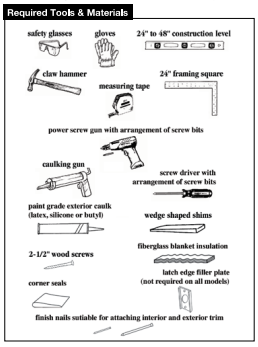
SIDE-HINGED DOOR UNIT INSTALLATION INSTRUCTIONS

Some dwelling designs/conditions may require special installation steps, consult your architect, design professional and/or product manufacturer for additional guidance.

Required Tools & Materials



Critical Point: Although all steps are critical, this symbol identifies procedures requiring extra attention.

Check Your Work: This symbol identifies when the work should be checked for correctness before continuing with installation.

PLEASE NOTE: Failure to install this unit in accordance with architect, design professional or product manufacturers instructions will have a direct effect on the units performance and/or long term wear. Installer shall be experienced in performing work required and shall be specialized in installation work similar to that required for this project. Warranty claims are subject to site inspections by a qualified manufacturer's representation to establish probable cause and proposed corrective action.

Step 1: Prepare Rough Opening

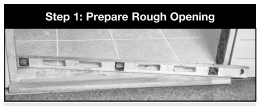


Figure 1: *A clean, level, solid sub-floor area is essential to successful installation.*

Ensure that the following conditions are met:

Clean, clear work area
- The rough opening (RO) is ideally 1" wider and 1/2" taller than the outside frame dimensions of the door unit. Units intended for installation in high velocity windstorm markets require less clearance between unit and RO (1/4" sides & top).
- The RO is plumb, square and level
- The old door frame has been completely removed in retro-fit installation
- The sub-floor area is clean, dry and level
- The existing sub-floor area is at least 6" deep for 4-9/16" frames and at least 8" deep for 6-9/16" frames.

Because a solid, level sub-floor is absolutely essential for proper door unit installation, do not proceed with the installation until the sub-floor is both solid and level.

Step 2: Caulk the Sub-Floor

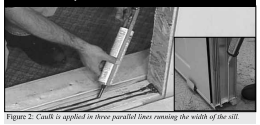


Figure 2: *Caulk is applied in three parallel lines running the width of the sill.*

Variations in threshold design may require that the caulk lines be applied directly to the bottom of the door unit to ensure a necessary weather-seal. Inspect the bottom of door unit to confirm it features a flat surface before caulking the sub-floor area.

Apply three 1/4" lines of caulk along the length of the sub-floor, the first line starting approximately 1" from the inside edge. The lines should be about 1" apart.

Step 3: Prepare Door Unit

Remove all packaging materials such as nails, staples and screws.

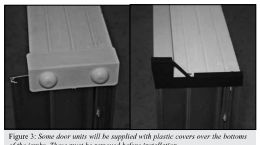


Figure 3: *Some door units will be supplied with plastic covers over the bottoms of the jambs. These must be removed before installation.*

Figure 4: *Some door units may be supplied with a wood or cardboard skid plate located along the bottom of the door. Needs to be removed.*

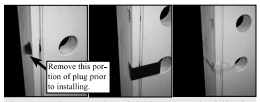


Figure 5: *Some door units may be supplied with a "clip" or "plug" holding the panel aligned and closed during the initial installation steps. Do not remove at this time. Some door units may be supplied with a double headed nail or screw holding panel closed - this needs to be removed at this time.*

Step 4: Place Door in Rough Opening

Figure 6: *Place the sill in the opening first and then tilt the door up into the opening.*

Door units featuring multiple door panels or glass inserts are heavier and more difficult to handle - do not attempt to handle without assistance.

Figures 7 and 8: *The exterior trim (brickmould) rests up against exterior sheathing or slides into the opening of exterior brick.*

Stand on the outside of the doorway. With the exterior side of the door unit facing you, tilt the door unit toward you (Figure 6). The brickmould (not supplied with all units) should rest up against the siding of the exterior wall (Figure 7) and should slide into the RO of a brick home (Figure 8).

If door unit is supplied without a clip or plug holding door aligned and closed, do not leave the door wide open during installation. The weight of the door may cause it to fall and cause injury.

