for T60 of 0.6 s., and large classrooms more than 10,000 cubic feet (283 m^3) but not exceeding 20,000 cubic feet (566 m^3) complying with Table 808.2.2(b) for T60 of 0.7s., shall be deemed to comply with Section 808.2.

Table 808.2.2(a) — Minimum surface area of acoustical treatment for small classrooms.

Sound absorption coefficient, α_1	Ceiling height, H, ft.								
	8	9	10	11	12	13	14	15	16
	Ceiling height, H, m.								
	2.44	2.74	3.05	3.35	3.66	3.96	4.27	4.57	4.88
	Minimum combined area of wall and ceiling sound-absorbing material as a percentage of the floor area								
0.45	112	130	148	167	185	203	221	239	257
0.50	101	117	134	150	166	183	199	215	232
0.55	92	107	121	136	151	166	181	196	211
0.60	84	98	111	125	139	152	166	179	193
0.65	78	90	103	115	128	141	153	166	178
0.70	72	84	95	107	119	130	142	154	166
0.75	67	78	89	100	111	122	133	144	154
0.80	63	73	83	94	104	114	124	135	145
0.85	59	69	79	88	98	107	117	127	136
0.90	56	65	74	83	92	101	111	120	129
0.95	53	62	70	79	88	98	105	113	116

1.00	50	59	67	75	83	91	100	108	116

Table 808.2.2(b) — Minimum surface area of acoustical treatment for large classrooms.

Sound absorption coefficient, α_1	Ceiling height, H, ft.								
	8	9	10	11	12	13	14	15	16
	Ceiling height, H, m.								
	2.44	2.74	3.05	3.35	3.66	3.96	4.27	4.57	4.88
	Minimum combined area of wall and ceiling sound-absorbing material as a percentage of the floor area								
0.45	91	107	122	138	154	169	185	200	216
0.50	82	96	110	124	138	152	166	180	194
0.55	75	87	100	113	126	138	151	164	177
0.60	68	80	92	104	115	127	139	150	162
0.65	63	74	85	96	106	117	128	139	149
0.70	59	69	79	89	99	109	119	129	139
0.75	55	64	73	83	92	102	111	120	130
0.80	51	60	69	78	86	95	104	113	121
0.85	48	57	65	73	81	90	98	106	114
0.90	46	53	61	69	77	85	92	100	108
0.95	43	51	58	65	73	80	88	95	102
1.00	41	48	55	62	69	76	83	90	97

808.3 Ambient Sound Level. Ambient sound levels within a classroom shall comply with Section 808.3. Ambient sound levels from exterior and interior sound sources shall be evaluated individually. The greatest one-hour averaged sound levels shall be evaluated at a height of 3 feet (914 mm) above the floor and no closer than 3 feet (914 mm) from any wall, window, or fixed object. Ambient sound levels shall apply to fully furnished classrooms while not in use.

808.3.1 Exterior Sound Sources. Ambient sound levels within a classroom 20,000 cubic feet (566 m^3) maximum shall not exceed 35 dBA and 55 dBC for noise intrusion from exterior sound sources.

808.3.2 Interior Sound Sources. Ambient sound levels within a classroom not larger than 20,000 cubic feet (566 m^3) shall not exceed 35 dBA and 55 dBC, for noise from interior sound sources.

Chapter 9
Items 9-1-12 through 9-13-12
August 7, 2013.

This is one of ten documents containing those proposed changes to the A117.1 Standard, 2009 edition; for which A117.1 Committee received Ballot or Proponent Comments. Each item was discussed at the meeting of Committee during the week of July 15, 2013, in Washington D.C. The Committee took action on each proposal and such action is specified herein. The actions listed here are subject reconfirmation by the Committee via the Committee's ballot process.

Please note: This document does not contain proposals for which no comments were received. Those proposals, and the Committee decision on each one, can be viewed in the Committee Action Report (CAR) under the title: First Draft Standard Development at this following location: http://www.iccsafe.org/cs/standards/A117/Pages/default.aspx

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9-1– 12
901.1, 905.1

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

901.1 Scope. ~~Built-in~~ furnishings and equipment required to be accessible by the scoping provisions adopted by the administrative authority shall comply with the applicable provisions of Chapter 9.

905.1 General. Accessible built-in storage facilities shall comply with Section 905.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The provisions for dining and work surfaces and benches (when required) are applicable to loose and 'built-in' elements. Sales and service counters are typically furnishings that are permanent during the life of the store; built-in is not the issue. There is an argument for storage facilities to be limited to built-in, just so you pick up cabinets and closets and not file cabinets and desks.

901.1-PAARLBERG.doc

Committee Action

Approved

Committee Reason: The Committee found this to be an improved organization of the requirements.

BALLOT COMMENTS

9-1.1
Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Negative with comment:

Comment: This provision is inappropriate for a building code and will ultimately be unenforceable. Furnishings and equipment are generally not covered under a building code as they are not part of the building. Built-in furnishings are a part of the building and therefore covered. Will this require that a complete furnishing plan be produced at permitting for approval? Will all furnishings be required to be placed prior to a C of O? Will a permit be required to rearrange or replace furnishings? Is this change still only applicable to built-in furnishings and if so this change makes the section less clear as opposed to more clear.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval of this proposal.

9-2– 12
902.2

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

902.2 Clear Floor Space. A clear floor space complying with Section 305, positioned for a forward approach, shall be provided. Knee and toe clearance complying with Section 306 shall be provided. The clear floor space shall be centered on the work surface.

EXCEPTIONS:

1. At drink surfaces 12 inches (305 mm) or less in depth, knee and toe space shall not be required to extend beneath the surface beyond the depth of the drink surface provided.
2. Dining surfaces that are 15 inches (380 mm) minimum and 24 inches (610 mm) maximum in height are permitted to have a clear floor space complying with Section 305 positioned for a parallel approach.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

Section 1003.12.3.1 requires that the clear floor space at the kitchen work surface be centered. Section 1003.12.3. applies to Type A kitchens. For kitchens in Accessible units, the work surface is regulated by Section 902. 902 doesn't require the centering. For consistency the centering should be added to the Accessible units or removed from the Type A requirements.

902.2-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The Committee felt this change was proposed for the wrong part of the Standard. There are a variety of work surface requirements that should be individually addressed. This requirement would be difficult to apply if the work surface was considerable longer than the minimum length required.

BALLOT COMMENTS

9-2.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The committee said that instead of applying this to Accessible work surfaces that this should be removed from Type A units. This would allow work surfaces of longer lengths.

Replace proposal as follows:

1003.12.3 Work Surface. At least one section of counter shall provide a work surface 30 inches (760 mm) minimum in length complying with Section 1003.12.3.

1003.12.3.1 Clear Floor Space. A clear floor space, positioned for a forward approach to the work surface, shall be provided. Knee and toe clearance complying with Section 306 shall be provided. ~~The clear floor space shall be centered on the work surface.~~

EXCEPTION: Cabinetry shall be permitted under the work surface, provided the following criteria are met:

(a) the cabinetry can be removed without removal or replacement of the work surface,
(b) the floor finish extends under such cabinetry, and
(c) the walls behind and surrounding cabinetry are finished.

Proponent Comment

9-2.2

Commenter: Kim Paarlberg, representing ICC

Replace the proposal with the following:

902.2 Clear Floor Space. A clear floor space complying with Section 305, positioned for a forward approach, shall be provided. Knee and toe clearance complying with Section 306 shall be provided.

EXCEPTIONS:

1. At drink surfaces 12 inches (305 mm) or less in depth, knee and toe space shall not be required to extend beneath the surface beyond the depth of the drink surface provided.
2. Dining surfaces that are 15 inches (380 mm) minimum and 24 inches (610 mm) maximum in height are permitted to have a clear floor space complying with Section 305 positioned for a parallel approach.

1003.12.3 Work Surface. At least one section of counter shall provide a work surface 30 inches (760 mm) minimum in length complying with Section 1003.12.3.

1003.12.3.1 Clear Floor Space. A clear floor space, positioned for a forward approach to the work surface, shall be provided. Knee and toe clearance complying with Section 306 shall be provided. ~~The clear floor space shall be centered on the work surface.~~

EXCEPTION: Cabinetry shall be permitted under the work surface, provided the following criteria are met:
(a) the cabinetry can be removed without removal or replacement of the work surface,
(b) the floor finish extends under such cabinetry, and the walls behind and surrounding cabinetry are finished.

Reason: The committee said that instead of applying this to accessible work surfaces that this should be removed from Type A units. This would allow work surfaces of longer lengths.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comment.

Committee Reason: The original intent of the proposal was to move a requirement of Type A units to apply to kitchens in the more accessible Accessible units. The committee felt that the reverse action should be done. Based on comment 9-2.2, the requirement to center the clear floor space at work surfaces is removed from the Type A unit requirements. It will provide greater flexibility of the use of the surfaces.

Modification:

Replace the proposal with the following:

1003.12.3 Work Surface. At least one section of counter shall provide a work surface 30 inches (760 mm) minimum in length complying with Section 1003.12.3.

1003.12.3.1 Clear Floor Space. A clear floor space, positioned for a forward approach to the work surface, shall be provided. Knee and toe clearance complying with Section 306 shall be provided. ~~The clear floor space shall be centered on the work surface.~~

EXCEPTION: Cabinetry shall be permitted under the work surface, provided the following criteria are met:
(c) the cabinetry can be removed without removal or replacement of the work surface,
(d) the floor finish extends under such cabinetry, and the walls behind and surrounding cabinetry are finished.

9-4– 12
903.2

Proposed Change as Submitted

Proponent: Ed Roether, representing the ADA/A117 Harmonization Task Group

Revise as follows:

903.2 Clear Floor Space. A clear floor space complying with Section 305, positioned ~~for a parallel approach to the bench seat, shall be provided.~~ at the end of the bench seat and parallel to the short axis of the bench.

> **Exception. A** clear floor space positioned for a parallel approach to the bench seat, shall be permitted where it provides equivalent or greater accessibility.

Reason: The ADA/A117 Harmonization Task Group (HTG) was created as a task group of the A117.1 Committee to compare the 2010 ADA with the 2009 A117.1 Standard. The HTG has recommended a series of changes through a set of change proposals. The HTG is recommending changes, for the most part, address where the ADA was viewed as more stringent than the A117. Where the A117 contained provisions not addressed in the ADA, these were not considered a conflict needing action to amend the A117. In addition there are a number of places where the ADA and A117.1 are different as a result of specific actions, by the A117.1 Committee during the development of the 2009 edition, to remain or create a difference where, in the judgment of the committee the ADA was deficient.

Reason for 903.2: A117.1 specifically states a parallel approach. ADA specifically states a location at the end of the bench. The HTG believes that the A117.1 provides better access, but recognizes that the ADA has a very specific requirement here. The amendment places the ADA language as the requirement and allows a parallel approach as an exception where equivalent or greater accessibility is provided. While the latter phrasing is redundant with Section 103, it is important to state it in this exception.

903.2-ROETHER.doc

Committee Action

Approved

Committee Reason: The proposal provides a solution for allowing an equivalency for this very specific ADA 2010 standard.

BALLOT COMMENTS

9-4.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Equivalent access alternatives is permitted in all situations under Section 103. It should not be restated in the text of the standard.

Modify proposal as follows:

903.2 Clear Floor Space. A clear floor space complying with Section 305, positioned at the end of the bench seat and parallel to the short axis of the bench.

> **Exception:** A clear floor space positioned for a parallel approach to the bench seat, shall be permitted ~~where it provides equivalent or greater accessibility~~.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comment.

Committee Reason: The committee was torn between a solution that seemed practical and more usable than that required by the ADA. There other side of the concern was that the approved change would not be consistent with the ADA. After considerable discussion, the committee agreed to a revised exception that allowed a parallel approach without conflicting with the ADA requirement.

Modification.

Replace the proposal as follows:

903.2 Clear Floor Space. A clear floor space complying with Section 305, positioned ~~for a parallel approach to the bench seat, shall be provided.~~ at the end of the bench seat and parallel to the short axis of the bench.

> **Exception.** A clear floor space positioned for a parallel approach to the front of the bench seat, shall be permitted where a clear floor space is also positioned at the end the bench seat.

9-6– 12
904.3

Proposed Change as Submitted

Proponent: Ed Roether, representing the ADA/A117 Harmonization Task Group

Revise as follows:

904.3 Sales and Service Counters. Sales and service counters shall comply with Section 904.3.1 or 904.3.2. The accessible portion of the countertop shall extend the same depth as the sales and service countertop.

> **EXCEPTION:** In *alterations*, when the provision of a counter complying with Section 904.4 would result in a reduction of the number of existing counters at work stations or a reduction of the number of existing *mail boxes*, the counter shall be permitted to have a portion which is 24 inches (610 mm) long minimum complying with Section 904.4.1 provided that the required clear floor *space* is centered on the *accessible* length of the counter.

Add new Figure from ADA

Figure 904.3 (Exception) Alteration of Sales and Service Counters

Reason: The ADA/A117 Harmonization Task Group (HTG) was created as a task group of the A117.1 Committee to compare the 2010 ADA with the 2009 A117.1 Standard. The HTG has recommend a series of changes through a set of change proposals. The HTG is recommending changes, for the most part, address where the ADA was viewed as more stringent than the A117. Where the A117 contained provisions not addressed in the ADA, these were not considered a conflict needing action to amend the A117. In addition there are a number of places where the ADA and A117.1 are different as a result of specific actions, by the A117.1 Committee during the development of the 2009 edition, to remain or create a difference where, in the judgment of the committee the ADA was deficient.

Reason for 904.3 ADA has added the exception. A117.1 does not have anything equivalent in this portion of the code.

904.3-ROETHER.doc

Committee Action

Approved

Committee Reason: The change provides an exception in the Standard equivalent to that allowed by the 2010 ADA.

BALLOT COMMENTS

9-6.1
Commenter: Christopher Bell, Representing ACB
Ballot: Negative with comment:

Comment: This proposal compromises accessibility for the sake of harmonization in every detail. Harmonization is positive, but inappropriate when it degrades the accessible environment that is the standard's purpose to provide. That is the principle we have tended to follow. In this case, accessibility could be compromised when providing it would reduce a total count of certain existing, inaccessible features (counters at workstations or mailboxes). Our concern is that we haven't actually heard of problems caused by this part of the standard. It seems like an insufficient reason to compromise accessibility.

9-6.2
Commenter: Marilyn Golden, Representing DREDF
Ballot: Negative with comment:

Comment: This proposal compromises accessibility for the sake of harmonization in every detail. Harmonization is positive, but inappropriate when it degrades the accessible environment that is the standard's purpose to provide. That is the principle we have tended to follow. In this case, accessibility would be compromised when providing it would reduce a total count of certain existing, inaccessible features (counters at workstations or mailboxes). We haven't actually heard of problems caused by this part of the standard. It seems an insufficient reason to compromise accessibility.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval of this proposal. The alternative provides a reasonable solution for existing facilities.

9-7– 12
904.3

Proposed Change as Submitted

Proponent: M. Bradley Gaskins, AIA, CASp, The McIntosh Group, LLC, representing National Association of Convenience Stores

Revise as follows:

904.3 Sales and Service Counters. Sales and service counters shall comply with Section 904.3.1 or 904.3.2. The accessible portion of the countertop shall extend the same depth as the public side of the sales and service countertop or where a split-height public-side countertop is provided, the depth of the accessible portion shall be equivalent to the upper portion depth.

Reason: This section is constantly being misapplied such that the sales and service countertop is being required to extend from the front to the back edge at the same level. There are no height requirements for the non-public or employee side of the countertop and the language should be clarified. Reading from the DOJ 2010 ADA Standards Guidance we see "Where the counter is a split-height counter, this requirement applies only to the customer side of the counter top." Further discussion with the DOJ about the intent of a split height-counter is that the desire is not for the counter to extend the full depth of the public side either, but that the lower portion of the public side be equivalent to the upper portion of the public side.

904.3-GASKINS.doc

Committee Action

Approval as Modified

Modification

904.3 Sales and Service Counters. Sales and service counters shall comply with Section 904.3.1 or 904.3.2. The accessible portion of the countertop shall extend the same depth as the public ~~side~~ portion of the sales and service countertop or where a split-height public-side countertop is provided, the depth of the accessible portion shall be equivalent to the upper portion depth.

Committee Reason: The proposal addresses a common design issue with service counters. The text was amended to consistently use the word 'portion'.

BALLOT COMMENTS

9-7.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: My notes indicate the modification included the strike out as follows. I think it should be struck because I do not understand what is meant by a split-height public side countertop.

904.3 Sales and Service Counters. Sales and service counters shall comply with Section 904.3.1 or 904.3.2. The accessible portion of the countertop shall extend the same depth as the public ~~side~~ portion of the sales and service countertop ~~or where a split-height public-side countertop is provided, the depth of the accessible portion shall be equivalent to the upper portion depth~~.

Proponent Comment

9-7.2
Commenter: Bradley Gaskins, AIA, CASp, The McIntosh Group, LLC, representing National Association of Convenience Stores

Further revise the proposal as follows:

904.3 Sales and Service Counters. Sales and service counters shall comply with Section 904.3.1 or 904.3.2. The accessible portion of the countertop shall extend the same depth as the sales and service countertop.

904.3 Sales and Service Counters. Sales and service counters shall comply with Section 904.3.1 or 904.3.2 and 904.3.3. The accessible portion of the countertop shall extend, at a minimum, the same depth as the non-accessible public portion of the sales and service countertop.

904.3.1 Parallel Approach. A portion of the counter surface 36 inches (915 mm) minimum in length and 36 inches (915 mm) maximum in height above the floor shall be provided. Where the counter surface is less than 36 inches (915 mm) in length, the entire counter surface shall be 36 inches (915 mm) maximum in height above the floor. A clear floor space complying with Section 305, positioned for a parallel approach adjacent to the accessible counter, shall be provided.

904.3.2 Forward Approach. A portion of the counter surface 30 inches (760 mm) minimum in length and 36 inches (915 mm) maximum in height above the floor shall be provided. A clear floor space complying with Section 305, positioned for a forward approach to the accessible counter, shall be provided. Knee and toe clearance complying with Section 306 shall be provided under the accessible counter.

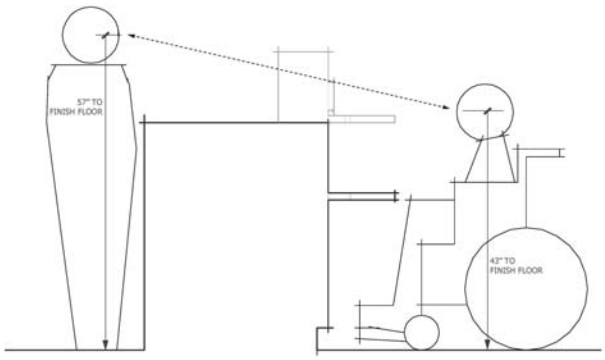
904.3.3 Visibility. Where counters are required to be utilized by the public in interacting with personnel on the opposite side of the counter, the accessible portion of the countertop shall be located so that the public is visible at a point located 43 inches (1100 mm) above the center of the clear floor space to a point located 56 inches (1450 mm) above the personnel floor space and 3" (80 mm) behind the countertop.

Reason: Comment in support of 9-7.

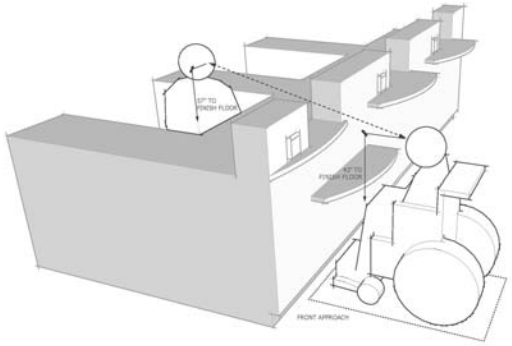
Based upon many discussion points the concerns about sales/service counter heights do not appear to be related to the accessible counter height vs. the employee counter height but rather the visibility/eye site line of an individual using a chair by an employee behind the counter.

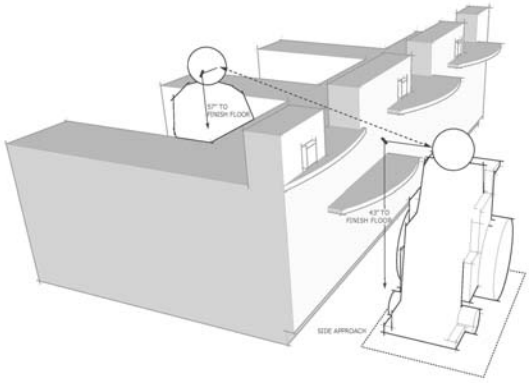
Attached are sketches that show the eyelevel of a below average 5'-0" high employee with an eyelevel of 4'-9" working with an individual in a chair with an eyelevel of 3'-7" or what would equate to an individual 3'-11" in height. As this demonstrates an individual using a chair or a standing person of short stature is easily visible and able to work with the employee.

To further this concept I would propose the following amendment to proposal 9-7 and Section 904 that the committee took action on to codify the eyelevel/visibility



locations.





Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The revision removes text that would allow a small shelf for the public rather than a full and equal counter for both the sales personnel and the customers. The revision is based on comment 9-7.1. See also discussion on 9-10-12.

Modification.

Further revise the proposal as follows:

904.3 Sales and Service Counters. Sales and service counters shall comply with Section 904.3.1 or 904.3.2. The accessible portion of the countertop shall extend the same depth as the public ~~side~~ portion of the sales and service countertop ~~or where a split-height public side countertop is provided, the depth of the accessible portion shall be equivalent to the upper portion depth~~.

9-9– 12
904.3

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

904.3 Sales and Service Counters and Windows. Sales and service counters and windows shall comply with Section 904.3.1 or 904.3.2. Where counters are provided, the accessible portion of the countertop shall extend the same depth as the sales and service countertop.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The main text was changed last cycle to include windows, but there were no provisions in the technical requirements for what was applicable.

904.3 #1-PAARLBERG.doc

Committee Action

Approved

Committee Reason: The change provides clarity with respect to the application of the Standard to sales and service windows.

BALLOT COMMENTS

9-9.1
Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Negative with comment:

Comment: This is an incorrect application to windows and will create a substantial burden and design issue in regards to the height of a window. This will conflict with the reasoning for the previous action taken on 9-7. A service counter at the appropriate height of 36" served by a window at 42" is accessible and therefore should be allowed. In an example this will cause confusion in the application to a bank teller line as the "window" of the teller line must now be lowered and will contradict the allowance for the teller side of the "window" to not be controlled by this standard as applied in 9-7.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval of this proposal.

9-10– 12
904.3

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

904.3 Sales and Service Counters. Sales and service counters shall comply with Section 904.3.1 or 904.3.2. The accessible portion of the countertop shall extend the same depth as the sales and service countertop. The accessible portion of sales and service counter shall be located so that a person using a wheelchair is visible to the staff behind the counter.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The current text allows for obstructed counters so that you cannot have the interaction with the service personnel.

904.3 #2-PAARLBERG.doc

Committee Action

Approved

Committee Reason: The Committee recognized that this proposal addresses an issue not adequately covered by the Standard. While the proposal was approved, the Committee acknowledged that the proposed text needs to be improved to be more specific and more measurable.

BALLOT COMMENTS

9-10.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: The committee asked for additional work on this idea. I was thinking along the line of using the height of visions panels, 43" maximum, for any solid opaque obstruction. This is based on the lower edge of the eye height of a person using a wheelchair. That would allow a line of sight from a person in a wheelchair to a person sitting on the other side. I did not want to try for allowing higher based on line of sight. There is too much variation on the height of someone standing behind the counter and it is dependent on the depth of the counter and how far out you expect someone to be seen.

There will be a modification proposed.

9-10.2

Commenter: Ken Schoonover
Ballot: Negative with comment:

Comment: The intent of the proposal has merit, but the language is unenforceable and begs a variety of inconsistent interpretations. The standard should not use people as the points of measurement for determining compliance. For example, there may be several staff persons "behind the counter". The proposal is likely referring to a staff person at the accessible counter location, but that's not clear. One could interpret this to mean any or all of the staff behind the counter. Is there a standard height of the staff behind the counter that must be assumed? Is the staff assumed to be positioned immediately at the counter location, or is the person using a wheelchair required to visible to the staff person standing near but not immediately at the counter location? I don't have precise language to offer at this time, but the standard should state this in terms of fixed of definable spaces or elements, such as the accessible counter not being visually obstructed the work station serving the accessible counter.

