

# Fire Rated Doors - Category 'B'

Woodharbor offers a multitude of door panels/profiles and stile/rail profiles in all of our door configurations. See individual fire rating specification pages for more information. With so many styling options to choose from, there will be matching or complementary style fire door for non-rated doors. By specifying all of your doors from Woodharbor, you can maintain design consistency for your entire project. ®

## 20 MINUTE CATEGORY 'B' FIRE RATED DOORS

Woodharbor Fire Rated Doors have been tested and listed by Underwriters Laboratories (UL) and Intertek Testing Services (Warnock Hersey) under test standards UL10B (neutral pressure) UL10C (positive pressure) and UBC 7.2-1997 Parts I & II. Woodharbor Fire Rated Doors conform to all testing standards for both Neutral Pressure and the more stringent, Positive Pressure standards as well as the "S" label for smoke and draft infiltration.

A **Positive Pressure Fire Test** subjects the door assembly to conditions that more closely simulate those present in an actual fire. As heat develops at the fire source, the pressure within an enclosed room begins to build relative to the pressure outside of the room. In a testing environment, positive pressures force super heated gases and flames through gaps and clearances in the door assembly and establishes the neutral pressure plane at 40" from the bottom of the door or sill. This subjects the top 2/3 of the door to fire-like conditions that can cause burning and charring of unprotected edges and result in the failure of the door assembly. If the edges of the door are properly protected, flames must actually burn through the door itself for failure to occur.

For 20 minute Positive Pressure testing, a door must withstand 20 minutes of flame without failure.

One of the ways positive pressure door assemblies meets this requirement is:

Category "B" Doors - A fire door that requires the use of an edge seal to comply with positive pressure requirements.

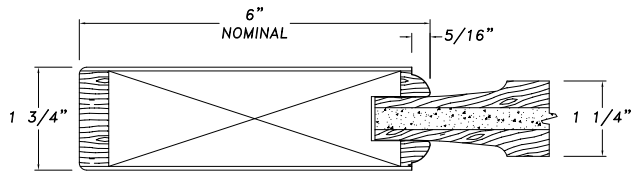
Woodharbor 20 Minute Fire Rated doors fall into Category "B" classification as shown above. To achieve the supplemental "S" label, a door must also pass for smoke and air infiltration. Once a Woodharbor Fire Rated Door is installed, a smoke gasket, Pemko S88, must be applied to the jamb to create a seal which protects the edges of the door and prevents the infiltration of smoke and air. Also, any mortised areas must utilize an intumescent tape, FGL5000, to prevent flame, smoke and air infiltration.

**What is "Intumescent"?** Intumescent (also called expandable graphite) is a material that expands to seal an opening when it is exposed to high temperatures. Woodharbor applies an intumescent tape between Double Doors to seal the gap between doors in the event of a fire. Also, any mortised areas for hardware will require the application of an intumescent tape (FGL5000) in the field to seal the machined area.

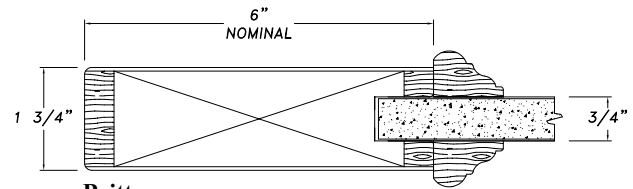
**What is a "Smoke Gasket"?** A smoke gasket is utilized around the perimeter of the door (affixed to the jamb with a peel-and-stick adhesive) to prevent the infiltration of smoke and hot gases. It performs the critical task of protecting door clearances and gaps that can mean the difference between an assembly passing or failing. Woodharbor Fire Rated Doors require the application of Pemko S88 Smoke Gasket after the door has been installed to fulfill the Positive Pressure rating and the "S" label for smoke and draft infiltration.

# Fire Rated Doors - Category 'B'

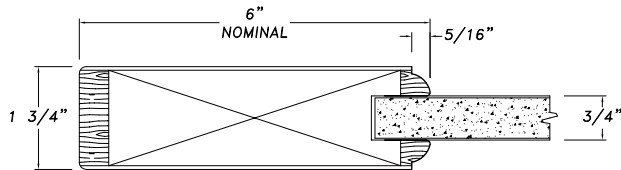
## 20 MINUTE POSITIVE PRESSURE CATEGORY 'B' WOOD/MDF DOORS



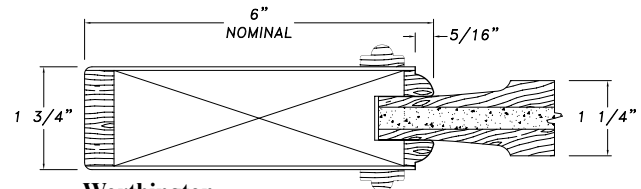
**Charleston/Arlington**



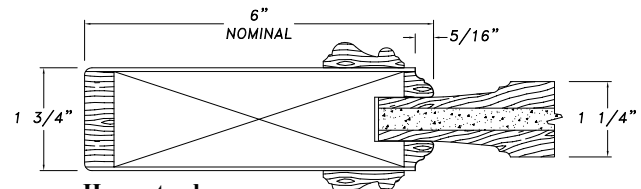
**Brittany**



**Newport/Kendleton**



**Worthington**



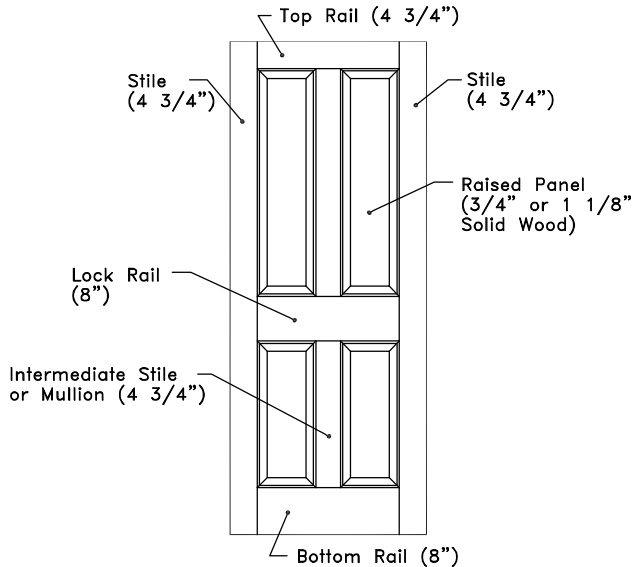
**Hampstead**

<b>20-Minute Positive Pressure Wood/MDF</b>																						
Category	Category 'B'																					
Thickness	1-3/4" minimum, 2-1/4" maximum																					
Max size single	3/6 x 8/0																					
Max size pair	7/0 x 8/0 (3/6 wide x 8/0 high per leaf)																					
Door Material/Construction	Stile/rail wood/MDF veneer construction with engineered core material.																					
Stile/Rail Dimensions	<table border="1"> <thead> <tr> <th>Stile/Rail Dimensions</th> <th>Standard</th> <th>Minimum</th> </tr> </thead> <tbody> <tr> <td>Stile</td> <td>6"</td> <td>5-15/32"</td> </tr> <tr> <td>Intermediate stile</td> <td>4-3/4"</td> <td>3"</td> </tr> <tr> <td>Top rail</td> <td>4-3/4"</td> <td>4-23/32"</td> </tr> <tr> <td>Intermediate rail</td> <td>4-3/4"</td> <td>4-11/16"</td> </tr> <tr> <td>Lock rail</td> <td>8"</td> <td>7-15/16"</td> </tr> <tr> <td>Bottom rail</td> <td>8"</td> <td>7-31/32"</td> </tr> </tbody> </table>	Stile/Rail Dimensions	Standard	Minimum	Stile	6"	5-15/32"	Intermediate stile	4-3/4"	3"	Top rail	4-3/4"	4-23/32"	Intermediate rail	4-3/4"	4-11/16"	Lock rail	8"	7-15/16"	Bottom rail	8"	7-31/32"
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Panel Construction	Raised Panel Thickness 1-1/4" nominal, 3-ply construction Flat Panel Thickness 3/4" nominal																					
Panel size	Maximum Raised Panel wood 29" x 83-3/16", MDF 31-5/8" x 83-3/16" Maximum Flat Panel 37-5/8" x 95-3/16"																					
Finish	Finished/Unfinished																					
Styles	Existing fire door configurations: Charleston/Arlington, Newport/Kendleton, Brittany, Worthington & Hampstead.																					
Profiles	Sticking options: Std Hip, Dbl Hip, Cove & Bead, Mission, Prairie Panel options: Flat Panel & Raised Panel Custom sticking profiles and/or panels may be available on quote basis.																					
Jamb	See p. 199																					
Fire glass max area	503 in <sup>2</sup> per insert																					
Standards	UL 10(c) (1998), UBC 7-2 (1997), UBC 7-2 (1994), UL 10 (b) (1997), NFPA 252 (1999), CAN4 S104 (1985)																					
Listing agent	UL & Intertek																					

