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I. Care and Maintenance

This product is factory finished. Please handle with extreme care. Protect all exposed surfaces from contact with caustics, corrosives, solvents, abrasions, impacts, wet packing material etc.

FAILURE TO DO SO WILL NULLIFY THE WARRANTY. Before **ANY CLEANING**, review the Care & Maintenance Instructions (go to www.fleetwoodusa.com for more information).

Contact the local dealer with any questions or concerns. Fleetwood strongly recommends that all products be cleaned after installation and totally protected from construction debris and equipment.

II. Tools / Materials, Sealant Requirements, & Anchor Instructions

Tools Required: Tape measure, level, shims, nails, hammer, putty knife, screws, Sealant, caulk gun, backer Rod, 6mm hex wrench, scissors or utility knife, drill bit, drive bit and powered drill.

Sealant Requirements

- The sealant referred to within this document for seals associated with the assembly of the product should conform to **AAMA 800**. It may be a sealant recommended and approved by the sealant manufacturer that is compatible with the framing, finish and surrounding materials.
- All sealant bead sizes must conform to the sealant manufacturers' size requirements.
- The Owner / General Contractor is responsible for identifying the need for any additional sealant to be applied by others. Such sealant shall be elastomeric material, with the framing, finish and surrounding materials.

Anchor Instructions

- Structural engineer to determine anchor quantity and spacing for design load requirements.
- Proper isolating material must be between dissimilar surfaces (i.e. block/concrete & metals).

III. Assembly and Installation

It is essential that each Fleetwood product be assembled and glazed in accordance with AAMA standards and factory instructions. It is the installer's responsibility to ensure that each Fleetwood product is assembled, glazed and installed and completely sealed to ensure that the product is leak-free and operates correctly. **Installation of Fleetwood products must be in accordance with the standards set forth in ASTM E 2112.** If there are any questions regarding the installation of a Fleetwood product contact the factory customer service department.

Due to inherent manufacturing tolerances Fleetwood has provided this product with recommended field glazed weather-stripping. If the provided weather-stripping does not ensure an optimum fit of glass to frame the Fleetwood Authorized Dealer should contact Customer Service for an expedited **NO CHARGE** shipment of replacement weather-stripping.

IV. Structure Verification & Sillpan Installation

Note: Sillpan Substitution- If the factory provided pan is not desired, the product warranty will remain intact if the substitute panning system emulates the essential design of the factory pan.

1. Opening Verification

- Check the measurements of the opening and verify that the product will fit into the opening. Measure all four sides of the opening to make sure there is a clearance of 1/2" in width and 1/4" in height.
- Remove the product(s) from the packaging and lay it in front of the opening. Check width and height dimensions.
- Verify the opening is plumb and level.

2. Pre-Fit and Leveling

- Place sill-pan into the opening and determine any leveling that must be done prior to installation
- Shim as necessary to stabilize the entire depth and length of the pan. No unsupported width of more than 8" is allowed. Shim to be load bearing, non-porous, non-absorbent and inorganic.
- If more than 1/8" shim height is required, it is recommended that pouring self-leveling "Rock Hard" (or equal) to achieve level and stable surface.

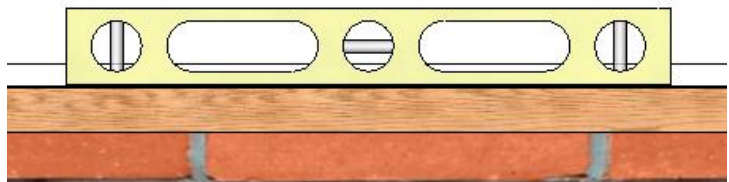
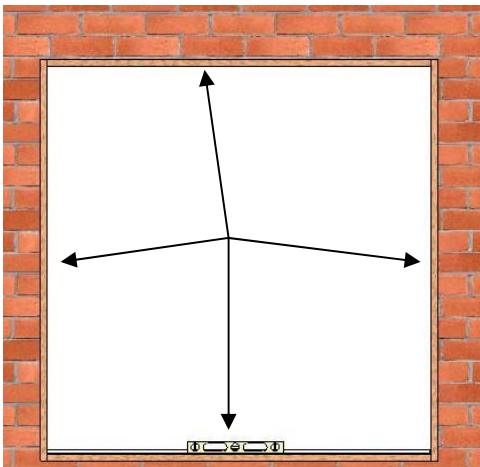


Figure 1:
Use level to determine if the opening is plumb and level

3. Sill-pan Installation

Note: For splicing and multiple piece Sill-pans – (See Appendix A)

- Apply bituminous paint to raw masonry or concrete at the sill to eliminate electrolytic and chemical reactions. We recommend a PVC liner be placed to ensure separation of the metal frame with the substrate. In balcony situations flash the sill with aluminum or galvanized brake metal (Sill-pan is provided).
- Apply sealant in all corners and seams of the sill-pan (Figure 2).
- With bottom side of sill-pan up, apply a 3/8" bead of compatible sealant 1/2" in from interior leg. Sealant bead to run across the bottom as well as up each vertical leg of the sill pan. Also apply sealant beads near the sides and across the front (Figure 3).
- Secure the sill-pan to the floor with sealant. Position sill pan as necessary to allow for proper installation of frame assembly (Figure 4).