Proponent Comment

9-10.3

Commenter: Kim Paarlberg, Representing ICC

Replace the proposal with the following:

904 Sales and Service Counters

904.1 General. Accessible sales and service counters and windows shall comply with Section 904 as applicable.

EXCEPTION: Drive up only sales or service counters and windows are not required to comply with Section 904.

904.3 Sales and Service Counters. Sales and service counters and windows shall comply with Sections 904.3.1 ~~or~~ and 904.3.2 or 904.3.3. Where a counter is provided, the accessible portion of the countertop shall extend the same depth as the sales and service countertop provided for standing customers.

904.3.1 Vertical separation. At service windows or service counters, any vertical separation shall be at a height of 43 inches (1090 mm) maximum above the floor.

Exception: Transparent security glazing is permitted above the 43 inches (1090 mm) maximum height.

~~**904.3.1**~~ **904.3.2 Parallel Approach.** A portion of the counter surface 36 inches (915 mm) minimum in length and 26 inches (660 mm) minimum to 36 inches (915 mm) maximum in height above the floor shall be provided. Where the counter surface is less than 36 inches (915 mm) in length, the entire counter surface shall be 26 inches (660 mm) minimum to 36 inches (915 mm) maximum in height above the floor. A clear floor space complying with Section 305, positioned for a parallel approach adjacent to the accessible counter, shall be provided. The space between the accessible counter surface and any projecting objects above the accessible counter shall be 12 inches (305 mm) minimum.

~~**904.3.2**~~ **904.3.3 Forward Approach.** A portion of the counter surface 30 inches (760 mm) minimum in length and 36 inches (915 mm) maximum in height above the floor shall be provided. A clear floor space complying with Section 305, positioned for a forward approach to the accessible counter, shall be provided. Knee and toe clearance complying with Section 306 shall be provided under the accessible counter. The space between the accessible counter surface and any projecting objects above the accessible counter shall be 12 inches (305 mm) minimum.

904.4 Checkout Aisles. *(no change)*

904.5 Food Service Lines. *(no change)*

904.6 Security Glazing. Where counters or teller windows have security glazing to separate personnel from the public, a method to facilitate voice communication shall be provided. Telephone handset devices, if provided, shall comply with Section 704.3.

Reason: There is constant misinterpretation on what "extend the same depth of as the sales and service counter" means. There are scoping exceptions for counters for employee in IBC and ADA, so this is not intended to be the employee side of a counter. During discussions at the last development meetings, this was stated several times. It is my understanding that to match the employee side is why the customer service window is currently permitted at 36". The new recommendations for standing employees is to put the work surface at 42" high.

In addition, the discussion for service counters and windows have always been towards allowing for a face to face communication. They current text currently says nothing about this requirement.

The difficulty is that there often is not a distinct separation between the employee side and the customer side. If the counter is the same height on both sides and 36" or lower, this is not an issue. When it is different, the new section 904.3.1 would allow for visual communication regardless if both employee and customer are seated or one is standing. This would also prevent the interpretation that a 'shelf' at the accessible height is acceptable on the customer side of a high wall. (For example, the height of the wall at my bank is 60".)

The dimensional information currently used in the ICC A117.1 is that the eye height of a person using a wheelchair is 43" to 51". The 43" is currently used for visions panels (404.2.10). That would allow a line of sight from a person in a wheelchair to a person sitting on the other side. I did not want to try for allowing higher based on line of sight. There is too much variation on the height of someone standing behind the counter and it is dependent on the depth of the counter and how far out you expect someone to be seen. This would also put an location where the employee might be handing a customer something to be within the reach range.

The allowance for security glazing would address the issues raised by facilities such as bank and currency exchanges.

The clear height above the accessible service counter would prevent someone from putting an 'accessible' shelf immediately below the standing counter. This matches the language used for grab bar clearances (609.3). To stop someone from putting a counter so low that is was unusable, there must be a minimum height for parallel approach. Th3 26" is from work surfaces (902.5.2).

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comment.

Committee Reason: The committee considered revisions to the original proposal based on comment 9-10.3. The revisions provided much clearer text than currently in the standard. It does not appear to conflict with the ADA. The proposal adds a minimum height of 26 inches which is the same as for work surfaces. Representatives of retail industry found the revision clear and workable.

Modification.

Replace the proposal with the following:

904.3 Sales and Service Counters. Sales and service counters and windows shall comply with Sections 904.3.1 ~~or~~ and 904.3.2 or 904.3.3. Where a counter is provided, the accessible portion of the countertop shall extend the same depth as the sales and service countertop provided for standing customers.

904.3.1 Vertical separation. At service windows or service counters, any vertical separation shall be at a height of 43 inches (1090 mm) maximum above the floor.

Exception: Transparent security glazing is permitted above the 43 inches (1090 mm) maximum height.

~~**904.3.1**~~ **904.3.2 Parallel Approach.** A portion of the counter surface 36 inches (915 mm) minimum in length and 26 inches (660 mm) minimum to 36 inches (915 mm) maximum in height above the floor shall be provided. Where the counter surface is less than 36 inches (915 mm) in length, the entire counter surface shall be 26 inches (660 mm) minimum to 36 inches (915 mm) maximum in height above the floor. A clear floor space complying with Section 305, positioned for a parallel approach adjacent to the accessible counter, shall be provided. The space between the accessible counter surface and any projecting objects above the accessible counter shall be 12 inches (305 mm) minimum.

~~**904.3.2**~~ **904.3.3 Forward Approach.** A portion of the counter surface 30 inches (760 mm) minimum in length and 36 inches (915 mm) maximum in height above the floor shall be provided. A clear floor space complying with Section 305, positioned for a forward approach to the accessible counter, shall be provided. Knee and toe clearance complying with Section 306 shall be provided under the accessible counter. The space between the accessible counter surface and any projecting objects above the accessible counter shall be 12 inches (305 mm) minimum.

9-12– 12
905 (New)

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Add new text as follows:

905 Gaming machines and tables

905.1 Clear Floor Space. Accessible gaming machines and tables shall have a clear floor space complying with Section 305 positioned for transfer or for use by an individual seated in a wheelchair. Clear floor spaces required at gaming machines and tables shall be permitted to overlap.

EXCEPTION: Gaming tables or machines complying with Section 902 are not required to comply with Section 905.1.

905.2 Operable parts. Operable parts on gaming machines and tables shall not be required to comply with Section 309.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

A code change was passed in the IBC that requires one of each type of gaming machine or table to be accessible. The above is an attempt at providing appropriate technical criteria in A117.1. The options are providing a table with knee and toe clearances complying with the same provisions as a work surface, or providing the option of moving to the area of a table or machine and transferring to a seat.

905 (New)-PAARLBERG.doc

Committee Action

Approval as Modified

Modification

905 Gaming machines and tables

905.1 Clear Floor Space. Accessible gaming machines and tables shall have a clear floor space complying with Section 305 positioned for transfer or for use by an individual seated in a wheelchair. Clear floor spaces required at gaming machines and tables shall be permitted to overlap.

EXCEPTION: Gaming tables or machines complying with Section 902 are not required to comply with Section 905.1.

~~**905.2 Operable parts.**~~ *This portion of the proposal was not approved.*

Committee Reason: The Committee agreed that the Standard needs to address casinos and similar facilities. This provides a minimum requirement. An exception for operable parts was not seen as justified.

BALLOT COMMENTS

9-12.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Gaming tables and machines are now scoped in the IBC to be accessible. It is not the intent to change the nature of the activity. This is consistent with what is permitted for exercise equipment, Section 1101.2.4. It is not reasonable without input from

the industry to require operable parts on machines to meet accessibility requirements. This portion of the requirement should be added back into the proposal.

Revise proposal as follows:

905.2 Operable parts. Operable parts on gaming machines and tables shall not be required to comply with Section 309.

Proponent Comment

9-12.2

Commenter: Kim Paarlberg, Representing ICC

Further modify as follows:

905 Gaming machines and tables

905.2 Operable parts. Operable parts on gaming machines and tables shall not be required to comply with Section 309.

Reason: The committee modified the original proposal to delete the exception for operable pars.

Gaming tables and machines are now scoped in the IBC to be accessible. It is not the intent to change the nature of the activity. This is consistent with what is permitted for exercise equipment, Section 1101.2.4. It is not reasonable without input from the industry to require operable parts on machines to meet accessibility requirements. This portion of the requirement should be added back into the proposal.

The committee asked that I try and reach out to providers of gaming machines. While I was unable to reach any suppliers, I did speak with several code officials that were in cities with a high number of casinos. All felt that the exception for operable parts was necessary. The variety of machines on the market is too varied to have any specific limitation.

Committee Review of Comments and Action – July 2013

Approval as Modified.

Committee Reason: The committee considered restoring the exception for operable parts on gaming machines. The committee maintained the original approval as modified. The consensus was that the gaming equipment should have operable parts which are accessible.

Chapter 10
Items 10-1-12 through 10-39-12
August 7, 2013.

This is one of ten documents containing those proposed changes to the A117.1 Standard, 2009 edition; for which A117.1 Committee received Ballot or Proponent Comments. Each item was discussed at the meeting of Committee during the week of July 15, 2013, in Washington D.C. The Committee took action on each proposal and such action is specified herein. The actions listed here are subject reconfirmation by the Committee via the Committee's ballot process.

Please note: This document does not contain proposals for which no comments were received. Those proposals, and the Committee decision on each one, can be viewed in the Committee Action Report (CAR) under the title: First Draft Standard Development at this following location: http://www.iccsafe.org/cs/standards/A117/Pages/default.aspx

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10-2– 12
1001.2 (NEW)

Proposed Change as Submitted

Proponent: Larry Nordin, Solomon Cordwell Buenz

Add new text as follows:

1001.2 Mail Boxes. Where mail boxes are provided for individual dwelling and sleeping units, a mail box complying with Section 309 shall be provided for each Accessible and each Type A unit.

Reason: The purpose of the proposed added section is to define the accessibility requirements for the mailboxes for the Accessible Type A units. The proposed wording is taken from ADA 2010-228.2.

If a reach range definition is desired for the type B units, I would suggest that the USPS standard be used as a guideline. The USPS limits the heights of mailboxes based upon their mail carrier standards. The USPS limits are between 28" to the bottom of the lowest mail box and 67" to the operable hardware of the highest mail box.

Section 309 requirements should not be placed on the Type B units due to the other considerations such as people with back ailments. When Section 309 requirements are applied on the Type B unit mail boxes, the size of a mail room practically doubles in size, especially in large residential buildings.

1001.2 (NEW)-NORDIN.doc

Committee Action

Disapproved

Committee Reason: The Committee concluded that this is a scoping requirement and as such belongs in the International Building Code or other scoping document. The provision doesn't specify how mail boxes are to be made accessible, but specifies a quantity. As such it is scoping.

BALLOT COMMENTS

10-1.1
Commenter: Cheryl D. Kent, Representing HUD
Ballot: Negative with comment:

Comment: While HUD recognizes that the language that was disapproved is scoping, we believe it may be helpful to include scoping where mailboxes are concerned; however, we recommend instead that the Committee consider the following proposal which is similar to the proposal HUD submitted to the IBC for consideration. While HUD subsequently withdrew this proposal in order to obtain more input from stakeholders, we would like to obtain such input from members of the A117 Committee. HUD's proposal is as follows, and would cover mailboxes for Accessible, Type A and Type B Units:

Revise as follows:

1001.2 Mail receptacles. Where provided, mail receptacles shall be accessible in accordance with Sections 1001.2.1 or 1001.2.2.

1001.2.1 Dwelling units and sleeping units. Where mail receptacles are provided for Accessible, Type A or Type B dwelling and sleeping units, accessible mail receptacles shall be provided in accordance with Section 1001.2.1.1 or 1001.2.1.2.

1001.2.1.1 Centralized mail receptacles. Where each individual mail compartment of a centralized mail receptacle is assigned to a specific dwelling unit or sleeping unit, the individual mail compartments shall comply with Section 1001.2.1.1.1 or 1001.2.1.1.2.

1001.2.1.1.1 Buildings without an elevator. In a structure without an elevator, all individual mail compartments assigned to Accessible Units, Type A Units and Type B Units in each location shall be accessible.

1001.2.1.1.2 Buildings with an elevator. In a structure with an elevator, fifty percent of all individual mail compartments in each location shall be accessible. Individual mail compartments assigned to Accessible and Type A units shall be included in the accessible mailboxes. In addition to the individual mail compartments assigned to dwelling or sleeping units, an additional number of individual mail compartments that is equal to ten percent of the total number of dwelling units and sleeping units, but not less than one, at each location shall be accessible.

1001.2.1.1.3 Parcel lockers. All parcel lockers of centralized mail receptacles shall be accessible.

1001.2.1.2 Individual house-mounted and curbside mail receptacles. Where an individual house-mounted or curbside mail receptacle serves a dwelling unit or sleeping unit that is required to be an Accessible unit, Type A unit or Type B unit, the mail receptacle shall be accessible.

1001.2.2 Other occupancies. Where mail receptacles are provided in occupancies not falling within the purview of Section 1001.2.1, at least 5 percent, but not less than one, of each type in each location, shall be accessible.

Additional background information:
HUD's position with respect to the Fair Housing Act and HUD's Fair Housing Accessibility Guidelines is that 100% of the mailboxes serving covered dwelling units must be accessible. HUD is aware that HUD's position on mailboxes provided at FHAct covered buildings and current U.S. Postal Service regulations are not in harmony. HUD and U.S.P.S. held a number of discussions and meetings but are not in agreement on a resolution. Nevertheless, HUD recognizes that a 100% scoping requirement for mailboxes in hi-rise elevator buildings, coupled with situations where wall space may be limited, poses challenges for designers and builders in meeting the FHAct requirements as well as those in the IBC and ICC A117.1 for accessible reach ranges. Therefore, we recognize in this proposal that up to 50% of Type A or B units in a building with one or more elevators may not be served by an accessible mailbox. For this reason, this proposal relies on the provision of an additional number of unassigned mailboxes within the accessible reach range to be available, at the time of first occupancy, to serve persons with disabilities who may reside in these units and who may need an accessible mailbox. In addition, in this proposal, HUD is attempting to move to the reach ranges that are in more recent editions of A117.1, even though HUD's Fair Housing Accessibility Guidelines still reference the 1986 ANSI A117.1.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comment.

Committee Reason: The committee discussed addressing mail box requirements based on comment 10-1.1. The proposal provides an improvement over the original proposal. The proposal can be further refined through this cycle. The proposed language for 'other occupancies' under section 1001.2.2 was deleted as this is outside the scope of Chapter 10.

Modification.

Replace the proposal as follows:

1001.2 Mail receptacles. Where provided, mail receptacles shall be accessible in accordance with Sections1001.2.1 or 1001.2.2.

1001.2.1 Dwelling units and sleeping units. Where mail receptacles are provided for Accessible, Type A or Type B dwelling and sleeping units, accessible mail receptacles shall be provided in accordance with Section 1001.2.1.1 or 1001.2.1.2.

1001.2.1.1 Centralized mail receptacles. Where each individual mail compartment of a centralized mail receptacle is assigned to a specific dwelling unit or sleeping unit, the individual mail compartments shall comply with Section 1001.2.1.1.1 or 1001.2.1.1.2.

1001.2.1.1.1 Buildings without an elevator. In a structure without an elevator, all individual mail compartments assigned to Accessible units, Type A units and Type B units in each location shall be accessible.

1001.2.1.1.2 Buildings with an elevator. In a structure with an elevator, fifty percent of all individual mail compartments in each location shall be accessible. Individual mail compartments assigned to Accessible and Type A units shall be included in the accessible mailboxes. In addition to the individual mail compartments assigned to dwelling or sleeping units, an additional number of individual mail compartments that is equal to ten percent of the total number of dwelling units and sleeping units, but not less than one, at each location shall be accessible.

1001.2.1.1.3 Parcel lockers. All parcel lockers of centralized mail receptacles shall be accessible.

1001.2.1.2 Individual house-mounted and curbside mail receptacles. Where an individual house-mounted or curbside mail receptacle serves a dwelling unit or sleeping unit that is required to be an Accessible unit, Type A unit or Type B unit, the mail receptacle shall be accessible.

10-4– 12
1002.5, 1003.5

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

1002.5 Doors and Doorways. The primary entrance door to the unit, and all other doorways intended for user passage, shall comply with Section 404.

EXCEPTIONS:

1. Existing doors to hospital patient sleeping rooms shall be exempt from the requirement for space at the latch side provided the door is 44 inches (1120 mm) minimum in width.
2. In toilet rooms and bathrooms not required to comply with Section 1002.11.2, maneuvering clearances required by Section 404.2.3 are not required on the toilet room or bathroom side of the door.
3. A turning space between doors in a series as required by Section 404.2.5 is not required.
4. Storm and screen doors are not required to comply with Section 404.2.5.
5. Communicating doors between individual sleeping units are not required to comply with Section 404.2.5.
6. At other than the primary entrance door, where exterior space dimensions of balconies are less than the required maneuvering clearance, door maneuvering clearance is not required on the exterior side of the door.
7. The maneuvering clearances required by Section 404 are not required within a closet or pantry complying with Exception 2 of Section 1002.3.2.

1003.5 Doors and Doorways. The primary entrance door to the unit, and all other doorways intended for user passage, shall comply with Section 404.

EXCEPTIONS:

1. Thresholds at exterior sliding doors shall be permitted to be $^{3}/_{4}$ inch (19 mm) maximum in height, provided they are beveled with a slope not greater than 1:2.
2. In toilet rooms and bathrooms not required to comply with Section 1003.11.2, maneuvering clearances required by Section 404.2.3 are not required on the toilet room or bathroom side of the door.
3. A turning space between doors in a series as required by Section 404.2.5 is not required.
4. Storm and screen doors are not required to comply with Section 404.2.5.
5. Communicating doors between individual sleeping units are not required to comply with Section 404.2.5.
6. At other than the primary entrance door, where exterior space dimensions of balconies are less than the required maneuvering clearance, door maneuvering clearance is not required on the exterior side of the door.
7. The maneuvering clearances required by Section 404 are not required within a closet or pantry complying with Exception 2 of Section 1003.3.2.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

This proposal is intended to coordinate with a change made in Sections 1002.3.2 and 1003.3.2 of the 2009 standard and to clean up a technical inconsistency.

The 2009 standard added an exception for Accessible and Type A units which eliminates the turning space requirements from small closets and pantries. Because the doors to these spaces are still considered as being "intended for user passage", the standard would technically still require the door maneuvering space within the closet. Since the space is of such a limited size and will not provide adequate space to turn around, the door will only be approachable from within the space by reversing the course used to enter. In addition, the size of the closet or pantry is limited to maximum 48 inch depth although most maneuvering clearances require a 48 inch minimum depth or greater. Therefore none of the door maneuvering clearances specified in Section 404 would work within the space.

I have submitted this proposal to only address the closets and pantries which are addressed in Exception 2 of both Sections 1002.3.2 and 1003.3.2. I believe it is easily apparent that the exclusion of door maneuvering clearances is appropriate for those situations. In reality, the new exceptions should address any space which does not provide a turning space within the room. Therefore I will suggest an alternate for the committee to consider which would pick up both the toilet and bathing rooms of Exception 1 (Sections 1002.3.2 and 1003.3.2) as well as the closets and pantries mentioned previously. The suggested alternate would be:

7. The door maneuvering clearances from Section 404 are not required within a room or space which does not provide a turning space complying with Section 1002.3.2. (1003.3.2 for Type A)

While it may seem to be a bigger issue to eliminate the door maneuvering clearance within the nonaccessible toilet and bathing rooms; the reality of the matter is that regardless of what the space is, if there is no adequate space to turn around within it, then there is no option to approach the door from any direction other than by reversing the entry path.

1002.5-PAARLBERG.doc

Committee Action

Approved

Committee Reason: The change provides correlation with revisions to the 2009 Standard.

BALLOT COMMENTS

10-4.1

Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: The text of this is not understandable. I am not sure what the proposal means and fear it would be impossible to implement.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval of this proposal.

10-6– 12
1002.9, 1003.9

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

1002.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, ~~operating hardware for operable windows~~, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS: (no change to exceptions)

1003.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, ~~operating hardware for operable windows~~, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS: (no change to exceptions)

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The text related to the operating hardware for operable windows should be eliminated from Sections 1002.9 and 1003.9 since it will create confusion and conflicts with the revised window requirements that were put into Sections 1002.13 and 1003.13 during the development cycle for the 2009 standard.

The requirements for windows in Sections 1002.13 and 1003.13 only reference specific sections of Section 309 while the operable parts requirements of Sections 1002.9 and 1003.9 reference all of Section 309. Therefore the operable parts sections are requiring compliance with portions of Section 309 that are not required by the window provisions.

If the committee does not want to delete the indicated text from Sections 1002.9 and 1003.9 then an additional exception should be added to those sections which would reference the window provisions of Section 1002.13 or 1003.13 respectively.

1002.9-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: For consistency with the Committee's action on proposal 5-22-12

BALLOT COMMENTS

10-6.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: Window hardware is being addressed with 5-22.

10-6.2
Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: The proposal should be approved. The actions on 5-22 can stand individually. While 5-22 intends to make changes to multiple sections in Chapters 5 and 10, this proposal seeks only to change the base sections 1002.9 and 1003.9. Section 1002.13

and 1003.13 already contain the specific requirements for windows and make reference to the applicable portions of Section 309. Keeping the text in 1002.9 and 1003.9 adds confusion.

PROPONENT COMMENT

10-6.3

Proponent: Kim Paarlberg, Representing ICC

Requests the proposal be Approved as Submitted

Reason: Window hardware is being addressed with a proposal for 5-22. Window hardware is already addressed within dwelling units in Sections 1002.13 and 1003.13. Therefore, it should not be repeated here. It causes a conflict.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: Window hardware is now covered in other provisions of the standard. Referencing it in these provisions is no longer appropriate.

10-7– 12
1002.9, 1003.9, 1004.9

Proposed Change as Submitted

Proponent: Dominic Marinelli, representing United Spinal Association

Revise as follows:

1002.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, operating hardware for operable windows, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

17. Receptacle outlets serving a dedicated use.
18. ~~Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with 309.~~ In kitchens, kitchenettes, toilet and bathing facilities, receptacle outlets and switches shall comply with Section 1002.9.1.
19. Floor receptacle outlets.
20. HVAC diffusers.
21. Controls mounted on ceiling fans.
22. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
23. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
24. Electrical panelboards shall not be required to comply with Section 309.4.

1002.9.1 Receptacle outlets and switches in kitchens, kitchenettes and toilet and bathing facilities. Receptacle outlets and switches in toilet and bathing facilities complying with Section 1002.11.2 and kitchens shall be provided as specified in Sections 1002.9.1.1 through 1002.9.1.4. Outlets and switches in toilet and bathing facilities no complying with Section 1002.11.2 and kitchenettes shall be provided as specified in Sections 1002.9.1.3 and 1002.9.1.4.

1002.9.1.1 Receptacle outlets required in kitchens. In kitchens, receptacle outlets must be provided at the following locations:

1. A receptacle outlet must be provided over the work surface and comply with Section 308.2.2 (forward obstructed reach range).
2. A receptacle outlet must be provided on one side of the sink less than 12 inches horizontally from the inside face of the sink bowl and 44 inches maximum above the floor level. Receptacle outlets are permitted to be located over adjacent counters or cabinets that are 36 inches (915 mm) maximum.

1002.9.1.2 Receptacle outlets required in toilet and bathing facilities. In toilet and bathing facilities complying with Section 1002.11.2, an outlet shall be provided on one side of the lavatory complying with Section 606, less than 12 inches horizontally from the inside face of the lavatory bowl.

1002.9.1.3 Other receptacle outlets. In kitchens, kitchenettes and toilet and bathing facilities, receptacle outlets shall be provided in accordance with the electrical code. Where outlets are provided over counter tops 18 inches or greater in length, at least one outlet per counter length shall be located a minimum of 12 inches horizontally from a cabinet return, perpendicular wall or refrigerator. Receptacle

outlets are permitted to be located over cabinets with counter tops 36 inches (915 mm) maximum in height and 25 1/2 inches (650 mm) maximum in depth.

