

NFPA 80

Standard for Fire Doors and Other Opening Protectives

2007 Edition



NFPA, 1 Batterymarch Park, Quincy, MA 02169-7471
An International Codes and Standards Organization

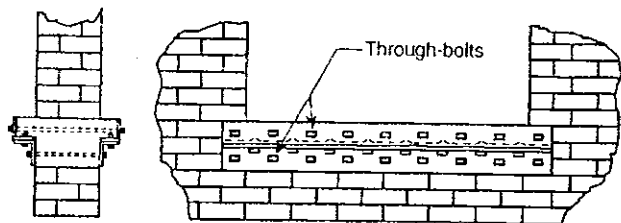


FIGURE A.4.8.2.8(c) Z-bar and Concrete Sill Used with Combustible Floors.

A.4.8.6 See Figure A.4.8.6(a) and Figure A.4.8.6(b).

A.4.9 Fire doors, shutters, or fire windows are of value only if properly installed so that they close at the time of fire. At the time of the initial installation, each releasing means that part of the releasing system should be tested to verify that the door will close regardless of which fusible link is operated. This includes items such as heat or smoke detectors that might not have been installed by the fire door installer.

A written record documenting the installation and operational test(s) should be maintained on site by the person(s) responsible for keeping maintenance records. Various organizations have developed and make available test and maintenance forms specifically for this purpose.

A.5.1 Walls with openings have less fire resistance than unpierced walls. Fire doors, shutters, and fire windows are designed to protect the opening under normal conditions of use, with clear spaces on both sides of the opening. Where the opening is not used and combustible material could be piled against or near the door, window, or shutter, the designed protection cannot be expected.

A.5.2 Fire doors, shutters, and windows are of no value unless they are properly maintained and closed or are able to close at the time of fire. A periodic inspection and maintenance program should be implemented and should be the responsibility of the property management.

A.5.2.1 Hinges, catches, closers, latches, and stay rollers are especially subject to wear.

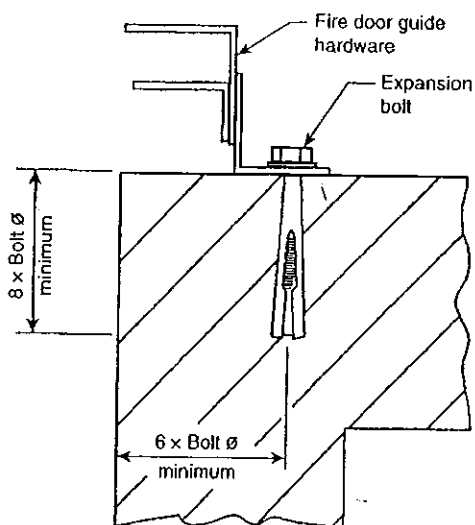


FIGURE A.4.8.6(a) Corner Walls.

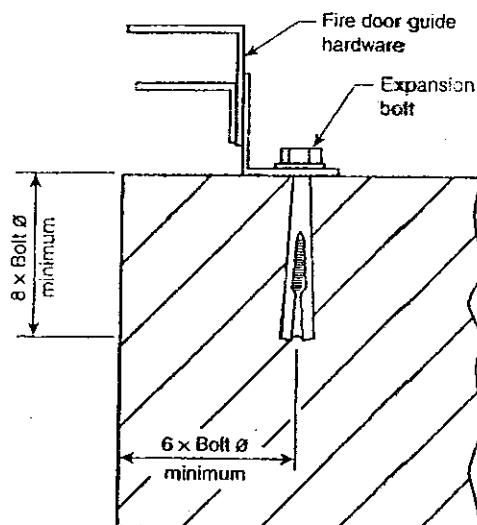


FIGURE A.4.8.6(b) Unusually Thick Walls.

A.5.2.2 See Annex J for information regarding performance-based inspection, testing, and maintenance options for fire door assemblies.

A.5.2.14.5 Movable parts of the door assembly can include but are not limited to stay rollers, gears, and closing mechanisms.

A.6.1.2 The normal components of a fire door assembly include a door, a door frame, hinges, a lock or latch, and a closing device. They also include, but are not limited to, an astragal, a split astragal, an automatic louver, a coordinator, flush or surface bolts, gasketing, a holder/release device, protection plates, and glazing materials.

A.6.3.1.1 Door frames might carry a label stating the hourly rating. The rating of the installed assembly should carry the rating of the door or the door frame, whichever is less.