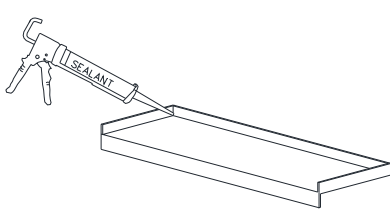


Figure 2:
Seal corners and seams

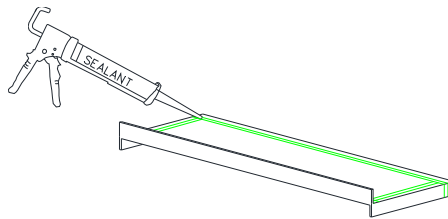


Figure 3:
Seal underside of Sill-pan

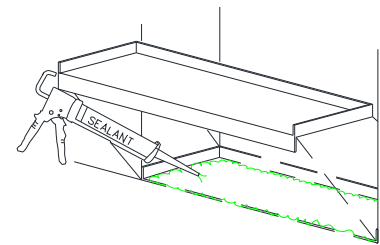


Figure 4:
Set pan in full bed of sealant

V. Window Installation

Note: All windows come pre-assembled and glazed unless specified otherwise. For Awnings and Hoppers where a limit device is requested, reference the *Series 250-T Limit Devices Installation Instructions*.

1. Nail-fin Frames

- Prepare the opening to accept the frame ensuring that the weep-screed flashing at the sill is adjusted to maintain a weatherboard style flashing.
- Flashing paper must be applied with galvanized nails or corrosion resistant staples. Flashing paper shall be applied in a weatherboard fashion around the full perimeter of the framed opening.
- Seal frame and vent joints completely with compatible sealant. Apply a heavy bead of sealant to the interior side of the mounting flange (nail-on) where the frame jamb and sill join. Sealant must cover the entire joint (from the flange to the inside leg) and extend 1 1/2" up the jamb and along the sill (Figure 5).

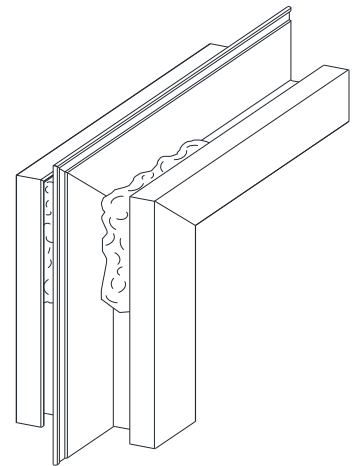


Figure 5:
Nail-fin sealant location

Note: Inside glazed products-see inside glazed product procedure for frame orientation, page 11.

- Apply a continuous bead of sealant along the back and side legs between the sill and sill pan (Figure 8, page 7) and insert the frame into the opening.

- Cross-measure and adjust using non-porous, non-absorbent, inorganic shims to achieve a plumb square and level condition, as well as an even reveal around the framed opening. Ensure shims are in a location to support any loads that are transferred from the anchor to the frame. Seal all fastener heads with compatible sealant. Only drill holes through Sill as required for design load. In these cases, the installer is responsible to seal these breaches.

Note: Frame installation anchors furnished by installer, not by Fleetwood. Stainless steel screws are recommended.

2. Block Frames

- Prepare the opening to accept the frame ensuring that the weep-screed flashing at the sill is adjusted to maintain a weatherboard style flashing.
- Seal frame and vent joints completely with compatible sealant. Apply a heavy bead of sealant to the interior side where the frame jamb and sill join. Sealant must cover the entire joint (from the flange to the inside leg) and extend 1 1/2" up the jamb and along the sill (Figure 6).

Note: Inside glazed products-see inside glazed product procedure for frame orientation, page 12.

- Apply a continuous bead of sealant along the back and side legs between the sill and sill pan (Figure 9, page 7) and insert the frame into the opening. Cross-measure and adjust as necessary to achieve a plumb square and level condition, as well as an even reveal around the framed opening. Shim with non-porous, non-absorbent, inorganic shims where needed. Seal all fastener heads with compatible sealant. (Only drill holes through Sill as required for design load)

Note: Installer responsible to ensure anchors maintain edge distance. For fixed panels, remove glass stops to install anchor screws.

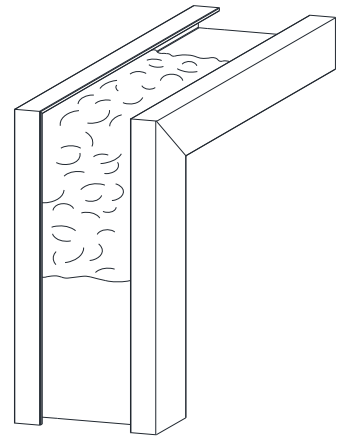


Figure 6:
Block frame sealant
location

3. Uneven Leg Frame

- Prepare the opening to accept the frame ensuring that the weep-screed flashing at the sill is adjusted to maintain a weatherboard style flashing.
- Seal frame and vent joints completely with compatible sealant. Apply a heavy bead of sealant to the interior side where the frame jamb and sill join. Sealant must cover the entire joint (from the flange to the inside leg) and extend 1 1/2" up the jamb and along the sill (Figure 7).

