

Pre-Hung Hinged Entrance Door Installation Instructions

Structure With Weather Resistant Barrier Applied Before Door Installation



IMPORTANT: Please read before you begin installation.

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Do not nail or screw through factory-applied finish. Breaking exterior finish coating voids warranty. (Does not apply to factory-applied primer paint.) To prevent penetrating factory-applied finishes, install with interior installation clips. Obtain clip installation instructions, part #1037024.

NOTE: The door manufacturer reserves the right, as necessary, to change product specifications, installation procedures, materials, prices and terms of purchase without notice.

Safety Alert Symbol



Recognize this symbol. This is the Safety-Alert symbol. When you see this symbol be alert to the potential for personal injury or product damage.



DANGER

Falling from window or door opening may result in serious injury or death. DO NOT leave openings unattended when children are present.



WARNING

Weight of window and door unit(s) and accessories will vary. Use a reasonable number of people with sufficient strength to lift, carry and install window or door unit(s) and accessories. Always consider site conditions and use appropriate techniques when installing.



DANGER

CUT HAZARD



- Non-safety glass.
- May cause serious injuries if broken.
- Do not install where tempered safety glass is required.



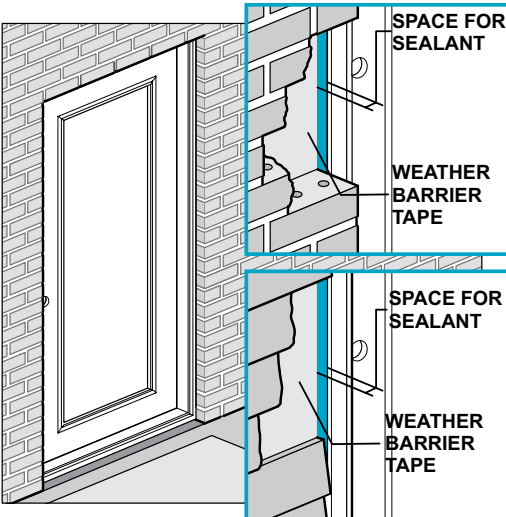
DANGER



Screen will not stop children, any one or anything from falling out window or door.

Keep children and objects away from open windows or doors.

A Special Note About Masonry



The perimeter joint between window exterior and exterior building material must conform to siding manufacturers' recommendations. All masonry, stucco, or synthetic stucco systems require an expansion joint around the window perimeter that must be filled with sealant compatible with the building material and window components.

Expansion joint space should be no less than 3/8" and not greater than 1/2" unless stated otherwise by your siding manufacturer. If there is a conflict, follow siding manufacturer's guidelines.

Failure of this joint will cause structural damage unrelated to window performance.

Installation Information

▲ IMPORTANT: Thoroughly read and follow these instructions. Failure to install as recommended will void any warranty, expressed or implied. **Before installation, check building codes for the area in which the doors are being installed, to ensure proper compliance.** The installation instructions that follow are based on typical frame construction. Specific applications may differ. The door manufacturer recommends that you consult a qualified installation professional. The door manufacturer is not responsible for installation.

▲ IMPORTANT: A number of jurisdictions have adopted building code design pressure requirements that require window and door products be installed in the same way they were installed for laboratory testing. To comply with these requirements, see [*Hinged Door Installation Instructions For Maintaining Design Pressure Ratings.*](#)

FOR ALL NON-DP INSTALLATIONS:

Sealant **must** be applied in all installations. There must be continuous contact with a generous bead of sealant between the door unit's nailing fin or brickmould around the door's entire perimeter.

The following additional steps must be taken as appropriate.

- The nailing fin or brickmould must contact the sealant continuously along the entire perimeter of the unit and must fully contact exterior face of the wall around the door's entire perimeter.
- A shim space is required around the sides and head of the door to allow for structure movement, seasonal expansion and contraction, and to provide space for insulation.

The shim space cannot exceed: 1/2" on the sides (1" total for width)
1/2" on the head (1 1/2" total for height)

Doors do not require a shim space at the sill

- Accessories, such as jamb extension, may alter unit width and height. Check rough opening size vs unit size accordingly.

If a shim space greater than listed above exists on the interior or exterior of the unit, use solid continuous furring material to fill this space until the maximum 1/2" shim allowance is achieved.

- Furring material must be solid, continuous, and run the full height and/or width of the rough opening. Furring strip depth must be at least equal to the door's jamb depth. Furring material must be securely fastened to the rough opening framing.

ADDITIONAL NOTES FOR ALL INSTALLATIONS:

- The cavity between the jamb and rough opening (shim area) needs to be thoroughly insulated. See AAMA-812 specifications; DAP 812 is recommended.

Rough Opening Preparation

IMPORTANT: When accessories such as jamb extension have been ordered, apply according to separate directions **BEFORE** you install the unit **OR** prep the rough opening.

WARNING Wear gloves, safety glasses, goggles or eye-shields as appropriate. Read installation instructions completely before beginning procedure.

FIGURE 1

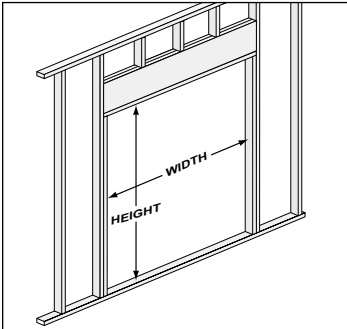


FIGURE 2

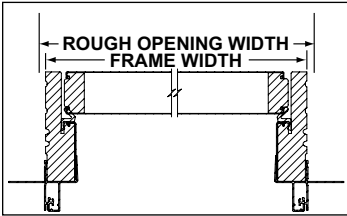
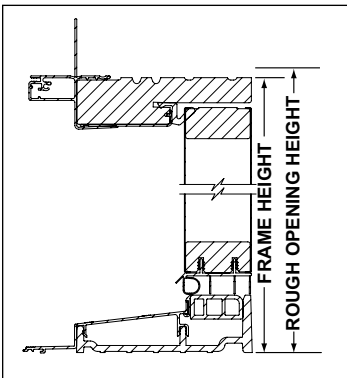


FIGURE 3



IMPORTANT: High-quality, exterior, neutral-cure, clear silicone sealant (compatible with wood, vinyl, aluminum, fiberglass, and the exterior face of the wall) is to be used for all the procedures in the following instructions which call for caulking or sealant. See AAMA-808.3 specifications; DAP 800 is recommended.

IMPORTANT: Perform the following before starting installation. Make sure you have:

- The correct door type (inswing, outswing, French, etc.)
- The correct size door (width and height) for your rough opening (**FIGURE 1**).
- A rough opening that is 1/2" wider on all sides (1" total for width). OR
- A rough opening that is 1/2" taller (1/2" total for height).
- Accessories, such as jamb extension, may alter unit width and height. Check rough opening size vs unit size accordingly.
- If using a sill pan, be sure rough opening dimensions will accommodate both the door unit and the sill pan.
- Perform a complete unit inspection checking for shipping damage, broken glass, or other physical damage. Fix whatever is wrong before installation or start appropriate claim procedures.
- When accessories such as jamb extension have been ordered, apply according to the directions **BEFORE** you install the unit **OR** prep the rough opening.
- If using a purchased sill pan, follow sill pan manufacturer's installation instructions.

If a shim space greater than listed above exists on the interior or exterior, use solid continuous furring material to fill this space until the maximum shim allowance is achieved.

Furring material must be solid, continuous, and run the full height and/or width of the rough opening. Furring material depth must be at least equal to door jamb depth. Furring material must be securely fastened to the rough opening framing.

1. Measure the rough opening to ensure it meets the guidelines listed above. Check the rough opening dimensions against the units actual Frame Width and Frame Height (**FIGURES 1, 2, & 3**).

