

ACCEPTANCE CRITERIA FOR EXTERIOR INSULATION AND FINISH SYSTEMS

AC219

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PREFACE

Evaluation reports issued by ICC Evaluation Service, Inc. (ICC-ES), are based upon performance features of the International family of codes and other widely adopted code families, including the Uniform Codes, the BOCA National Codes, and the SBCCI Standard Codes. Section 104.11 of the *International Building Code*® reads as follows:

The provisions of this code are not intended to prevent the installation of any materials 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, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety.

Similar provisions are contained in the Uniform Codes, the National Codes, and the Standard Codes.

This acceptance criteria has been issued to provide all interested parties with guidelines for demonstrating compliance with performance features of the applicable code(s) referenced in the acceptance criteria. The criteria was developed and adopted following public hearings conducted by the ICC-ES Evaluation Committee, and is effective on the date shown above. All reports issued or reissued on or after the effective date must comply with this criteria, while reports issued prior to this date may be in compliance with this criteria or with the previous edition. If the criteria is an updated version from the previous edition, a solid vertical line (|) in the margin within the criteria indicates a technical change, addition, or deletion from the previous edition. A deletion indicator (→) is provided in the margin where a paragraph has been deleted if the deletion involved a technical change. This criteria may be further revised as the need dictates.

ICC-ES may consider alternate criteria, provided the report applicant submits valid data demonstrating that the alternate criteria are at least equivalent to the criteria set forth in this document, and otherwise demonstrate compliance with the performance features of the codes. Notwithstanding that a product, material, or type or method of construction meets the requirements of the criteria set forth in this document, or that it can be demonstrated that valid alternate criteria are equivalent to the criteria in this document and otherwise demonstrate compliance with the performance features of the codes, ICC-ES retains the right to refuse to issue or renew an evaluation report, if the product, material, or type or method of construction is such that either unusual care with its installation or use must be exercised for satisfactory performance, or if malfunctioning is apt to cause unreasonable property damage or personal injury or sickness relative to the benefits to be achieved by the use of the product, material, or type or method of construction.

Acceptance criteria are developed for use solely by ICC-ES for purposes of issuing ICC-ES evaluation reports.

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1.0 INTRODUCTION

1.1 Purpose: The purpose of this acceptance criteria is to establish requirements for exterior insulation and finish systems (EIFS) to be recognized in an ICC Evaluation Service, Inc. (ICC-ES), evaluation report under the **2009 International Building Code® (IBC)**, and the **2009 International Residential Code® (IRC)**. The bases of recognition are IBC Section 1408, and IRC Section R703.9.

The reason for development of this criteria is to identify the requirements for an ICC-ES evaluation report that are not covered in the code-referenced standards.

1.2 Scope: This acceptance criteria applies to EIFS used as an exterior wall covering as defined in IBC Section 1402 and IRC Section R202. EIFS are intended as exterior, nonbearing wall coverings providing a weather-resistant exterior wall envelope on walls required to be combustibles or noncombustibles, fire-resistance-rated or nonfire-resistance-rated. In addition, EIFS are limited to use on framed walls in nonresidential occupancies and concrete and masonry walls in all occupancies.

EIFS clad drainage wall assemblies are outside the scope of this criteria and must be qualified under the ICC-ES Acceptance Criteria for EIFS Clad Drainage Wall Assemblies (AC235).

1.3 Referenced Documents:

1.3.1 2009 International Building Code®, International Code Council.

1.3.2 2009 International Residential Code®, International Code Council.

1.3.3 1997 UBC Standard 26-4, Method of Test for the Evaluation of Flammability Characteristics of Exterior, Nonload-bearing Wall Panel Assemblies Using Foam Plastic Insulation.

1.3.4 ANSI A118.9-1999, Test Methods and Specifications for Cementitious Backer Units, American National Standards Institute.