Note: Inside glazed products-see Additional Glazing procedure page 9.

- Apply a continuous bead of sealant along the back and short leg between the sill and sill pan, and around the entire window frame along the long leg (Figure 10, page 8). Then insert the frame into the opening. Cross-measure and adjust as necessary to achieve a plumb square and level condition, as well as an even reveal around the framed opening. Shim with non-porous, non-absorbent, inorganic shims where needed. Seal all fastener heads with compatible sealant. (Only drill holes through Sill as required for design load)

Note: Installer responsible to ensure anchors maintain edge distance. For fixed panels, remove glass stops to install anchor screws.

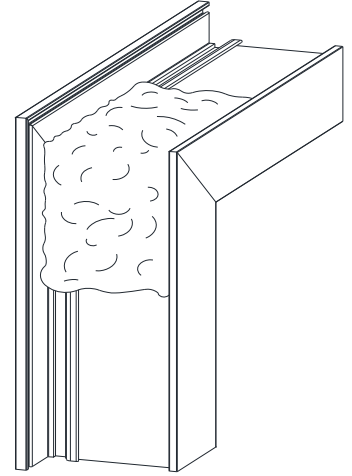


Figure 7:
Block frame sealant
location

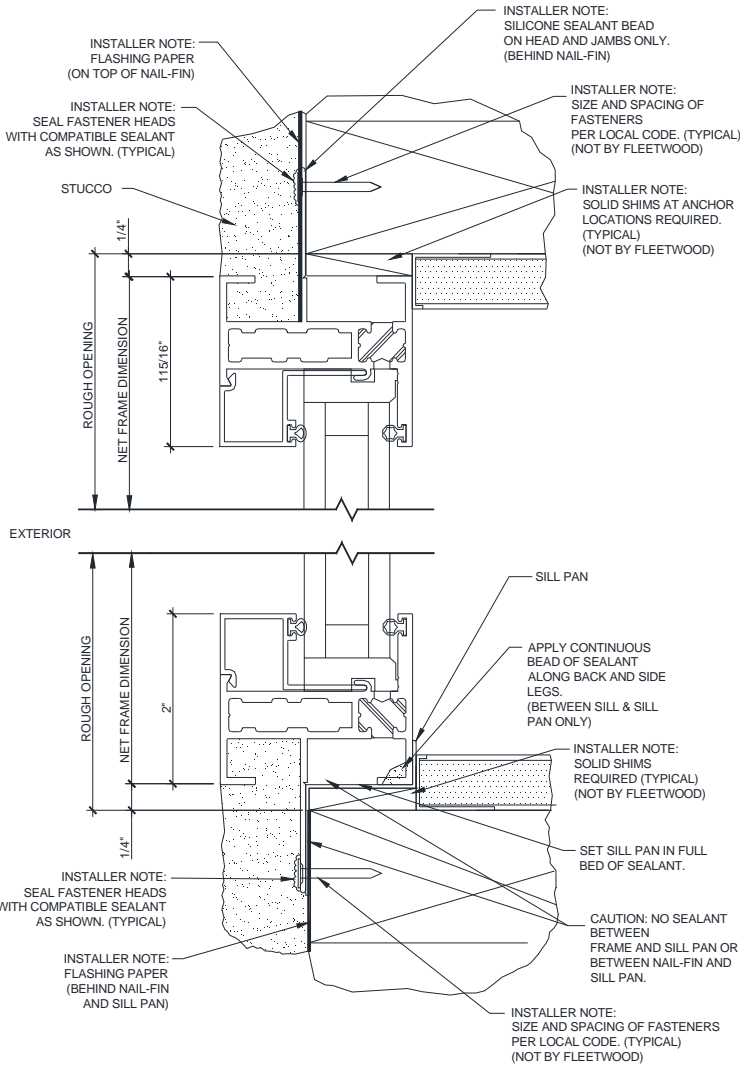


Figure 8:
Nail-Fin Window Installation
(Fixed Shown, Same for Casement / Awning)

