



ICC Evaluation Service, Inc.
Birmingham Regional Office
900 Montclair Road, Suite A
Birmingham, AL 35213
tel: 205.599.9800
fax: 205.599.9850
www.icc-es.org

September 1, 2009

TO: PARTIES INTERESTED IN HORIZONTALLY SLIDING, ACCORDION-FOLDING, EGRESS FIRE-DOOR ASSEMBLIES

SUBJECT: Proposed Acceptance Criteria for Horizontally Sliding, Accordion-folding, Egress Fire-door Assemblies, Subject AC420-1009-R1 (BB/GN)

Hearing Information:

Wednesday, October 7, 2009
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 subject proposed new acceptance criteria will be on the agenda noted above for consideration by the Evaluation Committee.

The criteria was submitted for consideration by Won-Door Corporation and editorially modified by staff. Won-Door has raised issues relative to how staff has evaluated these products in the past. To address these issues, ICC-ES believes that an acceptance criteria is needed to clarify the code requirements, since the code requirements are quite general in nature and it is unclear as to what extent the code intends certain requirements, found in some referenced standards, to apply.

This criteria, if adopted by the Evaluation Committee, will be used to guide staff in the evaluation of any new applications received by ICC-ES and in the re-examination of any current reports prior to their reissuance. As noted above, due to certain code requirements being unclear, attempting to develop a criteria for the subject assemblies generated the following specific questions:

1. The issue is raised as to what the scope of the evaluation report should be. Historically, ICC-ES evaluation of doors has concentrated primarily on fire resistance and a review of emergency egress features. Input is needed on the following, relative to the needs of the code official in permitting these products:

- a. Do provisions concerning motors and overheating devices need to be included in the criteria? If so, are the proposed provisions in Sections 1.3.5, 1.3.6, and 1.4.1.1.1 of the draft appropriate? Are these a part of the door operator listings?
 - b. Should the criteria address door operators? Are the proposed provisions in Sections 1.4.1 and 1.4.1.1 appropriate? It should be noted that the provisions of NFPA 80 are quite general and only state that labeled operators listed for use with the doors are to be used. Is it adequate to use operators listed for use with egress doors or should the operator be listed for use with the specific door type or model? No specific guidance is given as to any standard that is applicable to the operators or what kind of listing would be deemed to be appropriate.
 - c. How narrowly do we need to scope the type of door covered by this criteria? What should the criteria be called? What should the definition (Section 1.4.1 of the draft criteria) be for this type of door?
 - d. Is this criteria needed, and why? (A reason statement needs to be added.)
2. If the criteria is to address all the details of door operation based on the 2009 *International Building Code* and its referenced standards, the question is raised as to how much of the egress performance of a door is due to installation, versus how much is based on the design of the door assembly components themselves (see IBC Sections 1008.1.4.3 and 715.4). Thus:
- a. What operational features can be realistically assessed by ICC-ES, and what assessment should be left to field inspection and verification?
 - b. Do building departments generally have the expertise to review these assemblies for compliance with codes and standards, and to verify operational compliance once the doors are installed?
 - c. For operational features that can be evaluated by ICC-ES, how can these be best assessed; i.e., can they be based on a design review, or should there be an operational assessment through laboratory testing or other means? Input is requested on how the following site performance characteristics could be evaluated by ES: BHMA A 156.10 and BHMA A 156.19 compliance; method of operation; latch release, set-in-motion, opening, and operation-prevention forces; actuating control configuration, location, and sensitivity; safety zone areas and entrapment protection; opening and closing delays, speeds, and times; latch check and back check; automatic operation interrupt; and signage characteristics.
 - d. The proposed Section 2.1.3, if needed, would seem to be more appropriately placed in Section 5.0 of the acceptance criteria as a condition of use to be placed in the evaluation report. This is because Section 2.0 of the

acceptance criteria normally deals with items the applicant must submit for staff review.

