Alternate Means and Materials for Code Compliance

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DuPont Protective Solutions

Learning Objectives

- Understand how building codes effect innovation
- Review the code compliance and alternate materials and methods criteria
- Understand the role of evaluation agencies and evaluation reports
- Review examples of compliance through alternate methods
Model code language and requirements are written.

Adoption

Codes become law by being adopted by state or local agencies

Implementation

Codes are enforced by local code officials
- Code interpretation
- Alternate means of compliance

GO GREEN FOR 2016

The hottest green building materials to offer your customers in 2016.

This Old House Top 100 Best New Home Products 2015

Top 10 green building products for 2016
Codes Identified as Barriers to Innovation

“Code officials at the local level have the legal authority to accept or reject the application of any new building product or system innovation. They can be the ultimate showstopper.”


The National Commission on Urban Problems (1968) found that unnecessary housing costs are inherent in building codes that

- delay construction,
- prevent the use of modern materials,
- mandate antiquated and outdated provisions,
- inhibit mass production,
- prevent large-scale conventional construction, and
- are questionably administered.

Many communities, even those nominally adhering to model codes, prohibited cost-saving materials and technologies that, generally, were allowed by the model codes. These communities added prohibitions of their own, or did not adopt the latest version of the model codes, etc.
“Building codes—and additional national, regional, or municipal regulations affecting the physical production of houses—prohibit innovation either by explicitly specifying only certain materials and methods, not providing speedy and impartial acceptance in the code where that explicit prohibition does not exist, or by being unfairly interpreted during permitting and inspections.”


Code and standard planning critical to innovation deployment

“For an innovation to be accepted by the regulatory system, at a minimum it must be tested, certified, and evaluated. Once an evaluation report is prepared, these early steps may seem easy relative to educating code officials throughout the country about the product. Similarly, changing the model code (and ultimately state and local codes) so that it explicitly allows an innovation can be an even more difficult task. Although each of these steps can be expensive individually, they become more so the longer they are put off because of lack of understanding or bad planning.”

### Strategies Used to Gain Approval of Green Product, Material, System, or Design Application

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Sample Code Official</th>
<th>Code User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Providing adequate supporting information</td>
<td>43 76.8 126</td>
<td>64.0</td>
</tr>
<tr>
<td>Starting the approval process early to allow time to work with the building department</td>
<td>33 55.4 108 54.8</td>
<td></td>
</tr>
<tr>
<td>Involving the building department staff early in the design process</td>
<td>31 55.4 103 52.3</td>
<td></td>
</tr>
<tr>
<td>Providing precedents of code approval of similar approach in other jurisdictions</td>
<td>19 33.9 68 34.5</td>
<td></td>
</tr>
<tr>
<td>Providing contact information for building officials in other jurisdictions with experience in the green approach</td>
<td>18 32.1 60 30.5</td>
<td></td>
</tr>
<tr>
<td>Using outside experts</td>
<td>16 28.6 60 30.5</td>
<td></td>
</tr>
<tr>
<td>Persistence/perseverance</td>
<td>10 17.9 100 50.8</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>7 12.5 20 10.2</td>
<td></td>
</tr>
</tbody>
</table>


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**How are materials specified in the code?**
Materials / Systems can comply with code three ways:

- Compliance to a direct reference
- Compliance through a referenced standard
- Compliance as an approved alternate material

Example: Compliance to a Direct Reference

IBC 1405.5 Wood veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV construction shall be not less than 1 inch (25 mm) nominal thickness, 0.438-inch (11.1 mm) exterior hardboard siding or 0.375-inch (9.5 mm) exterior-type wood structural panels or particleboard and shall conform to the following:

1. The veneer shall not exceed 40 feet (12 190 mm) in height above grade. Where fire-retardant-treated wood is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.

2. The veneer is attached to or furred from a noncombustible backing that is fire-resistance rated as required by other provisions of this code.

