

A & F Wood Products, Inc

5665 Sterling Drive Howell, Michigan 48843
Phone: 517-545-5811 Fax: 517-545-5633 Toll Free: 800-367-3293
www.afwood.com

Machining Specifications Flush 20 Minute Door

HINGES:	Up to 3/0 x 7/0:	4" high x 105 steel, mortised, Surface (labeled self-closing spring type) 4.5" X 134" steel, mortised, surface.
	Over 3/0 x 7/0:	4.5" high x 134" steel mortised, surfaced
LATCHES:	All latch sets used shall be listed for use in solid wood core fire doors. Minimum latch bolt throw shall be ½" unless otherwise noted.	
CYLINDER LOCK:	Maximum backset is 5"	
EXIT DEVICES:	Also known as Rim Locks, Vertical Rods or Panic Hardware	
DEADBOLTS:	Listed deadbolts requiring holes up to 2 1/8" diameter, located a minimum 6" above the lock cut out. Maximum bore diameter is 2 1/8".	
FLUSHBOLTS:	Listed, mortised, automatic or surface mounted manual type.	
SURFACE MOUNTED CLOSER:	Listed closers installed with through bolts (field prep).	
CONCEALED CLOSER:		
LOUVERS:	Metal fusible required	
VISION PANELS:	Maximum Area:	1296 square inches (visible glass)
	Maximum Width:	24"
	Maximum Height:	54"
	NOTE: light cut out shall be no closer than 5" from the edge of the door or any other cut out (lock or window).	
	NOTE: Multiple lights are allowed when the sum of the areas do not exceed 1296 square inches, using the maximum length and width limitations. No light cut out shall come within 5" of the door edge or any other cut out in the door.	

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Machining Specifications Panel 20 Minute Door

HINGES:	Up to 3/0 x 7/0:	4" high x 105 steel, mortised, Surface (labeled self-closing spring type) 4.5" X 134" steel, mortised, surface.
	Over 3/0 x 7/0:	4.5" high x 134" steel mortised, surfaced
LATCHES:	All latch sets shall be listed for use in solid wood core fire doors.	
CYLINDER LOCK:	Maximum bore 2 1/8", maximum backset 2 3/4".	
MORTISE LOCK:	Maximum cut-out of 6 3/4" high by 4 3/4" deep by 1 -1/16" wide (machining depth of body shall not exceed the lock dimension by more than 1/8").	
EXIT DEVICES:	Also known as Rim Locks, Vertical Rods or Panic Hardware available on Commercial only .	
DEADBOLTS:	All deadbolts used shall be listed, have a maximum 2 1/8" bore, and located no closer that 6" centerline to centerline about the latched cut-out.	
FLUSHBOLTS:	Automatic or surface mounted manual type.	
LOUVERS:	Not applicaable	
VISION PANELS:	Not applicable	
VIEWERS:	(2) 1/2" diameter, or (1) 1" viewer (peep sight) not to be located within the profile.	

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Machining Specifications Flush 45/60/90 Minute Door

- HINGES:**
- Up to 3/0 x 7/0: 4" high x 105 steel, mortised,
Surface (labeled self-closing spring type)
4.5" X 134" steel, mortised, surface.
- Over 3/0 x 7/0: 4.5" high x 134" steel mortised, surfaced
- LATCHES:** All latches shall be labeled. Positive latching is required on all fire doors. Roller latches are not allowed.
Note: Minimum latch bolt throw 1/2".
- CYLINDER LOCK:** Maximum 2- 1/8" diameter bore with a maximum backset of 5" when Fire stop blocking is not provided.
- MORTISE LOCK:** Mortise lock pockets up to 1-1/16" wide by 4-1/2" deep by 6 1/2" high may be used.
Note: Mortise locks do not require interior blocking.
- EXIT DEVICES:** Also known as Rim Locks, Vertical Rods or Panic Hardware
- DEADBOLTS:** Maximum 2 1/8" diameter bore with a maximum backset of 5" when Fire stop blocking is not provided. Minimum distance (for mortise or cylindrical deadbolts) to another cut-out is 5"
- FLUSHBOLTS:** Listed, mortised, automatic or surface mounted manual flush bolts are allowed. Minimum latch throw is 3/4".
- SURFACE MOUNTED CLOSER:** Listed closers installed with through bolts (Field prep).
- VIEWERS:** Listed viewers (peep sites) are allowed up to 1" in diameter. Preparation for viewers may be field prepped.
- METAL ASTRAGALS:** Available upon request.
- LOUVERS:** Metal fusible required

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Machining Specifications Flush 45/60/90 Minute Door

VISION PANELS:

45 Min:	Maximum Area:	1296 square inches (1/4" wired glass)
	Maximum Width:	36"
	Maximum Height:	54"
60/90 Min:	Maximum Area:	100 sq inches, (1/4 wired glass)
	Maximum Width:	10"
	Maximum Height:	33"

NOTE: light cut out shall be no closer than 5" from the edge of the door or any other cut out (lite or hardware).