Rough Opening Preparation (cont.)

FIGURE 4

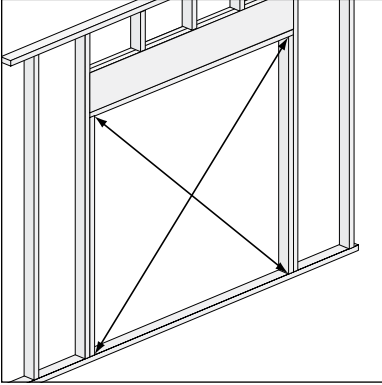
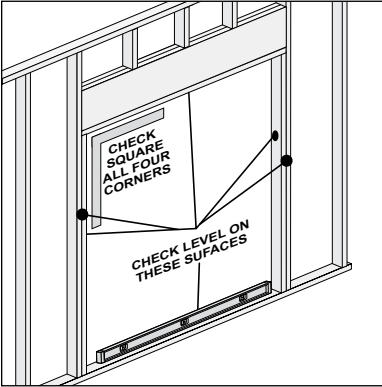


FIGURE 5



2. Measure the opening diagonally from corner-to-corner (**FIGURE 4**). The measurements should not differ more than 1/4".

3. Using a long level, check side, head, and sill for plumb and level (**FIGURE 5**). Use a framing square to check all corners for square.

Make necessary corrections to ensure walls are plumb, straight and not twisted.

Fix any problems before proceeding!

⚠ IMPORTANT: To ensure the door panels operate smoothly, make sure the sill is level and straight, the opening is square, and jambs are plumb.

Because of the longer distances spanned with a multi-wide door, it is critical that the rough opening be as perfectly level, plumb, straight, and square as possible.

Rough opening misalignment problems can be transferred to the door units causing adjustment and operation difficulties.

⚠ WARNING The door assemblies must be handled upright. Do not carry with panels parallel to the ground.

Instructions applying exclusively to wood brickmould units have a blue tinted background.

The following instructions are for structures with weather resistant barrier (WRB) applied before doors are installed.

FIGURE 1

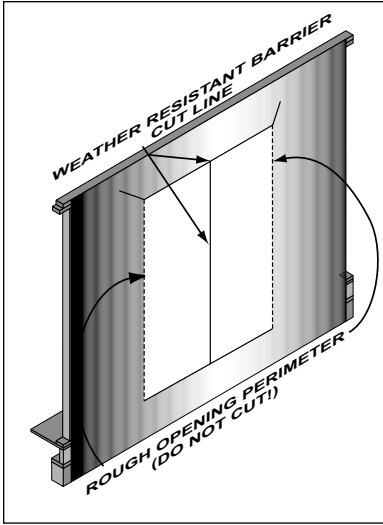


FIGURE 3

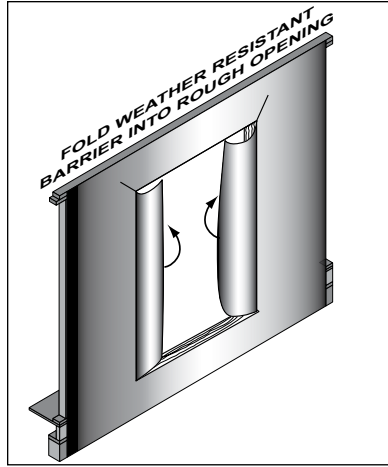
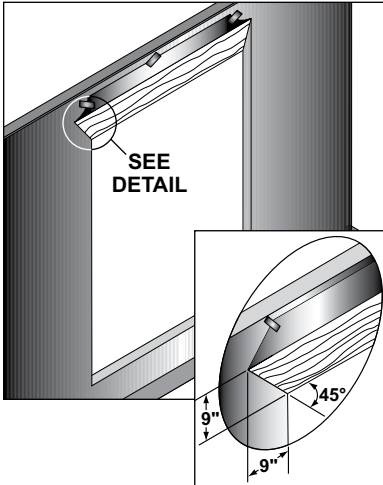


FIGURE 2

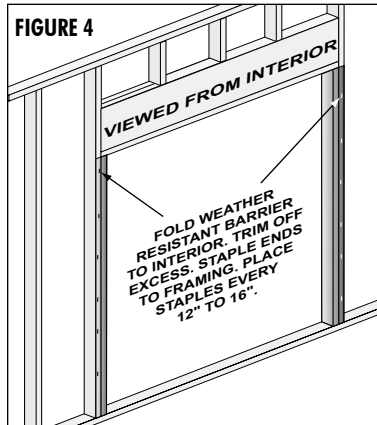


1. Cut weather resistant barrier (WRB) as shown in **(FIGURES 1 & 2)**. Cut sill and head even with and parallel to framing. Cut diagonals in head WRB **(FIGURE 2)**.

2. Lift head WRB up and tape to face of exterior **(FIGURE 2)**. Fold side jamb WRB into the rough opening **(FIGURE 3)**.

3. Secure WRB to interior framing with staples placed every 12" to 16" apart **(FIGURE 4)**. If desired, trim excess before stapling.

FIGURE 4



Sill Preparation

FIGURE 1



FIGURE 2

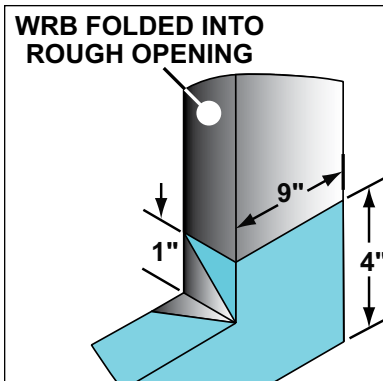


FIGURE 3



1. Cut a piece of self-adhering weather barrier tape 4" wide and as long as the opening width plus 18" (**FIGURE 1**). Apply to face of exterior wall so 1" extends above the opening and 9" extends beyond each side of the opening. Cut along the corners of rough opening and fold down onto the sill (**FIGURE 2**).

NOTE: Some tape manufacturer's recommend a primer be applied before using their tape on top of bare wood. Check and follow the tape manufacturer's instructions.

Apply a second continuous piece of self-adhering weather barrier tape on the top surface of the rough opening sill. Use a rubber roller to apply barrier to surface (**FIGURE 3**).

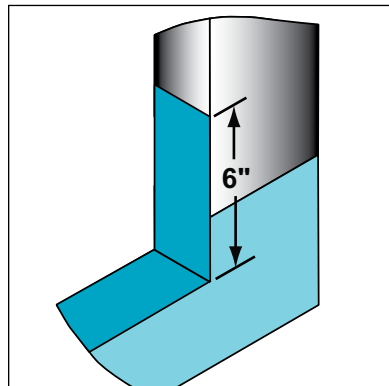
2. Cut tape the thickness of the wall and 12" longer than the width of the opening. Align flush with interior of the wall (**FIGURE 3**). Start the piece (approximately 6") up the side of the rough opening and run it to the bottom of the opening, to the other side of the opening, and 6" up the other side (**FIGURE 4**).

Sill Pans

Sill pans, either flexible, rigid, commercially made or job-site fabricated can be used if the following conditions are followed.

- They must be water tight
- Cannot be penetrated by fasteners
- Must be caulked prior to installation
- Must provide a means for drainage to the exterior so door sill will not sit in water.