1.3.5 ASTM C 150-04, Standard Specification for Portland Cement, ASTM International.

1.3.6 ASTM C 297-94, Standard Test Method for Flatwise Tensile Strength of Sandwich Constructions, ASTM International.

1.3.7 ASTM C 897-00, Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters, ASTM International.

1.3.8 ASTM C 920-98, Standard Specification for Elastomeric Joint Sealants, ASTM International.

1.3.9 ASTM C 1063-03, Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster, ASTM International.

1.3.10 ASTM C 1177-04, Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing, ASTM International.

1.3.11 ASTM C 1396-06a Standard Specification for Gypsum Board, ASTM International.

1.3.12 ASTM E 84-07, Standard Test Method for Surface Burning Characteristics of Building Materials, ASTM International.

1.3.13 ASTM E 119-07, Standard Test Method for Fire Tests of Building Construction and Materials, ASTM International.

1.3.14 ASTM E 330-02, Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference, ASTM International.

1.3.15 ASTM E 631-06, Terminology of Building Constructions.

1.3.16 ASTM E 2110-00, Standard Terminology for Exterior Insulation and Finish Systems (EIFS), ASTM International.

1.3.17 ASTM E 2568-07, Standard Specification for PB Exterior Insulation and Finish Systems, ASTM International.

1.3.18 NFPA 259-03, Test Method for Potential Heat of Building Materials, National Fire Protection Association.

1.3.19 NFPA 268-07, Standard Test Method for Determining Ignitability of Exterior Wall Assemblies Using a Radiant Heat Energy Source, National Fire Protection Association.

1.3.20 NFPA 285-06, Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior, Nonload-bearing Wall Assemblies Containing Combustible Components Using the Intermediate-scale, Multistory Test Apparatus, National Fire Protection Association.

1.3.21 NFPA 286-06, Standard Method of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth.

1.3.22 UL 723-03, Test for Surface Burning Characteristics of Building Materials - with Revisions through May 2005, Underwriters Laboratories, Inc.

1.3.23 UL 1715-97, Fire Test of Interior Finish Material, Underwriters Laboratories Inc.

1.3.24 UL 1040-98, Fire Test of Insulated Wall Construction, Underwriters Laboratories Inc.

1.3.25 US DOC PS-1-07, Construction and Industrial Plywood, United States Department of Commerce.

1.3.26 US DOC PS-2-04, Performance Standard for Wood-based Structural-use Panels, United States Department of Commerce.

1.4 Definitions:

1.4.1 EIFS: EIFS are nonstructural, nonload-bearing, exterior wall cladding systems that consist of an insulation board attached either adhesively or mechanically, or both, to the substrate; an integrally reinforced base coat; and a textured protective finish coat. The systems may also include primers, surface sealers, and accessories such as trim, corner beads and stops.

The fastening system is the method used to attach the insulation board directly to the substrate. The system may be an adhesive, a mechanical fastener or a combination thereof. For combination systems, either the

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mechanical or adhesive portion itself shall be capable of resisting required loads when justification is other than results of full-scale structural performance tests, which are further described in Section 3.3.

1.4.2 Applicant: The applicant is the party seeking an evaluation report on an EIFS.

1.4.3 ASTM E 631, ASTM E 2110 and the IBC contain other definitions.

2.0 BASIC INFORMATION

2.1 General: The following information shall be submitted:

2.1.1 Product Description: Complete information concerning system components, material specifications, dimensions, and the manufacturing process.

Material specifications shall comply with following requirements.

2.1.1.1 Adhesive Components:

Field-mix:

1. Cement: Type and description shall comply with ASTM C 150.

2. Sand: Shall be clean and free from deleterious amounts of loam, clay, silt, soluble salts and organic matter. Sampling and testing shall comply with ASTM C 897. Limits for grading sand shall be specified when added in the field.

3. Admixtures: Description and purpose are needed for each product.

4. Preparation: Mixing instructions are needed.

Factory-mix: A description of the factory-blended materials is needed.

2.1.1.2 Base Coat Components:

Field-mix:

1. Cement: Type and description shall comply with ASTM C 150.

2. Sand: Shall be clean and free from deleterious amounts of loam, clay, silt, soluble salts and organic matter. Sampling and testing shall comply with ASTM C 897. Limits for grading sand shall be specified when added in the field.

