

FIRE DOOR LISTING PROGRAM

Customer: BASF SE
 Class: Fire Doors
 Location: Frankenthal, Germany
 Website: www.basf.com

Listing No. F411-1
 Project No. F411-1 Edition 8

Effective Date: October 12, 2012
 Last Revised Date: November 12, 2020

Standards: CAN/ULC S104	<i>Standard Method for Fire Tests of Door Assemblies.</i>
UL 10B	<i>Fire Tests of Doors Assemblies.</i>
UL 10C	<i>Fire Tests of Doors Assemblies.</i>
NFPA 252	<i>Standard Methods of Fire Tests of Door Assemblies.</i>

Product: 60 min Rated Positive Pressure Fire Doors

Markings: See [FD001 - Fire Door Labeling requirements](#)

Models: **60-MINUTE LAMINATED CORE PANEL AND FLUSH DOORS:**

MAXIMUM DOOR SIZES:

Minimum 1-3/4" Thickness

Swing Type:	Maximum Dimensions		Panel Type:	Latching:
	Width:	Length:		
Single Swing	3'6" (1067 mm)	9'0" (2743 mm)	Flat or Raised, Glazing	Single Point 2 Point
	4'0" (1219 mm)	8'0" (2438 mm)		
Full Arched Top Single Swing	3'6" (1067 mm)	9'0" (2743 mm)	Flat or Raised	
Standard Pairs	7'0" (2134 mm)	8'0" (2438 mm)	Flat or Raised, Glazing	3 or 4 point
	8'0" (2438 mm)	7'0" (2134 mm)		
Double Egress Pairs	7'0" (2134 mm)	8'0" (2438 mm)	Flat or Raised	4 point

Note: All door constructions can be built as flush doors using flush faces, and flush doors can be V-grooved as per Manufacturing Specifications. Door thickness may be increased to 2" or 2 1/4" by adding face material.

Minimum 2-1/4” Slab Thickness

Swing Type:	Maximum Dimensions		Panel Type:	Latching:
	Width:	Length:		
Single Swing	4’0” (1219 mm)	10’0” (3048 mm)	Raised only	2 point
Pairs	8’0” (2438 mm)	10’0” (3048 mm)	Raised only	4 point
Double Egress	See above.			

Temperature rise

- @30 min = 250°F MAX where lites do not exceed 100 in²
- @60 min = 450°F MAX, or 250 °C MAX, where lites do not exceed 100 in²

Single Point Latching – Cylindrical or Mortise latches and deadbolts, or rim type fire exit hardware for single swing doors, or active leaf of pairs when permitted.

Two Point Latching – Surface mount or Concealed vertical rod exit devices for single swing doors. Concealed vertical rod exit devices requires special door construction and is acceptable per the manufacturing specifications.

Three Point Latching – Single point latch for active leaf of standard pairs, Surface mounted manual, or mortise type or manual or automatic flush bolts for inactive leaf of standard pairs.

Four Point Latching - Surface mount or concealed vertical rod exit devices for both leaves of pairs. Concealed vertical rod exit devices requires special door construction and is acceptable per the manufacturing specifications (not for double egress pairs).

CATEGORY “A” AND “B” DOORS

- **CATEGORY “A”** doors contain intumescent in the door vertical edges and header. The top of door will be marked “CATEGORY A” or “CATEGORY B”.
- **CATEGORY “B”** doors and doors conforming to **CAN/ULC S104 (Canada)** do not require the door edge intumescent for single swing door applications, intumescent is optional. For doors swinging in pairs, intumescent is required at the meeting edges only.

Category A doors are to be matched with Category A or Category B labels. Category B doors can only bear labels outlining door for use in Category B applications.

Latch Sets (Listed and labeled for use in wood or composite doors rated to 60 minutes and evaluated to UL 10C)

- Cylindrical Latches
 - Maximum 2-1/8” diameter bore.
 - Maximum 2-3/4” backset.
 - Minimum 1/2” throw.
- Mortised Latch
- Carlock Type Mortise latches - see Appendix B for some Listed units



Deadbolts (Listed and labeled for use in wood or composite doors rated to 60 minutes and evaluated to UL 10C)

- Maximum 2-1/8" diameter bore.
- Maximum 2-3/4" backset.
- Located a minimum of 3-1/2" center-line to center-line above the latch set.
 - Interconnected Deadbolts are allowed.

Hinges (Listed and labeled for rated opening)

- Hinges as per NFPA 80, Table 6.4.3.1.
- Listed Concealed hinges; SOSS #218 or TECTUS are allowed [See Figure 6].
 - Pocket dimensions machining per manufacturer's instructions.
 - Special hinge stile construction required (Refer to F411-60-1-MFG Specification).

