



Accessible Showers: The Devil is in the Details

Where bathing facilities are provided, the *International Building Code*® (IBC) requires that at least one is accessible according to ICC A117.1. Options include a transfer shower, roll-in shower, alternate roll-in showers, bathtubs with removable seats, and bathtubs with fixed seats. Provisions for accessible bathing facilities, including those in recreational facilities and accessible units, are the same. With the exception of planning for grab bars and seats to be installed later, provisions for bathing facilities in a Type A units are also the same. Type B units require much less.

To limit this discussion, I would like to examine accessible showers. Some of the provisions discussed will not apply to showers within Type B units, such as stall size, thresholds and access to controls.

This article will go into the reasons behind the requirements and some common difficulties encountered with installing shower stalls. Some of these issues are not addressed specifically in the standard, so portions of this discussion are interpretations or will pose questions.

By Kimberly Paarlberg, RA, ICC Senior Staff Architect

It is often the small details that can be difficult or challenging. These details, particularly with installation, can be a concern when trying to meet requirements in the standard.

1. Stall size, grab bars and control location and the reasons behind them.

The 36x36-inch dimensions for transfer showers are measured at the center of the shower stall to allow for pre-molded shower stalls. When pulling a mold out of a form, the shape needs to be slightly narrower at the back than at the front. The corners are rounded for better cleaning and for strength. Once a person transfers into the shower, the intent is to allow a person of average size to reach and operate the controls from the seat without difficulty, while providing reasonable knee space for larger users.

A transfer-type shower stall is also intended to serve persons without disabilities, so a folding seat would provide the possibility of more space for a standing person. While at what height the stall size should be measured is not given, the intent would be to consider a mid-point in the stall height that is between the knee and shoulder height of a seated person. The stall size should not be measured at the base. The base can have a side or rear curbs, or rounded corners for cleaning. This would not obstruct access at all. The 36-inch (915 mm) minimum width entrance is required so access to the transfer seat is not blocked by side lips rounded in at the entrance. I have been told this is detail is to keep water in the stall.

The vertical grab bar (608.3.1.2) is to assist someone standing when they move into or out of the shower, or if someone needs assistance in standing. The horizontal bar (608.3.1.1) on the rear wall is for assistance in transferring further into the shower once someone has moved from their wheelchair onto the seat. The horizontal bar on the side wall across from the seat is for if someone needs assistance in standing or for stability when reaching for the controls. The horizontal bars can be two bars or one L-shaped bar. Grab bars should not be located over the seat so that someone could use the walls of the showers to brace themselves. Controls (608.4.1) are required to be located across from the seat and towards the front of the stall so that someone can control the water from the clearance in front of the shower stall.

For a roll-in shower, the minimum dimensions are 30x60 inches. A roll-in shower is sized to allow a person using a bathing wheelchair to move the wheelchair into the stall. This is consistent with the alcove provisions, since a user is effectively parallel parking when moving into the roll-in shower. However, not everyone who uses a wheelchair for mobility issues will travel with (roll-in showers are required in some Accessible hotel

rooms) or even own a bathing wheelchair. The 2009 ICC A117.1 has added the requirement for all roll-in showers to include a seat (608.2.2.3). Providing the seat allows for the roll-in shower to also serve as a transfer shower, allowing it to be used by a greater population than a roll-in shower without a seat.

The 2009 ICC A117.1 allows for much greater freedom in design for roll-in showers. Having a roll-in shower as a corner in a much larger room, such as a gang shower in a locker room or a facility offering assisted bathing, also has been addressed in the 2009 A117.1. The stall size (608.2.2.1) is a minimum requirement, so there is no limit on the maximum size of the shower stall/room. The clearance in front of the shower (608.2.2.2) actually could be inside the shower stall/room. The 2003 A117.1 required grab bars on three walls, regardless of the size of the stall. With the revised requirements, the maximum required length for that rear wall bar is 48, inches, starting from in front of the seat. No grab bar is required on the wall over the seat, and the grab bar across from the seat is not needed if the wall across is more than 72 inches from the seat wall. There is no requirement for a vertical grab bar in a roll-in shower, but providing one at the shower entry for standing persons or adjacent to the seat on the rear wall would be a nice amenity for persons who have stability concerns or need assistance standing and sitting down.