FIGURE 4



Apply Weather Barrier Tape | Wood Brickmould Units

FIGURE 1 BM

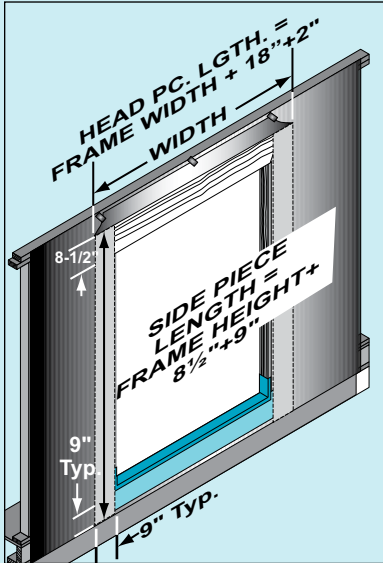
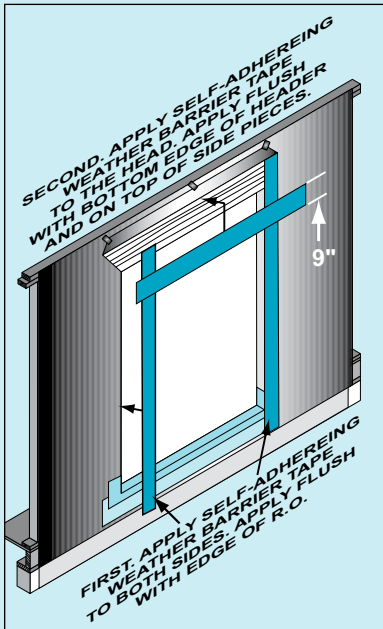


FIGURE 2 BM



The following weather barrier tape instructions are for brickmould installations ONLY.

FOR NAILING FIN UNITS SKIP TO PAGE 6.

Brickmould unit installation requires self-adhering weather barrier tape be applied before the door is placed into the rough opening.

1. After completing all instructions on Pages 1 through 4, cut two side pieces of high-quality self-adhering weather barrier tape that are 9" wide and 17-1/2" taller than the door (FIGURE 1BM).
2. Apply side weather barrier tape to the exterior of the wall with the tape's edge flush with the rough opening. Start 8-1/2" above the top of the rough opening and run tape down so that it goes over the sill wrap weather barrier tape. Use a rubber roller to apply.
3. Cut the head piece 8-1/2" tall and long enough to span the door and side tapes; plus 2" (FIGURE 1BM).
4. Apply the head piece to the sheathing. Start one end so it overlaps a side piece of weather barrier tape by 1". Work toward opposite side and overlap other side piece by 1". Keep bottom edge of the head weather barrier tape flush with the horizontal edge of the rough opening header (FIGURE 2BM).

(FIGURE 3BM) Shows completed tape application.

All units continue on next page.

FIGURE 3 BM

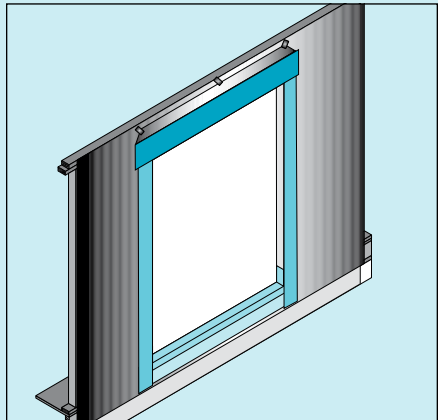


FIGURE 1 - NAILING FIN UNITS

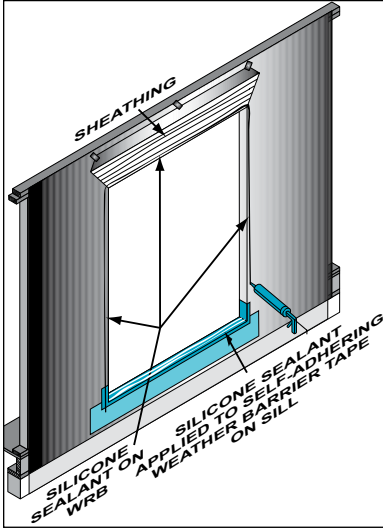
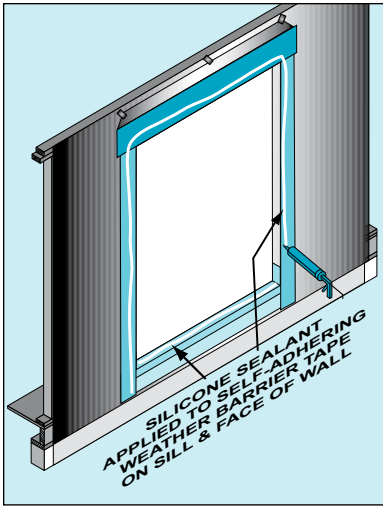


FIGURE 2 BM - BRICKMOULD UNITS



⚠ IMPORTANT: Prior to applying sealant, ensure rough opening is square, level, and plumb. Perform any adjustments before applying sealant.

⚠ IMPORTANT: Check both the self-adhering weather barrier tape and weather resistant barrier manufacturer's instructions to ensure the sealant you use is compatible with their product.

All installations require caulking on the sill and on the face of the rough opening (**FIGURES 1, 2BM & 3**).

1. Apply a continuous, generous bead of silicone sealant along the head and vertical sides of rough opening perimeter. Locate sealant so it does not intrude into the rough opening and will also provide a continuous seal between the exterior wall and nailing fin or brickmould as well as door sill (**FIGURES 1 & 2BM**).

2. Apply continuous, generous silicone beads on the sill as shown in (**FIGURE 3**). Beads should be at least 3/8" in diameter.

For nailing fin units turn to [Door Installation](#) on the Page 8.

For brickmould units turn to [Door Installation](#) on Page 14.

FIGURE 3 - ALL INSTALLATIONS

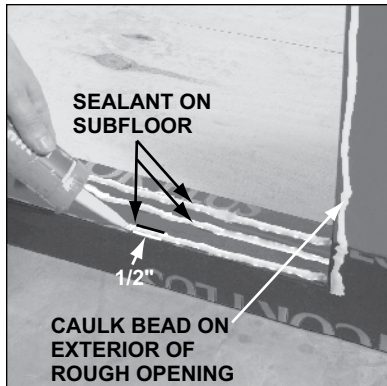


FIGURE 1

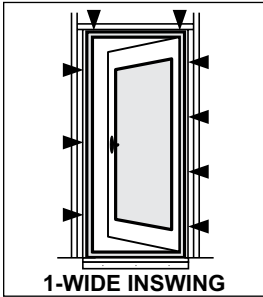


FIGURE 2

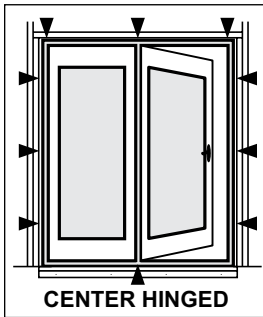
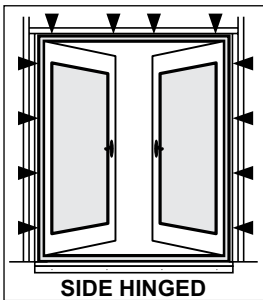


FIGURE 3



As you proceed with the installation, shims will be applied to hold the unit in position, adjust level & square, and provide support behind hardware.

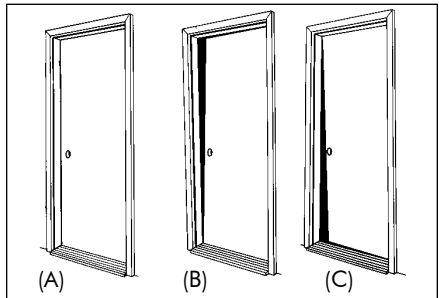
SHIM POINTERS

- Use solid shims, either wood or composite.
- **NOTE:** Any shims used under the sill must be vinyl or composite material.
- “Wedge” style shims must be used in pairs and installed so the shim’s sides remain parallel between the unit and rough opening.