Side-Hinged Door Types

Instructions vary according to door type. Confirm which door type is being installed. some door styles not available in all markets.

For single door unit, use Step 5A. For double door unit, use Step 5B. For single door unit with one or two sidelites, use Step 5C.

A:

single door
(X for operable panel or O for non-operable panel)

B:

double door
(XX for unit featuring two operable panels)

C:

single with two sidelites
(OXO for unit featuring operable panel with two non-operable panels)

single or double door with one sidelite
(OX or XO for unit featuring operable panel with non-operable panel)

Information Panel

How to Plumb the Door

For all door types, it is essential that the frame is in a straight vertical plane and is not twisted. Check alignment using this method: Stand on the outside of the door. Check that the weatherstripping on the latch side is evenly compressed along the entire height of the door slab without any pinching or gaps (Figures 9 and 10).

DO NOT utilize the wall to square and level unit. Unit must be square and level to insure proper operation and performance.

Figures 9 and 10: *The weatherstripping on these doors is not evenly compressed.*

How to Fasten the Door

After shimming, the door is fastened to the studs by installing screws through the jambs, shims and into the stud (Figure 11).

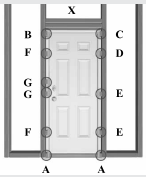
Screws located in hinge or strike position shall be placed in the thin (rabbet) section of frame, other screws shall be placed in thick (stop) section of frame. Wide frames should be attached with a screw in both sections of the frame to minimize rotation.

When shims are properly installed, the frame should not move or twist when the screws are tightened and counter-sunk, thus maintaining the 1/8" gap between the edge of door panel and frame. If there is any movement, loosen the screws and shim tighter to maintain the 1/8" gap, then retighten the screws.

Figure 11: *Screws are installed through the jamb, shims and into the 2x wood studs or backing.*

Step 5: Shim and Fasten

Step 5A: For single doors



Note: Units intended for installation in high velocity windstorm regions may require additional points of attachment. See local retailer for installation sheet supplement.

Figure 12: *Install the shims in the correct locations and in the correct sequence.*

Stand on the inside of the door and center the door in the opening. Shim tightly at the bottom corners of the door unit (Points A in Figure 12).

This will keep the door centered and the frame tight against the sill. Shim the top of the door on the latch side (Point B in Figure 12). Install shims until there is a consistent 1/8" gap between the top of the door slab and the frame header.

Shim the hinge-side of the frame (Point C in Figure 12). This will hold the door tight in its position relative to the frame. The door should operate freely with nothing but shims holding it in place.

CAUTION: Do not open door panel greater than 30-degrees until 2 1/8" screws have been installed. (Points C, D, E & F in Figure 16).

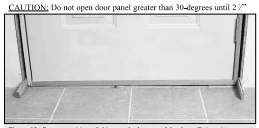


Figure 13: *Proper position of shims at the bottom of the door (Points A).*

From the outside and with the door closed, ensure that the frame is in a straight vertical plane (not twisted). To do this check that the weather-stripping on the latch side is evenly compressed along the entire height of the door slab without any pinching or gaps (see Figures 9 and 10).

Step 5: Shim and Fasten

Ensure that there is an even gap across the top of the door slab.

With the door closed and from the inside shim directly behind the vacant hinge screw hole in each hinge (Points D and E in Figure 12) until there is a consistent 1/8" gap between the hinge-side jamb and the door slab edge along the entire height of the door. Gap between the latch-side jamb and the door slab edge should be 1/8" at the top and bottom of the door **only.** Drive one of the 2.5" screws supplied through the vacant hole in each hinge, through the jamb, shims and into the stud or rough buck (Figure 11).

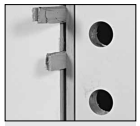


Figure 14: *Shims are placed above and below the dead bolt hole (points G in figure 12).*

When the shims are properly installed, the frame should not move or twist at all when the screws are tightened and counter-sunk thereby maintaining the 1/8" gap. If there is any movement, loosen the screws and shim tighter to maintain the 1/8" gap, then re-tighten the screws.

