ICC EVALUATION SERVICE®

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November 17, 2023

TO: **PARTIES INTERESTED IN SUSPENDED CEILING FRAMING SYSTEMS**

SUBJECT: Proposed Revisions to the Acceptance Criteria for Suspended Ceiling Framing Systems (AC368), Subject AC368-0224-R1 (YM/VC)

Hearing Information:
WebEx Event Meeting
Wednesday, February 21, 2024
8:00 am Pacific Standard Time
Click the date above to register

Dear Colleague:

You are invited to comment on proposed revisions to AC368, which will be discussed at the Evaluation Committee hearing noted above. The criteria is being revised to include an option to evaluate suspended ceiling systems that do not comply with requirements specified in Section 13.5.6.2 of ASCE 7 for industry standard construction for acoustical tile or lay-in panel ceilings using a design or analytical approach as shown in Section 3.7 of the proposed criteria. The proponent for these revisions is Sky Acoustics.

The design approach will apply to suspended ceiling framing systems in which the ceiling tiles or panels are positively attached to the grid members using a system of clips and/or torsional springs supported by steel plates, in which the steel plates are used to connect the grid members to each other. The ceiling grid system is supported by vertical wires located at each steel plate location. This approach is not applicable to lay-in panel systems that are fully supported by the grid member system.

The requirements in Section 3.7 will not affect current report holders, since these apply to a specific type of suspended ceiling framing system.

You are invited to submit written comments on this or any other agenda item and attend the Evaluation Committee hearing to support your written comments in person. If you wish to contribute to the discussion, please note the following:

1. Regarding written comments and presentations:

   a. You should submit these via e-mail to es@icc-es.org by the applicable due date.

   b. The deadline for submitting written comments is **December 14, 2023.** These comments will be forwarded to the committee and posted on the ICC-ES web site

shortly after the deadline. Comments that are not submitted by this deadline will not be considered at the meeting.

c. The deadline for submitting rebuttal comments, from the proponent noted in this letter, is **January 10, 2024**. These comments will be forwarded to the committee and posted on the ICC-ES web site shortly after the deadline. Comments that are not submitted by the deadline will not be considered at the meeting.

d. The deadline for submitting a presentation is **January 24, 2024.** If a company wants to present a visual presentation at the hearing, it shall be received in PowerPoint format. These will be forwarded to the committee and posted on the ICC-ES web site approximately two weeks before the hearing. Presentations that are not submitted by the deadline cannot be presented at the meeting. **Note:** Videos will not be posted on the web site.

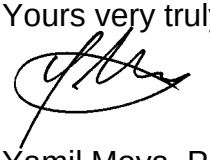
e. ICC-ES staff memo addressing public comments, rebuttal comments, and presentations (as deemed necessary) will be posted to the ICC-ES web site on **February 7, 2024**.

2. Keep in mind that all materials submitted for committee consideration are part of the public record and will not be treated as confidential. It is the presenter's responsibility to certify to ICC-ES staff that no materials infringe copyright.

3. Please do not communicate with committee members before the meeting about any items on the agenda.

We appreciate your interest in the work of the Evaluation Committee. If you have any questions, please contact me at (800) 423-6587, extension 3691, or Vincent Chui, S.E, Regional Vice President of Engineering, at extension 3244. You may also reach us by e-mail at es@icc-es.org.

Yours very truly,



Yamil Moya, P.E.
Senior Staff Engineer

YM/ls

Encl.

cc: Evaluation Committee

ICC EVALUATION SERVICE, LLC, RULES OF PROCEDURE FOR THE EVALUATION COMMITTEE

1.0 PURPOSE

The purpose of the Evaluation Committee is to review and approve acceptance criteria on which evaluation reports may be based.

2.0 MEMBERSHIP

2.1 The Evaluation Committee has a membership of not fewer than nine, with one of the members named by the ICC-ES president each year to serve as the chairman–moderator.

2.2 All members of the committee shall be representatives of a body enforcing regulations related to the built environment.

2.3 Persons are appointed to the committee by the ICC-ES president, from among individuals who have formally applied for membership.

2.4 The ICC-ES Board of Managers, using simple majority vote, shall ratify the nominations of the president.

2.5 Committee membership is for one year, coinciding with the calendar year. Members may be renominated and reappointed.

2.6 In the event that a member is unable to attend a committee meeting or complete a term on the committee, the ICC-ES president may appoint a replacement to fill in at the meeting or for the remainder of the member's term. Any replacement appointed for only one meeting must have prior experience as a member of the Evaluation Committee. Appointments under this section (Section 2.6) are subject to ratification as noted in Section 2.4.

