Direct Set Window Installation Instructions For All Nailing Fin Equipped Units Including Rectangles, Geometric, and Specialty Shapes

Includes Instructions to Maintain Design Pressure Test Ratings

IMPORTANT: Please read before you begin.

WS Part No. 1189706 8/09 Rev. 1
TPC Part No. 210927 8/09 Rev. 1
Install 229 8/09 Printed in U.S.A.

Table of Contents & Tool/Material Requirements

General – Installation and DPR Attainment

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 windows are being installed, to ensure proper compliance.** The installation instructions that follow are based on typical frame construction. Specific applications may differ. Schield Family Brands recommends that you consult a qualified installation professional. Schield Family Brands 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, we are supplementing the installation instructions with the following:

Sealant **must** be applied in all DP and Non-DP installations. To maintain design pressure ratings, apply a 3/8" diameter continuous sealant bead between the nailing fin so sealant will contact the nailing fin holes when the unit is placed in the rough opening. There must be continuous contact with a generous bead of sealant between the **bare** sheathing and the window unit's nailing fin around the window's entire perimeter.

The following additional steps must be taken as appropriate to maintain design pressure ratings.

- Exterior weather resistant barrier (WRB) must be cut and temporarily taped back away from rough openings.
- Sealant applied to the rough opening must be applied directly to the building's sheathing and **NOT** the weather resistant barrier.
- The nailing fin must contact the sealant continuously along the entire perimeter of the unit and must fully contact exterior face of the wall around the window's entire perimeter.
- Exterior weather resistant barrier must be trimmed and reapplied over the nailing fin. It must be sealed to the fin along the entire perimeter with silicone sealant.
- A shim space is required around the window. The shim space cannot exceed 1/4" on all sides (1/2" total for either width or height). If a shim space greater than 1/4" exists on the interior or exterior of the unit, use solid continuous furring material to fill this space until the maximum 1/4" shim allowance is achieved.
- Fastening methods must conform to those used to install test units. See the following page for correct fastener type, application spacing, and additional silicone sealant requirements.

FOR NON-DP INSTALLATIONS:

- A 3/8" diameter continuous sealant bead must be placed between the nailing fin so sealant will contact the nailing fin holes when the unit is placed in the rough opening. Do not caulk the sill.
- A shim space is required around all sides of the window to allow for structure movement, seasonal expansion and contraction, and to provide space for insulation. The rough opening must provide a shim space that does **not exceed:**

  3/8" on all sides (3/4" total for either width or height) for all-vinyl units with a nailing fin;
  OR
  1/2" wider on the sides (1" total for width) or 1/4" on top or bottom (1/2" total for height) for clad, wood brickmould, or exterior casing equipped windows.

  NOTE: Shim space for maintaining DPR ratings cannot exceed 1/4" on all sides (RO total of 1/2" larger than frame width or frame height).

FOR ALL INSTALLATIONS:

- 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:

- For any installation that has exposed fasteners, it is recommended to use fasteners made of 300 series stainless steel. Follow your local codes if they specify a different series of stainless steel.
- Certain options, accessories, and warranty considerations require the unit be installed using installation clips. The clip install method has not been tested for design pressure ratings and should not be used where design pressure ratings must be maintained. Contact your customer service representative for additional assistance.

Design Pressure Performance – Fastening Method

To maintain ratings, all units must be installed with a continuous, 3/8" bead of high-quality, neutral cure, silicone sealant applied between the nailing fin and the bare sheathing of the exterior wall. Fasteners, as listed below, must be used to maintain rating validity. Additional caulking, as indicated must also be applied.

Aluminum Clad, Vinyl Clad, Fiberglass Clad, and All-Vinyl Windows With Nailing Fins and Pre-Punched Fastener Holes

Page v	Fastener	Fastening Method
Figures 1 thru 4	#8 Steel screws long enough to penetrate framing material by at least 1-1/2".	Start a screw 4" in from the corner and apply through nailing fin into framing member. Space additional screws 8" to 10" on center, around entire perimeter, staying 4" from each corner.
Figure 5	#8 Steel screws long enough to penetrate framing material by at least 1-1/2".	Start a screw 4" in from corner and apply through nailing fin into framing member. Space additional screws every 13" on center, around entire perimeter, staying 4" from each corner. Apply sealant over fastener heads and over the border between the nailing fin and the sheathing along window's entire perimeter.
Figure 6	#8 Steel screws long enough to penetrate framing material by at least 1-1/2".	Start a screw 4" in from corner and apply through nailing fin into framing member. Space additional screws every 8" on center, around entire perimeter, staying 4" from each corner.
Figure 7	#8 Steel screws long enough to penetrate framing material by at least 1-1/2".	Start a screw 4" in from corner and apply through nailing fin into framing member. Space additional screws every 4-1/2" on center, around entire perimeter, staying 4" from each corner.

Design Pressure Performance
Window Configurations – Side Views

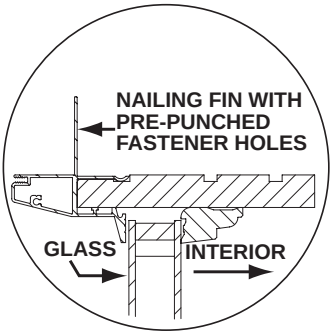


FIGURE 1 – Aluminum Clad Wood

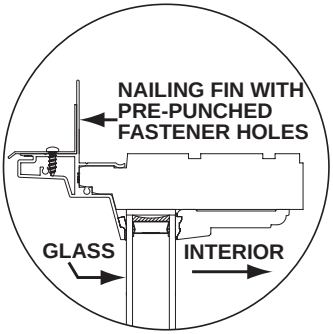


FIGURE 2 – Aluminum Clad Wood

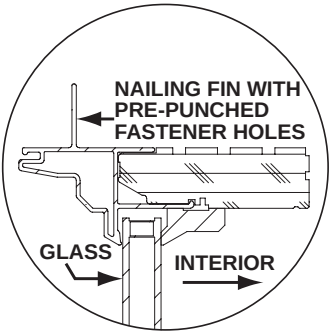


FIGURE 3 – Fiberglass Clad Wood

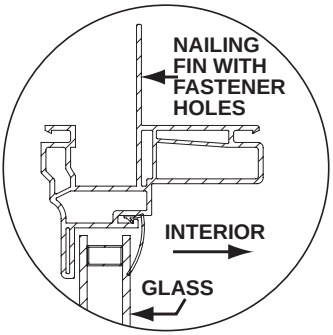


FIGURE 4 – All Vinyl

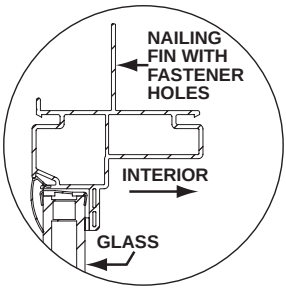


FIGURE 5 – All Vinyl

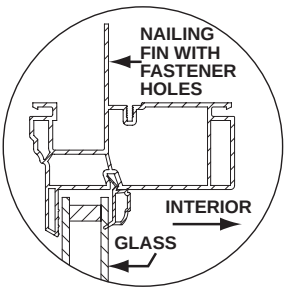


FIGURE 6 – All Vinyl

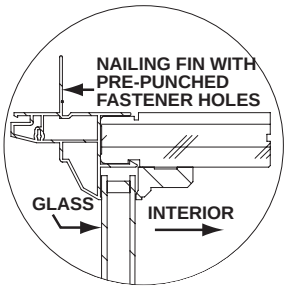


FIGURE 7 – Vinyl Clad Wood

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

DANGER

CUT HAZARD

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

WARNING

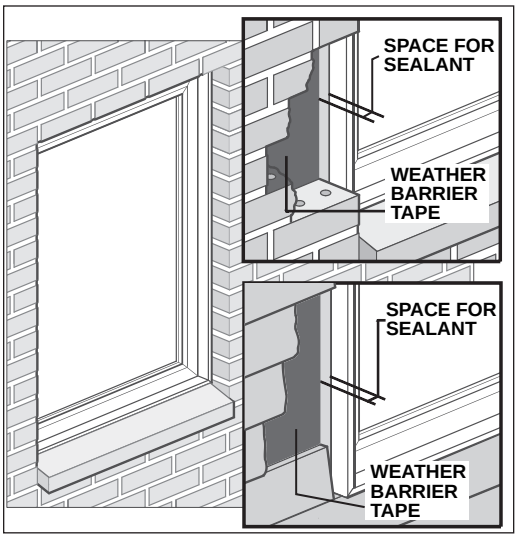
Weight of window and door unit(s) and accessories will vary. Use a reasonable number of people with sufficient strength to lift, carry and install window or door unit(s) and accessories. Always consider site conditions and use appropriate techniques when installing.

DANGER

Screen will not stop children, anyone or anything from falling out window.

Keep children and objects away from open window.

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.

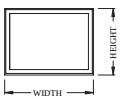
Failure of this joint will cause structural damage unrelated to window performance.

Definition: →

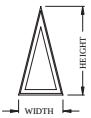
Throughout these instructions DPR equals "For Design Pressure Rating". Any procedure so titled must be completed to maintain the rating validity.

Non-DPR is for installations not requiring compliance with design pressure ratings. In this case you can follow procedures for either DPR or non-DPR.

