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**I. Tools / Materials, Sealant Requirements, & Anchor Instruction.**

**Tools Requirements:** Tape measure, Level, Shims, Nails, Screws, Sealant, caulk gun, Backer Rod, 6mm Allen 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 800-92**. It is recommended that all other sealants should also conform to **AAMA 802-92** but may be a sealant recommended and approved by the sealant manufacturer that is compatible with the door framing, finish and surrounding materials.
- The size of all sealant beads must meet or exceed the sealant manufacturers minimum size requirements.
- Some exterior wall finishes require additional sealing between the perimeter of the door frame and adjacent finish wall material. The Owner / General Contractor is responsible for identifying the need for any additional sealant which will be applied by others. Such sealant shall be elastomeric material, and compatible with the door framing, finish and surrounding materials.

**Anchor Instruction**

Frame may be either direct mounted to the opening, mounted onto a continuous wood spacer, anchored to a min. 18 ga. 33 ksi metal stud or anchored to a min. 2x4 no. 3 southern pine wood buck. When anchored to a 2x\_ buck or metal stud, no. 12 screws shall be used. When direct mounted or mounted with spacer to block/concrete, 1/4" concrete screws shall be used. Proper material shall be used between all dissimilar materials (block/concrete & aluminum).

*Note: See Anchor Schedule for HVHZ Applications.*

## II. Structure Verification

### 1. Sillpan Substitution

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

### 2. Opening Verification

- a. Check the measurements of the opening and verify that the door will fit into the opening. Measure all four sides of the opening to make sure it is 1/2" larger than the doors in width and 1/4" in height.
- b. Remove the door(s) from the packaging and lay it in front of the opening. Check width and height dimensions.
- c. Remove key from temporary location on lock jamb (outside).
- d. Verify the opening is plumb and level

### 3. Pre-Fit and Leveling

- a. Place sillpan into the opening and determine any leveling that must be done prior to installation.
- b. Shim as necessary to stabilize the entire depth and length of the sillpan. No unsupported width of more than 8" is allowed. Shim to be load bearing, non-porous, non-absorbent and inorganic.
- c. 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.

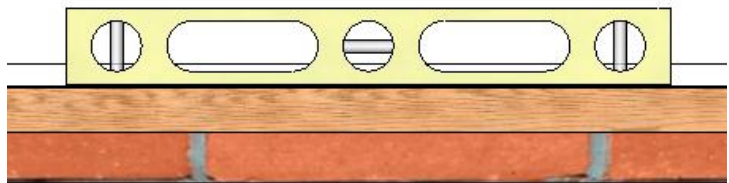
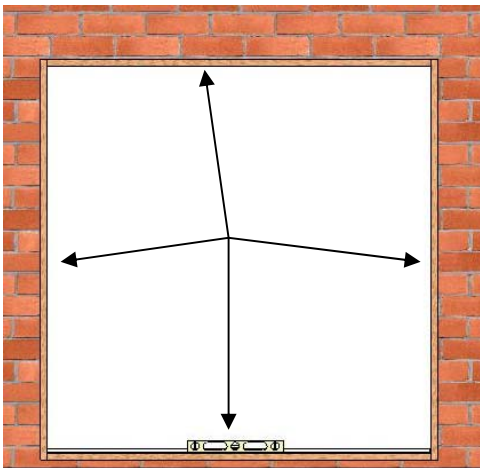


Figure 1: Use level to determine if the opening is plumb and level

#### 4. Sillpan<sup>1</sup> Installation (Skip if ADA Sill)

- 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 break metal (Sillpan is provided).
- b. With bottom side of sillpan up, apply a 3/8" bead of compatible sealant 1/2" in from interior leg (see figure 2). Also apply sealant beads near the sides and across the front as shown in figure 3.

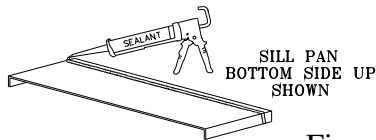


Figure 2

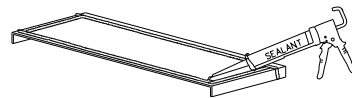


Figure 3

- c. Secure the sillpan to the floor with glue. Position sillpan as necessary to allow for proper installation of frame assembly as shown in figure 4.