A.6.3.1.2 Door frames should be installed following the general guidelines shown in Figure A.4.6.3.1(g). The door frame installations shown in Figure A.4.6.3.1(g) do not represent all types of installations but do illustrate some typical door frame installation techniques required for the proper installation of fire door frames.

A.6.3.1.3 See Figure A.6.3.1.3(a) and Figure A.6.3.1.3(b) for examples of how door frames can be secured in drywall applications.

A.6.3.1.4 Examples of proprietary-type slip-on door frames are those for use on prepared openings in drywall construction.

A.6.3.1.7 See Figure A.6.3.1.7 for more information regarding clearances and the pull face of the door.

A.6.4.1.1 It is the intent of the standard that most fire doors will have a closing device. However, in limited circumstances the closer might not be necessary because the door leaf is inactive and is normally in the closed position. Examples of such applications include pairs of doors to mechanical equipment rooms and certain industrial areas where an inactive leaf is provided and is infrequently used to permit large equipment to be moved through the door opening. In such instances, the AHJ should be reasonably assured that the inactive leaf normally will be closed and latched. Another example

6.4.4.8 Strike plates shall be secured to the frame with steel screws or other types of screws as indicated by the manufacturer's published listing or label service procedure.

6.4.4.9 Strike plates for doors swinging in pairs shall be secured to reinforcements in the inactive leaf with machine screws.

6.4.4.9.1 Pilot holes shall be drilled prior to strike plate installation, in accordance with manufacturer's installation instructions.

6.4.4.10* Open back strikes shall be permitted to be used in lieu of conventional strikes only where specifically provided for in the published listings.

6.4.4.11* Electric strikes shall be permitted to be used in lieu of conventional strikes in single swinging doors and pairs of doors where provided for in the published listings.

6.4.5 Protection Plates.

6.4.5.1 Factory-installed protection plates shall be installed in accordance with the listing of the door.

6.4.5.2 Field-installed protection plates shall be labeled and installed in accordance with their listing.

6.4.5.3 Labeling shall not be required where the top of the protection plate is not more than 16 in. (406 mm) above the bottom of the door.

6.4.6 Automatic Louvers. Only labeled fire door louvers shall be used in fire doors.

6.4.7* Astragals.

6.4.7.1 Doors swinging in pairs, where located within a means of egress, shall not be equipped with astragals that inhibit the free use of either leaf.

6.4.7.2* Pairs of doors that require astragals shall have at least one attached in place to project approximately $\frac{3}{4}$ in. (19 mm) or as otherwise indicated in the individual published listings.

6.4.8 Gasketing. Gasketing on fire doors or frames shall be furnished only in accordance with the published listings of the door, frame, or gasketing material manufacturer.

6.5 Application, Installation, and Adjustment.

6.5.1 General. The installation of all components of a fire door assembly shall be in accordance with the specific listing of each component.

6.5.2 Manufacturers' Instructions. All components shall be installed in accordance with the manufacturers' installation instructions and shall be adjusted to function as described in the listing.

6.5.3 Attachment. All components of a fire door assembly shall be attached firmly to walls, doors, and frames in a manner acceptable to the AHJ.

6.5.4 Mounting. All mounting screws, bolts, or shields shall be steel except where otherwise permitted by this standard.

6.5.5 Anchorage. Attachments to doors with composite cores shall provide firm anchorage for anticipated use.

Chapter 7 Swinging Doors with Fire Door Hardware

7.1 Doors.

7.1.1 General. This chapter shall cover the installation of swinging doors with fire door hardware.

7.1.2 Components. A fire door assembly shall consist of components that are separate products incorporated into the assembly.

7.1.3 Mounting of Doors.

7.1.3.1 Swinging tin-clad doors and flush- or corrugated-type sheet metal doors with fire door hardware shall be flush or lap mounted.

7.1.3.2 Flush-mounted doors shall be hung in steel channel frames securely anchored to the wall construction.

7.1.3.3 Lap-mounted doors shall be hung on the surface of the wall and shall lap the opening at least 4 in. (102 mm) at the top and on each side.