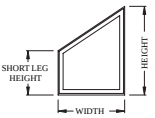
Shape Measurement Locations



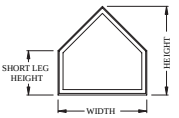
Rectangle



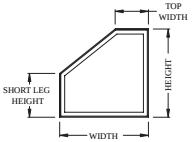
Triangle



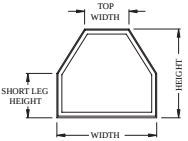
Trapezoid



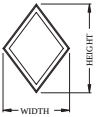
Pentagon



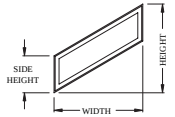
Pentagon with Flat Top



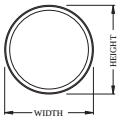
Hexagon with Flat Top



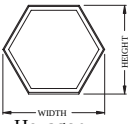
Diamond



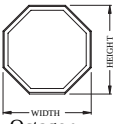
Parallelogram



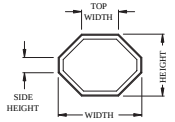
Full Circle



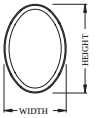
Hexagon
(All Equal Sides)



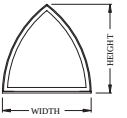
Octagon
(All Equal Sides)



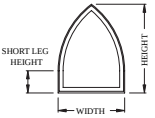
Octagon
(Non-Standard)



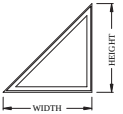
Full Ellipse



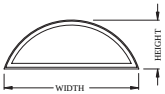
Gothic



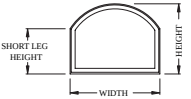
Gothic Arch Top with Extended Legs



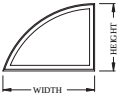
Right Triangle



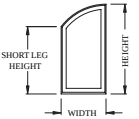
Arch Top



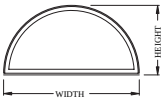
Arch Top with Extended Legs



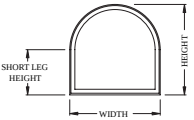
Quarter Arch Top



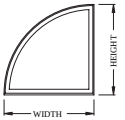
Quarter Arch Top with Extended Legs



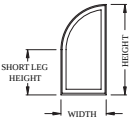
Half Circle



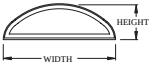
Half Circle with Extended Legs



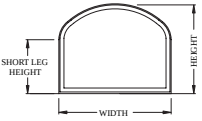
Quarter Circle



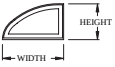
Quarter Circle with Extended Legs



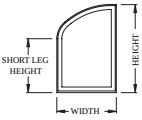
True Half Ellipse



True Half Ellipse with Extended Legs



True Quarter Ellipse



True Quarter Ellipse with Extended Legs

Vinyl Drip Cap Installation

FIGURE 1

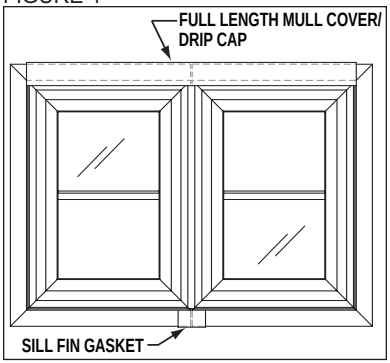


FIGURE 2

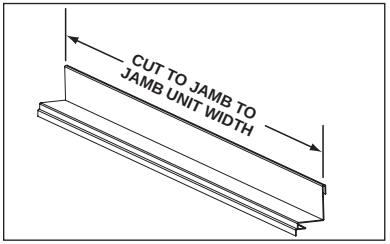


FIGURE 3

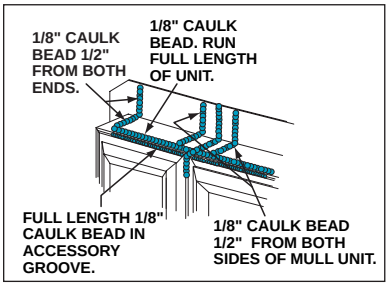
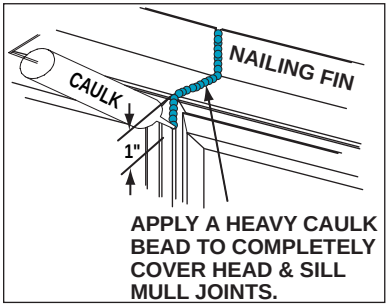


FIGURE 4



⚠ IMPORTANT: All mulled units MUST have a one-piece drip cap applied BEFORE the unit is installed in the rough opening.

NOTE: See following page for aluminum clad unit drip cap installation.

A full-length, continuous (one-piece) drip cap must be applied to the exterior of all mulled units before installing unit in structure. It must run from side jamb to side jamb **(FIGURE 1)**. A sill gasket is also required **(FIGURE 6)**.

1. Measure unit width, jamb-to-jamb.
2. Cut vinyl drip cap to this length **(FIGURE 2)**.
3. Caulk unit with silicone sealant as shown in **(FIGURES 3 & 4)**.
4. Complete caulking for mull joints by applying a lighter bead of caulk 1" out onto the exterior joint **(FIGURE 4)**. Apply at **both** the head and sill.
5. Trim off snap-in leg on drip cap at points it overlaps mull covers so drip cap sits tightly against window frame.
6. Align drip cap across the units, snap over nailing fin and press snap-in leg firmly into accessory groove. Use a dead-blow hammer and wood block to fully seat snap-in leg into accessory groove across entire width of unit **(FIGURE 5)**.
7. Apply sill fin gasket at each mull joint. Place adhesive side against fin, over joint and press to seal. Wrap excess material up behind fin **(FIGURE 6)**.

FIGURE 5

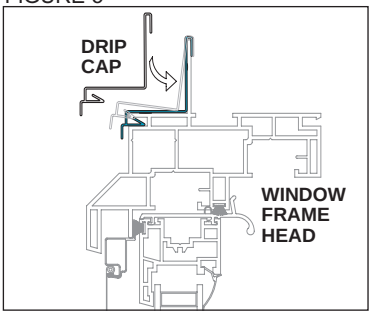
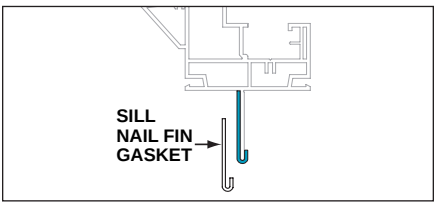


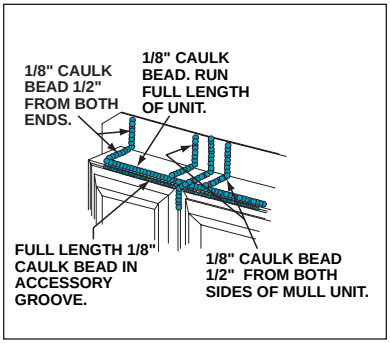
FIGURE 6



Aluminum Clad Unit – Drip Cap Installation

FIGURE 1

FIGURE 2



A full-length, continuous (one-piece) drip cap must be applied to the exterior of all mulled units before installing unit in structure. It must run from side jamb to side jamb. A sill gasket is also required.

1. Measure width of assembled units, jamb to jamb **(FIGURE 1)**. Mark drip cap at this length and cut with a hacksaw.

2. Apply a continuous 1/8" diameter bead of sealant to head. Start 1/2" from side jamb. Caulk vertical face of nailing fin and continue along top of head to other end of unit and up the opposite nailing fin vertical face. Also apply sealant to the mulled joints laying a 1/8" diameter bead 1/2" from both sides of the joint. Add a third bead directly on top of the joint **(FIGURE 2)**.

3. Center drip cap, from side to side, over head of combined unit and press firmly down into sealant **(FIGURE 3)**.

4. Secure drip cap to head with #8 x 1/2" stainless steel TEK tip screws or #8 x 1/2" Phillips pan head stainless steel self tapping screws.

Place screws 1" to 2" from each end of unit and every 24" to 30" along length of drip cap **(FIGURE 4)**.

5. Examine entire exterior and remove excess sealant using a clean soft shop towel dampened with denatured alcohol.

6. Allow sealant to dry before installing unit.

FIGURE 3

FIGURE 4

⚠ IMPORTANT:

When accessories such as jamb extension have been ordered, apply BEFORE you install the unit OR prep the rough opening. Mulled unit drip cap MUST be applied BEFORE unit is installed.

Rough Opening Preparation

FIGURE 1

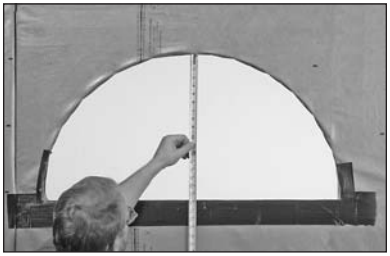


FIGURE 2

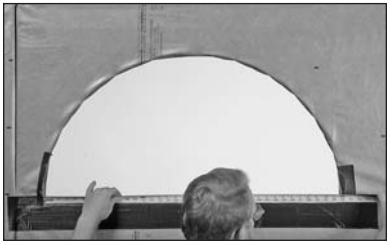


FIGURE 3

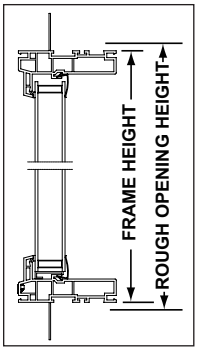
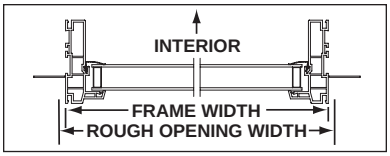


FIGURE 4



SAFETY INSTRUCTIONS

Read installation instructions completely before beginning procedure.

