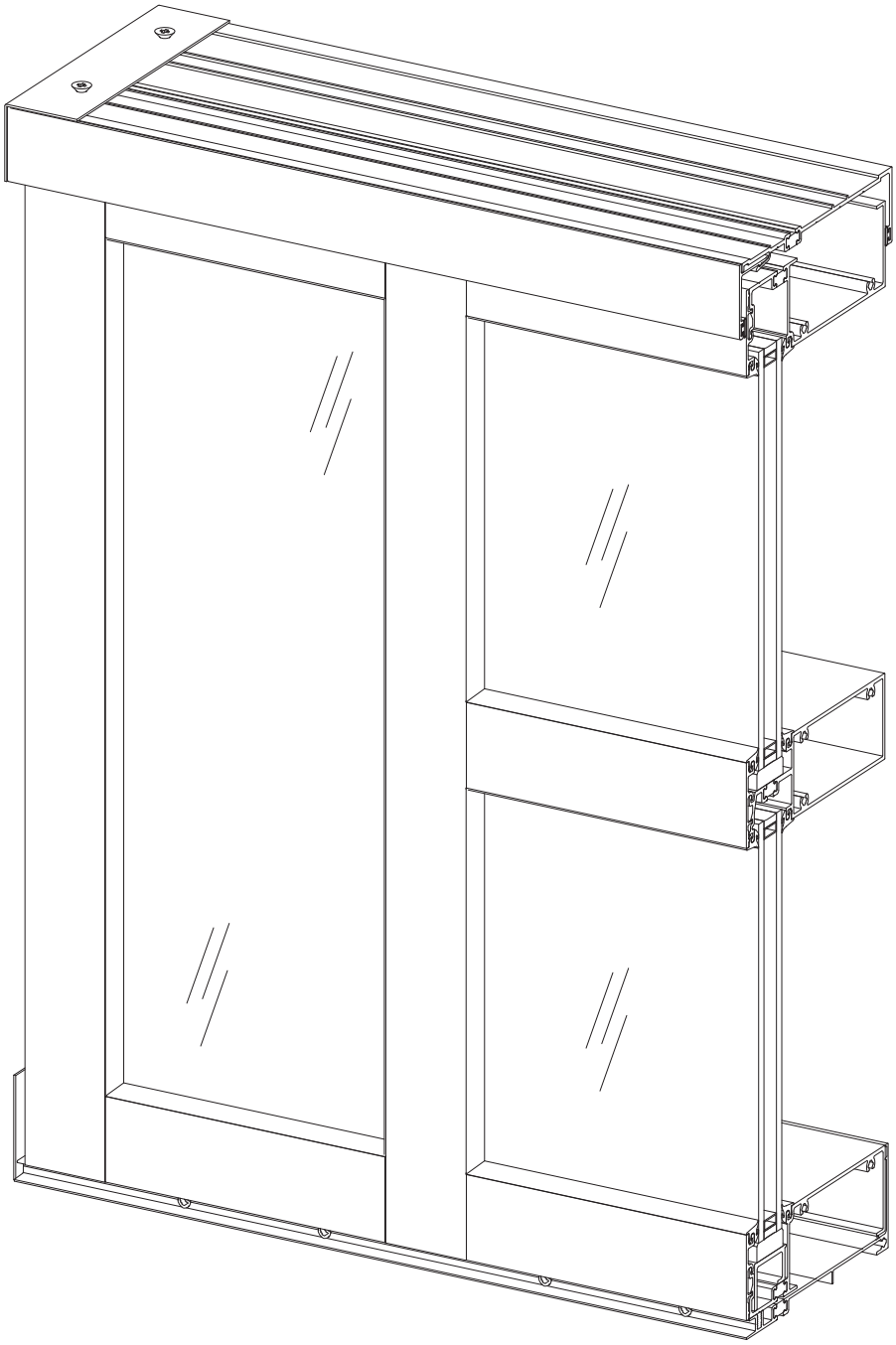
YES 60 TU Front Set Storefront System



Installation Manual

02-4021-00 |

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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.

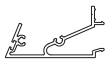
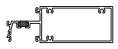
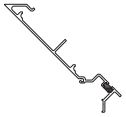
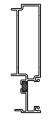
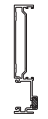
11. If any questions arise concerning YKK AP products or their installation, contact YKK AP for clarification before proceeding.

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.

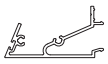
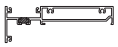
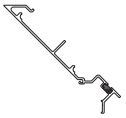
13. Cutting tolerances are plus zero (0"), minus one thirty second (-1/32") unless otherwise noted.

14. Check our website, www.ykkap.com, for the latest installation manual update prior to commencing work.

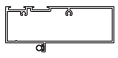
FRAMING MEMBERS (2" x 6") FOR OUTSIDE GLAZING

	**Head / Sill**	**BE9-2621**		**Corner Mullion**	**BE9-2640**
	Glass Stop Use with BE9-2621 & BE9-2623	**E9-2622**		**90° Corner Cover (Large)** Use with BE9-2640	**E9-2740**
	**Head Receptor** (Optional)	**BE9-7361**		**90° Corner Cover (Small)** Use with BE9-2640	**E9-2741**
	**Head Receptor Stop** (Optional) Use with BE9-7361	**E9-1033**		**135° Corner Cover (Large)** Use with BE9-2640	**E9-2742**
	**Horizontal**	**BE9-2623**		**135° Corner Cover (Small)** Use with BE9-2640	**E9-2743**
	**Sill Flashing**	**BE9-2624**		**162° to 177° Hinged Mullion**	**BE9-2641**
	**Mullion**	**BE9-2626**		**162° to 177° Hinged Mullion Adaptor** Use with BE9-2640	**BE9-2642**
	Flush Filler Use with BE9-2626 & BE9-2629	**E9-2627**		**90° Outside Corner Mullion** (Optional)	**BE9-2643**
	**Tubular Mullion** (Optional)	**BE9-2629**		**90° Outside Corner Adaptor** Optional, Use with BE9-2643	**E9-2644**
	**Expansion Male Mullion** Use with BE9-2631	**BE9-2630**		**Glazing Adaptor** For 1/2” to 3/4” Glazing	**E9-1039**
	**Expansion Female Mullion** Use with BE9-2630	**BE9-2631**		**Glazing Adaptor** For 1/8” to 3/8” Glazing	**E9-1040**
	**Jamb**	**BE9-2632**			

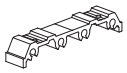
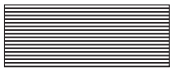
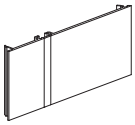
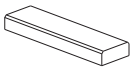
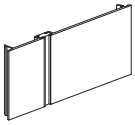
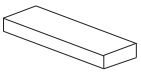
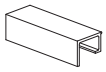
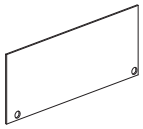
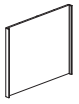
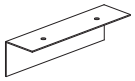
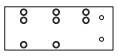
FRAMING MEMBERS (2" x 6") FOR INSIDE GLAZING

	**Head**	**BE9-2637**		**Corner Mullion**	**BE9-2640**
	**Glass Stop** Use with BE9-2637 & BE9-2639	**E9-2638**		**90° Corner Cover (Large)** Use with BE9-2640	**E9-2740**
	**Head Receptor** (Optional)	**BE9-7361**		**90° Corner Cover (Small)** Use with BE9-2640	**E9-2741**
	**Head Receptor Stop** (Optional) Use with BE9-7361	**E9-1033**		**135° Corner Cover (Large)** Use with BE9-2640	**E9-2742**
	**Horizontal**	**BE9-2639**		**135° Corner Cover (Small)** Use with BE9-2640	**E9-2743**
	**Sill / Jamb**	**BE9-2632**		**162° to 177° Hinged Mullion**	**BE9-2641**
	**Sill Flashing**	**BE9-2624**		**162° to 177° Hinged Mullion Adaptor** Use with BE9-2640	**BE9-2642**
	**Mullion**	**BE9-2626**		**90° Outside Corner Mullion** (Optional)	**BE9-2643**
	**Flush Filler** Use with BE9-2626 & BE9-2629	**E9-2627**		**90° Outside Corner Adaptor** Optional, Use with BE9-2643	**E9-2644**
	**Tubular Mullion** (Optional)	**BE9-2629**		**Glazing Adaptor** For 1/2” to 3/4” Glazing	**E9-1039**
	**Expansion Male Mullion** Use with BE9-2631	**BE9-2630**		**Glazing Adaptor** For 1/8” to 3/8” Glazing	**E9-1040**
	**Expansion Female Mullion** Use with BE9-2630	**BE9-2631**			

DOOR FRAMING MEMBERS

THERMAL "T" DOORS			STANDARD "D" DOORS		
	**Door Head** E2-0051 Not Included	**BE9-2657**		**Door Head** E2-0051 Included	**AS-2653**
	**Threshold**	**BE9-0465**		**Threshold**	**E9-0407**
	**Exterior Transom Glass Stop** Use With BE9-2657 & E9-2654	**E9-2425**		**Exterior Transom Glass Stop** Use With AS-2653 & E9-2654	**E9-2425**
	**Interior Transom Glass Stop** Use With BE9-2657	**E9-2536**		**Interior Transom Glass Stop** Use With AS-2653 & E9-2654	**E9-2540**
	**OHCC Door Head** Use With E9-2425 & E9-2540 Glass Stops	**E9-2654**		**OHCC Door Head** Use With E9-2425 & E9-2540 Glass Stops	**E9-2654**
	**OHCC Door Stop** E2-0051 Included	**AS-0215**		**OHCC Door Stop** E2-0051 Included	**AS-0215**
	**Door Jamb**	**BE9-2665**		**Door Jamb**	**E9-2660**
	**Pocket Filler** Use with BE9-2665	**E9-2662**		**Pocket Filler** Use with E9-2660	**E9-2662**
	**Door Stop Base** Used with AS-0409	**E9-1113**		**Door Stop Base** Used with AS-0409	**E9-1113**
	**Door Stop** E2-0051 Included	**AS-0409**		**Door Stop** E2-0051 Included	**AS-0409**
	**Transom Adaptor**	**BE9-2667**		**Transom Adaptor**	**E9-2667**
	**Transom Glass Stop** Use With BE9-2667	**E9-2668**		**Transom Glass Stop** Use With E9-2667	**E9-2668**
	Flat Filler (Continuous) Optional, Use with BE9-2665	**BE9-2661**		**Flat Filler (Continuous)** Optional, Use with E9-2660	**E9-2661**

ACCESSORIES

	**Shear Block** Used with OHCC Door Head	**E1-0349**		**Silicone Splice Sleeve**	**E2-0070**
	**"D" Door Flat Filler** (2-1/2" Long) Use at Door Jamb Anchor Locations	**E1-2918**		**Setting Block** For O.G. Horizontal/Sill, I.G. Sill & Transom	**E2-0104**
	**"T" Door Flat Filler** (2-1/2" Long) Use at Door Jamb Anchor Locations	**E1-2919**		**Setting / Side Block** For I.G. Horizontal & Mullion Shallow Pocket	**E2-0611**
	**Setting Block Chair** Use with Setting Block at Sill	**E1-2909**		**1/2" Anti-Walk Block** For Mullion Deep Pocket & Door Sidelite	**E2-0154**
	**End Dam** For Sill Flashing	**E1-2910**		**1-1/8" Anti-Walk Block** For Jamb	**E2-0545**
	**Mullion Clip** (Optional) Used with BE9-2626	**E1-2911**		**Foam Backer Tape** (Optional) 1" x 1-1/4" (Roll)	**E2-0259**
	**End Cap** For Head Receptor BE9-7361	**E1-2908**		**Flat Filler** (Optional) Use with BE9-2521, BE9-2632, & BE9-2637	**E3-0043**
	**Water Deflector**	**E2-0047**		**Drill Fixture**	**H-7218**

GASKETS

	**Glazing Gasket** 3/16” F.C.	**E2-0052**		**Elastomer Weathering**	**E2-0051**
	**Glazing Gasket** 1/8” F.C.	**E2-0053**		**Weathering Gasket** Use with Expansion Mullions	**E2-0065**
	**Glazing Gasket** 1/4” F.C.	**E2-0064**		**Spacer Tape** (1/4” x 1/4”) Use with Corner Mullions	**E2-0110**

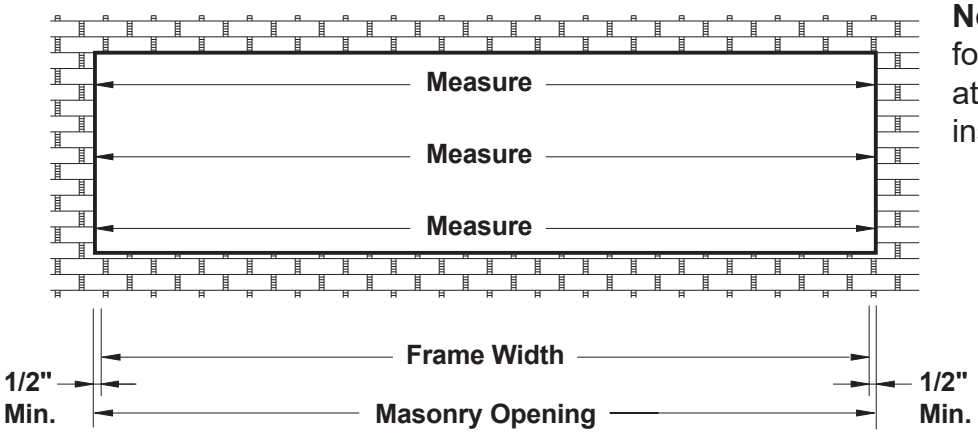
FASTENERS

	**#10 x 1” FHSMS** **Type AB,** Zinc Plated Steel, For OHCC Door Head	**FC-1016**		**#12 x 2-1/2” PHMS** **Type AB** Zinc Plated Steel, For BE9-2621 Transom Head	**PC-1240**
	**#10-32 x 2” FHMS** Zinc Plated Steel For OHCC Door Stop	**FN-1032**		**#10-24 x 3/8” PHSMS,** Stainless Steel	**PM-1006 -SS**
	**#12 x 1/2” FHSMS** **Type AB,** Zinc Plated Steel For E1-2908 End Cap	**FC-1208**		**#10 x 5/8” PHSMS** Self Drilling, Stainless Steel	**PS-1010 -SS**
	**#12 x 1-1/4” PHSMS** **Type AB** Zinc Plated Steel	**PC-1220**		**#12 x 3/4” UFHSMS** **Type A**, Zinc Plated Steel For E1-2910 End Dam	**UA-1212**
	**#12 x 1-3/4” PHSMS** **Type AB** Zinc Plated Steel	**PC-1228**			

FRAME FABRICATION

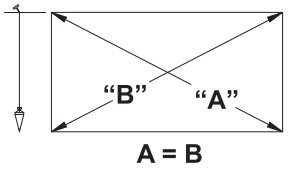
STEP 1
DETERMINE FRAME SIZE

Determine Frame Width:



Detail 1

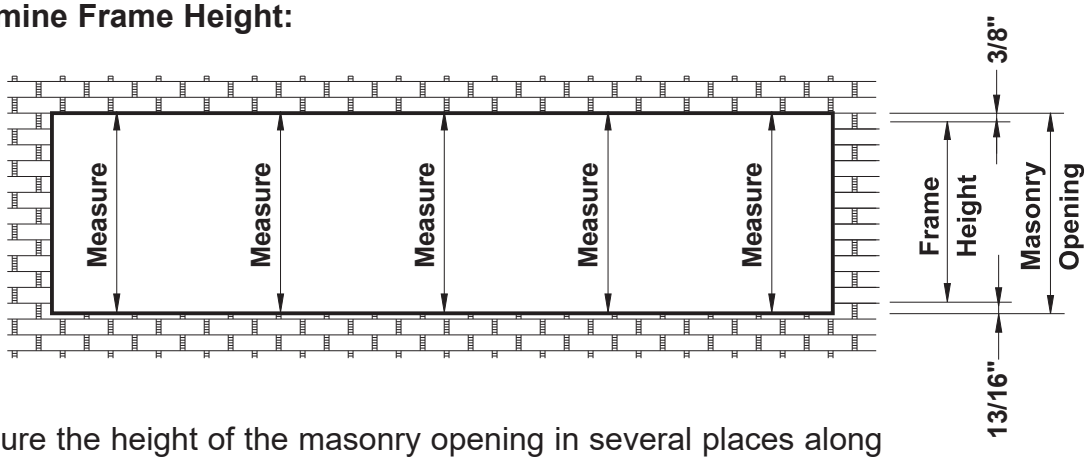
Note: Check the opening for squareness and plumb at both ends. Units must be installed in a true rectangle.



-Measure the width of the masonry opening at the top, middle and bottom.
-Select the smallest dimension measured and subtract 1" 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 mullion next to the door jamb.)

Determine Frame Height:



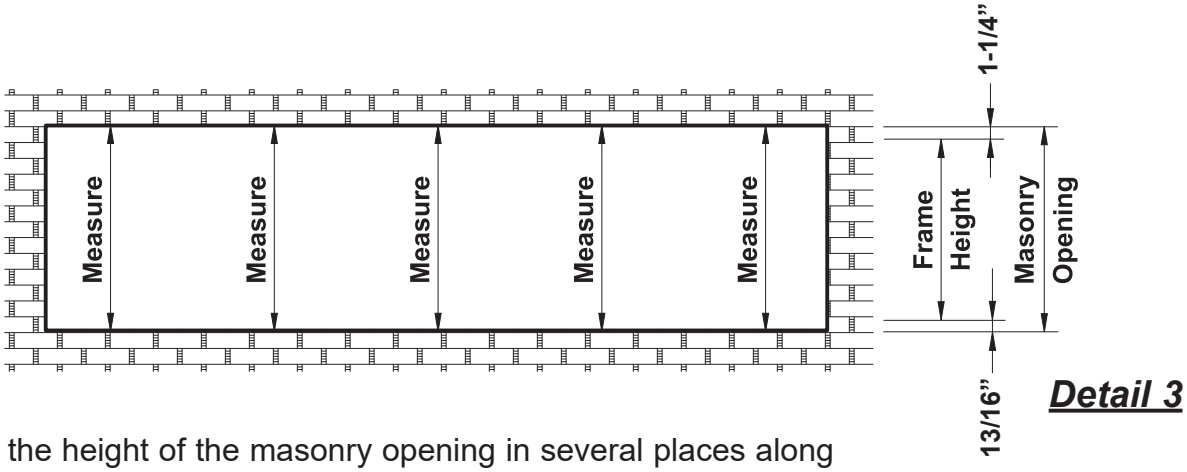
Detail 2

-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 1
DETERMINE FRAME SIZE

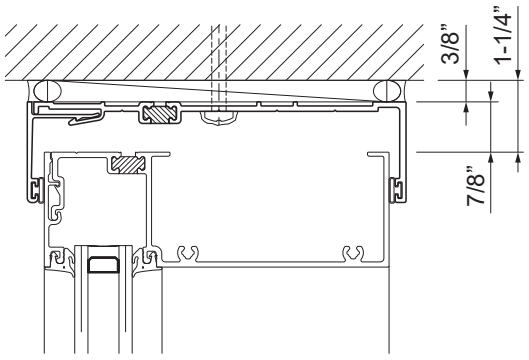
Determine Frame Height for Receptor Conditions:

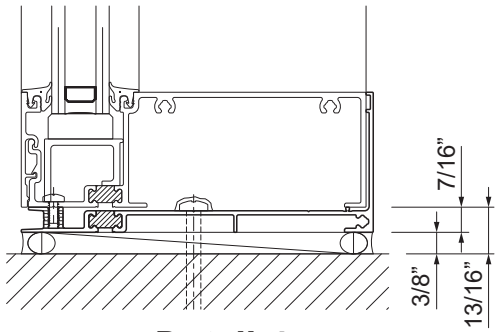


Detail 3

-Measure the height of the masonry opening in several places along the entire length of the opening.
-Select the smallest dimension measured and subtract 2-1/16” to determine the frame height to be used:
Minimum 3/8” shim/caulk joint at the head.
7/8” for the head receptor
7/16” for sill flashing.
Minimum 3/8” shim/caulk joint below the sill flashing.

See **Details 3 & 4**.





