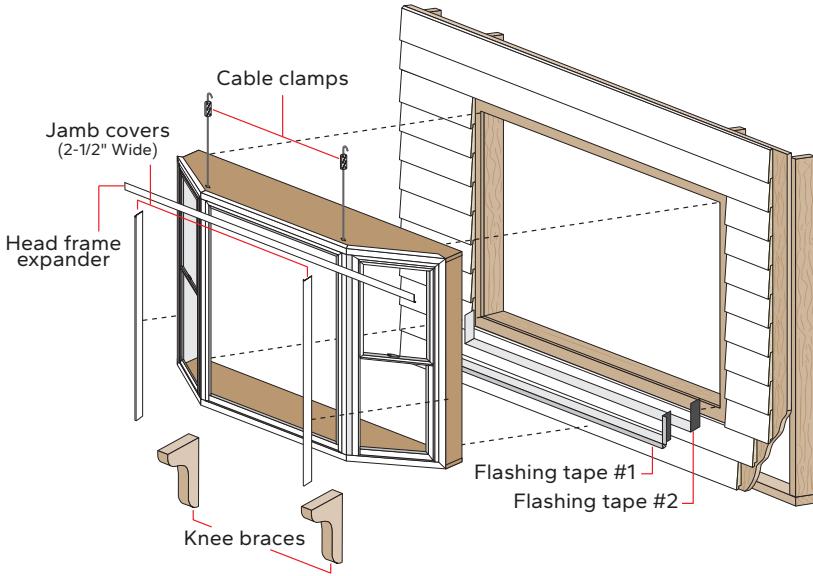


# SQUARE DESIGN BAY AND BOW WINDOW WITH SEAT BOARD

## INSTALLATION INSTRUCTIONS

Lea las instrucciones en español en el reverso.

Read these instructions thoroughly before performing any steps.



**WARRANTY:** For applicable product warranty and arbitration information, please see product website.

**Note:** These instructions may be used for Square Design aluminum-clad wood Bay and Bow windows that have a head and seat board. Support cables are installed in factory assembled bay and bow combinations.



### CAUTION

The factory-installed support cables must be attached to members capable of supporting 1,300 lbs. If the members are not capable of supporting 1,300 lbs., knee braces must be used in addition to the cables. Bay and bow units are not intended to support any roof structure. Consult an architect, engineer or construction professional if the ability of the members to support the bay or bow is not known.

### You Will Need to Supply:

- Impervious shims/spacers (12 to 20)
- Finish nails, 1" brads
- Closed cell foam backer rod/sealant backer (20 to 35 ft.)
- Foil backed butyl window and door flashing tape or equivalent
- Low expansion, low pressure polyurethane insulating window and door foam sealant.  
DO NOT use high pressure or latex foams.
- High quality exterior grade polyurethane or silicone sealant (1 tube per window)



### Tools Required:

- Tape measure
- Level
- Square
- Hammer or finish nailer
- Stapler
- Scissors or utility knife
- Drill with a #2 Phillips and a #3 square drive bit
- 3/16" wrench or socket
- 1/2" open end wrench
- Sealant gun



# IMPORTANT SAFETY AND PRODUCT INFORMATION

**Safety Alert Symbol Reference:** These symbols are intended to alert you to potential injury hazards and information. Obey all safety messages.



**WARNING** To ensure safety and security and help prevent property damage, including possible damage to your window or door, close and lock windows and doors any time they are not being used for venting on a nice day, and particularly during high winds or rain. Ensure all windows and doors are properly fastened to the wall structure according to the product anchor instructions. It is the responsibility of the Buyer or User, the architect, contractor, installer, or other construction professional to ensure the appropriate windows and doors are chosen for the project and the wall construction is designed to resist all loads in accordance with local building code requirements.



**CAUTION** Many doors in older homes are painted with lead-based paint. Removal of old doors may disturb this paint. Proper precautions must be taken to minimize exposure to dust and debris. Consult state or local authorities and/or go to [www.epa.gov/lead](http://www.epa.gov/lead) for more information.



**NOTICE** Products must be stored in an upright, level position not exposed to weather. The storage must be ventilated and provide protection from direct sunlight and excessive temperature.

