



TECHNICAL DATA

Fire Door Frames



SPECIFICATIONS

SECTION 08100 - FIRE DOOR FRAMES

1.0 GENERAL

- 1.1 **Scope:** This specification applies to fire door frames as manufactured by Premier Products, Inc., Monroe, Louisiana
- 1.2 **Quality Assurance:** Fire door frames shall bear labels or stamped listing markings of Underwriters Laboratories, Inc. or Warnock Hersey International.

2.0 PRODUCTS

- 2.1 **Steel:** Provide door frames fabricated from commercial quality steel complying with ASTM A1008 (uncoated), ASTM A568 or ASTM A653 (hot dipped galvanized).
- 2.1.1 **Door Frame Construction:** Provide door frames fabricated from a minimum of 16 gage and a maximum of 14 gage commercial quality steel. All bends shall be brake formed to assure a true, sharp radii and to minimize camber.
- 2.2 **Drywall Frames:** Provide drywall door frames knock-down.
- 2.2.1 **Conventional Frames:** Provide conventional frames either knock-down or set-up and welded.
- 2.2.2 **Transom Frames:** Provide transom frames set-up and welded only.
- 2.3 **Hardware Provision:** Provide frames with 9 gage steel hinge reinforcements projection welded to the frame in six

places. Standard hardware provisions for door frames for 1 1/4" (44) thick doors shall be for template 4 1/2" x 4 1/2" (114 x 114) regular weight .134" (3) hinges and an ANSI A115.1 or A115.2 4 7/8" (124) universal strike. Frames up to 7' 2" (2184) high shall have a minimum of three hinge provisions, frames over 7' 2" (2184) high through 10' 0" (3048) high shall have four hinge provisions.

- 2.4 **Other Reinforcements:** Provide hardware provisions in accordance with requirements of the finish hardware schedule and templates. Reinforcing shall be in accordance with ANSI A250.8.
- 2.5 **Painting:** All door frames shall be phosphatized, prime painted by dip process to insure heavy, complete coverage and oven baked.
- 2.6 **Fire Protection:** Provide frames with fire ratings from Underwriters Laboratory or Warnock Hersey International in accordance with the frame schedule.

3.0 EXECUTION

- 3.1 **Installation:** Contractor to provide installation of the frames plumb, square and in true alignment. Use wood installation spreader at base, strike and mid-top locations to insure constant and proper jamb opening for door.

FIRE DOOR FRAMES

PREMIER offers a complete line of fire door frames for 1 3/4" (44) thick labeled fire doors to meet most fire protection requirements. Since fire rating requirements vary throughout the country, local authorities having jurisdiction regarding the use of label openings should be consulted during the design and planning stage.

UNDERWRITERS LABORATORIES (UL)

Frames approved by Underwriters Laboratories, Inc. have been investigated, fire tested and have met the conditions of acceptance for tests UL10B (neutral pressure) and **UL10C, UBC7-2 (1997) part 1 (positive pressure)**. Frames are produced under the Underwriters Laboratories' factory inspection and labeling program.

WARNOCK HERSEY INTERNATIONAL (WHI)

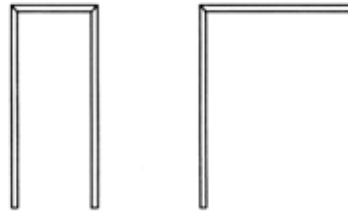
Frames having the Warnock Hersey International, Inc. label have been tested for the fire endurance and hose stream test in accordance with ASTM E-152. The test results complied with the conditions of acceptance for this standard and are produced under Warnock Hersey's factory inspection and labeling service program.

DOOR FRAME RATINGS

Frames for fire doors are not affected by the exposure ratings and opening classifications that apply to doors. There are *no hourly ratings* for a basic fire door frame, unless the labeling on the frame specifically states that the frame is rated for something less than 3 hours. If a frame bears a recognized label qualifying it as a fire door frame, it may support a 3-hour, a 1 1/2-hour, a 1-hour or 3/4-hour door. Frames used in masonry walls may be used with a maximum 3-hour fire door, while frames used in drywall walls may be used with a maximum 1 1/2-hour fire door.

