The committee will review and update the editions of the referenced publications to the correct edition at the Second Draft meeting.

Chapter 2 Referenced Publications

2.1 General.
The documents or portions thereof listed in this chapter are referenced within this standard and shall be considered part of the requirements of this document.

2.2 NFPA Publications.
National Fire Protection Association, 1 Batteryman Park, Quincy, MA 02169-7471.

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 BHMA Publications.
Builders Hardware Manufacturers Association, 355 Lexington Avenue, 15th Floor, New York, NY 10017.
ANSI/BHMA A156.1, Standard for Butts and Hinges, 2013.
ANSI/BHMA A156.4, Standard for Door Controls (Closers), 2013.

2.3.4 GSA Publications.
U.S. General Services Administration, 1800 F Street, NW, Washington, DC 20405.

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

2.3.6 UL Publications.
Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.
ANSI/UL 33, Standard for Heat Responsive Links for Fire-Protection Services, revised 2010.
2.3.7 Other Publications.


2.4 References for Extracts in Mandatory Sections.


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Submittal Date: Wed Sep 07 10:56:53 EDT 2016

Committee Statement

Committee Statement: At the Second Draft meeting, the committee will review the referenced publications and update to the appropriate edition date.

Response Message:

Public Input No. 48-NFPA 80-2016 [Section No. 2.3.6]
Public Input No. 8-NFPA 80-2016 [Section No. 2.3.2]
Public Input No. 2-NFPA 80-2015 [Chapter 2]
Committee Input No. 7-NFPA 80-2016 [ New Section after 4.2.3 ]

4.2.3.1 Where a swinging fire door assembly is no longer required to be rated, the door label shall be permitted to be removed or covered such that the door is no longer identified as a fire protection feature.

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Submittal Date: Wed Sep 07 14:46:04 EDT 2016

Committee Statement

Committee Statement: Some AHJ's require that doors that are no longer required to be rated (rated wall has moved to a different location of a fire barrier has been de-rated) must be maintained and tested since it is in view of the public and lack of adequate maintenance and testing therefore creates a false impression of protection. Removal of the label (or covering the label) will eliminate the false impression of protection. The change is being proposed as a Committee Input and the committee will conduct additional review prior to Second Draft. Public comment is encouraged.

Public Input No. 78-NFPA 80-2016 [New Section after 4.2.3]
Review Section 4.7 for duplicate provisions prior to the Second Draft Meeting.


4.7.1 General.

4.7.1.1 Actuation devices for the release of fire doors shall be permitted to be part of an overall system that releases the door, such as a fire alarm, water flow alarm, or carbon dioxide release system.

4.7.1.2 Actuation devices and their components shall be installed in accordance with the manufacturers' instructions.

4.7.1.3 When the system or arrangement of detectors for an opening is not considered to be fail-safe, fusible links shall be used to ensure automatic closing of the door in the event of a power failure.

4.7.1.4 Fire doors that incorporate a device that delays activation of an automatic-closing, self-closing, or emergency power operation shall not delay the initiation of the closing or reclosing of the door for more than 10 seconds, unless acceptable to the authority having jurisdiction.

4.7.1.5* When actuation devices are used in conjunction with material handling systems, such as a conveyor, they shall be arranged in accordance with the following:

1. They shall stop the feed conveyor or otherwise initiate the mechanism that clears the path of the fire door.

2. They shall provide an adequate time delay to clear the opening that shall not exceed 10 seconds.

3. They shall activate the automatic- or self-closing mechanism.

4.7.2 Smoke Detectors.

Where smoke detectors are used, they shall be located in accordance with NFPA 72.

4.7.3 Heat Detectors.
4.7.3.1

All heat detectors shall be placed as shown in Figure 4.7.3.1(a) and Figure 4.7.3.1(b), but in no event shall detectors be placed in the dead air space shown in Figure 4.7.3.1(a).

**Figure 4.7.3.1(a) Proper Placement of Heat Detectors and Fusible Links.**

**Figure 4.7.3.1(b) Heat Detector Locations.**

4.7.3.2

Unless otherwise acceptable to the AHJ, heat detectors shall be installed on both sides of the wall and interconnected so that the operation of any single heat detector causes the door to close.