⚠ WARNING

Wear gloves, safety glasses, goggles or eye shields appropriate to procedure.

⚠ IMPORTANT: High-quality, exterior, neutral-cure, clear, silicone sealant (compatible with window extrusion and exterior face of the wall) is to be used for all procedures in the following instructions which call for caulking or sealant.

⚠ IMPORTANT: Check to make sure you have the correct size window (height and width) for your rough opening.

For Vinyl Units

Measure the rough opening to ensure that it is not more than 1/2" taller in overall height **(FIGURE 1)** or 1/2" wider in overall width **(FIGURE 2)** than window frame height **(FIGURE 3)** or frame width. **(FIGURE 4)**.

For Clad Wood Units

Where design pressure maintenance is not required, rough opening should be 1" taller and 1" wider than frame height or width.

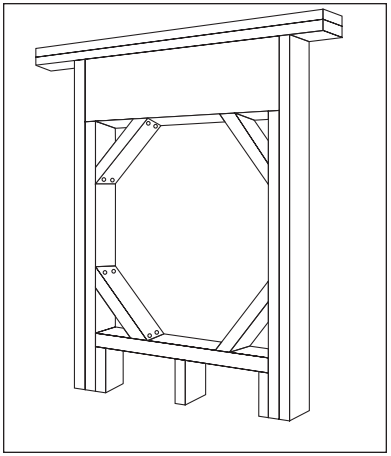
NOTE: Rough opening for any unit may require adjustment if jamb extension or other options are to be installed.

See "**Shape Measurement Locations**" on Page vii for measuring points on other styles of shaped windows.

⚠ IMPORTANT: If ANY unit is to meet design pressure ratings, a maximum 1/4" shim space is allowed around the perimeter. A shim space greater than 1/4" could result in lower product performance and may be considered non-compliant with certain building codes.

RO Preparation (cont.)

FIGURE 5



⚠ 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.

1. Add extra framing to provide support for special shapes. **(FIGURE 5)** shows extra bracing that works well for octagon, circle and hexagon style windows.

Modify your rough openings to provide support to the window frame. Additionally, solid framing lumber must surround the shape so fasteners can be securely attached **(FIGURE 6)**.

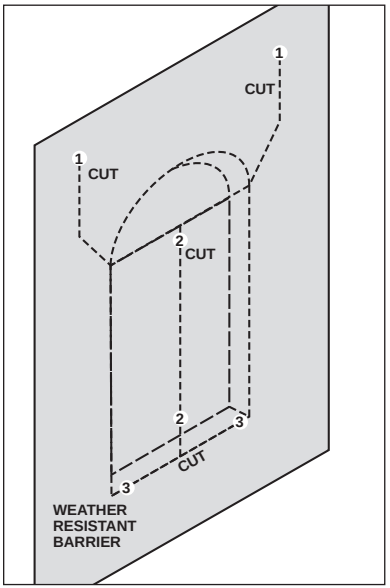
2. Make sure walls are plumb and not twisted. Check sill for level **(FIGURE 7).** Make necessary corrections to ensure walls are plumb and straight.

FIGURE 6

FIGURE 7

RO Preparation (cont.) – Non-DP – Cut WRB

FIGURE 1 – For circular units.



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

Turn to Page 9 for WRB handling for DP ratings.

If preserving design pressure ratings are not a concern, proceed as follows.

1. Cut weather resistant barrier (WRB) as shown in **(FIGURES 1, 2, & 3)**.

FIGURE 2 – For circular units.

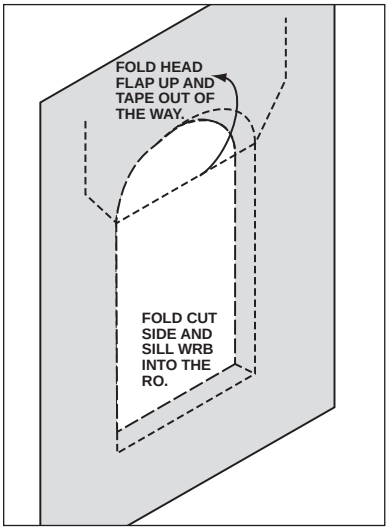
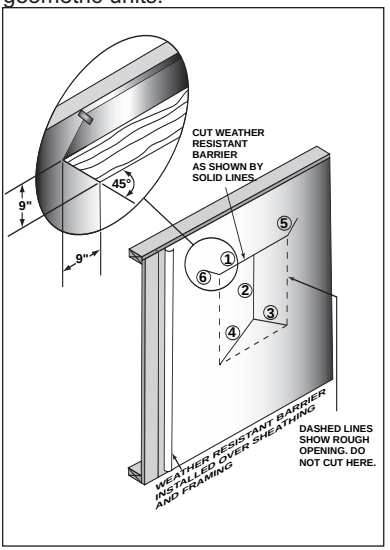
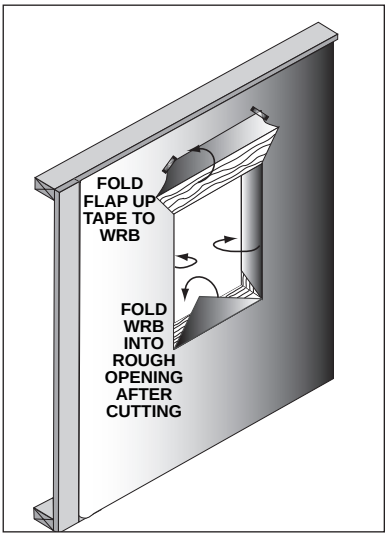


FIGURE 3 – For rectangle or geometric units.



RO Preparation (cont.) – Non-DP – Cut WRB (cont.)

FIGURE 4

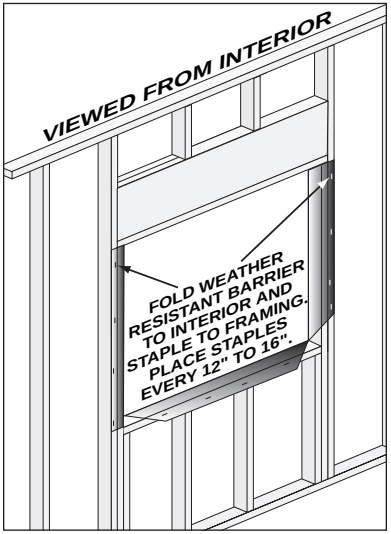


Steps 4 and 5 apply for any shape window, even though rectangles are shown in **(FIGURES 4 & 5)**.

4. Fold sill and side jamb WRB into the rough opening **(FIGURE 4)**. Lift head WRB up and tape to face of wall **(FIGURE 4)**.

5. Secure WRB to interior framing with staples placed every 12" to 16" apart **(FIGURE 5)**.

FIGURE 5



Sill Preparation – Non DPR

FIGURE 1

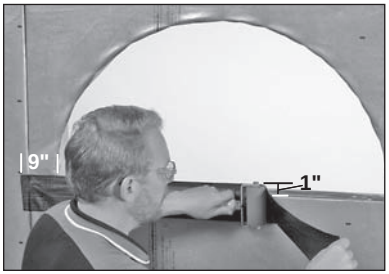


FIGURE 2

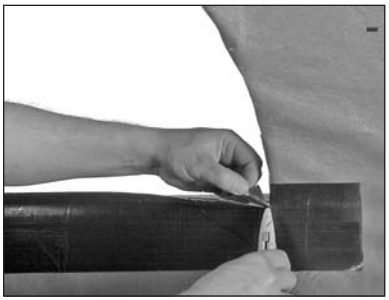


FIGURE 3

FIGURE 4

If preserving design pressure test ratings are not a concern and rough opening is level, plumb, and square; proceed as follows:

1. Cut a piece of weather barrier self-adhering tape 10" wide and as long as the opening width plus 18". Apply to face of exterior wall so 1" extends above the opening and 9" extends beyond each side of the opening. Use a rubber roller to apply **(FIGURE 1)**.

2. Cut along the corners of rough opening and fold down onto the sill **(FIGURE 2)**. Use a rubber roller on top of folded piece to obtain a tight seal against the sill **(FIGURE 3)**.

3. Apply a second continuous piece of weather barrier self-adhering tape on the top surface of the rough opening sill **(FIGURE 4)**.

Cut barrier tape the thickness of the wall plus 1" and 18" longer than the width of the opening. Align flush with interior of the wall and extend edge of the tape 1" past the exterior wall surface **(FIGURE 4)**. Start the piece (approximately 9") up the side of the rough opening and run it to the bottom of the opening, to the other side of the opening, and 9" up the other side **(FIGURE 5)**.

4. Use a utility knife to cut the sill piece on both corners of the rough opening **(FIGURE 5)**. Fold cut pieces and press tightly against sill and side framing to form a tight corner **(FIGURES 6 & 7)**.

