MEMORANDUM

TO: NFPA Technical Committee on Fire Doors and Windows (FDW-AAA)

FROM: Kristin Collette, Staff Liaison

DATE: April 12, 2011

SUBJECT: NFPA 80 ROP TC FINAL Ballot Results (A2012)

The Final Results of the NFPA 80 ROP Letter Ballot are as follows:

- **25 Members Eligible to Vote**
- **1 Not Returned** (V. Patton)
- **19 Affirmative on All**
- **5 Negatives** (S. Hahn, H. Hicks, W. Koffel, K. Pardoe, D. San Paolo) (on one or more proposals as noted in the attached report)
- **1 Abstention** (W. Koffel) (on one or more proposals as noted in the attached report)

There are two criteria necessary to pass ballot [(1) affirmative \(\frac{2}{3}\) vote and (2) simple majority].

1. The number of affirmative votes needed for the proposal/comment to pass is **16**.
   
   
   
   \[
   \text{(25 eligible to vote - 1 not returned - 1 abstention)} = 23 \times 0.66 = 15.18
   \]

2. In all cases, an affirmative vote of at least a simple majority of the total membership eligible to vote is required. This is the calculation for simple majority:

   \[
   \left[ \frac{25 \text{ eligible}}{2} = 12.5 = (13) \right]
   \]

Reasons for negative votes, etc. from alternate members are not included unless the ballot from the principal member was not received.

According to the final ballot results, all ballot items received the necessary \(\frac{2}{3}\) required affirmative votes to pass ballot.
Technical Committee on Fire Doors and Windows,

**Recommendation:** Review entire document to: 1) Update any extracted material by preparing separate proposals to do so, and 2) review and update references to other organizations documents, by preparing proposal(s) as required.

**Substantiation:** To conform to the NFPA Regulations Governing Committee Projects.

**Committee Meeting Action:** Accept in Principle

The Committee has reviewed the referenced documents and, assuming there may be additional revisions necessary, will make final updates at the ROC meeting.

**Committee Statement:** The committee has reviewed any extracted sections as well as references to other organization's documents. To ensure that the most current edition is referenced the committee will take action on this at the ROC meeting.

**Number Eligible to Vote:** 25

**Ballot Results:** Affirmative: 24

**Ballot Not Returned:** 1 Patton, V.

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**Recommendation:** Revise text to read as follows:

1.1.4 This standard does not cover fire resistance rated glazing materials and horizontally sliding accordion or folding assemblies fabricated for use as walls and tested as wall assemblies in accordance with NFPA 251, *Standard Methods of Tests of Fire Resistance of Building Construction and Materials*

**Substantiation:** The proposed change is strictly editorial. It corrects an error in the current edition of the standard and replaces it with the proper terminology used throughout the standard.

**Committee Meeting Action:** Accept

**Number Eligible to Vote:** 25

**Ballot Results:** Affirmative: 24

**Ballot Not Returned:** 1 Patton, V.
Note: This Proposal originates from Tentative Interim Amendment 80-10-1 (TIA 950) issued by the Standards Council on August 6, 2009.
Submitter: Bruce G. Campbell, Hughes Associates, Inc.
Recommendation: 1. Revise Chapter 2 to read as follows:

2.3 Other Publications.

2.3.1 ASME Publications. American Society of Mechanical Engineers, Three Park Avenue, New York, NY 10016-5990.

2.3.2 ASTM Publications. ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

2.3.3 CSA Publications. Canadian Standards Association, 500 Spectrum Way, Suite 100, Mississauga, ON L4W 5N6 Canada.

2.3.43 BHMA Publications. Builders Hardware Manufacturers Association, 335 Lexington Avenue, 17th Floor, New York, NY 10017.
ANSI/BHMA A156.4, Standard for Door Controls (Closers), 2000.

2.3.54 GSA Publications. U.S. General Services Administration, 1800 F Street, N.W., Washington, DC 20405.

2.3.65 SMACNA Publications. Sheet Metal and Air Conditioning Contractors' National Association, 4201 Lafayette Center Drive, Chantilly, VA 20151-1209.

2.3.76 UL Publications. Underwriters Laboratories Inc., 33 Pfingsten Road, Northbrook, IL 6062-2096.

2. Revise D.2 and D.10 as follows.
D.2 The hourly designation indicates the duration of the fire test exposure and is known as the fire protection rating.
Fire protection ratings of fire doors meeting this standard should be as determined and reported by a testing agency in accordance with NFPA 252, Standard Methods of Fire Tests of Door Assemblies. (See ASTM E 119, Standard Test Method for Fire Tests of Door Assemblies; UL 263, Standard Method for Positive Pressure Fire Tests of Door Assemblies; UL 10B, Standard for Safety Fire Tests of Door Assemblies; UL 10C, Standard for Positive Pressure Fire Tests of Door Assemblies; and CAN4-S104-M80, Standard Method for Fire Test of Door Assemblies.)

D.10 The hourly designation indicates the duration of the fire test exposure and is known as the fire protection rating.
Fire protection ratings of windows meeting this standard should be as determined and reported by a testing agency in accordance with NFPA 257, Standard on Fire Test for Window and Glass Block Assemblies. (See ASTM E 119, Standard Test Method for Positive Pressure Fire Tests of Window Assemblies; UL 9, Standard for Safety Fire Tests of Window Assemblies; and CAN4-S106-M80, Standard Method for Fire Test of Window and Glass Block Assemblies.)

3. Revise Annex L to read as follows:
L.1 Referenced Publications. The documents or portions thereof listed in this annex are referenced within the informational sections of this standard and are not part of the requirements of this document unless also listed in
Chapter 2 for other reasons.

L.1.1 NFPA Publications. National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

“Protection of Openings.”

“Protection of Openings.”


L.1.2 Other Publications.

AMCA 503, Fire, Ceiling (Radiation), Smoke and Fire/Smoke Dampers Application Manual 2006.
L.1.2.2 ASME Publications. American Society of Mechanical Engineers, Three Park Avenue, New York, NY 10016-5990.


L.1.2.3 ASTM Publications. ASTM International, 100 Barr Harbor Drive, P. O. Box C700, West Conshohocken, PA 19428-2959.


L.1.2.5 ISO Publications. International Organization for Standardization, 1, rue de Varembe, Case postale 56, CH-1211 Geneve 20, Switzerland.

L.1.2.65 NAAMM/HMMA Publications. National Association of Architectural Metal Manufacturers/Hollow Metal Manufacturers Association, 8 South Michigan Avenue, Suite 1000, Chicago, IL 60603.

L.1.2.75 SMACNA Publications. Sheet Metal and Air Conditioning Contractors’ National Association, 4201 Lafayette Center Drive, Chantilly, VA 20151-1209.


L.1.2.87 UL Publications. Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.


L.1.2.98 ULC Publications. Underwriters’ Laboratories of Canada, 7 Underwriters Road, Toronto, Ontario M1R 3B4, Canada.
The following documents or portions thereof are listed here as informational resources only. They are not a part of the requirements of this document.

L.2 Informational References. The following documents or portions thereof are listed here as informational resources only. They are not a part of the requirements of this document.

L.2.1 NFPA Publications. National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.


Substantiation: EMERGENCY NATURE: This TIA updates the references in NFPA 80. The TC’s action on ROP 80-2, which requested that the committee update all references to other organization’s documents, was to complete this task at the ROC stage but it was not addressed. Throughout this current revision process for NFPA 80, *Standard for Fire Doors and Other Opening Protective*, the Technical Committee overlooked updates to other organization’s references. References to ASTM E2074 and ASTM E 2010 have been withdrawn by ASTM and are removed as references in Annex D. This TIA, which is of emergency nature as defined by the Regulations Governing Committee Projects Section 5.2 (a), updates the references throughout the document.

Committee Meeting Action: Accept in Principle

Accept proposed revisions with the following modification:


Committee Statement: The Committee has reviewed the referenced documents and, assuming there may be additional revisions necessary, will make final updates at the ROC meeting.

Number Eligible to Vote: 25

Ballot Results: Affirmative: 24

Ballot Not Returned: 1 Patton, V.
Submitter: John F. Bender, Underwriters Laboratories Inc.

Recommendation: Revise text to read as follows:

2.3.6 UL Publications. Underwriters Laboratories Inc.,
333 Pfingsten Road, Northbrook, IL 60062-2096.


Substantiation: Add ANSI approval designation to ANSI/UL 10A and ANSI/UL 14C and update referenced standards to most recent revisions.

Committee Meeting Action: Accept
Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.

Submitter: Technical Committee on Fire Doors and Windows,

Recommendation: Add new definition to read as follows:

3.3.x Sill. The bottom part of an opening over which a fire door closes.

Substantiation: Currently, there is no definition of sill in NFPA 80. Providing this definition clarifies the use of the term throughout the document and supports the changes made in 80-13 (Log #CP17).

Committee Meeting Action: Accept
Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.
80-6  Log #CP3  Final Action: Accept
(3.3.46 Field Modifications)

Submitter: Technical Committee on Fire Doors and Windows,
Recommendation: Revise text as follows:
3.3.46* Field Modifications. Changes, not otherwise permitted by this standard, made to a listed assembly or component after it has been manufactured.

A 3.3.46 During installation, preparations made to fire door assemblies, such as those contained in Chapter 4, are not considered to be field modifications.

Substantiation: This change clarifies the application of Section 5.1.2 on field modifications and also provides further clarification to the Authority Having Jurisdiction as to what changes to a fire door should be regulated as a field modification. The change also helps to differentiate between modifications to a fire door assembly and those allowable changes necessary for job site preparation work.

Committee Meeting Action: Accept
Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1  Patton, V.
Comment on Affirmative:
JANICAK, T.: Recent discussions have indicated that the language as proposed will need clarification. I believe the intent of the committee is to permit the provisions of Section 4.1.3 to be performed during the useful life of the fire door and not only during the initial installation. The appendix note included with this proposal can be clarified as follows: Preparations made to fire door assemblies as defined in Section 4.3.1 can be performed throughout the useful life of the fire door. They are not to be considered "Field Modifications" as defined in Section 3.3.46.
PARDOE, K.: Substantiation: Section 5.1.2 should be 5.1.4 in New Chapter 5 (80-17 Log #CP15).

80-7  Log #16  Final Action: Accept
(3.3.50 Fire Door Assembly)

Submitter: Kurt A. Roeper, Ingersoll-Rand Security Technologies
Recommendation: Revise text to read as follows:
3.3.50 Fire Door Assembly. Any combination of a fire door, a frame, hardware, and other accessories that together provide a specific degree of fire protection or fire resistance to the opening.

