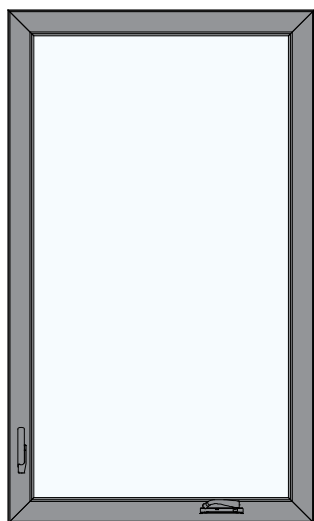


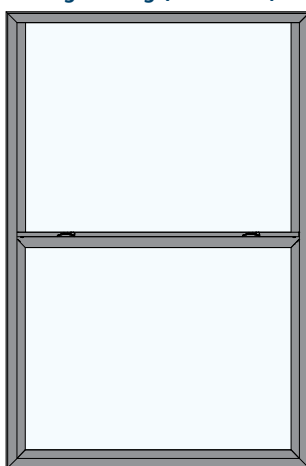


Thank you for selecting JELD-WEN products. Attached are JELD-WEN's recommended installation instructions for Composite windows without an integral nail fin. Not all window types may be installed into every wall condition in all areas. Consult your local building code official for applicable building codes and regulations. Local building code requirements supersede recommended installation instructions. JELD-WEN does not endorse the installation of our products into a barrier-type install system unless a sill pan is present, incorporated with through-wall flashing and can drain to the exterior (along with other "required" components). Failure to do so may result in the denial of any warranty claims. Areas such as Florida and the Texas TDI region have different anchoring requirements based on product certification. For information on specific products, visit www.floridabuilding.org or www.tdi.texas.gov and follow the anchoring schedule given in the drawings for the product instead of the anchoring schedule in this document.

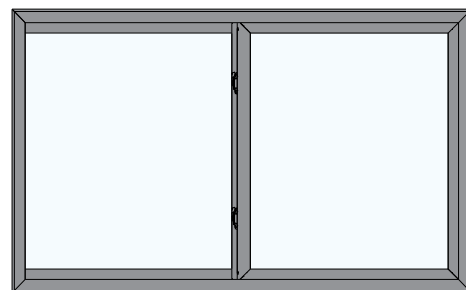
Casement



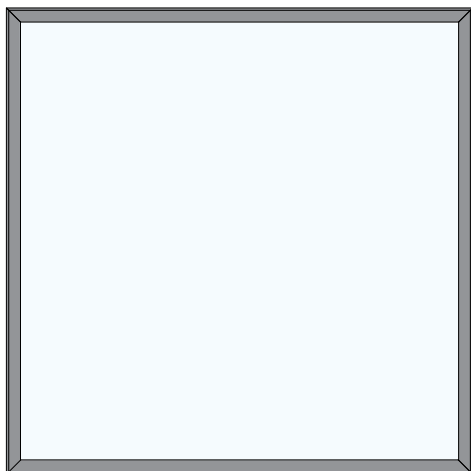
Single Hung (Side-Load)



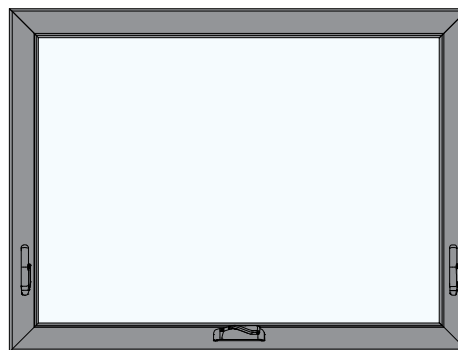
Horizontal Slider



Picture/Direct Set



Awning



IMPORTANT INFORMATION | TABLE OF CONTENTS | GLOSSARY

JELD-WEN does not endorse the installation of our products into a barrier-type install system unless a sill pan is present, incorporated with through-wall flashing and can drain to the exterior (along with other “required” components). Failure to do so may result in the denial of any warranty claims.

PLEASE NOTE: Installations, where the sill is higher than 35 feet above ground level or any product installation into a wall condition not specifically addressed in these instructions, must be designed by an architect or structural engineer. Failure to install windows into a square, level, and plumb openings could result in denial of warranty claims for operational or performance problems.

NOTE TO INSTALLER: Provide a copy of these instructions to the building owner. By installing this product, you acknowledge the terms and conditions of the limited product warranty as part of the terms of the sale.

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NOTICE

JELD-WEN advises against product installation in high interior water exposure environments such as showers, steam rooms and enclosed pool areas. These areas are beyond the tested/certified design intent of the window and any related warranty claims could be denied on that basis.

Glossary

Backer Rod (backing material)

A material (e.g., foam rod), placed into a joint primarily to control the depth of the sealant.

Buck

A wood framework attached to the masonry inside a window or patio door rough opening.

Finless Window

A window without a nailing fin commonly referred to as finless, replacement, block frame, box frame or pocket.

Self-Adhered Flashing

An adhesive-backed tape material used to waterproof the rough opening and/or used to seal a window to the building's water-resistive barrier.

Shiplap

The layering method in which each layer overlaps the layer below it so that water runs down the outside.

Stop

The trim pieces on the frame that retains the sashes.

Weep Hole (weep channel)

The visible exit or entry part of a water drainage system used to direct and drain water out of a window.

