Ultimate Inswing & Ultimate Inswing French Door G2 Installation Instruction

ABSTRACT: Please read these instructions in their entirety before beginning to install your Marvin Door product. These installation instructions demonstrate the installation of a Marvin door in new wood frame construction using an industry approved water management system. For installation using other construction methods, such as remodeling, replacement, and recessed openings refer to the latest version of ASTM E2112, “Standard Practice for Installation of Exterior Windows, Doors and Skylights,“for installation suggestions. The same information for ASTM E2112 can be found on the ASTM website, www.astm.org.

Regional standard practices, environmental conditions, and codes may vary and supersede the procedures contained within. The responsibility for compliance is yours: the installer, inspector, and owner(s).

The English language version of this instruction is the official version and shall take precedence over any translation.

USAGE DATES: These instructions are relevant for doors manufactured June 2021 to present. Doors included in this instruction:

- Ultimate Inswing French Door G2 (UIFD G2)
- Ultimate Inswing French Door 2.25 G2 (UIFD2.25 G2)
- Ultimate Inswing Door 2.25 IZ3(UID 2.25 IZ3)
- Ultimate Inswing French Door 2.25 IZ3 G2 (UIFD2.25 IZ3 G2)

Installer and Builder Information

- Always provide a copy of these instructions for the current homeowner.
- Plan sizing of rough opening and clearance from exterior finishing systems to allow for normal materials shrinkage or shifting (e.g. wood structure with brick veneer; allow adequate clearance at the sill). Failure to do so can void the Marvin warranty coverage.
- Refer to the Technical Installation Specifications section for technical specifications regarding the installation of this product. These installation requirements as well as the details in the section must be followed to achieve the advertised Performance Grade (PG) rating of this product.
- It is the responsibility of the builder, installer, and subcontractors to protect the interior and exterior of windows or doors from contact with harsh chemical washes, construction material contamination and moisture. Damage to glazing, hardware, weather strip and cladding/wood can occur. Protect with painters tape and/or protective sheathing as required. Follow all guidelines regarding material use, preparation, personal safety and disposal.
- Contact your Marvin supplier if you have any questions regarding product and materials used in manufacturing or questions on replacement parts.
- Please refer to the PDF version of this instruction for further information regarding best practices installer and builder information, code, and other legal requirements. The PDF version is the official document of record.

Tools and Supplies Needed

- Phillips screwdriver
- Flat screwdriver
- Power drill/driver
- 3mm and 6mm Allen wrenches
- 3/16" drill bit
- 1/8" x 6" drill bit (for drilling into RO)
- #2 Phillips bit
- Rubber mallet
- Caulking gun
- Level (laser level helpful)
- Square
- Utility knife
- Tape measure
- Pencil/marker
- Safety glasses
- Gloves
- Utility knife
- Pry bar
- Shims
- Sill panning
- Weather resistive barrier
- Flashing
- Sealant
- Rags/paper towel
- Low expansion, low compression insulating foam

Protective Film

This product features a clear protective film adhered to the glass surfaces to protect them from construction debris, dust, dirt, stucco, etc. When construction is complete, simply peel the film off and dispose of it with other construction debris.

IMPORTANT

Do not use a razor blade to remove the protective film. Do not use a pressure washer to clean debris from the film. The film should be removed within nine months of application.

Please refer to the manufacturer's website and bulletin for more information on the physical properties and usage of the protective film.

IMPORTANT

DO NOT place suction cups over seams in the protective film.

Hazard Notations

⚠WARNING!

Do NOT lift or move without proper equipment.
Read, understand, and follow all lift equipment manufacturers' instructions and safety information.

⚠WARNING!

Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to www.P65Warnings.ca.gov/wood.

⚠WARNING!

This product can expose you to chemicals including titanium oxide, which is known to the state of California to cause cancer. For more information, go to www.P65Warnings.ca.gov.

⚠WARNING!

This product can expose you to chemicals including methanol, which is known to the state of California to cause birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

⚠WARNING!

Always practice safety! Wear the appropriate eye, ear, and hand protection, especially when working with power tools.

⚠WARNING!

Older homes may contain lead-based paint, which may be disturbed when replacing windows or performing renovations. Consult state or local authorities for safe handling, disposal, or abatement requirements. For more information, go to www.epa.gov/lead.

IMPORTANT

Nailing fin is not designed to be a weatherproof flashing.

IMPORTANT

The deadbolt must be engaged at all times when moving a fully assembled unit. Failure to do so may result in damage to the lock.

NOTE: Numbers listed in parentheses () are metric equivalents in millimeters rounded to the nearest whole number.

NOTE: Please consult local waste management authorities regarding proper disposal and/or recycling of all waste materials generated during installation, including any product being replaced, packaging materials, and other waste.

Rough and Masonry Opening Requirements

IMPORTANT

These steps are crucial to obtain a trouble-free installation. If these conditions are not met, the installer must take corrective actions to alter the opening(s) before proceeding. For typical wood frame construction it is also essential that the wall sheathing be a solid surface to ensure that the unit can be secured firmly to the wall.

1. Rough openings (RO) should be 1/2" (13) higher and 1" (25) wider than the outside measurement of the frame (1/2" on each side of the frame) or casing. See Figure 1

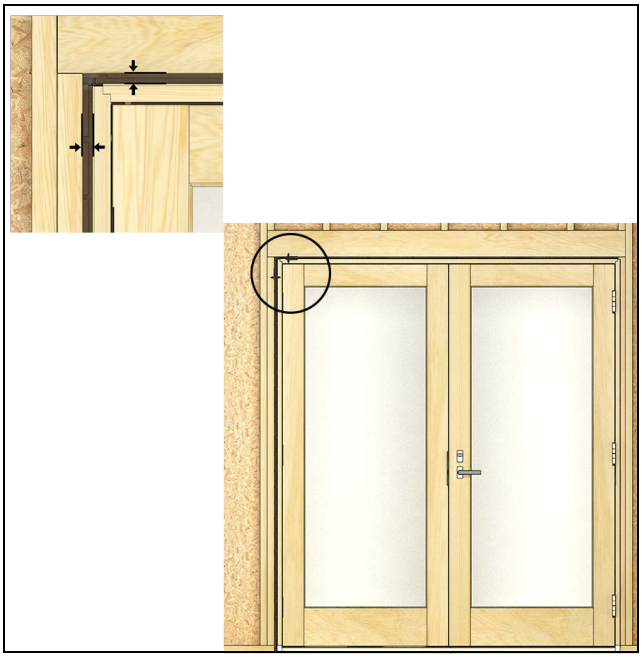

Figure 1 Rough Opening Clearance

1	1/2" RO Height
2	1/2" RO Width (on each side)

2. Masonry openings (MO) should be 1/4" (6) higher and 1/2" (13) wider than the outside measurement of the frame (1/2" on each side of the frame) or casing. See Figure 2

