Ultimate Direct Glaze Corner Window

Installation Instruction

ABSTRACT: Please read these instructions in their entirety before beginning to install your Marvin window product. These installation instructions demonstrate the installation of a Marvin aluminum clad Direct Glaze Corner window in new wood frame construction using an industry approved water management system. (This instruction is relevant for both narrow frame and full frame products.)
For installation using other construction methods, such as remodeling, replacement, and recessed openings refer to ASTM E2112, Standard Practice for Installation of Exterior Windows, Doors, and Skylights." Information for ASTM E2112 can be found on the ASTM website, www.astm.org

For product specific issues, service instructions and other field service guides, refer to the Marvin Service Manual.

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).

For measuring information, please refer to the following:

- Clad Window Contemporary Corner Window Measuring Instructions
- Clad Direct Glaze Corner Window Measuring Instructions

Installer and Builder Information

- Always provide a copy of these instructions for the current or future building owner.
- 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.
- 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, weatherstrip 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.

After Market Products

Alterations to Marvin products including window films, insulating or reflective interior window treatments or additional glazings can cause excessive heat buildup and/or condensation. They may lead to premature failures not covered under warranty by Marvin Windows and Doors.

Before purchasing or applying any product that may affect the installation or performance of Marvin windows contact the manufacturer or after market product/glazings that are not supplied by Marvin and request written product use, associated warranties and damage coverage. Provide this information and warranties to the end user and/or building owner for future reference.

IMPORTANT

Please consult with local authorities to properly dispose and/or recycle all packaging, materials, and waste.

⚠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!

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

⚠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!

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

You Will Need to Supply

- Safety glasses
- Level
- Hammer
- Insulation
- Perimeter sealant
- Sill pan flashing
- Backing material (foam backer rod)
- Flashing materials
- Weather resistive barrier
- Hearing protection
- Framer's square
- Speed square
- Combination square
- Composite shims
- Tape measure
- 2" (51) Roofing nails
- Fasteners for interior corner cap
- Drill
- Phillips bit
- #8 through jamb installation screws (trim head preferred).

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

Standard Parts Shipped

Follow installation instructions included with part if applicable. The corner window installation kit includes 4-nailing fin corner gaskets, head jamb nail fin, window leg assemblies, corner bracketry including fasteners, exterior and interior corner caps. For more details refer to Installing the "Leg Assemblies" on page 12

Before You Begin

Using a smartphone or similar device, scan the QR code below or click here to play a video of this procedure.

IMPORTANT

Prior to removing packaging, pair units according to their matched lettered sticker on the shipping label found on the headjamb, jamb, or mullpost. See Figure 1

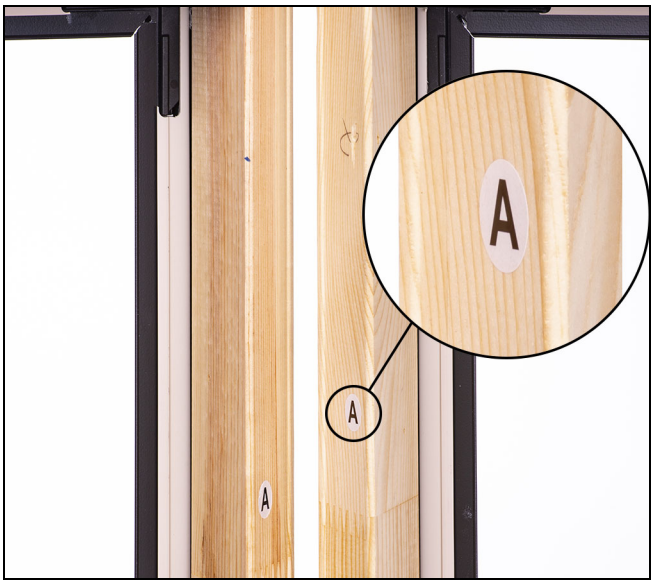

Figure 1

Prepare the Opening

1. Remove protective packaging from the window and dispose/recycle properly. Inspect the window for any hidden damage and report it immediately to your Marvin representative.

2. Apply jamb extension before installing the window in the rough or masonry opening if necessary.

3. Apply air barrier. Trim the air barrier across the entire top of the head jamb. See Figure 2.

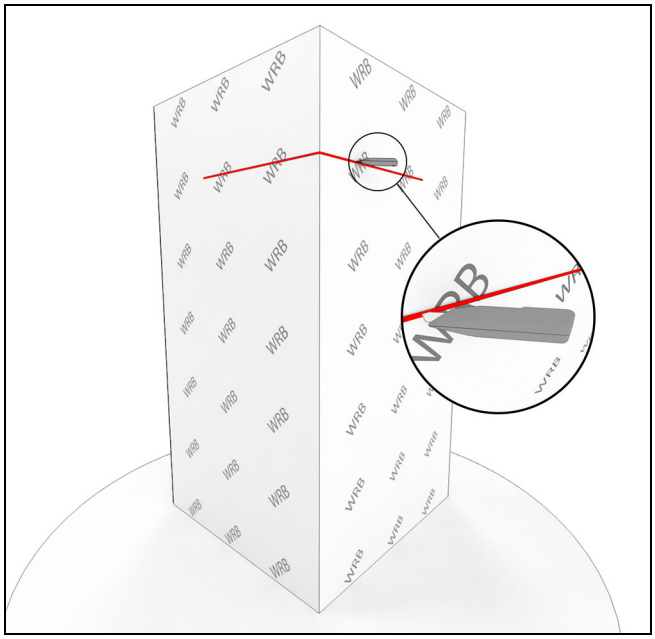

Figure 2

4. Make one 6" (152) vertical cut on the corner. See Figure 3.

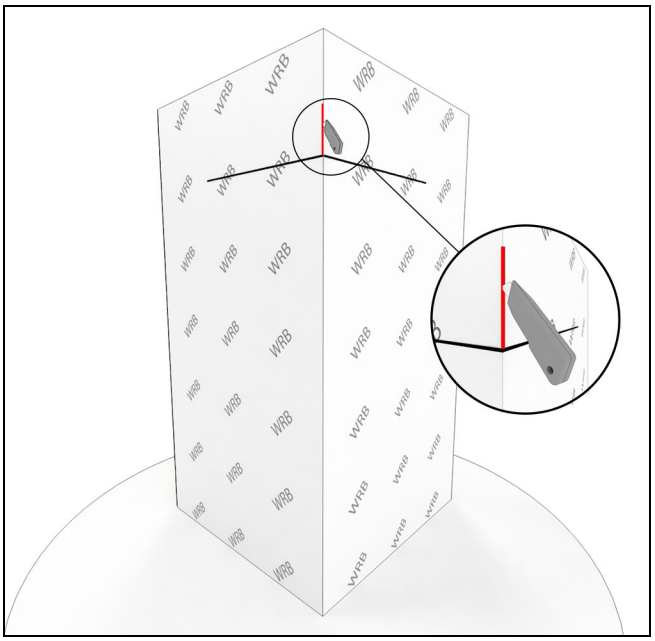

Figure 3

5. At the top corners, make a 45 degree cut away from the corner. See Figure 4.

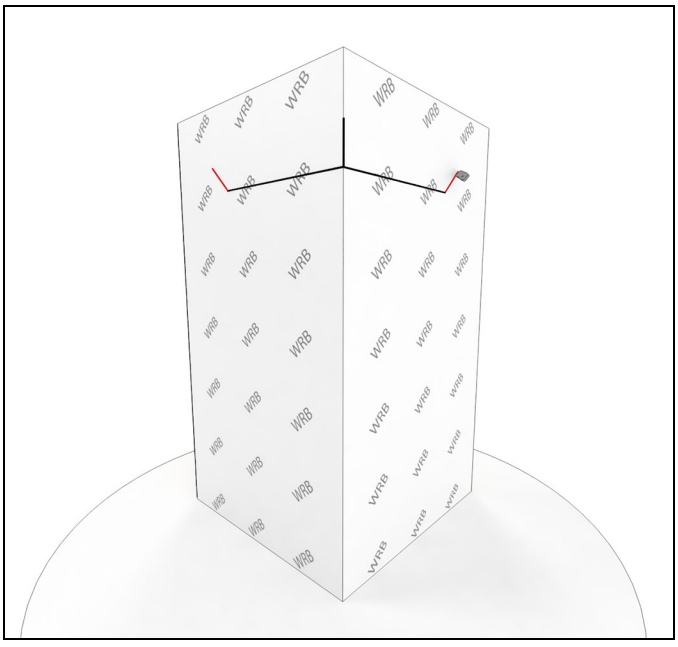

Figure 4

6. Flip the top flaps up and tack in place temporarily. See Figure 5.

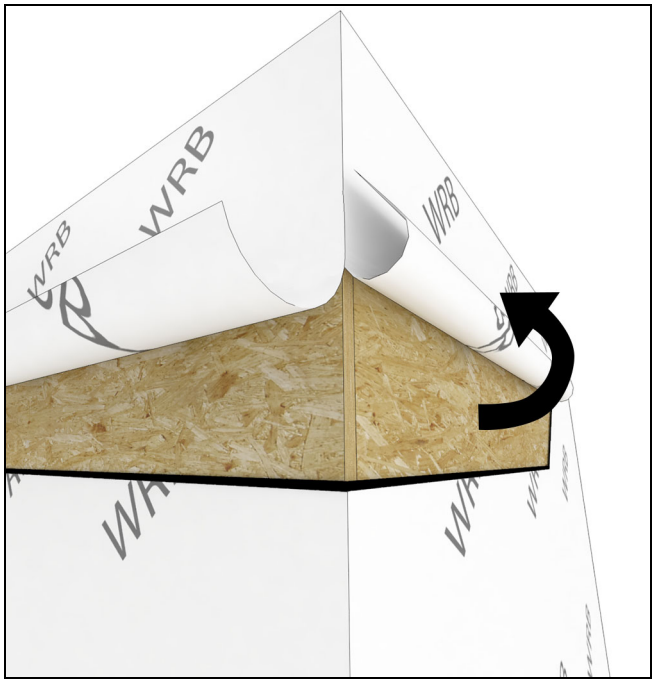

Figure 5

7. Cut the air barrier across the sill. See Figure 6

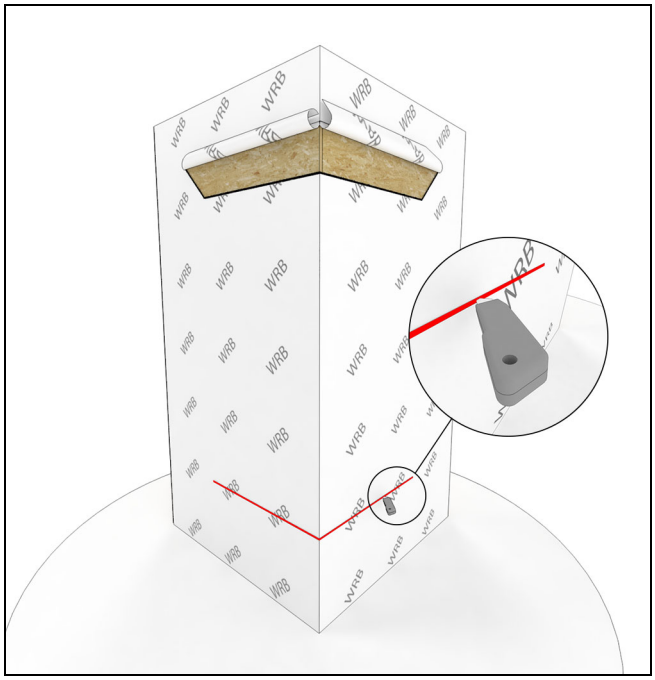

Figure 6

8. Make a vertical cut about 6" (152) from the sides of the rough opening running from the top to the bottom of the opening.See Figure 7

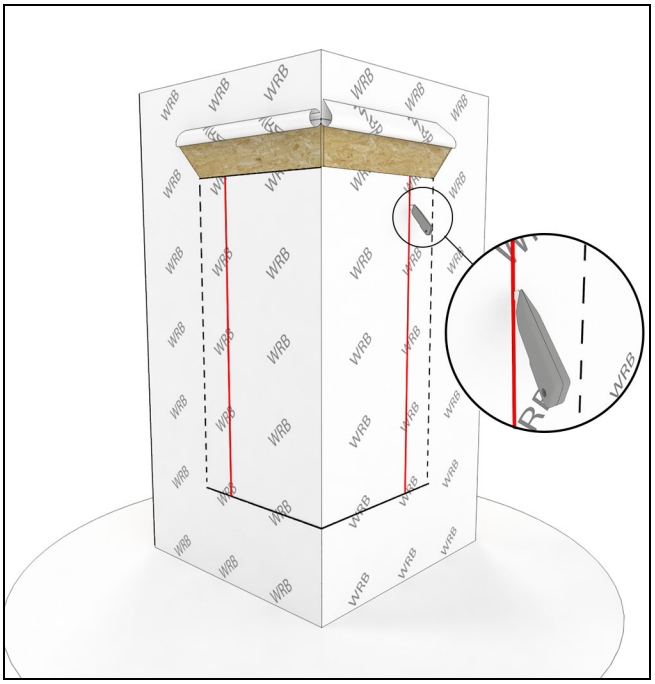

Figure 7

9. At the sill, trim the bottom corners about 3 1/2" (89) wide on each side and then make an additional 2" (51) vertical cut. See Figure 8.

