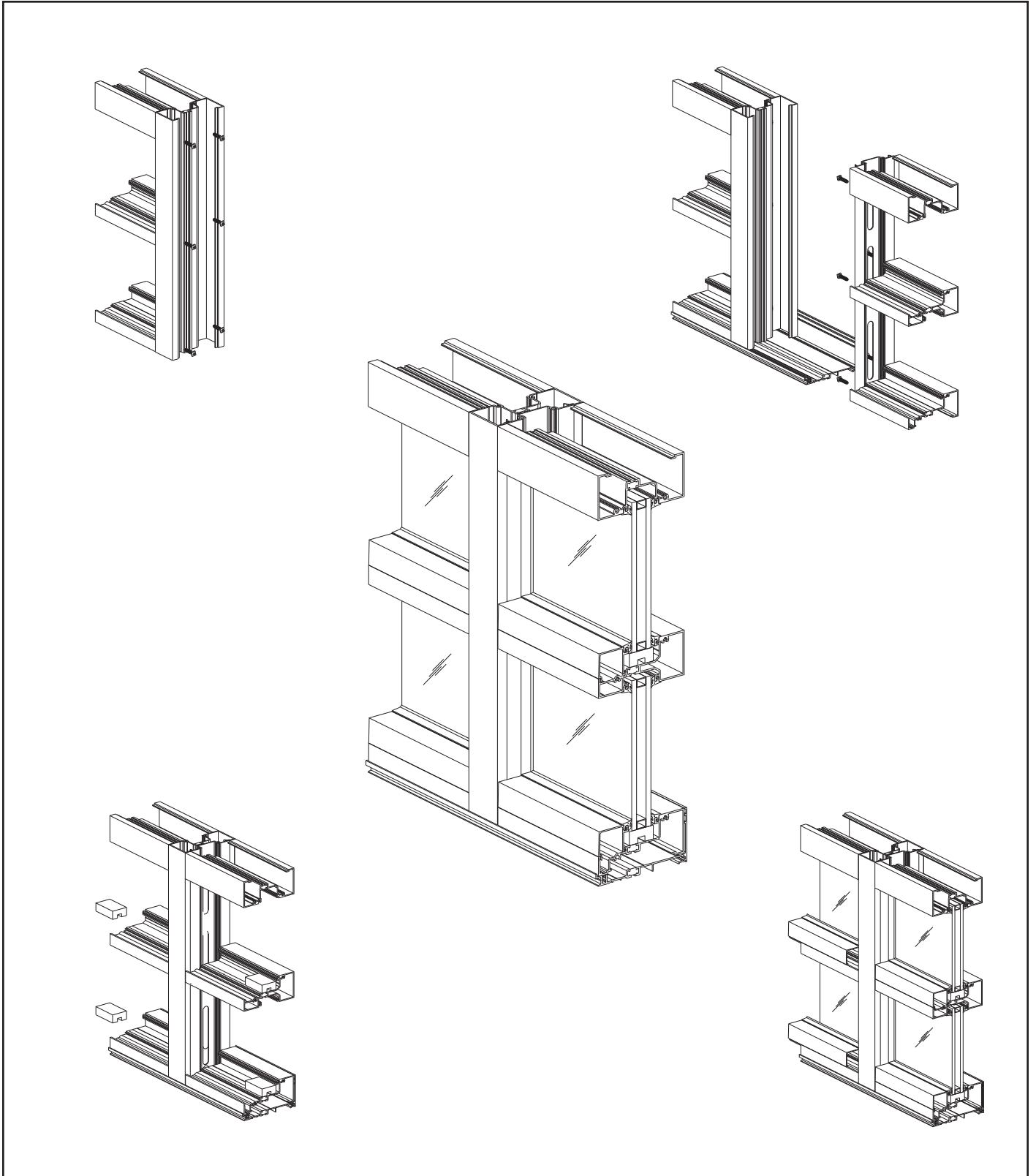


**YES 45 TU Center Set Storefront System**



**Installation Manual**







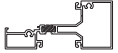

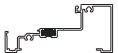
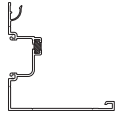

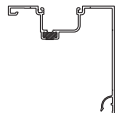

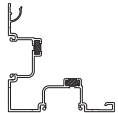
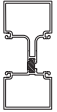


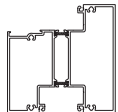








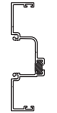
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**Installation Notes**

1. Do not drop, roll or drag boxes of aluminum framing. Move and stack boxes with proper support to prevent distortion. If fork lifts are used be especially careful about striking the boxes when lifting or moving.
2. Store in a dry, out of the way area. If rain exposure, condensation or any water contact is likely, then all packaging material should be removed. Wet packaging materials will discolor and may stain aluminum finishes and paints.
3. All materials should be checked for quality and quantity upon receipt, YKK AP must be notified immediately of any discrepancies in shipment. Check to make sure that you have the required shims, sealants, supplies and tools necessary for the installation.
4. Carefully check the openings and surrounding conditions that will receive your material. Remember, if the construction is not per the construction documents, it is your responsibility to notify the general contractor in writing. Any discrepancies must be brought to the general contractor's attention before you proceed with the installation.
5. Gather your shop drawings, materials, packing list, and this installation manual. Carefully review parts location, the sequence it goes therein, when you glaze it and how you seal it. Installation instructions are of a general nature and may not cover every condition you will encounter. The shop drawings and/or installation manuals were prepared specifically for the product.
6. Any material substitutions must be of equal or greater quality.
7. Make certain that material samples have been sent for compatibility testing for all manufacturer's sealants involved. Make certain sealants have been installed in strict accordance with the manufacturer's recommendations and specifications.
8. Remember to isolate, in an approved manner, all aluminum from uncured masonry or other incompatible materials.
9. System-to-structure fasteners are not supplied by YKK AP. Fasteners called out on shop drawings are to indicate minimum sizes for design loading.
10. Entrances are to be installed plumb, square, level, and true.
11. If any questions arise concerning YKK AP products or their installation, contact YKK AP for clarification before proceeding.
12. YKK AP storefront and/or curtain wall framing is typically completed before drywall, flooring and other products which may still be in process. Take the extra time to wrap and protect the work produced.
13. Cutting tolerances are plus zero (0"), minus one thirty second (-1/32") unless otherwise noted.
14. Check our website, [www.ykkap.com](http://www.ykkap.com), for the latest installation manual update prior to commencing work.

FRAMING MEMBERS (2" x 4-1/2")

	<b>Mullion / Jamb</b>	<b>BE9-2551</b>		<b>Expansion Mullion (Male)</b>	<b>BE9-2565</b>
	<b>Head / Mullion / Jamb</b>	<b>BE9-2553</b>		<b>Hinged Mullion (Male)</b>	<b>BE9-2557</b>
	<b>Horizontal</b>	<b>BE9-2556</b>		<b>Hinged Mullion (Female)</b>	<b>BE9-2558</b>
	<b>Sill</b>	<b>BE9-2579</b>		<b>90° Corner Mullion</b>	<b>BE9-2566</b>
	<b>Glass Stop</b>	<b>E9-1015</b>		<b>90° Corner Mullion</b>	<b>BE9-2567</b>
	<b>Sill Flashing</b>	<b>BE9-2578</b>		<b>3-Way Corner Mullion</b>	<b>BE9-2568</b>
	<b>One Piece Mullion</b>	<b>BE9-2555</b>		<b>135° Corner Mullion</b>	<b>BE9-2569</b>
	<b>Heavy Duty Mullion</b>	<b>BE9-2561</b>		<b>4-1/2" Horizontal/Sill</b>	<b>BE9-1513</b>
	<b>Pocket Filler (Slotted)</b>	<b>BE9-2552</b>		<b>Adaptor for High Sill</b>	<b>BY7-9478</b>
	<b>Head Receptor</b>	<b>BE9-2562</b>		<b>Flat Filler</b>	<b>E9-1038</b>
	<b>Head Receptor Stop</b>	<b>E9-1033</b>		<b>Glazing Adaptor</b> For 1/2", 5/8" & 3/4" glazing	<b>E9-1039</b>
	<b>Deep Pocket Filler</b> Use with BE9-2569	<b>BE9-2559</b>		<b>Glazing Adaptor</b> For 3/16", 1/4", 5/16", & 3/8" glazing	<b>E9-1040</b>
	<b>Expansion Mullion (Female)</b>	<b>BE9-2564</b>			

## FRAMING MEMBERS (Cont.)





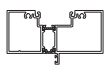


	<b>2-1/2" x 3/4" Face Cover *</b> For Custom Mullions and Horizontals	<b>E9-1206</b>		<b>5" x 3/4" Face Cover *</b> For Custom Mullions and Horizontals	<b>E9-3542</b>
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## DOOR FRAMING MEMBERS

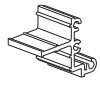
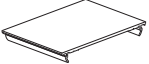
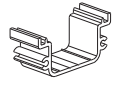
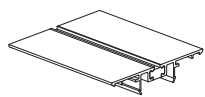
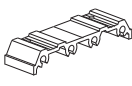
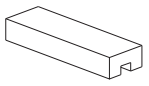
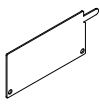
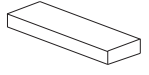

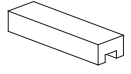
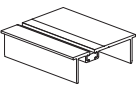

	<b>Single Acting Door Jamb</b> Elastomer weathering E2-0051 included	<b>AS-0411</b>		<b>Door Stop Base</b> Used with AS-0409	<b>E9-1113</b>
	<b>Single Acting Door Head/Transom Bar</b> Elastomer weathering E2-0051 included	<b>AS-0412</b>		<b>Transom Glass Stop</b> For 1/4" glazing	<b>E9-0403</b>
	<b>Double Acting Door Jamb</b>	<b>E9-0415</b>		<b>Transom Glass Stop</b> For 1" glazing	<b>E9-0413</b>
	<b>Double Acting Door Head/Transom Bar</b> Pile weathering E2-0062 included	<b>AS-0426</b>		<b>Transom Glazing Pocket</b> For 1/4" glazing	<b>E9-0434</b>
	<b>Intermediate Door Jamb</b> 2" x 4-1/2" Tube Use with AS-0409	<b>E9-9312</b>		<b>Transom Glazing Pocket</b> For 1" glazing	<b>E9-0435</b>
	<b>Deep Pocket Filler</b> Use with door jambs	<b>E9-1019</b>		<b>Sash Base</b> Use with E9-0403 or E9-0413 glass stops	<b>E9-0408</b>
	<b>Door Stop O/P Assembly</b> Elastomer weathering E2-0051 included Used with E9-1113	<b>AS-0409</b>		<b>Threshold</b> 1/2" x 4"	<b>E9-0407</b>

\* Other sizes available. Contact YKK AP for more information.
















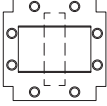

## THERMAL DOOR FRAMING MEMBERS

	<b>Single Acting Door Jamb</b> For 25T/35T/50T Doors Elastomer Weathering E2-0051 Not Included	<b>BE9-2581</b>		<b>Transom Glazing Pocket</b> For 1" Glazing	<b>BE9-2583</b>
	<b>Deep Pocket Filler</b>	<b>BE9-2609</b>		<b>Snap-in Pocket Filler</b>	<b>BE9-2571</b>
	<b>Transom Bar</b> For 25T/35T/50T Doors Elastomer Weathering E2-0051 Not Included	<b>BE9-2582</b>		<b>Threshold</b> 1/2" x 4-1/2" For 25T/35T/50T Doors	<b>BE9-0465</b>
	<b>Transom Glass Stop</b> For 1" Glazing	<b>E9-1592</b>			

## ACCESSORIES

	<b>Shear Block</b> For Sill/Horizontal	<b>E1-1058</b>		<b>Flat Filler</b> Use at all anchor locations	<b>E1-1054</b>
	<b>Shear Block</b> For Head	<b>E1-1059</b>		<b>Sidelite Base Clip</b> For compound horizontals, 4" Long	<b>E1-9836</b>
	<b>Shear Block</b> For Transom Bar AS-0426	<b>E1-0317</b>		<b>Setting Block</b> For outside glazed Horizontal & sill	<b>E2-0020</b>
	<b>End Dam</b> For Sill Flashing BE9-2578	<b>E1-0199</b>		<b>Setting Block</b> For inside glazed Intermediate horizontal	<b>E2-0611</b>
	<b>Splice Sleeve</b> For Sill Flashing BE9-2578	<b>E2-0070</b>		<b>Setting Block</b> For 4-1/2" Horizontal	<b>E2-0628</b>
	<b>Head Anchor</b> 4" Long	<b>E1-2602</b>		<b>Water Deflector</b>	<b>E2-0047</b>

## ACCESSORIES (Cont.)

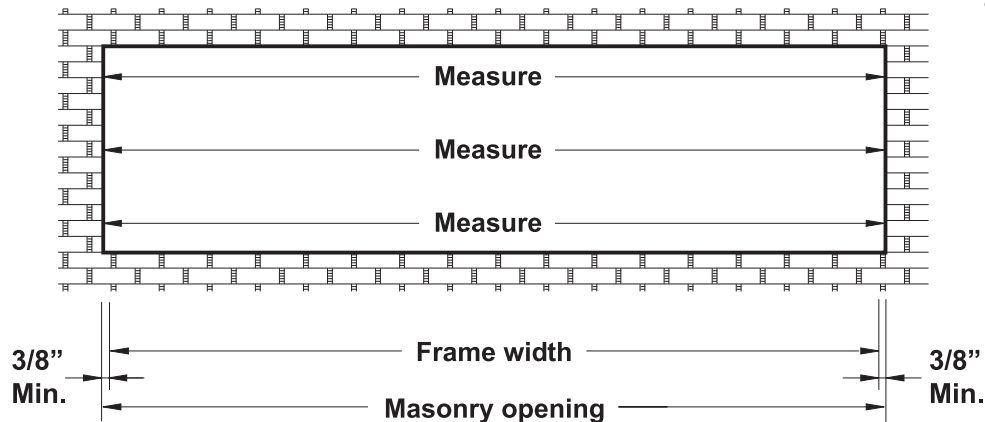
	<b>"W" Side Block</b> For Deep Pocket	<b>E2-0153</b>		<b>#10 x 1-3/4" PHSMS Type AB</b> , Zinc Plated Steel For Attach. of Shear Blocks E1-1058 & E1-1059 to Vert.	<b>PC-1028</b>
	<b>Pile Weathering Seal</b>	<b>E2-0062</b>		<b>#12 x 3/4" UFHMS Type A</b> , Zinc Plated Steel For End Dam Attachment	<b>UA-1212</b>
	<b>Glazing Gasket</b>	<b>E2-0052</b>		<b>#12 x 5/8" PHSMS Type AB</b> , Zinc Plated Steel For Attach. of Horiz. & Sill to Shear Block E1-1058	<b>PC-1210</b>
	<b>Glazing Gasket</b>	<b>E2-0053</b>		<b>#12 x 3/4" FHSMS Type AB</b> , Zinc Plated Steel For Attachment of Head to Shear Block E1-1059	<b>FC-1212</b>
	<b>Glazing Gasket</b>	<b>E2-0064</b>		<b>#12 x 1" PHSMS Type AB</b> , Zinc Plated Steel For Screw Spline Attachment	<b>PC-1216</b>
	<b>Elastomer Weathering</b> For Head Receptor	<b>E2-0051</b>		<b>#12 x 1-1/4" PHSMS Type AB</b> , Zinc Plated Steel, For Screw Spline Attach. When Using BE9-2553 as Vertical	<b>PC-1220</b>
	<b>Weathering Gasket</b> For Expansion Mullion	<b>K2-2441</b>		<b>#12 x 1-3/4" PHSMS Type AB</b> , Zinc Plated Steel For Attachment of Shear Block E1-0317 to Vertical	<b>PC-1228</b>
	<b>#10 x 3/4" FHSMS Type AB</b> , Zinc Plated Steel For Attach. of Horizontal to Shear Block E1-0317	<b>FC-1012</b>		<b>Drill Fixture</b>	<b>H-7201</b>
	<b>#10-24 x 1/2" PHMS</b> Stainless Steel For Attachment of Sill to Sill Flashing	<b>PM-1008-SS</b>			