3. Where open or spaced wood veneers (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the building wall.
Example: Compliance to a direct reference

R703.2 Water-resistive barrier. One layer of No. 15 asphalt felt, free from holes and breaks, complying with ASTM D226 for Type 1 felt or other approved water-resistive barrier shall be applied over studs or sheathing of all exterior walls. Such felt or material shall be applied horizontally, with the upper layer lapped over the lower layer not less than 2 inches (51 mm). Where joints occur, felt shall be lapped not less than 6 inches (152 mm). The felt or other approved material shall be continuous to the top of walls and terminated at penetrations and building appendages in a manner to meet the requirements of the exterior wall envelope as described in Section R703.1.

Deemed to Comply

C402.4.1.2.1 Materials. Materials with an air permeability no greater than 0.004 cfm/ft2 (0.02 L/s · m2) under a pressure differential of 0.3 inches water gauge (w.g.) (75 Pa) when tested in accordance with ASTM E 2178 shall comply with this section. Materials in Items 1 through 15 shall be deemed to comply with this section provided joints are sealed and materials are installed as air barriers in accordance with the manufacturer’s instructions.

1. Plywood with a thickness of not less than 3/8 inch (10 mm).
2. Oriented strand board having a thickness of not less than 3/8 inch (10 mm).
3. Extruded polystyrene insulation board having a thickness of not less than 1/2 inch (12 mm).
4. Foil-back polyisocyanurate insulation board having a thickness of not less than 1/2 inch (12 mm).
5. Closed cell spray foam a minimum density of 1.5 pcf (2.4 kg/m3) having a thickness of not less than 1/2 inches (13 mm).
6. Open cell spray foam with a density between 0.4 and 1.5 pcf (0.6 and 2.4 kg/m3) and having a thickness of not less than 4.5 inches (113 mm).
7. Exterior or interior gypsum board having a thickness of not less than 1/2 inch (12 mm).
8. Cement board having a thickness of not less than 1/2 inch (12 mm).
10. Modified bituminous roof membrane.
12. A Portland cement/sand parged, or gypsum plaster having a thickness of not less than 5/8 inch (16 mm).
15. Sheet steel or aluminum.
2506.2 Standards. Gypsum board and gypsum panel products shall conform to the appropriate standards listed in Table 2506.2 and Chapter 35 and, where required for fire protection, shall conform to the provisions of Chapter 7.

### TABLE 2506.2

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cold-formed steel studs and track; structural</td>
<td>AISI S270 and ASTM C 955, Section 8</td>
</tr>
<tr>
<td>Cold-formed steel studs and track; nonstructural</td>
<td>AISI S270 and ASTM C 645, Section 10</td>
</tr>
<tr>
<td>Fasteners</td>
<td>ASTM C 920</td>
</tr>
<tr>
<td>Fibre-reinforced gypsum panels</td>
<td>ASTM C 1278</td>
</tr>
<tr>
<td>Glass mat gypsum backing panel</td>
<td>ASTM C 1178</td>
</tr>
<tr>
<td>Glass mat gypsum panel 5</td>
<td>ASTM C 1658</td>
</tr>
<tr>
<td>Glass mat gypsum substrate</td>
<td>ASTM C 1177</td>
</tr>
<tr>
<td>Joint reinforcing tape and compound</td>
<td>ASTM C 474, C 475</td>
</tr>
<tr>
<td>Nails for gypsum boards</td>
<td>ASTM C 518, F 547, F 1067</td>
</tr>
<tr>
<td>Steel screws</td>
<td>ASTM C 954, C 1000</td>
</tr>
<tr>
<td>Standard specification for gypsum board</td>
<td>ASTM C 1396</td>
</tr>
<tr>
<td>Testing gypsum and gypsum products</td>
<td>ASTM C 22, C 472, C 471</td>
</tr>
</tbody>
</table>

Referenced standards provide detailed requirements.
Reference Standards in the IECC-2015 (36 Residential, 84 Commercial)

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From Follette, "Developments in Performance-Based Building Codes and Standards", *Forest Products Journal* vol. 50, no. 7/8 (JULY/AUGUST 2000)
Compliance as an Approved Alternate Material

IECC-2015 SECTION R102
ALTERNATIVE MATERIALS, DESIGN AND METHODS OF CONSTRUCTION AND EQUIPMENT

R102.1 General. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. The code official shall be permitted to approve an alternative material, design or method of construction where the code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code.