Substantiation: Fire door assemblies provide either fire protection or fire resistance, depending upon the application. Revising the definition as proposed clarifies this fact.

Committee Meeting Action: Accept
Number Eligible to Vote: 25
Ballot Results: Affirmative: 22  Negative: 2
Ballot Not Returned: 1  Patton, V.
Explanation of Negative:
KOFFEL, W.: I disagree with the revision to the definition. Fire resistance rated doors (and glazing) are not considered opening protectives by the building codes. Paragraph 1.1.4 states that the standard does not address fire resistance rated glazing and certain types of doors. If the change is appropriate, it would seem as if the same change should be made to the definition of "fire window assembly." If we consider a fire resistance rated door an opening protective, it would be regulated by the opening protection limits in the building codes.
PARDOE, K.: I agree with Mr. Koffel's comment that was circulated on March 25th.
80-8 Log #4 (3.3.114 Smoke Damper) Final Action: Accept

Submitter: Glossary of Terms Technical Advisory Committee,
Recommendation: Adopt the preferred definition of Smoke Damper from NFPA 5000.

Smoke Damper. A device within an operating (dynamic) air distribution system to control the movement of smoke.

Substantiation: This definition is the preferred definition from the Glossary of Terms.

Your technical committee has the following options:

a) Adopt the preferred definition
b) Modify the term to make it unique
c) Request that the Standards Council reassign responsibility for the term
d) Request that the standards council authorize a second preferred definition

Committee Meeting Action: Accept
Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.

80-9 Log #CP20 (4.2.5 and 6.1.2) Final Action: Accept

Submitter: Technical Committee on Fire Doors and Windows,
Recommendation: 1. Revise text to read as follows:

6.1.2 Components. A fire door assembly shall consist of components that are separate products incorporated into the assembly and are allowed to have their own subcomponents.

A.6.1.2 The normal components of a fire door assembly include a door, a door frame, hinges, a lock or latch, and a closing device. They also include, but are not limited to, an astragal, a split astragal, an automatic louver, a coordinator, flush or surface bolts, gasketing, a holder/release device, protection plates, and glazing materials.

4.2.5 Components.

4.2.5.1 A fire door assembly shall consist of components that are separate products incorporated into the assembly and are allowed to have their own subcomponents.

4.2.5.2 Except where restricted by individual published listings, a fire door assembly shall be permitted to consist of the labeled, listed, or classified components of different organizations that are acceptable to the AHJ.

A.4.2.5.2 Because component elements that are not part of an assembly listing can be interchanged on a listed fire door it is the intent of this committee to permit a component part listed by one organization acceptable to the Authority Having Jurisdiction to be installed on a door listed by another such organization.

2. Revise Annex K as follows and renumber as needed:

K.1 Except where restricted by individual published listings, a fire door assembly is permitted to consist of the labeled, listed, or classified components of different organizations that are acceptable to the AHJ.

Substantiation: The text is consistent with industry practice. In previous editions of the standard, this information has been contained partly in Chapter 6 and partly in the annex but this was not the appropriate location for the requirement. Moving both sections to Chapter 4 allows the requirement to be applied to all fire doors. This change is consistent with changes made by other model Codes.

Committee Meeting Action: Accept
Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.

Printed on 4/12/2011
Revise text to read as follows:

4.3.3 Fire doors furnished with or prepared for fire exit hardware shall bear a label stating “Fire Door to Be Equipped with Fire Exit Hardware.”

Substantiation: Section 4.3.2 recognizes that fire doors and builders hardware are permitted to be supplied separately, yet 4.3.3 only covers situations where fire exit hardware is "furnished with" fire exit hardware. The proposed language reflects the current industry practice as well as the provisions of manufacturers labeling procedures.

Committee Meeting Action: Accept

Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.
Add at the end of current section 4.4.3.1:

Vision panel kits consisting of multiple pieces (stick kits) shall be installed by the manufacturer of the door or a distributor with inspection service procedure under label service. Installation of two piece metal vision panel kits shall be permitted in the field.

Revise Appendix A.4.4.3.1:
The 2010 version of NFPA 80 has been modified to now require that stick kits containing multiple parts be installed by the door manufacturer. Otherwise, two piece metal vision panels in new wood fire doors may be have the glazing and light kits installed in the field at the door manufacturer or under that manufacturer's label service. This ensures that all components of complex stick kits the glazed assembly in the new wood door have been properly installed per the manufacturer's follow-up service procedure.

As currently, written, this provision is unduly restrictive in limiting installation of all light kits in new wood doors to the door manufacturer. Installation by the door manufacturer or a distributor under label service is important when “stick kits” involving multiple parts, including special clips or tapes, are involved. However, it is totally unnecessary when two piece metal kits are involved since those are made to fit only the cutout in the door and when glass is furnished, it can only fit those kits. The installation of two piece metal kits are routinely and properly installed in the field without special training or qualifications.

Revise text to read as follows:

4.4.3.1 For new wood doors, glazing materials in vision panels shall be installed in labeled glass light kits or in accordance with the fire door listing and shall be installed in accordance with inspection service procedure under label service or by certified or listed personnel.

Committee Statement: Over the past years, there has been discussion in the fire door industry regarding glazing certification programs and there is currently a need for a certification and listing requirement for these products. This new requirement is providing an option for compliance by offering both label service and listed personnel. ‘Listed personnel' would be required to meet the definition of ‘listed’ as contained in Chapter 3. The committee will review this requirement at the ROC stage to determine if an adequate glazing certification program has been developed for the time of publication of the 2013 edition of this document. In the event that a program has not been developed the committee will take appropriate action to reevaluate this requirement as needed.

Number Eligible to Vote: 25
Ballot Results: Affirmative: 21 Negative: 3
Ballot Not Returned: 1 Patton, V.
Explanation of Negative:

HAHN, S.: I agree with Mr. Hicks comments. Changing the terms "certified or listed" to "qualified" would offer consistency with other sections of the Standard.

HICKS, JR., H.: I find it very difficult to promote a code change that establishes a requirement for certification or listing of individuals when no such program exists. The certification process should be developed first and verified that it is functioning and providing sufficient numbers of certified individuals to avoid the appearance of writing a requirement around a specific individual or individuals.

SAN PAOLO, D.: No glazing certification program exists, and thereby cannot be referenced by this document. The language should remain unchanged from the 2010 edition.
Where fusible links are installed on both sides of the wall, a sleeve shall be installed through the wall to provide an open pathway for the cable/chain connecting the fusible links. The sleeve shall be a 1/2-in. (13-mm) diameter galvanized steel conduit or pipe, with ends de-burred, and fitted with a collar or bushing at each end to secure the sleeve around the wall and allow free movement of the cable/chain through the sleeve upon fusing of the links.

Wall sleeves required for the installation of fire door fusible links on both sides of a wall are unlike many other wall penetrations for pipes, conduits, ducts and the like. Such sleeves must remain open and unobstructed for free movement of the fusible link cable/chain upon fusing of the links. Firestopping or other sealants should not be used on sleeves because they can encumber movement and prevent automatic closing of a fire door in a fire event.

Where fusible links are installed on both sides of the wall, a sleeve shall be installed through the wall to provide an open pathway for the cable or chain connecting the fusible links. The sleeve shall be a 1/2-in. (13-mm) diameter galvanized steel conduit or pipe, with ends de-burred, and fitted with a collar or bushing at each end to secure the sleeve around the wall and allow free movement of the cable or chain through the sleeve upon fusing of the links.

Wall sleeves required for the installation of fire door fusible links on both sides of a wall are unlike many other wall penetrations for pipes, conduits, ducts and the like. Such sleeves must remain open and unobstructed for free movement of the fusible link cable/chain upon fusing of the links. Firestopping or other sealants should not be used on sleeves because they can encumber movement and prevent automatic closing of a fire door in a fire event.

The committee accepts the proposed text with a modification to remove the '/' to clarify the intent of the requirement is to provide an open pathway for either cables or chains.

In addition, the committee has added 'or other materials' to the proposed annex language to more clearly address the fact that nothing should be used on sleeves that may prevent or encumber the free movement of the chain or cable. Introducing any other possible obstructions to the sleeve should not occur.

Substantiation: Rolling steel fire door manufacturers have become aware of an increasing trend towards more frequent and recurring questions from AHJ’s regarding the correct installation of wall sleeves for through-wall fusible links. Sleeves are referred to, but the method of installing such wall sleeves is inadequately documented in NFPA 80. AHJ’s are reluctant to accept manufacturers’ installation instructions, even though such instructions are referenced throughout NFPA 80. This matter is also outside the scope of listing agencies, as they regulate the manufacturing – but not the installation – of fire door products.

Emergency Nature: The incorrect installation of a sleeve, or the misguided attempt to seal it, can create the potential for a life threatening condition resulting from a fire door being prevented from automatically closing.

Committee Meeting Action: Accept in Principle

Add new text to read as follows:

4.7.5.1.1 Where fusible links are installed on both sides of the wall, a sleeve shall be installed through the wall to provide an open pathway for the cable or chain connecting the fusible links.

4.7.5.1.2 The sleeve shall be a 1/2-in. (13-mm) diameter galvanized steel conduit or pipe, with ends de-burred, and fitted with a collar or bushing at each end to secure the sleeve around the wall and allow free movement of the cable or chain through the sleeve upon fusing of the links.

A.4.7.5.1 Wall sleeves required for the installation of fire door fusible links on both sides of a wall are unlike many other wall penetrations for pipes, conduits, ducts and the like. Such sleeves must remain open and unobstructed for free movement of the fusible link cable/chain upon fusing of the links. Firestopping, other sealants, or other materials should not be used on sleeves because they can encumber movement and prevent automatic closing of a fire door in a fire event.

Committee Statement: The committee accepts the proposed text with a modification to remove the '/' to clarify the intent of the requirement is to provide an open pathway for either cables or chains.

In addition, the committee has added 'or other materials' to the proposed annex language to more clearly address the fact that nothing should be used on sleeves that may prevent or encumber the free movement of the chain or cable. Introducing any other possible obstructions to the sleeve should not occur.

Number Eligible to Vote: 25
Ballot Results: Affirmative: 23 Abstain: 1
Ballot Not Returned: 1 Patton, V.

Explanation of Abstention:
KOFFEL, W.: In accordance with the policy of the Standards Council, I will abstain from balloting from this item.
Figure A.4.7.5.1 Sleeve Installation for Fusible Links on Both Sides of Wall.
80-13  Log #CP17  Final Action: Accept

(4.8.2)

Submitter: Technical Committee on Fire Doors and Windows,

Recommendation: Revise text to read as follows:

4.8.2.1 In buildings with noncombustible floors, special sill construction a sill shall not be required, provided the floor structure is extended through the door opening.