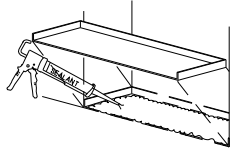


Figure 4

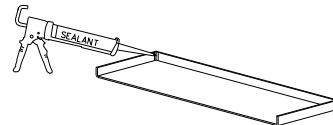
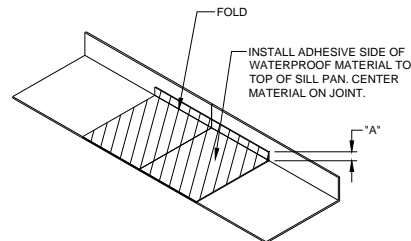
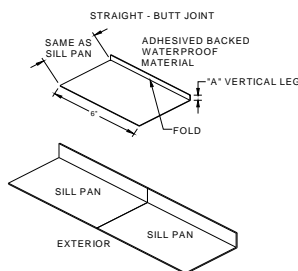


Figure 5

- d. Apply sealant up each vertical leg (in corners) of the sillpan as shown in figure 5.

Follow the instructions below for joining multiple piece sillpans. Multiple piece sillpans are required on products with net frame widths greater than 14 feet (168 inches).

1. Install sillpans 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,  $A = 1/4"$ . *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.*



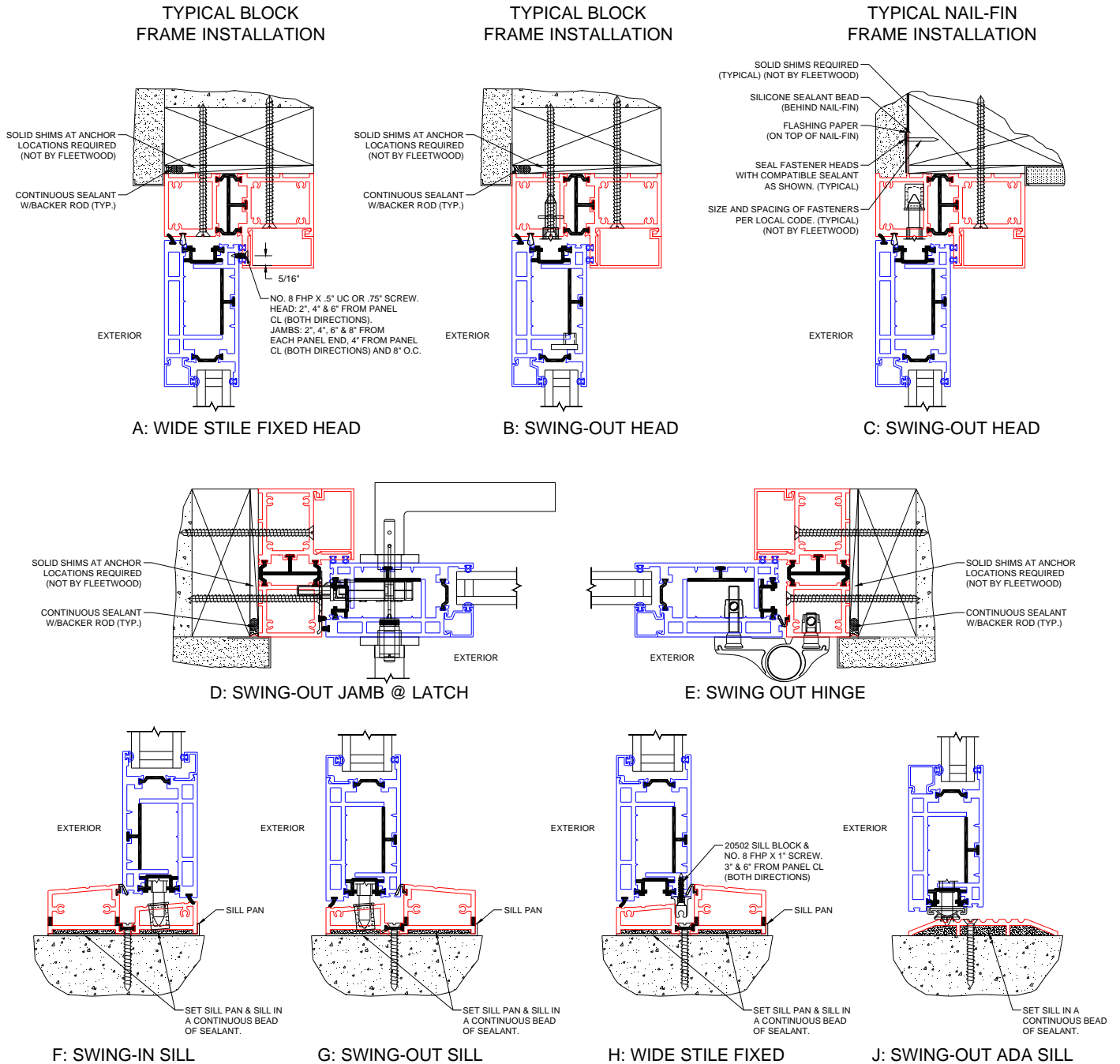
3. Remove excess sealant at joint on top of the sillpan that may have migrated in during installation.
4. Remove the adhesive backing from the waterproof material and apply to the sillpan.