3. Admixtures: Description and purpose are needed for each product.

Factory-mix: A description of the factory-blended materials is needed.

2.1.1.3 Finish Coat: Specific description is needed, including any field-mixing instructions.

2.1.1.4 Nonmetallic Reinforcing Mesh: Description shall include such items as type, weight, thread count, strength, weave, and treatments for compatibility with coating.

2.1.1.5 Substrates: The EIFS shall be applied to a rigid, solid substrate such as concrete or concrete masonry. Application to other substrates, such as Exterior or Exposure 1 wood-based panel sheathing complying with US DOC PS-1 or PS-2, water-resistant core gypsum sheathing complying with ASTM C 79, C 1177 or ASTM C 1396, cementitious backer units complying with ANSI A118.9, or equivalent material shall require qualification testing for wind-driven rain penetration resistance.

2.1.1.6 Thermal Insulation Board: Description of insulation shall include type, density, flame-spread index, smoke-developed index, conditioning requirements, dimensional tolerances, flexural strength, maximum water absorption, and other requirements necessary to show compliance with Section 2603 of the IBC, the Acceptance Criteria for Foam Plastic Insulation (AC12), and special requirements unique to the EIFS. When used on walls required to be of noncombustible construction, foam plastics shall satisfy the flame spread index and smoke-developed index requirements in Section 2603.5.4 of the IBC and be identified in accordance with Section 2603.5.6 of the IBC.

2.1.1.7 Other Insulation Boards: Other insulation boards shall comply with applicable IBC reference standards or, if not available, a recognized national standard, with the concurrence of ICC-ES.

2.1.1.8 Mechanical Fastening Systems: Mechanical fasteners shall be specifically described, including type, shank diameter, length, head diameter, corrosion-resistance treatment and material specifications.

2.1.1.9 Accessories: Expansion joints, weep screeds, corner reinforcement and similar items, when required by the applicant, shall be installed in accordance with the applicant's recommendations and as specified in the project design specifications (documents). Accessories shall be described as to type of material, dimensions, thickness and corrosion-resistant treatment.

2.1.1.10 Primers and Adhesion Intermediaries: Specific description is necessary, including type, use, specification and location.

2.1.1.11 Surface Sealers: Specific description is necessary, including type, use, specification and limitations.

2.1.1.12 Joint Sealants: Sealants used at control joints, intersections or terminations of the EIFS at dissimilar materials, wall/eave interfaces, penetrations and openings shall be minimum Type S or M, minimum Grade NS, minimum Class 25, and Use O, in compliance with ASTM C 920, and be compatible with the applicant's EIFS. Under the Use O classification, the sealant needs to be qualified for each of the materials to which the sealant will be applied, such as the EIFS material, copper piping, galvanized steel and vinyl window frames, by the adhesion and cohesion under cyclic movement test and adhesion-in-peel tests of Sections 8.8 and 8.9 of ASTM C 920. The details of sealant installation, including the width and thickness of the sealant, shall be designed by the registered design professional, designer, builder, or EIFS evaluation report applicant, in that order, to the satisfaction of the building official.

2.1.2 Installation Instructions: Installation instructions bearing the date of publication shall include the information noted in Sections 2.1.2.1 through 2.1.2.8:

2.1.2.1 Illustrated Details: Details shall be available on the manufacturer's website or be of camera-ready quality, for inclusion in the evaluation report, and shall be consistent with required application instructions. The following are the illustrations to be supplied at a minimum:

1. Flashing and/or sealing around heads, sills and jams of windows and doors, and at the top of exposed walls.

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2. Closures and flashing at other terminations, such as eaves and sills, and at other dissimilar exterior wall coverings.

3. Typical conditions within the field of the wall covering, showing substrates and control joints.

4. Parapet at top and termination on backside.

5. Flashing and/or sealing at wall penetrations.

6. Installation over wood-based sheathing.

7. Other details deemed necessary for an evaluation report.

2.1.2.2 Information on any variation from recognized proportions or content of field-mixed components described in Section 2.1.