## **IMPORTANT NOTICE**

These instructions were developed and tested for use with wall systems designed to manage water. These instructions are not to be used with any other construction methods or window frame types. Installation instructions for use with other construction methods or frame types may be obtained from the product website or your local product seller. Building designs, construction methods, building materials, and site conditions unique to your project may require an installation method different from these instructions and/or additional care. Determining the appropriate installation method is the responsibility of you, your architect, or construction professional. Additional preparation or anchoring may be required to comply with local building code requirements.

**CARE AND MAINTENANCE:** Refer to the product website or contact your local retailer for more information.

**CLEANING INSTRUCTIONS:** Refer to the product website or your local retailer for more information.

### **NOTICE**

DO NOT apply any other types of film to the glass. Doing so could void product warranty.

### **NOTICE**

Do not use solvents such as mineral spirits, toluene, xylene, naphtha or muriatic acid as they can dull the finish, soften the vinyl and/or cause failure of the insulated unit seal.

### **NOTICE**

Do not use isopropyl alcohol on laminated surfaces as it will damage the finish. Keep door tracks clear of dirt and debris. Keep weep holes open and clear of obstructions.

### **NOTICE**

DO NOT use abrasives. DO NOT scrape or use tools that might damage the surface.

### **NOTICE**

DO NOT use inappropriate solvents or brickwash or cleaning chemicals. If you do, permanent damage can result and the product failure, loss or damage would not be covered by the Limited Warranty.

**INTERIOR FINISH (WOOD WINDOWS):** Paint or finish immediately after installation. If products cannot be finished immediately, cover with clear plastic to protect from dirt, and moisture. Remove any construction residue before finishing. Sand all wood surfaces lightly with 180 grit or finer sandpaper. DO NOT use steel wool. BE CAREFUL NOT TO SCRATCH THE GLASS. Remove sanding dust. Products must be finished according to these instructions; failure to follow these instructions voids the Limited Warranty. Finishing panel edges is optional for Patio Doors.

### **NOTICE**

To maintain proper product performance do not paint, finish or remove the weatherstripping, mohair dust pads, gaskets, or vinyl parts. Air and water leakage will result if these parts are removed. After finishing, allow venting doors and doors to dry completely before closing them. If paint, stain or finish gets on the weatherstripping, wipe it off immediately with a damp cloth.

**WINDOW CLEANING AND PREP INSTRUCTIONS FOR UNFINISHED OR PRIMED WINDOWS:** Dry wipe dust from windows gently. Examine window for possible smudges or fingerprints made from normal handling or construction. To remove smudges, lightly wipe surface with warm water. Scuff sand with light grade sand paper or abrasive pad (220 grit or higher). Rinse surface with warm water. Let window surfaces dry completely before applying finish.

- On casement and awning windows, it is optional to paint, stain or finish the vertical and horizontal sash edges.
- On single-hung and double-hung windows, do not paint, stain or finish the vertical sash edges, any finish on the vertical sash edges may cause the sash to stick; it is optional to paint, stain or finish the horizontal sash edges.

Product warranty WILL NOT cover interior paint and stain finish imperfections for any product that is not factory finished or painted. For additional information on finishing see the product website or owner's manual.

### **NOTICE**

The use of unapproved finishes, solvents or cleaning chemicals may cause adverse reactions with door materials. Product warranty does not cover problems caused by the use of unapproved materials. If in doubt, contact your local retailer or representative.

## LEGEND - STEPS REQUIRED OF:

**ALL** = All applications

**REPL APPS** = Replacement applications

**NEW CONST** = New Construction applications



**WARNING** Installation will require two or more persons for safety reasons.

REMEMBER TO USE APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT.

## 1 Rough Opening Preparation:

**ALL**

- A. Remove all packaging from the window.

**REPL APPS**

- B. **Replacement applications:** Remove the existing, window, trim, insulation and sealant from the opening.

**NEW CONST**

- C. **New construction applications:** Cut the water resistive barrier. Fold the side flaps into the opening and staple to inside wall.

**ALL**

- D. **Confirm the window will fit the opening.** Measure all four sides of the opening to make sure it is 3/4" larger than the window in both width and height. Measure the width and height in several places to ensure the header and studs are not bowed.

**Note:** 1-1/2" or more of solid wood blocking is required around the perimeter of the opening. Fix any problems with the opening before proceeding. If installing new blocking, install the blocking so it's flush with the exterior sheathing of the house. DO NOT attempt to install a window in an under size opening.