Shim behind the latch-side jamb (Points F in Figure 12) approximately 8" from the top and bottom of the frame. Install shims until there is an even 1/8" gap between the jamb and the edge of the door slab along the door. Shim behind the latch-side jamb (Points G in Figure 12) just above and below the dead bolt hole, maintaining the 1/8" gap (Figure 14). Pull the weatherstripping away from the jamb (Points F on Figure 12) and screw 2.5" installation screws (by others) through the jamb and shims into the stud (Figure 15).

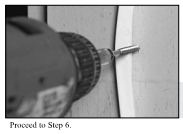
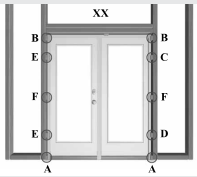


Figure 15: *Install screws underneath the weatherstripping.*

Proceed to Step 6.

Step 5: Shim and Fasten

Step 5B: For double doors with concealed top and bottom flush bolts



Note: Units intended for installation in high velocity windstorm regions may require additional points of attachment. See local retailer for installation sheet supplement.

Figure 16: *Install the shims in the correct locations and in the correct sequence.*

Stand on the inside of the door and center the door in the opening. Shim tightly at the bottom of the unit (Points A in Figure 16).

This will keep the door centered and the frame tight against the sill. Shim the top of the frame (at Points B in Figure 16). Install shims until there is a 1/8" gap between the top of the door slabs and the frame header. This will hold the door tight in its position relative to the frame. The door should operate freely with nothing but shims holding it in place.

CAUTION: Do not open door panel greater than 30-degrees until 2 1/8" screws have been installed. (Points C, D, E & F in Figure 16).

Door panels with glass inserts may sag toward the center. This is normal. To correct sagging, align the flush bolts on the fixed door with clearance in the header and sill. Most units do not have pre-drilled holes in the header and sill. Holes must be drilled. Slide top flush bolt up against header and bottom bolt down against threshold to mark. Mark where bolts make contact with header and sill with pencil. Drill holes on marks to receive bolts (1/2" deep minimum). Once holes are drilled, close panel and engage bolts making sure they extend far enough to secure unit. If there is a gap between the threshold and weatherstrip block around the foot bolt, the hole is not deep enough (the weatherstrip block must touch the threshold to properly seal the unit). Shim tightly behind the vacant hinge screw hole in the bottom hinge (Point C in Figure 16) until the lower flush bolt slides freely into the clearance hole in the sill. Secure the door by driving a 2.5" installation screw supplied, through the hinge and jamb and into the stud. If the flush bolt does not slide freely, loosen the screw, shim more tightly and then tighten the screw.

Figure 17: *Correct sagging until the flush bolt slides freely into the pre-drilled hole (not typical of most units) in the head/threshold.*

Shim behind the vacant hinge screw hole in the top hinge (Point D in Figure 16) to align the top flush bolt with the clearance hole in the header (Figure 17). Secure with the 2.5" installation screw supplied, through the hinge jamb and into the stud.

From the outside and with the door closed, ensure that the frame is in a straight vertical plane (not twisted). To do this check that the weatherstripping on the astragal side is evenly compressed along the entire height of the door slab without any pinching or gaps (see Figures 8 and 9).

Standing on the inside, shim behind each of the vacant hinge screw holes in both the top and bottom hinge on the operating door (Points E in Figure 16) until there is a consistent 1/8" gap along the entire height of the door between the operating door and the passive door. There should also be a 1/8" gap between the top of each door slab and the header. When shims are properly installed, the frame should not move or twist when the screws are tightened and counter-sunk, this maintaining the 1/8" gap. If there is any movement, loosen the screws and shim tighter to maintain the 1/8" gap, then retighten the screws.

Install two 2.5" screws along the head jamb of double door systems for additional reinforcement. Screws should be installed above center of each panel. (Figures 17 and 18).

Using the supplied 2.5" installation screws, drive a screw through the vacant holes in both the top and bottom hinge on the operating door (Points E in Figure 16), through the jambs and into the stud.

Shim behind the vacant hinge screw holes in each of the center hinges (Points F in Figure 16) and secure using the supplied 2.5" installation screws.