2.1.2.3 Curing instructions.

2.1.2.4 Limitations, such as angle of installation and installation in interior locations, shall be specified. Architectural treatments that can reduce resistance to water penetration are prohibited.

2.1.2.5 Exposure: For thermal insulation board, the applicant shall specify conditions and duration of exposure before covering.

2.1.2.6 Special Inspection shall be provided in accordance with IBC Sections 1704.1 and 1704.14. Special inspections are not required under the IRC.

2.1.2.7 In accordance with IBC Section 107.2.4, the applicant shall provide supporting documentation that the proposed penetration and termination details described in the construction documents maintain weather resistance of the exterior wall envelope. The supporting documentation shall fully describe the exterior wall system that was tested, where applicable, as well as the test procedure used.

2.1.2.8 Vertical joints of insulation boards shall be staggered from edges of wall openings.

2.1.3 Packaging and Identification: Packaging and identification shall be in accordance with ASTM E 2568. Labels shall also include the ICC-ES evaluation report number (ICC-ES ESR-xxxx).

2.2 Testing Laboratories: Testing laboratories shall comply with the ICC-ES Acceptance Criteria for Test Reports (AC85) and Section 4.2 of the ICC-ES Rules of Procedure for Evaluation Reports.

2.3 Test Reports: Test reports shall comply with AC85.

2.4 Product Sampling: Products shall be sampled in accordance with Sections 3.2, 3.3 and 3.4 of AC85.

3.0 TEST AND PERFORMANCE REQUIREMENTS

3.1 Performance Requirements: Testing shall be in conformance with ASTM E 2568. Additional details are noted in Sections 4.1 through 4.4.

3.2 Joints: The need for and locations of expansion and control joints shall be determined and specified by the registered design professional; where a registered design professional is not involved, the designer, builder, or applicant shall be responsible. All expansion and control joint materials shall be corrosion resistant. If used, expansion and control joints shall be a part of test specimens for durability and structural tests.

When the EIFS is placed over platform-frame construction with dimensional lumber, control joints are required at each floor level.

3.3 Structural Considerations: An EIFS is a nonbearing system. Structural tests are required to determine allowable positive and negative wind loads that may be imposed on the EIFS. The test program shall incorporate the following:

3.3.1 EIFS test specimens shall represent minimum conditions of installation, including such items as material thickness, density and connections. Section 4.3 provides additional requirements.

3.3.2 Maximum allowable deflection of structural wall components shall be specified and shall be limited to a maximum $1/180$ of span, except where more restrictive requirements prevail.

3.3.3 Lateral-resistance tests of mechanical connections (such as nails and screws) are required if connectors support heavy exterior wall coatings through foam plastic, or other nonstructural insulations, that are more than $1\frac{1}{2}$ inches (38 mm) thick. Where standard specifications are available on minimum structural qualities of the materials involved, calculations may be substituted for tests.

3.3.4 Negative load tests only are required to establish wind resistance of EIFS applied to concrete or masonry walls. The resistance of the concrete or masonry shall be established in accordance with applicable requirements in Chapters 19 and 21 of the IBC or Chapter 6 of the IRC.

3.4 Weather-resistive Considerations:

3.4.1 EIFS clad drainage wall assemblies complying with AC235 are required for framed construction on IBC Type V, Group R1, R2, R3 and R4, Occupancies, and under the IRC.

3.4.2 All occupancies with solid concrete or masonry walls under the IBC and IRC: Compliance with Section 1403.2 of the IBC or R703.1.1 of the IRC, without the mandatory water-resistive barriers, is permitted under Exception 1. Concrete and masonry walls shall be fully designed and constructed in accordance with Chapters 19 and Chapter 21, respectively, of the IBC or Chapter 6 of the IRC.

3.4.3 IBC occupancies with framed walls other than Type V, Group R1, R2, R3 and R4: Compliance with Section 1403.2 of the IBC, without the mandatory water-resistive barriers, is permitted based on water penetration testing in accordance with Section 4.4. Weather-protection items complying with Sections 1403.2, 1404.2, 1405.3, and 2512.1.2 of the IBC shall be considered in establishing the required weather protection. As an alternative to steel described in Section 2512.1.2 of the IBC, materials complying with ASTM C 1063 may be used in weep screeds.

