

ICC CODE TECHNOLOGY COMMITTEE
Area of Study — Labeling of Fire Rated Glazing

Code Change History for 2006 IBC
Section 715 Opening Protectives

October 31, 2008

2006 IBC	2003 IBC	2000 IBC	APPLICABLE CODE CHANGES			
			2000 & 2001 (pg 4)	2002 (pg 6)	03/04 (pg 14)	04/05 (pg 22)
715.1 General	715.1	714.1				
715.2 Fire-resistance-rated glazing	715.2	————		FS43		
715.3 Alternative methods for determining fire protection ratings	————	————				
715.4 Fire door and shutter assemblies	715.3	714.2	E38-01			
Table 715.4 Fire Door and Fire Shutter Fire Protection Ratings	T 715.3	T 714.2		FS45	FS69	FS107
715.4.1 Side-hinged or pivoted swinging doors	715.3.1	714.2.1				
715.4.2 Other types of doors	715.3.2	714.2.2				
715.4.3 Door assemblies in corridors and smoke barriers	715.3.3	714.2.3		FS46	FS72 FS75	FS109
715.4.3.1 Smoke and draft control	————	————				FS109
715.4.3.2 Glazing in door assemblies	————	————				FS109
715.4.4 Doors in exit enclosures and exit passageways	715.3.4	714.2.4	FS32-00			
715.4.4.1 Glazing in doors	715.3.4.1	714.2.4.1				
715.4.5 Labeled protective assemblies	715.3.5	714.2.5		FS124		
715.4.5.1 Fire door labeling requirements	715.3.5.1	714.2.5.1		FS124	FS31	
715.4.5.2 Oversized doors	715.3.5.2	714.2.5.2				
715.4.5.3 Smoke and draft control door labeling requirements	715.3.5.3	————		FS124		
715.4.5.4 Fire door frame labeling requirements	715.3.5.4			FS124		
715.4.6 Glazing material	715.3.6	714.2.6				
715.4.6.1 Size limitations	715.3.6.1	714.2.6.1				
715.4.6.2 Exit and elevator protectives	715.3.6.2	714.2.6.2				
715.4.6.3 Labeling	715.3.6.3	714.2.6.3			FS78	
715.4.6.3.1 Identification	————	————			FS78	

2006 IBC	2003 IBC	2000 IBC	APPLICABLE CODE CHANGES			
			2000 & 2001 (pg 4)	2002 (pg 6)	03/04 (pg 14)	04/05 (pg 22)
715.4.6.4 Safety glazing	715.3.6.4	714.2.6.4				
715.4.7 Door closing	715.3.7	714.2.7				
715.4.7.1 Latch required	715.3.7.1	714.2.7.1				
715.4.7.2 Automatic-closing fire door assemblies	715.3.7.2	714.2.7.2				
715.4.7.3 Smoke-activated doors	715.3.7.3	714.2.7.3				
715.4.7.4 Doors in pedestrian ways	715.3.7.4	714.2.7.4				
715.4.8 Swinging fire shutters	715.3.8	714.2.8				
715.4.9 Rolling fire shutters	715.3.9	714.2.9				
715.5 Fire-protection-rated glazing	715.4	714.3	E38-01	FS45 FS54	FS15	
Table 715.5 Fire Window Assembly Fire Protection Ratings	Table 715.4	_____		FS45	FS15	FS116
715.5.1 Testing under positive pressure	715.4.1	714.3.1				
715.5.2 Nonsymmetrical glazing systems	715.4.2	_____		FS55		
715.5.3 Wired glass	715.4.3	714.3.2				
Table 715.5.3 Limiting Sizes of Wired Glass Panels	T715.4.3	T714.3.2				
715.5.4 Nonwired glass	715.4.4	714.3.3				
715.5.5 Installation	715.4.5	714.3.4				
715.5.6 Window mullions	715.4.6	714.3.5				
715.5.7 Interior fire window assemblies	715.4.7	714.3.6				
715.5.7.1 Where permitted	715.4.7.1	714.3.6.1				
715.5.7.2 Size limitations	715.4.7.2	714.3.6.2				
_____	715.4.8*	714.3.7			FS15	
_____	_____	714.3.8**		FS56		
715.5.8 Labeling requirements	715.4.9	714.3.9		FS56	FS80	
715.5.8.1 Identification	_____				FS80	

* Exterior fire window assemblies (deleted in 2006)

** Fire resistance rated glazing (relocated/revised in 2003 to 714.2)

2000 CYCLE
(Change to 2000 IBC)

Code Change No: FS32-00

Original Proposal

Section: 714.2.4

Proponent: Anne vonWeller, Murray City, UT

Revise as follows:

714.2.4 Doors in vertical exit enclosures and exit passageways. Fire door assemblies in vertical exit enclosures and exit passageways shall have a maximum transmitted temperature end point of not more than 450°F (250°C) above ambient at the end of 30 minutes of standard fire test exposure.

Exception: The maximum transmitted temperature end point is not required in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

Reason: For consistency of terms with Section 706 and Chapter 10.

Public Hearing Results

FS32-00

Committee Action:

Approval as Submitted

Committee Reason: Based on proponent's published reason.

Assembly Action:

No Motion

Final Hearing Action

FS32-00

AS

2001 CYCLE

(Change to 2000 IBC)

Code Change No: **E38-01**

Original Proposal

Table 1004.3.2.1, Table 714.2 & 714.3 (IFC Table 1004.3.2.1)

Proponent: Thomas Zaremba, Roetzel and Andress/Wired Glass Industry

1. Revise Table 1004.3.2.1 as follows:

**TABLE 1004.3.2.1
CORRIDOR FIRE-RESISTANCE RATING**

OCCUPANCY	OCCUPANT LOAD SERVED BY CORRIDOR	REQUIRED FIRE-RESISTANCE RATING (hours)	
		Without sprinkler system	With sprinkler system ^c
H-1, H-2, H-3	All	1	1
H-4, H-5	Greater than 30	1	1
A, B, E, F, M, S, U	Greater than 30	1	0
R	Greater than 10	1	4 <u>0.5</u>
I-2a, I-4	All	Not Permitted	0
I-1, I-3	All	Not Permitted	1 ^d

- a. For requirements for occupancies in Group I-2, see Section 407.3.
- b. For a reduction in the fire-resistance rating for occupancies in Group I-3, see Section 408.7.
- c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

2. Revise Table 714.2 as follows:

**TABLE 714.2
OPENING PROTECTIVE FIRE-PROTECTIVE RATINGS**

Type of Assembly	Required Assembly Rating (hours)	Minimum Opening Protection Assembly (hours)
Fire walls and fire barriers having a required fire-resistance rating greater than 1 hour	4 3 2 1 ½	3 3 ^b 1 ½ 1 ½
Fire barriers of 1-hour fire resistance-rated construction:		
Shaft and exit enclosure walls	1	1
Other fire barriers	1	3/4

Type of Assembly	Required Assembly Rating (hours)	Minimum Opening Protection Assembly (hours)
Fire partitions: Exit access corridor enclosure wall	1 <u>0.5</u>	0.33 ^a <u>0.33^a</u>
Other fire partitions	1	3/4
Exterior walls	3 2 1	1 ½ 1 ½ 3/4

a. For testing requirements, see Section 714.2.3.

b. Two doors, each with a fire-protection rating of 1.5 hours, installed on opposite sides of the same opening in a fire wall, shall be deemed equivalent in fire-protection rating to one 3-hour fire door.