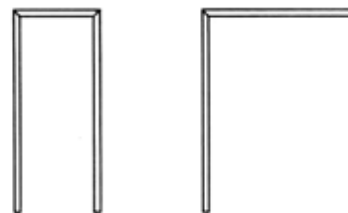
UL and WHI frames are available with **loose anchors**. Frames for masonry, wood stud or steel stud walls can be furnished. Anchors and installation instruction sheets are packaged with each frame or packaged with frame anchors.

CONVENTIONAL FRAMES



- Maximum door opening size:
Single swing: 4' - 0" (1219) x 10' - 0" (3048)
Pairs: 8' - 0" (2438) x 10' - 0" (3048)
- Jamb depth: 3" (76) to 12 3/4" (324)
- Frame steel thickness: 16 gage or 14 gage
- Frame construction: knocked-down or set-up and welded
- Frames with 4" (102) face heads are available
- Frames with hospital stops are available
- Communicating frames are available
- Maximum rating: 3 hours

DRYWALL FRAMES



UL

- Maximum door opening size:
Single swing: 4' - 0" (1219) x 8' - 0" (2438)
Pairs: 8' - 0" (2438) x 8' - 0" (2438)

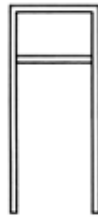
WHI

- Maximum door opening size:
Single swing: 4' - 0" (1219) x 9' - 0" (2743)
Pairs: 6' - 0" (1829) x 9' - 0" (2743)

UL and WHI

- Jamb depth: 4 3/4" (121) to 10" (254)
- Frame steel thickness: 16 gage
- Frames with hospital stops are available
- Communicating frames are available
- Maximum rating: 1 1/2 hours

TRANSOM FRAMES WITH WOOD PANELS



**TRANSOM FRAME
WITH TRANSOM BAR**

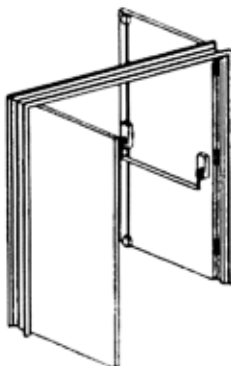
- Maximum door opening size:
4' - 0" (1219) x 8' - 0" (2438)
- Maximum panel height: 4' - 0" (1219)
- Jamb depth: 4 3/4" (121) to 12 3/4" (324)
- Frame steel thickness: 16 gage or 14 gage
- Wood panel requirement: **Weyerhaeuser Co.** listed transom panel only
- Maximum rating: 1 1/2 hours



**TRANSOM FRAME
WITHOUT TRANSOM BAR**

- Maximum door opening size:
4' - 0" (1219) x 8' - 0" (2438)
- Maximum panel height: 4' - 1/2" (1232)
- Jamb depth: 4 3/4" (121) to 12 3/4" (324)
- Frame steel thickness: 16 gage or 14 gage
- Wood panel requirement: **Algoma Hardwoods, Inc.** model 11DT transom panel
- Door requirement: **Algoma Hardwoods, Inc.** model 11DT fire door
- Maximum rating: 1 1/2 hours

DOUBLE EGRESS FRAMES



- Maximum door opening size:
8' - 0" (2438) x 8' - 0" (2438)
- Jamb depth: 4 3/4" (121) to 12 3/4" (324)
- Frame steel thickness: 16 gage or 14 gage
- Frames are provided for listed vertical rod fire exit hardware strikes
- For use with **Premier** classified double egress fire doors
- Maximum rating: 1 1/2 hours