NOTE: All dimensions are visible glass.

NOTE: Multiple lights are allowed when the sum of the areas do not exceed 100 square inches, using the maximum length and width limitations. No light cut out shall come within 5" from the edge of the door or any cut-out (lite or hardware).

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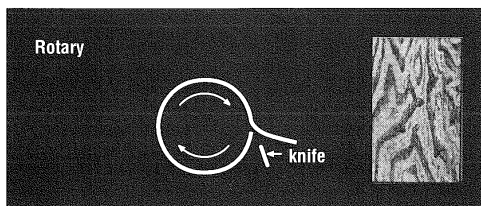
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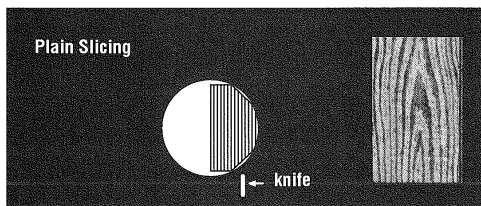
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TYPE OF VENEER CUTS

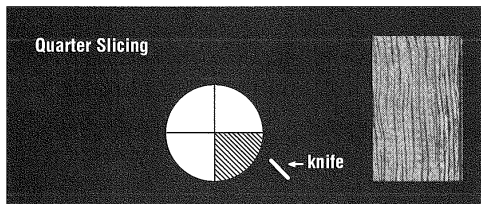
The manner in which veneers are cut is an important factor in producing the various visual effects obtained. The same species cut differently will have entirely different visual character and will vary in color as well. There are four principal methods of cutting veneer. The veneer slicer and veneer lathe are the primary equipment employed.



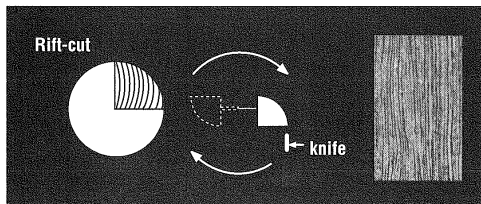
Rotary. The log is mounted centrally in the lathe and turned against a knife, like unwinding a roll of paper. Since this cut follows the log's annual growth rings a bold grain figure is produced. Rotary cut veneer is exceptionally wide and matching at veneer joints is relatively difficult. Almost all softwood plywood is cut his way. Lengths in all hardwoods are limited to 10'.



Plain slicing (or flat slicing). The half log, or flitch, is mounted with the heart side flat against the guide plate of the slicer and the slicing is done parallel to a line through the center of the log. This produces a figure similar to that of plain sawn lumber



Quarter slicing. The quarter log, or flitch, is mounted on the guide plate so that the growth rings of the log strike the knife at approximately right angles, producing a series of strips, straight in some woods, varied in others. In red and white oak, the knife will tend to cut along the medullary rays in the log, which provides flake in the veneer.



Rift-cut. Rift-cut veneer is produced in the various species of oak. Oak has medullary ray cells which radiate from the center of the log like the spokes of a wheel. The rift is obtained by slicing slightly across these medullary rays. This accentuates the vertical grain and minimizes the "flake". **Comb grain** is a selection from rift-cut materials that is distinguished by the tightness and straightness of its grain.