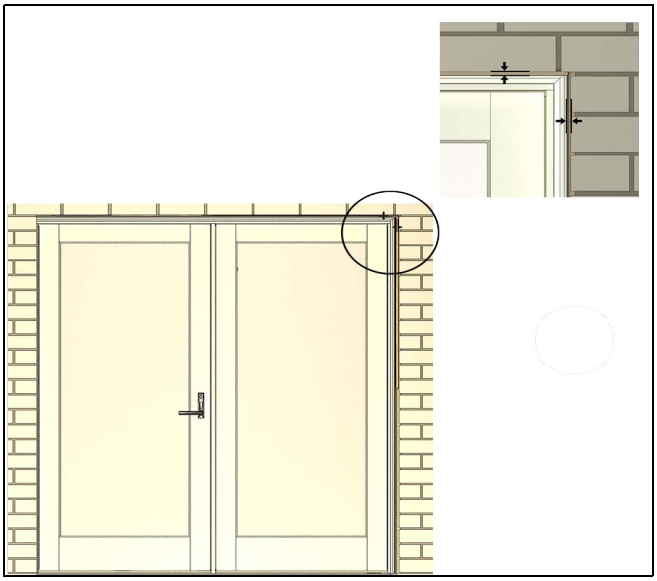

Figure 2 Masonry opening clearance

1	1/4" MO height
2	1/4" MO width (on each side)

3. Check the bottom surface of the opening to ensure it is flat, level, and free from debris. Proper operation of the door requires a sill that is flat and level. See Figure 3

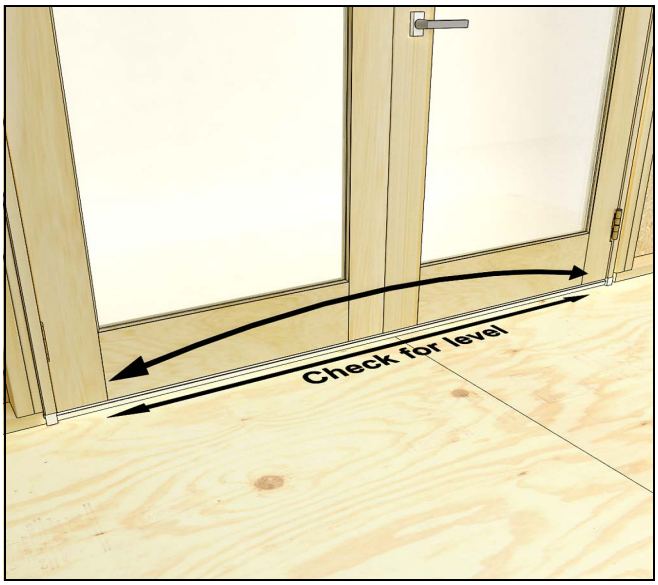

Figure 3 Start with a clean flat sill

NOTE: For doors not on grade and in standard wood frame construction with brick veneer, make sure there is at least 1/2" between the bottom of the door sill (or eventual placement of the door) and the top row of brick to avoid "brick bind".

Rough Opening Preparation-Method A1 (WRB Before Install)

The following section demonstrates best practice for a rough opening preparation for using a weather resistive barrier. Refer to ASTM E2112 for the other situations not covered in this document.

1. When trimming away the air barrier at openings, first cut horizontally across the entire width of the rough opening at the head jamb and sill. Then cut vertically in the center of the opening from sill to head jamb. Finally cut the head jamb corners diagonally away from the opening. The complete cut should be in a “I” fashion. DO NOT cut air barrier diagonally from corner to corner in an “X” fashion. See Figure 4.

Figure 4

2. Wrap barrier at the sides to the interior and tack in place. Do not tack barrier at head jamb. Fold the head jamb flap up and tack in place or tuck beneath. This will allow the top flap to fit over the head jamb flashing after installation of the door.See Figure 5.

Figure 5

Preparing the Door for Installation

IMPORTANT

Inspect the door for any damage or missing parts. Contact your Marvin representative if there are any problems. If possible, provide the original order number and description of door.

IMPORTANT

The deadbolt must be engaged at all times when moving a fully assembled unit. Failure to do so may result in damage to the lock.

1. Remove the protective packaging from the unit and dispose/recycle properly. Inspect the unit for any hidden damage and report immediately to your sales representative. Provide the customer service number or glass part number etched on one of the top corners of the glass. See Figure 6.

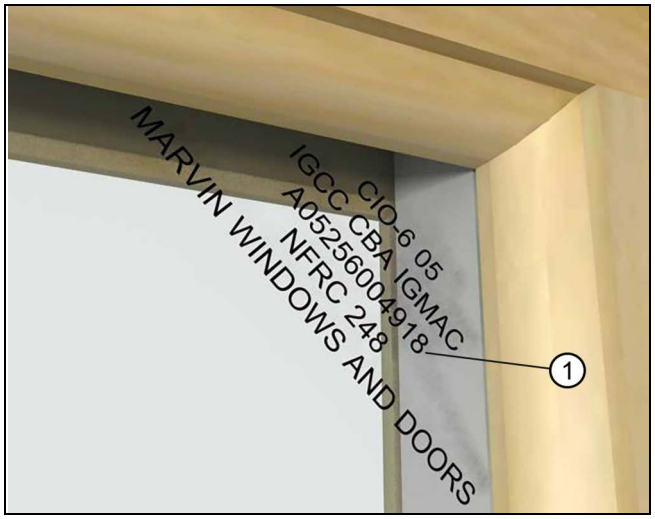

Figure 6

1	Customer service number

2. For Clad Units: position the factory applied nailing fin in the upright position. FOR UNITS WITH VINYL NAILING FINS DO NOT APPLY NAILING FIN CORNER GASKETS AT THIS TIME

NOTE: ***Units with flat casing:*** *units must be installed using masonry clips or screw through the jamb.*

3. If you are installing your door with structural brackets or masonry clips, apply to the door frame once you are ready to place it in the opening permanently. Follow the instructions included with the brackets. See Figure 7.

On IZ3 units place the structural brackets 6" from each corner and a maximum of 15" apart, with a minimum of 2 per side. Fasten with #8 x 5/8" screws to attach structural bracket to unit. Fasten #8 x 1 1/2" screw to attach bracket to buck.

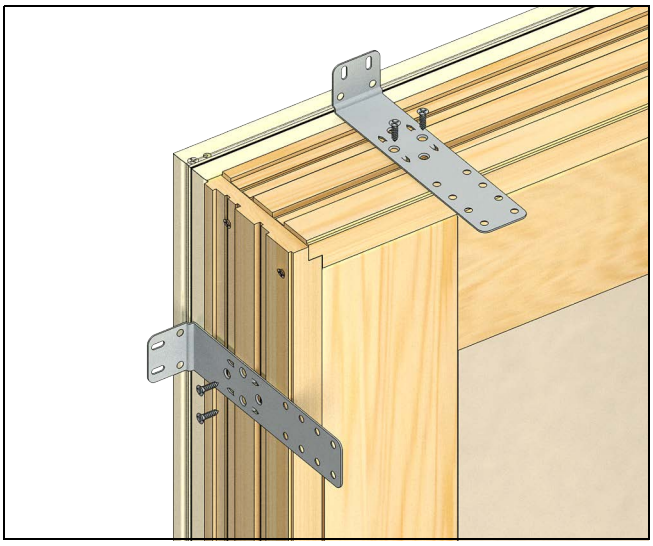

Figure 7

⚠ CAUTION!

