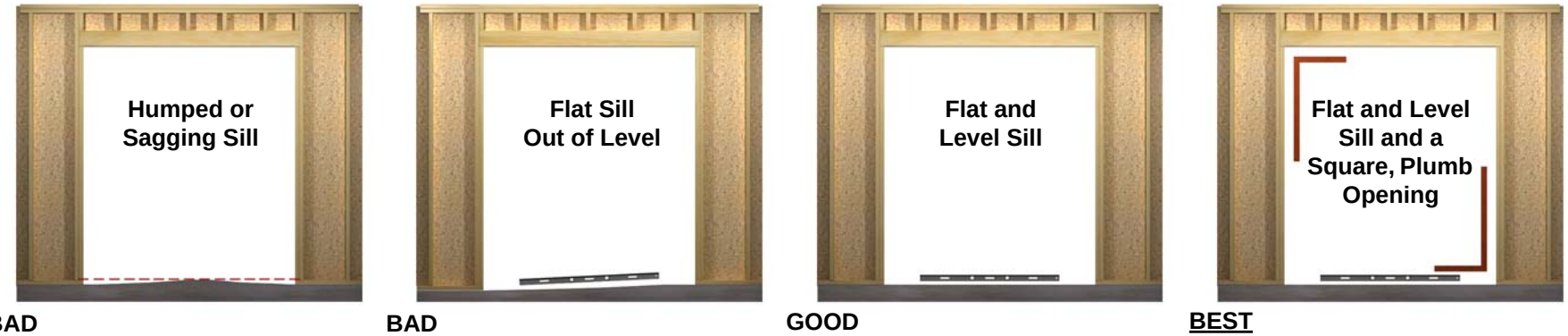
Sliding Door

General Installation Instructions



(Need to correct sill condition prior to door installation)

1. **The key to proper operation is squaring the door frame in relation to the sill.**
2. A GOOD INSTALLATION has a **FLAT** sill that is also **LEVEL**.
3. The ***BEST INSTALLATION*** requires a **FLAT** and **LEVEL** sill and a **SQUARE** and **PLUMB** opening.
4. Correcting an out of square opening requires shimming beneath the sill and/or at the corners. These instructions assume an opening is constructed for the BEST installation with a flat and level sill and a square opening.

These instructions are applicable for the following products:

Integrity All Ultrex Sliding Patio Door	**Integrity Wood-Ultrex Sliding Patio Door**	**Integrity Wood/Ultrex Sliding French Door**
Infinity Sliding French Door	**Infinity Sliding Patio Door**	**Ultimate Inswing French Door Direct Glaze Transom**

ABSTRACT: Please read these instructions in their entirety before beginning to install your sliding door product. These installation instructions demonstrate the installation of a sliding door n 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 ASTM E2112-07, “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).

Table of Contents

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

WARNING

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

IMPORTANT

Contact your Integrity or Infinity dealer if you have any questions regarding product and materials used in manufacturing or questions on replacement parts.

Before You Begin

Hazard Notations

Please familiarize yourself with the following hazard notations used throughout this instruction.:

Caution	Warning	Seek Assistance	Tips/Hints
Mistakes or misuse could cause damage to the window or result in faulty installation and unit performance.	Mistakes or misuse could result in personal injury and/ or severe damage to unit, equipment, and/or structure.	Help from another individual is necessary to perform this task safely and correctly.	Information on alternative procedures, definitions, helpful hints

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 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 specifications as well as the details in this section must be followed to achieve proper installation and performance.
- 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.

After Market Products

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

Before purchasing or applying any product that may affect the installation or performance of Integrity or Infinity products contact the manufacturer of after market product/glazings that are not supplied by Integrity or Infinity 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.

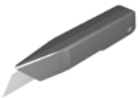
Tools and Supplies Needed

TOOLS:


Safety Glasses


#2 Phillips Screwdriver


Putty Knife


Utility Knife


Level


Pry Bar


Square


Hammer


Drill


Tape Measure

SUPPLIES:

Construction Adhesive[1]


Shims

Sealant[1]

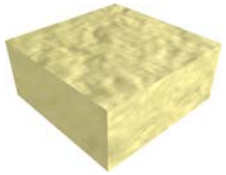

Rags/ Paper Towels

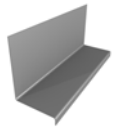

Flashing


Low expansion foam insulation[1]


2" Galvanized roofing nails


Weather resistive barrier


Fiberglass insulation


Drip cap

1.See Technical Specifications for details on adhesives, sealants and low expansion foam insulations.