Detail 4

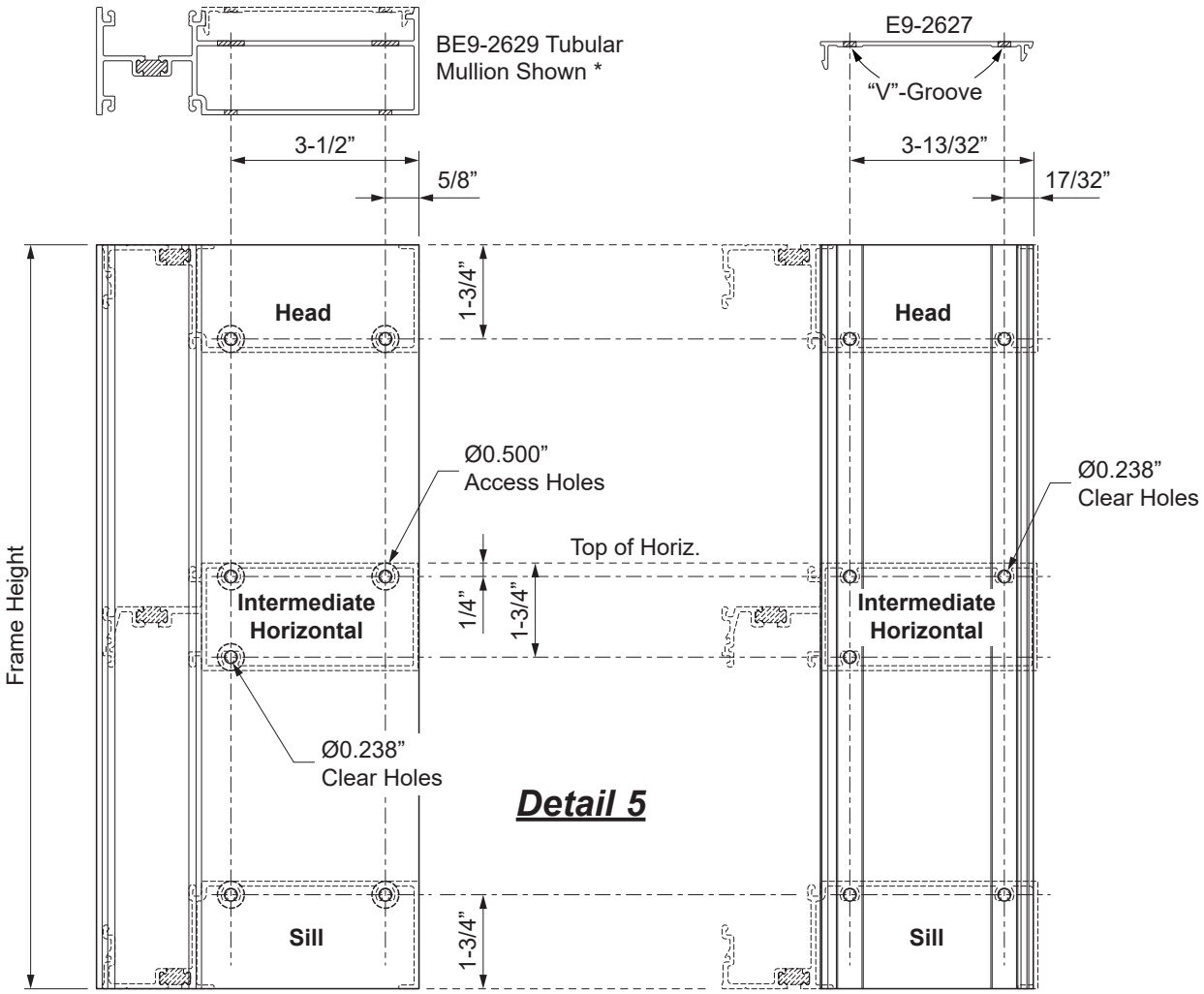
FRAME FABRICATION

STEP 2
FABRICATE VERTICALS FOR OUTSIDE GLAZING

-Cut the vertical members to the frame height determined in **Step 1**.
-Fabricate holes in mullions for horizontal attachment using one of the methods below:

1. Layout the hole locations as shown in **Detail 5** and drill a Ø0.238” (#B drill bit) clearance hole at each location marked, or per drill fixture. For tubular mullion drill a Ø0.500” access hole as shown.
2. Use punch press with appropriate die set.

See **Detail 5**.



Detail 5

*** Note:** Fabrication for BE9-2626, BE9-2630, BE9-2631, BE9-2632, BE9-2640, and BE9-2641 is similar.

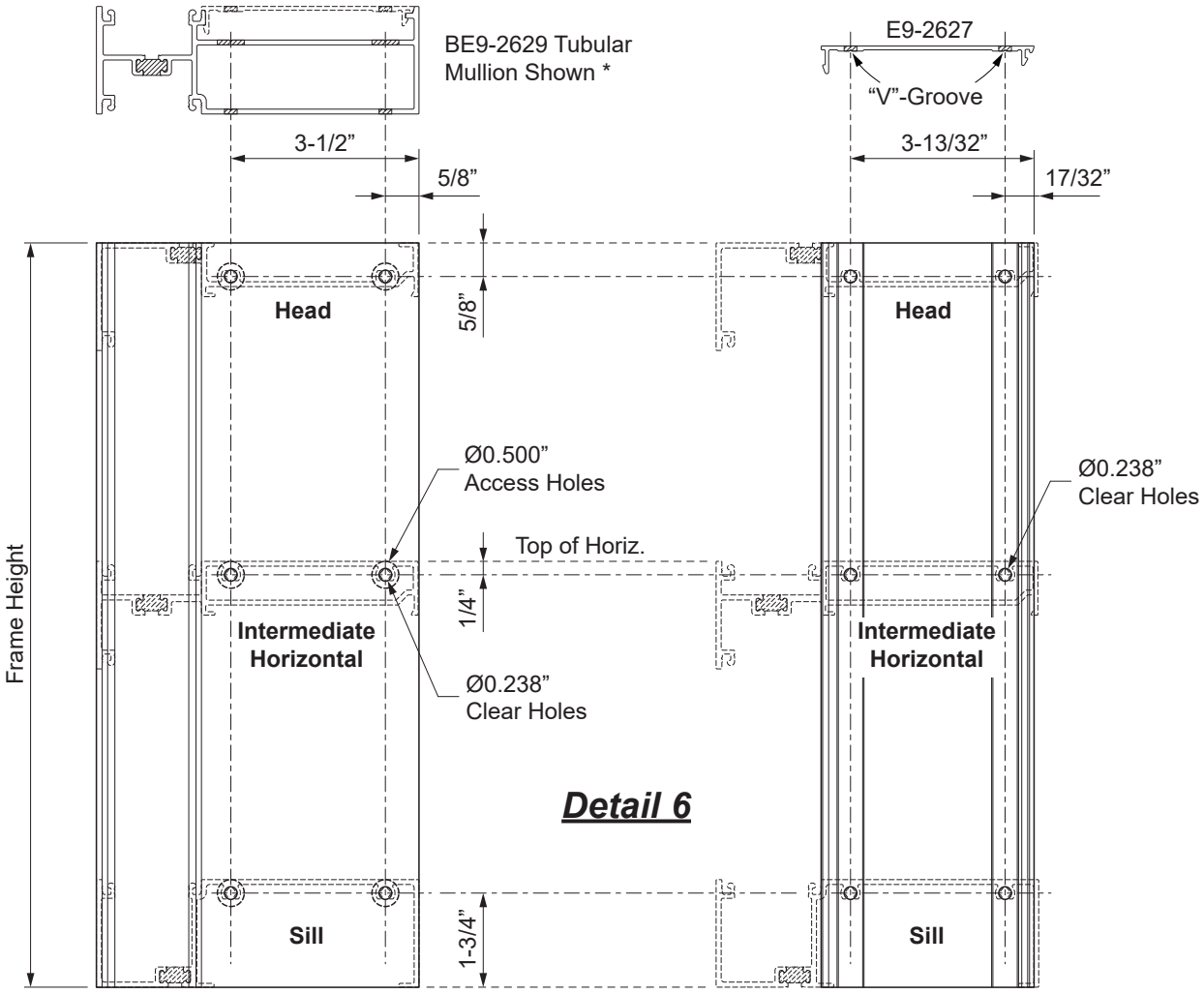
FRAME FABRICATION

STEP 2 (Continued)
FABRICATE VERTICALS FOR INSIDE GLAZING

-Cut the vertical members to the frame height determined in **Step 1**.
-Fabricate holes in mullions for horizontal attachment using one of the methods below:

1. Layout the hole locations as shown in **Detail 6** and drill a Ø0.238” (#B drill bit) clearance hole at each location marked, or per drill fixture. For Tubular mullion drill a Ø0.500” access hole as shown.
2. Use punch press with appropriate die set.

See **Detail 6**.



Detail 6

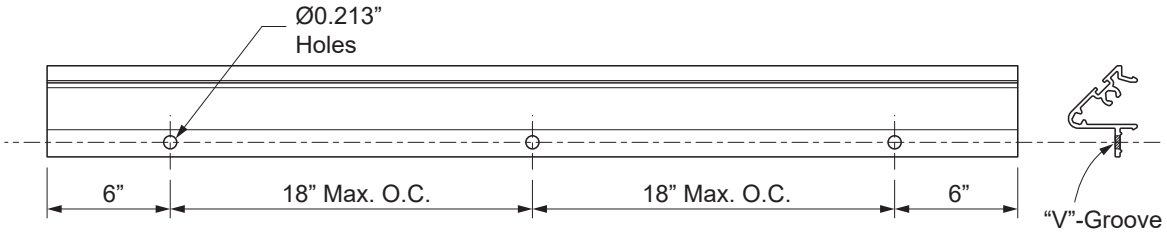
*** Note:** Fabrication for BE9-2626, BE9-2630, BE9-2631, BE9-2632, BE9-2640, and BE9-2641 is similar.

FRAME FABRICATION

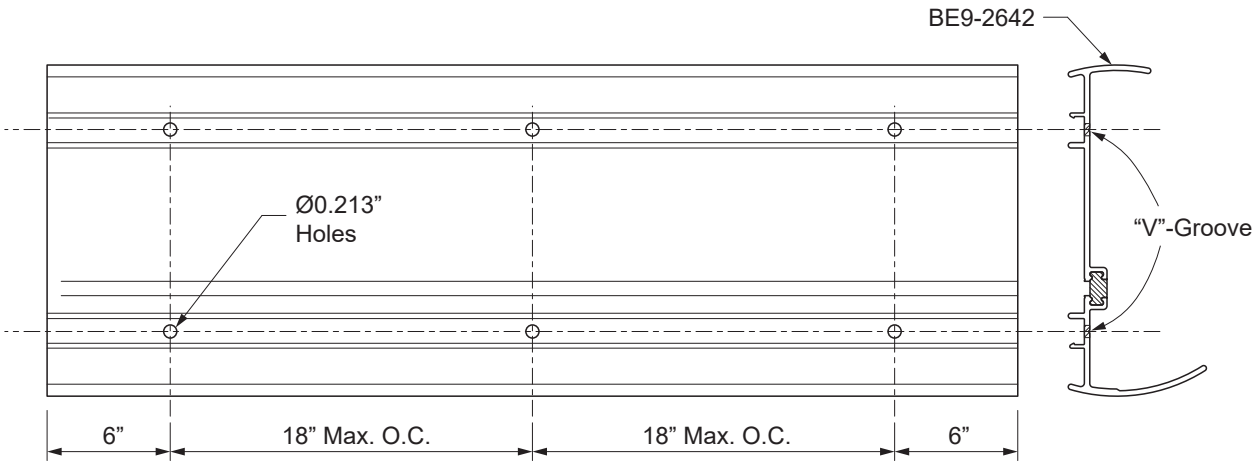
STEP 3
FABRICATE CORNER AND HINGED ADAPTORS

-Cut the corner cover components and hinged mullion adaptors to the mullion length. Drill Ø0.213” holes (#3 drill bit) into the cover at the “V”-groove where the cover will be fastened to the mullion at 6” from each end and at 18” maximum on center.

See **Detail 7**.



Detail 7

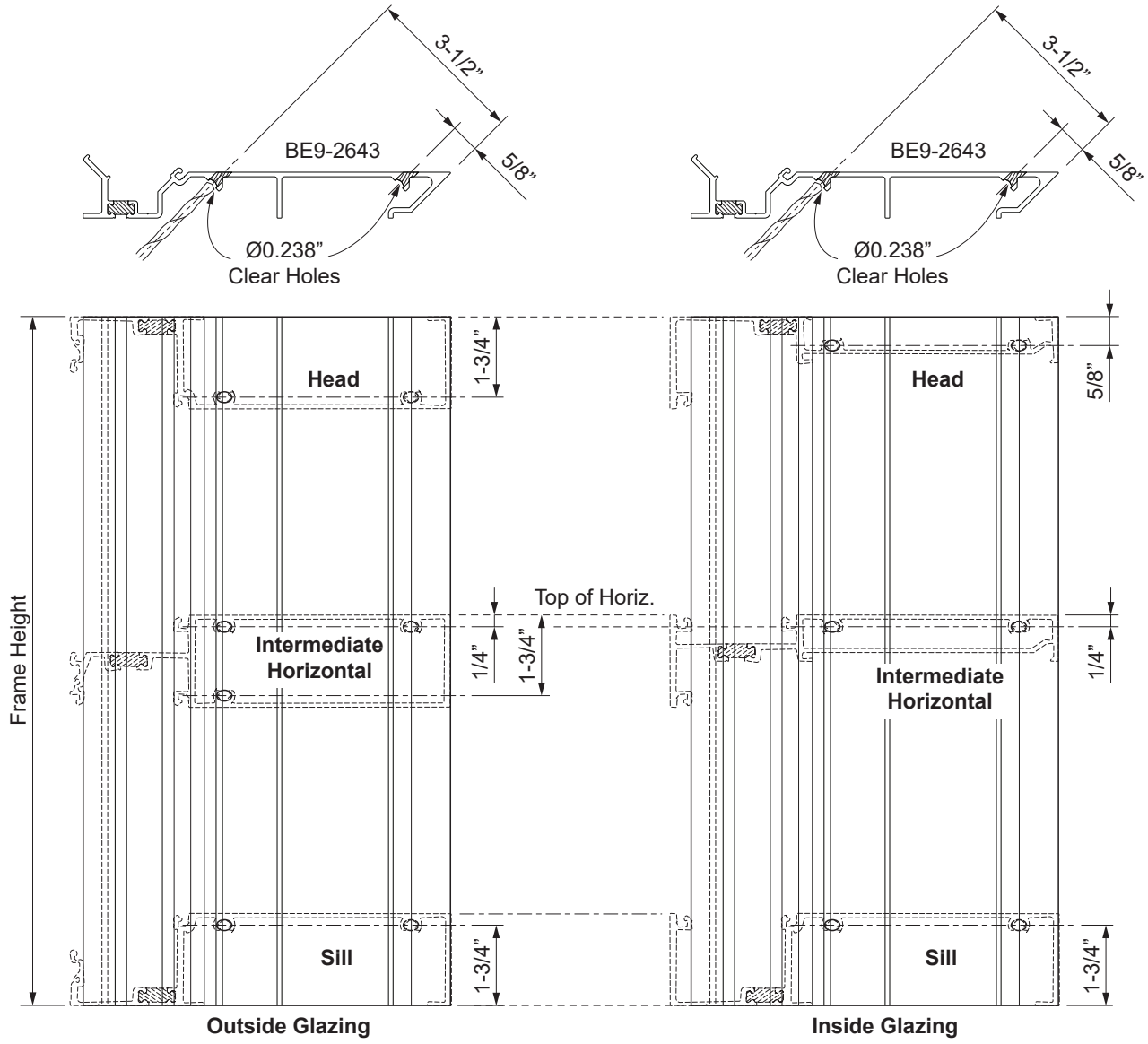


FRAME FABRICATION

STEP 4
FABRICATE OPTIONAL 90° OUTSIDE CORNER MULLIONS

-Cut the BE9-2643 optional corner mullions and E9-2644 corner adaptors to the frame height determined in **Step 1**.
-Screw spline fabrication for horizontals is similar to that of standard mullions, except the Ø0.238” holes are drilled at a 45**°** angle from the inside of the mullion half.

See **Detail 8**.



Detail 8

FRAME FABRICATION

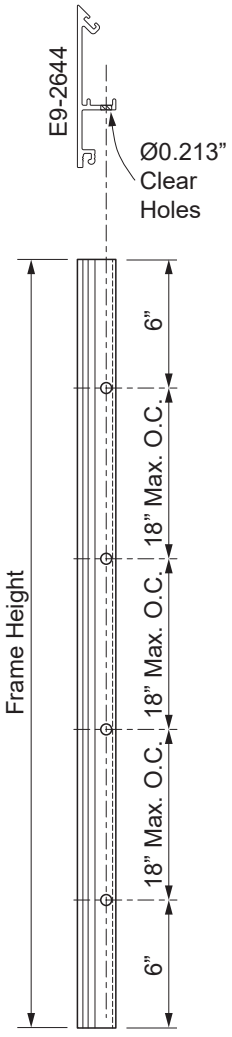
STEP 4 (Continued)
FABRICATE OPTIONAL 90° OUTSIDE CORNER MULLIONS

-Drill Ø0.213” clear holes in the E9-2644 corner adaptor, on the V-groove at 6” from each end and at 18” maximum on center as shown in **Detail 9.**

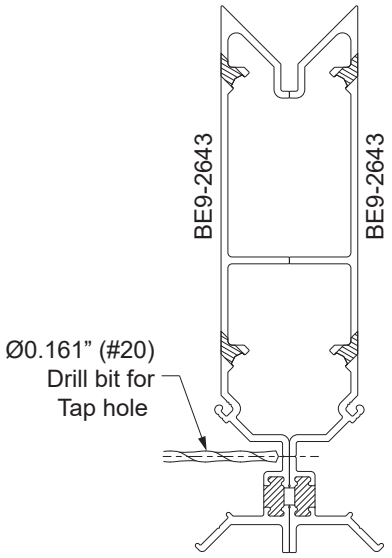
Note: To ensure proper tap hole alignment and assembly of the optional corner mullion, use the following fabrication procedure:

-Clamp the BE9-2643 corner mullion halves together and drill Ø0.161” tap holes (#20 drill bit) at 6” from each end and at 18” maximum on center at the center spine as shown in **Detail 10A**.

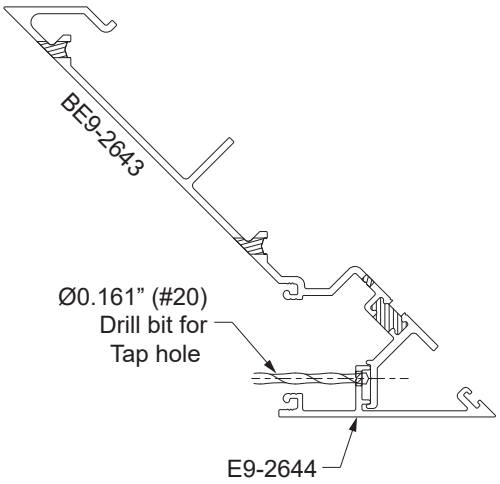
-Separate the BE9-2643 mullions and set the E9-2644 corner adaptor in place on each of the BE9-2643 mullions. Using the clear holes as pilot holes, drill Ø0.161” (#20 drill bit) tap holes into the BE9-2643 mullion as shown in **Detail 10B**.



Detail 9



Detail 10A



Detail 10B

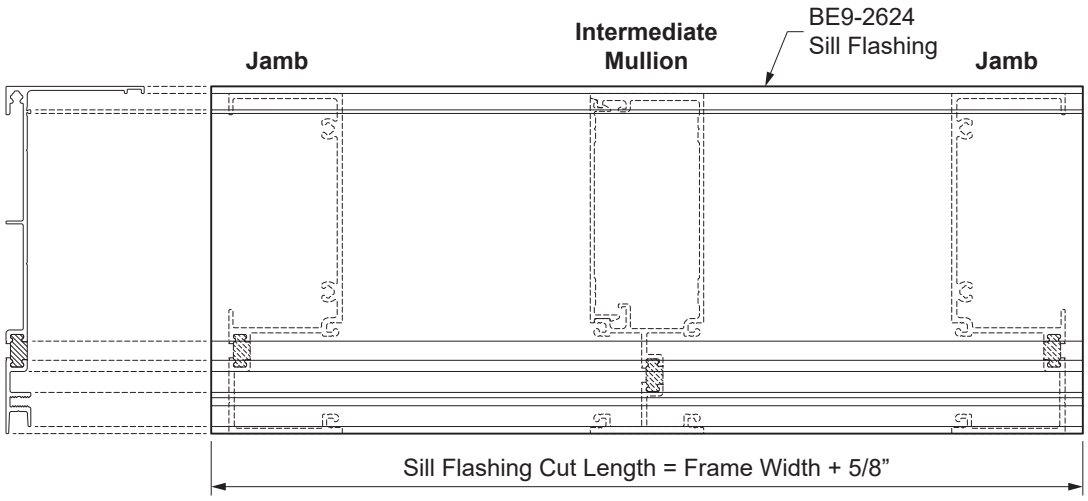
FRAME FABRICATION

STEP 5
FABRICATE SILL FLASHING

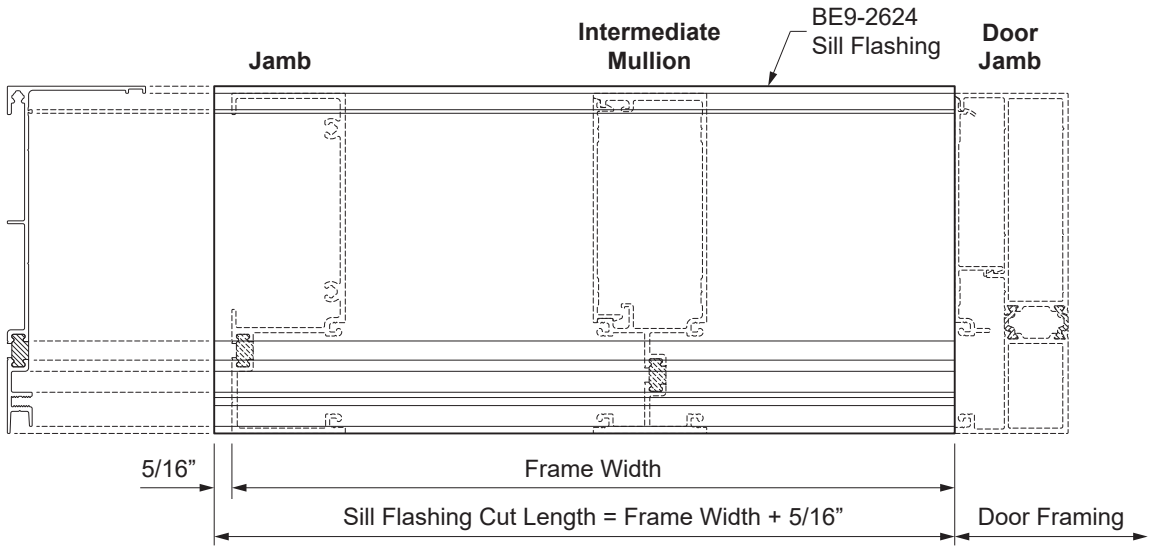
For elevations without door framing:
-Cut sill flashing, BE9-2624, to the end of the frame plus (+) 5/16” at each jamb.