FIGURE 5

FIGURE 6

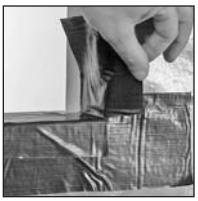


FIGURE 7

Check Rough Opening for Level and Square

FIGURE 1

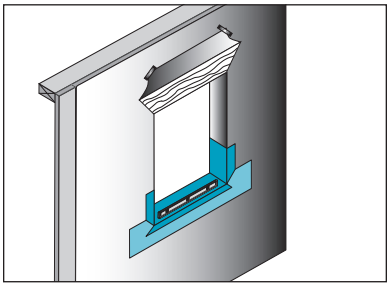


FIGURE 2

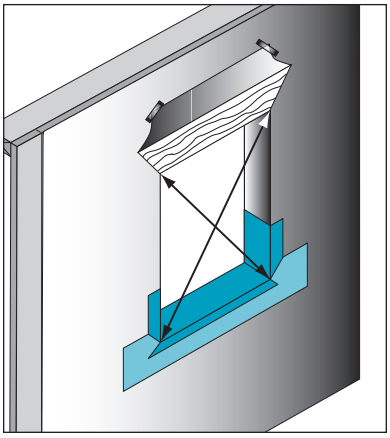
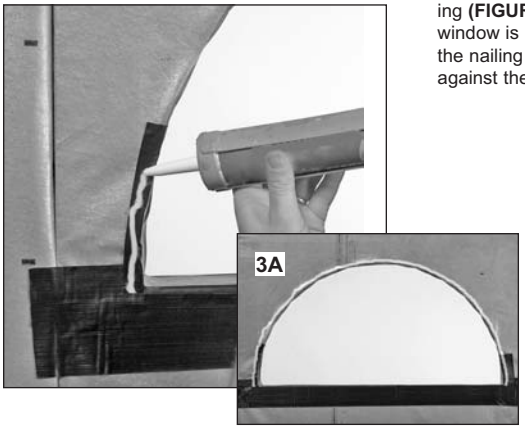


FIGURE 3



For Rectangular and Flat Bottom Units

1. Check the rough opening sill for level **(FIGURE 1)**. Shim as needed to provide a level sill.

NOTE: If level isn't long enough to reach across entire sill use a straightedge with the level.

For Rectangular Units

3. Measure the opening diagonally from corner-to-corner **(FIGURE 2)**. Measurements must not differ more than 1/4".

IMPORTANT: Fix any problems with plumb, level, and square before proceeding.

For All Units

STOP – Read Following Note For Design Pressure Considerations

NOTE: If your structure has housewrap and you must preserve design pressure ratings **DO NOT PERFORM STEP 4 BELOW.** See Page 9 for required installation techniques.

Step 4 **must** be used where design pressure ratings are not a concern.

4. Apply a continuous minimum 3/8" bead of high-quality, exterior, neutral-cure, clear, silicone caulk (compatible with window extrusion and exterior face of the wall) to the exterior face of the wall, located 1/2" **(FIGURE 3)** from the rough opening edge.

Caulk around the top and sides of the rough opening **(FIGURE 3A)**. ***Do not caulk the sill.*** When the window is installed the caulk bead must contact the nailing fin continuously so it seals the fin against the face of the wall.

Continue on Page 11.

Rough Opening Preparation – For Preserving Design Pressure Ratings – On Structure With Housewrap

FIGURE 1 For Rectangular Units

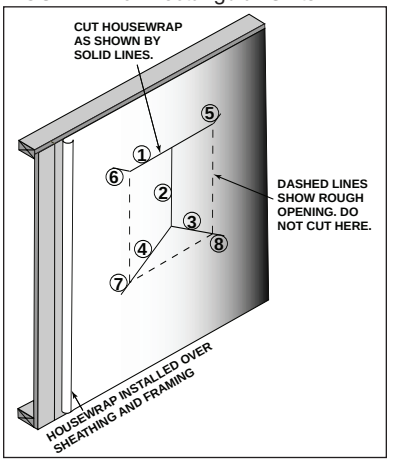
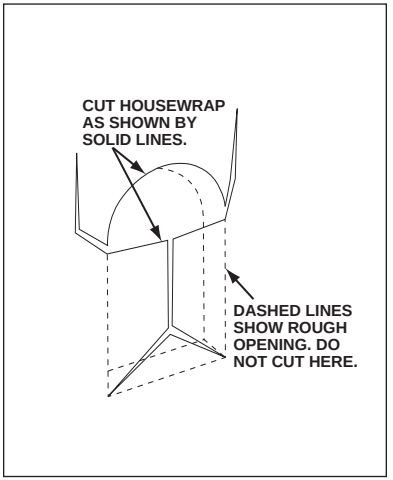


FIGURE 2 For Arch Top Units



If your structure does not have housewrap, continue on Page 10.

1. Cut housewrap as shown in **(FIGURES 1 & 2)**.
2. Fold housewrap back and tape out of the way **(FIGURES 3 & 4)**. Bare sheathing must be exposed.

Use similar methods on full circles, hexagons, octagons and other shapes to cut and fold back housewrap.

FIGURE 3

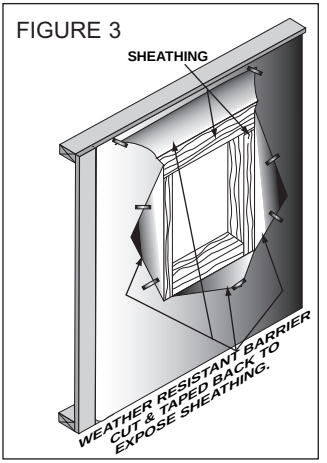
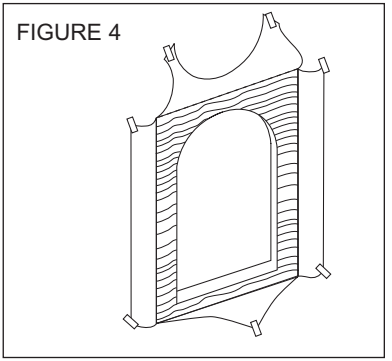


FIGURE 4



Rough Opening Preparation (cont.)– For Preserving Design Pressure Ratings – On Structure With Housewrap

FIGURE 5

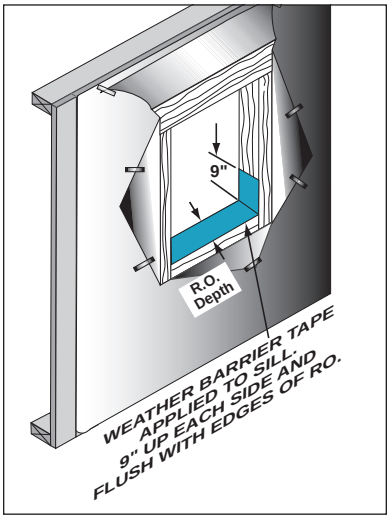
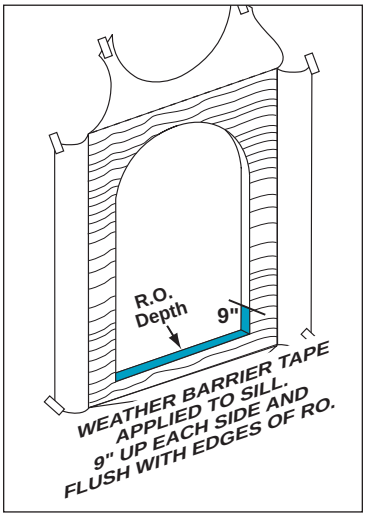


FIGURE 6



3. Apply weather barrier tape to the sill. Cut tape to the thickness of the wall and 18" longer than the width of the opening. Align flush with exterior of the wall. Start the piece (approximately 9") up the side of the rough opening and run it to the bottom of the opening, to the other side of the opening, and 9" up the other side **(FIGURES 5 & 6)**.

3. Apply a continuous, minimum 3/8" bead of silicone sealant around entire rough opening perimeter. Locate sealant so it does not intrude into the rough opening, aligns with the nailing fin fastener holes, and will provide a continuous seal between sheathing and nailing fin **(FIGURES 7 & 8)**.

To preserve DP ratings sealant must be applied to sheathing and not the housewrap.

FIGURE 7

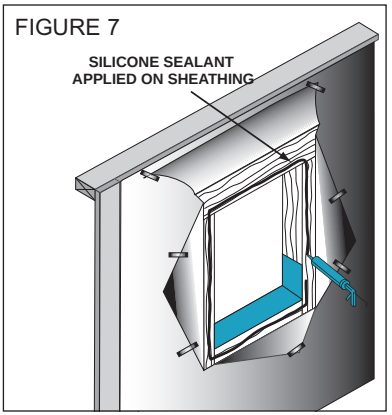
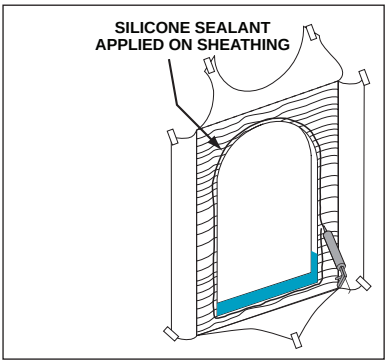


FIGURE 8



Window Installation

FIGURE 1

FIGURE 2

FIGURE 3

IMPORTANT: When accessories such as jamb extension have been ordered, apply BEFORE you install the unit OR prep the rough opening. See Page 17.

Remove all shipping and packing material from the unit.

WARNING

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

IMPORTANT: Place the cladding joint, for full-circle units, at the bottom of the rough opening. Do not place joint at top or sides.

Also, the unit's weep holes (if equipped) must face the rough opening sill.

1. From the exterior lift and center window in the rough opening. Shim as needed from the interior to level the unit across the sill and head.

IMPORTANT: If a unit is mulled, it must be supported with shims under the sill at each mulled joint.

NOTE: To provide sill insulation space, add shims at the sill.

2. Secure one side top corner with a fastener long enough to penetrate the framing material by at least 1-1/2" **(FIGURE 3)**.