- e. The provisions of the code dealing with this type of door, being more an installation standard, implies that the instructions must be followed and the instructions must be complete enough to lead the installer to code compliance. The instructions also must lead the inspector to verification. What should the instructions be required to include and what, if anything, must be provided to the code official to assure correct installation?
 - f. Should the acceptance criteria require documented evidence that the door is easily recognized as a door and that it can be opened without special knowledge or effort? These issues are subjective and no guidance is given for their evaluation.
 - g. Should trade organizations, which might have some experience in achieving quality installations, be relied upon to make sure doors are installed to operate properly, and if so, how can these installations be verified as being in compliance?
 - h. Should ICC-ES require proof that at least one door of each type meets all code requirements after installation, to prove that it can be done for that type of door?
3. The language of the IBC is written such that doors must be installed in accordance with NFPA 80. This raises the question as to what provisions in NFPA 80 must be met for a door to be considered as being in compliance with the IBC. More specifically, some provisions in NFPA 80 that are contained in the proposed criteria appear to be design requirements. Thus, it is unclear whether the code intends these requirements to be enforced. Some specific, problematic areas staff have identified are as follows:
- a. Section 3.3.2 of the proposed criteria has requirements for closing speed from NFPA 80.
 - b. Section 3.3.6 of the proposed criteria requires temperature override sensors which are required by Section 9.4.2.3 of NFPA 80.
 - c. Section 3.3.5 of the criteria requires the standby or emergency power supply to have the capacity to operate a minimum of 50 cycles, per Section 9.4.2.2.2 of NFPA 80.
 - d. Does the requirement for emergency power preclude a need for manual operation capabilities?
4. The draft criteria will allow testing to either NFPA 252 or UL 10B. This seems appropriate based on Section 715.4.2 of the IBC. However, based on Section 715.4.3 of the IBC, it seems that UL 10B is not appropriate for doors used in

corridors or smoke barriers and that NFPA 252 or UL 10C should be the requisite standards under these circumstances.

5. The scope of the criteria needs to clarify whether these doors are to be used in exit enclosures and exit passageways of unsprinklered buildings. If so, Section 715.4.4 of the IBC would appear to have temperature-transmitted limits that need to be addressed by the criteria.
6. The proposed criteria mentions that the doors have latches (Sections 1.4.1 and 3.2.2, for example). Based on Section 715.4.8.1 of the IBC, the question is raised as to whether the criteria should require these doors to latch in the traditional sense, or is it acceptable for the door to be held by the motor, or other force, provided fire tests demonstrate that the integrity of the opening protection is not jeopardized? It should be noted that some of these type doors do not appear to have latches, but their fire integrity is maintained by pockets that receive the lead posts such that they are capable of passing the fire tests without latches, provided motors and drive chains are in place during the testing. Additionally, it is unclear whether IBC Section 1008.1.10 allows this type of door in cases where the code would normally require panic or fire exit hardware (i.e., are they exempt on the basis that they do not latch?).
7. Should the use of these doors be limited to applications where the occupant load served is less than 50 persons? In Section 1008.1.2 of the IBC, Exception 6 would appear to provide an exemption for the side swinging door requirement of the first paragraph, yet the second paragraph would appear to remove the exemption by requiring a swing in the direction of egress travel for occupant loads of 50 or more.
8. To what extent must the assembly be comprised of the exact components with which it was tested for fire resistance? Should the installer be allowed to choose from among a range of listed components? How would these ranges be defined? How should the listing signal the acceptability of use? Do the acceptable components need to be tabulated in the report? Do fire door listings include a list of acceptable alternate components?
9. These doors are usually offered in a wide range of sizes and accessory configurations. How detailed does the assembly description need to be in the report, and would conceptual drawings be acceptable?
10. Should there be a requirement that the door be closed by automatic means at the initiation of the fire test, or should the test be performed on a door closed manually (which is worse case?); or should the test be done both ways?
11. Should the criteria include documentation of testing showing how each door would perform for egress once installed? With all of the permutations that could exist, how many assemblies need to be tested to show that the systems will perform as required by IBC 1008.1.4.3, NFPA80, BHMA A156.19, and BHMA

A156.10? If testing should be on the worst-case door, what should be used to determine worst-case?