7.1.4 Operation of Doors.

7.1.4.1 The doors shall swing easily and freely on their hinges.

7.1.4.2 The latches shall operate freely.

7.2 Supporting Construction.

7.2.1 Walls.

7.2.1.1 Attachment of the door assembly to the wall shall be by means of through-wall bolts.

7.2.1.2 As an alternative, expansion anchors shall be permitted to be used as specified in 4.8.6.

7.2.2 Sills. Sills shall be installed in accordance with 4.8.2.

7.2.3 Reserved.

7.2.4 Vents.

7.2.4.1 Each tin-clad door formed of 14 in. \times 20 in. (0.36 m \times 0.51 m) sheets shall be provided with 3 in. (76.2 mm) diameter vent holes.

7.2.4.2 The vent holes shall be cut through the sheets on the face of the door to be provided with the fire door hardware, using care to avoid interference with the hardware or injury to the wood core when cutting the holes in the sheets.

7.2.4.3 The metal covering around the opening shall be secured with small nails spaced about 1 in. (25.4 mm) apart, and the exposed wood shall be painted thoroughly.

7.3 Openings.

7.3.1 Frames for Lap-Mounted Doors. Frames shall not be required for lap-mounted doors.

7.3.2* Frames for Flush-Mounted Doors.

7.3.2.1 Only labeled frames of the structural steel type shall be used for flush-mounted doors.

7.3.2.2 The frames shall be erected before the wall is built.

7.4 Assembly Components.

7.4.1* Closing Devices for Swinging Tin-Clad and Sheet Metal Fire Doors.

7.4.1.1 Swinging tin-clad and sheet metal fire doors shall be equipped with self-closing or automatic-closing devices to ensure that they are closed and latched at the time of fire.

7.4.1.2 Other arrangements acceptable to the AHJ shall be permitted.

6.3.4 Frames for Transom or Side Panels.

6.3.4.1 Side panels, transom panels, or both shall be fixed.

6.3.4.2 Removable transom panels shall be permitted to allow for movement of materials or equipment through the opening.

6.3.4.3 Frames with transom panels shall be permitted in situations where fire protection ratings up to and including 3 hours are required.

6.3.4.4 Louvers shall not be installed in either transom or side panels.

6.3.5 Multiple Opening Door Frames.

6.3.5.1 Individual frames shall be of a maximum size as defined in the manufacturer's published listing but are not to exceed 12 ft 8 in. (3.9 m) in overall width.

6.3.5.2 Where multiple opening frames are installed adjoining each other in a fire-resistive wall, a 16 in. (406 mm) minimum wall section shall be provided between the frames.

6.3.5.3 The maximum fire protection rating of the door assembly shall not exceed 1½ hours.

6.4 Assembly Components.

6.4.1 Closing Devices.

6.4.1.1* Unless otherwise permitted by the AHJ, a closing device shall be installed on every fire door.

6.4.1.2 Coordinating Device.

6.4.1.2.1 Where there is an astragal or projecting latch bolt that prevents the inactive door from closing and latching before the active door closes and latches, a coordinating device shall be used.

6.4.1.2.2 A coordinating device shall not be required where each door closes and latches independently of the other.

6.4.1.3 All components of closing devices used shall be attached securely to doors and frames by steel screws or through-boils.

6.4.1.4* All closing mechanisms shall be adjusted to overcome the resistance of the latch mechanism so that positive latching is achieved on each door operation.

6.4.1.5 Where door holder/release devices are used, they shall be labeled.

6.4.2* Application of Door Holder/Release Devices. Door holder/release devices shall be installed in accordance with the manufacturer's instructions and only in conformance with the individual manufacturer's published listings.

6.4.3* Builders Hardware.

6.4.3.1 Hinges. Hinges shall be as specified in individual door manufacturer's published listings or Table 6.4.3.1.

6.4.3.1.1 Doors up to 60 in. (1.52 m) in height shall be provided with two hinges and an additional hinge for each additional 30 in. (0.76 m) of door height or fraction thereof.

6.4.3.1.1.1 The distance between hinges shall be permitted to exceed 30 in. (0.76 m).

6.4.3.1.1.2 Where spring hinges are used, at least two shall be provided.

6.4.3.1.2 All hinges or pivots, except spring hinges, shall be of the ball bearing type.

6.4.3.1.2.1 Hinges or pivots employing other antifriction bearing surfaces shall be permitted if they meet the requirements of ANSI/BHMAA156.1, *Standard for Butts and Hinges*.

6.4.3.1.2.2 Spring hinges shall be labeled and shall meet the requirements of ANSI/BHMAA156.17, *Standard for Self Closing Hinges & Pivots, Grade 1*.