For elevations with door framing:
-Cut the sill flashing from the end of the frame to the door jamb plus (+) 5/16”.
(See approved shop drawings for this dimension)

See **Detail 11.**



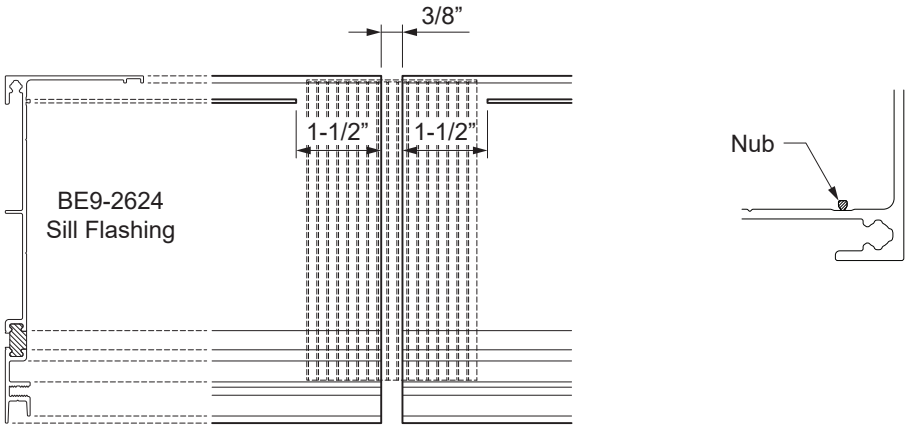
DETAIL 11



FRAME FABRICATION

STEP 5 (Continued)
FABRICATE SILL FLASHING

-For openings longer than 24’-0” the sill flashing needs to be spliced every twelve to fifteen feet.
-Allow for a 3/8” joint between sill flashing members.
-Remove the nub with a chisel or pliers 1-1/2” on both sides of splice joint as shown in **Detail 12**.

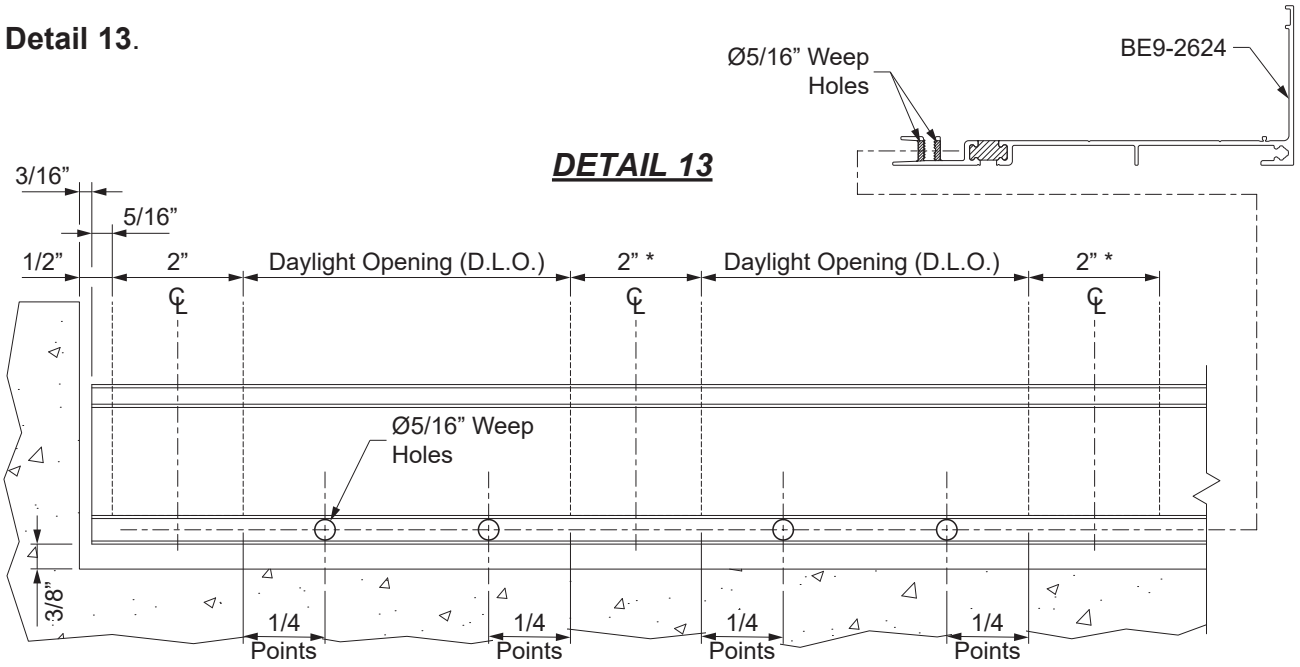


DETAIL 12

-Mark the quarter points between vertical mullions on the sill flashing.
-Drill a Ø5/16” weep hole in the front of the sill flashing at each D.L.O. quarter point.

See **Detail 13**.

DETAIL 13



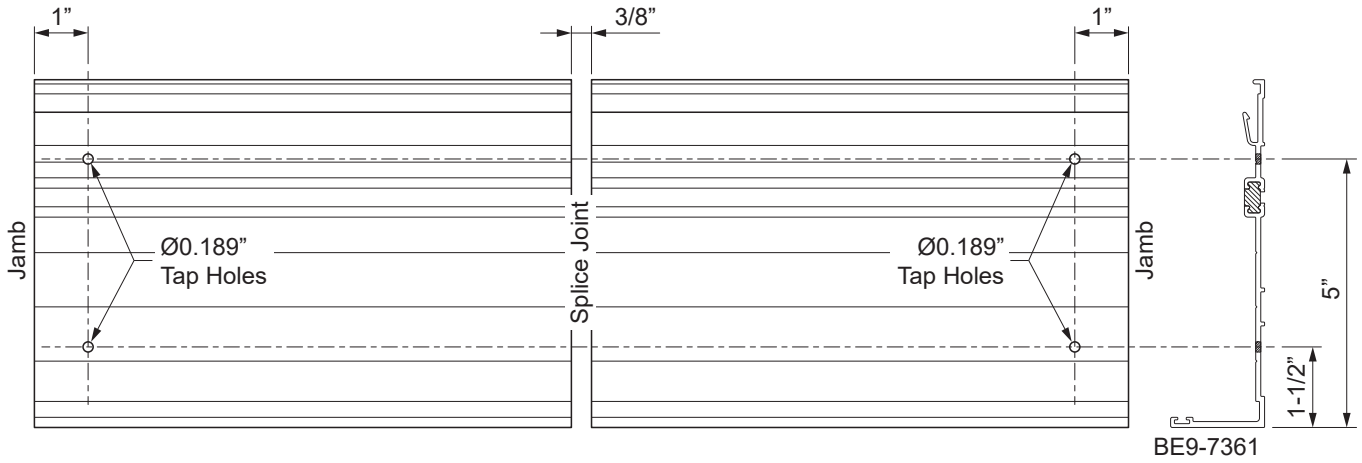
* **Note:** 2-1/4” for expansion mullion dimension.

FRAME FABRICATION

STEP 6
FABRICATE OPTIONAL HEAD RECEPTOR

-Cut the head receptor BE9-7361 and the E9-1033 snap cover to the frame width + 5/16” at each jamb or as indicated on the approved shop drawings.
-At each jamb, drill two Ø0.189” tap holes (#12 drill bit) into the BE9-7361 head receptor as shown.
-For openings longer than 24’-0” the head receptor needs to be spliced every twelve to fifteen feet at the center of a D.L.O.
-Allow for a 3/8” splice joint between head receptor members.
See **Detail 14.**

*** Note:** The Ø0.189” tap hole in the exterior side of the receptor will be slightly off the V-Groove. Drilling this hole from the top side of the receptor after the interior side hole is recommended.



DETAIL 14

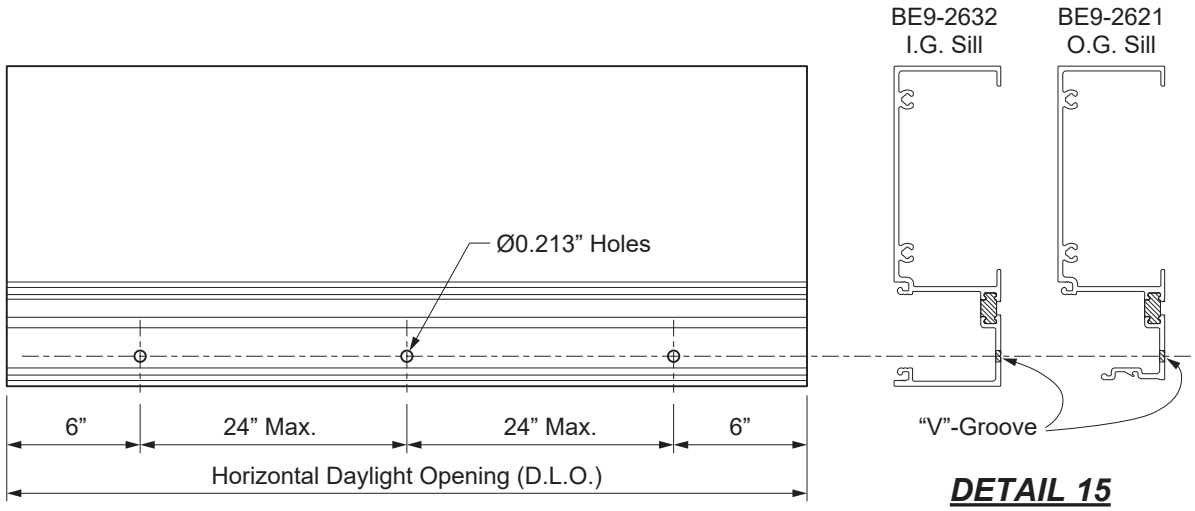
FRAME FABRICATION

STEP 7
FABRICATE HORIZONTAL MEMBERS

-Cut horizontal members to the daylight opening dimension between verticals.

For Sill Members:

-Measure in 6" from each end of the sill member and mark hole locations along the "V"-groove located on bottom of profile as shown in **Detail 15**.
-Mark additional hole locations a maximum of 24" on center (O.C.) or as specified by the P.E. calculations.
-Drill a Ø0.213" (#3 drill bit) hole at each location marked.



DETAIL 15

FRAME FABRICATION

STEP 7A
FABRICATE HORIZONTAL MEMBERS FOR OPTIONAL 90° OUTSIDE CORNER

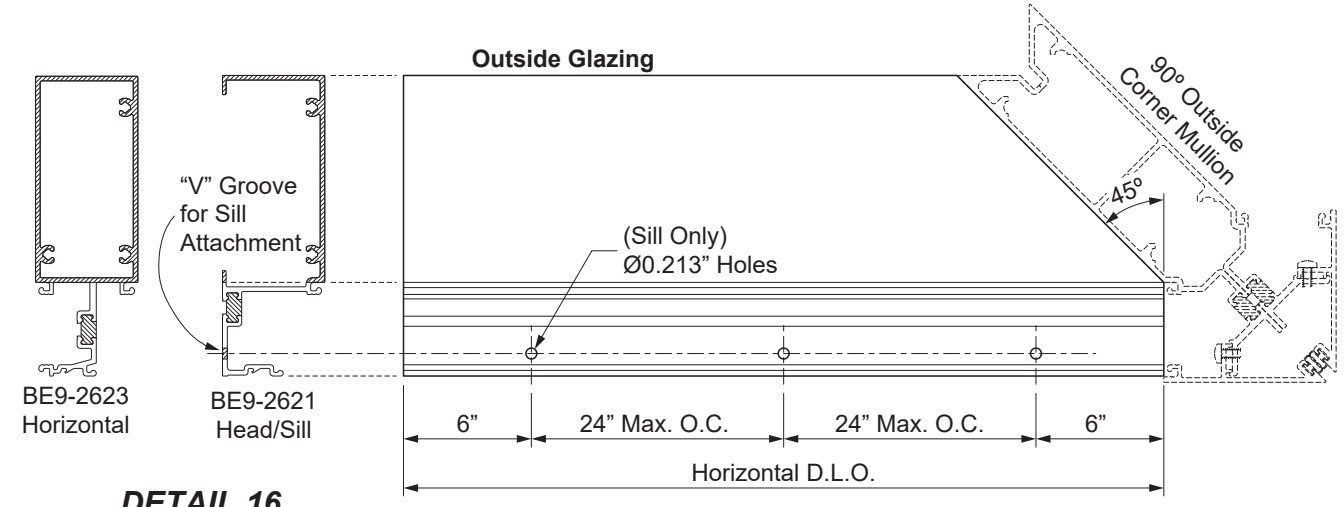
-Cut horizontal members to the daylight opening dimension between verticals. Miter cut the horizontals at the interior of the glazing pocket as shown in **Detail 16.**

For Sill Members:

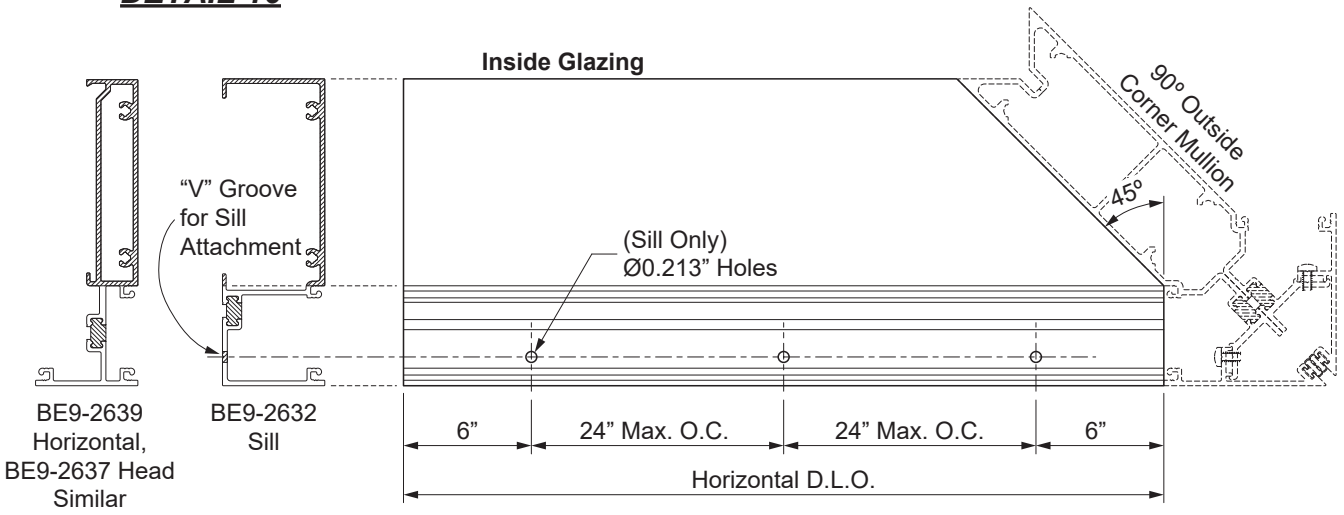
-Measure in 6" from each end of the sill member and mark hole locations along the "V"-groove located on bottom of profile as shown in **Detail 17**.

-Mark additional hole locations a maximum of 24" on center (O.C.) or as specified by the P.E. calculations.

-Drill a Ø0.213" (#3 drill bit) hole at each location marked.



DETAIL 16



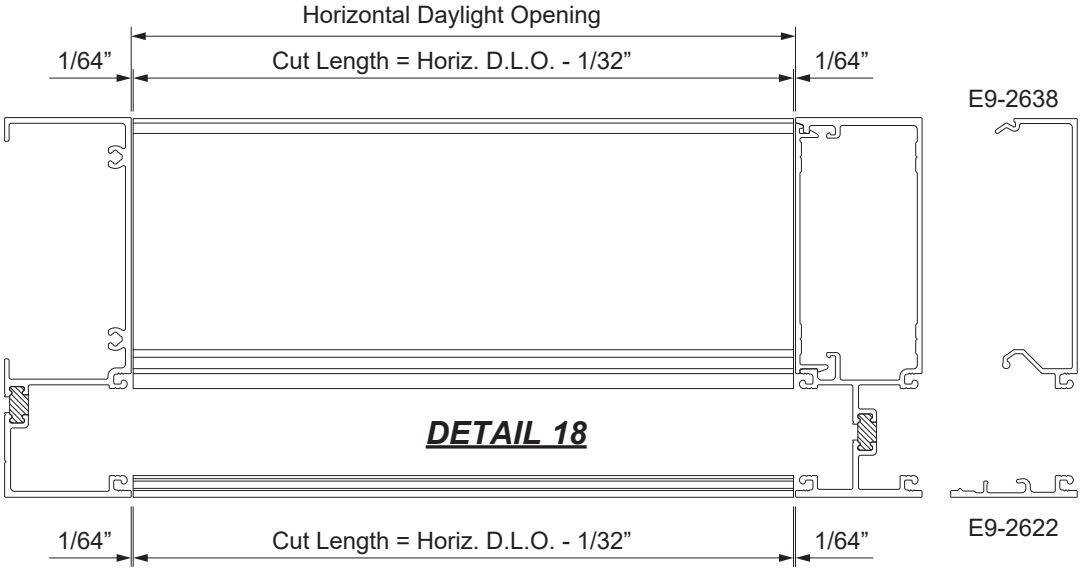
DETAIL 17

FRAME FABRICATION

STEP 8
FABRICATE GLASS STOPS

-Cut glass stops to Daylight Opening Minus(-) 1/32”.
-If glazing adaptors (E9-1039 or E9-1040) are used, cut them to Daylight Opening Minus(-) 1/32”.

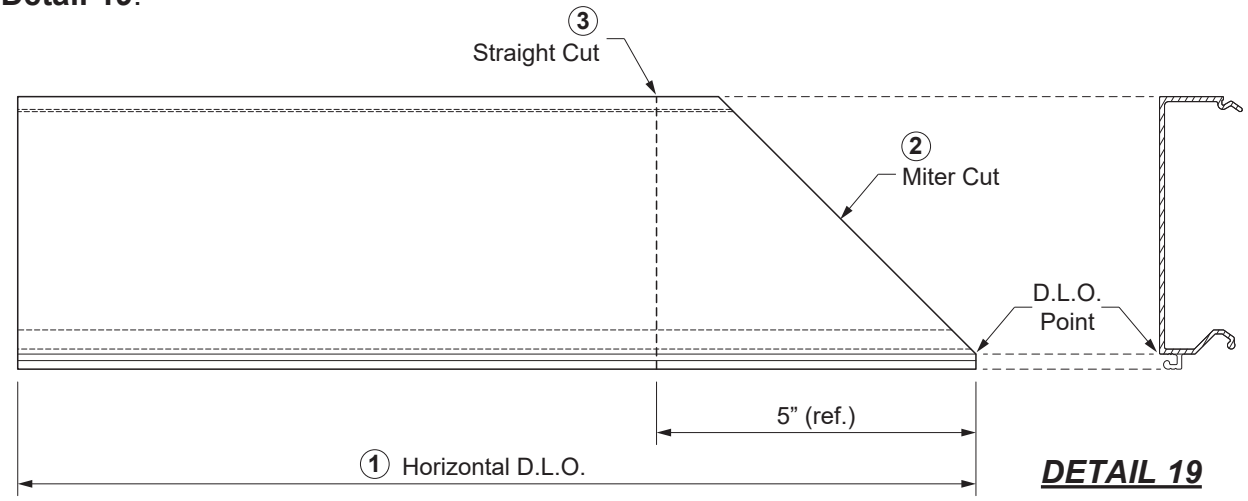
See **Detail 18**.



DETAIL 18

STEP 8A
FABRICATE I.G. GLASS STOPS FOR OPTIONAL 90° OUTSIDE CORNER

To ensure that the E9-2638 I.G. glass stop can be installed at the optional 90° outside corner mullion, the glass stop will need to be fabricated and split.
1) Cut the glass stop to the horizontal daylight opening.
2) Miter cut the glass stop at the corner, starting with the D.L.O. point.
3) Straight cut the glass stop (ref. 5” from the mitered end), and split it into two pieces.
See **Detail 19**.



