



Two Hour Fire Rated Doors



Design professionals occasionally request two-hour fire rated doors. This often leaves distributors and manufacturers scratching their heads because there aren't any US code requirements for a two-hour door. We believe these requests may be due to a misunderstanding of the International Building Code (IBC).

The IBC requires a higher fire rating for walls than for doors on the premise that combustible materials will be stored immediately adjacent to walls but not against operable doors. Doors located in stairwells or other enclosures of vertical passage through a building generally require 1 ½ hour door assemblies and 2-hour walls.

This can be verified by referencing 2015 IBC Table 716.5 or [SDI-118](#) Table 1 (below). Specifying a 1 ½ hour door rather than a 2-hour door is the way to go because it is an infinitely more common product.

Opening	Wall Rating	Door and Frame Rating	Description and Use
	4 Hour	3 Hour (180 minutes)	These openings are in walls that separate buildings or divide a single building into designated fire areas.
	2 Hour	1-½ Hour (90 minute)	Openings of this type are used in enclosures of vertical communication or egress through buildings. Examples of these types of openings include stairwells and elevator shafts.
	1 Hour	1 Hour (60 minute)	These door and frame assemblies divide occupancies in a building.
	1 Hour	¾ Hour (45 minute)	For use where there are openings in corridors or room partitions.
	2 Hour	1-½ Hour (90 minute)	This opening is in a wall where there is the potential for severe fire exposure from the exterior of the building.

The Do's and Don'ts of Grouting Frames



When should frames be grouted? Ask three people and you'll probably get three different answers. There are a lot of conflicting opinions on the topic, which is why we have updated our article on [The Risks of Grouting Steel Frames](#) with the latest information.

A common misconception still exists that fire rated frames must be grouted. In fact, very few require grout in order to maintain a rating." If you choose to grout, please follow the manufacturer's guidelines below:

- ✓ Grout must be mixed to a 4" (102mm) maximum slump per *ASTM C476-20 – Standard Specification for Grout for Masonry*.
- ✓ Grout must be hand troweled in place as the masonry is laid.
- ✓ Brace the frame during grout application to prevent bowing and sagging.
- ✓ The installers should reference the frame manufacturer's instructions.
- ✓ Mortar grout is recommended because it cures with a chemical reaction

and hardens throughout.

- ✓ Grout that gets on the exposed side of the frame should be removed immediately. Consider adding a warning regarding the type of cleaner to use when removing the grout.
- ✗ Grout should never be pumped.
- ✗ Never used in standard drywall openings. (There are some exceptions for higher STC openings, see [SDI 1271 – Grouting Frames in Drywall.](#))
- ✗ Does not contain anti-freeze agents unless the frame is back coated for corrosion protection.
- ✗ Grouting of mullions and other closed sections is not recommended.
- ✗ Plaster should not be used for grout, as only the areas exposed to air will cure and harden, while the center remains wet and uncured.
- ✗ Grouting of thermally broken frames is not recommended due to thermal bridging.
- ✗ Mortar used in STC frames should not include aggregate or rocks.

Fire Rated Door & Frame Manufacturers

Fire rated doors and frames play a vital role in keeping people safe and minimizing property damage. Hollow metal is the only material widely available with 3-hour fire ratings. Here are the only fire rated door & frame manufacturers who are SDI Certified:

 **Ceco Door**

ASSA ABLOY

DEAN STEEL

 **CURRIES**[®]

ASSA ABLOY

 **HOLLOW
METAL
ON DEMAND**



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