3.4.4 Flashing: Corrosion-resistant flashing shall be provided as part of the weather-resistant exterior wall envelope as set forth in Section 1405.3 of the IBC or Section R703.8 of the IRC. The flashing shall extend to the surface of the EIFS and be installed in such a manner to prevent water entry into the building interior, wall cavity, or wall framing structural components. Flashing installation shall be as determined and specified by the registered design professional; where a registered design

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professional is not involved, the designer, builder, or applicant shall be responsible. As a minimum, approved corrosion-resistant flashing shall be installed at the following locations:

1. The heads, jambs, and sills of all window and door openings.
2. The wall and roof intersections.
3. The intersection of chimneys or other concrete or masonry construction with frame walls.
4. Where exterior porches, decks, or stairs intersect exterior walls.
5. At built-in gutters.
6. Continuously above all projecting trim.
7. Penetrations and terminations of exterior wall assemblies.

3.5 Plans, details and specifications, concerning proper installation of the EIFS, that are applicable to the specific building under consideration, shall be a part of documents submitted to the building official for approval.

3.6 EIFS shall be separated from the interior of the building with a thermal barrier having a minimum thermal-barrier index of 15, such as minimum 1/2-inch-thick (12.7 mm) gypsum wallboard, unless specific recognition is granted based on Sections 2603.4.1 or 2603.9 of the IBC or Sections R316.5 or R316.6 of the IRC.

4.0 TESTING

4.1 General: All testing shall be done for each adhesive and lamina combination that is to be included in the evaluation report.

4.2 Fire Tests:

4.2.1 Optional Fire-resistance-rated Construction: This optional test is for recognition for fire-resistance-rated construction. Unless a report of successful testing of an assembly in accordance with ASTM E 119 is submitted, EIFS is limited to nonfire-resistance-rated construction. In this regard, the application of the EIFS to a recognized noncombustible fire-resistive assembly negates the assembly's fire-resistance rating, unless: (1) the assembly is tested in accordance with the specified standard; or (2) an analysis of the effect of installation of the EIFS on the fire-resistance of the fire-resistance-rated assembly is submitted. The data comprising the analysis should include reports of fire-resistance tests on wall assemblies with and without EIFS installed, and an analysis of the effect of the EIFS on fire resistance. Recognition of EIFS in fire-resistance-rated assemblies shall consider type of assembly, whether bearing or nonbearing, and thermal insulation board thickness.

4.2.2 Optional Noncombustible Construction: Requirements for noncombustible construction are addressed in Section 2603.5 of the IBC. Without compliance, EIFS is limited to combustible construction. Test procedures include:

1. **Flammability Characteristics:** This test is conducted in accordance with NFPA 285, as set forth in Section 2603.5.5 of the IBC. Tests in accordance with UBC Standard 26-4 will be accepted provided these tests were conducted prior to November 1, 2009 (the effective date of the criteria).

2. **Optional Fire-resistance-rated Construction:** This test applies where the wall requires a fire-resistance-rating as required in Section 2603.5.1 of the IBC. The test is conducted in accordance with ASTM E 119; additional considerations are in Section 4.2.1.

3. **Potential Heat:** This test is conducted in accordance with NFPA 259, as set forth in Section 2603.5.3 of the IBC.

4. **Ignition:** This test is conducted in accordance with NFPA 268, as set forth in Section 2603.5.7 of the IBC. Additional considerations are in Section 4.2.4.

5. **Flame-spread and Smoke-developed Indices:** This test is conducted in accordance with ASTM E84, as set forth in Section 2603.5.7 of the IBC. Additional considerations are in Section 4.2.3.