3. Revise Section 714.3 as follows:

714.3 Fire-protection-rated glazing. Glazing in fire window assemblies shall be fire-protection rated in accordance with this section. Glazing in fire doors shall comply with Section 714.2.6. Fire-protection-rated glazing installed as an opening protective in fire partitions and fire barriers shall be tested in accordance with and shall meet the acceptance criteria of NFPA 257 for a fire-protection rating of 45 minutes. Fire-protection-rated glazing shall also comply with NFPA 80. Fire-protection-rated glazing required in accordance with Section 704.12 for exterior wall opening protection shall be tested in accordance with and shall meet the acceptance criteria of NFPA 257 for a fire-protection rating as required in Section 714.3.6.

Exceptions:

1. Wired glass in accordance with Section 714.3.2.
2. Fire protection rated glazing in 0.5-hour fire resistance rated partitions are permitted to have a 0.33-hour fire-protection rating.

Reason: Table 1004.3.2.1: A reduction in the corridor separation is justifiable for R Occupancies when a complete automatic sprinkler system is installed. The National Building Code, the Standard Building Code and NFPA 101, Life Safety Code, have allowed a ½-hour reduction for corridor partitions in sprinklered buildings for many years without adverse experience.

Table 714.2: This is a companion change to a revision to Table 1004.3.2.1. Table 1004.3.2.1 is being revised to allow a ½ hour fire resistance rating for corridor partitions in sprinklered R Occupancies.

714.3: According to Section 709.5, opening protectives in smoke barriers are required to have a 20-minute fire-protection rating. The proposed revision will establish correlation between Sections 709 and 714.3. This is also a companion change to a revision proposed to Table 1004.3.2.1. Table 1004.3.2.1 is being revised to allow a ½ hour fire resistance rating for corridor partitions in sprinklered R Occupancies.

Public Hearing Results

E38-01

Committee Action:

Approved as Submitted

Committee Reason: The proposed ½ hour separation would be sufficient for egress purposes. Also the sound insulation requirement for Group R occupancies adds to the fire resistance of the dwelling unit separation walls. The ½ hour requirement has been in other model codes for many years.

Assembly Action:

No Motion

Final Hearing Action

E38-01

AS

2002 CYCLE
(Change to 2000 IBC)

Code Change No: **FS43-02**

Original Proposal

Section: 714.2 (New)

Proponent: William E. Koffel, PE, Koffel Associates, Inc.; representing GICC

Add new text as follows:

714.2 Fire-resistance-rated glazing. Labeled fire-resistance-rated glazing tested as part of a fire-resistance-rated wall assembly in accordance with ASTM E 119 shall not be required to comply with this section.

(Re-number remaining)

Reason: Section 714.3.8 already addresses fire-resistance-rated glazing and states that such materials need not comply with Section 714.3. However, such glazing assemblies are not within the scope of NFPA 80 or any of the provision of Section 714.3. By inserting the requirement for labeling in the beginning of the proposed new section the provisions of Section 714.3.9 are also addressed. The more specific details of the label in Section 714.3.9 are already included in Section 1703.5. Companion changes have also been submitted to revise Section 714.3.8 and 714.3.9.

Public Hearing Results

FS43-02

Editorial note: The proponent represents "Pilkington".

Committee Action:

Approved as Submitted

Committee Reason: Based on proponent's published reason.

Assembly Action:

No Motion

Final Hearing Action

FS43-02

AS

Code Change No: FS45-02

Original Proposal

Tables: 714.2; 714.3

Proponent: Gregory R. Keith, Professional heuristic Development; representing The Boeing Company

1. Revise as follows:

**TABLE 714.2 (Supp)
OPENING-PROTECTIVE FIRE DOOR AND FIRE SHUTTER FIRE-PROTECTIVE RATINGS**

Type of Assembly	Required Assembly Rating (hours)	Minimum Opening Protection Fire Door and Fire Shutter Assembly Rating (hours)
Fire walls and fire barriers having a required fire-resistance rating greater than 1 hour	4 3 2 1 ½	3 3 ^a 1 ½ 1 ½
Fire barriers <u>having a required fire-resistance rating</u> of 1-hour fire resistance-rated construction:		
Shaft and exit enclosure <u>and exit passageway</u> walls	1	1
Other fire barriers	1	¾
Fire partitions: Exit access corridor enclosure walls	1 0.5	0.33 ^a 1/3 ^b 0.33 ^a 1/3 ^b
Other fire partitions	1	¾
Exterior walls	3 2 1	1 ½ 1 ½ ¾

- b. a. Two doors, each with a fire-protection rating of 4-5-1½ hours, installed on opposite sides of the same opening in a fire wall, shall be deemed equivalent in fire-protection rating to one 3-hour fire door.
- a. b. For testing requirements, see Section 714.2.3.

2. Revise as follows:

714.3 (Supp) Fire-protection-rated glazing. Glazing in fire window assemblies shall be fire-protection rated in accordance with this section and Table 714.3. Glazing in fire doors shall comply with Section 714.2.6. Fire-protection-rated glazing installed as an opening protective in fire partitions and fire barriers shall be tested in accordance with and shall meet the acceptance criteria of NFPA 257 for a fire-protection rating of 45 minutes. Fire-protection-rated glazing shall also comply with NFPA 80. Fire-protection-rated glazing required in accordance with Section 704.12 for exterior wall opening protection shall be tested in accordance with and shall meet the acceptance criteria of NFPA 257 for a fire-protection rating as required in Section 714.3.7.

Exceptions: (No change to current text)

3) Add new table as follows (underlining omitted for clarity):

**TABLE 714.3
FIRE WINDOW ASSEMBLY FIRE-PROTECTION RATINGS**

TYPE OF ASSEMBLY	REQUIRED ASSEMBLY RATING (hours)	MINIMUM FIRE WINDOW ASSEMBLY RATING (hours)
Interior walls:		
Fire walls	All	NP ^a
Fire barriers and fire partitions	> 1 1	NP ^a $\frac{3}{4}$
Smoke barriers	1	$\frac{3}{4}$
Exterior walls	>1 1	1 $\frac{1}{2}$ $\frac{3}{4}$
Party walls	All	NP

a. Not permitted except as specified in Section 714.3.8.

Reason: The current title of Table 714.2 is misleading. Section 714 provides the technical requirements for all types of opening protectives. Section 714.2 and Table 714.2 specifically govern only fire door and fire shutter assemblies. The casual or uninformed user may infer from the present title of Table 714.2 that the table provides the rating requirements for all opening protective assemblies. The proposed title correctly identifies the actual scope of Table 714.2. The other proposed changes to Table 714.2 are editorial in nature and are intended to more accurately articulate applicable technical requirements.

Proposed Table 714.3 consolidates the various opening protection rating requirements for fire-protection rated glazing. The tabular format greatly assists users in determining fire door and fire shutter rating requirements with Table 714.2. The proposed Table 714.3 provides users with a similar "one-stop shop" when determining fire window rating requirements. The values indicated in the table are based on the rating requirements contained in Sections 705.8, 714.3.8, 714.3.6, 714.3, 714.3.7 and 503.2 and 705.1.

With so many sections governing fire window rating provisions, a single table that consolidates the various requirements will greatly assist users and reduce the likelihood for error in the determination of fire window rating requirements.

Public Hearing Results

FS45-02

Editorial note: Revise table title to read "Fire Door and Fire Shutter Fire-Protection Ratings"

Committee Action:

Approved as Submitted

Committee Reason: Based on proponent's published reason.