4.7.4 Fusible Links.

4.7.4.1*

Except as required by 4.7.4.2 and 4.7.4.3, fusible links shall be placed as shown in Figure 4.7.3.1(a).

4.7.4.2*

Unless otherwise acceptable to the AHJ, fusible links shall be installed on both sides of the wall and interconnected so that the operation of any single fusible link causes the door to close.

4.7.4.3*
Where fusible links are used, one fusible link shall be located near the top of the opening, and additional links shall be located at or near the ceiling on each side of the wall.

4.7.4.3.1

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.

4.7.4.3.2

The sleeve shall be ½ in. (13 mm) diameter galvanized steel conduit or pipe, with ends deburred, 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.

4.7.4.4

When the system or arrangement of detectors for an opening is not considered to be fail-safe, fusible links shall be used.

4.7.5

Where smoke detectors are used, they shall be located in accordance with NFPA 72.

4.7.6

Detectors and their components shall be installed in accordance with the manufacturers' instructions.

4.7.7 –

Unless otherwise acceptable to the AHJ, heat detectors or fusible links shall be installed on both sides of the wall, interconnected so that the operation of any single detector or fusible link causes the door to close.

4.7.7.1 –

Where fusible links are used, one fusible link shall be located near the top of the opening, and additional links shall be located at or near the ceiling on each side of the wall.

4.7.7.1.1

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.

4.7.7.1.2

The sleeve shall be a ½ 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.

Submitter Information Verification

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Submittal Date: Mon Sep 19 09:43:37 EDT 2016
<table>
<thead>
<tr>
<th><strong>Committee Statement</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Committee Statement:</strong> During the development of the 2016 edition of NFPA 80, Section 4.7 was reorganized and expanded. During the revision, several sections were unintentionally duplicated or not deleted after the reorganization was complete. Prior to the Second Draft the committee will review the section and recommend any further changes. The purpose of the changes are strictly editorial and the Committee Input will allow the committee further time to review the text. Sample duplicate text is shown with the deletion of Section 4.7.7.</td>
</tr>
</tbody>
</table>

| **Response Message:** |
4.8.4.1.2 Where thresholds and saddles are installed under fire doors, the clearance shall be in accordance with the hardware manufacturer’s installation instructions.

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Submittal Date: Thu Sep 08 14:16:49 EDT 2016

Committee Statement

Committee Statement: This requirement reflects the need for the bottom of the doors to be within the threshold’s manufacturer’s clearance requirements. The 3/8-inch maximum is based on the clearance allowed by the fire door tests (e.g., NFPA 252, UL 10B, and UL 10C).

Response Message:
4.8.4.1*
Clearance under the bottom of a door shall be a maximum of $\frac{3}{4} \text{ in. (19 mm)}$.

Submitter Information Verification

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Submittal Date: Thu Sep 08 15:21:11 EDT 2016

Committee Statement

Committee Statement: The Fire Protection Research Foundation will be conducting a project regarding the influence of gap sizes around swinging doors on fire development. At the Second Draft meeting the committee will review the results of the research project and make changes to the standard as necessary. The background for this project is as follows:

Fire development, smoke movement and ability of fire door to meet the test standards are affected by the gap sizes around the perimeter of the door, within the frame and between the bottom of the door and floor. Hence these gap sizes are regulated and the current regulations in NFPA 80 for the door clearances are from information and data gathered several years ago. Door clearances are one of the most frequently cited deficiencies on swinging doors with builders hardware.

In the 2016 edition of NFPA 80, Section 6.3.1.7 addresses the clearance dimensions for gaps between the door leaves and door frames for fire-rated door assemblies with steel, and wood doors, and includes provisions for door assemblies of other construction. The clearance dimension allowed for steel doors (rated up to 3 hours) and 20-minute wood doors installed in hollow metal door frames is 1/8-inch ($+\frac{1}{16}$ inch). A maximum clearance dimension of 1/8-inch is permitted for wood doors rated more than 20- minutes and fire door assemblies with doors and frames of other construction (of any level of fire rating). Further, paragraph 4.8.4.1 permits a maximum clearance dimension of 3/4-inch under the bottom of a door, regardless of the construction of the door.

