



Public Input No. 454-NFPA 101-2018 [Section No. 8.2.2.4]

8.2.2.4*

Where door assemblies are required elsewhere in this *Code* to be smoke leakage-rated in accordance with 8.2.2.4 or are required to be in accordance with NFPA 105, these door assemblies shall comply with all of the following:

- (1) They shall be tested in accordance with ANSI/UL 1784, *Standard for Air Leakage Tests for Door Assemblies*.
- (2) The maximum air leakage rate of the door assembly shall be 3.0 ft³/min/ft² (0.9 m³/min/m²) of door opening at 0.10 in. water column (25 N/m²) for both the ambient and elevated temperature tests.
- (3) Door assemblies shall be installed and maintained in accordance with NFPA 105.

A.8.2.2.4. : These door assemblies are required to be tested in accordance with ANSI/UL 1784, per Item (1) and achieve an air leakage rate of not more than specified in Item (2). In health care occupancies especially, door frames with terminated stops (a.k.a. sanitary stops) are desired to reduce the number of difficult-to-clean corners. Door frames with terminated stops are permitted when the door assembly meets the performance requirements of Items (1) and (2).

Statement of Problem and Substantiation for Public Input

8.2.2.4: Several locations in NFPA 101 require doors to be in accordance with NFPA 105, but do not explicitly require these doors to comply with 8.2.2.4. (See 7.2.3.4 , 7.2.4.3.9, and 7.15.9.7). It seems appropriate to require all doors which are required to comply with NFPA 105 to also comply with the provisions of 8.2.2.4.

A.8.2.2.4. : Addressing a long-standing and frequently asked question regarding the use of door frames with terminated stops.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
Public Input No. 452-NFPA 101-2018 [Section No. 7.2.1.15.1]	

Submitter Information Verification

Submitter Full Name: John Woestman
Organization: Kellen Company
Affiliation: Builders Hardware Manufacturers Association
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 27 14:56:04 EDT 2018
Committee: SAF-FIR

Committee Statement

Resolution: By reference to Section 8.2.2.4, additional provisions become mandated and these may not be more appropriate or intended for application by other sections in the Code which do not choose to reference Section 8.2.2.4. The proposed annex text seems to contain a requirement rather than advisory language. It should be revised and written as such.



Public Input No. 314-NFPA 101-2018 [New Section after 8.2.2.5]

TITLE OF NEW CONTENT

Type your content here ...

Insert new Section 8.2.2.5

8.2.2.5 Plans for new construction and for renovations shall clearly show the locations of and the numerical ratings of all fire compartment features and all smoke compartment features affected by the work, including, but not limited to, those features that will have penetrations, joints, and opening protectives.

Statement of Problem and Substantiation for Public Input

Today (June 25, 2018) I reviewed plans for a renovation in which the specification on firestopping included the following text:

"Firestopping of all joints and penetrations in fire-resistance rated and smoke-resistant assemblies, whether indicated on drawings or not, and other openings indicated, shall be performed."

"Schedule of Firestopping: List each type of penetration, fire rating of the penetrated assembly, and firestopping test or design number."

The Codes require, or at least intend, that fire resistive features of buildings be shown on the drawings. However, NFPA 101 does not have code text with "teeth" for required information on plans. The intent can possibly be gleaned from 2018 NFPA 101 Section 4.5.7 - System Design / Installation which states:

"Any fire protection system, building service equipment, feature of protection, or safeguard provided to achieve the goals of the Code shall be designed, installed, and approved in accordance with applicable NFPA standards."

However, in my experience in reviewing plans, some designers are disregarding and not performing the hard work to convey such information on the plans.

The proposed text puts the requirement on the designer to understand the building's fire compartmentation features and to convey the basic information required for the selection of proper firestopping assemblies, joint assemblies, and opening protectives can be done. Otherwise how will the contractors know what UL listed firestop assemblies and UL listed joint assemblies to select and install, and where to install them? How will the inspectors know what to look for?

In the example case above, if the contractor was wise, he would submit an RFI inquiring about the locations and numerical ratings of ALL rated features (e.g., fire walls, fire barriers, fire partitions, smoke barriers, smoke partitions, etc.).

The example specification text noted above is setting up the Owner for noncompliance and/or change orders.

Submitter Information Verification

Submitter Full Name: Raymond Battalora

Organization: The Univ of Texas at Austin - Fire Prevention Services

Street Address:

City:

State:

Zip:

Submission Date: Mon Jun 25 10:26:58 EDT 2018

Committee: SAF-FIR

Committee Statement

Resolution: NFPA 101, Chapter 8, is not the place mandate information required on construction plans. If some form of the proposed requirement was to be included in the Code it may be better located in Chapter 4. The submitter may propose the language to Chapter 4 where general requirements for the Code are located. In addition, some of the language proposed is not enforceable, such as the use of the word 'clearly'. It was also agreed that some fire protection systems, such as firestopping products, as noted in the submitter's substantiation, may not be selected in time to be shown on construction plans.



Public Input No. 480-NFPA 101-2018 [Section No. 8.2.3.1.1]

8.2.3.1.1

Materials used to construct fire resistance-rated elements and assemblies shall be limited to those permitted in this Code. Materials shall be installed to the listed designs and manufacturers installation instructions.

Statement of Problem and Substantiation for Public Input

There is no description in NFPA 101 about how materials shall be installed to provide hourly fire resistance-ratings. This proposal provides the appropriate language into the NFPA 101 for this section.

Submitter Information Verification

Submitter Full Name: William McHugh
Organization: Firestop Contractors Internati
Affiliation: National Fireproofing Contractors Association
Street Address:
City:
State:
Zip:
Submission Date: Wed Jun 27 15:43:48 EDT 2018
Committee: SAF-FIR

Committee Statement

Resolution: [FR-6575-NFPA 101-2018](#)

Statement: There is no description in NFPA 101 about how materials shall be installed to provide hourly fire resistance-ratings. This language provides the appropriate language into the NFPA 101 for this section. The text approved by the Technical Committee in this first revision addresses any alternative to the listed design or man installation instructions which may include a material solution or a listed and tested and system.



Public Input No. 444-NFPA 101-2018 [Section No. 8.2.4]

8.2.4 Analytical Methods (Prescriptive) .

8.2.4.1

Analytical methods utilized to determine the fire resistance rating of building assemblies shall comply with 8.2.4.2 through 8.2.4.5.

8.2.4.2*

Where calculations are used to establish the fire resistance rating of structural elements or assemblies, they shall be permitted to be performed in accordance with ASCE/SEI/SFPE 29, *Standard Calculation Methods for Structural Fire Protection*.

8.2.4.3

Where calculations are used to establish the fire resistance rating of concrete or masonry elements or assemblies, the provisions of ACI 216.1/TMS 0216.1, *Code Requirements for Determining Fire Resistance of Concrete and Masonry Construction Assemblies*, shall be permitted to be used.

8.2.4.4

Except for the methods specified in 8.2.4.2 and 8.2.4.3, analytical methods used to calculate the fire resistance of building assemblies or structural elements shall be approved.

8.2.4.5

Where an approved analytical method is utilized to establish the fire resistance rating of a structural element or building assembly, the calculations shall be based upon the fire exposure and acceptance criteria specified in ASTM E119, *Standard Test Methods for Fire Tests of Building Construction and Materials*, or ANSI/UL 263, *Standard for Fire Tests of Building Construction and Materials*. Accordingly, the calculations must be conducted on a component-by-component basis, and may not rely upon the anticipated in-situ thermal conditions from fire and/or the in-situ system-level performance of the structure.