Some brackets are sharp. Wear gloves and use care when moving the door if the brackets are installed.

4. On units with optional aluminum nail fin: Manually fold out the nail fin until it is perpendicular to the frame. Take care during handling and installation not to damage the corner gasket. After the unit is secured in the opening, fold the supplied drip cap to an "L" shape as shown and install per unit flashing instructions. See Figure 8.

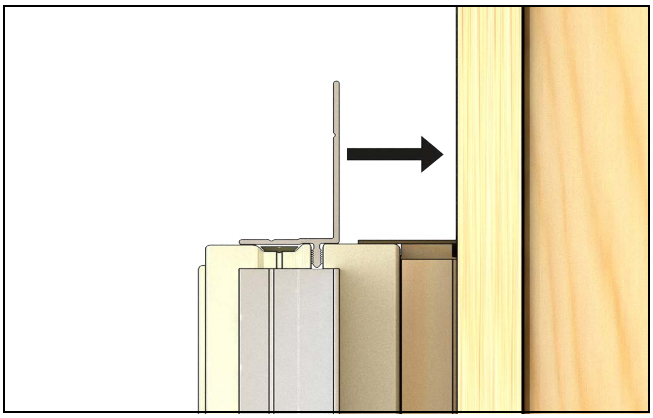

Figure 8

Installing the Door

Seek Assistance

It is highly recommended that you get help from another person/persons when installing the door. These doors are heavy and it will be hard to position or install with just one person.

IMPORTANT

IZ3 units need to be installed using the through jamb method or structural bracket method.

NOTE: If field applying interior jamb extension or mulling transom units, refer to appropriate instructions (as needed) at this time.

1. After the rough opening has been prepped (using either the air barrier or building paper methods), apply a continuous bead of sealant 3/4"(19) from the top and sides of the door opening. See Figure 9.

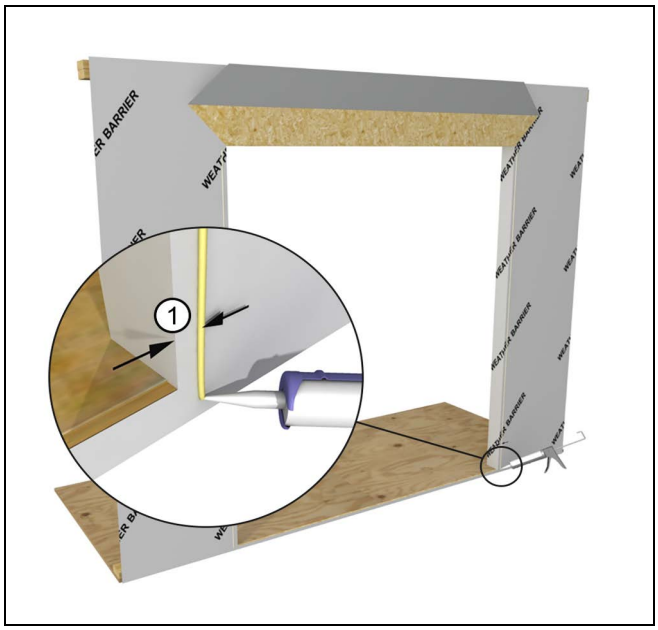

Figure 9

1	3/4" (19)

2. Apply a 3/8" (10) bead of sealant on the subfloor at the interior edge of the door opening. See Figure 10.

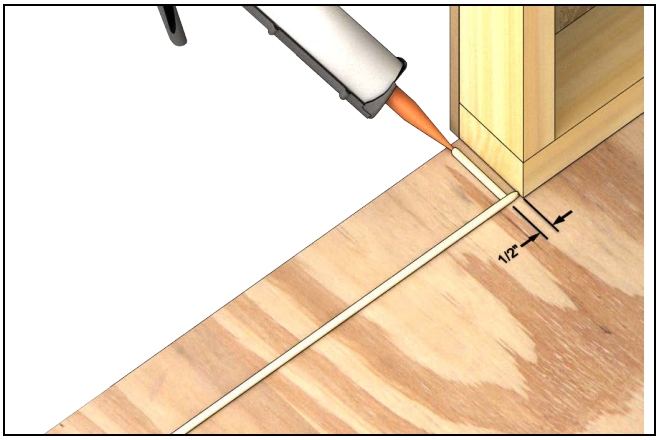

Figure 10

3. Tip the door into the opening and center it. Temporarily nail the upper corners of the nailing fin with a 2" (51) roofing nail. Do not drive the nail all the way in. See Figure 11.

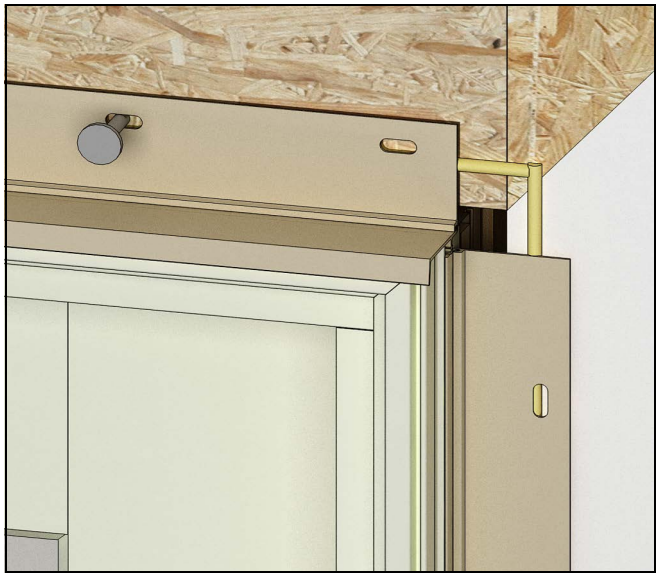

Figure 11

4. Before the sealant is allowed to set up, ensure the jambs are straight and plumb (interior/exterior and left/right). The sill must be level and straight. See Figure 12.