3.0 MEETINGS

3.1 The Evaluation Committee shall schedule meetings that are open to the public in discharging its duties under Section 1.0, subject to Section 3.0.

3.2 All scheduled meetings shall be publicly announced. There shall be three to six meetings per year (as necessary).

3.3 More than half of the Evaluation Committee members, counting the chairman, shall constitute a quorum. A majority vote of members present is required on any action. To avoid any tie vote, the chairman may choose to exercise or not exercise, as necessary, his or her right to vote.

3.4 In the absence of the 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.

3.5 Minutes shall be kept and shall be the official record of each meeting.

3.6 An electronic record of meetings may be made by ICC-ES if deemed necessary; no other audio, video, electronic recordings of the meetings will be permitted. Visual aids (including, but not limited to, charts, slides, videos, or presentation software) viewed at meetings shall be permitted only if the presenter provides ICC-ES before the 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.

3.7 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 must be delivered to ICC-ES and shall be considered nonconfidential and available for discussion in open session of an Evaluation Committee meeting. Such materials will be posted on the ICC-ES web site (www.icc-es.org) prior to the meeting. Comments and submissions not meeting the following deadlines will not be considered at the meeting:

- Initial comments on agenda items shall be submitted at least 28 days before the scheduled meeting.
- A rebuttal comment period shall follow, whereby rebuttal comments to the initial comments may be submitted by the proponent at least 21 days before the scheduled meeting.
- Those planning on giving a visual presentation at the meeting must submit their presentation, in PowerPoint format only, at least 10 days before the scheduled meeting.

The committee reserves the right to refuse recognition of communications which do not comply with the provisions of this section.

4.0 CLOSED SESSIONS

Evaluation Committee meetings shall be open except that at the discretion of the chairman, staff counsel may be necessary. Also, matters related to clients or potential clients covered by confidentiality requirements of ICC-ES Rules of Procedure for Evaluation Reports are discussed only during closed meetings.

5.0 ACCEPTANCE CRITERIA

5.1 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, or method of construction. 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 ICC-ES President.

EXCEPTIONS: The following acceptance criteria are controlled by the ICC-ES executive staff and are not subject to committee approval:

- The Acceptance Criteria for Quality Documentation (AC10)
- The Acceptance Criteria for Test Reports (AC85)
- The Acceptance Criteria for Inspections and Inspection Agencies (AC304)

5.2 Procedure:

5.2.1 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 4.0 of these rules.

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

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

5.2.4 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. In the interest of fairness, each speaker requesting to testify on a proposed acceptance criteria or proposed changes to an existing acceptance criteria will be given the same amount of time, as follows:

a. A 10-minute time limit applies to speakers giving their first testimony on any item, which applies to both verbal testimony and/or visual presentations.

b. A 5-minute time limit applies to speakers returning to the microphone to offer additional testimony and/or to rebut testimony given by others.

c. A 2-minute time limit applies to speakers offering testimony on the staff recommendation to criteria.

Should a company have multiple speakers, the speaker time limits above apply the company, in that multiple speakers from the same company shall share the testimony time, i.e., multiple speakers from the same company shall not each get their own testimony times. Time limits do not include time needed to answer questions from the staff and/or committee members. The chairman–moderator shall have limited authority to modify time limitations on testimony. The chairman–moderator shall also have the authority to adjust time limits as necessary in order to get through the hearing agenda.

An automatic timing device shall keep time for testimony and shall provide the time remaining to the speaker testifying. Interruptions during testimony will not be tolerated. It is the responsibility of the chairman–moderator to maintain decorum and order during all testimony.

5.3 Approval of any action on an acceptance criteria shall be as specified in Section 3.3 of these rules. Possible actions made by the Evaluation Committee include: Approval; Approval with Revisions; Disapproval; or Further Study. The Evaluation Committee must give the reason(s) for any Disapproval or Further Study actions with specific recommendations.

5.4 Actions of the Evaluation Committee may be 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.

6.0 COMMITTEE BALLOTING FOR ACCEPTANCE CRITERIA

6.1 Acceptance criteria may be revised without a public hearing following a 30-day public comment period and a majority vote for approval by the Evaluation Committee (i.e., alternative criteria development process), when at the discretion of the ICC-ES executive staff, the subject is a revision that requires formal action by the Evaluation Committee.