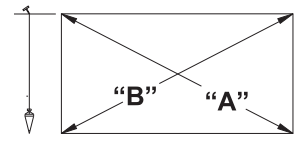
## FRAME FABRICATION

### STEP 1 DETERMINE FRAME SIZE

#### Determine Frame Width:



**Note:** Check the opening for squareness and plumb at both ends. Units must be installed in a true rectangle.



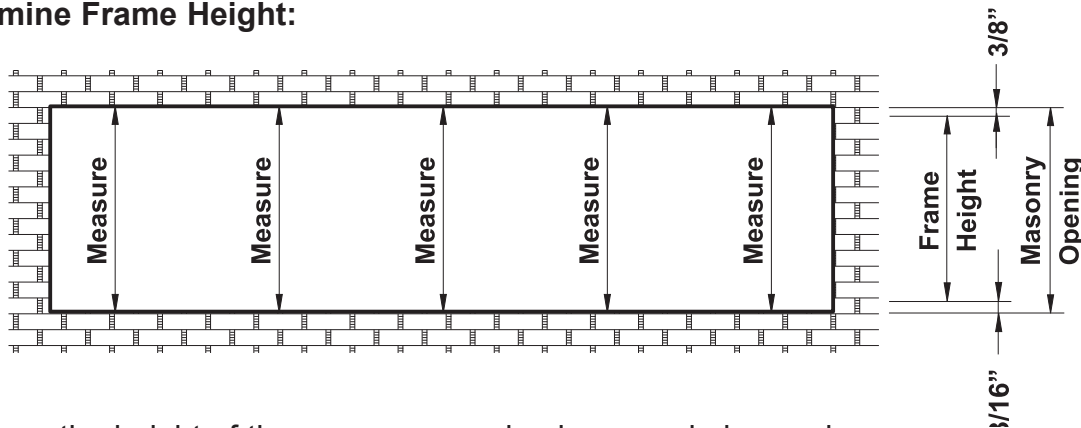
**Detail 1**

- Measure the width of the masonry opening at the top, middle and bottom.
- Select the smallest dimension measured and subtract 3/4" to the determine the frame width to be used.

See **Detail 1**.

**NOTE:** Frame widths over 24'-0" require expansion mullions every 12 to 15 feet (best location at vertical next to the door jamb.)

#### Determine Frame Height:



**Detail 2**

- Measure the height of the masonry opening in several places along the entire length of the opening.
- Select the smallest dimension measured and subtract 1-3/16" to determine the frame height to be used:

Minimum 3/8" shim/caulk joint at the head.

7/16" for sill flashing.

Minimum 3/8" shim/caulk joint below the sill flashing.

See **Detail 2**.

## FRAME FABRICATION

### STEP 2

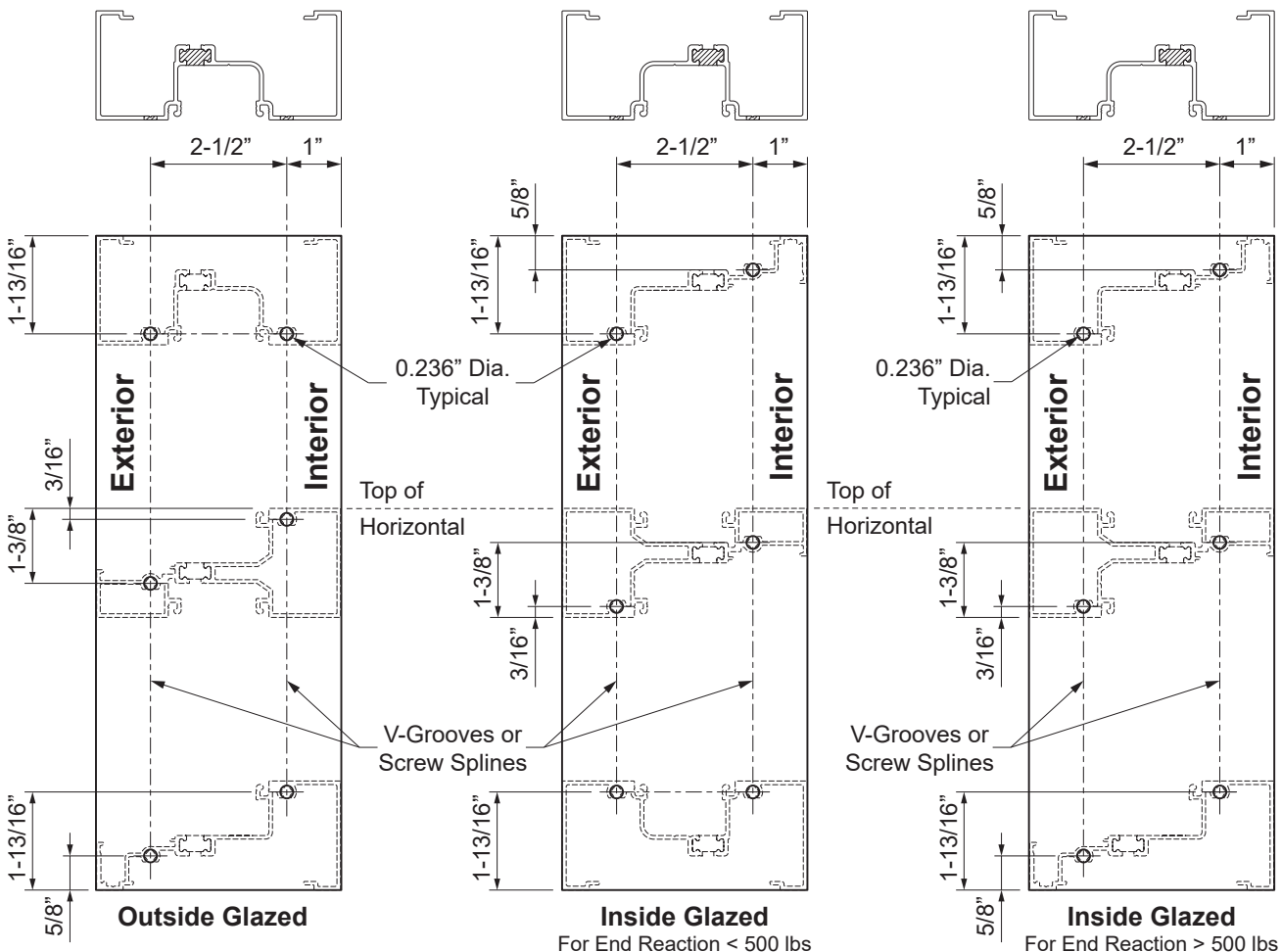
### FABRICATE TWO PIECE VERTICAL MULLIONS FOR SCREW SPLINE ASSEMBLY

-Cut the two piece vertical and jamb members to the frame height determined in Step 1.  
 -Fabricate holes in vertical members for screw spline attachment using one of the methods below:

1. Layout the hole locations as shown in **Detail 3** and drill a 0.236" dia. (#B drill bit) clearance hole at each location marked.
2. Use the YKK AP drill fixture, H-7201, to drill the holes.
3. Use punch press with appropriate die set.

**Note:** End reaction =  $\frac{\text{Frame Height (ft)} \times \text{Mullion Spacing (ft)} \times \text{Wind Load (PSF)}}{2}$

or consult YKK AP DirecTech.



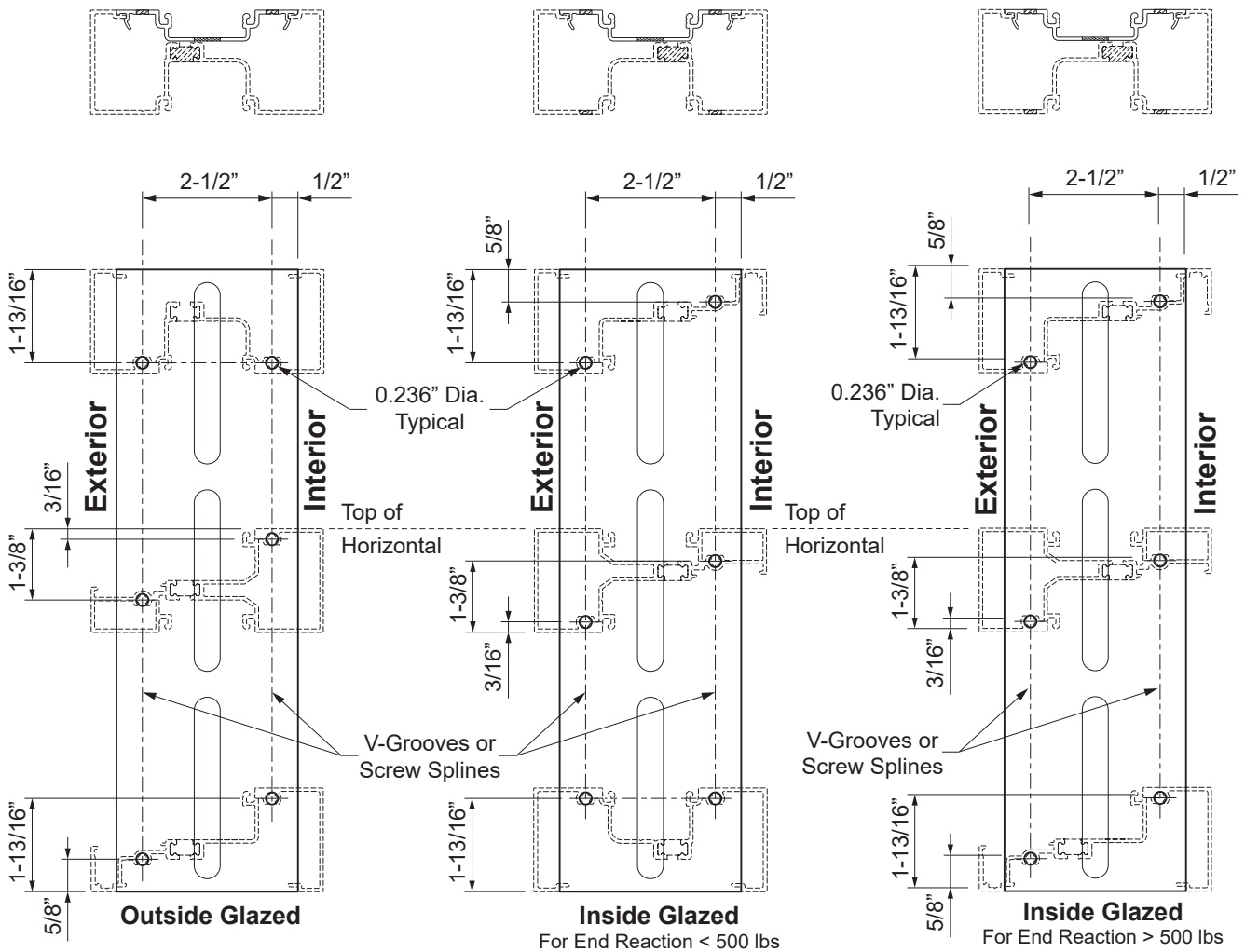
**Detail 3**

FRAME FABRICATION

STEP 2 (Continued)  
 FABRICATE TWO PIECE VERTICAL MULLIONS  
 FOR SCREW SPLINE ASSEMBLY

-Fabrication of shallow pocket fillers is similar to that of the mullions.

See Detail 4.



**Detail 4**

## FRAME FABRICATION

### STEP 2 (Continued)

### FABRICATE TUBULAR MULLIONS FOR SHEAR BLOCK ASSEMBLY

-Cut the vertical and jamb members to the frame height determined in Step 1.