Rough and Masonry Opening Requirements

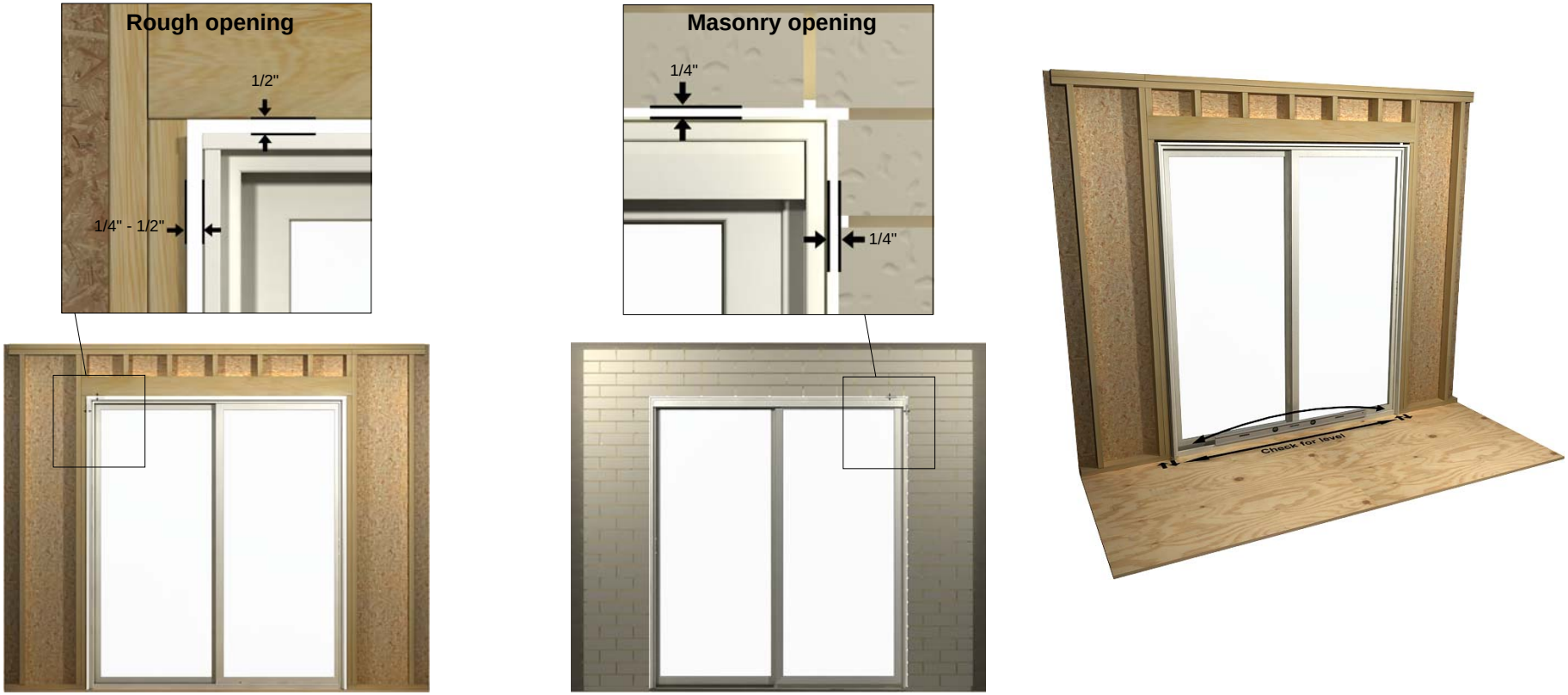


Figure 1 Typical rough and masonry openings.

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. See the Technical Installation Specifications for rough and masonry opening gaps. When framing the rough opening, care should be taken to ensure the sill plate is level and the opening is square, straight and plumb.
2. 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.

NOTE: For doors not on grade and in standard wood frame construction with brick veneer, make sure there is at least 1/2" (13) *between the bottom of door sill (or eventual placement of the door) and the top row of brick to avoid "brick bind".*

Rough Opening Preparation

The following section demonstrates best practice for a rough opening preparation for both air barrier and building paper scenarios. Refer to ASTM E2112-1 for the other situations not covered in this document.

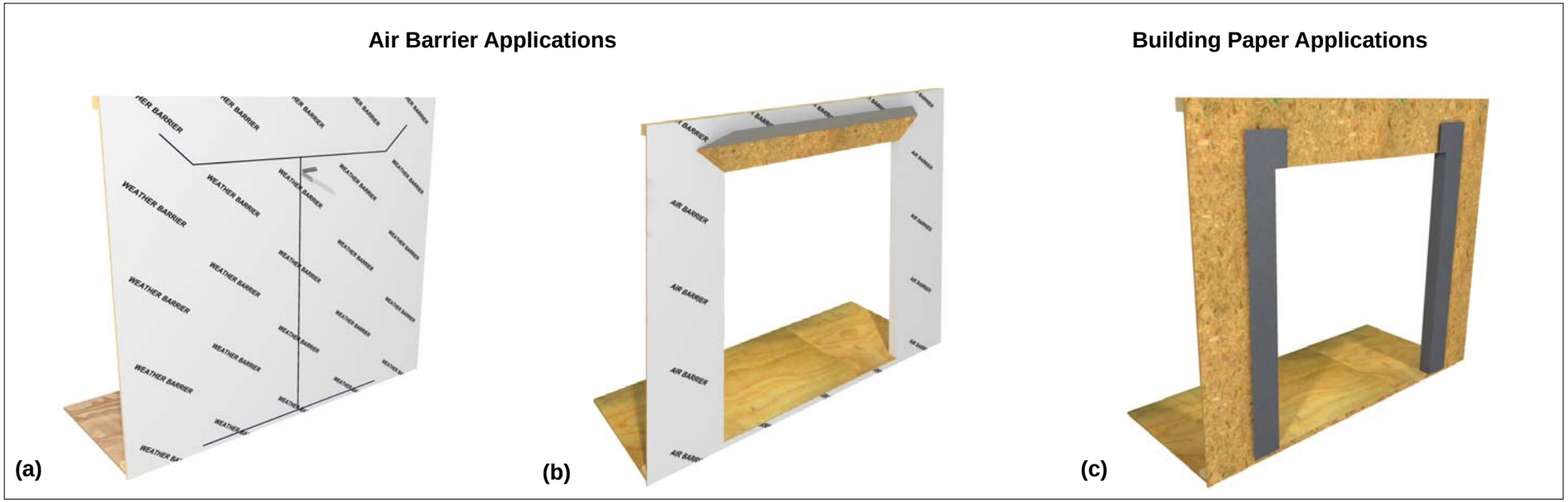


Figure 2 Rough Opening Preparation for construction methods using a continuous air barrier system or building paper.

Air Barrier Applications

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 2a*.

