



DOOR OPENING FIRE RATING INFORMATION

*In general, fire doors must be SELF-CLOSING and SELF-LATCHING.
All products must be installed and fastened as specified by manufacturer.
The door opening is fire rated to the least fire rated item used in it.*

HINGING:

- Hinges used in fire rated openings that do not bear a fire rating label/mark must be made of steel (ferrous metal) and have bearings.
- Some non-ferrous metal hinges may be used if they have a fire rating and are used as specified.
- As a minimum, when using butt-type hinges, a 60" high door must have 2 hinges, 4-1/2" in height with an additional hinge for every additional 30" in height.
- Continuous Hinges must be labelled/fire rated for use in a fire rated door opening.

LATCHING DEVICES-LATCHSETS:

- Latching devices must keep the fire rated door closed during a fire, maintaining the intended fire separation.
- All fire rated swing doors must have a fire rated/labelled self-latching device to engage the strike.
- Deadlocks may be used in addition to a self-latching device except on doors used as a means of egress, where interconnected locks may be used which retract the deadbolt with the latchbolt. Deadbolts may not be used in place of latchbolts.
- Latchbolt Projection: When selecting latching devices, it is important to use the correct length of latchbolt, a requirement that can vary with the door construction and the manufacturer's fire testing program. It is common for a pair of doors to require a longer latchbolt throw than a single door. The minimum latchbolt length that must be used for any given door is indicated on the fire door label.

LATCHING DEVICES -FIRE EXIT HARDWARE:

- Fire rated/labelled Exit Devices may be used on labeled doors provided the door labeling specifically states "Fire Door To Be Used With Fire Exit Hardware." This label indicates that the door has been properly reinforced for fire exit devices.
- Fire rated/labelled exit device do not have a mechanical "dogging" (see definition below) feature.
- When vertical rod exit devices are used on a rated opening and specified "less bottom rod" the auxiliary fire bolt must be installed.

SELF-CLOSING DEVICES:

- All fire rated door openings must be self-closing. This self-closing function will ensure that the door is closed and that the proper latching will occur to hold the door closed in the event of a fire, therefore maintaining the intended fire separation.
- Fire rated/labelled devices that are properly sized for the conditions must be used.

HOLD OPEN DEVICES:

- Hold open devices must use sensors or be wired into the fire system such that when the fire/smoke is detected, or the fire alarm is activated, the devices will deenergize and close the door.
- Mechanical hold-open devices and hold-open arms on door closers are not to be used on a rated opening.



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PAIRS OF DOORS

Fire rated pairs of doors have some unique hardware requirements that must be considered. In general, the above applies and the following must also be considered.

LATCHING DEVICES:

- The active leaf of a pair of doors may have a fire rated/labelled latchset, exit device, or any labeled latch that shall be opened by one obvious operation from the egress side.
- Manual flush or surface bolts may be used on the inactive leaf of pairs of doors being used as an entrance to an equipment room or similar situation. Under these circumstances, the NFPA recommends that the inactive leaf have no knob or other visible hardware.
- Labeled self-unlatching and latching devices, such as automatic flush bolts on the inactive leaf may be authorized. The self-unlatching feature must work only when the active leaf is opened.
 - When a bottom automatic flush bolt is not used on a rated opening, the auxiliary fire bolt must be installed.

SELF CLOSING DEVICES:

- Closing devices are required on both leaves of a pair of doors except on mechanical equipment rooms where the closing device may be omitted from the inactive leaf, if acceptable with the authority having jurisdiction.

COORDINATORS:

- When required, this device (Bar Coordinator, Gravity Coordinator) allows the inactive door/leaf of a pair of doors to close completely before the active door/leaf closes and latches into it.

DOUBLE EGRESS PAIRS:

- Double egress pairs of doors should only be provided with vertical rod fire-exit device hardware on both leaves. The vertical rod devices may be either surface mounted or concealed.
- Double egress doors and frames are part of a listed assembly and only those door designs that are named in a frame manufacturer's published listing may be used.

ASTRAGALS:

- Astragals may or may not be required on pairs of doors depending upon the individual door manufacturer's labeling capabilities.
- Pairs of doors that do require an astragal shall have at least one that projects a minimum of 3/4-inch beyond the edge of the door to which the astragal is attached.
- Pairs of doors that are in a required means of egress may not be equipped with an astragal that inhibits the free use of either leaf. An astragal may not be used on pairs of doors with vertical rod exit devices on both leaves of the pair. Pairs of 3-hour fire doors always require an astragal per NFPA 80. Other combinations of fire exit hardware on the active leaf and a vertical rod device on the inactive leaf are acceptable. In some situations, a Coordinator may be needed to allow the inactive leaf to close ahead of the active leaf. This ensures proper latching of pairs of doors.
- Some manufacturers are able to supply labeled pairs of doors with an open-back strike without an astragal, which eliminates the need for a coordinator. This depends on the configuration of the latching hardware.



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DEFINITIONS

ACTIVE LEAF (of pairs of doors):

- When referring to the active leaf on double doors we are talking about the door that has the keyed lock installed in it. Many double door applications will only require one leaf in the pair to have a keyed lock. This leaf will be the “active” leaf.

INACTIVE LEAF (of pairs of doors):

- The inactive leaf on double doors usually doesn't have keyed locking hardware on the outside. It usually can only be opened once the active leaf has been opened. For example, on a pair of doors that goes into a storage room, the inactive leaf may have flush bolts installed that keep it secure and which are only accessible when the active leaf is opened. The inactive door/leaf usually remains secure unless equipment or other large material needs to move through the opening.

DOGGING (Exit Device):

- “Dogging” is the action of depressing the exit device pad/bar/rail and holding it retracted by means of using an Allen Key or keyed cylinder to keep the bar depressed, therefore holding the exit device latch retracted. This makes the door push/pull in operation. Dogging is not available on fire rated/labelled exit devices because the opening would not longer be self-latching.

DOUBLE EGRESS:

- This is a pair of doors whereby both doors swing in the opposite direction. These doors are used to control corridor traffic by providing quick, safe exit and entry into an area, ensuring that traffic on the opposite side of the door does not collide with the oncoming traffic.

MEANS OF EGRESS:

- A means of egress is a continuous and unobstructed way of exit travel from any point in a building or structure to a public way and consists of three separate and distinct parts: the way of exit access, the exit, and the way of exit discharge. A means of egress comprises the vertical and horizontal ways of travel and shall include intervening room spaces, doorways, hallways, corridors, passageways, balconies, ramps, stairs, enclosures, lobbies, escalators, horizontal exits, courts, and yards.