



ICC Evaluation Service, Inc.
Los Angeles Business/Regional Office
5360 Workman Mill Road
Whittier, CA 90601
tel: 562.699.0543
fax: 562.695.4694
www.icc-es.org

December 29, 2009

TO: PARTIES INTERESTED IN EVALUATION REPORTS ON RAISED-DECK SYSTEMS

SUBJECT: Proposed Acceptance Criteria for a Low-profile, Raised-deck System Installed Over a Roof Assembly or Exterior Structural Floor Substrate, Subject AC423-0210-R1 (YM, BG)

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:

The proposed new acceptance criteria, enclosed with this letter, will be considered by the ICC-ES Evaluation Committee at the hearing noted above. The intent of the new criteria is to provide guidelines for the evaluation of raised-deck systems used over a roof assembly or over an exterior structural floor substrate to provide a level walking surface. The raised deck system is comprised of wood deck panels and plastic pedestals, which can be fixed or height-adjustable.

Staff seeks input on the following items:

1. Since the raised-deck system is limited to exterior installations, the evaluation report applicant questions whether the concealed space between the roof assembly and the underside of the wood deck panels needs to comply with the provisions for combustibles in concealed spaces referenced in IBC Section 717.
2. The following comments are in regard to the proposed test method for wind resistance referenced, in Section 3.5 of the enclosed criteria:
 - a. Since the pedestals and deck panels are not attached to the supporting structure, staff questions whether the TAS 108 (Test Procedure for Wind Tunnel Testing of Air Permeable, Rigid, and Discontinuous Roof Systems)

referenced in the proposed criteria is acceptable. The TAS 108 test method subjects roof systems to a wind tunnel test. This test method is typically used for fastened rigid roof covering systems, such as clay and concrete roof tiles. Also, it is not clear how the TAS 108 method can be used to establish design wind pressures complying with the provisions of Section 1609 of the 2009 IBC.

- b. What means, such as applying a safety factor, should be used to derive allowable wind resistance from the wind tunnel tests complying with TAS 108?
 - c. The calculations that are contained in Section 10 of TAS 108 are geared toward evaluating roofing tile installed in a manner in which their behavioral characteristic is overturning. It is not clear how the calculations in TAS 108 will be applicable to a panel that is not positively attached to the supporting structure.
 - d. Section 7 of the TAS 108 method includes specific requirements for constructing the test assembly. This test assembly is not representative of a typical roof assembly that may be used to support the raised-deck system. Modifications to TAS 108 will need to be included in the criteria to indicate the appropriate specimen configuration. Staff also has concerns as to whether the proposed system is sufficiently analogous to a roofing tile system for this test procedure to be valid in determining wind loads on the system.
3. Since the pedestals and the deck panels are not attached to the supporting structure, the criteria limits installation of the raised-deck system to Seismic Design Category A. Staff questions whether the provisions in Section 11.7.4 of ASCE 7-05, stating that nonstructural components must have positive attachment for resisting a horizontal force, should also be applicable to the raised-deck system.
 4. Section 1.2, on the scope of the criteria, does not include recognition for Occupancies where there is a concentrated load, as shown in Table 1607.1 of the IBC. The concentrated load performance requirements in Section 3.4.4 of the criteria apply to foot traffic.
 5. Since the raised-deck system can be installed over a roof assembly, staff has the following comments pertaining to the roof fire classification:
 - a. The criteria should include information on the ASTM E 108 test assembly configuration for the raised-deck system. The assembly should reflect the height of the pedestals, the size of the raised-deck system, the slope of the roof, the roof covering materials, etc.
 - b. The effects that the raised-deck system has on the roof classification of different types of roof assemblies will need to be addressed. This means

that the raised-deck system must be tested in conjunction with the specific roof covering material for which recognition is sought.

6. Section 6.3 of the criteria indicates that perimeter containment for the raised-deck system needs to be installed, and it must be designed to the satisfaction of the code official. Staff questions what design criteria is used to establish the strength and stiffness of the perimeter containment member? What are the applicable forces that should be considered when designing the perimeter containment? What features must the perimeter containment have to maintain validity of loads developed from wind tunnel testing?
7. Staff questions whether the criteria should impose a maximum roof slope for the installation of the raised deck system, especially when the raised deck system is not positively attached to the supporting structure. What should be the maximum roof slope?

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 non-confidential 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 questions, please contact the undersigned at (800) 423-6587, extension 3691, or Brian Gerber, Principal Structural Engineer, at extension 3255. You may also reach us by e-mail at es@icc-es.org.