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 2b*.

Building Paper Applications

1. Cut two 13″ (330) pieces of Grade "D" building paper 8 1/2″ (216) longer than the rough opening height. (Adjust material width for wall thickness. Add 9″ (229) to the wall thickness to determine width.)

2. Position the pieces in place overlapping the rough opening by as much as the jamb depth. The wrap should extend above the rough opening by 8 1/2″ (216). Tack in place around the edge of the rough opening. Use a utility knife to cut the paper even at the head jamb. Fold to the interior and tack in place. See *figure 2c*.

Preparing the Unit for Installation

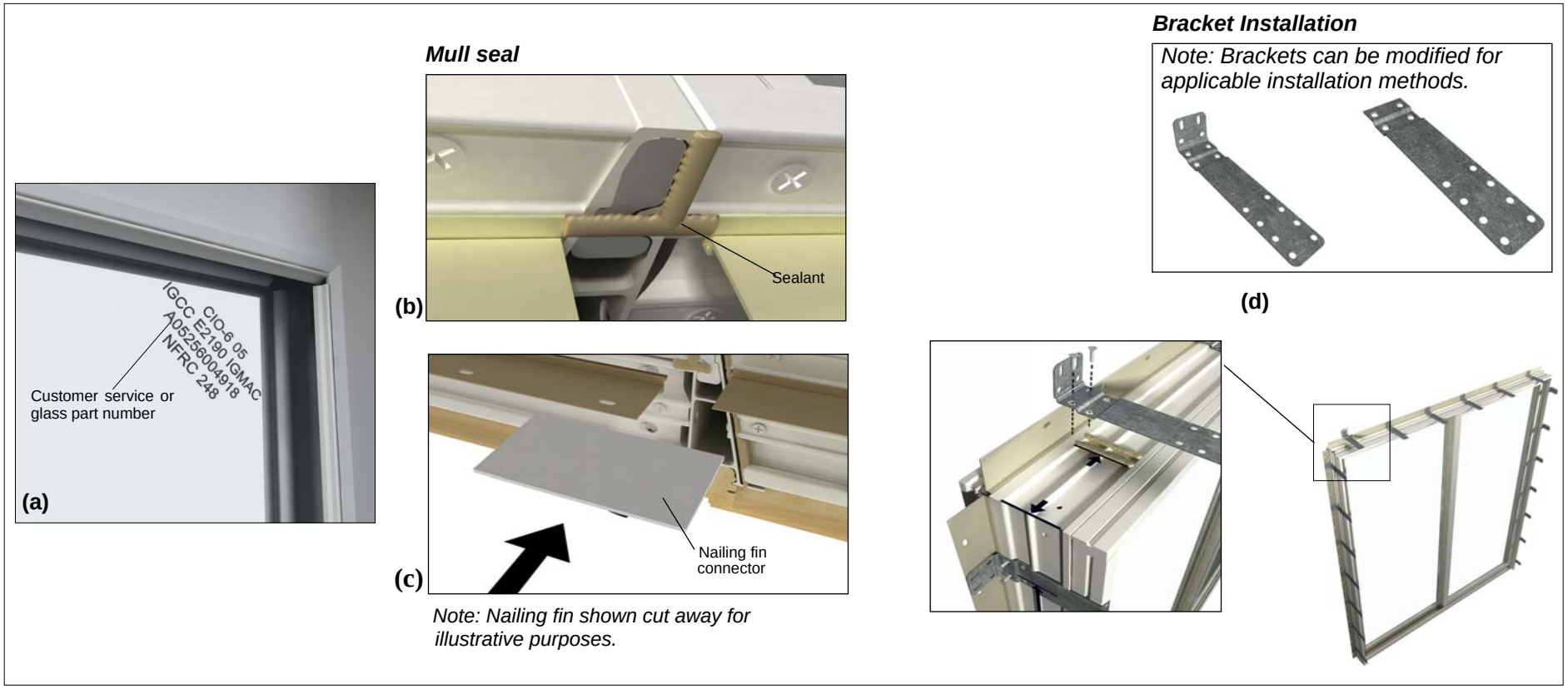


Figure 3 Preparing the unit for installation.

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

1. Remove the protective packaging from the unit and dispose/recycle properly. Inspect 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 3a*.

2. Position the factory applied nailing fin in the upright position. DO NOT APPLY NAILING FIN CORNER GASKET AT THIS TIME.

3. On all units *factory* or *field mulled*, mullion joints must be sealed prior to installation. Apply sealant at all mullions from the frame exterior edge to the drip cap/nailing fin kerf and across the kerf over the recessed mulling pin as shown in *figure 3b*. Apply nailing fin connectors at mullions by removing the paper backing from the connector and pressing into place. See *figure 3c*.

4. 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 3d*.