Of the clearance dimensions around the perimeter of door leafs, the clearance under the doors is the most difficult to comply with when the doors are installed since the floor itself is not a component of the door assembly. Frequently, the surface of concrete floors at door assemblies is not level (across the width of the opening) or might have low spots under the door. The surface of the floor creates situations where the clearance dimension under the door is greater than 3/4-inch and therefore non-compliant with NFPA 80’s requirement. Additionally, current fire door tests in the United States (e.g., NFPA 252, UL 10B, and UL 10C) use a clearance dimension not greater than 3/8-inch under the
door(s), which is not consistent with NFPA 80's allowance of a maximum of 3/4-inch and, more importantly, is not realistic to replicate in the field. Hence it is important to have a deeper understanding of the impact of gap sizes on fire development and smoke movement.

Response
Message:
Review, Chapter 5, including, but not limited to, the following sections for duplication and accuracy:

5.2.2.4  
5.5.8  
5.5.9  
A.5.1.4.1  
A.5.1.5.1

Chapter 5 Inspection, Testing, and Maintenance

5.1* General.

5.1.1 Application.

5.1.1.1*

This chapter shall cover the inspection, testing, and maintenance of fire doors, fire shutters, fire windows, and opening protectives other than fire dampers and fabric fire safety curtains.

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.

5.1.2.3 Prevention of Door Blockage.

5.1.2.3.1

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

5.1.2.3.2

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

5.1.2.3.3

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

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 Field Labeling.
5.1.4.1*  
Field labeling shall be performed only by individuals or companies that have been certified or listed, or by individuals or companies that are representatives of a labeling service that maintains periodic inspections of production of labeled equipment or materials and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

5.1.4.2  
Individuals performing the service shall provide proof of qualifications to the authority having jurisdiction prior to performing work, as described in 5.1.4.1.

5.1.4.3  
At a minimum, field labels shall contain the following information:

1. The words “field inspected” or “field labeled”
2. The words “fire door” or “fire door frame”
3. The marking of a third-party certification agency
4. The fire protection rating
5. A unique serial number (if provided by the listing agency)
6. The fire test standard designation to which the assembly was tested

5.1.4.4  
Field modifications shall not be permitted to be made to a non-fire-rated door assembly to achieve a fire rating unless the field modification is completed under label service.

5.1.4.5  
Doors in which a field modification in accordance with 5.1.4.4 has been completed shall be labeled.

5.1.4.6  
When an opening with a non-fire-rated door requires a fire door, the door assembly shall be replaced.

5.1.5  
Field Modifications.

5.1.5.1*  
In cases where a field modification to a fire door or a fire door assembly is desired, and is not permitted by 4.1.3.2 through 4.1.3.2.5, 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.

5.1.5.2  
Field modifications shall be permitted without a field visit from the laboratory upon written authorization from that laboratory.

5.1.5.3  
When the manufacturer is no longer available, the laboratory shall be permitted to provide an engineering evaluation supporting the field modification.

5.1.6  
Removal of Door or Window.

Where a fire door or fire window opening no longer functions as an opening, or the door or window is removed and not replaced, the opening shall be filled to maintain the required rating of the wall assembly.

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5.2* Inspection and Testing.

5.2.1*
Upon completion of the installation, door, shutters, and window assemblies shall be inspected and tested in accordance with 5.2.4.

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

5.2.2.1
Records of acceptance tests shall be retained for the life of the assembly.

5.2.2.2*
Unless a longer period is required by Section 5.4, records shall be retained for a period of at least 3 years.

5.2.2.3*
The records shall be on a medium that will survive the retention period. Paper or electronic media shall be permitted. [72:14.6.2.3]

5.2.2.4
A record of all inspections and testing shall be provided that includes, but is not limited to, the following information:

(1) Date of inspection
(2) Name of facility
(3) Address of facility
(4) Name of person(s) performing inspections and testing
(5) Company name and address of inspecting company
(6) Signature of inspector of record
(7) Individual record of each inspected and tested fire door assembly
(8) * Opening identifier and location of each inspected and tested fire door assembly
(9) * Type and description of each inspected and tested fire door assembly
(10) Verification of visual inspection and functional operation
(11) Listing of deficiencies in accordance with 5.2.3, Section 5.3, and Section 5.4

5.2.2.5*
Upon completion of maintenance work, fire door assemblies shall be inspected and tested in accordance with 5.2.3.

