

CODE CONSIDERATIONS IN FIRE RATED GLASS

PRESENTED BY



Fire-rated tests are created for specific levels of protection required by code

Window / Door Test
FIRE PROTECTIVE
NFPA 257/252



Contains flame and smoke

45 minutes and under

Wall Test
FIRE RESISTIVE
ASTM E119/NFPA 251



Contains flame and smoke AND
blocks radiant heat for applications

over 45 minutes

Fire Door Applications

- **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 degrees F (250 degrees C) above ambient at the end of 30 minutes of standard fire test exposure.
- **715.4.4.1 Glazing in doors.** Fire-protection-rated glazing in excess of 100 square inches shall be permitted when tested to have a maximum transmitted temperature rise of 450 degrees F in accordance with Section 715.4.4

Fire Door Applications

- **715.4.6.1 Size limitations.** Wired glass used in fire doors shall comply with Table 715.5.3.

Other fire-protection-rated glazing 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 as a horizontal exit. A self-closing swinging door shall be permitted to have a vision panel of up to 100 sq. in.
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 sq. in.

These exceptions override NFPA 80 glass size limits for 60-and 90-minute doors.

Remember: Per Section 715.2, glazing tested to ASTM E119 is not subject to these limits.

IBC 2006 Table 715.4 -Fire Door & Shutter Ratings

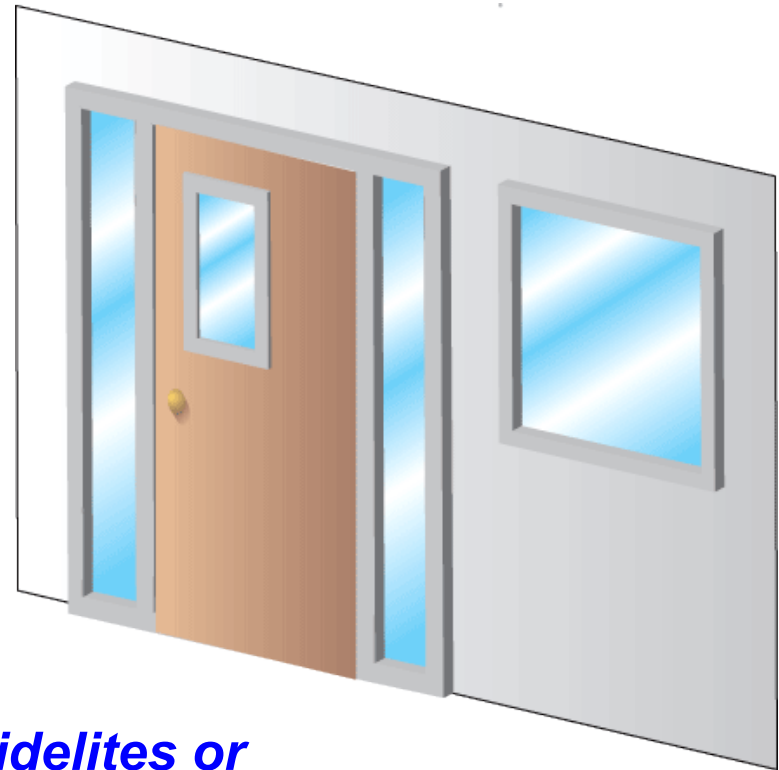
Type of Assembly	Required Assembly Rating (Hours)	Minimum Fire Door Assembly Rating
Fire walls/barriers rated greater than 1 hour	4	3
	3	3
	2	1-1/2
	1-1/2	1-1/2
Fire barriers rated 1-hour: Shaft, exit enclosure, exit passageway walls Other fire barriers	1	1
	1	3/4
Fire partitions: Corridor walls Other fire partitions	1	1/3
	1/2	1/3
	1	3/4
	1/2	1/3
Exterior walls	3	1-1/2
	2	1-1/2
	1	3/4
Smoke barriers	1	1/3

2 Hour Fire Barriers

- 90 minute Fire Resistance rated as large as the size tested
- 90 minute Fire Protection rated no larger than 100 sq. in.
- Door Opening - 90 minute
- Sidelites and Transoms
2 hour Fire Resistance rated
- Other Glazed Assembly Openings
2 hour Fire Resistance rated

No 90-minute Fire Protection rated sidelites or transoms are allowed! NFPA 80 (1999) 2-3.3.2