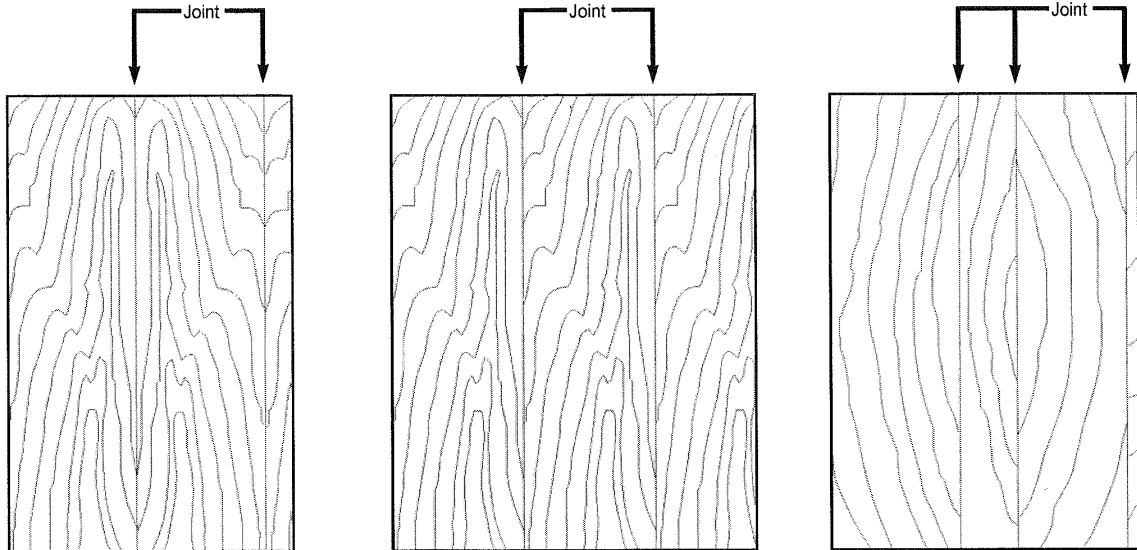
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Matching Between Individual Face Veneer Pieces



Book Match

Slip Matched

Random Match (Mismatched)

Note:

The type of match must be specified. If no specification is made, book match will be provided since it is the most commonly used match for A Grade faces.

Book Match

Most commonly used match in the industry. Every other piece of veneer is turned over so adjacent pieces are opened like adjacent pages in a book. Veneer joints match and create a mirrored image at the joint line, yielding a maximum continuity of grain. Used with rotary, plain sliced, quarter, rift-cut or comb grain veneer.

Barber Pole Effect in Book Match

Because of the “tight” and “loose” faces alternate in adjacent pieces of veneer, they may accept stain or reflect light differently, and this may yield a noticeable color variation called barber poling. See slip match for further information on color variation. **Barber pole is not considered a manufacturing defect.**

Slip Match

Adjoining pieces of veneer are placed in sequence without turning over every other piece. The grain figure repeats, but joints won't show mirrored effect. Slip matching is RECOMMENDED and often used in quarter cut, rift-cut and comb grain veneers to eliminate the barber pole effect. However, it may cause a sloping appearance of the veneer, especially in taller doors.

Pleasing Match

(B Grade Only – not illustrated)

A face containing veneer pieces from one or more logs which provides a pleasing overall appearance. The grain of the various pieces need not be matched at the joints. Sharp color contrast at the joints of the pieces are not permitted. B Grade faces are not available pair matched or set matched.

Random Match (Mismatched – not commonly used for doors)

A face containing veneer strips of the same species which are selected and assembled without regard to color or grain, resulting in variations, contrasts and patterns of color and grain. Pleasing appearance is not required. Random matched faces are not available pair matched or set matched.

Plank Matched (not illustrated)

A face containing specially selected and assembled dissimilar (in color, grain and width) veneer strips of the same species, and sometimes grooved at the joints between strips, to simulate lumber planking. Plank matched faces are not available pair matched or set matched.

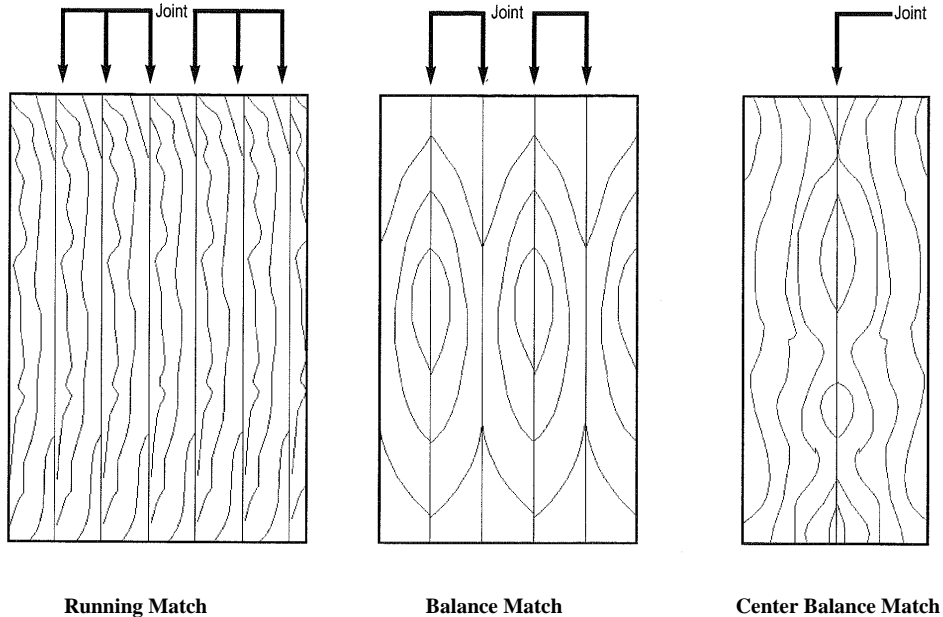
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Assembly of Spliced Face Veneer on Door Face