DETAIL 19

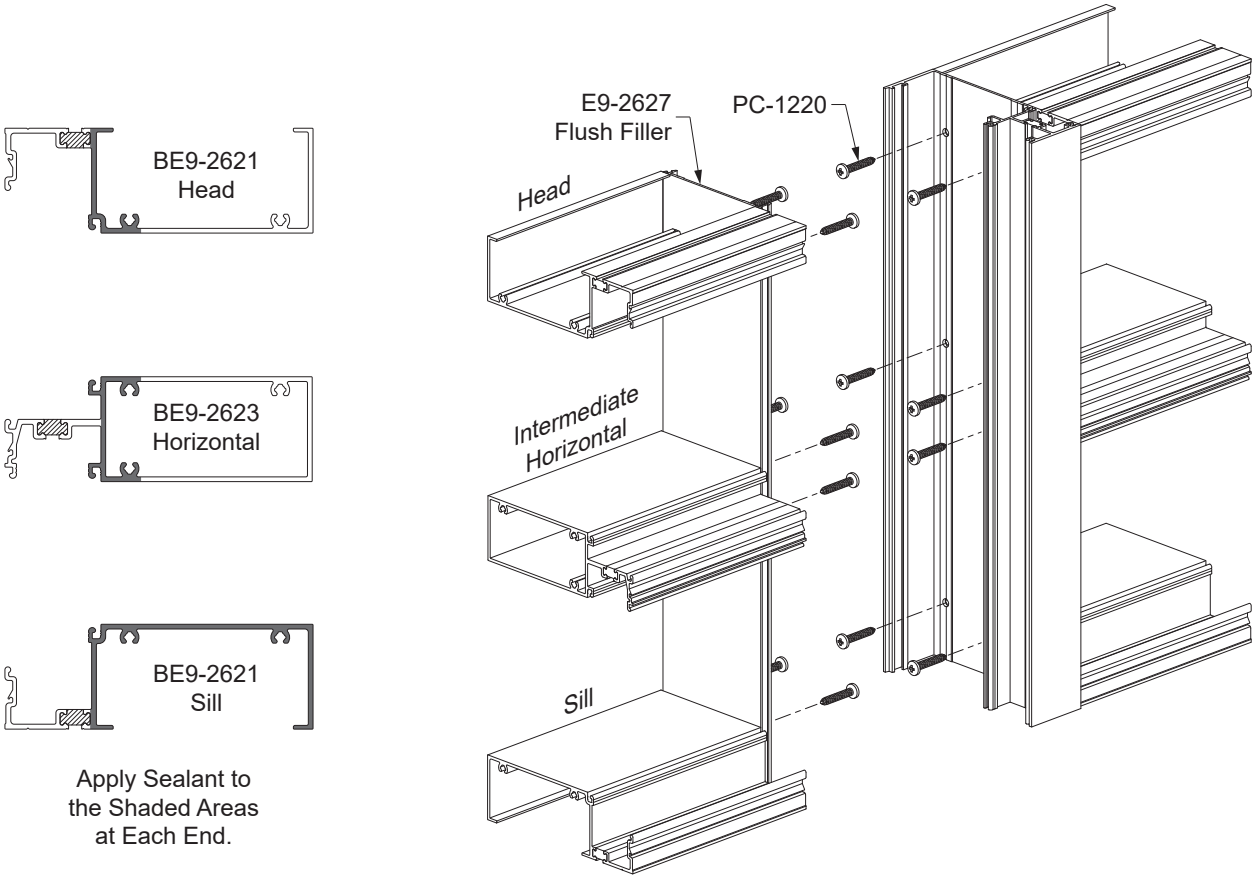
FRAME ASSEMBLY

STEP 9
ASSEMBLE FRAMES

Outside Glazed System Assembly:

-Clean all joint surfaces using cleaner approved by sealant manufacturer.
-Apply sealant to both ends of head, intermediate horizontal, and sill members just prior to assembly.
-Attach head, intermediate horizontal, and sill members to vertical members with PC-1220 fasteners at each end as shown below.
-Tool the sealant into the joints and wipe away any excess sealant.

See **Detail 20.**



Detail 20

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

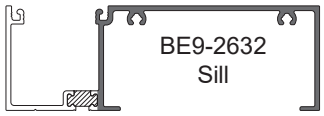
FRAME ASSEMBLY

STEP 9 (Continued)
ASSEMBLE FRAMES

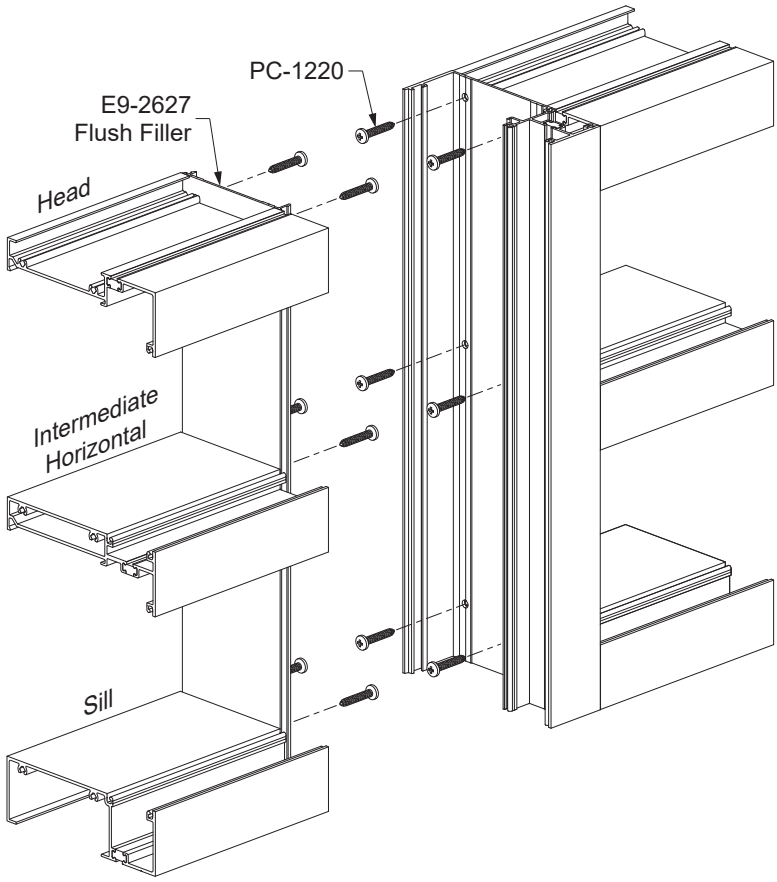
Inside Glazed System Assembly:

-Clean all joint surfaces using cleaner approved by sealant manufacturer.
-Apply sealant to both ends of head, intermediate horizontal, and sill members just prior to assembly.
-Attach head, intermediate horizontal, and sill members to vertical members with PC-1220 fasteners at each end as shown below.
-Tool the sealant into the joints and wipe away any excess sealant.

See **Detail 21.**



Apply Sealant to the Shaded Areas at Each End.



Detail 21

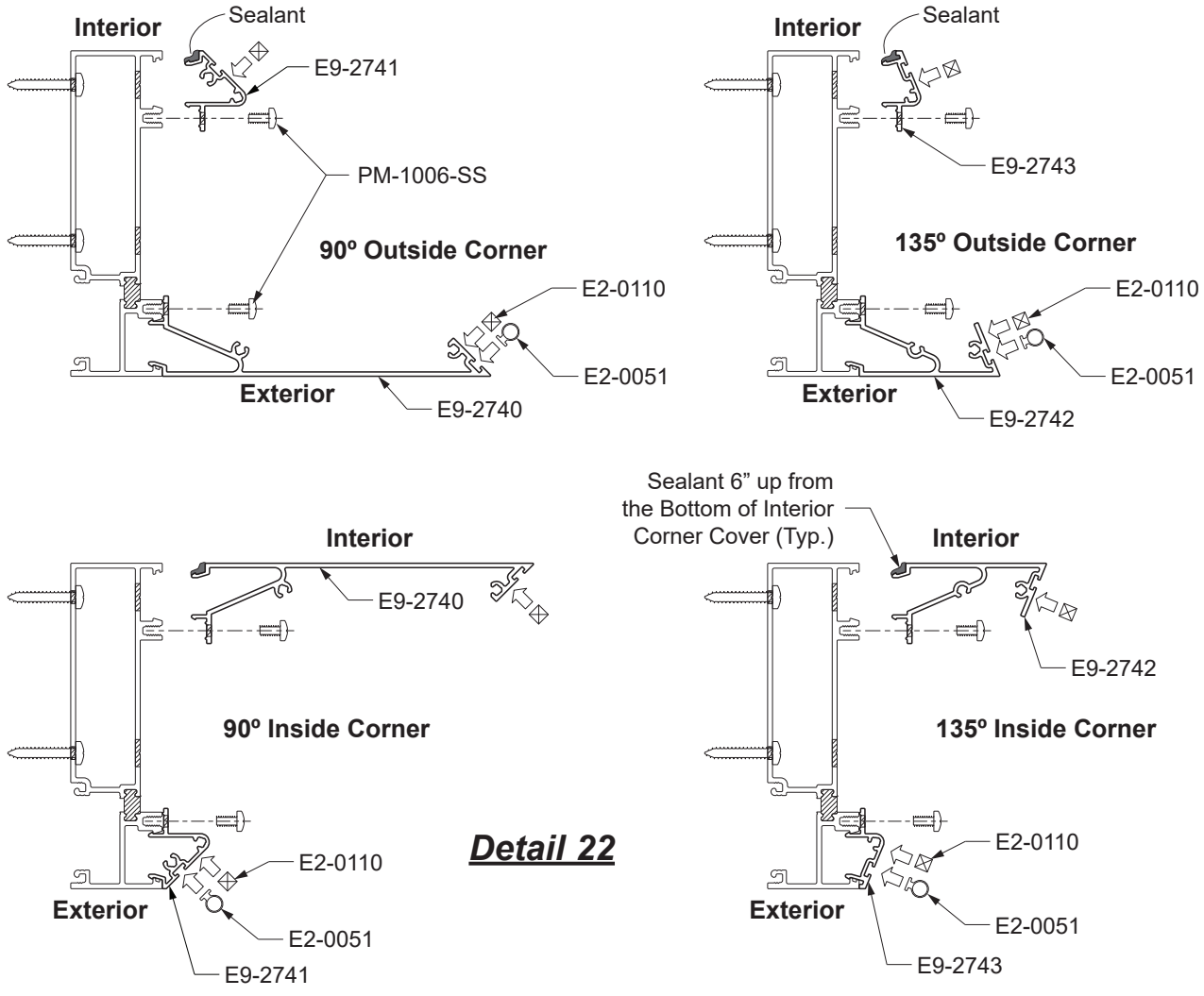
CAUTION: Always assemble frames such that each lite of glass will have a minimum of one deep vertical glazing pocket.

FRAME ASSEMBLY

STEP 9 (Continued)
ASSEMBLE FRAMES

Corner Mullion Assemblies:

-Attach horizontal members to corner or hinged mullion half.
-Apply sealant to the interior snap interface of the interior covers, 6” up from the bottom of the mullion. Snap the cover pieces onto the corner mullion half. Fasten with PM-1006-SS fasteners at the holes previously drilled in fabrication.
-The exterior corner covers will require E2-0051 bulb gaskets cut to the length of the mullion for one side of the mullion only.
Apply dabs of sealant to the bottom of the bulb gasket to adhere it to the cover so that it will not slide out during unit installation. Do not overseal. Insert the gasket into the reglet at the cover.
-The exterior and interior corner cover will also require an E2-0110 spacer tape adhered to the cover for one side of the mullion half only. This will keep the cover joint true.
The other corner half for the adjoining unit will not require the spacer tape nor the bulb gasket.
See **Detail 22**.



Detail 22

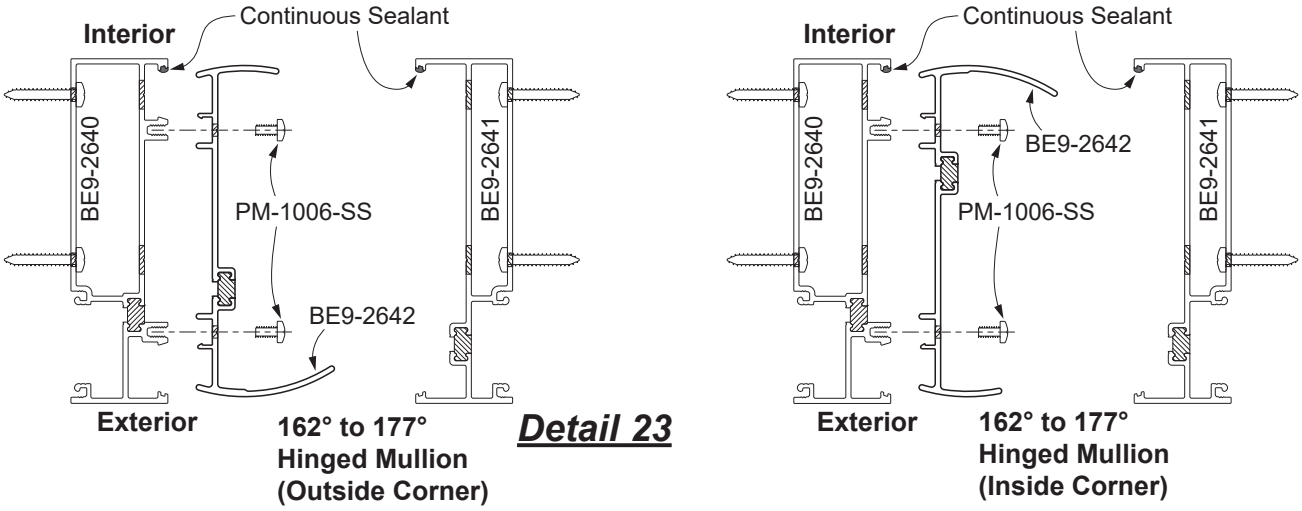
FRAME ASSEMBLY

STEP 9 (Continued)
ASSEMBLE FRAMES

Hinged Mullion Assemblies:

-Hinged mullions will require continuous sealant along the interior reglet of the BE9-2640 and BE9-2641 mullions. Attach the hinged mullion adaptor to the BE9-2640 mullion using PM-1006-SS fasteners.

See **Detail 23**.

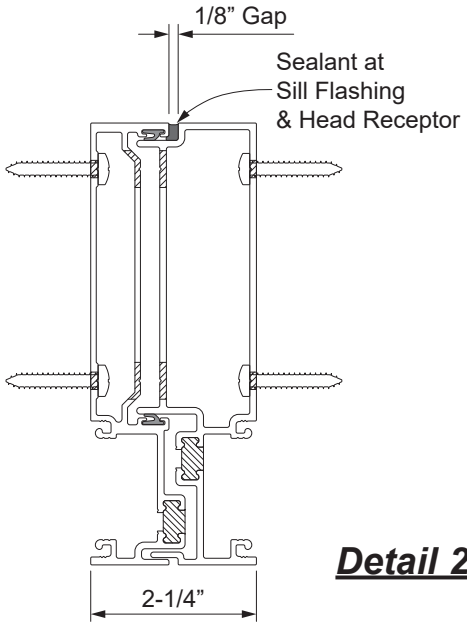


Detail 23

INSTALL EXPANSION MULLIONS WHERE REQUIRED

-Expansion mullions require the E2-0065 weathering gasket in both front and rear reglets.
-Fill the interior gap between the mullion halves with sealant at the sill flashing and head receptor.

See **Detail 24**.



Detail 24

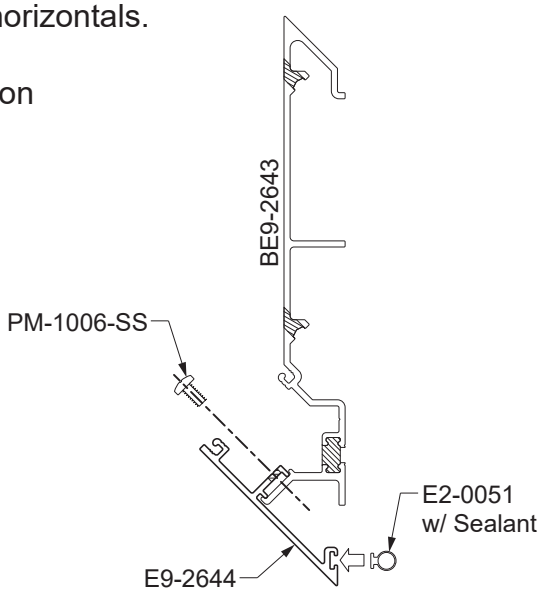
FRAME ASSEMBLY

STEP 9 (Continued)
ASSEMBLE OPTIONAL 90° OUTSIDE CORNER MULLION (BE9-2643)

Note: This should be done prior to attachment to mitered horizontals.

-Fasten the corner adaptor onto the BE9-2643 corner mullion with PM-1006-SS screws.
-Cut the E2-0051 bulb gasket to Mullion Length. Apply dabs of sealant at the bottom of the bulb gasket to adhere to it the corner adaptor, and slide the gasket into the adaptor. Note that the adaptor on the adjoining corner mullion will not need this bulb gasket.
-Attach the optional corner assembly to the mitered horizontals.

See **Detail 25**.

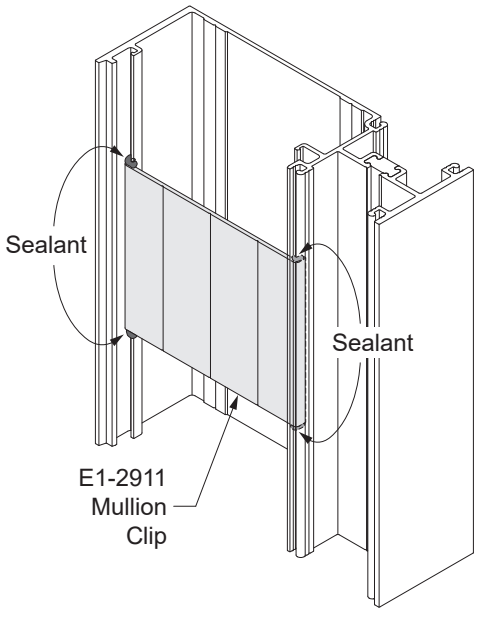


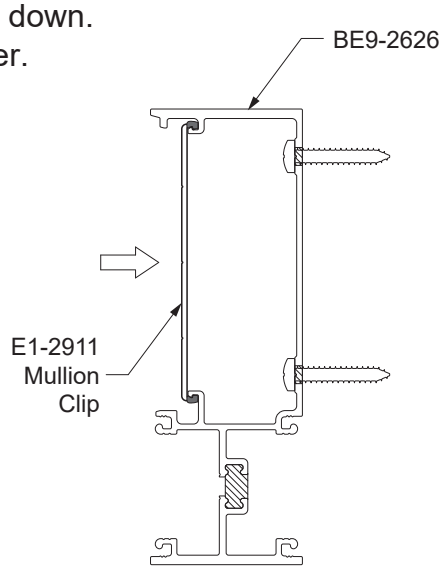
DETAIL 25

INSTALL OPTIONAL E1-2911 MULLION CLIPS

-For BE9-2626 mullions, snap in E1-2911 mullion clips to reduce unbraced length as required by engineering calculations. Apply sealant to the ends at top & bottom to keep the mullion clip from sliding down. Wipe away excess sealant to prevent interference with flush filler.

See **Detail 26.**





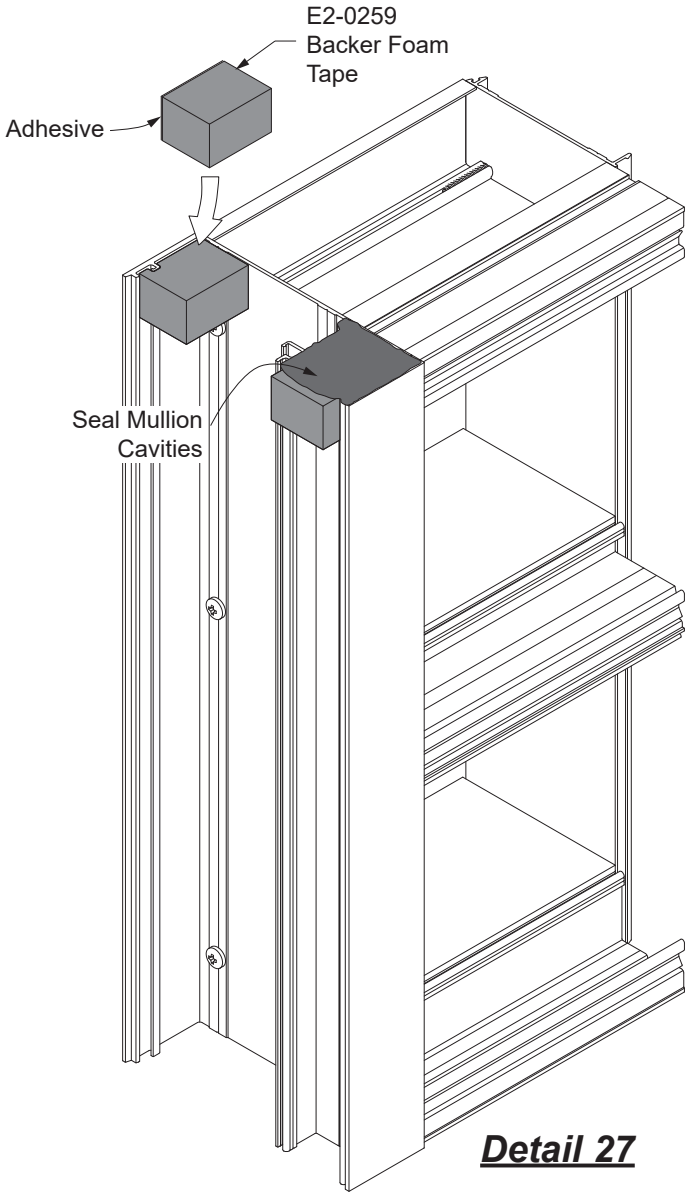
DETAIL 26

FRAME ASSEMBLY

STEP 10 (Not necessary with Head Receptor)
INSTALL FOAM PLUGS AT TOP OF VERTICALS (OPTIONAL)

-Cut pieces of E2-0259 foam backer tape to be adhered at the the top of the mullion. These will serve as end cap support for perimeter backer rods and sealant.
-Peel the adhesive tape from the foam pieces and adhere them to the front and back of the mullion as shown in **Detail 27**. The foam can be easily compressed to accomodate obstacles in the assembled verticals.
-Seal over the glazing pocket cavities in the front of the mullion.