-Tubular verticals require shear blocks for the attachment of head, horizontal and sill members:

**Note:** Shear Block E1-1059 must be used with open back head BE9-2553.

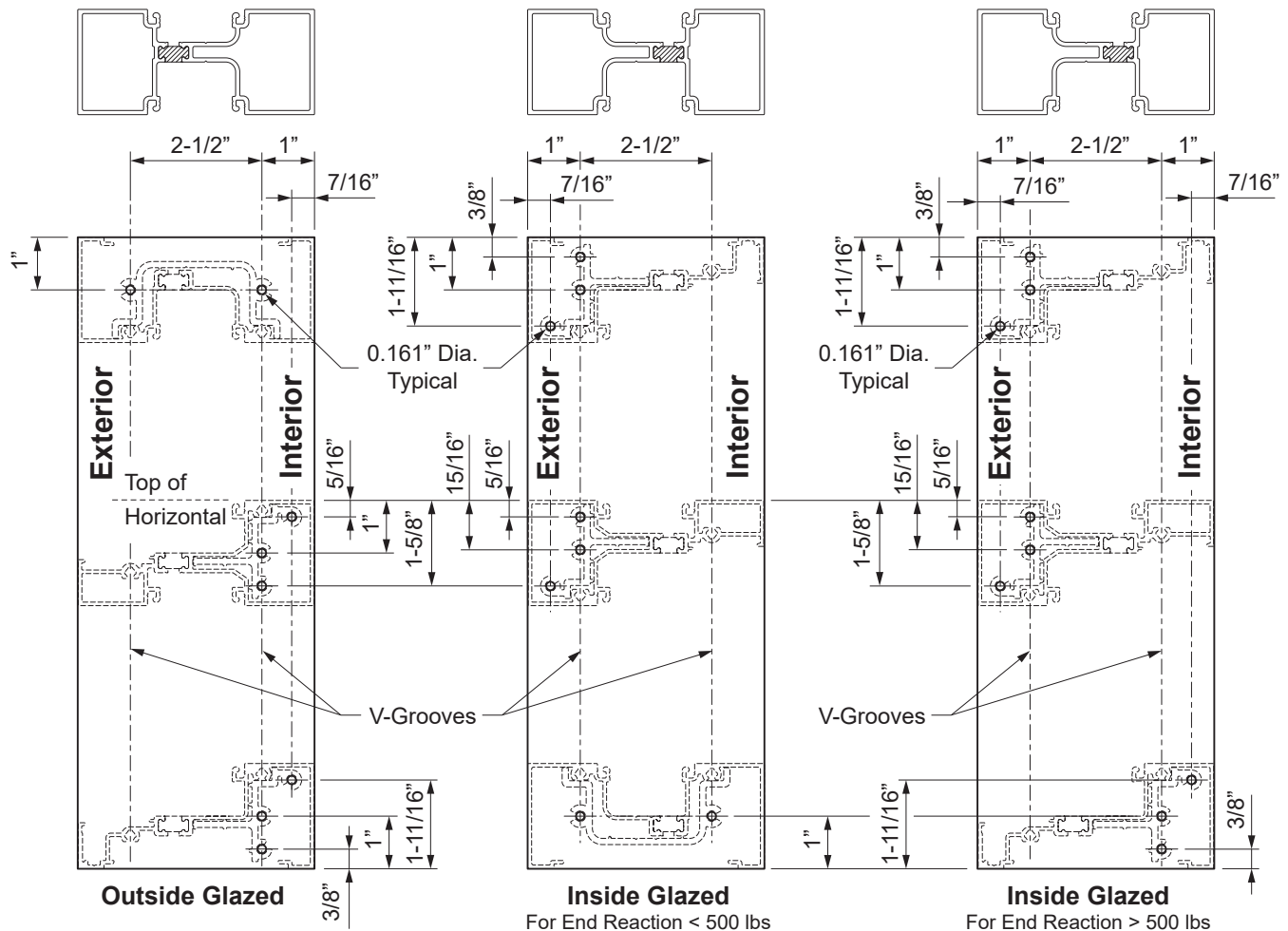
Shear Block E1-1058 must be used with open back horizontal BE9-2579.

Optional Installation: Shear Block E1-1058 may be used with tubular horizontal BE9-2556.

-Mark the location for each shear block using one of the methods below:

1. Layout the hole locations as shown in **Detail 5** and drill a 0.161" dia. (#20 drill bit) clearance hole at each location marked.
2. Use a short piece of each horizontal member with a shear block installed as a template. Center the template on the face of the vertical and mark each hole location.

-Attach the shear blocks to the verticals using three (3) PC-1028 fasteners.



**Detail 5**

## FRAME FABRICATION

### STEP 3 FABRICATE HEAD, HORIZONTAL & SILL MEMBERS

-Cut head, horizontal, and sill members to the daylight opening (D.L.O.) as indicated on the shop drawings.

-Horizontal members that will be attached to shear blocks require additional fabrication:

#### **BE9-2553 Head Members:**

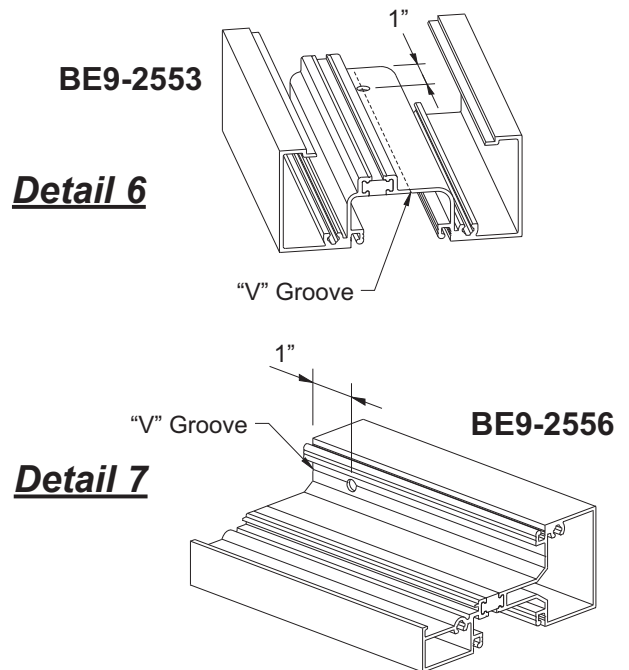
- Mark hole location at each end, 1" from the ends and centered along the "V"-groove.
- Drill a 0.236" diameter hole (# B drill bit) at each location marked and countersink for a #12 flathead fastener (FC-1212).

See **Detail 6**.

#### **BE9-2556 Horizontal Members:**

- Mark a hole location at each end, 1" from the ends centered along the "V"-groove.
- Drill a 0.236" diameter hole (# B drill bit) at each location marked.

See **Detail 7**.



### STEP 4 FABRICATE GLASS STOPS & GLAZING ADAPTORS

-Cut glass stops to the same dimensions as their respective horizontals minus(-) 1/32".

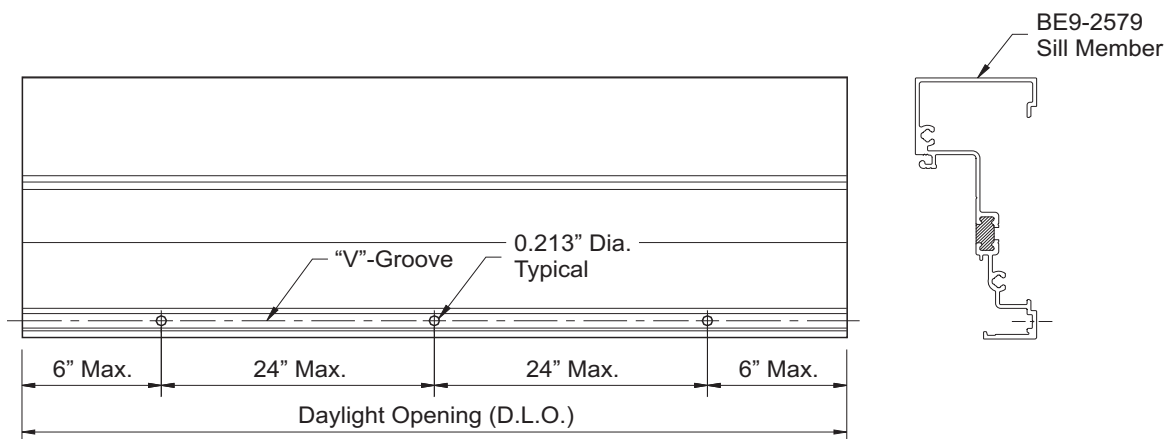
-Cut vertical glazing adaptors to the frame height.

-Cut horizontal glazing adaptors to the daylight opening minus(-) 1/32".

**FRAME FABRICATION**

**STEP 5  
FABRICATE HOLES FOR SILL MEMBERS**

- For mullion end reactions over 500 lbs., fabricate sill members for anchoring to sill flashing:
- Measure in 6" from each end of the sill member and mark hole locations along the "V"-groove as shown in **Detail 8**.
- Mark additional hole locations a maximum of 24" on center (O.C.).
- Drill a 0.213" diameter (#3 drill bit) hole at each location marked.
- If mullion end reaction is under 500 lbs., one (1) 0.213" dia. weep hole is required at the center of each daylight opening.



**DETAIL 8**

**STEP 6  
FABRICATE SILL FLASHING**

**For elevations without door framing:**

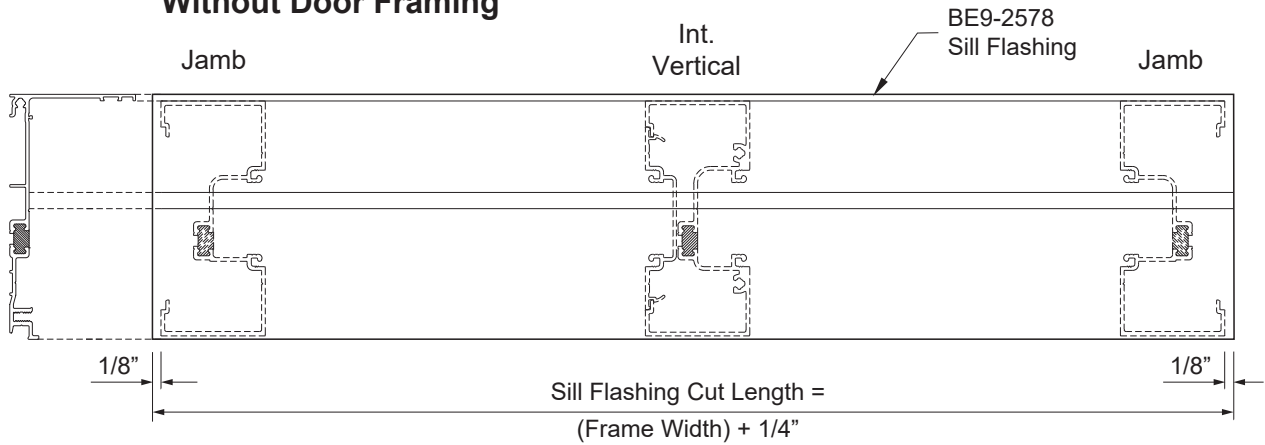
- Cut sill flashing, BE9-2578 to the end of the frame plus (+) 1/4".

**For elevations with door framing:**

- Cut the sill flashing to length as shown in **Detail 9** and or as shown in the approved shop drawings.

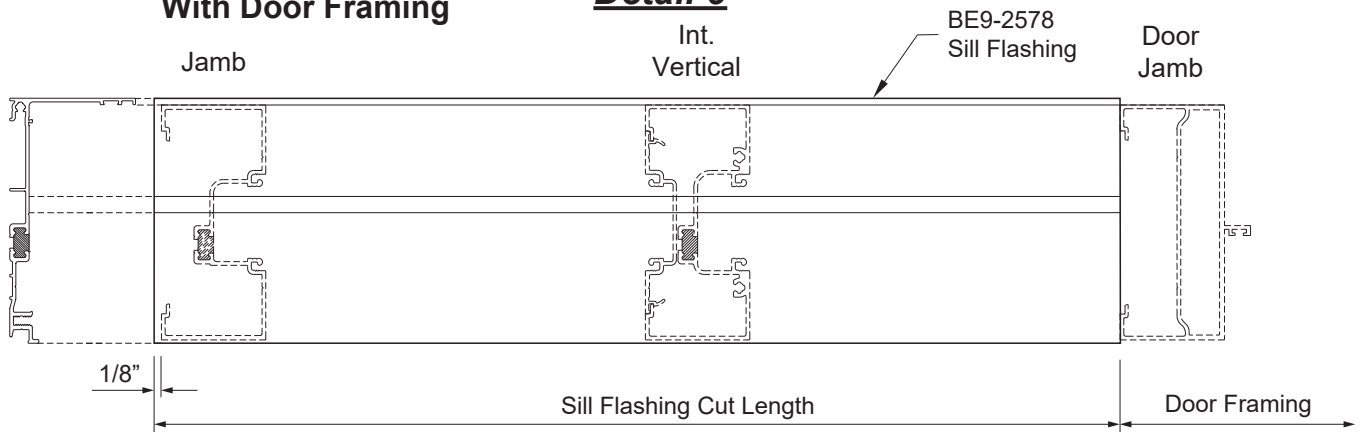
FRAME FABRICATION

Without Door Framing



With Door Framing

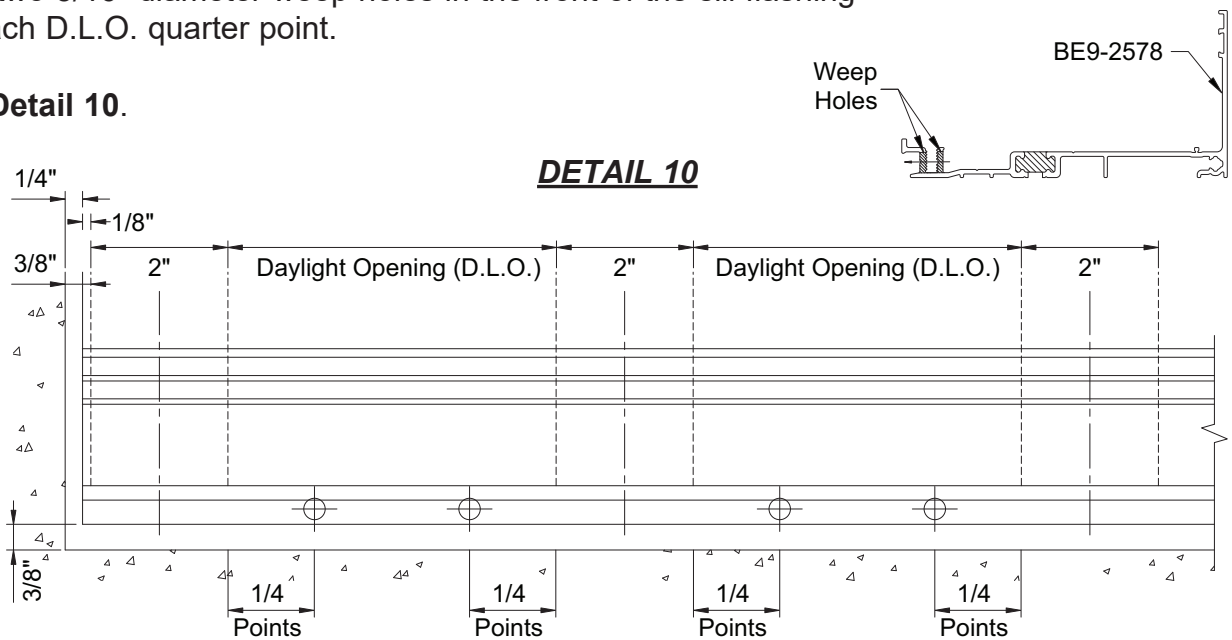
**Detail 9**



-Drill two 5/16" diameter weep holes in the front of the sill flashing at each D.L.O. quarter point.

See **Detail 10**.

**DETAIL 10**

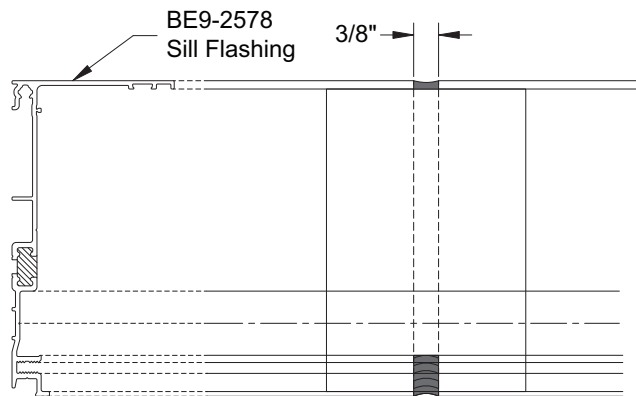


**FRAME FABRICATION****STEP 6 (Continued)****FABRICATE SILL FLASHING**

-For openings longer than 24'-0" the sill flashing needs to be spliced every twelve to fifteen feet at the center of a D.L.O.