8.2.5 Analytical Methods (Performance-Based).

8.2.5.1

Analytical methods utilized to determine the performance of structural systems under uncontrolled fire exposure shall comply with 8.2.5.2 through 8.2.5.4.

8.2.5.2

Analytical methods used to calculate the performance of structural systems under uncontrolled fire exposure shall be approved.

8.2.5.3*

Calculations must consider the anticipated in-situ thermal conditions from fire and the in-situ system-level performance of the structure. Accordingly, calculations shall not rely on measures of fire resistance as determined in 8.2.4.

A.8.2.5.3

Since the prescriptive method is an empirical indexing system that excludes consideration of thermal/structural in-situ conditions, measures of fire resistance are incompatible with metrics used to evaluate a performance-based approach.

8.2.5.4 . *

Calculations shall be in accordance with ASCE/SEI 7-16 Appendix E (*Performance-Based Design Procedures for Fire Effects on Structures*).

A.8.2.5.4

SFPE S.01 Standard on Calculating Fire Exposures to Structures provides a methodology on how to estimate the thermal exposure to a structure from a resulting fire. SFPE S.02 Engineering Standard on Calculation Methods to Predict the Thermal Performance of Structural and Fire Resistive Assemblies provides a methodology on how to determine the temperature history within a structure.

Statement of Problem and Substantiation for Public Input

The new version ASCE/SEI 7 Appendix E provides two methodologies to design structural fire protection for a structure. A prescriptive and performance-based approach. ASCE/SEI/SFPE 29, Standard Calculation Methods for Structural Fire Protection provides analytical methods to achieve the prescriptive requirements. The performance-based approach by definition also has analytical methods that are outlined in ASCE/SEI Appendix E. This performance-based approach requires three major steps: (1) determination of the thermal exposure to a structure resulting from a fire; (2) determination of the temperature history within the structure, or portion thereof; and (3) determination of the structural response. This methodology is outlined in ASCE/SEI 7-16 Appendix E (Performance-Based Design Procedures for Fire Effects on Structures). SFPE S.01 outlines a process to determine Step 1 and SFPE S.02 outlines a process to determine Step 2. Step 3 is described in ASCE/SEI 7-16 Appendix E.

Submitter Information Verification

Submitter Full Name: Chris Jelenewicz
Organization: Society of Fire Protection Eng
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 27 14:18:29 EDT 2018
Committee: SAF-FIR

Committee Statement

Resolution: Performance based requirements are addressed in Chapter 5. The proposed language may be more appropriate in the building code only or a different Chapter in 101 such as Chapter 4 or Chapter 5 but it was the consensus of the Technical Committee that it is out of place in Chapter 8. The Technical Committee did express interest in the topic but is unable to develop a revision based on the language at this time. The submitter is encouraged to resubmit language at the comment stage with refined language (use of proper Code language and manual of style issues.)



Public Input No. 463-NFPA 101-2018 [Section No. 8.3.3.2.2]

A large, empty rectangular box with a thin border, intended for public input or comments.

8.3.3.2.2 *

The minimum fire rating for opening protectives in fire barriers, fire-rated smoke barriers, and fire-rated smoke partitions shall be in accordance with Table 8.3.3.2.2, except as otherwise permitted in 8.3.3.2.3 or 8.3.3.2.4.

Reason: Even though the title of 8.3.3.2 and the title of Table 8.3.3.2.2 include the adjective "minimum", some stakeholders are interpreting the fire rating for opening protectives must match the rating identified in this table; and that an opening protective with a fire rating exceeding the minimum is not acceptable. Suggest inserting "minimum" here to help communicate it's perfectly acceptable to install opening protectives with fire ratings of longer duration than required.

Table 8.3.3.2.2 Minimum Fire Ratings for Opening Protectives in Fire Resistance–Rated Assemblies and Fire-Rated Glazing Markings

Component	Walls and Partitions (hr)	Fire Door Assemblies (hr)	Door Vision Panel Maximum Size (in. ²)	Fire-Rated Glazing Marking Door Vision Panel	Minimum Side Light/Transom Assembly Rating (hr)		Fire-Rated Glazing Marking Side Light/Transom Panel					
					Fire protection	Fire resistance	Fire protection	Fire resistance				
Elevator hoistways	2	1 1/2	155 in. ² c	D-H-90 or	NP	2	NP	D-H-W-120				
				D-H-W-90								
1 1	155 in. ² c	D-H-60 or	NP	1	NP	D-H-W-60	NP	1	NP	W-60		
											D-H-W-60	
Elevator lobby (per 7.2.13.4)	1 1/2	1 1/3	85 in. ² d	D-20 or D-W-20	1 1/3	1 1/3	D-H-20	D-W-20	1 1/3	1 1/3	OH-20	W-30
Elevator lobby (per 7.2.13.4)	1	1	100 in. ² a	D-H-T-60 or	NP	1	NP	D-H-W-60	NP	1	NP	W-60
Vertical shafts (including stairways, exits, and refuse chutes)	2	1 1/2	Maximum size tested	D-H-90 or	NP	2	NP	D-H-W-120	NP	2	NP	W-120
1 1	1	Maximum size tested	D-H-60 or	NP	1	NP	D-H-W-60	NP	1	NP	W-60	
												D-H-

<u>W-60</u>													
<u>Replacement panels in existing vertical shafts</u>	<u>1/2</u>	<u>1/3</u>	<u>Maximum size tested</u>	<u>D-20 or D-W-20</u>	<u>1/3</u>	<u>1/3</u>	<u>D-H-20</u>	<u>D-W-20</u>	<u>1/3</u>	<u>1/3</u>	<u>OH-20</u>	<u>W-30</u>	
<u>D-H-90 or</u>													
<u>Horizontal exits</u>	<u>2</u>	<u>1/2</u>	<u>Maximum size tested</u>		<u>NP</u>	<u>2</u>	<u>NP</u>	<u>D-H-W-120</u>	<u>NP</u>	<u>2</u>	<u>NP</u>	<u>W-120</u>	
<u>D-H-W-90</u>													
<u>D-H-45 or</u>													
<u>Horizontal exits served by bridges between buildings</u>	<u>2</u>	<u>3/4</u>	<u>Maximum size tested e</u>		<u>3/4 e</u>	<u>3/4 e</u>	<u>D-H-45</u>	<u>D-H-W-45</u>	<u>3/4</u>	<u>3/4</u>	<u>OH-45</u>	<u>W-120</u>	
<u>D-H-W-45</u>													
<u>D-H-45 or</u>													
<u>Exit access corridors f</u>	<u>1</u>	<u>1/3</u>	<u>Maximum size tested</u>	<u>D-20 or D-W-20</u>	<u>3/4</u>	<u>3/4</u>	<u>D-H-45</u>	<u>D-H-W-45</u>	<u>3/4</u>	<u>3/4</u>	<u>OH-45</u>	<u>W-60</u>	
<u>D-H-45 or</u>													
	<u>1/2</u>	<u>1/3</u>	<u>Maximum size tested</u>	<u>D-20 or D-W-20</u>	<u>1/3</u>	<u>1/3</u>	<u>D-H-20</u>	<u>D-H-W-20</u>	<u>1/3</u>	<u>1/3</u>	<u>OH-20</u>	<u>W-30</u>	
<u>≤100 in. 2,</u>													
<u>Other Fire barriers</u>	<u>3</u>	<u>3</u>	<u>100 in. 2 a</u>	<u>D-H-180 or</u>	<u>NP</u>	<u>3</u>	<u>NP</u>	<u>D-H-W-180</u>	<u>NP</u>	<u>3</u>	<u>NP</u>	<u>W-180</u>	
<u>D-H-W-180</u>													