Assembly Action:

No Motion

Final Hearing Action

FS45-02

AS

Code Change No: FS46-02

Original Proposal

Section: 714.2.3

Proponent: Gregory J. Cahanin, Cahanin Fire Code Consulting; representing Building Performance Research Institute

Revise as follows:

714.2.3 ~~Doors~~ Door assemblies in corridors and smoke barriers. Fire ~~doors~~ door assemblies required to have a minimum fire-protection rating of 20 minutes where located in corridor walls or smoke barrier walls having a fire-resistance rating in accordance with Table 714.2 shall be tested in accordance with NFPA 252 or UL 10C without the hose stream test. If a 20-minute ~~fire door~~ or fire door assembly contains glazing material, the glazing material in the door itself shall have a minimum fire-protection rating of 20 minutes and be exempt from the hose stream test. Glazing material in any other part of the door assembly, including transom lites and sidelites, shall be tested in accordance with NFPA 257, including the hose stream test, in accordance with Section 714.3. Fire ~~doors~~ door assemblies shall also meet the requirements for a smoke- and draft-control door assembly tested in accordance with UL 1784 with an artificial bottom seal installed across the full width of the bottom of the door assembly. The air leakage rate of the door assembly shall not exceed 3.0 cfm per square foot (0.01524 m3/slm2) of door opening at 0.10 inch (24.9 Pa) of water for both the ambient temperature and elevated temperature tests. Louvers shall be prohibited.

Exceptions:

1. Viewports that require a hole not larger than 1 inch (25.4 mm) in diameter through the door, have at least a 0.25-inch-thick (6.4 mm) glass disc and the holder is of metal that will not melt out where subject to temperatures of 1,700°F (927°C).
2. Corridor ~~doors~~ door assemblies in occupancies of Group I-2 shall be in accordance with Section 407.3.1.
3. Unprotected openings shall be permitted for corridors in multitheater complexes where each motion picture auditorium has at least one-half of its required exit or exit access doorways opening directly to the exterior or into an exit passageway.

Reason: This change provides consistency in language for door opening protectives. In 714.2 approved fire door assemblies are first referenced. Rated doors are tested and installed as a part of an assembly that includes the door, frame, hardware, and other components necessary to obtain the listing. The exception for viewports in a door is consistent with NFPA 80, which is referenced in 714.2.

Public Hearing Results

**FS46-02
Committee Action:**

Approved as Submitted

Committee Reason: Based on proponent's published reason.

Assembly Action:

No Motion

Final Hearing Action

FS46-02

AS

Code Change No: **FS54-02**

Original Proposal

Section: 714.3

Proponent: William E. Koffel, PE, Koffel Associates, Inc.; representing GICC

Revise as follows:

714.3 (Supp) Fire-protection-rated glazing. Glazing in fire window assemblies shall be fire-protection rated in accordance with this section. Glazing in fire doors shall comply with Section 714.2.6. Fire-protection-rated glazing installed as an opening protective in fire partitions, smoke barriers and fire barriers shall be tested in accordance with and shall meet the acceptance criteria of NFPA 257 for a fire-protection rating of 45 minutes. Fire-protection-rated glazing shall also comply with NFPA 80. Fire-protection-rated glazing required in accordance with Section 704.12 for exterior wall opening protection shall be tested in accordance with and shall meet the acceptance criteria of NFPA 257 for a fire-protection rating as required in Section 714.3.7.

Exception: No change

Reason: Smoke barriers are one hour partitions (see Section 709.3), and glazing in one hour partitions is normally required to have a 45 minute fire protection rating determined in accordance with NFPA 257. This revision is a companion to a modification being proposed to IBC Section 709.5.

Public Hearing Results

FS54-02

Committee Action:

Approved as Submitted

Committee Reason: Consistent with the action taken on related change FS31-02. Smoke barriers need to be included in this section.

Assembly Action:

No Motion

Final Hearing Action

FS54-02

AS

Code Change No: **FS55-02**

Original Proposal

Section: 714.3.2 (New)

Proponent: William E. Koffel, PE, Koffel Associates, Inc.; representing GICC

Add new text as follows:

714.3.2 Nonsymmetrical glazing systems. Nonsymmetrical fire-protection-rated glazing systems in fire partitions, fire barriers or in exterior walls with a fire separation of 5 feet or less pursuant to Section 704, shall be tested with both faces exposed to the furnace, and the assigned fire-protection rating shall be the shortest duration obtained from the two tests conducted in compliance with NFPA 257.

714.3.2 714.3.3 Wired glass. (No change)

No editorial change to 714.3.3.

Reason: Neither IBC Section NFPA 257 addresses nonsymmetrical fire-protected-rated glazing. Fire partitions installed pursuant to Section 708 are one hour fire resistance rated barriers separating dwelling units, tenant spaces and corridors. Such barriers require a rating from both directions by IBC Section 703.2.1. Similarly, glazing in such walls should be rated from both directions.

According to IBC Section 704.5, only fire resistance rated exterior walls with fire separation distance of 5 feet or less require a fire resistance rating from both sides.

The language proposed for this code change parallels the wording of IBC Sections 703.2.1 and 712.3. Section 703.2.1 regulates nonsymmetrical wall and partitions and one might conclude that nonsymmetrical fire-protection-rated glazing is already addressed by this section. However, a careful reading of Section 703.2.1 reveals it only applies to fire-resistance rated walls and partitions tested pursuant to ASTM E119 whereas glazing systems are tested in accordance with NFPA 257 and are assigned fire protection ratings. Furthermore, placing the criteria for testing glazing within 714.3 is helpful to the user of the code as the requirements for glazing are contained in one code section.

Public Hearing Results

FS55-02
Committee Action:

Approved as Submitted

Committee Reason: Based on proponent's published reason. This proposal addresses unsymmetrical assemblies such as those with a film or coating on one side.

Assembly Action:

No Motion

Final Hearing Action

FS55-02

AS

Code Change No: FS56-02

Original Proposal

Sections: 714.3.8 & 714.3.9

Proponent: William E. Koffel, PE, Koffel Associates, Inc.; representing GICC

Revise as follows:

~~**714.3.8 Fire-resistance-rated glazing.** Fire-resistance-rated glazing tested as part of a fire-resistance-rated wall assembly in accordance with ASTM E 119 shall be permitted where the required fire-resistance rating of the wall exceeds 1 hour in applications set forth in Sections 714.3.6 and 714.3.6.1 and shall have a fire-resistance rating equal to the fire-resistance rating required for the wall. The window area size limitations set forth in Section 714.3.6.2 shall not apply to such fire-resistance-rated assemblies tested in accordance with ASTM E 119.~~

~~**714.3.9 Labeling requirements.** Fire-protection-rated and fire-resistance-rated glazing shall bear a label or other identification showing the name of the manufacturer, the test standard, and the fire protection or fire-resistance rating. Such label or identification shall be issued by an approved agency and shall be permanently affixed.~~

Reason: Another proposal relocated the provisions of Section 714.3.8 to a new Section 714.2. Fire-resistance-rated glazing should be exempt from all the requirements of Section 714.3 since the product is tested as a wall assembly and not a fire window assembly. Even the reference standard, NFPA 80, does not apply to such assemblies. The revision to Section 714.3.9 is also related to the new Section 714.2 which requires that fire-resistance rated glazing be labeled.

Public Hearing Results

FS56-02
Editorial note: The proponent represents "Pilkington".

Committee Action:

Approved as Submitted

Committee Reason: Consistent with the action taken on related change FS43-02.

Assembly Action:

No Motion

Final Hearing Action

FS56-02

AS

Code Change No: **FS124-02**

Original Proposal

Errata: Add the following code change:

Section: 714.2.5

Proponent: Stan Horsfall, CURRIES Company; representing Steel Door Institute

Revise as follows:

714.2.5 Labeled protective assemblies. Fire door assemblies shall be labeled by an approved agency. The labels shall comply with NFPA 80, shall be permanently affixed to the door or frame, and shall be applied under label service.