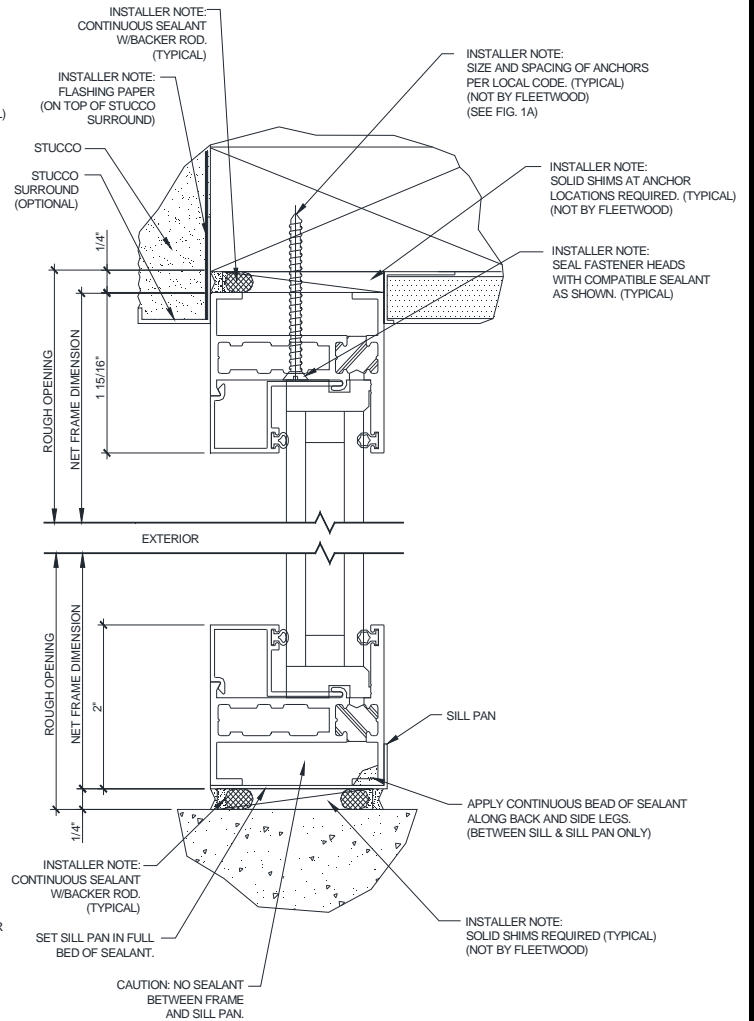


Figure 9:
Block Frame Window Installation
(Fixed Shown, Same for Casement / Awning)

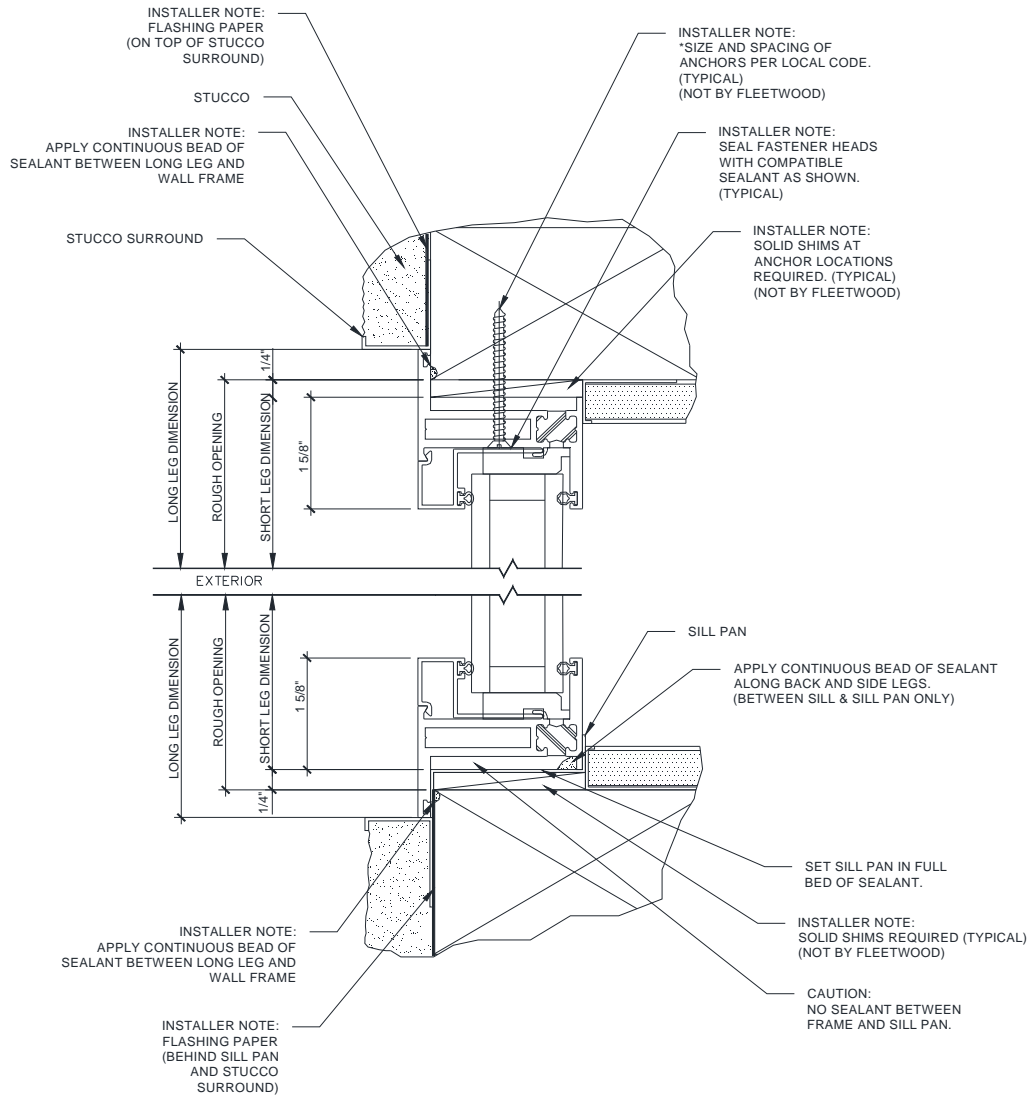


Figure 10:
Uneven Leg Frame Window Installation
(Fixed Shown, Same for Casement / Awning)

VI. Glazing Instructions

Note: Glass stops must be removed before continuing.