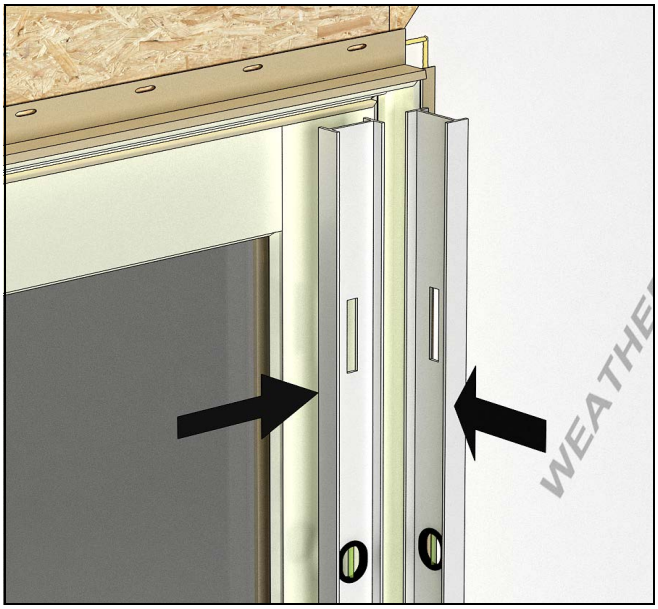

Figure 12

5. Apply a continuous bead of sealant beneath the vinyl drip cap along the top of the head jamb as shown in Figure 13

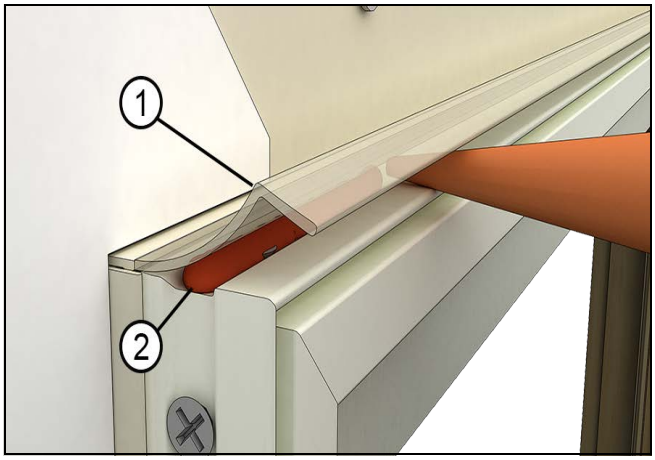

Figure 13

1	Vinyl drip cap
2	Sealant

6. Check diagonal measurements for the entire frame. Adjust as necessary by applying shims to the corners 6" (152) from the sill and head jamb. See Figure 14.

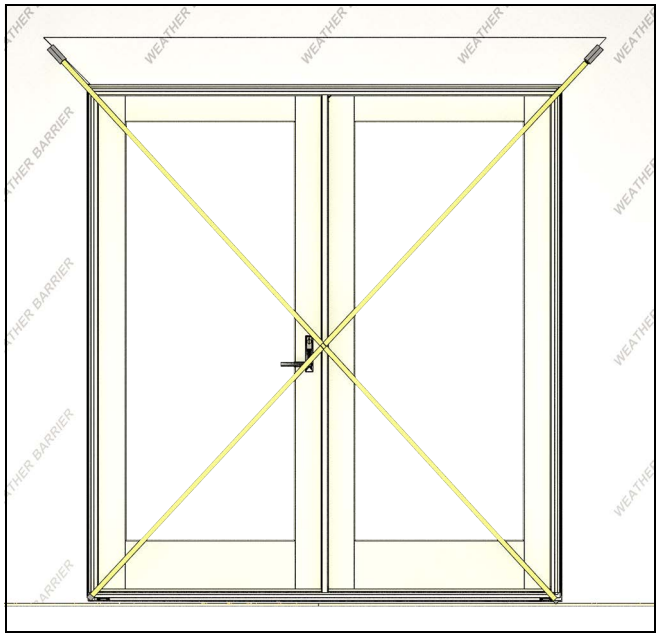

Figure 14

IMPORTANT

To meet the advertised Structural Design Pressure Ratings, doors must be installed with masonry clips, jamb screws or structural brackets spaced a maximum of 6" from the corners and 15" on center

NOTE: Proper shimming is extremely important. Under shimming can cause the unit to sag out of square, over shimming will result in bowed jambs and/or head jamb. Both conditions can contribute to improper operation of the door panels.

Permanently Securing the Door

For Units Using Jamb Screw Method:

1. Remove covers by starting at the top of the exterior part stop, using a hammer and block, impact the exterior surface to start to disengage the cover from the accessory kerf. Continue to work down the cover to fully remove it. See Figure 15.

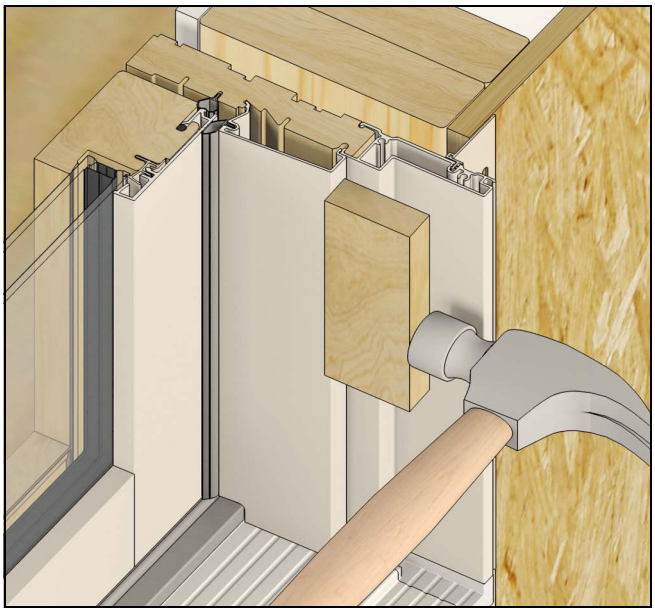

Figure 15

NOTE: For units with a stationary panel and an interior astragal, the head jamb cover cannot be removed. Installation screws will go through the head/jamb above any active panel and installation brackets will be used above any stationary panel. See Figure 16.

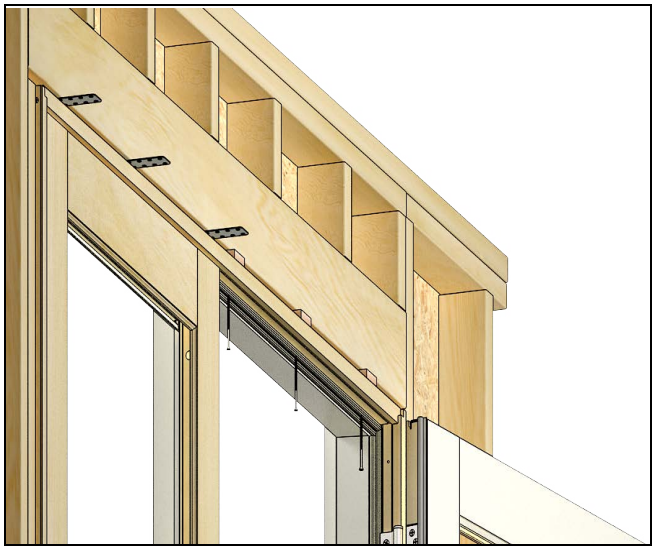

Figure 16

2. Fasten unit to wood buck/rough opening with #8 x 3" wood screws. Screws must be a minimum of 1" from edge of buck. Place the screws 6" from each corner and a maximum of 15" apart, with a minimum of 2 per side. See Figure 17.

NOTE: Pre-drill the screw holes before installing the screws.

