

## FIRE DOOR LISTING PROGRAM

Customer: BASF SE  
 Class: Fire Doors  
 Location: Frankenthal, Germany  
 Website: [www.basf.com](http://www.basf.com)

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

Effective Date: October 12, 2012  
 Last Revised Date: October 1, 2020

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

Product: 20 min Rated Positive Pressure Fire Doors

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

Models: **20-MINUTE LAMINATED CORE PANEL AND FLUSH DOORS:**

### Minimum 1-3/4" Thickness

Swing Type:	Maximum Dimensions		Panel Type:	Latching:
	Width:	Length:		
Single Swing	3'6" (1067 mm)	8'0" (2438 mm)	Flat or Raised	<b>Single Point</b> (Mortised or Cylindrical)
	4'0" (1219 mm)	7'0" (2134 mm)		
	3'6" (1067 mm)	9'0" (2743 mm)		
	4'0" (1219 mm)	8'0" (2438 mm)		
Arched Top Single Swing	3'6" (1067 mm)	9'0" (2743 mm)	Flat or Raised	
Pairs	7'0" (2134 mm)	8'0" (2438 mm)	Flat or Raised	<b>3 or 4 point</b> (Active: Mortised or Cylindrical) (Inactive: Mortised (Manual or Automatic) and Surface Mounted Bolts)
	8'0" (2438 mm)	7'0" (2134 mm)		
	8'0" (2438 mm)	8'0" (2438 mm)		
Double Egress	7'0" (2134 mm)	8'0" (2438 mm)	Flat or Raised	<b>4 point</b> (Concealed or Surface Mounted)

### Minimum 1-3/8" Thickness

Swing Type:	Maximum Dimensions		Panel Type:	Latching:
	Width:	Length:		
Single Swing	3'0" (914 mm)	7'0" (2134 mm)	Flush only	<b>Single Point</b> (Mortised or Cylindrical)
Pairs	Not Permitted			
Double Egress	Not Permitted			

\*All door assemblies are certified for Shallow Arch door construction

**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, or surface mount or concealed vertical rod exit devices for inactive leaf of pairs.

**Four Point Latching** - Surface mount or concealed vertical rod exit devices for both leaves of pairs. Concealed vertical rod exit devices require special door construction and is acceptable per the manufacturing specifications.

### CATEGORY “A” AND “B” DOORS

Category “A” Doors contain intumescent in the door vertical edges and header. Category “B” doors and doors conforming to CAN/ULC S 104 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.

### WITH OR WITHOUT HOSE STREAM

This specification provides a construction for “without hose stream” applications. The hose stream test is required for CAN/ULC S 104 (Canada) but optional for UL 10B, UL 10C and NFPA 252 (USA)

### COMPONENTS LIMITATIONS:: (Review Machining Report for further detail)

**Latch Sets** (Listed and labeled for use in 20 minute wood doors, including UL 10C)

- Cylindrical Latches
  - Maximum 2-1/8” diameter bore
  - Maximum 2-3/4” backset
  - Minimum 1/2” throw
- Mortised Latch
  - Minimum stile width 5”
  - For stile width from 4” to 5”
    - Mortised with the sides and the back of the pocket lined with Interdens Type 15.
    - Maximum mortise pocket dimensions: 15/16” x 6-1/2” x 4-1/2” (W x H x D).

**Deadbolts** (Listed and labeled for use in 20 minute rated wood doors, and UL 10C)

- Maximum 2-1/8” diameter bore, (cylindrical)
- Maximum 2-3/4” backset, (cylindrical)
- Located a minimum of 3-1/2” center-line to center-line above the latch set
  - Interconnected Deadbolts are allowed

- Mortised Deadbolt – see Mortised Latch Set section above

**Hinges** (Listed and labeled for use in wood doors, and UL10C)

- Hinges as per NFPA 80, Table 6.4.3.1
- Listed steel butt ball bearing type spring hinges
- SOSS, Tectus concealed hinges Listed for use in 20 minute rated wood doors are permitted.

**Fire Exit Devices** (Listed and labeled for use in 20 minute rated wood doors and UL 10C)

- Surface Mounted Vertical Rod Fire Exit Device
- Concealed Vertical Rod Fire Exit Device
- Rim Type Fire Exit Devices
- Through-bolts are optional unless required by hardware installation instructions.

**Door Closers** (Listed and labeled for rated opening)

- Surface Mounted Door Closers are required to be mounted with through-bolts
- Concealed Door Closers in the door and frame header

**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 1/4" thick).

**Face Grooves**

- Permitted for flush doors.

**Surface Mounted Protection Plates**

- Permitted, no limitations, fastened with adhesives or screws.

**Louvers**

- Listed Louvers permitted, installed in lower area of door, below latch level.

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

- Metal edges and Z-Astragal set for meeting edges of pairs, Optional.

**Viewers** (Listed and labeled for use in wood doors, and UL 10C)

- 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.
- Viewers shall be installed in 1 3/4" thick mid rail or panel section unless otherwise listed for wood doors.

**Electric Raceway**

- Allowed (Refer to F411-20-1-MFG Specification for door construction to accommodate raceway)

**Electric Power Transfer (EPT)** (Listed for use in 20 minute rated wood doors and UL 10C)

- Securitron Concealed Electrical Power Transfer.
- Mortised with the sides of the pocket lined with Interdens Type 15.
- Maximum mortise pocket dimensions: 1-1/4" x 7-3/4" x 1-5/8" (W x H x D).

**Flush Bolts** (Listed and labeled for rated opening)

- Mortise manual flush bolts
- Mortise automatic flush bolts. Cutout dimensions limited to 1" wide x 8-1/2" long x 2" deep.
- Flush bolt extensions permitted

**Concealed Closer**

- Perkomatic door edge closer install at or below latch level.
- Top of Door concealed closer

**Concealed Vertical Rod Hardware**

- Requires special door construction per manufacturing specifications (Refer to F411-20-1-MFG Specification for door construction to accommodate concealed vertical rod)

**Glass Lights** (Listed and labeled for rated opening)

- 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 with Listed Steel Lite Kit (Max Dimension of 54")
  - For all BASF SE – 20 minute doors
- Maximum 2656 sq. in. area (Maximum Dimension of 83")
  - For BASF SE – Stile & Rail Doors with Structural Composite Lumber (SCL) Stiles and Rails
  - Maximum 9/16" x 9/16" Square wood stops made MDF or solid wood with specific gravity  $\geq 0.44$  @ 12% m.c. (Stops can be made of any profile that fits within the 9/16" x 9/16" square stop)
    - Single layer of BASF Palusol 100 encapsulated with PVC (Between the stop and the glass)
- Maximum 1296 sq. in. with Listed BASF proprietary steel channel lite kit

using Listed ceramic or wired glazing

**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 or Seals** (Listed for use in 20 minute rated wood doors)

- 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
- Cutout dimensions are restricted to 1" wide and 1-3/4" deep x full width of the door.

**Surface Mounted Hardware** (Listed and labeled for use in 20 minute rated wood doors)

- 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.*

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