Dry Glazing Procedure

- Apply a 1/2"x1/2"x4" bead of compatible sealant from each corner on inner flange of panel (Figure 11).
- Install glass setting blocks
 - Awning and Fixed:** at 1/4 points into the top, bottom, and sides of the frame (Figure 12).
 - Casement:** 1/4 points on the hinge side lower corner (bottom and side) and 1/4 points of the diagonal (top and side) to prevent "sash sag" (Figure 13).
- Install glass to rest on the inner flange of panel then install glass stops (Figure 13).

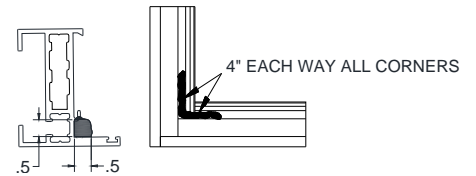


Figure 11:
Sealant Location and Sizes

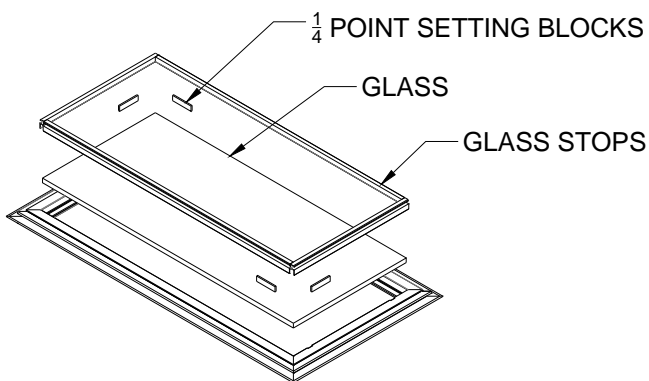


Figure 12:
Glass Installation (Casement Shown)

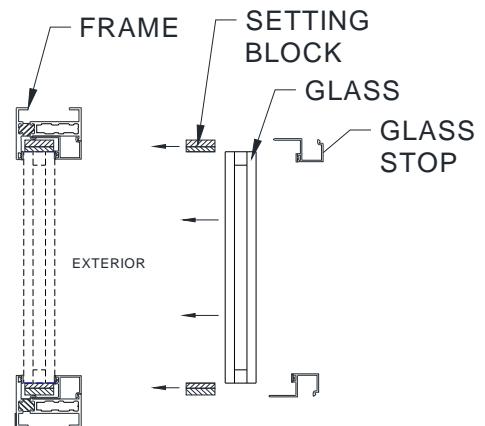


Figure 13:
Setting Block Location (Fixed Shown)

Additional Glazing Procedure

Note: Applies to inside glazed or outside glazed where additional water protection is required.

1. Before glazing, apply a continuous bead of sealant to the inner frame (Figure 14).
2. After glazing, apply a continuous bead of sealant to the frame and glass (Figure 15).

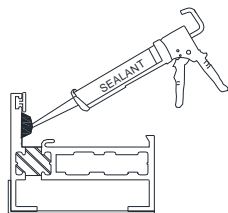


Figure 14:
Before Glazing Locations

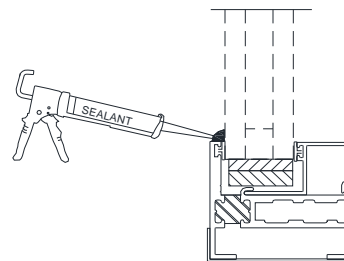


Figure 15:
After Glazing Locations

VII. Corner Butt Glazing

Note: Corner windows will be butt glazed on site.

- Install window frame per instruction in Section IV.
- Align corner glass panels in frame leaving a 1/4" gap between glass for sealant (Figure 15). Orientation and sealant requirement options shown in Figures 16-19.
- Install glass stops following dry glazing procedure in Section V.