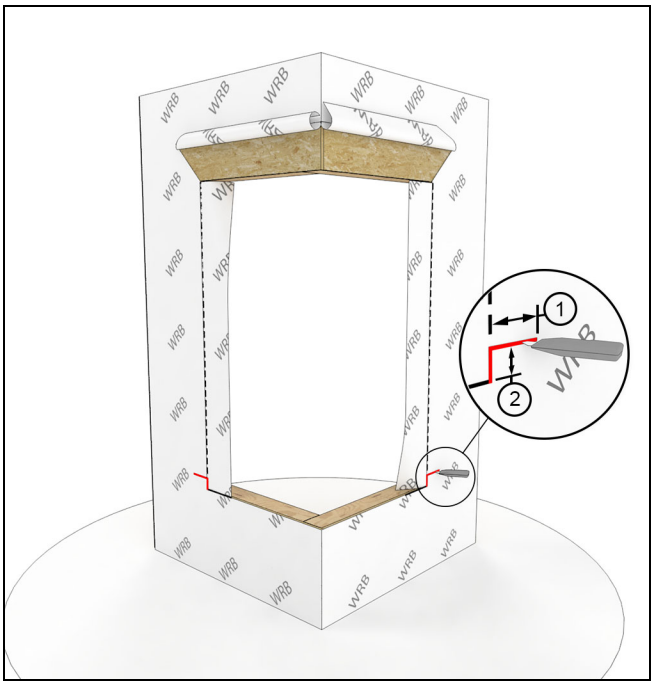

Figure 8

1	3 1/2” (89)
2	2" (51)

10. Tack the side jamb air barrier away from the opening temporarily. See Figure 9.

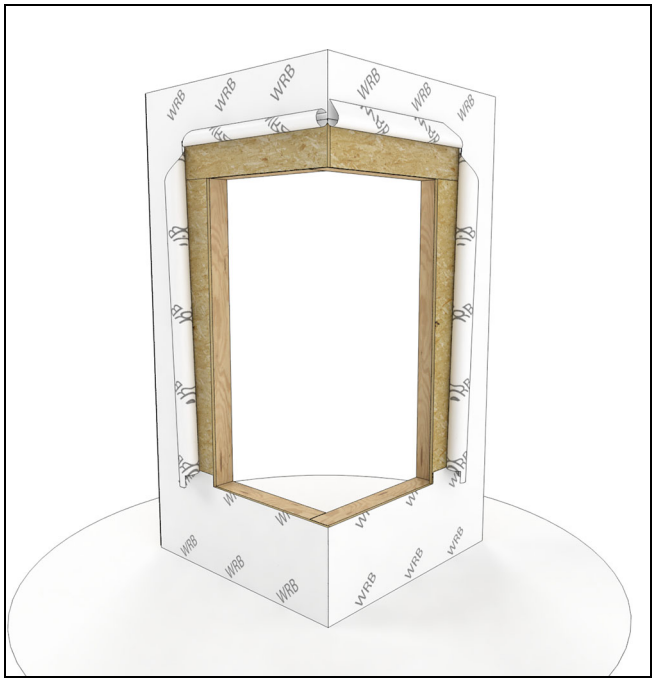

Figure 9

11. Check the rough opening for level, plumb, and square. See Figure 10 and Figure 11.

Figure 10 Check the sill for level

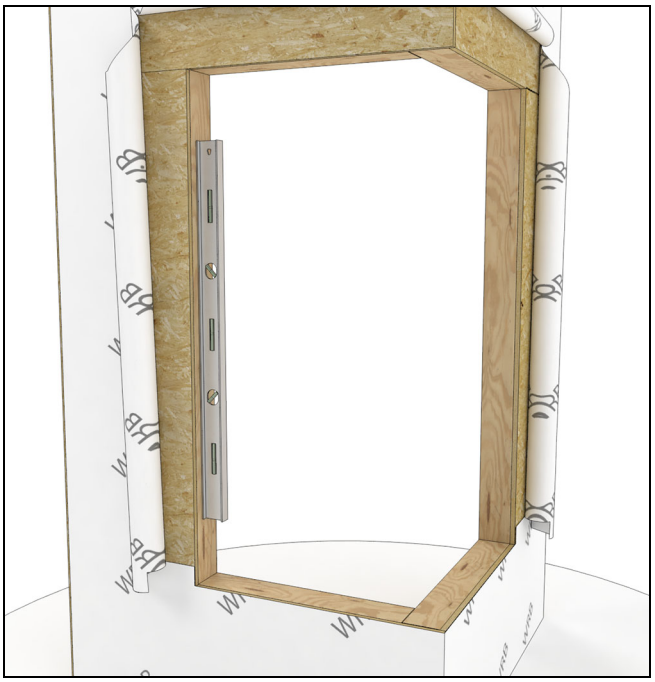

Figure 11 Check the jambs for plumb and square

Install the Sill Pan Flashing

Using a smartphone or similar device, scan the QR code below or click here to play a video of this procedure.

⚠ CAUTION!

Be aware that the use of sill pans and other barriers will decrease the rough opening height clearance. Adjust opening dimensions accordingly.

1. Cut one 18" (457) strip of Type III flexible self adhered pan flashing material. See Figure 12.

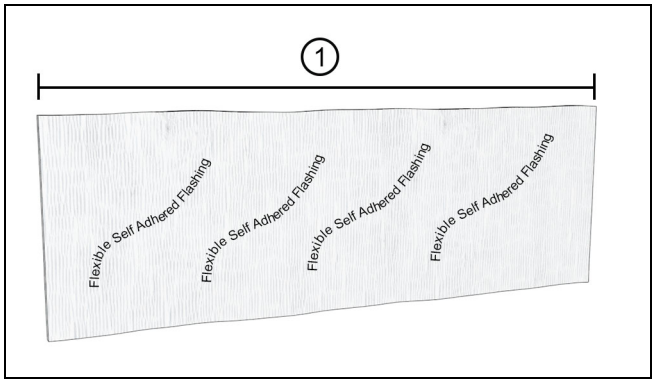

Figure 12

1	18" (457) Strip of flexible self adhered flashing

2. Fold material in half to crease. See Figure 13.

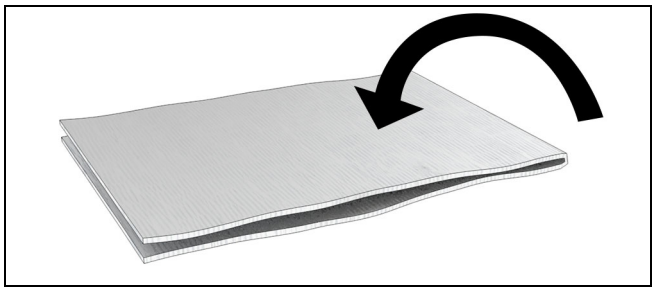

Figure 13 Fold sill pan flashing in half.

3. Fold the material at the seam of the release paper on the 3" (76) crease. See Figure 14.

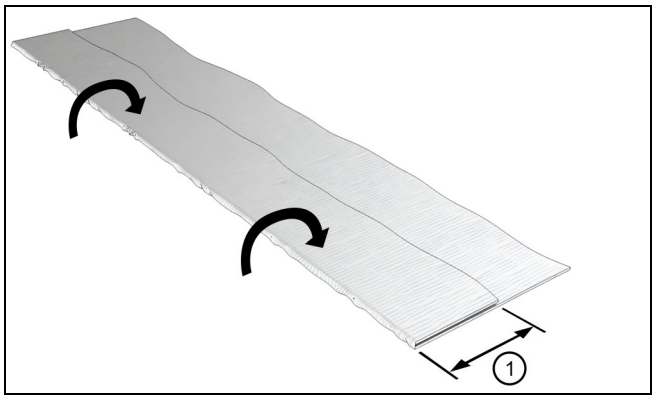

Figure 14

1	3" (76)

4. Remove the release paper from the adhesive backing at the 3" section. See Figure 15.

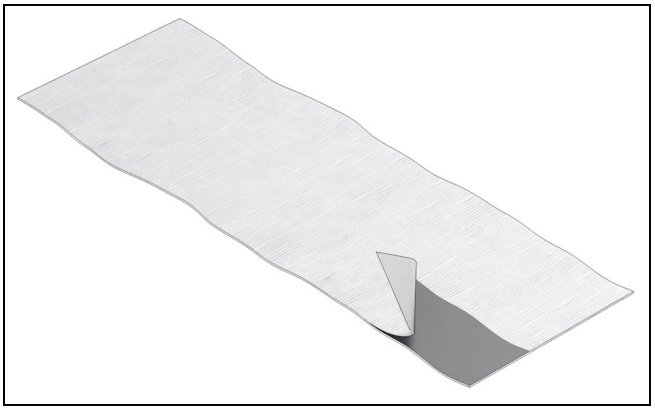

Figure 15

5. Center the material on the corner and adhere to the outside face of the building at the sill. See Figure 16.

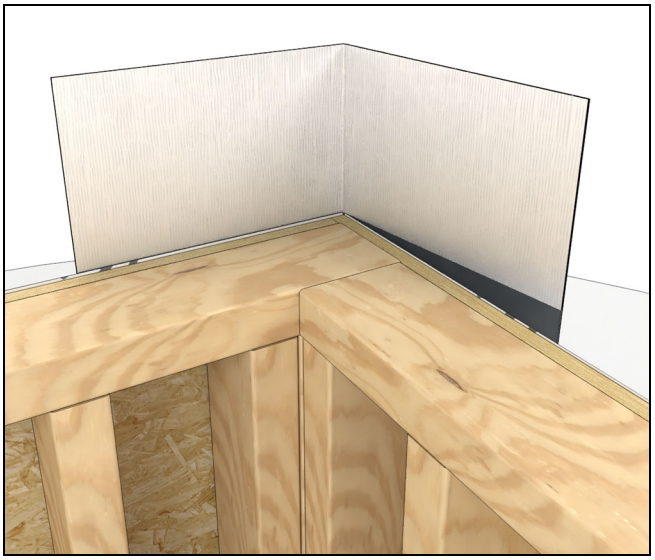

Figure 16

6. Cut the flashing at the crease in the corner. Stop about 1/4" from the sill. See Figure 17.

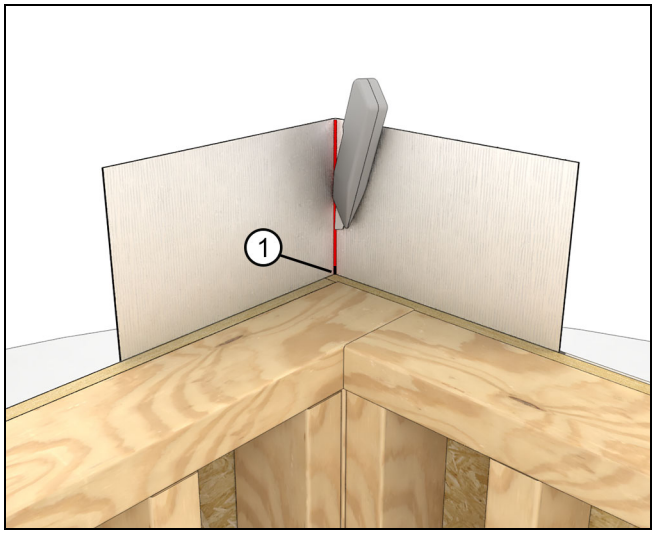

Figure 17

1	Vertical cut stops 1/4" from the sill

7. Remove the backing from the top section on one side and adhere to the opening. Then repeat on the opposite side. See Figure 18, Figure 19, and Figure 20.