CAUTION

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

Installation - Positioning the Door in the Opening

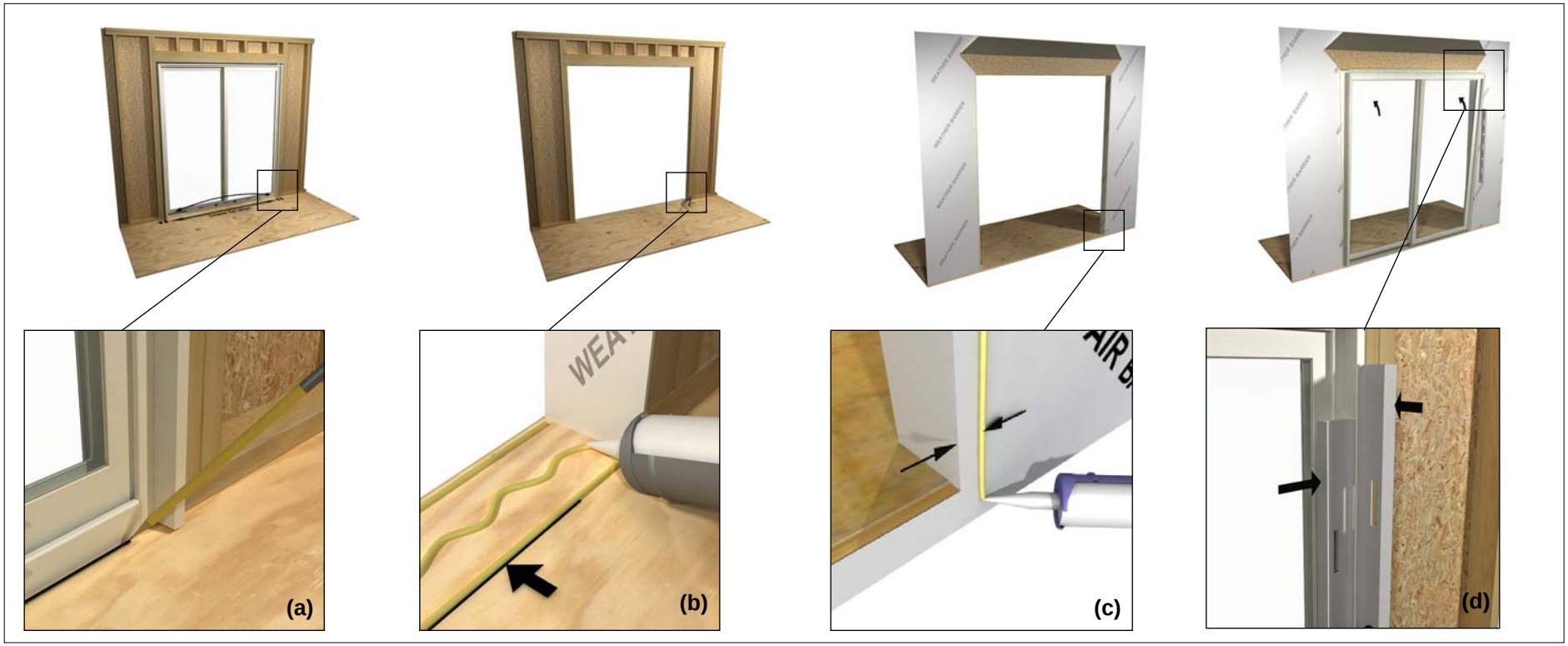


Figure 4 Preparing the unit for installation.

Seek Assistance

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

1. With help, move the door into position and center in the opening. Make sure the door fits in the opening properly and check to make sure the sill is level. If out of level also check for any objects between the sill and opening that may have caused this condition. If the door fits properly in the opening and the sill is flat and level, mark the subfloor near the interior sill of the unit. See *figure 4a*.

2. **For Infinity Sliding French Doors:** Remove the door from the opening and apply a continuous bead of sealant near the line. Apply a second bead along the exterior edge of the door opening. Then lay another bead down the center in a slight wiggle pattern. See *figure 4b.*

3. **For all other doors:** Remove the door from the opening and apply a continuous bead of construction adhesive near the line. Apply a second bead along the exterior edge of the door opening. Then lay another bead down the center in a slight wiggle pattern. See *figure 4b.*

4. Apply a continuous bead of sealant 3/4" (19) from the top and sides of the door opening. See *figure 4c.*

5. With help, move the door back into position and center in the opening, making sure to maintain proper rough opening clearances. Use a level to check that the door is plumb. See *figure 4d*.

Installation - Square the Door to the Sill

Figure 5 Square the Door to the Sill.

1. Pin the top corner on the stationary side. Fasten with 2" (51) roofing nails into the head jamb nailing, do not drive the nail all the way in. See *figure 5a*.

2. Measure the diagonals. When equal, the door is square. See *figure 5b* and *figure 5c*.

Tip

An out of square condition on sliding doors is usually caused by a humped or sagging sill, see the next section “Correcting out of square conditions”.