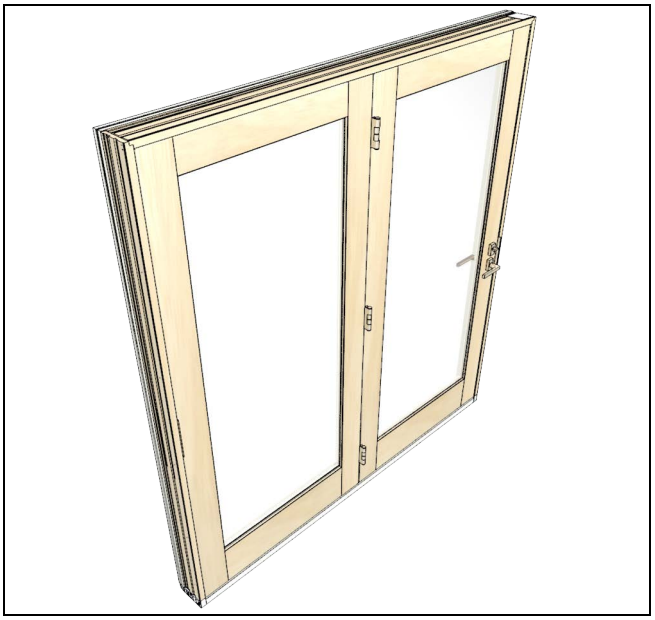

Figure 17

Installing the Covers

1. To install the stop, rotate engagement feature into the wood jamb kerf. Push the cover the whole way to the header cover. Starting at the top, using a rubber mallet, impact the outer edge of the cover to seat it. Continue working down towards the sill to fully seat it. See Figure 18.

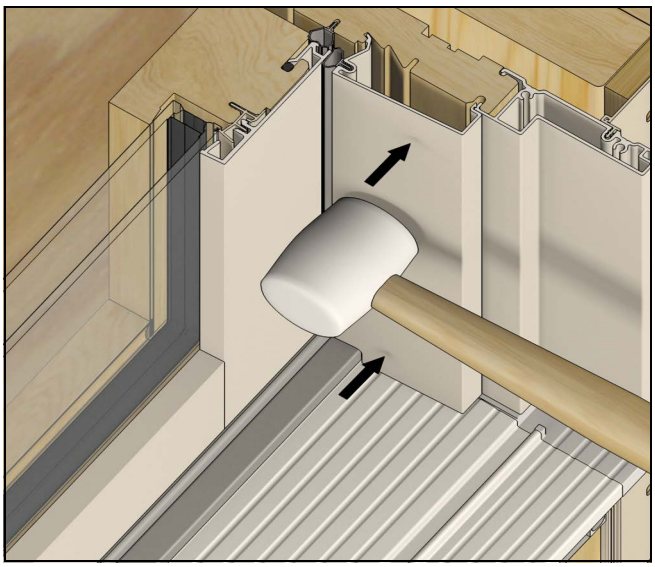

Figure 18

NOTE: During shipping the part stop may slip down. If this happens, we recommend inserting a pry bar between the sill and jamb part stop and gently pulling up on the pry bar to raise the part stop back into place.

Figure 19

2. Because the gap between the stationary panel and part stop is at a minimum, Marvin recommends using a small pry bar or siding removal tool (shown) to help pull the weather strip into the part stop. See Figure 20.

Figure 20

Hinge and Strike Screw Installation

1. On all operating panels that hinge off of a jamb., install a provided #10 x 2 1/2” screw as shown in Figure 21 and Figure 22. The 2-1/2" screw will always be put in the 2nd screw hole from the top. *On IZ3 units, two #10 x 2-1/2" screws are needed in the center holes.*

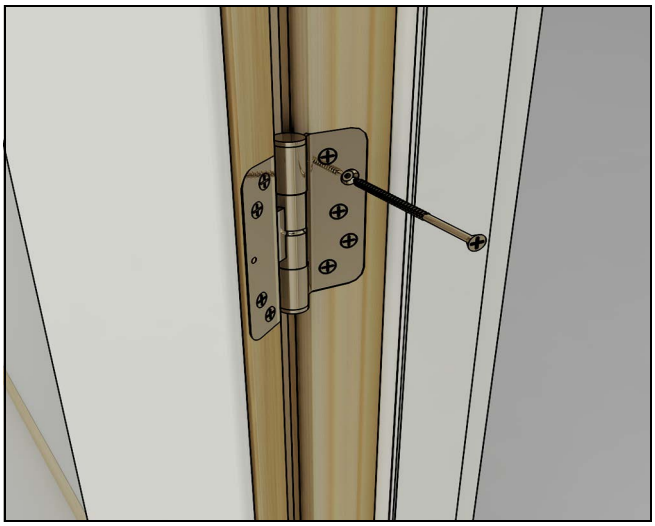

Figure 21 Adjustable hinge

1	#10 x 2 1/2" screw

2. On all side jamb and head jamb strike plates, remove and replace the screws fastening the strike to the frame with the longer screws and drive into the rough opening frame as shown in Figure 22 and Figure 23. Screws will stay intact on the head jamb strike plate and two #10 installation screws as shown in Figure 23.

Figure 22

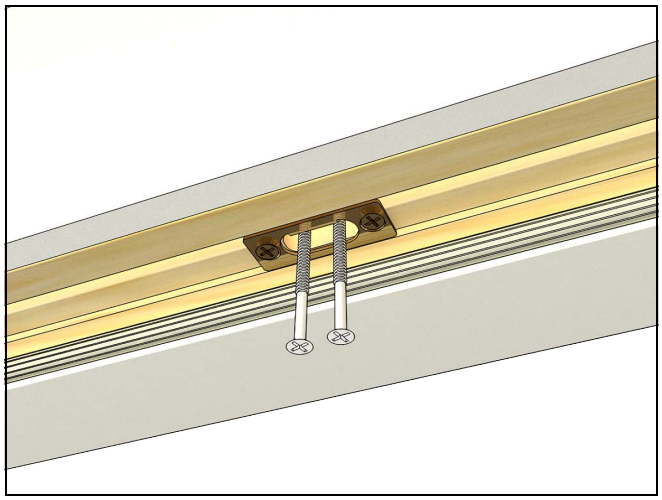

Figure 23

1	#10 x 3" wood screws

3. Close the panel(s) and check the margin between the active and inactive panel or panel and jambs. The door is designed to have a 1/8" (3) gap between the wood stiles. See Figure 24.

Figure 24

Securing the Sill

1. Use a minimum of a #8 x 1-1/2" pan head screw located a minimum of 4" from each corner and a minimum of 15" apart to secure the sill to the sub floor. See Figure 25.

Figure 25

IMPORTANT

DO NOT seal drain holes. Make sure drain holes are kept clear of dirt and debris. See Figure 26.