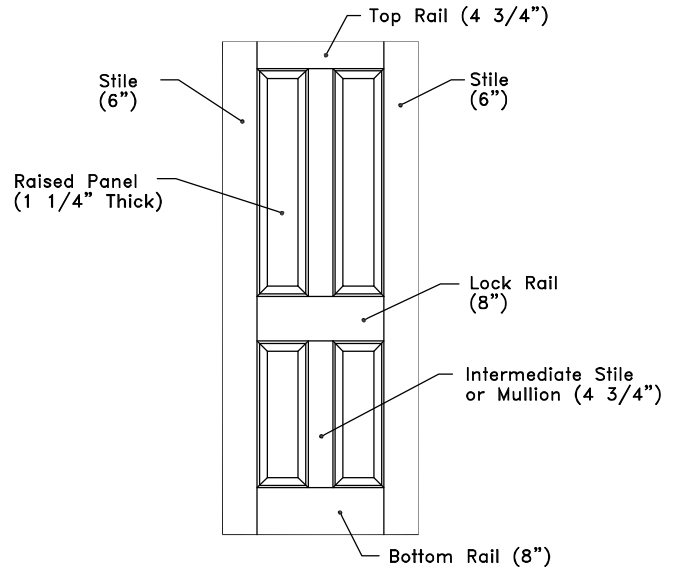
# Fire Rated Doors - Category 'B'

## STANDARD INTERIOR DOOR VS. 20 MINUTE FIRE DOOR

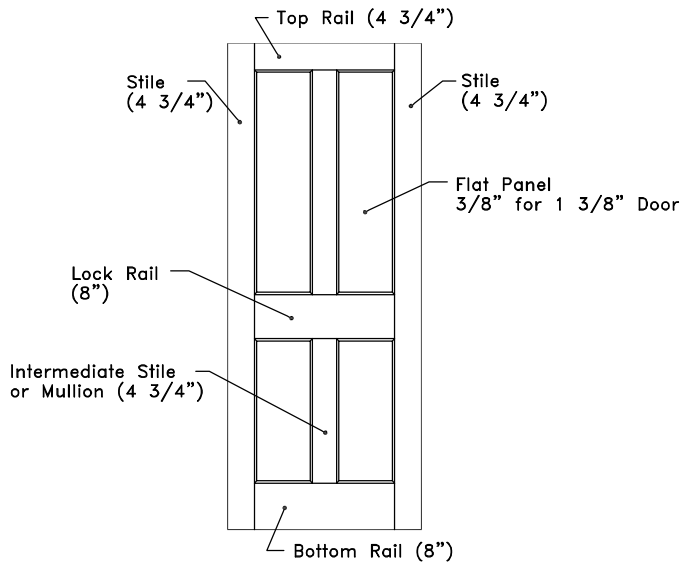
**STANDARD RICHMOND DOOR**



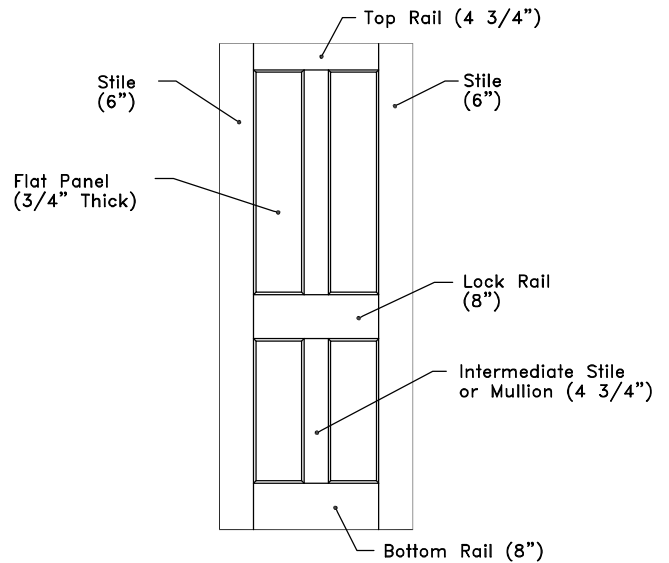
**FIRE RATED CHARLESTON DOOR**



**STANDARD FAIRMONT DOOR**



**FIRE RATED NEWPORT DOOR**



A Woodharbor Fire Rated Door matches the construction of our standard residential/commercial door in most respects. Outside stiles are 6" wide instead of the standard 4 3/4" and panels are thicker. See dimensioned details above.

# Fire Rated Doors - Category 'B'

## FIRE RATED DOOR TYPES

**PASSAGE DOOR:** A single door slab that is specified as a "Door Only" or a "Pre-Hung". All Fire Rated doors must be hung in a listed jamb/frame (either a solid wood Fire Rated jamb from Woodharbor or a listed Hollow Metal/Aluminum jamb).

**Door Only (Slabs):** A "Door Only" must be specified as either "Pre-Fit" or "Full & Square". A "Door Only" can be specified unmachined or with machining for hinges, locksets, etc.

**Fire Rated Doors can only be machined by a licensed UL or ITS machiner. Otherwise they must be specified with all machining from the factory.** For machining options, see pricing on page 31 and use a Machining Template Order Form.

**Pre-Hung Doors:** A Pre-Hung passage door includes the door, our standard 4" x 4" hinges and a Woodharbor 20 Minute Fire Rated Jamb. To receive a Woodharbor Fire Label, the doors must be machined at the factory.

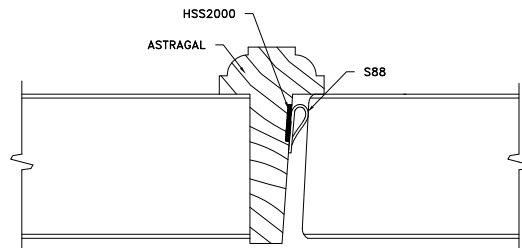
Pre-hung units include our 4" x 4" hinges in a variety of finish options. These hinges meet specifications of ANSI (American National Standard Institute) for Butts and Hinges A156.1 2000 as specified in the NFPA (National Fire Protection Agency) Table 2-4.3.1. Custom hinges can be specified or "Customer Supplied" hinges can be used as long as all hinges meet ANSI standards for use on 20 Minute Fire Rated Doors.

**DOUBLE DOORS:** Double Doors include 2 doors that can be specified as "Doors Only" or as a "Pre-Hung" unit within a single jamb. Fire Rated Double Doors from Woodharbor *require* the use of a wood T-Astragal along with UL listed Head & Foot bolts. In addition, the T-Astragal is dadoed and includes an intumescent tape (HSS2000) to seal the gap between double doors in the event of a fire. All Fire Rated doors must be hung in a listed jamb (either a solid wood Fire Rated jamb from Woodharbor or a listed Hollow Metal/Aluminum jamb).

**Double Doors Only (Slabs):** Double "Doors Only" is specified by the overall width of the opening (5/0, 6/0, etc.) and includes 2 doors with the T-Astragal applied and no jamb. To receive a Woodharbor Fire Label, the doors must be machined at the factory. Be sure to specify "handing" so that the T-Astragal (with intumescent) can be applied to the appropriate door. Listed Head and Foot Bolts are required.