<sup>1</sup> Sillpan refers to a factory provided aluminum pan (or equivalent).

**III. Frame Installation**

*Knock Down (KD) Frame: See Appendix D.*

Fleetwood recommends countersink all frame anchors



**Figure 6: Anchor Location and Sealant Installation**

### Nail-fin Frames

Note: Glass from transom and sidelight should be removed before continuing. Glass will be re-installed after frame installation.

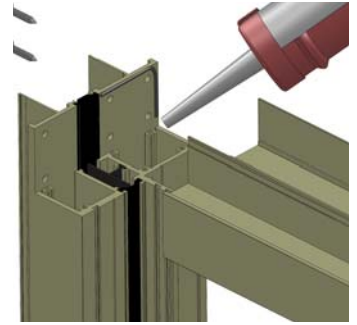


Figure 7

1. Check the measurements of the opening and make sure that the door frame you have will fit the opening.
2. 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.
3. Seal frame and vent joints completely with compatible sealant. **IMPORTANT:** Apply a heavy bead of sealant to the interior side of the mounting flange (nail-on) where the door frame jamb and sill join. Sealant must cover the entire joint (from the flange to the inside leg of the door) and extend 1 1/2" up the jamb and along the sill. (See Fig. 7).
4. Apply compatible sealant to the underside of the frame sill, and the screw holes in the sill. Apply the sealant as far to the outside of the opening as possible.
5. Immediately prior to installing the frame, apply a continuous 1/2" bead of compatible sealant to the backside (interior) of the mounting flange (nail-fin) at the jambs and head.
6. Insert the door into the opening and set the sill in a full bed of sealant (See Fig. 6). 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)
7. Anchor Location, Sealant and Wall Condition
 

Frame installation anchors furnished by installer, not by Fleetwood. Stainless steel screws are recommended. Fleetwood recommends countersink for all frame anchors.

  - a. Secure the jamb to the trimmer with the screws provided (#8 x 2" stainless steel counter sink head). Seal all fastener heads during installation with sealant.
  - b. If required for design pressure, fasten head, jambs, sill with screws in Table I and Fig. 8 for details.
8. The installer is responsible for the integrity of all framing joints after installation and must therefore **water** test all joints to guarantee a completely sealed product. Apply joint sealer and/or sealant necessary to ensure watertight joints. Retest as necessary.
 

A. *Once satisfied that the door frame is water tight, 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 door. Also, apply sealant at corners of the frame, the full length of the seam where mounting flanges (nail-fins) meet.*

B. At each jamb, embed the flashing paper into the sealant on the 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 or diado flashing and at last 6 inches above the head of the door. (See Fig. 8)

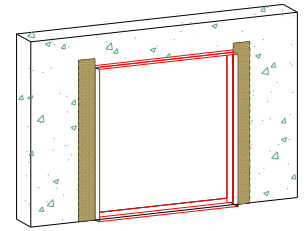


Figure 8

C. Finally, at the door 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. (See Fig. 9)

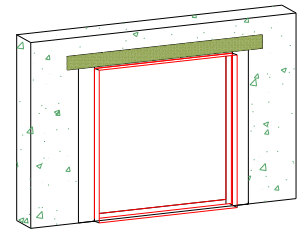


Figure 9

D. Weather resistant building paper should be applied in a weatherboard fashion to complete the installation. (See Fig. 10)

E. 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 is responsible to ensure that the weather barrier is continuous by effectively sealing the material to the door frame.