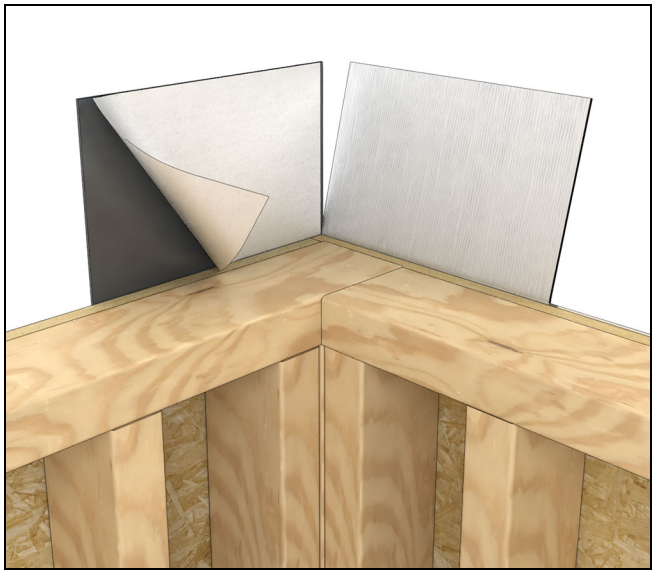

Figure 18

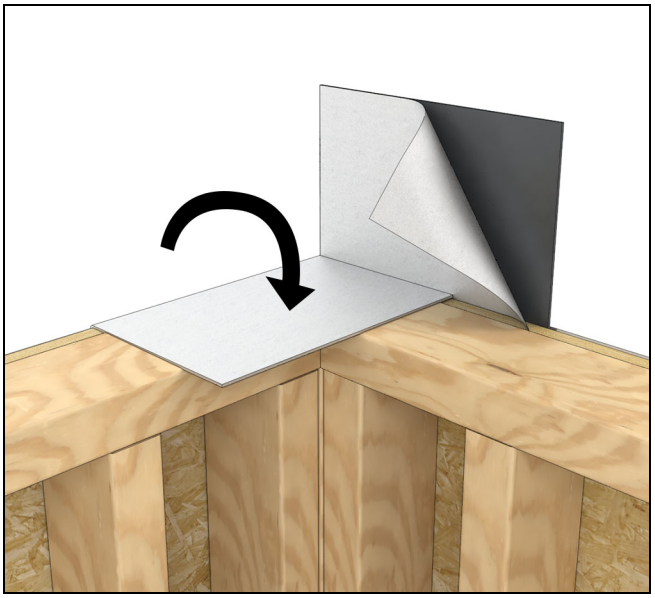

Figure 19

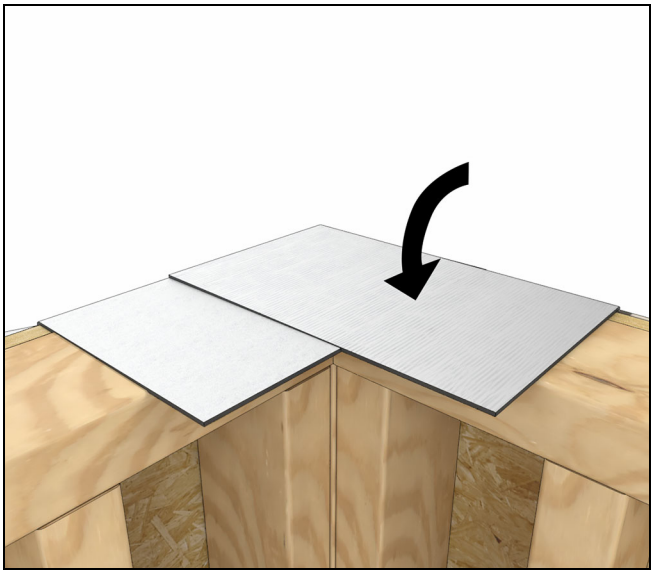

Figure 20

8. Cut another strip of flashing equal to the full length of one rough opening leg. Make the same folds as earlier. See Figure 21.

NOTE: This length will allow you to wrap the flashing up the side jamb about 6".

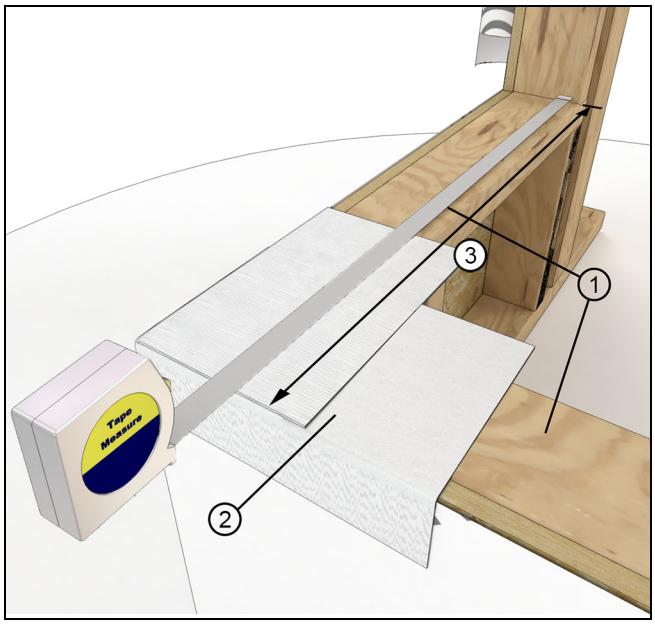

Figure 21

1	Sill legs
2	Corner flashing
3	Leg flashing equal to one full length of leg

9. Apply the flexible flashing to the sill leg starting about 6" (152) from the corner. Lap the flashing up the side jamb. Repeat on the opposite side. See Figure 22.

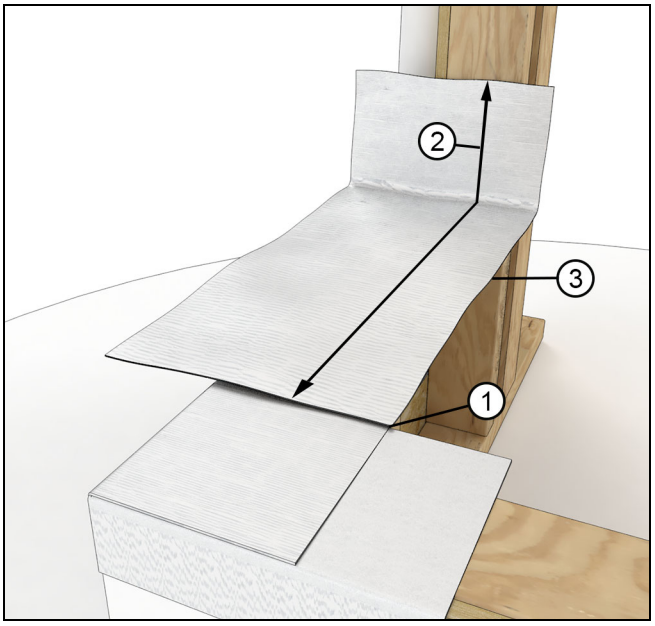

Figure 22

1	Leg flashing only overlaps one layer
2	Leg flashing rides up jamb 6"
3	Leg flashing is equal to one full length of leg

IMPORTANT

Do not layer the leg flashing at the corner so that it overlays more than one other layer. This could cause difficulties in flashing and leveling the assembly later.

10. Fold the flexible flashing down over the outside. Smooth out the flashing with the edge of a speed square or other tool to ensure there are no bubbles or voids. See Figure 23.

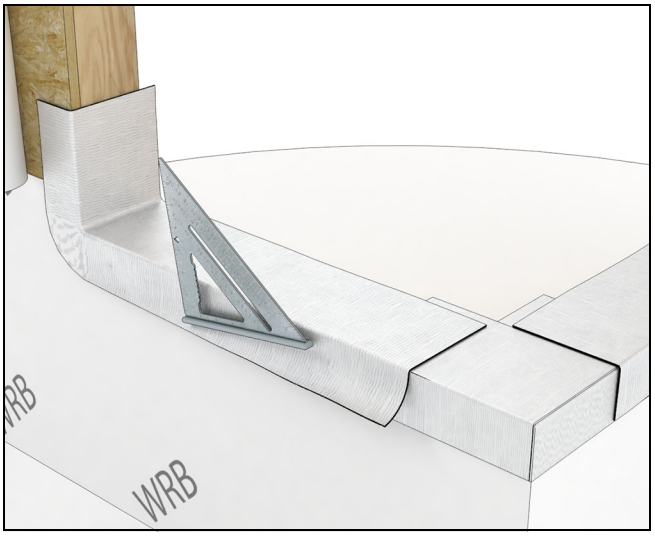

Figure 23

11. Apply seam seal tape at the corners of the flexible flashing. See Figure 24.

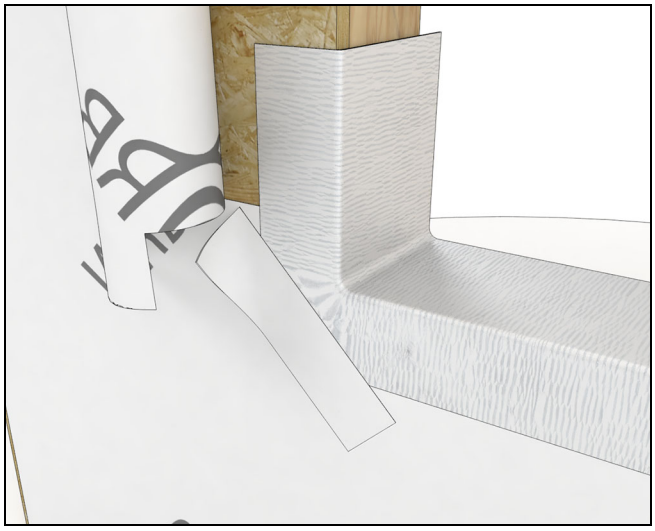

Figure 24

12. Where applicable, trim excess sill flashing material flush with the interior framing. See Figure 25.

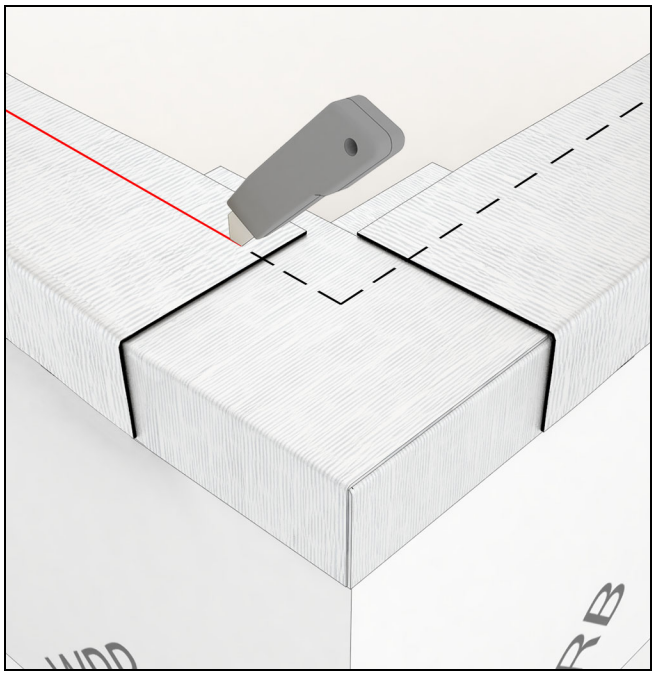

Figure 25

13. Wrap the air barrier into the rough opening. Staple, and cut excessive material from each jamb and cover with seam seal tape. See Figure 26 and Figure 27.

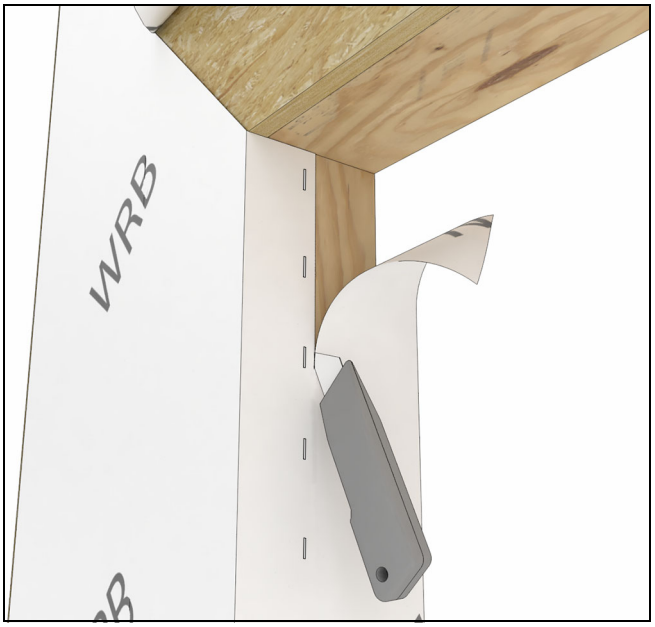

Figure 26

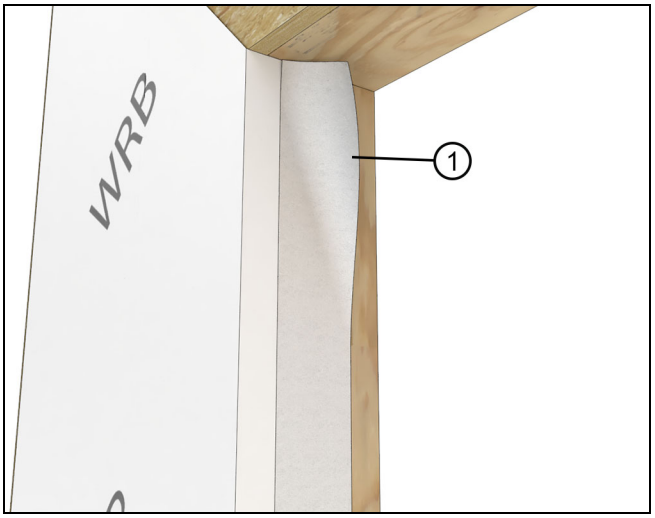

Figure 27

1	Seam seal tape

14. Draw a 45 degree angle onto the sill of the rough opening to reference the meeting line for Leg Assembly 1 and Leg Assembly 2. See Figure 28.