-Allow for a 3/8" joint for expansion between sill flashing members.

See **Detail 11**.



***DETAIL 11***



## FRAME ASSEMBLY

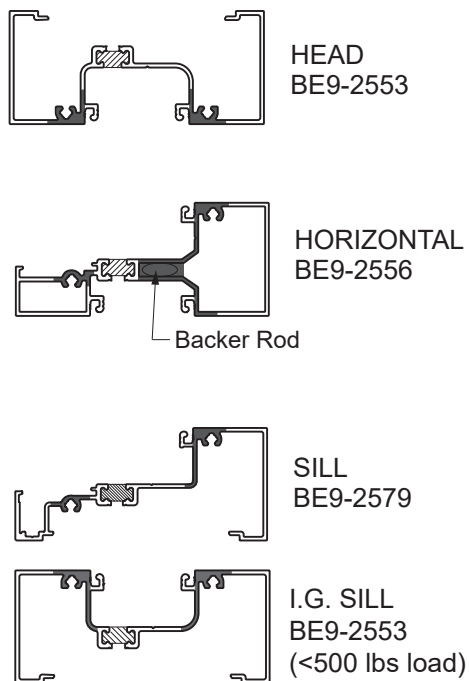
### STEP 7 ASSEMBLE FRAMES

#### Screw Spline Assembly:

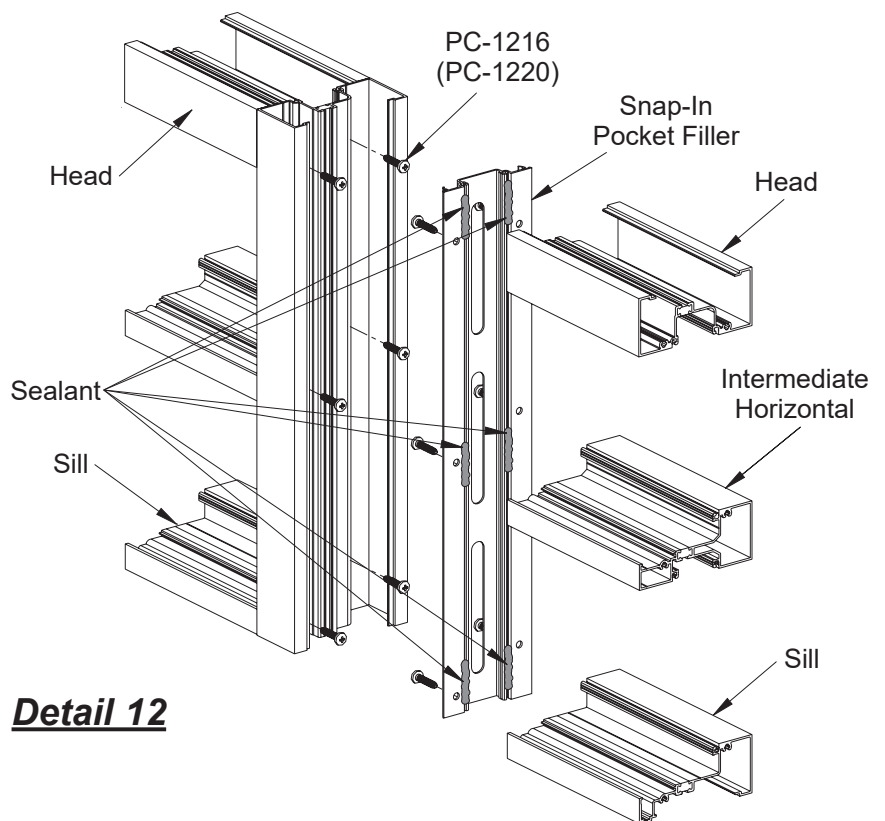
- Clean all joint surfaces using cleaner approved by sealant manufacturer.
- Apply sealant to both ends of head, horizontal and sill members just prior to assembly.
- Install a small piece of backer rod into the hollow area under the glass pocket 1/8" beyond the end of the horizontal. Apply silicone to the hollow section and tool flat to the end of the horizontal as shown.
- Attach head, intermediate horizontal, and sill members to vertical mullions and pocket fillers with two (2) PC-1216 fasteners at each end.

**Note:** Fastener PC-1220 must be substituted for PC-1216 when the head member (with screw splines) is used as a vertical.

- Tool the sealant into the joints and wipe away any excess sealant.
- See **Detail 12**.



Apply sealant to the shaded areas at each end.



**Detail 12**

**CAUTION:** Always assemble frames such that each lite of glass will have a minimum of one deep vertical glazing pocket.

## FRAME ASSEMBLY

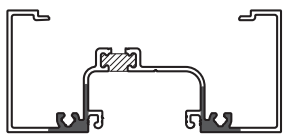
### STEP 7 (Continued) ASSEMBLE FRAMES

#### Shear Block Assembly:

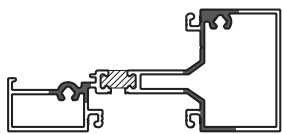
- Clean all joint surfaces using cleaner approved by sealant manufacturer.
- Apply sealant to both ends of head, intermediate horizontal, and sill members.
- Apply sealant to the shear blocks as shown.
- Attach head members to shear blocks at each end with one (1) FC-1212 fastener.
- Attach horizontal and sill members to shear blocks at each end with one (1) PC-1210 fastener.

**Note:** Open back horizontals must be used with shear blocks at end bays.

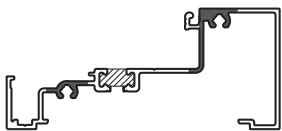
See **Detail 13**.



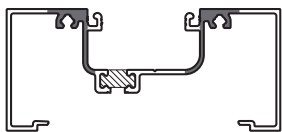
HEAD  
BE9-2553



HORIZONTAL  
BE9-2556

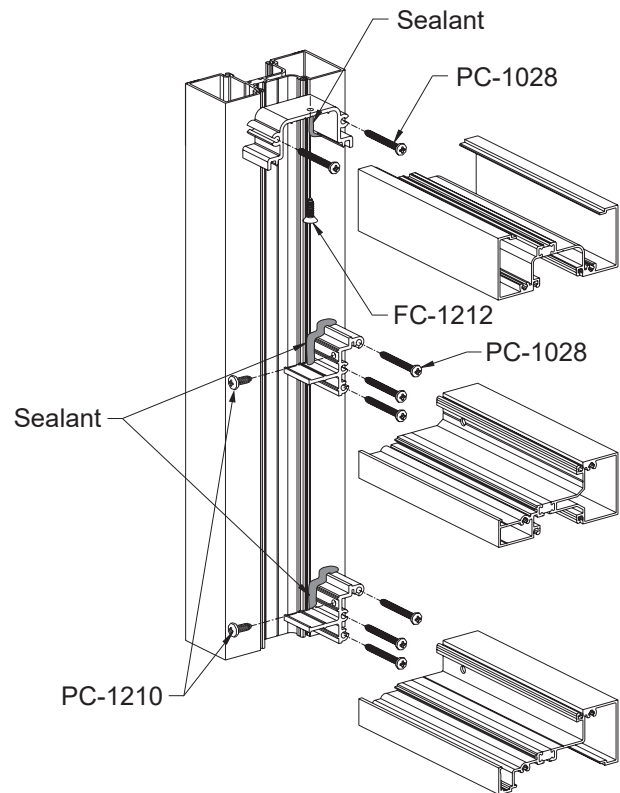


SILL  
BE9-2579



I.G. SILL  
BE9-2553  
(<500 lbs load)

Apply sealant to the shaded areas at each end.



### **Detail 13**

**CAUTION:** Always assemble frames such that each lite of glass will have a minimum of one deep vertical glazing pocket.

## FRAME INSTALLATION

### STEP 8 INSTALL SILL FLASHING END DAMS

-Bend the end dam tab left or right 90 degrees in order to “hand” the end dam for the left or right end of the flashing.

See **Detail 14 & 15**.

-Clean all joint surfaces using cleaner approved by sealant manufacturer.

-Apply sealant to the end of the sill flashing as shown in **Detail 16**.

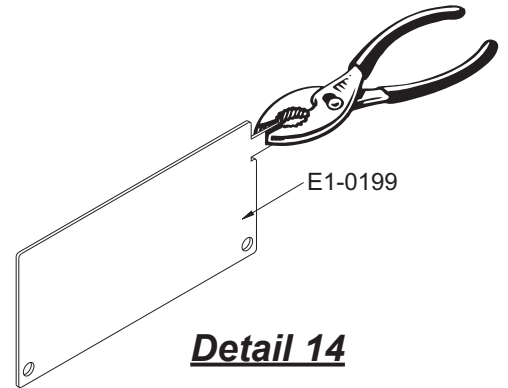
-Slide the tab into the top portion of the sill flashing.

-Tap the tab into place with a small tool until the end dam is snug against the end cut of the flashing.

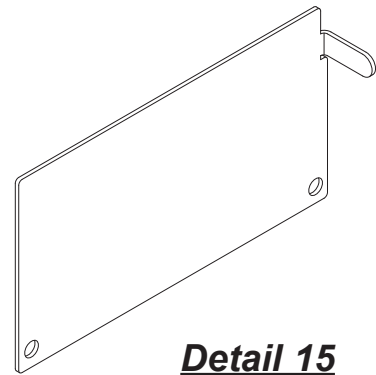
-Fasten the end dam to the sill flashing with two UA-1212 screws, starting at the back, followed by the front as shown in **Detail 16**.

-Tool sealant along the joint between the end dam and the sill flashing as shown in **Detail 17**.

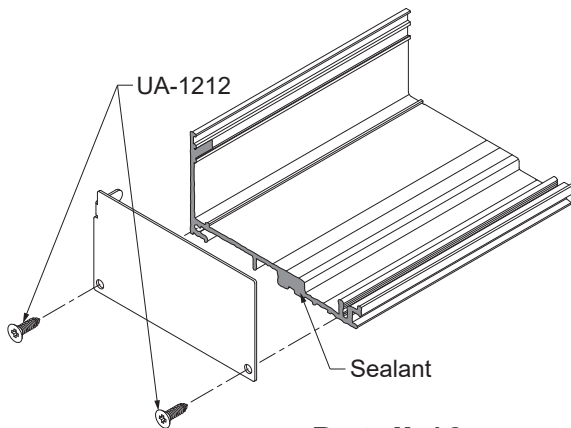
-Seal over any exposed screw threads.



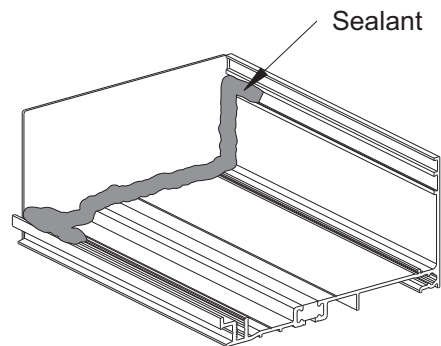
**Detail 14**



**Detail 15**



**Detail 16**



**Detail 17**

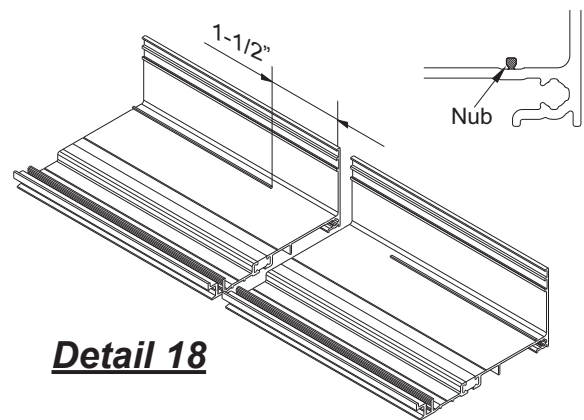
## FRAME INSTALLATION

### STEP 9 INSTALL SILL FLASHING

- Install the sill flashing with a minimum of 3/8" shim underneath. Sill flashing must be installed level.
- Anchor the sill flashing to the structure a maximum of 4" from each end and then 18" to 24" on center, or per P.E. calculations.
- Apply and tool sealant to cover the heads of all anchors and screws.

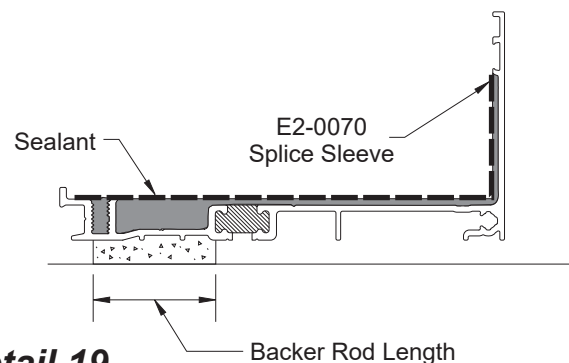
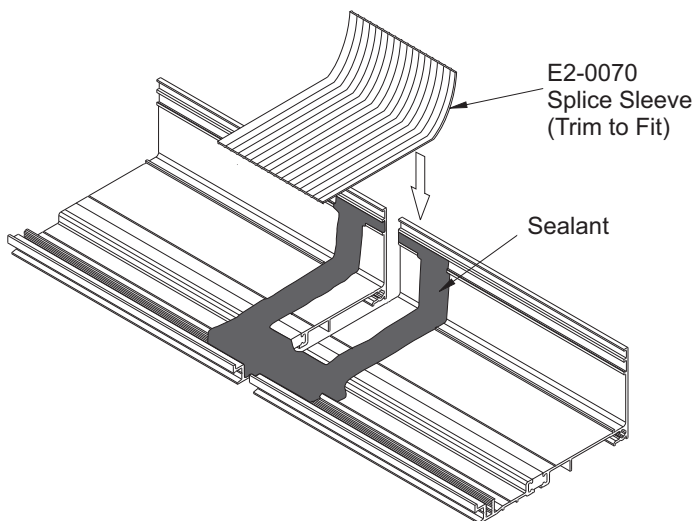
### STEP 10 INSTALL SILL FLASHING SPLICE SLEEVE

- Remove the nub with a chisel or pliers on both sides of the splice joint 1-1/2" as shown in **Detail 18**.
- After the sill flashing has been shimmed and installed to the building structure, insert a small backer rod under the sill flashing as shown in **Detail 19**.
- Position the Silicone Splice Sleeve against the back wall below the groove.
- Bend the Silicone Splice Sleeve into the front on the channel as shown. Mark and cut the sleeve at this position.
- Clean Sill Flashing and Silicone Splice Sleeve with isopropyl alcohol at the splice location.
- Seal the flashing at the splice location as shown in **Detail 19**, before positioning the flashing. Set the Silicone Splice Sleeve into the sealant.
- Tool sealant tight as shown in **Detail 20**, squeezing the sheet flat with a seam roller.