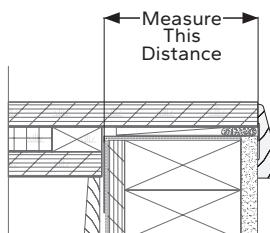
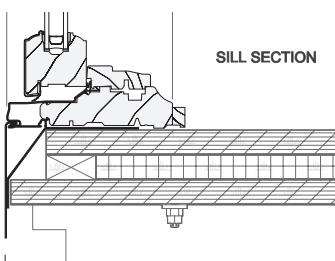
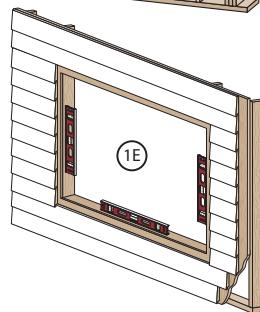
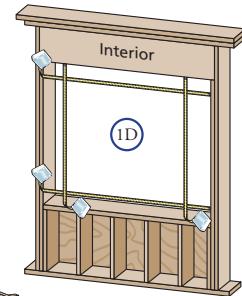
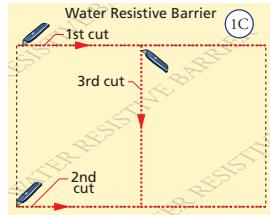
**ALL**

- E. Confirm the opening is plumb and level.

**Note:** It is critical the bottom is level.

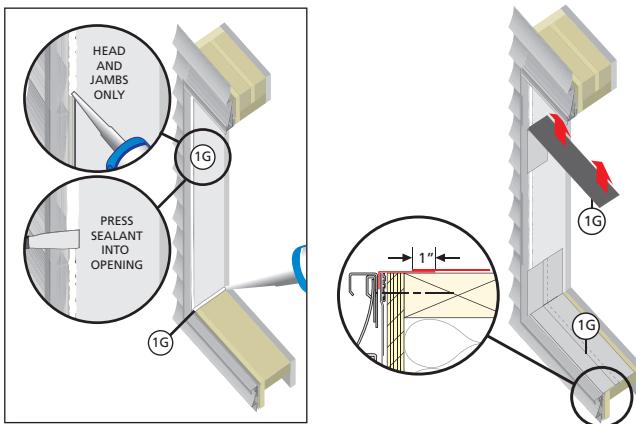
**ALL**

- F. **Confirm wall depth measurement.** Measure bottom board cutback on unit to make sure it is larger than the distance from the interior of wall to exterior of wall. If necessary, remove or cut siding.



## **Rough Opening Preparation (continued):**

G. **Replacement applications:** Seal between exterior cladding and wall. If exterior cladding is siding, apply sealant between the siding and rough opening at the head and jambs and cover with flashing tape according to Express Replacement - No Siding Removal Opening Preparation for Siding: Vinyl, Steel, Aluminum.' If exterior cladding is brick, add blocking at jamb to close the cavity between the brick and rough opening. Apply sealant at each joint between the brick, blocking and rough opening and cover the joints with flashing tape.



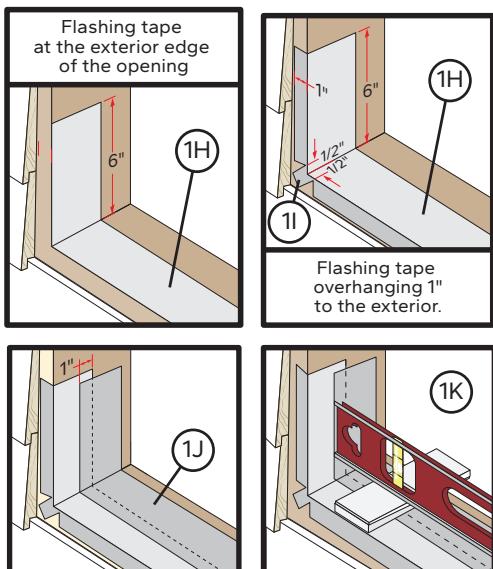
H. **Apply sill flashing tape #1.** (Wood wall construction only). Cut a piece of flashing tape 12" longer than the opening. Apply at the bottom up to the exterior edge of the opening as shown. If the sheathing or water barrier is exposed, overlap 1" to the exterior as shown in (11).