9. To complete the installation, apply backer rod and a complete bed of sealant to the entire exterior and interior joint between the frame and the building structure. Tool the sealant to eliminate bubbles, voids and / or breaks and ensure a completely watertight seal.

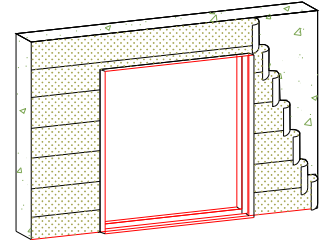


Figure 10

### Block Frames

Note: Glass from transom and sidelight should be removed before continuing. Glass will be re-installed after frame installation.

1. Prepare the opening to accept the door frame ensuring that the door frame will fit the opening.
2. Seal frame and vent joints completely with compatible sealant. **IMPORTANT:** Apply a heavy bead of sealant to the interior side of the mounting flange (nail-on) where the door frame jamb and sill join. Sealant must cover the entire joint (from the flange to the inside leg of the door) and extend 1 1/2" up the jamb and along the sill. (See Fig. 11).
3. Apply compatible sealant to the underside of the frame sill, and the screw holes in the sill. Apply the sealant as far to the outside of the opening as possible.
4. Insert the door into the opening and set the sill in a full bed of sealant (See Fig. 8). 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)
5. Anchor Location, Sealant and Wall Condition  
Frame installation anchors furnished by installer, not by Fleetwood. Stainless steel screws are recommended. Fleetwood recommend countersink for all frame anchors.
6. The installer is responsible for the integrity of all framing joints after installation and must therefore **water** test all joints to guarantee a completely sealed product. Apply joint sealer and/or sealant necessary to ensure watertight joints. Retest as necessary.
7. To complete the installation, apply backer rod and a complete bed of sealant to the entire exterior and interior joint between the frame and the building structure. Tool the sealant to eliminate bubbles, voids and / or breaks and ensure a completely watertight seal.

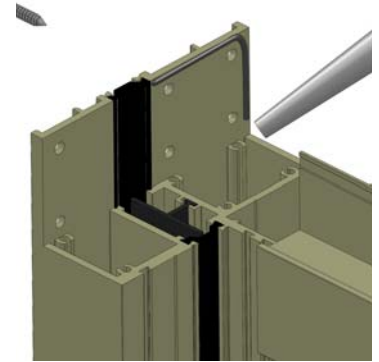


Figure 11



#### IV. Glazing Instruction and Panel Mounting Instruction.

1. Remove precut glass stops from the frame, making sure to note the location from which each has been removed. Each stop is hand cut for a specific location of the frame and must be returned to the same location after glazing process.
2. Fixed -Wide Stile:
  - Fasten inner panel to outer frame with # 8 FHP fasteners provided, (see Fig. 6A, 6H).
  - Apply a 3" bead of compatible sealant from each corner on inner flange of panel frame.
  - Install glass setting blocks (total 6 pcs per panel) at ¼ points into each jamb, head and sill for all four corners (see Fig. 12).
  - Install glass to panel frame then install glass stops (see Fig. 12).
3. Door: Install panel(s)
  - Apply a 3" bead of compatible sealant from each corner on inner flange of panel frame.
  - Install glass setting blocks (total 4 pcs per panel) at ¼ points into jamb, head and sill for hinged lower corner and opposite upper corner.
  - Install glass to inner frame then install glass stops (see Fig. 13).
  - Install the door panels to outer frame.
  - See Appendix A and B page 10 and 11 for hardware adjustment.
  - Verify Mishandling Device Sticker and plastic insert has been removed (see Appendix B, Fig 16)
  - When TDL bars exist and additional protection from water is needed, apply a cap bead of sealant to horizontal TDL bars.