EXCEPTION: Receptacle outlets within 36 inches horizontally from an inside corner at intersecting counter top runs are not required to comply with this section.

1002.9.1.4 Switches. In kitchens, kitchenettes, and bathing and toilet facilities switches shall comply with the following as applicable:

4. Light switches are permitted to be located over cabinets or counter tops 36 inches (915 mm) maximum in height where the reach depth is 10 inches or less.
5. Switches for lights and for control of garbage disposals are permitted to be located in the same area as the receptacle outlets in Section 1002.9.1.1 Item 2.
6. Redundant controls for range hoods are permitted over the work surface complying with Section 308.2.2 adjacent to the range, or adjacent to cooktops provide with front approach at a location where access to controls does not require reaching across burners.

1003.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, operating hardware for operable windows, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

9. Receptacle outlets serving a dedicated use.
10. ~~Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with Section 309.~~ Receptacle outlets and switches in kitchens, kitchenettes and toilet and bathing facilities shall comply with Section 1003.9.1.
11. Floor receptacle outlets.
12. HVAC diffusers.
13. Controls mounted on ceiling fans.
14. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
15. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
16. Electrical panelboards shall not be required to comply with Section 309.4.

1003.9.1 Receptacle outlets and switches in kitchens and bathrooms. Receptacle outlets and switches in bathrooms complying with Section 1003.11.2 and in kitchens, shall be provided as specified in Sections 1003.9.1.1 through 1003.9.1.4. Receptacle outlets and switches in toilet and bathing facilities not complying with Section 1003.11.2 and kitchenettes shall be provided as specified in Sections 1003.9.1.3 and 1003.9.1.4.

1003.9.1.1 Receptacle outlets required in kitchens. In kitchens, receptacle outlets must be provided at the following locations:

1. A receptacle outlet must be provided over the work surface and comply with Section 308.2.2 (forward obstructed reach range).
2. A receptacle outlet must be provided on one side of the sink less than 12 inches horizontally from the inside face of the sink bowl and 44 inches maximum above the floor level. Receptacle outlets are permitted to be located over adjacent counters or cabinets that are 36 inches (915 mm) maximum.

1003.9.1.2 Receptacle outlets required in toilet and bathing facilites. In toilet and bathing facilities complying with Section 1003.11.2, a receptacle outlet shall be provided on one side of the lavatory complying with Section 1003.11.2.2, less than 12 inches horizontally from the inside face of the lavatory bowl.

1003.9.1.3 Other receptacle outlets. In kitchens, kitchenettes and toilet and bathing facilities, receptacle outlets shall be provided in accordance with the electrical code. Where outlets are provided over counter tops 18 inches or greater in length, at least one receptacle outlet per counter length shall be located a minimum of 12 inches horizontally away from cabinet return, perpendicular wall or refrigerator. Receptacle outlets are permitted to be located over cabinets with counter tops 36 inches (915 mm) maximum in height and 25 $^{1}/_{2}$ inches (650 mm) maximum in depth.

EXCEPTION: Receptacle outlets within 36 inches horizontally from an inside corner at intersecting countertop runs are not required to comply with this section.

1003.9.1.4 Switches. In kitchens, kitchenettes, and toilet and bathing facilities switches shall comply with the following as applicable:

1. Light switches are permitted to be located over cabinets or counter tops 36 inches (915 mm) maximum in height where the reach depth is 10 inches or less.
2. Switches for lights and for control of garbage disposals are permitted to be located in the same area as the outlets in Section 1003.9.1.1 Item 2.
3. Redundant controls for range hoods are permitted over the counter adjacent to the range or cooktops at a location where access to controls does not require reaching across burners.

1004.9 Operable Parts. Lighting controls, electrical switches and receptacle outlets, environmental controls, electrical panelboards, and user controls for security or intercom systems shall comply with Sections 309.2 and 309.3.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. ~~Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with Section 309.~~ Outlets and switches in kitchens, kitchenettes and toilet and bathing facilities that comply with Section 1004.9.1.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Controls or switches mounted on appliances.
7. Plumbing fixture controls. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
8. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
9. ~~Within kitchens and bathrooms, lighting controls, electrical switches and receptacle outlets are permitted to be located over cabinets with counter tops 36 inches (915 mm) maximum in height and 25 $^{1}/_{2}$ inches (650 mm) maximum in depth.~~

1004.9.1 Receptacle outlets and switches in kitchens, kitchenettes and toilet and bathing facilities. Receptacle outlets and switches in kitchen, kitchenettes and toilet and bathing facilities shall be provided as specified in Sections 1004.9.1.1 and 1004.9.1.2.

1004.9.1.1 Receptacle outlets. In kitchens, kitchenettes and toilet and bathing facilities, receptacle outlets shall be provided in accordance with the electrical code. Where receptacle outlets are provided over counter tops 18 inches or greater in length, at least one outlet per counter length shall be located a minimum of 12 inches horizontally away from cabinet return, perpendicular wall or refrigerator. Receptacle outlets are permitted to be located over cabinets with counter tops 36 inches (915 mm) maximum in height and 25 $^{1}/_{2}$ inches (650 mm) maximum in depth.

EXCEPTION: Receptacle outlets within 36 inches horizontally from an inside corner at intersecting countertop runs are not required to comply with this section.

1004.9.1.2 Switches. In kitchens, kitchenettes and toilet and bathing facilities switches are permitted to be located over cabinets or counter tops 36 inches (915 mm) maximum in height and 25 $^{1}/_{2}$ inches (650 mm) maximum in depth.

Reason: The Reach Range subgroup of the Wheeled Mobility Task Group examined the data provided by the Wheeled Mobility Research project and has attempted to use this data in conjunction with NEC requirements for outlets in kitchens and bathrooms to come up with standards that will provide the most usability as possible for outlets in Accessible, Type A and Type B units.

The reach range subgroup's goal is to take a different approach and call out those outlets that must be accessible, exempting the remaining outlets in kitchens and toilet/bathing rooms. From a construction standpoint, this approach is likely less restrictive than the current scoping in A117.1 and from a Usability perspective, we have used the data provided from the Wheeled Mobility Research Project, to identify those locations for receptacles that will benefit the largest number of wheelchair users while also working within the technical requirements of the NEC.

Several background issues the subgroup considered when constructing this language are as follows:

The most important issue which has not been solved to date regardless of the NEC i.e., even though Type B unit countertops are permitted to be 25½ inches deep and 36 inches high (ANSI 1004.9 Exception 10, which is in line with FHA) compliance with 1004.9, Exception 2 can never be achieved if appliances which project beyond the countertop edge "push back" the CFS and prevent it from being positioned for a side approach flush up against the countertop edge such that the reach depth to outlets at the backsplash does not exceed 24 inches recognizing the allowance for a 25½-inch deep countertop. The only time compliance with Exception 2 can be achieved is when base cabinet runs are no less than 48 inches such that the side approach can be positioned up against the base cabinet without obstruction by appliances. This is rare in many cases and certainly not expected, required or contemplated by any requirement. Practically speaking, appliances project beyond countertop edges so requiring that appliances do not project beyond countertops is not feasible.

All of the above is true for Type A units at 1003.9 (and all common area kitchens/kitchenettes) except outlets are not accessible when mounted above counters deeper than 24 inches (side approach) and higher than 34 inches. Achieving compliance with Exception 2 at 1003.9 is always challenging in the Type A unit; if compliance with Exception 2 is required in Type A units (and common area kitchens and kitchenettes), then shouldn't it be required that all countertops in Type A unit kitchens (and common area kitchens and kitchenettes) be no higher than 34 inches? We know this is not required. Because this is not required then all outlets over 36-inch high countertops, which are permitted in Type A units (such as those located above the dishwasher) are not accessible and are in violation of Exception 2, always. Bringing outlets to the front of base cabinets is not practical and draping chords are certainly dangerous. In addition, there is the issue of the loss of the drawer at that location and the additional costs for that type of outlet. Even adding outlets to a side wall where a countertop runs into a wall on one side is not a way to meet compliance when the countertop is higher than 34 inches.

If only one 30-inch wide section of counter in a Type A unit is required to serve as the accessible work area (fixed at 34 inches AFF or adjustable), then only outlets above this work counter should be required to be accessible. This is certainly practical and can always be achieved. Since a front approach must be provided below this work counter (open or removable base cabinet), the language in the attached proposal clarifies that no less than one outlet must be located above the 30-inch wide work counter; and, it must be no higher than 44 inches AFF. This would guarantee that at least one outlet over the required 30-inch wide work counter will be accessible when the base cabinet below the work surface is removed to provide the front approach. The same logic applies to the sink in Accessible and Type A units - hence the recommendation to provide an accessible outlet adjacent to the sink.

The attached proposal attempts to require that in Accessible and Type A kitchens, an outlet would be required at the work surface and immediately adjacent to the sink.

In Accessible and Type A bathrooms, an outlet would be required adjacent to the accessible lavatory.

Following are several examples of kitchens where the group looked at compliance with the new provisions.

1002.9-MARINELLI.doc

Committee Action

Disapproved

Committee Reason: The Committee had many concerns that the proposal would result in more outlets/receptacles than is really necessary in these rooms. It was suggested that the National Electric Code provides better language than that proposed. It would seem to require an outlet right adjacent to a sink which would be a problem. The Committee agreed with the idea of required outlets at accessible work surfaces, however the verbiage for the 12 inches from the corner over the non-accessible portions of the counter wasn't needed.

BALLOT COMMENTS

10-7.1

Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Revise as follows:

1002.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, operating hardware for operable windows, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. ~~Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with 309.~~ In kitchens, kitchenettes, toilet and bathing facilities, receptacle outlets and switches shall comply with Section 1002.9.1.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
7. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
8. Electrical panelboards shall not be required to comply with Section 309.4.

1002.9.1 Receptacle outlets and switches located over obstructions. Receptacle outlets and switches in toilet and bathing facilities complying with Section 1002.11.2 and kitchens shall comply with Sections 309.2 and 309.4 be provided as specified in Sections 1002.9.1.1 through 1002.9.1.4.

1002.9.1.1 Receptacle outlets required in kitchens. In kitchens, receptacle outlets shall be provided at the following locations:

1. At least one receptacle outlet shall comply with 309.3
2. At least one receptacle outlet shall be provided above the work surface no higher than 44 inches (1120 mm) maximum above the floor level to the highest outlet.
3. Additional receptacle outlets shall be no higher than 44 inches (1120 mm) maximum above the floor level to the highest outlet.
4. Receptacle outlets located over base cabinets shall be positioned at least 36 inches (915 mm) from any inside corner.

1002.9.1.2 Receptacle outlets required in toilet and bathing facilities. In toilet and bathing facilities complying with Section 1002.11.2, an outlet shall be provided on one side of the accessible lavatory no higher than 44 inches maximum above the floor level to the highest outlet.

1002.9.1.4 Switches. In kitchens, kitchenettes, and bathing and toilet facilities switches shall comply with the following as applicable:

1. Light switches are permitted to be located over cabinets or counter tops 36 inches (915 mm) maximum in height where the reach depth is 10 inches or less.
2. Switches for lights, for control of garbage disposals and redundant controls for range hood exhaust shall be no higher than 44 inches (1120 mm) maximum above the floor level to the highest outlet.

1003.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, operating hardware for operable windows, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. ~~Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with Section 309.~~ Receptacle outlets and switches in kitchens, kitchenettes and toilet and bathing facilities shall comply with Section 1002.9.1.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
7. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.

8. Electrical panelboards shall not be required to comply with Section 309.4.

1004.9 Operable Parts. Lighting controls, electrical switches and receptacle outlets, environmental controls, electrical panelboards, and user controls for security or intercom systems shall comply with Sections 309.2 and 309.3.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. ~~Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with Section 309.~~ Outlets and switches in kitchens, kitchenettes and toilet and bathing facilities that comply with Section 1002.9.1.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Controls or switches mounted on appliances.
7. Plumbing fixture controls. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
8. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
9. ~~Within kitchens and bathrooms, lighting controls, electrical switches and receptacle outlets are permitted to be located over cabinets with counter tops 36 inches (915 mm) maximum in height and 25 $^{1}/_{2}$ inches (650 mm) maximum in depth.~~

Comment: There is currently no way to meet the requirement in the standard without either adding outlets to the face of the base cabinet or the top of the counter. Neither are viable solutions. The main concern is the allowable 24-inch reach depth due to the physical 25-1/2 inch counter depth. See attached sheet at the end of the ballot for a suggested amendment.

10-7.2

Comment Rescinded.

10-7.3

Commenter: Cheryl D. Kent, Representing HUD
Ballot: Negative with comment:

Comment: I believe the Committee did not give the proponent a sufficient opportunity to explain this proposal, section by section, as well as explain the full range of reasons that the proposal was submitted. I think the proponent should have another opportunity to walk the Committee through this proposal and/or through any changes the proponent chooses to make to the proposal.

10-7.4

Commenter: Dominic Marinelli, Representing USA
Ballot: Negative with comment:

Comment: Reconsider those sections that the committee did not have a problem with for Accessible and Type A units along with 10-8-12 proposal for Type B units.

1002.9.1.1 Receptacle outlets required in kitchens. In kitchens, receptacle outlets must be provided at the following locations:

1. A receptacle outlet must be provided over the work surface and comply with Section 308.2.2 (forward obstructed reach range).

1003.9.1.1 Receptacle outlets required in kitchens. In kitchens, receptacle outlets must be provided at the following locations:

1. A receptacle outlet must be provided over the work surface and comply with Section 308.2.2 (forward obstructed reach range).

1004.9 Operable Parts. Lighting controls, electrical switches and receptacle outlets, environmental controls, electrical panelboards, and user controls for security or intercom systems shall comply with Sections 309.2 and 309.3.

2. Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with Section 309. For each length of countertop, at least one receptacle outlet shall comply with Section 309.
9. Within kitchens and bathrooms, lighting controls, electrical switches and receptacles outlets are permitted to be located over cabinets with counter tops 36 inches (915 mm) maximum and 25 ½ inches (650 mm) maximum in depth.
11. Electrical panelboards shall not be required to comply with Section 309.4.

10-7.5

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Electrical outlets over counters in kitchens was an issue identified during the last cycle. The committee wanted to wait for the information from Dr. Steinfeld for reach over obstructions. The data from Dr. Steinfeld does not include this information. Assumptions seem to be that it is not possible to reach over either a 34" or 36" high counter with an obstructed side reach. Options of putting the outlets in the counter or on the fronts of the cabinets are expensive and offer a safety hazard with the cord overhanging. The option of putting them under the upper cabinets was also discussed to decrease the reach, but that would be too high to be within the current reach range.

United Spinal tried to address both the idea of having outlets within the reach of someone using a wheelchair in and Accessible and Type A units, at the same time as placing other outlets where they would be acceptable to HUD for Type B units. This issue should be split to address each idea separately.

Really the only place to locate an outlet where you balance accessibility, safety and cost is at the accessible work surface. Placement of outlets over other counter surfaces is controlled by the Energy Code. Utilization of the outlets could be by leaving items plugged in, or using extension cords.

I would also like to limit this discussion to outlets. Switches can be addressed by other design methods.

Replace proposal as follows:

1002.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, operating hardware for operable windows, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. ~~Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with 309.~~ Receptacle outlets in kitchens except where required by Section 1002.9.1.
3. Receptacle outlets in kitchenettes, toilet and bathing facilities.
4. Floor receptacle outlets.
5. HVAC diffusers.
6. Controls mounted on ceiling fans.
7. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
8. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
9. Electrical panelboards shall not be required to comply with Section 309.4.

1002.9.1 Receptacle outlets in kitchens. At least one receptacle outlet shall be provided over the accessible work surface and the receptacle outlet shall comply with Section 308.2.2 (forward obstructed reach range).

1003.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, operating hardware for operable windows, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. ~~Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with 309.~~ Receptacle outlets in kitchens except where required by Section 1003.9.1.
3. Receptacle outlets in kitchenettes, toilet and bathing facilities.
4. Floor receptacle outlets.
5. HVAC diffusers.
6. Controls mounted on ceiling fans.
7. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
8. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
9. Electrical panelboards shall not be required to comply with Section 309.4.

1003.9.1 Receptacle outlets in kitchens. At least one receptacle outlet shall be provided over the accessible work surface and the receptacle outlet shall comply with Section 308.2.2 (forward obstructed reach range).

Proponent Comment

10-7.6

Proponent: Dominic Marinelli, representing United Spinal Association

Replace the proposal with the following:

Accessible units -
1002.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, operating hardware for operable windows, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. ~~Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with 309.~~ Receptacle outlets located over counters in kitchens, other than those required by Section 1002.9.1.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
7. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
8. Electrical panelboards shall not be required to comply with Section 309.4.

1002.9.1 Receptacle outlets required in kitchens. At least one receptacle outlet shall be provided over the accessible work surface and the receptacle outlet shall comply with Section 309.

Type A units –

1003.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, operating hardware for operable windows, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. ~~Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with Section 309.~~ Receptacle outlets located over counters in kitchens, other than those required by Section 1003.9.1.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
7. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
8. Electrical panelboards shall not be required to comply with Section 309.4.

1003.9.1 Receptacle outlets required in kitchens. At least one receptacle outlet shall be provided over the accessible work surface and the receptacle outlet shall comply with Section 309.

Type B units -
1004.9 Operable Parts. Lighting controls, electrical switches and receptacle outlets, environmental controls, electrical panelboards, and user controls for security or intercom systems shall comply with Sections 309.2 and 309.3.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. ~~Where two or more receptacle outlets are provided~~ In a kitchen, where receptacles are located above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with ~~Section 309~~ Sections 309.2 and 309.3.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Controls or switches mounted on appliances.
7. Plumbing fixture controls. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
8. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.

9. Within kitchens, kitchenettes and bathrooms, lighting controls, electrical switches and receptacle outlets are permitted to be located over cabinets with counter tops 36 inches (915 mm) maximum in height and 25-1/2 inches (650 mm) maximum in depth.

Reason: Dr. Steinfelds information did not provide us with technical information about reaches over obstruction. Dr. Steinfeld did suggest raising the knee and toe clearance to increase access for front approach, but the committee voted disapproval since they felt that raising the front approach counter to 36" would reduce access.

It the interest of cost effectiveness and the ability to buy stock appliances and cabinets it seems reasonable to allow for most of the kitchen lower cabinets to be at 36" high. With that assumption, the best location for accessible outlets is at the accessible work surface. The pop-up outlets or front of counter outlets reduce accessible storage, are expensive, and increase the chances of the electrical appliance being pulled off the counter (i.e., this is a safety issue). In addition, many counter top appliances are typically left plugged in in other locations (i.e., microwaves, toasters, coffee maker).

Therefore, the intent of this proposal is to require outlets at the accessible work surface in Accessible units and Type A units, and exempt other outlets in the kitchen.

In Type B units, Exception 2 matches the main text. In Exception 9, kitchenettes are common in dormitory and assisted living set ups.

10-7.7

Proponent: Dominic Marinelli, representing United Spinal Association

Replace the proposal with following:

Type B units only.

1004.9 Operable Parts. Lighting controls, electrical switches and receptacle outlets, environmental controls, electrical panelboards, and user controls for security or intercom systems shall comply with Sections 309.2 and 309.3.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. ~~Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with Section 309.~~ Outlets and switches in kitchens, kitchenettes and toilet and bathing facilities that comply with Section 1004.9.1.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Controls or switches mounted on appliances.
7. Plumbing fixture controls. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
8. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
9. ~~Within kitchens and bathrooms, lighting controls, electrical switches and receptacle outlets are permitted to be located over cabinets with counter tops 36 inches (915 mm) maximum in height and 25 $^{1}/_{2}$ inches (650 mm) maximum in depth.~~

1004.9.1 Receptacle outlets and switches in kitchens, kitchenettes and toilet and bathing facilities. Receptacle outlets and switches in kitchen, kitchenettes and toilet and bathing facilities shall be provided as specified in Sections 1004.9.1.1 and 1004.9.1.2.

1004.9.1.1 Receptacle outlets. In kitchens, kitchenettes and toilet and bathing facilities, receptacle outlets shall be provided in accordance with the electrical code. Where receptacle outlets are provided over counter tops 18 inches or greater in length, at least one outlet per counter length shall be located a minimum of 12 inches horizontally away from cabinet return, perpendicular wall or refrigerator. Receptacle outlets are permitted to be located over cabinets with counter tops 36 inches (915 mm) maximum in height and 25 $^{1}/_{2}$ inches (650 mm) maximum in depth.

EXCEPTION: Receptacle outlets within 36 inches horizontally from an inside corner at intersecting countertop runs are not required to comply with this section.

1004.9.1.2 Switches. In kitchens, kitchenettes and toilet and bathing facilities switches are permitted to be located over cabinets or counter tops 36 inches (915 mm) maximum in height and 25 $^{1}/_{2}$ inches (650 mm) maximum in depth.

Reason: In Type B units (FHA units), USA has been reviewing projects that have been cited for issues regarding the location of outlets and switches. There is a concern that outlets do not meet the requirements in the Fair Housing Design Manual that requires outlets to be located at least 12" away from any vertical obstruction (such as a refrigerator, end wall, wall ovens).

The intent of this proposal is to locate outlets required by the electrical code in such a manner that they are reachable by a person using a side approach over a 36" high counter. The intent is to be consistent with FHA. This clarification will go a long way towards reducing complaints in Type B kitchens regarding outlet placement. It is not the intent to require additional outlets.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: Based on the approval of a revised item 10-8-12, this proposal is not needed and remains disapproved.

10-8– 12
1002.9, 1003.9, 1004.9

Proposed Change as Submitted

Proponent: Cheryl Kent, representing U.S. Department of Housing and Urban Development

Revise as follows:

1002.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, operating hardware for operable windows, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. ~~Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with 309.~~ For each length of countertop, at least one receptacle outlet shall comply with Section 309.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
7. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
8. Electrical panelboards shall not be required to comply with Section 309.4.
9. Within kitchens and bathrooms, lighting controls, electrical switches and receptacles outlets are permitted to be located over cabinets with counter tops 36 inches (915 mm) maximum and 25 ½ inches (650 mm) maximum in depth.

1003.9 Operable Parts. Lighting controls, electrical panel boards, electrical switches and receptacle outlets, environmental controls, appliance controls, operating hardware for operable windows, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. ~~Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with Section 309.~~ For each length of countertop, at least one receptacle outlet shall comply with Section 309.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
7. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
8. Electrical panelboards shall not be required to comply with Section 309.4.
9. Within kitchens and bathrooms, lighting controls, electrical switches and receptacles outlets are permitted to be located over cabinets with counter tops 36 inches (915 mm) maximum and 25 ½ inches (650 mm) maximum in depth.

1004.9 Operable Parts. Lighting controls, electrical switches and receptacle outlets, environmental controls, electrical panelboards, and user controls for security or intercom systems shall comply with Sections 309.2 and 309.3.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. ~~Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with Section 309.~~ For each length of countertop, at least one receptacle outlet shall comply with Section 309.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Controls or switches mounted on appliances.
7. Plumbing fixture controls.
8. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
9. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
10. Within kitchens and bathrooms, lighting controls, electrical switches and receptacle outlets are permitted to be located over cabinets with counter tops ~~of~~ 36-inch (915 mm) maximum in height and 25-1/2 inches (650 mm) maximum in depth.
11. Electrical panelboards shall not be required to comply with Section 309.4.

Reason: The Department believes that providing accessible switches and outlets in Accessible, Type A and Type B kitchens is problematic due to the depth of most of the appliances, as well as the standard overhang of the countertop, which typically creates a depth for the obstruction (countertop and cabinet) of 25 to 25 ½ inches. In addition, the location of the appliances and their related depth typically makes it difficult if not impossible to achieve a full 48-inch parallel approach at the electrical outlet and/or switch because the greater depth of the appliance makes it not possible to achieve a close parallel approach. This proposal attempts to address these problems. In addition, in the Type B Unit, the circuit breaker box/electrical panel board is not required to be accessible, and although it has not been identified as an exception for Type B units under Section 1004.9, and therefore, apparently is currently required to be accessible for Type B units, we believe adding an exception that is consistent with the exception for Accessible and Type A units is appropriate.

Committee Action: AS AM D

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Committee Action

Disapproved

Committee Reason: The proposal doesn't improve the code. The proposed text is not clear.