5.2.3 Acceptance Testing.

5.2.3.1*
Acceptance testing of fire door and window assemblies shall be performed by a qualified person with knowledge and understanding of the operating components of the type of assembly 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
A record of these inspections and testing shall be made in accordance with 5.2.2.

5.2.3.5 Swinging Doors with Builders Hardware or Fire Door Hardware.

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
As a minimum, the following items shall be verified:

(1) Labels are clearly visible and legible.
(2) No open holes or breaks exist in surfaces of either the door or frame.
(3) Glazing, vision light frames, and glazing beads are intact and securely fastened in place, if so equipped.
(4) The door, frame, hinges, hardware, and noncombustible threshold are secured, aligned, and in working order with no visible signs of damage.
(5) No parts are missing or broken.
(6) Door clearances do not exceed clearances listed in 4.8.4 and 6.3.1.7.
(7) The self-closing device is operational; that is, the active door completely closes when operated from the full open position.
(8) If a coordinator is installed, the inactive leaf closes before the active leaf.
(9) Latching hardware operates and secures the door when it is in the closed position.
(10) Auxiliary hardware items that interfere or prohibit operation are not installed on the door or frame.
(11) No field modifications to the door assembly have been performed that void the label.
(12) Meeting edge protection, gasketing and edge seals, where required, are inspected to verify their presence and integrity.
(13) Signage affixed to a door meets the requirements listed in 4.1.4.

5.2.3.6 Horizontally Sliding, Vertically Sliding, and Rolling Doors.

5.2.3.6.1
Fire door assemblies shall be visually inspected from both sides to assess the overall condition of door assembly.
5.2.3.6.2
At a minimum, the following items shall be verified:

(1) Labels are clearly visible and legible.
(2) No open holes or breaks exist in surfaces of either the door or the frame.
(3) Slats, endlocks, bottom bar, guide assembly, curtain entry, hood, and flame baffle are correctly installed and intact for rolling steel fire doors.
(4) Glazing, vision light frames, and glazing beads are intact and securely fastened in place, if so equipped.
(5) Curtain, barrel, and guides are aligned, level, plumb, and true for rolling steel fire doors.
(6) Expansion clearance is maintained in accordance with the manufacturer’s listing.
(7) Drop release arms and weights are not blocked or wedged.
(8) Mounting and assembly bolts are intact and secured.
(9) Attachments to jambs are with bolts, expansion anchors, or as otherwise required by the listing.
(10) Smoke detectors, if equipped, are installed and operational.
(11) No parts are missing or broken.
(12)* Fusible links, if equipped, are in the location; chain/cable, s-hooks, eyes, and so forth, are in good condition; the cable or chain is not kinked, pinched, twisted, or inflexible; and links are not painted or coated with dust or grease.
(13) Auxiliary hardware items that interfere or prohibit operation are not installed on the door or frame.
(14) No field modifications to the door assembly have been performed that void the label.
(15) 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).

5.2.3.7 Closing Devices.

5.2.3.7.1
All fire doors, fire shutters, and fire window assemblies shall be inspected and tested to check for proper operation and full closure.

5.2.3.7.2
Resetting of the automatic-closing device shall be done in accordance with the manufacturer’s instructions.

5.2.3.7.3 Rolling Steel Fire Doors.

5.2.3.7.3.1
Rolling steel fire doors shall be drop-tested twice.

5.2.3.7.3.2
The first test shall be to check for proper operation and full closure.

5.2.3.7.3.3
A second test shall be done to verify that the automatic-closing device has been reset correctly.

5.2.3.8*
Fusible links, release devices, and any other moveable parts shall not be painted or coated with other materials that could interfere with the operation of the assembly.
5.2.4 Periodic Inspection and Testing.

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

5.2.4.2 As a minimum, the provisions of 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 The assembly shall be reset after a successful test.

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

5.2.4.6* Hardware shall be examined, and inoperative hardware, parts, or other defective items 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.

5.3 Retrofit Operators.

5.3.1 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 5.3.2 through 5.3.5.