<u>>100 in. 2,</u>													
<u>D-H-W-180</u>													

<u>D-H-90 or</u>													
<u>2</u>	<u>1/2</u>		<u>Maximum size tested</u>		<u>NP</u>	<u>2</u>	<u>NP</u>	<u>D-H-W-120</u>	<u>NP</u>	<u>2</u>	<u>NP</u>	<u>W-120</u>	
<u>D-H-W-90</u>													
<u>D-H-45 or</u>													
<u>1</u>	<u>3/4</u>		<u>Maximum size tested e</u>		<u>3/4 e</u>	<u>3/4 e</u>	<u>D-H-45</u>	<u>D-H-W-45</u>	<u>3/4</u>	<u>3/4</u>	<u>OH-45</u>	<u>W-60</u>	
<u>D-H-W-45</u>													
<u>D-H-45 or</u>													
	<u>1/2</u>	<u>1/3</u>	<u>Maximum size tested</u>	<u>D-20 or D-W-20</u>	<u>1/3</u>	<u>1/3</u>	<u>D-H-20</u>	<u>D-H-W-20</u>	<u>1/3</u>	<u>1/3</u>	<u>OH-20</u>	<u>W-30</u>	
<u>Smoke barriers f</u>	<u>1</u>	<u>1/3</u>	<u>Maximum size tested</u>	<u>D-20 or D-W-20</u>	<u>3/4</u>	<u>3/4</u>	<u>D-H-45</u>	<u>D-H-W-45</u>	<u>3/4</u>	<u>3/4</u>	<u>OH-45</u>	<u>W-60</u>	
<u>D-H-45 or</u>													
	<u>1/2</u>	<u>1/3</u>	<u>Maximum size tested</u>	<u>D-20 or D-W-20</u>	<u>1/3</u>	<u>1/3</u>	<u>D-H-20</u>	<u>D-H-W-20</u>	<u>1/3</u>	<u>1/3</u>	<u>OH-20</u>	<u>W-30</u>	
<u>Smoke partitions f,g</u>	<u>1</u>	<u>1/3</u>	<u>Maximum size tested</u>	<u>D-20 or D-W-20</u>	<u>3/4</u>	<u>3/4</u>	<u>D-H-45</u>	<u>D-H-W-45</u>	<u>3/4</u>	<u>3/4</u>	<u>OH-45</u>	<u>W-60</u>	

1/2 1/3 Maximum size tested D-20 or D-W-20 1/3 1/3 D-H-20 D-H-W-20 1/3 1/3 OH-20 W-30

For SI units, 1 in.² = 0.00064516 m².

NP: Not permitted.

^aFire resistance-rated glazing tested to ASTM E119, *Standard Test Methods for Fire Tests of Building Construction and Materials*, or ANSI/UL 263, *Standard for Fire Tests of Building Construction and Materials*, shall be permitted in the maximum size tested (see 8.3.3.6.8).

^bFire-rated glazing in exterior windows shall be marked in accordance with Table 8.3.3.6.3.

^cSee ASME A17.1/CSA B44, *Safety Code for Elevators and Escalators*, for additional information.

^dSee ASME A17.3, *Safety Code for Existing Elevators and Escalators*, for additional information.

^eMaximum area of individual exposed lights shall be 1296 in.² (0.84 m²), with no dimension exceeding 54 in. (1.37 m) unless otherwise tested. [80:Table 4.4.5 Note b and 80:4.4.5.1].

^fFire doors are not required to have a hose stream test per ANSI/UL 10B, *Standard for Fire Tests of Door Assemblies*, or ANSI/UL 10C, *Standard for Positive Pressure Fire Tests of Door Assemblies*.

^gFor residential board and care, see 32.2.3.1 and 33.2.3.1.

Statement of Problem and Substantiation for Public Input

Reason: Even though the title of 8.3.3.2 and the title of Table 8.3.3.2.2 include the adjective “minimum“, some stakeholders are interpreting the fire rating for opening protectives must match the rating identified in this table; and that an opening protective with a fire rating exceeding the minimum is not acceptable. Suggest inserting “minimum” here to help communicate it’s perfectly acceptable to install opening protectives with fire ratings of longer duration than required.

Submitter Information Verification

Submitter Full Name: Michael Tierney
Organization: Kellen Company
Affiliation: BHMA
Street Address:
City:
State:
Zip:
Submission Date: Wed Jun 27 15:13:01 EDT 2018
Committee: SAF-FIR

Committee Statement

Resolution: FR-6576-NFPA 101-2018

Statement: Even though the title of 8.3.3.2 and the title of Table 8.3.3.2.2 include the adjective “minimum“, some stakeholders are interpreting the fire rating for opening protectives must match the rating identified in this table; and that an opening protective with a fire rating exceeding the minimum is not acceptable. Suggest inserting “minimum” here to help communicate it’s perfectly acceptable to install opening protectives with fire ratings of longer duration than required. Text is consistent with the title and intent of the Table.



Public Input No. 465-NFPA 101-2018 [Section No. 8.3.3.2.4]

8.3.3.2.4

Where a 20-minute fire protection-rated door is required in existing buildings, an existing 1¾ in. (44 mm) solid-bonded wood-core door, an existing steel-clad (tin-clad) wood door, or an existing solid-core steel door with ~~positive latch and closer~~ shall be permitted, unless otherwise specified by Chapters 11 through 43.

~~These existing doors shall have a positive latch and a closer.~~

Statement of Problem and Substantiation for Public Input

Reason: Suggest revision to assure interpretation that a positive latch and a closer is applicable to all three types of existing doors listed.

Submitter Information Verification

Submitter Full Name: Michael Tierney
Organization: Kellen Company
Affiliation: BHMA
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 27 15:14:27 EDT 2018
Committee: SAF-FIR

Committee Statement

Resolution: [FR-6577-NFPA 101-2018](#)

Statement: This revision ensures that the Code is understood to mean that a positive latch and a closer is applicable to all three types of existing doors listed. Additional revisions were made to the text to comply with the NFPA Manual of Style.



Public Input No. 400-NFPA 101-2018 [Section No. 8.3.3.2.5]

8.3.3.2.5—*—

Openings required to have a fire protection rating by Table 8.3.3.2.2 shall be protected by approved, listed, and labeled fire door assemblies and fire window assemblies and their accompanying hardware, including all frames, closing devices, anchorage, and sills in accordance with the requirements of NFPA 80 except as otherwise specified in this Code.

Add new Annex content:

A.8.3.3.2.5 It is not the intent of the Code to diminish NFPA 80's requirements for fire door assemblies, or the manufacturers' listings for door frames, doors, and hardware products. For example, 8.3.3.3.4 recognizes that AHJs have the discretion of accepting non-labeled steel door frames in existing construction, without requiring the door frames to be field labeled; this condition is consistent with NFPA 80 (see A.4.2.1 in NFPA 80.)

Statement of Problem and Substantiation for Public Input

The phrase: "...except as otherwise specified in this Code" creates the impression that NFPA 101 can unilaterally, and without technical justification, modify the requirements of fire rated door assemblies as specified in NFPA 80. While this position might be supported by some, it bears mentioning that the actual listings of fire rated door frames, doors, and hardware are subject how the products were tested by one of the nationally recognized testing labs (e.g., Underwriters Laboratories, Intertek/Warnock Hersey, and FM Approvals). In fact, the manufacturers' listings take precedence even over NFPA 80's requirements. Case in point, there are numerous conditions in NFPA 80 where the phrase "...unless otherwise tested by the manufacturer" is used to defer to the listings of specific products. In other words, some of NFPA 80's for fire assemblies are general and subject to the capabilities and limitations of specific products as tested by the manufacturers.