BALLOT COMMENTS

10-8.1

Commenter: Gerald Gross, Representing AHLA
Ballot: Negative with comment:

Comment: Type A and B dwelling units have 36" high kitchen counters. The reach ranges now specified within the A and B dwelling units are flawed due to the fact that the required reach ranges of Section 308.3 as referenced within Sections 1003.9 and 1004.9 do not allow for an unobstructed side reach over any obstruction more than 34" above the finished floor. Because of this section no receptacle outlets maybe located above any kitchen counters over 34" in height.
In addition:

1. the electrical code requires receptacles within the kitchen, and
2. any placement of receptacles on the face of a counter or cabinets maybe hazardous.

The proposal should be approved.

10-8.2

Commenter: Cheryl D. Kent, Representing HUD
Ballot: Negative with comment:

Comment: I am voting negative as I would like the opportunity to have changes I am making to this proposal be considered by the Committee. My notes on the reasons for disapproval are limited as I cannot watch the sign language interpreters and take full notes at the same time, however, here are some of what I believe were reasons for disapproval, and how I am addressing them at this time. I am including a preliminary draft revised proposal below, but may want to offer other options during the July meeting.

Some of the reasons for disapproval were (1) that Exception 2 to 1002.9 and 1003.9 sends users to 309 and 309 sends the user to 308, which are the reach ranges provisions. My response to this: That is also true for Section 1004.9, however, the language I included in new Exception 9 to 1002.9 and 1003.9 is the same as language that is currently in Exception 10 to 1004.9. If this is not a problem under Section 1004.9, it is unclear why it is a problem under 1002.9 and 1003.9
(2) The language I offered for revised Exception 2 did not include the necessary triggering "where provided" language. My response: I have revised Exception 2 to include this triggering language. (3) New exception 11 to 1004.9 is not needed because the charging paragraph only requires compliance with 309.2 and 309.3. My response: I have deleted Exception 11.

Revise as follows:

309 Operable Parts
309.1 General. Operable parts required to be accessible shall comply with Section 309.
309.2 Clear Floor Space. A clear floor space complying with Section 305 shall be provided.
309.3 Height. Operable parts shall be placed within one or more of the reach ranges specified in Section 308.
309.4 Operation. Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5.0 pounds (22.2 N) maximum.

EXCEPTION: Gas pump nozzles shall not be required to provide operable parts that have an activating force of 5.0 pounds (22.2 N) maximum.

1002.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, operating hardware for operable windows, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

25. Receptacle outlets serving a dedicated use.
26. Where two or more receptacle outlets are provided in a kitchen above a length of counter top ~~that is uninterrupted by a sink or appliance~~, one receptacle outlet shall not be required to comply with 309.
27. Floor receptacle outlets.
28. HVAC diffusers.
29. Controls mounted on ceiling fans.
30. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
31. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
32. Electrical panelboards shall not be required to comply with Section 309.4.
33. Within kitchens and bathrooms, lighting controls, electrical switches and receptacles outlets are permitted to be located over cabinets with counter tops 36 inches (915 mm) maximum in height and 25 ½ inches (650 mm) maximum in depth.

1003.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, operating hardware for operable windows, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. Where two or more receptacle outlets are provided in a kitchen above a length of counter top ~~that is uninterrupted by a sink or appliance~~, one receptacle outlet shall not be required to comply with 309.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.

7. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
8. Electrical panelboards shall not be required to comply with Section 309.4.
9. Within kitchens and bathrooms, lighting controls, electrical switches and receptacles outlets are permitted to be located over cabinets with counter tops 36 inches (915 mm) maximum in height and 25 ½ inches (650 mm) maximum in depth.

1004.9 Operable Parts. Lighting controls, electrical switches and receptacle outlets, environmental controls, electrical panelboards, and user controls for security or intercom systems shall comply with Section 309.2 and 309.3.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. Where two or more receptacle outlets are provided in a kitchen above a length of counter top ~~that is uninterrupted by a sink or appliance~~, one receptacle outlet shall not be required to comply with 309.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Controls or switches mounted on appliances.
7. Plumbing fixture controls.
8. Reset buttons serving appliances, piping and plumbing fixtures.
9. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
10. ~~10.~~ Within kitchens and bathrooms, lighting controls, electrical switches and receptacles outlets are permitted to be located over cabinets with counter tops 36 inches (915 mm) maximum in height and 25 ½ inches (650 mm) maximum in depth.
11. ~~11. Electrical panelboards shall not be required to comply with 309.4.~~

Reason for the proposed change:
HUD believes that providing accessible switches and outlets in Accessible, Type A and Type B kitchens is problematic due to the depth of most of the appliances, as well as the standard overhang of the countertop, which typically creates a depth for the obstruction (countertop and cabinet) of 25 to 25 ½ inches. In addition, the location of the appliances and their related depth, as well as corners or walls, typically makes it difficult if not impossible to achieve a full 48-inch parallel approach at the electrical outlet because the greater depth of the appliance makes it not possible to achieve a close parallel approach. To address this concern, this proposal would require only one electrical receptacle that is located along a length of kitchen countertop to be accessible, irrespective of whether the countertop is interrupted by a sink or appliance. Further, the provisions for kitchen counter tops for accessible and Type A units makes it evident that counter tops other than the one that is the work surface and the one that includes the sink, may be higher than 34 inches, that is, at the standard height of 36 inches. This automatically creates a non-compliance issue for outlets located above the 36-inch high counter tops. The Type B Unit language includes an exception related to the counter top height, and this exception has been added to the Accessible and Type A Units to address this concern.

10-8.3

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: It still is not possible to provide outlets that comply with Section 309 without have a counter at a maximum height of 34 inches. The proposal to 10-7 will address the issue of providing receptacle outlets for person using wheelchairs. This proposal will address what is required for Type B dwelling units. In order for there to be the sequential step down from Accessible to Type A to Type B, other outlets in the kitchen area and bathroom have to comply with the same provisions as Type B units.

The proposal to add Exception 10 is not needed since the main paragraph does not require 5 lbs. force (Section 309.4) for any element in Type B units.

Replace the proposal will the following. This will address Type B units requirements only (similar to the blocking in the walls even in non-accessible bathrooms)!

1002.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, operating hardware for operable windows, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. ~~Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with 309.~~
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.

6. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
7. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
8. Electrical panelboards shall not be required to comply with Section 309.4.
9. Within kitchens and bathrooms, lighting controls, electrical switches and receptacles outlets are permitted to be located over cabinets with counter tops 36 inches (915 mm) maximum and 25 ½ inches (650 mm) maximum in depth. For each length of counter top, at least one receptacle outlet shall be located adjacent to a clear floor space.

1003.9 Operable Parts. Lighting controls, electrical panel boards, electrical switches and receptacle outlets, environmental controls, appliance controls, operating hardware for operable windows, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. ~~Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with Section 309.~~
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
7. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
8. Electrical panelboards shall not be required to comply with Section 309.4.
9. Within kitchens and bathrooms, lighting controls, electrical switches and receptacles outlets are permitted to be located over cabinets with counter tops 36 inches (915 mm) maximum and 25 ½ inches (650 mm) maximum in depth. For each length of counter top, at least one receptacle outlet shall be located adjacent to a clear floor space.

1004.9 Operable Parts. Lighting controls, electrical switches and receptacle outlets, environmental controls, electrical panelboards, and user controls for security or intercom systems shall comply with Sections 309.2 and 309.3.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. ~~Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with Section 309.~~
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Controls or switches mounted on appliances.
7. Plumbing fixture controls.
8. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
9. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
10. Within kitchens and bathrooms, lighting controls, electrical switches and receptacle outlets are permitted to be located over cabinets with counter tops of 36-inch (915 mm) maximum in height and 25-1/2 inches (650 mm) maximum in depth. For each length of counter top, at least one receptacle outlet shall be located adjacent to a clear floor space.

10-8.4

Commenter: Dominic Marinelli, representing United Spinal Association
Ballot: Negative with comment:

Comment: Cheryl's proposal is to permit one (1) receptacle to comply per length of countertop; the current language permits only one exempt receptacle per length of countertop which is very difficult to do when balancing NEC requirements while allowing reach over a 36" high 25 ½" deep countertop that is permitted by the Fair Housing Accessibility Guidelines. Consider combining with sections of 10-7-12 that committee liked for Accessible and Type A units:

Type A units:

1002.9.1.1 Receptacle outlets required in kitchens. In kitchens, receptacle outlets must be provided at the following locations:

1. A receptacle outlet must be provided over the work surface and comply with Section 308.2.2 (forward obstructed reach range).

1003.9.1.1 Receptacle outlets required in kitchens. In kitchens, receptacle outlets must be provided at the following locations:

1. A receptacle outlet must be provided over the work surface and comply with Section 308.2.2 (forward obstructed reach range).

1004.9

2. Where two or more receptacle outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with Section 309. For each length of countertop, at least one receptacle outlet shall comply with Section 309.

9. Within kitchens and bathrooms, lighting controls, electrical switches and receptacles outlets are permitted to be located over cabinets with counter tops 36 inches (915 mm) maximum and 25 ½ inches (650 mm) maximum in depth.

11. Electrical panelboards shall not be required to comply with Section 309.4.

Proponent Comment

10-8.5

Commenter: Cheryl D. Kent, Representing HUD

Revise the proposal as follows:

309 Operable Parts

309.1 General. Operable parts required to be accessible shall comply with Section 309.

309.2 Clear Floor Space. A clear floor space complying with Section 305 shall be provided.

309.3 Height. Operable parts shall be placed within one or more of the reach ranges specified in Section 308.

309.4 Operation. Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5.0 pounds (22.2 N) maximum.

EXCEPTION: Gas pump nozzles shall not be required to provide operable parts that have an activating force of 5.0 pounds (22.2 N) maximum.

1002.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, operating hardware for operable windows, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. Where two or more receptacle outlets are provided in a kitchen above a length of counter top ~~that is uninterrupted by a sink or appliance~~, one receptacle outlet shall not be required to comply with 309.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
7. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
8. Electrical panelboards shall not be required to comply with Section 309.4.
9. Within kitchens and bathrooms, lighting controls, electrical switches and receptacles outlets are permitted to be located over cabinets with counter tops 36 inches (915 mm) maximum in height and 25 ½ inches (650 mm) maximum in depth.

1003.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, operating hardware for operable windows, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. Where two or more receptacle outlets are provided in a kitchen above a length of counter top ~~that is uninterrupted by a sink or appliance~~, one receptacle outlet shall not be required to comply with 309.
3. Floor receptacle outlets.

4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
7. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.
8. Electrical panelboards shall not be required to comply with Section 309.4.
9. Within kitchens and bathrooms, lighting controls, electrical switches and receptacles outlets are permitted to be located over cabinets with counter tops 36 inches (915 mm) maximum in height and 25 ½ inches (650 mm) maximum in depth.

1004.9 Operable Parts. Lighting controls, electrical switches and receptacle outlets, environmental controls, electrical panelboards, and user controls for security or intercom systems shall comply with Section 309.2 and 309.3.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. Where two or more receptacle outlets are provided in a kitchen above a length of counter top ~~that is uninterrupted by a sink or appliance~~, one receptacle outlet shall not be required to comply with ~~309~~ 309.2 and 309.3.
3. Floor receptacle outlets.
4. HVAC diffusers.
5. Controls mounted on ceiling fans.
6. Controls or switches mounted on appliances.
7. Plumbing fixture controls.
8. Reset buttons serving appliances, piping and plumbing fixtures.
9. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.
10. Within kitchens and bathrooms, lighting controls, electrical switches and receptacles outlets are permitted to be located over cabinets with counter tops 36 inches (915 mm) maximum in height and 25 ½ inches (650 mm) maximum in depth.
~~11. Electrical panelboards shall not be required to comply with 309.4.~~

Reason:
HUD believes that providing accessible switches and outlets in Accessible, Type A and Type B kitchens is problematic due to the depth of most of the appliances, as well as the standard overhang of the countertop, which typically creates a depth for the obstruction (countertop and cabinet) of 25 to 25 ½ inches. In addition, the location of the appliances and their related depth, as well as corners or walls, typically makes it difficult if not impossible to achieve a full 48-inch parallel approach at the electrical outlet because the greater depth of the appliance makes it not possible to achieve a close parallel approach. To address this concern, this proposal would require only one electrical receptacle that is located along a length of kitchen countertop to be accessible, irrespective of whether the countertop is interrupted by a sink or appliance. Further, the provisions for kitchen counter tops for accessible and Type A units makes it evident that counter tops other than the one that is the work surface and the one that includes the sink, may be higher than 34 inches, that is, at the standard height of 36 inches. This automatically creates a non-compliance issue for outlets located above the 36-inch high counter tops. The Type B Unit language includes an exception related to the counter top height, and this exception has been added to the Accessible and Type A Units to address this concern.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: Committee members considered the various proposals to address the issue of receptacle access in kitchens. A consensus proposal developed around limited counter space versus where more access is available.

Modification:

Replace the original proposal as follows:

1002.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, operating hardware for operable windows, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:
1. Receptacle outlets serving a dedicated use.

2. In a kitchen, where two or more receptacle outlets are provided ~~in a kitchen~~ above a length of counter top that is uninterrupted by a sink or appliance, only one receptacle outlet shall ~~not~~ be required to comply with Section 309.
3. In a kitchen, where a clear floor space for a parallel approach cannot be located at a counter top in a corner between appliances, receptacle outlets over the counter top shall not be required to comply with Section 309 provided that the counter top is 7 square feet (0.65 m^2) maximum.

[re-number remaining exceptions]

1003.9 Operable Parts. Lighting controls, electrical panel boards, electrical switches and receptacle outlets, environmental controls, appliance controls, operating hardware for operable windows, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. In a kitchen, where two or more receptacle outlets are provided ~~in a kitchen~~ above a length of counter top that is uninterrupted by a sink or appliance, only one receptacle outlet shall ~~not~~ be required to comply with Section 309.
3. In a kitchen, where a clear floor space for a parallel approach cannot be located at a counter top in a corner between appliances, receptacle outlets over the counter top shall not be required to comply with Section 309 provided that the counter top is 7 square feet (0.65 m^2) maximum.

[re-number remaining exceptions]

1004.9 Operable Parts. Lighting controls, electrical switches and receptacle outlets, environmental controls, electrical panelboards, and user controls for security or intercom systems shall comply with Section 309.2 and 309.3.

EXCEPTIONS:

1. Receptacle outlets serving a dedicated use.
2. In a kitchen, where two or more receptacle outlets are provided ~~in a kitchen~~ above a length of counter top that is uninterrupted by a sink or appliance, only one receptacle outlet shall ~~not~~ be required to comply with Sections 309.2 and 309.3.
3. In a kitchen, where a clear floor space for a parallel approach cannot be located at a counter top in a corner between appliances, receptacle outlets over the counter top shall not be required to comply with Sections 309.2 and 309.3 provided that the counter top is 7 square feet (0.65 m^2) maximum.

[re-number remaining exceptions]

10-10– 12
1002.9.1 (New)

Proposed Change as Submitted

Proponent: Hope Reed, New Mexico Governor's Commission on Disability (NMGCD)

Add new text as follows:

1002.9.1 Wheelchair Charging Area. A wheelchair charging area shall be provided adjacent to at least one electrical outlet. A clear floor space complying with Section 305 shall be provided adjacent to the outlet.

Reason: Add a new section for wheelchair charging area. Many times a person with disabilities must get the hotel staff to move furniture and make space to recharge their wheelchair. This is an important part of travelling and should always be required in Accessible Units.

1002.9.1 (New)-Reed.doc

Committee Action

Disapproved

Committee Reason: The Committee felt the proposal had more questions than solutions. The term 'wheelchair charging area' is undefined. Should the voltage be specified? Would this need to be a single outlet and not a duplex?

BALLOT COMMENTS

10-10.1
Commenter: Rick Lupton, Representing WABO
Ballot: Affirmative with comment:

Comment: There are a couple of proposals regarding wheelchair charging areas or stations. I think that while the language needs work in all of them, providing an adjacent clear floor space is critical to their function.

10-10.2
Commenter: Hope Reed, Representing NMGCD
Ballot: Negative with comment:

Comment: Accessible wheelchair charging outlets are a common problem in hotel rooms. One standard duplex outlet needs to provide a clear floor Further work is needed on this proposal.

Proponent Comment

10-10.3
Commenter: Hope Reed, Representing NMGCD

Revise the Proposal as follows:

106 Definitions

Wheelchair Charging Area: A clear floor area where people with disabilities can recharge their wheelchair batteries.

1002.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, operating hardware for operable windows, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 1002.9 and 309.

EXCEPTIONS: (remain unchanged)

1002.9.1 Wheelchair Charging Area. A wheelchair charging area shall be adjacent to one bed. A clear floor space complying with Section 305 shall be located between the bedside and a parallel wall. The parallel wall shall be 36 inches minimum to 48 inches maximum from the bed and provide a 110V duplex receptacle outlet located 24 inches minimum and 48 inches maximum from the head wall of the bed and complying with Section 1002.9.

Exception: Where there is no parallel wall within 36 inches minimum to 48 inches maximum of the bedside, a clear floor space complying with Section 305 shall be along the wall at the head of one bed. A 110V duplex receptacle outlet complying with Section 1002.9 shall be located along the wall at the bed head and within 24 inches minimum and 48 inches maximum of the bedside.

Reason: Many people using electric wheelchairs and scooters will travel independently and need to re-charge their batteries while they rest or sleep. The duplex plug must be close enough to the head of the bed so they can plug-in and easily transfer onto the bed.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The committee wished to be able to continue work on this topic through the cycle. There are issues with respect to the text. It is not clear to all what 'parallel wall' means. The text needs other clarifications.

Modification.

Replace the proposal as follows:

106 Definitions

Wheelchair Charging Area: A clear floor area where people with disabilities can recharge their wheelchair batteries.

1002.9 Operable Parts. Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, operating hardware for operable windows, plumbing fixture controls, and user controls for security or intercom systems shall comply with Sections 1002.9 and 309.

EXCEPTIONS: (remain unchanged)

1002.9.1 Wheelchair Charging Area. A wheelchair charging area shall be adjacent to one bed. A clear floor space complying with Section 305 shall be located between the bedside and a parallel wall. The parallel wall shall be 36 inches (915 mm) minimum to 48 inches (1220 mm) maximum from the bed and provide a 110V duplex receptacle outlet located 24 inches minimum and 48 inches maximum from the head wall of the bed and complying with Section 1002.9.

Exception: Where there is no parallel wall within 36 inches (915 mm) minimum to 48 inches (1220 mm) maximum of the bedside, a clear floor space complying with Section 305 shall be along the wall at the head of one bed. A 110V duplex receptacle outlet complying with Section 1002.9 shall be located along the wall at the bed head and within 24 inches minimum and 48 inches maximum of the bedside.

10-11– 12
1002.11.2

Proposed Change as Submitted

Proponent: Ed Roether, representing the ADA/A117 Harmonization Task Group

Revise as follows:

1002.11.2 Accessible Toilet and Bathing Facility. At least one toilet and bathing facility shall comply with Section 603. At least one lavatory, one water closet and either a bathtub or shower within the unit shall comply with Sections 604 through 610. ~~The accessible toilet and bathing fixtures shall be in a single toilet/bathing area, such that travel between fixtures does not require travel through other parts of the unit.~~

Reason: The ADA/A117 Harmonization Task Group (HTG) was created as a task group of the A117.1 Committee to compare the 2010 ADA with the 2009 A117.1 Standard. The HTG has recommend a series of changes through a set of change proposals. The HTG is recommending changes, for the most part, address where the ADA was viewed as more stringent than the A117. Where the A117 contained provisions not addressed in the ADA, these were not considered a conflict needing action to amend the A117. In addition there are a number of places where the ADA and A117.1 are different as a result of specific actions, by the A117.1 Committee during the development of the 2009 edition, to remain or create a difference where, in the judgment of the committee the ADA was deficient.

Reason for 1002.11.2: ADA does not have the sentence which is shown as being deleted. The A117 text has proven confusing and difficult for compliance in hospital and nursing home design.

1002.11.2-ROETHER.doc

Committee Action

Disapproved

Committee Reason: While the text proposed for deletion isn't in the ADA, it isn't in conflict with the federal requirements. In this location the Standard provides an additional requirement for this accessible design.

BALLOT COMMENTS

10-11.1
Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: The implications of the sentence were not well discussed. In addition to nursing homes and hospitals, residence halls in universities and hotels often have sinks in a different compartment than showers and toilets. The current requirement means that accessible units do not provide the same convenience as other units and is therefore discriminatory.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The provision still has validity in making sure residents don't have to traverse portions of the unit to use the facilities.

10-13– 12
1002.15.3 (New)

Proposed Change as Submitted

Proponent: Dominic Marinelli, representing United Spinal Association

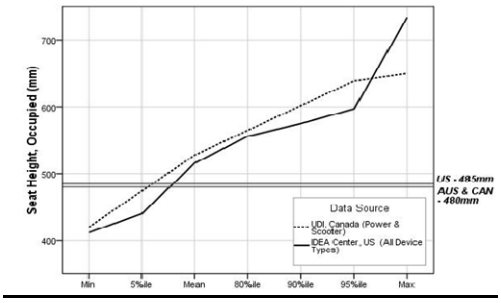
Revise as follows:

1002.15.3 Bed Height. At least one bed shall measure 19 to 23 inches high from the floor to the top of the mattress, whether or not the mattress is compressed.

Reason: This proposal is put forth as a response to numerous comments from our membership that cite the lack of accessible beds in places of transient lodging, which makes it very difficult for people with disabilities to transfer from their mobility device to beds that are becoming increasingly higher when measured to the top of the mattress. These complaints from our membership, combined with the data released in the Final Report of the Anthropometry of Wheeled Mobility Project - Prepared for the U.S. Access Board December 31st, 2010, substantiate the need to address the height of beds in accessible hotel rooms. Increasing bed heights also adversely impact persons of short stature that have difficulty accessing these beds – which can range from approximately 25 inches to 30 inches above the ground measured to the top of the mattress.

Due to the increased heights of hotel beds over the past approximately 8 years, rooms that were once considered accessible have become inaccessible. Our proposal would require at least one bed to provide a mattress height between 19 inches and 23 inches above the ground.

The Final Report - Anthropometry of Wheeled Mobility Project - Prepared for the U.S. Access Board December 31st, 2010, Center for Inclusive Design and Environmental Access (IDeA) contains research on seat heights for various types of mobility devices including manual wheelchairs, scooters and power chairs. The height range we propose for accessible bed heights is between 19-23 inches and accommodates the mean occupied seat heights of the Wheeled Mobility Project User groups which were as follows (see Section 3.3.5 of The Final Report - Anthropometry of Wheeled Mobility Project): 495 mm (19.5 in.) for manual chair users, 538 mm (21.2 inches) for power chair users and 549 mm (21.6 in.) for scooter users. Figures from the Wheeled Mobility research are included below for reference.



Data Source	Sample Size	Min	5%ile	Mean	80%ile	90%ile	95%ile	Max
UDI, Canada								
Power chairs and scooters*	50	420	-	528	-	-	639	650
IDeA Center, U.S.								
Manual chairs	276	414	434	496	530	547	567	608
Power chairs	189	412	465	539	574	599	628	734
Scooters	30	472	475	550	582	595	636	643
All Device Types*	495	412	440	516	556	575	597	734

Committee Action

Approval as Modified

Modification

1002.15.3 Bed Height. At least one bed shall measure ~~19~~ 17 to ~~23~~ 25 inches high from the floor to the top of the mattress, whether or not the mattress is compressed.

Committee Reason: Beds in hotels seem to be getting higher and deeper making transfer to them harder and harder. Studies seem to be showing that transfer heights should be higher than currently provided in the Standard for the various transfer elements, however there is a wide range of needs in the community. Representatives of the lodging industry express concern that lower heights results in giving up comfort. But the 19 inch height is troublesome for little people. The Committee acknowledged that the height range chosen only require that a bed be able to be in that range, therefore adjustable height beds that adjust outside of the range would still be permitted so long as they can be adjusted to heights within the range.