SAFETY AND HANDLING

Safety

- Read and fully understand **ALL** manufacturers' instructions before beginning. Failure to follow proper installation instructions may result in the denial of warranty claims for operational or performance problems.
- **DO NOT** work alone. **Two or more people are required.** Use safe lifting techniques.
- Use caution when handling glass. Broken or cracked glass can cause serious injury.
- Wear protective gear (e.g., safety glasses, gloves, ear protection, etc.).
- Operate hand/power tools safely and follow the manufacturer's operating instructions.
- Use caution when working at elevated heights.
- If disturbing existing paint, take proper precautions if lead paint is suspected (commonly used before 1979). Your regional EPA (www.epa.gov/lead) or Consumer Product Safety Commission offices provide information regarding regulations and lead protection.

⚠ 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.

Window Handling

- Make sure operable windows are locked prior to installation.
- Heed material manufacturers' handling and application instructions.
- Handle in a vertical position; **DO NOT** carry flat or drag on the floor.
- **DO NOT** put stress on joints, corners or frames.
- Store window in a vertical, leaning position to allow air circulation; **DO NOT** stack horizontally.
- Ensure the storage area is dry, well-ventilated and **protected from exposure to direct sunlight.**
- Only install into vertical walls when conditions and sheathing are dry.

IF INJURY OCCURS, IMMEDIATELY SEEK MEDICAL ATTENTION!

MATERIALS AND TOOLS

JELD-WEN exterior window and door products should be installed in accordance with JELD-WEN's recommended installation instructions, which are printed on the product label or can be found on our website: www.jeld-wen.com. **NOTE:** When using flashing, spray adhesive/primer, sealant and foam products, we recommend using the same manufacturer and verifying compatibility. It is the End User's responsibility to determine if dissimilar materials are compatible with the substrates in the application.

Needed Materials

- #8 pan-head or washer-head, corrosion-resistant screw. Minimum embedment of 1 1/4" into the structural framing (or as required by local code).
- Sill Pan: A pan flashing system (as defined in **ASTM E2112**) is **required** at the sill prior to window/door product installation. A sill pan should have a positive slope, **must be** installed onto the sill of the R.O. in a weather-tight manner and tied into the drainage plane of the building envelope. For sill pans without a positive slope, place a 3/16"-1/4" tall plastic shim 2" from each corner and no more than 8" on-center in between (excludes Canada and potentially large door systems). If an aftermarket sill pan is preferred, then we suggest the Manufacturer's instructions be followed.
- Sealant: An exterior grade (**High-Performing, Low VOC**) sealant is recommended for installation practices. Check with sealant manufacturer for color-match options and paintability.
- Polyurethane Low-Expansion Window and Door Foam: A low-expansion, polyurethane window and door foam is recommended for installation practices. Avoid using moderate to high-expansion foam products as operational issues or damage may occur.

- Backer Rod: 1/8" larger than the widest portion of the gap (used in conjunction with sealant bead for interior air seal).
- Non-compressible, non-water degradable shims.
- Drip cap (if not supplied).

Masonry Straps (if applicable):

- 20 ga. Galvanized Masonry Strap
- 2 - #8 x 1/2" pan-head, coated, corrosion-resistant screws for attaching masonry straps to the window.
- 2 - #8 x 2" pan-head, coated, corrosion-resistant screws for attaching masonry straps to the structure. Screws must penetrate at least 1 1/4" into the structural framing.

Additional Shimming Material Needed if Installing into an Existing Window Frame:

- Composite or solid wood (cedar or redwood recommended) or exterior grade plywood for shimming.

Existing aluminum window:

- Dimensions should be 1/2" shorter than the length of the sill track and 1/4" taller than the depth of the track.

Existing wood window:

- Dimensions should be 1/4" thick, length of the existing frame sill minus 1" and the width of the new composite window side jamb minus 1/4".

Potential Needed Tools

- Utility knife/shears
- J-roller
- Hammer
- Tape measure
- Caulking gun
- Level (4' minimum recommended)
- Drill with bits
- Pry bar
- Screwdriver
- Hacksaw
- Putty knife

1

INSPECT PRODUCT

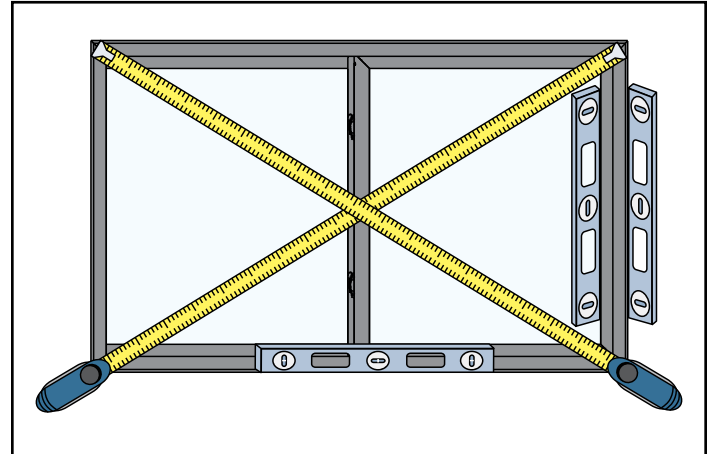
Remove Packaging

- Remove shipping materials such as corner covers, shipping blocks, shrink wrap or pads. If there is a protective film on the glass, **DO NOT** remove it until installation and construction are complete.
- **DO NOT** remove the installation label until after the inspection of the job is complete.