2 Hour Fire Resistance rated glazing must be used.

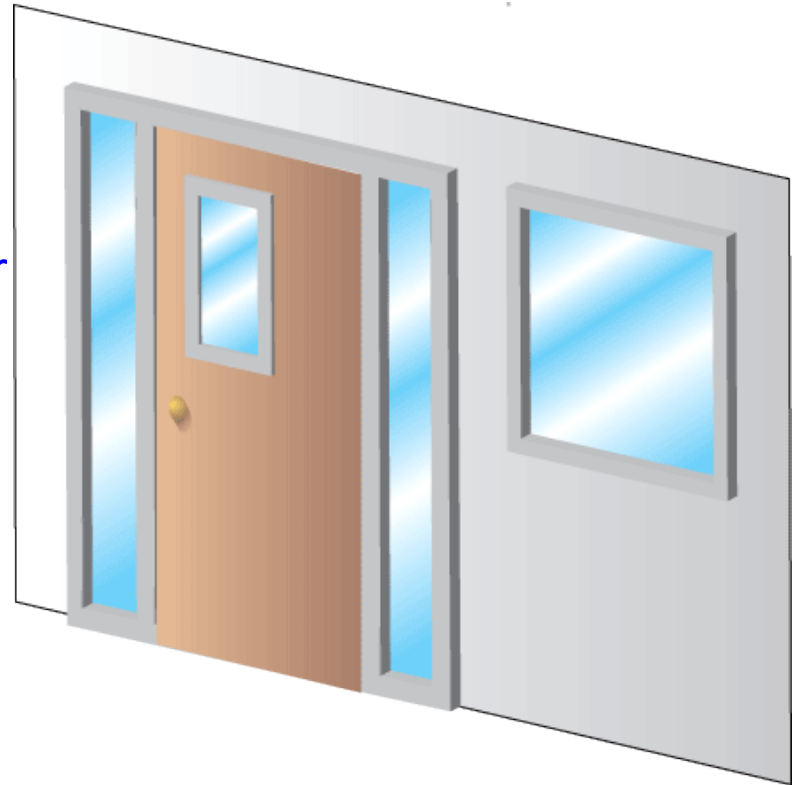


1 Hour Fire Barriers

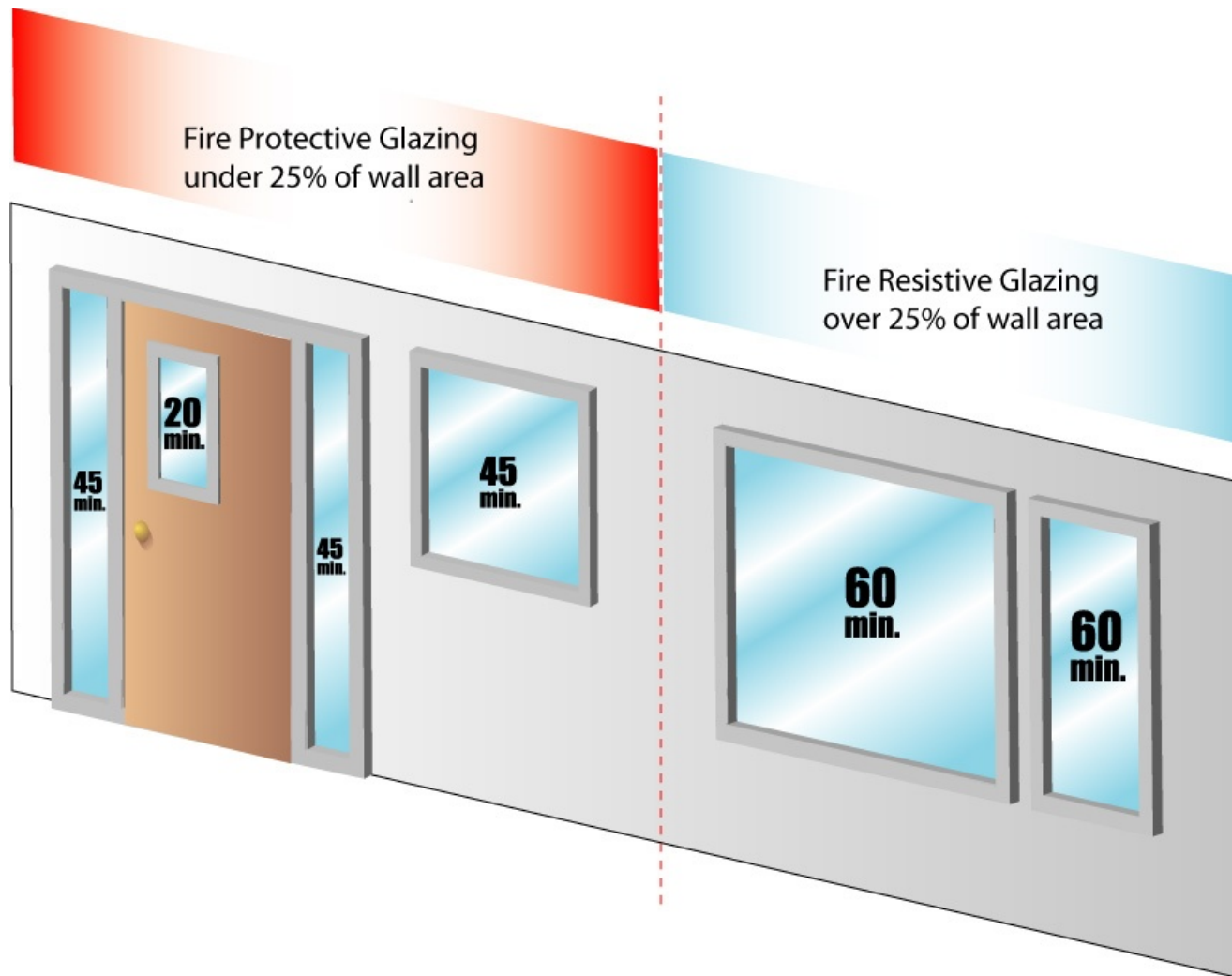
Door Vision Panel

- 1 hour Fire Resistance rated as large as the size tested
- 1 hour Fire Protection rated no larger than 100 sq. in.

Sidelites and transoms can only be 1 hour Fire Resistance rated! IBC 2006, 715.2, 715.4.4, NFPA 80 (1999) 2-3.3.2



Hour Fire Partitions - Exit Corridors



For vision areas that exceed 25% of common wall specify 1 hour Fire Resistance rated glazing.

Replacement Glazing Codes Issues

- IBC 2006 section 2401.2
 - Must meet new installation requirements
- Field modification of fire rated and listed assemblies
 - Requires Third Party Certification