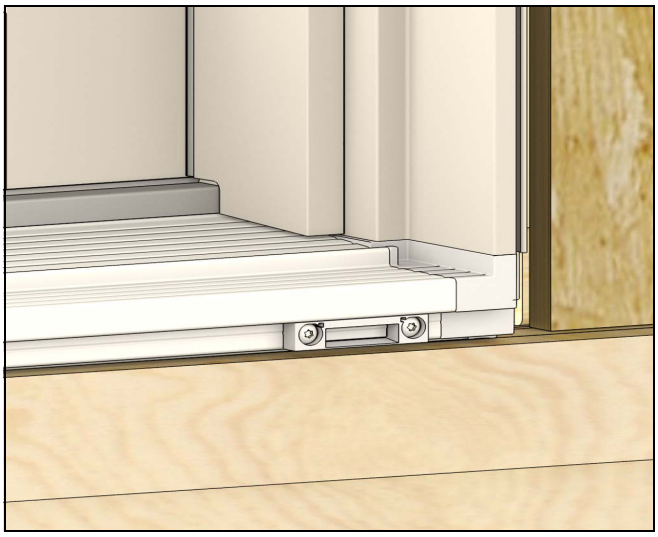

Figure 26

2. On operating units, locate the sill reinforcement bracket attached to the sill. Center the bracket at operating panel joints, or at the outer edge of the sill on locking jamb operating units. Install bracket with five #10 X 3" screws. See Figure 27.

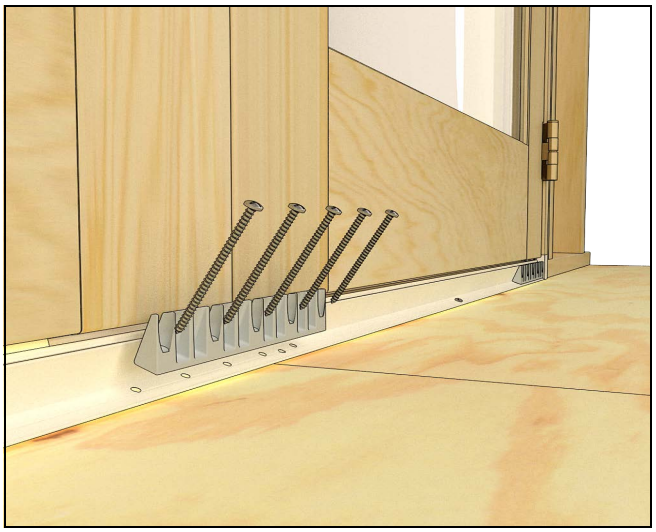

Figure 27

3. Locate and remove tape backer on the interior sill liner. See Figure 28. Press down and fully seat the sill liner. See Figure 29

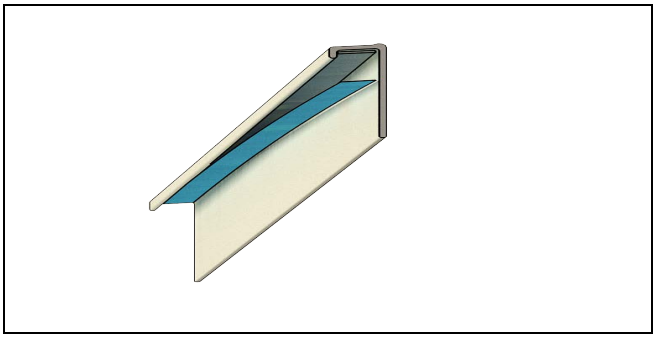

Figure 28

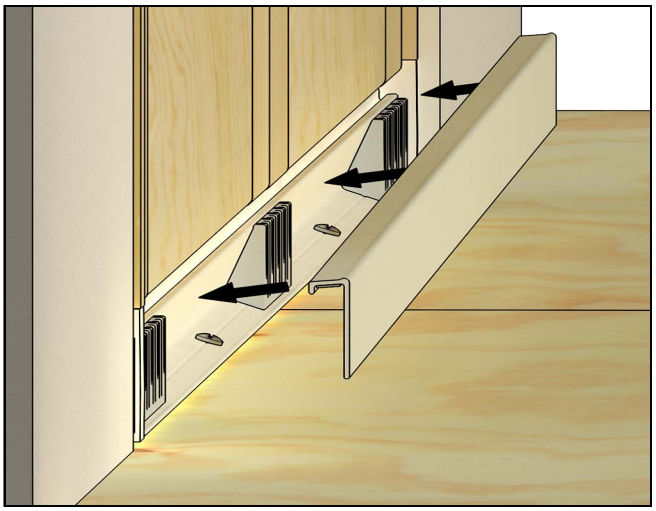

Figure 29

Adjustable Hinge/Panel Alignment

1. After establishing that the door frame is in a square and true condition inspect for even reveals between the door panels and frame. On XX and OXXO panels the tops of the panels should be even. See Figure 30.

Figure 30

2. Make horizontal adjustment first. To adjust panel(s) horizontally away from jamb, turn horizontal adjustment screw counter clockwise using 5/32" (4) Allen wrench provided. See Figure 31. To move the panel toward jamb, turn Allen screw clockwise. See Figure 32.

Make any vertical adjustments only after you have completed any horizontal adjustments.

Figure 31 Counterclockwise to move panel away from jamb.

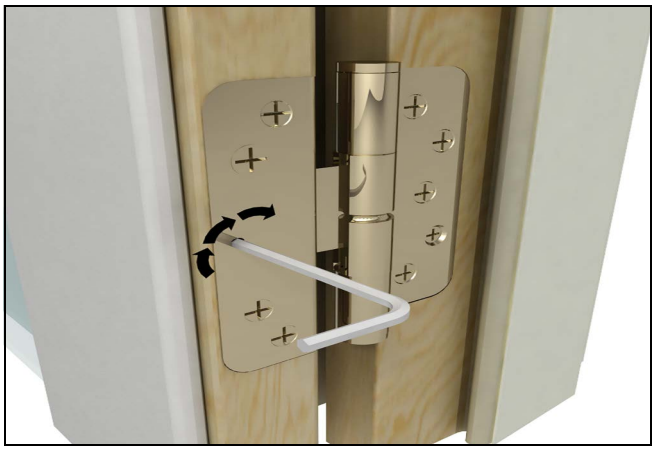

Figure 32 Clockwise to move panel toward jamb

3. To adjust the panel(s) vertically, turn the vertical adjustment screw clockwise using a 5/32" Allen wrench (provided). To lower the panel, turn the Allen screw counter-clockwise. See Figure 33 and Figure 34.

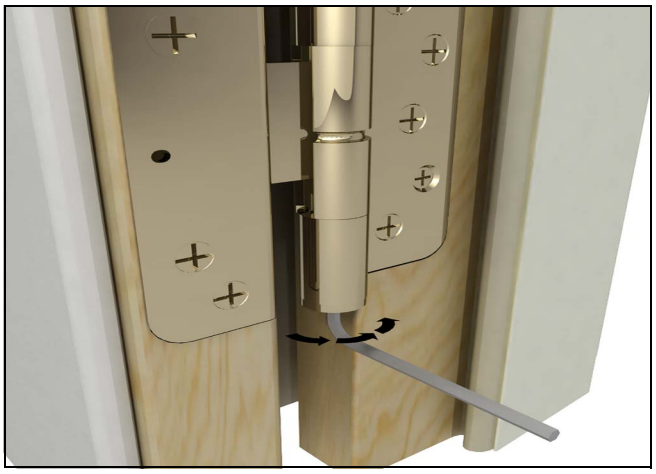

Figure 33 Raise the panel, clockwise adjustment

Figure 34 Lower the panel, counter-clockwise adjustment

Flashing the Installation-Method A1 (Flashing After Installation)

IMPORTANT

Nailing fin is not designed to be a weatherproof flashing.