FIRE WINDOW FRAMES

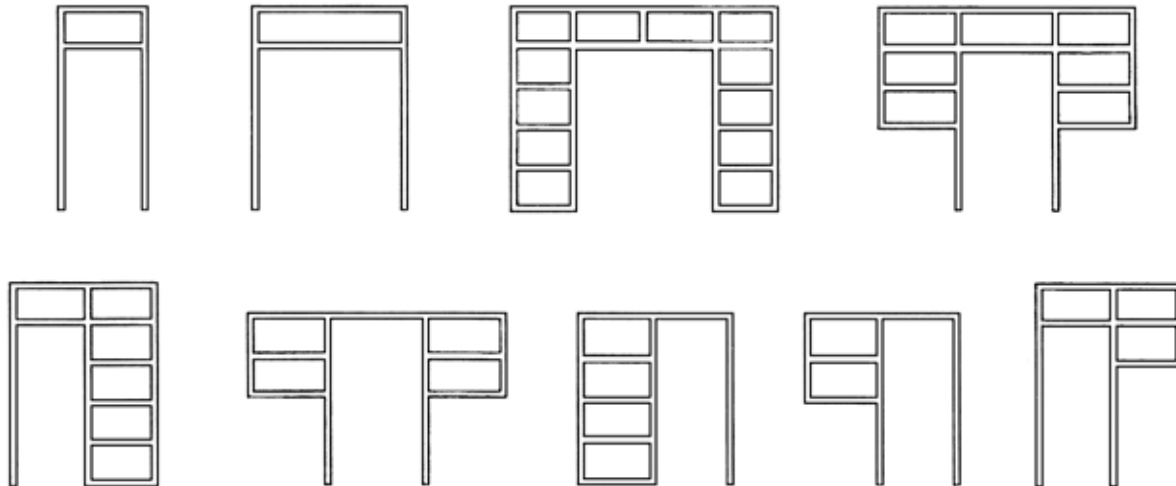


- Maximum overall frame size:
13' - 6" (4115) wide x 12' - 0" (3658) high (see rating)
- Jamb depth: 4 3/4" (121) to 12 3/4" (324)
- Frame steel thickness: 16 gage or 14 gage
- Rating:
 - 1/4 hour frame installed in a masonry opening with a masonry sill shall not exceed 13'-6" (4115) wide x 12'-0" (3658) high
 - 1/4 hour frame installed in a drywall opening with a masonry sill shall not exceed 10'-0" (3048) wide x 5'-1" (1549) high
 - 1 hour frame installed in a masonry opening with a masonry sill shall not exceed 10'-2" (3099) wide x 10'-1" (3073) high
 - 1 hour frame installed in a drywall opening with a masonry sill shall not exceed 10'-2" (3099) wide x 10'-1" (3073) high
 - 1 hour frame installed in a drywall opening on all sides shall not exceed 9'-2 1/2" (2807) wide x 4'-11 1/4" (1511) high

FIRE WINDOW GLAZING

Maximum Rating	Maximum Area (sq. in.)	Maximum Width	Maximum Height	Glazing	Stop Height
1/4 Hour	1296 (836,127)	54" (1372)	54" (1372)	1/4" (6) thick listed wire glass	1/4" (16)
	4704 (3,034,833)	98" (2489)	98" (2489)	1/4" (6) thick Pilkington wired glass with Pemko FG3000 glazing compound	
1 Hour	2721 (1,755,480)	54" (1372)	77 1/2" (1975)	1/4" (5) thick "Firelite" ceramic glass with DAP-33, pure silicone or metacaulk 990 glazing compound	

TRANSOM / SIDELIGHT FRAMES



- Maximum overall frame size:
13' 6" (4115) wide x 12' - 0" (3658) high installed in masonry
12' 10" (3912) wide x 11' - 7 1/2" (3543) high installed in drywall
- Jamb depth: 4 1/4" (121) to 12 1/4" (324)
- Frame steel thickness: 16 gage or 14 gage
- Maximum rating: 1 1/2 hours with panels and 1 hour with glass
- Maximum panel size:
Transom: 1 1/4" (44) thick panel (door construction) 90" (2286) wide x 46" (1168) high
1/2" (13) or 5/8" (16) thick solid panel 30" (762) wide x 40" (1016) high
Side: 1 1/4" (44) thick panel (door construction) 46" (1168) wide x 90" (2286) high
1/2" (13) or 5/8" (16) thick solid panel 36" (914) wide in masonry and 32" (813) wide in drywall x 54" (1372) high
- Minimum stop height for panels is 5/8" (16)

TRANSOM / SIDELIGHT GLAZING					
Maximum Rating	Maximum Area (sq. in.)	Maximum Width	Maximum Height	Glazing	Stop Height
3/4 Hour	1296 (836,127)	54" (1372)	54" (1372)	1/4" (6) thick listed wire glass	5/8" (16)
	4704 (3,034,833)	106" (2692)	NOTE ①	1/4" (6) thick Pilkington wired glass with Pemko FG3000 glazing compound	
1 Hour	2721 (1,755,480)	54" (1372)	77 3/4" (1975)	3/16" (5) thick "Firelite" ceramic glass with DAP-33, pure silicone or metacaulk 990 glazing compound	

NOTE ①: 36" (914) for transom lights and 106" (2692) for side lights.