4.8.2.2 In buildings with combustible floors or combustible floor coverings, special sill construction a sill shall be required if the floor structure is extended through the door opening, as combustible floor construction shall not be permitted to extend through the door opening.

Substantiation: There is no guidance in NFPA 80 for what is intended by a 'special sill'. The term is confusing and should be clarified. This proposed change clarifies the application of the section regarding the installation of sills and when sills are required.

Committee Meeting Action: Accept

Number Eligible to Vote: 25

Ballot Results: Affirmative: 24

Ballot Not Returned: 1 Patton, V.

80-14  Log #9  Final Action: Reject

(4.8.4.1)


Recommendation: Revised text to read as follows:

4.8.4.1 The clearance under the bottom of a door shall be a maximum of 3/4 in. 3/8 in. with a tolerance of +1/8 in.

Substantiation: The existing section specifies a clearance of 3/4 in under the door, which is inconsistent with the NFPA 252 (2008) test assembly clearance of 3/8 in. under the bottom of the door, as well as the 2001 and earlier California Building Code (CBC) Standard 7-2 for Fire Door Tests, which also specify a 3/8 in. bottom gap. Similarly, the 2007 CBC (and 2006 IBC) reference both NFPA 252 and 80 almost interchangeably throughout Chapter 7.

Because NFPA 80 provides no information or guidance as to why the clearance at the bottom of a door is allowed to be twice that which was tested, these apparent anomalies cause enforcement issues in the field.

It is proposed to make the installed door bottom clearance consistent with the test condition, while adding a practical tolerance to account for field conditions (uneven floor, etc.).

Committee Meeting Action: Reject

Committee Statement: The test method is not the code. There is a reason that the gaps specified in the standard are smaller than what's allowed in the field. They represent a worse case condition. In the test, the bigger the gap, the more cooling air is drawn into the furnace and keeps the bottom rail cooler. The NFPA 80 limitation on the undercut size is related to limiting air flow into the fire room, not containing the fire. The fire test has no measurement or criteria for air flow under the door. There is currently no evidence that would suggest the current NFPA 80 limitations have resulted in any performance problems in the field.

Number Eligible to Vote: 25

Ballot Results: Affirmative: 24

Ballot Not Returned: 1 Patton, V.

Printed on 4/12/2011
Submitter: Technical Committee on Fire Doors and Windows,
Recommendation: Revise as follows:

4.8.4.1 The clearance under the bottom of a door shall be a maximum of $\frac{3}{4}$ in. (19 mm).
A.4.8.4.1 The maximum clearance of $\frac{3}{4}$ in. (19 mm) under fire doors as permitted by this standard is the accepted practice in the industry. NFPA 252, Standard Methods of Fire Tests of Door Assemblies, is a test standard, not an installation standard, and prescribes clearances and tolerances for swinging doors installed in the test wall opening. The test procedures as specified in NFPA 252 represent a worse case condition for the fire test.

Substantiation: The proposed annex language provides clarification as to why there is a difference between the permitted clearance under the bottom of fire doors in NFPA 80 and the clearance used as part of the prescribed NFPA 252 test. It has been brought to the committee's attention that there may be confusion in the field as to why the $\frac{3}{4}$" is permitted by this standard. This annex language provides the necessary background information and clarification regarding the intent of the $\frac{3}{4}$" permission.

Committee Meeting Action: Accept
Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.

Submitter: Keith Pardoe, Door and Hardware Institute
Recommendation: Revise text to read as follows:

4.9.1 Upon completion of installation, all fire door and fire window assemblies shall be tested to confirm operation of the automatic closing device and full closure and inspected in accordance with 5.2 Inspections.

Substantiation: As currently worded, 4.9.1 does not require newly installed fire doors and fire windows to be inspected to the same level of detail as required under 5.2. Since 4.9.1 specifically addresses the closing device and the unit's ability to reach full closure, newly installed fire door and fire windows are not thoroughly scrutinized to ensure they fully comply with NFPA 80 immediately upon installation.

Now that annual inspections of fire door assemblies are beginning to take place around the country, it makes sense to make sure the fire doors and fire windows are initially installed correctly.

Committee Meeting Action: Accept in Principle
See committee action on Proposal 80-17 (Log #CP15).
Committee Statement: The committee has reorganized Chapter 5 in Proposal 80-17 (Log #CP15). This reorganization relocates the requirements for testing and inspection required upon the completion of installation of a fire door into Chapter 5. The changes made there should meet the submitter's intent.

Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.
Technical Committee on Fire Doors and Windows,

**Recommendation:**

1. Delete Section 4.9.

**4.9 Testing:**

4.9.1 Upon completion of installation, all fire door and fire window assemblies shall be tested to confirm operation of the automatic closing device and full closure.

4.9.2 Resetting of the automatic closing device shall be in accordance with the manufacturer’s written instructions.

4.9.3 A written record shall be maintained and shall be made available to the AHJ.

2. Delete current Chapter 5 in its entirety and replace with the following:

****insert include 80_LCP15_R Here****

**Substantiation:**

The current Chapter 5 is being replaced with a newly reorganized version of the Chapter. The current layout of the Chapter has been in place since the document’s complete rewrite and reorganization for the 2007 edition and needs to be reevaluated. This reorganization of the chapter does not intend to make any technical changes to the requirements as they are currently written, but rather provides a more logical and clear layout and order of the requirements contained in the Chapter.

The current Section 4.9 regarding testing required upon installation of the fire door has been deleted from Chapter 4 and relocated to Chapter 5 to retain all inspection, testing, and maintenance requirements in one complete chapter. The requirement for an inspection and test of the fire door or window upon completion of installation has been updated to clarify the specific procedures and items requirement for verification during the initial inspection and test.

The terminology throughout the chapter for the required inspections, tests, and maintenance procedures has been updated to reflect the common terminology used in the industry, elsewhere in the standard, and in other NFPA documents when referring to inspection, testing, and maintenance provisions. Various sections have been updated to clarify their intent and their application, without introducing any technical changes. Section A.5.2.4.1, in particular, was updated to clarify the intent of the annual inspection frequency for fire doors.

It should be noted that no changes to Chapter 5 requirements, as accepted in other public or committee Proposals, have been included here. This Proposal is intended to provide editorial changes only.

**Committee Meeting Action:** Accept

**Number Eligible to Vote:** 25

**Ballot Results:** Affirmative: 24

**Ballot Not Returned:** 1 Patton, V.

**Comment on Affirmative:**

GOULD, J.: 5.2.1 This section refers the user to Section 5.2.4 for details on the inspection and testing. Since this paragraph deals with the initial installation, it should refer the acceptance testing as described in 5.2.3.

A.5.2.1 This Appendix note should be deleted. Paragraph 5.2.1 discusses the initial testing. As such, comments about items subject to wear would not be needed. The sentence is also shown in A.5.2.4 where it belongs. Also delete the * on 5.2.1 since there will no longer be an Appendix note for 5.2.1.

5.2.3.4.2 (12) An Appendix note needs to be added to note 12 for clarification. Current practice for swinging fire doors and frames is to locate the label on the hinge side such that the label is not visible when the door is in the closed position. Without some additional explanation, someone may claim that the current practice is not acceptable as the label is not visible when the door is closed.

A.5.2.3.4.2 (12)* In some cases, the label may not be visible in both the open and closed position.

KOFFEL, W.: There are a number of issues that should be evaluated further by the Committee:

1. 5.2.1 and A.5.2.1 - The paragraph seems to be more related to the acceptance testing section. The Annex note, while correct, does not seem relevant to an activity required upon completion of installation.

2. 5.2.2 - Why do the records need to be written?
Chapter 5 to Inspection, Testing Care and Maintenance

5.1* General.
A.5.1 Walls with openings have less fire resistance than unpierced walls. Fire doors, shutters, and fire windows are designed to protect the opening under normal conditions of use, with clear spaces on both sides of the opening. Where the opening is not used and combustible material could be piled against or near the door, window, or shutter, the designed protection cannot be expected.

5.1.1 Application.

5.1.1.1 This chapter shall cover the inspection, testing and maintenance of fire doors and fire windows.

5.1.1.2 The requirements of this chapter shall apply to new and existing installations.

5.1.2 Operability.

5.1.2.1 Doors, shutters, and windows shall be operable at all times.

5.1.2.2 Doors, shutters, and windows shall be kept closed and latched or arranged for automatic closing.

5.1.3 Replacement. Where it is necessary to replace fire doors, shutters, windows or their frames, glazing materials, hardware, and closing mechanisms, replacements shall meet the requirements for fire protection and shall be installed and tested as required by this standard for new installations.

5.1.4 Repairs and Field Modifications.

5.1.4.1 Repairs shall be made, and defects that could interfere with operation shall be corrected without delay.

5.1.4.2 Field Modifications.

5.1.4.2.1 In cases where a field modification to a fire door or a fire door assembly is desired, the laboratory with which the product or component being modified is listed shall be contacted and a description of the modifications shall be presented to that laboratory.

5.1.4.2.2 If the laboratory finds that the modifications will not compromise the integrity and fire resistance capabilities of the assembly, the modifications shall be permitted to be authorized by the laboratory without a field visit from the laboratory.

5.2* Inspections and Testing.
A.5.2 Fire doors, shutters, and windows are of no value unless they are properly maintained and closed or are able to close at the time of fire. A periodic inspection and maintenance program should be implemented and should be the responsibility of the property management.
5.2.1* Upon completion of the installation fire door and window assemblies shall be inspected and tested in accordance with Section 5.2.4.

A.5.2.1 Hinges, catches, closers, latches, and stay rollers are especially subject to wear.

5.2.2 A written record of all inspections and testing shall be signed by the inspector and kept for inspection by the AHJ.

5.2.3 Acceptance Testing.

5.2.3.1 Acceptance testing of fire door and window assemblies shall be performed by individuals with knowledge and understanding of the operating components of the type of door being subject to testing.

5.2.3.2 Before testing, a visual inspection shall be performed to identify any damaged or missing parts that can create a hazard during testing or affect operation or resetting.

5.2.3.3 Acceptance testing shall include the closing of the door by all means of activation.

5.2.3.4 Swinging Doors with Builders Hardware or Fire Door Hardware

5.2.3.4.1 Fire door assemblies shall be visually inspected from both sides to assess the overall condition of door assembly.