5.3.2 The retrofit operator shall be labeled as such.

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

5.3.4 The installation shall be acceptable to the AHJ.

5.3.5 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.

5.4* Performance-Based Option.

5.4.1 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.
5.4.2
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.

5.4.3
Technical justification for inspection, testing, and maintenance intervals shall be documented in writing.

5.4.4
The performance-based option shall include historical data acceptable to the AHJ.

5.5 Maintenance.

5.5.1*
Repairs shall be made, and defects that could interfere with operation shall be corrected without delay.

5.5.2
Damaged glazing material shall be replaced with labeled glazing.

5.5.3
Replacement glazing materials shall be installed in accordance with their individual listing.

5.5.4
Any breaks in the face covering of doors shall be repaired without delay.

5.5.5
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.

5.5.6
If repairs cannot be made with labeled components or parts obtained from the original manufacturer or retrofitted in accordance with Section 5.3, the fire door frame, fire door assembly, or appurtenances shall be replaced.

5.5.7
When fastener 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.
3. Fill holes with material listed for this use and installed in accordance with the manufacturer's procedures.

5.5.8
Holes, other than those as described by 5.5.7, shall be treated as a field modification in accordance with 5.1.4.
Upon completion of maintenance work, fire door assemblies shall be inspected and tested in accordance with 5.2.3. A record of these inspections and testing shall be made in accordance with 5.2.2. A record of maintenance performed on existing fire door assemblies shall be provided that includes the following information:

1. Date of maintenance
2. Name of facility
3. Address of facility
4. Name of person(s) performing maintenance
5. Company name and address of maintenance personnel
6. Signature of maintenance personnel performing the work
7. Individual listings of each inspected and tested fire door assembly
8. * Opening identifier and location of each repaired fire door assembly
9. * Type and description of each repaired fire door assembly
10.† Description or listing of the work performed on each fire door assembly

Submitter Information Verification

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Submittal Date: Mon Sep 19 13:20:25 EDT 2016

Committee Statement

Committee Statement: Much of Chapter 5 was reorganized during the 2016 revision cycle. The Committee discovered that there are sections that may be duplicated or in the incorrect location. The committee will review the provisions of Chapter 5 and propose revisions at the Second Draft meeting to correct duplicates and location of Annex material. The changes are intended to be editorial only.

Response Message:
Committee Input No. 39-NFPA 80-2016 [ New Section after 5.2.3.5.2 ]

3.2.X Inspection Mark
An identification applied to equipment or materials, denoting compliance with annual inspection and testing requirements.

5.2.3.5.3* Inspection Mark
Upon completion of inspection an inspection mark shall be permitted to be applied to the assembly.

A.5.2.3.5.3 Where a previously applied inspection mark exists, it should be updated or replaced to record the most recent inspection.

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Submittal Date: Mon Sep 19 10:25:00 EDT 2016

Committee Statement

Committee Statement: Proposed language recognizes a practice that is common in the industry and provides guidance on that practice. The language permits an inspection mark, but does not mandate that a mark be applied. Annex language clarifies that existing marks do not have to be replaces each inspection but may be updated to reflect the current inspection. The committee is seeking additional public comment.

Response Message:
Committee Input No. 32-NFPA 80-2016 [ New Section after 6.3.1.3 ]

6.3.1.4 The frame shall fit the wall with a gap between the backbend return of the frame and the surface of the wall not in excess of 1/8" per side.

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Street Address:
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Submittal Date: Thu Sep 08 15:49:18 EDT 2016

Committee Statement

Committee Statement: The allowable clearance between the back bends of a slip-on drywall frame and the finished drywall surface are not defined in NFPA 80, UL 10B, UL 10C or a frame manufacturers’ published listing. This Committee Input was created to solicit feedback on the subject with the intent of defining the maximum allowable gap.

Response Message:
6.3.1.7* Clearances.

6.3.1.7.1* Clearances dimensions between doors and frames and meeting stiles of paired doors shall be measured on the pull side of the assemblies.

6.3.1.7.2* The clearances between the top and vertical edges of hollow metal doors and the frame, and the meeting stiles of doors swinging in pairs, shall be \( \frac{1}{8} \text{ in.} \pm \frac{1}{16} \text{ in.} \) (3.18 mm \( \pm 1.59 \) mm).  