It is possible that NFPA 101 can choose to ignore certain NFPA 80 fire door requirements, but it should be known that where the fire doors are permitted to have components other than those allowed by NFPA 80 (or otherwise vary from NFPA 80) or the listings of the doors, the fire ratings of those assemblies are invalidated. Neither the product manufacturers or the testing labs can be compelled to recognize those applications. More importantly, building owners cannot rely on such modified door assemblies to perform as intended (and tested) under fire conditions, and neither can NFPA 101.

In the case of NFPA 80's door safety inspections, any exceptions--even those permitted by NFPA 101--are considered deficiencies; all of which invalidate the fire ratings of the door assemblies.

For these reasons, this proposal seeks to clarify how NFPA 101 might, in a very limited manner, create exceptions to NFPA 80's requirements. In the cited example, AHJs can choose to except non-labeled steel door frames, which is, in fact, consistent with NFPA 80.

Alternatively, it might be wise to simply delete the phrase: "...except as otherwise specified in this Code" since NFPA 101 cannot override NFPA 80's requirements, the manufacturers' product listings, or the certifications/classifications of the testing labs.

Submitter Information Verification

Submitter Full Name: Keith Pardoe
Organization: Pardoe Consulting LLC
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 26 21:39:15 EDT 2018
Committee: SAF-FIR

Committee Statement

Resolution: The proposed Annex language is not needed as the text of Section 8.3.3.2.5 is clear. There are several exceptions in the Code, one being the permission to use 1 3/4" thick, solid-bonded wood-core doors in some health care applications, that represent an instance of a permission in the Code where an opening is permitted to be less than that required by Table 8.3.3.2.5. The proposed text as explained by the submitter's substantiation does not add any clarification to the application of the existing Code language.



Public Input No. 345-NFPA 101-2018 [Section No. 8.3.4.6.1]

8.3.4.6.1

Where piping penetrates a fire resistance-rated wall or floor assembly, combustible piping shall not connect to noncombustible piping ~~within 36 in. (915 mm) of the firestop system or device~~ unless it can be demonstrated that the transition will not reduce the fire resistance rating, except in the case of previously approved installations.

Statement of Problem and Substantiation for Public Input

The current text allowing a transition at 36 inches is not supported by fire testing. Some listings do contain a dimension and those should be permitted in accordance with the listing. There is no need to be further concerned about existing installations greater than 36 inches since the paragraph already permits previously approved installations.

Submitter Information Verification

Submitter Full Name: William Koffel
Organization: Koffel Associates, Inc.
Affiliation: Firestop Contractors International Association
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 26 10:20:41 EDT 2018
Committee: SAF-FIR

Committee Statement

Resolution: [FR-6578-NFPA 101-2018](#)

Statement: The current text allowing a transition at 36 inches is not supported by fire testing. Some listings do contain a dimension and those should be permitted in accordance with the listing. There is no need to be further concerned about existing installations greater than 36 inches since the paragraph already permits previously approved installations.



Public Input No. 25-NFPA 101-2018 [Section No. 8.3.5.3]

8.3.5.3 –

~~Joists made between a fire barrier and a non-fire-resistance-rated floor or roof sheathing, slab, or deck above shall be protected by an approved continuity head-of-wall joint system installed as tested in accordance with ASTM E2837, *Standard Test Method for Determining the Fire Resistance of Continuity Head-of-Wall Joint Systems Installed Between Rated Wall Assemblies and Nonrated Horizontal Assemblies*, and the system shall have an F rating and T rating of not less than the required fire resistance rating of the fire barrier.~~

Statement of Problem and Substantiation for Public Input

Why would the code mandate a rated joint between a fire rated wall and a non-rated roof or floor above?

As of 2-1-2017, there was ONLY 17 tested assemblies in the UL Online Certification Directory and not one assembly was tested for a fire rated wall that abuts a combustible roof deck or combustible floor above.

Any building using Type V construction would NOT be able to meet this requirement. A fire rated wall enclosing a hazardous area could not comply with the Life Safety Code as this is written.

There is nothing to be gained by adding this requirement. It is difficult to design and impossible to enforce since there aren't going to be anybody testing the assemblies.

Submitter Information Verification

Submitter Full Name: Peter Larrimer
Organization: US Department of Veterans Affa
Street Address:
City:
State:
Zip:
Submittal Date: Tue Feb 27 10:15:05 EST 2018
Committee: SAF-FIR

Committee Statement

Resolution: There are systems available that meet the provisions of 8.3.5.3. The current text is necessary and provides requirements for a safe installation for fire and smoke development. The intent of the current Code text ensures continuity of the fire barrier. ASTM E2387 addresses the condition between a rated and non-rated assembly. Without the current provisions of 8.3.5.3 there is no guidance on how to provide continuity in these designs. The manufacturer's personnel will write/provide judgements for conditions where installations may not be available.



Public Input No. 27-NFPA 101-2018 [Section No. 8.4.3.6]

8.4.3.6

Shutters that protect openings shall be automatic-closing upon operation of approved smoke detectors installed in ~~such a way as to detect smoke on either side of the opening in~~ accordance with the provisions of *NFPA 72*.

Statement of Problem and Substantiation for Public Input

Smoke detectors installed to make shutters automatic closing are not required to be installed to detect smoke on either side of the opening. The smoke partition in which the shutter is installed might be installed to protect smoke travel in only ONE direction. If that is the case, the smoke detector installation requirements in NFPA 72 are different and do not require that smoke is detected on either side as this paragraph states.

Submitter Information Verification

Submitter Full Name: Peter Larrimer
Organization: US Department of Veterans Affa
Street Address:
City:
State:
Zip:
Submittal Date: Tue Feb 27 10:37:15 EST 2018
Committee: SAF-FIR

Committee Statement

Resolution: [FR-6580-NFPA 101-2018](#)

Statement: Smoke detectors installed to make shutters automatic closing are not required to be installed to detect smoke on either side of the opening. The smoke partition in which the shutter is installed might be installed to protect smoke travel in only ONE direction. If that is the case, the smoke detector installation requirements in NFPA 72 are different and do not require that smoke is detected on either side as this paragraph states.



Public Input No. 10-NFPA 101-2018 [Section No. 8.4.6.4]

8.4.6.4 Smoke and Carbon Monoxide Detectors.

Dampers in air-transfer openings shall close upon detection of smoke by approved smoke and or Carbon Monoxide detectors installed in accordance with *NFPA 72*.

Statement of Problem and Substantiation for Public Input

Carbon Monoxide events are likely more hazardous than smoke events since CO is odorless and tasteless. Hence, it makes sense to also contain and control it.

Submitter Information Verification

Submitter Full Name: John Puskar
Organization: PuskarCo
Street Address:
City:
State:
Zip:
Submittal Date: Sun Feb 04 22:46:16 EST 2018
Committee: SAF-FIR

Committee Statement

Resolution: The proposed language permits "and/or" a CO detector. The proposed language also permits detection of smoke by a CO detector which is not accurate. The submitter's statement about CO events being more hazardous smoke events is not justified.