12. The basis needs to be established for the proposed provisions in Section 3.3.7 of the draft criteria.

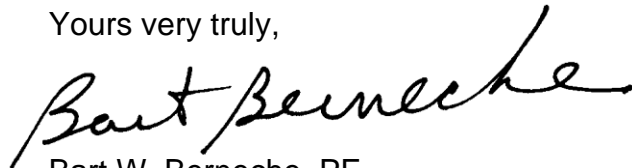
You are cordially invited to submit written comments on agenda items, or to attend the Evaluation Committee hearing and present verbal comments. If you wish to contribute to the hearing, please note the following:

1. Written comments that are received by the Los Angeles business/regional office by **September 18, 2009**, 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 **September 29, 2009**.
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 **September 29, 2009**.
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 questions, please contact the undersigned at (800) 423-6587, extension 5593. You may also reach us by e-mail at es@icc-es.org.

Yours very truly,



Bart W. Berneche, PE
Staff Engineer

BWB/raf

Enclosure

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 ACCEPTANCE CRITERIA FOR HORIZONTALLY SLIDING, ACCORDION-FOLDING, EGRESS FIRE-DOOR ASSEMBLIES

AC420

Proposed September 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 for purposes of issuing ICC-ES evaluation reports.

PROPOSED ACCEPTANCE CRITERIA FOR HORIZONTALLY SLIDING, ACCORDION-FOLDING, EGRESS FIRE-DOOR ASSEMBLIES

1.0 INTRODUCTION

1.1 Purpose: The purpose of this acceptance criteria is to establish requirements for horizontally sliding fire-door assemblies used in a means of egress. A horizontally sliding fire door assembly includes the fire-rated sliding panel, housing, strike, motor operator assembly, tracks, rollers, exit devices, and lead post. This criteria is applicable to horizontally sliding fire-rated door assemblies, used as opening protectives to retard the passage of fire and smoke, in order to be recognized in an ICC Evaluation Service, Inc. (ICC-ES), evaluation report under the 2009 *International Building Code*® (IBC). Bases of recognition are IBC 1008.1.3.3, NFPA 80 Chapter 9, and NFPA101 7.2.1.14 and 715.

1.2 Scope:

1.2.1 Horizontally sliding, accordion-type, fire-rated door assemblies are used as opening protection in fire-resistance-rated wall assemblies, as smoke- and draft-control assemblies, and as a means of egress. The horizontally sliding, accordion-type, fire-rated door assembly may be single-sided or bi-parting

1.3 Codes and Referenced Standards:

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

1.3.2 ANSI/UL 10B-2008, UL Standard for Fire Safety Tests of Door Assemblies, Underwriters Laboratories Inc.

1.3.3 NFPA 80-07, Standard for Fire Doors and Windows, National Fire Protection Association.

1.3.4 ANSI/UL 864-06, UL Standard for Safety for Control Units for Fire-Protective Signaling Systems, Underwriters Laboratories Inc.

24 **1.3.5** UL 1004-94, UL Standard for Electric Motors, Underwriters Laboratories
25 Inc.

26 **1.3.6** UL 2111-97, UL Standard for Overheating Protection for Motors,
27 Underwriters Laboratories Inc.

28 **1.3.7** UL 1784-01, UL Area Leakage tests for Door Assemblies, Underwriters
29 Laboratories Inc.

30 **1.4 Definitions:**

31 **1.4.1 Horizontally Sliding, Accordion-type, Fire-door Assembly:** A

32 horizontally sliding, accordion-type fire-door assembly is a fire-resistance-rated,
33 horizontally sliding door assembly that automatically closes and latches by actuation of
34 a listed smoke-automatic fire detector or fire alarm equipment The assembly consists of
35 a track and trolley system, floating jamb, striker jamb or post, folding panels, and an
36 intelligent, microprocessor-based releasing device.