3. Once square, pin the lower operator side of the door. See *figure 5d*.

Installation - Correcting Out of Square Conditions

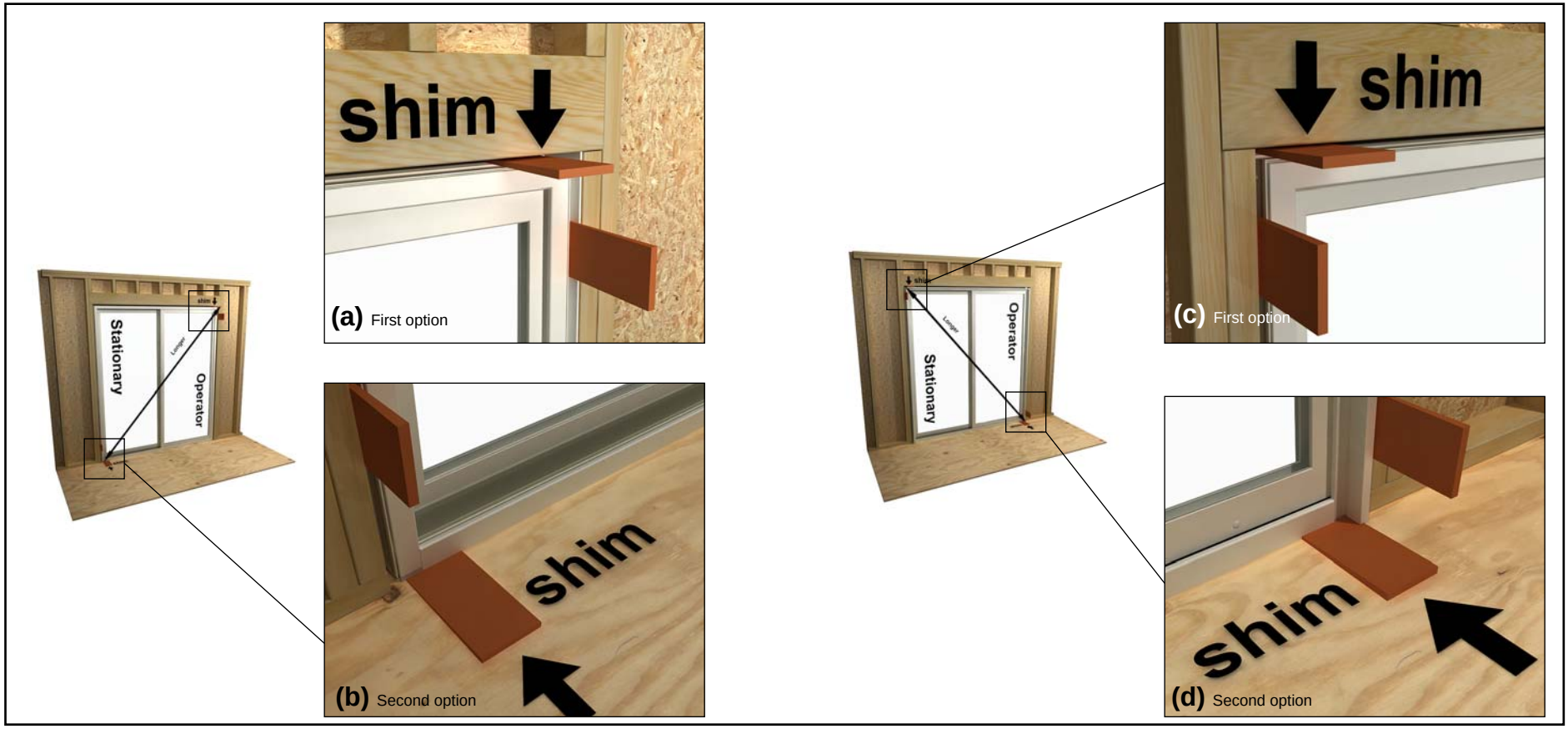


Figure 6 Correcting Out of Square Conditions

1. Check to make sure the door sill is making continuous contact with the sill plate.

2. If the door is out of square (longer measurement) from the bottom of the stationary side to the top of the operator side, shim above the operator side first. See *figure 6a*. As a last resort, shim beneath the stationary side to level the sill and square the unit. See *figure 6b*.

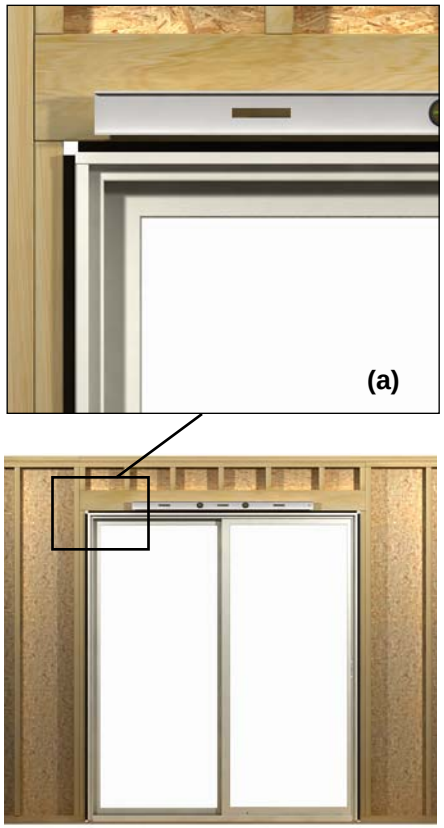
3. Shim between RO and operator side jamb towards the top. Check for square again.

4. If the door is out of square (longer measurement) from the bottom of the operator side to the top of the stationary side. Shim above the stationary side first. See figure 6c. As a last resort, shim beneath the operator side. See *figure 6d*.

5. Shim between RO and stationary side jamb toward top. Check for square again.

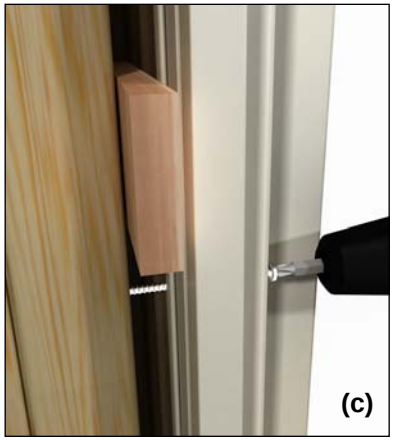
Installation - Plumbing and Jamb Pinning

Check for bow or sag



Check square and plumb

Shim and pin jambs



** Horseshoe shims work well with installation screws*

Sill nose support

Figure 7 Plumbing and Jamb Pinning

1. When the unit is square and plumb in the opening, check the jambs and head jamb for bow or sag. Shim and adjust fasteners as necessary to obtain straight jamb and head jamb members. See *figure 7a*.

2. Complete the fastening of the unit around the exterior perimeter.

3. If square, plumb the door to the framing then shim and pin the jamb using the pre-drilled screw holes in the jambs. See *figure 7b* and *figure 7c*.

4. Follow all supplemental instruction for hardware application and further fastening details.

5. For doors not at grade, support the sill by installing a block of treated wood beneath the sill and attached to the outside of the structure. Apply a generous amount sealant along the underside of the sill where it meets the sill support block as shown in *figure 7d*.