**Detail 18**

When using E2-0070, a compatible Silicone Sealant must be used at the splice. Compatible Silicone Sealants include Tremco® Spectrum 2 and Dow Corning® 795.

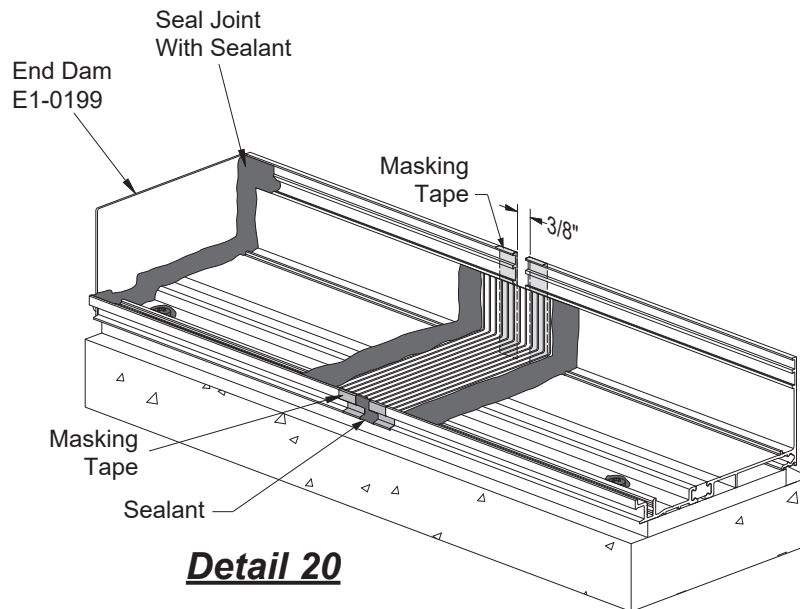


**Detail 19**

## FRAME INSTALLATION

### STEP 10 INSTALL SILL FLASHING SPLICE SLEEVE (Continued)

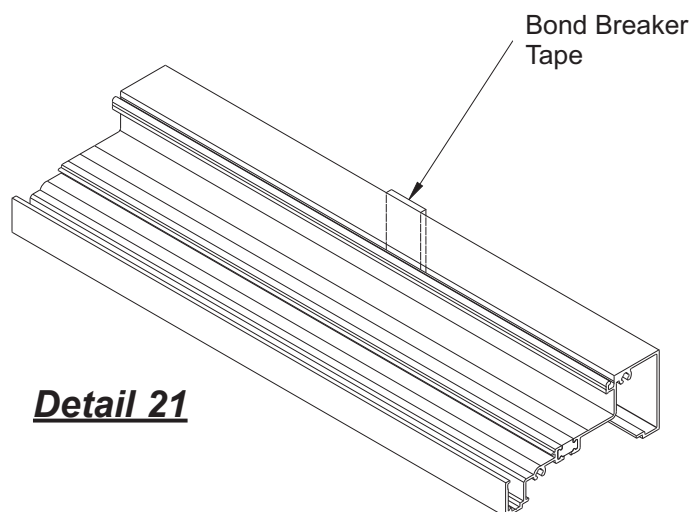
- Apply masking tape to the back of the sill flashing at the splice and at the front as shown in **Detail 20**.
- Thoroughly seal the small joint directly in front of the Silicone Splice Sleeve. Carefully remove masking tape from the front gap before the sealant skins over.



### STEP 11 SILL PREPARATION

At every splice condition, apply bond breaker tape to the back of the sill member before the joint is sealed between the sill and sill flashing.

See **Detail 21**.



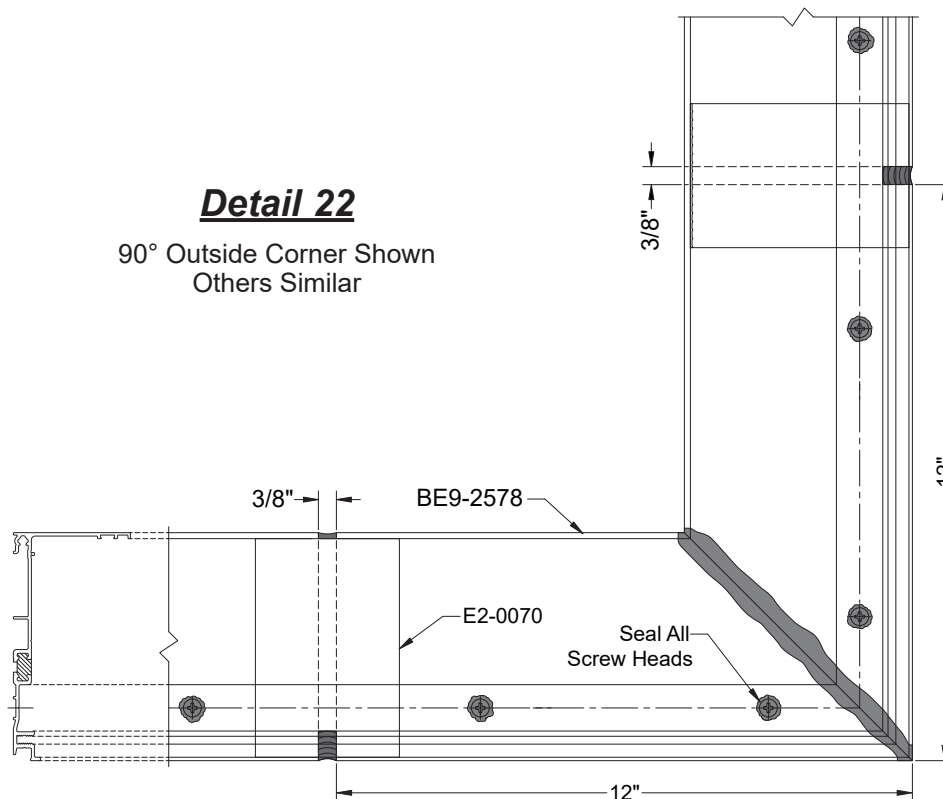
**FRAME INSTALLATION**

**STEP 12  
INSTALL SILL FLASHING AT CORNERS**

- Cut two 12" long pieces of sill flashing BE9-2578 and miter (45° for 90° corners and 67.5° for 135° corners).
- Align the two pieces at the corner condition with the mitered ends pushed together tight and anchor the sill flashing as called out on shop drawings.
- Apply and tool sealant to the mitered joint and anchor heads.

See **Detail 22**.

- Continue installing the rest of the sill flashing providing a 3/8" expansion joint at splices as shown in **Step 10** on **Page 17**.



## FRAME INSTALLATION

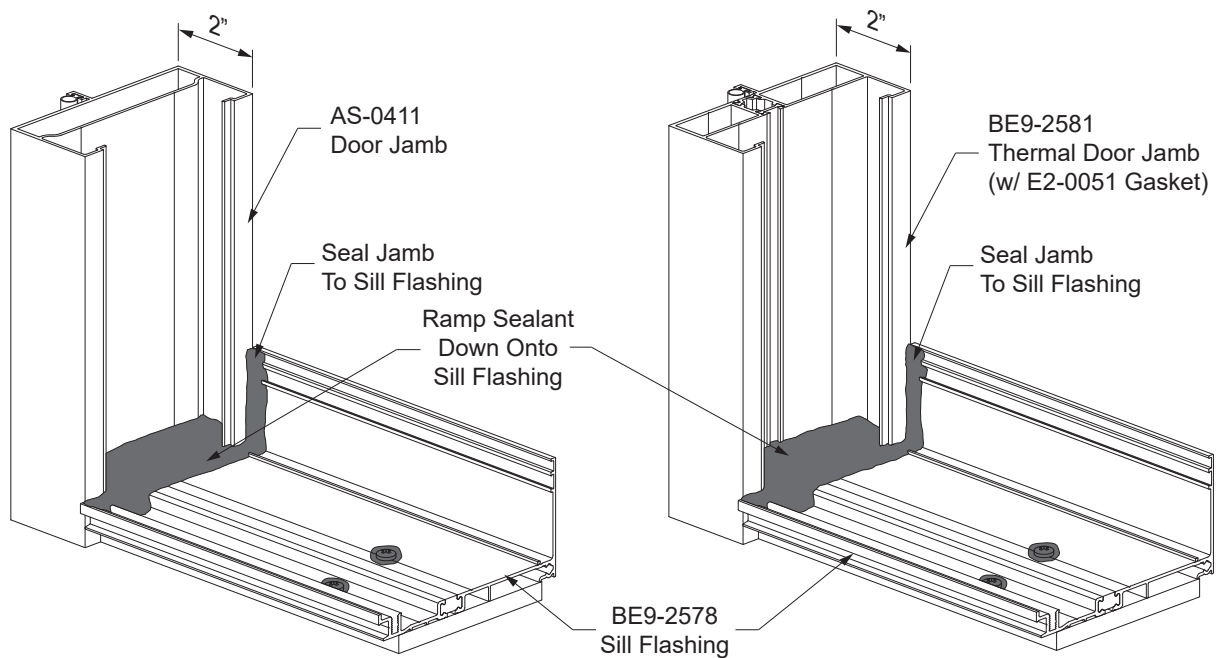
### STEP 13 PREPARE DOOR JAMBS

Prior to snapping the assembled frames into the door jamb, the end of the sill flashing needs to be sealed to the door jamb.

- Apply and tool sealant to all sill flashing to door jamb joints.
- Apply sealant to completely fill the door jamb cavity and ramp the sealant down onto the sill flashing.

See **Detail 23**.

Refer to the **Entrances Installation Manual** for door installation instructions.



**Detail 23**

**FRAME INSTALLATION**

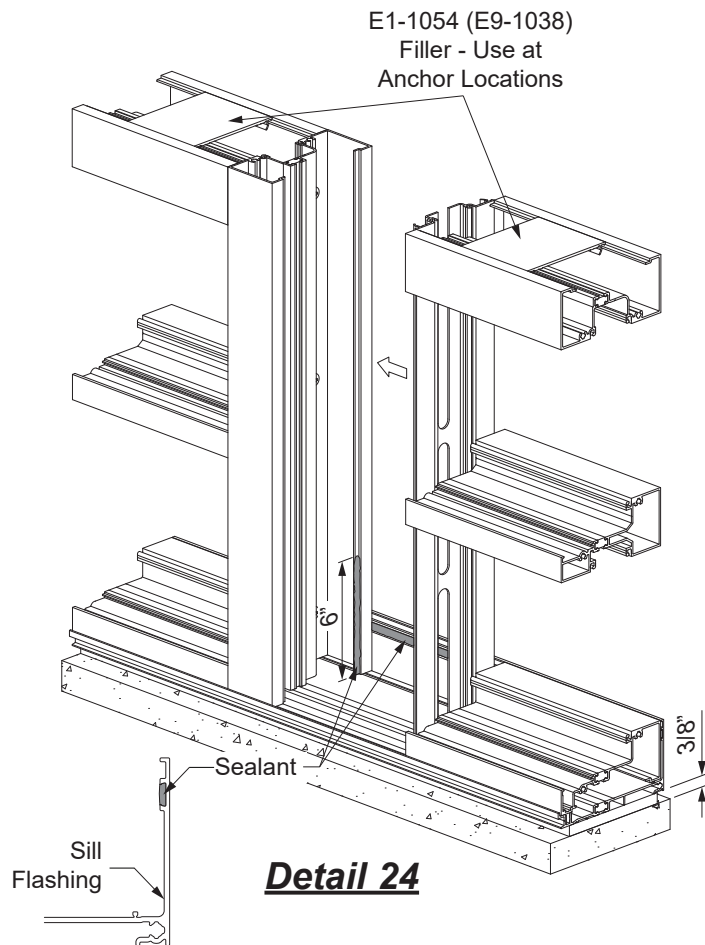
**STEP 14  
INSTALL FRAMES**

- Snap in flat fillers, E1-1054, or 2-1/2" long pieces of E9-1038 at head and jamb anchor locations.
- Prior to snapping the assemble frames together, apply sealant to the interior snap interface of the mullion, 6" up from the bottom.
- Apply sealant continuously to the front of the back leg of the sill flashing and immediately set the frame into the opening.
- Snap assembled frames together if using screw spline assembly.

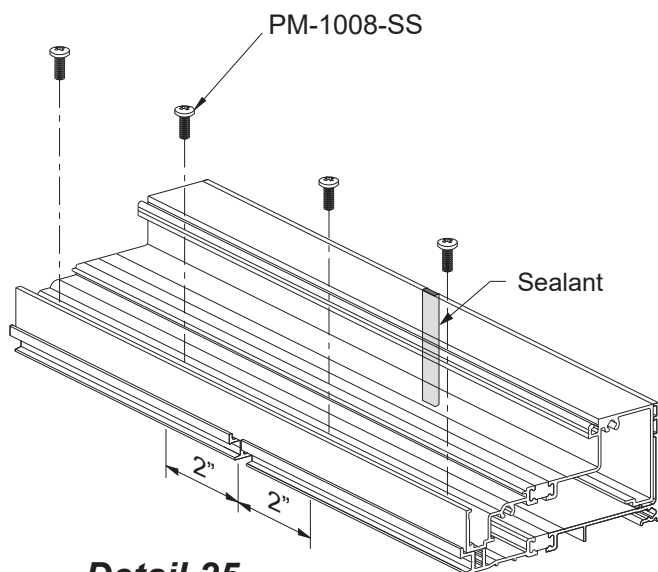
See **Detail 24**.

- Shim jamb and head members with a minimum of 3/8" shim.
- Anchor the frame to the structure at the sill, head, and jamb: 3" from the ends and then 18" to 24" on center, or as required by P. E. calculations.
- Always install a shim at all anchor locations.

**Note:** Use only flat head fasteners at head and jamb conditions.



**Detail 24**



**Detail 25**

- For mullion end load reactions over 500 lbs., attach the sill to the sill flashing using PM-1008-SS screws.
- Also add one (1) PM-1008-SS fastener 2" in both directions from the center line of the splice.

-Apply and tool sealant to the gap in the back of the sill flashing splice. Carefully remove the masking tape before the sealant skins over.