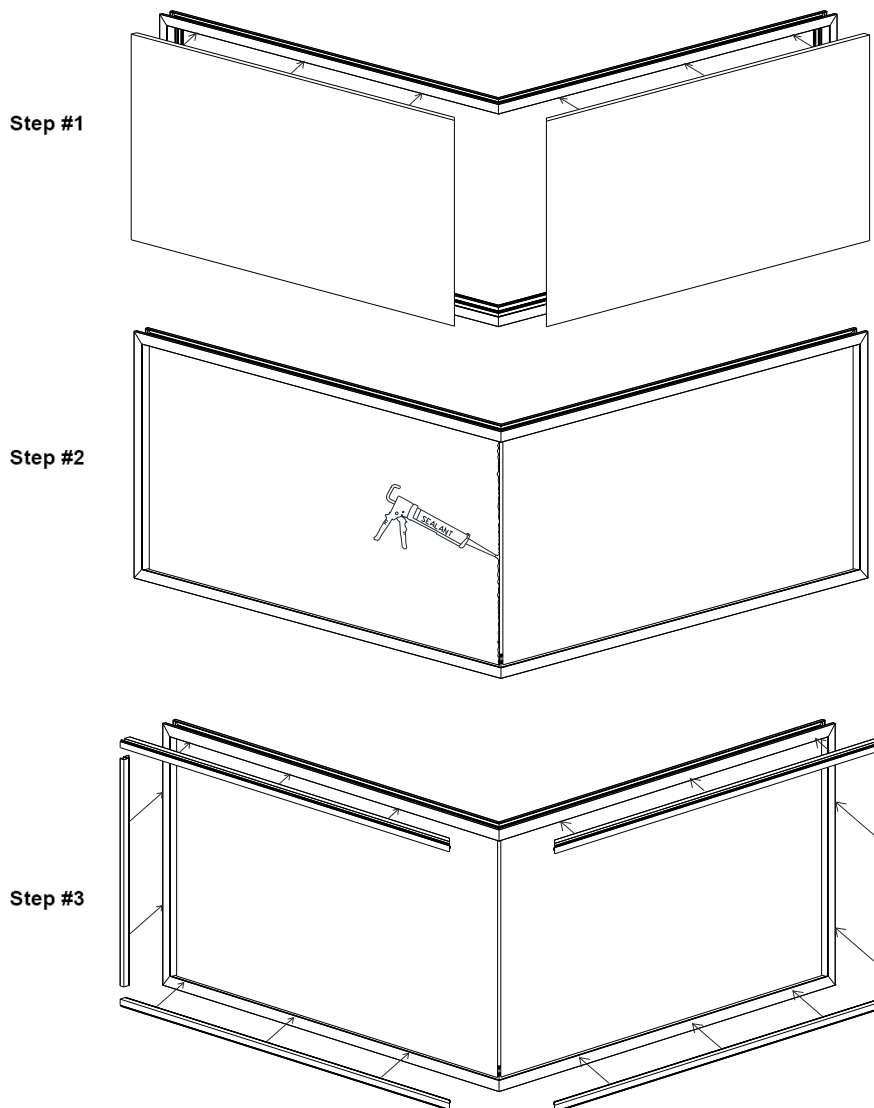


Figure 16:
Corner Butt Glazing

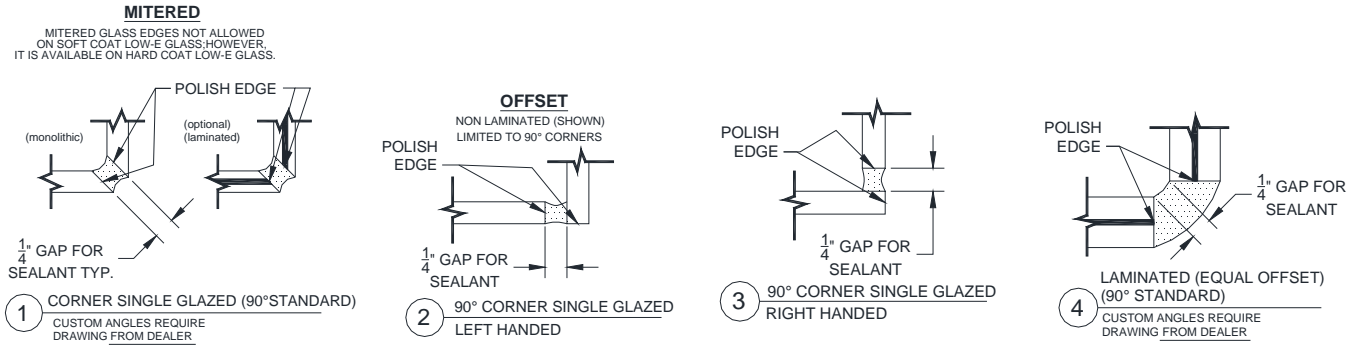


Figure 17:
Single Glaze Butt Glazing Options

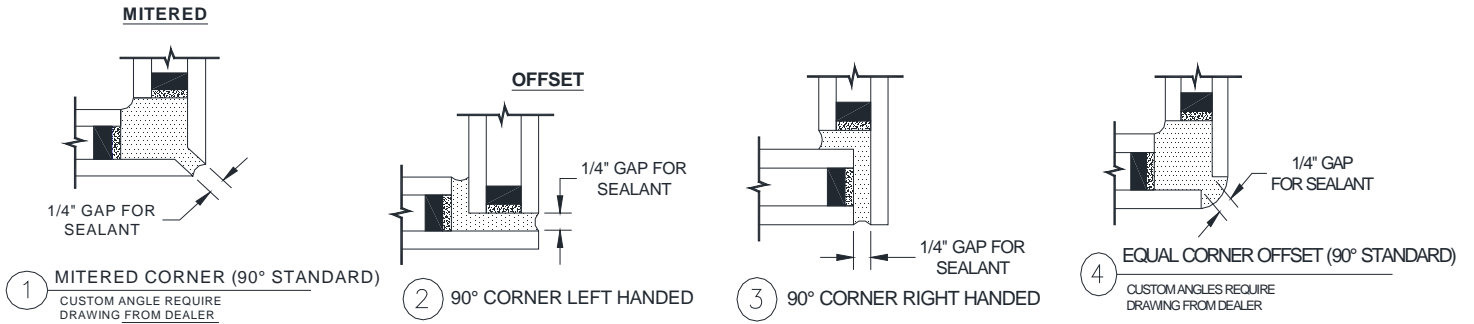


Figure 18:
Dual Glaze Butt Glazing Options

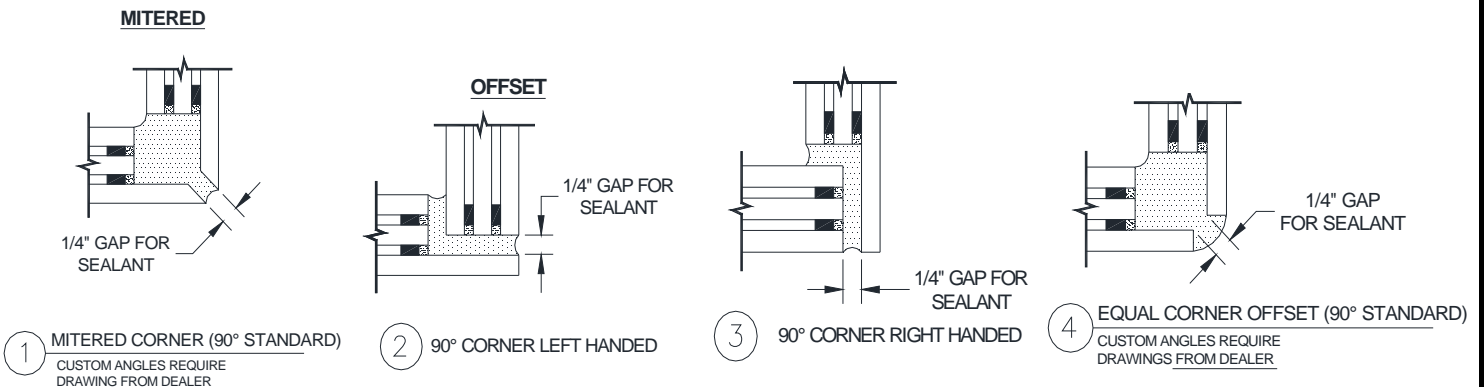


Figure 19:
Triple Glaze Butt Glazing Options

Note: Sealant not provided by Fleetwood.

VIII. Flashing after Installation

The flashing paper referred to in this document is Moistop or other code compliant flashing material that conforms to **Federal Specification UU-B-790a, Type 1, Grade A, Style 4**. The strips of flashing paper are to be no less than 9 inches wide (or wider as required by local codes). Flashing paper must be applied with galvanized nails or corrosion resistant staples. Flashing paper shall be applied in a weatherboard fashion around the full perimeter of the framed opening.

Important Note: The flashing paper referred to in this document is Moistop or other code compliant flashing material that conforms to Federal Specification UU-B-790a, Type 1, Grade A, Style 4. The strips of flashing paper are to be no less than 9 inches wide (or wider as required by local codes).

