

Information on Fire Rated Doors

MINERAL CORE:

Choosing the right Fire-Rated Door

The rating of the fire door you need is determined by the local building code and the authority having jurisdiction. Forte™ Opening Solutions fire-rated doors have successfully completed over 1,000,000 slams without failure (tested per WDMA, TM7).

Basic Requirements for Installing Fire-Rated Doors

1. Do not remove the classified label.
2. Install in accordance with Forte Opening Solutions Care & Handling Instructions and NFPA 80.
3. Install listed glass in approved lite kits and carefully follow directions enclosed.
4. Install steel full-mortised butt hinges by drilling 9/64" pilot holes and used #12x1-1/4" threaded-to-the-head type AB screws in accordance with ANSIB18.6.4-1981. Install steel half-surface hinges with fireplates, backerplates and through bolts.

Hinges

The National Fire Protection Association Standard specifies that two hinges must be used for doors up to 60" in height. An additional hinge is required for each additional 30" in height or fraction thereof.

Closers

The Underwriters Laboratories Building Materials Directory catalogs a number of surface-type closers that may be used with labeled fire-rated doors. A surface-type closer is one that does not require the removal of wood except for fasteners. Concealed closers may be used with the appropriate blocking for their required fire rating. Surface-mounted hardware can be used on doors with inner blocking, without through bolts.

Installation Note

Surface mounted hardware, on mineral core doors, must be anchored on an inner blocked door using a No. 12 screw which penetrates the door by a minimum of 1-1/4". 9/64" pilot holes must be drilled the depth of the screws. Do not use combination screws. Do not over-tighten. Do not remove screws in fire door components as they are designed to be installed only one time. See Tech Update 133 for screw torque limitations.

No-Bolt Inner Blocking

The purpose of No-Bolt Inner Blocking is to attach surface hardware and exit devices with screws, thus eliminating through bolts on mineral core fire doors. It is not necessary to use No-bolt inner blocking on Forte Opening Solutions fire doors where doors are machined for standard locks.

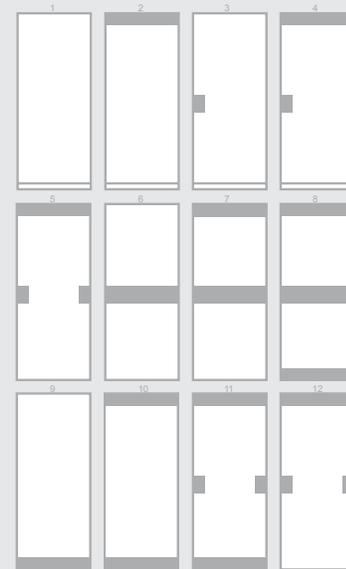
*Screw Withdrawal Exceeds Extra Heavy Duty Requirements (tested per WDMA, TM-10)

Options for No-Bolt Blocking

Rails on Mineral Core Doors

Fire-resistant composite rails are a high-density, non-combustible component in the top or bottom of the door. There is no lumber or wood in a rail. Forte Opening Solutions uses these rails for mineral core doors with the approvals outlined on page two.

Hardware Reinforcement Blocking Options



- Top blocking is 5" high and the full width of the door core.
- Center blocking is 10" high and the full width of the door core.
- Bottom blocking is 5" high and the full width of the door core.
- Exit device or lock blocks can be ordered as 1 each 18" or 2 each 18".

This blocking is not required for use with mortise hardware.

Note: Center blocking and exit device blocks cannot be in the same door.

For additional information on how to install fire-rated doors, see NFPA 80.

For application information, see NFPA 101.

National Fire Protection Association
P.O. Box 9101
1 Batterymarch Park
Quincy, MA 02269

Installation Guide for Doors and Hardware Door and Hardware Institute
7711 Old Springhouse Road
McLean, VA 22102

For more information on fire-rated doors:

Intertek Testing Services
Warnock Hersey
9431 Murphy Drive
Middleton, WI 52562
608-836-4400

Underwriters Laboratories, Inc
333 Pfingsten Road
Northbrook, IL 60062
708-272-8800

Information on Fire Rated Doors

Agency Approvals:

Intertek Testing Services – Warnock Hersey and Underwriters Laboratories have authorized usage of: Magnetic switches listed for use on wood or composite 45-90 minute fire doors with 2-1/16" top rail. Bottom seals listed for use on wood or composite 45-90 minute fire doors that are no larger than 1-15/16" deep and 15/16" wide with 3-1/4" bottom rails. Bottom seal must be installed with screws and silicone caulk.

Note: Rails may be used on mineral core doors for other instances by request. They are not necessarily limited to use with magnetic switches and bottom seals. The rails can also be combined with No-Bolt inner blocking for closers that require greater than 5" blocking.

Kickplates

Kickplates may be attached to the face of the door. The plate used must be an approved material (metal, high pressure laminate, PVC, or acrovyn). The surfaced applied kickplate may be applied with screws or suitable adhesive. The height is not to exceed up to 48" from the bottom of the door on 20-90 minute doors.

Acrovyn Kickplates and PVC by Inpro can be the "full height" of the door for all ratings 20 through 90 minute, UL label only.

Fire-Rated Lite Systems

Underwriters Laboratories and Intertek Testing Services – Warnock Hersey procedures require that openings be cut at the factory or by a licensed machiner and that approved lite systems be used.

Forte™ Opening Solutions will factory glaze upon request. More than one lite opening per door is permitted. For the allowable combined area of the lite opening and limitations, see Appendix G, H and I. Reference Appendix K for current permissions on lite placement and dimensional limitations.

Independent Certification

The Forte Opening Solutions fire-rated product line has been tested, and is listed and labeled by Intertek Testing Services - Warnock Hersey (ITS-WH) and Underwriters Laboratories (UL) in accordance with ASTM E-152-73, NFPA 252-73, UBC 43-2(73), UL 10B, UL 10C and CAN4-S104 with hose stream.