**Pre-Hung Double Doors:** Pre-Hung Double Doors include 2 doors with a T-Astragal, standard 4" x 4" hinges and a Woodharbor 20 Minute Fire Rated Jamb. To receive a Woodharbor Fire Label, the doors must be machined at the factory. Be sure to specify "handing" so that the T-Astragal (with intumescent) can be applied to the appropriate door. Listed Head & Foot Bolts are required.

*If all machining is to be done by a licensed machiner, individual door slabs (i.e. 2, 2/6 doors) can be ordered with a loose T-Astragal. Intumescent tape (HSS2000) can be ordered loose from Woodharbor and applied by the machiner.*



*A wood T-Astragal with intumescent is required between meeting edges of all Woodharbor Fire Rated Double Doors. Woodharbor grooves the T-Astragal to accept an intumescent tape (HSS2000). The Smoke Gasket (Pemko S88) is sent loose and must be applied after installation.*

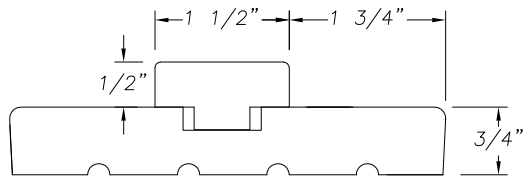
# Fire Rated Doors - Category 'B'

## PRE-HUNG DOORS

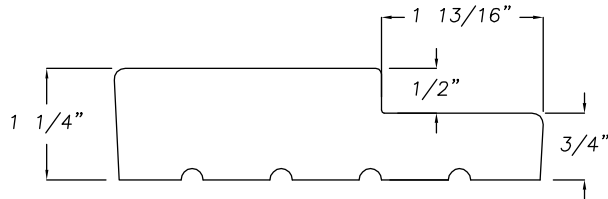
### PRE-HUNG UNITS:

Per NFPA 80, Woodharbor Fire Rated Doors must be hung in listed jambs/frames (i.e. Hollow Metal/Aluminum jambs) or in solid wood, 20 Minute Fire Rated jambs of your choice from Woodharbor: T-Stop Jambs, Single Rabbet Jambs or Double Rabbet Jambs. (If Hollow Metal/Aluminum jambs are being used, Door Slabs can be machined for hinges and hardware at Woodharbor and installed in the jambs on-site.)

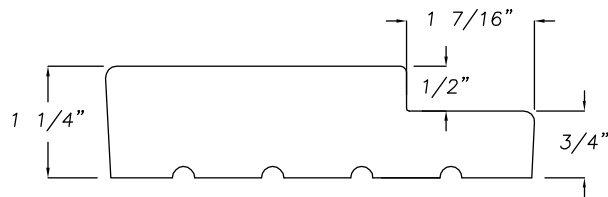
## 20 MINUTE FIRE RATED JAMBS



**T-STOP JAMB**



**SINGLE RABBET JAMB**



**DOUBLE RABBET JAMB**

## 20 MINUTE, SOLID WOOD, FIRE RATED

### JAMBS FOR 1 3/4" THICK DOORS

### JAMB AVAILABILITY CHART

JAMBS		Red Oak	Poplar	Cherry	Maple	Birch
T-STOP	4 9/16"	✓	✓	✓	✓	✓
	4 13/16"	✓	✓	✓	✓	✓
	6 9/16"	✓	✓	✓	✓	✓
	6 11/16"	✓	✓	✓	✓	✓
	6 13/16"	✓	✓	✓	✓	✓
SINGLE RABBET	*4 9/16"	✓	✓	✓	✓	✓
	*4 13/16"	✓	✓	✓	✓	✓
	*6 9/16"	✓	✓	✓	✓	✓
	6 11/16"	✓	✓	✓	✓	✓
	6 13/16"	✓	✓	✓	✓	✓
DOUBLE RABBET	*4 9/16"	✓	✓	✓	✓	✓
	*4 13/16"	✓	✓	✓	✓	✓
	*6 9/16"	✓	✓	✓	✓	✓
	6 11/16"	✓	✓	✓	✓	✓
	6 13/16"	✓	✓	✓	✓	✓

\*Rabbetted jambs are available for 1 3/8" thick doors (non-rated). (4 9/16", 4 13/16", 6 9/16").

•Custom width jambs are also available.

•Jambs are available up to 8/0 height.

# Fire Rated Doors - Category 'B'

## HOUSE-TO-GARAGE SILL PACKAGE

**SILL PACKAGE:** A "Sill Package" is available for House-to-Garage applications where a 20 Minute Fire Rated Door is required and where weather and draft control are also of concern. Choose a Pre-Hung Passage Door with a Single Rabbet or Double Rabbet Jamb and then specify a Sill Package.

A Sill Package includes:

- ◆ An adjustable Sill with choice of finish options:  
Please specify Mill Aluminum (M), Anodized Brass (B) or Anodized Bronze (BZ). Sills are shipped with a removable, protective plastic cover.
- ◆ "Q-Ion" Weatherstrip. The Single Rabbet or Double Rabbet Jamb is kerfed to accept the weatherstrip. Weatherstrip is installed at the factory and can be removed for jobsite finishing of the door and then reapplied. (Color is black/brown.)
- ◆ UL Listed Door Bottom. The Door Bottom is applied to the bottom edge of the door to create a seal between the door bottom and the Sill. (The Sill can be adjusted for a weathertight seal against the Door Bottom.)

*A "Sill Package" includes a complete package of sill, weatherstrip and door bottom - all installed and included with a pre-hung door. (A Single Rabbet or Double Rabbet jamb is required and Pemko S88 smoke gasket must also be installed on-site.) Sill packages must be specified with a Rabbeted jamb (single or double) to accomodate the kerf and the weatherstrip.*

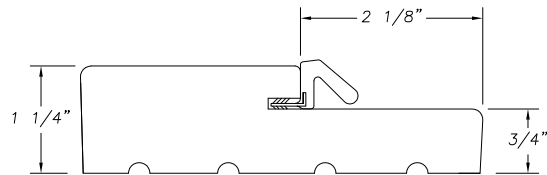
- ◆ Sill Packages can only be specified with Doors that are to be Pre-Hung in a Single Rabbet or Double Rabbet Jamb.
- ◆ Available for Pre-Hung Doors 3/0 wide or less. For wider widths, contact Customer Service for availability, pricing and lead time.
- ◆ Sills are stocked for 3/0 wide doors in 2 standard jamb widths in all 3 finishes (Mill, Brass and Bronze). For other jamb widths, contact Customer Service for availability, pricing and lead time. See Jamb Width/Sill Chart below.

SILL WIDTH	USED FOR JAMB SIZES
5 13/16"	4 9/16" - 4 13/16"
7 13/16"	6 9/16" - 6 13/16"

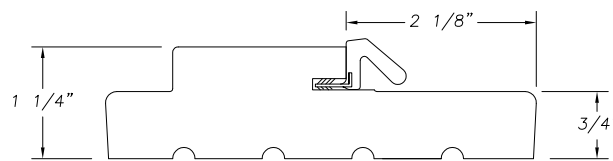
- ◆ Woodharbor will automatically use the appropriate sill for the jamb specified. For jamb sizes not shown above, contact Customer Service for availability, pricing and lead time. (Maximum jamb size available with a sill is 6 13/16".)
- ◆ **A SILL PACKAGE WILL ADD 1/2" TO THE OVERALL ROUGH OPENING HEIGHT. BE SURE TO ALLOW AN 82 1/2" ROUGH OPENING (for a 6/8 door) WHEN A SILL PACKAGE IS SPECIFIED.**



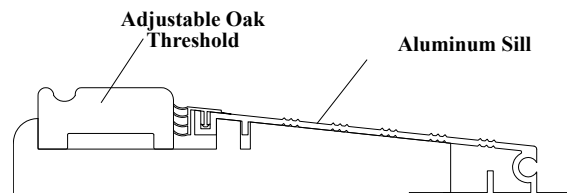
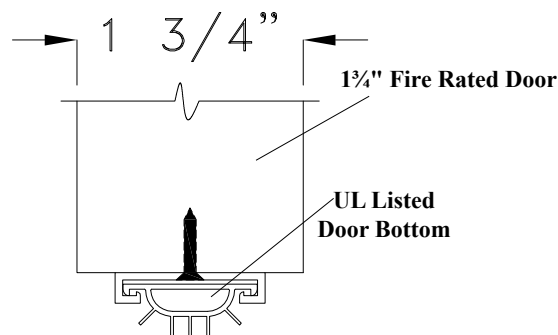
Q-LON WEATHERSTRIP  
QEBD-650



**SINGLE RABBET JAMB  
WITH KERF & WEATHERSTRIP**



**DOUBLE RABBET JAMB  
WITH KERF & WEATHERSTRIP**



# Fire Rated Doors - Category 'B'

## HINGES

**STANDARD BUTT HINGES:** Pre-hung units include our standard 4" x 4" hinges in a variety of finish options. These hinges meet specifications of ANSI (American National Standard Institute) for Butts and Hinges A156.1 2000 as specified in the NFPA (National Fire Protection Agency) Table 2-4.3.1.