Yours very truly,



Yamil Moya, P.E.
Staff Engineer

YM/BG/gh

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

ACCEPTANCE CRITERIA FOR A LOW-PROFILE, RAISED-DECK SYSTEM INSTALLED OVER A ROOF ASSEMBLY OR EXTERIOR STRUCTURAL FLOOR SUBSTRATE

AC423

Proposed December 2009

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 ACCEPTANCE CRITERIA FOR A LOW-PROFILE, RAISED-DECK SYSTEM INSTALLED OVER A ROOF ASSEMBLY OR EXTERIOR STRUCTURAL FLOOR SUBSTRATE

1 1.0 INTRODUCTION

2 **1.1 Purpose:** The purpose of this acceptance criteria is to establish requirements for
3 low-profile, raised-deck systems installed over a roof assembly or exterior structural
4 floor substrate to be recognized in an ICC Evaluation Service, Inc. (ICC-ES), evaluation
5 report under the 2009 *International Building Code*[®] (IBC). The bases of recognition are
6 IBC Section 104.11.

7 This criteria specifies the test methods, and performance and installation
8 requirements, for low-profile, raised-deck systems which are to be recognized by ICC-
9 ES, since such requirements are not addressed by the code.

10 **1.2 Scope:** This criteria is applicable to low-profile, raised-deck systems installed
11 over a roof assembly or exterior structural floor substrate. The system consist of deck
12 panels supported by pedestals placed directly on roof assemblies or exterior structural
13 floor substrate, to provide a level walking surface. Pedestals can be adjusted to various
14 heights or a fixed height. The pedestals need not be mechanically or adhesively
15 attached to the supporting substrate. When positive attachment to the structural
16 supports is not provided, the raised-deck system comprised of the deck panels and
17 pedestals must be restrained on all sides against horizontal movement, by perimeter-
18 restraining the walkway.

19 **1.3 Codes and Referenced Standards:** Where standards are referenced in this
20 criteria, these standards shall be applied consistently with the applicable code..

21 **1.3.1** 2009 *International Building Code*[®] (IBC), International Code Council.

22 **1.3.2** ASTM E 2322-03, Standard Test Method for Conducting Transverse and
23 Concentrated Load Tests on Panels Used in Floor and Roof Construction, ASTM
24 International.

25 **1.3.3** ASTM E 108-07a, Test Methods for Fire Tests of Roof Coverings, ASTM
26 International.

27 **1.3.4** ASTM D 143-94 (reapproved 2007), Standard Test Methods for Small Clear
28 Specimens of Timber, ASTM International.

29 **1.3.5** ASTM D1413, Test Method for Wood Preservatives by Laboratory Soil-Block
30 Cultures, ASTM International.

31 **1.3.6** ASTM D 2017, Test Method for Accelerated Laboratory Test of Natural Decay
32 Resistance of Woods, ASTM International.

33 **1.3.7** ASTM D 3345-74 (1999), Standard Test Method for Laboratory Evaluation of
34 Wood and Other Cellulosic Materials for Resistance to Termites, ASTM International.

35 **1.3.8** ASTM D 790-03, Standard Test Methods for Flexural Properties of
36 Unreinforced and Reinforced Plastics and Electrical Insulating Materials, ASTM
37 International.

38 **1.3.9** AWPA E10-07, Standard Test Method of Testing Wood Preservatives by
39 Laboratory Soil-Block Cultures, American Wood-Protection Association.

40 **1.3.10** AWPA E1-06, Standard Test Method for Laboratory Evaluation to Determine
41 Resistance to Subterranean Termites, American Wood-Protection Association.

42 **1.3.11** Recommended Test Procedures for Access Floors, Ceilings and Interior
43 Systems Construction, (CISCA), 2007.

44 **1.3.12** TAS 108-95, Test Procedure for Wind Tunnel Testing of Air Permeable, Rigid,
45 Discontinuous Roof Systems, 2007 Florida Building Code Test Protocols.

46 **1.3.13** Voluntary Product Standard PS 2-04, Performance Standard for Wood-Based
47 Structural Use Panels, United States Department of Commerce.

48 **1.3.14** UL 790-04, Standard Test Methods for Fire Tests of Roof Coverings,
49 Underwriters Laboratories Inc.

50 **1.4 Definitions:**

51 **1.4.1 Raised-deck System:** An assembly consisting of pedestrian deck panels
52 mounted on a supporting structure consisting of pedestals and other accessory
53 components.

54 **1.4.2 Pedestrian Deck Panels:** Pedestrian deck panels evaluated under this
55 criteria are manufactured from naturally durable wood, as defined in Section 2302 of the
56 IBC, or wood material complying with Section 3.3.1 of this criteria. For deck panels,
57 manufactured from other materials such as stone or concrete, evidence of compliance
58 with the applicable provisions of the code must be submitted to the code official.

59 **1.4.3 Pedestal:** A fixed or adjustable-height support column composed of a plastic
60 support base and a plastic load-bearing cap.