37 **1.4.1.1 Releasing Devices:** Listed releasing devices consist of a control
38 unit, a power supply, and a motor operator that includes associated drive components
39 such as a motor, clutch, roller chain, sprockets, etc. They may also include local or
40 remote display devices.

41 **1.4.1.1.1 Electrically Operated Motor:** An electrically operated motor
42 consists of a separately listed electric motor tested to appropriate standards to prevent
43 electric shock or fire. It should be thermally protected and rated for 5 hp (3.7 kW) or
44 less, 250 V or less, AC or DC.

45 **2.0 BASIC INFORMATION**

46 **2.1 General:** The following information shall be submitted:

47 **2.1.1 Product Description:** The following details shall be submitted:

48 **2.1.1.1** General information on each component of the horizontally sliding,
49 accordion-type, fire-door assembly.

50 **2.1.1.2** Complete information concerning assembly dimensions,
51 configuration, and material specifications.

52 **2.1.1.3** Manufacturing process.

53 **2.1.1.4** Dimensioned scaled drawings of the assembly and all components.

54 **2.1.2 Installation Instructions:** Installation instructions and details shall be
55 submitted and shall include the following:

56 **2.1.2.1** Instructions on the installation of all assembly components and
57 configuration of the automatic closing system.

58 **2.1.2.2** Electrical schematics for all applicable assembly components. The
59 installation instructions shall specify, “The (*model number to be inserted*) assembly and
60 the automatic closing system shall be installed in ordinary locations in accordance with
61 the applicable requirements of the IBC. Consult your local jurisdictional authority for
62 applicable requirements before installing.”

63 **2.1.2.3** Instructions on field-testing the installed assembly for proper
64 operation. The installation instructions shall specify the following: “The need for
65 supervision of electrical power supply circuits or the need for listed uninterruptible power
66 supply equipment shall be in accordance with the applicable requirements. Consult the
67 code official having jurisdiction for applicable requirements before installing.”

68 **2.1.2.4** Instructions concerning ongoing inspection and maintenance
69 schedules to be required of the building owner.

70 **2.1.3 Engineering Calculations:** Signed and sealed engineering
71 calculations shall be submitted for the structural members supporting the horizontally
72 sliding, accordion-type, fire-door assembly and its components.

73 **2.1.4 Packaging and Identification:** A description of the method of
74 packaging and field identification of the horizontal sliding, accordion-type, fire-door
75 assembly. Identification of each assembly shall include the evaluation report number;
76 the name or logo of the inspection agency, and the serial or issue number issued by the
77 testing and inspection agency for each assembly; the manufacturer's name and
78 location; the model number or product type; and the fire-resistance rating of the
79 assembly. If an assembly is manufactured at several locations, each assembly shall be
80 distinctively marked to identify the place of manufacture.

81 **2.1.5 Field Preparation:** Details shall be submitted of field preparation for
82 installing a horizontally sliding, accordion-type, fire-door assembly. Details shall also be
83 submitted of field preparation of the site-built fire door construction that provides
84 structural support to the assembly and its components.

85 **2.2 Testing Laboratories:** Testing laboratories shall comply with Section 2.0 of the
86 ICC-ES Acceptance Criteria for Test Reports (AC85) and Section 4.2 of the ICC-ES
87 Rules of Procedure for Evaluation Reports.

88 **2.3 Test Reports:** Test reports shall comply with AC85.

89 **2.4 Product Sampling:** Sampling of horizontally sliding fire-door assemblies for
90 tests under this criteria shall comply with Section 3.1 of AC85.

91 **3.0 BASIC REQUIREMENTS**

92 **3.1 Assembly Materials:**

93 **3.1.1 General:** Horizontally sliding, accordion-type, fire-door assemblies
94 qualified in accordance with this acceptance criteria shall be constructed as described in
95 the approved quality documentation.