714.2.5.1 Fire door labeling requirements. Fire doors shall be labeled showing the name of the manufacturer, the name of the third-party inspection agency, the fire-protection rating and, where required for fire doors in exit enclosures by Section 714.2.4, the maximum transmitted temperature end point. Smoke and draft control doors complying with UL 1784 shall be labeled as a smoke and draft control door. Labels shall be approved and permanently affixed. The label shall be applied at the factory where fabrication and assembly are performed.

714.2.5.2 Oversized doors. (No change)

714.2.5.3 Smoke and draft control door labeling requirements. Smoke and draft control doors complying with UL 1784 shall be labeled in accordance with Section 714.2.5.1 and shall show the letter "S" on the fire rating label of the door. This marking shall indicate that the door and frame assembly are in compliance when listed or labeled gasketing is also installed.

714.2.5.4 Fire door frame labeling requirements. Fire door frames shall be labeled showing the name of the manufacturer, and the name of the third-party inspection agency.

Reason: The basis for this proposal is to recognize that the existing text can be assessed as confusing due to the combining of the subject matter under one specific section. In this case Section 714.2.5.1 contains three subjects, fire doors, fire door frames, and labels. The proposal before you separates those subject matters into appropriate sections.

Section 714.2.5 is the general section, which applies to all the remaining sections. The additional language proposed for Section 714.2.5 was primarily taken from Section 714.2.5.1 (e.g. permanently affixed and application). New text includes a specific reference to NFPA 80 and a change from "factory application" of the label to a broad reference which takes into account both factory and field application of labels.

Section 714.2.5.1 focuses on fire doors. The revisions to Section 714.2.5.1 concentrate on the "fire door" labeling aspect of the provisions by removing the reference to the smoke and draft control provisions. Deleted language has been relocated to either Section 714.2.5 or new Section 714.2.5.4.

Section 714.2.5.2 has no changes.

The proposed addition of Section 714.2.5.3 concentrates on "smoke and draft control doors" labeling requirements. The first sentence of Section 714.2.5.3 was taken from Section 714.2.5.1 and enhanced by adding the provision concerning the "S" designation. The second sentence further recognizes that the gasketing can only be inspected in the field since installation of that portion of the door assembly does not normally take place at the point of manufacturer. Section 714.2.5.4 is a new section, which focuses on the "door frame". The listed provisions are a copy of Section 714.2.5.1.

Analysis: It is unclear as to what constitutes "label service" in Section 714.2.5

Public Hearing Results

**FS124-02
Committee Action:**

Approved as Modified

Modify proposal as follows:

714.2.5 Labeled protective assemblies. Fire door assemblies shall be labeled by an approved agency. The labels shall comply with NFPA 80, shall be permanently affixed to the door or frame ~~and shall be applied under label service.~~

714.2.5.1 Fire door labeling requirements. Fire doors shall be labeled showing the name of the manufacturer, the name of the third-party inspection agency, the fire-protection rating and, where required for fire doors in exit enclosures by Section 714.2.4, the maximum transmitted temperature end point. Smoke and draft control doors complying with UL 1784 shall be labeled as a smoke and draft control door. Labels shall be approved and permanently affixed. The label shall be applied at the factory or location where fabrication and assembly are performed.

Committee Reason: Based on proponent's published reason. The proposal results in a easy-to-follow formatting of the requirement for fire doors (including frames) and smoke and draft control doors. The modifications reflects the view that the criteria for a label service is not necessary for conclusion in the code and labels are not always applied at just the factory.

Assembly Action:

No Motion

Final Hearing Action

FS124-02

AM

2003/2004 CYCLE

(Change to 2003 IBC)

Code Change No: **FS15-03/04**

Original Proposal

Section: 704.9

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

Revise as follows:

704.9 Vertical separation of openings. Openings in exterior walls in adjacent stories shall be separated vertically to protect against fire spread on the exterior of the buildings where the openings are within 5 feet (1524 mm) of each other horizontally and the opening in the lower story is not a protected opening ~~in accordance with Section 715.4.8 with a fire protection rating of at least 3/4 hour.~~ Such openings shall be separated vertically at least 3 feet (914 mm) by spandrel girders, exterior walls or other similar assemblies that have a fire-resistance rating of at least 1 hour or by flame barriers that extend horizontally at least 30 inches (762 mm) beyond the exterior wall. Flame barriers shall also have a fire-resistance rating of at least 1 hour. The unexposed surface temperature limitations specified in ASTM E 119 shall not apply to the flame barriers or vertical separation unless otherwise required by the provisions of this code.

Exceptions:

1. through 3. (No change to current text)

704.10 Vertical exposure. For buildings on the same lot, ~~approved opening protectives having a fire protection rating of not less than 3/4 hour~~ shall be provided in every opening that is less than 15 feet (4572 mm) vertically above the roof of an adjoining building or adjacent structure that is within a horizontal fire separation distance of 15 feet (4572 mm) of the wall in which the opening is located.

Exception: (No change to current text)

704.12 Opening protection. Windows ~~in exterior walls~~ required to ~~be~~ have protected openings in accordance with ~~Section 704.8, 704.9, or 704.10~~ other sections of this code or determined to be protected in accordance with Section 704.3 or 704.8 shall comply with ~~Section 715.4.8~~ 715.4. Other openings required to be protected with fire doors or shutters ~~assemblies~~ in accordance with ~~Sections 704.8, 704.9 and 704.10~~ other sections of this code or determined to be protected in accordance with Section 704.3 or 704.8 shall comply with Section 715.3.

Exception: ~~Fire protective assemblies~~ Opening protectives are not required where the building is protected throughout by an automatic sprinkler system and the exterior openings are protected by an approved water curtain using automatic sprinklers approved for that use. The sprinklers and the water curtain shall be installed in accordance with NFPA 13.

705.6.1 Stepped buildings. Where a fire wall serves as an exterior wall for a building and separates buildings having different roof levels, such wall shall terminate at a point not less than 30 inches (762 mm) above the lower roof level, provided the exterior wall for a height of 15 feet (4572 mm) above the lower roof is not less than 1-hour fire-resistance-rated construction from both sides with openings protected by fire assemblies having a ~~3/4-hour~~ fire protection rating of not less than 3/4 hour.

Exceptions:

1. and 2. (No change to current text)

715.4 Fire-protection rated glazing. Glazing in fire window assemblies shall be fire protection rated in accordance with this section and Table 715.4. Glazing in fire doors ~~assemblies~~ shall comply with Section 715.3.6. ~~Fire-protection-rated glazing installed as an opening protective in fire partitions, smoke barriers and fire barriers shall be tested in accordance with and shall meet the acceptance criteria of NFPA 257 for a fire protection rating of 45 minutes.~~ Fire-protection-rated glazing shall also comply with NFPA 80. ~~Fire-protection-rated glazing required in accordance with Section 704.12 for exterior wall opening protection shall be tested in accordance with and shall~~

meet the acceptance criteria of NFPA 257 for a fire protection rating as required in Section 715.4.7. Openings in nonfire-resistance rated exterior wall assemblies that require protection in accordance with Section 704.3, 704.8, 704.9 or 704.10 shall have a fire protection rating of not less than 3/4 hour.