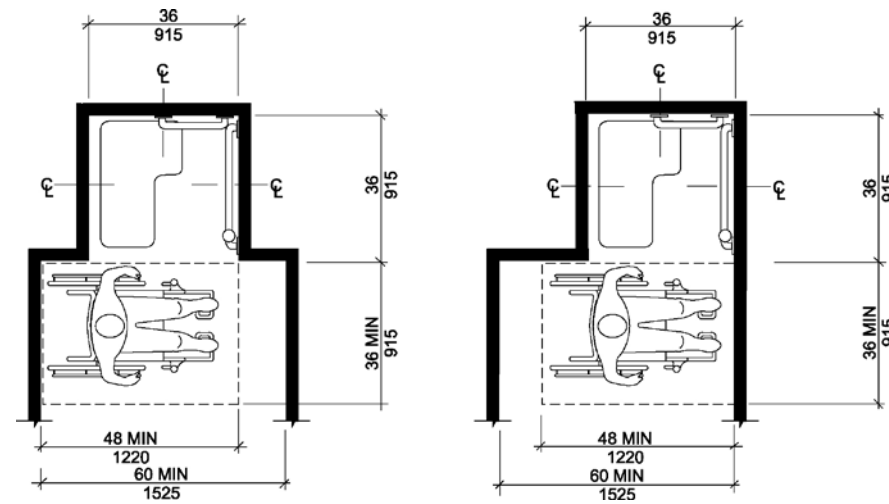
Controls must be located on the rear wall within reach of the seat (608.5). While some users have said they don't like not being able to turn on the water from outside the stall, there is always the option of two sets of controls. If someone is confined to the seat, they need to be able to adjust the water temperature and controls from the seat.

Section 608.2.2.3 Exception 2 allows for someone to build a fixed seat in a roll-in shower, provided there is space for a wheelchair past the fixed seat. This can be great for aesthetics, as well as providing for a stronger seat. There have been injuries when the person using the seat exceeds the 250-pound load limit.

Alternate roll-in showers are basically a transfer shower built into the end of what could be a deeper roll-in shower (608.2.3). The reasons for the dimensions are the same as we have discussed for transfer and roll-in showers. The controls can be on the side or back wall, just as long as they are within reach of the seat.

2. Clearances in front of the shower stall.

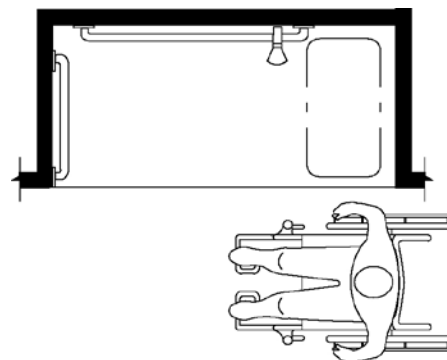
For transfer showers, a transfer space is required in front of the stall. This location is



so the back of the person in the transfer space is lined up with the back wall of the shower seat. This will facilitate transfer from the chair to the seat and back. A common mistake is to place walls at both ends of the transfer space to form a type of privacy or dressing alcove.

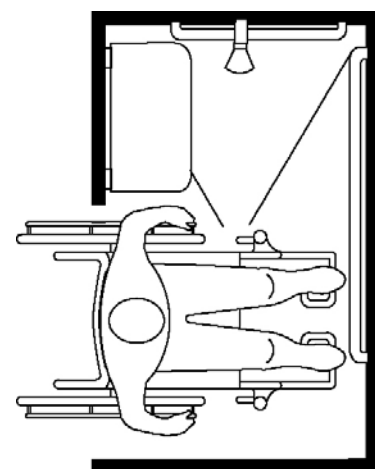
A wheelchair cannot move sideways, therefore, the area in front of the transfer shower also must meet the alcove provisions. The extra 12 inches can be forward or back of the transfer space. Nothing can overlap the 30x48-inch space where a person sits to do a transfer, but there could be lavatory (i.e., knee and toe clearance) overlap of the alcove clearances—to facilitate usability, preferably only at the toe end.

For a roll-in shower, there is a requirement for a 30x60-inch maneuvering space in front of the stall. Because the plan is to move into the shower stall, there can be a lavatory (with knee and toe clearance) on the wall opposite the seat, and the knee and toe clearance can double as part of the maneuvering clearance for the shower. While a better design would allow for alignment of the back of the seat and the back of a person in a wheelchair, it is not required.

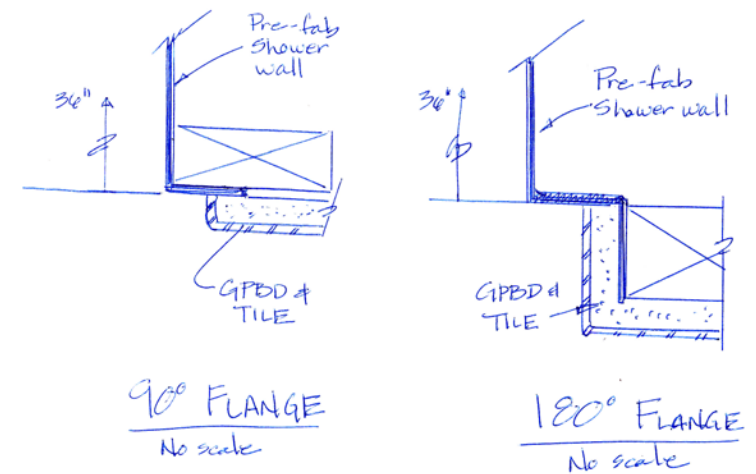


For an alternate roll-in shower, the transfer space is partially in the shower stall and partially through the stall opening. This allows for the same as the transfer from outside the transfer shower, or for someone to turn 90 degrees (instead of “parallel parking”) and use the stall as a roll-in shower.