5.2.3.4.2 As a minimum, the following items shall be verified:

(1) No open holes or breaks exist in surfaces of either the door or frame.
(2) Glazing, vision light frames, and glazing beads are intact and securely fastened in place, if so equipped.
(3) The door, frame, hinges, hardware, and noncombustible threshold are secured, aligned, and in working order with no visible signs of damage.
(4) No parts are missing or broken.
(5) Door clearances do not exceed clearances listed in 4.8.4 and 6.3.1.7.
(6) The self-closing device is operational; that is, the active door completely closes when operated from the full open position.
(7) If a coordinator is installed, the inactive leaf closes before the active leaf.
(8) Latching hardware operates and secures the door when it is in the closed position.
(9) Auxiliary hardware items that interfere or prohibit operation are not installed on the door or frame.
(10) No field modifications to the door assembly have been performed that void the label.
(11) Meeting edge protection, gasketing and edge seals, where required, are inspected to verify their presence and integrity.
(12) Labels shall be clearly visible and legible.

5.2.3.5 Horizontally Sliding, Vertically Sliding, and Rolling Doors.

5.2.3.5.1 Fire door assemblies shall be visually inspected from both sides to assess the overall condition of door assembly.

5.2.3.5.2 The following items shall be verified:

(1) No open holes or breaks exist in surfaces of either the door or frame.
(2) Slats, endlocks, bottom bar, guide assembly, curtain entry hood, and flame baffle are correctly installed and intact.
(3) Glazing, vision light frames, and glazing beads are intact and securely fastened in place, if so equipped.
(4) Curtain, barrel, and guides are aligned, level, plumb, and true.
(5) Expansion clearance is maintained in accordance with manufacturer’s listing.
(6) Drop release arms and weights are not blocked or wedged.
(7) Mounting and assembly bolts are intact and secured.
(8) Attachments to jambs are with bolts, expansion anchors, or as otherwise required by the listing.
(9) Smoke detectors, if equipped, are installed and operational.
(10) No parts are missing or broken.
(11) Fusible links, if equipped, are in the location; chain/cable, s-hooks, eyes, and so forth, are in good condition (i.e., no kinked or pinched cable, no twisted or inflexible chain); and links are not painted or coated with dust or grease.
(12) Auxiliary hardware items that interfere or prohibit operation are not installed on the door or frame.
(13) No field modifications to the door assembly have been performed that void the label.
(14) Verify that doors have an average closing speed of not less than 6 in./sec (152 mm/sec) or more than 24 in./sec (610 mm/sec).

5.2.3.6 Closing Devices

5.2.3.6.1 All fire doors and fire window assemblies shall be inspected and tested to check for proper operation and full closure.

5.2.3.6.2 Resetting of automatic-closing device shall be done in accordance with the manufacturer’s instructions.

5.2.3.6.3 Rolling Steel Doors.

5.2.3.6.3.1 Rolling steel fire doors shall be drop tested twice.

5.2.3.6.3.2 The first test shall be to check for proper operation and full closure.

5.2.3.6.3.3 A second test shall be done to verify that the automatic-closing device has been reset correctly.

5.2.3.7* Fusible links, release devices, and any other moveable parts shall not be painted.

A.5.2.3.7 Movable parts of the door assembly can include but are not limited to stay rollers, gears, and closing mechanisms.

5.2.4 Periodic Inspection and Testing

5.2.4.1* Periodic inspections and testing shall be performed not less than annually.

A.5.2.4 Doors subject to high volume use and abuse may warrant an increased frequency of inspection. Components including but not limited to hinges, catches, closers, latches, and stay rollers are especially subject to wear.
5.2.4.2 As a minimum, the provisions of Section 5.2.3 shall be included in the periodic inspection and testing procedure.

5.2.4.3 Inspection shall include an operational test for automatic-closing doors and windows to verify that the assembly will close under fire conditions.

5.2.4.4 Assembly shall be reset after a successful test.

5.2.4.5 Resetting of the release mechanism shall be done in accordance with manufacturer’s instructions.

5.2.4.6 Hardware shall be examined, and inoperative hardware, parts, or other defects shall be replaced without delay.

5.2.4.7 Tin-clad and kalamein doors shall be inspected for dry rot of the wood core.

5.2.4.8 Chains or cables employed shall be inspected for excessive wear, stretching and binding.

5.2.5 Maintenance

5.2.5.1 All fire door and fire window assemblies shall be maintained in accordance with the manufacturer’s instructions.

5.2.5.2 Guides and bearings shall be kept well lubricated to facilitate operation.

5.2.5.3 Chains or cables on biparting, counterbalanced doors shall be checked, and adjustments shall be made, to ensure latching and to keep the doors in proper relation to the opening.

5.2.5.4 Prevention of Door Blockage.

5.2.5.4.1 Door openings and the surrounding areas shall be kept clear of anything that could obstruct or interfere with the free operation of the door.

5.2.5.4.2 Where necessary, a barrier shall be built to prevent the piling of material against sliding doors.

5.2.5.4.3 Blocking or wedging of doors in the open position shall be prohibited.

5.2.5.5 Closing Mechanisms.

5.2.5.5.1 Self-closing devices shall be kept in working condition at all times.

5.2.5.5.2 Swinging doors normally held in the open position and equipped with automatic-closing devices shall be operated at frequent intervals to ensure operation.

5.3 Repair of Fire Doors and Windows.

5.3.1 Damaged glazing material shall be replaced with labeled glazing.

5.3.2 Replacement glazing materials shall be installed in accordance with their individual listing.
5.3.3 Any breaks in the face covering of doors shall be repaired without delay.

5.3.4 Where a fire door, frame, or any part of its appurtenances is damaged to the extent that it could impair the door’s proper emergency function, the following actions shall be performed:
   1. The fire door, frame, door assembly, or any part of its appurtenances shall be repaired with labeled parts or parts obtained from the original manufacturer.
   2. The door shall be tested to ensure emergency operation and closing upon completion of the repairs.

5.3.5 If repairs cannot be made with labeled components or parts obtained from the original manufacturer or retrofitted in accordance with Section 5.4, the fire door frame, fire door assembly, or appurtenances shall be replaced.

5.3.6 When holes are left in a door or frame due to changes or removal of hardware or plant-ons, the holes shall be repaired by the following methods:
   1. Install steel fasteners that completely fill the holes
   2. Fill the screw or bolt holes with the same material as the door or frame

5.4 Retrofit Operators.

5.4.1 The operator, governor, and automatic-closing device on rolling steel fire doors shall be permitted to be retrofitted with a labeled retrofit operator under the conditions specified in 5.4.2 through 5.4.5.

5.4.2 The retrofit operator shall be labeled as such.

5.4.3 The retrofit operator shall be installed in accordance with its installation instructions and listing.

5.4.4 The installation shall be acceptable to the AHJ.

5.4.5 The retrofit operator shall be permitted to be provided by a manufacturer other than the original manufacturer of the rolling steel fire door on which it is retrofitted, provided its listing allows it to be retrofitted on that manufacturer’s doors.

5.5 Removal of Door or Window. Where a fire door or fire window opening is no longer in use, the opening shall be filled with fire resistance rated construction equivalent to that of the wall.

5.6* Performance-Based Option.
A.5.6 See Annex J for information regarding performance based inspection, testing, and maintenance options for fire door assemblies.

5.6.1 As an alternate means of compliance with 5.2.4, subject to the AHJ, fire door assemblies shall be permitted to be inspected, tested, and maintained under a written performance based program.

5.6.2 Goals established under a performance-based program shall provide assurance that the fire door assembly will perform its intended function when exposed to fire conditions.
5.6.3 Technical justification for inspection, testing, and maintenance intervals shall be documented in writing.

5.6.4 The performance-based option shall include historical data acceptable to the AHJ.
3. 5.2.4.3 - During routine periodic maintenance, how does one verify that the door will close upon fire conditions? Some annex text may be appropriate to identify some considerations that should be considered during the periodic test.

5. 5.2.5.4.1 - Although existing text, what is meant by “surrounding areas?” Are we talking about items that would be within the operating area of the door?

6. 5.2.5.5.2 - What is a “frequent interval?”

PARDOE, K.: I agree with Mr. Gould and Mr. Koffel that more work needs to be done on this section. A.5.2.1 Should be deleted.

A.5.2.3.4.2 (12)* In some cases, the label may not be visible in both the open and closed position. When continuous hinges are installed on swinging fire doors, the label is typically applied to the top edge of the door leaf and the door rabbet in the head of the frame.

5.2.2 Strike the word “written.” As the inspections of fire door assemblies are developing, there are software programs being used to record the inspection information. While these software packages are capable of printing hard copies of the reports, it might be advantageous to not restrict how the inspection reports are documented.

A.5.2.4.3 While it is not possible to verify the door leaves/panels will close under fire conditions, it is necessary to verify that self-closing, automatic-closing, and power-operated fire doors will close completely and latch securely (when required) in place when power is removed or when signaled by fire, heat, and smoke detector systems. Swinging fire doors with electrically controlled latching and hold-open devices must return to completely closed and latched position on loss of power or upon signal by fire, heat, and smoke detector systems.

A.5.2.5.4.1 The area immediately on either side of a fire door assembly, within the maneuvering space needed for accessibility requirements (e.g., ANSI/ICC A117.1, Accessible and Usable Buildings and Facilities, 2003 edition), should be kept free of equipment, furniture, or other materials that might interfere with the operation of the door leaf and its appurtenances or impede egress.

Note: If this annex note is accepted, we will need to add ANSI/ICC A117.1 Accessible and Usable Buildings and Facilities, 2003 edition to Annex L Informational References.