SHIMS - CORRECT PLACEMENT



- Shims must be applied between the rough opening and door frame in locations shown in (FIGURES 1, 2 & 3).
- Apply solid shimming behind all strike and hinge locations.
- Do not bow jambs with over shimming. Shims must fit snugly.
- Do not place shims where moving parts must pierce the door jamb, such as latch and dead bolt locations.



Open the door and close it in a position so that one can look at the vertical rise of the latch-side of the door slab and compare it to the vertical rise of the latch-side jamb leg. Notice if the door slab appears to be closing into the jamb evenly from top to bottom, or if it is closing faster on the top or the bottom.

You should adjust your latch-side jamb leg in or out of the opening at the top or bottom to accommodate the position of the door slab. Forcing the slab to close like (B) or (C) will flex your door and cause it to warp.

FIGURE 1



FIGURE 2



FIGURE 3



For brickmould units turn to Page 14.

⚠ IMPORTANT: Remove all shipping and packing material including the metal handles. Be sure to remove nails holding insert in place. Do not remove plastic shipping blocks that hold panels in place and do not open the door panel(s).

⚠ WARNING

Weight of door unit(s) and accessories will vary. Use a reasonable number of people with sufficient strength to lift, carry and install door unit(s) and accessories. Always consider site conditions and use appropriate techniques when installing.

⚠ IMPORTANT: Before proceeding, rough opening must be prepared as detailed on Pages 1 through 5. Silicone sealant must be applied to the rough opening and sub sill as described on Page 6.

1. Immediately after caulking as instructed on Page 7, set and center the door in the rough opening (FIGURE 1).

2. Secure one side top corner with a rust-proof roofing nail long enough to penetrate framing material by at least 1-5/8" (FIGURE 2).

3. While holding unit in place, level unit on the interior or exterior across the sill, head and jambs (FIGURE 3A-3D). To level the unit, place shims directly below the side jambs only. Place a flat bar underneath the sill at the side jamb, lift slightly, slide shim under sill (FIGURE 4).

⚠ IMPORTANT: Sill must be level and have solid support for its full length.

FIGURE 4

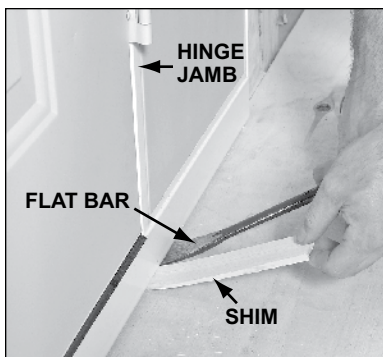
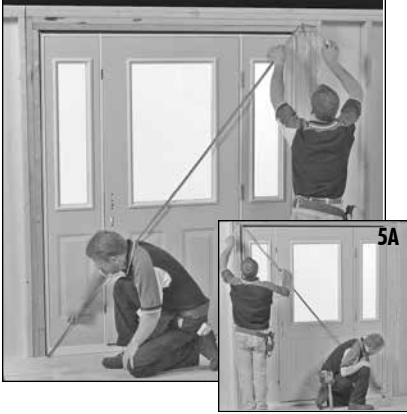


FIGURE 5



4. With door held securely in place, measure diagonally from corner-to-corner in both directions (**FIGURES 5 & 5A**). Measurements should be exactly the same.

To make adjustments, use a pry bar and slide the bottom of the frame left or right until the diagonal measurements of the entire door assembly are exactly the same (**FIGURES 5 & 5A**). Once the diagonal measurements are the same, apply shims between the door frame and rough opening to keep the door unit in position.



Be sure someone is securely holding door in place from the exterior so the shimming process does not force door out of the rough opening.

Apply fasteners through the remaining top and bottom nailing fin **corners only**.

Now that the door frame corners are fastened, proceed to shim and secure the side frames and set an even reveal between the door panels and frame. See following pages for details.



Never rely on the nail fin alone to secure the door unit.

FIGURE 6



Working from the interior

5. Use the longest level possible, a straightedge if needed, or a plumb bob, and shims to adjust the hinge side jamb so it is level, plumb, and true.
6. Place solid shims between the rough opening and the side jamb at each hinge (**FIGURE 6**).

Check The Reveal

The gap (reveal) between the jamb and door panel must be exactly the same around the sides and head of the panel (**FIGURES 7 & 8**).

Shim as needed to create an even reveal.

7. Fasten hinge side nailing fin to rough opening with fasteners through the pre-punched holes.
8. Check head for level and examine head reveal along door's entire width. Shim as needed to make adjustments.

For units with an astragal or mull post, place a shim under the astragal or mull post (**FIGURE 10**) and adjust until the head jamb reveal is even.

9. Securely fasten head nailing fin with fasteners in each pre-punched hole in the head nailing fin.
10. Check reveal around all panels to see that it has not shifted.
11. If level, square, plumb, true, and reveals are OK; finish securing unit in place with fasteners through all remaining nailing fin pre-punched holes.

FIGURE 7

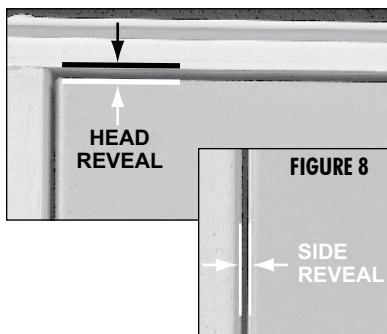


FIGURE 9

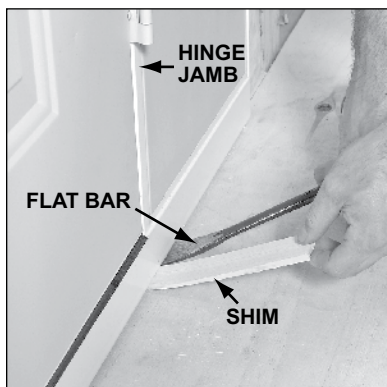


FIGURE 10



FIGURE 11

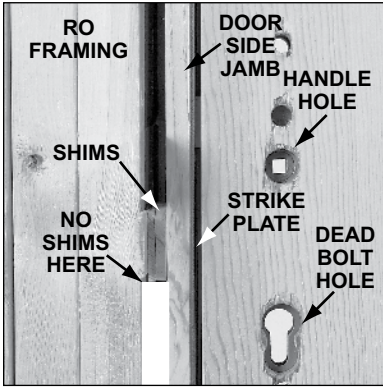


FIGURE 12

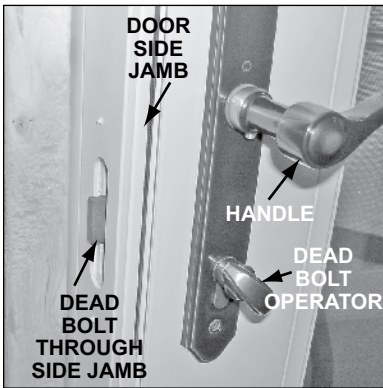


FIGURE 13



Additional Install Details As Applicable

12. Shim behind each multi-point strike plate (FIGURE 11). Shim behind each head strike plate, between head jamb and rough opening.

⚠ IMPORTANT: Do not shim where the dead bolt will pass through the side jamb (white rectangle in FIGURE 11). The dead bolt will not lock unless the bolt can extend far enough (FIGURE 12) into the rough opening.

13. If present, remove the shipping blocks and then open the door.

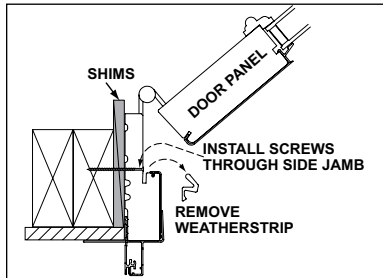
14. Insert a 2-1/2" long flat head screw (provided), through the open hole of each hinge and into the framing (FIGURE 13).