Running Match

Balance Match

Center Balance Match

Running Match

A non-symmetrical appearance in any single door face where side edge pieces of veneer are of unequal width. Each face is assembled from as many veneer pieces as necessary.

Veneer Yield: High

Balance Match

A symmetrical appearance where each face is assembled from pieces of uniform width before trimming.

Veneer Yield: Medium

Center Balance Match

A symmetrical appearance where each face has an even number of veneer pieces of uniform width before trimming. Thus, there is a veneer joint in the center of the panel, producing symmetry.

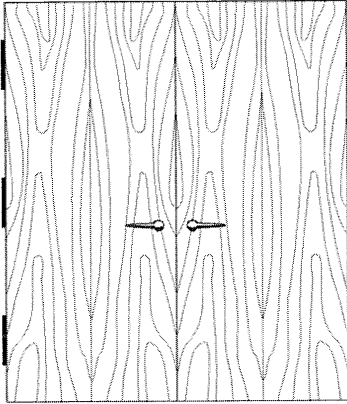
Veneer Yield: Low

Note: The type of match must be specified. If no specification is made, running match is the most commonly used assembly method for A Grade faces. Any sequence matching from opening to opening must be specified.

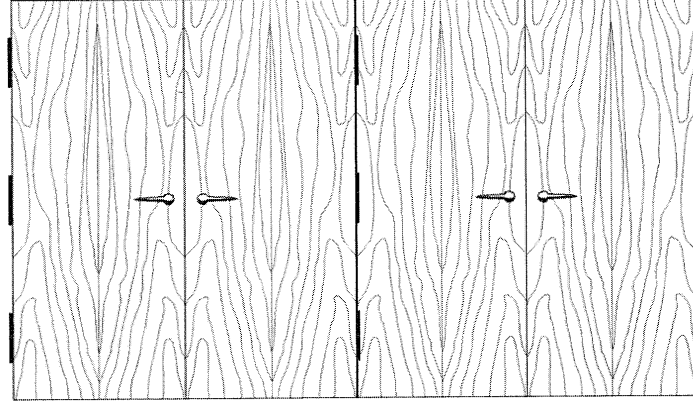
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Appearance of Doors in Pairs or Set



Pair Matched



Set Matched

Pair Matched

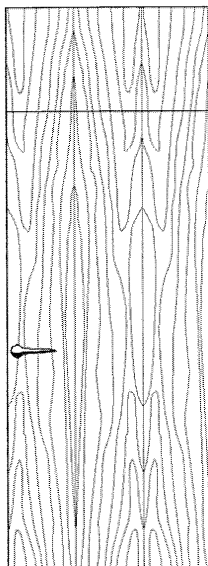
Doors may be specified as paired matched

Set Matched

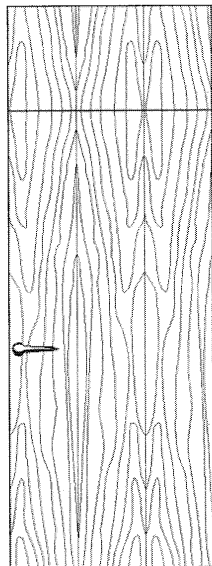
Sets of doors may be specified as matching. Sets consisting of up to eight leaves are typical, consult the manufacturer for additional configurations.

Note: Illustrations show center matched faces. Pairs and sets may also be manufactured with running or balance match faces. Any sequence matching from opening to opening must be specified.

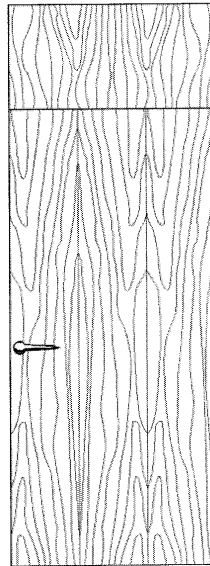
Appearance of Doors with Transoms



Continuous Match



End Match



No Match

Continuous Match

Each single piece of veneer extends from the top of the transom to the bottom of the door. Veneer length may limit this option.