1. Apply nailing fin corner gaskets to each corner of the nailing fin. Follow instructions on back of gasket.

2. Install a rigid head flash at the head jamb. Be sure to apply a bead of sealant along the back sides of both vertical and horizontal surfaces of the cap that come in contact with the door, door casing, and/or sheathing. See Figure 35.

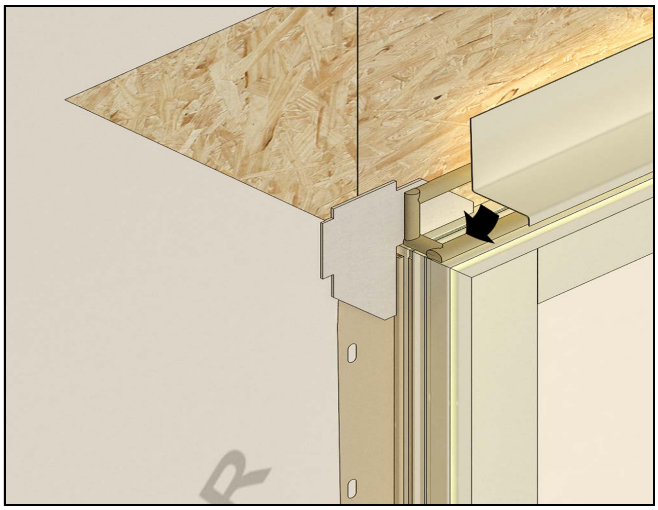

Figure 35

3. Lap vertical strips of flashing onto the unit or casing and out over the weather resistive barrier. Make small cuts at the head jamb to allow the flashing to fold back onto the exterior. See Figure 36.

Figure 36

1	Lap onto unit (or casing if applicable)

4. Install a layer of flashing over the vertical leg of the rigid head flash and lapped onto the horizontal leg. The flashing should extend past the jamb flashing installed earlier.See Figure 37.

Figure 37

1	Lap head jamb flashing onto rigid head flash

5. Fold the head jamb air barrier down over the head jamb flashing. Apply seam seal tape over the diagonal cut in the air barrier. Make sure the tape laps onto the unit or casing. Cut 3" (76) strips of tape and install every 12" (305) along the head jamb. Tape and seal any seams and fasteners directly above the unit. See Figure 38.

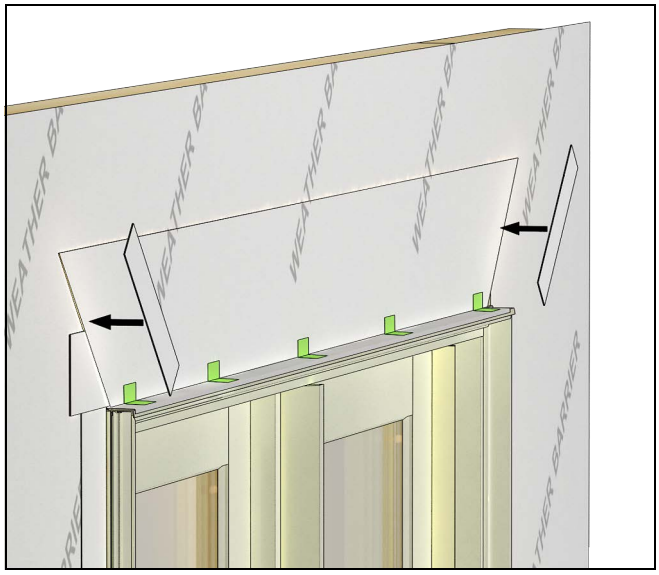

Figure 38

1	Seam seal tape over diagonal cuts, lap onto unit
2	3" seam seal every 12" along head jamb

Insulating and Sealing the Installation-Nailing Fin

We recommend two ways of insulating and sealing the rough opening cavity. Both follow the principle that stopping air intrusion will aid in managing water intrusion into the RO.

1. Loose Fill Fiberglass Insulation. Insulate the RO cavity with loose fill fiberglass insulation. Install a backer rod and sealant at the interior plane of the RO to create a continuous air seal. See Figure 39.

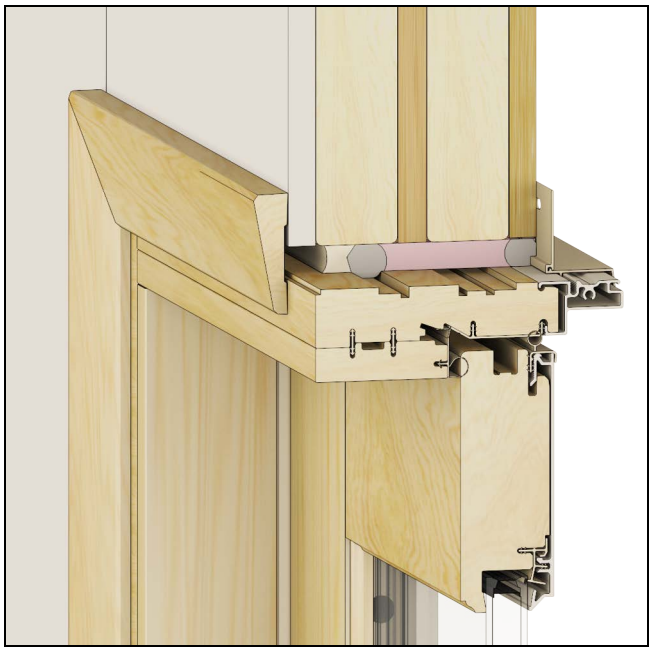

Figure 39

2. Low Expansion Foam. Install a backer rod at the exterior plane of the RO. Apply a low expansion/low compression closed cell foam in the cavity. Install a backer rod and sealant at the interior plane of the RO to create a continuous air seal. See Figure 40.

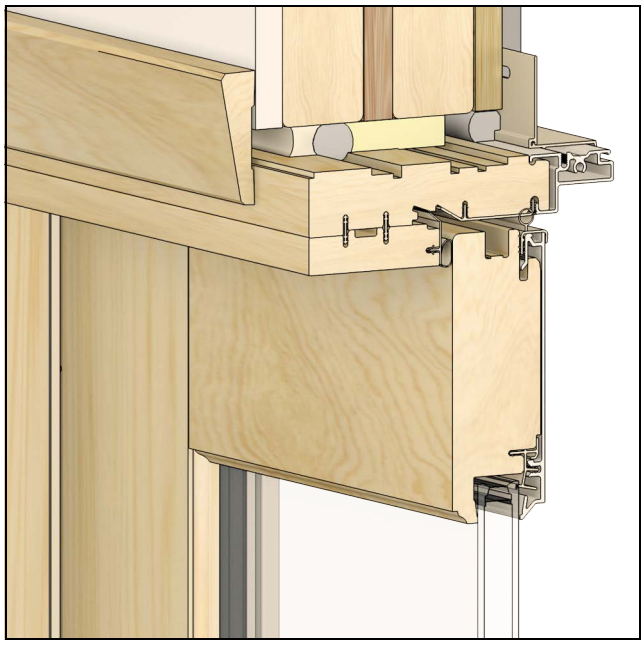

Figure 40

Insulating and Sealing the Installation-Casing

We recommend two ways of insulating and sealing the rough opening cavity. Both follow the principle that stopping air intrusion will aid in managing water intrusion into the RO.