Checking for Proper Operation

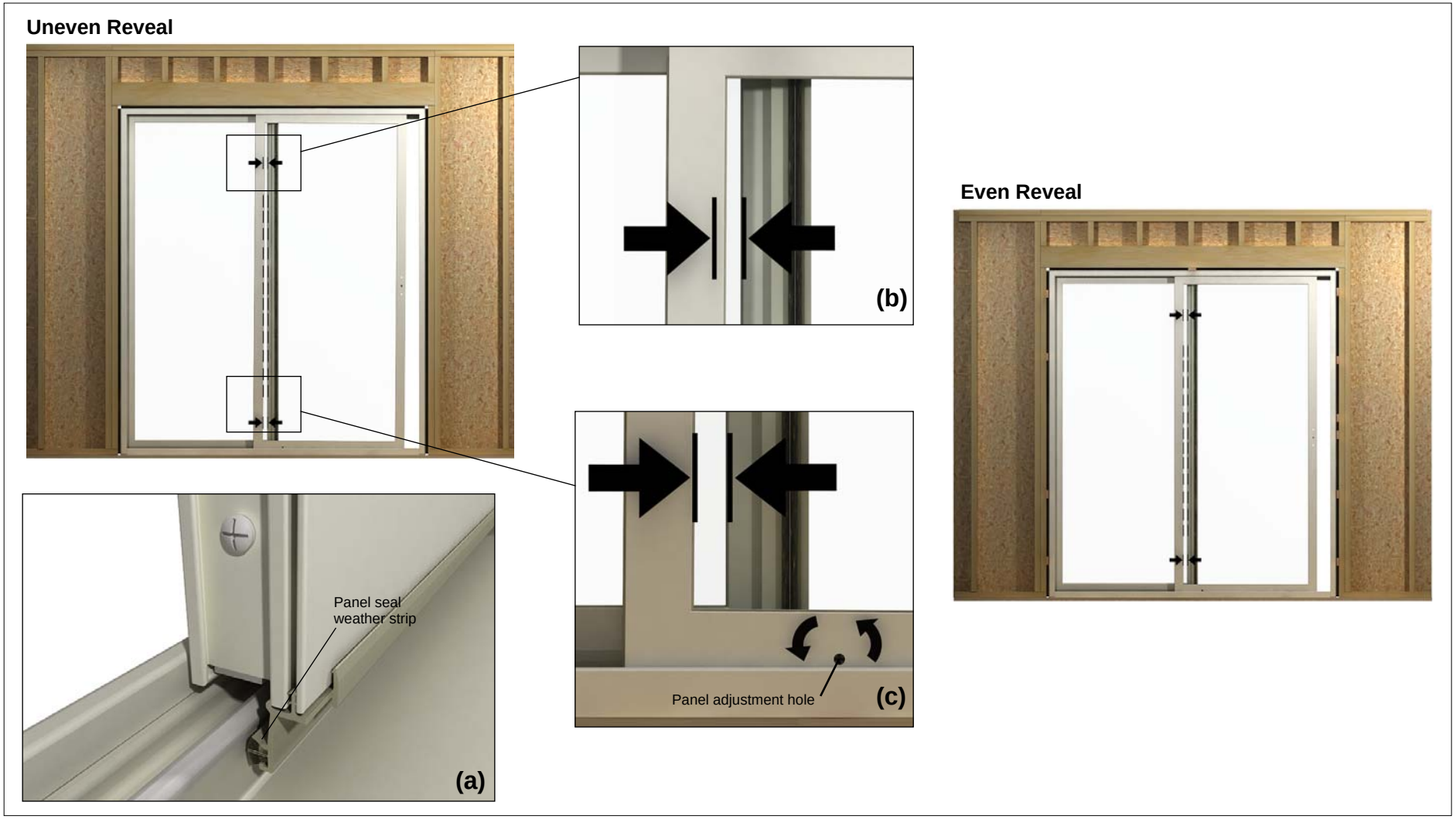


Figure 8 Checking for proper operation.

1. While adjusting the door, always make sure the panel seal or sill weather strip is in contact with the sill track. Raise or lower both rollers evenly to adjust. See *figure 8a*.
2. Open the operator and align the daylight opening (DLO) on the operator panel with the interlock. Obtain an even reveal by raising or lowering the rollers on the bottom of the panel with a Phillips screwdriver. See *figure 8b* and *figure 8c*.
3. When adjusting is complete, cover holes with plugs provided.

