

ICC CODE TECHNOLOGY COMMITTEE

Area of Study - Labeling of Fire Rated Glazing

Draft text changes: 2006 IBC to 2009 IBC

The following are DRAFT text changes to the 2006 IBC based on the 2006/2007 & 2007/2008 Code Development Cycles which will result in the 2009 IBC.

IBC Section 715

Section 715.2 Change to read as shown: (FS10-06/07 Part I, FS101-06/07)

715.2 Fire-resistance-rated glazing. Fire-resistance-rated glazing tested as part of a fire-resistance-rated wall assembly in accordance with ASTM E 119 or UL 263 and labeled in accordance with Section 703.5 shall be permitted in fire doors and fire window assemblies in accordance with their listings and shall not otherwise be required to comply with this section.

Section 715.3 Change to read as shown: (FS102-06/07)

715.3 Alternative methods for determining fire protection ratings. The application of any of the alternative methods listed in this section shall be based on the fire exposure and acceptance criteria specified in NFPA 252, NFPA 257 or UL 9. The required fire resistance of an opening protective shall be permitted to be established by any of the following methods or procedures:

1. Designs documented in approved sources.
2. Calculations performed in an approved manner.
3. Engineering analysis based on a comparison of opening protective designs having fire-protection ratings as determined by the test procedures set forth in NFPA 252, NFPA 257 or UL 9.
4. Alternative protection methods as allowed by Section 104.11.

Section 715.4 Change to read as shown: (FS120-07/08)

715.4 Fire door and shutter assemblies. Approved fire door and fire shutter assemblies shall be constructed of any material or assembly of component materials that conforms to the test requirements of Section 715.4.1, 715.4.2 or 715.4.3 and the fire-protection rating indicated in Table 715.4. Fire door frames with transom lights, sidelights or both shall be permitted in accordance with Section 715.4.5. Fire door assemblies and shutters shall be installed in accordance with the provisions of this section and NFPA 80.

Exceptions:

1. Labeled protective assemblies that conform to the requirements of this section or UL 10A, UL 14B and UL 14C for tin-clad fire door assemblies.
2. Floor fire door assemblies in accordance with Section 711.8.

Section 715.4.1 Change to read as shown: (FS105-06/07)

715.4.1 Side-hinged or pivoted swinging doors. Fire door assemblies with side-hinged and pivoted swinging doors shall be tested in accordance with NFPA 252 or UL 10C. After 5 minutes into the NFPA

252 test, the neutral pressure level in the furnace shall be established at 40 inches (1016 mm) or less above the sill.

Section 715.4.2 Change to read as shown: (FS105-06/07)

715.4.2 Other types of assemblies. Fire door assemblies with other types of doors, including swinging elevator doors and fire shutter assemblies, shall be tested in accordance with NFPA 252 or UL 10B. The pressure in the furnace shall be maintained as nearly equal to the atmospheric pressure as possible. Once established, the pressure shall be maintained during the entire test period.

Section 715.4.3 Change to read as shown: (FS121-07/08)

715.4.3 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 in accordance with Table 715.4 shall be tested in accordance with NFPA 252 or UL 10C without the hose stream test.

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.
4. Horizontal sliding doors in smoke barriers that comply with Sections 408.3 and 408.7.4 in occupancies in Group I-3.

Section 715.4.3.1 Change to read as shown: (FS106-06/07)

715.4.3.1 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. The air leakage rate of the door assembly shall not exceed 3.0 cubic feet per minute 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.

Section 715.4.3.2 Change to read as shown: (FS102-06/07)

715.4.3.2 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 or UL 9, including the hose stream test, in accordance with Section 715.5.

Section 715.4.4 Change to read as shown: (FS108-06/07)

715.4.4 Doors in exit enclosures and exit passageways. Fire door assemblies in 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 rise 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.

Section 715.4.4.1 Change to read as shown: (FS105-06/07, FS108-06/07)

715.4.4.1 Glazing in doors. Fire-protection-rated glazing in excess of 100 square inches (0.065 m²) shall be permitted in fire door assemblies when tested as components of the door assemblies and not as glass lights, and shall have a maximum transmitted temperature rise of 450°F (250°C) in accordance with Section 715.4.4.