Exceptions:

1. and 2. (No change to current text)

**TABLE 715.4
FIRE WINDOW ASSEMBLY
FIRE PROTECTION RATINGS**

Type of Assembly	Required Assembly Rating (hours)	Minimum Fire Window Assembly Rating (hours)
Interior walls: Fire walls Fire barriers and fire partitions	All	NP ^a
	>1	NP ^b
	4	3
	3	3
	2	1 1/2
Smoke barriers and fire partitions	1	3/4
	1	3/4
Exterior walls	>1	1 1/2
	1	3/4
Party wall	All	NP

(No change to footnote)

~~**715.4.8 Exterior fire window assemblies.** Exterior openings, other than doors, required to be protected by Section 704.12, where located in a wall required by Table 602 to have a fire-resistance rating of greater than 1 hour, shall be protected with an assembly having a fire protection rating of not less than 1 1/2 hours. Exterior openings required to be protected by Section 704.8, where located in a wall required by Table 602 to have a fire-resistance rating of 1 hour, shall be protected with an assembly having a fire protection rating of not less than 3/4 hour. Exterior openings required to be protected by Section 704.9 or 704.10 shall be protected with an assembly having a fire protection rating of not less than 3/4 hour. Openings in nonfire-resistance-rated exterior wall assemblies that require protection in accordance with Section 704.8, 704.9 or 704.10 shall have a fire protection rating of not less than 3/4 hour.~~

Reason: The purpose of this proposal is to coordinate the requirements for fire window assemblies at exterior and interior walls. Section 704.12 states that windows required to be protected in accordance with Section 704.8, 704.9 or 704.10 shall comply with Section 715.4.8 for exterior fire window assemblies. Other openings required to be protected with fire doors or shutters by one of the same sections shall comply with Section 715.3 for fire door and shutter assemblies. Section 715.4.8 states that exterior openings other than doors, required to be protected by Section 704.12 shall comply with the following:

1. Where located in a wall required by Table 602 to have a fire-resistance rating of greater than 1 hour: protect with an assembly having a fire protection rating of not less than 1 ½ hours.
2. Where required to be protected by Section 704.8 and where located in a wall required by Table 602 to have a fire-resistance rating of 1 hour: protect with an assembly having a fire protection rating of not less than 3/4 hour.
3. Where required to be protected by Section 704.9 or 704.10: protect with an assembly having a fire protection rating of not less than 3/4 hour.
4. Where located in nonfire-resistance-rated exterior wall assemblies that require protection in accordance with Section 704.8, 704.9 or 704.10: protect with an assembly having a fire protection rating of not less than 3/4 hour.

The requirements in Sections 704.12 and 715.4.8 do not cover all of the requirements for fire window assemblies at exterior walls. There are several other code sections that also require opening protection (i.e., Sections 705.5, 705.5.1, 705.5.2, 705.6.1, 1007.8, 1019.3 and 1023.5.2). Section 705.5 is included in this proposal for reference and to illustrate this. Section 715.4 compounds the problem by referencing Sections 704.12 and 715.4.8 while not also referencing these other code sections.

For interior walls, Section 715.4 specifies that fire partitions, smoke barriers and fire barriers shall be tested in accordance with and shall meet the acceptance criteria of NFPA 257 for a fire protection rating of 45 minutes. This is consistent with Sections 708.3 and 708.6 for fire partitions and Sections 709.3 and 709.5 for smoke barriers. However, this is not consistent with Sections 706.3 and 706.7 for fire barriers. The minimum fire-resistance-rating of fire partitions and smoke barriers does not exceed 1 hour. For fire barriers, it can be as high as 4 hours. At one time, NFPA 257 was limited in scope to the testing of window and glass block assemblies for fire protection ratings no greater than 45 minutes. It is no longer (see NFPA 257-00, Appendix B-2). Nor is the current edition of NFPA 80 limited to ratings of 45 minutes. In the 1999 edition, Table 13-2.2 specifies the maximum area of glazing material per light as the maximum area tested for fire protection ratings up to and including 45 minutes. For ratings exceeding 45 minutes, it states that no rating is available. This does not preclude the possibility that a fire window assembly could be tested in accordance with and meet the acceptance criteria of NFPA 257 for a fire protection rating of greater than 45 minutes. Nor does it preclude the possibility that the same window could comply with the provisions of NFPA 80-99. This is one reason for the revisions to Section 715.4 in this proposal. See below for further comments on Section 715.4. This is also the reason for the revisions to Table 715.4 in this proposal. Imperative in such a case is a design by a qualified individual who understands the fire safety criteria applicable to the use of such assemblies.

This proposal eliminates the conflicts, deletes the redundancies and coordinates the affected code sections. The basic approach is to specify the required opening protection in each affected code section rather than relying on another code section to do so, as is now partially done in Sections 704.12 and 715.4.8 for exterior fire window assemblies. This is the reason for the revisions to Sections 704.9 and 704.10, and the last sentence of Section 715.4. Table 715.4 is used as the location of the required hourly ratings for fire window assemblies based on the fire-resistance rating of the wall, similar to Table 715.3 for fire door and fire shutter assemblies. The proposed revisions in conjunction with Table 715.4 cause Section 715.4.8 to be redundant, which is the reason why it is being deleted. A revised version of Section 704.12 is retained in this proposal largely for the purpose of coordination within Section 704.

In Section 704.12, the phrase "or determined to be protected in accordance with Section 704.3 or 704.8" is in recognition of the fact that neither Section 704.3 or 704.8 require openings to be protected. Initially, at large fire separation distances, they permit unlimited unprotected openings. As the fire separation distance decreases, they begin to limit the percentage of unprotected openings. As the fire separation distance decreases further, opening protection begins to be required. As the fire separation distance again decreases further, a point is reached where all of the openings are required to be protected. However, the designer retains the option of reducing the percentage of wall area that consists of openings so that a certain percentage of openings can remain unprotected. This can continue until a point is reached where openings are prohibited. Thus, openings are not necessarily required to be protected entirely.

The revision to Section 705.6.1 is intended to make it consistent with similar provisions in Section 705.5, 705.5.1 and 705.5.2. Section 705.5 is also included in this proposal to illustrate this. The revision to the Exception to Section 704.12 is intended to replace a term that is not defined and is not used anywhere else in the IBC with a term that is consistently used throughout the IBC. An exhaustive search was conducted for the term "fire protective assembly." There is no other instance of its use in the IBC except in this exception. The proposal, Opening Protection Required at Exterior Walls, contains proposed revisions associated with this proposal, specifically related to the determination of the extent that opening protection is required at exterior walls.

Cost Impact: None

Public Hearing Results

Committee Action:

Approved as Modified

Modification: Modify the proposal to replace the phrase "at least" with "not less than" in Section 704.9.

Committee Reason: Based on proponent's published reason. The modification is editorial, for consistency in language.

Assembly Action:

None

Final Hearing Results

FS15-03/04

AM

Code Change No: FS31-03/04

Original Proposal

Section: 706.7

Proponent: Maureen Traxler, City of Seattle, WA

Revise as follows:

706.7 Openings. Openings in a fire barrier wall shall be protected in accordance with Section ~~744~~ 715. Openings shall be limited to a maximum aggregate width of 25 percent of the length of the wall, and the maximum area of any single opening shall not exceed 120 square feet (11 m²). Openings in exit enclosures and exit passageways shall also comply with Section 1019.1.1 and 1020.4, respectively.

Exceptions:

- 1. through 3. (No change to current text)

706.8.1 Prohibited penetrations. Penetrations into an exit enclosure shall only be allowed when permitted by Section ~~1020-5~~ 1019.1.2.

715.3.5.1 Fire door labeling requirements. Fire doors shall be labeled showing the name of the manufacturer, the name of the third-party inspection agency, the fire protection rating and, where required for fire doors in exit enclosures and exit passageways by Section 715.3.4, the maximum transmitted temperature end point. Smoke

and draft control doors complying with UL 1784 shall be labeled as such. Labels shall be approved and permanently affixed. The label shall be applied at the factory or location where fabrication and assembly are performed.