A.5.2.5.5.2 Generally, fire doors that are designed to be held open for extended periods of time are considered to be low-frequency use assemblies and usually experience less wear and tear than door assemblies are cycled many times a day. These types of fire door assemblies need to be cycled to confirm they are being maintained in operable condition. The frequency of this cycling is subject to the nature of the building or space in which they are installed. In buildings that are subjected to quarterly or monthly testing of fire alarm systems, these types of fire door assemblies are typically required to close during the fire alarm test. In buildings and spaces that are not subjected to fire alarm tests, the property management should cycle test these fire door assemblies on at least a semi-annual schedule.
80-18 Log #CP10 (5.1.5.1, 5.2.9, and 19.5.3) Final Action: Accept

Submitter: Technical Committee on Fire Doors and Windows,
Recommendation: Revise text to read as follows:
5.1.5.1* Repairs shall be made, and defects that could interfere with operation shall be corrected without delay.
A 5.1.5.1 The determination of the time of required for corrective action should be based on a risk analysis and availability of replacement materials.
5.2.9* Hardware shall be examined, and inoperative hardware, parts, or other defects shall be replaced without delay.
A 5.2.9 The determination of the time of required for corrective action should be based on a risk analysis and availability of replacement materials.
19.5.3* If the damper is not operable, repairs shall begin without delay.
A 19.5.3 The determination of the time of required for corrective action should be based on a risk analysis and availability of replacement materials.
Substantiation: The new annex language provides guidance and clarification of the committee's intent with regards to requirements mandating an action be done 'without delay'. It should be noted that the Chapter 5 section reference will change based upon the action taken on Proposal 80-17 (Log #CP15) which reorganizes Chapter 5.
Committee Meeting Action: Accept
Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.
Comment on Affirmative:
KOFFEL, W.: The proposed Annex notes have merit but conflict with the language in the base paragraph that states "without delay."
PARDOE, K.: Change A 5.1.5.1, A 5.2.9, and A 19.5.3 to read: The determination of the time of required for corrective action should be based on a risk analysis and availability of replacement materials. In some cases, it might be necessary to temporarily fix the door leaf or panel in the closed position, provided the path of egress is not compromised, until the corrective actions can be made.
There is no standard that can be referenced to clearly define what constitutes an acceptable level of risk.
80-19  Log #2
(5.1.5.2.1) Final Action: Accept in Principle

Submitter: Harold D. Hicks, Jr., Atlantic Code Consultants
Recommendation: Revise text to read as follows:

5.1.5.2.1 In cases where a field modification to a fire door or a fire door assembly is desired, the laboratory with which the product or component being modified is listed shall be contacted and a written or graphic document description of the modifications shall be presented to that laboratory.

Substantiation: The current language does not allow for any means to track the modification that has been proposed if the contact and description is only communicated verbally. Because this section permits an alteration without field verification by the laboratory, some record of the modification needs to be maintained.

Committee Meeting Action: Accept in Principle
Revise text to read as follows:

5.1.5.2.1 In cases where a field modification to a fire door or a fire door assembly is desired, the laboratory with which the product or component being modified is listed shall be contacted through the manufacturer and a written or graphic description of the modifications shall be presented to that laboratory.

Committee Statement: This change reflects common and current industry practice in which laboratories require requests for field modifications to come from the door manufacturer prior to authorizing the modification. The added language also clarifies the process for addressing and submitting field modifications. It is to be noted that this section number may changed based upon the changes made to Chapter 5 in Proposal 80-17 (Log #CP15)

Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.

80-20  Log #3
(5.1.5.2.2) Final Action: Accept in Principle

Submitter: Harold D. Hicks, Jr., Atlantic Code Consultants
Recommendation: Revise text to read as follows:

5.1.5.2.2 If the laboratory finds that the field modifications that have been determined will not compromise the integrity and fire resistance capabilities of the assembly, the modifications shall be permitted to be authorized by the laboratory without a field visit from the laboratory upon written authorization from that laboratory.

Substantiation: The present language has no means of verification by the authority having jurisdiction over inspections of a facility unless written documentation is provided. This change will provide a mechanism to track those changes that do not require a field verification from the laboratory.

Committee Meeting Action: Accept in Principle
Revise text to read as follows:

5.1.5.2.2 If the laboratory finds that the modifications will not compromise the integrity and fire resistance capabilities of the assembly, the modifications shall be permitted to be authorized by the laboratory without a field visit from the laboratory.

Committee Statement: The committee is in agreement with the concept of the proposed change and the reasons for the change. The revised text, as proposed by the committee, clarifies the language proposed by the submitter as well as the current language in the standard regarding when field modifications are permitted without a field visit. The proposed text should meet the submitter's intent. It should be noted that the section reference will change based upon proposed changes in Proposal 80-17 (Log #CP15).

Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.
Submitter: Kurt A. Roeper, Ingersoll-Rand Security Technologies

Recommendation: Revise text to read as follows:

5.2.3.1 Functional testing of fire door and window assemblies shall be performed by a qualified person individuals with knowledge and understanding of the operating components of the type of door being subject to testing.

Substantiation: I have been asked by many AHJ’s how it is to be determined if an individual has sufficient “knowledge and understanding” and who is empowered to make this judgment. Use of "qualified person" as defined in 3.3.95 is one method to clarify this situation.

Committee Meeting Action: Accept in Principle

Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.

Submitter: Technical Committee on Fire Doors and Windows,

Recommendation: Revise text as follows:

6.4.3.1 Hinges and Pivots. Hinges, spring hinges, continuous hinges, and pivots shall be as specified in individual door and hardware manufacturer’s listings or Table 6.4.3.1.

6.4.3.1.1 Doors up to 60 in. (1.52 m) in height shall be provided with two hinges and an additional hinge for each additional 30 in. (0.76 m) of door height or fraction thereof.

A 6.4.3.1.1 Hinges are 5-, 3-, and 2-knuckle full-mortise, half-mortise, half-surface, and full-surface hinges and include spring, wide-throw, raised-barrel, and swing-clear designs. Door leaves up to 60 in. (1.52 m) in height require a minimum of two conventional hinges. An additional hinge is required for each increment of 30 in. (0.76 m) of door height, or fraction thereof, over 60 in. (1.52 m).

Substantiation: The current language does not adequately address pivots, or specific types of hinges and is unclear in its application. The proposed text clarifies the intent of 6.4.3.1 to apply to pivots and hinges, including continuous and spring hinges.

Committee Meeting Action: Accept

Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.
80-23 Log #CP8
(Table 6.4.3.1)

Final Action: Accept

Submitter: Technical Committee on Fire Doors and Windows,
Recommendation: 1. Revise title of Table 6.4.3.1 and add associated footnote 'a' to read as follows:

Table 6.4.3.1 Builders Hardware Mortise, Surface, and Full-Length Hinges, Pivots, or Spring Hinges for Swinging Doors

a: Table 6.4.3.1 lists the most common applications of hinges, spring hinges, and pivots. Consult the door and hardware manufacturers’ specific listings for applications not addressed in this table.

Substantiation: Clarifies the title of Table 6.4.3.1 to include hardware components as added in Proposal 80-22 (Log #CP5). The revised title clarifies the components which are addressed by the section and the table. The proposed footnote further clarifies the application of the table should a user of the standard have a listing or application not included in the table.

Committee Meeting Action: Accept
Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.

80-24 Log #CP6
(6.4.3.1.5)

Final Action: Accept

Submitter: Technical Committee on Fire Doors and Windows,
Recommendation: Revise text as follows:

6.4.3.1.5 Pivot sets consisting of a floor or jamb mounted bottom pivot and a head mounted top pivot, installed on door leaves up to 90 in. (2.29 m), in height shall have one intermediate pivot.

6.4.3.1.5.1 Pivot sets installed on door leaves greater than 90 in. (2.29 m) in height shall have one additional intermediate pivot for each additional 30 in. (0.76 m) of door height over 90 in. (2.29 m) or fraction thereof.

6.4.3.1.5.2 Where only intermediate pivots are used, two intermediate pivots shall be provided for door leaves up to 60 in. (1.52 m) in height and an additional intermediate pivot shall be added for each additional 30 in. (0.76 m) of door height or fraction thereof.

6.4.3.1.5.3 Pivot sets made up of components that are smaller or of a lighter gauge than that shown in Table 6.4.3.1 shall be permitted to be used, provided they meet the requirements of ANSI/BHMA A156.4, Standard for Door Controls (Closers), and are in accordance with the manufacturer’s label service procedures.

Substantiation: The current language does not adequately address pivots, or specific types of hinges and is unclear in its application. The proposed text adds language regarding the installation of pivots to provide guidance and clarification when pivots are being used. Proposal 80-22 (Log #CP5) clarifies the application of Section 6.4.3.1 to include pivots.

Committee Meeting Action: Accept
Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.

Comment on Affirmative:

PARDOE, K.: 6.4.3.1.5 “Pivot sets..........top pivot, installed on door leaves........” (Editorial).
80-25 Log #CP7 Final Action: Accept
(6.4.3.1.6)

Submitter: Technical Committee on Fire Doors and Windows,
Recommendation: 1. Revise text to read as follows:

6.4.3.1.6 Continuous hinges shall be sized in length to match the net height of door leaves.
6.4.3.1.7 Continuous hinges shall be labeled and shall meet the requirements of ANSI/BHMA A156.26, American National Standard for Continuous Hinges.
2. Add reference to Section 2.3.3 BHMA Publications.

Substantiation: There is currently no language to adequately continuous hinges and it is unclear as to whether or not these types of hinges are permitted or prohibited by the standard. The proposed text adds language regarding the installation of continuous hinges to provide guidance and clarification when they are being used. Proposal 80-22 (Log #CP5) clarified the application of Section 6.4.3.1 to include continuous hinges.

Committee Meeting Action: Accept
Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.
Comment on Affirmative:
PARDOE, K.: "ANSI/BHMA A156.26, American National Standard for Continuous Hinges, 2006" needs to be added to 2.3.3.

80-26 Log #24 Final Action: Accept
(7.4.3.1.2)

Submitter: John F. Bender, Underwriters Laboratories Inc.
Recommendation: Revise text to read as follows:

7.4.3.1.2 The design and construction of typical fire door hardware for swinging fire doors shall be as illustrated in ANSI/UL 14C, Swing Hardware for Tin-Clad Fire Doors Mounted Singly and in Pairs.

Substantiation: Add ANSI approval designation to ANSI/UL 14C.

Committee Meeting Action: Accept
Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot NotReturned: 1 Patton, V.

80-27 Log #25 Final Action: Accept
(8.2.4.1.1)

Submitter: John F. Bender, Underwriters Laboratories Inc.
Recommendation: Revise text to read as follows:

8.2.4.1.1 Each tin-clad door formed of 14 in. × 20 in. (360 mm × 510 mm) sheets shall be provided with 3 in. (76.2 mm) diameter vent holes that shall be permitted to be field or factory cut and shall be located as shown in ANSI/UL 10A, Standard for Tin-Clad Fire Doors.

Substantiation: Add ANSI approval designation to ANSI/UL 10A.

Committee Meeting Action: Accept
Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.
Closing devices shall be listed in accordance with UL 864, Standard for Control Units and Accessories for Fire Alarm Systems.