Codes not intended to prevent innovation

Code official is the judge

Equivalent to code provisions

Compliance as an Approved Alternate Material

IBC-2015 104.11 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design or method of construction shall be approved where the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. Where the alternative material, design or method of construction is not approved, the building official shall respond in writing, stating the reasons why the alternative was not approved.

Codes not intended to prevent innovation

Code official is the judge

Equivalent to code provisions
Ideally, construction standards would be a codification of performance specifications for newly constructed dwellings. In practice, however, standards are typically stated in terms of input requirements. To judge the acceptability of an innovation, then, the local building official must first evaluate the results of performance tests conducted by a wide variety of other agencies…on particular materials and designs. Based upon these evaluations, specific standards or input requirements are proposed and promulgated. Thus it appears that the progressiveness of local building codes should be directly related to the professional attributes of the local officials: the amount and type of their professional contact, their backgrounds, and their education."

**IBC 2015 Alternate Materials Section**

104.11 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design or method of construction shall be approved where the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. Where the alternative material, design or method of construction is not approved, the building official shall respond in writing, stating the reasons why the alternative was not approved.

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<table>
<thead>
<tr>
<th>Code Officials’ Reasons for Denial of Green Product, Material, System, or Design Application</th>
<th>N</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insufficient supporting information to satisfy safety concerns</td>
<td>40</td>
<td>71.4</td>
</tr>
<tr>
<td>Insufficient knowledge or technical expertise with the product, material, system, or design</td>
<td>30</td>
<td>53.6</td>
</tr>
<tr>
<td>Clear conflict with the intent of the code</td>
<td>28</td>
<td>50.0</td>
</tr>
<tr>
<td>Insufficient time in the building department to conduct sufficient research to understand the product, material, system, or design</td>
<td>18</td>
<td>32.1</td>
</tr>
<tr>
<td>General unfamiliarity with the product, material, system, or design</td>
<td>15</td>
<td>26.8</td>
</tr>
<tr>
<td>Personal experience with failure of the product, material, system, or design</td>
<td>9</td>
<td>16.1</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>12.5</td>
</tr>
<tr>
<td>Inability of building department to meet tight schedule of applicant</td>
<td>6</td>
<td>10.7</td>
</tr>
<tr>
<td>Knowledge of problem of the approach in other jurisdictions</td>
<td>6</td>
<td>10.7</td>
</tr>
</tbody>
</table>
Development of ALTERNATIVE MATERIALS, DESIGN AND METHODS OF CONSTRUCTION AND EQUIPMENT in the IECC

IECC 2003
Section 103
Alternate Materials – Method of construction, design, or insulating systems
103.1 General. The provisions of this code are not intended to prevent the use of any material, method of construction, design or insulating system not specifically prescribed herein, provided that such construction, design or insulating system has been approved by the code official as meeting the intent of the code.

Compliance with specific provisions of this code shall be determined through the use of computer software, worksheets, compliance manuals and other similar materials when they have been approved by the code official as meeting the intent of this code.

IECC 2006
SECTION 103
ALTERNATE MATERIALS—METHOD OF CONSTRUCTION, DESIGN OR INSULATING SYSTEMS
103.1 General. This code is not intended to prevent the use of any material, method of construction, design or insulating system not specifically prescribed herein, provided that such construction, design or insulating system has been approved by the code official as meeting the intent of this code.
IECC 2012
SECTION 102
ALTERNATE MATERIALS—METHOD OF CONSTRUCTION, DESIGN OR INSULATING SYSTEMS
102.1 General. This code is not intended to prevent the use of any material, method of construction, design or insulating system not specifically prescribed herein, provided that such construction, design or insulating system has been approved by the code official as meeting the intent of this code.