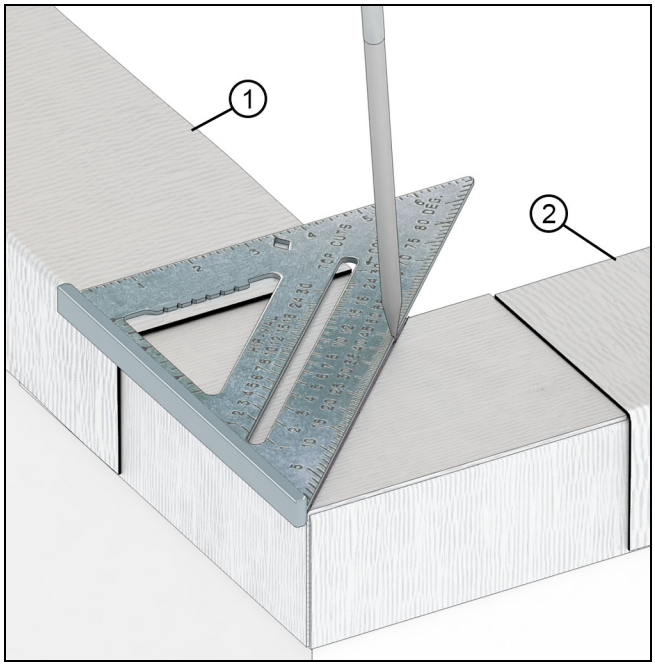

Figure 28

1	Leg Assembly 1
2	Leg Assembly 2

15. Apply sealant at the seam between the corner flashing and the flashing at the legs. See Figure 29.

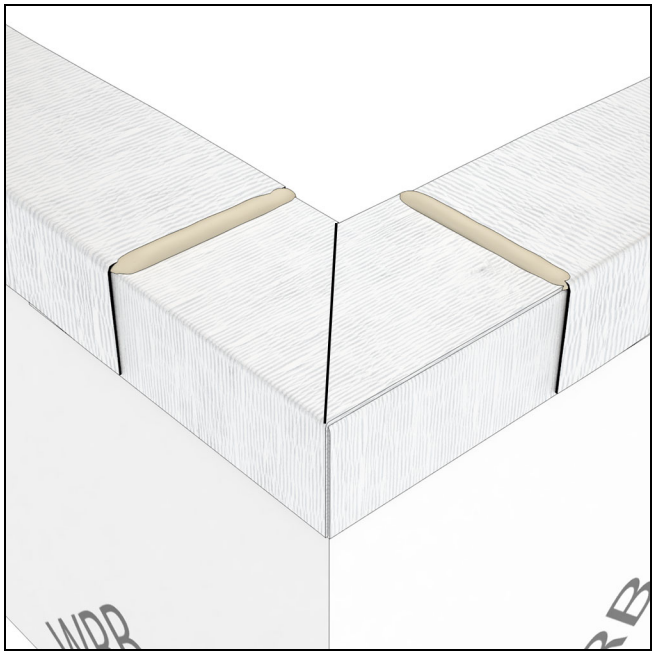

Figure 29

Installing the "Leg Assemblies"

Using a smartphone or similar device, scan the QR code below or click here to play a video of this procedure.

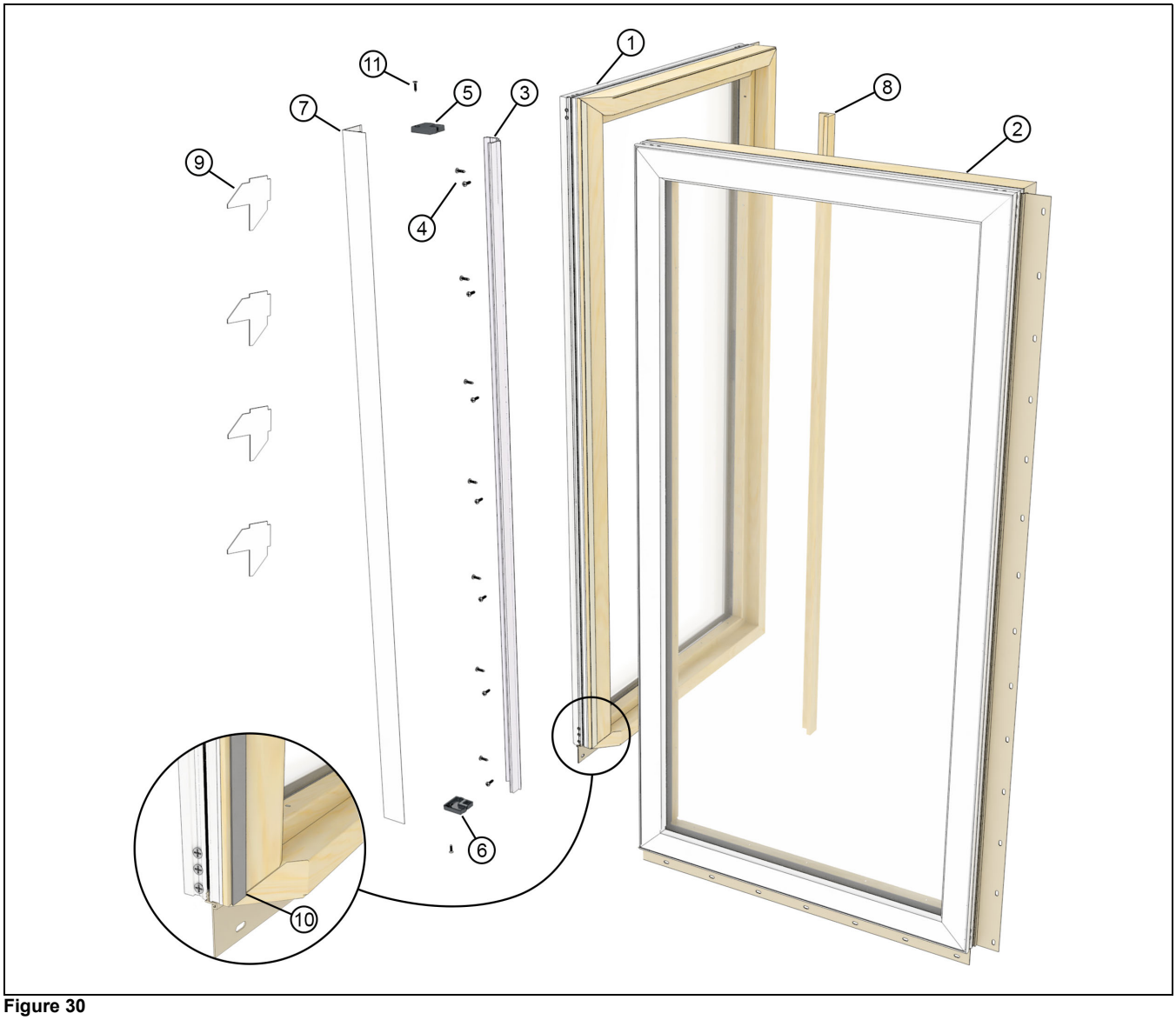

Figure 30

1	Leg Assembly 1 window with gasket
2	Leg Assembly 2 window without gasket
3	Corner Bracket (attached to the window without gasket)
4	Fasteners to bracket (self tapping)
5	Head jamb corner cap (labeled with a "T")
6	Sill corner cap (has weep holes, labeled with a "B")
7	Exterior corner cap (clad)
8	Interior corner cap (wood)
9	(4) Nail fin corner gaskets
10	Gasket
11	Exterior corner cap screws, #7 x 5/8"

Installing Bracketry

1. Center the bracket on the mitered frame that does not have the factory applied gasket. Use the supplied fasteners to attach the bracket to the frame (fastener locations are pre-marked on the bracket).See Figure 31.

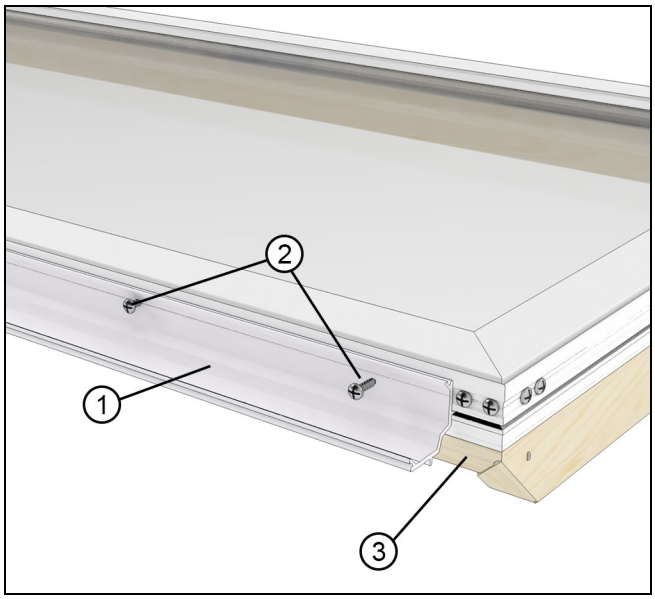

Figure 31

1	Bracket
2	#8 x 5/8" self tapping screws
3	Note that there is no gasket on mitered frame

Seek Assistance

Some large windows and/or assemblies are very heavy. Avoid injury by getting help to lift and position the assemblies into the rough opening. Having assistance from another person will be necessary when adjusting the assemblies and fastening them together.

NOTE: If you are using masonry or structural brackets for your installation attach to the jambs now. Follow installation instructions that are sent with the brackets.

Hint

If using masonry or structural brackets remove the nailing fin from the jambs and sill. You may want to cut small lengths of nail fin and attach between brackets to assist in installation later.

NOTE: If you are using field applied casing, refer to the field applied installation instructions sent with the casing.

Shim the Sill

1. Place shims on the sill near the corners, near the miter, at the center, and every 15" on center as needed. See Figure 32.

Using a smartphone or similar device, scan the QR code below or click here to play a video of this procedure.

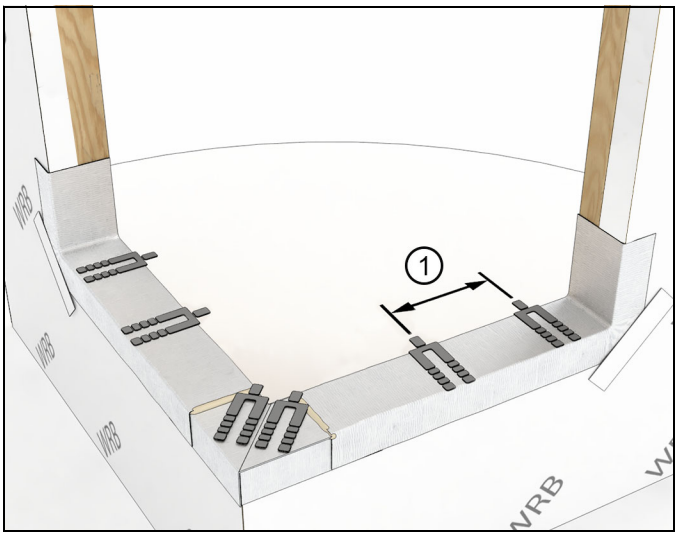

Figure 32

1	Install shims at center points and/or at 15" on center

2. Level the shims as necessary to make sure both legs are level. See Figure 33.

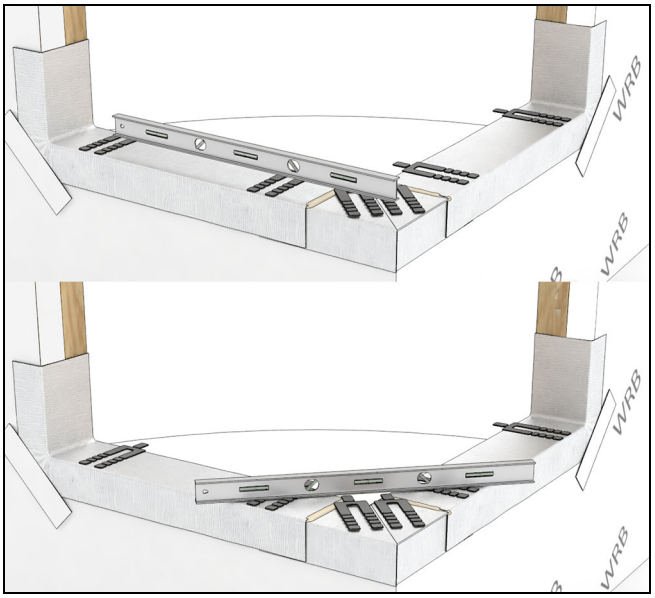

Figure 33

Assembling

1. Place the unit with the gasket into the RO. Align the center jamb closely to the center-line drawn on the RO. See Figure 34.