End Match

Single piece of veneer extends from the bottom to the top of the door with a mirror image at the transom.

No Match

Door & Transom do not match in color or grain. By specification only.

Note:

Slight misalignment of veneer grain may occur between the transom and door. A variation of grain alignment from side to side is considered acceptable for transom matching as follows:

Single door and transom: 3/8 in. (9.5 mm)

Pair of doors with single transom: 1/2 in.

(12.7mm)

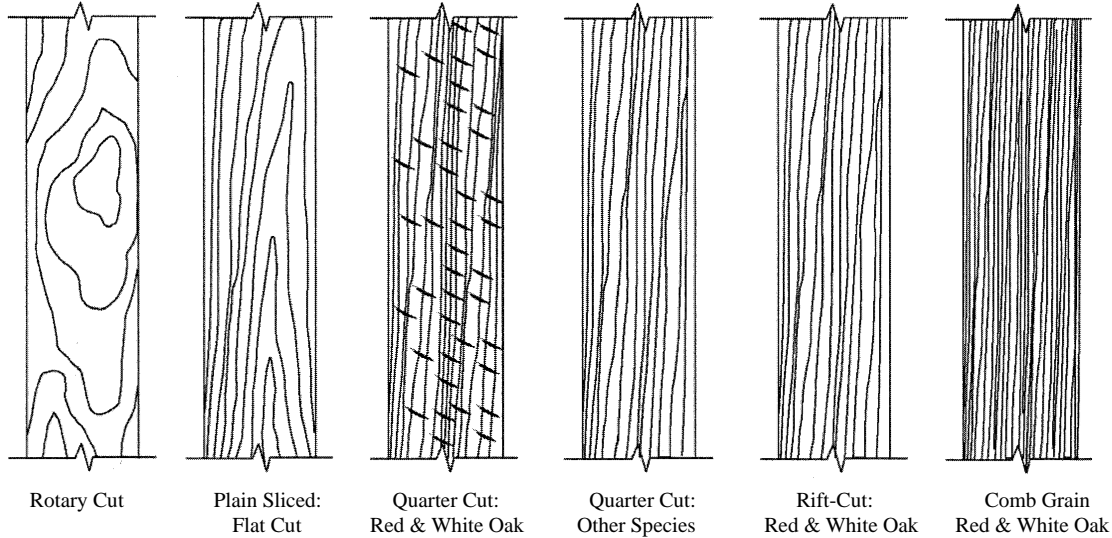
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Appearance of Individual Pieces of Face Veneer



Face Veneer Cuts

The way in which a log is cut, in relation to the annual growth rings, determines the appearance of veneer. The beauty of veneer is in the natural variations of texture, grain, figure, color and the way it is assembled on a door face.

Face veneers will have the natural variations in grain inherent in the species and cut. Natural variations of veneer grain and pattern will vary from these illustrations.

Rotary

The cut follows the log's annual growth rings, providing a general bold random appearance.

Plain Sliced: (Flat Cut)

Slicing is done parallel to a line through the center of the log. Cathedral and straight grained patterns will result. The individual pieces of veneer are kept in the order they are sliced, permitting a natural grain progression when assembled as veneer faces.

Quarter Cut

A series of stripes is produced. These stripes vary in width from species to species. Ray fleck (flake) is a characteristic of this cut in red and white oak.

Rift-Cut (only in Red & White Oak)

The cut slices slightly across the medullary rays accentuating the vertical grain and minimizing the ray fleck (flake). Rift grain is restricted to red and white oak.

Comb Grain (only in Red & White Oak)

Limited availability. This is a rift-cut veneer distinguished by the tightness and straightness of the grain along the entire length of the veneer. Slight angle in the grain is allowed. Comb grain is restricted to red and white oak. There are occasional cross bars and ray fleck (flake) is minimal.