Figure 18: *The gap between the door slabs and the head is not evenly aligned.*

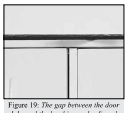
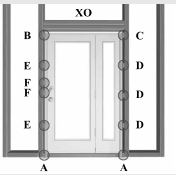


Figure 19: *The gap between the door slabs and the head is evenly aligned.*

Proceed to Step 6.

Step 5: Shim and Fasten

Step 5C: For door with sidelites



Note: Units intended for installation in high velocity windstorm regions may require additional points of attachment. See local retailer for installation sheet supplement.

Figure 20: *Install shims in the correct location and in the correct sequence.*

Stand on the inside of the door and center the door in the opening. Shim tightly at the bottom corners of the door unit (Points A in Figure 20).

This will keep the door centered and the frame tight against the sill. Shim the top of the frame, behind the latch-side jamb (Point B in Figure 20). Install shims until there is a consistent 1/8" gap between the top of the operating door slab and the frame header.

Shim at the top of the frame, behind the hinge-side jamb (Point C in Figure 20) to hold the door tight in its position relative to the frame. The door should operate freely with nothing but the shims holding it in place.

CAUTION: Do not open door panel greater than 30-degrees until 2 1/8" screws have been installed. (Points B, C, D, E & F in Figure 20).

From the outside and with the door closed, ensure that the frame is in a straight vertical plane (not twisted). To do this, check that the weatherstripping on the latch side is evenly compressed along the entire height of the door slab, without any pinching or gaps (Figures 8 and 9).

Once there is an even 1/8" gap across the top of the door slab and the weatherstripping is evenly compressed along the height of the door slab, proceed with the installation.

Shim at points D, E and F on the perimeter of the frame (Figure 20), until there is an even 1/8" gap on both sides of the operating door slab.

Drive the supplied 2.5" installation screws, three on each exterior jamb of a fixed panel, through the exterior (stop) section part of the jamb, through the shims and into the studs. Note: If the door is factory-finished use the **"Factory-Finished Door System"** information for fastening through exterior jambs.

For units with two non-operable panels: Typically long security screws are used to install the dead bolt strike plate (Step 6).

Step 5: Shim and Fasten

For units with only one non-operable panel attached on the latch side of the door: The second set of supplied screws are installed through the thin (rabbet) section of the jamb using the vacant hinge screw holes (Figure 21). Typically long security screws are used to install the dead bolt strike plate (Step 6).

For units with only one non-operable panel attached on the hinge side of the door: The second set of supplied 2.5" screws are installed through the thin (rabbet) section of the jamb under the weatherstripping through the shim and into the stud approximately 8" from the top and bottom of the jamb (Figure 22). Shim just above and below the dead bolt hole and drive the supplied 2.5" installation screws through the dead bolt strike plate (Step 6).

When shims are properly installed, the frame should not move or twist at all when the screws are tightened and counter-sunk, thus maintaining the 1/8" gap. If there is any movement, loosen the screws and shim tighter to maintain the 1/8" gap, then re-tighten screws.

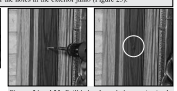
Figures 21 and 22: *The second set of supplied screws is installed in the vacant hinge holes or under the weatherstripping.*

Proceed to Step 6.

Factory-Finished Door System

Because the inside of the jamb is not accessible, a 1/4" hole must be drilled through the factory-finished exterior jamb, 1/4" deep at all points where the door system is shimmed (three on each exterior side of a non-operable panel, Figure 23). Drive the supplied 2.5" installation screws, through the drilled hole in the exterior thick (stop) section of the jamb, through the shims and into the studs (Figure 24). Use the supplied caps to cover the holes in the exterior jamb (Figure 25).

Figure 23: *Pre-finished systems must have holes drilled before screws are installed.*



Figures 24 and 25: *Drill holes through the exterior jamb on factory-finished doors to install screws and plugs.*

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Step 6: Install Dead Bolt and Strike Plates

Install the dead bolt strike plate at the correct location, per the manufacturer installation detail (Figures 26 and 27).