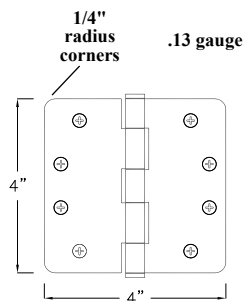
Custom hinges can be specified or "Customer Supplied" Hinges can be used as long as all hinges meet ANSI standards for use on 20 Minute Fire Rated Doors. It is the dealer's responsibility to verify that custom hinges meet all ANSI standards.

Woodharbor's standard hinges are a 5 knuckle, ball bearing hinge with 1/4" radius corners that meets all ANSI requirements for use on 20 Minute Fire Rated Doors. (These are the same hinges used on our non-rated 1 3/4" thick doors.)

- ◆ Hinges are available in a choice of finish options. Specify hinge finish clearly on your order form. **All standard hinge finish options are no charge options for pre-hung doors.**

### HINGE FINISH CHART

H3 (4" x 4")	1 3/4" Thick Doors (Ball Bearing)
H3BB-PB (Polished Brass) US3	
H3BB-SB (Satin Brass) US4	
H3BB-AB (Antique Brass) US5	
H3BB-BC (Black Coated) 800	
H3BB-PC (Polished Chrome) US26	
H3BB-SC (Satin Chrome) US26D	
H3BB-ABZ (Antique Bronze) US10A	
H3BB-AN (Antique Nickel) US15A	
H3BB-SN (Satin Nickel) US15	
H3BB-OR (Oil Rubbed Finish) US10B	



Hinge manufacturer is "PBB".

**Square Corner Hinges are also stocked in PB, SB, AB, BC, PC, SC, ABZ, AN, SN & OR finishes. See page 36-37 for pricing.**

- ◆ Decorative Tips are available (sent loose) for Polished Brass hinges.

### HINGE COUNT CHART

DOOR HEIGHT	HINGE COUNT
Up to 4/0 height	2 hinges
Over 4/0 & less than 7/3	3 hinges
Over 7/3 up to 8/0	4 hinges

- ◆ All 6/8 and 7/0 high doors are pre-hung with 3 hinges. 8/0 doors are hung with 4 hinges.

**SPRING HINGES:** Some building codes require that a Fire Rated Door be self-closing. For residential applications where a door closer is not desirable, Woodharbor offers the option of Spring Hinges for self-closing applications. When Spring Hinges are specified, two (2) Spring Hinges are substituted for 2 of our standard hinges in the top and bottom hinge locations. Spring Hinges (from PBB) are stocked in all standard finishes to match our current 4" x 4" hinge offering. See page 111 for pricing.

## MISCELLANEOUS

**WOOD SPECIES:** Woodharbor's 20 Minute Fire Rated Doors are available in the following wood species:

Red Oak      Maple      Paintable/MDF  
Cherry      Birch

- ◆ For specific characteristics of available Wood Species, General Information.

**FINISH AVAILABILITY:** Woodharbor Fire Rated Doors are available unfinished or factory finished with a premium catalyzed conversion varnish finish system.

**ARCH OPTIONS:** Woodharbor Fire Rated Doors are available with our 20 Series (Roman Arch) and 30 series (Cathedral Arch) on the C2-10 (raised panel) and N2-10 (flat panel) door styles

**SIZING:** Fire Rated Doors are available in the catalog from a standard 2/6 width to a 3/6 width. Doors can be modified to a smaller width upon request using pricing on page 28. Because of the wider 6" stiles, for most doors, the minimum width for 2 side-by-side panels is 2/4. Doors below that dimension will become 1 full width panel.

**LOUVERS:** Louvers are **not available** for Fire Rated Doors.

**DOUBLE EGRESS:** Double Egress applications are **not available** for Woodharbor Double Door applications.

### HARDWARE FOR FIRE DOORS:

Generally, hardware for fire door applications is classified as builders hardware or fire door hardware. Per NFPA 80 guidelines, *all hardware for fire doors must be listed and/or labeled* according to their use or application in a fire rated assembly.

**It is the dealer's responsibility to ensure that when hardware and/or machining for hardware is specified, that the hardware is actually appropriate for the fire rated assembly.**

### GLASS LITES/VISION PANELS:

Glass lite panels or glass lite kits are available with a maximum exposed glass area of 503 square inches per insert. Multiple glass lites can be used in the door as long as the construction of the door complies with all other label requirements. Glass lite panels can be installed at the factory (shipped as part of the door assembly) or a glass lite kit can be shipped loose for jobsite installation in accordance with the installation instructions.

# Fire Rated Doors - Category 'B'

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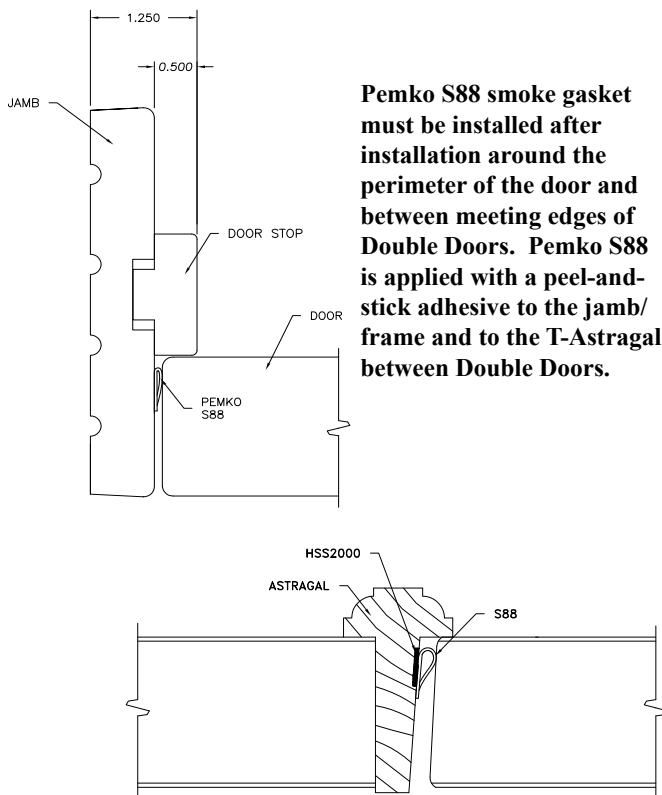
## APPLICATION OF SMOKE GASKET & INTUMESCENT

**SMOKE GASKET (Pemko S88):** Application of a smoke gasket (Pemko S88) is REQUIRED on all doors (singles and pairs) to meet the requirements of Woodharbor's Fire Label. The building inspector will check to ensure that Woodharbor Fire Rated Doors have been installed in accordance with their installation instructions. Pemko S88 is automatically shipped with each Fire Rated Door and must be installed after installation.

**EXPANDABLE INTUMESCENT:** Mortised hardware (mortised lock boxes, mortised flush bolts, etc.) must be wrapped with intumescent (FGL5000) upon installation of the hardware to meet the requirements of Woodharbor's Fire Label. Intumescent expands at high temperatures to seal the opening in order to prevent flame spread and infiltration of smoke and hot gasses. FGL5000 must be ordered separately.

**NOTE:** When Woodharbor installs a Flush Bolt, we will also install the intumescent. If Woodharbor is doing the machining only for Flush Bolts and the bolts are being installed on-site, FGL5000 must be ordered separately and installed with the Flush Bolts.