See **Detail 25..**



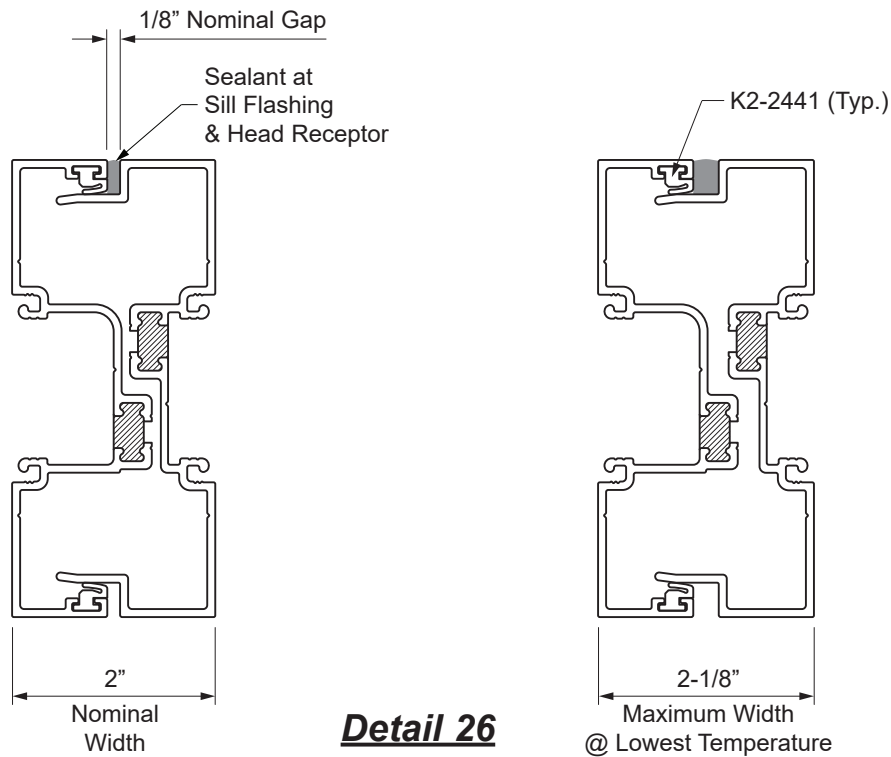
## FRAME ASSEMBLY

### STEP 14 (Continued)

### INSTALL EXPANSION MULLIONS WHERE REQUIRED

- Expansion mullions require the K2-2441 weathering gasket in both front and rear reglets.
- During installation, the current air temperature should be taken into account to determine the proper spacing between the mullion halves such that the expansion mullion stays within its allowable width limits during its service in hot and cold weather conditions.
- Fill the interior gap between the mullion halves with sealant at the sill flashing and head receptor.

See **Detail 26**.

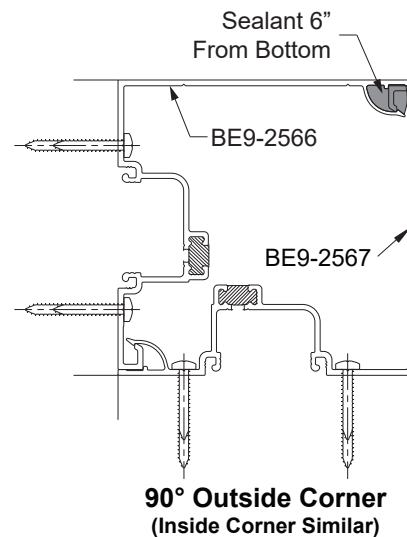
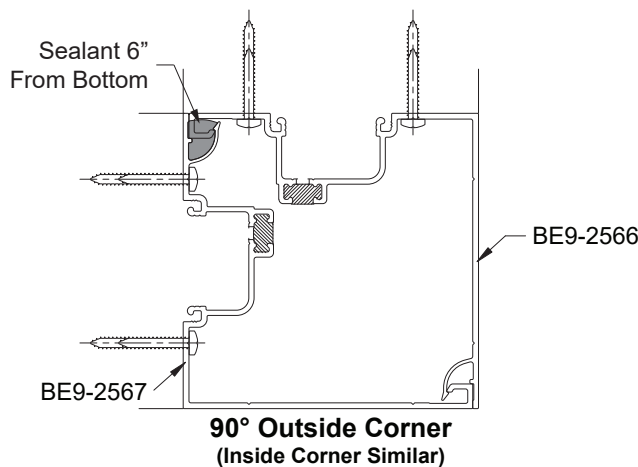


**FRAME ASSEMBLY**

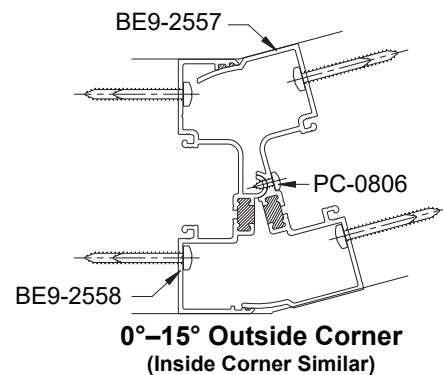
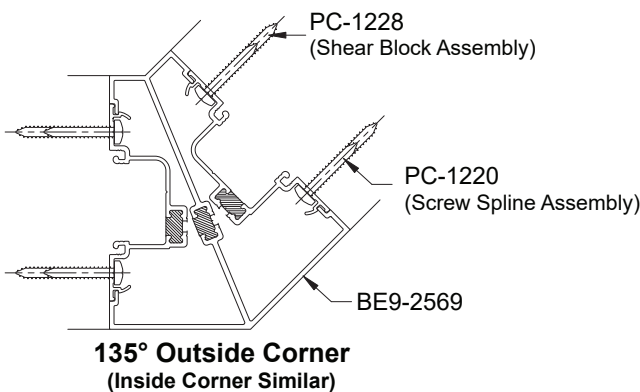
**STEP 14 (Continued)  
INSTALL CORNER ASSEMBLIES**

- Attach horizontal members to standard mullions as shown before in **Step 7**.
- Attach the other end of the horizontals to the corner mullions, hinged mullions, or flat fillers, or using the same technique.
- Apply sealant to the interior snap receptor of the corner mullion, 6" up from the bottom.
- Snap the corner framing members together to form the corner assemblies.
- Hinged mullions must be fastened through the pivot hinge 6" from each end and no more than 18" on center with PC-0806 fasteners.
- Carefully move the corner assembly into place and snap it into the rest of the frame one side at a time.

See **Detail 27**.



**Detail 27**



## FRAME INSTALLATION

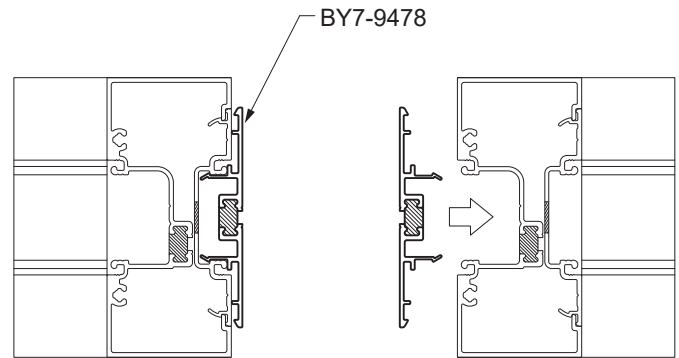
### STEP 14 (Continued) INSTALL OPTIONAL COMPOUND MULLIONS

-Snap in the BY7-9478 adaptors (cut full length of the mullion) into the mullions for each frame as shown in **Detail 28**.

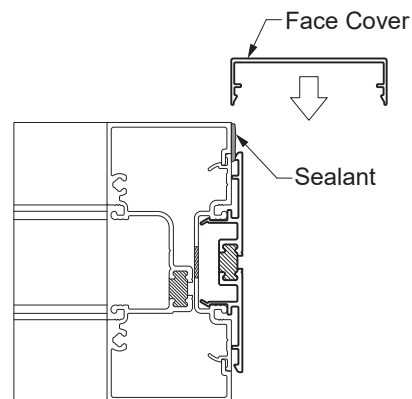
-Apply sealant to the full length of the first mullion for which the rear face cover will snap into.

-Snap the face cover into place.

See **Detail 29**.



**Detail 28**



**Detail 29**

**FRAME INSTALLATION**

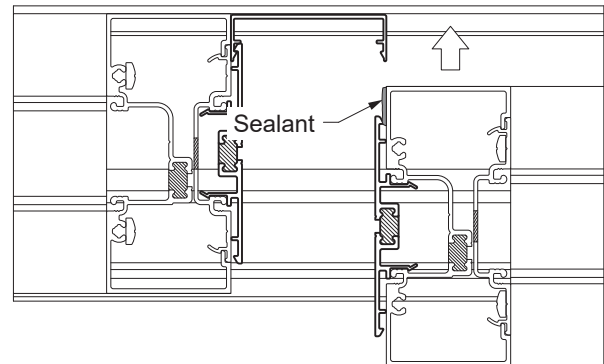
**STEP 14 (Continued)  
INSTALL OPTIONAL COMPOUND MULLIONS**

-Apply sealant to the full length of the mullion for the second frame.

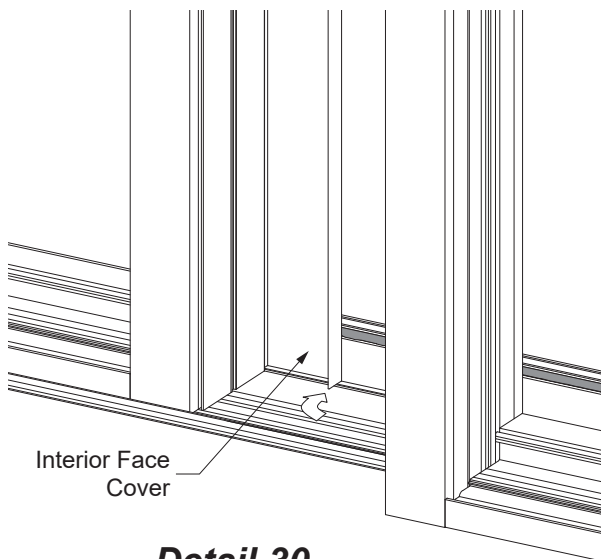
-Snap the second frame into place from the front, engaging the face cover as shown in **Details 30 & 30A**.

-Snap the front face cover into both frames. Start at the sill to clear the front lip of the sill flashing.

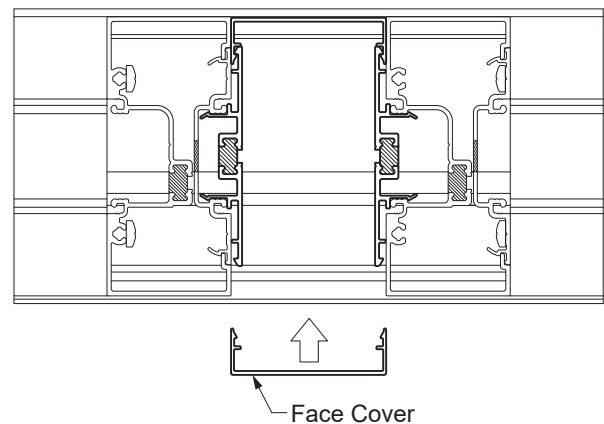
See **Detail 31**.



**Detail 30A**



**Detail 30**



**Detail 31**

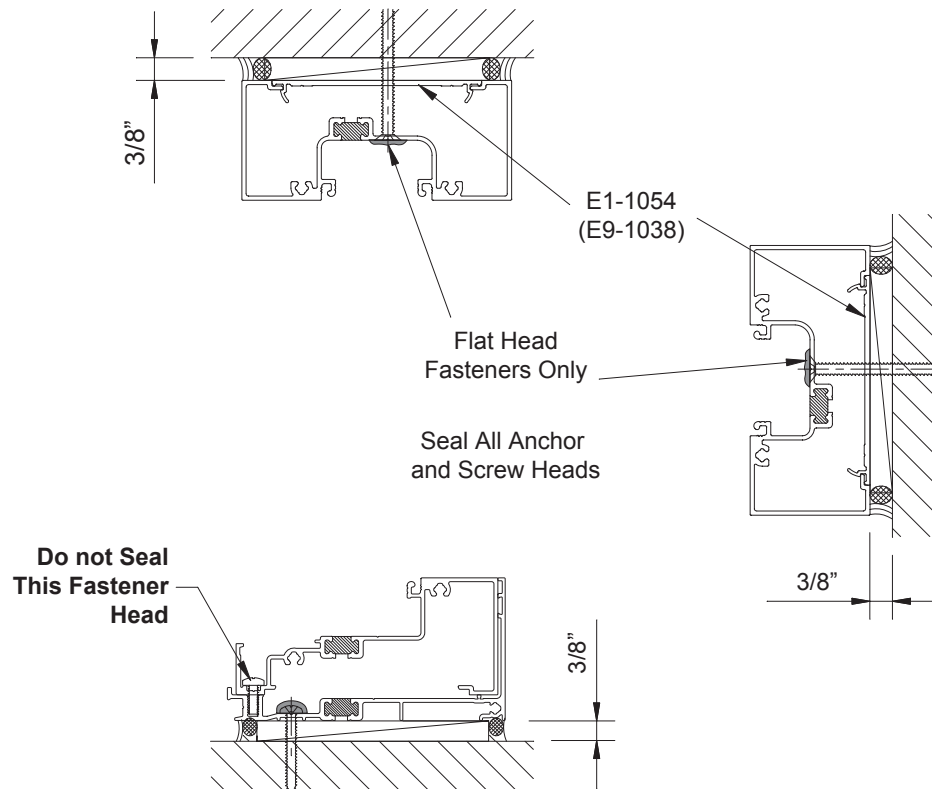
## FRAME INSTALLATION

### STEP 15

### APPLY PERIMETER SEALANT

- Perimeter seal required on interior and exterior.
- Install backer rod around the perimeter of the frame.
- Apply and tool perimeter sealant to the joint between the frame and the structure.
- Do not** seal the anchor that attaches the sill to the sill flashing.
- Seal anchor heads at head and jambs.

See **Detail 32**.



**Detail 32**

**FRAME INSTALLATION**

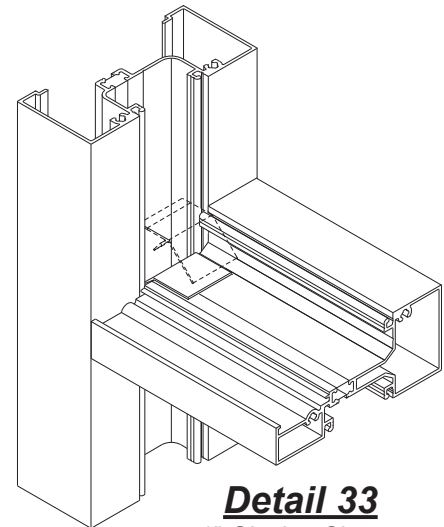
**STEP 16  
INSTALL WATER DEFLECTORS**

YES 45 TU requires the installation of a water deflector, E2-0047, at the ends of every intermediate horizontal to keep water off of the insulating glass units (IGU). Optional compound horizontals require water deflectors at the ends of both horizontal members.