6.3.1.7.3 High-pressure decorative laminate (HPDL)-faced doors, \( \frac{1}{2} \) -hour-rated flush wood doors, and stile and rail wood doors installed in hollow metal door frames shall not have clearances greater than \( \frac{1}{8} \) in. \( \pm \frac{1}{16} \) in. (3.18 mm \( \pm 1.59 \) mm) between the door and frame and the meeting stiles of paired doors.

6.3.1.7.4* HPDL-faced doors, flush wood doors, and stile and rail wood doors with fire ratings greater than \( \frac{1}{2} \) hour shall not have clearances greater than \( \frac{1}{8} \) in. (3.18 mm) between the door and frame, regardless of the door frame construction, and the meeting stiles of paired doors.

6.3.1.7.5* Door leaves constructed of other materials shall not have clearances greater than \( \frac{1}{8} \) in. (3.18 mm) between the top and vertical edges of doors and meeting stiles of paired doors, unless otherwise permitted in the door frame, door, and latching hardware manufacturers’ published listings.

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**Submitter Information Verification**

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Submittal Date: Thu Sep 08 15:23:56 EDT 2016

**Committee Statement**

Committee Statement: The Fire Protection Research Foundation will be conducting a project regarding the influence of gap sizes around swinging doors on fire development. At the Second Draft meeting the committee will review the results of the research project and make changes to the standard as necessary. The background for this project is as follows:
Fire development, smoke movement and ability of fire door to meet the test standards are affected by the gap sizes around the perimeter of the door, within the frame and between the bottom of the door and floor. Hence these gap sizes are regulated and the current regulations in NFPA 80 for the door clearances are from information and data gathered several years ago. Door clearances are one of the most frequently cited deficiencies on swinging doors with builders hardware.

In the 2016 edition of NFPA 80, Section 6.3.1.7 addresses the clearance dimensions for gaps between the door leaves and door frames for fire-rated door assemblies with steel, and wood doors, and includes provisions for door assemblies of other construction. The clearance dimension allowed for steel doors (rated up to 3 hours) and 20-minute wood doors installed in hollow metal door frames is 1/8-inch (+ 1/16 inch). A maximum clearance dimension of 1/8-inch is permitted for wood doors rated more than 20- minutes and fire door assemblies with doors and frames of other construction (of any level of fire rating). Further, paragraph 4.8.4.1 permits a maximum clearance dimension of 3/4-inch under the bottom of a door, regardless of the construction of the door.

Of the clearance dimensions around the perimeter of door leafs, the clearance under the doors is the most difficult to comply with when the doors are installed since the floor itself is not a component of the door assembly. Frequently, the surface of concrete floors at door assemblies is not level (across the width of the opening) or might have low spots under the door. The surface of the floor creates situations where the clearance dimension under the door is greater than 3/4-inch and therefore non-compliant with NFPA 80’s requirement. Additionally, current fire door tests in the United States (e.g., NFPA 252, UL 10B, and UL 10C) use a clearance dimension not greater than 3/8-inch under the door(s), which is not consistent with NFPA 80’s allowance of a maximum of 3/4-inch and, more importantly, is not realistic to replicate in the field. Hence it is important to have a deeper understanding of the impact of gap sizes on fire development and smoke movement.


Committee Input No. 56-NFPA 80-2016 [ Section No. 6.3.1.7 ]

Review 6.3.1.7. for consistency with proposed changes from 2016, prior to Second Draft meeting.

6.3.1.7.1* Clearances.

Clearances dimensions between doors and frames and meeting stiles of paired doors shall be measured on the pull side of the assemblies.

6.3.1.7.2*

The clearances between the top and vertical edges of hollow metal doors and the frame, and the meeting stiles of doors swinging in pairs, shall be \( \frac{1}{8} \) in. ± \( \frac{1}{16} \) in. (3.18 mm ± 1.59 mm).

6.3.1.7.3

High-pressure decorative laminate (HPDL)-faced doors, \( \frac{1}{2} \) -hour-rated flush wood doors, and stile and rail wood doors installed in hollow metal door frames shall not have clearances greater than \( \frac{1}{8} \) in. ± \( \frac{1}{16} \) in. (3.18 mm ± 1.59 mm) between the door and frame and the meeting stiles of paired doors.

