

## FIRE RATED DOOR AND FRAME REQUIREMENTS

### THE GOLDEN RULE: A FIRE DOOR MUST BE SELF CLOSING AND SELF LATCHING

The following is a basic guide to the purchasing of fire rated doors and frames. Please note that the local AHJ (Authority Having Jurisdiction), usually the building or fire inspector, has the final say on what is, or is not acceptable in their jurisdiction.

There are four or five ratings commonly used. There are 20 minute, 45 minute or "C", 60 minute (wood doors only) or 90 minute, also called "B", and 3 hour or "A" (metal doors only). The primary purpose of a fire door is presumed to be the protection of life. This basic rule governs what you can do to a fire rated unit. Codes require that almost all modification and machining be done in our shop. Field modification voids the fire label. The door assembly must be rated at least 75% of the wall rating, i.e. a 2 hour wall requires a 90 minute door.

Fire doors must be self-closing using either a door closer or spring hinges. Hinges must be steel bearing type. Kick down door holders, rubber wedge holders, chains, etc. may not be used on a fire rated assembly. A fire door may be held-open with an electro-magnetic holder or other approved assembly tied into the building fire detection system or with an integral fire detector.

Fire doors must be self-latching using an approved latching device. Push/pull handles are not allowed. In most applications you are not permitted to use a deadbolt in combination with another latching device since this would hinder a quick escape.

There are two types of fire rating systems in use. For many years the most commonly used tested the assembly under neutral pressure conditions. Look for terms like UBC 7-2, or UL10C in the specifications. If you see them then you must use positive pressure fire doors. Positive pressure doors will also have a category A or B listed. Category A wood doors have an intumescent gasket system mounted in the stiles, while category B has an applied gasket system. WDI stocks both neutral pressure and category A positive pressure fire doors.

Note that the weakest link determines the rating for the assembly. In other words, although the frame may be labeled for 90 minute use, if the door is labeled 45 minute then that is the unit rating. All hardware used for the unit must also be listed for use on fire rated doors. Use of non-listed hardware voids the fire label. All of the locksets, latch sets, and closers WDI stocks are approved for fire rated units. WDI also stocks exit devices (panic bars) for fire rated doors.

Fire rated doors and frames must have a label attached which gives the fire rating of the unit. The available ratings and vision lite sizes (visible glass) generally permitted are:

1/3 hour or 20 minute	1296 sq. in. per lite with no dimension exceeding 54"
C or 45 minute	4265 sq. in. per lite with no dimension exceeding 54"
B or 90 minute	100 sq. in. per door leaf
A or 3 hour	no lite permitted

Glass sizes given are for safety filmed wire glass. Ceramic products such as Pyran or Firelite may allow larger lites to be used. There are requirements for spacing of cutouts and distance allowed from the edge of the door which vary with door manufacturer.

Fusible link fire rated louvers may be used in certain applications. They are not permitted in stairwell doors, 20 minute doors, or in combination with a lite.

20 minute doors may be hung in wood frames provided the frame meets the applicable criteria. WDI uses a frame with a kerf installed weatherstripping to meet the requirements.

Wood frames for applications up to and including 90 minutes are available by special order.

There are also limits on kickplates or armour plates used on fire rated units. Metal kickplates must be attached by screws and the maximum size is 46 1/2 wide x 54 high. Kickplates do not require a fire label if the top edge of the kickplate is less than 16" from the bottom of the door.

Please contact the Wholesale Doors sales department with any questions.