TECHNICAL DATA FIRE DOORS



FIRE DOOR OPENINGS

Door Rating	Wall Rating	Opening Description
3 Hour	4 Hour	Openings in walls that separate buildings or divide a single building into fire areas.
1 ½ Hour	2 Hour	Openings in enclosures of vertical communication or egress through buildings, such as, openings in stairwells and elevator shafts.
1 Hour	1 Hour	Openings that divide occupancies in a building.
¾ Hour	1 Hour	Openings in corridors or room partitions.
1 ½ Hour	2 Hour	Openings in exterior walls subject to severe fire exposure from outside of the building.
¾ Hour	1 Hour	Openings in exterior walls subject to moderate or light fire exposure from outside of the building.
½ Hour	1 Hour	Openings in corridors where smoke and draft control are required.

DOOR GLAZING LIMITATIONS

Door Rating	Maximum Exposed Area (sq. in.)	Maximum Width	Maximum Height	Number of Lights	Notes
3 Hour	100 (64,516)	12" (305)	33" (838)	1	① ②
1 ½ Hour	100 (64,516)	12" (305)	33" (838)	1	
1 ½ Hour	552 (356,409)	12" (305)	46" (1168)	4	②
¾ and ½ Hour	1296 (836,127)	36" (914)	54" (1372)	No Limit	
¾ and ½ Hour	2856 (1,842,556)	34" (864)	84" (2134)	4	②
20 min. w/o Hose Stream	1296 (836,127)	36" (914)	54" (1372)	No Limit	
20 min. w/o Hose Stream	2971 (1,916,805)	35 ¾" (908)	83 ⅛" (2111)	No Limit	

① When acceptable to the local authority having jurisdiction.

② Requires the use of specific glass and glazing compound.

FIRE DOORS

PREMIER offers a complete line of 1 3/4" thick labeled fire doors to meet most fire protection requirements. The construction conforms to fire door procedure whether the doors are furnished with labels or not. Since fire rating requirements vary throughout the country, local authorities having jurisdiction regarding the use of label openings should be consulted during the design and planning stage.

UNDERWRITERS LABORATORIES (UL)

Doors approved by Underwriters Laboratories, Inc. have been investigated, fire tested and have met the conditions of acceptance for tests UL10B (neutral pressure) and **UL10C, UBC7-2 (1997) part 1 (positive pressure)**. Doors are produced under the Underwriters Laboratories' factory inspection and labeling program.

WARNOCK HERSEY INTERNATIONAL (WHI)

Doors having the Warnock Hersey International, Inc. label have been tested for the fire endurance and hose stream test in accordance with ASTM E-152. The test results complied with the conditions of acceptance for this standard and are produced under Warnock Hersey's factory inspection and labeling program.

NOTES:

1. Door sizes shown in the schedule are the maximum sizes available from PREMIER.
2. The maximum hourly rating for doors have been shown in the schedule while doors with lower hourly ratings are also available.
3. The maximum rating for labeled fire doors is 3 hours. The other ratings available include 1 1/2, 1/4 or 1/8 hour or 20 minutes.
4. Labeled openings include door, frame and hardware. The effectiveness of the entire opening as a fire barrier may be destroyed if any component is omitted.
5. Doors manufactured under the various label procedures are similar, except as noted. When in doubt, consult PREMIER for availability.

S – Polystyrene. A pre-foamed polystyrene slab of 1.0# test density filling the inside of the door.

H – Honeycomb. The honeycomb core shall be 99# test, impregnated with water resistant resin.

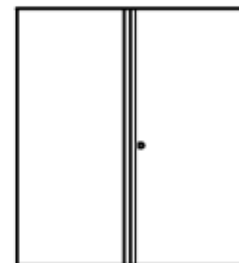
P – Polyurethane foamed-in-place. The core shall be closed cell and waterproof.

PS – Polyurethane foamed-in-place with vertical Z stiffeners.

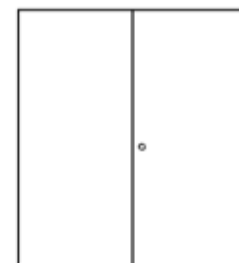
M – Mineral. The composite core is for temperature rise rated doors.