Inspect Window

- Cosmetic damage and/or shipping damage.
- Product squareness (diagonal measurements not more than 1/4" different).
- Correct product (size, color, grid pattern, handing, glazing, energy-efficiency requirements, etc.).
- Manufacturing abnormalities (e.g., warp, bow, squareness).
- Frame damage.

If any of the above conditions represent a concern, or if you expect environmental conditions to exceed the window's performance rating, **DO NOT** install the window. Contact your dealer or distributor for recommendations.



2

INSPECT ROUGH OPENING (R.O.)

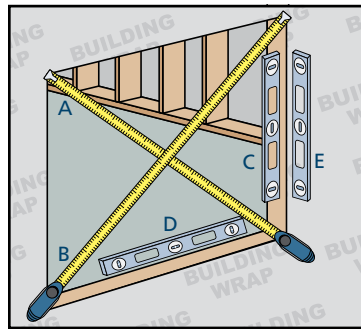
Weatherproofing of the rough opening, along with the flashing and proper integration of the fenestration product with the water-resistive barrier, is the responsibility of the installer. JELD-WEN recommends strict adherence to the current version of ASTM E2112.

⚠ CAUTION

The use of a sill pan and other barriers will decrease the rough opening height clearance. Adjust the opening dimensions accordingly.

- Verify the width and height of the rough opening is 1/2" larger than the window width and height.
- Verify the rough opening is square. The (A) and (B) measurements should be the same. Suggested deviation from square is no more than 1/4".
- Verify the rough opening is level and plumb (C, D and E). Suggested deviation is no more than 1/4".
- The rough opening sill should not be crowned or sagged (D), but rather level or sloped (positive slope) to the exterior.
- The exterior face of the rough opening should be in a single plane (E) with less than 1/8" twist from corner to corner.

Verify Square, Level and Plumb



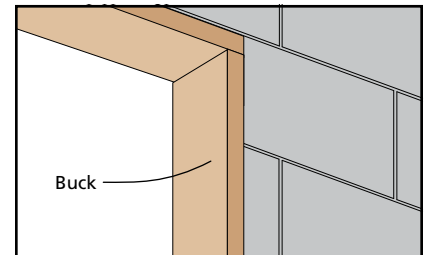
For Retrofit Installations

Verify the rough opening framing is structurally sound. Contact your local waste management entities for proper disposal or recycling of products being removed.

This installation guide only addresses masonry/block wall, sheathed wall, open-stud construction and existing window frame. If installing into an opening other than what is identified, consult a building professional.

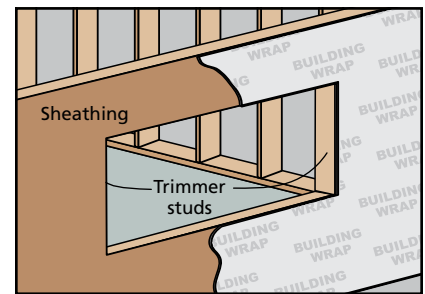
Masonry/Block Wall Construction

This installation assumes that a framework of studs (often called a buck) has already been properly fastened in a weatherproof manner to the concrete/masonry wall. The window will be mounted into the buck in a weatherproof manner.



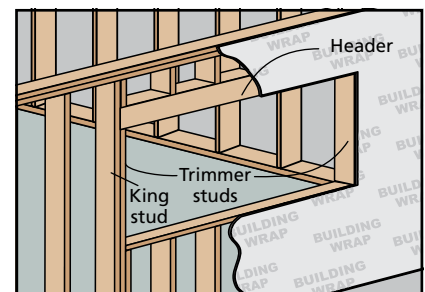
Fully Sheathed Wall Construction

Sheathing is applied to the exterior of the wall framing. The window will be mounted into the rough opening in a weatherproof manner.



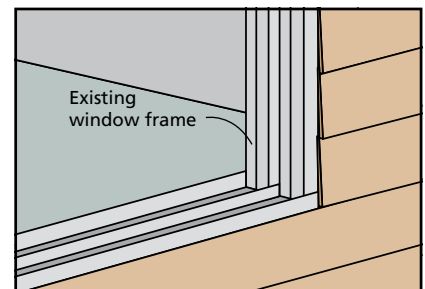
Open-Stud Construction

Sheathing is absent and building wrap is applied atop of the wall framing. The window will be mounted into the rough opening in a weatherproof manner.



Existing Window Frame Installation

The existing window frame is left in place and the window will be installed into the frame in a weatherproof manner.

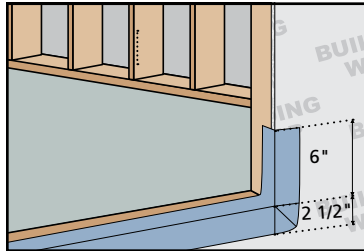


3

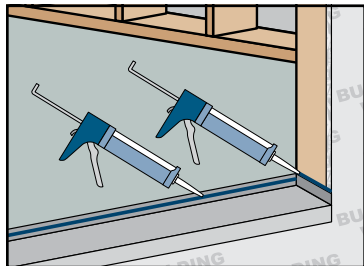
INSTALL SILL PAN FLASHING SYSTEM

Prepare/Shim the Sill (Rough Opening)

1. A pan flashing system (as defined in **ASTM E2112**) is **required** at the sill prior to window/door installation. Always allow water to drain out of the pan and onto the building wrap, drainage plane or to the exterior.