**NOTE:** When Double Doors are ordered from Woodharbor, we will automatically install the T-Astragal and the intumescent. If slabs are being ordered for machining and hanging in the field as Double Doors, a T-Astragal and the intumescent (HSS2000) must be ordered separately and installed between meeting edges of pairs.



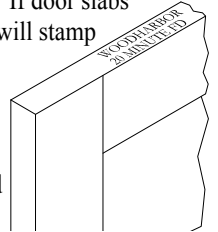
**Pemko S88 smoke gasket must be installed after installation around the perimeter of the door and between meeting edges of Double Doors. Pemko S88 is applied with a peel-and-stick adhesive to the jamb/frame and to the T-Astragal between Double Doors.**

## MACHINING

Building code authorities enforcing NFPA 80 and the Uniform Building Code require that all fire doors be tested, listed and labeled with an accredited independent certification agency (i.e. Underwriters Laboratories (UL), Warnock Hersey (ITS)). Woodharbor Fire Rated Doors and Jamb were tested at UL with representatives from Warnock Hersey in attendance to receive label certification from both independent testing agencies.

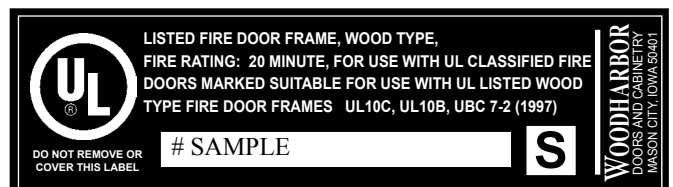
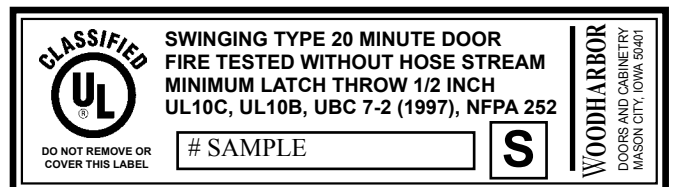
Application of the label is accomplished only after the door has been completely machined according to the label instructions. Machining of the door can only be accomplished by a licensed/authorized machining facility. (Woodharbor is a licensed machiner.)

If doors are ordered machined at Woodharbor, Woodharbor will apply our Fire Label to the door and/or jamb. If door slabs are ordered without machining, Woodharbor will stamp the top of the door to indicate that the door has been constructed according to the approved/listed method. This is not a "label" but actually indicates that the door is eligible to receive a Fire Rated Label if it is machined in accordance with the label instructions by a licensed UL or ITS machiner.



**MACHINING AUTHORITY:** Authority to machine fire doors outside the manufacturing facility can be granted by UL or ITS. To become a licensed machiner, a request must be received by Woodharbor to release our machining authority. Upon approval, Woodharbor will contact UL or ITS who will then forward the necessary applications and requirements directly to the applicant. UL or ITS will schedule an inspection if the applicant is not already licensed. After a satisfactory inspection, machining authorities are released and the necessary fire labels are ordered. The machiner then applies their own labels to fire doors that have been machined at their facility.

**What machining can be done in the field?** Per NFPA 80, all machining for locks, latches, hinges, concealed closers, glass lights, vision panels, astragals, etc. shall be performed in accordance with the manufacturer's inspection service procedure and under label service (by a licensed machiner). Exception: Jobsite preparation is permitted for surface applied hardware, function holes for mortise locks, holes for labeled viewers, a maximum 3/4" undercut of the door and protective plates. Holes shall not be permitted to exceed 1" in diameter.



# Fire Rated Doors - Category 'B'

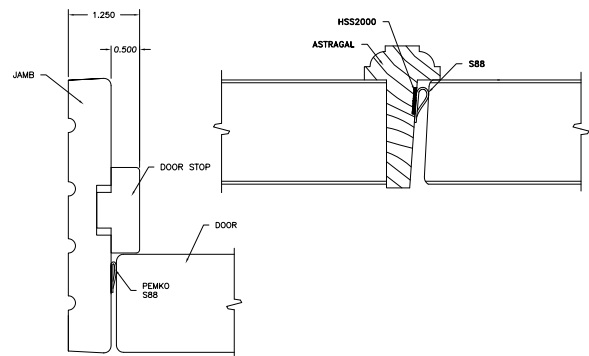
## INSTALLATION INSTRUCTIONS WOODHARBOR DOORS & CABINETS, INC. POSITIVE PRESSURE 20 MINUTE WOOD FIRE RATED DOOR

### Positive Pressure Door Assembly

Doors may be installed as a single swing or as pairs in a Listed fire door frame assembly.  
The following components are required for the fire door assembly to comply with UL10C or UBC 7-2 (1997).

1. Woodharbor swinging type fire door bearing the marking (label) for positive pressure which denotes compliance with UL10C and/or UBC 7-2 (1997).

2. Gasketing: Classified Category G/Category H Pemko S88 Edge Seal must be applied around the perimeter of the frame upon installation. For double doors, Pemko S88 must be applied around the perimeter as well as between meeting edges of pairs. Category G Intumescent Edge Seal Pemko HSS2000 must be applied on the T-Astragal between meeting edges of pairs.



3. Listed wood or steel Fire Door Frame for single swinging door or pairs of doors swinging in the same direction.

**Steel frames:** These frames bear the listing mark for fire doors with reference to UL10C or UBC 7-2 (1997).

**Wood frames:** These frames shall bear the listing mark for fire door frames for positive pressure which references UL10C and/or UBC 7-2 (1997). The wood frames shall be fire rated for a minimum of 20 minutes.

4. Listed single point lock with a minimum throw of ½". Note: The hardware bears the listing mark for single point locks or latches without reference to UL10C or UBC 7-2 (1997). All mortised hardware must be wrapped with UL classified intumescent material upon installation (Pemko FGL5000).

5. Mortised Flush Bolts: The top and bottom corners of the inactive leaf of a pair are prepared for manual flush bolts and/or extension bolts up to 18" in length. Minimum bolt throw is ½". Bolts must bear the listing mark for flush bolts without reference to UL10C or UBC 7-2 (1997). Bolts must be wrapped with UL classified intumescent material upon installation (Pemko FGL5000).

6. Swinging Door Closer: When required, the door closer shall bear the marking which denotes compliance with UL10C or UBC 7-2 (1997).

7. Glass Lites: Glass lites can be installed at the factory or a glass lite kit can be shipped with the door. The opening for the glass lite must be prepared at the factory. Glass lite kits installed in the field must be installed in accordance with installation instructions shipped with the glass lite kit

The door assembly shall be installed in accordance with the installation guidelines of the National Fire Protection Association's Standard for Fire Doors and Fire Windows, NFPA 80.

# Fire Rated Doors - Category 'B'

INSTALLATION INSTRUCTIONS  
WOODHARBOR DOORS & CABINETRY, INC.  
POSITIVE PRESSURE 20 MINUTE WOOD FIRE RATED FRAMES

Approved hardwood frame assembly from Woodharbor will be a solid wood rabbet jamb or a solid wood jamb with an integral T-Stop. Classified Category G/Category H edge seal, Pemko S88, must be installed around the perimeter of the jamb.

## Jambs/Frames

**Rough Opening:** The maximum gap between the back of the jamb and the framing member is 1/4".

**Jamb Header/Leg Assembly:** Jamb legs are attached to the header with three, 16 gauge, 1/2" x 1 1/2" staples or three, #6 x 1 1/4" wood screws.

**Jamb Attachment:** Fasten frame to studs and header through solid wood jamb material with 2 1/2" wood screws spaced at a maximum distance of 24" on center. Place wood shims behind the screws.

**T-Stop Attachment:** Factory applied into dado groove with 16 gauge, 1 1/4" brads. T-stop is adjustable 1/8" in either direction within dado groove.

**Casing:** Apply casing to the jamb using standard finish nails or brads with a 1/4" reveal or offset to the inside of the jamb. Minimum casing size of 2 1/16" x 1/2" is required on both faces. (1" brick mold is allowed on one side with casing applied to the other face.)

**Hinge Attachment:** Each hinge and strike will be attached to the jamb with #9 or greater wood screws. Pilot holes must be drilled. Place shims behind each hinge and strike location.