The provisions for stall size and clearances do not say how far apart these two spaces can be located. The text in Sections 608.2.1.1 and 608.2.2.2 just require “adjoining.” Section 610.3 does specify that the front edge of the seat should



be 3 inches maximum, measured from the “compartment entry,” so there is not too large of a gap for the transfer between the wheelchair and the shower seat. The construction issue is that the flange connection for the sides at the front of stall installation does not allow for the stall and transfer space to be directly connected. The common details I have been able to find online cite a 90-degree flange or straight flange that are nailed to studs to stabilize the unit. Using greenboard and any type of surface material on top of the flange, the transfer space would be held out from approximately 5/8 inches at a minimum, and up to 3 inches. This is one of my examples of “the devil in the details.” While the 90-degree flange allows for a closer transfer space, I don’t have any information on how far would be too far.



The reach to the rear grab bar does not appear to be the controlling issue. When I experimented, I was not able to reach the rear grab bar installed 36 inches back in a transfer shower until I had moved to the seat. I could not reach it from the transfer space regardless of how close I was. Any reach range studies I was able to locate were all based on a 24 inch or less reach depth.

3. Can you have shower doors on an accessible shower stall?

Section 607.7 seems to allow for shower enclosures, but they cannot obstruct transfer or access to the controls. The language does not specify if the enclosure would be acceptable if you had access to the controls from only inside the stall. In a transfer shower, the intent seems to be to be able to turn on the water before you enter the stall. Given the requirements for supports and hinges, the options for shower stall doors are very limited.

4. The Thresholds

Where someone is expected to move the wheelchair into the stall, the 1/2-inch maximum threshold has to have beveled edges on the inside and outside of the stall. A transfer stall

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can have a 1/2-inch threshold with no beveled edge (608.6). For existing building, there is an exception that would allow for a 2 inch threshold. However, this exception is limited to floor systems where removing part of the slab would become a structural issue, such a precast planks, slabs reinforced with reinforcing bars or grids or post-tensioned concrete.



I have heard many complaints about the dangers of slips and falls from water getting onto the floor outside the shower. Perhaps the solution is thinking of options other than a center drain. I have seen shower pans that slope to the rear with the drain at the back. I also have seen shower drains across the front that look like a trench drain. The front drain I saw actually allowed for a zero threshold, being the same thickness as the floor tile.

I also have seen “compressible” thresholds that are higher than 1/2 inch when not compressed. The concern I would have with those is, would the compression work at an odd angle when someone is moving in and out of the shower and not perpendicular to the threshold?

5. Another word about controls

We discussed earlier about being able to reach the controls from the shower seat. The next most common question is, what is a “non-positive shut off valve” (Section 608.5)? The intent was to have something on the handset allowing a user to set the water to a trickle so they could set down the hand-held shower head and use both hands to soap up. The term “shut off” in this case was unacceptable to the plumbing industry, because they felt it would be confused with the shut off required to repair or replace a control.

Another common question is if the bar for the adjustable shower head can extend above the reach range. My opinion is yes—the idea is that the hand-held shower can be hung up within reach range heights. But since the shower is for everyone to use, there has to be the option to place the shower head higher for standing persons. If you offer a hand-held and a wall-mounted shower head with a diverter, that also is acceptable.

6. What about amenities such as soap dishes—either sticking or recessed?

There would be two concerns: They should not be located so they obstruct access to

the grab bars or are overhang the seats. However, if you recess them, the recess should not be behind the grab bars. The 1 1/2-inch space behind the grab bar is intended as a limit so that someone would not get their arm trapped behind the bar.

In conclusion, the provisions for showers are to allow for unassisted bathing. While I feel the needs for the user are adequately addressed, there are some issue for how this actually can to be built in order to meet those needs. I would like to go back to the question about the orientation of the stall itself and the clearance in front of the stall. To get a better understanding, perhaps a study on transfers needs to be done to get a solid answer for this issue. With the ageing population of the United States, perhaps we also need to take a serious look at assisted bathing requirements as well. Anyone know a group or organization that has done this or would be willing to take on a study?

Sorry, the devil made me ask! **BSJO**

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