6.2 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 public hearings*. The committee member requests additional input from other committee members, staff or industry.

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

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

7.0 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:

7.1 Committee members receiving an electronic ballot should respond only to the sender (ICC-ES 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.

7.2 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.■

Revised November 2023

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PROPOSED REVISIONS TO THE ACCEPTANCE CRITERIA FOR SUSPENDED CEILING FRAMING SYSTEMS

AC368

Proposed February 2024

Previously approved January 2022, November 2019, August 2019, July 2015, February 2012 and February 2007

Previously editorially revised March 2021

PREFACE

Evaluation reports issued by ICC Evaluation Service, LLC (ICC-ES), are based upon performance features of the International family of codes. (Some reports may also reference older code families such as the BOCA National Codes, the Standard Codes, and the Uniform Codes, or other codes as designated by the ICC-ES president.) 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.**

ICC-ES may consider alternate criteria for report approval, provided the report applicant submits 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. ICC-ES retains the right to refuse to issue or renew any evaluation report, if the applicable product, material, 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 injury or unreasonable damage.

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 SUSPENDED CEILING FRAMING SYSTEMS (AC368)

1.0 INTRODUCTION

1.1 Purpose: The purpose of this acceptance criteria is to establish requirements for suspended ceiling framing systems to be evaluated in an ICC Evaluation Service, LLC (ICC-ES), evaluation report under the 2021, 2018, 2015, 2012, 2009 and 2006 *International Building Code*® (IBC). Bases of evaluation are 2021, 2018, 2015, 2012 and 2009 IBC Sections 808, 1613.1, 2506.2.1 and 104.11, and 2006 IBC Sections 803.9, 1613.1, 2506.2.1 and 104.11.

The reason for development of this criteria is to clarify requirements in the IBC.

1.2 Scope: This criteria is applicable to suspended metal ceiling framing systems that are used to support acoustical lay-in panels or tiles. This criteria is limited to ceiling assemblies having a maximum dead weight of 4 pounds per square foot (19.5 kg/m^2), including lighting fixtures (luminaires) and mechanical services, each weighing a maximum of 56 pounds (25.4 kg), attached to the ceiling framing system. This criteria is limited to interior applications and to ceilings that are not considered accessible in accordance with Item 28 of 2021, 2018, 2015 and 2012 IBC Table 1607.1, Item 31 of 2009 IBC Table 1607.1 and Item 32 of 2006 IBC Table 1607.1. This criteria is applicable to suspended ceiling framing systems regulated under 2021, 2018, 2015, 2012 and 2009 IBC Sections 808 and 2506.2.1, 2006 IBC Sections 803.9 and 2506.2.1; ASCE 7, Sections 13.5.6.1 and 13.5.6.2; ASTM E580 and CISCA 0-2 and 3-4, as applicable. [ASTM E580 is referenced in ASCE 7 (-16, -10 including Supplement #1, or -10) and the CISCA documents are referenced in ASCE 7-05, Section 13.5.6.2, and ASCE 7 is referenced in IBC Section 1613.1]. The installation methods of Section 4 of ASTM E580 and CISCA 0-2 are applicable to ceiling systems with a maximum weight of 2.5 psf. (12.2 kg/m^2), unless otherwise permitted by ASTM E580 or CISCA 0-2.

This criteria also applies to evaluation~~a~~ of suspended ceiling systems that do not comply with Section 13.5.6.1 and 13.5.6.2 of ASCE 7 as indicated in Section 3.7 of this criteria.

1.3 Codes and Referenced Standards: Where standards are referenced in this criteria, the standards shall be applied consistently with the code edition (2021, 2018, 2015, 2012, 2009 or 2006 IBC). Editions of the standards applicable to each code are summarized in Table 1, unless noted otherwise.

1.3.1 2021, 2018, 2015, 2012, 2009 and 2006 *International Building Code*® (IBC), International Code Council.

1.3.2 ASCE 7, Minimum Design Loads for Buildings and Other Structures, American Society for Civil Engineers.

1.3.3 CISCA 0-2, Recommendations for Direct-hung Acoustical Tile and Lay-in Panel Ceilings, Seismic Zones 0-2, May 2004, Ceilings and Interior Systems Construction Association.