Table 6.4.3.1 Builders Hardware Mortise, Surface, and Full-Length Hinges, Pivots, or Spring Hinges for Swinging Doors

| Door Rating (hr) | Maximum Door Size | | | | Minimum Hinge Size | | | | Hinge Type |
|--|-------------------|------|--------|------|--------------------|-------|-----------|------|--|
| | Width | | Height | | Height | | Thickness | | |
| | ft | m | ft | m | in. | mm | in. | mm | |
| <i>For 1¼ in. (44.5 mm) or Thicker Doors</i> | | | | | | | | | |
| 3, 1½, 1, ¾, ½, ¼ | 4 | 1.22 | 10 | 3.05 | 4½ | 114.3 | 0.180 | 4.57 | Steel, mortise or surface |
| 3, 1½, 1, ¾, ½, ¼ | 4 | 1.22 | 8 | 2.44 | 4½ | 114.3 | 0.134 | 3.40 | Steel, mortise or surface |
| 1½, ¾, ½, ¼ | 3½ | 0.96 | 8 | 2.44 | 6 | 152.4 | 0.225 | 5.72 | Steel, olive knuckle or paumelle |
| 3, 1½, ¾, ½, ¼ | 4 | 1.22 | 10 | 3.05 | 4 | 101.6 | 0.225 | 5.72 | Steel pivots (including top, bottom, and intermediate) |
| 1½, 1, ¾, ½, ¼ | 3 | 0.91 | 5 | 1.52 | 4 | 101.6 | 0.130 | 3.30 | Steel, mortise or surface |
| 1½, 1, ¾, ½, ¼ | 2 | 0.61 | 3 | 0.91 | 3 | 76.2 | 0.092 | 2.34 | Steel, mortise or surface |
| 3, 1½, 1, ¾, ½, ¼ | 3 | 0.91 | 7 | 2.13 | 4½ | 114.3 | 0.134 | 3.40 | Steel, mortise or surface (labeled, self-closing, spring type) |
| 3, 1½, 1, ¾, ½, ¼ | 3 | 0.91 | 7 | 2.13 | 4 | 101.6 | 0.105 | 2.67 | Steel, mortise or surface (labeled, self-closing, spring type) |
| <i>For 1½ in. (34.93 mm) Doors</i> | | | | | | | | | |
| 3, 1½, ¾, ½, ¼ | 3 | 0.91 | 7 | 2.13 | 3½ | 88.9 | 0.123 | 3.12 | Steel, mortise or surface |
| 3, 1½, 1, ¾, ½, ¼ | 2½ | 0.81 | 7 | 2.13 | 3½ | 88.9 | 0.105 | 2.67 | Steel, mortise or surface (labeled, self-closing, spring type) |

4.1.2* Fusible Links.

4.1.2.1 The particular fusible link used shall depend on the temperature and load requirements of the application.

4.1.2.2 Multiple links shall be permitted to be used to meet the load rating requirements where the load rating of a single link is exceeded.

4.1.3 Appurtenances.

4.1.3.1 Preparation of fire door assemblies for locks, latches, hinges, remotely operated or remotely monitored hardware, concealed closers, glass lights, vision panels, louvers, astragals and split astragals, and the application of plant-ons and laminated overlays shall be performed in accordance with the manufacturer's inspection service procedure and under label service. (See Annex E and Annex F.)

4.1.3.2 For job site preparation of surface-applied hardware, function holes for mortise locks, and holes for labeled viewers, a maximum $\frac{3}{4}$ in. (19 mm) wood and composite door undercutting, and protection plates (see 6.4.5) shall be permitted.

4.1.3.3 Surface-applied hardware shall be applied to the door or frame without removing material other than drilling round holes to accommodate cylinders, spindles, similar operational elements, and through-bolts in doors.

4.1.3.4 The holes described in 4.1.3.3 shall not be permitted to exceed a diameter of 1 in. (25.4 mm) with the exception of cylinders.

4.1.4 **Signage.** Informational signs shall be permitted to be installed on the surfaces of fire doors in accordance with 4.1.4.1 through 4.1.4.4 or in accordance with the manufacturer's published listing.

4.1.4.1 The total area of all attached signs shall not exceed 5 percent of the area of the face of the fire door to which they are attached.