1. Loose Fill Fiberglass Insulation. Insulate the RO cavity with loose fill fiberglass insulation. Install a backer rod and sealant at the interior plane of the RO to create a continuous air seal. See Figure 41.

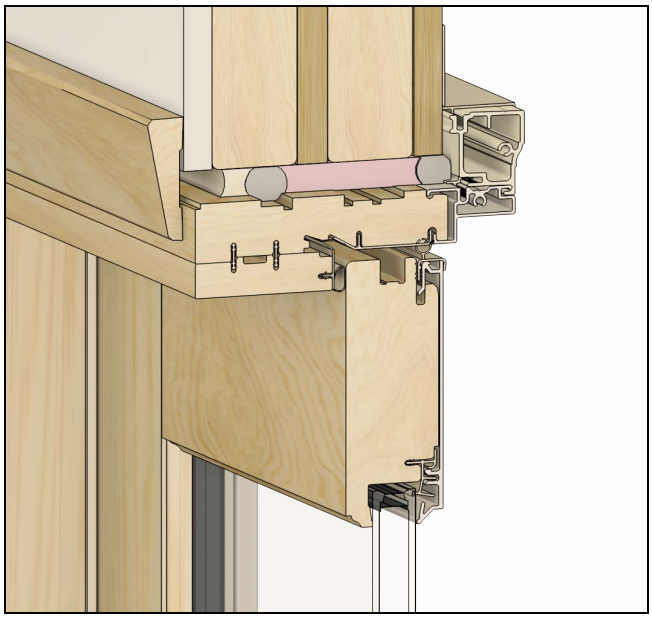

Figure 41

2. Low Expansion Foam. Install a backer rod at the exterior plane of the RO. Apply a low expansion/low compression closed cell foam in the cavity. Install a backer rod and sealant at the interior plane of the RO to create a continuous air seal. See Figure 42.

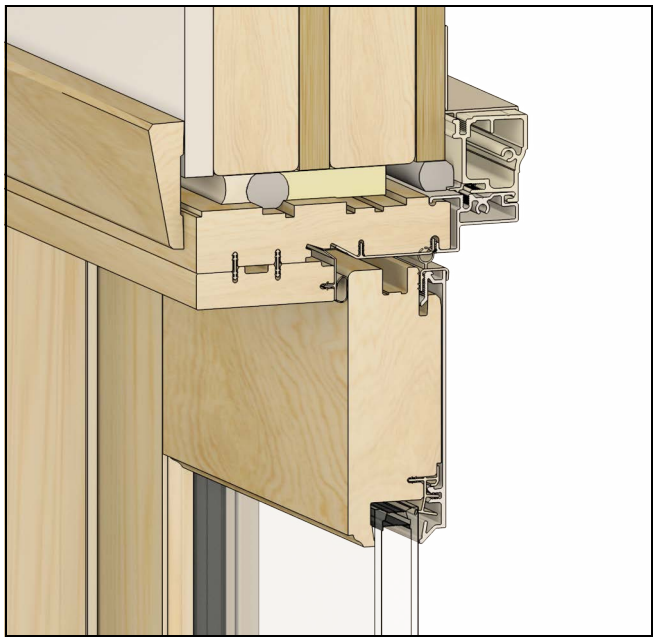

Figure 42

Exterior Sealing Procedures

1. Once the exterior finish such as siding or brick veneer is installed, apply bead of sealant between the finish and the frame exterior or casing along the sides. Apply additional beads approximately 1"- 2" (25-51) at the ends on top of the drip cap. Use a backer rod when necessary. See Figure 43 and Figure 44.

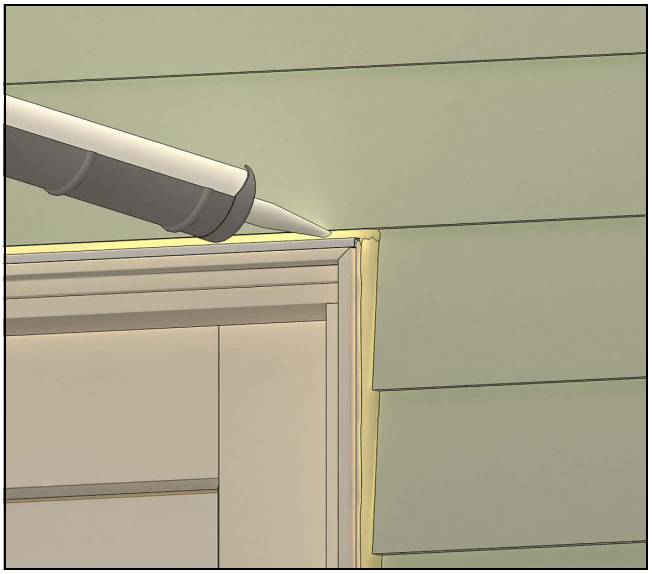

Figure 43

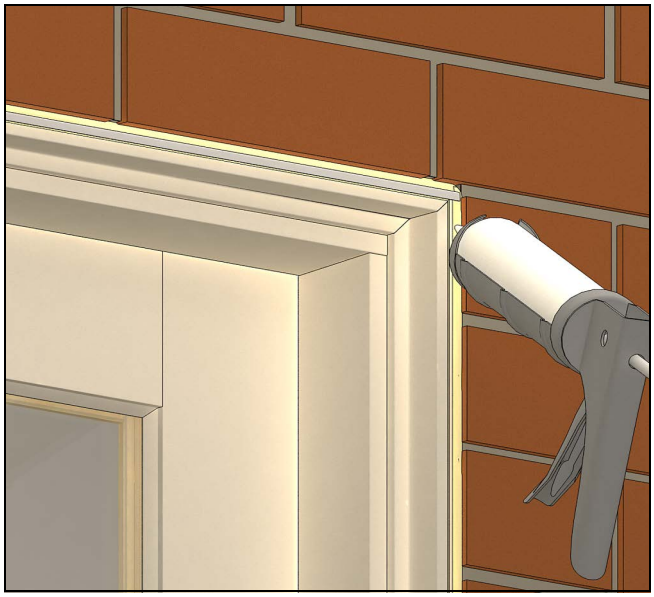

Figure 44 Apply sealant between window and exterior finish at head jamb.

⚠ CAUTION!

Perimeter sealant must be Grade NS Class 25 per ASTM C920 and compatible with the window product and the finished exterior(s) of the building. Using improper sealant could result in sealant failure casing air and water infiltration.