Figure 26: *Screws fasten the latch plate to the door slab.*

Figure 27: *Screws should connect the dead bolt plate to the stud.*

Step 7: Insulate

Score shims with a utility knife and snap the shims along the score. Trim any excess with the utility knife. Insulate around the top and sides of the door unit in the cavity between the jamb and the wall studs with fiberglass blanket insulation (Figure 28). Install the interior and/or exterior trim around the door.

Figure 28: *Insulate between the jambs and the wall studs all around the door.*

Critical Point: The use of expandable type foam is not recommended as it may cause the door jambs to warp; this may leave the door inoperable or push the brickmould away from the jamb.

Step 8: Caulk Doorway

Caulk all four exterior corners and all around the brick or siding in the following sequence:

- caulk the sill on both latch and hinge sides from the edge of the sill crown along the edge where the sill and jamb or brickmould meet (Figure 29)
- caulk the front sill edge where the sill and the sub-floor meet (Figure 30)

Figures 29 and 30: *Caulk the sill crown and the front of the sill.*

- caulk the top corners where the header and jambs meet, starting at the weatherstripping and working to the face of the brick mould (Figure 31)
- caulk the perimeter where the exterior trim meets the brick or siding trim (Figure 32)

If the door is center-hinged or has a sidelite, caulk around the mullions where the mullions contact the sill and header.

Figures 31 and 32: *Caulk the jambs and the exterior trim.*

Step 9A: Adjust Sill

Some door units are supplied with adjustable sills, and these may be raised or lowered to form a tight seal with the fixed sweep on the bottom of the door. This adjustment requires a screwdriver with appropriate screw bit. To increase the height of the sill cap, turn screws evenly along the rail. Refer to the "Steps to test threshold seal". (Figure 33).

Figure 33: *Raise or lower the sill by adjusting the sill screws. Some sills may have covers over the adjusting screws. These covers must be removed prior to making any adjustments.*

Step 9B: Adjust Sweep

Figure 34: *U-channel sweeps are adjusted to form a tight seal with the sill.*

Some door units are supplied with a U-channel adjustable sweep and these may be raised or lowered to form a tight seal with the fixed sill. To adjust the sweep, loosen the screws that hold the sweep in place and lower the sweep far enough to create an airtight seal with the sill. Once the sweep is positioned properly, tighten the screws by hand, taking care not to over-tighten (Figure 34).

Steps to test threshold seal

1. Close door on a piece of paper placed over the threshold.
2. Pull paper between the sweep of the door and the threshold.
3. If the threshold is properly adjusted, you should feel some tension, but if the paper tears, the door's seal is too tight. If there is no tension on the paper, the door's seal is too loose.

To properly adjust the threshold seal if it is too tight.

1. Adjust rail by turning screws evenly a 1/2 turn.
2. Repeat seal test. If paper does not slide beneath door with a feeling of tension, repeat Step. Re-test seal.
3. Continue testing threshold until it is properly adjusted.

To properly adjust the threshold seal if it is too loose.
(WARNING: Do not increase height by more then 7/16")

1. Adjust rail by turning screws evenly a 1/2 turn.
2. Repeat seal test. If paper does not slide beneath door with a feeling of tension, repeat Step. Re-test seal.
3. Continue testing threshold until it is properly adjusted.

Step 10: Install the Latch and Dead Bolt

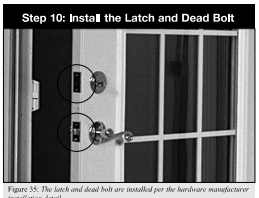


Figure 35: *The latch and dead bolt are installed per the hardware manufacturer installation detail.*

Note: Units intended for installation in high velocity windstorm region requires specific grade of latching hardware.

Step 11: How to Stain Wood-Grain Textured Fiberglass Doors

Factory finished door units do not require additional field finishing. See maintenance steps for proper care.

Requirements:
Find a well-lit staining location that is dust-free, well ventilated and within the climate conditions recommended by the stain/top-coat manufacturer.