4.1.4.2 Means of Attachment.

4.1.4.2.1 Signs shall be attached to fire doors by use of an adhesive.

4.1.4.2.2 Mechanical attachments such as screws or nails shall not be permitted.

4.1.4.3 Signs shall not be installed on glazing material in fire doors.

4.1.4.4 Signs shall not be installed on the surface of fire doors so as to impair or otherwise interfere with the proper operation of the fire door.

4.1.5 Sliding Doors.

4.1.5.1 Sliding doors shall be permitted to have integral swinging doors.

4.1.5.2 Where sliding doors include an integral swinging door, they shall be permitted to be used on exits to the exterior of the building.

4.2 **Listed and Labeled Products.** (See 3.2.3 and 3.2.4 for definitions.)

4.2.1* Listed items shall be identified by a label.

4.2.2 Labels shall be applied in locations that are readily visible and convenient for identification by the AHJ after installation of the assembly.

4.2.3 The label or the listing shall be considered evidence that samplings of such devices or materials have been evaluated by tests and that such devices or materials are produced under an in-plant, follow-up inspection program.

4.2.4 Specification of items of a generic nature, such as hinges, that are not labeled shall comply with the specifications contained in this standard.

4.3 Classifications and Types of Doors.

4.3.1* Only labeled fire doors shall be used.

4.3.2 Swinging fire doors shall be permitted to be furnished separately from labeled door frames and builders hardware if the complete fire door assembly including the door, frame, and builders hardware comprises a labeled fire door assembly.

4.3.3 Fire doors furnished with fire exit hardware shall bear a label reading "Fire door to be equipped with fire exit hardware."

4.3.4 The label described in 4.3.3 shall address the reinforcements necessary for the exit devices, and the complete fire door assembly shall have been tested for egress panic load requirements.

4.3.5 Rolling steel fire doors shall be labeled and shall be furnished as a complete assembly that includes curtain, bottom bar, barrel, guides, brackets, hood, automatic closing device, and any other components required by their listing for a complete assembly.

4.3.6 Elevator doors shall be in accordance with Section 14.2.

4.3.7 Access-type door assemblies shall consist of single swinging steel doors with frames, self-latching devices, and closing mechanisms.

4.3.8 Service counter doors shall be of the single- or two-speed counterbalanced types of flush design or the rolling steel type of formed steel and shall include wall guides, frame, sill, latching, and counterbalancing mechanism.

4.3.9* Authorities having jurisdiction shall be consulted for information on the size of oversize doors that shall be permitted in a given location.

4.4 Glazing Material in Fire Doors.

4.4.1* Only labeled fire resistance-rated or fire protection-rated glazing material shall be used in fire door assemblies when permitted by the door listing. (See A.3.3.71, *Glazing Material*.)

4.4.2 Where required, the glazing material shall also meet safety standards.

4.4.3* Glazing materials in vision panels shall be installed in labeled glass light kits or in accordance with the fire door listing and shall be installed in accordance with the manufacturer's installation instructions.

4.4.4* Glazing material not exceeding 100 in.² (0.065 m²) shall be permitted in fire doors having a 3-hour fire protection rating or in fire doors having a 1½-hour fire protection rating for use in severe exterior fire exposure locations where the glazing material has been tested for the desired rating period with no through-openings in accordance with NFPA 252, *Standard Methods of Fire Tests of Door Assemblies*.

3.3 General Definitions.

3.3.1 Access Door. A door assembly, for installation in fire resistance-rated walls or for installation in ceilings of fire resistance-rated floor-ceiling or roof-ceiling assemblies, that is used to provide access to shafts, chases, attics, spaces above ceilings, or other concealed spaces.

3.3.1.1 Horizontal Access Door. An access door installed in the horizontal plane used to protect openings in ceilings of fire resistance-rated floor-ceiling or roof-ceiling assemblies.

3.3.1.2 Vertical Access Door. An access door installed in the vertical plane used to protect openings in fire-rated walls.

3.3.2 Active Leaf. The first operating door of a pair, which is usually the door in which a lock is installed.

3.3.3 Ambient. For the purposes of this standard, the temperature of the room in which the test is being conducted.

3.3.4 Anchor. A device for attaching frames to the surrounding structure.

3.3.5* Astragal.

3.3.5.1 Overlapping Astragal. A horizontal or vertical molding attached to one leaf of a pair of doors.

3.3.5.2* Split Astragal. A horizontal or vertical molding attached to both leaves of a pair of doors.

3.3.6 Automatic-Closing Device. A device that causes the door or window to close when activated by a fusible link or detector.