Public Input No. 11-NFPA 101-2018 [Section No. 8.5.5.4.1]

8.5.5.4.1

Air-conditioning, heating, ventilating ductwork, and related equipment, including smoke dampers and smoke control systems and combination fire and smoke dampers, and Carbon Monoxide sensing equipment shall be installed in accordance with NFPA 90A, NFPA 90B, NFPA 105, or NFPA 80, and 720 as applicable. Provisions shall be made to control Carbon Monoxide from being dispersed throughout facilities.

Statement of Problem and Substantiation for Public Input

There needs to be provisions in this code to address installing Carbon Monoxide sensors for at least critical areas where CO can be taken in by air handlers and dispersed throughout a facility.

Submitter Information Verification

Submitter Full Name: John Puskar
Organization: PuskarCo
Street Address:
City:
State:
Zip:
Submittal Date: Sun Feb 04 22:49:43 EST 2018
Committee: SAF-FIR

Committee Statement

Resolution: Standards referenced in this section do not cover CO equipment. Proposed last statement is not enforceable, provides little guidance to user on "provisions". See response and statement to PI #10.



Public Input No. 12-NFPA 101-2018 [Section No. 8.5.5.7]

8.5.5.7 Smoke and Carbon Monoxide Detectors.

8.5.5.7.1

Required smoke dampers in ducts penetrating smoke barriers shall close upon detection of smoke or Carbon Monoxide by approved smoke and or Carbon Monoxide detectors in accordance with *NFPA 72* unless one of the following conditions exists:

- (1) The ducts penetrate smoke barriers above the smoke barrier doors, and the door release detector actuates the damper.
- (2) Approved smoke detector or Carbon Monoxide detector installations are located within the ducts in existing installations.

8.5.5.7.2

Where a duct is provided on one side of the smoke barrier, the smoke and Carbon Monoxide detectors on the duct side shall be in accordance with 8.5.5.7.1.

8.5.5.7.3

Required smoke dampers in air-transfer openings shall close upon detection of smoke or Carbon Monoxide by approved smoke or Carbon Monoxide detectors in accordance with *NFPA 72*.

Statement of Problem and Substantiation for Public Input

Carbon Monoxide is as much or more of a life safety hazard than smoke since it is odorless and tasteless. It can be controlled in much the same ways that smoke is controlled if it is detected and connected to the same types of air movement controls.

Submitter Information Verification

Submitter Full Name: John Puskar
Organization: PuskarCo
Street Address:
City:
State:
Zip:
Submission Date: Sun Feb 04 22:57:46 EST 2018
Committee: SAF-FIR

Committee Statement

Resolution: The proposed language permits "and/or" a CO detector. The proposed language also permits detection of smoke by a CO detector which is not accurate. The submitter's statement about CO events being more hazardous smoke events is not justified.



Public Input No. 28-NFPA 101-2018 [Section No. 8.5.6.5]

8.5.6.5 –

In new construction, through penetrations shall be protected by an approved through-penetration firestop system installed and tested in accordance with the requirements of ANSI/UL 1479, *Standard for Fire Tests of Through-Penetration Firestops*, for air leakage and shall comply with one of the following:

- (1) A maximum $5 \text{ ft}^3 / \text{min per ft}^2$ ($0.025 \text{ m}^3 / \text{s per m}^2$) of penetration opening for each through-penetration firestop system
- (2) A maximum total cumulative leakage of $50 \text{ ft}^3 / \text{min}$ ($0.024 \text{ m}^3 / \text{s}$) for any 100 ft^2 (9.3 m^2) of wall area or floor area

Statement of Problem and Substantiation for Public Input

Section 8.5.6.5 is a new section that requires a leakage rating for all penetrations in all smoke barriers. However, a typical smoke barrier requires no leakage ratings for other components in the smoke barrier. Doors and HVAC duct work (smoke dampers) will allow leakage, but right next to them a penetration will have to be specifically designed so that it will not leak.

Typical smoke barrier doors are permitted to have small gaps all around the door and a $\frac{3}{4}$ inch gap at the floor level. To mandate penetrations to be sealed to such an extent and yet allow doors to have leakage does not make any sense. The existing verbiage required the penetration to restrict the transfer of smoke and nobody has shown that language to be problematic.

The code requires smoke leakage-rated doors only for occupant evacuation elevator lobby doors (7.14.9) and doors for areas of refuge (7.2.12.3.4.1). These locations would be the only places where leakage rated penetrations could be justified.

The expenses necessary to document this level of construction for all smoke barriers is not warranted.

Note: The New Healthcare Chapter 18.3.7.3 (3) and New Ambulatory Healthcare 20.3.7.7 added an exemption for this requirement. In addition, if a penetration in an existing smoke barrier was to be repaired, in accordance with 43.3 a leakage rating would not necessarily be required.

Note: Board and Care facilities will be negatively affected.

Submitter Information Verification

Submitter Full Name: Peter Larrimer
Organization: US Department of Veterans Affa
Street Address:
City:
State:
Zip:
Submittal Date: Tue Feb 27 10:42:26 EST 2018
Committee: SAF-FIR

Committee Statement

Resolution: The current code text quantifies leakage rates of systems. The language provides guidance to designers, installers and AHJs for how to protect barriers. This code text has merit and was discussed in great depth by the Technical Committee over the past few cycles prior to entering the Code. Listed systems are provided with air leakage values that can be used in the calculation.



Public Input No. 29-NFPA 101-2018 [Section No. 8.5.7.2]

8.5.7.2–2 Joints made within

~~, between,~~

~~or at the perimeter of smoke~~

~~barriers~~

~~barriers shall be protected with a joint system that is~~

~~tested in accordance with the requirements of ANSI/UL 2079, *Standard for Tests for Fire Resistance of Building Joint Systems*, for air leakage, and the L rating of the joint system shall not exceed 5 ft³/min per ft (0.00775 m³/s per m) of the joint.~~

~~capable of limiting the transfer of smoke~~

Statement of Problem and Substantiation for Public Input

This will delete the new 8.5.7.2 and return the 8.5.7.2 language to that which is in the 2015 edition. The modification shown to 8.5.7.3 will be eliminated returning the 8.5.7.3 language back to that which is in the 2015 edition.

Doors and HVAC duct work (smoke dampers) will allow leakage, but right next to them a penetration and a joint will have to be specifically designed so that it will not leak except as indicated.

Typical smoke barrier doors are permitted to have small gaps all around the door and a ¾ inch gap at the floor level. To mandate joints to be sealed to such an extent and yet allow doors to have leakage does not make any sense. The existing verbiage required the joints to restrict the transfer of smoke and nobody has shown that language to be problematic.

The expenses necessary to document this level of construction for all smoke barrier joints is not warranted. The old language was adequate and did not create any problems.

Submitter Information Verification

Submitter Full Name: Peter Larrimer

Organization: US Department of Veterans Affa

Street Address:

City:

State:

Zip:

Submittal Date: Tue Feb 27 10:46:52 EST 2018

Committee: SAF-FIR

Committee Statement

Resolution: The current code text quantifies leakage rates of systems. The language provides guidance to designers, installers and AHJs for how to protect barriers. This code text has merit and was discussed in great depth by the Technical Committee over the past few cycles prior to entering the Code. Listed systems are provided with air leakage values that can be used in the calculation.



Public Input No. 512-NFPA 101-2018 [New Section after 8.6.4.5]

TITLE OF NEW CONTENT

Type your content here ...

Add Section 8.6.4.6

Building joints shall not cross shafts unless specifically approved by the authority having jurisdiction.