1.3.4 CISCA 3-4, Guidelines for Seismic Restraint for Direct Hung Suspended Ceiling Assemblies, Seismic Zones 3 & 4, May 2004, Ceilings and Interior Systems Construction Association.

1.3.5 ASTM C635, Specification for the Manufacture, Performance and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings, ASTM International.

1.3.6 ASTM C636, Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels, ASTM International.

1.3.7 ASTM E119, Standard Test Method for Fire Testing of Building Construction and Materials, ASTM International.

1.3.8 ASTM E580, Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions, ASTM International.

1.3.9 ASTM E3118, Standard Test Methods to Evaluate Seismic Performance of Suspended Ceiling Systems by Full-Scale Dynamic Testing, ASTM International.

1.3.10 UL 263, Standard for Fire Test of Building Construction and Materials, Underwriters, Laboratories.

1.3.11 ICC-ES Acceptance Criteria for Seismic Certification by Shake-table Testing of Nonstructural Components (AC156), dated October 2010 (editorially revised December 2020).

2.0 BASIC INFORMATION

2.1 General: The following information shall be submitted:

2.1.1 Product Description: Complete information concerning material specifications, dimensions and coatings for the ceiling framing system components.

2.1.2 Installation Instructions: Installation details, including requirements, limitations and fastening methods. Installation details shall be consistent with ASTM C636, ASTM E580, CISCA 0-2, CISCA 3-4, and ASCE 7, as applicable.

2.1.3 Packaging and Identification: A description of the method of packaging and field identification of the suspended ceiling framing system components. Product identification shall be in accordance with the product identification provisions of the ICC-ES Rules of Procedure for Evaluation Reports. The ICC-ES mark of conformity, electronic labeling, and/or the evaluation report number (ICC-ES ESR-XXXX) along with the name, registered trademark, or registered logo of the report holder [and/or listee] must be included in the product label.

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 suspended ceiling framing system components for tests under this criteria shall comply with Section 3.2 of AC85. Product identification shall be in accordance with the product identification provisions of the ICC-ES Rules of Procedure for Evaluation Reports.

3.0 TEST AND PERFORMANCE REQUIREMENTS

Sections 3.1 through 3.4 of this criteria apply to suspended ceiling framing systems that conform to "Industry Standard Construction" as referenced in ASCE 7, Section 13.5.6.2. As an alternate, suspended ceiling framing systems may be seismically qualified in accordance with Section 3.6 or 3.7 of this criteria.

A qualification test plan shall be submitted to and approved by ICC-ES staff prior to any testing being conducted

3.1 Physical Properties: Reports of tests shall be submitted verifying yield and tensile strength of metal used to fabricate the framing members used in tests. Yield and tensile strength shall be within 7 percent of specified, or the quality control program shall have a means to ensure the yield and tensile strength of the metal is consistent with the specifications of the materials used in the tests. Corrosion protection on framing members shall be identified.

3.2 Suspended ceiling system framing members shall be tested for uniform gravity loads at a 4-foot span (1220 mm) and shall be classified in accordance with ASTM C635. The allowable uniform load shall be the lesser of the load applied at a deflection of L/360 or the allowable uniform load based on a safety factor of 2 applied to the average maximum test load. When desired by the evaluation report applicant, the allowable midspan concentrated load, as determined analytically from the allowable uniform load, and the allowable uniform load for spans other than 4 feet (1220 mm), shall be determined and reported.

3.3 Connection Tests:

3.3.1 General: Main runners and cross runners of the ceiling system and their splices, intersection connectors, and expansion devices shall be tested for both tension and compression capacity. Tension tests shall be conducted with a 5-degree misalignment, or with a 1-inch (25.4 mm) eccentricity on a sample not more than 24 inches (610 mm) long on each side of the splice or intersection. A minimum of three replicate specimens shall be tested for each connection. The deviation of any individual test result from the mean value shall not exceed 10 percent. If the deviation of any individual result exceeds ±10 percent from the mean value, three additional replicate samples shall be tested. After the required testing on the six replicate specimens is complete, the maximum and minimum high and low test values are dropped and the remaining four test results are used to obtain the mean test value average. If one of the remaining test results still exceeds the ±10 percent of the mean value, the lowest individual test value recorded from the six tests will be used as the reported test result (or as the mean ultimate load).

3.3.1.1 Conditions of Acceptance: For use in Seismic Design Categories A, B and C, the mean ultimate load determined per Section 3.3.1 shall be a minimum of 60 pounds (267 N). For use in Seismic Design Categories D, E and F, the mean ultimate load determined per Section 3.3.1 shall be a minimum of 180 pounds (800 N) or twice the actual load, whichever is greater.