Notes: For best adhesion, ensure the contact surfaces of the verticals are clean and dry.
Backer tape application is similar for expansion and corner mullions.



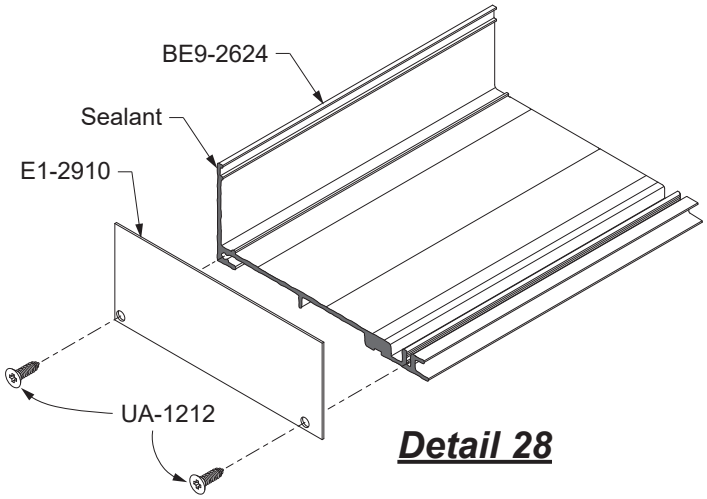
Detail 27

FRAME INSTALLATION

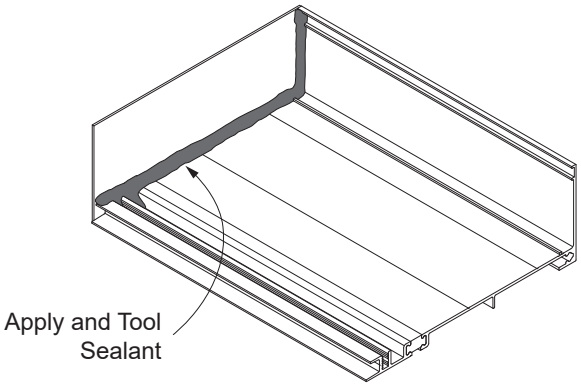
STEP 11
INSTALL SILL FLASHING END DAMS

-Clean all joint surfaces using cleaner approved by sealant manufacturer.
-Apply sealant to the end of the sill flashing as shown in **Detail 28.**
-Fasten the end dam to the sill flashing with two UA-1212 screws as shown in **Detail 28.**

-Tool sealant along the joint between the end dam and the sill flashing as shown in **Detail 29.**
-Seal over any exposed screw threads.



Detail 28

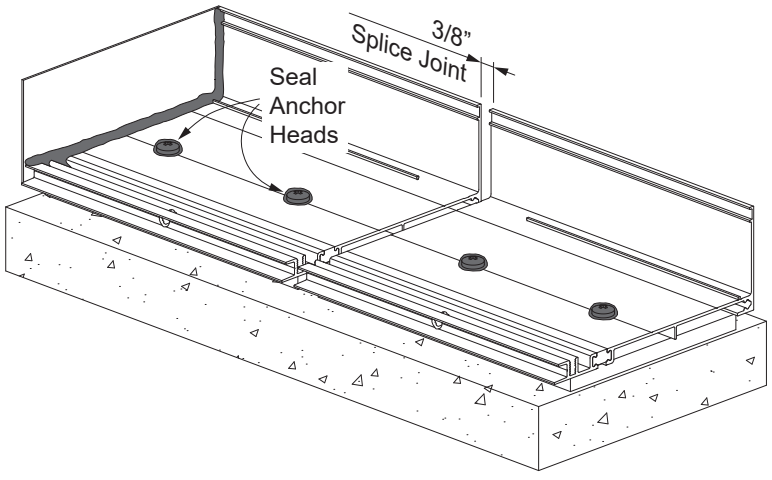


Detail 29

STEP 12
INSTALL SILL FLASHING

-Install the sill flashing with a minimum of 3/8" shim underneath. Sill flashing must be installed level.
-At splice joints, allow a 3/8” gap between the sill flashing lengths.
-Anchor the sill flashing to the structure a maximum of 4" from each end and then as specified by the engineering calculations.
-Apply and tool sealant to cover the heads of all anchors.

See **Detail 30.**

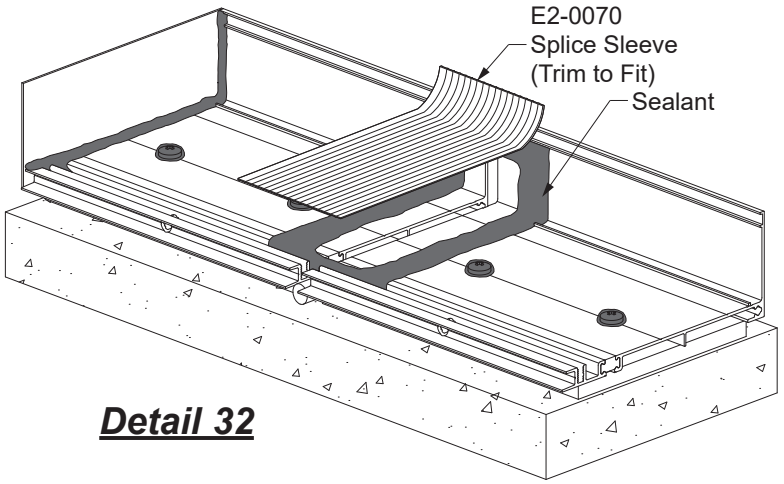


Detail 30

FRAME INSTALLATION

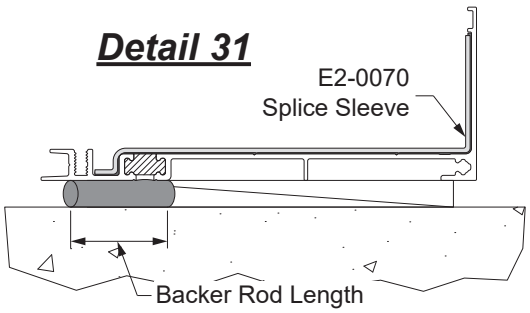
STEP 13
INSTALL SILL FLASHING SPLICE SLEEVE

-Insert a small backer rod under the sill flashing at every splice location as shown in **Detail 31**.
-Position the E2-0070 silicone splice sheet against the back wall below the groove.
-Bend the silicone splice sleeve into the front on the channel as shown. Mark and cut the sheet at this position.
-Clean sill flashing and silicone splice sleeve with an approved cleaner at the splice location.
-Apply sealant the flashing at the splice location as shown in **Detail 32**. Set the splice sleeve into the sill flashing upon the bed of sealant.
-Tool sealant tight as shown in **Detail 31**, squeezing the sleeve flat with a seam roller.



Detail 32

Detail 31

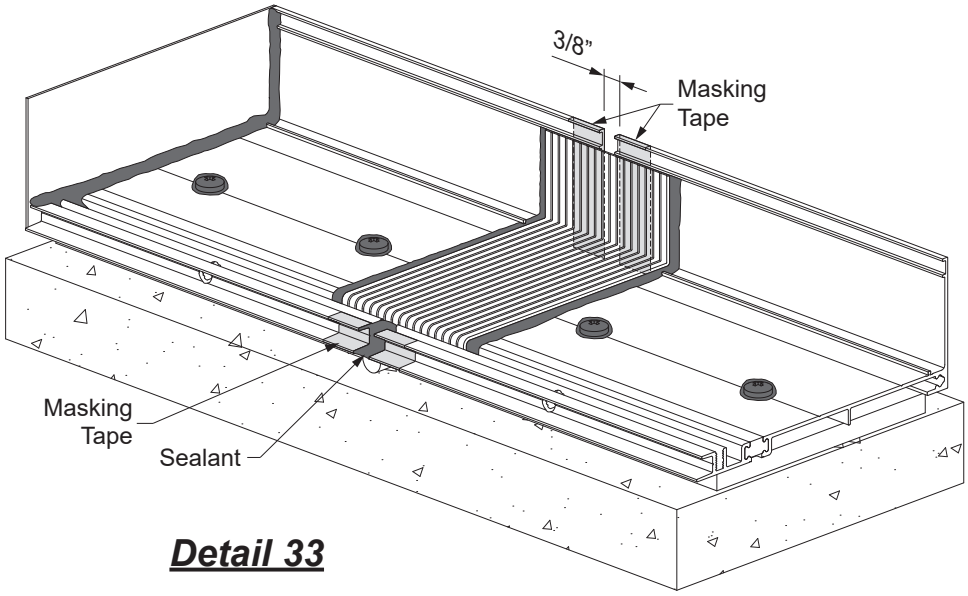


When using E2-0070, a compatible Silicone Sealant must be used at the splice. Compatible Silicone Sealants include Tremco® Spectrem 2® and Dow Corning® 795.

FRAME INSTALLATION

STEP 13
INSTALL SILL FLASHING SPLICE SLEEVE (Continued)

-Apply masking tape to the front of and the back leg of the sill flashing at the splice as shown in **Detail 33**.
-Thoroughly seal the small joint directly in front of the Silicone Splice Sleeve. Remove masking tape from the front gap after applying the sealant.



Detail 33

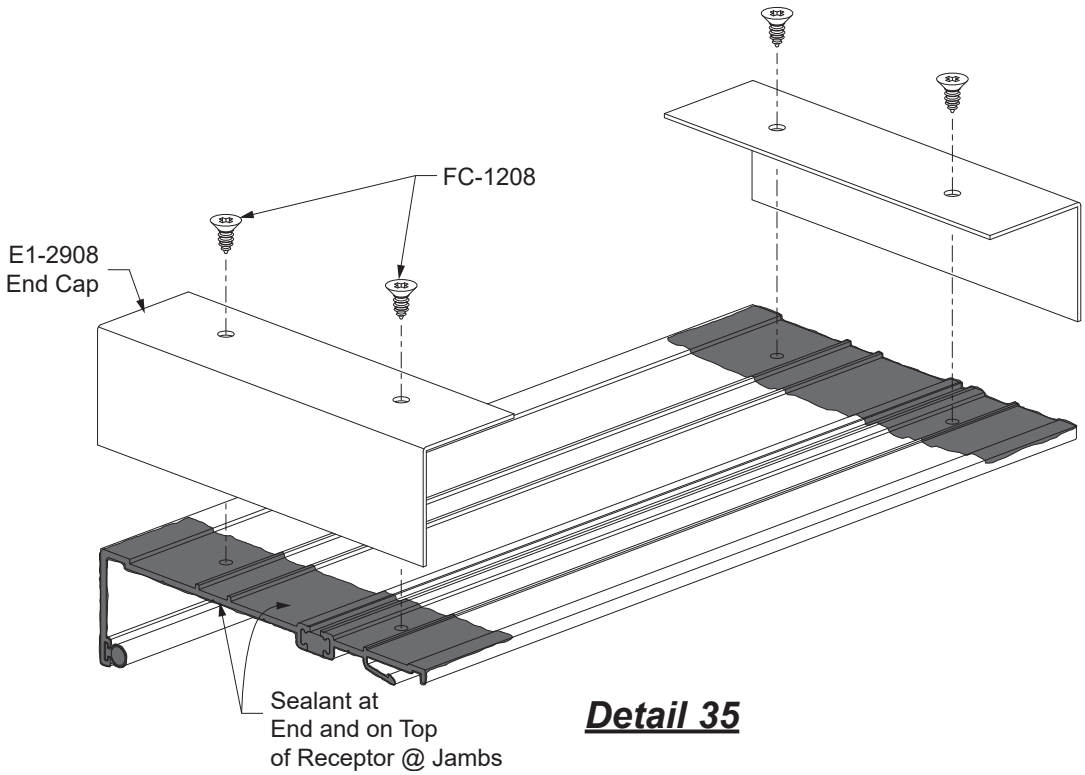
FRAME INSTALLATION

STEP 14
ATTACH HEAD RECEPTOR END CAPS

-Cut E2-0051 bulb gaskets to the same length as the head receptor and insert them into the reglet of both the BE9-7361 head receptor and E9-1033 snap cover. See **Detail 34**.

Detail 34

-Clean all joint surfaces using cleaner approved by sealant manufacturer.
-Apply sealant to the end of the head receptor as shown in **Detail 35.**
-Fasten the E1-2908 end caps to each jamb using two FC-1208 fasteners.
-Tool sealant to the inside of the end caps at the jambs similar to that for the sill flashing end dams (see **Detail 37**). Tape down the top corners to hold the end cap in place until the sealant cures.



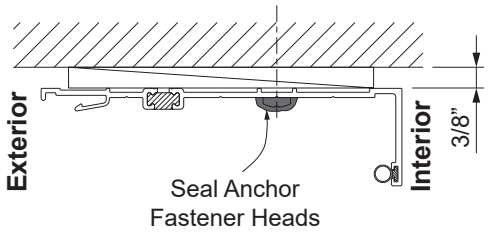
Detail 35

FRAME INSTALLATION

STEP 15
INSTALL HEAD RECEPTOR

-Install the BE9-7361 head receptor to the substrate using fasteners per approved shop drawing or P.E. calculations.
Allow for a 3/8” shim space to the substrate and a 3/8” gap at the splice joints.
-Seal all anchor fastener heads.
-Fill the gap at the exterior of the head receptor with sealant.

See **Details 36 & 37.**

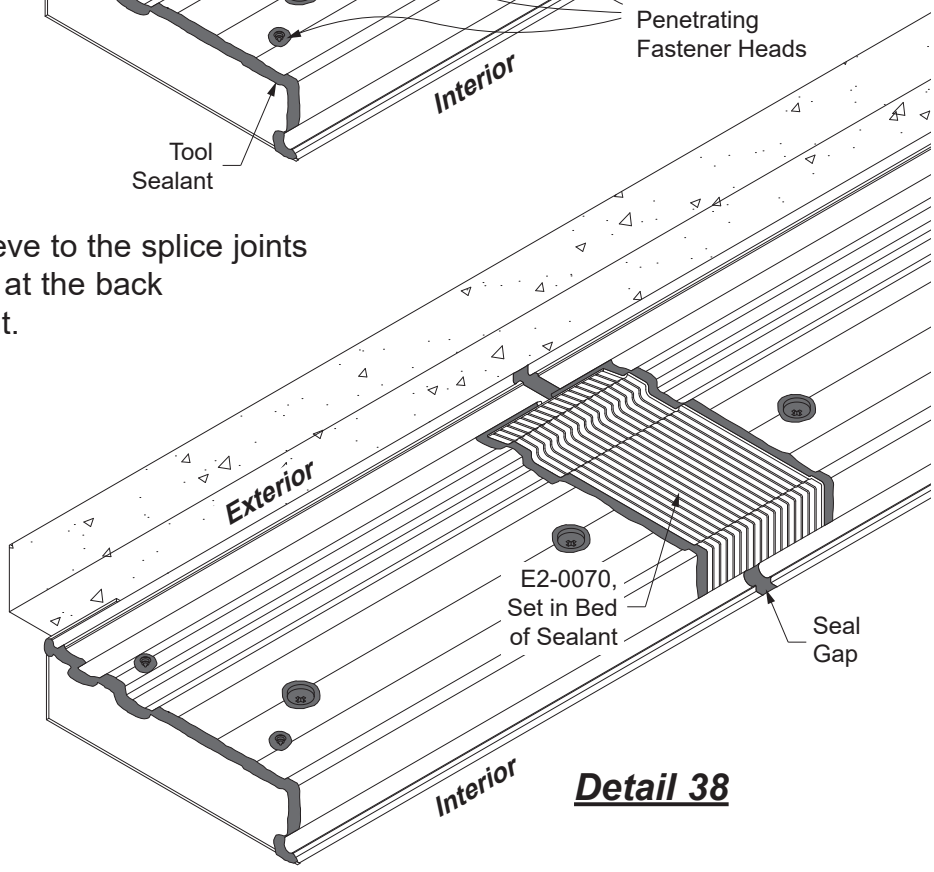


Detail 36

Detail 37

-Adhere an E2-0070 silicone sleeve to the splice joints on a bed of sealant. Fill the gap at the back of the head receptor with sealant.

See **Detail 38**.



Detail 38

FRAME INSTALLATION

STEP 16
INSTALL SILL FLASHING AT CORNERS

-Cut two 12" long pieces of sill flashing BE9-2624 and miter cut at corner.
-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.

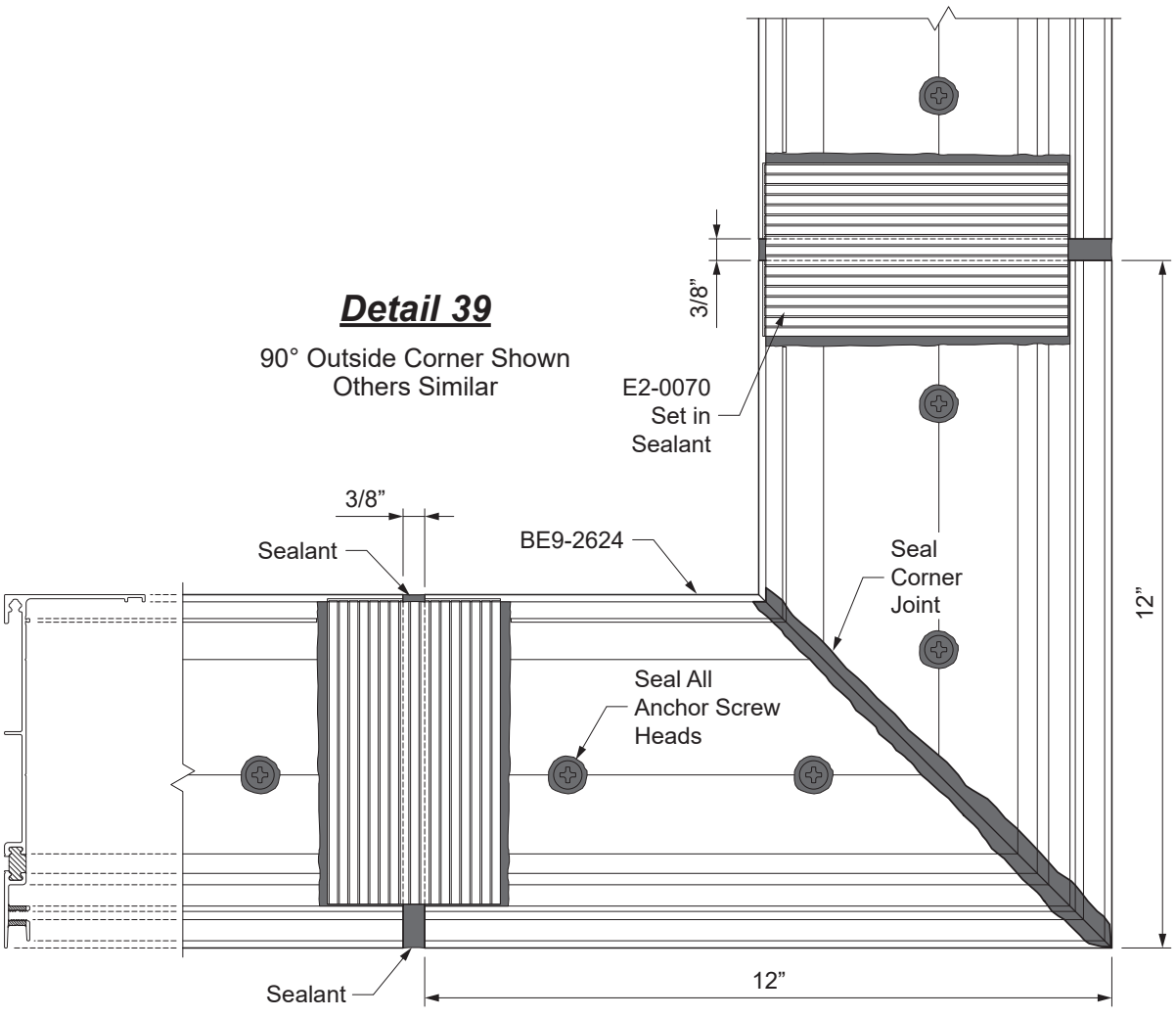
See **Detail 39**.

-Continue installing the rest of the sill flashing providing a 3/8" joint at splices as shown in **Step 12** on **Page 25**.