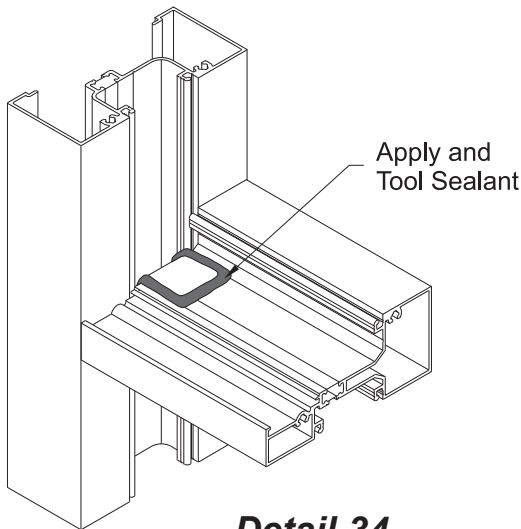
- Peel away the protective paper from the bottom of the water deflector, E2-0047, and install the water deflector by rotating it over each end of the horizontal.
- Position the vertical leg of the water deflector against the end of the horizontal.

**Note:** For best adhesion, make sure that the horizontal is clean and dry.

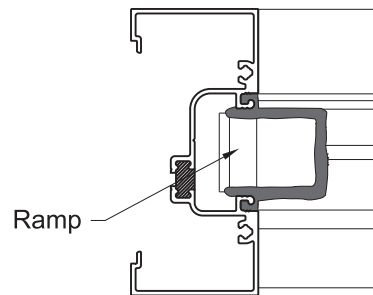
See **Detail 33**.



**Detail 33**  
1" Glazing Shown  
1/4" Glazing Similar



**Detail 34**  
1" Glazing Shown  
1/4" Glazing Similar



**Detail 35**  
1" Glazing Shown  
1/4" Glazing Similar

-Apply and tool sealant along the edges of the water deflector and down onto the horizontal.  
See **Detail 34**.

-Seal the ramp of the water deflector to the sides of the vertical gasket reglets.  
See **Detail 35**.

## FRAME INSTALLATION

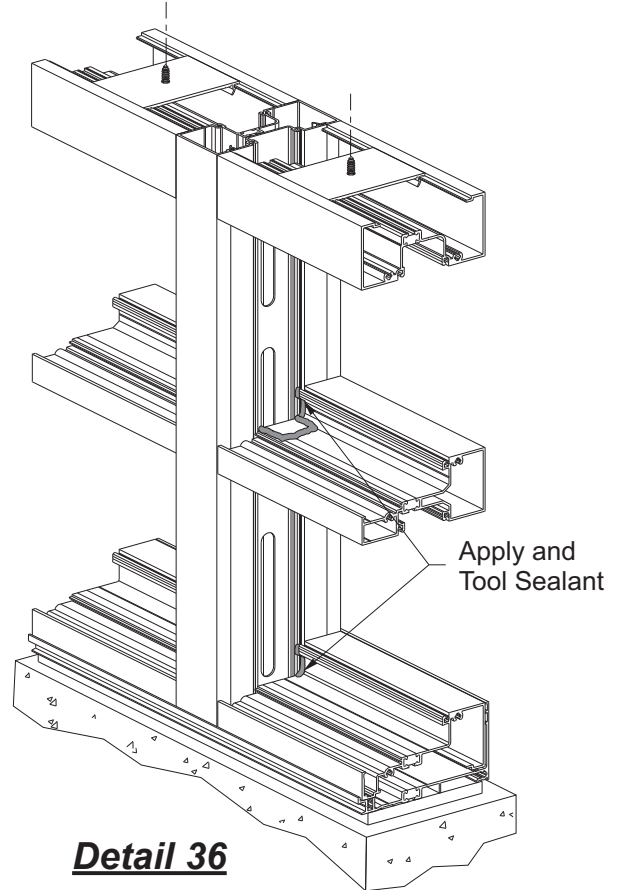
### STEP 17 APPLY INTERNAL SEALANT

- Apply sealant to the vertical intersection of the horizontal and vertical members.
- Tool all of the sealant to ensure a water-tight joint.

See **Detail 36**.

**Glazing Table - YES 45 TU**

Glass Thickness	Adaptor	Exterior	Interior
3/16"	E9-1040	E2-0052	E2-0064
1/4"	E9-1040	E2-0052	E2-0052
5/16"	E9-1040	E2-0053	E2-0052
3/8"	E9-1040	E2-0053	E2-0053
1/2"	E9-1039	E2-0064	E2-0064
5/8"	E9-1039	E2-0052	E2-0052
3/4"	E9-1039	E2-0053	E2-0053
7/8"	—	E2-0064	E2-0064
1"	—	E2-0052	E2-0052

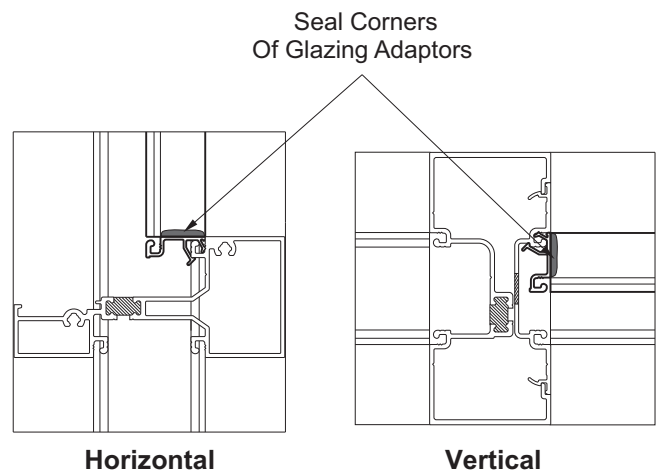


### STEP 18 (Optional) INSTALL GLAZING ADAPTORS

Glazing adaptors, E9-1039 and E9-1040, allow for glazing infills other than the standard 1/4" or 1". Please refer to the glazing tables above for possible adaptor/gasket combinations.

- Snap glazing adaptors into the interior gasket reglets of the verticals.
- Snap glazing adaptors into the interior gasket reglets of the horizontals.
- Apply and tool sealant to the joint between vertical and horizontal glazing adaptors.

See **Detail 37**.



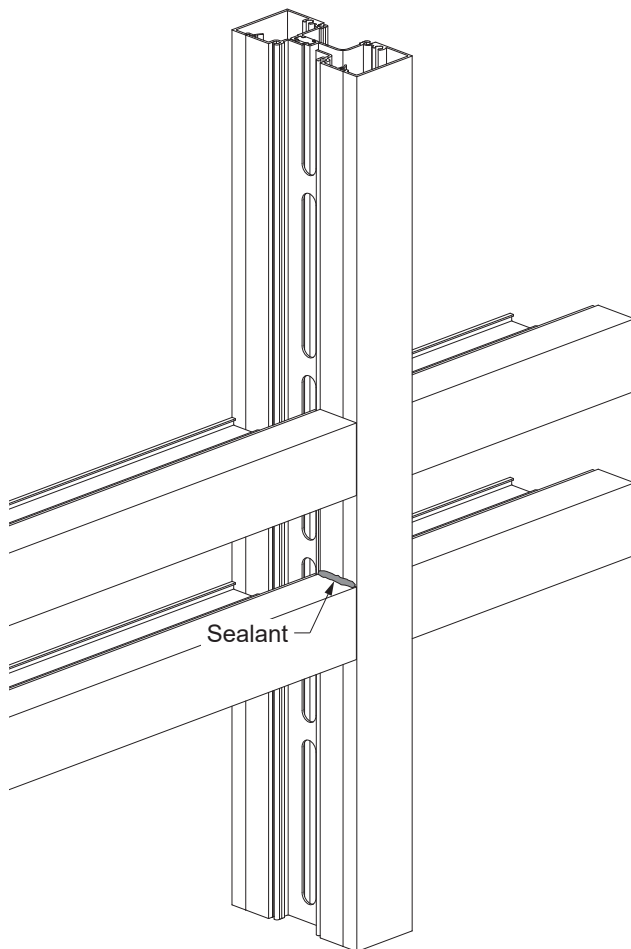
**Detail 37**

**FRAME INSTALLATION****STEP 19 (Optional)  
INSTALL OPTIONAL COMPOUND HORIZONTALS**

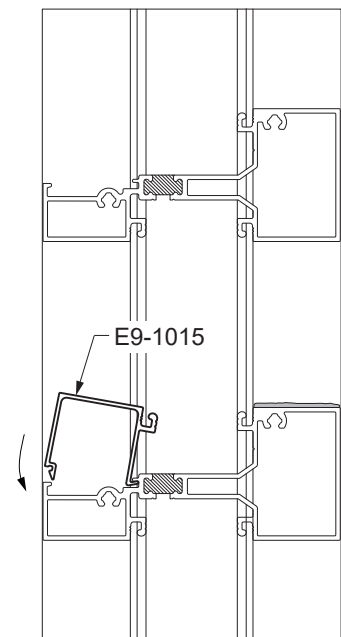
-Apply sealant to the top of of the lower horizontals where they intersect with the vertical. Tool the sealant. Do not seal the upper horizontal.

See **Detail 38**.

-Snap the E9-1015 glass stop into the lower horizontal as shown in **Detail 39**. Do not snap glass stops into the upper horizontals yet.



**Detail 38**



**Detail 39**

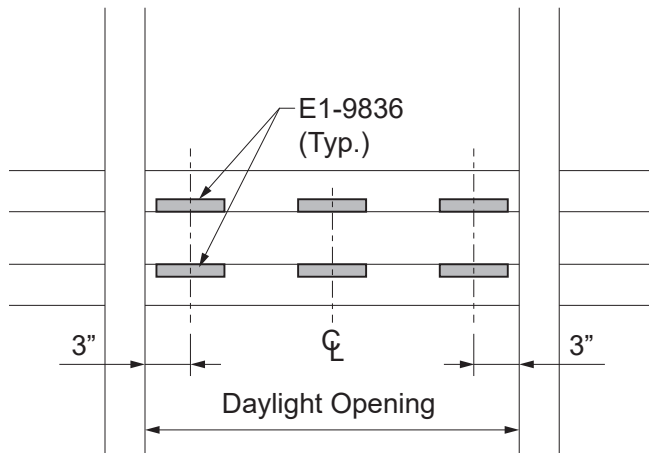
**Note:** Prior to snapping the glass stops onto an inside glazed storefront, apply sealant to the ends of the glass stops as illustrated in **Step 23A** on **Page 34**.



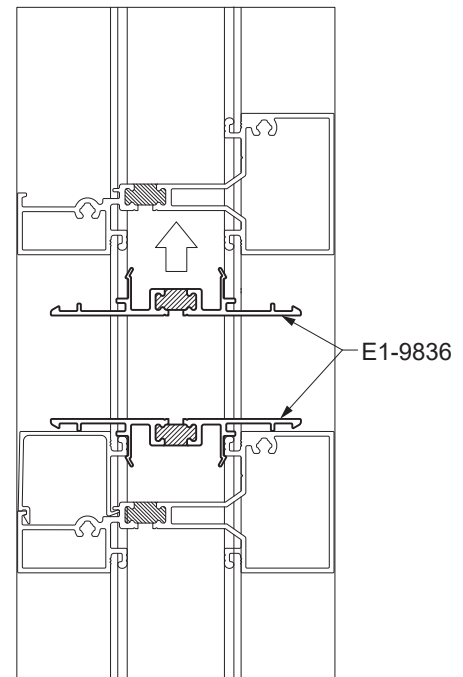
## FRAME INSTALLATION

### STEP 19 (Optional, Continued) INSTALL OPTIONAL COMPOUND HORIZONTALS

-Snap in the E1-9836 adaptors into the horizontals, one at 3" from each end of each horizontal and one at the middle of each horizontal as shown in **Details 40 & 41**.



**Detail 40**



**Detail 41**

**FRAME INSTALLATION**

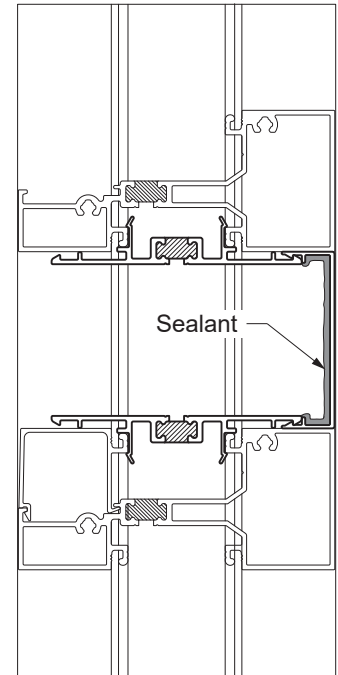
**STEP 19 (Optional, Continued)  
INSTALL OPTIONAL COMPOUND HORIZONTALS**

-Cut the front and rear horizontal face covers to Daylight Opening minus(-) 1/16". Apply continuous sealant to the full length of the back of both horizontals where the rear face cover will snap into as shown in **Detail 42**. Snap the rear face cover into place.

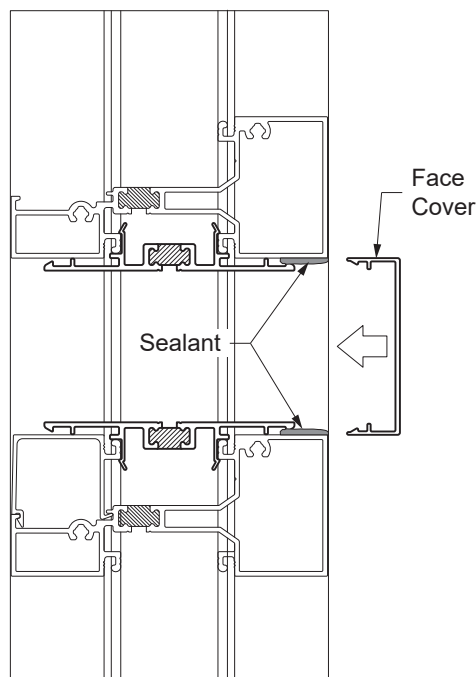
-Seal the joint between the edge of the face cover and the verticals as shown in **Detail 43**.

-Snap the front face cover into place.

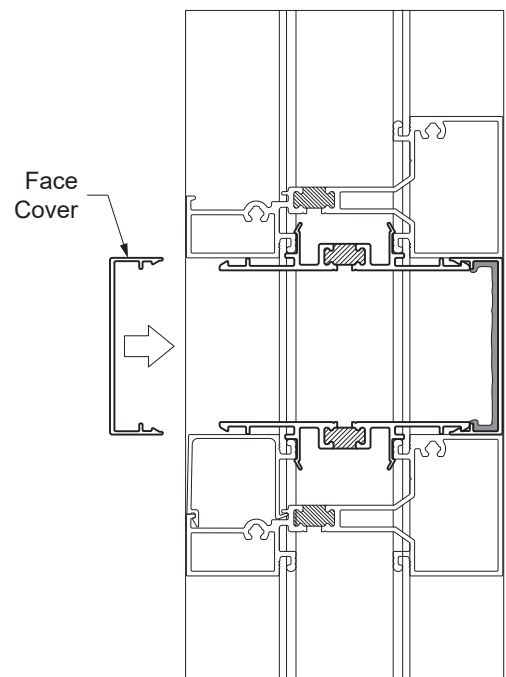
See **Detail 44**.