IMPORTANT: If unit is to meet design pressure ratings, a maximum 1/4" shim space is allowed around the perimeter. Unit must be secured with #8 steel screws long enough to penetrate framing material by at least 1-1/2". See "Design Pressure Performance – Fastening Method" chart on Page iv for screw spacing and additional sealant requirements.

NOTE: If maintaining design pressure ratings are not a concern, roofing nails long enough to penetrate framing material by at least 1-1/2", may be used instead of screws.

Window Installation (cont.)

FIGURE 4

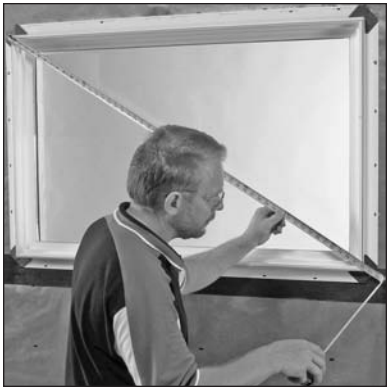
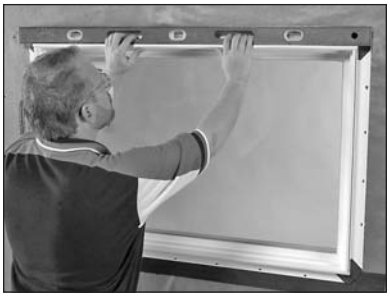


FIGURE 5

FIGURE 6



3. While holding unit in place, square and plumb jambs. Check both side-to-side and inside-to-outside. Measure unit from corner-to-corner to check for square **(FIGURES 4 & 5)**. To plumb, level and square **(FIGURES 4 – 7)**, use a pry bar to shift unit and shim as needed.

4. Secure opposite top corner. Check again for level, plumb and square. Use shims and a level or straightedge to straighten the side and head jambs.

Turn to the next page and perform all the steps to square and straighten the interior before fully fastening the window to the rough opening.

5. When window is straight, true and square continue fastening through the nailing fin spacing screws as prescribed on Page iv.

Fasteners must not over-compress the nailing fin.

NOTE: If maintaining design pressure ratings are not a concern, roofing nails long enough to penetrate framing material by at least 1-1/2", may be used instead of screws. Apply fasteners through each nailing fin pre-punched hole.

After unit if fully fastened, turn to Page 14 for DPR installations or Page 15 for non-DPR installations.

FIGURE 7

Square and Straighten the Interior

FIGURE 1

1. For rectangular shapes, measure the entire window assembly diagonally in both directions **(FIGURE 1)**.

2. Shim as needed **(FIGURES 2 & 2A)** to get the diagonal measurements exactly the same.

3. Using a level as a straightedge, place shims between the frame and the rough opening to straighten the side jamb and sill **(FIGURES 3 & 4)**.

4. Turn back to Page 12 and follow Step 5.

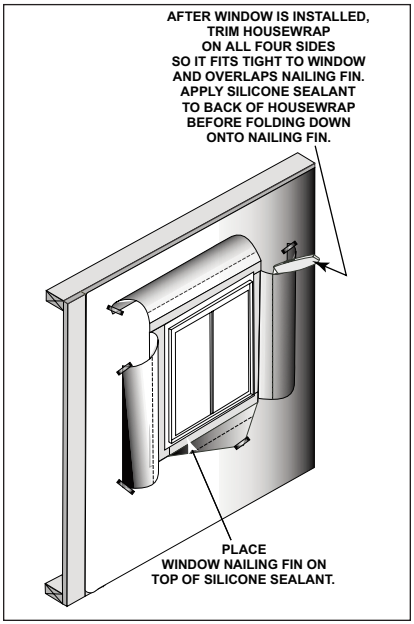
FIGURE 2

FIGURE 3

FIGURE 4

Housewrap & Caulking Finishing Details For Preserving Design Pressure Ratings On Structure With Housewrap

FIGURE 1



Trim and reseal housewrap to new window after window is installed according to the previous instructions.

See **(FIGURE 1)** for Steps 1 through 3.

1. One section at a time, untape and fold housewrap over nailing fin and up against window frame. Use a utility knife or scissors and carefully trim housewrap alongside the window frame. When trimmed, housewrap must lay flat against sheathing, overlap the nailing fin, and fit tightly against the window frame. After trimming and dry fitting, tape housewrap back out of the way so bottom side is exposed. Repeat for each section of housewrap.

WARNING **Do not cut into nailing fin or window frame while trimming housewrap. Damage to frame may adversely affect structural or water integrity.**

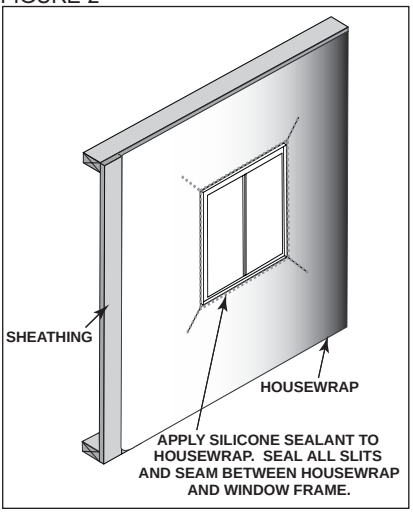
2. Apply a continuous bead of caulk to the back side of the housewrap along the edge that will be placed against the window frame. Also caulk along edges of any additional seams and at diagonal corner cuts.

3. Fold each caulked section down onto sheathing, overlapping the nailing fin and butting it tightly to the window frame. Smooth out all wrinkles and bulges.

Repeat Step 2 and 3 for each section.

4. Finish by inspecting each housewrap seam making sure each seam is sealed with silicone sealant **(FIGURE 2)**.

FIGURE 2



Continue on Page 17 with Finishing Details.

Weather Barrier Self-Adhering Tape Application – Non-DPR Installation – Rectangular Shapes

FIGURE 1

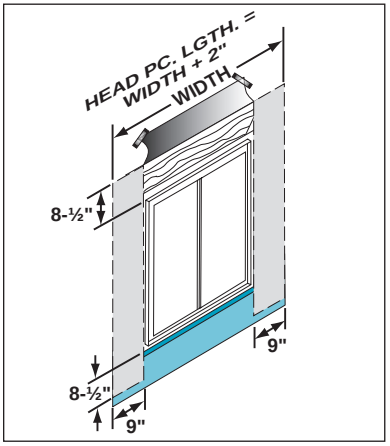
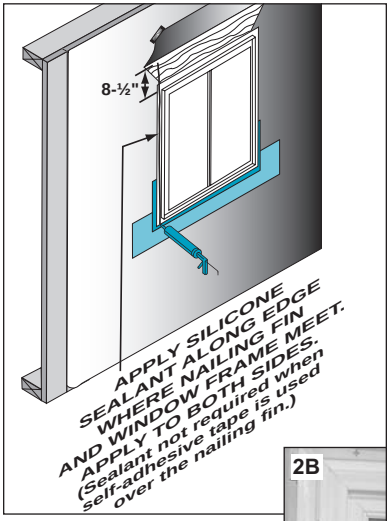
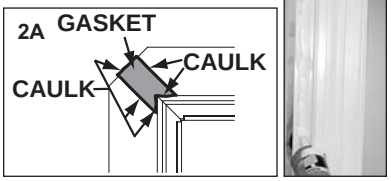


FIGURE 2





For Rectangular & Regular Polygons Preparation

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

Cut the head piece 9" tall and long enough to span the window and side tapes; plus 2" **(FIGURE 1)**.

NOTE: Sealant along sides not required if self-adhesive tape is used over the nailing fins. ***Corner gasket sealant is required, even with the self-adhesive tape.***

2. Apply sealant beads along all sides of all four corner gaskets **(FIGURE 2A)**. Apply a generous, continuous silicone bead on the side nailing fins over the fasteners in the nailing fin. Start 8-1/2" above the window and run the bead to bottom of the nailing fin **(FIGURES 2, 2B, & 3A)**. Repeat for the other side frame.

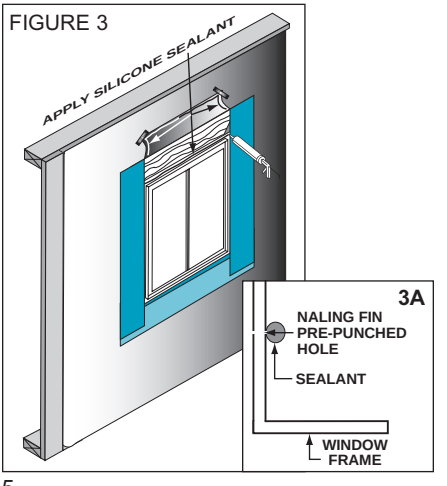
Tape Application – Side Pieces

Start at the top, about 8-1/2" above the window. Apply tape to the face of the wall close to the window 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. Use a rubber roller to get good contact between the tape and the wall. Tape ends 1/2" above sill tape.

Head Piece Application

1. Apply silicone sealant along full width of head nailing fin from side to side. Position bead over top of fasteners in the head nailing fin **(FIGURES 3 & 3A)**.

FIGURE 3



Weather Barrier Self-Adhering Tape Application – Non-DPR Installation – Rectangular Shapes (cont.)