BALLOT COMMENTS

10-13.1

Commenter: M. Bradley Gaskins, Representing NACS
Ballot: Negative with comment:

Comment: This is a needed requirement but inappropriate for a building code while perfectly suited to the ADA Standards as these are applied as a civil rights law. This provision will ultimately be unenforceable. Furnishings are generally not covered under a building code as they are not part of the building. Will this require that a complete furnishing plan be produced at permitting for approval? Will all furnishings be required to be placed prior to a C of O? Will a permit be required to replace furnishings? Further, if this should be deemed appropriate for a building code this should be applied to all beds. As allowed under 1002.15.1 EXCEPTION if a single clear floor space complying with Section 305 positioned for parallel approach is provided between two beds, a clear floor space shall not be required on both sides of the bed. This height limitation, as applied to only one of the beds, would create a situation that would contradict the purpose of the Exception**.**

10-13.2

Commenter: Gerald Gross, Representing AHLA
Ballot: Negative with comment:

Comment: The AHLA would like to challenge this proposal due to the lack of evidence that numerous complaints or comments have been received by the United Spinal Association or any other disability agency. Bed mattress comfort levels have become competitive within the lodging industry for providing the ultimate comfort for the hotel guest. Measuring or determining that the top of the bed mattress is 17" to 23" high from the floor whether or not the mattress is compressed is arbitrary and cannot be accurately measured. Mattresses are large pads for supporting the reclining body, used as or on a bed and change dimensionally over time due to the fact that mattresses consist of unique materials. (Such as: quilted or similarly fastened case, heavy cloth, that may contains cotton, foam rubber, etc., or a framework of metal springs, or they may be inflatable)

10-13.3

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The switching of mattresses in a hotel is done on a regular basis for health reasons. This is an operational issue that is impossible to enforce. Also, the actual text would require the measurement to be made at both a compressed and uncompressed state. Compressed with what load? And at what location?

This is an item that can be addressed in a best practice guideline, but not an enforceable code text.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comment.

Committee Action Report on Ballot and Proponent Comments- July 15-19, 2013:
Proposals of 2012 submitted on the ICC A117.1-2009

Committee Reason: The committee discussed this proposed requirement extensively. There is concerns about the ability to measure and enforce, the lack of a definition of compressed. This is an opportunity to get ahead of Department of Justice who is considering the regulation of furnishings. Based on the factor that 23 inches will serve a wider population, the committee revised its original approval.

Modification:

Revise as follows:

1002.15.3 Bed Height. At least one bed shall measure 17 to 23 ~~25~~ inches high from the floor to the top of the mattress, whether or not the mattress is compressed.

10-17– 12
1003.11.2.3

Proposed Change as Submitted

Proponent: Robert D. Feibleman, HAND Construction, representing self

Revise as follows:

1003.11.2.3 Mirrors. Mirrors above accessible lavatories shall have the bottom edge of the reflecting surface 40 inches (1015 mm) maximum above the floor.

EXCEPTION: Where a mirror complying with this section is provided, medicine cabinet mirrors are exempt from Section 1003.11.2.3.

Reason: The medicine cabinet isn't addressed and its mirror surface could be secondary to other mirrors. It's not uncommon for the medicine cabinet installation height to be affected by electrical outlet and switch placement. Also, the lower it's mounted, the more countertop items are knocked over when it's opened.

1003.11.2.3-FEIBLEMAN.doc

Committee Action

Disapproved

Committee Reason: Where multiple mirrors are provided, only one needs to be in the accessible height range. Therefore this is already allowed and the exception proposed is unnecessary.

BALLOT COMMENTS

10-17.1
Commenter: Gene Boecker, Representing NATO
Ballot: Affirmative with comment:

Comment: The commentary should address this concern. There is still a carry-over from the years when the standard addressed medicine cabinets and people are often misapplying this requirement to all mirrors.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

10-18– 12
1003.11.2.4.6

Proposed Change as Submitted

Proponent: Peter A. Stratton, Steven Winter Associates, Inc.

Revise as follows:

1003.11.2.4.6 Flush Controls. Flush controls shall be hand-operated or automatic. Hand operated flush controls shall comply with Section 309. Hand-operated flush controls shall be located on the open side of the water closet.

> **EXCEPTION:** Dual flush controls are permitted to be centered on the top of the water closet tank and shall comply with Section 309.4.

Reason: Water saving requirements of the US Green Building Council's LEED ® rating system, among other energy saving programs, including Enterprise Green Communities are addressed at toilet fixtures through the use of dual flush toilets which provide two (dual) push-button-controlled options for flushing; one of which dispenses more water during flushing. Dual flush toilets, especially residential models, include push button controls centered on the top of the toilet tank which are technically non-compliant with ANSI A117.1 604.6 and 1003.11.2.4.6, i.e., they are not located on the "wide side" of toilets. However, technically, ½ of the push button control when mounted on the top of the tank are located between the centerline of the toilet (center of the tank top) and the wide side, but they are not located fully between the centerline and the wide side of the toilet. The only readily available models have top centered controls. ANSI must recognize water savings offered by dual flush toilets while at the same time ensuring that they are accessible. To that end, the proposal suggested here is to allow controls mounted on the top of toilet tanks as long as the push button controls comply with 309.4, operation. When a clear floor space a positioned adjacent to toilets, controls mounted on the top of the tank are within reach from a side approach despite the fact that they are not located technical on the "wide side." See attached pdf standard dual flush control and its location.

1003.11.2.4.6-STRATTON.doc

Committee Action

Disapproved

Committee Reason: The Committee's action on Proposal 6-12-12 addresses this issue sufficiently.

BALLOT COMMENTS

10-18.1
Commenter: Edward Steinfeld, Representing RESNA
Ballot: Negative with comment:

Comment: I think that we disapproved the proposal without enough discussion and consideration. The standard should not conflict with the goals of sustainable design. Some committee members believe that without an exception the standard forces owners to provide toilets without the dual flush feature in accessible toilet stalls and single user toilet rooms. This creates the perception that the dual flush concept itself is not accessible and that there is a conflict between accessibility and sustainable design. There is no information on whether the centering of the flush valve is really a serious problem. Finally, we do not know if there are any products on the market that are both compliant with the A117 standard and water saving at the same time. Perhaps we can get some information on that before July before we completely take this off the table for this cycle. Our goal really should be to insure that both design goals can be met somehow rather than accept the status quo. We have approved other requirements in which the reach target is offset from the centerline of the CFS so why not allow it for dual flush valves?

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Action Report on Ballot and Proponent Comments- July 15-19, 2013:
Proposals of 2012 submitted on the ICC A117.1-2009

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

10-19– 12
1003.11.2.5.2, 1004.11.3.1.3.3

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

1003.11.2.5.2 Shower. Showers shall comply with Section 608.

EXCEPTIONS:

1. At standard roll-in shower compartments complying with Section 608.2.2, lavatories, counter tops and cabinetry shall be permitted at one end of the clearance, provided the following criteria are met:
   a) The countertop and cabinetry can be removed;
   b) The floor finish extends under the countertop and cabinetry; and
   c) The walls behind and surrounding the countertop and cabinetry are finished.
2. A shower door shall be permitted where the door can be removed without replacement or repair of tile or other finish on the wall or floor.

1004.11.3.1.3.3 Shower Compartment. If a shower compartment is the only bathing facility, the shower compartment shall have dimensions of 36 inches (915 mm) minimum in width and 36 inches (915 mm) minimum in depth. A clearance of 48 inches (1220 mm) minimum in length, measured perpendicular from the shower head wall, and 30 inches (760 mm) minimum in depth, measured from the face of the shower compartment, shall be provided. Reinforcing for a shower seat is not required in shower compartments larger than 36 inches (915 mm) in width and 36 inches (915 mm) in depth.

EXCEPTION: A shower door shall be permitted where the door can be removed without replacement or repair of tile or other finish on the wall or floor.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

This allows for the type of shower door that can be attached in such a way that it is removable. Not everyone wants only the option of a shower curtain. Glass doors on the market cannot provide space for a transfer when in place.

1003.11.2.5.2-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The Committee lacked sufficient consensus to approve this proposal. The concerns included whether replacing or repairing tiles should be the key criteria. It was noted such installations have been allowed under the Fair Housing provisions. While the proposals was amended to address 'shower door assemblies' rather than just the door, there remained too many concerns.

BALLOT COMMENTS

10-19.1

Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: Replace the exception language with the following:

Revise as follows:

A shower door assembly shall be permitted where the assembly can be removed without removal or replacement of the surrounding walls and floor to which it is affixed.

This borrows the same language from the removable base cabinets and avoids the word "repair" since all surfaces would need some type of treatment (e.g. paint, caulk, etc.). It also limits this application of this to the place where the shower door assembly is affixed whether by sealant, screws or a combination thereof.

10-19.2

Commenter: Dominic Marinelli, Representing USA
Ballot: Negative with comment:

Comment: Kim's proposal is essential for our Type A and Type B units. Whether we permit this or not many developers install shower doors to prevent the water from getting on the bathroom floor and this proposal codifies this practice.

10-19.3

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: In looking at the option of allowing for doors on showers in Type A and Type B bathrooms, I have noticed that this issue is not addressed for accessible showers, but is addressed for accessible bathtubs. The issue of doors on showers or tubs should be addressed in all situations.

Type A units are adaptable. Therefore, there should be an allowance for shower doors to be removed, the same as adding grab bars. If FHA intended to allow for shower doors in all situations (as indicated by Cheryl Kent at the last meeting), that should also be included in the ICC A117.1 text.

Replace the proposal with the following:

(Bathtubs) 607.7 Bathtub Enclosures. Enclosures for bathtubs shall not obstruct controls, faucets, shower and spray units or obstruct transfer from wheelchairs onto bathtub seats or into bathtubs. Enclosures on bathtubs shall not have tracks installed on the rim of the bathtub.

(Transfer shower) 608.2.1.4 Shower enclosure. Enclosures for transfer showers shall not obstruct controls, faucets, shower and spray units or obstruct transfer from wheelchairs onto the shower seat or into the transfer shower. Enclosures on transfer showers shall not have tracks installed on the threshold of the transfer shower.

(Roll-in shower) 608.2.2.4 Shower enclosure. Enclosures for roll-in showers shall not obstruct controls, faucets, shower and spray units or obstruct transfer from wheelchairs onto the shower seat or into the roll-in shower. Enclosures on roll-in showers shall not have tracks installed on the threshold of the transfer shower.

(Alternate roll-in shower) 608.2.3.3 Shower enclosure. Enclosures for alternate roll-in showers shall not obstruct controls, faucets, shower and spray units or obstruct transfer from wheelchairs onto the shower seat or into the alternate roll-in shower. Enclosures on alternate roll-in showers shall not have tracks installed on the threshold of the transfer shower.

1003.11.2.5.2 Shower. Showers shall comply with Section 608.

EXCEPTIONS:

1. At standard roll-in shower compartments complying with Section 608.2.2, lavatories, counter tops and cabinetry shall be permitted at one end of the clearance, provided the following criteria are met:
   d) The countertop and cabinetry can be removed;
   e)The floor finish extends under the countertop and cabinetry; and
   f) The walls behind and surrounding the countertop and cabinetry are finished.
2. An enclosure for a shower shall be permitted where the shower door assembly can be removed without removal or replacement of the surrounding walls and floor to which it is affixed.

1004.11.3.1.3.3 Shower Compartment. If a shower compartment is the only bathing facility, the shower compartment shall have dimensions of 36 inches (915 mm) minimum in width and 36 inches (915 mm) minimum in depth. A clearance of 48 inches (1220 mm) minimum in length, measured perpendicular from the shower head wall, and 30 inches (760 mm) minimum in depth, measured from the face of the shower compartment, shall be provided. Reinforcing for a shower seat is not required in shower compartments larger than 36 inches (915 mm) in width and 36 inches (915 mm) in depth. A shower door assembly shall be permitted at the shower entry.

PROPONENT COMMENT

10-19.4

Proponent: Kim Paarlberg, Representing ICC

Replace the proposal with the following:

(Bathtubs) 607.7 Bathtub Enclosures. Enclosures for bathtubs shall not obstruct controls, faucets, shower and spray units or obstruct transfer from wheelchairs onto bathtub seats or into bathtubs. Enclosures on bathtubs shall not have tracks installed on the rim of the bathtub.

(Transfer shower) 608.2.1.4 Shower enclosure. Enclosures for transfer showers shall not obstruct controls, faucets, shower and spray units or obstruct transfer from wheelchairs onto the shower seat or into the transfer shower. Enclosures on transfer showers shall not have tracks installed on the threshold of the transfer shower.

(Roll-in shower) 608.2.2.4 Shower enclosure. Enclosures for roll-in showers shall not obstruct controls, faucets, shower and spray units or obstruct transfer from wheelchairs onto the shower seat or into the roll-in shower. Enclosures on roll-in showers shall not have tracks installed on the threshold of the transfer shower.

(Alternate roll-in shower) 608.2.3.3 Shower enclosure. Enclosures for alternate roll-in showers shall not obstruct controls, faucets, shower and spray units or obstruct transfer from wheelchairs onto the shower seat or into the alternate roll-in shower. Enclosures on alternate roll-in showers shall not have tracks installed on the threshold of the transfer shower.

1003.11.2.5.2 Shower. Showers shall comply with Section 608.

EXCEPTIONS:

2. At standard roll-in shower compartments complying with Section 608.2.2, lavatories, counter tops and cabinetry shall be permitted at one end of the clearance, provided the following criteria are met:
   g) The countertop and cabinetry can be removed;
   h)The floor finish extends under the countertop and cabinetry; and
   i) The walls behind and surrounding the countertop and cabinetry are finished.
2. An enclosure for a shower shall be permitted where the shower door assembly can be removed without removal or replacement of the surrounding walls and floor to which it is affixed.

1004.11.3.1.3.3 Shower Compartment. If a shower compartment is the only bathing facility, the shower compartment shall have dimensions of 36 inches (915 mm) minimum in width and 36 inches (915 mm) minimum in depth. A clearance of 48 inches (1220 mm) minimum in length, measured perpendicular from the shower head wall, and 30 inches (760 mm) minimum in depth, measured from the face of the shower compartment, shall be provided. Reinforcing for a shower seat is not required in shower compartments larger than 36 inches (915 mm) in width and 36 inches (915 mm) in depth. A shower door assembly shall be permitted at the shower entry.

Reason: In looking at the option of allowing for doors on showers in Type A and Type B bathrooms, I have noticed that this issue is not addressed for accessible showers, but is addressed for accessible bathtubs. The issue of doors on showers or tubs should be addressed in all situations.

Type A units are adaptable. Therefore, there should be an allowance for shower doors to be removed, the same as adding grab bars. If FHA intended to allow for shower doors in all situations (as indicated by Cheryl Kent at the last meeting), that should also be included in the ICC A117.1 text.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered various options to improve on the proposal based on comments. A consensus was not developed around any of the proposed amendments. As the standard is silent on enclosures other than bathtubs, many on the committee felt the installations were not prohibited.

10-20– 12
1003.12.3

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

1003.12.3 Work Surface. At least one section of counter shall provide a work surface 30 inches (760 mm) minimum in length complying with Section 1003.12.3.

> **EXCEPTION:** Spaces that do not provide a cooktop or conventional range are not required to be provided with an accessible work surface.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

Many homes have kitchenettes or wetbars in family rooms. Side approach should be permitted in these areas. This adds an exception similar to what is allowed for an Accessible unit (Section 1002.12, Exception) or for a general kitchen (Section 804.3, Exception). While the work surface required in Section 1003.12.3 is allowed to be adaptable/adjustable and is therefore different than what is required in an Accessible unit or a general kitchen, it still is more restrictive to require the work surface in the Type A unit if the Accessible units and general kitchens do not require them at all.

1003.12.3-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: For consistency with the action taken on Proposal 8-10-12.

BALLOT COMMENTS

10-20.1
Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: The committee vote should have been for approval to be consistent with 8-10. For the record, approval or disapproval of this item will make no difference as long as 8-10 is approved as recommended by committee action. However, should 8-10 be not approved this would be necessary to get this part of the change into the standard.

Proponent Comment

10-20.2
Commenter: Kim Paarlberg, representing ICC
Ballot: Negative with comment:

Comment: Kim will address this issue in 8-10 and 8-13.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

10-21– 12
1003.12.4.1

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

1003.12.4.1 Clear Floor Space. A clear floor space, positioned for a forward approach to the sink, shall be provided. Knee and toe clearance complying with Section 306 shall be provided.

EXCEPTIONS:

1. The requirement for knee and toe clearance shall not apply to more than one bowl of a multi-bowl sink.
2. Cabinetry shall be permitted to be added under the sink, provided the following criteria are met:
   (a) The cabinetry can be removed without removal or replacement of the sink,
   (b) The floor finish extends under the cabinetry, and
   (c) The walls behind and surrounding the cabinetry are finished.
3. A parallel approach complying with Section 305 and centered on the sink, shall be permitted at a kitchen sink in a space where a cook top or conventional range is not provided.
4. A parallel approach complying with Section 305 and centered on the sink, shall be permitted at wet bars.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

When kitchenettes were added into Section 1003.12 of the 2009 standard, it created some inconsistencies between the Type A units and the Accessible units. This causes uncertainty for the Type A units and would appear to make them more restrictive than the Accessible units or general kitchens.

These two new exceptions are copied from Section 606.2, Exceptions 1 and 6. The intent of adding these exceptions into the Type A unit requirements is to coordinate with the arrangements that are allowed in an Accessible unit and for a general kitchen. The Accessible units (Section 1002.12) based on the reference to Section 804; and the general kitchens (Section 804.4) are allowed to install a sink that complies with Section 606. A parallel approach to the sink in a kitchenette (or wet bar) would be permitted versus the forward approach that would typically apply in the Accessible and Type A units. This is based on both Exceptions 1 and 6 in Section 606.2. This allowance for the parallel approach to the sink is clearly permitted for the Accessible units because of the reference from Section 1002.12 up to Section 804 and then from Section 804.4 to Section 606 and its subsection 606.2.

When dealing with the Type A units, however, the requirements are not as clear and, depending upon the interpretation, they may even result in those units being more restrictive than the Accessible units for certain requirements. As stated earlier, when dealing with an Accessible unit, Section 1002.12 clearly provides the reference to Section 804 that will result in the parallel approach to the sink in a kitchenette or wet bar. The Type A unit requirements of Section 1003.12 do not provide an equivalent reference or exception for allowing the sink to have a parallel approach. A similar problem also exists with the clearance requirements of Section 1003.12.1 and 1004.12.1, which do not contain an exception similar to that found in Section 804.2.

Because of these inconsistencies, users must decide to either be code literal and make the Type A units more restrictive and provide better access than required for the Accessible units, or they must use their judgment to permit the Type A units to use the exceptions that are allowed for an Accessible unit. Because an Accessible unit is considered as the higher level of accessibility, I believe it is appropriate to add these exceptions in the Type A requirements or provide some type of similar exception which allows compliance with Section 606. As an option, both of these exceptions could be replaced with a single exception stating "Sinks complying with Section 606" or a more specific exception which would only address the clear floor space saying "Sinks complying with Section 606.2."

Remember that Type B units already allow for a side approach to the sink, so there should not be the same issue for Type B units.

1003.12.4.1-PAARLBERG.doc

Committee Action

Approved

Committee Action Report on Ballot and Proponent Comments- July 15-19, 2013:
Proposals of 2012 submitted on the ICC A117.1-2009

Committee Reason: The change provides consistency between Accessible and Type A units for their kitchenettes and wet bars. These two new exceptions are copied from Section 606.2, Exceptions 1 and 6. The intent of adding these exceptions into the Type A unit requirements is to coordinate with the arrangements that are allowed in an Accessible unit and for a general kitchen. The Accessible units (Section 1002.12) based on the reference to Section 804; and the general kitchens (Section 804.4) are allowed to install a sink that complies with Section 606.

BALLOT COMMENTS

10-21.1

Commenter: Christopher Bell, Representing ACB
Ballot: Negative with comment:

Comment: This proposal would remove a forward approach at two types of sinks. Accessibility requires a forward approach at sinks, in order to fully reach the controls and engage in the activities performed at the sink. Limiting access to a side approach reduces the level of independence and integration available to people with disabilities.

Your comment/reason: While the standard's current language is broken, this proposal does not fix it. We're honestly not sure of the best fix, but this is not it.

Simply saying that controls shall not require reaching across burners does not mean that controls will end up in the front – – just that they can't be on the far side of burners. These are two different things. It is our understanding that the so-called redundant text that is deleted is actually providing a different and important condition.

10-21.2

Commenter: Marilyn Golden, Representing DREDF
Ballot: Negative with comment:

Comment: This proposal would remove a forward approach at two types of sinks. Accessibility requires a forward approach at sinks, in order to fully reach the controls and engage in the activities performed at the sink. Limiting access to a side approach reduces the level of independence and integration available to people with disabilities.

Proponent Comment

10-21.3

Commenter: Kim Paarlberg, representing ICC
Ballot: Negative with comment:

Comment: Kim will address this issue in 8-13.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval of this proposal. Disapproval of this change would make Type A dwelling units more stringent for this feature than Accessible units.

10-22– 12

1003.12.5.5

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

1003.12.5.5 Oven. Ovens shall comply with Section 1003.12.5.5. ~~Ovens shall have controls on front panels, on either side of the door.~~

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The intent of this change is to resolve a glitch that was created due to a processing error with code change #267 during the 2009 standard's development cycle. This will also eliminate the confusion which is created by having both Sections 1003.12.5.5 and 1003.12.5.5.4 address the location of the oven controls. Deleting this text will coordinate the Type A unit oven requirements with identical requirements for the Accessible unit and general kitchen requirements of Section 804.5.5.4. A similar requirement for the controls to be located on the front panel of the oven was located in Section 804.6.5.3 of the 2003 edition of the standard. That requirement was deleted from the general kitchen and Accessible unit requirements as a part of code change #267 in the previous cycle.

When code change #267 was originally approved the proposal showed the text for Section 1003.12.5.5 (1003.12.6.5 in the 2003 edition) incorrectly. (The sentence that is proposed for deletion was never shown with Section 1003.12.6.5 as existing text in the 2003 edition.) The editorial task group had originally proposed deleting this sentence as a part of a needed correlation change to accomplish the A117 committee's intent which was established by code change #267. The task group's review draft showed a correlation for the text so it would match what was shown in the first public comment draft and what the A117 committee saw when they approved code change #267. It seemed clear to the editorial task group that based on the revisions in Chapter 8 and the reason statements with the code change that a similar coordinating change was appropriate for the Type A units. Proposal #267 inserted the new control section into Section 1003.12.5.5.4 and made the format of the section consistent with the other units. Leaving this text within 1003.12.5.5 will conflict with the intent of the proponent of proposal #267 and the A117 committee's reason statement for approving that change. It will also lead to a possible confusion between the provisions of Sections 1003.12.5.5 and 1003.12.5.5.4 unless users understand the intent and history of code change #267.

Ultimately the editorial task group determined that the deletion of the text in Section 1003.12.5.5 was beyond the scope of an editorial change. Therefore the text was reinserted and the task group indicated they hoped the A117 committee would review this issue in this next development cycle.

This proposal will create a technical change, but it is one which the committee had seemingly approved previously and it will coordinate with make the Type A units match the oven control requirements for the Accessible units and general kitchens.

If for some reason the committee decides to not approve this proposal, the sentence related to the oven controls should be moved from Section 1003.12.5.5 and be combined into Section 1003.12.5.5.4 so that all of the oven control requirements are in a single location.

1003.12.5.5-PAARLBERG.doc

Committee Action

Approved

Committee Reason: The change removes redundant text.

BALLOT COMMENTS

10-22.1

Commenter: Christopher Bell, Representing ACB
Ballot: Negative with comment:

Comment: While the standard's current language is broken, this proposal does not fix it. We're honestly not sure of the best fix, but this is not it.

Simply saying that controls shall not require reaching across burners does not mean that controls will end up in the front – – just that they can't be on the far side of burners. These are two different things. It is our understanding that the so-called redundant text that is deleted is actually providing a different and important condition.

10-22.2

Commenter: Marilyn Golden, Representing DREDF
Ballot: Negative with comment:

Comment: While the standard's current language may not be perfect, this proposal does not fix it. It does not remove redundancy, but does reduce accessibility.

Simply saying that controls shall not require reaching across burners does not mean that controls will end up in the front – – just that they can't be on the far side of burners. These are two different things. The so-called redundant text that is deleted actually provides a different and important condition.

10-22.3

Commenter: Gina Hilberry, representing United Cerebral Palsy
Ballot: Negative with comment:

Comment: This is not redundant text.