You will need the following:

Coatings and accessories:

- Mineral spirits or acetone
- One pair of rubber gloves
- Lint-free rags or cheese cloth (recommended)
- Stir sticks
- 2" wide foam brush
- Masking tape
- Safety razor blades
- Stain
  - High-quality, opaque (non-transparent), heavily pigmented, oil-based stain (recommended)
  - Gel stains can also be used
  - Semi-transparent stains are not recommended
- High-quality, exterior grade, UV stabilized polyurethane sealant (satin or low gloss)
- 2-1/2" wide china bristle brush

Tools:

- Hammer
- Center punch
- Screwdriver with arrangement of screw bits
- Pliers
- Safety glasses

Please read and understand the entire staining procedure before attempting to finish the door. Be sure to follow the (stain and top-coat) manufacturers detailed application instructions on the product label.

A. How to start
Doors can be stained either hanging in the opening or removed from the frame (recommended). Should you remove the door, take care to protect it from damage. Sidelites will need to be finished vertically. To remove the door from the frame, use a center punch and hammer. Strike the hinge pin from the bottom until it pops up (for outswing units - hinge leaf must be removed from the door). Drive the hinge pin as far as possible with the punch. Using a pair of pliers, grasp the hinge pin and, while twisting, pull the pin out. Remove all door hardware.

B. Preparing the door surface
IMPORTANT: Dust, debris and other surface contaminants can accumulate on the surface of the door. Therefore, to achieve best results and maximum coating adhesion, wipe/clean all surfaces of the door panel(s) and sidelite(s) thoroughly with acetone or mineral spirits. Mask (tape) off all surfaces that will not be stained.

C. Staining the Door
Use a high quality, heavily pigmented, oil-based stain (recommended). Gel stains can also be used. Before starting, and occasionally throughout the project, stir the stain until the texture is creamy. We recommend that before starting, you try staining a small inconspicuous area of the door to achieve the desired color.

One coat of stain is required with the recommended (per manufacturer's instructions) dry time needed between sides. The stain should be applied in the following order working on one small section of the door at a time.

Finishing Order:

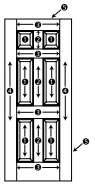
#1 Panels and sticking (moulding profiles)

#2 Vertical center areas (mullions)

#3 Horizontal areas (rails)

#4 Outside vertical areas (stiles)

#5 Edge of door (includes both sides and top of door)



Step 11: How to Stain Wood-Grain Textured Fiberglass Doors

Staining:
1. Put on gloves and prepare your materials.

2. Stir stain thoroughly using smooth strokes, avoid creating bubbles and do not shake the stain container.

3. Working in the specified order and individual section, dip the foam brush into the stain then use the rim of the container to release any excess. Use the foam brush to apply the stain onto the section. Using a cloth, rub the stain into the embossed wood-grain ensuring complete and even coverage. Stop between sections to tidy up the perimeter with a rag and mineral spirits. Clean edges will help define the individual components of the door.

If preferred, the subtle color variation found in wood can be replicated by selective removal of the stain. Using a rag or cheese cloth, gently rub the surface removing very small amounts of stain. Apply varying levels of pressure and work in the direction of the grain. Excessive pressure will remove too much stain.

4. Once the door has been completely stained, check for any drips. While the stain is still wet, lightly brush the entire surface of the door with a china bristle brush. Use long strokes and work in the direction of the grain to even out color and achieve consistency.

5. Let the first stained surface dry, per the stain manufacturer's recommended drying time, before proceeding to the second side.

6. If you prefer a darker appearance, repeat staining steps one through five only after first coat is completely dry. Do not sand between staining coats.

D. Sealing or applying the top-coat
The top-coat or sealant for your door is very important and required for weatherability. It protects the stained door from the elements and makes the door surface washable. Be sure that the stain coating is completely dry and then apply a high-quality, UV stabilized, clear exterior polyurethane coating (satin or low gloss) -- used for any normal exterior wood application.

Note: We recommend that all 6 sides (front and back faces plus all four edges) be sealed to eliminate moisture absorption. The bottom of your door panel(s) may contain a factory installed weatherstripping (sweep) which is sealed prior to installation. Failure to observe this recommendation may void the warranty.