61 **2.0 BASIC INFORMATION**

62 **2.1 General:** The following information shall be submitted:

63 **2.1.1 Product Description:**

64 **2.1.1.1 Panels:** Complete information concerning panel materials, weights,
65 dimensions, specifications, and the manufacturing process.

66 **2.1.1.2 Pedestals:** Components used in the supporting structure shall be defined.
67 Complete information concerning dimensions, specifications and the manufacturing
68 process of the pedestals shall be provided.

69 **2.1.2 Installation Instructions:** Drawings or installation details, limitations, and a
70 description of how the product is to be installed.

71 **2.1.3 Packaging and Identification:** A description of the method of packaging and
72 identifying of deck panels, pedestals, and accessory components. Identification
73 provisions shall include the manufacturer's name, the product name, the manufacturing
74 date, the evaluation report number and the name or logo of the inspection agency. A
75 copy of the installation instructions, as packaged with the product, shall be submitted.

76 **2.1.4 Field Preparation:** A description of the methods for field-cutting and trimming
77 pedestals and deck panels.

78 **2.2 Testing Laboratories:** Testing laboratories shall comply with Section 2.0 of the
79 ICC-ES Acceptance Criteria for Test Reports (AC85) and Section 4.2 of the ICC-ES
80 Rules of Procedure for Evaluation Reports.

81 **2.3 Test Reports:** Test reports shall comply with AC85. The test reports shall be in
82 sufficient detail to identify specimen properties. The testing agency shall verify and
83 report dimensions, weight, density, chemical formulation, treatment, moisture content

84 and other relevant physical characteristics of the major components. The testing
85 laboratory shall also verify and report the manner of installation.

86 **2.4 Product Sampling:** Sampling of the test specimens under this criteria shall
87 comply with Sections 3.1 and 3.3 of AC85.

88 **3.0 TEST AND PERFORMANCE REQUIREMENTS**

89 **3.1 Roof Fire Classification:** When the raised-deck system is installed over a roof
90 assembly, reports of testing of the raised-deck system in accordance with ASTM E 108
91 or UL 790 must be submitted.

92 **3.2 Approved Plastic Tests for Pedestal:** Reports of approved plastics tests in
93 compliance with IBC Section 2606.4, except for the smoke developed requirements,
94 shall be submitted. The plastic shall have either a CC1 or a CC2 classification, as
95 defined in IBC Section 2606.4.

96 **3.3 Durability:**

97 **3.3.1 Deck Panels:** Deck panels manufactured from wood not considered
98 naturally durable wood, as defined in Section 2302 of the IBC, shall be subjected to the
99 following tests:

100 **3.3.1.1** Wood material shall demonstrate resistance to fungal decay in
101 accordance with ASTM D 2017, ASTM D 1413, or AWPA E10.

102 **3.3.1.1.1 Conditions of Acceptance:** Examination of test blocks shall reveal
103 decay resistance equivalent to that of heartwood of naturally durable wood used in

104 identical applications, as determined by visual inspection and average weight loss.

105 Naturally durable woods are defined in Section 2302 of the IBC.

106 **3.3.1.2** Testing in accordance with AWPA E1 or ASTM D 3345 shall be used for
107 evaluation on resistance to termite attack of wood material.

108 **3.3.1.2.1 Conditions of Acceptance:** Visual inspection of the test specimens
109 shall demonstrate resistance to termite attack equivalent to that of preservative-treated
110 wood or the heartwood of naturally durable wood used in identical applications.

111 **3.3.1.3** Temperature-cycling tests with conditions of acceptance in accordance
112 with Section 4.9 of AC07.

113 **3.3.1.4** Hardness testing in accordance with ASTM D143. The hardness value
114 shall be reported.

115 **3.3.2 Pedestals:** The following tests shall be conducted on representative samples
116 of the plastic material:

117 **3.3.2.1 Flexural Strength:**

118 **3.3.2.2 General:** Five specimens shall be exposed to ultraviolet light in
119 accordance with Section 3.3.2.3 of this criteria, and five specimens shall be held as
120 control specimens. After the 210-hour exposure, both the exposed specimens and the
121 control specimens shall be tested in accordance with ASTM D 790.

122 **3.3.2.2.1 Conditions of Acceptance:** Loss in flexural properties resulting from
123 ultraviolet light exposure will be evaluated on a case-by-case basis.

124 **3.3.2.3 Ultraviolet Light Exposure:**

125 **3.3.2.3.1 General:** Exposure to ultraviolet sunlamps for 210 hours (10 hours per
126 day for 21 days) in an enclosure providing the following characteristics: The lamps shall
127 be adjusted so that the temperature on the sample is between 135 and 140°F (57 to
128 60°C). Sun-lamp bulbs shall be General Electric Type H275 RUV or equivalent bulbs
129 providing UV characteristics of 5.0 W/m²/nm irradiance at a wavelength of 315 to 400
130 nm at 1 meter.