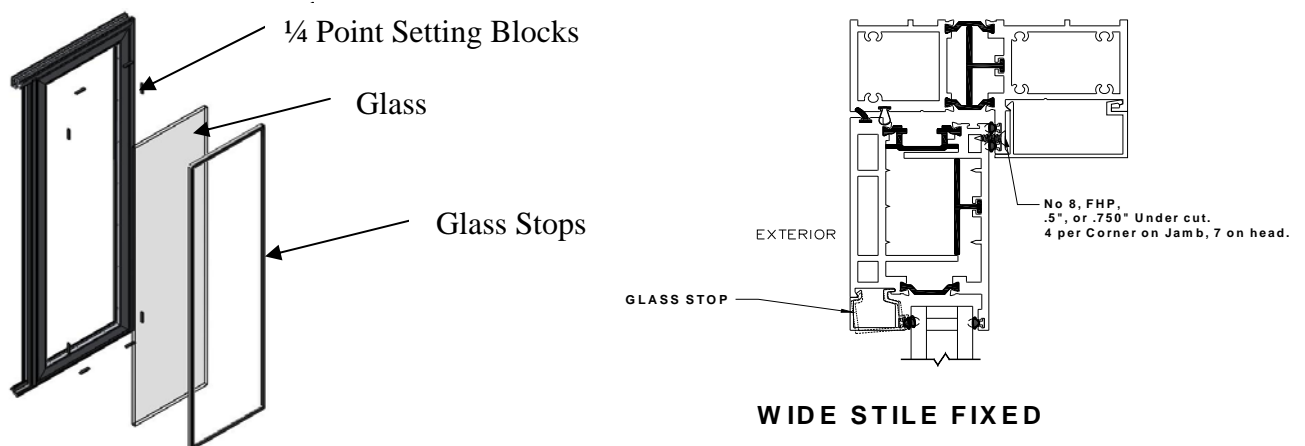


Figure 12: Panel Glazing Illustration-Wide Stile Frame Shown.



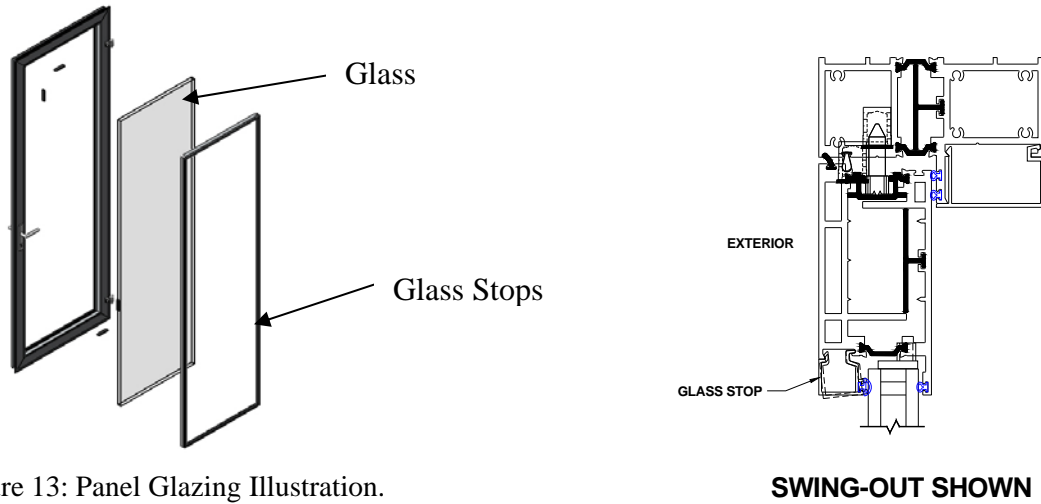


Figure 13: Panel Glazing Illustration.

4. Inside Glaze

- Apply a continuous bead of sealant before and/or after glazing. (Figure 14).