**Note: The tape is cut 12" longer than the width so it will extend 6" up each side of the opening.**

- I. **Tab the sill flashing tape and fold** (If tape #1 overhangs 1" to the exterior). Cut 1" wide tabs at each corner (1/2" from each side of the corner) (11). Fold tape to the exterior and press firmly to adhere it to the water resistive barrier.
- J. **Apply sill flashing tape #2.** Cut a piece of flashing tape 12" longer than the opening width. Apply at the bottom, overlapping tape #1 by at least 1". DO NOT allow the tape to extend past the interior face of the opening.

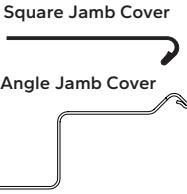
**Note: The flashing tape may not fully cover the framing members.**

K. **Install and level sill spacers.** Place 1" wide by 3/8" thick spacers on the bottom of the opening 1" from each side and every 16" on center. Add shims as necessary to ensure the spacers are level. Once level, attach spacers and shims to prevent movement.

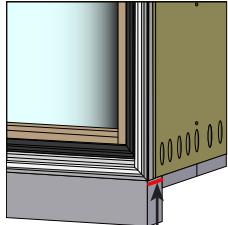
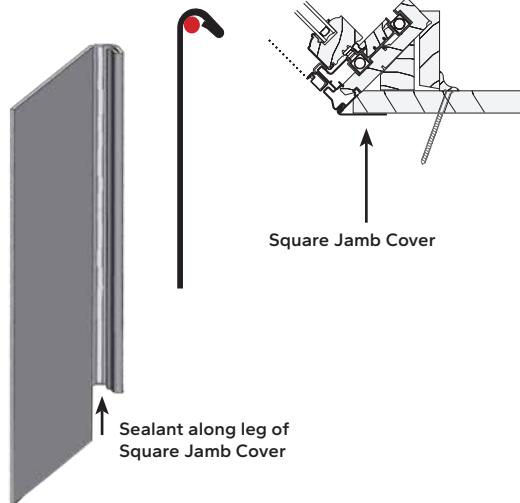


**If using Square Jamb Cover, proceed to Step 2A.**

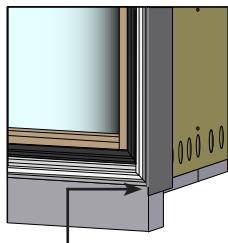
**If using Angle Jamb Cover, proceed to Step 2B.**



A. **Install exterior jamb covers.** Apply sealant along the leg of the jamb frame cover(s). Apply a bead of sealant to the top corner of the bottom frame expander. Drive the short leg of the jamb frame cover into the accessory groove using a block of wood with rounded edges and a hammer. The notched end of the jamb cover goes toward the sill.



### Sealant Bead - Along Flange



## Notched end of Square Jamb Cover



**WARNING** Two or more people will be required for the following steps.

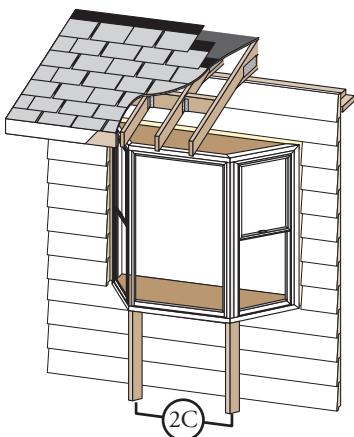
**B. Insert the window from the exterior of the building.**

Place the seat of the window at the bottom of the opening and slide the top into position. Center the window between the sides of the opening to allow clearance for shimming.

**Note: If cross bracing is required for soffit installation of the cable systems, proceed to Step 3A and install cross bracing before unit is inserted into the rough opening.**

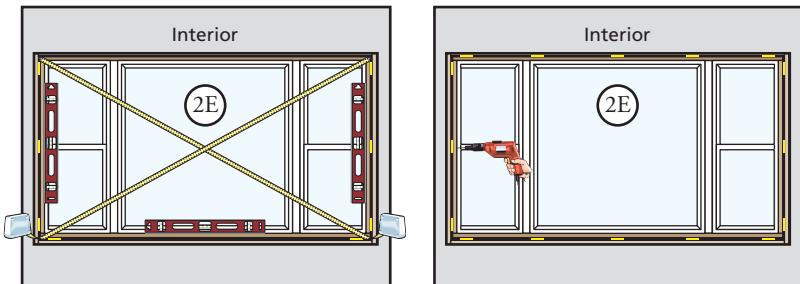
C. Place temporary bracing under the seat of the window to raise the unit level.