FIGURE 4

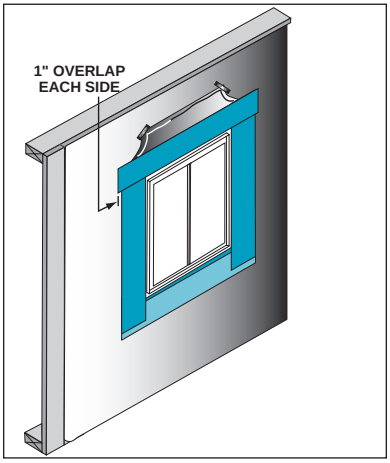
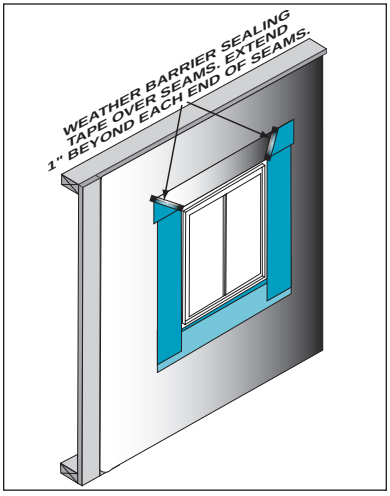


FIGURE 5



Head Piece Application (cont.)

2. Apply top piece of weather barrier self-adhering tape so one end extends 1" beyond a side piece of tape **(FIGURE 4)**. 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.

3. Untape and fold down the top flap of weather resistant barrier over the top piece of the weather barrier tape **(FIGURE 5)**. 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.

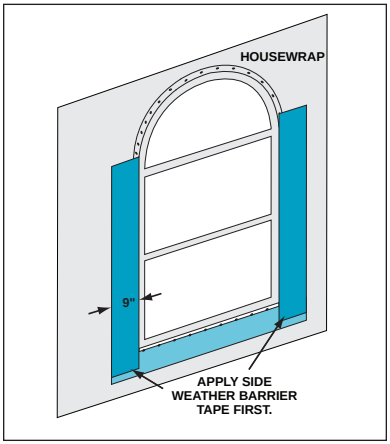
One method is to cut and apply pieces of weather barrier sealing tape. Make sealing tape 2" longer than diagonal seams. Apply tape over the diagonal seams so that 1" of tape extends beyond the ends of each seam **(FIGURE 5)**.

Another method is to cut and apply self-adhering weather barrier tape as shown in **(FIGURE 6)**.

FIGURE 6

Weather Barrier Self-Adhering Tape Application – Non-DPR Installation – Circular Shapes

FIGURE 5



For circular shapes use a flexible, self-adhesive weather barrier tape. It will follow curves and shapes with greater ease and flexibility.

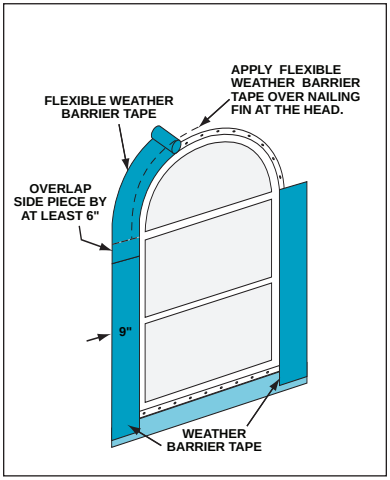
1. Cut side tape 9" wide. Apply side pieces of weather barrier self adhering tape first. Start at the bottom. Overlap sill flashing by at least 6" and apply side piece high enough to cover initial curve of the shape **(FIGURE 5)**.

6. Start head piece of flexible weather barrier tape by overlapping side piece by at least 6". Continue running tape up and over curved shape and down the other side far enough to overlap opposite side piece by at least 6" **(FIGURE 6)**.

7. For either method of weather barrier tape application finish by resealing cut portions of building wrap.

8. For flexible wrap, follow the manufacturer's instructions to complete the application.

FIGURE 6



Finishing Details

Installation is ready for finish and trim.

IMPORTANT: Do not over pack insulation.

Loosely insulate between the window frame and rough opening with fiberglass.

OR

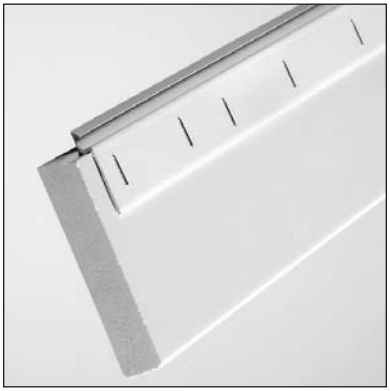
Use minimal expansion foam products specifically designated and certified as meeting ASTM and AAMA requirements for "door or window use" to fill the shim space between the window frame and the rough opening. Foam manufacturer's installation and curing instructions must be followed.

Jamb Extension Option – All-Vinyl Windows

FIGURE 1 WOOD JAMB EXTENSION

FIGURE 2 PVC JAMB EXTENSION

FIGURE 3 PVC JAMB EXTENSION



Three types of jamb extension can be used on vinyl windows. Each is applied according the the following chart.

Jamb Extension Type	When Applied to Unit
Wood **(FIGURE 1)**	Before Installation
PVC **(FIGURES 2 & 3)**	Before Installation
Vinyl **(FIGURE 4)**	After Installation

Jamb extension can be ordered factory installed, factory pre-cut and not installed, or in lengths for job-site fabrication and installation.

Wood jamb extension can be ordered in several species and factory finishes.

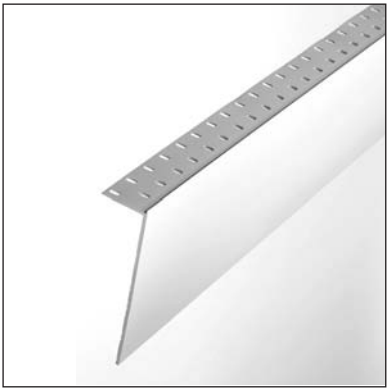
The following instructions will explain how to install each jamb extension type.

NOTE: The photos show a variety of windows but the application procedure is the same for each jamb extension type on vinyl windows.

NOTE: ***For non-DPR installations only.*** Rough opening may need to be enlarged 3/8" to 1/2" to provide clearance for accessories and insulation.

HINT: To save time and effort, paint, stain and varnish wood jamb extensions before installing on window. Allow finish to dry thoroughly before installing jamb extension. ***PVC can be painted but not stained or varnished.***

FIGURE 4 VINYL JAMB EXTENSION



Jamb Extension Option All-Vinyl Windows (cont.)

FIGURE 1

FIGURE 2

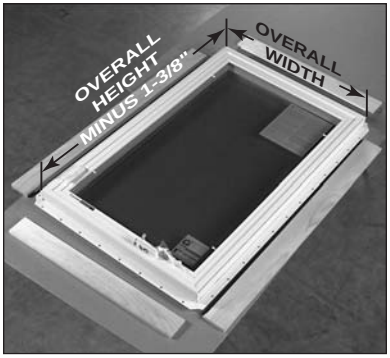


FIGURE 3

Measuring to Cut Lineal Jamb Extension – Wood and PVC

1. Measure the interior side of the window from the outside of the frame to the outside of the opposite frame **(FIGURE 1)**. Record both the frame width and frame height.

2. **Cut jamb extensions to length.**
Cut two horizontal pieces to the width recorded in Step 1.

Subtract 1-3/8" from the height measurement recorded in Step1. Then cut two vertical pieces to this reduced length.

3. Cut back the vinyl snap-in-clip by 11/16" on each end of the horizontal jamb extension only **(FIGURE 3)**.

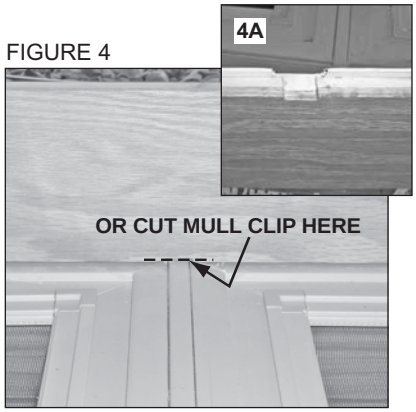
To Apply Jamb Extension – Wood and PVC

1. Lay the pieces of jamb extension, so that the vinyl snap-in-clip faces the window **(FIGURE 3)**.

⚠IMPORTANT: On mull or stacked units, in order for the jamb extension to seat fully against the window frame, the snap-in-leg must be notched (FIGURE 4A) where the units intersect (FIGURE 4).

An alternative is to cut back the mull clip by the thickness of the jamb extension. Use the jamb extension as a guide to mark the clip. Set aside the jamb extension. Then use a sharp chisel or utility knife to carefully cut away the clip piece that would be under the jamb extension.

FIGURE 4



Jamb Extension Option – All-Vinyl Windows (cont.)

FIGURE 5

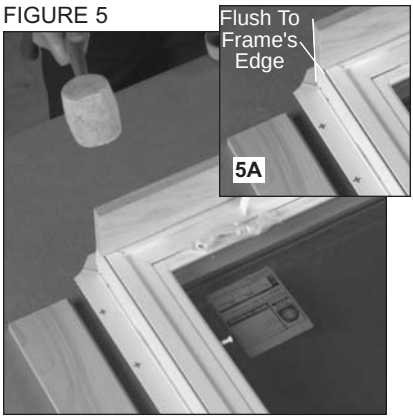
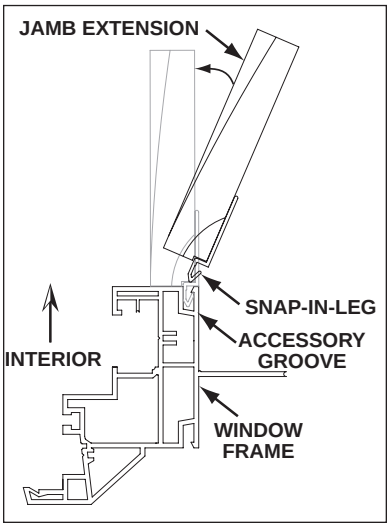


FIGURE 6



NOTE: Install the horizontal jamb extensions so their ends are flush with the ends of the window frame **(FIGURES 5 & 5A)**. Install horizontal pieces first; then the vertical pieces.