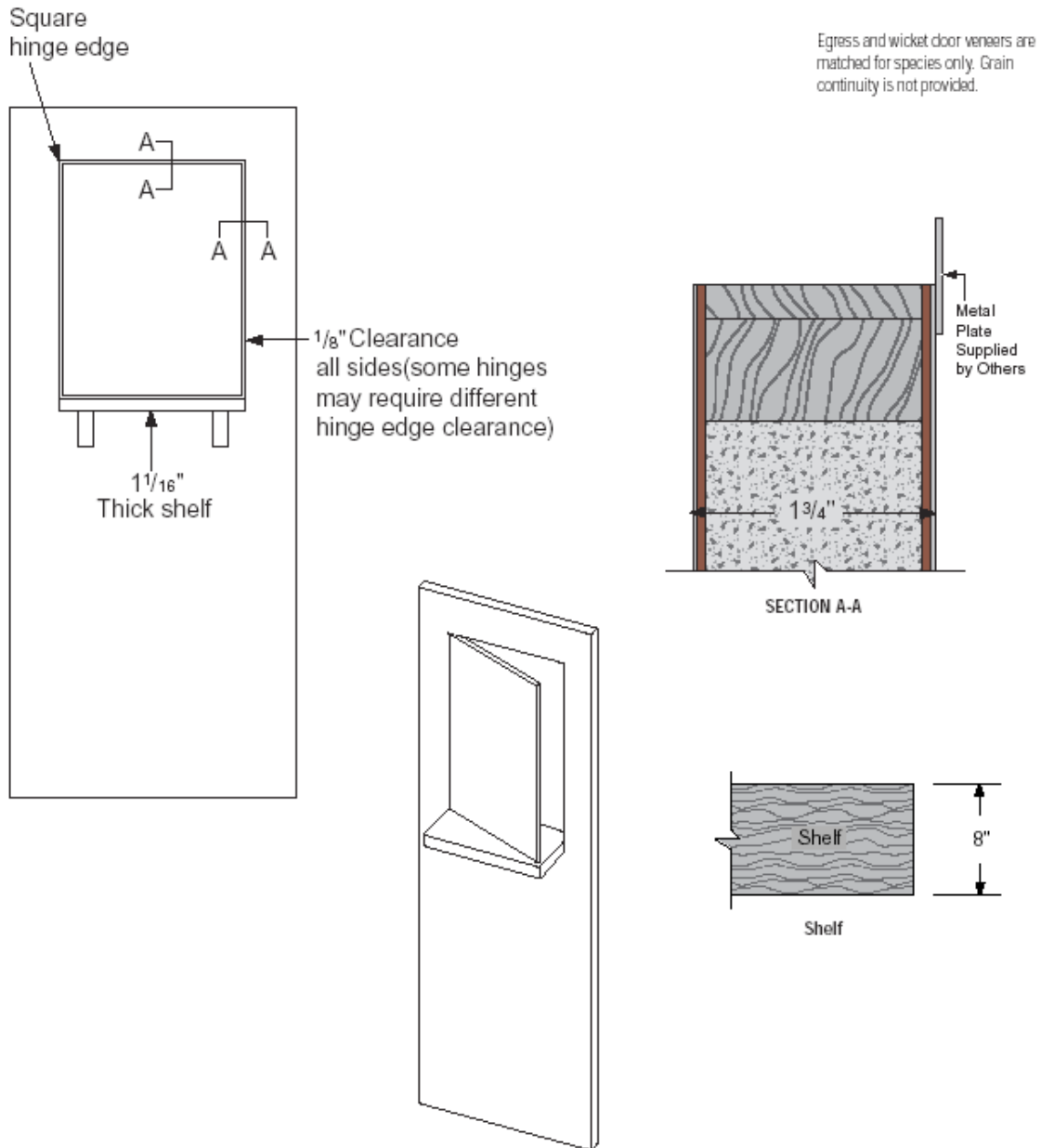
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Standard Wicket Door



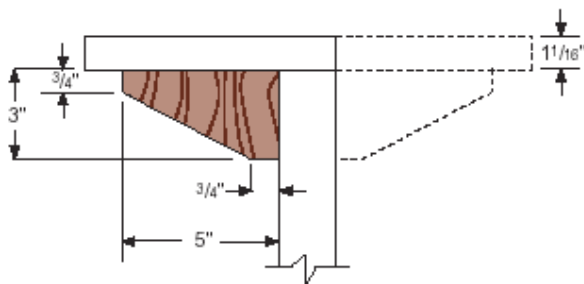
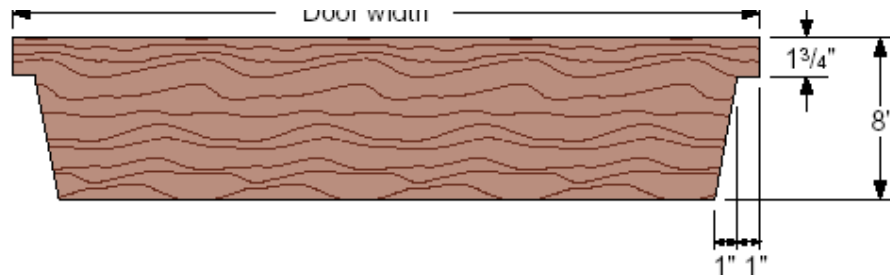
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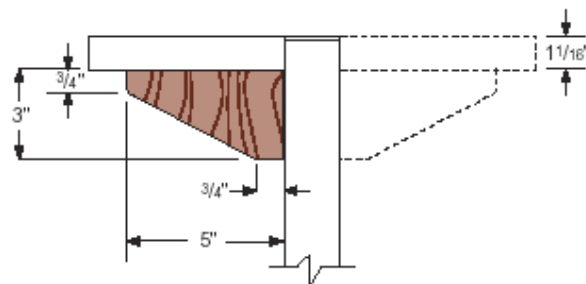
DUTCH DOORS & WOOD ASTRAGALS