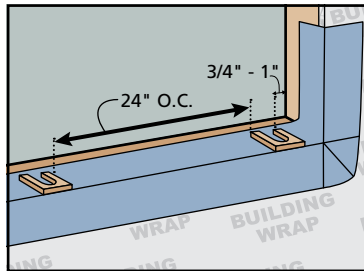


2. Apply a continuous bead of sealant to the interior of the upturned leg and end dams of the sill pan (if using a rigid sill pan).



See **Product Installation Tolerance Table** for tolerances

3. Unless installing into a sill pan with a positive sloped draining system, shims should be aligned as defined by the label on the window or as stated below:
 - Shims (1/4" maximum) should be placed near the exterior edge of the sill.
 - Place one shim 3/4" to 1" from each side of the rough opening (if the rough opening is sized correctly, this should be approximately 1/2" from the corner of the window).
 - Shims should be no more than 24 inches on-center.
 - For mulled units, ensure shims are located 1/2" on either side of the mull joint.

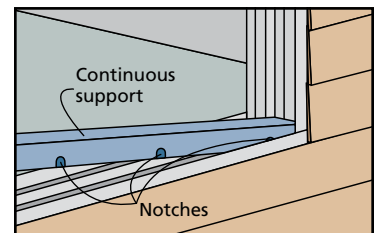
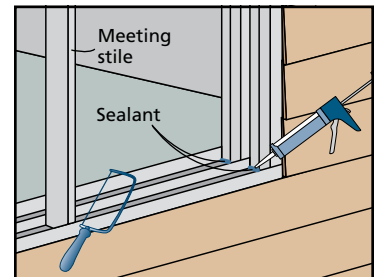


- Shims can be held in place with sealant.
- Increased shim height may be needed or may interfere with bar/grill alignment of adjacent windows/doors.
- Steps may not pertain to existing aluminum frames or sloped sill.

NOTE: For large (36" or wider), heavy or mulled units, shim at 8" on-center and no more than 2" from each corner to maintain proper sill alignment. This shimming schedule also pertains to regions where the ambient air temperature reaches or exceeds 95°F (35°C).

Prepare Existing Window Frame (Aluminum Frame)

1. Remove the sashes and/or glass in the existing window.
2. Remove all hardware and window components not a part of the frame (meeting stile, jamb liners, locking mechanisms or other hardware etc.).
3. Seal all four corners of the window frame as shown.
4. Notch grooves across the bottom of the continuous support (see materials list) to allow for water drainage through the weep holes. Set the continuous support into the exterior sill track, creating a level surface at the sill.



4

TEMPORARILY FASTEN AND SHIM PRODUCT

⚠ WARNING

To avoid injury, use at least 2-people to install. Adequately support the window until completely fastened.

Through Frame Fastening: If installing by placing fasteners through the main window frame begin by shimming the product in place using the steps below.

1. Place the window onto shims and tilt into the rough opening. The shims must fully and evenly support the sill of the window. Adjust the shims as needed.
2. Place shims 3" - 6" from each corner on the side and head jambs. Evaluate the window position with the opening for plumb, level, square and twist (**Reference the Product Installation Tolerance Table**).

Product Installation Tolerance Table

Products must be installed in a manner that **Does Not** exceed the tolerance below.

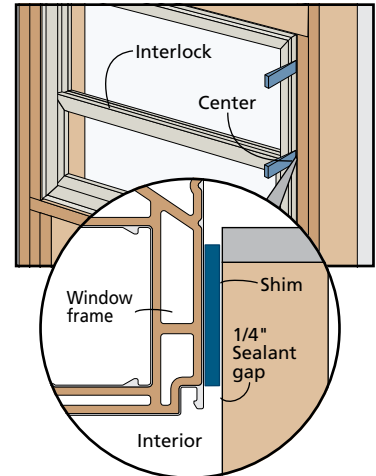
Plumb	+/- 1/8"
Level	+/- 1/8"
Twist	+/- 1/8"
Square	+/- 1/8" product sized up to 20 sq. ft. +/- 1/4" product sized over 20 sq. ft.

3. Shim at each interlock of hung windows or in the center for other style windows.

4. Add additional shims as necessary to ensure proper alignment of the window frame. Larger windows usually need additional shims. Shims can be secured with sealant or adhesive.

NOTE: Shims should be cut back 1/4" - 1/2" from the interior face of the main window frame.

5. Inspect the window for level, square and twist. Test for proper operation (remove and reinstall if necessary).



5

FASTEN PRODUCT (SIZE AND SPACING)

Window Install and Fastening

Composite windows without a nailing fin can be installed in a variety of ways. These instructions address the installation into a framed opening with a "through frame" fastening method. This method is described below as well as some general considerations.

General Installation Considerations

- **Stud Framed Opening:** These instructions address securing the window by "through frame" fastening.
- **Existing Non-Sloped Sill Window Frame:** This is a non-pocketing installation method. These instructions address securing the window by "through frame" fastening.

General Fastening Considerations

- **Areas such as Florida and the Texas TDI region have different anchoring requirements based on product certification. For information on specific products, visit www.floridabuilding.org or www.tdi.texas.gov and follow the anchoring schedule given in the drawings for the product instead of the anchoring schedule in this document.**
- A #8 corrosion-resistant pan-head (or larger diameter head) screw is recommended.
- Fasteners must be long enough to embed into the structural framing by a minimum of 1 1/4".
- Shims should be located at each fastener location to prevent deflection of the frame.
- Removing certain components before pre-drilling and/or installing the window frame (e.g., track filler, sash, etc.) may be beneficial.
- Fastener spacing is based on the product performance grade (PG), refer to "**Fastener Spacing Table**" for proper spacing.