**Gasketing:** Pemko S88 must be applied to the jamb after installation. (See left.)

**Jamb Extensions:** Install jamb extension tightly against the edge of the frame assembly with 1/8" offset using the same 2 1/2" wood screws used with frame assembly.

# Fire Rated Doors - Category 'B'

## Woodharbor Positive Pressure, Fire Door Label Limitations

20 Minute Rating w/o Hose Stream except where noted\*.

Maximum Size Single Leaf (Passage):	3/6 x 8/0
Maximum Size Standard Pair (Double Door):	7/0 x 8/0
Door Types:	Door Only (Slab), Pre-Hung Single (Passage), Pre-Hung Double Door Pocket, Bi-fold, and By-pass are not available. Double Egress is not available.
Door Styles:	Charleston, Newport (See Note #1), Brittany, Arlington, Kendleton, Hampstead and Worthington.
Arches:	20 Series (Roman), 30 Series (Cathedral) are available. 40 series arch is not available.
Wood Species:	Birch, Cherry, Hickory, Mahogany, Maple, Red Oak, Poplar, White Oak and Paintable. Alternate species available on a quote basis. (Density must be equal to or greater than Poplar and subject to UL approval.)
Door Thickness:	1 3/4"
Jamb:	Solid wood T-stop Jamb, Single Rabbet, or Double Rabbet.
Stiles:	1 3/4" thick x 6" wide wood core with solid wood edge banding and laminated by 1/16" thick wood veneer. Minimum stile width: 5 15/32"
Top Rails:	1 3/4" thick x 4 3/4" wide wood core with solid wood edge banding and laminated by 1/16" thick wood veneer. Minimum rail width: 4 23/32"
Intermediate Rails:	1 3/4" thick x 4 3/4" wide wood core with solid wood edge banding and laminated by 1/16" thick wood veneer. Minimum rail width: 4 11/16"
Intermediate Stiles:	1 3/4" thick x 4 3/4" wide wood core with solid wood edge banding and (Vertical Mullions) laminated by 1/16" thick wood veneer. Minimum mullion width: 3"
Lock Rails:	1 3/4" thick x 8" wide wood core with solid wood edge banding and laminated by 1/16" thick wood veneer. Minimum rail width: 7 15/16"
Bottom Rails:	1 3/4" thick x 8" wide wood core with solid wood edge banding and laminated by 1/16" thick wood veneer. Minimum rail width: 7 31/32"
Raised Laminated Panels:	Overall panel thickness of 1 1/4" (See Note #1).
Flat Panels:	3/4" thick (See Note #1)
Glass Inserts:	Maximum glass lite area of 503 in <sup>2</sup> per insert. Multiple inserts are available. Glass is UL listed 1/4" wired glass.
Louvers:	Not Available
T-Astragal:	A T- astragal is required on all Woodharbor fire rated standard pairs (double doors) with UL classified intumescent (Pemko HSS2000) material and UL classified smoke gasketing (Pemko S88). *(See note #2)
Locksets:	UL listed latches only. Bored cylindrical type with maximum hole size of 2 1/8" diameter, maximum backset of 2 3/4". Mortise latch with maximum hole size of 2 1/8". Maximum cutout 4 9/16" deep x 6 3/4" high. Mortise lock body shall be wrapped with UL classified intumescent material. Minimum latch bolt throw: 1/2"
Hinges:	Woodharbor supplied 4" x 4" x .130 with 1/4" radius corners or square corners or as per NFPA 80 table 2-4.3.1.
Deadbolts:	UL listed cylindrical and mortise. Maximum face bore diameter: 2 1/8" Minimum latch bolt throw: 1/2" In a cylindrical application, deadbolt must be placed 4" minimum, on center, above cylindrical latchset. In a mortise lock application, deadbolt apparatus must be placed 4" minimum from leading edge of deadbolt cutout to leading edge of mortise lock cutout.
Strikes:	UL listed mortise.

# Fire Rated Doors - Category 'B'

## Woodharbor Positive Pressure, Fire Door Label Limitations (Cont.)

Flush Bolts:	UL listed manual and extension bolts up to 18" wrapped with UL listed intumescent. Minimum latch bolt throw: ½"
Protective Plates:	Permitted when located lower than 16" from the bottom of the door.
Finish:	Catalyzed Conversion Varnish System. Also available unfinished.
Smoke Seal:	UL Classified gasketing material is required on all single swing and pairs of doors. (See note #2.)

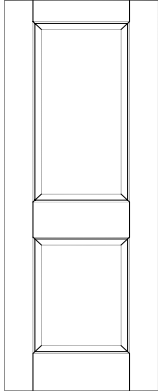
### Notes:

1. Flat panel and raised panel MDF styles that have exposed panel(s) dimensions of 31-5/8" x 60-1/2" or less are approved by UL as a 20 minute, positive pressure, fire label door with Hose Stream Test. Under this guideline, any N110, N212, N312, K110, K212, K312, A110, B110 and N213, K213, A213 and B213 doors that are 8/0 in height are not approved for hose stream nor are any doors that incorporate panels that exceed those exposed height or width panel dimensions. For raised panel styles, call for quote.
2. Any Woodharbor door only or pre-hung unit, single or double, is required to incorporate UL classified gasketing material (Pemko S88) on the surrounding fire frame in accordance with our testing parameters. In addition, double door units require a T-astragal with UL classified intumescent material (Pemko HSS2000) along with UL classified gasketing (Pemko S88) where the doors meet. Any mortise lock bodies or flush bolts must be wrapped with UL classified intumescent material (Pemko FGL5000). All smoke seal gasketing is to be installed at the jobsite.
3. Custom stile and/or rail profiles may be available, call for quote.

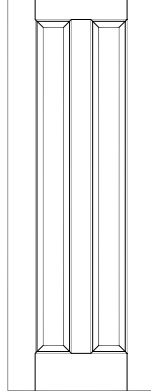
# Fire Rated Doors - Category 'B'

## \*1 3/4" THICK\* 20 MINUTE FIRE RATED CHARLESTON/ARLINGTON DOOR STYLES

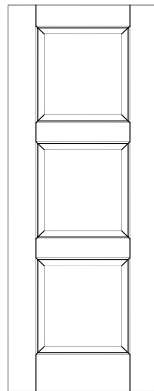
FC2-10\*  
FA2-10



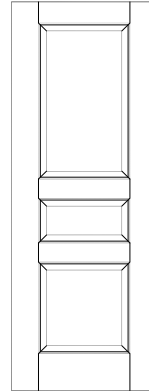
FC2-12  
FA2-12



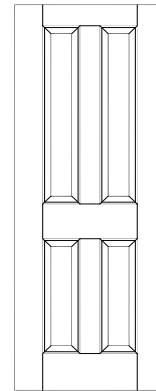
FC3-10\*  
FA3-10



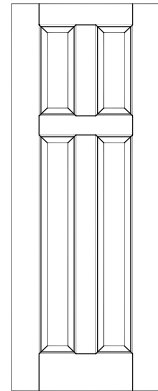
FC3-13\*  
FA3-13



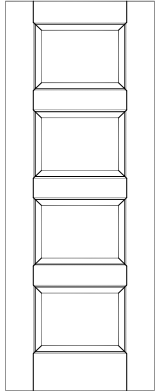
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FA4-10



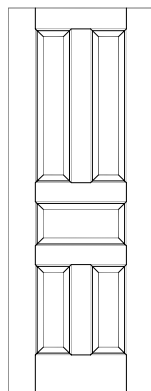
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FA4-11



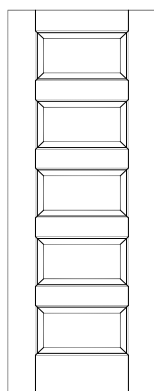
FC4-12  
FA4-12



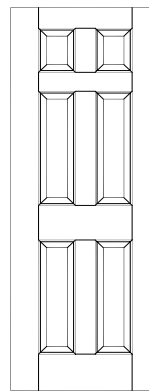
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FA5-10



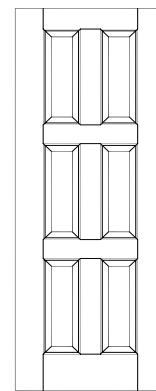
FC5-11  
FA5-11



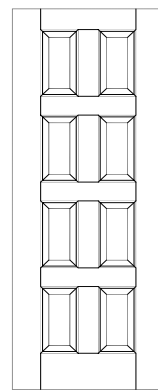
FC6-10  
FA6-10



FC6-12  
FA6-12



FC8-10  
FA8-10



\*Charleston doors with full width panels (vertical grain) are especially susceptible to expansion and contraction with uncontrolled levels of humidity. The Woodharbor warranty covers all manufacturer's defects, however, expansion/contraction concerns as a result of moisture are not covered under the warranty.