2. Place jamb extension at a slight angle to window so snap-in-leg starts into the interior accessory groove **(FIGURE 6)**. Use a dead-blow hammer and block of soft wood to tap along exposed edge of jamb extension until the extension starts to seat itself in the accessory groove.

3. Rotate jamb extension to a vertical position and use the dead-blow hammer and block of soft wood to finish seating jamb extension's snap-in-clip into the window's accessory groove. If necessary, tap end of horizontal side jamb until it aligns with edge of window frame **(FIGURE 5A)**.

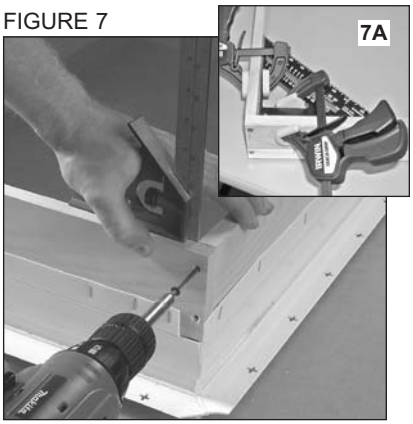
4. Apply the vertical jamb extension pieces between the horizontal pieces following the techniques in Steps 2 and 3 above.

When all pieces are attached, examine joint between jamb extension and window frame to be sure extensions are fully seated around the entire perimeter.

5. Align the side of the vertical piece with the end of the horizontal piece. Use a small square or "speed square" to square the two pieces. While holding items aligned with each other, drill two countersunk pilot holes in the back of the horizontal piece. Fasten the horizontal piece to the vertical piece with two #6 x 1-1/4" flat head stainless steel screws **(FIGURES 7 & 7A)**.

Repeat for each corner where vertical and horizontal jamb extensions meet.

FIGURE 7



Jamb Extension Option – All-Vinyl – Shipped Loose

FIGURE 1 – “Walk-Around” Joints

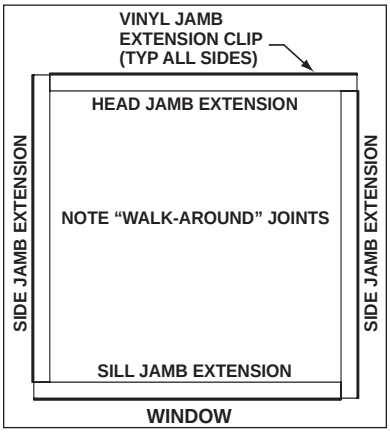
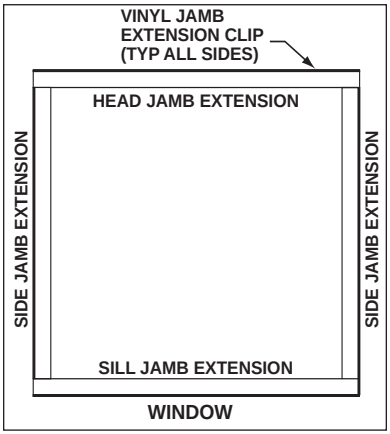


FIGURE 2 – Verticals Between Horizontal



Jamb extensions can be ordered pre-cut to fit your window and “shipped loose”. This allows staining, varnishing, or painting jamb extensions before they are attached to the window.

Factory pre-cut jamb extensions may have been set up in either of two ways.

(FIGURE 1) shows the “walk-around” joint method.

(FIGURE 2) shows the vertical members fitting between the horizontal pieces.

NOTE: Check your jamb extension pieces against your window to see which method was used to create your jamb extensions.

IMPORTANT: Do not trim any factory pre-cut jamb extensions until you have matched the pieces to your window and know how they will fit your unit. Refer to Figures 1 & 2 at the left.

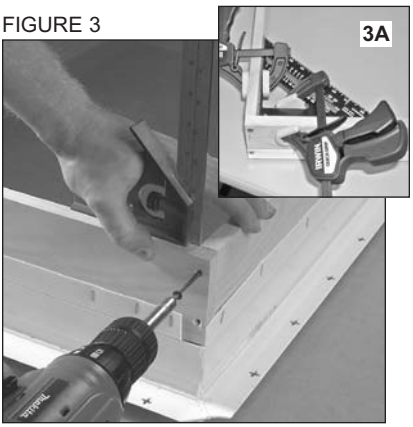
Since “shipped loose” jamb extension is cut to length and the snap-in-legs are pre-cut at the ends, follow attachment procedures from Pages 17 and 18 that apply to your unit’s configuration.

When all pieces are attached to the window, examine joint between jamb extension and window frame to be sure extensions are fully seated around the entire perimeter.

Align the vertical and the horizontal pieces using a small square. While holding items aligned with each other, drill two countersunk pilot holes in the back of one piece. Fasten the horizontal and vertical pieces with two #6 x 1-1/4" Phillips flat head stainless steel screws **(FIGURES 3 & 3A)**.

Repeat for each corner where vertical and horizontal jamb extensions meet.

FIGURE 3



Vinyl Jamb Extension – All-Vinyl Windows

FIGURE 1

FIGURE 2

FIGURE 3

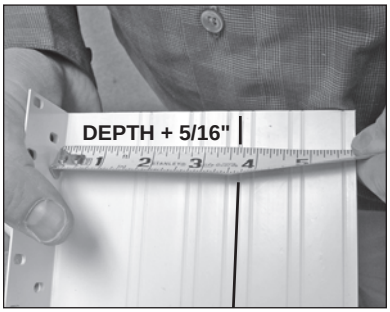
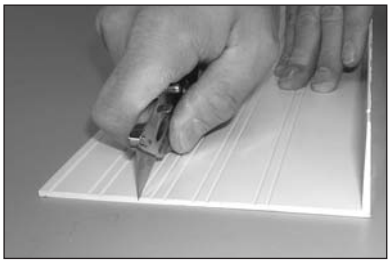


FIGURE 4



IMPORTANT: The vinyl jamb extension is applied to the windows after the windows are installed in the building.

1. After window unit is installed, measure interior window frame width and height from outside of frame to outside of frame **(FIGURE 1)**. Record these measurements.

2. Cut horizontal jamb extensions to measured width. Subtract 3/8" from the height measurement and cut the vertical vinyl jamb extension to this reduced length. The height reduction allows the vertical pieces to fit inside the horizontal pieces.

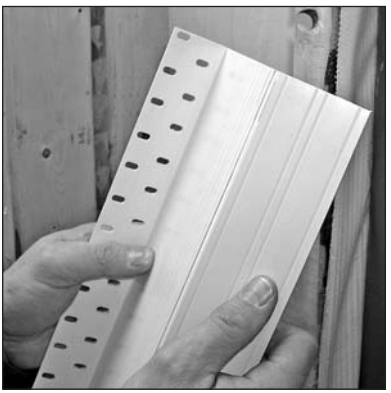
3. Measure from window frame face to wall surface **(FIGURE 2)**. Record this measurement. This will be the jamb extension depth. Measure several locations around the window's perimeter to check for variations. Adjust measurements as needed.

4. Work on the back of the jamb extension **(FIGURE 3)**. Measure depth (from Step 3) and add 5/16". The 5/16" is the depth the jamb extension will lose when it is fully seated in the window's interior accessory groove. Measure from the jamb extension nailing flange as shown **(FIGURE 3)**. Mark the depth plus the 5/16" add on.

5. Use a sharp utility knife and score jamb extension along the depth mark **(FIGURE 4)**.

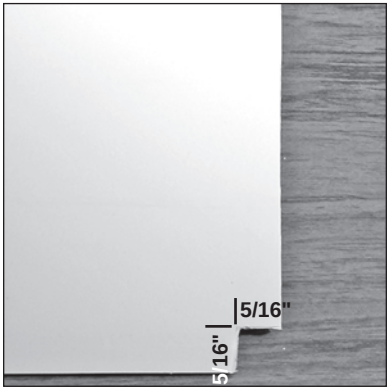
6. Bend the jamb extension several times along the score mark to separate the pieces **(FIGURE 5)**.

FIGURE 5



Vinyl Jamb Extension – All-Vinyl Windows (cont.)

FIGURE 6



7. Notch both corners on the two horizontal pieces. Snip a 5/16" x 5/16" piece from each inside corner **(FIGURE 6)**.

This notch will allow the jamb extension to sit flush with the edge of the window frame **(FIGURE 7)**.

8. Insert horizontal jamb extensions into the head and sill interior accessory grooves **(FIGURE 8)**. Align ends flush with window frame sides.

9. Insert vertical jamb extension pieces into interior accessory grooves **(FIGURE 9)**.

10. Secure all vinyl jamb extensions with fasteners through the mounting flange into the framing **(FIGURE 9)**. Follow standard drywall installation procedures for fastener selection and spacing.