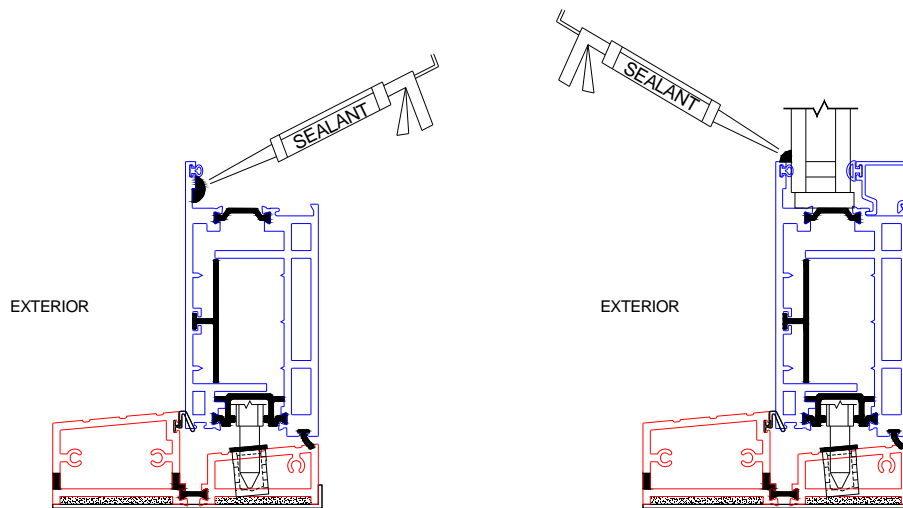


Figure 14

**Appendix A: Hinge adjustment**

Required Tools: 6mm Hex-L Key, 3mm Hex-L Key

1. Remove top and bottom caps from each pivot hinge.
2. Use 3mm Hex-L Key to loosen Set Screw.
3. It is recommended that lateral and height adjustments be performed with the door in the closed position so that you can immediately see the effects.
4. Adjust the door as instructed below. Replace caps upon completion of door adjustment.



Figure 15: Hinge Adjustment

Note: If hinge replacement is necessary, back up plates (inside frame) have been permanently attached. Hinges can be removed and remounted.