3.3.7* Automatic-Closing Door. A door that normally is open but that closes when the automatic-closing device is activated.

3.3.8 Automatic Fire Detector. A device designed to detect the presence of a fire signature and to initiate action. For the purpose of this standard, automatic fire detectors are classified as follows: Automatic Fire Extinguishing or Suppression System Operation Detector, Fire-Gas Detector, Heat Detector, Other Fire Detectors, Radiant Energy-Sensing Fire Detector, Smoke Detector. [72, 2007]

3.3.9 Automatic Louver. An opening in a door with a series of slats or blades to allow passage of air and designed to close automatically in the event of fire.

3.3.10 Automatic Top and Bottom Bolts. See 3.3.68.1, Automatic Flush Bolts.

3.3.11 Barrel. A cylindrical horizontal member at the head of the opening that supports the door curtain of a rolling steel door and contains the counterbalance springs.

3.3.12 Batten. A horizontal pipe, tube, or other structural shape in a pocket of or attached to a fire safety curtain.

3.3.13 Binders. Pieces of hardware used to hold a sliding door to the wall, preventing lateral movement of the door from the wall.

3.3.14 Biparting. A vertically sliding door in which half of the door moves up and half of the door moves down in order to open, or a horizontal sliding door in which one door moves to the right and one moves to the left in order to open.

3.3.15 Bottom Bar (Rolling Steel Door). A reinforcing member at the lower edge of the door curtain assembly.

3.3.16 Breakaway Connection. A joint connecting a fire damper sleeve and attached ductwork that will allow col-

lapse of the ductwork during a fire without disturbing the integrity of the fire damper.

3.3.17 Bumper (Fire Safety Curtain). A filled fabric pocket below the bottom batten or frame member of a fire safety curtain; designed to press against the floor.

3.3.18 Bumpers. Stops to limit the closing or opening movement of a sliding door.

3.3.19 Ceiling Radiation Damper. A listed device installed in a ceiling membrane of a fire resistance-rated floor-ceiling or roof-ceiling assembly to automatically limit the radiative heat transfer through an air inlet/outlet opening. [5000, 2006]

3.3.20 Center Latch. A latch used to hold the two halves of a center-parting or biparting fire door together, which is usually two pieces surface-applied to doors and interlocked in the closed position.

3.3.21 Center Parting. See 3.3.14, Biparting.

3.3.22 Chafing Strip. A metal strip applied to the back surface of a sliding door to protect the door surface from damage from the wall.

3.3.23 Channel Frame. A frame that consists of head and jamb members of structural steel channels, either shop assembled or field assembled, to be used with masonry walls.

3.3.24* Classified. Products or materials of a specific group category that are constructed, inspected, tested, and subsequently reinspected in accordance with an established set of requirements.

3.3.25 Closed Position (Rolling Steel Fire Door). A position of the door curtain with the underside of the bottom bar, including a compressible seal or sensing edge, if provided, in contact with the sill along the entire width of the opening.

3.3.26 Closing Device. A means of closing a door from the partially or fully opened position.

3.3.27 Combination Fire/Smoke Damper. A device that meets both the fire damper and smoke damper requirements.

3.3.28 Concrete Lintel. A precast concrete horizontal member spanning and carrying the load above an opening.

3.3.29 Continuous Glazing Molding. A continuous molding used to hold glass or glazing in a window.

3.3.30 Coordinator. A device used on pairs of swinging doors that prevents the active leaf from closing before the inactive leaf closes.

3.3.31 Counterbalancing. A method by which the hanging weight of the door is balanced by helical torsion springs or weights.

3.3.32 Cover Plate. A plate to cover the joint between the sections of multiple panel doors, usually applied to the front and back of the vertical or horizontal slide door.

3.3.33 Crush Plates. Bearing plates provided where doors are mounted on concrete masonry wall units with hollow cells to accommodate through-wall bolts to prevent crushing of the hollow concrete masonry unit.

