



ICC Evaluation Service, Inc.
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December 29, 2009

TO: PARTIES INTERESTED IN EVALUATION REPORTS ON WALKING DECKS

SUBJECT: Proposed Revisions to the Acceptance Criteria for Walking Decks, Subject AC39-0210-R1 (JV/WM)

Hearing Information:

Tuesday, February 2, 2010
8:00 a.m.

Sheraton Gateway Hotel Los Angeles
6101 West Century Boulevard
Los Angeles, California 90045
(888) 627-7104

Dear Madam or Sir:

ICC-ES is requesting a change to AC39 to include evaluation to the 2009 *International Building Code*[®] (IBC) and the 2009 *International Residential Code*[®] (IRC). Compliance with the 2009 IBC and the 2009 IRC would require updating the referenced editions of ASTM C 67, ASTM E 108, ASTM E 119, UL 790, DOC PS-1, and DOC PS-2, from the older editions referenced in the 2006 I-Codes. We believe any differences between the old and new editions are not significant enough to alter evaluation results for products currently covered in evaluation reports.

Other standards listed in AC39 Section 1.3.2 that are not referenced by the IBC or IRC but for which there are more current editions include ASTM C 297, ASTM D 751, and ASTM D 1499. The most current editions are noted as proposed changes in the acceptance criteria. Input on the effect of these changes is requested from industry.

AC39 also includes, among its test and performance requirements, the use of ASTM D 756-93 (Accelerated Aging Test), ASTM D 1242-95a (Abrasion Test), and ASTM D 2299-68 [(reapproved 1982) Chemical-resistance Test]. All three of these ASTM standards have been discontinued with no replacement. Input is sought on the appropriateness of the continued use of these three standards. If it is determined to be inappropriate to continue using these three standards, then replacements need to be identified by industry.

ICC-ES is also proposing to change AC39 to address three different applications of walking decks; (1) walking deck only, (2) walking deck used as a nonclassified roof

covering, and (3) walking deck used as a classified roof covering. Walking decks evaluated only as walking decks would not be subject to physical properties testing, impact resistance testing or fire classification testing as specified in IBC Chapter 15, and no follow-up inspections would be required. Walking decks evaluated for use also as nonclassified roof covering would have to meet the requirements for impact and wind uplift resistance as specified in IBC Chapter 15, in addition to the basic walking deck requirements, but no follow-up inspections would be required. Walking decks evaluated for use as a walking deck and as a fire classified roof covering would have to meet the requirements for impact, wind uplift, and fire classification as specified in IBC Chapter 15, in addition to the basic walking deck requirements. Follow-up inspections would be required for these applications.

You are cordially invited to submit written comments on agenda items, or to attend the Evaluation Committee hearing and present verbal comments. If you wish to contribute to the hearing, please note the following:

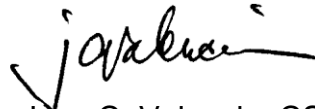
1. Written comments that are received by the Los Angeles business/regional office by **January 19, 2010**, will be forwarded to the committee prior to the hearing, and will be posted on the ICC-ES web site shortly after the comment deadline.
2. Written comments received up to ten days before the meeting, and staff memos responding to comments, will be posted to the web site on **January 28, 2010**.
3. ICC-ES is no longer providing printed copies at the meeting of proposed acceptance criteria, staff memos or public comments. These documents will be available on a limited number of CDs at the meeting, for uploading to computers; and ICC-ES will make arrangements with the hotel business center to have hard copies available for photocopying.
4. Written comments that miss the deadline noted in item (1), above, will only be available at the meeting if you provide 35 copies, collated, stapled, and three-hole punched, either at the meeting itself or to the Los Angeles business/regional office by **January 28, 2010**.
5. If you plan to speak for more than 15 minutes, or offer a visual presentation lasting longer, you should notify ICC-ES staff as far as possible in advance. There will be a computer, projector, and screen available at the meeting for anyone wishing to make a visual presentation, and presentations in most cases will need to be in PowerPoint format. Also, ICC-ES will need to be provided with your presentation at least a half-hour before the start of the relevant meeting session (morning or afternoon) on either a CD or a flash card.
6. If you have any special needs related to a presentation, you should contact ICC-ES staff well in advance of the meeting.
7. Any visual aids for viewing at committee meetings (charts, overhead transparencies, slides, videos, electronic presentations, etc.) will be permitted

only if a copy is provided to ICC-ES, before the presentation, in a medium that can be retained with other records of the meeting.