⚠ IMPORTANT: If the top or bottom 2-1/2" long hinge screws do not penetrate the framing material by at least 1-1/2", remove the hinge side jamb weatherstripping. Add three stainless steel flat head screws through the side jamb into the framing (FIGURE 14). The screws must penetrate the framing by at least 1-1/2". These screws will help anchor the door frame to the rough opening structural members.

So door closes properly, drill and countersink the screw holes. Screw heads must be flush or slightly below the side jamb face.

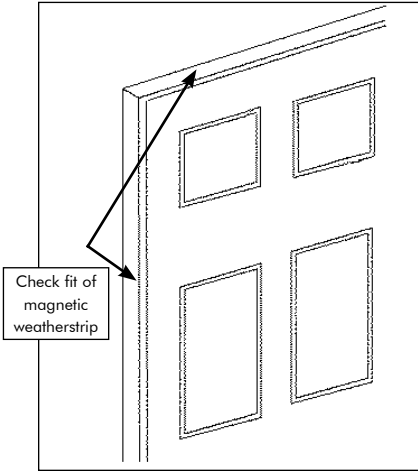
To prevent bowing side jambs, shim between the jamb and framing before installing screws. Place screws at head, middle and bottom of hinge side jamb. Reinstall weatherstrip after screws are installed.

FIGURE 14



Fine Tuning Adjustable Hinge Plate System

FIGURE 1



NOTE: Not available on DURA DOORS

1. Close the door from the outside. Check to see that the door slab seals along the entire length of the weatherstripping. **(FIGURE 1)**
2. If the door needs a fine tune adjustment, loosen the screws on the appropriate hinge(s) leaf that is fastened to the door slab. (See sticker on hinge edge of door for more information.) **(FIGURE 2)**
3. With the hinge screws loose, the door can be pulled in or out of the opening $1/8"$ to up and down $3/8"$. To adjust the height of the door slab, all three hinges must be loosened, but to adjust the posture of the door, only loosen the center hinge and the top or bottom so that the entire door doesn't move/drop down inadvertently. **(FIGURE 3)**

FIGURE 2



FIGURE 3

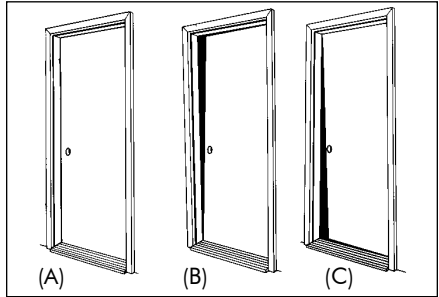




FIGURE 1A



FIGURE 1B



FIGURE 1C



FIGURE 1D

Some units have an adjustable sill. They have adjustment screws in the threshold. The screws are visible when the door is opened.

After the door is hung plumb, square, true, and completely fastened in the rough opening, open the door and check fit between threshold and bottom sweep. There should be only slight resistance between the door bottom sweep and threshold.

⚠ IMPORTANT: Too much pressure against bottom sweep will cause rapid wear.

The goal is to achieve even pressure between the bottom sweep and threshold. Too much pressure will shorten the service life of the bottom sweep.

Check this adjustment at least twice a year or more often on doors being frequently used.

Finishing the Installation

The brickmould or nail fin can now be fastened in it's entirety. Caulk the sill-to-jam joint as shown on the sill protector cover. Install the corner pads provided with these instructions in the corners of the unit where light gap exist (**FIGURE 1A**). The corner pads at the sill location should be notched (**FIGURE 1B & 1C**) to fit the profile of the raised T-cap and inserted as far behind the weatherseal as possible (**FIGURE 1D**). Caulk the leading edge of the sill and perimeter of the brickmould.

FIGURE 1 BM



FIGURE 2 BM



FIGURE 3 BM



FIGURE 4 BM



⚠ WARNING

Weight of door unit(s) and accessories will vary. Use a reasonable number of people with sufficient strength to lift, carry and install door unit(s) and accessories. Always consider site conditions and use appropriate techniques when installing.

⚠ WARNING

Improper use of hand and power tools could result in personal injury and/or product damage. Follow equipment manufacturers' instructions for safe operation. Always wear safety glasses.

⚠ IMPORTANT: Remove all shipping and packing material including the metal handles. Be sure to remove nails holding insert in place. Do not remove plastic shipping blocks that hold panels in place and do not open the door panel(s).

⚠ IMPORTANT: Before proceeding, rough opening must be prepared as detailed on Pages 1 through 5. Silicone sealant must be applied to the rough opening and sub sill as described on Page 6.

1. Immediately after caulking as instructed on Page 7, set and center the door in the rough opening (**FIGURE 1BM**).

2. Secure one side top corner with a rust-proof casing nail long enough to penetrate framing material by at least 1-1/2" (**FIGURE 2BM**).

NOTE: Drilling pilot holes for either screws or nails will help prevent wood brickmould from splitting and cracking.

3. While holding unit in place, level unit on the interior or exterior across the sill, head and jamba (**FIGURES 3BM & 4BM**). To level the unit, place shims directly below the side jamba only. Place a flat bar underneath the sill at the side jamba, lift slightly, slide shim under sill.

⚠ IMPORTANT: Sill must be level and have solid support for its full length.

FIGURE 5 BM



FIGURE 6 BM



FIGURE 7 BM



⚠ IMPORTANT: Take diagonal measurements across outside edges of frame.

4. Continue holding unit in place. Square and plumb jambs. Check both side-to-side and inside-to-outside (**FIGURE 5BM**). Measure from corner-to-corner to check for square (**FIGURES 6BM & 7BM**).
5. Use a pry bar to slide bottom of unit left or right until diagonal measurements are exactly the same.
6. Secure other top corner and check again for level, plumb and square.
7. Use shims and a straightedge to straighten the side and top jamb. When straight, fasten through the wood brickmould spacing fasteners 12" on center around head and sides.

Turn back to Page 10 and complete applicable procedures on Pages 10 through 15. After these procedures are complete, turn to Page 17 and install the drip cap as instructed.

Drip Cap Installation | Wood Brickmould Units

FIGURE 1 BM

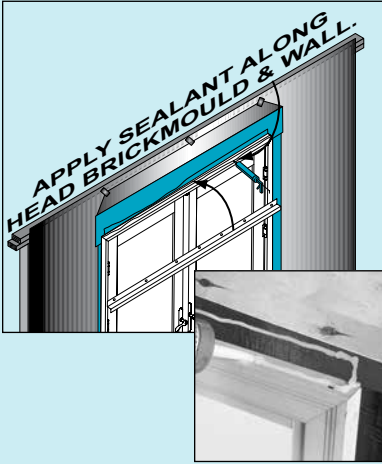


FIGURE 2 BM

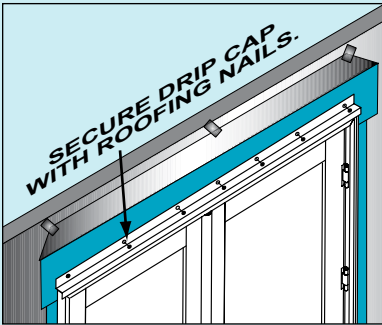
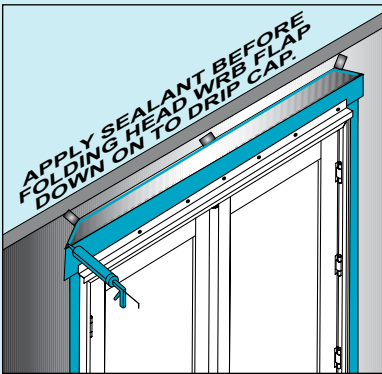


FIGURE 3 BM



1. Measure and cut a drip cap that is as long as the top brickmould.

2. Apply a continuous 1/4" bead of clear silicone sealant to the exterior face of the wall and the top of the brickmould (**FIGURE 1BM**). Locate caulk bead on the wall above the brickmould so the drip cap vertical leg will seal against the caulk. Caulk must be as long as the drip cap.