FIGURE 7

FIGURE 9

FIGURE 8

Wood Jamb Extension – Install on Wood Interiors

FIGURE 1 – “Walk-Around” Joints

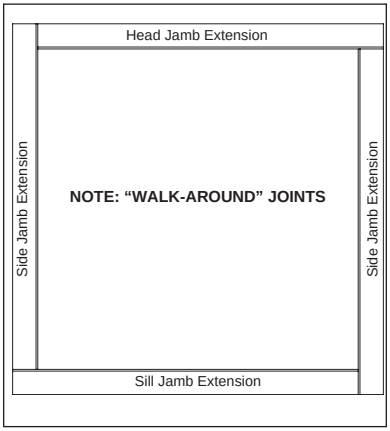


FIGURE 2

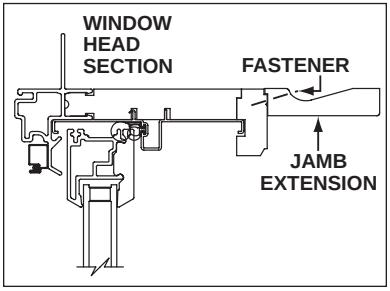
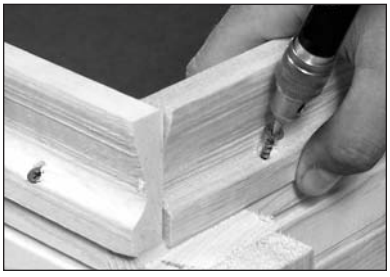


FIGURE 3



IMPORTANT: Jamb extension must be applied to the window BEFORE the unit is installed or the rough opening is prepared. Place window (interior facing up) and jamb extension on a clean flat surface.

NOTE: ***For non-DPR installations only*****.** Rough opening may need to be enlarged 3/8" to 1/2" to provide clearance for accessories and insulation.

DPR installations ***MUST*** maintain the 1/4" shim space on all sides (see Page 1).

Jamb extensions can be ordered pre-cut to fit your window and “shipped loose”; allowing for staining, varnishing, or painting before attaching jamb extensions to the window.

Factory pre-cut jamb extensions are cut to install in the “walk-around” joint method **(FIGURE 1)**.

IMPORTANT: Do not trim any factory pre-cut jamb extensions until you have matched the pieces to your window and know how they will fit your unit (FIGURE 1).

1. Arrange and “dry fit” jamb extension pieces to the window unit as in **(FIGURE 1)**. Trim or sand ends to achieve a tight fit at all the corners.

Make sure flat side faces glass and curved side faces rough opening (FIGURE 2).

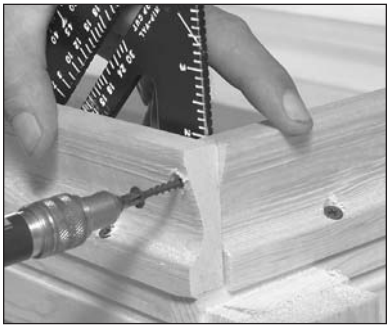
2. Securely clamp or hold jamb extension in place and drill countersunk pilot holes for #6 stainless steel screws. Place holes every 12" to 16" on center along a vertical jamb extension. Screw vertical jamb extension in place with 1-1/4" long #6 flat head stainless steel screws. Staples with 1-1/4" long legs can be used instead of screws **(FIGURE 3)**.

CAUTION **Drill pilot holes carefully to prevent damaging inside surface of jamb or jamb extension. Install screws or staples with care paying attention to angle and depth.**

3. Work around unit installing remaining jamb extension pieces to the window.

Wood Jamb Extension – Install on Wood Interiors (cont.)

FIGURE 4



4. Align the vertical and horizontal pieces using a small square. While holding items aligned, drill two countersunk pilot holes in the back of one piece. Fasten the pieces together with #6 x 1-1/4" long flat head stainless steel screws **(FIGURE 6)**. Repeat for each corner.

Wood Jamb Extension – Install on Wood Interiors - Lineal

FIGURE 1

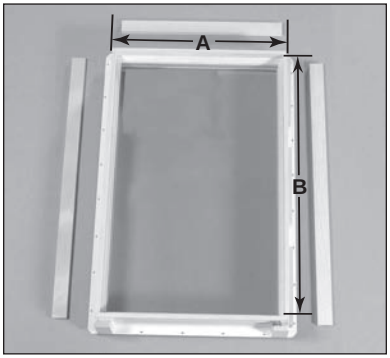
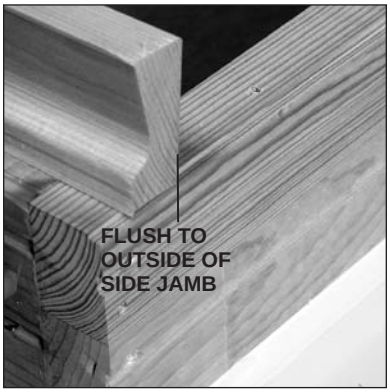


FIGURE 2



Jamb extension can be ordered in lengths, for custom fitting on the job site.

IMPORTANT: Jamb extension must be applied to the window BEFORE the unit is installed or the rough opening is prepared. Place window (interior facing up) on a clean flat surface.

NOTE: ***For non-DPR installations only*****.**
Rough opening may need to be enlarged 3/8" to 1/2" to provide clearance for accessories and insulation.

DPR installations ***MUST*** maintain the 1/4" shim space on all sides (see Page 1).

Measure Horizontal Jamb Extension Length
1. Measure "A" (horizontal jamb extensions) in **(FIGURE 1)**. It is the width, measured from jamb to jamb, outside to outside. Cut two jamb extensions to this length; one for the head and one for the sill.

Install **horizontal jamb extensions.**
2. Place jamb extension on top of head or sill jamb. Align ends of horizontal jamb extension flush to outside edge of side jambs **(FIGURE 2)**.

⚠ IMPORTANT: Make sure flat side faces glass and curved side faces rough opening.

Wood Jamb Extension – Install on Wood Interiors - Lineal

FIGURE 3

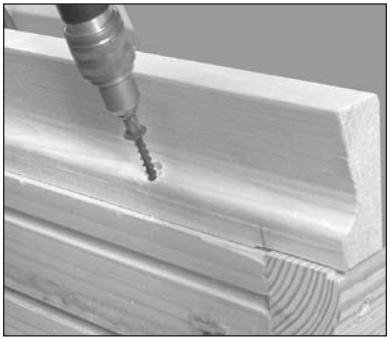


FIGURE 4

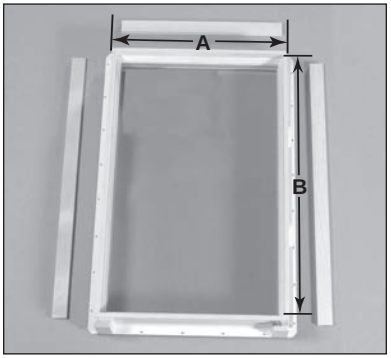


FIGURE 5

CAUTION **Drill pilot holes carefully to prevent damaging inside surface of jamb or jamb extension. Install screws or staples with care paying attention to angle and depth.**

3. Securely clamp or hold jamb extension in place and drill countersunk pilot holes for 1-1/4" long #6 flat head stainless steel screws. Place holes every 12" to 16" on center along horizontal jamb extension. Staples with 1-1/4" long legs can be used instead of screws.

4. Fasten horizontal jamb extensions in place **(FIGURE 3)**.

Measure Vertical Jamb Extension Length

5. Measure “B” (vertical jamb extensions) in **(FIGURE 4)**. It is the inside distance between the two horizontal jamb extensions.

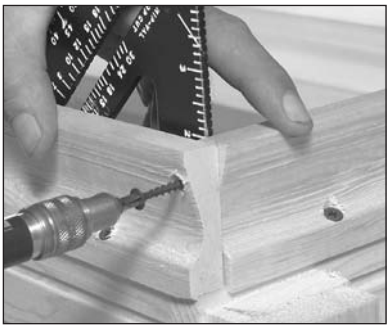
Cut two jamb extensions to this length; one for each side.

6. Place vertical jamb extension on top of side jamb **(FIGURE 5)** and between horizontal jamb extensions. ***Make sure flat side faces glass and curved side faces rough opening.*** Securely clamp or hold jamb extension in place and drill countersunk pilot holes for #6 screws. Place holes every 12" to 16" on center along vertical jamb extension. Screw vertical jamb extension in place with 1-1/4" long #6 flat head stainless steel screws or staples with 1-1/4" long legs.

7. Install other vertical jamb extension in a like manner.

8. Align the vertical piece and the horizontal piece using a small square. While holding items aligned, drill two countersunk pilot holes in the back of the horizontal piece. Fasten the horizontal piece to the vertical piece with #6 x 1-1/4" long stainless steel screws **(FIGURE 6)**. Repeat for each corner.

FIGURE 6



Recommended Finishing Instructions

⚠ WARNING

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

Vinyl, aluminum, 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, 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.)

For Bare Wood Surfaces

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 lacquer thinner applied to a cloth so the cloth is slightly damp. Let surface dry completely.

-If a painted surface is desired:

- If a wood unit is delivered with factory-applied primer paint, it may be painted without reprimming, providing the finish paint coat is applied within six (6) months of unit installation.
- If a factory-primed wood unit requires reprimming contact your customer service representative for help in selecting a primer compatible with the factory applied material.
- Factory-applied AccentialsTM color system 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 paint on all exposed wood surfaces.

-If a stained surface is desired:

⚠ CAUTION **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.

Continued on the next page.

Recommended Finishing Instructions (cont.)

• 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. Let sealer dry completely.
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) finish: Follow Steps 1, 2, and 3 under "Bare Wood" and Steps 2, 3, 4, and 5 under "stained surface".

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 window 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.

Notes