8. Any materials submitted for committee consideration are considered nonconfidential and available for public discussion, as noted in Section 2.7 of the ICC-ES Rules of Procedure for the Evaluation Committee.
9. Prior to the meeting, you should refrain from trying to communicate directly with committee members about agenda items, either verbally or in writing. Committee members reserve the right to refuse such communications.

Your cooperation with these guidelines is much appreciated, as is your interest in the deliberations of the Evaluation Committee. If you have any question, please contact the undersigned at (800) 423-6587, extension 5693, or Woods McRoy, P.E., Senior Staff Engineer, at extension 5686. You may also reach us by e-mail at es@icc-es.org.

Yours very truly,

A handwritten signature in black ink, appearing to read 'jvalencia', with a long horizontal stroke extending to the right.

Jose C. Valencia, CSI
Staff Architect

JCV/raf

Enclosures

cc: Evaluation Committee



ICC EVALUATION SERVICE, INC., RULES OF PROCEDURE FOR THE EVALUATION COMMITTEE

1.0 PURPOSE

The purpose of the Evaluation Committee is to monitor the work of ICC-ES, in issuing evaluation reports; to evaluate and approve acceptance criteria on which evaluation reports may be based; and to sponsor related changes in the applicable codes.

2.0 MEETINGS

2.1 The Evaluation Committee shall schedule meetings that are open to the public in discharging its duties under Section 1, subject to Section 3.

2.2 All scheduled meetings shall be publicly announced.

2.3 Two-thirds ($\frac{2}{3}$) of the voting Evaluation Committee members shall constitute a quorum. A majority vote of members present is required on any action.

2.4 In the absence of the nonvoting chairman-moderator, Evaluation Committee members present shall elect an alternate chairman from the committee for that meeting. The alternate chairman shall be counted as a voting committee member for purposes of maintaining a committee quorum and to cast a tie-breaking vote of the committee.

2.5 Minutes of the meetings shall be kept.

2.6 An electronic audio record of meetings shall be made by ICC-ES; no other audio, video, electronic or stenographic recordings of the meetings will be permitted. Visual aids (including, but not limited to, charts, overhead transparencies, slides, videos, or presentation software) viewed at meetings shall be permitted only if the presenter provides ICC-ES before presentation with a copy of the visual aid in a medium which can be retained by ICC-ES with its record of the meeting and which can also be provided to interested parties requesting a copy. A copy of the ICC-ES recording of the meeting and such visual aids, if any, will be available to interested parties upon written request made to ICC-ES together with a payment as required by ICC-ES to cover costs of preparation and duplication of the copy. These materials will be available beginning five days after the conclusion of the meeting but will no longer be available after one year from the conclusion of the meeting.

2.7 Parties interested in the deliberations of the committee should refrain from communicating, whether in writing or verbally, with committee members regarding agenda items. All written communications and submissions regarding agenda items should be delivered to ICC-ES. All such written communications and submissions shall be considered nonconfidential and available for discussion in open session of an Evaluation Committee meeting, and shall be delivered at least ten days before the scheduled Evaluation Committee meeting if they are to be forwarded to the committee. Materials delivered to ICC-ES at least ten

days before the scheduled meeting will be posted on the ICC-ES web site (www.icc-es.org) prior to the meeting. After this time, parties wishing to submit materials for consideration by the Evaluation Committee must deliver a sufficient number of copies as directed by ICC-ES. Consideration of materials not received by ICC-ES at least ten days before the meeting is at the discretion of the Evaluation Committee. Following the meeting, ICC-ES will make all materials considered by the Evaluation Committee available on the web site for a maximum period of one year following the meeting. The committee reserves the right to refuse recognition of communications which do not comply with the provisions of this section.