IECC 2015
SECTION R102
ALTERNATIVE MATERIALS, DESIGN AND METHODS OF CONSTRUCTION AND EQUIPMENT
R102.1 General. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. The code official shall be permitted to approve an alternative material, design or method of construction where the code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code.
104.11 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design or method of construction shall be approved where the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. Where the alternative material, design or method of construction is not approved, the building official shall respond in writing, stating the reasons why the alternative was not approved.

104.11.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.

104.11.2 Tests. Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the building official shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the building official shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be retained by the building official for the period required for retention of public records.
ICC-ES Acceptance Criteria

“Acceptance criteria are developed by the ICC-ES technical staff in consultation with the report applicant and with input from interested parties.”

“New criteria and revisions to criteria are approved by the Evaluation Committee (made up entirely of code officials) during open public hearings or—in selected instances—through an alternate process that involves the solicitation of public comment through this web site.”

“A criteria qualifies for the alternative process only if, in the opinion of ICC-ES staff, it meets one or more of the following requirements:

- The subject is nonstructural, does not involve life-safety, and is already addressed in nationally recognized standards or generally accepted industry standards.
- The subject requires its own criteria, but precedent for the new document already exists in other criteria or in the code.
- Relatively minor (noncontroversial) revisions are being proposed to an existing criteria.”

Source: www.icc-es.org

Example: Moving from Alternate to Code Specified

![Diagram showing the process from ICC ES Acceptance Criteria for EIFS Clad Drainage Wall Assemblies (AC235) to ASTM E2568 ASTM E2273 to IBC & IRC]
SECTION 1408
EXTERIOR INSULATION AND FINISH SYSTEMS
(EIFS)

1408.1 General. The provisions of this section shall govern the materials, construction and quality of exterior insulation and finish systems (EIFS) for use as exterior wall covering in addition to other applicable requirements of Chapters 7, 14, 16, 17 and 26.

1408.2 Performance characteristics. EIFS shall be constructed such that it meets the performance characteristics required in ASTM E 2508.

[BS] 1408.3 Structural design. The underlying structural framing and substrate shall be designed and constructed to resist loads as required by Chapter 16.

1408.4 Weather resistance. EIFS shall comply with Section 1403 and shall be designed and constructed to resist wind and rain in accordance with this section and the manufacturer’s application instructions.

1408.4.1 EIFS with drainage. EIFS with drainage shall have an average minimum drainage efficiency of 90 percent when tested in accordance the requirements of ASTM E 2273 and is required on framed walls of Type V construction, Group R1, R2, R3 and R4 occupancies.

1408.4.1.1 Water-resistive barrier. For EIFS with drainage, the water-resistive barrier shall comply with Section 1404.2 or ASTM E 2570.

1408.5 Installation. Installation of the EIFS and EIFS with drainage shall be in accordance with the EIFS manufacturer’s instructions.

1408.6 Special inspections. EIFS installations shall comply with the provisions of Sections 1704.2 and 1705.16.

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![Diagram](image.png)

Source: [www.icc-es.org](http://www.icc-es.org)
Evaluations have been conducted across a wide range of product areas:

**DIVISION 01 00 00**  GENERAL REQUIREMENTS
**DIVISION 03 00 00**  CONCRETE
**DIVISION 04 00 00**  MASONRY
**DIVISION 05 00 00**  METALS
**DIVISION 06 00 00**  WOOD, PLASTICS AND COMPOSITES
**DIVISION 07 00 00**  THERMAL AND MOISTURE PROTECTION
**DIVISION 08 00 00**  OPENINGS
**DIVISION 09 00 00**  FINISHES
**DIVISION 10 00 00**  SPECIALTIES
**DIVISION 11 00 00**  EQUIPMENT
**DIVISION 13 00 00**  SPECIAL CONSTRUCTION
**DIVISION 14 00 00**  CONVEYING EQUIPMENT
**DIVISION 21 00 00**  FIRE SUPPRESSION
**DIVISION 22 00 00**  PLUMBING
**DIVISION 23 00 00**  HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)
**DIVISION 25 00 00**  INTEGRATED AUTOMATION
**DIVISION 26 00 00**  ELECTRICAL
**DIVISION 27 00 00**  COMMUNICATIONS
**DIVISION 28 00 00**  ELECTRONIC SAFETY AND SECURITY
**DIVISION 31 00 00**  EXTERIOR IMPROVEMENTS
**DIVISION 33 00 00**  UTILITIES
**DIVISION 40 00 00**  PROCESS INTEGRATION

**DIVISION 07 00 00**  THERMAL AND MOISTURE PROTECTION
07 00 05  - Thermal Insulation
07 00 06  - Roof and Deck Insulation
07 11 00  - Dampproofing
07 12 00  - Sheet Waterproofing
07 14 00  - Fluid-Applied Waterproofing
07 18 13  - Pedestrian Traffic Coatings
07 21 00  - Thermal Insulation
07 22 00  - Exterior Insulation and Finish Systems
07 24 19  - Water-Drainage Exterior Insulation and Finish System
07 25 00  - Water-Resistant Barriers/Weather Barriers
07 27 90  - Air Barriers
07 30 65  - Roofing Sheet and Underlayment
07 31 00  - Shingles and Shakes
07 31 13  - Asphalt Shingles
07 31 16  - Metal Shingles
07 31 19  - Metal Shingles and Shakes
07 31 33  - Composite Rubber Shakes
07 31 53  - Plastic Shakes
07 32 00  - Roof Tiles
07 32 01  - Roof Tile Accessories
07 32 03  - Roof Tile Adhesive
07 32 13  - Clay Roof Tiles
07 32 16  - Concrete Roof Tiles
07 32 19  - Metal Roof Tiles
07 32 26  - Plastic Roof Tiles
07 40 00  - Roofing and Siding Panels
07 41 00  - Roof Panels
07 41 13  - Metal Roof Panels
07 41 43  - Composite Roof Panels
07 42 13  - Metal Wall Panels
07 42 43  - Composite Wall Panels
07 44 00  - Facade Panels
07 44 16  - Porcelain Enamel Facade Panels
07 44 53  - Glass-Fiber-Reinforced Cementitious Panels
07 46 00  - Siding
07 46 23  - Wood Siding
07 46 33  - Plastic Siding
07 46 46  - Fiber-Cement Siding
07 52 90  - Modified Bituminous Sheet Roofing
07 52 23  - Ethylene-Propylene-Diene-Monomer Roofing
07 54 00  - Thermoplastic Membrane Roofing
07 54 19  - Polyvinyl-Chloride Roofing
07 54 23  - Thermoplastic-Polyolefin Roofing
07 58 00  - Fluid-Applied Roofing
07 58 01  - Coated Foam Roofing
07 65 00  - Flexible Flashing
07 71 16  - Manufactured Counterflashing Systems
07 72 26  - Ridge Vents
07 72 27  - Eave Vents
07 72 28  - Roof Exhaust Vents
07 77 80  - Wall Specialties
07 81 00  - Applied Fireproofing
07 81 33  - Mineral-Fiber Fireproofing
07 84 00  - Firestopping
07 84 16  - Annular Space Protection
07 97 80  - Smoke Containment Barriers
07 21 00 - Thermal Insulation

6 Acceptance Criteria
- AC02 Reflective Insulation
- AC12 Foam Plastic
- AC81 Cotton Fiber Insulation
- AC187 Polyester Loose-fill & Blanket Insulations
- AC220 Sheet Radiant Barriers
- AC377 Spray Applied Foam Plastic Insulation