Flashing Installation - Air Barrier

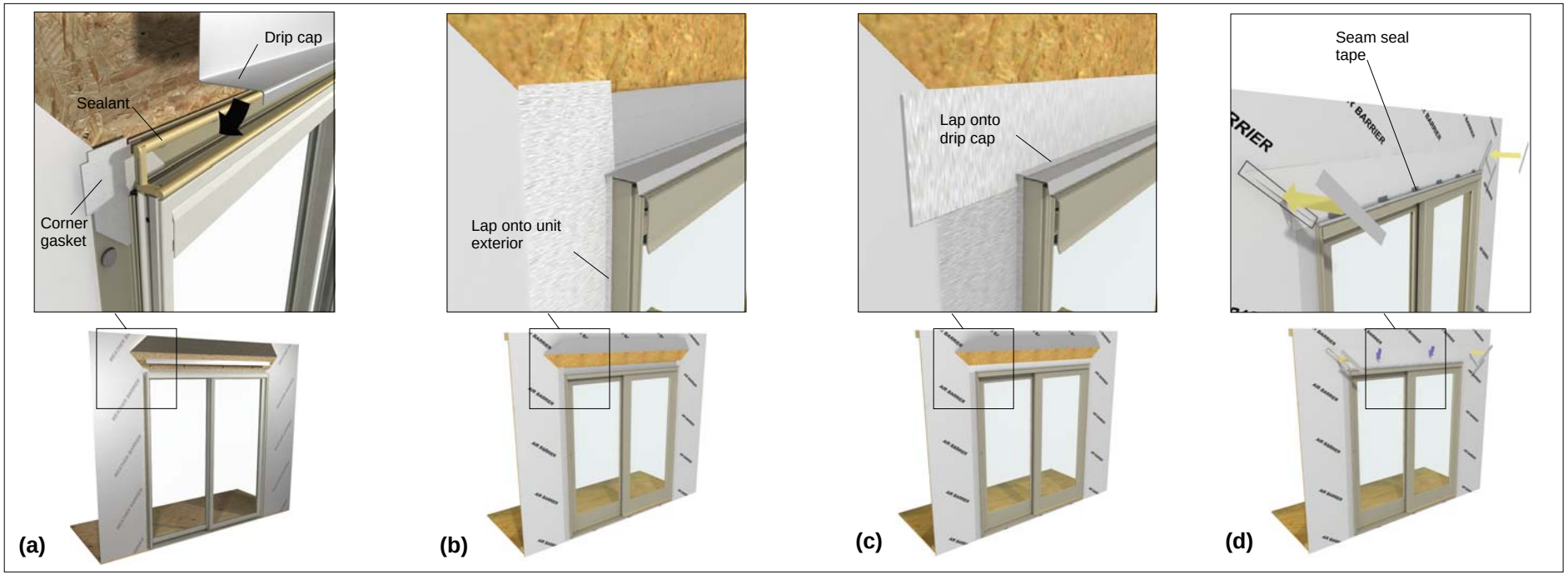


Figure 9 Flashing the installation.

IMPORTANT

Nailing fin is not designed to be a weatherproof flashing.

NOTE: For units with an integral nail fin/rigid head flash proceed to step 3.

1. Apply nailing fin corner gaskets to each corner of the nailing fin. Follow instructions on back of gasket. Install a drip cap 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 9a*.
2. Lap vertical strips of flashing onto the unit 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 9b*.
3. 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 9c*.
4. 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 9d*.

Flashing the Installation - Building Paper

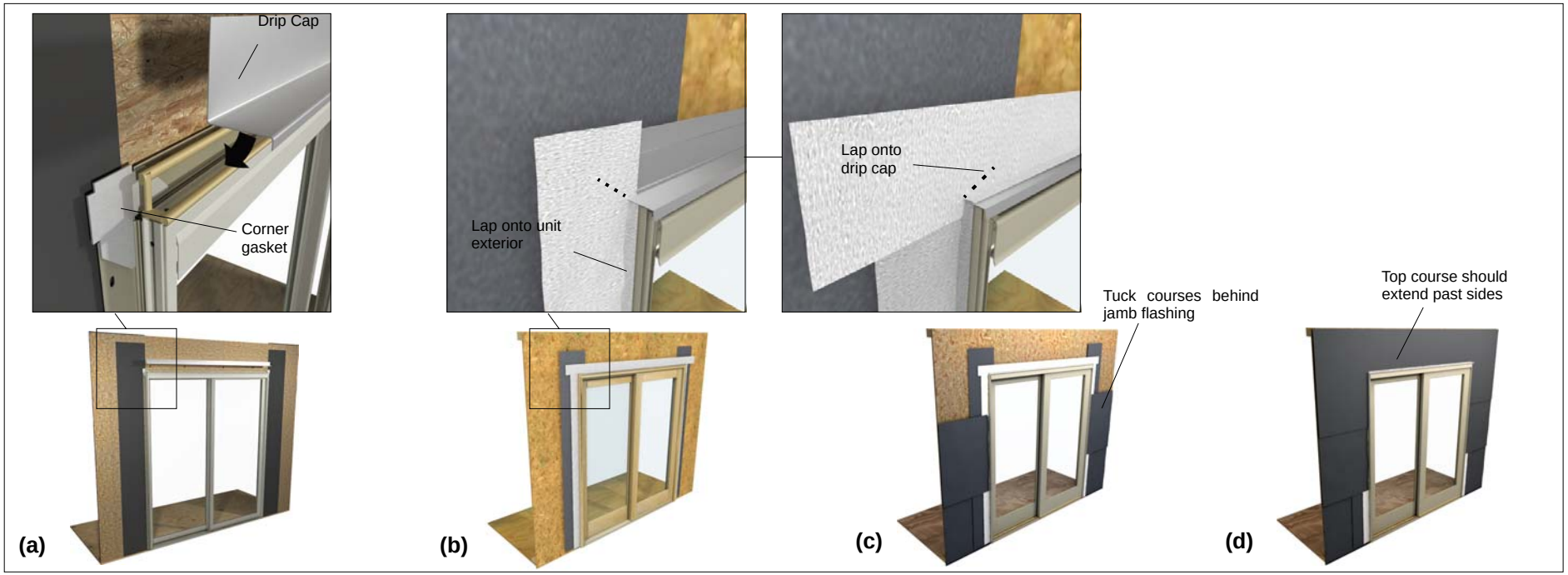


Figure 10 Flashing the installation (Sliding door shown but applies to swinging door as well.)

1. Apply nailing fin corner gaskets to each corner of the nailing fin. Follow instructions on back of gasket. See *figure 10a*.

IMPORTANT

Nailing fin is not designed to be a weatherproof flashing.

NOTE: For units with an integral nail fin/rigid head flash proceed to step 3.

2. Install a drip cap 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 10a*.

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 10b*.

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 10c*.