3. Place drip cap on top of brickmould (**FIGURE 2BM**) and center its length on the brickmould. Push tightly down against brickmould and into sealant on the wall.

4. Nail drip cap in place with galvanized roofing nails long enough to penetrate framing members by at least 1-1/2" (**FIGURE 2BM**). Place nails every 12 to 16 inches along drip cap's length.

5. Apply sealant to the underside of the weather resistant barrier along all the seams (**FIGURE 3BM**).

6. Fold weather WRB flap down over the weather barrier tape (**FIGURE 3**). Use a rubber roller on top of flap to smooth and spread sealant applied in Step 5.

7. Cut two pieces of self-adhering weather barrier tape. Make sealing tape 4" longer than the diagonal seams. Apply tape over the diagonal seams so at least 1" of tape extends beyond the ends and sides of each seam (**FIGURE 4BM**).

FIGURE 4 BM

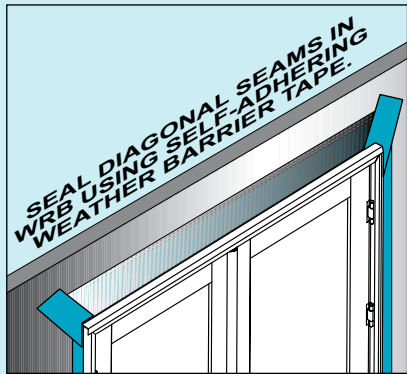


FIGURE 1

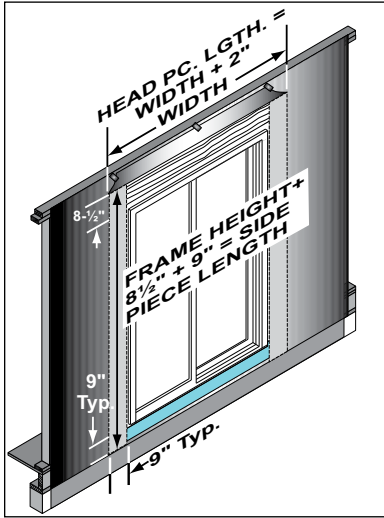
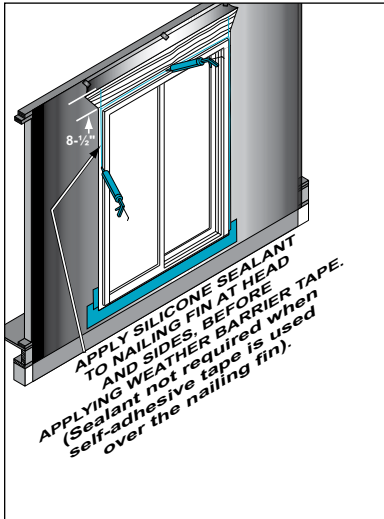


FIGURE 2



The joint between the nailing fin and wall surface must be sealed with strips of self-adhering weather barrier tape.

Preparation

1. For the sides, cut two pieces of self-adhering weather barrier tape that are 9" wide and 17-1/2" taller than the door (FIGURE 1).

Cut the head piece 8-1/2" tall and long enough to span the door & side tapes; plus 2" (FIGURE 1).

Do not apply tape yet. Complete caulking instructions that follow.

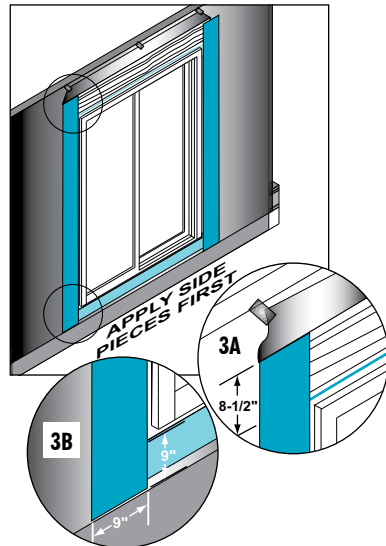
2. Apply a generous, continuous bead of silicone sealant on the sides of the nailing fin along the edge where the nailing fin and door frame meet. Start 8-1/2" above the door and run the bead to bottom of nailing fin (FIGURE 2). Repeat for the other side frame. Also apply sealant along the head nailing fin (FIGURE 2).

Tape Application

First – Apply Side Pieces

Start at the top, about 8-1/2" above the door (FIGURES 3, 3A & 3B). Apply tape to the face of the wall close to the door frame and work toward the bottom. Tape **must** cover the entire nailing fin, including the installation holes, the joint between the fin and the building's sheathing **and** extend out onto the exterior wall. Edge closest to the door must be seated in the sealant applied in Step 2. Use a rubber roller to get good contact with the wall surface.

FIGURE 3



Weather Barrier Tape Application | Nailing Fin Units (cont.)

FIGURE 4

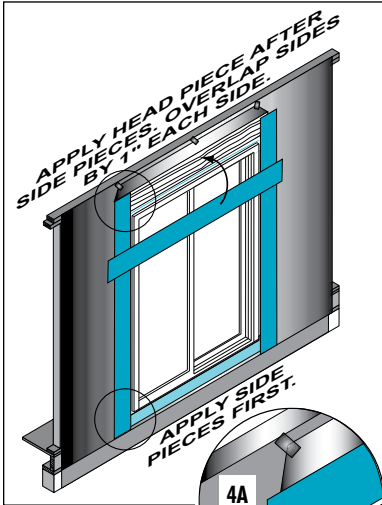


FIGURE 5

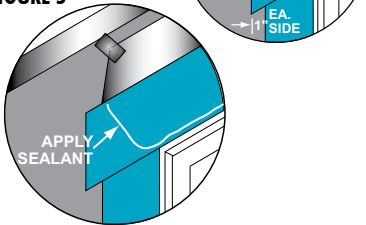
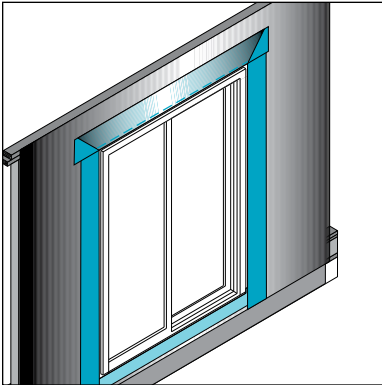


FIGURE 6



Tape Application

Second – Apply Top Piece

1. Apply top piece of self-adhering weather barrier tape so one end extends 1" beyond a side piece of tape (**FIGURES 4 & 4A**). Apply top piece across the head jamb and over the opposite side piece of tape. Both ends of top piece should overlap side pieces by 1". Use a rubber roller to get good contact with the wall surface.

2. Apply a sealant bead along the top piece of self-adhering weather barrier tape. Place bead where flap of WRB will seat when folded down (**FIGURE 5**).

3. Untape and fold down the top flap of weather resistant barrier over the top piece of the weather barrier tape (**FIGURE 6**). Use a rubber roller, on top of flap, to smooth and spread sealant applied earlier.

4. The diagonal seams in the weather resistant barrier must be sealed.

Cut and apply self-adhering weather barrier tape as shown in (**FIGURE 7**) to seal the seams. Cut tape big enough to overlap seam by at least 1" on all sides.

FIGURE 7



Recommended Finishing Instructions

WARNING

Always follow chemical manufacturers' safety instructions when using chemicals to avoid injury or illness.

CAUTION

When using stains, mineral spirits, paints, or other hazardous materials, always read and follow the manufacturer's instructions. The door manufacturer makes no representations as to the proper use of other manufacturer's products. Additionally, use the following safe working practices.