*** Note:** Similar technique required for BE9-7361 head receptor.

Detail 39

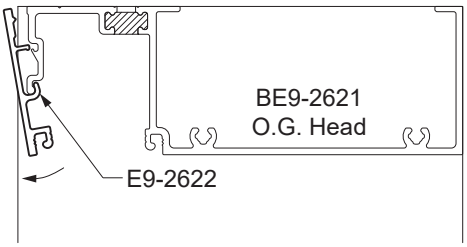
90° Outside Corner Shown
Others Similar



FRAME INSTALLATION

STEP 17
INSTALL FRAMES

For Outside Glazed Frames:
-Attach the E9-2622 glass stop at the head by hooking it on and rotating it until it snaps into place as shown in **Detail 40**.



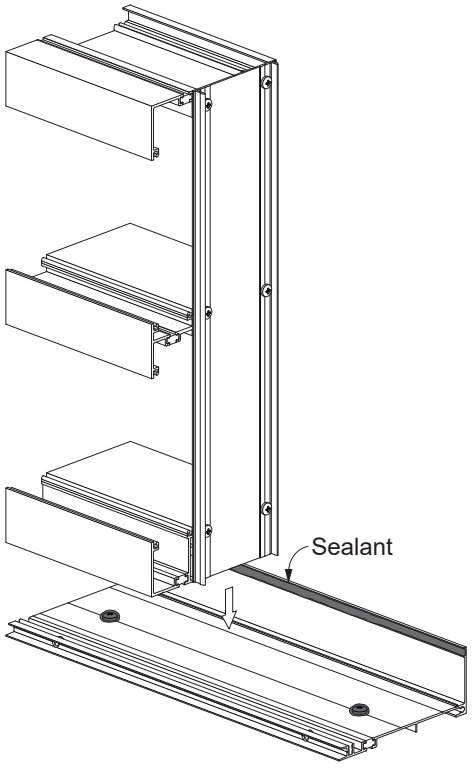
Detail 40

For All Frames:
-Apply sealant continuously to the front of the back leg of the sill flashing and immediately set the frame into the opening.
See **Detail 41**.

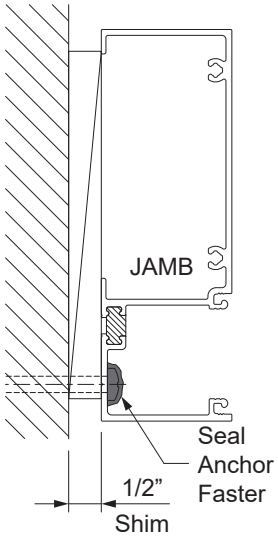
-Shim jamb and head members.

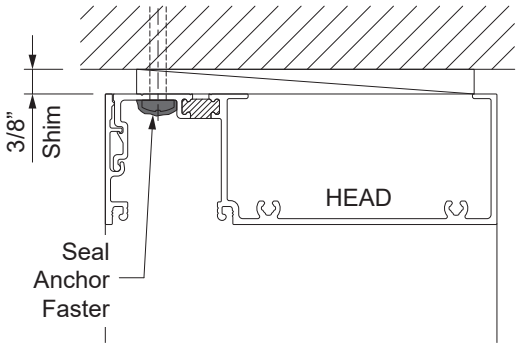
-Anchor the frame to the structure at the head, and jamb as specified by the approved shop drawings and or P.E. calculations.
-Always install a shim at all anchor locations.
-Seal the jamb and head anchor fastener heads.

See **Detail 42**.



Detail 41





Detail 42

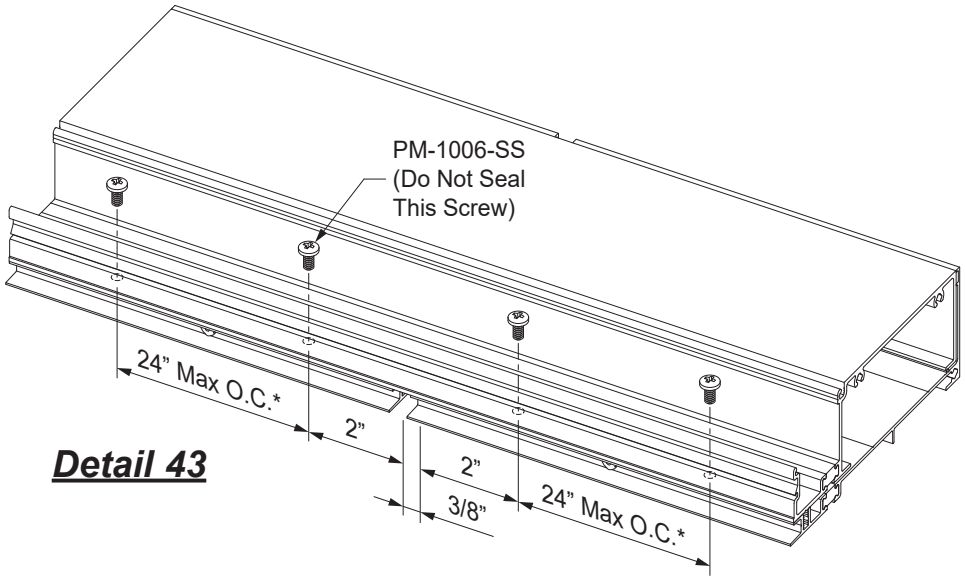
FRAME INSTALLATION

STEP 17 (Continued)
INSTALL FRAMES

-Attach the sill to the sill flashing using PM-1006-SS screws. Do not seal these screws.
-Also, add one (1) PM-1006-SS fastener 2” in both directions from the center line of the splice.

* **Note:** P.E. calculations may specify different spacing.

See **Detail 43**.



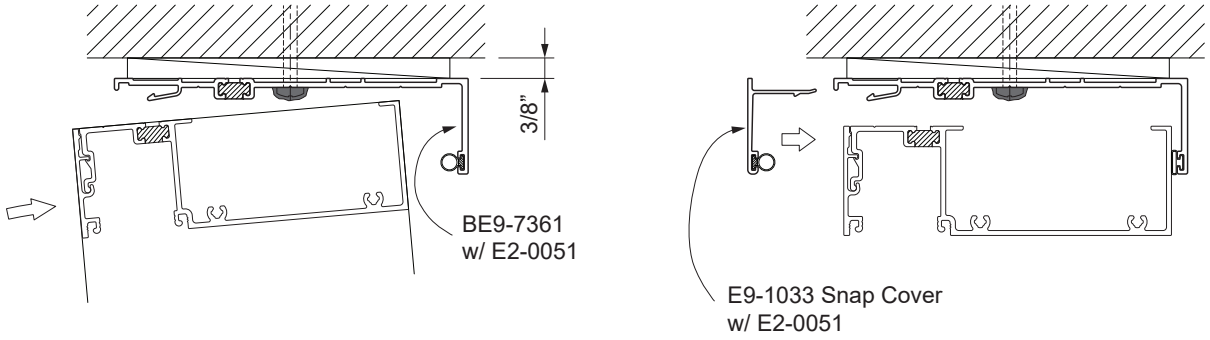
Detail 43

FRAME INSTALLATION

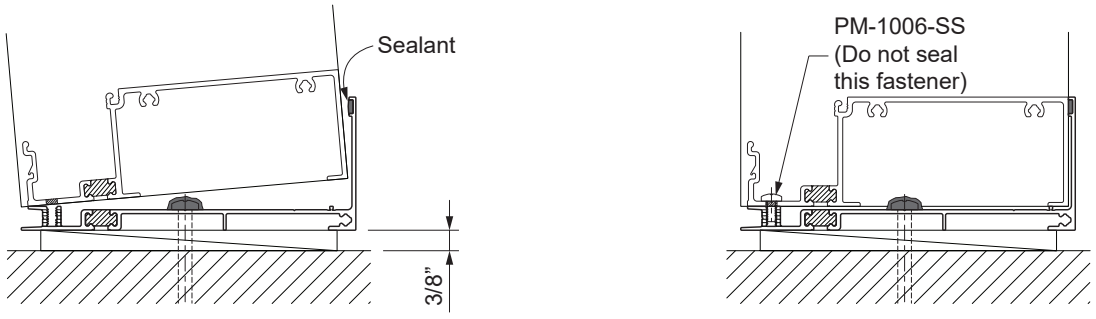
STEP 17 (Continued)
INSTALL FRAMES W/ HEAD RECEPTOR

-Rotate the assembled frames into position from the exterior, ensuring engagement into the sill flashing.
-Snap on the E9-1033 snap cover (with E2-0051 bulb gasket) into the head receptor.
-Attach the sill to the sill flashing using PM-1006-SS screws.

See **Detail 44**.



Detail 44

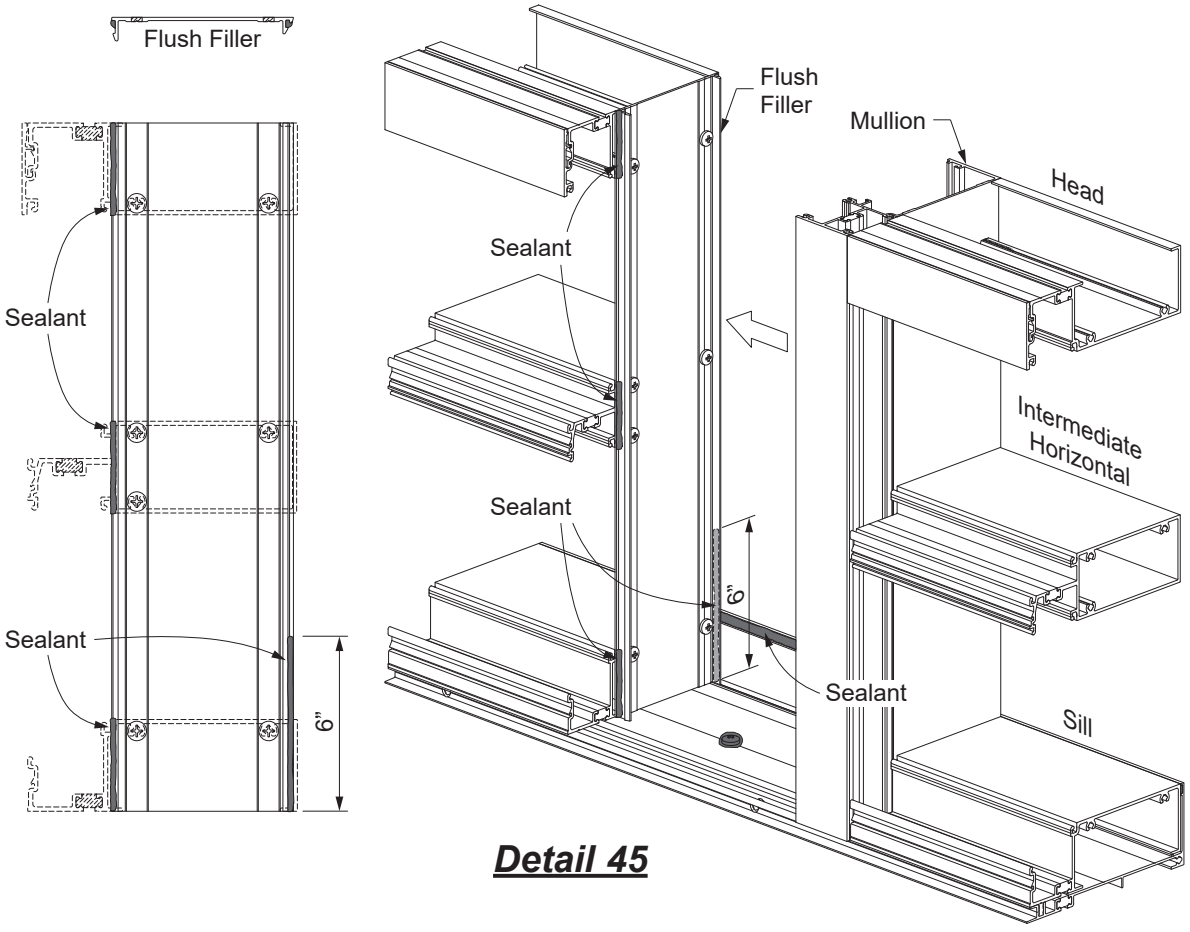


FRAME INSTALLATION

STEP 17 (Continued)
INSTALL FRAMES

Outside Glazing:

Make sure all the surface are clean.
-Apply sealant to the shaded areas of the flush filler as shown in **Detail 45** just prior to snapping the mullion together. Ensure the sealant does not get into the gasket reglets.
-Continue application of sealant to the front of the back leg of the sill flashing as each frame is installed.
-Snap assembled frames together and tool excess sealant.



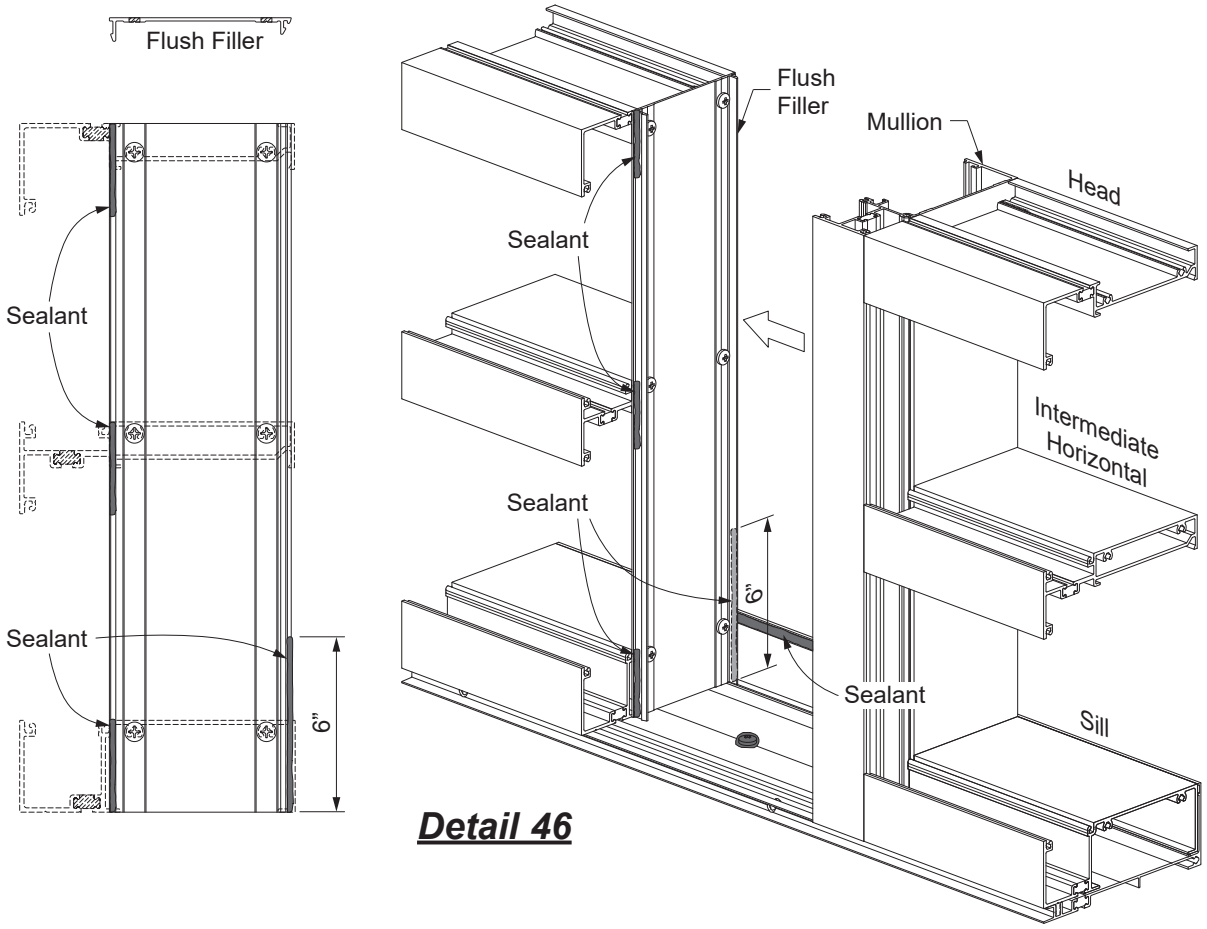
Detail 45

FRAME INSTALLATION

STEP 17 (Continued)
INSTALL FRAMES

Inside Glazing:

Make sure all the surface are clean.
-Apply sealant to the shaded areas of the flush filler as shown in **Detail 46** just prior to snapping the mullion together. Ensure the sealant does not get into the gasket reglets.
-Continue application of sealant to the front of the back leg of the sill flashing as each frame is installed.
-Snap assembled frames together and tool excess sealant.



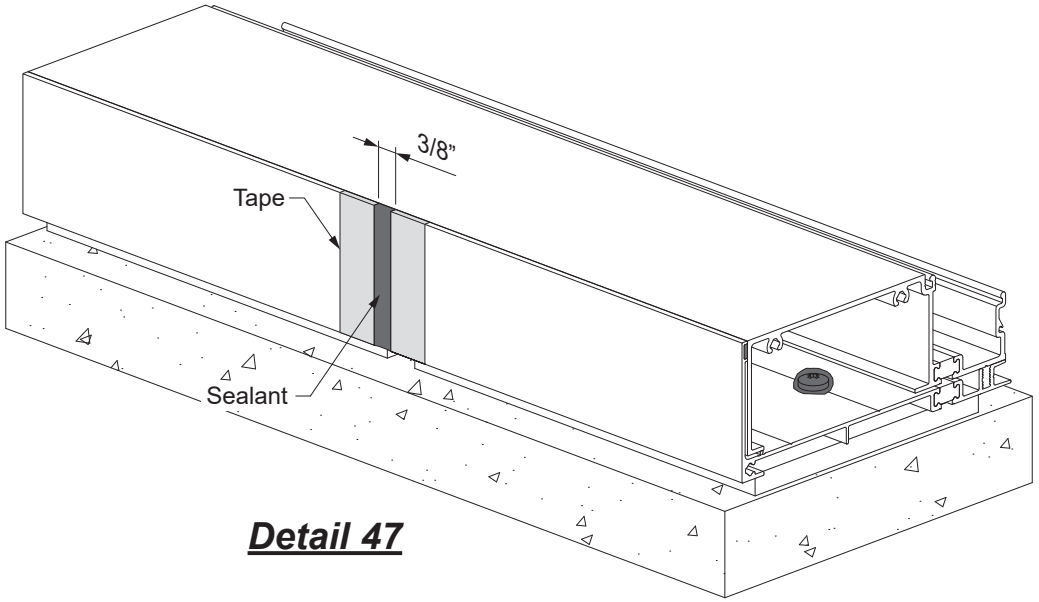
Detail 46

FRAME INSTALLATION

STEP 17 (Continued)
INSTALL FRAMES

-Apply and tool sealant to the gap in the interior running the full height of the sill flashing.
-Carefully remove tape before sealant skins over.

See **Detail 47**.



Detail 47

FRAME INSTALLATION

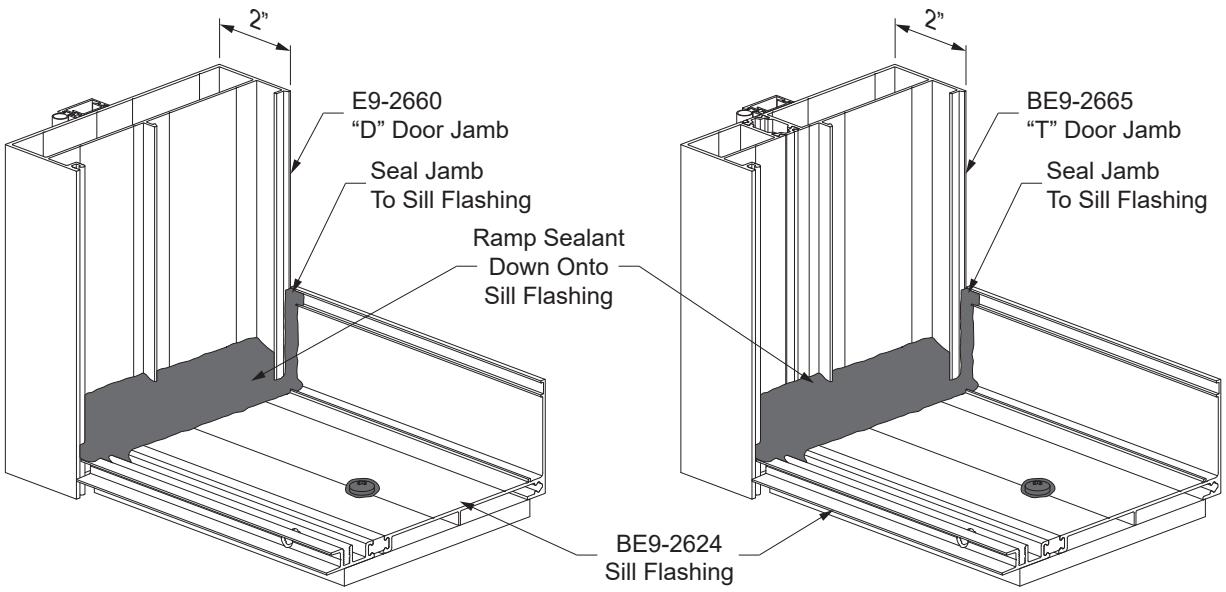
STEP 17 (Continued)
INSTALL FRAMES

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 48**.