5. Install double ply layers of building paper starting at the bottom. One continuous course should extend over the head jamb flashing and beyond the side pieces (installed prior to door installation). See *figure 10d*.

Insulating and Sealing the Installation

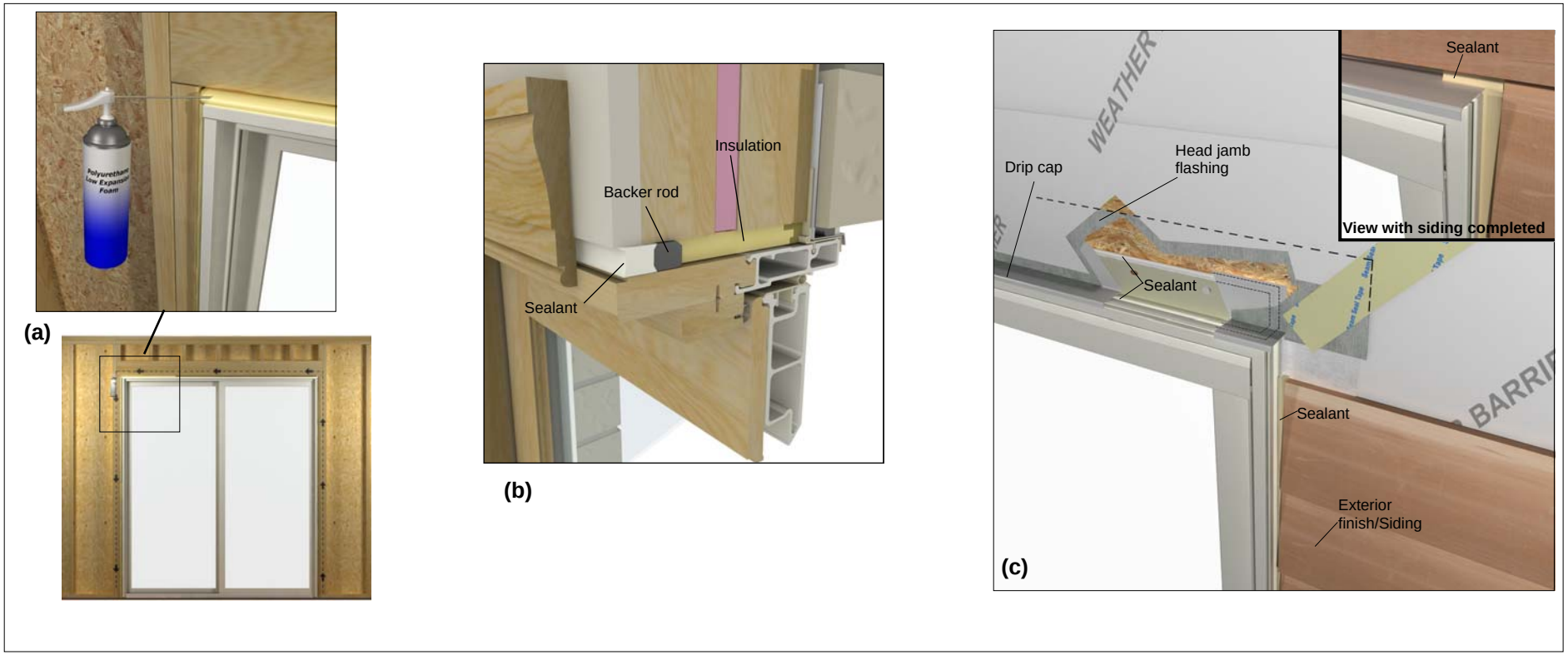


Figure 11 Sealing the installation.

1. From the interior apply a 1" - 2" (25-151) thick bead of low expansion foam insulation on the back side of the exterior casing. See *figure 11a*. **Don't apply too much as it is possible to bow the jambs.**

NOTE: Instead of low expansion foam, you can loosely pack fiberglass insulation between the window and framing.

2. To integrate the unit with the structure's interior air barrier, apply a bead of sealant between the jamb and interior finish prior to trim installation. See *figure 11b*. The installation is now ready for interior trim application.

3. **For ALL applications:** Once the exterior finish such as siding or brick veneer is installed, apply bead of sealant between the finish and the door exterior casing along the sides and approximately 1"-2" (25-51) in from the ends at the head jamb. Use a backer rod when necessary. See *figure 11c*.

4. Shim 4"-6" (102-152) from each corner, and at every point of attachment.

Technical Installation Specifications

The following details are specified for proper installation and performance of the Marvin Door.

- Rough Opening Width: 1/4"-1" (6-25) wider than door frame outside measurement.
- Rough Opening Height: 1/4"-1/2" (6-13) higher than door frame outside measurement.
- Masonry Opening Width: 1/4"-1/2" (6-13) wider than door frame outside measurement.
- Masonry Opening Height: 1/8"-1/4" (3-6) higher than door frame outside measurement.
- Properly flash and/or seal all doors at the exterior perimeter.
- Sealants used for installation must be Grade NS Class 25 per ASTM C920 and compatible with the building exterior, door exterior surface, and flashing/ water management materials.
- Construction adhesive must be APA rated AFG-01 SPEC.
- 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 door unit.
- The following materials were used to develop these instructions:

  Weather Resistant Barriers: DuPont™ Tyvek® HomeWrap or Grade D building paper.

  Flashing Materials: DuPont™ FlexWrap or DuPont™ Straight Flash, DuPont™ Tyvek® Tape.

  Sealant: OSI® Quad Pro-Series®; solvent release butyl rubber sealant or DAP DynaFlex230™.
- Optional foams used for installation must be low expansion only. Foam and foam application must comply with ASTM E2112-01, SEC 5.9.2.
- 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.