When this language was originally published, 864 was the standard established by UL for the motor/control system driving the horizontal sliding fire door assembly. UL 864, Standard for Control Units and Accessories for Fire Alarm Systems is a nationally recognized standard that provides appropriate tests and guidelines to assure compatibility. It further deals with critical functions such as alarm verification, endurance, life safety networks, notification, power supplies, resets, risk of electrical shock, risk of fire, standby power sources, storage batteries, dual power source systems, supervisory signals, and trouble signals. In order to ensure the fire protection integrity and operational reliability of this product category, it is imperative that the closing devices be labeled to a signaling standard. Because the 864 standard is not stated in NFPA, it leaves open a standard against which to do the testing. Holding said closing devices to a nationally recognized standard ensures consistency and reliability for Special Purpose Horizontally Sliding Accordion Style Opening Protectives.

The proposed language creates a conflict for products that have been more recently approved and tested to different standards (such as UL 325 Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems). Other products have been approved for use and not listed with UL 864. Original special purpose horizontal sliding doors were tested to UL 864. This UL standard is more applicable to an ancillary closing device as a stand alone component. The addition of this specific standard limits the use of other components or systems that may be available.

Number Eligible to Vote: 25
Ballot Results: Affirmative: 23 Abstain: 1
Ballot Not Returned: 1 Patton, V.

Explanation of Abstention:
KOFFEL, W.: See my Explanation of Abstention on Proposal 80-12 (Log #6).
80-29 Log #8 Final Action: Accept in Principle

(9.4.2.1)

Recommendation: Revised text to read as follows:

Only labeled power operators listed for use with the door shall be used on fire doors and, when used in a means of egress, only labeled power operators listed in a category intended to facilitate safe egress of persons in case of emergency shall be used. The power operator shall be rated for continuous use with unlimited duty cycle.

Substantiation: The lack of specificity leaves open a standard against which to do testing of power operators. As written, a door operator investigated from an electrical and casualty viewpoint only could conceivably be used as part of a door assembly without detection by the authority having jurisdiction. Historically the power operator for this product category was required to be listed under UL's SZNT. Releasing Devices, so that the operator and associated components were required to signal the fire alarm system. A lesser standard would compromise the integrity and reliability of the product category. This revision would exclude the use of operators listed in the FDDR category which does not cover fire door operators or systems/assemblies intended to facilitate safe egress of persons in case of emergency. Further, it would ensure that the power operator is sized properly to meet the 50 cycle standard stated in Section 9.4.2.2.2 and 9.4.2.2.3.

Committee Meeting Action: Accept in Principle

Revise text to read as follows:

9.4.2.1 Only labeled power operators listed for use with the door shall be used on fire doors shall be permitted.
9.4.2.2 When used in a means of egress, only labeled power operators listed in a category intended to facilitate safe egress of persons in case of emergency shall be used.
9.4.2.3 The power operator shall be rated for continuous use with unlimited duty cycle.

Committee Statement: The committee accepts the proposed change. The proposed language has been split into three sections, which each contain one requirement and is in compliance with NFPA's Manual of Style. These changes meet the submitter's intent.

Number Eligible to Vote: 25
Ballot Results: Affirmative: 23 Abstain: 1
Ballot Not Returned: 1 Patton, V.
Explanation of Abstention:

KOFFEL, W.: See my Explanation of Abstention on Proposal 80-12 (Log #6).

80-30 Log #CP16 Final Action: Accept

(9.4.2.3)

Submitter: Technical Committee on Fire Doors and Windows,
Recommendation: Revise text to read as follows:

9.4.2.3 Once the door is closed power operation shall not occur if temperatures on either side of the door reach 500°F (260°C).

Substantiation: The proposed language provides clarification for when the power operation of a special purpose horizontal sliding door should not occur. The proposed text helps to prevent egress into an area with hazardous conditions.

Committee Meeting Action: Accept

Number Eligible to Vote: 25
Ballot Results: Affirmative: 23 Abstain: 1
Ballot Not Returned: 1 Patton, V.
Explanation of Abstention:

KOFFEL, W.: See my Explanation of Abstention on Proposal 80-12 (Log #6).
Submitter: Technical Committee on Fire Doors and Windows,
Recommendation: Revise text to read as follows:

19.3.1 Dynamic Fire Dampers. After the installation of a damper is completed, an operational test shall be conducted. The current title made it so that it was applicable to dynamic fire dampers only. This change clarifies the intent of the section.

Committee Meeting Action: Accept
Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.

Submitter: Technical Committee on Fire Doors and Windows,
Recommendation: Revise text to read as follows:

19.4.9 All inspections and testing shall be documented, indicating the location of the ceiling radiation damper, fire damper or combination fire/smoke damper, date of inspection, name of inspector, and deficiencies discovered. The proposed language is added to clearly indicate that section 19.4.9 includes ceiling radiation dampers as they are part of the fire rated dampers assembly and was the original intent of the committee.

Committee Meeting Action: Accept
Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.
Delete “fusible link” in Section 20.7.3.1 and subsequent relative provisions:

The fire safety curtain assembly shall be activated by manual emergency operation, fusible link, and rate-of-rise heat detection located above the stage.

Substantiation: The current Section 20.7.3.1 requires that an emergency control line located against a proscenium wall shall be fitted with fusible links.

Recently the computational fluid dynamics (CFD) study entitled Fire Safety in Theatres – A New Design Approach was carried out to identify when automatic fire protection systems provided in a stagehouse activate. This study had been supervised and reviewed by the Fire Protection Research Foundation (FPRF), and posted on the NFPA website (http://www.nfpa.org/assets/files/PDF/Research/theatre.pdf).

In this study, temperature sensors were placed at locations corresponding to potential positions of fusible links in both the vertical and horizontal portions of the emergency control line. In all simulated fire scenarios (i.e., three different fire locations in the three different sized theatres studied), the sensors indicated that rate of rise heat detectors located above the stage, also required in 20.7.3.1, responded much more quickly than the fusible links (a minimum of 2-5 minutes quicker) and would have deployed the curtain before any of the fusible links were activated. The study showed that rate-of-rise heat detectors responded even more quickly once they were placed under the ceiling as opposed to against the proscenium wall.

Gas velocities and gas temperatures play a major role in heating the fusible links. The higher the gas temperature is, the faster the heating of the fusible links. The faster the gas around the fusible links is, the faster the heating of the fusible links. The fusible links placed at the walls experienced relatively low gas velocities and temperatures. Additionally, a fusible link tends to have a relatively large (thermal) mass compared to other heating elements (e.g., quick response sprinklers), resulting in more delayed response.

Base on the results of the aforementioned study and the reasons described above, a fire safety curtain would likely be deployed due to actuation of the required rate-of-rise heat detectors will in advance of the fusible links. Consequently, the fusible links would do little in deploying the fire safety curtain in the event of a stage fire.

The fusible links are unnecessary; they can be provided but should not be required.

Committee Meeting Action: Reject

Committee Statement: Removing the requirement for fusible links is potentially reducing the level of safety provided by the standard. The submitter’s substantiation indicates that fusible links may not respond as quickly as the required rate of rise heat detectors, but also indicates that there is no harm in retaining the requirement, rather that it may not be necessary based upon the documented modeling and research. The requirement for fusible links does provide redundancy for life safety and should be retained. Additional guidance is provided in Section 20.7 with regards to fusible link installation and location.

Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.
Submitter: Jaewook Kwon, Arup

Recommendation: Add the following sentence in Section 20.7.3.1:

The fire safety curtain assembly shall be activated by manual emergency operation, fusible link, and rate-of-rise heat detection located above the stage. The rate-of-rise heat detection shall be provided at the ceiling.

Substantiation: The current Section 20.7.3.1 is ambiguous with respect to the locations of rate-of-rise heat detectors as it simply states “above the stage”. Typical practice often finds the rate-of-rise heat detectors against the proscenium wall above the proscenium opening.

Recently the computational fluid dynamics (CFD) study entitled Fire Safety in Theatres – New Design Approach was carried out to identify when automatic fire protection systems provided in a theatre stagehouse activate. This study had been supervised and reviewed by the Fire Protection Research Foundation (FPRF), and posted on the NFPA website (http://www.nfpa.org/assets/files/PDF/Research/theatre.pdf).

This study showed that ceiling mounted rate of rise heat detectors responded more quickly than (proscenium) wall mounted rate-of-rise heat detectors in most simulated fire scenarios.

Directing the placement of rate-of-rise heat detectors under the ceiling would result in faster detection times and, accordingly, more rapid deployment of the fire safety curtain and notification of alarm.

Committee Meeting Action: Accept in Principle

1. Add new text to read as follows:

20.7.3.2 The rate-of-rise heat detection, as required in Section 20.7.3.1, shall be ultra fast rate-of-rise provided at the ceiling near the stage side of the proscenium wall installed in accordance with the prescriptive or performance-based requirements of NFPA 72.

2. Renumber Section 20.7 as necessary.

Committee Statement: As written, the proposed language is too vague. While the intent and merit of the proposed change is supported, additional details are requested by the committee to clarify the intent of the submitter with regards to the location, spacing, and installation of the detectors. At this time it cannot be determined if the detectors are required to be installed in accordance with NFPA 72 or by a performance based design. Language has been added at this time to offer alternative compliance options as a placeholder and the committee is requesting additional input regarding this issue.

The referenced Fire Protection Research Foundation Report indicates an interest in ultra fast rate of rise heat detectors and also indicates that modeling was conducted utilizing these appliances. According to the referenced report they are expected to activate prior to any other initiating device. Additional input is requested regarding this issue.

Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.

Submitter: Technical Committee on Fire Doors and Windows,

Recommendation: Revise text to read as follows:

A.4.3.1 Doors are of several classifications, types, and methods of operation. Fire door assemblies consist of individually labeled components that are essential to the satisfactory performance of the complete assembly. Some labels cover one or more components in addition to the door. (For specific information, see 4.3.2 and Annex E5.)

Substantiation: The proposed change is strictly editorial. The change corrects the Annex reference in section A.4.3.1.

Committee Meeting Action: Accept

Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.
fusing of the links. That can encumber movement and prevent automatic closing of a fire door in a fire event should not be

Materials that can encumber movement and prevent automatic closing of a fire door in a fire event should not be installed. In reality, any other wall penetrations for pipes, conduits, ducts and the like. Such sleeves must remain open and unobstructed for free movement of the fusible link cable/chain upon fusing of the links. Firestopping or other sealants should not be used on sleeves because they Materials that can encumber movement and prevent automatic closing of a fire door in a fire event should not be installed in sleeves. Firestopping systems should be evaluated to ensure they will not impact the credited operation of the fusible link mechanism.

Substantiation: Problem: TIA 1001 (80) was issued in October 2010 but created a situation where the information provided in the Annex does not completely clarify the application of the article. The intent of the TIA was to allow the free movement of the cable/chain connecting the links upon fusing of the links, but not necessarily for the entire period of the fire event. The proposed language clarifies the intent of the requirement.