6.3.1.7.4*

HPDL-faced doors, flush wood doors, and stile and rail wood doors with fire ratings greater than \( \frac{1}{2} \) hour shall not have clearances greater than \( \frac{1}{4} \) in. (3.18 mm) between the door and frame, regardless of the door frame construction, and the meeting stiles of paired doors.

6.3.1.7.5*

Door leaves constructed of other materials shall not have clearances greater than \( \frac{1}{8} \) in. (3.18 mm) between the top and vertical edges of doors and meeting stiles of paired doors, unless otherwise permitted in the door frame, door, and latching hardware manufacturers’ published listings.

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Submittal Date: Mon Sep 19 13:28:30 EDT 2016

Committee Statement

Committee Statement: Many changes were made to Section 6.3.1.7 for the 2016 edition of the standard. The committee will review the provisions of this section and propose any changes for clarification at the Second Draft meeting. The changes are intended to be editorial only.
Response
Message:
Committee Input No. 57-NFPA 80-2016 [ Section No. 19.5 ]

19.5* Periodic Testing.

19.5.1 Testing Frequency.

19.5.1.1 Each damper shall be tested and inspected 1 year after acceptance testing.

19.5.1.2 The test and inspection frequency shall then be every 4 years, except in buildings containing a hospital, where the frequency shall be every 6 years.

A.19.5.1.3 In existing HVAC systems with fully ducted systems, periodic testing does not need to be performed for a single inaccessible damper within a rated barrier or shaft.

19.5.1.4 In existing buildings it is recognized that some dampers may have become inaccessible for various reasons. Inaccessible dampers are those that have physical barriers or limitations where one cannot perform the required inspections or tests. The testing of a single damper may not pose a significant risk to the performance of the system when the system is fully ducted. It is recommended that dampers with limited accessibility be modified with retro-fit equipment, such as an indicator switch, to comply with the remote testing requirements for future inspections.

19.5.1.5 Position indication functionality shall be permitted to be added to an existing damper not originally designed with position indication provided that the accuracy of the open and closed indication method is confirmed as required by section 19.5, 2.3.3.1.3.

19.5.2 Test Method.

19.5.2.1 All tests shall be completed in a safe manner by personnel wearing personal protective equipment.

19.5.2.2* Periodic Testing for Fusible Link Operated Dampers.

19.5.2.2.1 Fusible links or other moveable parts shall not be painted or coated, unless listed by the testing agency.

19.5.2.2.2 The fan shall be permitted to be shut off during testing.

19.5.2.2.3* The fusible link shall be removed or activated with the damper in the fully open position.

19.5.2.2.4 With the fusible link removed or activated, the damper shall close completely without assistance.
19.5.2.2.5
Where the damper is designed with a latch to hold the damper in the fully closed position, the operation of the latch shall be confirmed.

19.5.2.2.6
At the completion of the test, the damper shall be returned to the fully open position, and the fusible link shall be reinstalled or replaced.

19.5.2.2.7
If the link appears damaged, it shall be replaced with a functionally equivalent link.

19.5.2.2.8
At the completion of the test, it shall be verified that the damper is unobstructed and in a fully operational mode.

19.5.2.3 Periodic Testing for Dampers that Do Not Use a Fusible Link to Operate.

19.5.2.3.1* General.
Fans shall not be permitted to be shut down during the test.

19.5.2.3.2 Dampers with Motorized Actuators.
Testing of dampers with actuators shall comply with the following procedure:
(1) Visually confirm that the damper is in the fully open position.
(2) Verify that all obstructions, including hands, are out of the path of the damper blades and then remove electrical power or air pressure from the actuator to allow the actuator’s spring return feature to close the damper.
(3) Visually confirm that the damper closes completely.
(4) Reapply electrical power or air pressure to reopen the damper.
(5) Visually confirm that the damper is in the fully open position.

19.5.3 Documentation.

19.5.3.1
All inspections and testing shall be documented, indicating the location of the damper, date of inspection, name of inspector, and deficiencies discovered. The documentation shall have a space to indicate when and how the deficiencies were corrected.