Fastener Spacing Table

Products are fastened according to performance grade (some holes may be pre-drilled). Performance Grade (PG) is located on the purchase paperwork or NAMI certification label fixed somewhere on the frame, generally in the head jamb. If this label is missing, use the PG50 and above fastener pattern.

Fastener Spacing Table	
PG20	3" – 6" from the corners and every 24" (max.) on-center.
PG35	3" – 6" from the corners and every 18" (max.) on-center.
PG50 and above	3" – 6" from the corners and every 12" (max.) on-center.
3 Wide Horizontal Sliding Window	General fastener spacing is based on PG rating above. In addition, place 4 fasteners at each end of the vertical interlock. Position fasteners at 2" and 4" intervals from either side of interlock center line.

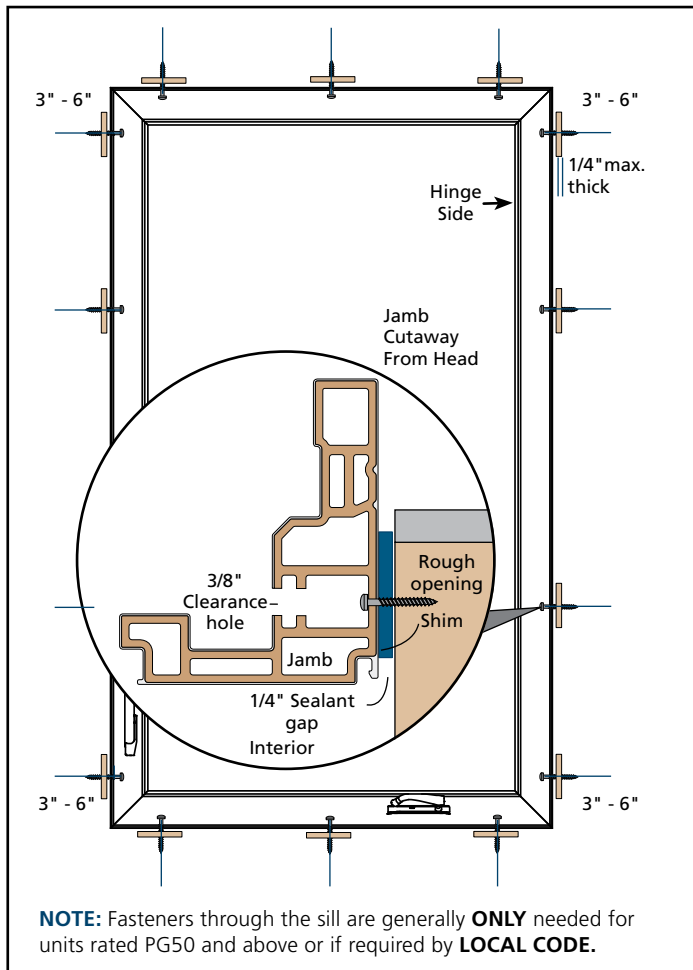
5

FASTEN PRODUCT (SIZE AND SPACING) (CONTINUED)

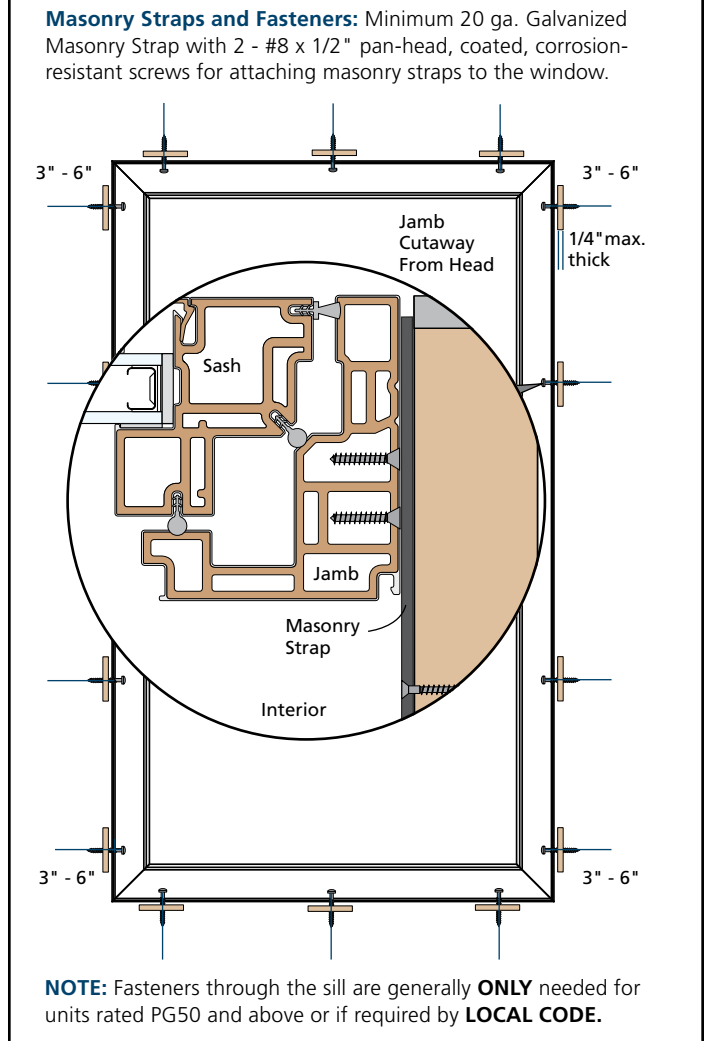
A.) FASTENER THROUGH FRAME:

1. If applicable, remove any components or open the sash to gain access to the main frame.
2. Use a pencil to mark the fastener locations on the window frame as defined in the "Fastener Spacing Table".
3. Once all the fastener holes have been identified, pre-drill and secure one of the upper frame corners by placing a fastener through the frame. **A shim is required at each fastener location to prevent frame deflection. NOTE: Shims should be cut back 1/4" - 1/2" from the interior face of the main window frame.**
4. Inspect the window for square, level, plumb and twist (shim and adjust as needed).
5. Repeat the steps above for each remaining pre-drilled/marked fastener hole.
6. Replace any removed components (e.g., track filler, sash, etc.).

Operating Casement/Awning



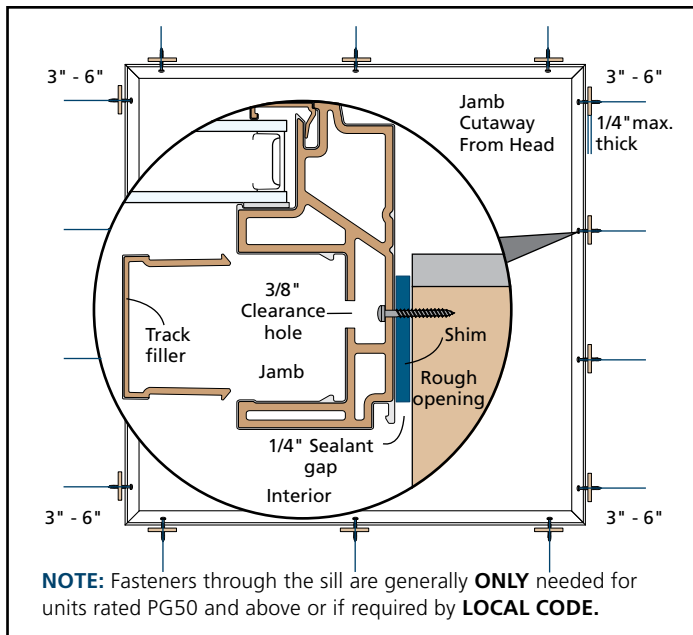
Stationary Casement



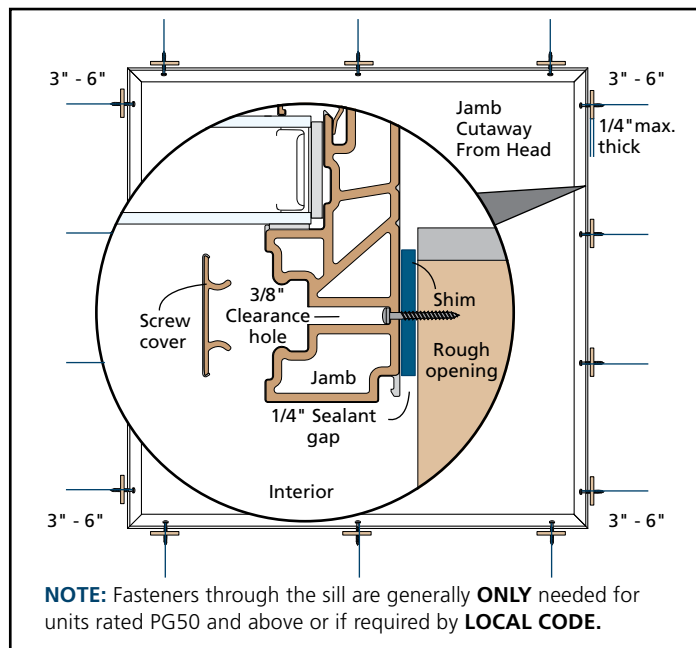
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FASTEN PRODUCT (SIZE AND SPACING) (CONTINUED)