Fire Exit Devices (Listed and labeled for rated opening)

- Surface Mounted Vertical Rod Fire Exit Device.
- Rim Type Fire Exit Devices.
- Through-bolts are required
- Concealed Vertical Rod Fire Exit Device [See Figure 5], requires special door construction.
- CVR construction is also required for flush bolt extensions.

Door Closers (Listed and labeled for rated opening)

- Surface Mounted Door Closers are required to be mounted with through-bolts unless optional reinforcements are noted in marking on the top of the door.
- Concealed Door Closers [See Figures 3 and 4].

Surface Mounted Protection Plates

- Permitted

Louvers

- Listed louvers shall be located below the latch elevation.

Metal Edges/Astragals (Listed and labeled for rated opening)

- Metal edges and Z-Astragal set for meeting edges of pairs optional (not required).
- Metal edges not permitted for positive pressure Category A doors.

Viewers (Listed and labeled for rated opening)

- Maximum size of 1" diameter.
- Multiple viewers located a minimum of 12" on center.
- Viewers located a minimum 5-1/2" away from edges of doors.
- Shall be located in 1 3/4" thick door section

Glass Lights (Listed and labeled for rated opening)

- Permitted for single swing doors or standard pairs, not for double egress.
- Glazing material shall be Listed and labeled for rated opening, light kit and door type.
- Glazing installed in accordance with NFPA 80, and the Listed light kit frame installation instructions.
- Maximum 1296 sq. in. area (Max Dimension of 54") with Listed Steel Lite Kit or 'Z' channel using Listed ceramic glazing [See Figure 1].



Plant-Ons

- MDF or solid wood plant-on moldings may be applied to one or both sides of a door.
- Adhesive and/or mechanical fasteners with a maximum penetration of 3/4".
- Moulding may not be applied closer than 3-1/2" to edge of door, edge of light or edge of hardware cutout.

Door Bottoms Seals (Listed and labeled for rated opening)

- Surface Mounted Snap-In in dual durometer vinyl with bulb and fins or with all fins, semi-mortised, or full-mortised bottom seals may be used [See Figure 2 for details].
- Cutout dimensions are restricted to 1" wide and 1-3/4" deep x full width of the door.

Electric Raceway

- Permitted (Refer to F411-60-1-MFG Specification).

Door Flush Bolts (Listed and labeled for rated opening)

- Surface mounted or Mortise, manual or automatic flush bolts.
Cutout dimensions limited to 1" wide x 8-1/2" long x 2" deep. [See Figure 6].

Concealed Vertical Rods (Listed and labeled for rated opening)

- Permitted (Refer to F411-60-1-MFG Specification).

Door Veneers and Inlays (Optional)

Flush Doors:

- Plastic Laminate (up to 1/16" thick).
- Wood Veneer (up to 1/16" thick).
- Metal Foil (up to 1/16" thick).
- Paper Finish (up to 1/16" thick).
- Fiberglass Reinforced Polymer (FRP) (up to 1/16" thick).
- Vinyl (up to 1/16" thick).
- Lead (up to 1/32" thick).

Recessed Panel Doors:

- Plastic Laminate (up to 1/16" thick).
- Wood Veneer (up to 1/16" thick).
- Metal Foil (up to 1/16" thick).
- Paper Finish (up to 1/16" thick).
- Glass Mirror (up to ~~4/8~~ 1/4" thick).

Surface Mounted Hardware

- Permitted

Notes: Refer to QAI evaluation report F411-1 and the applicable test reports for test assembly configurations used for fire endurance testing.

Refer to the [QAI FD002 - Fire Door Guidelines for general guidelines of fire door assemblies](#)

Final acceptance of the product in the intended application is to be determined by the authority having jurisdiction (AHJ).

Product is to be installed in accordance with the manufacturer's published installation instructions by qualified installing personnel.

The materials, products or systems listed herein have been qualified to bear the QAI Listing Mark under the conditions stated with each Listing. Only those products bearing the QAI Listing Mark are considered to be listed by QAI. No warrantee is expressed or implied, and no guarantee is provided that any jurisdictional authority will accept the Listing found herein. The appropriate authorities should be contacted regarding the acceptability of any given Listing. Visit the QAI Online Listing Directory located at www.qai.org for the most up to date version of this Listing and to validate that this QAI Listing is active. Questions regarding this listing may be directed to info@qai.org. Please include the listing number in the request.