4.2.3 Optional Surface Burning Characteristics (Interior Use): This optional test is for recognition of EIFS as an interior finish, provided thermal-barrier requirements for foam plastic insulation are resolved in accordance with Section 2603.4 of the IBC and Section R316.4 of the IRC. Without successful testing, the EIFS is limited to exterior surfaces only. To qualify the EIFS for interior application, the EIFS shall be tested with the face of the assembly exposed to the fire source during testing in accordance with ASTM E 84 or UL723, and either NFPA 286 with conditions of acceptance in IBC Section 803.2, UL 1040 or UL 1715. For recognition on noncombustible construction, the system components shall be tested separately in accordance with Section 2603.5.4 of the IBC.

4.2.4 Ignition: Tests in accordance with NFPA 268 are required for exterior wall coverings in accordance with Section 1406.2 of the IBC.

4.3 Structural Performance Tests:

4.3.1 Testing shall be in accordance with ASTM E 330, Procedure B. At least three positive and three negative load tests shall be conducted on three specimens, with the coating, insulation board, and sheathing prepared and installed in accordance with the applicant's published instructions. Test-specimen fabrication shall be done with verification by the testing laboratory or its authorized representative. Specimens shall be a minimum of 4 feet by 8 feet (1219 mm by 2438 mm) in size, and shall include vertical-control joints, scored joints and any other architectural features located midway between the stud framing, if these features are to be recognized in the evaluation report. Application of load to ultimate shall consist of at least six increments, with a 10-second load duration for each increment.

4.3.2 Specimens shall be mounted in accordance with ASTM E 330. Framing supporting the panel shall be located at the maximum spacing for which recognition is sought. In most instances, this will result in triple 16-inch (406 mm) spans or double 24-inch (610 mm) spans. ICC-ES staff shall be contacted by the applicant in the event that spans vary from those required herein. For mechanically fastened systems, connections to framing members shall be based on minimum conditions (since test specimens establish a basis of acceptance), including the base steel thickness (where steel framing is involved).

4.3.3 In addition to test report requirements specified in Section 2.3, load-deflection readings at panel midpoint shall be reported.

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4.3.4 Conditions of Acceptance: Allowable loading will be based on a minimum factor of safety of 3.0 applied to the ultimate load, if all of the following are satisfied:

4.3.4.1 No single test result varies by more than 15 per cent from the average of three tests. Variations exceeding this limit require larger safety factors.

4.3.4.2 Allowable load does not exceed established values for mechanical connectors such as nails, screws and staples.

4.3.5 To qualify the adequacy of fasteners in concrete or masonry substrates, a tension-load test program, consisting of fastener withdrawal from the applicable wall(s) of the building(s) at the location in question, shall be implemented. The testing shall be conducted by an independent testing laboratory.

The average withdrawal strength, in pounds, shall be six times the design wind pressure for the location in question.

A minimum of five tests per program is required, with results varying by no more than 15 percent from the average. If a minimum of 10 tests per program is conducted, variation from the average may be disregarded.

For masonry substrates, a minimum of 40 percent of the tests shall be run in masonry joints.

Prior to installation of EIFS fasteners, a certificate of compliance, concerning test results relating to load requirements in the evaluation report, shall be submitted to and approved by the building official.

4.3.6 Results of tests conducted over gypsum sheathing as specified in Sections 4.3.1 through 4.3.4 can be extended to EIFS adhered to wood-based sheathing, cementitious backer units and glass-mat gypsum board, under the following conditions:

4.3.6.1 The EIFS is adhered to all sheathing in question (e.g., plywood, particleboard, waferboard and oriented strand board, gypsum panels, and cementitious backer units).

4.3.6.2 Tensile bond tests are conducted in accordance with ASTM C 297.

4.3.6.3 Tensile bond test results average a minimum of 15 psi (103 kPa).

4.3.6.4 Testing of the EIFS-clad wall assembly with penetrations and terminations in accordance with Section 4.8 is performed.