**Detail 43**



**Detail 42**



**Detail 44**

## GLAZING

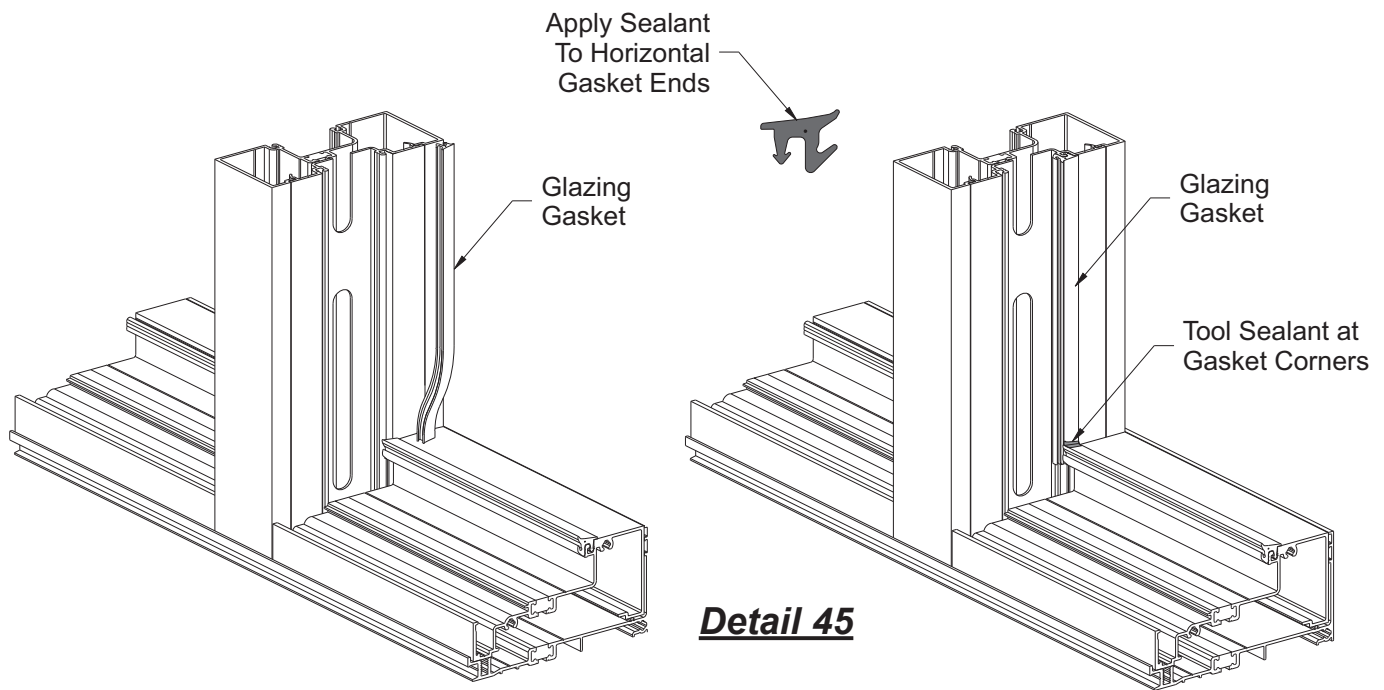
### STEP 20 INSTALL INTERIOR GLAZING GASKETS

The interior glazing gaskets must be installed prior to the glazing process.

-Using a small brush clean out any dirt that may have accumulated in the gasket reglets.

Vertical glazing gaskets must be installed first:

- Cut vertical glazing gaskets to Daylight Opening plus(+) 1/4" for each foot of length.
- Insert the gasket into the reglet at each end first, and then insert the gasket at the midpoint of the opening.
- Push the gasket into the reglet starting at the midpoint and work towards each end.



Install horizontal glazing gaskets next:

- Cut horizontal glazing gaskets to Daylight Opening plus(+) 1/4" for each foot of length.
- Apply sealant to each end of the horizontal glazing gasket prior to inserting into the reglet.
- Insert the gasket into the reglet at each end first and push each end tight against the vertical gasket.
- Then insert the gasket at the midpoint of the opening and push the gasket into the reglet starting at the midpoint and work towards each end.
- Tool the excess sealant at the gasket corners to ensure a watertight seal.

See **Detail 45**.

**GLAZING**

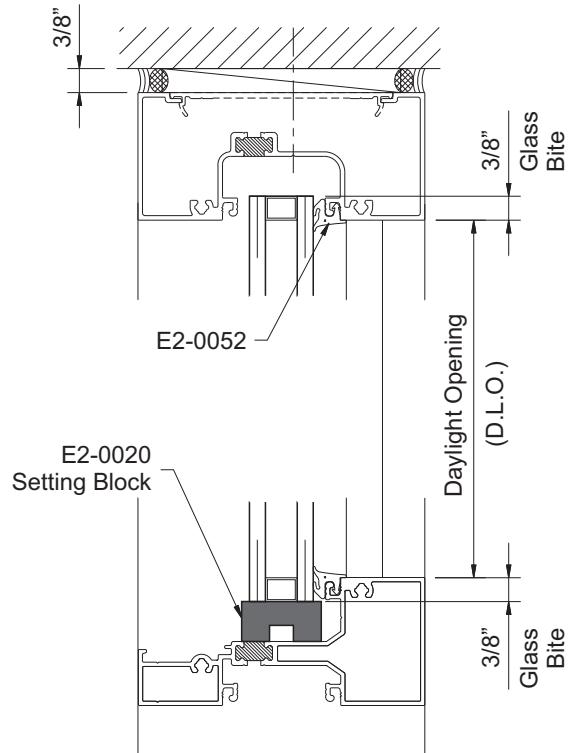
**STEP 21  
INSTALL GLASS**

Determine the glass size:

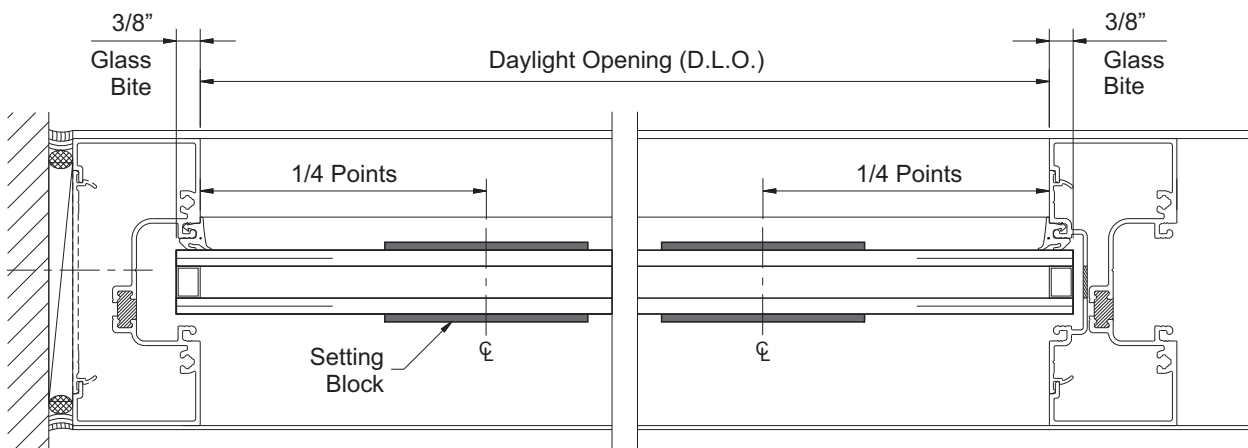
**Horizontal Glass Size = D.L.O. plus(+) 3/4"**  
**Vertical Glass Size = D.L.O. plus(+) 3/4"**

- Carefully install the glass into the opening: insert the leading edge of the lite up and into the deep pocket first and then rotate the trailing edge in place.
- Carefully lift the lite of glass, install setting blocks at quarter points of horizontal D.L.O. or according to engineering calculations.
- Make sure the glass is properly positioned on all setting blocks.

See **Detail 46**.



***Detail 46***  
 Outside Glazed Shown  
 Inside Glazed Similar



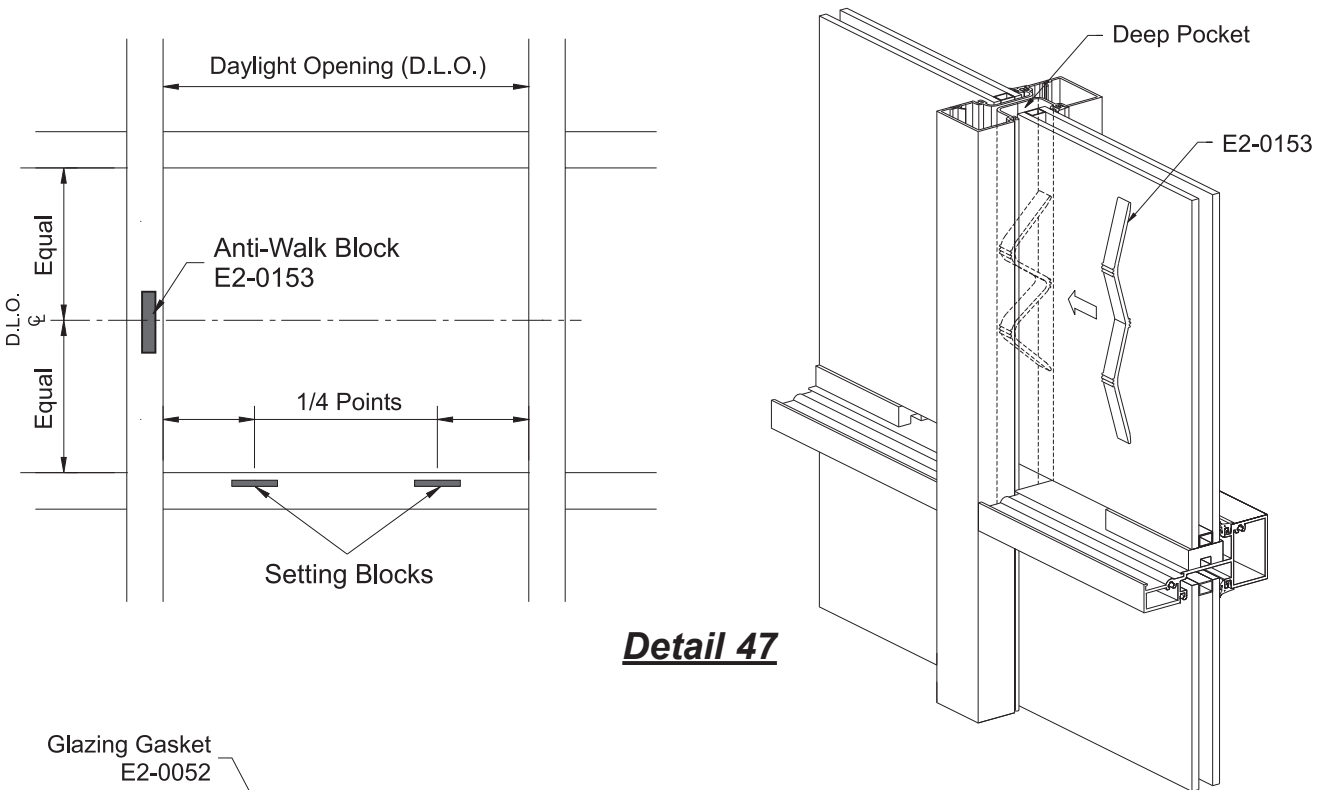
## GLAZING

### STEP 22 INSTALL ANTI-WALK BLOCKS

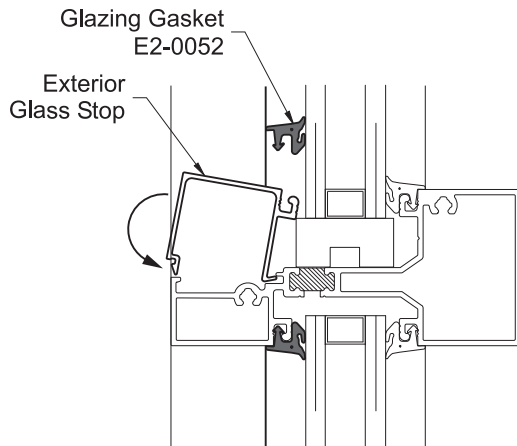
YES 45 TU frames require the installation of an anti-walk block, E2-0153, in the deep mullion glazing pocket of each lite centered on the daylight opening.

-Flatten the anti-walk block against the exterior surface of the glass and push it into the opening between the glass and the mullion until it is released into the glazing pocket.

See **Detail 47**.



**Detail 47**



**Detail 48**

1" Glazing Shown  
1/4" Glazing Similar

### STEP 23 INSTALL EXTERIOR GLASS STOPS & GLAZING GASKETS

-Snap the exterior glass stops into place as shown in **Detail 48**.

-Install the exterior glazing gaskets using the same technique described in **Step 20** on **Page 31**. Always install the vertical glazing gasket first.

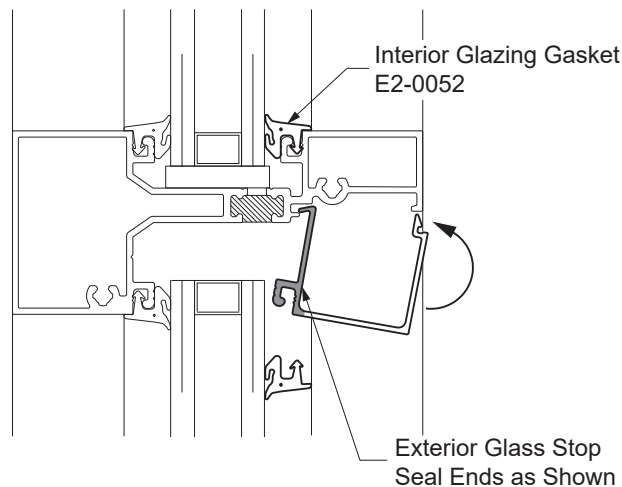
Repeat **Steps 21 through 23** until all lites are installed.

**GLAZING****STEP 23A****INSTALL INTERIOR GLASS STOPS & GLAZING GASKETS**

- Apply sealant to the interior glass stops as shown in **Detail 49**.
- Snap the interior glass stops into place. Wipe off excess sealant.

- Install the interior glazing gaskets using the same technique described in **Step 20** on **Page 31**. Always install the vertical glazing gasket first.

Repeat **Steps 21 through 23A** until all lites are installed.

**Detail 49**

1" Glazing Shown  
1/4" Glazing Similar





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