PROPONENT COMMENT

10-22.4

Proponent: Kim Paarlberg, Representing ICC

Requests approval as submitted.

Reason: The committee votes as submitted, but there are three negatives on this proposal. I wanted to remind everyone that the locations of the controls on ovens is in two locations (1003.12.5.5 and 1003.12.5.5.4) which leads to potential conflict. This proposal will match the requirements for Accessible units and shared accessible kitchens.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval of this proposal. The committee discussed whether the control requirement was intended to apply to just wall ovens or ranges. Changes to the 2009 edition made the requirement universal, yet there is a limited supply of compliant ranges. The approval was maintained to all further revision this cycle.

10-24– 12
1003.13.3 (New)

Proposed Change as Submitted

Proponent: Robert D. Feibleman, HAND Construction, representing self

Add new text as follows:

1003.13.3 Locking Devices. Where redundant locks are provided for a single window, only one shall be required to comply with Section 309.

Reason: On horizontal sliding windows over a certain size height, two locks are typically provided. The higher lock will be above 48 inches in most cases. The occupant has the option to not engage that look if it's not within their reach range. If the higher lock was lowered, tit would be so close to the lower lock it would be moot. If the higher lock was removed, it would not be of benefit to those who can reach it.

1003.13.3 (NEW)-FEIBLEMAN.doc

Committee Action

Disapproved

Committee Reason: The Standard only requires one feature to be accessible. Redundant locks are not prohibited, nor required to be accessible. This additional text is unneeded.

BALLOT COMMENTS

10-24.1
Commenter: Gene Boecker, Representing NATO
Ballot: Affirmative with comment:

Comment: The explanation should be in the commentary since it is obviously not clear.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

10-26– 12
101, 202, 1004

Proposed Change as Submitted

Proponent: Larry Perry

Revise as follows:

101 Purpose. The technical criteria in Chapters 3 through 9, Sections 1002, 1003 and 1006 and Chapter 11 of this standard make sites, facilities, buildings and elements accessible to and usable by people with such physical disabilities as the inability to walk, difficulty walking, reliance on walking aids, blindness and visual impairment, deafness and hearing impairment, incoordination, reaching and manipulation disabilities, lack of stamina, difficulty interpreting and reacting to sensory information, and extremes of physical size. The intent of these sections is to allow a person with a physical disability to independently get to, enter, and use a site, facility, building, or element.

~~Section 1004 of this standard provides criteria for Type B units. These criteria are intended to be consistent with the intent of the criteria of the U.S. Department of Housing and Urban Development (HUD) Fair Housing Accessibility Guidelines. The Type B units are intended to supplement, not replace, Accessible units or Type A units as specified in this standard.~~

Section 1005 of this standard provides criteria for minimal accessibility features for one and two family dwelling units and townhouses which are not covered by the U.S. Department of Housing and Urban Development (HUD) Fair Housing Accessibility Guidelines.

This standard is intended for adoption by government agencies and by organizations setting model codes to achieve uniformity in the technical design criteria in building codes and other regulations.

Revise as follow:

202 Dwelling and Sleeping Units
Chapter 10 of this standard contains dwelling unit and sleeping unit criteria for Accessible units, Type A units, ~~Type B units,~~ Type C (Visitable) dwelling units and units with accessible communication features. The administrative authority shall specify, in separate scoping provisions, the extent to which these technical criteria apply. These scoping provisions shall address the types and numbers of units required to comply with each set of unit criteria.

Delete without substitution as follows:

~~1004 Type B Units~~

Delete without substitution Sections 1004.1 through 1004.12.2.6

Reason: If Type B units are not intended to be consistent with the requirements of the Fair Housing Act, the purpose for their being included in the standard has been eliminated. By changing the Type B units where they exceed the Fair Housing provisions they are no longer “consistent” and the committee removes any limit to the extent of requirements that could/should be applied to Type B units. Doing so invalidates the entire approach used when Type B units were added to the standard.

Type B unit provisions were developed to establish a ‘safe harbor’ for compliance with the requirements of Fair Housing. By most accounts, the Fair Housing Guidelines were not in a form that easily facilitated their use for design and construction of compliant multi-family housing. When Type B unit provisions were added to the standard (and subsequently scoped in the model codes), Type A unit provisions were specifically maintained, recognizing that Type B (Fair Housing) units did not provide a level of access necessary for some people. If the direction of the committee is now going to be continually ‘raising the bar’ in Type B units, the two-tier approach of the standard and the codes no longer makes sense. Either Type B units should be removed, or alternatively, Type A units should be removed.

While some may point to the original Type B package and cite provisions that ‘exceed’ Fair Housing requirements, note that in the original development of the provisions this was done only where all affected interests agreed that there was no adverse impact on space, cost or functionality. Since the original package, there has been a consistent, incremental ‘creep’ to add additional requirements to the package. With the existing purpose statement, the standard at least provided a target that the committee was

supposedly aiming for (although several changes already approved have clearly 'exceeded' Fair Housing requirements). By changing the purpose statement, the committee will now open the door towards adding any requirement at all to up to 100% of the units in a multi-family project, regardless of Fair Housing requirements, or the cost, space impact, or functionality.

1004-PERRY.doc

Committee Action

Disapproved

Committee Reason: The Committee acknowledges that the Type B standards have shown changes from strict adherence to the Fair Housing provisions. The later standard has not be updated since its inception and even HUD acknowledges that many of the differences in the A117.1 Standard are welcome improvements.

BALLOT COMMENTS

10-26.1

Commenter: Ron Burton, Representing BOMA
Ballot: Negative with comment:

Comment: As the proponent argues in his reason statement, either Type B is "equivalent" to Fair Housing or it isn't. If the Committee adds provisions that exceed Fair Housing, what further purpose is there to having a Type B unit in the standard. Because HUD failed to take any action to review/certify the 2009 edition of A117.1 as a safe harbor, the user is forced to comply with the 2003 edition to ensure they are in compliance with Fair Housing and also must comply with the 2009 and later editions where they are adopted into the code text. An example of this dilemma is a provision in the 2009 Standard that allows a designer to only provide clear floor space at one lavatory in an "Option A" bathroom with multiple lavatories.

10-26.2

Commenter: Steve Orlowski, Representing NAHB
Ballot: Negative with comment:

Comment: We agree with the proponent that the committee has forgotten that the purpose of the type B units provisions were to differentiate between those units that must be fully accessible and those units that would provide a limited level of access to some users. Over the past several cycles, the committee has continuously added provisions upon Type B units that exceed the requirements of the Fair Housing Act. If it is the committee's intent to continue to ignore the criteria of the FHA guidelines as the basis for the provisions of Type B units, then the committee should remove the requirements all together.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

10-28– 12
1004.10.1

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

1004.10.1 Clear Floor Space. A clear floor space complying with Section 305.3, shall be provided for each washing machine and clothes dryer. A parallel approach shall be provided for a top loading machine. A forward or parallel approach shall be provided for a front loading machine.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The purpose of this change is to simply clarify that "each" machine (washer and dryer) needs to be provided with its own separate clear floor space and that a single clear floor space is not adequate to serve the two appliances.

During the last cycle the following changes were approved for this section: (Editorial group's revisions shown in blue font with double strikeout and double underline)

1004.10.1 Clear Floor Space. A clear floor space complying with Section 305.3, ~~positioned for parallel approach,~~ shall be provided. ~~The clear floor space shall be centered on the appliance.~~ A parallel approach shall be provided for a top loading machine. A ~~front~~ forward or parallel approach shall be provided for a front loading machine~~s~~.

This issue came up in a discussion of the editorial group during the last revision cycle when the group was looking at changing the last word of the provision from "machines" to "machine." The concern was that with the plural word someone could argue that a single clear floor space was acceptable for both the washer and the dryer. That would obviously make it easier to comply and eliminate the problem of the clear floor space extending beyond the edges of a machine (having to keep a machine 12 inches or so out of the corner) so a parallel approach can fit. The editorial group did believe that the intent was for each machine to have its own clear floor space and revised the text accordingly.

If the committee is concerned that a question may come up as to what to do if the unit has more than one washer or more than one dryer, then perhaps some alternate language is needed. If it really is a concern that units that do have multiple washers and dryers may be unfairly burdened, then perhaps we would need to provide some scoping language similar to the bathroom provisions and say "at least one" needs to provide the space. I personally do not believe such additional language is needed, but here is an alternate proposal if the committee does wish to provide further clarification of the provision.

1004.10 Laundry Equipment. Washing machines and clothes dryers shall comply with Section 1004.10.

1004.10.1 Clear Floor Space. Where a washing machine or a clothes dryer is provided a clear floor space complying with Section 305.3, shall be provided to at least one washer and one dryer. A parallel approach shall be provided for a top loading machine. A forward or parallel approach shall be provided for a front loading machine.

1004.10.1-PAARLBERG.doc

Committee Action

Approved

Committee Reason: This change was judged by the Committee as providing an appropriate clarification of the clear floor space requirement.

BALLOT COMMENTS

10-28.1

Commenter: Ronald G. Nickson, Representing NMHC
Ballot: Negative with comment:

Comment: The change would in most cases increase the area allotted to washers and driers. Increased space would be taken from other spaces within a dwelling unit making them less usable.

10-28.2

Commenter: Steve Orlowski, Representing NAHB
Ballot: Negative with comment:

Comment: The ramification of this proposed change goes beyond clarification and would significantly affect appliances installed in areas of hallways, kitchens or bathroom areas. As long as the clear floor space in front of the appliances is provided in a manner that places the controls of each appliance within the accessible reach ranges, why should the clear floor space be required on each appliance?

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval of this proposal.

10-29– 12
1004.11.3.1.3.2

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

Option 1

1004.11.3.1.3.2 Forward Approach Bathtubs. A clearance 60 inches (1525 mm) minimum in length and 48 inches (1220 mm) minimum in width shall be provided in front of bathtubs with a forward approach. Either a water closet or a lavatory or both a water closet and a lavatory shall be permitted in the clearance at one end of the bathtub.

Option 2

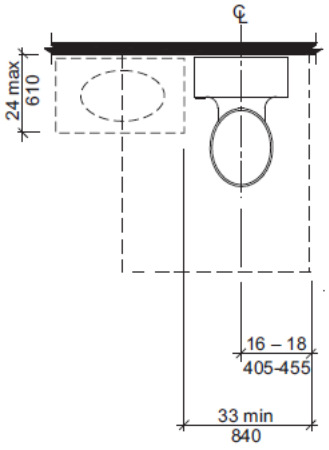
1004.11.3.1.3.2 Forward Approach Bathtubs. A clearance 60 inches (1525 mm) minimum in length and 48 inches (1220 mm) minimum in width shall be provided in front of bathtubs with a forward approach. A water closet, a lavatory, or both a water closet and a lavatory shall be permitted in the clearance at one end of the bathtub.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

This is simply a clarification that may be helpful given several changes that occurred in the 2009 edition and dealt with the way the word “and” was used for requirements. This perceived problem may be caused by being too code literal, but the use of the word “and” as the conjunction does raise the question as to whether the encroachment is only allowed for situations where both the water closet and lavatory exist or whether the encroachment is also allowed when only one of those fixtures is within the space.

Because of the word “and” in the phrase “a water closet and a lavatory” it may be assumed to require both fixtures and not allow a water closet OR a lavatory. The word “and” is good because if you provide both a WC and a lav along the end wall you could end up with both of them extending into the required clearance (the first would be in it completely and the second would encroach just a bit based on the clearance between fixtures). [See fig. 1004.11.3.1.2(d) below for example of how both fixtures may encroach.]

Changing the word “and” to be “or” would seem like a possibility but that would not accept the second fixture extending into the space as discussed above. Because the text needs to accept either one fixture or both fixtures in the space, it may need to be changed to something like what is shown in the two options.



(d) Clearance with lavatory overlap

Committee Action Report on Ballot and Proponent Comments- July 15-19, 2013:
Proposals of 2012 submitted on the ICC A117.1-2009

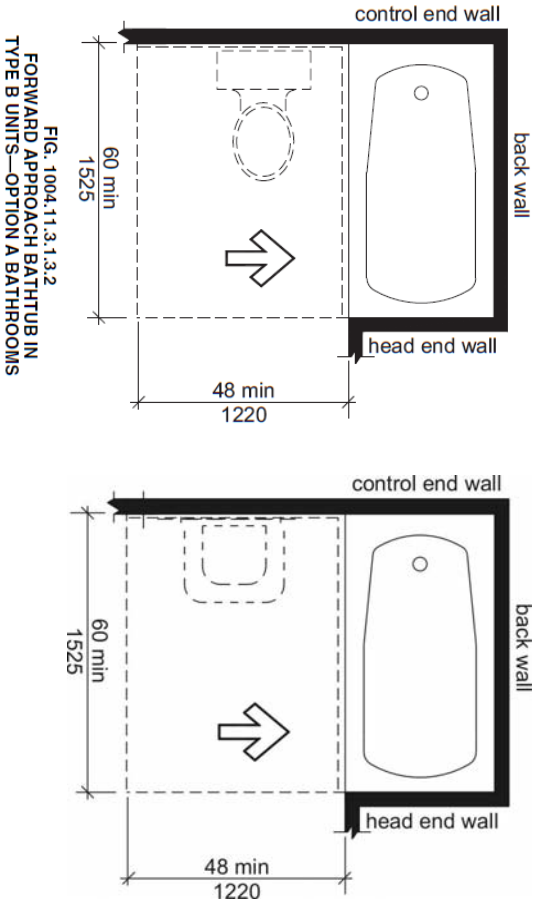


FIG. 1004.11.3.1.3.2
FORWARD APPROACH BATHTUB IN TYPE B UNITS—OPTION A BATHROOMS

1004.11.3.1.3.2-PAARLBERG.doc

Committee Action

Approved Option 2 as follows:

1004.11.3.1.3.2 Forward Approach Bathtubs. A clearance 60 inches (1525 mm) minimum in length and 48 inches (1220 mm) minimum in width shall be provided in front of bathtubs with a forward approach. A water closet, a lavatory, or both a water closet and a lavatory shall be permitted in the clearance at one end of the bathtub.

Committee Reason: The revision improves the language of the Standard allowing for easier compliance.

BALLOT COMMENTS

10-29.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Affirmative with comment:

Comment: The 2003 ICC A117.1 said the toilet should be at the control end of the tub. This allows someone to sit on the toilet to adjust the temperature of the water and then move into the tub. Having at the controls at the other end, away from the toilet has a clear floor space for a front approach, but since a person using a wheelchair cannot reach past their toes, it would not allow access to the controls.

The change to the change to the clearances was meant to allow for the sink, toilet and tub on the same wall. I believe the intent was just to stop the sink and toilet from being located across from each so that both were in front of the tub.

To correct this, the following additional modification should be proposed:

1004.11.3.1.3.2 Forward Approach Bathtubs. A clearance 60 inches (1525 mm) minimum in length and 48 inches (1220 mm) minimum in width shall be provided in front of bathtubs with a forward approach. A water closet, a lavatory, or both a water closet and a lavatory shall be permitted in the clearance at ~~one~~ the control end of the bathtub.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal. The proposal would restrict design options. The Editorial Task Group was asked to review the figure for consistency with the text.

10-31– 12
1004.11.3.1.3.3

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

1004.11.3.1.3.3 Shower Compartment. If a shower compartment is the only bathing facility, the shower compartment shall have dimensions of 36 inches (915 mm) minimum in width and 36 inches (915 mm) minimum in depth. A clearance of 48 inches (1220 mm) minimum in length, measured perpendicular from the shower head wall, and 30 inches (760 mm) minimum in depth, measured from the face of the shower compartment, shall be provided. Reinforcing for a shower seat is not required in shower compartments larger than 36 inches (915 mm) in width and 36 inches (915 mm) in depth.

> **EXCEPTION:** A shower shall be permitted to have dimensions of 30 inches minimum in depth and 60 inches minimum in width. A clearance of 60 inches (1525 mm) minimum in length adjacent to the 60- inch (1525 mm) width of the open face of the shower compartment, and 30 inches (760 mm) minimum in depth, shall be provided. A lavatory complying with Section 606 shall be permitted at the end of the clearance.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

Type B units should be permitted the option of the bathroom that allows for either a roll-in shower or a tub, or the new style of walk-in tub/shower. The size and clearance are taken from roll-in showers that are permitted in Accessible and Type A units.

1004.11.3.1.3.3-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The representative of HUD acknowledged that there is flexibility in the Fair Housing standard that isn't reflected in the A117.1 Standard, however the proposed text is more limiting that the flexibility allowed by HUD. Improved language is sought, but this proposal isn't the solution.

BALLOT COMMENTS

Committee Action Report on Ballot and Proponent Comments- July 15-19, 2013:
Proposals of 2012 submitted on the ICC A117.1-2009

10-31.1

Commenter: Dominic Marinelli, Representing USA
Ballot: Negative with comment:

Comment: Necessary to revisit as committee for disapproving was that proposal was more limiting than the options provided by the Fair Housing Act Accessibility Guidelines, however the guidelines mandate a 36 inch min by 36 inch min shower dimensions in many instances. Kim's proposal permits a roll-in shower that would be permitted in Accessible and Type A units. A lavatory complying with Section 606 shall be permitted at the end of the clearance will have to be augmented to indicate location of shower controls in relation to position of lavatory (i.e., A117.1 Commentary Figure C608.2.2(b).

10-31.2

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Cheryl Kent stated during the last meeting that HUD would accept any shower size larger than 9 sq.ft. The original intent of the proposal was to clarify that a roll-in shower compartment was acceptable because one dimension is 36 inches. The original proposal is too restrictive, but just saying 9 sq.ft. would not work because it would allow something way too narrow. A 30" x 44" shower stall provides greater than 9 sq.ft. in area.

Replace the proposal with the following:

1004.11.3.1.3.3 Shower Compartment. If a shower compartment is the only bathing facility, the shower compartment shall have dimensions of 36 inches (915 mm) minimum in width and 36 inches (915 mm) minimum in depth. A clearance of 48 inches (1220 mm) minimum in length, measured perpendicular from the shower head wall, and 30 inches (760 mm) minimum in depth, measured from the face of the shower compartment, shall be provided. Reinforcing for a shower seat is not required in shower compartments larger than 36 inches (915 mm) in width and 36 inches (915 mm) in depth.

> **EXCEPTION:** A shower compartment with dimensions of 30 inches (760 mm) minimum in depth and 44 inches (1120 mm) minimum in width shall be permitted.

PROPONENT COMMENT

10-31.3

Proponent: Kim Paarlberg, Representing ICC

Replace the proposal with the following:

1004.11.3.1.3.3 Shower Compartment. If a shower compartment is the only bathing facility, the shower compartment shall have dimensions of 36 inches (915 mm) minimum in width and 36 inches (915 mm) minimum in depth. A clearance of 48 inches (1220 mm) minimum in length, measured perpendicular from the shower head wall, and 30 inches (760 mm) minimum in depth, measured from the face of the shower compartment, shall be provided. Reinforcing for a shower seat is not required in shower compartments larger than 36 inches (915 mm) in width and 36 inches (915 mm) in depth.

> **EXCEPTION:** A shower compartment with dimensions of 30 inches (760 mm) minimum in depth and 44 inches (1120 mm) minimum in width shall be permitted.

Reason: Cheryl Kent stated during the last meeting that HUD would accept any shower size larger than 9 sq.ft. The original intent of the proposal was to clarify that a roll-in shower compartment was acceptable because one dimension is 36 inches. The original proposal is too restrictive, but just saying 9 sq.ft. would not work because it would allow something way too narrow. A 30" x 44" shower stall provides greater than 9 sq.ft. in area.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comment.

Committee Reason: The intent is to allow the flexibility of shower design that HUD allows under the Fair Housing Act guidelines. The 44 inch dimension is the minimum needed to create a shower of 9 square feet.

Modification.

Replace the proposal with the following:

1004.11.3.1.3.3 Shower Compartment. If a shower compartment is the only bathing facility, the shower compartment shall have dimensions of 36 inches (915 mm) minimum in width and 36 inches (915 mm) minimum in depth. A clearance of 48 inches (1220 mm) minimum in length, measured perpendicular from the shower head wall, and 30 inches (760 mm) minimum in depth, measured from the face of the shower compartment, shall be provided. Reinforcing for a shower seat is not required in shower compartments larger than 36 inches (915 mm) in width and 36 inches (915 mm) in depth.

EXCEPTION: A shower compartment with dimensions of 30 inches (760 mm) minimum in depth and 44 inches (1120 mm) minimum in width shall be permitted.

10-34– 12
1004.12.1.2

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

1004.12.1.2 U-Shaped Kitchens. In kitchens with counters, appliances, or cabinets on three contiguous sides, clearance between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas shall be 60 inches (1525 mm) minimum.

EXCEPTION: Spaces that do not provide a cooktop or conventional range shall not be required to comply with Section 1004.12.1.2 provided there is a 40-inch (1015 mm) minimum clearance between all opposing base cabinets, counter tops, appliances, or walls within work areas.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

When kitchenettes were added into Section 1004.12 of the 2009 standard, it created some inconsistencies between the Type B units and the Accessible units. This causes uncertainty for the Type B units and would appear to make them more restrictive than the Accessible units or general kitchens.

This new exception is copied from Section 804.2. (The reference within the exception has been changed from Section 804.2 to Section 1004.12.1.2.) The intent of adding this exception into the Type B unit requirements is to coordinate with the arrangements that are allowed in an Accessible unit and for a general kitchen. The Accessible units (Section 1002.12) based on the reference to Section 804; and the general kitchens (Section 804.2) are allowed to provide a minimum clearance of 40 inches where a cooktop or conventional range is not provided.

When dealing with the Type B units, however, the requirements are not as clear and, depending upon the interpretation, they may even result in those units being more restrictive than the Accessible units for certain requirements. As stated earlier, when dealing with an Accessible unit, Section 1002.12 clearly provides the reference to Section 804 that will result in the acceptance of the 40 inch clearance. The Type B unit requirements of Section 1004.12 do not provide an equivalent reference or exception.

Because of these inconsistencies, users must decide to either be code literal and make the Type B units more restrictive and provide better access than required for the Accessible units and general kitchens, or they must use their judgment to permit the Type B units to use the exceptions that are allowed for an Accessible unit. Because an Accessible unit is considered as the higher level of accessibility, I believe it is appropriate to add this exception in the Type B requirements or provide some type of similar exception which allows compliance with Sections 1002.12 or 804.

For the format to be consistent with Section 804.2 the exception should probably be placed directly under Section 1004.12.1. However, because the exception will only affect the U-shaped kitchenettes (that would initially require a 60 inch clearance) built using Section 1004.12.1.2, I felt it was more appropriate to place the exception in Section 1003.12.1.2.

I know that the argument will be made the U-shaped requirements only apply to “kitchens” based on the fact that “kitchenettes” are not mentioned in Section 1004.12.1.2. Sounds great until you look at previous section (for minimum clearance and it also says “kitchen work areas.” So we are either stuck saying the 60 inches does apply to kitchenettes or we have to say the 40 inches does not apply. If we say the clearance requirements only apply to “kitchens” (because kitchenettes are not mentioned in those two paragraphs) that would seem to mean that a kitchenette could go back to using simply a 36 inch accessible route between the cabinet and any obstruction. That clearly was not the intent and because we wanted the Accessible and Type A units to meet the 40 inch requirement from Fair Housing that led us to revising the exception in 804.2 and including “kitchenettes” in both the Accessible and Type A unit provisions.

1004.12.1.2-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: Consistent with the decision on Proposal 8-8-12.

BALLOT COMMENTS

Committee Action Report on Ballot and Proponent Comments- July 15-19, 2013:
Proposals of 2012 submitted on the ICC A117.1-2009

10-34.1

Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: The rationale for the vote is flawed. This item has nothing to do with the proposal in 8-8. Proposal 8-8 relates to fully accessible kitchens as the standard addresses them in Chapter 8. This proposal limits the application to only Type B units and is an attempt to address kitchenettes. According to the HUD guidelines U-shaped kitchens with sink or range or cooktop at the base of the "U" require the turning space within the kitchen. Because the sink aspect was not included in the original text; two options exist for a solution - 1) use the specific allowance from the Guidelines; or, 2) modify the provisions slightly based on the original proposal.