1. Once satisfied that the frame is watertight, and immediately prior to application of the flashing paper at the head and jambs, apply a continuous bead of sealant to the exposed mounting flange (nail-fin) at the top (head) and sides (jambs) of the installed frame. Also, apply sealant at corners of the frame and the full length of the seams where the nail fin flashing is mounted.
2. At each jamb, embed the flashing paper into the sealant onto mounting flange and fasten into place. The flashing paper should be cut sufficiently long enough to extend at least 3 in. past the weep-screed flashing and at least 6 inches above the head of the product (Figure 20).
3. Finally, at the head, embed the flashing into the sealant on the mounting flange and fasten into place. The flashing paper should be cut sufficiently long enough to extend past the flashing paper at each jamb by at least 3 in (Figure 21).
4. Weather resistant building paper should be applied in a weatherboard fashion to complete the installation (Figure 22).

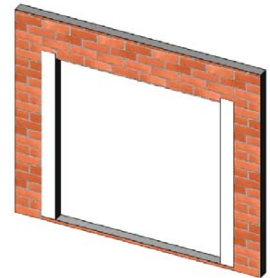


Figure 20:
Jamb flashing



Figure 21:
Head Flashing

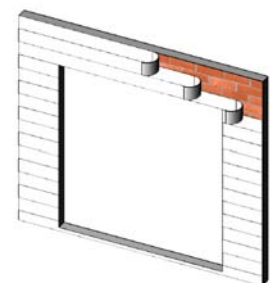


Figure 22:
Building Flashing

Note: Where weather resistant building paper, insulating board, or other materials by other trades may constitute the primary weather barrier behind the exterior wall finish (i.e. stucco, masonry, siding, etc.), the owner / General Contractor are responsible to ensure that the weather barrier is continuous by effectively sealing the material to the product frame.