4.4 Water Penetration Tests (not required for concrete or masonry construction):

4.4.1 Tests for EIFS are conducted in accordance with **ASTM E 2568, and IBC Section 1403.2, Exception 2, or IRC Section R703.1.1, Exception 2, as applicable.** At least one sample for each wall envelope assembly configuration is needed. The configuration is determined by the sheathing, insulation, insulation attachment, lamina, openings, joints, penetrations, system terminations, wall/eave conditions, and wall sill joint configuration used in the test samples. Control joints, intersections or terminations of the EIFS at dissimilar materials, wall/eave interface, configuration and methods of making the EIFS at penetrations and openings waterproof (including the EIFS interface at doors and windows), as used in the tests, will be the basis for the evaluation report. Sealants shall comply with Section 2.1.1.12 and shall be installed

with the width and thickness intended for recognition. If a range of sealant widths is to be recognized, the tested assembly shall include penetrations with minimum and maximum sealant widths. Flashing and gasketing shall comply with Section 3.4.4. Windows shall be the intended brand and model of window, unless the tests are conducted on an assembly configuration that is not dependent on a sealant and not dependent on the water penetration resistance capability of the window, such as a window flashing system tested in an arrangement similar to that shown in Figure 1 and include the intended flashing system, or the evaluation report will need to include dimensioned drawings of the type of window and door frame used in the tests.

4.4.2 Conditions of Acceptance: Conditions of acceptance are as set forth in IBC Section 1403.2, Exception 2 and **IRC Section R703.1.1, Exception 2.**

5.0 QUALITY CONTROL

5.1 Thermal Insulation Board: All foam plastic thermal insulation boards shall be listed and labeled as set forth in 2603.2 of the IBC. Compliance of foam plastic is based on a current applicable evaluation report, on the foam plastic, issued by ICC-ES; if no such report exists, foam plastic shall comply with the Acceptance Criteria for Foam Plastic Insulation (AC12). The quality control procedures shall also include special requirements of the EIFS, such as conditioning, dimensional tolerances, and strength. Section 2.1.1.6 has additional details.

5.2 EIFS: Quality documentation complying with the ICC-ES Acceptance Criteria for Quality Documentation (AC10) shall be submitted. At a minimum, viscosity, pH level and specific gravity tests shall be conducted on all liquid components. Inspections by an accredited agency are optional.

5.3 Off-site fabrication of EIFS shall be done in the shop of an approved fabricator under special inspection in conformance with Section 1704.2.2 of the IBC.

5.4 Field Inspections and Reporting:

5.4.1 Installation shall be by a applicator recognized by the applicant as being trained to perform such installations. A list of the names and addresses of recognized contractors shall be maintained by the applicant, and shall be available to the building official or ICC-ES upon request.

5.4.2 IBC: For recognition under the IBC special inspections are required in accordance with Section 1704.1 and 1704.14 of the IBC. The special inspector shall furnish inspection reports to the building official, and to the registered design professional in charge, in accordance with Section 1704.14 of the IBC.

The criteria for the special inspections shall be based upon the items contained in the manufacturer's installation instructions, and as a minimum shall include the following items.

1. Conditions of substrate (flatness, cleanliness, condition of sheathing or substrate surface[s]), including gypsum sheathing and proper attachment to building framing).
2. Adhesives (for adhesively applied systems only), including correct brand and type, cleanliness, proper storage of adhesive, correct ingredient mix.
3. Application of adhesive (for adhesively applied systems only), including ambient and surface temperature,

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thickness of application, cure/dry temperature and time, attachment of foam plastic board is within limit after adhesive application and full contact with substrate, and correct configuration of adhesive application.

4. Foam plastic material labeled in accordance with this acceptance criteria and the manufacturer's requirements.

5. Application of foam plastic boards (substantial contact of the board to substrate, and boards tightly abutted, or proper gap for joint design).

6. Application of coating (foam plastic board surface rasped prior to application of base coat; mix proportions; ambient and surface temperatures; cure/dry temperature and time; and thickness of coating layer[s]).

7. Application of mesh (fully embedded in base coat, fully covered in accordance with manufacturer's instructions, and material meeting manufacturer's specifications).

8. Penetration details (installation in accordance with the details tested for wind-driven rain infiltration and shown in the evaluation report).

9. Application of sealants (in accordance with specified configuration; sealants and primers as specified;

application of sealants and primers; shelf life not exceeded; joint configurations in accordance with construction documents; and cure temperature and time).