SINGLE DOORS



PAIRS OF DOORS
WITH ATTACHED ASTRAGAL

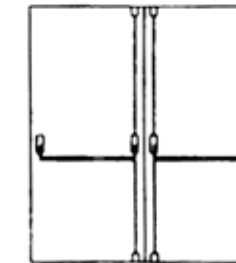


PAIRS OF DOORS
WITHOUT ATTACHED ASTRAGAL

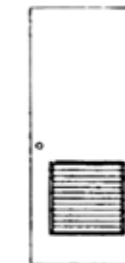
DOOR SERIES	UL		WHI	
	Maximum Door Size	Maximum Rating	Maximum Door Size	Maximum Rating
H20-4	4072	1 1/2 Hour	4090	1 1/2 Hour
P20-4			3070	1 1/2 Hour
S20-4	4072	1 1/2 Hour	4072	1 1/2 Hour
H18-4	4090	3 Hour	4090	1 1/2 Hour
P18-4			4080	3 Hour
PS18-4			3070	1 1/2 Hour
S18-4	4090	3 Hour	4090	3 Hour
H16-4	4090	3 Hour	4090	1 1/2 Hour
P16-4			4080	3 Hour
PS16-4				
S16-4	4090	3 Hour	4090	3 Hour
M18-4	4072	3 Hour		
	4080	1 1/2 Hour		
M16-4	4072	3 Hour		
	4080	1 1/2 Hour		

DOOR SERIES	UL		WHI	
	Maximum Door Size	Maximum Rating	Maximum Door Size	Maximum Rating
H20-4	8072	1 1/2 Hour	6090	1 1/2 Hour
P20-4			8080	1 1/2 Hour
S20-4	8072	1 1/2 Hour	6070	1 1/2 Hour
H18-4	8072	1 1/2 Hour	8072	1 1/2 Hour
P18-4	8080	3 Hour	6090	1 1/2 Hour
PS18-4			8080	1 1/2 Hour
S18-4			6070	1 1/2 Hour
S18-4	8080	1 1/2 Hour	6070	1 1/2 Hour
H16-4	8080	3 Hour	8080	1 1/2 Hour
P16-4			6090	1 1/2 Hour
PS16-4			8080	1 1/2 Hour
S16-4	8080	1 1/2 Hour	8080	1 1/2 Hour
M18-4	8072	3 Hour		
M16-4	8072	3 Hour		

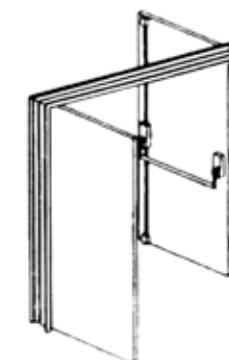
DOOR SERIES	UL		WHI	
	Maximum Door Size	Maximum Rating	Maximum Door Size	Maximum Rating
H20-4	8080	1 1/2 Hour	6090	1 1/2 Hour
P20-4			6070	1 1/2 Hour
S20-4	8080	1 1/2 Hour	8072	1 1/2 Hour
H18-4	8080	1 1/2 Hour	6090	1 1/2 Hour
P18-4			6070	1 1/2 Hour
PS18-4			6070	1 1/2 Hour
S18-4	8080	1 1/2 Hour	8080	1 1/2 Hour
H16-4	8080	1 1/2 Hour	6090	1 1/2 Hour
P16-4				
PS16-4				
S16-4	8080	1 1/2 Hour	8080	1 1/2 Hour
M18-4				
M16-4				



PAIRS OF DOORS WITHOUT ASTRAGAL



DOORS WITH FUSIBLE LINK LOUVERS



DOUBLE EGRESS DOORS

DOOR SERIES	UL		WHI	
	Maximum Door Size	Maximum Rating	Maximum Door Size	Maximum Rating
H20-4	8080	1 1/2 Hour	6090	1 1/2 Hour
P20-4			6070	1 1/2 Hour
S20-4	8080	1 1/2 Hour	8072	1 1/2 Hour
H18-4	8080	1 1/2 Hour	6090	1 1/2 Hour
P18-4			6070	1 1/2 Hour
PS18-4			6070	1 1/2 Hour
S18-4	8080	1 1/2 Hour	8080	1 1/2 Hour
H16-4	8080	1 1/2 Hour	6090	1 1/2 Hour
P16-4				
PS16-4				
S16-4	8080	1 1/2 Hour	8080	1 1/2 Hour
M18-4				
M16-4				

Doors must be provided with UL approved vertical rod fire exit hardware on each leaf. (Less bottom rod also permitted).