Reason: The change to Section 706.7 adds a cross reference to the section that limits openings in exit passageways, similar to the existing reference for exit enclosures. The proposal is not a substantive change.

The change to Section 715.3.5.1 coordinates with Section 715.3.4 by requiring that the labels on fire doors in exit passageway doors state the maximum transmitted temperature end point when 715.3.4 requires those doors to be rated for maximum end point.

Cost Impact: None

Public Hearing Results

Committee Action:

Approved as Modified

Modify proposal as follows:

706.8.1 Prohibited penetrations. Penetrations into an exit enclosure or an exit passageway shall only be allowed when permitted by Sections 1019.1.2 or 1020.5, respectively.

Committee Reason: Based on proponent’s published reason. The modification was made for consistency in code terminology and to add another section reference.

Assembly Action:

None

Final Hearing Results

FS31-03/04

AM

Code Change No: **FS69-03/04**

Public Hearing Results

Table 715.3

Proponent: Tom Meyers, City and County of Broomfield, representing Colorado Chapter of ICC

Revise as follows:

**TABLE 715.3
FIRE DOOR AND FIRE SHUTTER
FIRE PROTECTION RATINGS**

Type of Assembly	Required Assembly Rating (hours)	Minimum Fire door and Fire Shutter Assembly Rating (hours)
Fire partitions:		
Corridor walls	1	1/3 ^b
	0.5	1/3 ^b
Other fire partitions	1	3/4
	<u>0.5</u>	<u>1/3</u>

(Portions of table not shown do not change)

Reason: Section 708.3 exception 2 allows one to reduce the dwelling unit and sleeping unit separations in buildings of Type IIB, IIIB, and VB construction to ½ hour fire resistance rating when provided with a fire suppression sprinkler system. Section 708.6 directs the user to Section 715 for opening protection and to Table 715.3 for specific fire ratings based on the rating of the assembly. Table 715.3 has a ½ hour partition wall for corridors only. The proposed code change would require the ½ hour fire rated wall for these dwelling unit and sleeping unit separations to have 1/3 hour fire rated door or shutter consistent with the ½ hour fire rated corridor. One would assume that the potential fire loading is less in front of a door than in front of a solid wall, similar to the assumption used for corridors.

Cost Impact: None

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on proponent's published reason.

Assembly Action:

None

Final Hearing Results

FS69-03/04

AS

Code Change No: FS72-03/04

Original Proposal

Sections: 405.4.2, 715.3.3, Chapter 35

Proponent: Gregory J. Cahanin, Cahanin Fire Code Consulting, representing Building Performance Research Institute

1. Revise as follows:

405.4.2 Smoke barrier penetration. The separation between the two compartments shall be of minimum 1-hour fire barrier wall construction that shall extend from floor slab to floor deck above. Openings between the two compartments shall be limited to plumbing and electrical piping and conduit penetrations firestopped in accordance with Section 712. Doorways shall be protected by door assemblies ~~that are automatic-closing by smoke detection in accordance with Section 715.3 and shall be provided with gasketing and a drop sill to minimize smoke leakage installed in accordance with NFPA 105, and Section 715.3.3.~~ Where provided, each compartment shall have an air supply and an exhaust system independent of the other compartments.

2. Revise as follows:

715.3.3 Door assemblies in corridors and smoke barriers. Fire door assemblies required to have a minimum fire protection rating of 20 minutes where located in corridor walls or smoke barrier walls having a fire-resistance rating ... Louvers shall be prohibited. Installation of smoke doors shall be in accordance with NFPA 105.

Exceptions: (No change to current text)

3. Add new referenced standard to Chapter 35 as follows:

NFPA 105-03 Standard for the Installation of Smoke Door Assemblies 405.4.2, 715.3.3

Reason 1: This change simplifies the reference to smoke doors found in 715.3.3 and defines the installation requirements in the new NFPA 105 standard that are a companion to the already referenced NFPA 80, Standard for Fire Doors. There is no need to repeat the prescriptive design requirements in NFPA 105 and 715.3.3 throughout the building code. There reference to installation in accordance with NFPA 105 also provides a ready reference for the maintenance of smoke barrier doors, which will be useful in the fire code.

2: This change incorporates a reference to the new NFPA Smoke Door Standard which is a companion to the IBC referenced NFPA 80. Installation requirements in accordance with this national standard will better serve the users of the IBC.

Analysis: Staff had not reviewed the referenced standard(s) prior to the printing of the monograph. Staff will review them and provide the results to the committee members prior to the code change hearings.

Cost Impact: None

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on proponent's published reason.

Note: Staff provided an analysis of the reference standard NFPA 105-03, indicating that the standard did comply with ICC Standards Criteria.

Assembly Action:

None

Final Hearing Results

FS72-03/04

AS

Code Change No: **FS75-03/04**

Original Proposal

Section: 715.3.3

Proponent: Marshall A. Klein, PE, Marshall A. Klein & Associates, Inc.

Revise as follows:

715.3.3 Door assemblies in corridors and smoke barriers. Fire door assemblies required to have a minimum fire protection rating of 20 minutes where located ... with UL 1784 with an artificial bottom seal installed across the full width of the bottom of the door assembly during the test. The air leakage rate of the door assembly shall not exceed ... (remainder unchanged)

Exceptions: (No change to current text)

Reason: Clarification of the code text based on discussions with ICC Staff and Roger Skold, Technical Director at National Guard Products (NGP is a manufacturer of over 90 different perimeter seals and astragals which have been tested to meet UL 1784 and are Category H classified by UL and WH as smoke and draft control gaskets.)

Some users of the code believe that the existing wording requires a fire door installed under this section of Code to be field equipped with a door bottom seal of some type.

The correct intent of this code section is that a door bottom seal is not required, but one may be furnished if desired as long as it is listed for use on positive pressure fire doors. The intent of this code section's wording specifically refers to how the assembly is tested to comply with UL1784. The third sentence of 714.3.2 is intended to refer to Section 5.4.5 in UL1784, which reads as follows:

"UL1754 Section 5.4.5: In order to obtain information on the extent of air leakage at the ungasketed bottom gap of a test sample, an artificial seal may be applied to the bottom 6 inches (152.4 mm) of the test sample. The artificial seal may be any material, such as an impermeable sheet or tape."

This IBC section is requiring the artificial bottom seal option when the assembly is tested, not on the actual field installed door assembly. By sealing the bottom of the test door, the fire-tested assembly can then be accurately tested for air leakage around the perimeter seals.

The recommended addition of the words "...during the test..." will provide the proper clarification of the intent and application of this code section and can put to bed any confusion on whether or not these fire doors in the field have to be fitted with bottom door seals.

Cost Impact: None

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on proponent's published reason.

Assembly Action:

None

Final Hearing Results

FS75-03/04

AS

Code Change No: **FS78-03/04**

Original Proposal

Section: 715.3.6.3

Proponent: Jesse J. Beitel, Hughes Associates, Inc., representing Pilkington

Revise as follows:

715.3.6.3 Labeling. Fire-protection-rated glazing shall bear a label or other identification showing, as a minimum, the name of the manufacturer, the test standard, and the fire protection rating. Such label or identification information required in Section 715.4.9.1, shall be issued by an approved agency and shall be permanently affixed.

715.3.6.3.1 Identification. For fire protection-rated glazing, the label shall bear the following four-part identification: "D – H or NH – T or NT – XXX". "D" indicates that the glazing shall be used in fire door assemblies and that the glazing meets the fire resistance requirements of the test standard. "H" shall indicate that the glazing meets the hose stream requirements of the test standard. "NH" shall indicate that the glazing does not meet the hose stream requirements of the test. "T" shall indicate that the glazing meets the temperature requirements of Section 715.3.4.1. "NT" shall indicate that the glazing does not meet the temperature requirements of Section 715.3.4.1. The placeholder "XXX" shall specify the fire-protection rating period, in minutes.