- 106 Evaluation Reports
- 5 VAR Environmental Reports
- 14 Listing Reports

Report Code References

# Reports Referencing

Legends:
- Legacy Codes
- I-Code 2003
- I-Code 2006
- I-Code 2009
- I-Code 2012
- I-Code 2015
- Florida
- California
- IGCC
- CAL GREEN
07 25 00 – Water Resistive Barrier

6 Acceptance Criteria

- AC38 Water-Resistive Barrier
- AC71 Foam Plastic Sheathing Panels used as Weather-resistive Barriers
- AC209 Trowel, Spray Applied Water-Resistive Coatings used as Weather-resistive Barriers over Exterior Cementious Wall Coverings
- AC212 Water-resistive Coatings used as Weather-resistive Coatings over Exterior Sheathing
- AC310 Water-resistive Membranes Factory Bonded to Wood-based Structural Sheathing, used as a Weather-resistive Barriers
- AC382 Laminated Fibrous Board Sheathing Material used as a Water-resistive Barrier

Acceptance Criteria
- 90 Evaluation Reports
- 2 VAR Environmental Reports
- 4 Listing Reports

Report Code References – Water Resistive Barrier

![Chart showing report code references for water resistive barrier]
Example: Compliance to a direct reference

R703.2 Water-resistive barrier. One layer of No. 15 asphalt felt, free from holes and breaks, complying with ASTM D226 for Type 1 felt or other approved water-resistive barrier shall be applied over studs or sheathing of all exterior walls. Such felt or material shall be applied horizontally, with the upper layer lapped over the lower layer not less than 2 inches (51 mm). Where joints occur, felt shall be lapped not less than 6 inches (152 mm). The felt or other approved material shall be continuous to the top of walls and terminated at penetrations and building appendages in a manner to meet the requirements of the exterior wall envelope as described in Section R703.1.

**Specific material**

**Specific installation method**

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**Water-Resistive Barriers**

- **Building Papers / Felts**
- **Building Wraps**
- **Fluid Applied**
- **Sheathings**
  - Perforated Wraps
  - Non-Perforated Wraps
  - Specialty Wraps
  - Self-Adhesive Wraps
  - Foam Sheathing
  - WRB Laminated Wood-Based Sheathing
  - Laminated Fibrous Sheathing

Illustration from the EEBA Water Management Guide, 2002

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2016 ICC Annual Conference Education Programs
Kansas City, MO 24
<table>
<thead>
<tr>
<th>Material</th>
<th>Installation</th>
</tr>
</thead>
<tbody>
<tr>
<td>#15 Felt (ASTM D226 Type I)</td>
<td>Horizontally Lapped</td>
</tr>
<tr>
<td>Grade D Building Paper</td>
<td>AC38 Horizontally Lapped as Prescribed in Code</td>
</tr>
<tr>
<td>Housewraps</td>
<td>AC38 Horizontally Lapped as Prescribed in Code</td>
</tr>
<tr>
<td>Foam Plastic Sheathing Panels</td>
<td>AC71 Joint Treatment tested per AC71</td>
</tr>
<tr>
<td>Trowel-, Spray-, or Roller- Applied Water Resistant Coatings over Exterior Cementitious Wall Coverings</td>
<td>AC209 Resistance to Joint Movement tested per AC209</td>
</tr>
<tr>
<td>Water-Resistant Coatings over Exterior Sheathing</td>
<td>AC212 Resistance to Joint Movement tested per AC209</td>
</tr>
<tr>
<td>Water Resistant Membranes Factory-Bonded to Wood-Based Structural Sheathing</td>
<td>AC310 Joint Treatment tested per AC310</td>
</tr>
<tr>
<td>Laminated Fibrous Board Sheathing</td>
<td>AC382 Joint Treatment tested per AC382</td>
</tr>
</tbody>
</table>

![Image of Material Installation Prescriptive Requirement table and Product Area Manufacturer Products covered]
1.1 Compliance with the following codes:
- 2015, 2012 and 2009 International Residential Code® (IRC)
- Other Codes (see Section B.0)