Exception: The maximum transmitted temperature rise 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.

Section 715.4.5 Add new text to read as shown: (FS120-07/08)

715.4.5 Fire door frames with transom lights and sidelights. Door frames with transom lights, sidelights, or both shall be permitted where a ¾-hour fire protection rating or less is required in accordance with Table 715.4. Where a fire protection rating exceeding ¾-hour is required in accordance with Table 715.4, fire door frames with transom lights, sidelights, or both, shall be permitted where installed with fire-resistance rated glazing tested as an assembly in accordance with ASTM E119 or UL 263.

715.4.5 715.4.6 Labeled protective assemblies No change to text

Section 715.4.5.1 Renumbered and changed to read as shown: (FS110-06/07; FS120-07/08)

715.4.5.1-715.4.6.1 Fire door labeling requirements. Fire doors shall be labeled showing the name of the manufacturer or other identification readily traceable back to the manufacturer, the name or trademark of the third-party inspection agency, the fire protection rating and, where required for fire doors in exit enclosures and exit passageways by Section 715.4.4, the maximum transmitted temperature end point. Smoke and draft control doors complying with UL 1784 shall be labeled as such and shall also comply with Section 715.4.5.3. Labels shall be approved and permanently affixed. The label shall be applied at the factory or location where fabrication and assembly are performed.

715.4.5.2-715.4.6.2 Oversized doors No change to text (FS120-07/08)

715.4.5.3-715.4.6.3 Smoke and draft control door labeling requirements No change to text (FS120-07/08)

715.4.5.4-715.4.6.4 Fire door frame labeling requirements No change to text (FS120-07/08)

715.4.6-715.4.7 Glazing material No change to text (FS120-07/08)

Section 715.4.6.1 Renumbered and changed to read as shown: (FS112-06/07, FS113-06/07; FS120-07/08)

715.4.6.1-715.4.7.1 Size limitations. Fire protection-rated glazing used in fire doors shall comply with the size limitations of NFPA 80.

Exceptions:

1. Fire protection-rated glazing in fire doors located in fire walls shall be prohibited except where serving in a fire door in a horizontal exit, a self-closing swinging door shall be permitted to have a vision panel of not more than 100 square inches (0.065 m²) without a dimension exceeding 10 inches (254 mm).
2. Fire protection-rated glazing shall not be installed in fire doors having a 1 1/2-hour fire protection rating intended for installation in fire barriers, unless the glazing is

not more than 100 square inches (0.065 m²) in area.

715.4.6.2-715.4.7.2 Exit and elevator protectives No change to text *(FS120-07/08)*

715.4.6.3-715.4.7.3 Labeling No change to text *(FS120-07/08)*

Section 715.4.6.3.1 Renumber and Change to read as shown: *(FS116-06/07; FS120-07/08)*

715.4.6.3.1-715.4.7.3.1 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 protection requirements of NFPA 252. "H" shall indicate that the glazing meets the hose stream requirements of NFPA 252. "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 715.4.4.1. "NT" shall indicate that the glazing does not meet the temperature requirements of Section 715.4.4.1. The placeholder "XXX" shall specify the fire-protection-rating period, in minutes.

Section 715.4.6.4 Renumber and Change to read as shown: *(FS118-06/07; FS120-07/08)*

715.4.6.4-715.4.7.4 Safety glazing. Fire protection-rated glazing installed in fire doors in areas subject to human impact in hazardous locations shall comply with Chapter 24.

715.4.7-715.4.8 Door closing No change to text *(FS120-07/08)*

715.4.7.1-715.4.8.1 Latch required No change to text *(FS120-07/08)*

715.4.7.2-715.4.8.2 Automatic-closing fire door assemblies No change to text *(FS120-07/08)*