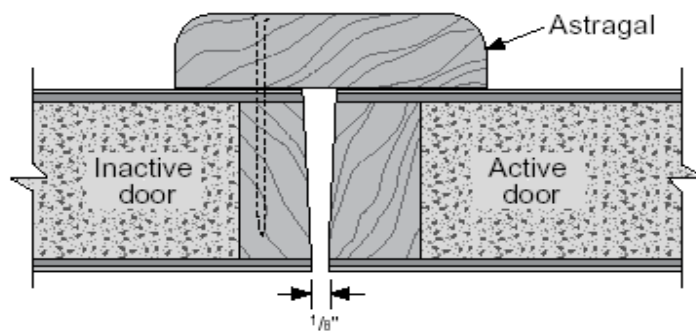
Dutch Door Shelves and Brackets

Shelf brackets furnished as shown with vertical grain.

Two per single shelf, 4 per double shelf. Packed together with shelf, unmounted.



Surface Mounted Shelf



Matching Wood Astragal

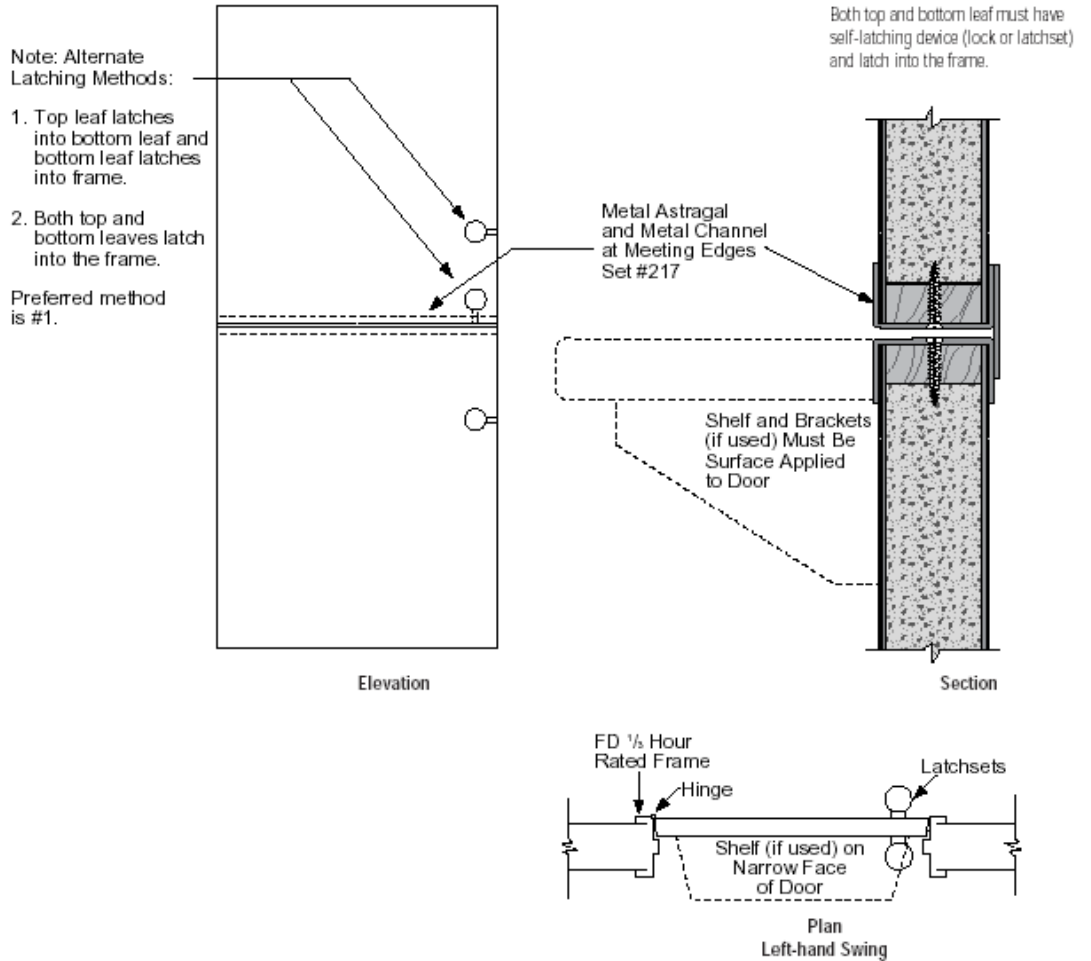
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Dutch Doors – 20 Minute