1.2 Evaluation to the following green codes and/or standards:
- 2013 California Green Building Standards Code (CALGreen), Title 24, Part 11
- 2012 and 2015 International Green Construction Code® (iGCC)
- 2012 and 2008 IBC 700 National Green Building Standard™ (IC 700-2012 and IC 700-2008)

6.0 OTHER CODES

6.1 Evaluation Scope:
In addition to the codes referenced in Section products covered in this report were evaluated in compliance with the requirements of the following:
- 2006 International Residential Code® (2006 IRC)
- 2006 International Energy Conservation Code® (IECC)
- 2003 International Residential Code® (2003 IRC)

Properties evaluated:
- Water resistance
- Surface burning characteristics
- Air leakage
- Wall drainage characteristics
- Exterior walls of Types I, II, III and IV construction

Properties Evaluated:
- Water resistance
- Surface-burning characteristics
- Air leakage
- Wall drainage characteristics
- Exterior walls of Types I, II, III and IV construction

Applicable codes
Descriptive Information Including:
• Flame Spread
• Air leakage

Installation Specific to end-use:
• Water-Resistive Barrier
• Air Barrier
• Wall Covering Assembly with Drainage
• Exterior Walls or Types I, II, III and IV Construction
5.6 CONDITIONS OF USE

The conditions described in this report are suitable for use in accordance with the applicable code. The conditions described in this report may be used as a basis for the design and construction of buildings.

5.6.1 The products must be installed in accordance with the manufacturer’s instructions and codes listed in Section 5.1 of this report. The conditions described in this report are suitable for use in accordance with the manufacturer’s instructions.

5.6.2 The products must be installed in accordance with the applicable code. The conditions described in this report are suitable for use in accordance with the manufacturer’s instructions and codes listed in Section 5.1 of this report.

5.6.3 The conditions described in this report are suitable for use in accordance with the applicable code. The conditions described in this report are suitable for use in accordance with the manufacturer’s instructions and codes listed in Section 5.1 of this report.

5.6.4 The conditions described in this report are suitable for use in accordance with the applicable code. The conditions described in this report are suitable for use in accordance with the manufacturer’s instructions and codes listed in Section 5.1 of this report.

6.0 EVIDENCE SUBMITTED

6.1 Data in accordance with the ICC-ES Acceptance Criteria for Water-resistant Barriers (AC38), dated January 2015.

6.2 Data in accordance with Section 4.10 of the ICC-ES Acceptance Criteria for EIFS Clad Drainage Wall Assemblies (AC235), dated January 2015.

6.3 Report of testing in accordance with ASTM E84.

6.4 Reports of testing in accordance with ASTM E2178.

6.5 Reports of testing in accordance with NFPA 286 with related engineering analysis.
Design Details, if necessary to explain other sections

NFPA 285 “Triggers”

- Mechanical equipment screens located on roof decks constructed of combustible materials (1509.6.2)
- High-Pressure Decorative Exterior-Grade Compact Laminates (HPL) used as exterior wall coverings (1409.10.4)
- Fiber-reinforced polymer (FRP) used on exterior walls (2612.6)
- Foam plastic insulation (2603.5.5)
- Combustible water resistive barrier (1403.5)

- Metal composite materials (MCM), such as ACM, used as exterior wall coverings (1407.10.4)
- Fiber-reinforced polymer (FRP) used on exterior walls (2612.5)
- Foam plastic insulation (2603.5.5)
- Metal composite materials (MCM), such as ACM, used as exterior wall coverings (1407.10.4)

- 2006
- 2009
- 2012
104.11 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design or method of construction shall be approved where the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. Where the alternative material, design or method of construction is not approved, the building official shall respond in writing, stating the reasons why the alternative was not approved.

Summary

- Alternate materials and methods allow for innovation
- Evaluation reports are an important resource to the code official
- Code official is the ultimate authority

"The building code doesn’t allow a LEGO chimney on a Lincoln log cabin."