6.0 EVALUATION REPORT RECOGNITION

The evaluation report shall include the following information:

1. Product description, installation instructions, packaging and identification information, based on requirements in Section 2.1.

2. Permitted support systems, substrates, water-resistant barriers, flashing, sealants, penetrations, and EIFS components, based on requirements in Section 3.0.

3. Allowable wind loads, based on requirements in Section 3.3.

4. Fire-related characteristics, based on tests in Section 4.2.

5. Special inspection requirements, based on Section 5.4.2.

6. A statement indicating the system complies with IBC Section 1408 and IRC Section R703.9, and IBC Chapters 7, 14, 16, 17 and 26 and IRC Sections R314 and R703, as applicable. ■

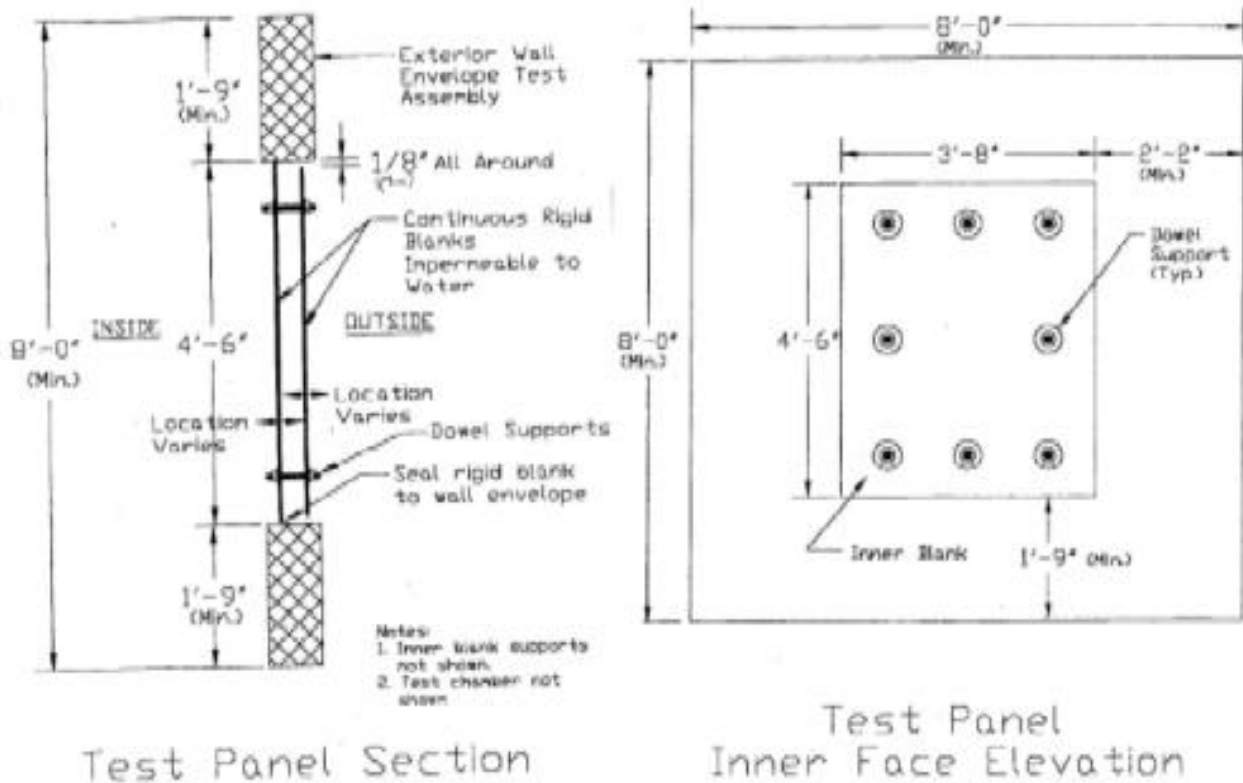


FIGURE 1—CONFIGURATION FOR TESTING WATER PENETRATION RESISTANCE OF WINDOW FLASHING SYSTEM