D. **Place a shim** near the top of the one jamb board, aligned with the top pre-drilled hole in the jamb board. Drill a pilot hole and partially insert a #10 x 3" flat head screw provided. Repeat for the other jamb.



## Preparing and Setting the Window (continued):

E. Continue placing shims at each pre-drilled installation screw hole in the jamb boards to plumb and square the window. Check window for squareness by making sure diagonal measurement for corner to corner is within 1/8" in both directions. Insert a #10 x 3" flat head wood screw into each pre-drilled hole in the jamb boards. Finish inserting the top screw in each jamb board.

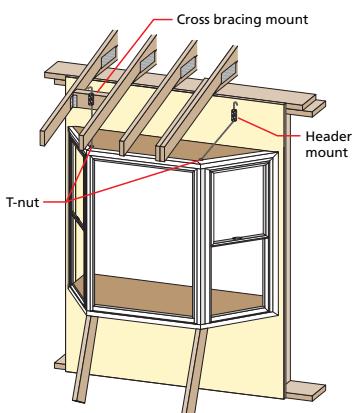


F. If desired, **shim and fasten headboard to rough opening**. To keep plywood straight, center one finish head screw or 10D finish nail on units less than 10 feet wide and equally space two fasteners on units wider than 10 feet.

## Cable Clamp Installation:

*Note: Support cables are installed in factory assembled bay and bow combinations.*

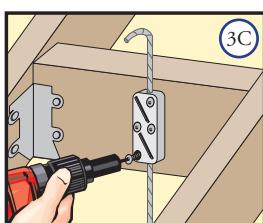
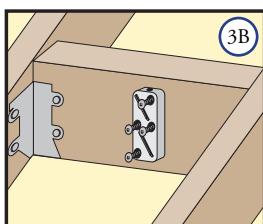
*Install Cable Clamps based on type of installation needed. Cross Bracing Installation consists of attaching 2 x 6 cross bracing between the rafter tails. Header Mount Installation consists of attaching to a solid structural member - header, sill plates or wall stud.*



### CROSS BRACING MOUNT OF CABLE CLAMPS

- Install 2" x 6" cross braces between rafter tails, directly above the cable holes in the bay/bow head board.
- Install the cable clamps directly above the "T" nuts where adequate support is available. Holding the clamp parallel to the up-running cable, drive the #12 x 3-1/4" square drive screws part way into the mounting surface using a #3 square drive bit.
- Run the cable up through the bottom of the cable clamp. Hold the cable up tight above the clamp and drive the two center clamp screws all the way in, locking the cable in place. Drive the remaining #12 x 3-1/4" square screws all the way.

*Note: Make sure all four screws are driven in at maximum torque. Additional tensioning may be done with the nuts on the opposite end of the cable at the bottom of the bay/bow unit.*