96 **3.1.2 Releasing Devices:** Listed releasing devices shall comply with
97 ANSI/UL 864-2006, including the alarm verification feature described in Section 55.2 of
98 said standard. The releasing device shall be separately labeled as showing compliance
99 as a “Releasing Device”, UL category SZNT, by an independent testing agency
100 accredited by the International Accreditation Service, Inc. (IAS), or by another
101 accreditation body that is a signatory to the International Laboratory Accreditation
102 Cooperation (ILAC) Mutual Recognition Arrangement (MRA). The scope of the
103 laboratory’s accreditation shall include the type of testing that is to be reported to ICC-
104 ES. The operating device(s), such as a switch, relay, or coding mechanism, of the listed
105 releasing device shall perform as intended when operated for the number of cycles and
106 rate indicated for daily-use circuits as shown in Table 67.1 of ANSI/UL 864-2006.

107 **3.1.3 Electrically Operated Motors:** Approved thermal device-protected
108 motors shall comply with the construction requirements of UL 1004 and the running and
109 locked rotor protection requirements of UL 2111 for the intended application. The
110 motors shall be separately labeled as “Thermally Protected” and “Suitable for Field
111 Wiring” by an independent testing agency accredited by the IAS or by another
112 accreditation body that is a signatory to the ILAC MRA. The scope of the laboratory’s
113 accreditation shall include the type of testing that is to be reported to ICC-ES.

114 **3.1.4 Standby Power:** Standby or emergency power shall be provided. The
115 standby or emergency power shall pick up its connected loads within 10 seconds of

116 failure of the normal source of power. The standby or emergency power shall have
117 capacity of 50 opening and closing cycles.

118 **3.2 Fire-resistance Testing:**

119 **3.2.1** The fire-resistance rating of the horizontally sliding, accordion-type, fire-
120 door assembly, including the releasing device, header assembly, striker, and storage
121 pocket(s) shall be established by tests conducted in accordance with UL 10B.

122 **3.2.2** The horizontally sliding, accordion-type, fire-door assembly, including
123 the automatic closing system releasing device, shall be installed in the test door
124 opening in the manner in which it is intended to be used. The tested door assembly
125 shall be electrically operated to ensure proper engagement of the latching mechanism
126 into the striker jamb/post prior to the fire-endurance test.

127 **3.2.3** Nonsymmetrical assemblies shall be tested with both faces exposed to
128 the furnace, and the assigned fire resistance rating shall be the shortest duration
129 obtained from the two tests. When evidence is furnished to show that the door was
130 tested with the least fire-resistant side exposed to the furnace, the assembly need not
131 be subjected to tests from the opposite side, subject to acceptance by ICC-ES.

132 **3.2.4** The fire-resistance rating of the assembly shall be compatible with the
133 fire-resistance rating of the opening into which it is to be installed.

134 **3.3 Performance:** The assembly shall be self-closing or automatically closing on
135 command from the building alarm system or from a listed smoke-automatic fire detector,
136 fire alarm equipment, or approved signaling device.

137 **3.3.1** The assembly shall be automatically closing by the actuation of smoke-
138 automatic fire detectors installed in accordance with Section 907.10 of the IBC, or by
139 loss of power to the smoke-automatic fire detectors or the hold-open device. The

140 assembly shall not have more than a 10-second delay before it starts to close after the
141 smoke-automatic fire detector is actuated.

142 **3.3.2** Closing speed shall be as per NFPA 80, not less than 6 inches (152
143 mm) per second to assure timely protection of the opening, and not more than 24 (610
144 mm) inches per second.

145 **3.3.3** Sensors shall be used to pause or stop the assembly during the closing
146 cycle if the pathway is obstructed. The pause shall not be more than 10 seconds before
147 closing resumes when the system is in the fire alarm condition.

148 **3.3.4** A test report from an approved independent authority shall be provided
149 as evidence that the door is easily recognized and operable for its intended usage
150 without a key, special knowledge or effort. The actuating device shall be subjected to a
151 measurable force load. The force shall be applied to the actuating device in the
152 direction of egress travel (perpendicular to the door). The force causing the actuating
153 device to signal the power operating system to open the door shall not be more than 15
154 pounds (67 N).