Doors with full width panels and vertical grain

(FC210, FC310, FC313) are not available for 3/6 wide doors due to expansion/contraction concerns with the panel. Maximum door width for full-width panels is 3/2.

### STANDARD SIZES (Nominal)

Door Heights: 6/8, 7/0, 8/0

Passage Doors: 2/6, 2/8, 2/10, 3/0, 3/6

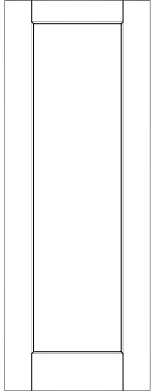
Double Doors: 5/0, 5/4, 5/8, 6/0, 7/0

*Custom sizes available upon request.*

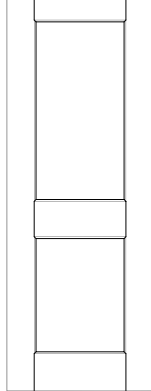
# Fire Rated Doors - Category 'B'

## \*1 3/4" THICK\* 20 MINUTE FIRE RATED NEWPORT/KENDLETON DOOR STYLES

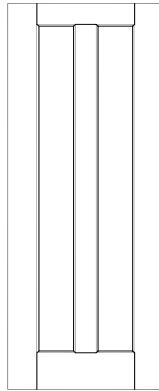
FN1-10  
FK1-10



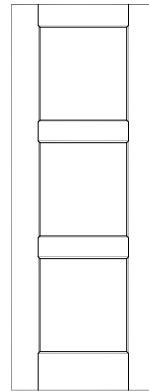
FN2-10  
FK2-10



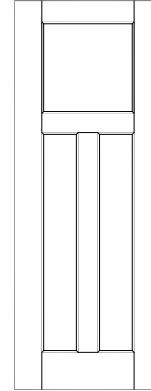
FN2-12  
FK2-12



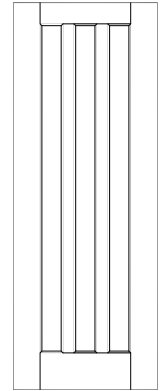
FN3-10  
FK3-10



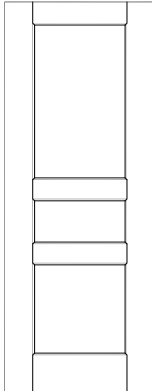
FN3-11  
FK3-11



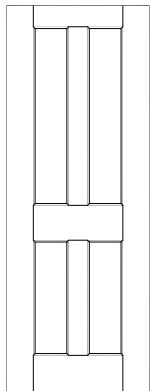
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FK3-12



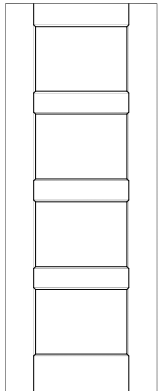
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FK3-13



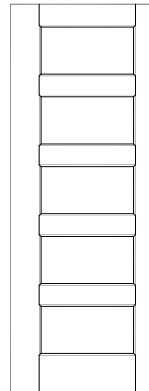
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FK4-10



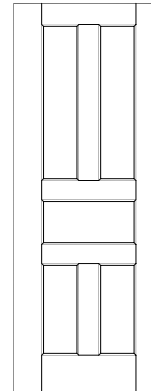
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FK4-11



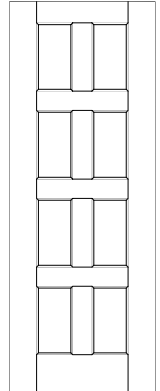
FN5-10  
FK5-10



FN5-11  
FK5-11



FN8-10  
FK8-10



**For Finish, Hinge, Door Profile and Arch Option availabilities, see the General Information section.**

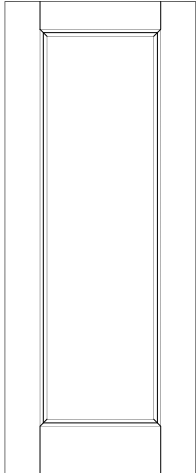
◆ See page 52 for a "Sill Package" for Fire Rated House-to-Garage applications.

◆ Refer to the *Fire Rated Jamb Availability Chart* on page 51 for available jamb options.

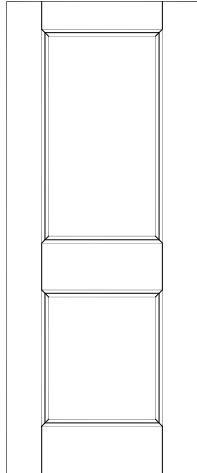
# Fire Rated Doors - Category 'B'