**Appendix B: Stucco Surround Application (Optional)**

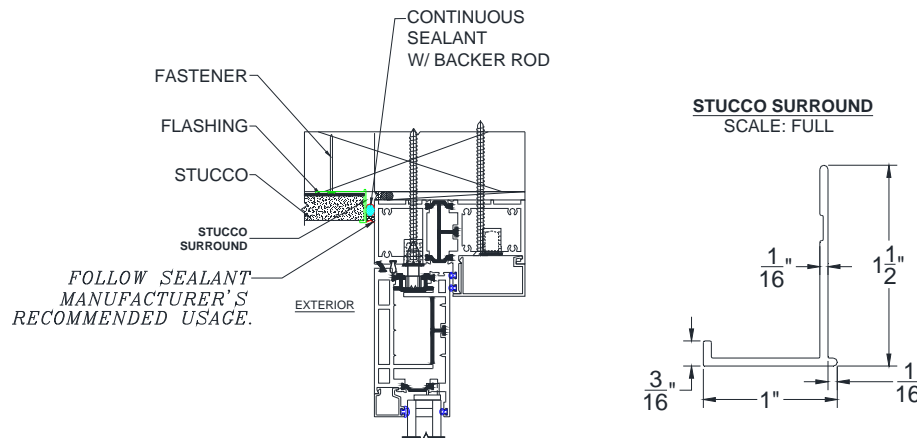


Figure 18: Stucco Surround Detail and Extrusion

## Appendix C: Panel Squaring

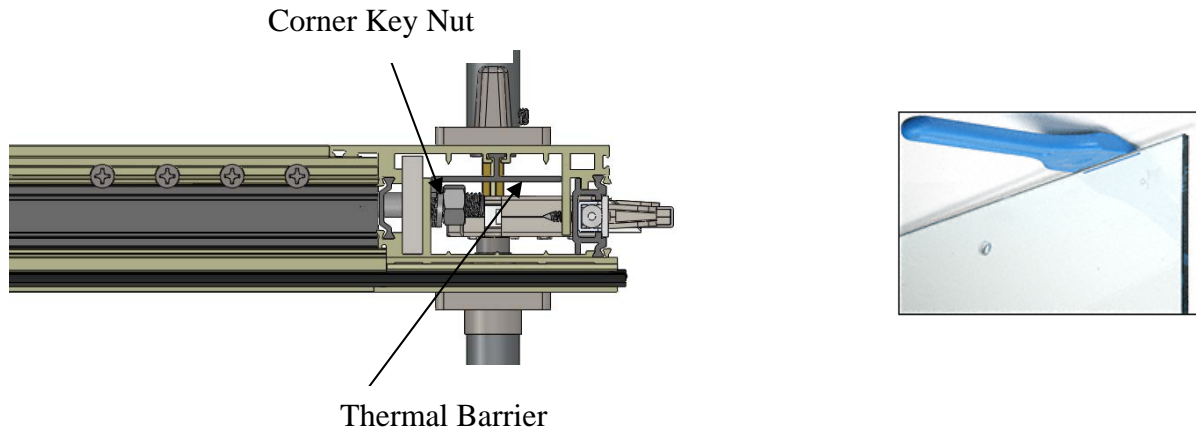


Figure 19: Corner Key Nut Detail

### Instructions

Required Tools: 9/16" wrench, pliers, tape measure, shim, plate glass lifting tool.

1. If panel hits the sill due to the weight of glass/panel.
  - a. Make sure the frame is squared before any adjustment to panel.
  - b. Adjust the hinges to bring the upper corner toward the hinge jamb, and the lower corner away from the hinge jamb. See "Appendix A: Hinge adjustment".
  - c. If the problem is solved, stop here.
  - d. Lay panel on table and check distance of both diagonals. If they are not the same, the panel is not square.
  - e. Remove thermal barrier (T shape bar)
  - f. Loosen nuts at 4 corners (2 turns), use plate glass lifting tool and add additional shim(s) to the top of the panel opposite of the hinge, between the glass and vent top rail.
  - g. Check diagonal distances, gap of panel to frame.
  - h. Tighten corner key nuts, insert thermal barrier back.
  
2. If panel hits the head.
  - a. Make adjustment while panel is hang on frame.
  - b. Adjust the hinges to bring the upper corner toward the hinge jamb, the lower corner away from the hinge jamb.
  - c. If the problem is solved, stop here.
  - d. Remove silicon/ foam at the end (top) of vertical stile.
  - e. Loosen nuts at 2 top corners (2 turns), use plate glass lifting tool and remove/replace with thinner shims to the top of the panel opposite of the hinge, between the glass and vent top rail.
  - f. Check diagonal distances, gap of panel to frame.
  - g. Tighten corner key nuts, insert thermal barrier back.

**Appendix D: Knock Down Frame (Optional)**

ITEM NO.	PART NUMBER	DESCRIPTION	Single-KD/ QTY.
1	3911	Head	1
2	3912	Snap-in	1
3	3911	Jamb	1
4	3912	Snap-in	1
5	-	PHP Screw NO 10 Size, 1 in	12
6	3904	Std. Sill	1
7	-	PHP Screw NO 10 Size, 2.5 in	6
8	3911	Jamb	1
9	3912	Snap-in	1

**DETAIL A**  
SCALE 1 : 4

**DETAIL B**  
SCALE 1 : 4

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	KEVIN	7/9/12
TOLERANCES: FRACTIONAL 1/32	CHECKED		
DECIMAL .005	ENG APPR.		
ANGULAR .025	ENG APPR.		
TWO PLACE DECIMAL ± .03	D.A.		
THREE PLACE DECIMAL ± .009	COMMENTS		

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**SCALE: 1:24 WEIGHT:** SHEET 1 OF 1

**DOUBLE LEFT PANEL**  
SCALE: 1:24 WEIGHT: SHEET 1 OF 1

ITEM NO.	PART NUMBER	DESCRIPTION	Double Left Panel KD/ QTY.
1	3902	Top Rail	1
2	3902	L Panel, Hinge Rail	1
3	3903	Lock Rail	1
4	3902	Bottom Rail	1
5	24870	Hex Head Cap Screw .375-16, 2.250"	4
6	25024	.375 Split Lock Washer	4
7	25023	.375-16 Stainless Steel Hex Nut	4

**DETAIL A**  
SCALE 1 : 4

**DETAIL B**  
SCALE 1 : 4

4 x .25" x .25" WELD

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	KEVIN	7/9/12
TOLERANCES: FRACTIONAL 1/32	CHECKED		
DECIMAL .005	ENG APPR.		
ANGULAR .025	ENG APPR.		
TWO PLACE DECIMAL ± .03	D.A.		
THREE PLACE DECIMAL ± .009	COMMENTS		

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**SCALE: 1:24 WEIGHT:** SHEET 1 OF 1