Additional Proposed Changes

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
Building_Joint_Through_Stair_Enclosure_and_Utility_Shaft_with_Red-Dashed_Line_-_No_Room_ID_s.pdf	3-Page Example of Building Joint Through Exit Enclosure & Utility Shaft	

Statement of Problem and Substantiation for Public Input

The integrity of shafts is hard enough to maintain without adding the complexity of building joints that cross the shaft. Attached is a 3-page pdf file that shows such a case in which an exit enclosure and a utility shaft, both located side-by-side, share a common building joint.

Submitter Information Verification

Submitter Full Name: Raymond Battalora
Organization: The Univ of Texas at Austin Fire Prevention Services
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 27 17:12:49 EDT 2018
Committee: SAF-FIR

Committee Statement

Resolution: It is not clear why a designer needs to get approval for specific joint design. Adequate substantiation for the proposed text has not been provided.



Public Input No. 268-NFPA 101-2018 [Section No. 8.6.6]

8.6.6 Communicating Space.

Unless prohibited by Chapters 11 through 43, unenclosed floor openings forming a communicating space between floor levels shall be permitted, provided that the following conditions are met:

- (1) The communicating space does not connect more than three contiguous stories.
- (2) The lowest or next-to-lowest story within the communicating space is a street floor.
- (3) The entire floor area of the communicating space shall comply with one of the following:
 - (4) The area is open and unobstructed, such that a fire in any part of the space will be readily obvious to the occupants of the space prior to the time it becomes an occupant hazard.
 - (5) The area is open and provided with automatic smoke detection in accordance with Section 9.6.
- (6) The communicating space is separated from the remainder of the building by fire barriers with not less than a 1-hour fire resistance rating, unless one of the following is met:
 - (7) In buildings protected throughout by an approved automatic sprinkler system in accordance with Section 9.7, a smoke barrier in accordance with Section 8.5 shall be permitted to serve as the separation required by 8.6.6(4).
 - (8) The requirement of 8.6.6(4) shall not apply to fully sprinklered residential housing units of detention and correctional occupancies in accordance with 22.3.1(2) and 23.3.1.1(2).
- (9) The communicating space has ordinary hazard contents protected throughout by an approved automatic sprinkler system in accordance with Section 9.7 or has only low hazard contents. (See 6.2.2.)
- (10) Egress capacity is sufficient to allow all the occupants of all levels within the communicating space to simultaneously egress the communicating space by considering it as a single floor area in determining the required egress capacity.
- (11)* Each occupant within the communicating space has access to not less than one exit without having to traverse another story within the communicating space.
- (12) Each occupant not in the communicating space has access to not less than one exit without having to enter the communicating space.

Statement of Problem and Substantiation for Public Input

Providing smoke detection throughout the communicating space provides an equivalent level of life safety as that of an open area where fire is readily obvious to building occupants. Communicating spaces often are provided with smoke detection as an alternative measure due to the impracticality of meeting the existing requirement that a fire can be seen from all locations within the communicating space.

Submitter Information Verification

Submitter Full Name: Lennon Peake
Organization: Koffel Associates, Inc.
Street Address:
City:
State:
Zip:
Submission Date: Wed Jun 20 09:43:42 EDT 2018
Committee: SAF-FIR

Committee Statement

Resolution: [FR-6581-NFPA 101-2018](#)

Statement: Providing smoke detection throughout the communicating space provides an equivalent level of life safety as that of an open area where fire is readily obvious to building occupants. Communicating spaces often are provided with smoke detection as an alternative measure due to the impracticality of meeting the existing requirement that a fire can be seen from all locations within the communicating space.



Public Input No. 279-NFPA 101-2018 [Section No. 8.6.7]

A large, empty rectangular box with a thin black border, intended for public input or comments.

8.6.7 * Atriums.

Unless prohibited by Chapters 11 through 43, an atrium shall be permitted, provided that all of the following conditions are met:

- (1) The atrium is separated from the adjacent spaces by fire barriers with not less than a 1-hour fire resistance rating, with opening protectives for corridor walls, unless one of the following is met:
 - (2) The requirement of 8.6.7(1) shall not apply to existing, previously approved atriums.
 - (3) Any number of levels of the building shall be permitted to open directly to the atrium without enclosure, based on the results of the engineering analysis required in 8.6.7(5) .
 - (4)* Glass walls and inoperable windows shall be permitted in lieu of the fire barriers where all the following are met:
 - (5) Automatic sprinklers are spaced along both sides of the glass wall and the inoperable windows at intervals not to exceed 6 ft (1830 mm).
 - (6) The automatic sprinklers specified in 8.6.7(1)(c)i. are located at a distance from the glass wall not to exceed 12 in. (305 mm) and arranged so that the entire surface of the glass is wet upon operation of the sprinklers .
 - (7) The glass wall is of tempered, wired,

or laminated glass

- (a)
 - i. laminated or ceramic glass held in place by a gasket system that allows the glass framing system to deflect without breaking (loading) the glass before the sprinklers operate , which glass and framing system shall meet the acceptance criteria of NFPA 257 for 20 minutes with the hose stream test .

The

- (a)
 - i. If the glass is in a location hazardous to human impact, it shall comply with 16 C.F.R. section 1201 or ANSI Z97.1.
 - ii. The automatic sprinklers required by 8.6.7(1)(c)i. are not required on the atrium side of the glass wall and the inoperable window where there is no walkway or other floor area on the atrium side above the main floor level.
 - iii. Doors in the glass walls are of glass or other material that resists the passage of smoke.
 - iv. Doors in the glass walls are self-closing or automatic-closing upon detection of smoke.
 - v. The glass is continuous vertically, without horizontal mullions, window treatments, or other obstructions that would interfere with the wetting of the entire glass surface.
- (8) Access to exits is permitted to be within the atrium, and exit discharge in accordance with 7.7.2 is permitted to be within the atrium.
- (9) The occupancy within the atrium meets the specifications for classification as low or ordinary hazard contents. (See 6.2.2.)
- (10) The entire building is protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7.
- (11)* For other than existing, previously approved atriums, an engineering analysis is performed that demonstrates that the building is designed to keep the smoke layer interface above the highest unprotected opening to adjoining spaces, or 6 ft (1830 mm) above the highest floor level of exit access open to the atrium, for a period equal to 1.5 times the calculated egress time or 20 minutes, whichever is greater.
- (12)* For other than existing, previously approved smoke control systems, where an engineered smoke control system is installed to meet the requirements of 8.6.7(5), the system is independently activated by each of the following:
 - (13)Upon actuation of the required automatic sprinkler system within the atrium or areas open to the atrium
 - (14)Manual controls that are readily accessible to the fire department

Additional Proposed Changes

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
.1529953954669	nfpa 101-2018 atrium public input	
.1529954106654		

Statement of Problem and Substantiation for Public Input

The problems are that 1- ceramic glass is appropriate for these installations and is not included, 2- although a gasket/framing system is required that will enable the glass to survive deflection without breaking before (and presumably after) the sprinklers begin to operate, there is no test standard specified to provide any certainty that the glass and framing system will perform as required, and 3- if the glass and framing system is located in an area considered hazardous to human impact, there is no requirement that it meet either 16 C.F.R. section 1201 or ANSI Z97.1 to ensure that safety glazing is being installed in that location. The modifications proposed in this Public Input resolves each of these problems.