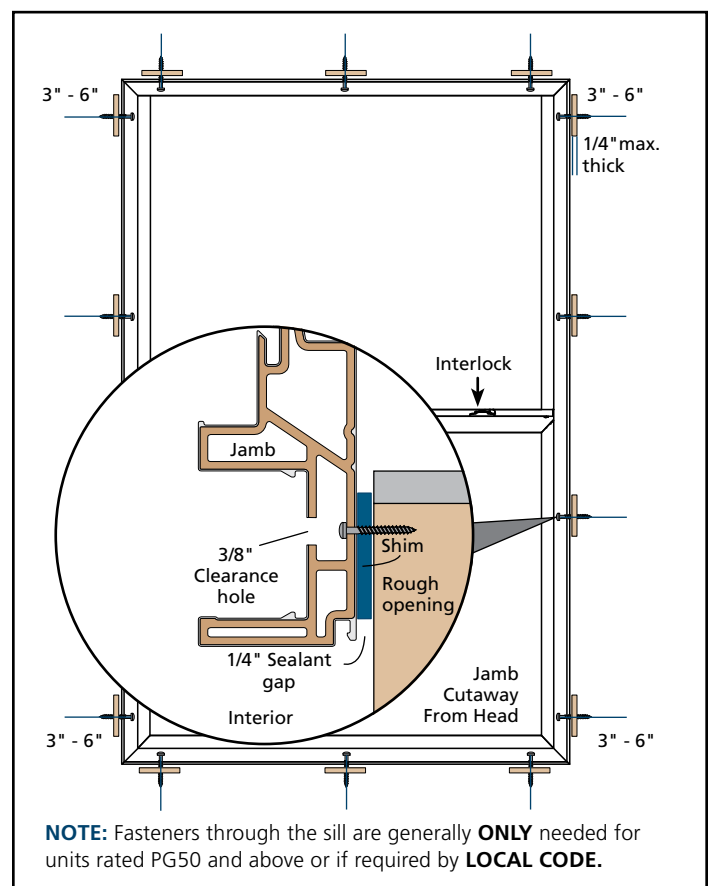
Picture



Direct Set



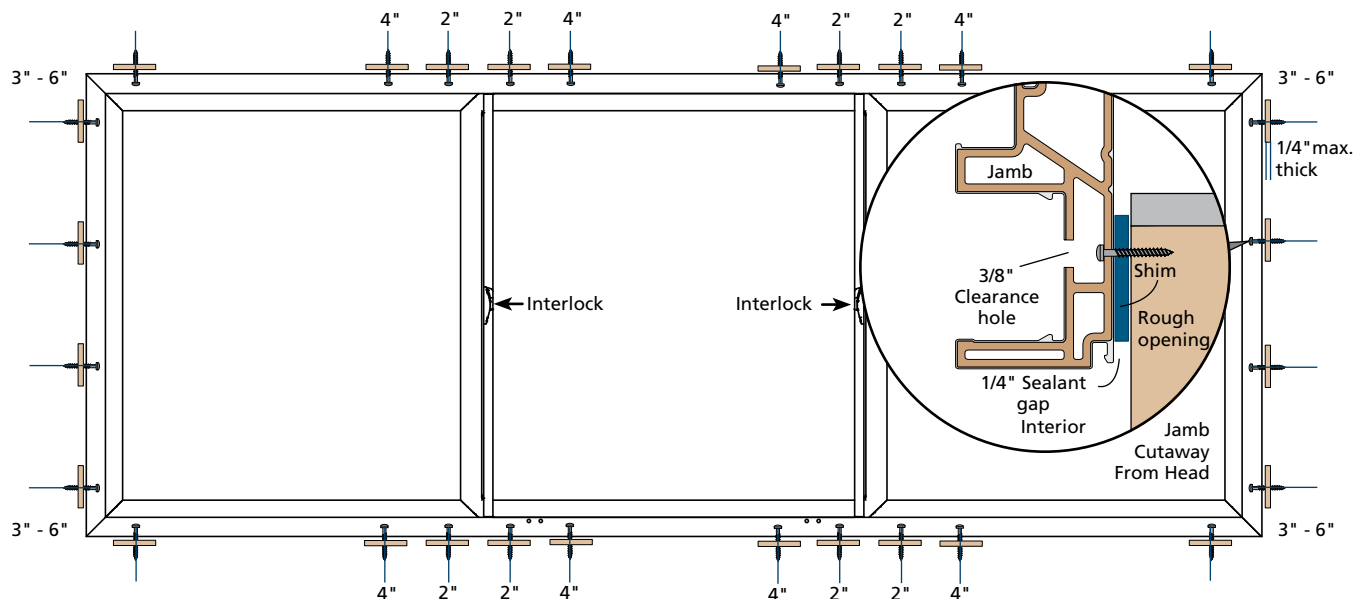
Single-Hung/Horizontal Slider



5

FASTEN PRODUCT (SIZE AND SPACING) (CONTINUED)

Horizontal Slider (3 Wide)



⚠ WARNING

Fasteners are **REQUIRED** at the head and sill of each interlock.

NOTE: Fasteners through the sill are generally **ONLY** needed for units rated PG50 and above or if required by **LOCAL CODE**.

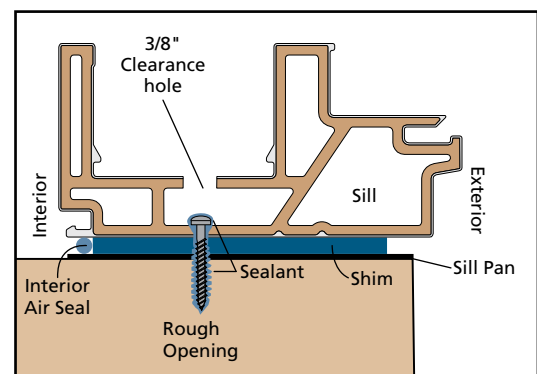
B.) FASTENER THROUGH THE SILL:

⚠ CAUTION

Fasteners through the sill will breach the sill pan flashing. Following the sealant application steps outlined below is imperative.

1. If applicable, remove any components or open the sash to gain access to the main frame.
2. Use a pencil to mark the fastener location on the window frame as defined in the "Fastener Spacing Table".
3. Drill a 3/8" clearance hole through the inner/first wall of the sill (spacing and sizing to match the sides and the head jambs).
4. Pre-drill a pilot hole through the outer/second wall of the frame.
5. **Apply sealant to the threads of the fastener. Apply additional sealant into and around the pre-drilled hole.**

6. Make sure the head of the screw is flush against the outer wall of the window frame. **NOTE:** Additional shims may be needed at each fastener location to prevent frame deflection.
7. **Apply sealant to the fastener head, ensuring the head is sealed to the frame.**
8. Replace any removed components (e.g., track filler, sash, etc.).