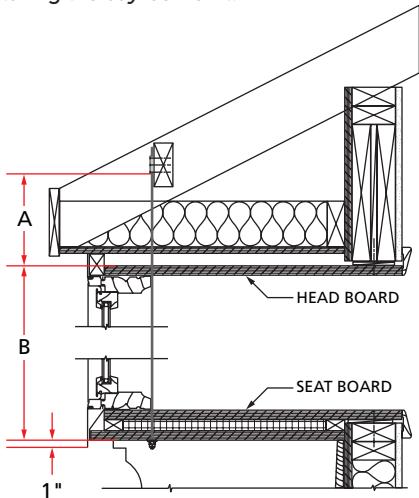


## 3 Cable Clamp Installation (continued):

## **CROSS BRACING MOUNT - NON ACCESSIBLE CABLE ATTACHMENT**

**Note: Install the cable clamp and cable prior to installing the bay/bow unit.**

- A. **Install 2 x 6 cross braces** between the rafter tails, directly above the cable holes in the bay/bow head board.
- B. **Remove the cable from the bay/bow unit.**  
Measure the distance from the bottom of the cable clamp to the bottom of the header plus 3/8" head clearance (A dimension). Measure the height of the unit from the top of the head board to the bottom of the seat board (B dimension). Add "A" to "B" plus 1", to get the correct length of cable hanging from the bottom of the cable clamp. Insert the cable end through the round hole of the cable clamp. Ensure the correct length of cable is hanging below the bottom of the cable clamp. Tighten the two cable clamp corner screws. Insert one screw into each of the center holes in the cable clamp, and tighten to fully clamp the cable in position.
- C. **When the bay/bow unit is being installed,** thru the "T" nut, down the length of the bay/bow board. Place a washer and two hex nuts on each



C. **When the bay/bow unit is being installed**, thread the threaded end of the cable through the "T" nut, down the length of the bay/bow unit, and through the drilled hole in the seat board. Place a washer and two hex nuts on each cable end.

**Note: The interior mullion cover can easily be removed for this purpose and must be reinstalled when installation is complete.**

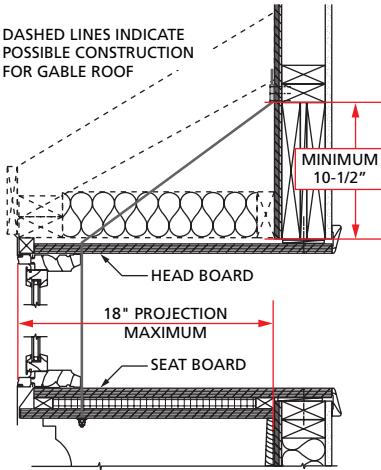
## HEADER MOUNT OF CABLE CLAMPS

**This method may only be used if the projection of the bay/bow is 18" or less.  
Use the Cross Bracing method if the projection of the bay/bow is more than 18".**

**Note: Be sure that the cable clamps are secured to a solid structural member - header, sill plates or wall stud. If the structural member or cable clamps are not securely attached, they may loosen during or after installation causing the bay/bow unit to sag.**

- A. **Install the cable clamps.** Drive the #12 x 3-1/4" square screws part way into the mounting surface using a #3 square drive bit.
- B. **Run the cable up through the bottom of the cable clamp.** Hold the cable up tight above the clamp and drive the two center clamp screws all the way in to lock the cable in place. Drive in the remaining #12 x 3-1/4" square screws all the way.

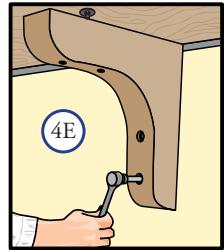
**Note: Make sure all 4 screws are driven in at maximum torque. Additional tensioning may be done with the nuts on the opposite end of the cable at the bottom of the window.**



- A. **Tighten the top hex nut on both cable ends.** Using a 3/16" wrench or socket, hold the cable end in position while tightening the top hex nut with a 1/2" wrench or socket. This will keep the cable from twisting as the hex nuts are tightened.
- B. **Remove the temporary bracing.** Check the window for level, plumb, sash reveal and operation. Readjust, if needed.

**Note: Be sure to use the temporary support when readjusting the hex nuts.**

- C. **Remove blocking from under the seat board.**
- D. **Tighten the locking (bottom) nut on both cable ends and remove the temporary support** once the final position is found. DO NOT cut the threaded end off the cable as this will prevent future adjustment should it be needed.
- E. **Installation of knee braces is recommended** to help support the weight of the bay/bow unit. Weight calculations must take into account the weight of the items that may be placed on the seat board of the bay/bow unit. If the upper roof/framing members are not capable of supporting 1,300 lbs. or if more than 500 lbs. will be put on the seat board, knee braces must be used in addition to the cables.



## 5 Insulating Foam Application:

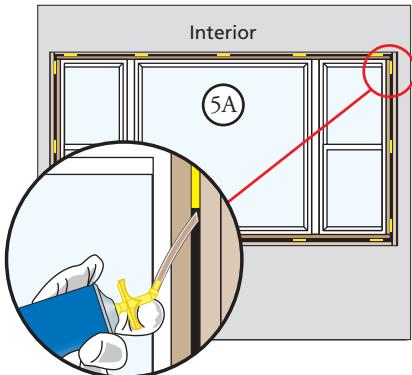


## CAUTION

Ensure use of low pressure polyurethane window and door insulating foams and strictly follow the foam manufacturer's recommendations for application. Use of high pressure foams or improper application of the foam may cause the window frame to bow and hinder operation.