3.3.2 Connections of Vertical Hanger Wire and Lateral Splay (Bracing) Wire to Suspension Members: A minimum of three replicate specimens shall be tested for each configuration. The deviation of any individual test result from the mean value shall not exceed 10 percent. If the deviation of any individual result exceeds ±10 percent from the mean value, three additional replicate samples shall be tested. After the required testing on the six specimens is complete, the maximum and minimum values are dropped and the remaining four test results are used to obtain the mean test value average. If one of the remaining test results still exceeds the ±10 percent of the mean value, the lowest individual test value recorded from the six tests will be used as the reported test result (or as the mean ultimate load).

3.3.2.1 Condition of Acceptance for Vertical Hanger Wire: The vertical hanger wire shall have a minimum allowable load of 100 pounds (445 N) with a safety factor of 2.

3.3.2.2 Conditions of Acceptance for Lateral Splay (Bracing) Wire under the 2021 and 2018 IBC: For use in Seismic Design Categories D, E, and F, connections of lateral splay (bracing) wire to suspension members shall be tested in tension and shall demonstrate a mean ultimate load of 250 pounds (1112 N) as determined by Section 3.3.2, for bracing wires.

3.3.2.3 Conditions of Acceptance for Lateral Splay (Bracing) Wire under the 2015, 2012, 2009 and 2006 IBC: For use in Seismic Design Categories D, E, and F, connections of lateral splay (bracing) wire to suspension members shall be tested in tension and shall demonstrate a mean ultimate load of 200 pounds (890 N), as determined by Section 3.3.2, or two times the actual design load, whichever is greater.

3.4 The method of attachment of lighting fixtures or other devices to framing members shall be tested to demonstrate a capacity of 100 percent of the lighting fixture or other devices' weight in any direction. Proprietary attachment devices must be qualified under the ICC-ES Acceptance Criteria for Attachment Devices for Recessed Lighting Fixtures (Luminaires) in Suspended Ceiling Systems (AC184).

3.5 Fire-resistance-rated Construction: For use in fire-resistance-rated construction, reports of fire tests in accordance with ASTM E119 or UL 263 are required.

3.6 Seismic Performance of Suspended Ceiling Systems in accordance with ASTM E3118: The seismic performance of suspended ceiling systems may be established in accordance with Procedure A or B of ASTM E3118. The current version of AC156 shall be used. Details of the tested assembly shall be reported in the evaluation report. When seismic performance is established in accordance with Procedure B of ASTM E3118, the maximum S_{DS} or S_S values and the corresponding level of performance criterion (1, 2 or 3) shall be reported in the evaluation report.

3.7 Seismic Performance of Suspended Ceiling Systems based on an Analytical Approach: As an option for establishing seismic performance in accordance with Section 3.6, the seismic performance of suspended ceiling systems may be established in accordance with the force requirements in Section 13.3 and 13.5.6 of ASCE 7, as applicable. This approach applies to suspended ceiling systems where the ceiling tiles or panels are positively connected to the grid members using a system of clips and/or torsional springs supported by steel plates, in which the steel plates are used to connect the grid members to each other. The ceiling grid system is supported by vertical wires located at each steel plate location. This approach is

not applicable to lay-in panel systems that are fully supported by the grid member system. The capacity of the ceiling grid components used in the design of the suspended ceiling system must be established in accordance with Sections 3.7.1 through 3.7.5. Where component capacities are established through testing, the allowable capacity shall be based using a safety factor of two applied to the ultimate load.

3.7.1 Ceiling Tiles or Panels Clip and/or Torsional Spring Capacity: The vertical load capacity of the clip and/or torsional springs supporting the ceiling tiles or panels must be established in accordance with Section 3.3.1 or through analysis in accordance with code referenced material standards.

3.7.2 Grid Members Vertical Load Capacity: The capacity of the grid members transferring vertical loads from ceiling tiles or panels to the vertical hanger wire must be established through analysis in accordance with code referenced material standards.

3.7.3 Grid-to-Grid Member Connection Capacity: Grid member to grid member connection must be done using plates with mechanical fasteners, and the connection shear capacity must be established through testing in accordance with Section 3.3.1 or through analysis in accordance with code referenced material standards.