3.0 CLOSED SESSIONS

Evaluation Committee meetings shall be open except that the chairman may call for a closed session to seek advice of counsel.

4.0 ACCEPTANCE CRITERIA

4.1 Acceptance criteria are established by the committee to provide a basis for issuing ICC-ES evaluation reports on products and systems under codes referenced in Section 2.0 of the Rules of Procedure for Evaluation Reports. They also clarify conditions of acceptance for products and systems specifically regulated by the codes.

Acceptance criteria may involve a product, material, method of construction, or service. Consideration of any acceptance criteria must be in conjunction with a current and valid application for an ICC-ES evaluation report, an existing ICC-ES evaluation report, or as otherwise determined by the Evaluation Committee.

4.2 Procedure:

4.2.1 Proposed acceptance criteria shall be developed by the ICC-ES staff and discussed in open session with the Evaluation Committee during a scheduled meeting, except as permitted in Section 5.0 of these rules.

4.2.2 Proposed acceptance criteria shall be available to interested parties at least 30 days before discussion at the committee meeting.

4.2.3 The committee shall be informed of all pertinent written communications received by ICC-ES.

4.2.4 Attendees at Evaluation Committee meetings shall have the opportunity to speak on acceptance criteria listed on the meeting agenda, to provide information to committee members.

4.3 Approval of acceptance criteria shall be as specified in Section 2.3 of these rules.

4.4 Actions of the Evaluation Committee may be

ICC EVALUATION SERVICE, INC., RULES OF PROCEDURE FOR THE EVALUATION COMMITTEE

appealed in accordance with the ICC-ES Rules of Procedure for Appeal of Acceptance Criteria or the ICC-ES Rules of Procedure for Appeals of Evaluation Committee Technical Decisions.

5.0 COMMITTEE BALLOTING FOR ACCEPTANCE CRITERIA

5.1 Acceptance criteria may be issued without a public hearing following a 30-day public comment period and a majority vote for approval by the Evaluation Committee when, in the opinion of ICC-ES staff, one or more of the following conditions have been met:

1. The subject is nonstructural, does not involve life safety, and is addressed in nationally recognized standards or generally accepted industry standards.
2. The subject is a revision to an existing acceptance criteria that requires a formal action by the Evaluation Committee, and public comments raised were resolved by staff with commenters fully informed.
3. Other acceptance criteria and/or the code provide precedence for the revised criteria.

5.2 Negative votes must be based upon one or more of the following, for the ballots to be considered valid and require resolution:

- a. *Lack of clarity:* There is insufficient explanation of the scope of the acceptance criteria or insufficient description of the intended use of the product or system; or the acceptance criteria is so unclear as to be unacceptable. (The areas where greater clarity is required must be specifically identified.)
- b. *Insufficiency:* The criteria is insufficient for proper evaluation of the product or system. (The provisions of the criteria that are in question must be specifically identified.)
- c. *The subject of the acceptance criteria is not within the scope of the applicable codes:* A report issued by ICC-ES is intended to provide a basis for approval under the codes. If the subject of the acceptance criteria is not regulated by the codes, there is no basis for issuing a report, or a criteria. (Specifics must be provided concerning the inapplicability of the code.)

d. *The subject of the acceptance criteria needs to be discussed in a public hearings.* The committee member requests additional input from other committee members, staff or industry.

5.3 An Evaluation Committee member, in voting on an acceptance criteria, may only cast the following ballots:

- Approved
- Approved with Comments
- Negative: Do Not Proceed

6.0 COMMITTEE COMMUNICATION

Direct communication between committee members, and between committee members and an applicant or concerned party, with regard to the processing of a particular acceptance criteria or evaluation report shall take place only in a public hearing of the Evaluation Committee. Accordingly:

6.1 Committee members receiving an electronic ballot should respond only to the sender (staff). Committee members who wish to discuss a particular matter with other committee members, before reaching a decision, should ballot accordingly and bring the matter to the attention of ICC-ES staff, so the issue can be placed on the agenda of a future committee meeting.