3.3.34 Curtain (Rolling Steel Fire Door). Interlocking curtain slats assembled together.


3.3.35 Curtain Slats. Formed sheet steel members that, when interlocked together, form the rolling steel door curtain.



**LISTING REPORT - MACHINING**

Issued: Apr 27 2011 10:39AM

Inspection Tests And Evaluation Of

Algoma 45 - 90 Min Mineral Core Fire Doors (24844)

RENDERED TO
Algoma Hardwoods, Inc.
1001 Perry Street
Algoma, WI 54201

GENERAL: This Report gives the results of the inspection, tests and evaluation of the above for compliance with applicable requirements of the following standards : NFPA 252 (1995) : ASTM E152-81a : UBC 7-2 (1997) : UBC 7-2 (1994) : UL 10(b) (1997) : CAN4 S104 (1985) : UL 10(c) (R2001) : NFPA 252 (2008) : UL 10(b) Revision 1 (2009) : CAN / ULC S104 (2010)

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PRODUCT DESCRIPTION

Product Covered:

Algoma 45 - 90 Min Mineral Core Fire Doors

Product Description:

PRODUCT DESCRIPTION

Mineral Core Type, Swinging Flush Design Fire Door for installation singly or in pairs, in 45 Minute locations.

LIMITATIONS

→ Preassembled, Mortise or Cylindrical Latches with up to a 5" backset/ Deadbolts / Mortise or Rim Type Fire Exit Hardware/ Surface Mounted or Concealed Vertical Rod Fire Exit Hardware / Flush Bolts - Automatic or Manual / Surface Mounted Protection Plates up to 48" high / Louvers - maximum 24" x 24" / Plant-Ons / Metal Edge Guards / Vision Panel - maximum 1,296 sq.in. / Viewers / Electric Raceway / Surface Mounted Closer / Astragal not required / Wood Veneer Light Frame to 1,080 sq. in.

MAXIMUM SIZE OF OPENINGS

Singles - 4'0" wide x 10'0" high

Pairs - 8'0" wide x 9'0" high (Wood Faced)

Pairs - 8'0" wide x 8'0" high (HPDL)

Pairs - 8'0" wide x 9'3" high (with Von Duprin devices)

Door/Transom Assembly Single Swing only - 4'0" wide x 11'0" high (Maximum 4'0" wide x 4'-1/2" high Transom Panel)

Double Egress - 8'0" wide x 8'0" high

PRODUCT DESCRIPTION

Mineral Core Type, Swinging Flush Design Fire Door for installation singly or in pairs in 60 Minute locations.

LIMITATIONS

LOUVERS

Fire rated Louvers only may be used.

Maximum size 24" by 24"

Minimum Distance from Bottom of Door 8"



Minimum Distance from Edge of Door 6"

KICK PLATES

Surface mounted protective plates of brass, bronze, steel, aluminum, poly-carbonate or decorative laminate up to 48" high may be applied to both faces of the door. For doors with ratings 45 or 60 minutes the plates may be applied with an adhesive and/or wood screws spaced a minimum of 6" on center. For doors with a rating of 90 minutes the plates to be applied to the doors with an adhesive.

CLADDING

Institutional Products Corporation's "PVC" cladding and Acrovyn (with thickness up to 0.062 inches) up to the full size of fire rated doors (wood faced or HPDL faced) may be applied to one or both faces and/or stiles of the doors. When covering the narrow face less than full length, the cladding must be recessed at least 3/4 inch from the stile edges. The cladding may be applied with the peel and stick adhesive applied to the material as purchased or with adhesive as recommended by Institutional Products Corporation or with Swifts No.17383 contact cement (or 3M Fastbond 30-NF) and/or wood screws. Screws must fasten into stiles, rails, or heavy duty blocking in mineral core doors.

METAL EDGES

Inside dimension of metal edge must be same as door thickness. Metal Edges may be veneer wrapped.

CONCEALED VERTICAL RODS

Von Duprin's 9947-WDC-F, 5547-WDC-F, 3347-WDC-F, 9847-WDC-F (8'-0" by 9'-3"); Sargent'sWD 12-8600 (8'-0" by 8'-0"); Monarch's F-17-C, F-18-C, F-CV-C, F-XX-C (8'-0" by 8'-0"); Adam's Rite 3600 WD and American Device's F4100 and F6100 (8'-0" by 8'-0") are approved when used with the appropriate channel. Other listed devices may also be used as long as the cutout does not exceed those of the above devices and 5" metal channels are used.

PLANT - ONS (Applied Moldings)

Wood plant-on moldings may be applied to one or both sides of a door. The following requirements must be observed.

- Maximum width of molding – 3"
- Maximum thickness of molding – 1½"
- For 20, 45, and 60-minute doors, adhesive and or mechanical fasteners with a maximum penetration into the door 3/4 "

For 90-minute doors, adhesive only may be used – NO mechanical fasteners may be applied.