131 **3.3.2.3.2 Conditions of Acceptance:** No visible surface or structural changes
132 such as peeling, chipping, cracking, flaking or pitting when observed under minimum 5x
133 magnification. Additionally, ultraviolet-exposed specimens must be subjected to flexural
134 strength tests with conditions of acceptance as noted in Section 3.3.2.2.1.

135 **3.4 Structural Requirements:**

136 **3.4.1 General:** Raised-deck systems shall withstand applicable uniform loads
137 specified in Table 1607.1 of the IBC, as well as other applicable gravity loads defined in
138 Chapter 16 of the IBC, such as snow loads.

139 Where fewer than five samples are tested, and the coefficient of variation is greater than
140 15 percent, the most conservative value shall be used; where the coefficient of variation
141 does not exceed 15 percent, the average value shall be used. Where five or more
142 samples are tested, the average value shall be used, regardless of the coefficient of
143 variation.

144 **3.4.2 Panels' Uniform Load:** Testing shall be conducted in accordance with
145 Section 4.1. The recognized allowable loads of panels shall be the lesser of the
146 following:

- 147 a. The maximum deflection of panels under allowable live loads shall be $1/360$
148 of the span in accordance with Table 1604.3 of the IBC.
- 149 b. A minimum factor of safety of 3 shall be applied to the average panel
150 maximum loads to establish the allowable panel load.

151 **3.4.3 Pedestal Axial Load:** The allowable pedestal axial load shall be the peak or
152 maximum load divided by a safety factor of 3. Testing shall be conducted in
153 accordance with Section 4.2.

154 **3.4.4 Foot Traffic Concentrated Static and Impact Test Performance:** The
155 deck panels shall resist the concentrated static and impact test performance loads as
156 shown in the Single Floor at 24 inches on center end use span rating in Table 1 of PS 2.
157 Testing shall be conducted in accordance with Section 7.1 of PS 2. A minimum of three
158 samples shall be tested. The applied load shall be located on the most critical location
159 of the panel.

160 **3.5 Wind Load Resistance:** The wind load resistance testing shall be in
161 accordance with TAS-108. Testing shall be conducted on an assembly representative
162 of field installation. The data generated through the testing shall be converted to design
163 wind pressures in accordance with ASCE 7. A minimum safety factor of ??? shall be
164 used.

165 **4.0 TEST METHODS**

166 **4.1 Uniform Load Test on Panels:** A minimum of three specimens shall be used.
167 Testing shall be conducted in accordance with Section 10.2.1 of ASTM E 2322 and
168 Section 7 of CISCA, with the following clarifications:

169 a. Load application and deformation readings shall be in accordance with
170 Section 6.3 of ASTM E 2322.

171 b. Air bags shall fully contact the test specimens during testing.

172 c. Bearing area of the test specimens shall accurately represent the intended
173 field installation.

174 **4.2 Axial Load Test on Pedestals:** Axial load tests shall be conducted in
175 accordance with Section 5 of Cisca on a minimum of three specimens of each type of
176 pedestal for which recognition is sought.

177 **5.0 QUALITY CONTROL**

178 All components of the raised-deck system shall be manufactured under an approved
179 quality control program. Inspections by an inspection agency accredited by the
180 International Accreditation Service (IAS), or otherwise acceptable to ICC-ES, are
181 required. Quality documentation complying with the ICC-ES Acceptance Criteria for
182 Quality Documentation (AC10) shall be submitted.

183 **6.0 EVALUATION REPORT RECOGNITION**

184 The evaluation report shall include the following information or statements:

185 **6.1** Basic information referenced in Section 2.1 of this criteria, including a description
186 of the raised-deck system components, installation instructions and requirements, and
187 product identification information.

188 **6.2** A statement indicating that the ability of the roof assembly or exterior structural
189 floor substrate to resist the applicable loads imposed by the raised-deck system, must
190 be demonstrated to the satisfaction of the building official.

191 **6.3** When the raised-deck system is not positively attached to the supporting
192 structure, a statement indicating that a perimeter containment must be installed around
193 the perimeter of the raised-deck system area to the satisfaction of the building official.

194 **6.4** A statement indicating that recognition of the raised-deck system is limited to
195 Seismic Design Category A and that recognition of Seismic Design Categories B
196 through F is outside the scope of this report.

197 **6.5** When installation is over a roof assembly, the roof classification (A, B, or C) shall
198 be stated, as determined through testing in accordance with Section 3.1 of this criteria.

199 **6.6** The allowable wind load of the raised-deck system shall be provided, as
200 determined through testing in accordance with Section 3.5 of this criteria.