Appendix A: Joining Sill-pans

Follow the instructions below for joining multiple piece Sill-pans. Multiple piece Sill-pans are required on products with net frame widths greater than 14 feet (168 inches) and corner units.

1. Install Sill-pans per product installation instructions. *Caution: Apply a compatible sealant to the underside of the sill-pan at the seam joint.*
2. Cut a piece of adhesive backed waterproof material to fit the joint as specified in drawing below, $A = 3/8"$. *Caution: Select waterproofing material that is compatible for your application. Waterproofing material must have an adhesive backing and be capable of withstanding the temperature ranges for your region.*
3. Remove excess sealant at joint on top of the sill-pan that may have migrated in during installation.
4. Remove the adhesive backing from the waterproof material and apply to the sill-pan. Waterproof material shall contain a fold on the interior water leg and attach to the sill-pan as shown.

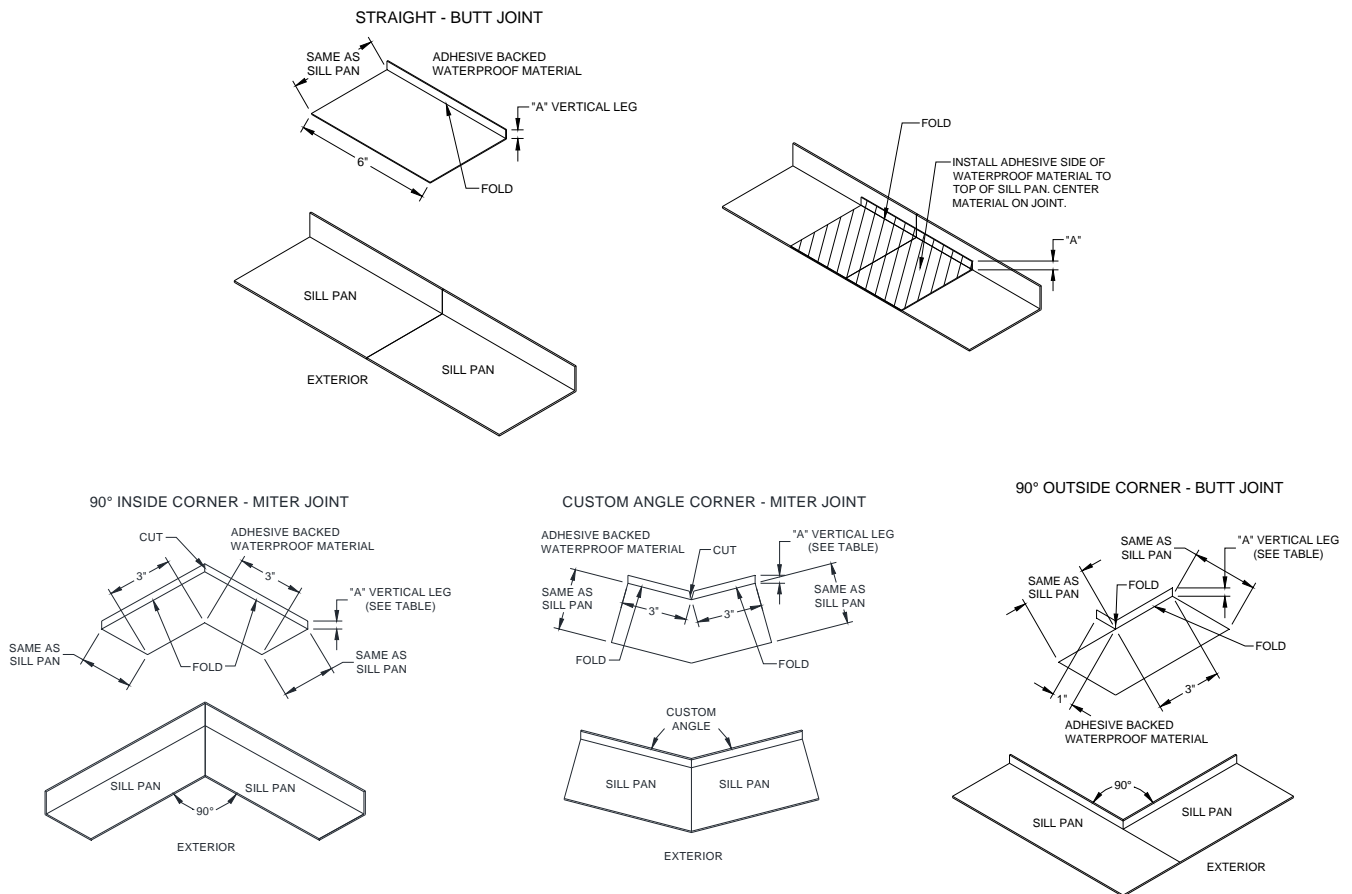


Figure A1:
Showing multiple piece sill-pans joining