

## Fire Doors (Class Number 4100)

Fire doors are designed to protect openings in walls and elevator or stair enclosures against the spread of fire within buildings or from an external source when installed according to National Fire Protection Association Standard for Fire Doors and Windows, NFPA 80. Fire doors are classified into one of the following categories: Swinging (hollow metal and composite), Sliding (hollow metal and composite), Metal Clad, Rolling Steel, Jackknife, Sheet Metal, Passenger Elevator and Special Purpose.

FM Approval is based primarily on fire tests conducted according to the National Fire Protection Association (NFPA) Standard 252 (1995), "Standard Methods of Fire Tests of Door Assemblies", American Society for Testing and Materials (ASTM) E 152 (Discontinued 1995), "Standard for Fire Tests of Door Assemblies", or where noted, Uniform Building Code (UBC) Standard No. 7-2 (1997), "Fire Tests of Door Assemblies". Several foreign countries have comparable fire test methods that are also acceptable as noted. Based on these tests, fire resistance ratings of 4, 3, 1 1/2 and 3/4 hours, 30 or 20 minutes is assigned to the assembly to indicate the duration of the fire exposure. The maximum permissible door size of a specific type and manufacture bearing the FM Approval mark is the largest door successfully fire tested according to these procedures.

Most manufacturers can provide doors which contain glass vision panels or lights according to the hourly rating and size limitations shown below. The cutout in the door panel for the glass vision panels shall be made at the manufacturing plant or by authorized modifying distributors that are under FM Approvals follow-up quality audit program. The manufacturer or modifying distributor generally supplies the glazing frame but normally does not supply the glazing itself. Only fire-rated glazing bearing a permanent certification marking shall be used. The glazing generally is installed by someone other than the door manufacturer at the time of the door installation. The limitations are:

Rating (hr)	NFPA 252 (1995), ASTM E 152 Exposed Area (max)	Max Dimension
4 or 3	not allowed	-
1 1/2	100 in. <sup>2</sup> (0.06 m <sup>2</sup> )	33 in. (0.84 m)
up to 3/4	1296 in. <sup>2</sup> (0.84 m <sup>2</sup> )	54 in. (1.37 m)

Rating (hr)	UBC 7-2 (1997) Exposed Area (max)	Max Dimension
4 or 3	not allowed	-
1 1/2	100 in. <sup>2</sup> (0.06 m <sup>2</sup> )	10 in. (0.25 m)
up to 3/4	1296 in. <sup>2</sup> (0.84 m <sup>2</sup> )	54 in. (1.37 m) wide 51 in. (1.30 m) high

Fire doors can be provided with a temperature transmission rating which provides the anticipated temperature rise developed on the unexposed surface of the door after 30 minutes of fire exposure. This rating, if applicable, shall be shown on the label denoting FM Approval. If no rating is shown, the temperature transmission on the unexposed surface will exceed 650°F (343°C) at 30 minutes. Temperature transmission ratings are available at 250°F, 450°F and 650°F (121°C, 232°C and 343°C).

Fire doors are either self-closing or provided with an automatic-closing device activated by a product of combustion detection device, and are to be installed in either concrete or masonry walls, unless shown otherwise in the individual listings. Only FM Approved detection devices, such as fusible links, heat detectors or smoke detectors shall be used. Approved electromechanical devices, which are designed to hold doors open during normal use and release them to close upon receipt of a signal from an external source, may also be used. The location of the detection devices shall be according to NFPA 80, FM Global Property Loss Prevention Data Sheet

1-23 and the manufacturer's written installation instructions.

All fire doors shall contain a permanent, serialized label which shows the manufacturer's name and address, the FM Approval mark, the words "Fire Door," an hourly rating and the fire test designation. Temperature transmission ratings may also be shown. Refer to the introduction for each individual door type as some door types may require additional information. The labels may be metal (etched or embossed) secured to the door with rivets or welding, or self-adhered mylar labels. The labels denoting FM Approval shall be applied to the products at the manufacturing facility.

All fire doors that also meet UBC 7-2 (1997) shall also contain a permanent unserialized supplemental label which indicates that the door also has met the UBC 7-2 (1997) fire test designation. The labels may be metal (etched or embossed) secured to the door with rivets or welding, or self-adhered mylar labels. The supplemental labels shall be applied to the products at the manufacturing facility.

The method of operation for other than fire conditions is generally not restricted, provide that this operation does not interfere with the self-closing or automatic closing capability of the door under fire conditions. FM Approval recommends that all self-closing and automatic closing devices be tested at least annually. Doors that do not latch, engage or close completely at the proper closing speed should be repaired immediately by authorized, experienced personnel familiar with the particular type of door.

### Fire Doors, Special Purpose

Special purpose fire doors may be the composite or hollow metal type, but their intended end-use does not lend to their being included under those headings.

### FireGuard and FireGuard-G

FireGuard and FireGuard-G special purpose horizontal sliding, single and bi-parting accordion folding fire door. The door consists of two parallel, un-insulated accordion-type walls of panels independently suspended with no pantographs or interconnections except at the lead-post. The door is powered by a motor operator assembly. Max size: 95.1 ft<sup>2</sup> (8.8 m<sup>2</sup>) with the width of the opening not exceeding 10 ft 8 in (3.3 m) and the height of the opening not exceeding 8 ft 11 in (2.7 m). Rated up to 3 hours.

<b>Company Name:</b>	Won-Door Corporation
<b>Company Address:</b>	1865 S 3480 West, Salt Lake City, Utah 84104, USA
<b>Company Website:</b>	<a href="http://www.wondoor.com">http://www.wondoor.com</a>
<b>Listing Country:</b>	United States of America
<b>Maximum Hourly Rating:</b>	3
<b>Certification Type:</b>	FM Approved