- Make sure the working area is well ventilated when working with paints or solvents.
- Keep heat, flame, and ignition sources away as materials may be combustible.
- Paints or solvents may cause skin and eye irritation. Avoid contact with skin and eyes.
- Wear safety glasses and protective clothing.
- Keep out of reach of children. Vinyl, aluminum, steel and fiberglass may be cleaned with mild soap and water. Hard to remove stains and mineral deposits may be removed with mineral spirits. Factory-applied painted surfaces can be cleaned with mild household detergents and water.
- **Do NOT** clean any surface with gasoline, diesel fuel, solvent based, or petroleum based products.
- **Do NOT** use abrasive materials or strong acidic solutions against vinyl, aluminum, glass, steel, fiberglass, or factory-applied finishes.
- **Do NOT** scrape or use tools that might damage the surface.
- **Do NOT** paint vinyl or aluminum surfaces.
- **Do NOT** use mastic-type tapes such as Duct Tape®.

NOTE: If masking tape is used on any surface to aid in painting or staining, remove tape as soon as possible after use. Tape must be removed within 24 hours of application.

For long term use, such as stucco applications; use tape that will release, even when exposed to high temperatures for an extended period of time. (Examples include 3M #2080 and #2090 tapes.)

Before Starting


Remove all hardware so finish can be applied more easily.


 **IMPORTANT:** With hardware removed, seal all raw wood in the hardware routes.


Door Inserts

All active and removable door inserts, whether sliding or hinged, must be removed from the door frame after installation so they can be properly sealed.

Both clad and wood door units have bare wood on the top and bottom of the inserts. Paint or varnish these areas as you would all of the other exposed exterior wood.

 **IMPORTANT:** Remove insert for finishing. Apply your choice of sealer (paint or varnish) to all exposed wood components. Do not get sealer on weather strip or into mechanical components. Ensure bottom and top of insert are also sealed.

 **CAUTION** Keep all sealers off weatherstrip or bottom sweeps. Do not remove bottom sweep.

 **WARNING** Sealer (paint or varnish) applied to insert **MUST** be completely **DRY** before reinstalling insert. If not dry, insert may stick in jamb. Also weatherstrip may stick and be damaged.

For Bare Wood Surfaces Only

For best results, we recommend sealing your wood products immediately upon receipt. Avoid storing products or leaving them unfinished for more than 30 days.

1. Remove all construction and adhesive label residue with mineral spirits before finishing.
2. Lightly sand surfaces being finished with 180 grit or finer sandpaper. Be careful not to scratch the glass.
3. After sanding, clean-off sanding dust using a tack cloth.

Recommended Finishing Instructions (cont.)

For Bare Wood Surfaces Only (cont.)

-If a painted wood surface is desired:

- If a wood unit is delivered with factory-applied primer paint, it may be painted without repriming, providing the finish paint coat is applied within six (6) months of unit installation.
 - If a factory-primed wood unit requires repriming contact your customer service representative for help in selecting a primer compatible with the factory applied material.
 - Factory-applied finishes in standard, designer or custom colors do not require additional painting. For "touch up" paint specifications contact your customer service representative.
1. An unprimed wood unit requires priming. Use high quality acrylic or oil-based primer. Use compatible oil or high quality acrylic finish coats. Refer to the primer and paint manufacturers' instructions.
 2. When priming bare wood or repriming, cover all exposed wood surfaces. Priming all exposed surfaces helps prevent end splitting, warping and/or checking.
 3. Once primed, apply two (2) coats of finish paint on all exposed wood surfaces.

-If stained wood surface is desired:



If no sealer is applied over stain, the wood will weather very rapidly and defects will occur. Apply at least two (2) coats of sealer.

1. Use only oil-based stain. A gel stain is easier to apply as it does not easily run or drip. The clear top coats may be oil or water-based. Apply at least two top coats of sealer or varnish.
- Stain applied to soft and porous woods such as pine, maple, alder, and fir can result in splotchy or uneven color appearance. Softer areas absorb pigmented stain more readily than harder areas, making the soft spots darker. The uneven absorption is especially prevalent with heavily pigmented darker stains. To determine if your stain choice is heavily pigmented and prone to splotchy application, view the opened and stirred stain container with an indirect light source. If you can see "down into" the stain, it is a lighter pigmented variety. If you cannot see "down into" the stain, it is a heavily pigmented type and will be prone to uneven absorption.

- A pre-stain wood conditioner, applied before staining, will help softer woods absorb stain more evenly. Apply both wood conditioner and desired stain according to the manufacturers' instructions.
2. Apply one (1) coat of sealer to the stained surface and let dry. Use a high-quality, exterior grade, uv-stabilized, clear polyurethane varnish.
 3. Before applying the next finish coat, make sure the previous coat is completely dry. Then lightly sand previous finish coat with 180 grit or finer sandpaper. Clean off all sanding dust and wipe surfaces with a tack cloth.
 4. Apply next coat of desired finish to surface and let dry. Apply only one coat at a time.
 5. For any additional coats of finish, repeat steps 3 and 4.

-For a clear (natural) wood finish:

Follow Steps 1, 2, and 3 under "Bare Wood" and Steps 2, 3, 4, and 5 under "stained surface".

For best service life reapply top coat every year, following previous instructions for second coat application.

Steel Doors

Non pre-finished steel entry doors have a prime coat that must be painted within 30 days of installation.

Factory-applied finishes in standard, designer or custom colors do not require additional painting. For "touch up" paint specifications contact your customer service representative.



Do not use industrial fast-dry solvent base materials to clean or as a paint thinner. Protect door from contact with acidic brick cleaning solutions.

Steel Exterior

Preparation:

Do not apply paint in direct sunlight or extreme temperatures, either hot or cold.

Door surfaces must be free of dust, dirt, and grease before applying finish paint. Clean with mild detergent and water. Rinse after washing and allow to completely dry.

Wipe entire surface with a lint free cloth moistened with mineral spirits and allow surface to dry completely.

Painting Instructions:

For best results, use a high-quality water base exterior semi-gloss latex paint.

1. Place the door panel on a padded support, being careful not to mar the back side.
2. Remove hardware. If needed, scuff sand and remove sanding dust.
3. Use a high-quality brush or foam pad and apply paint making sure surfaces receive an even coat. Be sure to paint the panel top and edges. Also paint the bare wood in the hardware routes.

Do not paint weatherstrip or door bottom sweep. Do not remove the bottom sweep.

4. Allow first coat to dry completely. Wet sand with 400 to 600 grit sandpaper.
5. Allow panel to dry and remove sanding dust.
6. Apply second coat of finish paint.

Steel Interior

For best results, use a high-quality water base interior semi-gloss latex paint.

Be sure to paint the top of the door panel.

Follow steel door exterior painting, Steps 1 through 6 above. When interior and exterior painting is completed and thoroughly dry, replace hardware.

Fiberglass Doors

Fiberglass door must be painted or stained within 30 days of installation.

Materials:

- Lint-free cloth
- Mineral Spirits
- Rubber gloves
- Painters tape
- 2-1/2" natural bristle brush
- Gel Stain, such as ZAR® Stain, Wood Kote®, Jel'd Stain, Minwax® Gel Stain, etc.
- Clear, high-grade UV stabilized polyurethane designed for exterior use.

Top coats are to be applied to stained surfaces only. Do not apply top coat to painted surfaces.

Surface Preparation:

- **Do Not Sand Fiberglass!** If needed, #000 steel wool with very light pressure can be used to smooth surfaces. Clean after the rubdown using a tack cloth.
- Do not apply paint, stain, or topcoat in direct sunlight and extreme temperatures.
- Clean surfaces with a mild detergent and water. Rinse thoroughly and allow to dry before painting or staining.