6

INSTALL DRIP CAP

The use of a drip cap on all window/door products is recommended, regardless if supplied. A drip cap is **required** on any **vertical** muller/joined products, regardless if supplied.

7

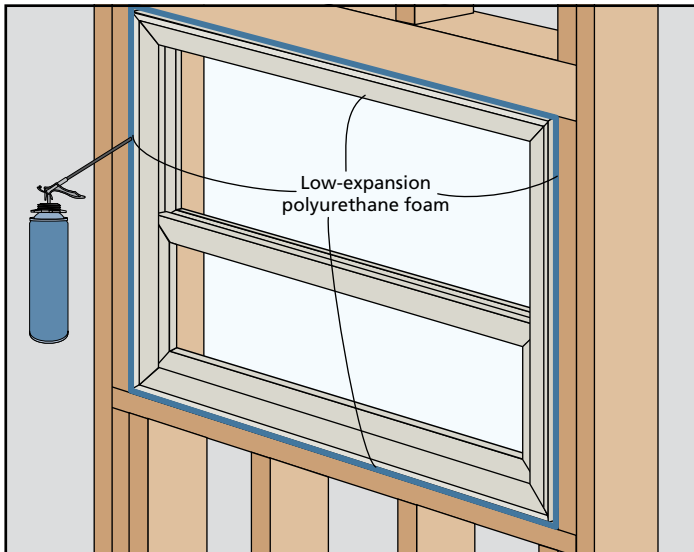
CREATE "INTERIOR" AIR SEAL

Continuous Air Seal

NOTE: Shims may need to be cut back, so the interior air seal is "**continuous**" between the window frame and the rough opening.

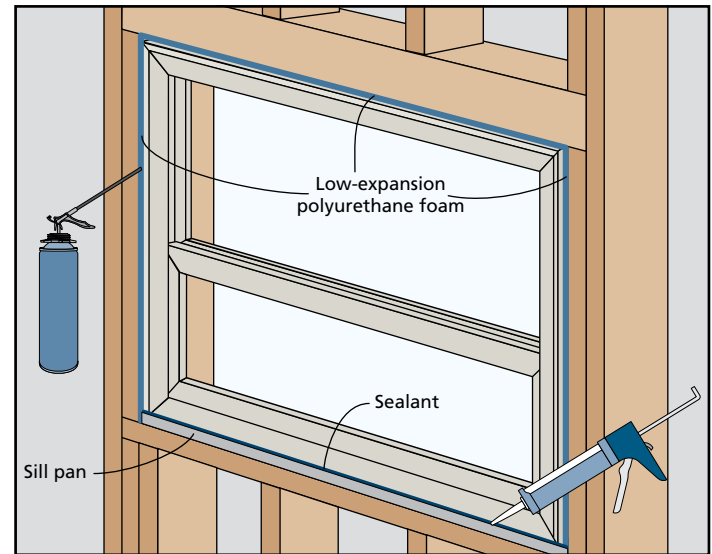
Create a **required** continuous air seal on the interior by integrating the rough opening and the window frame with low-expansion polyurethane foam or backer rod and sealant. **NOTE:** If foam is used, a 1/2" - 1" depth is prescribed. Backer rod can be used to control the depth.

Self-Adhered Flashing Sill Pan



If using a rigid sill pan, apply a bead of sealant to the upturned leg of the sill pan and the window frame.

Rigid Sill Pan

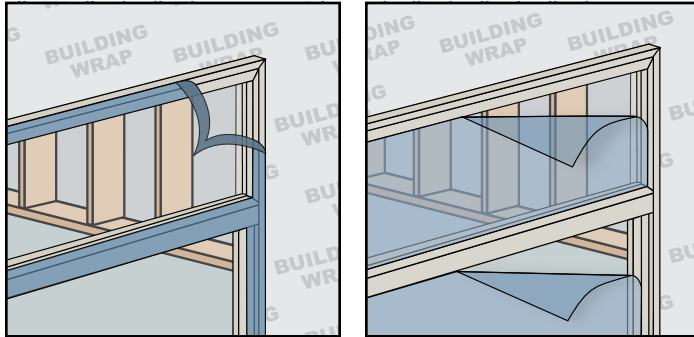


8

REMOVE PROTECTIVE FILM

NOTICE

If applicable, remove any protective film immediately from all surfaces of the frame/sash and within six months from any glass.



9

AFTER INSTALLATION

Weatherproofing of the rough opening, along with the flashing and proper integration of the fenestration product with the water-resistive barrier, is the responsibility of the installer. JELD-WEN recommends strict adherence to the current version of ASTM E2112.

- Ensure weep holes/channels are clear of debris for proper water drainage. **DO NOT** seal weep holes/channels.
- Leave an expansion/contraction gap of approximately 3/8" between the window frame and final exterior wall surface (siding, stucco, etc.).
- Protect recently installed units from damage from plaster, paint, etc.

⚠ WARNING

DO NOT operate the casement sash in the extended position for long periods of time or leave unattended in the fully open position, as potential damage may occur from environmental factors (i.e., unexpected strong wind gusts).

Please visit jeld-wen.com for warranty and care and maintenance information.

Thank you for choosing

JELD-WEN