6.2 Committee members who are contacted by an applicant or concerned party on a particular matter that will be brought to the committee will refrain from private communication and will encourage the applicant or concerned party to forward their concerns through the ICC-ES staff in writing, and/or make their concerns known by addressing the committee at a public hearing, so that their concerns can receive the attention of all committee members. ■

Effective March 18, 2008

PROPOSED REVISIONS TO THE ACCEPTANCE CRITERIA FOR WALKING DECKS

AC39

Proposed December 2009

Previously approved May 2008, March 2000, April 1999, September 1991

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.

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 proposed in this document, and otherwise meet the applicable performance requirements of the codes. Notwithstanding that a product, material, or type or method of construction meets the requirements of the criteria proposed in this document, or that it can be demonstrated that valid alternate criteria are equivalent to the criteria in this document and otherwise meet the applicable performance requirements 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 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.

PROPOSED REVISIONS TO THE ACCEPTANCE CRITERIA FOR WALKING DECKS

1.0 INTRODUCTION

1.1 Purpose: The purpose of this acceptance criteria is to establish requirements for walking decks to be recognized in an ICC Evaluation Service, Inc. (ICC-ES), evaluation report under the 2009 International Building Code[®] (IBC), the 2009 International Residential Code[®] (IRC), the 2006 International Building Code[®], the 2006 International Residential Code[®] and the 1997 Uniform Building Code[™] (UBC). Bases of recognition is are IBC Section 104.11, IRC Section R104.11 and UBC Section 104.2.8.

The reason for development of this criteria is to provide guidelines for evaluating walking decks since the codes do not address walking decks.

1.2 Scope: Walking decks consist of plywood, cementitious or steel substrates covered by proprietary cementitious coatings, elastomeric coatings, or membranes to comprise systems meeting the requirements of this acceptance criteria. Plywood sheathing shall be exterior grade plywood complying with U.S. Department of Commerce Product Standard PS-1 (UBC Standard 23-2) or PS-2 (UBC Standard 23-3).

Parking decks are excluded from the scope of this acceptance criteria.

1.3 Codes and Reference Standards:

1.3.1 Codes:

1.3.1.1 2009 International Building Code[®] (2009 IBC), International Code Council.

1.3.1.2 2009 International Residential Code[®] (2009 IRC), International Code Council.

1.3.1.3 2006 International Building Code[®] (2006 IBC), International Code Council.

1.3.1.4 2006 International Residential Code[®] (2006 IRC), International Code Council.

1.3.1.5 1997 Uniform Building Code[™] (UBC), International Code Council.

1.3.2 Reference Standards:

1.3.2.1 ASTM C 67-~~03a~~0407, Standard Test Method for Sampling and Testing Brick and Structural Clay Tile, ASTM International.

1.3.2.2 ASTM C 297-~~9404~~ (1999), Standard Test Method for Flatwise Tensile Strength of Sandwich Construction, ASTM International.

1.3.2.3 ASTM D 570-98 (2005), Standard Test Method for Water Absorption of Plastics, ASTM International.

1.3.2.4 ASTM D 751-~~0006~~, Standard Test Method for Coated Fabrics, ASTM International.

1.3.2.5 ASTM D 756-93, Standard Practice for Determination of Weight and Shape Changes of Plastics under Accelerated Service Conditions (Discontinued in 1998), ASTM International.

1.3.2.6 ASTM D 1242-95a, Standard Test Methods for Resistance of Plastic Materials to Abrasion (Discontinued in 2004), ASTM International.

1.3.2.7 ASTM D 1499-~~9905~~, Standard Practice Filtered Open-Flame Carbon-Arc Type Exposures of Plastics, ASTM International.

1.3.2.8 ASTM D 2299-68 (reapproved 1982), Determining Relative Stain Resistance of Plastics (discontinued in 1992)¹, ASTM International.