## \*1 3/4" THICK\* 20 MINUTE FIRE RATED BRITTANY DOOR STYLES

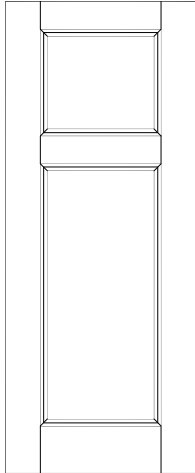
FB1-10



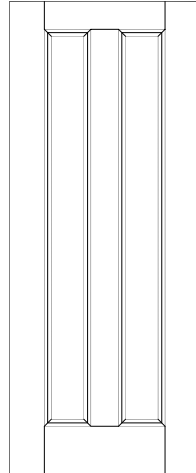
FB2-10



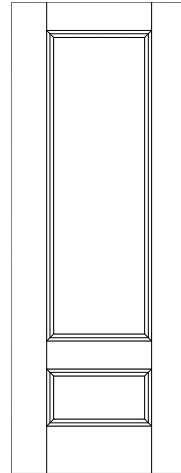
FB2-11



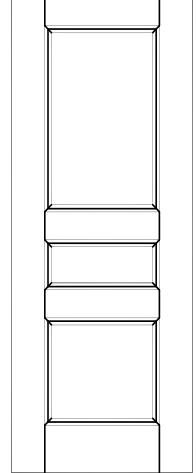
FB2-12



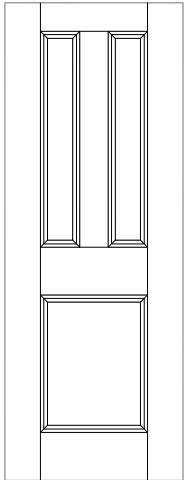
FB2-13



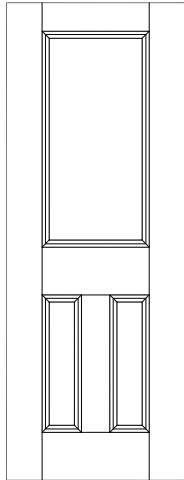
FB3-13



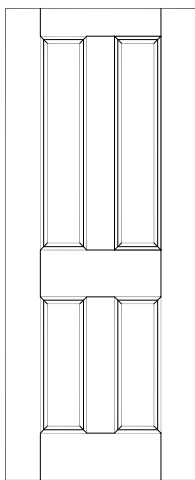
FB3-14



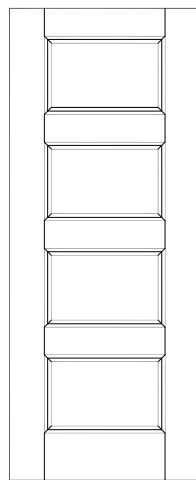
FB3-15



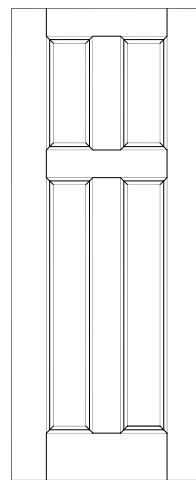
FB4-10



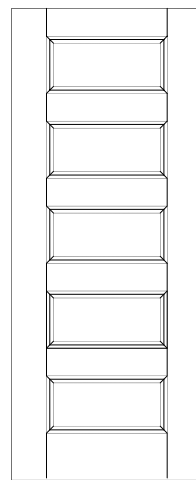
FB4-11



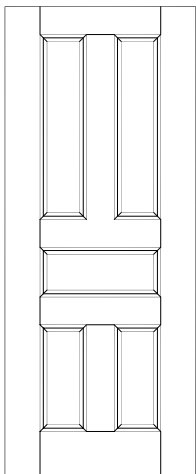
FB4-12



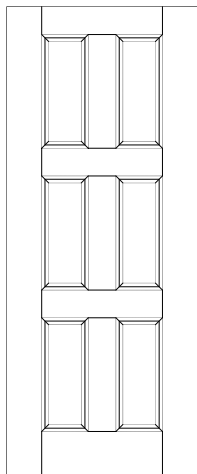
FB5-10



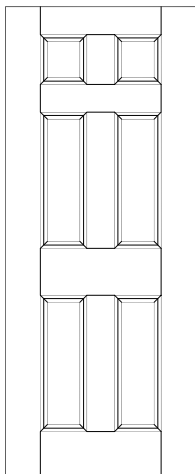
FB5-11



FB6-10



FB6-11



**For Finish, Hinge, Door Profile and Arch Option availabilities, see the General Information section.**

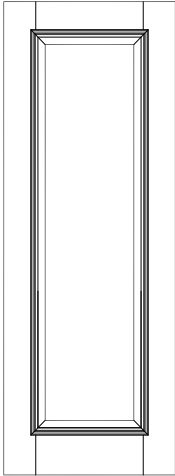
♦ See page FD1.6 for a "Sill Package" for Fire Rated House-to-Garage applications.

♦ Refer to the Fire Rated Jamb Availability Chart on page FD1.5 for available jamb options.

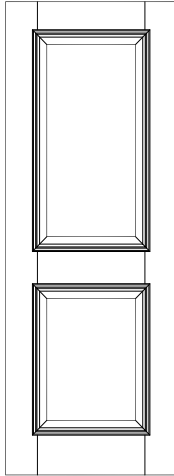
# Fire Rated Doors - Category 'B'

## \*1 3/4" THICK\* 20 MINUTE FIRE RATED WORTHINGTON DOOR STYLES

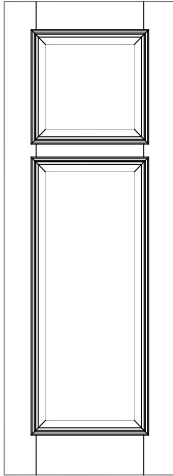
FW1-10\*



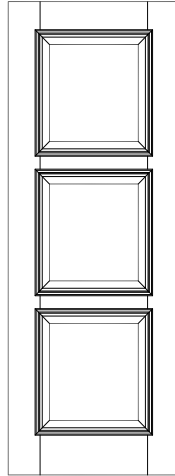
FW2-10\*



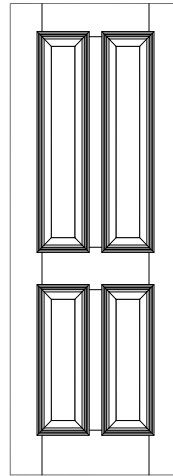
FW2-11\*



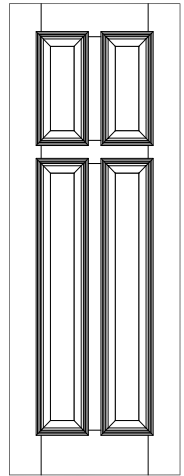
FW3-10\*



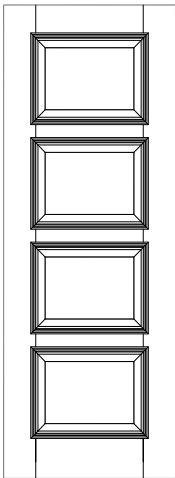
FW4-10



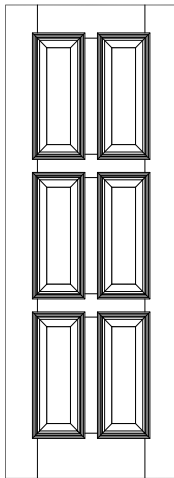
FW4-11



FW4-12



FW6-12



\*Worthington doors with full width panels (vertical grain) are especially susceptible to expansion and contraction with uncontrolled levels of humidity. The Woodharbor warranty covers all manufacturer's defects, however, expansion/contraction concerns as a result of moisture are not covered under the warranty.

Doors with full width panels and vertical grain

(FW110, FW210, FW211, FW310) are not available for 3/6 wide doors due to expansion/contraction concerns with the panel. Maximum door width for full-width panels is 3/2.

### STANDARD SIZES (Nominal)

Door Heights: 6/8, 7/0, 8/0

Passage Doors: 2/6, 2/8, 2/10, 3/0, 3/6\*

Double Doors: 5/0, 5/4, 5/8, 6/0, 7/0\*

*Custom sizes available upon request.*

# Fire Rated Doors - Category 'B'

## \*1 3/4" THICK\* 20 MINUTE FIRE RATED HAMPSTEAD DOOR STYLES

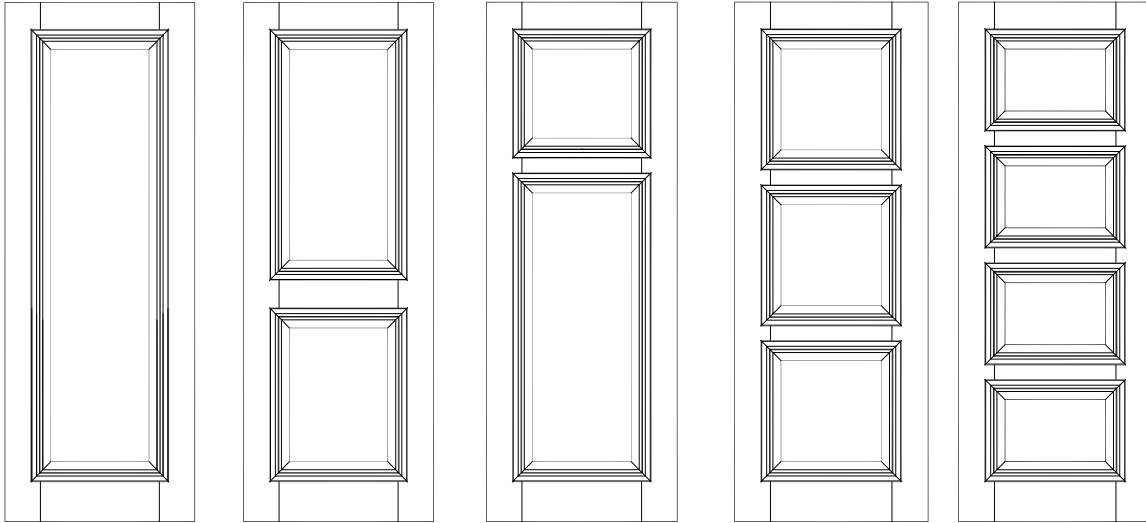
FH1-10\*

FH2-10\*

FH2-11\*

FH3-10\*

FH4-12



\* Hampstead doors with full width panels (vertical grain) are especially susceptible to expansion and contraction with uncontrolled levels of humidity. The Woodharbor warranty covers all manufacturer's defects, however, expansion/contraction concerns as a result of moisture are not covered under the warranty.

Doors with full width panels and vertical grain

(FH110, FH210, FH211, FH310) are not available for 3/6 wide doors due to expansion/contraction concerns with the panel. Maximum door width for full-width panels is 3/2.

### STANDARD SIZES (Nominal)

Door Heights: 6/8, 7/0, 8/0

Passage Doors: 2/6, 2/8, 2/10, 3/0, 3/6\*

Double Doors: 5/0, 5/4, 5/8, 6/0, 7/0\*

*Custom sizes available upon request.*