Submitter Information Verification

Submitter Full Name: Thomas Zaremba
Organization: Roetzel and Address
Affiliation: Self
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 20 16:16:11 EDT 2018
Committee: SAF-FIR

Committee Statement

Resolution: [FR-6597-NFPA 101-2018](#)

Statement: 8.6.7(1)(c)(iii): The revised text addresses and resolves the following issues: Ceramic glass is appropriate for these installations and is not included; Although a gasket/framing system is required that will enable the glass to survive deflection without breaking before (and presumably after) the sprinklers begin to operate, there is no test standard specified to provide any certainty that the glass and framing system will perform as required; If the glass and framing system is located in an area considered hazardous to human impact, there is no requirement that it meet either 16 C.F.R. section 1201 or ANSI Z97.1 to ensure that safety glazing is being installed in that location.

8.6.7(6) The phrase "initiation of a smoke detector" is added to the activation requirements for a smoke control system. Smoke control shall be activated by either a smoke detector or fire sprinkler system. Smoke detection, as a means to activate the smoke control system, provides earlier activation of the system which provides extended egress times. In many atria, the ceiling is high enough that a sprinkler in the atrium will have a very delayed activation, or may never activate, due to cooling of the smoke plume from entrainment of conditioned air. The fire would be significantly developed before the temperature near the ceiling will activate a sprinkler. Beam detectors across the atrium, or spot detectors in areas open to the atrium, provide significantly earlier activation of the smoke control system vs waiting for sprinkler activation. Adding smoke detection as an activation method correlates NFPA 101 section 8.6.7(6) with NFPA 101 section 9.3.4.1, which covers all smoke control systems required by other sections.



Public Input No. 419-NFPA 101-2018 [Section No. 8.6.7]

8.6.7* Atriums.

Unless prohibited by Chapters 11 through 43, an atrium shall be permitted, provided that all of the following conditions are met:

- (1) The atrium is separated from the adjacent spaces by fire barriers with not less than a 1-hour fire resistance rating, with opening protectives for corridor walls, unless one of the following is met:
 - (2) The requirement of 8.6.7(1) shall not apply to existing, previously approved atriums.
 - (3) Any number of levels of the building shall be permitted to open directly to the atrium without enclosure, based on the results of the engineering analysis required in 8.6.7(5) .
 - (4)* Glass walls and inoperable windows shall be permitted in lieu of the fire barriers where all the following are met:
 - (5) Automatic sprinklers are spaced along both sides of the glass wall and the inoperable windows at intervals not to exceed 6 ft (1830 mm).
 - (6) The automatic sprinklers specified in 8.6.7(1)(c)i. are located at a distance from the glass wall not to exceed 12 in. (305 mm) and arranged so that the entire surface of the glass is wet upon operation of the sprinklers.
 - (7) The glass wall is of tempered, wired, or laminated glass held in place by a gasket system that allows the glass framing system to deflect without breaking (loading) the glass before the sprinklers operate.
 - (8) The automatic sprinklers required by 8.6.7(1)(c)i. are not required on the atrium side of the glass wall and the inoperable window where there is no walkway or other floor area on the atrium side above the main floor level.
 - (9) Doors in the glass walls are of glass or other material that resists the passage of smoke.
 - (10) Doors in the glass walls are self-closing or automatic-closing upon detection of smoke.
 - (11) The glass is continuous vertically, without horizontal mullions, window treatments, or other obstructions that would interfere with the wetting of the entire glass surface.
- (12) Access to exits is permitted to be within the atrium, and exit discharge in accordance with 7.7.2 is permitted to be within the atrium.
- (13) The occupancy within the atrium meets the specifications for classification as low or ordinary hazard contents. (See 6.2.2.)
- (14) The entire building is protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7.
- (15)* For other than existing, previously approved atriums, an engineering analysis is performed that demonstrates that the building is designed to keep the smoke layer interface above the highest unprotected opening to adjoining spaces, or 6 ft (1830 mm) above the highest floor level of exit access open to the atrium, for a period equal to 1.5 times the calculated egress time or 20 minutes, whichever is greater.
- (16)* For other than existing, previously approved smoke control systems, where an engineered smoke control system is installed to meet the requirements of 8.6.7(5), the system is independently activated by each of the following:
 - (17) Upon actuation of the smoke detection or required automatic sprinkler system within the atrium or areas open to the atrium
 - (18) Manual controls that are readily accessible to the fire department

Statement of Problem and Substantiation for Public Input

First, it is important the we add "smoke detector" to the activation requirements for a smoke control system. Smoke Control shall be activated by either a smoke detector or fire sprinkler system. The following details support this:

- 1) Smoke detection, as a means to activate the smoke control system, provides earlier activation of the system which provides extended egress times.
- 2) In many atria, the ceiling is high enough that a sprinkler in the atrium will have a very delayed activation, or may never activate, due to cooling of the smoke plume from entrainment of conditioned air. The fire would be significantly developed before the temperature near the ceiling will activate a sprinkler. Beam detectors across the atrium, or spot detectors in areas open to the atrium, provide significantly earlier activation of the smoke control system vs waiting for sprinkler activation.
- 3) Adding smoke detection as an activation systems method correlates NFPA 101 section 8.6.7(6) with NFPA 101 section 9.3.4.1, which covers all smoke control systems required by other sections.

Submitter Information Verification

Submitter Full Name: Daniel Finnegan
Organization: Siemens Industry Inc
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 27 12:03:48 EDT 2018
Committee: SAF-FIR

Committee Statement

Resolution: [FR-6597-NFPA 101-2018](#)

Statement: 8.6.7(1)(c)(iii): The revised text addresses and resolves the following issues: Ceramic glass is appropriate for these installations and is not included; Although a gasket/framing system is required that will enable the glass to survive deflection without breaking before (and presumably after) the sprinklers begin to operate, there is no test standard specified to provide any certainty that the glass and framing system will perform as required; If the glass and framing system is located in an area considered hazardous to human impact, there is no requirement that it meet either 16 C.F.R. section 1201 or ANSI Z97.1 to ensure that safety glazing is being installed in that location.

8.6.7(6) The phrase "initiation of a smoke detector" is added to the activation requirements for a smoke control system. Smoke control shall be activated by either a smoke detector or fire sprinkler system. Smoke detection, as a means to activate the smoke control system, provides earlier activation of the system which provides extended egress times. In many atria, the ceiling is high enough that a sprinkler in the atrium will have a very delayed activation, or may never activate, due to cooling of the smoke plume from entrainment of conditioned air. The fire would be significantly developed before the temperature near the ceiling will activate a sprinkler. Beam detectors across the atrium, or spot detectors in areas open to the atrium, provide significantly earlier activation of the smoke control system vs waiting for sprinkler activation. Adding smoke detection as an activation method correlates NFPA 101 section 8.6.7(6) with NFPA 101 section 9.3.4.1, which covers all smoke control systems required by other sections.



Public Input No. 267-NFPA 101-2018 [Section No. 8.7.1.1]

8.7.1.1 *

Protection from any area having a degree of hazard greater than that normal to the general occupancy of the building or structure shall be provided by one of the following means:

- (1) Enclosing the area with a fire barrier without windows to the interior of the building that has a 1-hour fire resistance rating in accordance with Section 8.3
- (2) Protecting the area with automatic extinguishing systems in accordance with Section 9.7
- (3) Applying both 8.7.1.1(1) and 8.7.1.1(2) where the hazard is severe or where otherwise specified by Chapters 11 through 43

Statement of Problem and Substantiation for Public Input

The PI intends to clarify that a 1-hour fire resistance rated hazardous area is permitted to be provided with a window in an exterior wall.