A. **Apply insulating foam sealant.** From the interior, insert the nozzle of the applicator approximately 1" deep into the space between the window and the rough opening and apply a 1" deep bead of foam. This will allow room for expansion of the foam and will minimize squeeze out. If using foam other than Great Stuff " Window and Door Insulating Foam Sealant by the Dow Chemical Company, allow the foam to cure completely (usually 8 to 24 hours) before proceeding to the next step.

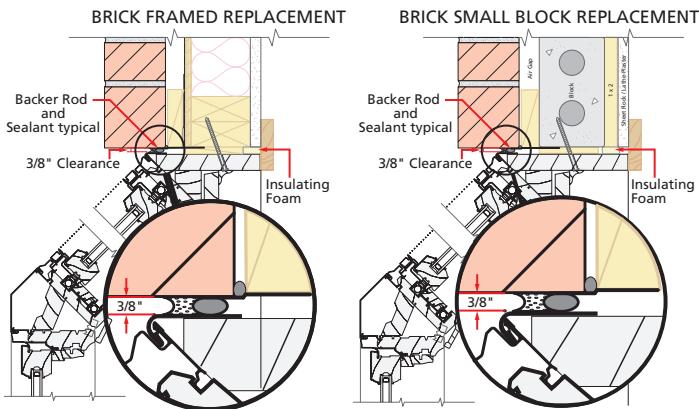
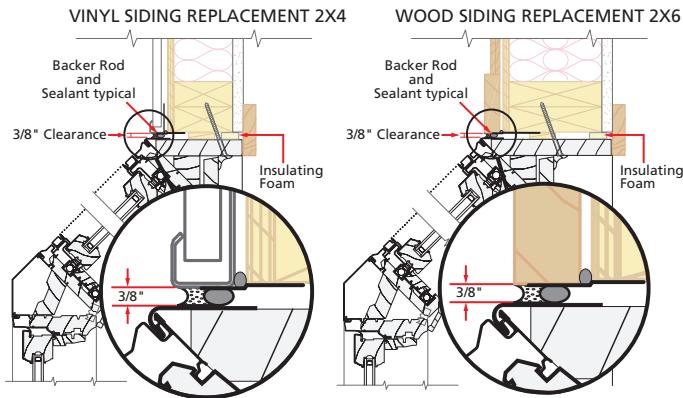
**Note: It may be necessary to squeeze the end of the tube with pliers to be able to insert into the space between the jamb boards and the rough opening, and between the head and seat board and the rough opening.**



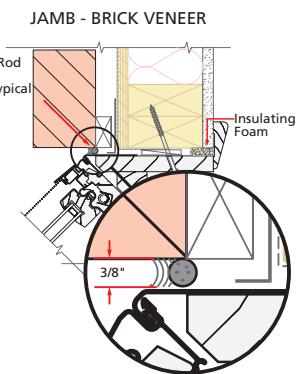
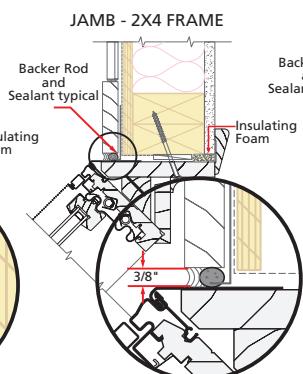
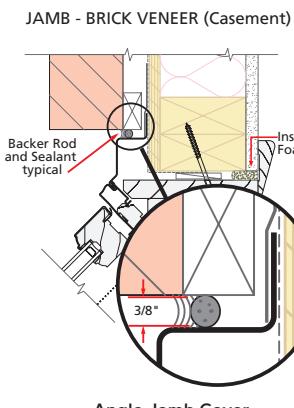
6

## **Sealing the Window to the Exterior Wall Cladding:**

**Note: The sealant details shown are standard recommendations from the sealant industry. Contact your sealant supplier for recommendations and instructions for these and any other applications.**



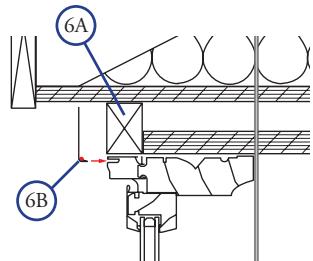
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# 6 Sealing the Window to the Exterior Wall Cladding (continued):

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- A. **Install wood blocking between the top of the window and the soffit as shown.** The blocking should be flush with the exterior of the window frame.
- B. **Apply a bead of sealant on the leg of the head frame expander and install by tapping on it using a block of wood with rounded edges and a hammer.** Frame expander is pre-notched and bent from the factory.