Reason: This code change adds the use of a specific identifier on the glazing such that a code official can readily identify that the glazing material is appropriate for the specific application. In this case, the "D" indicates that it can be used in fire door assemblies and then provides specific information as to the glazing's capability to meet the hose stream test and temperature limits when required.

This change is part of a set of similar changes to address and clarify the labeling of glazing based on application and test requirements.

Cost Impact: None

Public Hearing Results

Committee Action:

Approved as Modified

Modify proposal as follows:

715.3.6.3 Labeling. Fire-protection-rated glazing shall bear a label or other identification showing, ~~as a minimum,~~ the name of the manufacturer, the test standard, and information required in Section 715.4.9.1, shall be issued by an approved agency and shall be permanently affixed.

(Remainder of text as proposed)

Committee Reason: Based upon the proponent's reason. The modification removes an unnecessary phrase, "as a minimum."

Assembly Action:

None

Final Hearing Results

FS78-03/04

AM

Code Change No: **FS80-03/04**

Original Proposal

Section: 715.4.9

Proponent: Jesse J. Beitel, Hughes Associates, Inc., representing Pilkington

Revise as follows:

715.4.9 Labeling requirements. Fire-protection-rated glazing shall bear a label or other identification showing, as a minimum, the name of the manufacturer, the test standard, and ~~the fire protection rating~~. ~~Such label or identification information required in Section 715.4.9.1,~~ shall be issued by an approved agency and shall be permanently affixed.

715.4.9.1 Identification. For fire protection-rated glazing, the label shall bear the following two-part identification: "OH – XXX". "OH" indicates that the glazing met both the fire resistance and the hose stream requirements of NFPA 257 and is permitted to be used in openings. "XXX" represents the fire-protection rating period, in minutes that was tested.

Reason: This code change adds the use of a specific identifier on the glazing such that a code official can readily identify that the glazing material is appropriate for the specific application. In this case, the "OH" indicates that the glazing can be used in openings required to have opening protectives other than fire door assemblies or walls and that it meets the fire resistance and hose stream requirements of the test standard.

This change is part of a set of similar changes to address and clarify the labeling of glazing based on application and test requirements.

Cost Impact: None

Public Hearing Results

Committee Action:

Approved as Modified

Modify proposal as follows:

715.4.9 Labeling requirements. Fire-protection rated glazing shall bear a label or other identification showing, ~~as a minimum~~, the name of the manufacturer, the test standard, and information required in Section 715.4.9.1, shall be issued by an approved agency and shall be permanently affixed.

(Remainder of text as proposed)

Committee Reason: Based on proponent's published reason. The modification removes an unnecessary phrase "as a minimum".

Assembly Action:

None

Final Hearing Results

FS80-03/04

AM

2004/2005 CYCLE (Change to 2003 IBC)

Code Change No: **FS107-04/05**

Original Proposal

Table 715.3

Proponent: Philip R. Brazil, P.E., S.E., Reid Middleton, Inc., Everett, WA

Revise as follows:

**TABLE 715.3 (Supp)
FIRE DOOR AND FIRE SHUTTER
FIRE PROTECTION RATINGS**

TYPE OF ASSEMBLY	REQUIRED ASSEMBLY RATING (hours)	MINIMUM FIRE DOOR AND FIRE SHUTTER ASSEMBLY RATING (hours)
Fire walls and fire barriers having a required fire-resistance rating greater than 1 hour	4 3 2 1 1/2	3 3 ^a 1 1/2 1 1/2
Fire barriers having a required fire-resistance rating of 1-hour: Shaft, exit enclosure and exit passageway walls Other fire barriers	1 1	1 3/4
Fire partitions: Corridor walls Other fire partitions	1 0.5 1 0.5	1/3 ^b 1/3 ^b 3/4 1/3
Exterior walls	3 2 1	1 1/2 1 1/2 3/4
<u>Smoke barriers</u>	<u>1</u>	<u>1/3^b</u>

- a. Two doors, each with a fire protection rating of 1 1/2 hours, installed on opposite sides of the same opening in a fire wall, shall be deemed equivalent in fire protection rating to one 3-hour fire door.
- b. For testing requirements, see Section 715.3.3.

Reason: The purpose of this proposal is to establish the fire-protection rating for fire door assemblies in smoke barriers. Section 709.5 states that openings in smoke barrier shall be protected in accordance with Section 715, except for certain cross-corridor doors in Group I-2 occupancies. Section 715.3 establishes required fire-protection ratings for fire door assemblies by reference to Table 715.3. However, Table 715.3 does not establish a fire-protection rating for smoke barriers.

Section 715.3 also establishes required testing for fire door assemblies by specifying compliance with Section 715.3.1, 715.3.2 or 715.3.3. Section 715.3.3 for door assemblies in corridors and smoke barriers requires testing in accordance with NFPA 252 or UL 10C for fire door assemblies required to have a minimum fire-protection rating of 20 minutes where located in corridor walls or smoke barrier walls having a fire-resistance rating in accordance with Table 715.3. However, Table 715.3 does not establish a fire-resistance rating for smoke barriers.

The proposed revision will correct these oversights.

Cost Impact: None

Public Hearing Results

Committee Action:

Approved As Submitted

Committee Reason: The code presently does not contain specific requirements for the fire protection rating of doors in Smoke Barriers, leaving the issue to interpretation. The requirement for 20 minutes in smoke barriers would seem appropriate, given that the performance of a smoke barrier is related primarily to limitation of smoke spread.

Final Hearing Results
FS107-04/05 AS

Code Change No: FS109-04/05

Original Proposal

Section: 715.3.3

Proponent: John R. Wiggins, Underwriters Laboratories, Inc.

Revise as follows:

715.3.3 (Supp) Door assemblies in corridors and smoke barriers. Fire door assemblies required to have a minimum fire protection rating of 20 minutes where located in corridor walls or smoke barrier walls having a fire-resistance rating in accordance with Table 715.3 shall be tested in accordance with NFPA 252 or UL 10C without the hose stream test. ~~If a 20-minute fire door assembly contains glazing material, the glazing material in the door itself shall have a minimum fire protection rating of 20 minutes and be exempt from the hose stream test. Glazing material in any other part of the door assembly, including transom lites and sidelites, shall be tested in accordance with NFPA 257, including the hose stream test, in accordance with Section 715.4. Fire door assemblies shall also meet the requirements for a smoke and draft-control door assembly tested in accordance with UL 1784 with an artificial bottom seal installed across the full width of the bottom of the door assembly during the test. The air leakage rate of the door assembly shall not exceed 3.0 cfm per square foot (0.01524 m³/s . m²) of door opening at 0.10 inch (24.9 Pa) of water for both the ambient temperature and elevated temperature tests. Louvers shall be prohibited. Installation of smoke doors shall be in accordance with NFPA 105.~~

Exceptions:

1. Viewports that require a hole not larger than 1 inch (25 mm) in diameter through the door, have at least a 0.25-inch-thick (6.4 mm) glass disc and the holder is of metal that will not melt out where subject to temperatures of 1,700°F (927°C).
2. Corridor door assemblies in occupancies of Group I-2 shall be in accordance with Section 407.3.1.
3. Unprotected openings shall be permitted for corridors in multitheater complexes where each motion picture auditorium has at least one-half of its required exit or exit access doorways opening directly to the exterior or into an exit passageway.

715.3.3.1 Smoke- and draft- control. Fire door assemblies shall also meet the requirements for a smoke- and draft-control door assembly tested in accordance with UL 1784. Louvers shall be prohibited. Installation of smoke doors shall be in accordance with NFPA 105.