Submitter Information Verification

Submitter Full Name: Lennon Peake
Organization: Koffel Associates, Inc.
Street Address:
City:
State:
Zip:
Submission Date: Wed Jun 20 09:40:56 EDT 2018
Committee: SAF-FIR

Committee Statement

Resolution: [FR-6585-NFPA 101-2018](#)

Statement: This revision intends to clarify that a 1-hour fire resistance rated hazardous area is permitted to be provided with a window in an exterior wall. The text clarifies that the hazardous area should be separated from portions of the interior of the building (see language in 7.1.3.2 for exit enclosures). This requirement, as written in the current code is more restrictive than an exit as it requires full enclosure, which could be interpreted to mean providing enclosure even on exterior walls, which was not the intent of the provision. Additional revisions were made to the original submittal to clarify the intent and still address the submitter's request.



Public Input No. 328-NFPA 101-2018 [New Section after 8.7.1.3]

8.7.1.3.1

Except as prohibited by Chapters 11-43, doors with existing nonrated, factory- or field-applied protective plates extending not more than 48 in. (1220 mm) above the bottom of the door shall be permitted, provided they are installed in accordance with the door manufacturer's published listing .

Statement of Problem and Substantiation for Public Input

Doors to hazardous areas are subject to a significant amount of abuse which can threaten the integrity of the fire rating of the door. Protective plates can provide impact resistance which prevents degradation of the doors. Although fire rated accessory protective plates exist which are suitable for installation on these doors, frequently they are overlooked non-rated plates are installed. They are still found in relatively new buildings where the correct product was overlooked when installed. Once installed, these products are permitted to remain in existing health care occupancies under 19.3.2.1.4, however in all other occupancies, they must be removed and/or replaced with the proper rated product. This creates two issues. First removing the protective plates typically leaves holes in the door, which NFPA 80 requires to be filled with a like material (steel screws or rated filling product). The large number of screws typically used to install the protective plate create a significant number of holes to be filled, which in practice is typically done by using the screws that were already used to install the non-compliant protective plate. Second, if the non-rated protective plate is not replaced with a suitable rated product after it is removed, it leaves the door unprotected and subject to damage, which can degrade the fire rating of the door. Logically, it does not make sense to allow these to remain in health care, one of the occupancies with the most stringent requirements, where many occupants are incapable of self-preservation, but require them to be removed in all other occupancies.

Many times in hospitals, separated health care, business, industrial, and storage occupancies can exist in the same building, be subject to the same wear and tear and abuse by staff, and have to meet less stringent requirements in the health care portions of the building. Further to this, the general philosophy of the code does not require existing installations to be upgraded unless they pose a serious hazard to occupants in the building, which is further reiterated in 2.1(3).

The existing requirement of 19.3.2.1.4 is also inconsistent with the requirements of NFPA 80, as it fails to take into account that non-labeled protective plates may have been factory installed, may be secured to the door in an incorrect manor (screws vs adhesives), or may be constructed of non-compliant materials. The issue of whether the door is classified as having builders hardware or fire door hardware is not addressed. The last part of this new section takes into account that the plate must be installed in accordance with the manufacturer's requirements.

This exception should apply to all occupancies, thus should be removed from chapter 19, and added to chapter 8. The new language allows for individual occupancy chapters to supersede this requirement should they deem it a severe hazard. Alternatively the exception could be added to the chapters for existing business, industrial, and storage occupancies (for existing conditions only), as these are the most applicable occupancies that encounter this issue.

Related Public Inputs for This Document

<u>Related Input</u>	<u>Relationship</u>
<u>Public Input No. 377-NFPA 101-2018 [Section No. 19.3.2.1.4]</u>	If PI-328 is accepted, PI-377 shall also be accepted. Disregard PI-377 if PI-328 is not accepted.

Submitter Information Verification

Submitter Full Name: Adam Graybeal
Organization: Koffel Associates Inc
Street Address:
City:
State:
Zip:

Submittal Date: Mon Jun 25 20:54:39 EDT 2018

Committee: SAF-FIR

Committee Statement

Resolution: FR-6586-NFPA 101-2018

Statement: Doors to hazardous areas are subject to a significant amount of abuse which can threaten the integrity of the fire rating of the door. Protective plates can provide impact resistance which prevents degradation of the doors. Although fire rated accessory protective plates exist which are suitable for installation on these doors, frequently they are overlooked non-rated plates are installed. They are still found in relatively new buildings where the correct product was overlooked when installed. Once installed, these products are permitted to remain in existing health care occupancies under 19.3.2.1.4, however in all other occupancies, they must be removed and/or replaced with the proper rated product. This creates two issues. First removing the protective plates typically leaves holes in the door, which NFPA 80 requires to be filled with a like material (steel screws or rated filling product). The large number of screws typically used to install the protective plate create a significant number of holes to be filled, which in practice is typically done by using the screws that were already used to install the non-compliant protective plate. Second, if the non-rated protective plate is not replaced with a suitable rated product after it is removed, it leaves the door unprotected and subject to damage, which can degrade the fire rating of the door. Logically, it does not make sense to allow these to remain in health care, one of the occupancies with the most stringent requirements, where many occupants are incapable of self-preservation, but require them to be removed in all other occupancies.

Many times in hospitals, separated health care, business, industrial, and storage occupancies can exist in the same building, be subject to the same wear and tear and abuse by staff, and have to meet less stringent requirements in the health care portions of the building. Further to this, the general philosophy of the code does not require existing installations to be upgraded unless they pose a serious hazard to occupants in the building, which is further reiterated in 2.1(3).

The existing requirement of 19.3.2.1.4 is also inconsistent with the requirements of NFPA 80, as it fails to take into account that non-labeled protective plates may have been factory installed, may be secured to the door in an incorrect manor (screws vs adhesives), or may be constructed of non-compliant materials. The issue of whether the door is classified as having builders hardware or fire door hardware is not addressed. The last part of this new section takes into account that the plate must be installed in accordance with the manufacturer's requirements.

This exception should apply to all occupancies, thus should be removed from chapter 19, and added to chapter 8. The new language allows for individual occupancy chapters to supersede this requirement should they deem it a severe hazard. Alternatively the exception could be added to the chapters for existing business, industrial, and storage occupancies (for existing conditions only), as these are the most applicable occupancies that encounter this issue.



Public Input No. 475-NFPA 101-2018 [Section No. A.8.2.3.1]

A.8.2.3.1

ASTM E119, *Standard Test Methods for Fire Tests of Building Construction and Materials*, and ANSI/UL 263, *Standard for Fire Tests of Building Construction and Materials*, are considered nationally recognized methods of determining fire resistance and have been found to yield equivalent test results. Materials used to construct fire resistance-rated elements and assemblies include spray fire-resistive materials (SFRM), intumescent fire-resistive materials (IFRM) and other materials conforming to 8.2.3.2. The materials are installed and inspected in accordance with a listed design or engineering judgement and manufacturers installation instructions that describes the thickness, type or other characteristics of materials required to meet the fire resistance-rating.

Statement of Problem and Substantiation for Public Input

Nowhere in NFPA 101 is there a description of the materials used to construct fire resistance-rated elements and assemblies according to ASTM E 119 or UL 263. This adds annex material that describes the materials used in listed designs.

Submitter Information Verification

Submitter Full Name: William McHugh
Organization: Firestop Contractors International Association
Affiliation: National Fireproofing Contractors Association
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 27 15:34:18 EDT 2018
Committee: SAF-FIR

Committee Statement

Resolution: FR-6587-NFPA 101-2018

Statement: NFPA 101 does not contain a description of the materials used to construct fire resistance-rated elements and assemblies according to ASTM E 119 or UL 263. This revision adds annex material that describes the materials used in listed designs. The text adds "and systems" to the proposed text and revises some of the terminology to be inclusive of various installations and procedures.