Substantiation: Principally, the IFC has two concerns with the proposed language which was included via the TIA. Firstly, the Annex note focuses solely on firestopping materials as being prohibited from being installed. In reality, any materials that can encumber movement and prevent automatic closing of a fire door in a fire event should not be installed in sleeves. This is not captured in the existing note. In addition, the period of time when the chain or cable needs to move freely through the sleeve is during the operation of the fusible links to close the door. By design, this should occur at the early stages of a fire event occurring in the vicinity of the door. Thereafter, the unobstructed openings will continue to pose a significant ongoing hazard to the building and/or its occupants if not effectively sealed.

The need for effective firestopping is well established in Building and Fire Codes around the world. Rolling steel fire doors are commonly used in buildings where interior firewalls have been constructed to separate areas within buildings and contain potential fires. The International Firestop Council wishes to identify the fact that numerous options are available in the marketplace today to properly firestop the chain or cable pathways that are required for fire door release arrangements (as shown in NFPA 80), thus fully maintaining the fire rating of the wall. Properly chosen firestop solutions will allow free movement of the cable/chain through the wall.

Section 4.7 of NFPA 80-2010 goes to great lengths to describe the placement and installation of detectors to initiate the quick release of fire doors. Typical intumescent firestopping materials activate at in the range of 350°F, which is a substantially higher temperature than the temperature at which fusible links or heat detectors actuate, and in the stage of a fire where sufficient smoke would be produced to actuate smoke alarms. Since, automatic-closing devices on Rolling Steel Fire Doors are designed to activate long before the intumescent firestopping materials begin to intumesce at approximately 350°F, any chains or cables are free to move through the opening, and will have performed their intended function before the intumescent material begins to seal the opening.

There are numerous conventional intumescent firestop devices available from every firestop system manufacturer, which both ensure that the hole for the cable pathway conduit can be sealed to prevent fire spread, and allow the rolling steel fire door to perform its intended function during automatic closing. The proper solution to this firestop application would be through the use of recessed wrap strips or oversized firestop collar devices. The collar devices are similar to the “sleeves” described in the proposed TIA except that these are also firestop devices. These devices are configured to be secured into a wall-breaching hole through which a utility conveying item is to be passed. These sleeves typically have a tubular barrel with a flange attached perpendicularly at one or both ends and a series of screw holes formed through the flange. The inner and outer surfaces of the barrel, as well as the wall-facing surface of the flange are lined with intumescent material. In case of fire, once the temperatures reach the 350°F range, the intumescent material expands to completely seal the opening between the flanges and the wall surfaces, between the barrel outer surface and the wall hole and between the barrel inner surface and the conduit. All passages are thus effectively sealed so that fire and smoke cannot pass between compartments. The use of either an oversized firestop collar or of intumescent wrap strips can allow free movement of the cable/chain prior to their activation, thus not interfering with the operation of the fire door. Some representative drawings of the Intumescent Firestop Collars and Firestop Wrap Strip installations are provided below to illustrate the applications. Again, you will note that it is the IFC’s assertion that these can be
configured and installed so as not interfere with the operation of the cable or chain either before or during the period of operation of the fusible links or detectors.

Building Codes require firestopping for openings created through fire resistance rated walls and floors. There should be no need to allow an exception to the requirements for firestopping to accommodate a condition for which multiple commercially available solutions already exist. These firestop solutions are widely and effectively used for a variety of other penetrating items. They can be installed to accommodate free movement under these conditions, and still provide the critical protection against the spread of fire.

Committee Meeting Action: Reject
Committee Statement: TIA 10-2, issued in October 2010 was submitted by the Door and Access Systems Manufacturers Association (DASMA) on behalf of rolling steel fire door manufacturers in response to questions received from AHJ’s who expected to find information in NFPA 80 with regards to the installation of wall sleeves, but did not. It was approved by this Committee and issued by the NFPA’s Standards Council. Its intent was to document the decades-long accepted industry practice of installing open sleeves through walls for the fusible link cable or chain connected to the automatic closing device of rolling (and other type) fire doors. Proposed TIA 1009, which this Proposal is based upon, expressed a concern and offered clarification that no materials that can encumber or obstruct free movement of the cable or chain through the sleeve should be used. That clarification further supported the DASMA position that sleeves should be open and obstructed, and at the recent NFPA 80 ROP meeting, this Committee voted to accept amended language of TIA 10-2 (Log #6) with added language to appropriately address that concern. However, proposed TIA 1009 also attempted to change the long accepted practice of installing sleeves through walls by suggesting that firestopping should be used in or around those sleeves. That suggestion conflicted with the DASMA position affirmed by TIA 10-2 that sleeves should be open and obstructed.

In summary, there is a decades-long history of accepted industry practice and successful performance of open sleeves provided for fusible link cables or chains. There is no evidence provided that indicates currently accepted practice has resulted in loss of life, injury or property damage. There are no firestop systems currently listed/approved for this application (confirmed by UL and FM). There are no test standards/protocols developed to test such a system (confirmed by UL and FM). There is no technical justification, only an assumption, that a firestop system can or will be developed that will not interfere with the multiple automatic closing methods of various manufacturers of different type fire doors that rely on the use of a fusible link cable or chain. As fire doors are subjected to testing upon installation and periodically thereafter, there is an unknown potential for damage to the firestopping as doors are repeatedly tested and reset. Many fire doors have automatic closing activated by local detectors or fire alarm systems and do not require a sleeve through the wall. Other openings that provide a function or purpose, such as those required for expansion or operational clearances, are permitted without firestopping.

Number Eligible to Vote: 25
Ballot Results: Affirmative: 23 Abstain: 1
Ballot Not Returned: 1 Patton, V.
Explanation of Abstention:
KOFFEL, W.: See my Explanation of Abstention on Proposal 80-12 (Log #6).
Comment on Affirmative:
HAHN, S.: TIA 1002 – which is addressed by Log #15 (although referenced in its substantiation as TIA 1001 in error) –
was submitted by the Door and Access Systems Manufacturers Association (DASMA) on behalf of rolling steel fire door manufacturers in response to questions received from AHJ’s who expected to find information in NFPA 80 but did not. TIA 1002 was approved by both the NFPA 80 TC and the Standards Council. Its intent was to document the decades-long accepted industry practice of installing open sleeves through walls for the fusible link cable or chain connected to the automatic closing device of rolling (and other type) fire doors. Log #15 expressed a concern and offered clarification that no materials that can encumber or obstruct free movement of the cable or chain through the sleeve should be used. That clarification further supported the DASMA position that sleeves should be open and obstructed, and at the NFPA 80 ROP meeting, the TC voted to accept an amended TIA 1002 (Log #6) with added language to appropriately address that concern. However, Log #15 also attempted to change the long accepted practice of installing sleeves through walls by suggesting that firestopping should be used in or around those sleeves. That suggestion conflicted with the DASMA position affirmed by TIA 1002 and Log #6 that sleeves should be open and obstructed. To understand why the proposed use of firestopping is such a concern, it is important to first understand the critical functions that the sleeve allows to occur relative to the automatic closing of a fire door. Attached are 3 sheets of illustrations (explained below) in an effort to demonstrate the function provided by, and the need for, sleeves to remain open and unobstructed.

SHEET 1 – Current accepted industry practice for the installation of sleeves through walls

****Insert Figure 1 Here ****

TYPICAL FUSIBLE LINK CABLE/CHAIN CONFIGURATIONS (upper illustrations)
1. The black, blue and red dashed lines represent 3 of the most common cable or chain paths for rolling fire doors with single or double sided release systems. As you can see, the geometry of the cable or chain as illustrated changes relative to the type of release system.
2. What is not illustrated here is how the geometry also changes relative to the height of the wall and resulting distance between the top of the door and the ceiling.

****Insert Figure 2 Here ****

TYPICAL SLEEVE THROUGH WALL (lower illustration)
1. The blue dashed line indicates the path of the cable or chain as it comes down from the ceiling on the door side of the wall, passes through the sleeve, and is pulled up to the ceiling on the opposite side of the wall. On each side of the wall, there are 2 " above the arced arrows and keyed to a note indicating that the angle of the cable or chain relative to the wall can vary depending upon the type of release system and field conditions.
2. The red dashed line indicates the path of the cable or chain as it is released from the opposite side of the wall, falls vertical along the wall, and is pulled through the sleeve towards the door side of the wall as the automatic closing device of the door is engaged.
3. A note below the illustration indicates that the size of the opening created by the use of a typical ½" EMT conduit sleeve is 0.304 sq. in. – which is further reduced by the cable or chain passing through it.

SHEET 2 – Sleeve with firestop collar as proposed by Log #15

****Insert Illustration 1 Here ****

1. The blue dashed line indicates the path of the cable or chain as it comes down from the ceiling on the door side of the wall, passes through the sleeve, and is pulled up to the ceiling on the opposite side of the wall. The arced arrows indicate that the angle of the cable or chain relative to the wall can vary depending upon the type of release system and field conditions.
2. The red dashed line indicates the path of the cable or chain as it is released from the opposite side of the wall, falls vertical along the wall, and is pulled through the sleeve towards the door side of the wall as the automatic closing device of the door is engaged.
3. The clouded areas shown at each upper ends of the sleeve indicate problematic areas. When installed, the cable or chain may need to pull along a more vertical path than as illustrated, potentially being interfered with by the corner of the firestopping. In addition to the interference issue, pulling of the cable or chain along or into the firestopping may damage the firestopping as well.
4. The clouded area at the lower right side of the sleeve indicates another problem. When the cable or chain is released from the opposite side of the wall and falls vertical along the wall, it will be interfered with as it is pulled over the firestopping through the sleeve by the door’s automatic closing device.
TYPICAL FUSIBLE LINK CABLE/CHAIN CONFIGURATIONS
**1/2" EMT conduit (0.622" ID) represents a 0.394 sq. in. opening through the wall, partially filled by cable/chain**

TYPICAL SLEEVE THROUGH WALL

FIGURE 2 - 80-36 - LOG #15
Illustration 1
Firestop Collar Installation

- FIRESTOP COLLAR
- SASH CHAIN OR STEEL CABLE
- 1/2" EMT CONDUIT OR PIPE
- SET COLLAR OR BUSHING WITH (OPTIONAL - NOT SHOWN) WASHER
- CONCRETE, MASONRY, OR APPROVED NON-MASONRY
SHEET 3 – Sleeve with firestop wrap strip as proposed by Log #15

1. The blue dashed line indicates the path of the cable or chain as it comes down from the ceiling on the door side of the wall, passes through the sleeve, and is pulled up to the ceiling on the opposite side of the wall.