715.3.3.2 Glazing in door assemblies. In a 20-minute fire door assembly, the glazing material in the door itself shall have a minimum fire protection rating of 20 minutes and shall be exempt from the hose stream test. Glazing material in any other part of the door assembly, including transom lites and sidelites, shall be tested in accordance with NFPA 257, including the hose stream test, in accordance with Section 715.4.

Reason: Reformats Section 713.3.3 making the code user-friendlier. The underscored language in Section 715.3.3.2 is essentially the 2nd & 3rd sentence of Section 715.3.3. The underscored language in Section 715.3.3.1 is substantially the existing 4th sentence of Section 715.3.3, but leaving the artificial bottom seal for the test standard. The leakage criteria currently in the 5th sentence of Section 715.3.3 are provided for in NFPA 105. This sentence adding reference to NFPA 105 was added in language approved by FS72-03/04

Analysis: Staff had not reviewed the proposed referenced standard prior to the printing of the monograph. Staff will review it and provide the results at the ICC website prior to the code change hearings.

Cost Impact: None

Public Hearing Results

Note: Revise original analysis as published in the monograph as follows:

Analysis. The referenced standard proposed for addition to the code, NFPA 105, was found to meet the ICC Criteria for referenced standards.

Committee Action:

Approved As Submitted

Committee Reason: This code change proposal simply reorganizes a long paragraph containing multiple provisions into simpler, smaller parts making the provisions easier to understand.

Assembly Action:

None

Final Hearing Results

FS109-04/05

AS

Code Change No: FS116-04/05

Original Proposal

Table 715.4

Proponent: Kate Steel, representing InterEdge Technologies, Inc., SAFTI, div. Of O’Keefe’s, Inc; Vetrotech-Saint Gobain N.A.

Revise as follows:

**TABLE 715.4 (Supp)
FIRE WINDOW ASSEMBLY
FIRE PROTECTION RATINGS**

Type of Assembly	Required Assembly Rating (hours)	Minimum Fire Window Assembly Rating (hours)
Interior walls: Fire walls Fire barriers	All ≥ 1 $\frac{3}{4}$ 3 2 1	NP ^a NP ^a $\frac{3}{4}$ 3 $1\frac{1}{2}$ $\frac{3}{4}$
Smoke barriers and fire partitions	1	$\frac{3}{4}$
Exterior walls	>1 1	$1\frac{1}{2}$ $\frac{3}{4}$
Party wall	All	NP

(No change to footnote)

Reason: This proposal revises Table 715.4 as published in the 2004 Supplement, to the existing 2003 IBC requirements, canceling the substantive changes that were made to interior fire window rating requirements in Table 715.4 as a result of FS15-03/04. FS15 was identified in the monograph as a code change to 704.9. In fact, it proposed revisions to multiple sections, 704.9, 704.10, 704.12, 705.6.1, addressing exterior opening protection requirements, to clarify $\frac{3}{4}$ -hr. opening protection. It also purported to coordinate exterior and interior window requirements, deleting subsection 715.8, entitled “Exterior fire window assemblies” as redundant, and presented the revisions to 715.4 and Table 715.4 as editorial, and not substantive changes in rating requirements.

The revisions to Table 715.4, however, were substantive, extreme, and inconsistent with Section 715.4.7, limiting interior fire windows to 1-hour fire barriers and partitions, in consideration of radiant heat transfer hazards. FS15 changed the current 2003 requirements from “NP”—not permitting—fire-protection-rated windows in fire barriers or partitions rated over 1-hour (except fire-resistance rated glazing tested as wall assemblies to ASTM E119, as specified in 715.2), to permitting 3-hour rated windows in 4-hour and 3-hour fire barriers, and 1-1/2-hour-rated windows in 2-hour fire barriers.

These 2004 Supplement revisions abruptly change existing 2003 Table 715.4 provisions, purporting to allow window openings in 2, 3 and 4-hour fire barriers without requiring fire-resistance rated glazing that controls radiant heat transfer. Not only do those revisions conflict with existing Section 715.4.7 that expressly limits use of interior fire windows tested to NFPA 257 to walls rated up to 1-hour or less, there was no

consideration in the supporting statement of the fire spread risks posed by accepting glazing that doesn't limit radiant heat and temperature rise in accordance with ASTM E119 criteria.

FS15 proponent's rationale for specifying 2, 3, and 4-hour wall ratings with corresponding window ratings of 1-1/2, 3 and 3-hour was to make the table consistent with Table 715.3, for door assemblies. However, proponent didn't consider there are good reasons the tables are different. The first reason is that Section 715.4.7 expressly provides interior fire windows aren't permitted in fire barriers and partitions rated over 1-hr. Another reason is the glazing requirements for fire door assemblies are more restrictive, limiting glazing view panels in 3-hr. and 1-1/2-hr. rated doors in fire barriers to 100 square inches (715.3.6.1), and incorporating NFPA 80 limits on frames with sidelights and transom lights to door frames requiring a 3/4-hr. or less rating. Glazing tested to ASTM E119 and rated for use in fire doors rated >1-hr. aren't subject to 100 square inches size limits, and are permitted as sidelights/transoms in door frames rated in excess of 3/4-hrs, per 715.2.

The fact that there are glazing products that meet the fire-endurance test of NFPA 257 in excess of 45-minutes, doesn't qualify their use in window openings of walls rated over 1-hr., unless they also meet the radiant heat requirements of ASTM E119. FS15's revisions made the Table inconsistent with 715.4.7, and will only confuse users. The fire-rated glazing industry developed the technology to make glazing products that meet the fire-resistance rating requirements of a wall assembly tested to ASTM E119, which are also used in fire doors, sidelites and transoms, and windows where radiant heat protection is required. There are several competitive fire-resistance rated products on the market that are listed for use as wall assemblies and in door and window frames fire-protection-rated >1-hour, which satisfy the radiant heat protection requirements for those uses.

FS15 decreased the fire safety requirements for interior window openings without justification, and, without a fair presentation to the Fire Safety Committee of the substantive changes to rating requirements for its consideration. Fire-rated glazing manufacturers and suppliers recommend against the use of fire-endurance-only rated products in uses where controlled radiant heat transfer is important to protect life safety and restrict fire spread. The changes made to Table 715.4 by FS15 represent a step backward for our industry, and result in an unnecessary compromise to fire safety.

Cost Impact: None

Public Hearing Results

Committee Action:

Approved As Modified

Modify the proposal as follows:

**TABLE 715.4 (Supp)
FIRE WINDOW ASSEMBLY
FIRE PROTECTION RATINGS**

Type of Assembly	Required Assembly Rating (hours)	Minimum Fire Window Assembly Rating (hours)
Interior walls: Fire walls Fire barriers	All >1 1	NP ^a NP ^a 3/4
Smoke barriers and fire partitions	1	3/4
Exterior walls	>1 1	1 1/2 3/4
Party wall	All	NP

(No change to footnote)

Committee Reason: The committee agreed with the proponent that the addition of window fire protective assemblies, in fire wall assemblies and fire barrier assemblies greater than 1 hour, in the previous code change cycle created a conflict with the provisions of Section 715.4.7 which restricts the use of fire windows to 1 hour interior wall assemblies, due to concerns over radiant heat transfer. Since this provision was not addressed in the previous code change in 2003/ 2004, the committee recommended for approval of this change. The modification is merely a correction of the code change as printed in the monograph. It was never the intent of the proponent to delete the 1 hour assembly in the "Required Assembly Rating" column.

Assembly Action:

None

Final Hearing Results

FS116-04/05

AM