1.3.2.9 ASTM D 3746-85 (2002), Test Method for Impact Resistance of Bituminous Roofing Systems, ASTM International.

1.3.2.10 ASTM D 4272-03, Test Method for Total Energy Impact of Plastic Films by Dart Drop, ASTM International.

1.3.2.11 ASTM E 108-~~0407a~~, Test Methods for Fire Tests of Roof Coverings, ASTM International.

1.3.2.12 ASTM E 119-~~0007~~, Test Methods for Fire Tests of Building Construction and Materials, ASTM International.

1.3.2.13 UL 790-~~9804~~, Tests for Fire Resistance of Roof Covering Materials with Revisions through July 1998, Underwriters Laboratories Inc.

1.3.2.14 US DOC PS-1-~~9507~~, Construction and Industrial Plywood, United States Department of Commerce.

1.3.2.15 US DOC PS-2-~~9204~~, Performance Standard for Wood-based Structural-use Panels, United States Department of Commerce.

1.3.2.16 FM 4470-92, Approval Standard for Class 1 Roof Covers, Factory Mutual.

1.3.2.17 ICC-ES Acceptance Criteria for Membrane Roof-covering Systems (AC75).

1.3.2.18 CGSB 37-GP-52M (1984), Roofing and Waterproofing Membrane, Sheet Applied, Elastomeric, Canadian General Standard Board.

2.0 BASIC INFORMATION

2.1 General: The following information shall be submitted:

2.1.1 Product Description:

2.1.1.1 Cementitious and Elastomeric Coating Systems:

1. Description of components including density, thickness, etc., as applicable. All coating components to be expressed in terms of dry-film thickness, in mils (mm), and in terms of gallons per 100 square feet (9.29 m²).

2. Mix proportions.

3. Type and gradation of aggregates.

4. Types of fillers or additives.

¹A copy of this document may be obtained from Global Engineering Documents (e-mail: globalcustomerservice@ihs.com; phone: 800-854-7179 or 303-397-7956

PROPOSED REVISIONS TO THE ACCEPTANCE CRITERIA FOR WALKING DECKS

5. Adhesives or bonding agents.
6. Types and amount of sealers.
7. Shelf and pot life of components.

2.1.1.2 Membrane Systems:

Complete information concerning material specifications, density, protective coatings, thickness, and size. The description shall also include dimensioned scale drawings and details noting all thicknesses, size and location of fasteners.

2.1.2 Installation Instructions:

1. Description and preparation of acceptable substrates.
2. Detailed information on mixing, forming, curing, and finishing, including ambient conditions during application for cementitious and elastomeric coating systems.
3. Detailed application (installation) instructions. This includes preparation of substrates; application rate; time interval between successive coats or layers; and information on joint treatment, flashing, and application around deck penetrations for cementitious and elastomeric coating systems. Details here shall include preparation of substrates; fastening methods; joint treatments; and surface treatments for membrane systems.
4. Methods of repair shall also be included in the installation instructions.
5. Installation Details shall be consistent with the installation instructions and shall be suitable for publication.

2.1.3 Packaging and Identification: Method of field identification of all components shall be provided. Means of identification shall include manufacturer's name and address, product name, shelf life, date of manufacture or lot number traceable to production date, name of the inspection agency and evaluation report number.

2.2 Testing Laboratories: Testing laboratories shall comply with Section 2.0 of 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: Sampling of the cementitious or elastomeric walking decks for tests under this criteria shall comply with Section 3.2 of AC85.

Sampling of walking deck system membranes for tests under this criteria shall comply with Section 3.1 of AC85.

3.0 TEST AND PERFORMANCE REQUIREMENTS

Walking decks may be used in three different applications: 1) walking deck only; 2) walking deck and nonclassified roof covering; 3) walking deck and classified roof covering. For applications as a walking deck only, see Sections 3.1 and 3.2, and 3.4 through 3.13. For applications as a walking deck and nonclassified roof covering, see Sections 3.1, 3.2, 3.4 through 3.13, 3.15 and 3.16. For applications as a walking deck and classified roof covering, see Sections 3.1 through 3.13, 3.15 and 3.16. For any applications on one-hour fire-resistance-rated construction, see Section 3.14.