3.7.4 Grid Members Axial Capacity: Grid member axial capacity must be determined using testing in accordance with Section 3.3.1 or through analysis in accordance with code referenced material standards.

3.7.5 Vertical and Splay Wire Bracing Capacity: The vertical hanger wire and splay wire bracing capacity must be established through testing in accordance with Section 3.3.2 or through analysis in accordance with code referenced material standards.

4.0 QUALITY CONTROL

4.1 Quality documentation complying with the ICC-ES Acceptance Criteria for Quality Documentation (AC10) shall be submitted for each facility manufacturing or labeling products that are evaluated in the ICC-ES evaluation report.

4.2 A qualifying inspection shall be conducted at each manufacturing facility in accordance with the requirements of the ICC-ES Acceptance Criteria for Inspections and Inspection Agencies (AC304).

4.3 An annual inspection shall be conducted at each manufacturing facility in accordance with AC304.

5.0 EVALUATION REPORT

5.1 The evaluation report shall identify the allowable uniform load at a 4-foot (1.2 m) span for each suspended ceiling system framing member. When desired by the evaluation report applicant, the allowable mid-span concentrated load, or allowable uniform load at spans other than 4 feet (1.2 m), shall also be identified.

5.2 The evaluation report shall identify the allowable tension and compression values for each suspended ceiling system framing member connection as indicated in Section 3.3.1.

5.3 Where compliance with Section 3.7 of this criteria is sought, the evaluation report shall report the grid system component capacities determined in accordance with Section 3.7.1 through 3.7.5.

5.4 The evaluation report shall include the following conditions of use:

5.4.1 Suspended ceiling systems must be designed and installed in accordance with ASCE 7, Section 13.5.6. The documents must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

5.4.2 Where compliance in accordance with Section 3.7 of this criteria is sought, the following statement shall be provided: Suspended ceiling systems in which the ceiling tiles or panels are connected to the grid system with clips and/or torsion springs must be designed in accordance with ASCE 7, Section 13.3 and 13.5.6, as applicable. The documents must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

5.4.3 Where special inspections are required by the building official, a statement of special inspection shall be provided in accordance with 2021, 2018, 2015 and 2012 IBC Section 1704.3, 2009 or 2006 IBC Section 1705, as applicable.

5.4.4 Periodic special inspections shall be provided, as required by the building official, for use in Seismic Design Categories D, E, and F in accordance with Section 1705.3.3 of the 2009 and 2006 IBC.

5.4.5 Periodic special inspection including verifying a statement of special inspection shall be provided for use in Seismic Design Categories C, D, E, and F, where suspended ceiling systems are seismically qualified through testing as required by the building official during enforcement of the 2012 IBC Sections 1705.1.1, 1705.11.4 and 1705.12, 2009 IBC Sections 1704.15,1708.1 and 1708.4, and 2006 IBC Sections 1704.13, 1708.2 and 1708.5; and in Seismic Design Categories B, C, D, E and F, where suspended ceiling systems are seismically qualified through testing as required by the building official during enforcement of the 2021, 2018 and 2015 IBC Sections 1705.1.1, 1704.5 and 1705.13.2.

5.4.6 The ceiling framing system must not be used to provide lateral support for walls or partitions, except as provided for in ASCE 7, Section 13.5.8.1.

6.0 ENVIRONMENTAL PRODUCT DECLARATION (Optional):

Environmental impacts shall be assessed via an Environmental Product Declaration (EPD) based on a Life Cycle Assessment (LCA). The LCA and EPD shall be conducted in accordance with ISO 21930 and the appropriate Product Category Rule(s) for the product type.■

TABLE 1—CROSS-REFERENCE OF STANDARDS EDITIONS

STANDARD	2021 IBC	2018 IBC	2015 IBC	2012 IBC	2009 IBC	2006 IBC
ASTM C635	-17	-13a	-13	-07	-07	-00
ASTM C636	-13	-13	-08	-08	-06	-04
ASTM E119	-18B	-16	-2012A	-08a	-07	-00
ASTM E580	-14	-14	-09a	-09a	N/A	N/A
ASTM E3118	-21					
UL 263	-11 with revisions through March 2018	-11	-11	-03 with revisions through October 2007	-03	-03
ASCE 7	-16 Including Supplement 1	-16	-10 Including Supplement 1	-10	-05 (including CISCA 0-2 and CISCA 3-4)	-05 (including CISCA 0-2 and CISCA 3-4)

N/A: Not applicable.