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



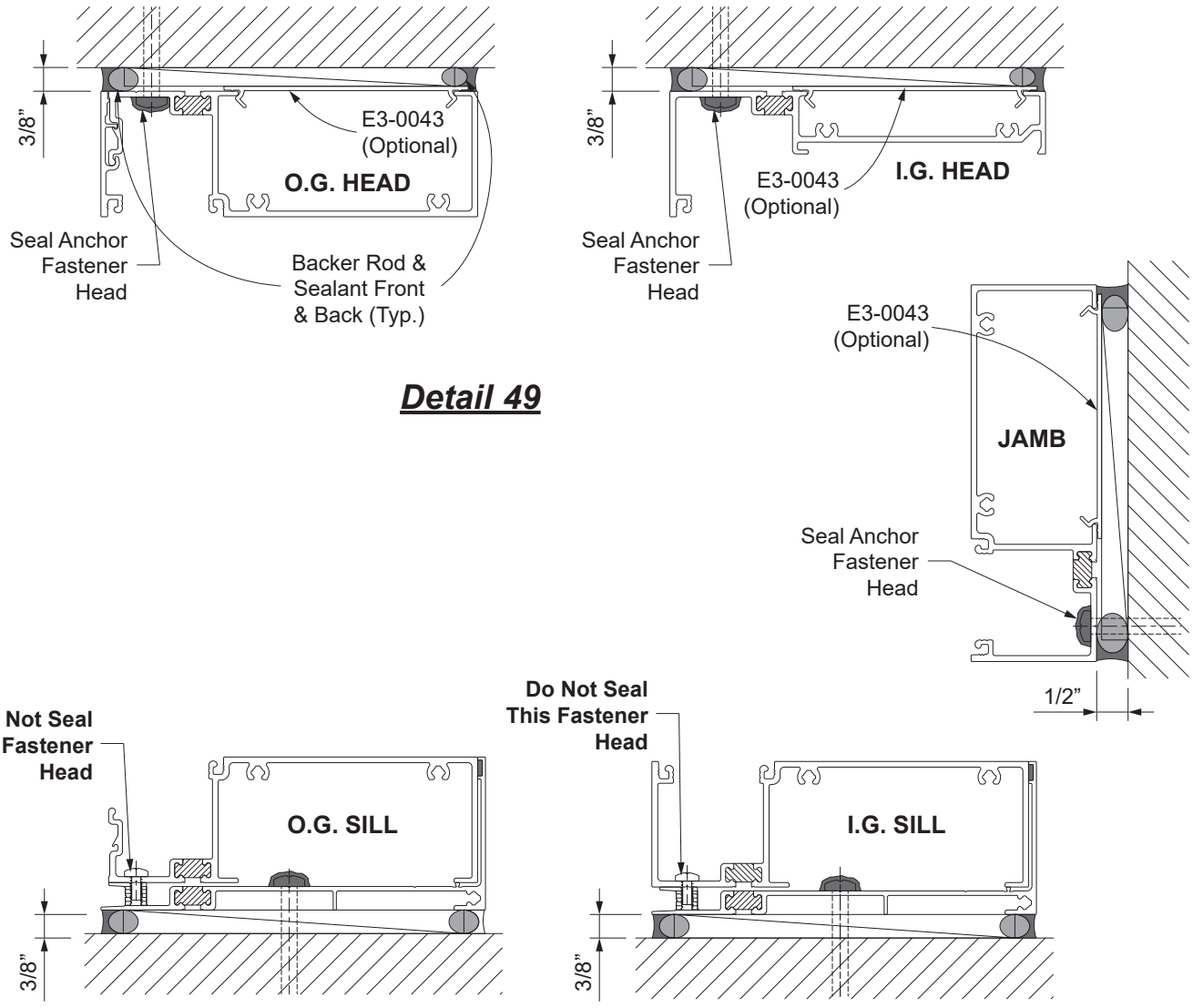
Detail 48

FRAME INSTALLATION

STEP 18
APPLY PERIMETER SEALANT

-Perimeter seal required at interior and exterior.
-Install backer rod around the perimeter of the frame.
-Apply sealant to the joint between the frame and the structure.
-**Do not** block the weep holes with sealant.
-Make sure all perimeter anchor fastener heads are sealed.

See **Detail 49.**



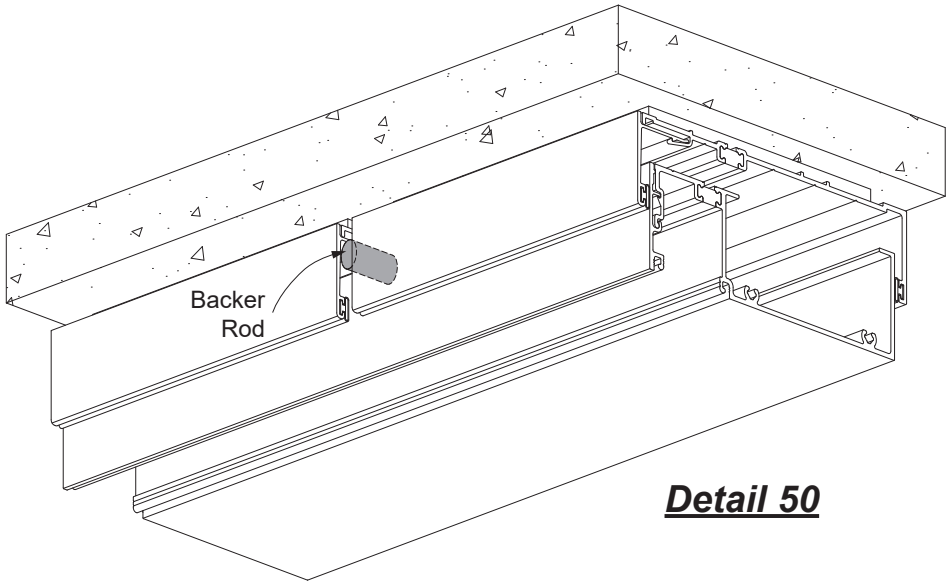
Detail 49

FRAME INSTALLATION

STEP 18A
APPLY PERIMETER SEALANT @ HEAD RECEPTOR

-Insert a 1” long piece of backer rod into the gap at the exterior head receptor snap cover between the head member and the head receptor.

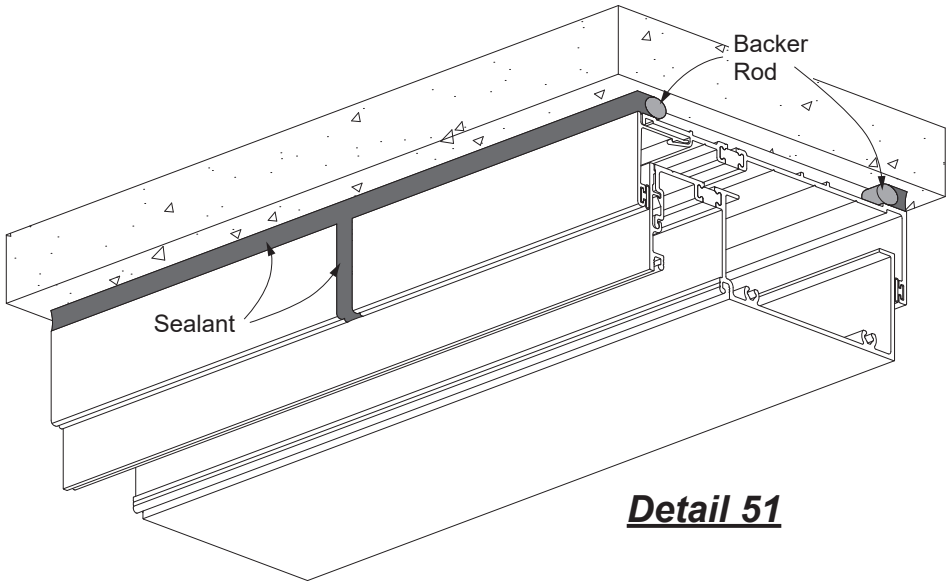
See **Detail 50.**



Detail 50

-Insert a continuous backer rod between the head receptor and substrate on both the interior and exterior of the frame.
-Apply and tool continuous sealant along the caulk joint and fill the gap at the exterior snap cover with sealant.

See **Detail 51.**



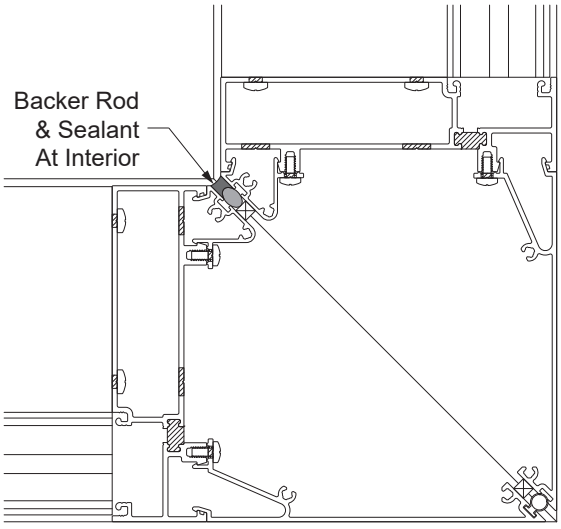
Detail 51

FRAME INSTALLATION

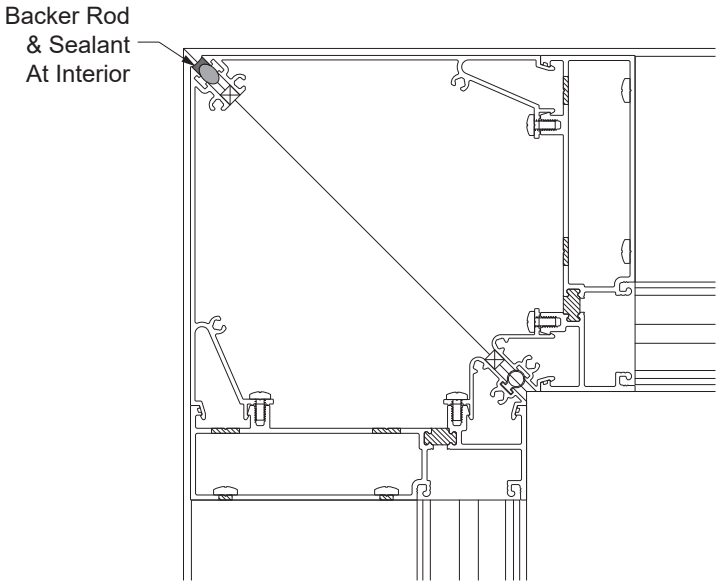
STEP 18B
APPLY SEALANT AT CORNER MULLIONS

-At corner mullions, apply a continuous backer rod and sealant at the interior cavity between the interior covers. Do not seal at the exterior cover.
-At the hinged mullion, seal the interior void at the sill flashing and head receptor.
-At the optional 90° corner mullion, first join the two mullion assemblies using PM-1006-SS fasteners. Then apply a continuous backer rod and sealant at the interior mullion cavity.

See **Detail 52.**

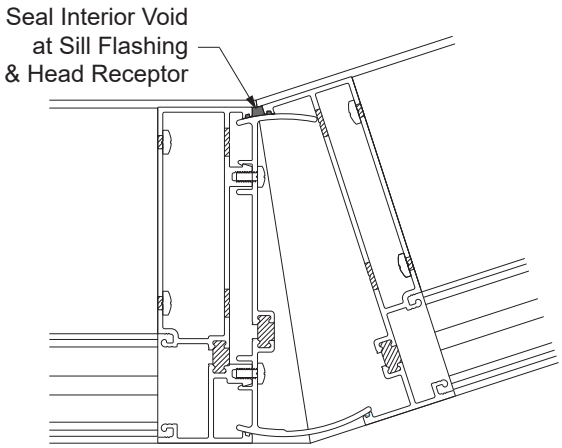


90° Outside Corner Shown
(135° Corner Similar)

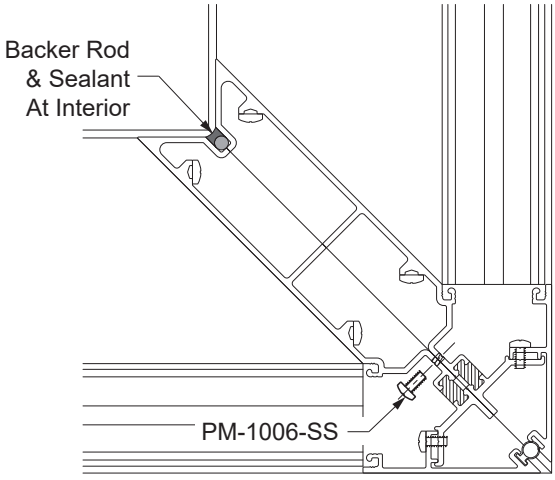


90° Inside Corner Shown
(135° Corner Similar)

Detail 52



162° to 177° Hinged Mullion



Optional 90° Outside Corner

FRAME INSTALLATION

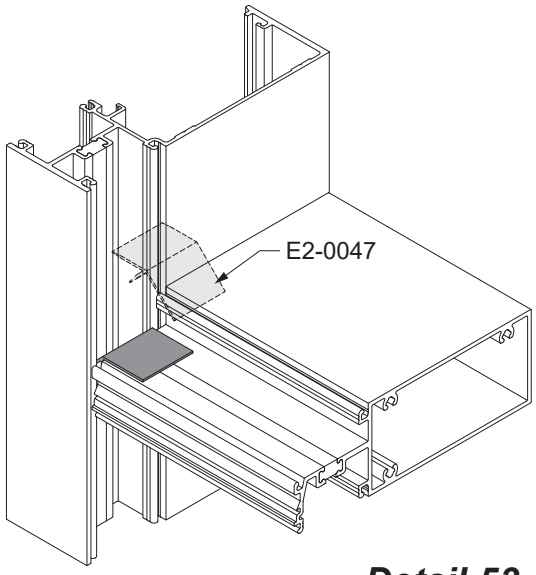
STEP 19
INSTALL WATER DEFLECTORS

YES 60 TU requires the installation of a water deflector, E2-0047, at the ends of every intermediate horizontal at the verticals to keep water off of the insulating glass units.

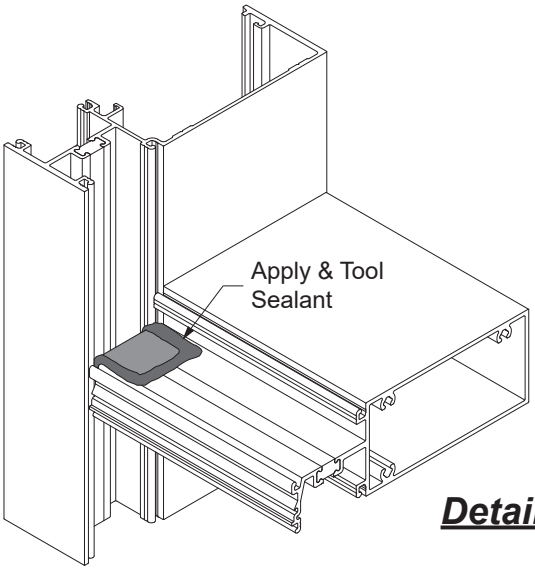
-Peel away the protective paper from the bottom of the water deflector, E2-0047, and install the water deflector by rotating it over each end of the intermediate horizontal.
-Position the vertical leg of the water deflector against the end of the horizontal.

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

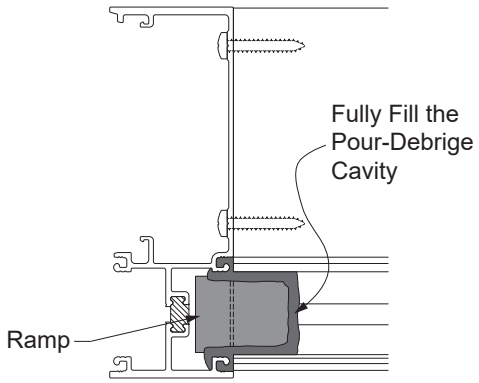
See **Detail 53.**



Detail 53



Detail 54



Detail 55

-Apply and tool sealant along the edges of the water deflector and down onto the horizontal. See **Detail 54**.

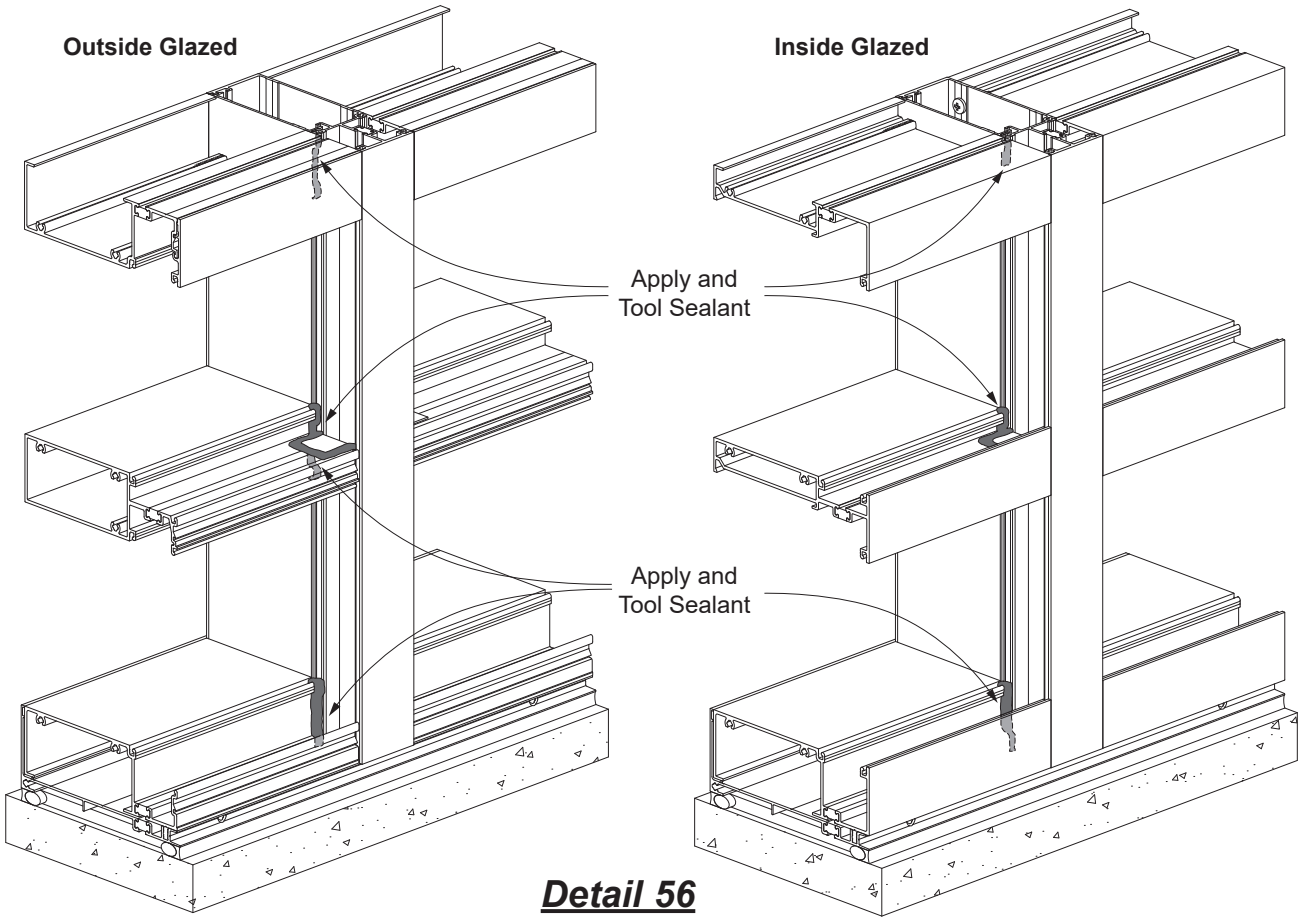
-Seal the ramp of the water deflector to the sides of the vertical gasket reglets. Ensure the sealant fills the pour debridge cavity.
See **Detail 55**.

FRAME INSTALLATION

STEP 20
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 56.**



Detail 56

FRAME INSTALLATION

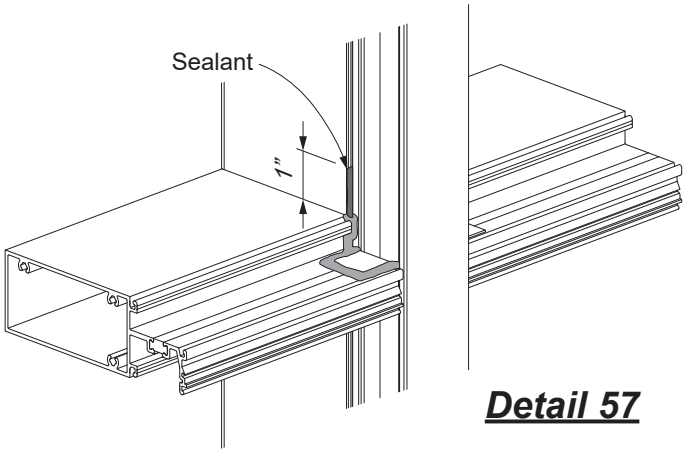
STEP 21 (Optional)
INSTALL GLAZING ADAPTORS

Glazing adaptors, E9-1039 and E9-1040, allow for glazing infills other than the standard 1”. Please refer to the glazing table below for possible adaptor/gasket combinations.
Note: If using glazing adaptors, install the setting and side blocks first. Refer to **Pages 45 & 46**. Setting and side blocks cannot be installed once glazing adaptors are in.