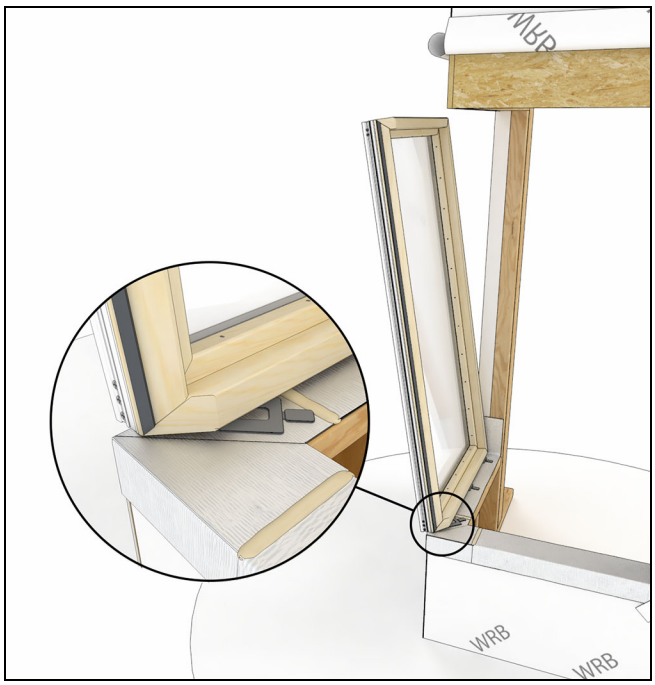

Figure 34

2. Level at the sill and plumb the unit. Adjust shims under the sill to level if necessary. See Figure 35.

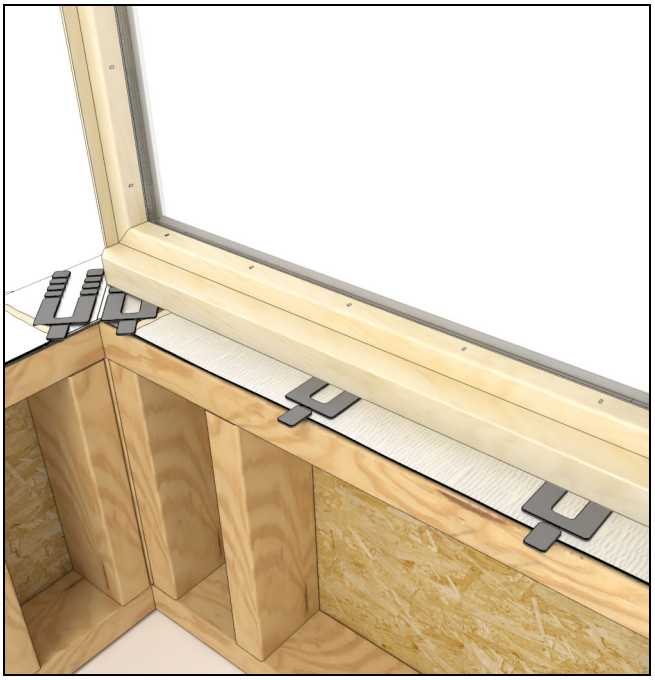

Figure 35

IMPORTANT

Proper shimming is **extremely important.** Under shimming or over-shimming will result in bowed jambs and or head jamb. When shimming near the miter location be sure to shim each window independently and as close to the miter as possible.

3. Temporarily fasten the unit into the RO by tacking the nailing fin with a 2" roofing nail. See Figure 36.

Figure 36

1	2" Roofing nail

4. Place a 1/4" (6) bead of adhesive the full length of the center jamb along the interior side of the gasket. See Figure 37.

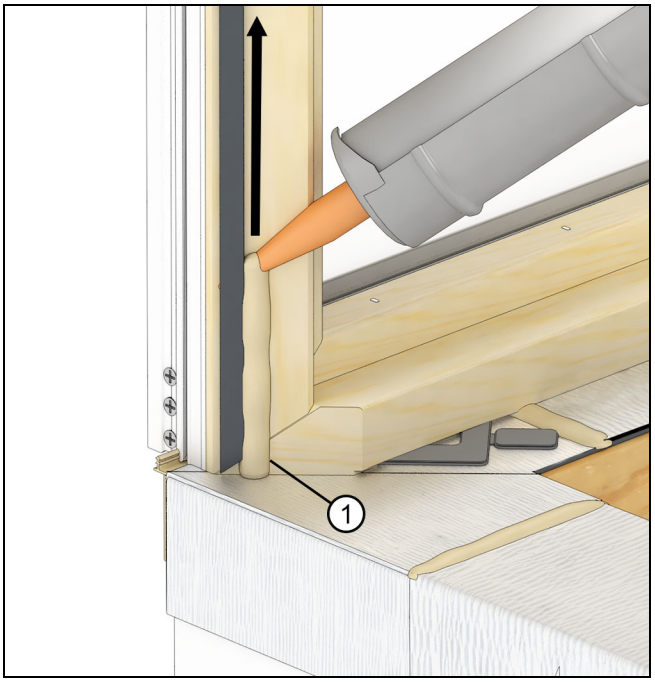

Figure 37

1	APA rated AFG-1 Spec Adhesive

5. Place a 1/4" bead of adhesive along the sill and head jamb miter as shown in Figure 38.

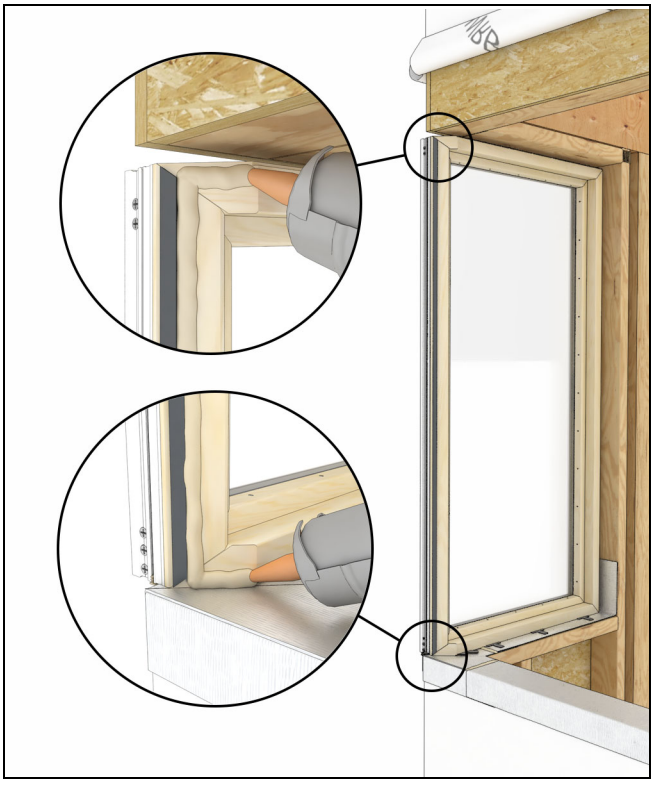

Figure 38

6. Set the bracketed leg assembly into the RO and align the location feature on the bracket into the nail fin kerf of the other unit. See Figure 39.

Using a smartphone or similar device, scan the QR code below or click here to play a video of this procedure.

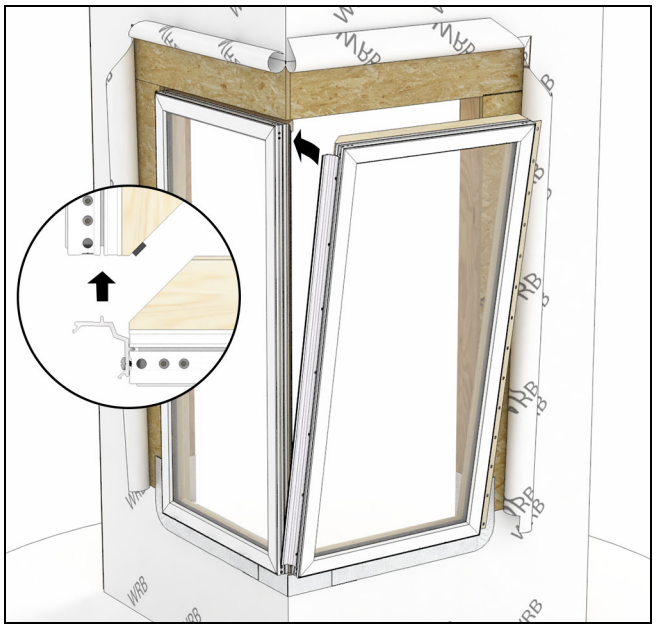

Figure 39

7. Check that the units are level to one another and that the interior miter is flush. Shim as necessary. See Figure 40.

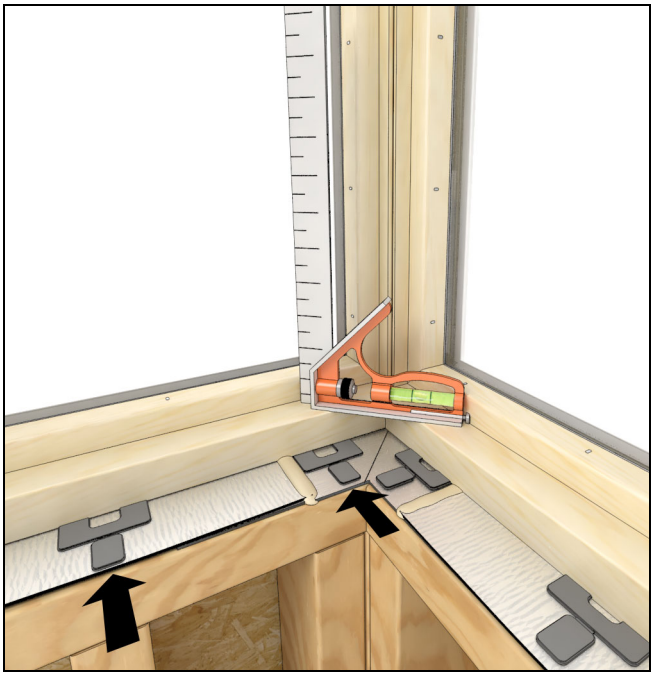

Figure 40

8. Using the supplied #8 x 5/8” pan head self tapping screws, fasten the bracket to the gasketed leg. See Figure 41.

Figure 41

9. Temporarily fasten the unit into the RO by tacking the nailing fin near the top corner with a 2" roofing nail. See Figure 42.

Figure 42

10. On the interior check that both the head jamb and sill are square. See Figure 43.

Figure 43

NOTE: Make adjustments as needed to obtain a tight miter at the sill and head jamb.

11. Pre-drill and fasten the unit through the sill, jambs, and head jamb 6" from each end and 15" on center (fasten at shim locations near the miter). See Figure 44 and Figure 45.

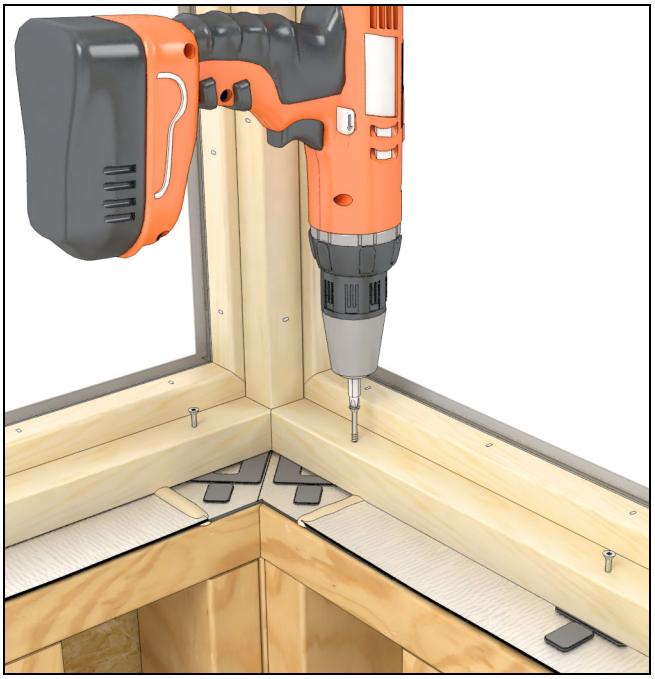

Figure 44

Figure 45

12. Optional: If you are using structural brackets on your installation, fasten them to the jambs/head jamb RO framing at this time. Follow the instructions sent with the brackets for fastening details.