2. The red dashed line indicates the path of the cable or chain as it is released from the opposite side of the wall, falls vertical along the wall, and is pulled through the sleeve towards the door side of the wall as the automatic closing device of the door is engaged.

3. The clouded areas indicate problematic areas. When installed, and when released, the cable or chain will be dragged along and potentially interfered with by the corner of the firestopping. This may damage the firestopping as well as interfere with free release of the cable or chain.

4. As proposed, the wrap strip requires a 1½” conduit or pipe sleeve – 3 times the size of the ½” sleeve currently in use. This can pose additional concerns for normal environmental issues as well as allow a substantially greater passage of smoke in cases where the smoke does not reach elevated temperatures adequate to cause the firestopping to intumesce.

From our perspective, and to the best of our knowledge, the facts are as follows:

• The approved TIA 1002/Log #6 changed nothing – it simply documented best practices
• The proposed Log #15 changes the intent of TIA 1002/Log #6 and is an attempt by one industry to dictate how the products of another industry should be installed… against the wishes of that industry
• There is a decades-long history of accepted industry practice and successful performance of open sleeves provided for fusible link cables or chains
• There is no evidence provided that indicates currently accepted practice has resulted in loss of life, injury or property damage
• There are no firestop systems currently listed/approved for this application (confirmed by UL and FM)
• There are no test standards/protocols developed to test such a system (confirmed by UL and FM)
• There is no technical justification – only an assumption – that a firestop system can or will be developed that will not interfere with the multiple automatic closing methods of various manufacturers of different type fire doors that rely on the use of a fusible link cable or chain
• As fire doors are subjected to testing upon installation and periodically thereafter, there is an unknown potential for damage to the firestopping as doors are repeatedly tested and reset
• Many fire doors have automatic closing activated by local detectors or fire alarm systems and do not require a sleeve through the wall
• Other openings that provide a function or purpose – such as those required for expansion or operational clearances – are permitted without firestopping
• Perhaps less significant, but still a consideration, is the cost-to-benefit issue related to 2 systems installed by 2 different trades with an estimated cost impact of potentially several hundred dollars per door that an owner will be required to pay (based on current understanding, a rolling fire door and sleeve would first be installed by trained door systems technicians, the firestopping would then be installed by the appropriate contractor, and the trained door systems technicians would return to install the fusible link cable or chain through the firestopped sleeve)

We do not wish to win the battle and lose the war. The risk of a fire door – protecting potentially a several hundred sq. ft. opening – failing to close is not worth the reward of sealing a 0.304 sq. in. opening.

Log #15 is essentially a resubmission of the previously proposed TIA 1009. That TIA was not approved by the NFPA 80 TC. Additionally, the Standards Council has recently voted to deny the appeal of TIA 1009 by its proponent and reaffirmed that it should not be issued.

Submitted on behalf of DASMA, representing manufacturers of rolling steel fire door by Steve Hahn.
Illustration 2
Firestop Wrap Strip Installation

*Substantially larger conduit/pipe sleeve req'd - potential concerns for normal environmental conditions and increased passage of smoke*
Add language to end of proposed annex to read as follows:

A.4.7.5.1 It is important that cables, chains, or any components of the fusible link assembly do not hang up on eye bolts or pulleys, through-wall sleeve, any part of the building structure, or any component of the fire door assembly. It is also important that components not be coated or affixed with foreign material which could obstruct free operation of the release system. Examples of foreign material may include fireproofing, firestopping, paint, or spray texturing.

Substantiation: The Door & Access Systems Manufacturers Association (DASMA) has identified and documented in its Technical Data Sheet (TDS) 254 that fire door performance can be and has been adversely affected by obstructions or snagging of cable or chains. It is the committee’s intent to add this language to the end of that proposed for new A.4.7.5.1 as acted on in Proposal 80-12 (Log #6).

Committee Meeting Action: Accept
Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.

Revise text to read as follows:

A.5.2 A periodic inspection and maintenance program should be implemented and should be the responsibility of the property management.

Committee Statement: The committee agrees with the submitters proposed change and substantiation. In addition, the text has been updated to clarify the party responsible for the required fire door inspection and maintenance program.

Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.
Visual inspection and functional testing of fire door and fire window assemblies require the persons performing the inspections and testing to be thoroughly knowledgeable of the various components and systems that are used to create fire-rated assemblies. In the case of swinging doors with builders hardware, these assemblies are comprised of labeled and listed components from several manufacturers. Often, the listing of the door leaf determines which products are permitted to be installed on an assembly. Inspectors of swinging doors with builders hardware need to be able to recognize which components can or cannot be used on specific assemblies, which requires training and experience on behalf of the persons performing the inspections. Additionally, AHJs need to be able to rely on the competency, expertise, experience, and knowledge of the fire door inspectors in their jurisdiction.

Professional training and certification programs exist to provide inspectors with the knowledge they need to accurately assess the condition of swinging doors with builders hardware.

Substantiation: Now that NFPA 80’s inspection requirements are beginning to be enforced around the country, AHJs are seeking to determine what a minimum level of knowledge is acceptable in their jurisdictions. 5.2.3.1 states that the functional testing and visual inspections are to "be performed by individuals with knowledge and understanding of the operating components of the type of door being subjected to testing." While 5.2.3.1 recognizes the fact that the inspectors need to be "knowledgeable," it stops short of defining what constitutes an acceptable level of knowledge might be, thereby leaving the AHJ community to sort this out for themselves.

Understanding that at the time the inspection requirements where published in the 2007 edition of NFPA 80 there were no training programs in place, that is no longer the case. Intertek's Certified Fire Door Inspector program (through its Warnock Hersey Mark) and the Door and Hardware Institute's Fire and Egress Door Assembly Inspection training program are designed to provide inspectors with the knowledge they need to accurately assess the condition of swinging doors with builders hardware.

Committee Meeting Action: Accept in Principle

Add text to read as follows:

A.5.2.3.1 Visual inspection and functional testing of fire door and fire window assemblies require the persons performing the inspections and testing to be thoroughly knowledgeable of the various components and systems that are used to create fire-rated assemblies. In the case of swinging doors with builders hardware, these assemblies are comprised of labeled and listed components from several manufacturers. Often, the listing of the door leaf determines which products are permitted to be installed on an assembly. Inspectors of swinging doors with builders hardware need to be able to recognize which components can or cannot be used on specific assemblies, which requires training and experience on behalf of the persons performing the inspections. Additionally, AHJs need to be able to rely on the competency, expertise, experience, and knowledge of the fire door inspectors in their jurisdiction.

Committee Statement: The committee accepts the proposed text but has removed the specific references to the Door and Hardware Institute and Warnock Hersey in compliance with NFPA’s guidelines on references in NFPA documents to proprietary products and services. The proposed second paragraph has been clarified by the committee to be more generic and indicate that training and certification programs do currently exist and are available but with no reference to specific products or organizations.

Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.
80-40 Log #CP11 Final Action: Accept
(A.5.2.3.2)

Submitter: Technical Committee on Fire Doors and Windows,
Recommendation: Add new text to read as follows:
A.5.2.3.2 Any fire door or fire window assembly or component that has a history of reoccurring failures should be evaluated for possible replacement or other corrective measures.
Substantiation: Experience indicates a large number of doors and components that are unsuitable or poorly maintained and generally require replacement to ensure operability of the opening protective. It is the committee's intent that this language will assist in both maintenance and operational concerns.
Committee Meeting Action: Accept
Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.

80-41 Log #19 Final Action: Accept
(D.2)

Submitter: John F. Bender, Underwriters Laboratories Inc.
Recommendation: Revise text to read as follows:
D.2 The hourly designation indicates the duration of the fire test exposure and is known as the fire protection rating.
Fire protection ratings of fire doors meeting this standard should be as determined and reported by a testing agency in accordance with NFPA 252, Standard Methods of Fire Tests of Door Assemblies (See ANSI/UL 10B, Standard for Safety Fire Tests of Door Assemblies; ANSI/UL 10C, Standard for Positive Pressure Fire Tests of Door Assemblies; and CAN/ULC-S104-10, Standard Method for Fire Tests of Door Assemblies.)
Substantiation: Update title of standard number and add an “s” to the word “Tests”.
Committee Meeting Action: Accept
Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.
Security fire doors and frame assemblies are available in two types of security applications. The institutional type is for use in detention and correctional facilities where prevention against escape, unauthorized movement among secure areas, and vandalism by inmates are of primary concern. The commercial type is used to protect the rear entrances of commercial establishments, interior secure areas, electric-generating stations, data processing centers, and security control areas of office buildings and other building types, including those impacted by homeland security, where protection of life and assets against unlawful entrance, theft, vandalism, and terror attacks is of primary concern. Security doors are available with bullet-resistant capabilities. These doors are tested in accordance with the standard fire test of door assemblies and additionally might be tested in accordance with UL 752, Standard for Safety Bullet-Resisting Equipment, which specifies bullet-resistant ratings for medium-power small arms, high-power small arms, super-power small arms, and highpower rifles. Hardware is provided with the door assembly in the case of doors tested in accordance with ANSI/UL 752.

**Substantiation:** Add ANSI approval designation to ANSI/UL 752.

**Committee Meeting Action:** Accept

**Number Eligible to Vote:** 25

**Ballot Results:** Affirmative: 24

**Ballot Not Returned:** 1 Patton, V.

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**Submitter:** John F. Bender, Underwriters Laboratories Inc.

**Recommendation:** Revise text to read as follows:


**Substantiation:** Add ANSI approval designation to ANSI/UL 752 and update referenced standards to most recent revisions.

**Committee Meeting Action:** Accept

**Number Eligible to Vote:** 25

**Ballot Results:** Affirmative: 24

**Ballot Not Returned:** 1 Patton, V.
80-44 Log #22  Final Action: Accept
(L.1.2.8)

Submitter: John F. Bender, Underwriters Laboratories Inc.
Recommendation: Revise text to read as follows:
L.1.2.8 ULC Publications, Underwriters Laboratories of Canada, ULC Standards, 7 Underwriters Road, Toronto, ON, M1R 3B4 3A9, Canada.
CAN4-S106-M80, Standard Method for Fire Test of Window and Glass Block Assemblies, 1980.
Substantiation: Update ULC address and postal code. Update referenced standard to most recent revision. Update title of standard number and add an “s” to the word “Tests”.
Committee Meeting Action: Accept
Number Eligible to Vote: 25
Ballot Results: Affirmative: 24
Ballot Not Returned: 1 Patton, V.