-Apply sealant to the glazing reglet of the vertical mullion 1” from the bottom of the vertical D.L.O. to keep the vertical adaptor from sliding down.
See **Detail 57**.

Glazing Table: YES 60 TU Front Set

Glass Thickness	Adaptor	Exterior Gasket	Interior Gasket
1/8”	E9-1040	E2-0064	E2-0064
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
9/16”	E9-1039	E2-0052	E2-0064
5/8”	E9-1039	E2-0052	E2-0052
11/16”	E9-1039	E2-0053	E2-0052
3/4”	E9-1039	E2-0053	E2-0053
7/8”	-	E2-0064	E2-0064
15/16”	-	E2-0052	E2-0064
1”	-	E2-0052	E2-0052
1-1/16”	-	E2-0053	E2-0052
1-1/8”	-	E2-0053	E2-0053

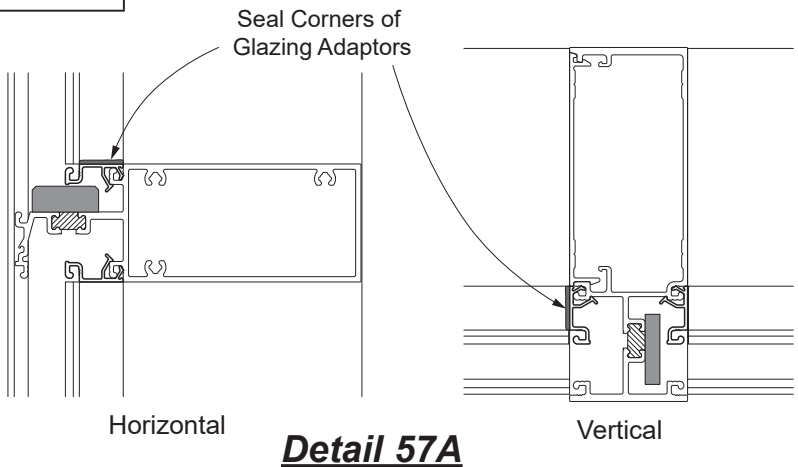


Detail 57

-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 57A**.

Outside Glazed Assembly
Shown, Inside Glazed Similar.



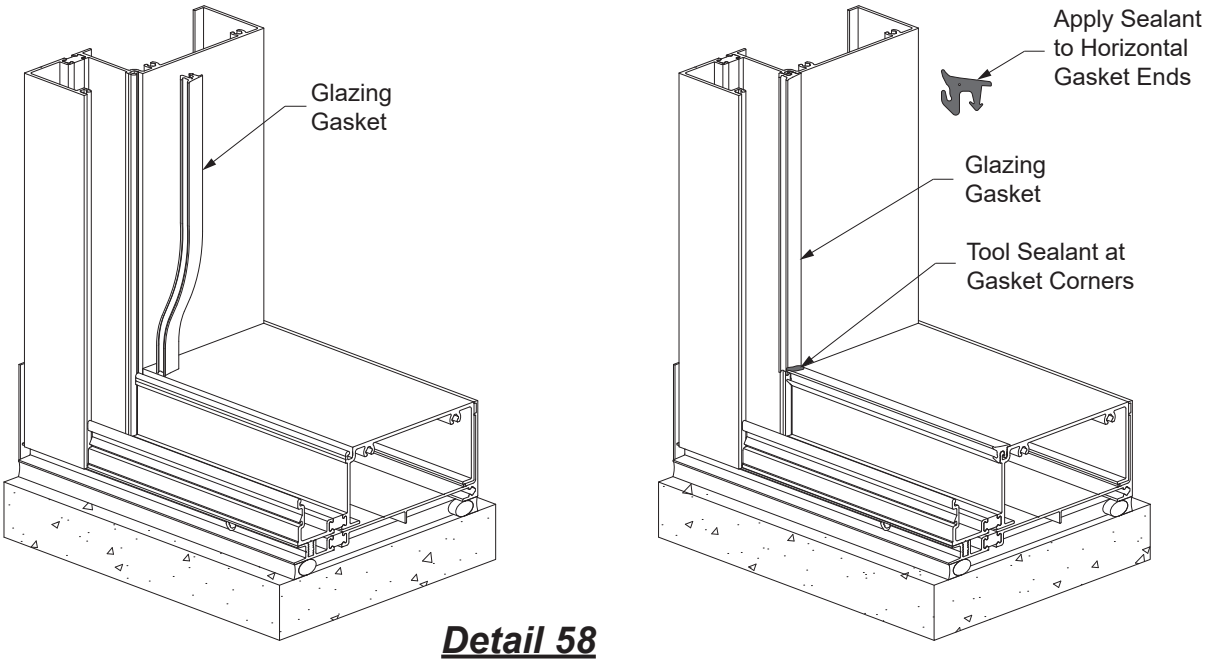
Detail 57A

GLAZING

STEP 22
INSTALL INTERIOR GLAZING GASKETS (Outside Glazing Shown, Inside Glazing Similar)

The interior glazing gaskets must be installed prior to the glazing process.
Note: For inside glazing, install the exterior gaskets first.
-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.



Detail 58

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 58**.

GLAZING

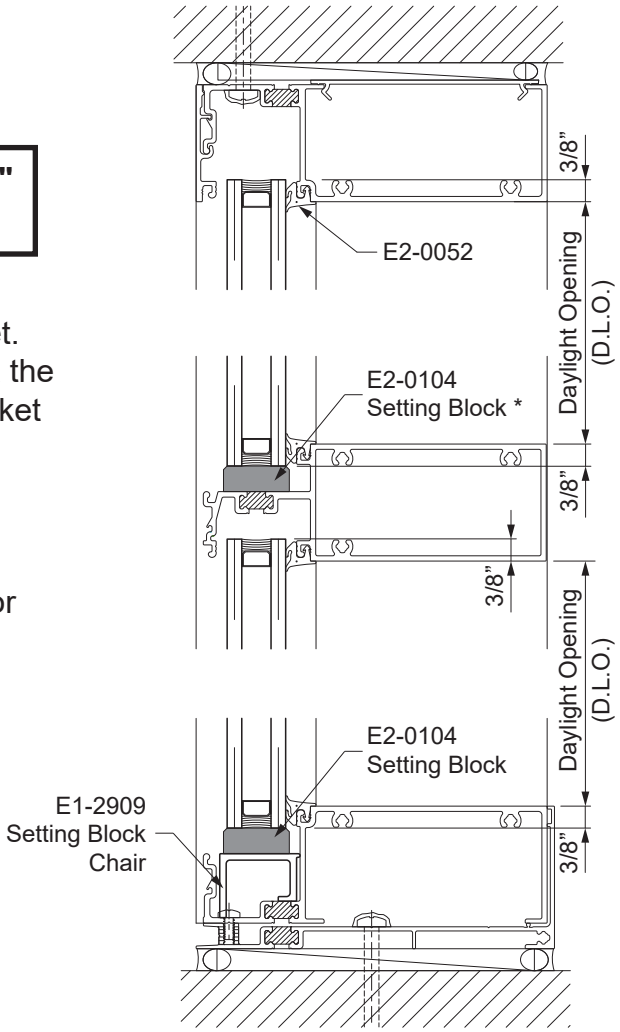
STEP 23
INSTALL GLASS (Outside Glazing Shown, Inside Glazing Similar)

Determine the glass size:

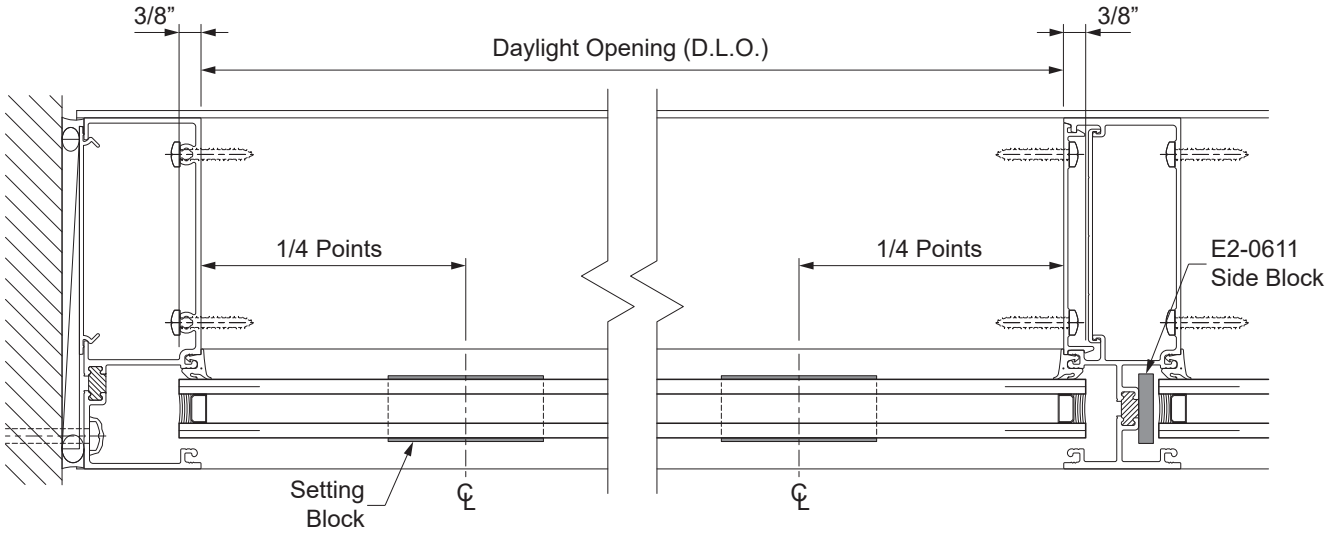
Horizontal Glass Size = D.L.O. plus(+) 3/4"
Vertical Glass Size = D.L.O. plus(+) 3/4"

-Install E2-0611 side block into the shallow pocket.
-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 lite of glass, install E2-0104 setting blocks at quarter points of horizontal D.L.O. or according to engineering calculations.
* **Note:** Use E2-0611 at intermediate horizontal for Inside Glazing.
-Make sure the glass is properly positioned on all setting blocks.

See **Detail 59**.



Detail 59
Outside Glazed Shown
Inside Glazed Similar



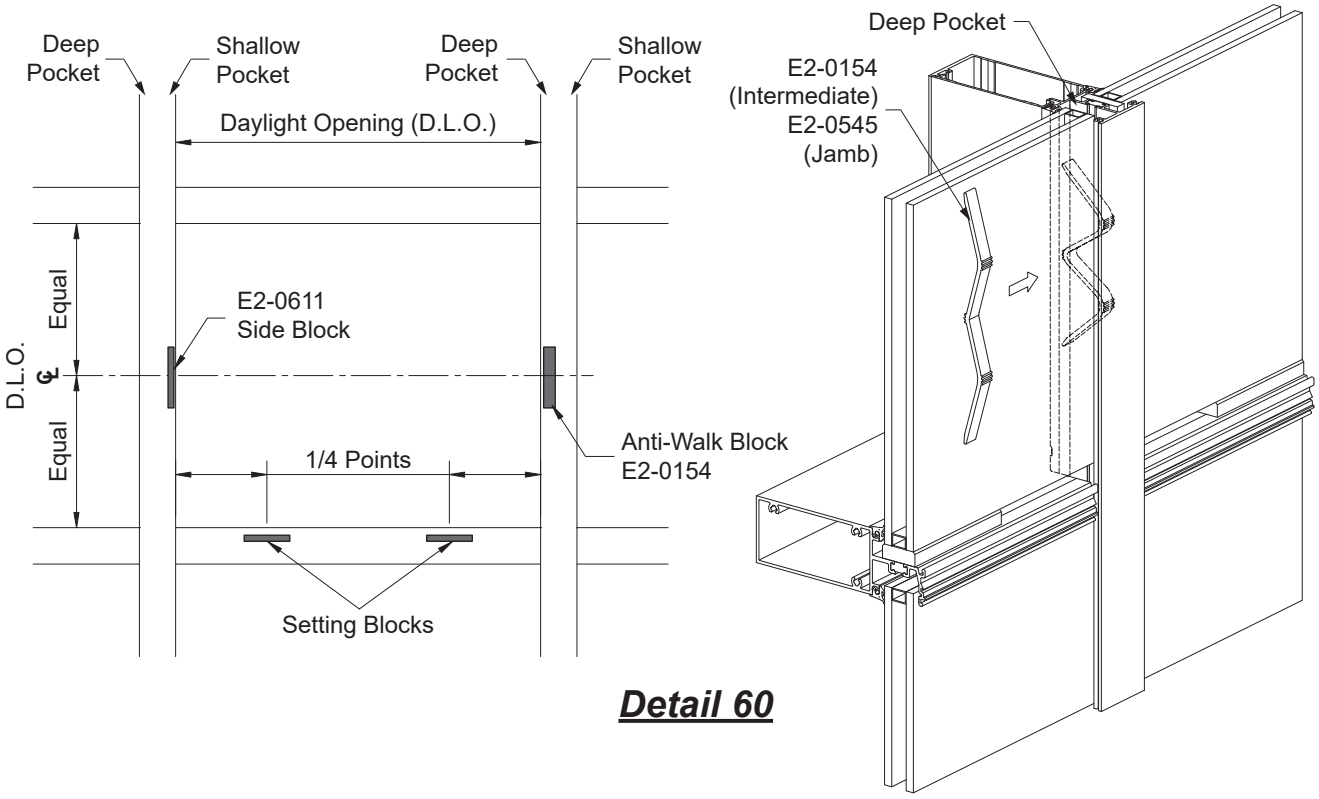
GLAZING

STEP 24
INSTALL ANTI-WALK BLOCKS

YES 60 TU frames require the installation of an anti-walk block E2-0154, in the mullion deep glazing pocket of each lite centered on the daylight opening, and anti-walk block E2-0545 in glazing pocket at jamb conditions.

-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 60**.



Detail 60

GLAZING

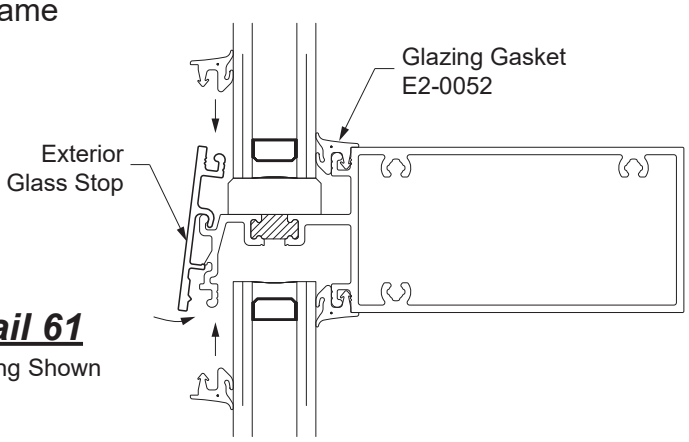
STEP 25
INSTALL EXTERIOR GLASS STOPS & GLAZING GASKETS (OUTSIDE GLAZING)

-Snap the exterior glass stops into place as shown in **Detail 61.**

-Install the exterior glazing gaskets using the same technique described in **Step 22** on **Page 44.** Always install the vertical glazing gasket first.

Repeat **Steps 23 through 25** until all lites are installed.

Outside Glazed



Detail 61
1" Glazing Shown

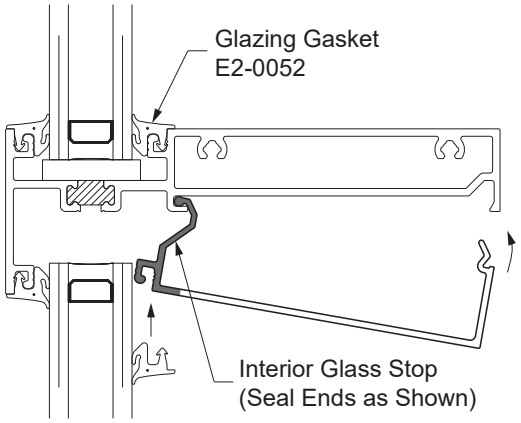
STEP 25A
INSTALL INTERIOR GLASS STOPS & GLAZING GASKETS (INSIDE GLAZING)

-Apply sealant to the ends of the interior glass stops as shown in **Detail 61A.**
-Snap the interior glass stops into place. Wipe off excess sealant.

-Install the interior glazing gaskets using the same technique described in **Step 22** on **Page 44**. Always install the vertical glazing gasket first.

Repeat **Steps 23 through 25A** until all lites are installed.

Inside Glazed



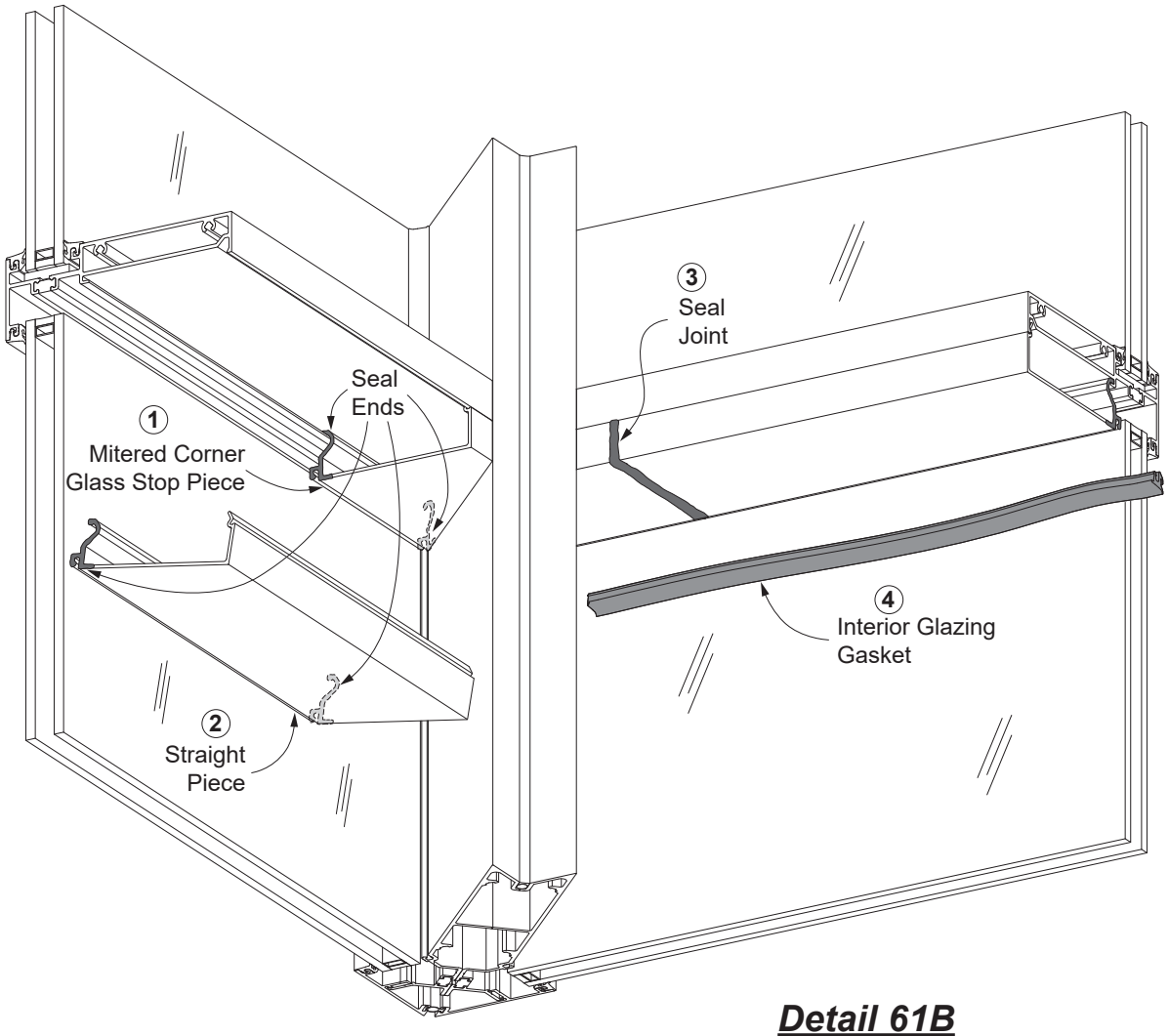
Detail 61A
1" Glazing Shown

GLAZING

STEP 25A (Continued)
INSTALL INTERIOR GLASS STOPS & GLAZING GASKETS
(INSIDE GLAZING FOR OPTIONAL 90° CORNER MULLION)

-Apply sealant to the ends of each piece of the interior glass stops as shown in **Detail 61B.** This includes the straight cut ends of the mitered corner glass stop piece.
-Install the glass stops in this order:
1) Snap in the mitered corner piece and slide it all the way to the optional corner mullion.
2) Snap in the straight piece of interior glass stop.
3) Seal the joint between the two pieces. Tool flush.
4) Install the interior glazing gaskets using the same technique described in **Step 22** on **Page 44**. Always install the vertical glazing gasket first.

Repeat **Steps 23 through 25** until all lites are installed.



Detail 61B

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