13. Use the supplied #6 x 1 1/2” screws to fasten through the pre-drilled holes on the interior miter of the corner jamb. See Figure 46.

Figure 46

1	#6 x 1 1/2" screws (supplied)

14. Measure, cut and dry fit the interior wood cover over the miter. Fasten the cover to the mitered frame using a method appropriate for your situation. See Figure 47.

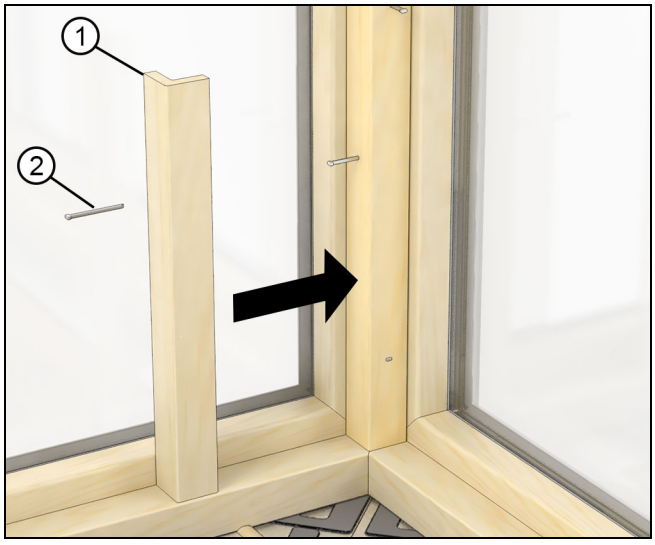

Figure 47

1	Interior wood cover
2	Fastener will vary

15. Apply and tool silicone on the exterior frame ensuring all the exposed wood at the sill are covered. See Figure 48.

Using a smartphone or similar device, scan the QR code below or click here to play a video of this procedure.

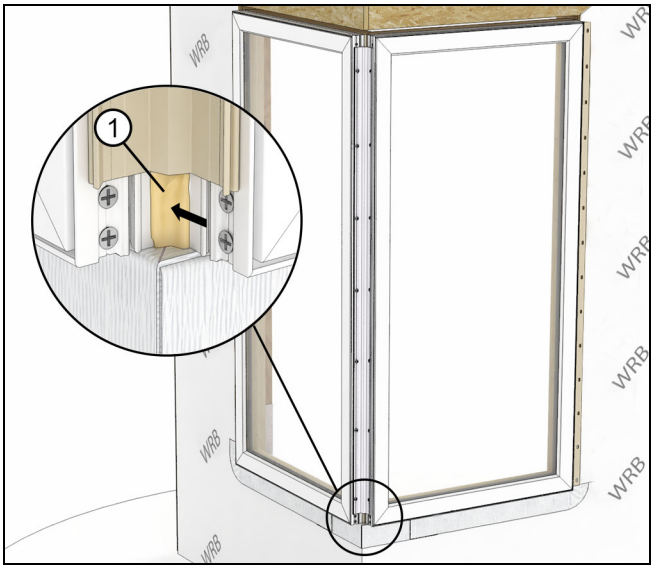

Figure 48

1	Sealant to cover exposed wood

16. Apply a 1/4" bead of sealant to the frame head jamb and seal and tool the exposed wood area. See Figure 49.

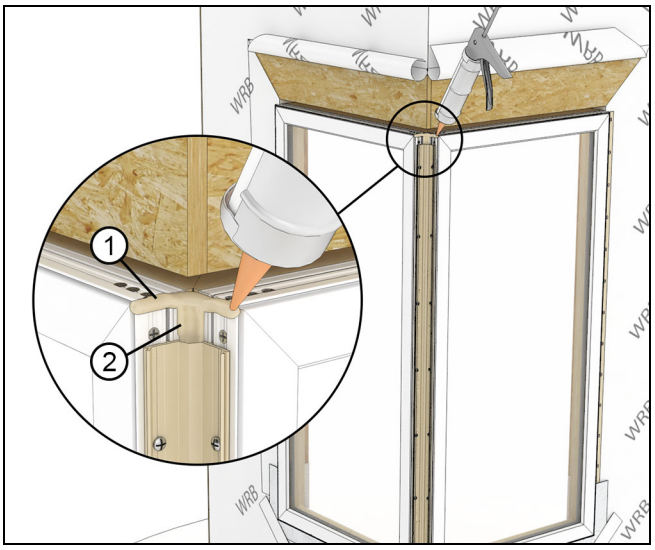

Figure 49

1	Apply sealant to head jamb miter
2	Apply and tool sealant to exposed wood

17. Apply silicone to the top end of the exterior corner cap.See Figure 50.

NOTE: The part is not handed until sealant is applied.

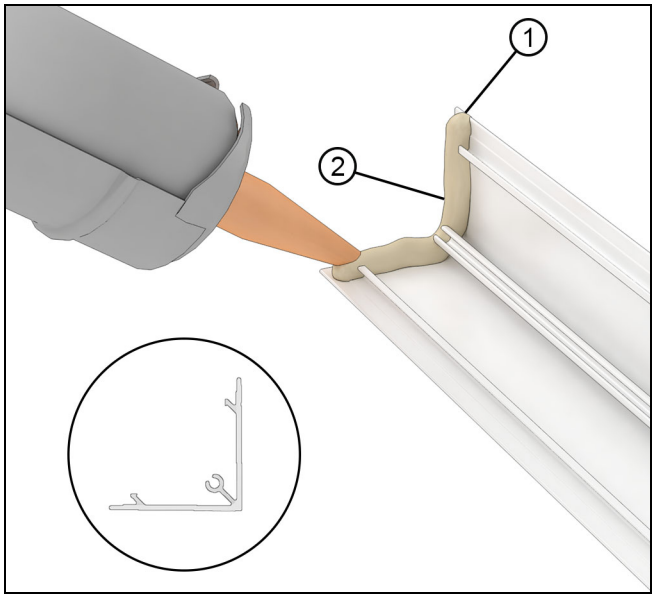

Figure 50

1	Top end of exterior corner cap
2	Silicone

IMPORTANT

Do not apply sealant to the sill end of the corner cap.

18. Attach the end caps to the corner cap with the supplied #7 x 5/8" screws. See Figure 51.

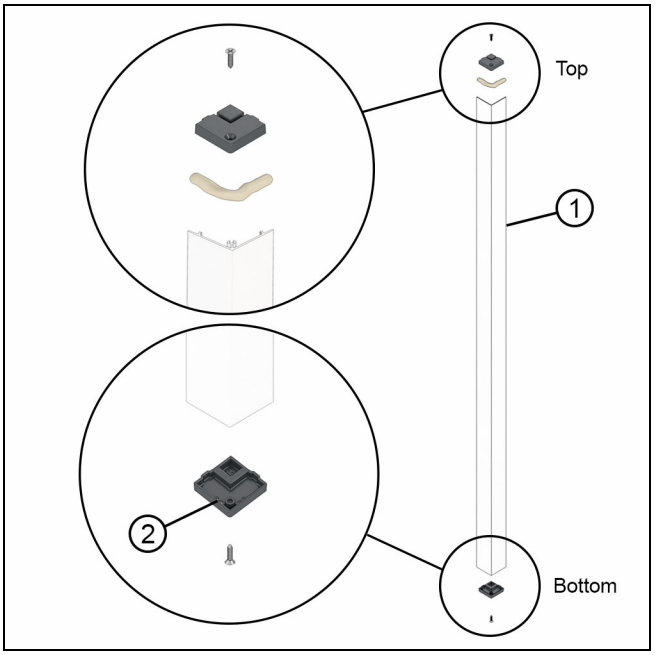

Figure 51

1	Exterior corner cap
2	sill cap (with weep holes)

19. Snap on the clad corner cap. Seat the cap with a rubber mallet. See Figure 52.

IMPORTANT

Ensure the cap is oriented with the weep holes at the sill. It is very difficult to remove the cap once seated without destroying it.

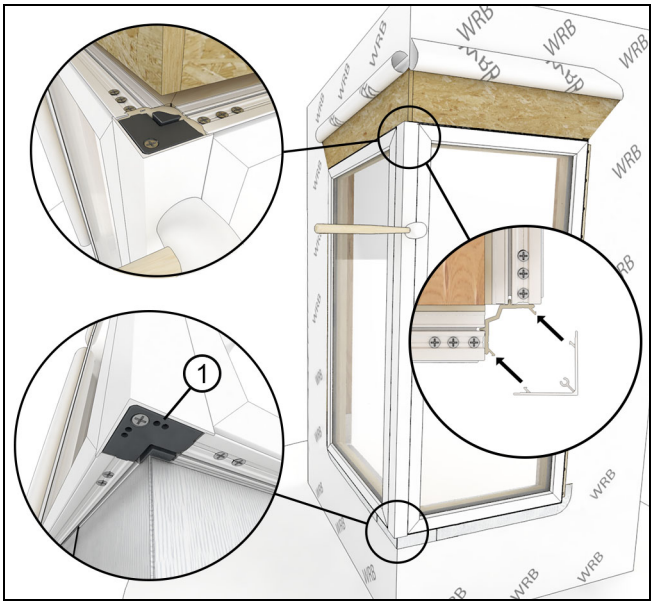

Figure 52

1	Weep holes

Sealing the Head Jamb

1. Measure and cut the drip cap nail fin to length. The drip cap miter is precut on one end. See Figure 53.

Using a smartphone or similar device, scan the QR code below or click here to play a video of this procedure.