Staining:

Only textured fiberglass panels can be stained!

1. Lay door horizontally on padded saw horses or a table.
2. Remove all hardware and mask off anything you don't want stained such as the glass insert.
3. Wipe the door with mineral spirits to clean any dust or residue from the surface. Allow all mineral spirits to dry from the surface before applying stain.

Recommended Finishing Instructions (cont.)

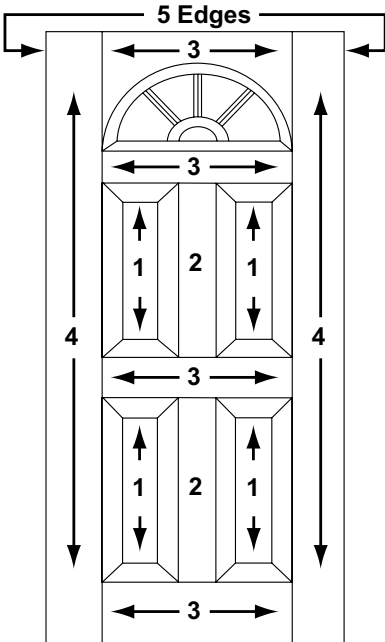
Proper Staining Procedure

Use the diagram below for the proper staining procedure.

Stain one section of the door at a time.

The numbers correspond to the order sequence in which you should apply stain.

The arrows indicate the direction of the grain for each area of the door panel.



1. Stain the center of the molded profile panels first.
2. Next, work on the center vertical boards.
3. Then work on the horizontal boards.
4. The outer vertical boards are the last areas to be stained on the face of the door.
5. Finally, stain the door edges.

Stain Application

1. Stir the wood stain thoroughly before and during use.
2. Apply stain using a foam brush or a lint-free cloth. Using a circular motion, work the stain into the grain pattern.
3. Using long quick strokes, smooth the stain in the direction of the grain. Do not wipe off excess stain.
4. Working on the area you just stained, use a soft natural bristle brush to gently feather-out any streaks or lap marks. Be sure to feather the corners where the stain tends to pool. Occasionally remove the excess stain from the brush with a clean cloth.

If a darker color tone is desired, wait 24-48 hours and apply a second coat, once again following the staining procedures outlined above. Remember "Stain and Feather". (**Do not sand between coats.** Sanding can damage the fiberglass surface.) Allow to dry 24-48 hours, depending on drying conditions, before applying final protective coats.

Protective Top Coat

Apply polyurethane top coat with UV inhibitors like ZAR® Exterior polyurethane, Wood Kote® Flagship UV, or Minwax® Fast Drying Polyurethane for exterior applications.

1. After stain has completely dried (24-48 hours), mix topcoat well (stir, do not shake). Apply evenly using a clean dry 2-1/2" natural bristle brush. Apply in the same order the stain was applied.
2. Be sure to work topcoat into corners and feather-out evenly over door surface.
3. Apply three layers of top coat, allowing at least 24 hours of drying time between each application.

Do not varnish weatherstrip or door bottom sweep. Do not remove bottom sweep.

Painting Fiberglass Woodgrain or Smooth Doors

Materials

- Lint-free cloth
- Acetone
- Rubber gloves
- Painters tape
- 2-1/2" bristle brush
- For Water-based application: Acrylic-based primer*/ acrylic latex-based exterior grade paint.

*We recommend using 'Sherwin-Williams PrepRite® Bonding Primer' with compatible acrylic-latex paint for optimal paint adhesion.

Surface Preparation

1. Lay door horizontally on padded saw horses or a table.
2. Remove all the hardware and mask off anything you don't want painted, such as the glass insert.
3. **DO NOT SAND GRAINED FIBERGLASS.**
4. Wipe the door with acetone to clean any dust or residue from the surface. Allow acetone to dry from the surface before applying paint. Do not use hydro-carbon based solvents to clean the surface as such products may leave a residue.
5. Apply primer with a 2-1/2" brush beginning with the panels. Follow the manufacturer's instructions for drying time before applying topcoat.
6. The primer must be completely dry before applying the topcoat.

Paint Application

1. Apply exterior grade paint with a 2-1/2" brush beginning with the panels. Apply paint in the same order described for stain application.
2. It is common practice to paint both stiles the same color as the exterior side of the door. If applying a second coat, follow the manufacturer's instructions for drying time between coats.

Fiberglass Door Care and Maintenance

Even a well finished door will be affected by exposure and weathering from the sun, moisture, and air pollutants. Inspect the door finish yearly to determine if maintenance is needed. Wipe the door with paint thinner or mineral spirits to remove any surface contaminants.

Repairing Scratches on Stained Doors

Using a cotton swab dampened with stain, dab the cotton swab on a clean cloth to remove excess stain. Touch up the scratch with the stained swab and then feather the repair with a soft, clean paint brush. Protect the repair with exterior polyurethane.

Determine if Polyurethane Needs Repair

1. If when looking directly at the door it is satisfactory, however, when viewed from an angle the door appears dull or has a slight white or milky discoloration the poly needs repair. Buff lightly using #0000 steel wool to assure proper adhesion of the new polyurethane, tack and apply a coat of exterior polyurethane. Be sure to buff lightly to avoid damaging the fiberglass surface.
2. If you see a milky white cast when looking directly at the door or if the polyurethane is cracked or peeling, you must strip off the old finish using a remover. Refinish following the above instructions for stain or paint application.

Finish Characteristics:

- The finish on a fiberglass door sits on top of the fiberglass. It does not penetrate into the fiberglass. Therefore, the stain can be removed to restain a different shade.
- Avoid using tape or other adhesive materials on the finish, as the finish could be lifted off the surface.

Door Frames On Fiberglass Doors

Interior frame components, of wood, have been coated with a special primer and may be painted or stained following the same procedures described above for door panels.

Preparation:

- Make sure frame is clean and free of dirt and any debris.
- Remove the jamb weatherstripping by pulling it out of the frame. Remove the head weatherstripping in the same manner.
- Paint or stain the door frames following the above instructions for painting or staining.

These recommendations are based on our experience with normal applications and finishing techniques. Due to the many variables in finishing materials and techniques, as well as application conditions, the door manufacturer cannot be responsible for the performance of field-applied finishes, individual application techniques, or the performance of any finishes thus applied or their resistance to exposure to the elements.

Products with Synthetic Stucco

Serious concerns have been raised about excessive moisture problems in homes and other buildings that have Exterior Insulation Finish Systems, commonly referred to as EIFS or Synthetic Stucco.

Many experts agree that a certain amount of water or moisture can be expected to enter almost any building exterior system. The building system should allow such water and moisture to escape or “weep” to the exterior, so no damage occurs. However, some EIFS systems may not allow water or moisture that penetrates the wall system to “weep” to the exterior. This can cause excessive moisture to accumulate within the wall system, which can cause serious damage to wall and other building components. It has been reported that so-called “barrier” EIFS systems are particularly prone to this problem.

Moisture problems in any type of building structure can be reduced by proper design and construction with appropriate moisture control considerations, taking into account prevailing climate conditions. Examples of moisture control considerations include flashing and/or sealing of all building exterior penetration points, use of appropriate materials and construction techniques, adherence to applicable building codes, and general attention to proper design and workmanship of the entire building system, including allowances for management of moisture within the wall system.

Determination of proper building design, components and construction, including moisture management, are the responsibility of the design architect, the contractors, and the manufacturer of the exterior wall finish products. Questions and concerns about moisture management issues should be taken up with these professionals. The door manufacturer is not responsible for problems or damages caused by deficiencies in building design, construction or maintenance, failure to install our products properly, or use of our products in systems that do not allow for proper management of moisture within the wall system.