155 **3.3.5** The door shall be equipped with a self-contained power supply
156 subjected to cycle testing. One cycle shall be defined as the time to completely close
157 the door from the open position and return it to the open position. The self-contained
158 power supply shall have sufficient capacity to operate the door 50 cycles without the aid
159 of outside power.

160 **3.3.6** The door shall include temperature-sensing devices installed at the
161 leading edge approximately 12 inches from the top of the door. These devices shall be
162 subjected to a measurable temperature. When the temperature exceeds 500°F
163 (260°C), the actuating device shall be deactivated and shall not cause the door to open.

164 **3.3.7** A lateral load shall be applied to the door in the direction of egress
165 travel. The total load shall be equivalent to 250 pounds (1113 N) of force distributed
166 over a minimum of five points over the total area of the closed door at locations at least
167 3 feet (914 mm), but not more than 6 feet (1829 MM), from the floor. Under these
168 conditions, the door must meet the conditions of ease of operation as outlined in
169 Section 3.3.4.

170 **3.3.8** Upon activation of the actuating device while in a fire alarm condition,
171 the door shall open to a field-programmable distance approved by the local authority
172 having jurisdiction at the rate dictated in Section 3.3.2, and shall not have more than a
173 10-second delay before it starts to re-close.

174 **3.4 Path Obstructions:** The assembly shall be capable of monitoring the closing
175 path for obstructions. When deemed necessary by the code official, the monitoring shall
176 occur at least on a daily basis. Detected obstructions shall cause an alarm to sound at
177 the door location or at an optional constantly attended location.

178 **3.5 Transmission Faults:** Faults shall cause an audible and visual alarm to be
179 indicated at the door location and optionally at a constantly attended location
180 designated by the code official. Minimally, faults shall include power supply faults, fuse
181 faults, input device faults, and drive train faults. Power supply faults shall include under
182 and over voltage conditions for both primary and standby power. Standby power
183 utilizing batteries shall indicate faults for bad batteries and disconnected or missing
184 batteries. Fused circuits shall be monitored and faults transmitted for fuse failures.
185 Input devices such as key switches, limit switches, actuating (exiting) devices, and
186 safety switches shall be monitored for abnormal conditions and be capable of

187 transmitting faults on their occurrence. The drive train, including motor and chain, shall
188 be monitored for reliability and faults.

189 **3.6 Transmission of Alarms:** Fire alarm signals received shall cause an audible
190 and visual indication at the door location and optionally at a constantly attended location
191 designated by the code official.

192 **3.7 Transmission of Door Status:** The system shall be capable of transmitting to
193 a constantly attended location when the door changes state from the closed position.

194 **3.8 Transmission of Supervisory Condition:** The system shall be capable of
195 transmitting to a constantly attended location when the system is taken out of service.

196 **4.0 QUALITY CONTROL**

197 **4.1** The products shall be manufactured under an approved quality control program
198 with inspections by an inspection agency accredited by IAS, or otherwise
199 acceptable to ICC-ES.

200 **4.2** Quality documentation complying with the ICC-ES Acceptance Criteria for
201 Quality Documentation (AC10) shall be submitted.

202 **5.0 EVALUATION REPORT RECOGNITION**

203 **5.1** The evaluation report shall provide the following information:

204 **5.1.1** Drawings and details of the horizontally sliding, accordion-type, fire-
205 door assembly, including all components qualified under this criteria.

206 **5.1.2** Description of the fire-resistance door construction in which the
207 horizontally sliding, accordion-type, fire-door assembly was qualified in accordance with
208 the fire-resistance test requirements specified in Section 3.2 of this criteria.

209 **5.1.3** Description of compliance with IBC section 1008.1.3.3 and NFPA 80,
210 chapter 9.

- 211 **5.1.4** Reference to specific published installation instructions and drawings,
- 212 including applicable dates and revision numbers of the instructions and drawings. ■