1. Stir top coat thoroughly using smooth strokes, avoid creating bubbles and do not shake the top coat container.

2. Do not overload the brush. Dip the end of the brush into the coating and gently slide the flat side of the brush against the edge of the container to remove the excess.

3. Apply with even gentle strokes. Press hard enough to flex the bristles just a little and then pull the brush gently along the door's surface.

4. As you apply the sealant, pull the brush quickly along the area two or three times lightly to even out the brush strokes.

5. Allow the first coat to dry completely (follow manufacturer's recommendations) and apply at least one more coat using the same steps as above. A minimum of two coats is required for complete protection and the door should be resealed annually to ensure lasting protection of the finish.

6. After both sides of the door have been top-coated (twice) and are completely dry, remove the paper and tape from the glass and protected surfaces.

7. Clean the glass with window cleaner and remove any finishing materials from the glass with a safety razor.

8. Replace door back into frame.

Maintenance

1. In the event that the door is scratched after finishing, the damaged area can be lightly sanded using 400-grit sandpaper (do not over-sand the surface). Follow the staining and top-coat procedures.

2. Dirt and watermarks can build up on the surface of your finished door over time. Extend the life of the stain and top-coat by cleaning the door several times a year. Clean with warm soapy water, rinse and towel dry.

3. A minimum of two coats of top-coat are initially required for complete protection. The door system should be resealed every 1 to 7 years depending upon weather exposure.

Step 11: How to Paint Exterior Doors

Factory finished door units do not require any additional field finishing.

Requirements:
Find a well-lit finishing location that is dust-free, well ventilated and within the climate conditions recommended by the coating manufacturer. Recommended temperature should be between 50° - 90°F degrees fahrenheit.

You will need the following
Coatings and accessories:

- Mineral spirits or acetone
- Soapy water (mild detergent in warm water)
- One pair of rubber gloves
- Stir sticks
- Masking tape
- Safety razor blades
- 220-grit sandpaper
- Paint
  - High-quality, oil-base or 100% acrylic water-based latex paint of desired color
  - Lacquer paints are not recommended
- 2-1/2" wide brush appropriate for type of paint (A natural bristle brush should be used with oil-based paint and a synthetic bristle brush should be used with latex paint.)

Tools:

- Hammer
- Center punch
- Phillips screwdriver
- Pliers
- Safety glasses
- Air-less sprayer (optional)

Note: Painting instructions specifically refer to the door and sidelite panels. Oil-based paint should not be used on wood frame components (jambs & brickmould).

Please read and understand the entire painting procedures before attempting to finish the door. Be sure to follow the paint manufacturer's detailed application instructions on the product label.

A. How to start
Doors can be painted either hanging in the opening or removed from the frame (recommended). Should you remove the door, take care to protect it from damage. Sidelites will need to be finished vertically. To remove the door from the frame, use a center punch and hammer. Strike the hinge pin from the bottom until it pops up (for outswing & self closing units -- hinge leaf must be removed from the door). Drive the hinge pin as far as possible with the punch. Using a pair of pliers, grasp the hinge pin and, while twisting, pull the pin out. Remove all door hardware.

B. Preparing the door surface
IMPORTANT: For adequate paint adhesion the door surface must be free of dust, debris and other surface contaminants.

Step 11: How to Paint Exterior Doors

Steel doors should be wiped clean with a solvent such as acetone or mineral spirits. Allow the cleaning solvent to dry completely -- until there is no residual odor. Once wiped clean, the door must be lightly sanded with a 220-grit sandpaper. After sanding, the door must be washed with a mild detergent in warm soapy water, rinsed and then dried.

Fiberglass doors should be wiped clean with a solvent such as acetone or mineral spirits. Allow the cleaning solvent to dry completely -- until there is no residual odor. Next, the door must be washed with a mild detergent in warm soapy water, rinsed and then dried.

Mask (tape) off all surfaces that will not be painted including all glass.

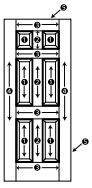
C. Painting the Door
Use exterior, high quality, oil-based or 100% acrylic water-based latex paint of desired color. High quality interior paint can be used on the interior surface of the door only. Laquer paints are not recommended. Follow the manufacturer's instructions for paint application by using either a brush or a handheld sprayer.