3.1 Weatherometer Test: See Section 4.1.

3.2 Accelerated Aging Test: See Section 4.2.

3.3 Fire-retardant classified Roof-covering Test: See Section 4.3.

3.4 Tensile and Elongation Test: See Section 4.4.

3.5 Bond-strength Test: See Section 4.5.

3.6 Abrasion Test: See Section 4.6.

3.7 Percolation Test: See Section 4.7.

3.8 Water-absorption Test: See Section 4.8.

3.9 Chemical-resistance Test: See Section 4.9.

3.10 Freeze-thaw Test: See Section 4.10.

3.11 Low-temperature Flexibility Test: See Section 4.11.

3.12 Concentrated Load Test: See Section 4.12.

3.13 Wind-uplift Test: See Section 4.13.

3.14 One-hour Fire-Resistance Rated Construction (Optional): See Section 4.14.

3.15 Impact Resistance: See Section 4.15.

3.16 Physical Properties: See Section 4.16.

4.0 TEST METHODS

4.1 Weatherometer Test: Report of weatherometer test conducted for 2,000 hours on five samples in accordance with ASTM D 1499 (ASTM G 23 with Model D or DH). Condition of acceptance is that specimens shall show no crazing, cracking, spalling, softening or other surface deteriorations. After exposure, the specimens shall be examined under 5x magnification. Additionally, for noncementitious materials, tensile and elongation tests shall be conducted as described in Section 4.4.

4.2 Accelerated Aging Test: Report of aging test for plastic materials with three cycles of both Procedures D and E of ASTM D 756 on five specimens. Upon completion of the accelerated aging procedure:

1. For cementitious bonded systems, specimens shall undergo bond strength tests specified in Section 4.5.

2. For non-cementitious systems, specimens shall undergo tensile and elongation tests specified in Section 4.4.

4.3 Fire-retardant classified Roof-covering Test: For applications as a classified roof covering, Reports of fire-retardant classified roof-covering tests in accordance with ASTM E 108, UL 790 (IBC and IRC) or UBC Standard 15-2 (UBC) shall be required. A minimum Class C classification shall be required.

4.4 Tensile and Elongation Test: Tensile and elongation tests are to be conducted on elastomeric and membrane systems only. Five control specimens and five specimens after weathering in accordance with the procedures described in Section 4.1 shall be tested. Similarly, tensile and elongation tests shall be conducted on five control specimens before aging and five specimens after aging in accordance with the procedure described in Section 4.2. The test procedure to be used is ASTM D 751. Loss in elongation shall be limited to 55 percent. Minimum tensile strength after exposure will be established on a case-by-case basis.

4.5 Bond-strength Test: Report of bond strength tests for cementitious or elastomeric systems shall be in accordance with ASTM C 297 on five specimens for each

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intended substrate. Tests to be conducted on control specimens and on specimens subjected to the accelerated aging test (Section 4.2) and the freeze-thaw test (Section 4.10). Minimum required bond strength is 10 psi (69 kPa).

4.6 Abrasion Test: Report of abrasion tests in accordance with Method A of ASTM D 1242 for a period of 1,000 revolutions under a 1,000-gram load with an aluminum oxide grit No. 80TP abradant or equivalent on three specimens. Reduction in average thickness in mils (mm) and percent reduction for each specimen should be reported. Maximum loss in thickness for cementitious systems shall not exceed 40 mils (1.02 mm), and the maximum loss in thickness for elastomeric or membrane systems shall not exceed 20 mils (0.51 mm).

4.7 Percolation Test: Report of percolation tests which involve mounting a 1-inch (25.4 mm) or larger diameter tube on the surface of at least three specimens that have been abraded to remove the sealer coat. The tube shall be centered over the abraded surface and sealed. The tube shall be then filled with distilled water to a height of 48 inches (1219 mm). The water column shall be maintained at 75°F ± 5°F (23.8°C ± 2.8°C) at 50 percent ± 5 percent relative humidity for a period of 48 hours. The drop in water level is to be reported in hundredths of an inch. Moisture accumulation, if any, on the underside of the specimen is to be noted. A maximum water percolation equivalent to a 0.5-inch (12.7 mm) column height is permitted.