Pairs of doors using UL approved mortise by vertical rod fire exit hardware must have an attached astragal. (Consult PREMIER.)

Pairs of doors using UL approved rim by rim type fire exit hardware must use a UL approved hardware mullion. (Consult PREMIER.)

DOOR SERIES	UL		WHI	
	Maximum Door Size	Maximum Rating	Maximum Door Size	Maximum Rating
H20-4	4072	1 1/2 Hour	4090	1 1/2 Hour
P20-4			3070	1 1/2 Hour
S20-4	4072	1 1/2 Hour	3672	1 1/2 Hour
H18-4	4090	1 1/2 Hour	4090	1 1/2 Hour
P18-4			3070	1 1/2 Hour
PS18-4			3070	1 1/2 Hour
S18-4	4090	1 1/2 Hour	3672	1 1/2 Hour
H16-4	4090	1 1/2 Hour	4090	1 1/2 Hour
P16-4				
PS16-4				
S16-4	4090	1 1/2 Hour	3672	1 1/2 Hour
M18-4				
M16-4				

Doors with louvers shall not be provided with glass lights, vision panels, or fire exit hardware. Maximum louver size is 24" x 24" (711 x 711) per door leaf.

Pairs of doors may also be furnished with one louver in each leaf. The maximum door size of each leaf is the same as the single door size indicated in the schedule.

DOOR SERIES	UL		WHI	
	Maximum Door Size	Maximum Rating	Maximum Door Size	Maximum Rating
H20-4	8080	1 1/2 Hour	8072	1 1/2 Hour
P20-4				
S20-4	8080	1 1/2 Hour		
H18-4	8080	1 1/2 Hour	8072	1 1/2 Hour
P18-4				
PS18-4				
S18-4	8080	1 1/2 Hour		
H16-4	8080	1 1/2 Hour	8072	1 1/2 Hour
P16-4				
PS16-4				
S16-4	8080	1 1/2 Hour		
M18-4				
M16-4				

For use with classified double egress PREMIER frames. Doors must be provided with UL approved vertical rod and fire exit hardware on each leaf. (Less bottom rod also permitted). May be provided with or without an astragal.

SUGGESTED PROCEDURE FOR THE SELECTION OF SWINGING FIRE DOORS AND FRAMES

- A. Determine the appropriate building code.
- B. Check and fulfill the fire insurance company's requirements for the specific building.
- C. Basic Fire Door Requirements — Use this check list:
 - 1. A fire door must have a label attached.
 - 2. A fire door frame must have either an attached or an embossed label.
 - 3. A fire door must be self-latching.
 - 4. A fire door must be self-closing.
 - 5. If a fire door is held open, it must be equipped with a listed heat responsive device, fusible link or a smoke detection device.
 - 6. A fire door must be free of any obstructions which could prevent the door from operating properly, i.e., wedge door stops, chains, hookbacks, etc.
 - 7. Only listed fire door hardware shall be used.
 - 8. A fire door must have steel bearing-type hinges. (Exception: Non-bearing plain steel hinges may be used if they are part of a listed assembly).
 - 9. Doors swinging in pairs that require astragals shall have at least one overlapping astragal. Pairs of doors within a means of egress shall not be equipped with an astragal that inhibits the free use of either leaf. A coordinator or open-back strike should be used to ensure proper closing.
 - 10. Fire doors with glass lights:
 - a. The glass frame and glazing bead must be metal.
 - b. The glass must be labeled as permitted by the labeling agency.
 - 11. Fire doors with fusible link louvers:
 - a. Only listed louvers can be used.
 - b. Louvers can be furnished in 1 1/4" (44) thick doors with a 1 1/2-hour or a 3/4-hour (no louver and glass light combinations are permitted).
 - c. Maximum louver size is 24" x 24" (610 x 610).
 - d. Louvers are not permitted to be installed in doors with fire exit hardware or in stairwells.
- D. For maximum fire protection, Standard Number 80 of the National Fire Protection Association should be used for an installation guide.
- E. Purchase doors from a recognized, responsible manufacturer whose fire doors and frames are produced to conform to Fire Door Procedures and are subject to periodic inspections.