715.4.7.3-715.4.8.3 Smoke-activated doors No change to text *(FS120-07/08)*

715.4.7.4-715.4.8.4 Doors in pedestrian ways No change to text *(FS120-07/08)*

715.4.8-715.4.9 Swinging fire shutters No change to text *(FS120-07/08)*

715.4.9-715.4.10 Rolling fire shutters No change to text *(FS120-07/08)*

Section 715.5 Change to read as shown: *(FS102-06/07)*

715.5 Fire protection-rated glazing. Glazing in fire window assemblies shall be fire protection rated in accordance with this section and Table 715.5. Glazing in fire door assemblies shall comply with Section 715.4.6. Fire protection-rated glazing shall be tested in accordance with and shall meet the acceptance criteria of NFPA 257 or UL 9. Fire protection-rated glazing shall also comply with NFPA 80. 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. Wired glass in accordance with Section 715.5.3.
2. Fire protection-rated glazing in 0.5-hour fire-resistance-rated partitions is permitted to have an 0.33-hour fire-protection rating.

Table 715.5 Change table to read as shown: (FS124-06/07)

**TABLE 715.5
FIRE WINDOW ASSEMBLY FIRE PROTECTION RATINGS**

TYPE OF ASSEMBLY	REQUIRED ASSEMBLY RATING (hours)	MINIMUM FIRE WINDOW ASSEMBLY RATING (hours)
Fire walls	All	NP ^a
Interior walls:	Fire barriers	NP ^a
	Smoke barriers	3/4
	Fire partitions	3/4
		1/3
Exterior walls	> 1	1 1/2
	1	3/4
Party wall	All	NP

NP = Not Permitted.

a. Not permitted except as specified in Section 715.2.

Section 715.5.1 Change to read as shown: (FS102-06/07)

715.5.1 Testing under positive pressure. NFPA 257 or UL 9 shall evaluate fire protection-rated glazing under positive pressure. Within the first 10 minutes of a test, the pressure in the furnace shall be adjusted so at least two-thirds of the test specimen is above the neutral pressure plane, and the neutral pressure plane shall be maintained at that height for the balance of the test.

Section 715.5.2 Change to read as shown: (FS102-06/07)

715.5.2 Nonsymmetrical glazing systems. Nonsymmetrical fire protection-rated glazing systems in fire partitions, fire barriers or in exterior walls with a fire separation distance of 5 feet (1524 mm) 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 or UL 9.

Section 715.5.3 Add new section to read as shown: (FS118-06/07)

715.5.3 Safety glazing. Fire protection-rated glazing installed in fire window assemblies in areas subject to human impact in hazardous locations shall comply with Chapter 24.

~~715.5.3~~ **715.5.4 Wired glass** No change to text (FS118-06/07)

~~Table 715.5.3~~ **715.5.4 LIMITING SIZES OF WIRED GLASS PANELS** No change to text (FS118-06/07)

~~715.5.4~~ **715.5.5 Non-wired glass** No change to text (FS118-06/07)

~~715.5.5~~ **715.5.6 Installation** No change to text (FS118-06/07)

~~715.5.6~~ **715.5.7 Window mullions** No change to text (FS118-06/07)

~~715.5.7~~ **715.5.8 Interior fire window assemblies** No change to text (FS118-06/07)

Section 715.5.7.1 Renumber and change to read as shown: (FS136-07/08)

~~715.5.7.1~~ **715.5.8.1 Where 3/4 hour fire protection window assemblies permitted.** Fire-protection-rated glazing requiring 45 minute opening protection in accordance with Table 715.5 shall be limited to fire partitions designed in accordance with Section 708 and fire barriers utilized in the applications set forth in Sections

706.3.6 and 706.3.8 where the fire-resistance rating does not exceed 1 hour.

Section 715.5.7.2 Renumber and change to read as shown: (FS136-07/08)

715.5.7.2 715.5.8.3 Area limitations. The total area of windows shall not exceed 25 percent of the area of a common wall with any room.

~~715.5.8~~ 715.5.9 Labeling requirements No change to text (FS118-06/07)

Section 715.5.8.1 Renumber and change to read as shown: (FS102-06/07, FS129-06/07)

~~715.5.8.1~~ 715.5.9.1 Identification. For fire protection-rated glazing, the label shall bear the following two-part identification: "OH – XXX." "OH" indicates that the glazing meets both the fire protection and the hose-stream requirements of NFPA 257 or UL 9 and is permitted to be used in openings. "XXX" represents the fire-protection rating period, in minutes, that was tested.