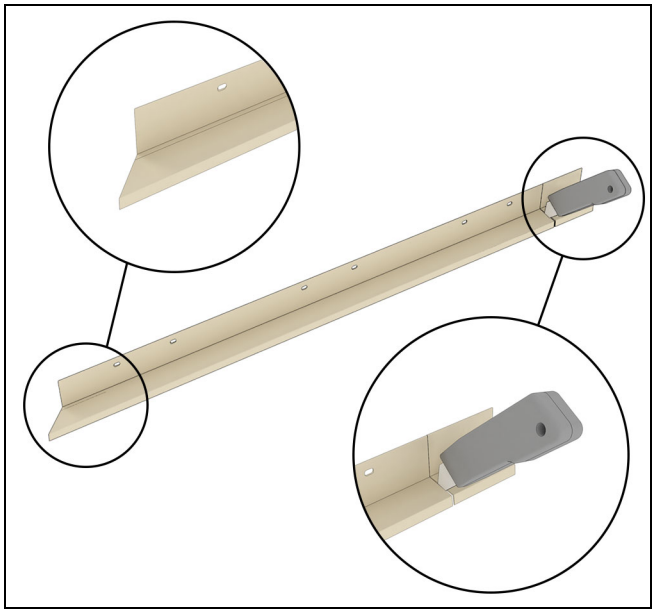

Figure 53

2. Install the drip cap. The barbed leg of the drip cap seats into the head jamb corner cap. See Figure 54.

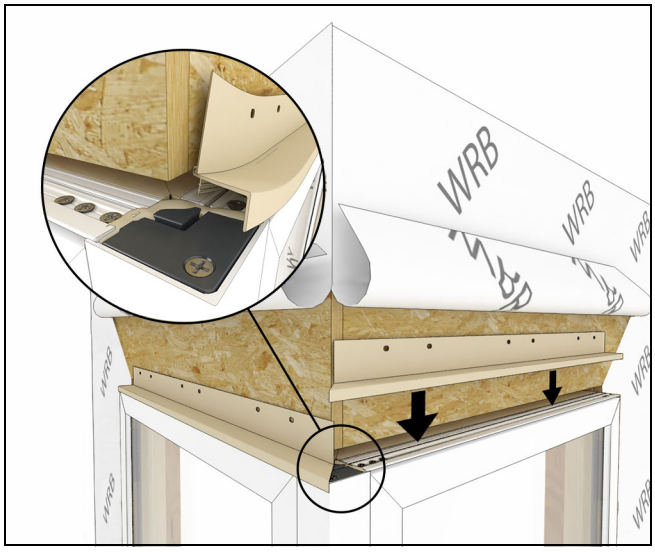

Figure 54

3. Seal behind the nailing fin at head jamb and jambs. See Figure 55.

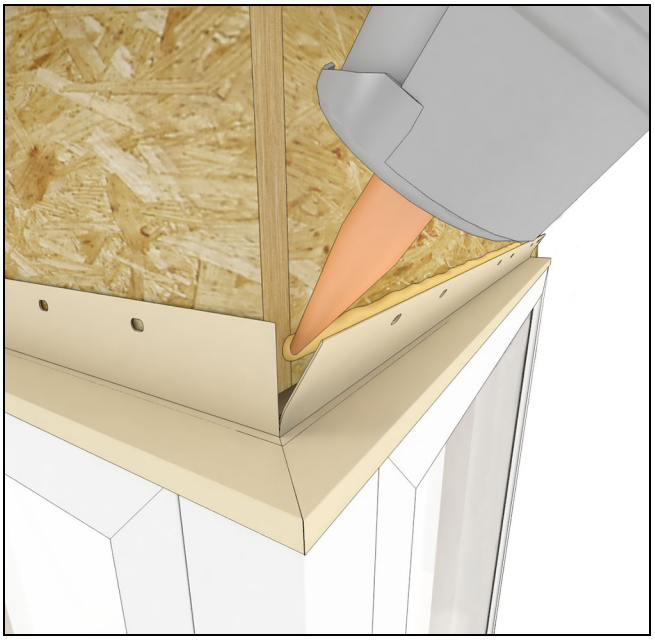

Figure 55

4. Fasten the nailing fin with roofing nails around the perimeter.

5. Apply a bead of sealant at the top corner under the mitered edges of drip cap. See Figure 56.

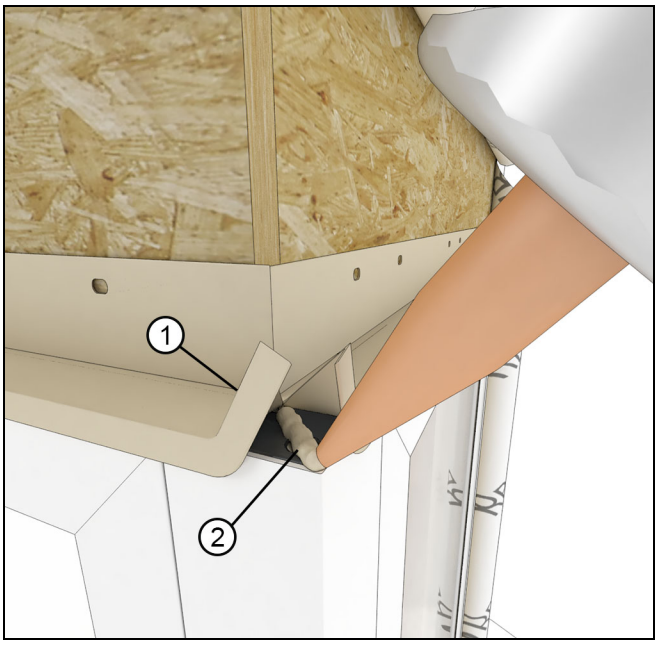

Figure 56

1	Lift corner of drip cap up
2	Sealant

Flashing the Installation

Using a smartphone or similar device, scan the QR code below or click here to play a video of this procedure.

IMPORTANT

Nailing fin is not designed to be a weatherproof flashing.

1. Adhere a 3" (76) high x 8" (203) wide piece of flexible flashing over the top corner of the drip cap. See Figure 57.

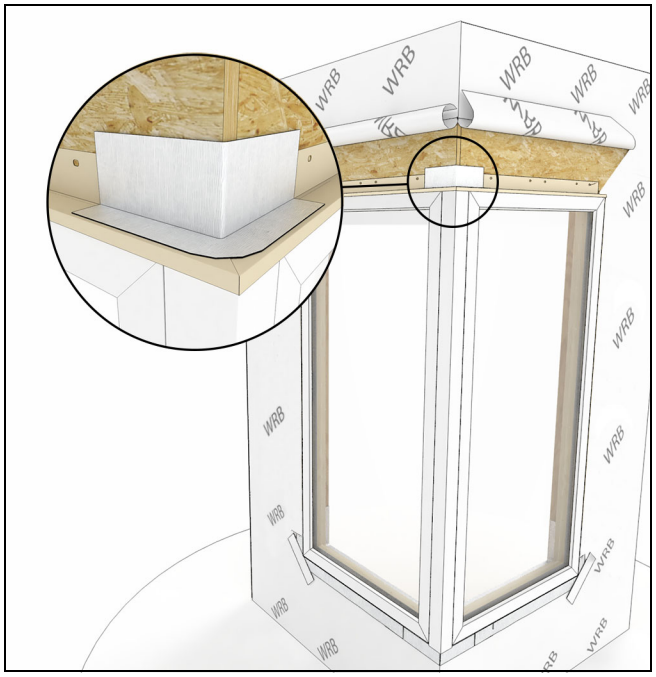

Figure 57

2. Apply nail fin corner gaskets to each corner of the nail fin. Follow the instructions sent with the gaskets.See Figure 58.

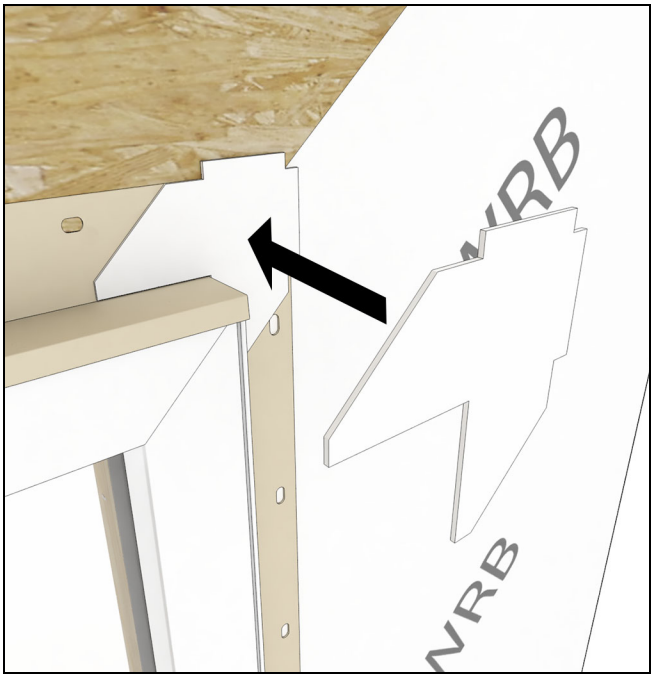

Figure 58

NOTE: If a drip cap or rigid head flashing is not already installed on the head jamb or head jamb casing of the window, do so now. The drip cap should extend about 1/8" (3) beyond the edge of the window on each side. 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 window, window casing, and sheathing.

3. Install an ***optional*** "high pressure skirt". Use flashing material or a strip of weather resistive barrier and attach it to the sill of the window with seam seal tape or flashing tape.See Figure 59 and Figure 60.

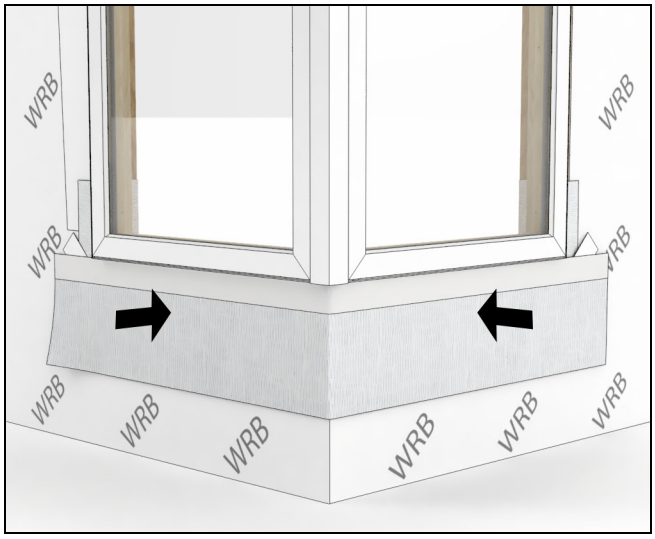

Figure 59

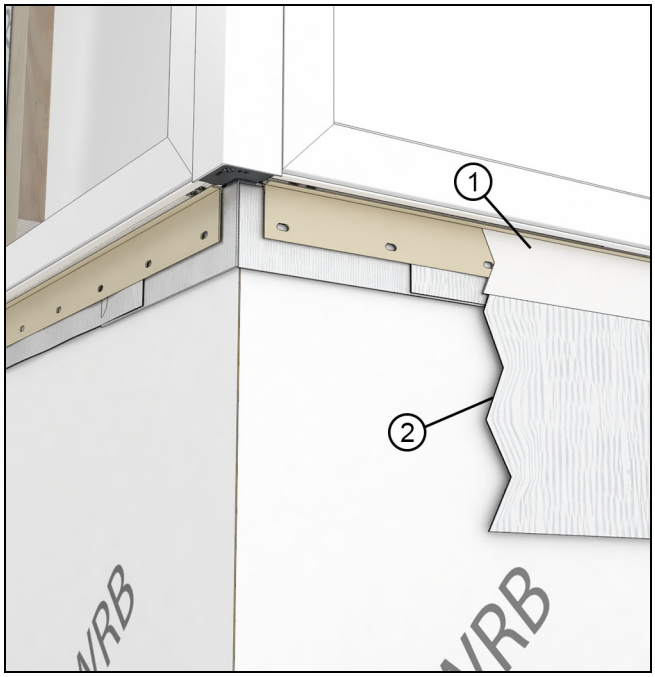

Figure 60 Illustration of high pressure skirt cut away for illustrative purposes.

1	Seam seal tape or flashing tape attached to nail fin
2	WRB paper or flashing material (with backing left on)

IMPORTANT

When installing the high pressure skirt, do not plug the weep holes in the end cap.

4. Lap vertical strips of self adhered flashing membrane onto the unit or casing and out over the air barrier. See Figure 61.

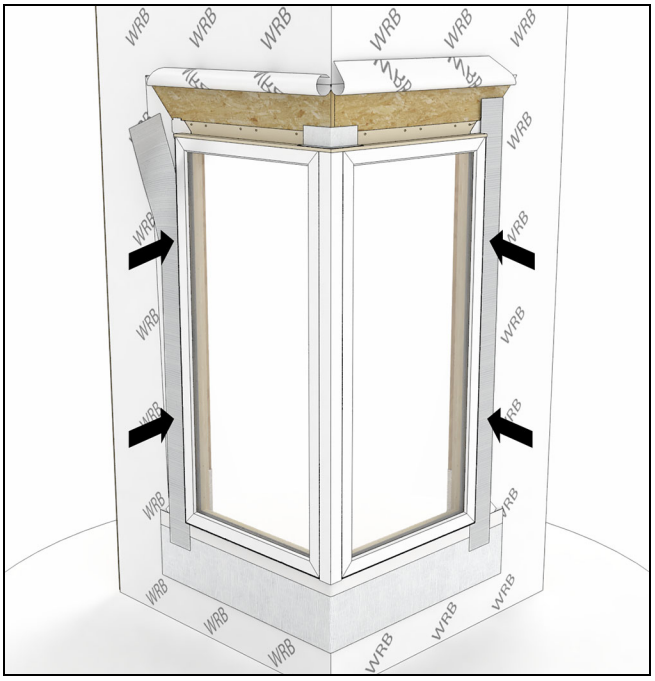

Figure 61

5. Make small cuts at the head jamb to allow the membrane to fold back onto the sheathing.See Figure 62.

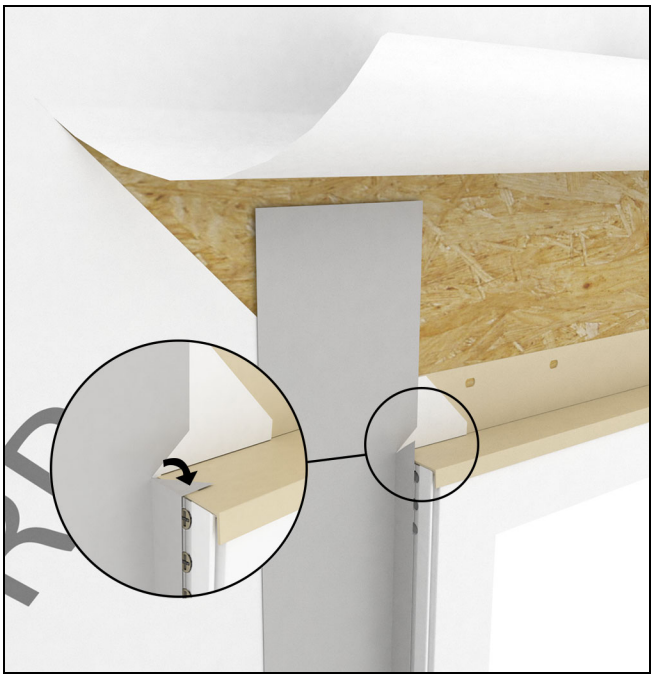

Figure 62

6. Install another layer of adhesive membrane lapping onto the head jamb of unit. Membrane flashing should extend and cover the flashing previously installed at the jambs. See Figure 63.