These result in:

1. EXCEPTION: Spaces that do not provide a without a sink or cooktop or conventional range at the base of the "U" shall not be required to comply with Section 1004.12.1.2 provided there is a 40-inch (1015 mm) minimum clearance between all opposing base cabinets, countertops, appliances, or walls within work areas.

-or-

2. EXCEPTION: Spaces without a sink at the base of the "U" and that do not provide a cooktop or conventional range shall not be required to comply with Section 1004.12.1.2 provided there is a 40-inch (1015 mm) minimum clearance between all opposing base cabinets, countertops, appliances, or walls within work areas.

In both cases the sink cannot be at the base on the "U" in the kitchen. In the first option, no cooktop or no conventional range is allowed anyway in the kitchen whereas the second option allows the cooktop/range as long as it is not at the base of the "U."

Proponent Comment

10-34.2

Commenter: Kim Paarlberg, representing ICC
Ballot: Negative with comment:

Comment: Kim will address this issue in 8-13.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

10-35– 12
1004.12.2.5, 1004.12.2.5.1 (New), 1004.12.2.5.2 (New), 1004.12.2.5.3 (New)

Proposed Change as Submitted

Proponent: Cheryl Kent, representing U.S. Department of Housing and Urban Development

Revise as follows:

1004.12.2.5 Refrigerator/Freezer. ~~A clear floor space, positioned for a parallel approach to the refrigerator/freezer, shall be provided. The centerline of the clear floor space shall be offset 24 inches (610 mm) maximum from the centerline of the appliance.~~ The refrigerator/freezer shall comply with Section 1004.12.2.5.

1004.12.2.5.1 Approach. A clear floor space positioned for a parallel or forward approach to the refrigerator/freezer shall be provided.

1004.12.2.5.2 Forward Approach. Where the clear floor space is positioned for a forward approach, the centerline of the clear floor space shall be offset 15 inches (380 mm) maximum from the centerline of the appliance.

1004.12.2.5.3 Parallel Approach. Where the clear floor space is positioned for a parallel approach, the centerline of the clear floor space shall be offset 24 inches (610 mm) maximum from the centerline of the appliance.

Reason: HUD's Fair Housing Accessibility Guidelines permit either a parallel or a forward approach at the refrigerator. In the past, HUD has submitted proposals for centering of the clear floor space, and those proposals were rejected; however, the language that is currently in Section 1004.12.2.5 was accepted. HUD wishes to provide greater flexibility for designers and builders and permit either a parallel or forward approach, and the above revised language is intended to address the forward approach, and uses the same format as what is currently shown for Section 1004.12.2.3 Cooktop.

1004.12.2.5-KENT.doc

Committee Action

Approved

Committee Reason: The proposal adds flexibility to compliance with this requirement.

BALLOT COMMENTS

10-35.1
Commenter: Gina Hilberry, Representing UCP
Ballot: Negative with comment:

Comment: An offset of 24 inches maximum from the centerline of the appliance to the centerline of a clear floor space positioned for parallel approach could result in the clear floor space being completely offset from the refrigerator space. Side-by-side units are becoming more common as universal design principles gain support.

Committee Review of Comments and Action – July 2013

Approved.

Committee Action Report on Ballot and Proponent Comments- July 15-19, 2013:
Proposals of 2012 submitted on the ICC A117.1-2009

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original approval of this proposal.

10-38– 12

Proposed Change as Submitted

Proponent: Cheryl Kent, representing U.S. Department of Housing and Urban Development

Revise as follows:

1003.11.2.5 Bathing Fixtures. The accessible bathing fixture shall be a bathtub complying with Section 1003.11.2.5.1 or a shower compartment complying with Section 1003.11.2.5.2.

1003.11.2.5.1 Bathtub. Bathtubs shall comply with Section 607.

EXCEPTIONS:

1. The ~~removable in tub~~ seat required by Section 607.3 is not required.

2. Counter tops and cabinetry shall be permitted at one end of the clearance, provided the following criteria are met:
   (a) The countertop and cabinetry can be removed;
   (b) The floor finish extends under the countertop and cabinetry; and
   (c) The walls behind and surrounding the countertop and cabinetry are finished.

Reason: The plain language of Exception 1 to 1003.2.5.1 is not clear; it makes no sense to state that the removable in-tub seat required by Section 607.3 is not required, if the permanent seat also is not required. Based on the plain language of Section 1003.11.2.5.1 Bathtub, it says, bathtubs shall comply with Section 607. Section 607.3 is part of Section 607, and states, "Seat. A permanent seat at the head end of the bathtub or a removable in-tub seat shall be provided. Seats shall comply with Section 610." Going back to 1003.11.2.5.1, Exception 1 only exempts the in-tub seat; with no exception for the permanent seat, the language is saying you must have a permanent seat, but you do not have to provide a removable seat. In discussing this issue with ICC staff and other members of the A117 Committee, HUD was advised the permanent seat also is not required. Based on these discussions, we believe the language is not clear and offer this revision to clear up the ambiguity in the text.

Committee Action

Disapproved

Committee Reason: The removable seat is an adaptive feature. It can be acquired by a resident of the unit at a later time. Providing a head end seat isn't adaptive.

BALLOT COMMENTS

10-38.1

Comment rescinded

10-38.2

Commenter: Cheryl D. Kent, Representing HUD
Ballot: Negative with comment:

Comment: I disagree with the Committee's action as the language in Section 1003.11.2.5 as currently written is confusing. I mis-interpreted this language to be saying a seat is not required altogether. It is now my understanding the permanent seat is required. I am offering a modification of this proposal which will instead delete Exception 1, as shown below. This change will make the language for bathtub seats consistent with what is in the 2010 ADA Standards.

Revise as follows:

1003.11.2.5 Bathing Fixtures. The accessible bathing fixture shall be a bathtub complying with Section 1003.11.2.5.1 or a shower compartment complying with Section 1003.11.2.5.2.

1003.11.2.5.1 Bathtub. Bathtubs shall comply with Section 607.

EXCEPTIONS:

~~1. The removable in-tub seat required by Section 607.3 is not required.~~

~~2~~ 1. Counter tops and cabinetry shall be permitted at one end of the clearance, provided the following criteria are met:

(a) The countertop and cabinetry can be removed;
(b) The floor finish extends under the countertop and cabinetry; and
(c) The walls behind and surrounding the countertop and cabinetry are finished.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comment.

Committee Reason: The proponent requested the committee to consider comment 10-38.2 which totally strikes the exception. The standard does require a seat in Section 607 and provides the option of a removable in-tub seat.

Modification:

Replace the proposal as follows:

1003.11.2.5.1 Bathtub. Bathtubs shall comply with Section 607.

EXCEPTIONS:

~~1. The removable in-tub seat required by Section 607.3 is not required.~~

~~2~~ 1. Counter tops and cabinetry shall be permitted at one end of the clearance, provided the following criteria are met:

(a) The countertop and cabinetry can be removed;
(b) The floor finish extends under the countertop and cabinetry; and
(c) The walls behind and surrounding the countertop and cabinetry are finished.

Chapter 11
Items 11-1-12 through 11-18-12
August 7, 2013.

This is one of ten documents containing those proposed changes to the A117.1 Standard, 2009 edition; for which A117.1 Committee received Ballot or Proponent Comments. Each item was discussed at the meeting of Committee during the week of July 15, 2013, in Washington D.C. The Committee took action on each proposal and such action is specified herein. The actions listed here are subject reconfirmation by the Committee via the Committee's ballot process.

Please note: This document does not contain proposals for which no comments were received. Those proposals, and the Committee decision on each one, can be viewed in the Committee Action Report (CAR) under the title: First Draft Standard Development at this following location: http://www.iccsafe.org/cs/standards/A117/Pages/default.aspx

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11-1– 12
1101.2.1

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

1101.2 .1 General Exceptions. The following shall not be required to be accessible or to be on an accessible route:

1. Raised structures used solely for refereeing, judging, or scoring a sport.
2. Water Slides.
3. Animal containment areas that are not for public use.
4. Raised boxing or wrestling rings.
5. Raised diving boards and diving platforms.
6. Bowling lanes that are not required to provide wheelchair spaces.
7. Mobile or portable amusement rides
8. Amusement rides that are controlled or operated by the rider.
9. Amusement rides designed primarily for children, where children are assisted on and off the ride by an adult.
10. Amusement rides that do not provide amusement ride seats.
11. Shooting facilities with firing positions on free-standing platforms that are elevated above grade 12 feet (3660 mm) minimum provided that the aggregate area of elevated firing positions is 500 square feet (46 m^2) maximum.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC

develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.
Firing positions may be elevated to allow people to practice shooting from a tree blind. The exception is intended to be consistent with what is permitted for press boxes by the IBC and ADA.

1101.2.1 (New)-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The proposal would result in the A117.1 being in conflict with the 2010 ADA.

BALLOT COMMENTS

11-1.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: This is a standard set up for people who want to practice shooting from a blind. If an elevated stand is provided, is there an option of providing a ground level space adjacent? Or is a size limit exception appropriate.

A modification for this proposal will be forthcoming.

PROPONENT COMMENT

11-1.2

Proponent: Kim Paarlberg, Representing ICC

Request that 11-1-12 be Approved as submitted.

Reason: The committee said this proposal will conflict with ADA. However, it is my opinion that the 2010 ADA does not address this type of shooting facility. Surely the 2010 ADA did not intend to prohibit target practice that would be used when located in a tree stand. This is an extremely common hunting practice.

These locations are typically located in remote areas without power, therefore, a lift would have problems with both power and vandalism.

There should be an allowance for small elevated stations. This is consistent with press boxes, which would be much more heavily used.

Lower platforms or larger platforms would be required to have an accessible route.

Facilities such as this that are part of a practice shooting trail would be exempt as an area of sports activity.

There is a product out that takes people into a tree stand using a sling, but that would not include a persons mobility device. These systems require assistance or substantial strength.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason*:* The committee acknowledged that the topic is not addressed in the ADA, therefore approving it does not provide a conflict. The size and height chosen are not based on any study of such facilities, but are the same numbers which allows elevated press boxes to be exempt.

11-7– 12
1105.2, 1105.2.1, 1105.2.1.1, 1105.3.1, 1105.3.1, 1105.3.2, 1105.4

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

1105.2 Railings. Where provided along the perimeter of fishing piers or platforms, railings, barriers, or guards~~, or handrails~~ shall comply with Section 1105.2.

1105.2.1 Height. A minimum of 25 percent of the railings, ~~guards~~ or barriers~~, or handrails~~ shall be 34 inches (865 mm) maximum above the ground or deck surface.

EXCEPTION: Where a guard complying with the applicable building code is provided, the guard shall not be required to comply with Section 1105.2.1.

1105.2.1.1 Dispersion. Railings, ~~guards~~ or barriers~~, or handrails~~ required to comply with Section 1105.2.1 shall be dispersed throughout the fishing pier or platform.

1105.3 Edge Protection. Where railings, ~~guards~~ or barriers~~, or handrails~~ complying with Section 1105.2 are provided, edge protection complying with Section 1105.3.1, ~~or~~ 1105.3.2 or 1105.3.3 shall be provided.

1105.3.1 Curb ~~or Barrier~~. Curbs ~~or barriers~~ shall ~~extend~~ be a minimum of 2 inches (51 mm) ~~minimum~~ in height above the surface of the fishing pier or platform.

1105.3.2 Barrier. Barriers shall be constructed so that the barrier prevents the passage of a 4-inch (100 mm) diameter sphere where any portion of the sphere is within 4 inches (100 mm) of the floor.

1105.3.3 ~~1105.3.2~~ Extended Ground or Deck Surface. The ground or deck surface shall extend 12 inches (305 mm) minimum beyond the inside face of the railing. Toe clearance shall be provided and shall be 30 inches (760 mm) minimum in width and 9 inches (230 mm) minimum in height above the ground or deck surface beyond the railing.

1105.4 Clear Floor Space. At each location where there are railings, ~~guards~~ or barriers~~, or handrails~~ complying with Section 1105.2.1, a clear floor space complying with Section 305 shall be provided. Where there are no railings, barriers or guards~~, or handrails~~, at least one clear floor space complying with Section 305 shall be provided on the fishing pier or platform.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The purpose is to use terms consistent with building codes.

Guards are a subset of barriers. Barriers are considerably more than just a curb. Guards are required by the building code to have a minimum height of 42 inches. Therefore, a 'guard' cannot be 34" maximum in height and provide an accessible fishing location.

If the exception says guard can be high enough so that there are no 34" high locations, there are no locations to disperse. Handrails are required along ramps and stairs. With the fishing location required to be level, there will not be a handrail at these accessible fishing locations.

Edge protection should be handled similar ramp requirements. This clarification for separating curbs and barriers is important. I am assuming that the difference (i.e., 2 inches) is based on the boat dock edge limitations and the old ADA 2 inch curbs. If the intent is to protect the small front wheels, the appropriate opening limitation is 4 inches. This would be consistent with guard openings (based on the size of a child's head) and may be used in a barrier where the pier owners were concerned about child falls.

Committee Action

Disapproved

Committee Reason: The intent of the 2010 ADA is to require a guard which is in compliance with the *International Building Code*. This proposed change by removing the word 'guard' would result in something less then an IBC guard being required.

BALLOT COMMENTS

11-7.1

Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: The current text says, "Where provided, railings, guards, or handrails shall…." Any argument that says that the guard provisions are removed only has to look at the current language to see that guards are not ever required. If the intent of the 2010 ADA was to require a guard in accordance with the IBC, then this proposal should be used to make that clear. As written, it does not make that clear. It leaves open the question about "where provided." The modifications proposed are consistent with the IBC requirements for guards relative to the 4 inch spacing (information that isn't in the standard now) and consistent with the IBC and A117.1 for ramp edge protection (which has nothing to do with guards). If a guard is intended, then language must be added. A consensus approach should be taken with a task group set up to offer a revised proposal for the July meeting. Something needs to be done but there are to many variables based on the committee statement to offer a single suggestion without another round of discussion such as can be found in a task group.

11-7.2

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The revised requirements actually coordinate with what the building code considers a guard. A barrier can aid in prevention of falls, but does not have the height or opening limitations of a guard.

A modification for this proposal will be forthcoming.

PROPONENT COMMENT

11-7.3

Proponent: Kim Paarlberg, Representing ICC

Replace the proposal with the following:

1105.2 Railings. Where provided along the perimeter of fishing piers or platforms, railings, or guards, ~~or handrails~~ shall comply with Section 1105.2.

> **EXCEPTION**: Where a guard complying with the applicable building code is provided, the guard shall not be required to comply with Section 1105.2.

1105.2.1 Height. A minimum of 25 percent of the railings~~, guards or handrails~~ shall be 34 inches (865 mm) maximum above the ground or deck surface.

> ~~**EXCEPTION**: Where a guard complying with the applicable building code is provided, the guard shall not be required to comply with Section 1105.2.1.~~

1105.2.1.1 Dispersion. Railings~~, guards or handrails~~ required to comply with Section 1105.2.1 shall be dispersed throughout the fishing pier or platform.

1105.3 Edge Protection. Where railings~~, guards or handrails~~ complying with Section 1105.2 are provided, edge protection complying with Section 1105.3.1, ~~or~~ 1105.3.2 or 1105.3.3 shall be provided.

1105.3.1 Curb or Barrier. Curbs or barriers shall ~~extend~~ be a minimum of 2 inches (51 mm) ~~minimum~~ in height above the surface of the fishing pier or platform.

~~**1105.3.2 Barrier.** Barriers shall be constructed so that the barrier prevents the passage of a 4-inch (100-mm) diameter sphere where any portion of the sphere is within 4 inches (100 mm) of the floor.~~

1105.3.3 ~~1105.3.2~~ Extended Ground or Deck Surface. The ground or deck surface shall extend 12 inches (305 mm) minimum beyond the inside face of the railing. Toe clearance shall be provided and shall be 30 inches (760 mm) minimum in width and 9 inches (230 mm) minimum in height above the ground or deck surface beyond the railing.

1105.4 Clear Floor Space. At each location where there are railings~~, guards or handrails~~ complying with Section 1105.2.1, a clear floor space complying with Section 305 shall be provided. Where there are no railings, guards, or handrails, at least one clear floor space complying with Section 305 shall be provided on the fishing pier or platform.

Reason: The committee said the ADA intended to allow guards compliant with IBC in hazardous situations. The proposed text still includes 'guards' in 1105.2 and the exception, therefore this proposal will not conflict with ADA. The goal is also not to conflict with what is understood in IBC.

The IBC defines handrails as follows:

HANDRAIL. A horizontal or sloping rail intended for grasping by the hand for guidance or support.

Handrails are required at ramps and stairways. While there would be handrails on the ramps getting to and from the platform, that would not be the fishing location. While handrails are horizontal at the ends, handrails would not be provided around the perimeter of a flat surface. They also will not meet the dispersement or clear floor space requirement in current text. Handrails should not be listed in 1105.2 or 1105.4.

The IBC defines guards as follows:

GUARD. A building component or a system of building components located at or near the open sides of elevated walking surfaces that minimizes the possibility of a fall from the walking surface to a lower level.

Guards are required where there is a danger of a fall. The minimum height of a guard is 42" high, and no openings are permitted to be larger than 4". Therefore, guards are not required to meet the height requirements. And if they are not lowered, they also do not need to meet the dispersement or clear floor space requirement. Guards should not be listed in 1105.2.1, 1105.2.2 or 1105.4.

If there will be no accessible fishing position at a handrail or guard, then they don't need the edge protection. Guards and handrails should not be in 1105.3.

The split between curbs and barriers is intended to be consistent with the similar split of edge protection at ramps (405.9.2.1 and 405.9.2.2). In addition, since the front wheels of a wheelchair on a ramp are assumed to not move through a 4" gap, what is the reason for a 2" gap at fishing piers? I think this is the old 2" curb from the 1994 ADAAG.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The committee approved the proposal based on modifications shown in comment 11-7.3. Further modifications were made to address potential confusion with handrails as required in a building code. The consensus was that guards which complied with the building code applicable in a jurisdiction would be acceptable as the 'barrier' around such piers and platforms.

Replace the proposal with the following:

1105.2 Railings. Where provided along the perimeter of fishing piers or platforms, railings, or guards, ~~or handrails~~ shall comply with Section 1105.2.

EXCEPTION: Where a guard complying with the applicable building code is provided, the guard shall not be required to comply with Section 1105.2.

1105.2.1 Height. A minimum of 25 percent of the railings~~, guards or handrails~~ shall be 34 inches (865 mm) maximum above the ground or deck surface.

~~**EXCEPTION**: Where a guard complying with the applicable building code is provided, the guard shall not be required to comply with Section 1105.2.1.~~

1105.2.1.1 Dispersion. Railings~~, guards or handrails~~ required to comply with Section 1105.2.1 shall be dispersed throughout the fishing pier or platform.

1105.3 Edge Protection. Where railings~~, guards or handrails~~ complying with Section 1105.2 are provided, edge protection complying with Section 1105.3.1 or 1105.3.2 shall be provided.

1105.3.1 Curb or Barrier. Curbs or barriers shall ~~extend~~ be a minimum of 2 inches (51 mm) ~~minimum~~ in height above the surface of the fishing pier or platform.

1105.3.2 Extended Ground or Deck Surface. The ground or deck surface shall extend 12 inches (305 mm) minimum beyond the inside face of the railing. Toe clearance shall be provided and shall be 30 inches (760 mm) minimum in width and 9 inches (230 mm) minimum in height above the ground or deck surface beyond the railing.

1105.4 Clear Floor Space. At each location where there are railings~~, guards or handrails~~ complying with Section 1105.2.1, a clear floor space complying with Section 305 shall be provided. Where there are no railings, guards, or handrails, at least one clear floor space complying with Section 305 shall be provided on the fishing pier or platform.

11-11– 12
1108.3.2.1

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

1108.3.2.1 Ground Level Play Components. Accessible ground level play components shall be provided in the number and types required by Section 1108.3.2.1.1 or 1108.3.2.1.2, whichever is greater. ~~Ground level play components that are provided to comply with Section 1108.3.2.1.1 shall be permitted to satisfy the additional number required by Section 1108.3.2.1.2 if the minimum required types of play components are satisfied. Where two or more required~~ Accessible ground level play components ~~are provided, they~~ shall be dispersed throughout the play area and integrated with other play components.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The proposal clarifies confusing language.

1108.3.2.1 (REVISED)-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: There text that would result from this proposal is unclear. It may result in fewer accessible components than intended by the ADA 2010.

BALLOT COMMENTS

11-11.1
Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The current language for determining the number of ground level and elevated level play components is confusing.

A modification for this proposal will be forthcoming.

PROPONENT COMMENT

11-11.2
Proponent: Kim Paarlberg, Representing ICC

Request that 11-11-12 be Approved as submitted.

Reason: The current language is very confusing. If you look at the tables, you can see that this text says the same thing in a more straightforward manner. There is no reduction in required numbers.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal.

11-12– 12
1108.4, 1108.4.1, 1108.4.1.1, 1108.4.1.2, 1108.4.1.3

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

1108.4 Accessible Routes Within Play Areas. Accessible routes within play areas shall comply with Section 1108.4.

1108.4.1 Accessible Routes. Accessible routes serving play areas shall comply with Chapter 4 and Section 1108.4.1 ~~and shall be permitted to use the exceptions in Sections 1108.4.1.1 through 1108.4.1.3.~~ Where accessible routes serve ground level play components, the vertical clearance shall be 80 inches (2030 mm) minimum in height.

EXCEPTIONS:

1. Accessible routes serving ground level play components and elevated play components shall be permitted to use transfer systems complying with Section 1108.4.2. The transfer systems shall be permitted to connect elevated play components except where 20 or more elevated play components are provided no more than 25 percent of the elevated play components shall be permitted to be connected by transfer systems.

2. Where transfer systems are provided on the accessible routes serving ground level play components and elevated play components, an elevated play component shall be permitted to connect to another elevated play component as part of an accessible route.

3. Accessible routes serving soft contained play structures shall be permitted to use transfer systems complying with Section 1108.4.2 as part of an accessible route.

4. Where the surface of the accessible route, clear floor spaces, or turning spaces serving water play components is submerged, complying with Sections 302, 403.3, 405.2, 405.3, and 1108.4.1.6 shall not be required.

5. Accessible routes serving water play components shall be permitted to use transfer systems complying with Section 1108.4.2 to connect elevated play components in water.

~~**1108.4.1.1 Ground Level and Elevated Play Components.** Accessible routes serving ground level play components and elevated play components shall be permitted to use the exceptions in Section 1108.4.1.1.~~

~~**EXCEPTIONS:**~~

~~1. Transfer systems complying with Section 1108.4.2 shall be permitted to connect elevated play components except where 20 or more elevated play components are provided no more than 25 percent of the elevated play components shall be permitted to be connected by transfer systems.~~

~~2. Where transfer systems are provided, an elevated play component shall be permitted to connect to another elevated play component as part of an accessible route~~.

~~**1108.4.1.2 Soft Contained Play Structures.** Accessible routes serving soft contained play structures shall be permitted to use the exception in Section 1108.4.1.2.~~

~~**EXCEPTION:** Transfer systems complying with Section 1108.4.2 shall be permitted to be used as part of an accessible route.~~

~~**1108.4.1.3 Water Play Components.** Accessible routes serving water play components shall be permitted to use the exceptions in Section 1108.4.1.3.~~

~~**EXCEPTIONS:**~~

~~1. Where the surface of the accessible route, clear floor spaces, or turning spaces serving water play components is submerged, complying with Sections 302, 403.3, 405.2, 405.3, and 1108.4.1.6 shall not be required.~~

~~2. Transfer systems complying with Section 1108.4.2 shall be permitted to connect elevated play components in water.~~

Renumber remaining sections of 1108.4.1 as indicated.

~~1108.4.1.4~~ 1108.4.1.1 Clear Width.
~~1108.4.1.4.1~~ 1108.4.1.1.1 Ground Level.
~~1108.4.1.4.2~~ 1108.4.1.1.2 Elevated.