If using Square Jamb Cover, Proceed to Step 6C.

If using Angle Jamb Cover, Proceed to Step 6G.

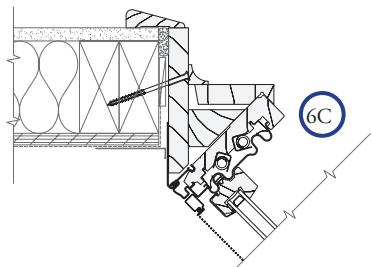
Square Jamb Cover



Angle Jamb Cover

## NEW CONSTRUCTION APPLICATIONS WITH SQUARE JAMB COVER:

- C. **Flash from jambs to water resistive barrier.** In new construction application, use flashing tape to flash from the jamb of the unit to the water resistive barrier. Overlap onto the unit jamb at least 3/8". If necessary, repair any punctures with another piece of flashing tape.



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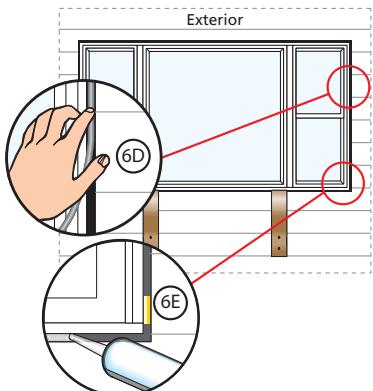
- D. **Insert backer rod.** If required, install siding, then insert backer rod into the space between the exterior finish material and unit exterior deep enough to provide at least a 1/2" clearance between the backer rod and the exterior face of the wall sheathing.

**Note: Backer rod adds shape and depth for the sealant line.**

- E. **Apply a bead of high quality exterior grade sealant** to the entire perimeter of the window, except for one inch at either side of the sill. DO NOT fill between the frame expander and the under side of the seat board.
- F. **Shape, tool and clean excess sealant.** When finished the sealant should be the shape of an hourglass.

**Note: This method creates a more flexible sealant line capable of expanding and contracting.**

**INSTALLATION COMPLETE.**



# 6 Sealing the Window to the Exterior Wall Cladding (continued):

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## INSTALLATION USING ANGLE JAMB COVERS:

- G. **Cut jamb covers to length.** Measure height of one flanker unit not including head & seatboard. Cut jamb covers to 4-9/16" taller than flanker unit height.
- H. **Notch leg of jamb covers.** On one jamb cover, notch the leg 3" from one end and 2" from the other end. Mirror these notches on the other jamb cover, to create a right and left handed part.
- I. **Install exterior jamb covers.** Apply sealant along the leg of each jamb cover and drive this leg into the accessory groove using a block of wood with rounded edges and a hammer. Install the jamb covers with the 3" notch towards the sill.
- J. **Nail the jamb covers to the wall** using one nail on each end and one in the center.
- K. **Cut two pieces of flashing tape** 6" longer than the jamb covers. Apply tape 3" above the top of the jamb cover, overlapping it onto the water resistive barrier.
- L. **Insert backer rod and apply sealant.** Install siding, and insert backer rod between the each jamb cover and the exterior finish material as deep as it will go. Apply a bead of high quality exterior sealant on top of the backer rod and a corner bead to the top of the head frame expander. Shape, tool, clean excess sealant. When finished, the sealant should be the shape of an hourglass.



*Note: Backer rod adds shape and depth for the sealant line. This method creates a more flexible sealant line capable of expanding and contracting.*

# 7

## Installing Interior Jamb Cove Mould:

ALL ALL ALL ALL ALL ALL

- A. **Install the interior cove mould.** Remove cove mould from accessory package and dry fit over the installation screws. Install interior cove mould and secure with 1" brads into the jamb and trim.