19.5.3.2
All documentation shall be maintained for at least three test cycles and made available for review by the AHJ.

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Committee Statement

Committee Statement: An all to common issue in the field today is dampers that are inaccessible. The proposed language provides guidance to the frequently asked question regarding the procedures for periodic testing of dampers (existing) that are inaccessible. Additional public comments are encouraged.
The rate-of-rise heat detection as required in 20.7.3.1 shall be ultra-fast rate-of-rise, provided at the ceiling near or roof deck on the stage side of the proscenium wall and between 4 and 24 inches of the proscenium wall, installed in accordance with the prescriptive or performance-based requirements of NFPA 72 - Section 4.7.

Committee Statement:

"Ultra-fast" is not defined in referenced standards. Most stages do not have ceilings, but instead exposed structure and roof decks. "Near" neither locates the detector on the stage side nor does it provide an enforceable dimension. NFPA 72 does not provide requirements for heat detectors for door release service.
Committee Input No. 17-NFPA 80-2016 [ Section No. 20.7.3.3 ]

20.7.3.3 –
To provide for automatic emergency release when exposed to fire, an emergency control line (fire control line) shall be provided that utilizes a minimum of $\frac{3}{8}$-in. diameter rope or $\frac{3}{32}$-in. (2.4 mm) diameter 7 x 19 specialty cord (aircraft cable) fitted with fusible links.

20.7.3.3.1 –
The emergency control line (fire control line) shall extend up both sides and across the top of the stage side of the proscenium opening.

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Committee Statement

Committee Statement: The committee is seeking additional information as to the function and necessity of this requirement. This Committee Input is also proposing deletion of 20.7.3.4.1 "The emergency control line (fire control line) shall not be cut or severed."
A.6.3.1.2

Door frames should be installed following the general guidelines shown in Figure A.6.3.1.2. The door frame installations shown in Figure A.6.3.1.2 do not represent all types of installations but do illustrate some typical door frame installation techniques required for the proper installation of fire door frames.

Figure A.6.3.1.2 Typical Pressed Steel Door Frame Installations.

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Committee Statement

Committee Statement: The Committee Input is adding the word 'optional' to Figure (c) to read as follows: Frame Grouted Full (optional). The proposed change clarifies that there are a variety of installations that may meet the conditions of A.6.3.1.2. The Committee will review the figures and propose newly updated illustrations to reflect various installation options at the Second Draft meeting.
Response
Message:
The committee will review and update the editions of the referenced publications to the correct edition at the Second Draft meeting.

Annex L  Informational References

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.


L.1.2  Other Publications.

L.1.2.1  AMCA Publications.


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.
ASTM E413, Classification for Rating Sound Insulation, 2010.

L.1.2.4 ISO Publications.
International Organization for Standardization, 1, Ch. de la Voie-Creuse, Case postale 56, CH-1211 Geneva 20, Switzerland.

L.1.2.5 NAAMM/HMMA Publications.
National Association of Architectural Metal Manufacturers/Hollow Metal Manufacturers Association, 8 South Michigan Avenue, Suite 1000, Chicago, IL 60603.

L.1.2.6 SMACNA Publications.
Sheet Metal and Air Conditioning Contractors' National Association, 4201 Lafayette Center Drive, Chantilly, VA 20151-1209.

L.1.2.7 UL Publications.
Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

L.1.2.8 ULC Publications.
ULC Standards, 7 Underwriters Road, Toronto, ON, M1R 3A9, Canada.
CAN4-S106-M80, Standard Method for Fire Test of Window and Glass Block Assemblies, 1980.
L.1.2.9  U.S. Government Publications.

L.1.2.10  Additional Publications.

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  ANSI Publications.
American National Standards Institute, Inc., 25 West 43rd Street, 4th Floor, New York, NY 10036.

L.3  References for Extracts in Informational Sections. (Reserved)

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Committee Statement

Committee Statement: At the Second Draft meeting, the committee will review the referenced publications and update to the appropriate edition date.
Response Message:
Public Input No. 3-NFPA 80-2015 [Chapter L]
Public Input No. 9-NFPA 80-2016 [Section No. L.1.2.3]
Public Input No. 49-NFPA 80-2016 [Section No. L.1.2.7]
Public Input No. 37-NFPA 80-2016 [Section No. L.1.2.3]