~~1108.4.1.5~~ 1108.4.1.2 Ramps
~~1108.4.1.5.1~~ 1108.4.1.2.1 Ground Level
~~1108.4.1.5.2~~ 1108.4.1.2.2 Elevated
~~1108.4.1.5.3~~ 1108.4.1.2.3 Handrails
~~1108.5.1.5.3.1~~ 1108.5.1.2.3.1 Handrail Gripping Surfaces
~~1108.5.1.5.3.2~~ 1108.5.1.2.3.2 Handrail Height

~~1108.4.1.6~~ 1108.4.1.3 Ground Surfaces
~~1108.4.1.6.1~~ 1108.4.1.3.1 Surface Condition
~~1108.4.1.6.2~~ 1108.4.1.3.2 Use Zones

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

This is intended to be an editorial revision without any technical changes being made. The purpose of the proposal is to revise the section into the format that is common for the standard and eliminate references to the exceptions within the section. Instead of referencing and saying that the exceptions can be used, simply show them as exceptions which will allow them to be used and accomplish the same thing in the normal format.

The format change should make the provisions less confusing and easier to follow.

1108.4-PAARLBERG.doc

Disapproved

Committee Reason: It is preferable to retain the same format as the ADA 2010. Users could incorrectly assume that the different formats between the Standard and the ADA means that the requirements are different.

BALLOT COMMENTS

11-12.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The proposed language will match 2010 ADA and provide additional clarification.
A modification for this proposal will be forthcoming.

PROPONENT COMMENT

11-12.2

Proponent: Kim Paarlberg, Representing ICC

Replace the proposal with the following:

1108.4 Accessible Routes Within Play Areas. Accessible routes within play areas shall comply with Section 1108.4.

1108.4.1 Accessible Routes. Accessible routes serving play areas shall comply with Chapter 4 and Section 1108.4.1 ~~and shall be permitted to use the exceptions in Sections 1108.4.1.1 through 1108.4.1.3.~~ Where accessible routes serve ground level play components, the vertical clearance shall be 80 inches (2030 mm) minimum in height.

EXCEPTIONS:

1. Where 20 or more elevated play components are provided, transfer systems complying with Section 1108.4.2. shall be permitted to be used as part of an accessible route for a maximum of 25 percent of the play components.
2. Where fewer than 20 elevated play components are provided, transfer systems complying with Section 1108.4.2 shall be permitted to be used as part of an accessible route.
3. Where transfer systems are provided, an elevated play component shall be permitted to connect to another elevated play component as part of an accessible route.
4. Accessible routes serving soft contained play structures shall be permitted to use transfer systems complying with Section 1108.4.2 as part of an accessible route.
5. Where the surface of the accessible route, clear floor spaces, or turning spaces serving water play components is submerged, complying with Sections 302, 403.3, 405.2, 405.3, and 1108.4.1.6 shall not be required.
6. Accessible routes serving water play components shall be permitted to use transfer systems complying with Section 1108.4.2 to connect elevated play components in water.

~~**1108.4.1.1 Ground Level and Elevated Play Components.** Accessible routes serving ground level play components and elevated play components shall be permitted to use the exceptions in Section 1108.4.1.1.~~

~~**EXCEPTIONS:**~~

~~1. Transfer systems complying with Section 1108.4.2 shall be permitted to connect elevated play components except where 20 or more elevated play components are provided no more than 25 percent of the elevated play components shall be permitted to be connected by transfer systems.~~

~~2. Where transfer systems are provided, an elevated play component shall be permitted to connect to another elevated play component as part of an accessible route~~.

~~**1108.4.1.2 Soft Contained Play Structures.** Accessible routes serving soft contained play structures shall be permitted to use the exception in Section 1108.4.1.2.~~

~~**EXCEPTION:** Transfer systems complying with Section 1108.4.2 shall be permitted to be used as part of an accessible route.~~

~~**1108.4.1.3 Water Play Components.** Accessible routes serving water play components shall be permitted to use the exceptions in Section 1108.4.1.3.~~

~~**EXCEPTIONS:**~~

~~1. Where the surface of the accessible route, clear floor spaces, or turning spaces serving water play components is submerged, complying with Sections 302, 403.3, 405.2, 405.3, and 1108.4.1.6 shall not be required.~~

~~2. Transfer systems complying with Section 1108.4.2 shall be permitted to connect elevated play components in water.~~

(Renumber remaining sections of 1108.4.1)

Reason: The ICC A117.1 does not make separate statements with the sole purpose of allowing for exceptions. Nor do we write exceptions within exceptions (1108.4.1.1 Exception 1). The only thing this proposal does is group the exceptions in one section. This would make the existing language consistent with ICC format with no change in requirements. While I support coordination with ADA, ICC A117.1 should not follow bad code writing practices.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comments.

Committee Reason: The committee found the revised version of the proposal found in Comment 11-12.2 is a better organization of the exceptions for play areas.

Modification.

Replace the proposal with the following:

1108.4 Accessible Routes Within Play Areas. Accessible routes within play areas shall comply with Section 1108.4.

1108.4.1 Accessible Routes. Accessible routes serving play areas shall comply with Chapter 4 and Section 1108.4.1 ~~and shall be permitted to use the exceptions in Sections 1108.4.1.1 through 1108.4.1.3.~~ Where accessible routes serve ground level play components, the vertical clearance shall be 80 inches (2030 mm) minimum in height.

EXCEPTIONS:

1. Where 20 or more elevated play components are provided, transfer systems complying with Section 1108.4.2. shall be permitted to be used as part of an accessible route for a maximum of 25 percent of the play components.
2. Where fewer than 20 elevated play components are provided, transfer systems complying with Section 1108.4.2 shall be permitted to be used as part of an accessible route.
3. Where transfer systems are provided, an elevated play component shall be permitted to connect to another elevated play component as part of an accessible route.
4. Accessible routes serving soft contained play structures shall be permitted to use transfer systems complying with Section 1108.4.2 as part of an accessible route.
5. Where the surface of the accessible route, clear floor spaces, or turning spaces serving water play components is submerged, complying with Sections 302, 403.3, 405.2, 405.3, and 1108.4.1.6 shall not be required.
6. Accessible routes serving water play components shall be permitted to use transfer systems complying with Section 1108.4.2 to connect elevated play components in water.

~~**1108.4.1.1 Ground Level and Elevated Play Components.** Accessible routes serving ground level play components and elevated play components shall be permitted to use the exceptions in Section 1108.4.1.1.~~

~~**EXCEPTIONS:**~~

~~1. Transfer systems complying with Section 1108.4.2 shall be permitted to connect elevated play components except where 20 or more elevated play components are provided no more than 25 percent of the elevated play components shall be permitted to be connected by transfer systems.~~

~~2. Where transfer systems are provided, an elevated play component shall be permitted to connect to another elevated play component as part of an accessible route~~.

~~**1108.4.1.2 Soft Contained Play Structures.** Accessible routes serving soft contained play structures shall be permitted to use the exception in Section 1108.4.1.2.~~

~~**EXCEPTION:** Transfer systems complying with Section 1108.4.2 shall be permitted to be used as part of an accessible route.~~

~~**1108.4.1.3 Water Play Components.** Accessible routes serving water play components shall be permitted to use the exceptions in Section 1108.4.1.3.~~

~~**EXCEPTIONS:**~~

~~1. Where the surface of the accessible route, clear floor spaces, or turning spaces serving water play components is submerged, complying with Sections 302, 403.3, 405.2, 405.3, and 1108.4.1.6 shall not be required.~~

~~2. Transfer systems complying with Section 1108.4.2 shall be permitted to connect elevated play components in water.~~

(Renumber remaining sections of 1108.4.1)

11-13– 12
1108.4.1, 1108.4.1.1, 1108.4.1.2, 1108.4.1.3

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

1108.4.1 Accessible Routes. Accessible routes serving play areas shall comply with ~~Chapter 4 and~~ Section 1108.4.1.1 through 1108.4.1.6.2 ~~and shall be permitted to use the exceptions in Sections 1108.4.1.1 through 1108.4.1.3~~.

1108.4.1.1 Ground level play components. Accessible routes serving ground level play components shall comply with Chapter 4. ~~Where accessible routes serve ground level play components, the vertical clearance shall be 80 inches (2030 mm) minimum in height.~~

~~**1108.4.1.1**~~ **1108.4.1.2** ~~**Ground Level and**~~ **Elevated Play Components.** Accessible routes serving ~~ground level play components and~~ elevated play components shall comply with Chapter 4 ~~be permitted to use the exceptions in Section 1108.4.1.1~~.

EXCEPTIONS~~:~~

1. Where 20 or more elevated play components are provided, transfer systems complying with Section 1108.4.2. shall be permitted to be used as part of an accessible route for a maximum of 25 percent of the play components ~~connect elevated play components except where 20 or more elevated play components are provided no more than 25 percent of the elevated play components shall be permitted to be connected by transfer systems.~~

2. Where fewer than 20 elevated play components are provided, transfer systems complying with Section 1108.4.2 shall be permitted to be used as part of an accessible route.

3. Where transfer systems are provided, An elevated play component shall be permitted to connect to another elevated play component as part of an accessible route.
4. Where accessible routes serve elevated level play components, the vertical clearance is not required to comply with Section 307.

~~**1108.4.1.2**~~ **1108.4.1.3 Soft Contained Play Structures.** Accessible routes serving soft contained play structures shall comply with Chapter 4 ~~be permitted to use the exception in Section 1108.4.1.2~~.

EXCEPTION~~S~~:

1. Transfer systems complying with Section 1108.4.2 shall be permitted to be used as part of an accessible route.
2. Where accessible routes serve the soft contained play components, the vertical clearance is not required to comply with Section 307..

1108.4.1.4 Water Play Components. Accessible routes serving water play components shall comply with Chapter 4 ~~be permitted to use the exceptions in Section 1108.4.1.3~~.

EXCEPTIONS:

1. Where the surface of the accessible route, clear floor spaces, or turning spaces serving water play components is submerged, complying with Sections 302, 403.3, 405.2, 405.3, and 1108.4.1.6 shall not be required.
2. Transfer systems complying with Section 1108.4.2 shall be permitted to be used as part of an accessible route to connect elevated play components in water.
3. Where accessible routes serve elevated level play components, the vertical clearance is not required to comply with Section 307.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

Remove redundant language. When you reference a section you don't have to also say they can use the exceptions. The main text should state requirements, not be there just to allow for exceptions.

Chapter 4 requires vertical clearance. Rather than repeating that for ground level accessible routes, there should be exceptions for the route within the play components.

1108.4.1-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The Committee was concerned that this revision was straying too far from the wording contained in the 2010 ADA. As most compliance will occur via compliance through the *International Building Code* and the Standard, this change could result in facilities that would be out of compliance with the ADA.

BALLOT COMMENTS

11-13.1

Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: In reviewing the proposal, I did not find anything that reduced the requirements below what is in the 2010 ADA other than a question about removing the vertical clearance requirements (which should be revised for elevated and water play areas). It is a revision in language to be consistent with the formatting used elsewhere in the standard. If the items related to the vertical clearance is a problem, change that, but the rest are good change proposals.

11-13.2

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: The proposed language will match 2010 ADA and provide additional clarification.

A modification for this proposal will be forthcoming.

PROPONENT COMMENT

11-13.3

Proponent: Kim Paarlberg, Representing ICC

Replace the proposal with the following:

1101.3 Protruding Objects. Protruding objects on circulation paths shall comply with Section 307.

EXCEPTIONS:

1. Within areas of sport activity, protruding objects on circulation paths shall not be required to comply with Section 307.

2. Within play areas, protruding objects on circulation paths shall not be required to comply with Section 307 provided that ground level accessible routes provide vertical clearance complying with Section ~~1108.2~~ 1108.4.1.

1108.2 Accessible Routes for Play Areas. Play areas shall provide accessible routes in accordance with Section 1108.2. Accessible routes serving play areas shall comply with ~~Chapter 4~~ Sections 402, 403, 405, 406 and 410 except as modified by Section 1108.4.

1108.2.1 Ground Level and Elevated Play Components. At least one accessible route shall be provided within the play area. The accessible route shall connect ground level play components required to comply with Section 1108.3.2.1 and elevated play components required to comply with Section 1108.3.2.2, including entry and exit points of the play components.

1108.2.2 Soft Contained Play Structures. Where three or fewer entry points are provided for soft contained play structures, at least one entry point shall be on an accessible route. Where four or more entry points are provided for soft contained play structures, at least two entry points shall be on an accessible route.

1108.4 Accessible Routes Within Play areas. Play areas shall comply with Section 1108.4.

1108.4.1 Accessible Routes. Accessible routes serving play areas shall comply with Chapter 4 and Section 1108.4.1 and shall be permitted to use the exceptions in Sections 1108.4.1.1 through 1108.4.1.3. Where accessible routes serve ground level play components, the vertical clearance shall be 80 inches (2030 mm) minimum in height.

Reason: The original proposal was trying to clarify exceptions, similar to 11-12.
However, there was also two issues here that are separate.
There is the issue of a general reference to Chapter 4. Playground components will not have doors or elevators. A more selective reference is appropriate.
There is also the issue of the head clearance along the accessible route within the play area components. Given playgrounds are for kids, the protruding object limitations are only applicable along ground level accessible routes. Since there is no heights in 1108.2, it seems the correct reference should be 1108.4.1.

Committee Review of Comments and Action – July 2013

Disapproved.

Committee Reason: The committee considered the information provided by the comments and decided to take no action to change its original disapproval of this proposal. The committee was specifically concerned that limiting the references to portions of Chapter 4 might leave out an accessible route element that might be needed in unique playgrounds.

11-15– 12
1108.4.1.5.3, 1108.4.5.3.1

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

1108.4.1.5.3 Handrails. ~~Where~~ Handrails are required on both sides of ramps serving play components, and the handrails shall comply with Section 505 except as modified by Section 1108.4.1.5.3.

EXCEPTIONS:

1. Handrails shall not be required on ramps located within ground level use zones.

2. Handrail extensions shall not be required.

1108.4.1.5.3.1 Handrail ~~Gripping Surfaces~~ Cross section. Handrail ~~gripping surfaces~~ with a circular cross section shall have an outside diameter of 0.95 inch (24 mm) minimum and 1.55 inches (39 mm) maximum. Where the shape of the ~~gripping surface~~ ~~handrail cross section~~ is non-circular, the handrail shall provide an equivalent gripping surface.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The ADA guidelines for playgrounds says that handrails are required on all elevated ramps within playground structures. The provisions for ramps say only when there is greater than a 6 inch rise. The literal code text says 'where required' but does not require it anywhere.

The change handrail gripping surface if for consistent terminology with handrails in Section 505.7.

1108.4.1.5.3-PAARLBERG.doc

Committee Action

Approval as Modified

Modification

1108.4.1.5.3 Handrails. ~~Where~~ Handrails are required on both sides of ramps serving play components, and the handrails shall comply with Section 505 except as modified by Section 1108.4.1.5.3.

EXCEPTIONS:

1. Handrails shall not be required on ramps located within ground level use zones.

2. Handrail extensions shall not be required.

1108.4.1.5.3.1 Handrail Gripping Surfaces (*No change to current text, this portion of proposal not accepted.)*

Committee Reason: The changes to Section 1108.4.1.5.3 provide a clarification. The changes to Section 1108.4.1.5.3.1 would be in conflict with Section 505.7 and therefore were not accepted.

PROPONENT COMMENT

11-15.1

Proponent: Kim Paarlberg, Representing ICC

Further modify the proposal as follows:

1108.4.1.5.3.1 Handrail ~~Gripping Surfaces~~ Cross section. Handrail**s** ~~gripping surfaces~~ with a circular cross section shall have an outside diameter of 0.95 inch (24 mm) minimum and 1.55 inches (39 mm) maximum. Where the shape of the ~~gripping surface handrail cross section~~ is non-circular, the handrail shall provide an equivalent gripping surface.

Reason: The committee reason for disapproval of 1108.4.1.5.3.1 was a conflict with 505.7. This is not the case. The change from "handrail gripping surface" if for consistent terminology with handrails in Section 505.7. ICC A117.1 needs to have consistent language/terms within its own document.

Committee Review of Comments and Action – July 2013

Approval with Modifications based on comment.

Committee Reason: The committee found the comment provided in 11-15.1 to provide an appropriate further modification to coordinate language found in more than one part of the standard.

Modification.

1108.4.1.5.3.1 Handrail ~~Gripping Surfaces~~ Cross section. Handrail ~~gripping surfaces~~ with a circular cross section shall have an outside diameter of 0.95 inch (24 mm) minimum and 1.55 inches (39 mm) maximum. Where the shape of the ~~gripping surface handrail cross section~~ is non-circular, the handrail shall provide an equivalent gripping surface.

11-16– 12
1109.3.1, 1109.3.3

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

1109.3.1 Sloped Entry Route. Sloped entries shall comply with ~~Chapter 4~~ Sections 402, 403 and 405 except as modified by Sections 1109.3.1 through 1109.3.3.

EXCEPTION: Where sloped entries are provided, the surfaces shall not be required to be slip resistant.

1109.3.3 Handrails. At least two handrails complying with Section 505 shall be provided on the sloped entry where the sloped entry has a slope greater than 1:20. The clear width between required handrails shall be 33 inches (840 mm) minimum and 38 inches (965 mm) maximum.

EXCEPTIONS:

1. Handrail extensions specified by Section 505.10.1 shall not be required at the bottom landing serving a sloped entry.

2. Where a sloped entry is provided for wave action pools, leisure rivers, sand bottom pools, and other pools where user access is limited to one area, the handrails shall not be required to comply with the clear width requirements of Section 1109.3.3.

3. ~~Sloped entries in wading pools shall not be required to provide handrails complying with Section 1109.3.3. If provided, handrails on sloped entries in wading pools shall not be required to comply with Section 505.~~ Where sloped entries are required to have handrails in wading pools, handrails are permitted to be located at the height appropriate for the age level the pool is designed for.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

A reference to chapter 4 is too broad – this includes doors, elevators and platform lifts. The reference should be to walking surfaces and ramps.

Handrails are appropriate for ramps, but not for sloped walks. Having two handrails at a width of 33”-38” apart on a pool that chooses to have a large sloped walk entry is not necessary. This is very common in large pool settings where the may be areas or play that transition over to deeper pool areas for swimming. This is very common in family water parks. The exception for only one entry is not valid in these situations (1109.3.3 Exception 2). There is also a scoping issue between ADA and ICC A117.1 – 505.1 only requires handrails on ramps and stairs.

Typically a wading pool is a sloped walk, not a ramp slope, so handrails would not be required by 505.1. If handrails are required, the only thing that is appropriate to be deleted as a requirement is height. For small hands the designer can choose the smaller diameter permitted.

1109.3-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: The Committee was concerned that changing Chapter 4 reference to Sections 402, 403 and 405 exclusively would eliminate consideration of such concerns as slip resistance. Other parts of the change would result in provisions more stringent than the ADA 2010. The Committee did not feel the increased stringency was needed.

BALLOT COMMENTS

11-16.1

Commenter: Gene Boecker, Representing NATO
Ballot: Negative with comment:

Comment: The concern expressed is not valid. The change would still address slip resistance since Section 403 refers to Section 302 which contains the requirement for slip resistance. The added text to 1109.3 is not increasing stringency but clarifying intent. If the slope is less than 1:20 no handrails are required. This would allow wave pool entry without handrails. The revision to the exception is only a clarification of the language to indicate that age specific design is preferred.

11-16.2

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: It is not clear when sloped entries can be used vs. ramps with handrails. Some of the language seems to indicate that sloped entry has to have handrails at 36" apart.

A modification for this proposal will be forthcoming.

PROPONENT COMMENT

11-16.3

Proponent: Kim Paarlberg, Representing ICC

Comment 1 –

Replace the proposal with the following:

1109.3.1 Sloped Entry Route. Sloped entries shall comply with ~~Chapter 4~~ Sections 402, 403 and 405 except as modified by Sections 1109.3.1 through 1109.3.3.

EXCEPTION: Where sloped entries are provided, the surfaces shall not be required to be slip resistant.

Reason: A reference to chapter 4 is too broad – this includes doors, elevators and platform lifts. The reference should be to walking surfaces and ramps.

Comment 2 –

Replace the proposal with the following:

1109.3.3 Handrails. At least two handrails complying with Section 505 shall be provided on the sloped entry. The clear width between required handrails shall be 33 inches (840 mm) minimum and 38 inches (965 mm) maximum.

EXCEPTIONS:

1. Handrail extensions specified by Section 505.10.1 shall not be required at the bottom landing serving a sloped entry.
2. Where a sloped entry is provided for wave action pools, leisure rivers, sand bottom pools, and other pools where the primary user access is limited to one area or one side, the handrails shall not be required to comply with the clear width requirements of Section 1109.3.3.

3. Sloped entries in wading pools shall not be required to provide handrails complying with Section 1109.3.3. If provided, handrails on sloped entries in wading pools shall not be required to comply with Section 505.

Reason: I am unclear when a pool has an entire side that is sloped entry, but does not have moving water, if that pools is required to have handrails into the water at 33"-38" apart, or can it have handrails on each side?

Also, all pools can be entered from the side wall. What is meant by "limited to one area"? If I have a lazy river that is large enough I let people come in at two locations, do I now have to do two handrails close together? Are these examples violations?

Committee Review of Comments and Action – July 2013

Approval with Modifications based on Comment.

Committee Reason: The committee found the revision provided as Comment 1 within Comment 11-16.3 provided the correct direction and exceptions for accessible routes into pools.

Modification:

Replace the proposal with the following:

1109.3.1 Sloped Entry Route. Sloped entries shall comply with ~~Chapter 4~~ Sections 402, 403 and 405 except as modified by Sections 1109.3.1 through 1109.3.3.

EXCEPTION: Where sloped entries are provided, the surfaces shall not be required to be slip resistant.

11-17– 12
1109.6.1, 1109.6.2

Proposed Change as Submitted

Proponent: Kim Paarlberg, International Code Council

Revise as follows:

1109.6.1 Pool Stairs. Pool stairs shall comply with Sections ~~504~~ 504.2 through 504.5.

EXCEPTION: Pool step risers shall not be required to be 4 inches (100 mm) minimum and 7 inches (180 mm) maximum in height provided that riser heights are uniform.

1109.6.2 Handrails. At least two handrails complying with Section 505 shall be provided on the pool stairs. The width between handrails shall be 20 inches (510 mm) minimum and 24 inches (610 mm) maximum.

EXCEPTION: Handrail extensions required by Section 505.10.3 shall not be required at the bottom on pool stairs.

Reason: The quantity of change proposals submitted by International Code Council is reflective of three elements of our work: 1. ICC is the Secretariat for the Standard and some changes reflect inconsistencies or improvements suggested by staff; 2. ICC develops and publishes a Commentary on the standard and writing the commentary illuminates issues of the text and figures; and 3. ICC provides an interpretation service for the standard which results in the observation of provisions the users find most confusing.

The change to Section 1109.6.1 is to revise the reference to only include appropriate sections. Pools stairs should comply with treads and riser dimensions, open risers, tread surface, nosings and handrails. The requirements for visual contrast, wet conditions, lighting and stair level identification are not appropriate for these stairs.

The change in Section 1109.6.2 is consistent with the style used for pool sloped entries in Section 1109.3.3. The direct reference to handrails through 505 is better than through 504.6.

1109.6-PAARLBERG.doc

Committee Action

Disapproved

Committee Reason: While the ADA 2010 references all of Section 504, it has fewer provisions in that section. This change would eliminate the marking of steps which Committee members felt was important in a pool environment where the water can obscure clear vision of the steps.

BALLOT COMMENTS

11-17.1

Commenter: Kim Paarlberg, Representing ICC
Ballot: Negative with comment:

Comment: Some provisions for handrails will not work for pool stairs.
A modification for this proposal will be forthcoming.

PROPONENT COMMENT

11-17.2

Proponent: Kim Paarlberg, Representing ICC

Request that 11-17-12 be Approved as Submitted.

Reason: The change to Section 1109.6.1 is to revise the reference to only include appropriate sections. Pools stairs should comply with treads and riser dimensions, open risers, tread surface, nosings and handrails. The requirements for visual contrast, wet conditions, lighting and stair level identification are not appropriate for these stairs.
The change in Section 1109.6.2 is consistent with the style used for pool sloped entries in Section 1109.3.3. The direct reference to handrails through 505 is better than through 504.6.
The committee disapproved this change because the wanted to include stair stripes. Since that information is in 504.5.1, this change in reference would not lose that requirement.

Committee Review of Comments and Action – July 2013

Approved.

Committee Reason: Based upon information provided by the pool industry and provided in the comments, the committee concluded that the direction provided in the proposed text is appropriate.