4.8 Water-absorption Test: Report of water-absorption test in accordance with ASTM D 570, paragraphs 5, 6.1.1, 7.1 and 9, on a minimum of five samples. The test shall be conducted on the decking system material only, not in conjunction with any substrate. Average water absorption shall not exceed 15 percent for cementitious systems and 5 percent for elastomeric or membrane systems.

4.9 Chemical-resistance Test: Report of chemical-resistance test conducted on surfacing material. The test in accordance with ASTM D 2299 shall be conducted on specimens without the seal coat. After testing, the exposed surfaces shall be examined to determine extent of surface change. Cracking, softening, delamination, spalling, etc., shall be reported. Results will be evaluated on a case-by-case basis. The following reagents shall be used: Industrial detergent solution (20 percent by volume), ammonia solution (5 percent by volume), salt solution (20 percent by volume), muriatic acid (10 percent by volume), chlorine solution (10 percent by volume), ethylene glycol anti-freeze, kerosene, turpentine, and paint thinner.

Exception: Testing with muriatic acid and chlorine solution shall be waived if recognition is not sought for decks adjacent to swimming pools, spas, etc.

4.10 Freeze-thaw Test: (For cementitious deck coverings) Freeze-thaw tests in accordance with ASTM C 67 on a minimum of five specimens. The test specimens shall be sealed on the back and all edges, and shall be frozen with the decking face immersed in water to a depth of $\frac{1}{4}$ inch (6.4 mm). There shall be no breakage and no greater than 1 percent loss in the dry weight of each specimen at the conclusion of the 50-cycle test. After completion of freeze-thaw tests, the specimens shall be subjected to the bond-strength test specified in Section 4.5.

4.11 Low-temperature Flexibility Test: (For elastomeric or membrane deck coverings) Five specimens shall be exposed to a temperature of 5°F (2.8°C) for two hours. The specimens shall be removed from the cold chamber, immediately positioned over a 1-inch-diameter (25.4 mm) mandrel 4 inches (102 mm) long with the weathering side of the membrane up and, over a period of 3 seconds, bent over the mandrel until the projected ends are parallel to each other, constituting an arc of 180 degrees. Conditions of acceptance are that none of the specimens show crazing or cracking upon visual examination under 5x magnification in the bent condition.

4.12 Concentrated Load Test: Five representative samples shall be used. A 1-inch-diameter (25.4 mm) steel plate with rounded edges having a 0.015-inch (0.38 mm) radius is used to apply a 300-pound (1.34 kN) load on elastomeric or membrane decking systems and a 500-pound (2.24 kN) load on cementitious decking systems. Load the specimens, with surface penetration measured to the nearest hundredth of an inch. Test specimens shall consist of representative walking deck covering used in deck assemblies. Specimens shall be continuously supported by a rigid backing such as concrete. The load shall be imposed on the plate centered on the specimen. The superimposed load shall be reduced to zero and reloaded a minimum of four additional times with penetration and residual readings taken each time without removing the plate. The specimen shall be inspected after testing and the condition of the surface noted.

4.13 Wind-uplift Test :

4.13.1 For Bonded Coating Systems: No wind-uplift test is required for bonded coating systems meeting the requirements set forth in Section 4.5 (bond-strength test).

4.13.2 For Unbonded Coating Systems: Recognition may be granted for use in areas subject to a maximum basic wind speed of 80 mph (129 km/h) under the UBC or a maximum 3-second gust basic wind speed of 100 mph (161 km/h) under the IBC on structures a maximum of 40 feet (12 192 mm) in height in Exposure B areas, provided the proponent can verify, in writing, that he has investigated and determined that his product will perform satisfactorily when installed under these conditions. Recognition beyond these limits will require wind-uplift tests such as the Factory Mutual I-52 test. A factor of safety of 3 will be applied for ultimate loads, provided the condition of the deck at factored load does not exhibit any cracking, spalling, tearing, delamination, or failure of fasteners.