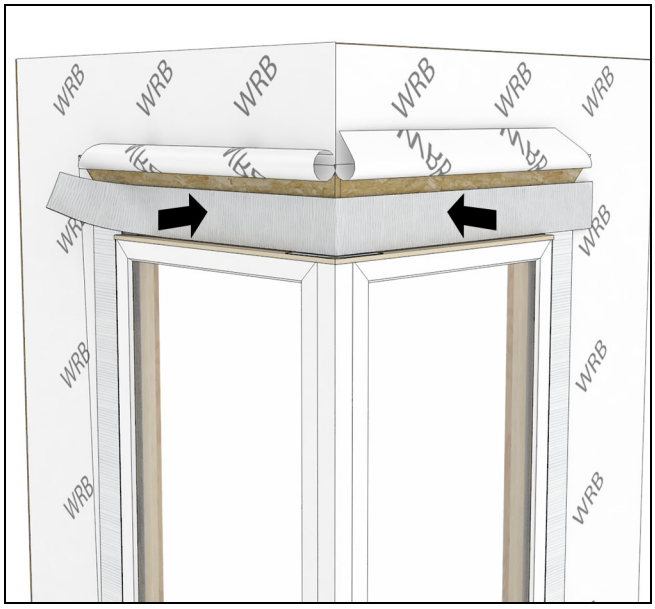

Figure 63

7. Seal the ends of the vinyl drip cap or rigid head flash by injecting sealant at each end.See Figure 64.

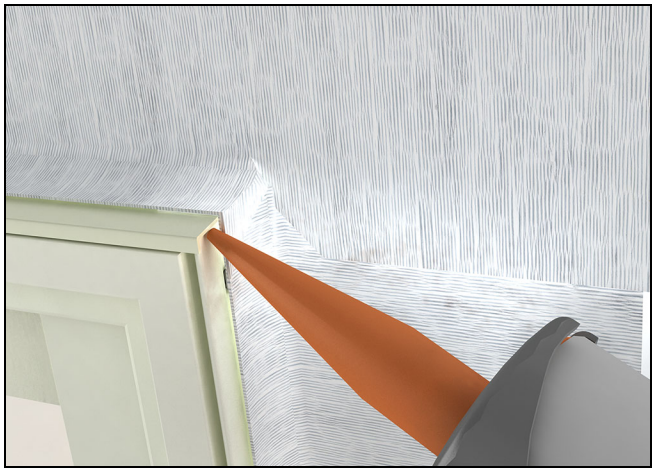

Figure 64

8. Fold the head jamb air barrier down over the flashing. Tape and seal the top corner. See Figure 65

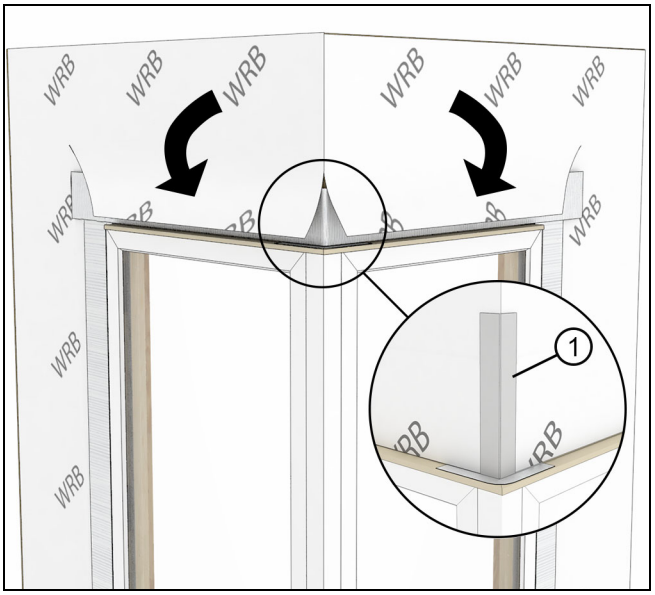

Figure 65

1	Seam seal tape

9. Apply seam seal tape over the diagonal cut in the air barrier at the top corners. Make sure the tape laps onto the unit or casing. Tape and seal any seams and fasteners directly above the unit. See Figure 66.

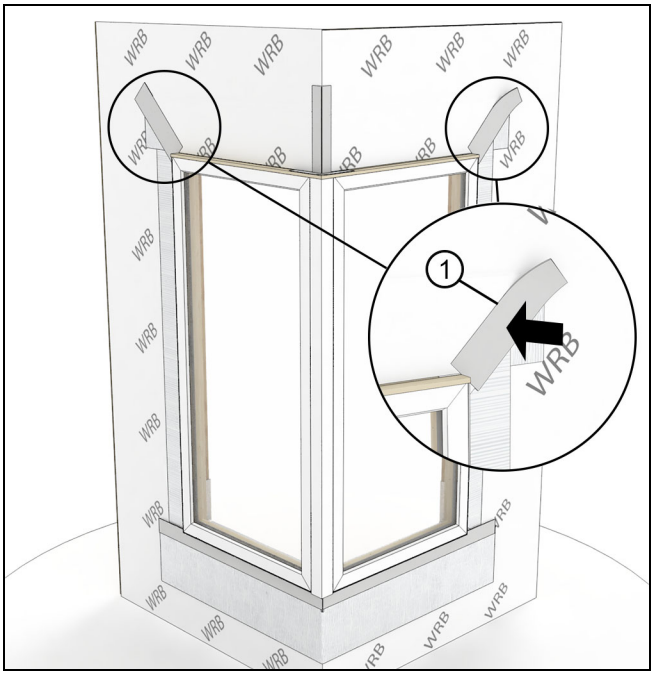

Figure 66

Interior Insulating and Sealing

Marvin recommends two ways of insulating the interior rough opening cavity. Both are outlined in the following steps.

Using a smartphone or similar device, scan the QR code below or click here to play a video of this procedure.

1. Loose Fill Fiberglass Insulation. Insulate the RO cavity with loose fill insulation. Install a backer rod and sealant at the interior plane of the RO to create a continuous air seal. See Figure 67.

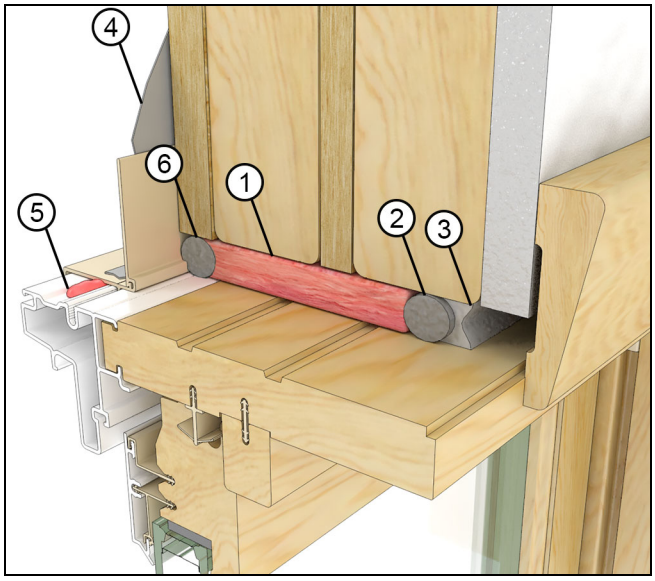

Figure 67

1	Loose fill fiberglass insulation
2	Foam backer rod
3	Continuous interior air seal (sealant)
4	Exterior Flashing
5	Sealant underneath drip

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 68.

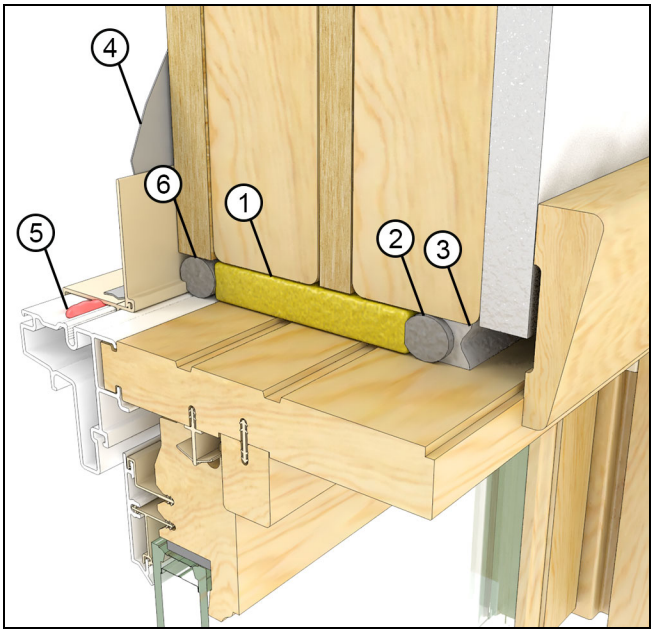

Figure 68

1	Low expansion/compression foam insulation
2	Foam backer rod
3	Continuous Interior air seal (sealant)
4	Flashing
5	Sealant underneath drip
6	Foam backer rod

NOTE: For more information on insulating and sealing, refer to the Window Rough Opening Prep and Flashing instruction on our website.

Exterior Sealing

IMPORTANT

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 causing air and water infiltration.

1. For ALL applications: Once the exterior finish such as siding or brick veneer is installed, apply backer rod (if applicable) and a 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. See Figure 69.

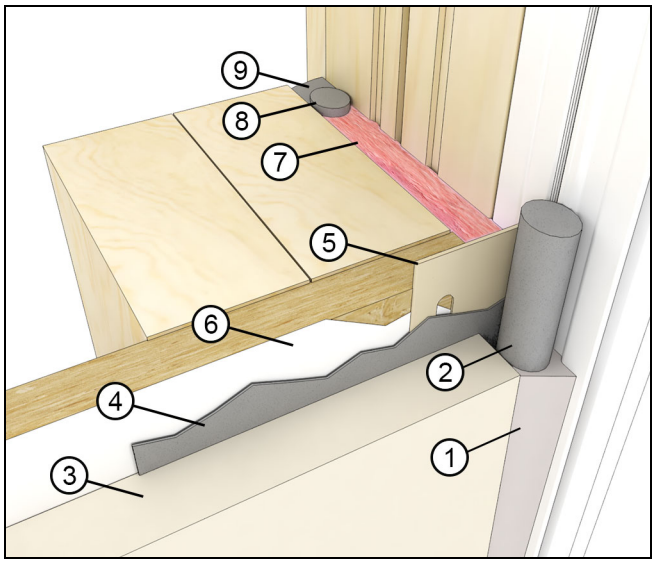

Figure 69

1	Exterior sealant
2	Foam backer rod
3	Exterior siding/finish
4	Self adhered flashing
5	Nail fin
6	Weather resistive barrier
7	Insulation
8	Foam backer rod
9	Interior sealant (air seal)

IMPORTANT

When sealing the installation do not plug the weep holes in the end cap.

Technical Installation Specifications

The following details are specified for proper installation and for the unit to meet the advertised design pressure (DP) rating.

- Rough Opening Width: 1/4" - 1" (6-25) wider than window/door frame outside measurement.
- Rough Opening Height: 1/4" - 1/2" (6-13) higher than window/door frame outside measurement.
- Masonry Opening Width: 1/4 - 1/2" (6-13) wider than window/door frame outside measurement.
- Masonry Opening Height: 1/8" - 1/4" (3-6) higher than window/door frame outside measurement.

ATTENTION

Architectural Detail Manual Specifications:

Rough Opening: Width 1" (25); Height 1/2" (13).

Masonry Opening: Width 1/2" (13); Height 1/4" (6).

- The panning must drain water to the exterior of the cladding OR the exterior surface of a concealed weather resistive barrier.

⚠ CAUTION!

Be aware that the use of sill pans and other barriers will decrease the rough opening height clearance. Adjust opening dimensions accordingly.

- The panning system used in these instructions is one component in a structure's overall water management system. It should be used in conjunction with an appropriate drainage plane compatible with the exterior cladding.
- Flashing materials must comply with ASTM E2112-01, section 5.13 and be compatible with all materials used in installation including panning systems, air barriers and building papers, sheathing, and the window unit.
- Properly flash and/or seal all windows at the exterior, perimeter.

IMPORTANT

Flashing material must not contain asphalt and must be compatible with flexible PVC (vinyl).

- Sealants used for installation must be Grade NS Class 25 per ASTM C920 and compatible with the building exterior, window exterior surface, and flashing/water management materials.
- Optional foams used for installation must be low expansion only. Foam and foam application must comply with ASTM E2112-01, SEC 5.9.2
- For units with flat casing install with installation brackets, structural masonry brackets, or jamb screws.
- Shims 4" - 6" (102-152) from each corner on jambs and head jambs. Install additional shims at 15" (381) on center and at all locking points. always shim at the check rails and meeting stiles.
- Do not use chemically treated products for shim material.
- Fasteners penetrating chemically treated lumber must be a minimum of 0.90 oz/ft2 zinc hot dipped galvanized or stainless steel type 304 or 316.
- The window frame must not come into direct contact with chemically treated wood products.