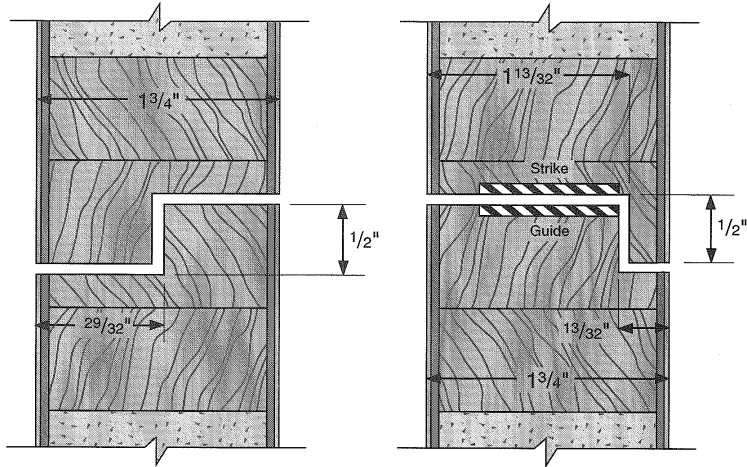
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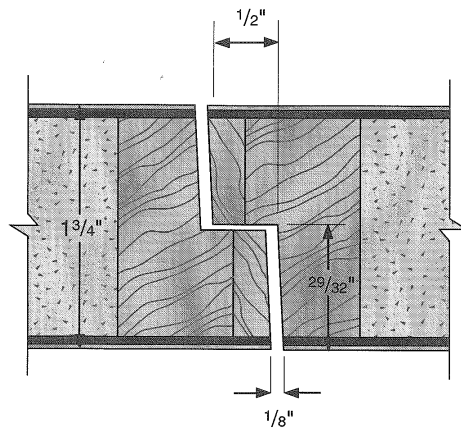
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RABBETS



Standard Rabbet
Between Flush Door & Transom

Standard Rabbet
With Flushbolt

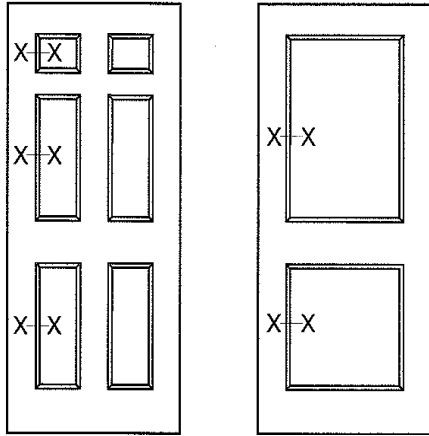


Rabbeted Meeting Edges

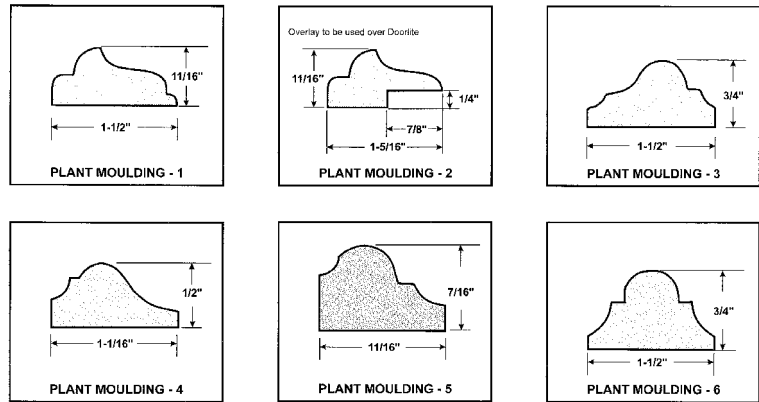
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APPLIED MOLDINGS



Typical Elevations



Moldings may be applied to one or both sides of door and must be of solid lumber