4.13.3 For Partially Bonded Coating Systems: Systems bonded on perimeter and mechanically fastened in the field of the deck shall be qualified for wind uplift as for unbonded coating systems described in Section 4.13.2.

4.13.4 For Membrane Systems: Systems shall be tested and evaluated in accordance with Section 3.1 of AC75.

4.14 One-hour Fire-resistance-rated Construction (Optional): To qualify a walking deck system as an alternative to the double wood floor for one-hour fire-resistance-rated construction described in Footnote 13 to Table 7-C of the UBC, full-scale tests shall be conducted in accordance with ASTM E 119 (IBC) or UBC Standard 7-1(UBC). Small-scale fire tests are permitted to be conducted as an alternate to the full-scale testing, provided the tests are conducted as described herein. The

PROPOSED REVISIONS TO THE ACCEPTANCE CRITERIA FOR WALKING DECKS

small-scale apparatus shall comply with Figure 1, except the furnace shall be of sufficient size to expose a sample measuring 60 inches (1524 mm) square, and furnace temperatures shall be measured by a minimum of six thermocouples. The test shall be conducted in accordance with the applicable sections of ASTM E 119 (IBC) or UBC Standard 7-1 (UBC), except the hose stream test and loading of the test assembly shall not be required. Conditions of acceptance are that the transmission of heat through the specimen during the classification period shall not have been such as to raise the average temperature on the specimen's unexposed surface more than 250°F (139°C) above its initial temperature. The test assembly shall consist of nominal 2-by-10 wood joists spaced at 16 inches (406 mm) on center. The unexposed surface shall consist of the walking deck system installed in accordance with the manufacturer's instructions over minimum ⁵/₈-inch-thick (15.9 mm) plywood.

The exposed surface shall consist of one layer of ¹/₂-inch-thick (12.7 mm), Type X gypsum wallboard attached to the joists in accordance with Item 13 of Table 720.1(3) of the IBC or Item 13 of Table 7-C of the UBC. The evaluation report will specify the size and spacing of floor joists and the floor covering material. As an alternative, small-scale tests may be conducted with nominal 2-by-8 wood joists. Recognition of the walking deck system assembly with 2-by-8 wood joists in the evaluation report shall limit bending design stress to 78 percent of the code-prescribed design values for the joists.

4.15 Impact Resistance: For walking decks to qualify for roof covering applications, testing for impact resistance is required. Testing for impact damage shall be in accordance with ASTM D 3746, ASTM D 4272, CGSB 37-GP-52M or the "Resistance to Foot Traffic Test" in Section 5.5 of FM 4470.

4.16 Physical Properties: For Membrane systems to qualify for roof covering applications, systems shall be tested and evaluated in accordance with Section 3.2 of AC75.

5.0 QUALITY CONTROL

~~5.1 The products shall be manufactured under an approved quality control program with inspections by an inspection agency accredited by the International Accreditation Service (IAS) or otherwise acceptable to ICC-ES~~

5.1 ~~5.2~~ Quality documentation complying with the ICC-ES Acceptance Criteria for Quality Documentation (AC10) shall be submitted.

5.2 Except as noted in Section 5.3, third-party follow-up inspections are not required under this acceptance criteria.

5.3 Walking decks that are to be recognized as a classified roof covering (Class A, B or C) shall be produced under an approved quality control program with inspections by an inspection agency accredited by the International Accreditation Service (IAS) or otherwise acceptable to ICC-ES.

6.0 EVALUATION REPORT RECOGNITION

The evaluation report shall include the following information:

6.1 Description of the Components: Information described in Section 2.1.1.

6.2 Installation Requirements: Information described in Section 2.1.2, including installation details.

6.3 Product Identification: Information described in Section 2.1.3.

6.4 Minimum Slope: The minimum slope shall be specified in the evaluation report, and shall be no less than ¹/₄:12.

6.5 Uses: The use of each system shall be clearly stated (walking deck only; walking deck and nonclassified roof covering; or walking deck and classified roof covering). ■