Painting:

Put on gloves, safety glasses, and prepare your materials. Before starting, and occasionally throughout the project, stir the paint using smooth strokes until the texture is creamy -- avoid creating bubbles.

Finishing with Brush Application:

Dip the brush into the paint, then use the rim of the container to release any excess paint. Apply paint as evenly as possible while still wet. Brush strokes should follow the grain direction of the selected area. Start working on the panels and sticking (moulding profiles), then the vertical center mullion, next the horizontal rails, then the vertical stiles, and finally, the outside edges (stiles and top rail, see figure 1 for details). Doors that are outswing or have adjustable surface mounted sweeps will need to have the sweep removed and the bottom rail painted.



Finishing Order:

For wood-grain textured door finishing with brush.

#1 Panels and sticking (moulding profiles)

#2 Vertical center areas (mullions)

#3 Horizontal areas (rails)

#4 Outside vertical areas (stiles)

#5 Edges of door (includes both sides and top of door)

Step 11: How to Paint Exterior Doors

Finishing with Spray Applicator:

Follow the manufacturer's instructions for thinning the paint; (i.e. thin latex paint with water or oil-based with solvent for better atomization and spraying results). Strain paint before filling the spray pot.

The door can be painted in horizontal (recommended) or vertical position; however, the paint should be applied in continuous strokes extending six inches past the edges of the door. This will ensure uniformity across the entire surface of the door. Multiple light coats are better than one heavy coat.

Avoid runs as a result of overspraying.

Note: We recommend that all 6 sides (front and back faces plus all four edges) be sealed to eliminate moisture absorption. The bottom of your door panel(s) may contain a factory installed weatherstripping (sweep) which is sealed prior to installation. Failure to observe this recommendation may void the warranty.

Drying:

IMPORTANT: Let the paint dry completely, following the manufacturer's recommended drying time before handling the painted surface or applying a second coat. If possible, allow the door to dry in a horizontal position to minimize paint runs. High humidity and/or low temperatures may extend your drying time.

Warning: Foam-filled doors painted with dark colors or with attached storm doors, may become very hot to the touch in direct sunlight. Do not paint the weather strip and do not close door until paint is dry (see paint manufacturer's specifications on minimum drying time). To maintain product warranty: Paint the door, frame, header and brickmould within 45 days of installation.

Maintenance:

1. In the event that the door is scratched after finishing, the damaged area can be lightly sanded using 400-grit sandpaper (do not over-sand the surface). Follow the finishing procedures on the inside of this brochure.

2. Dirt and watermarks can build up on the surface of your finished door over time. Extend the life of the paint by cleaning the door a few times a year. Clean with warm soapy water, rinse and towel dry.

3. Repainting every 1 to 7 years will be required, depending upon weather exposure.

Step 12: Corner Seal (Foam Pad) Installation

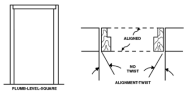
Proper installation of the corner seals (Foam Pads) is critical to the performance of your new door system. Please use these photos along with Step #12 to make sure the corner seals are properly installed.

1. At the ends of the sill, apply a bead of caulk where the cap and jamb/mullion meet.

2. Apply the corner pad with the thick side towards the weatherstrip and the thin side even with the edge of the jamb/mullion. Be sure the pad is seated against the sill cap.

Patio/Double Doors
At the astragal, apply the pad with the thin side flush with the edge of the astragal and the bottom of the pad against the sill cap in the caulk.

Trouble Shooting



If it becomes apparent that there is some trouble with the operation of the unit, the first thing to check is the installation of the unit into the rough opening. Check to insure that 7/16" gap across the top edge of door panel and frame holds true for the entire width of the door opening AND that weatherstripping is evenly compressed the entire height of the door opening. Secondly, check that the two jambs are correctly aligned with each other and that incorrect nailing on shims have not twisted the jambs.

Check all Critical Points to confirm that unit was installed correctly in proper rough opening.

Warranty

Warranties are available for most products. Please check with your dealer or distributor for current warranty terms and conditions.

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