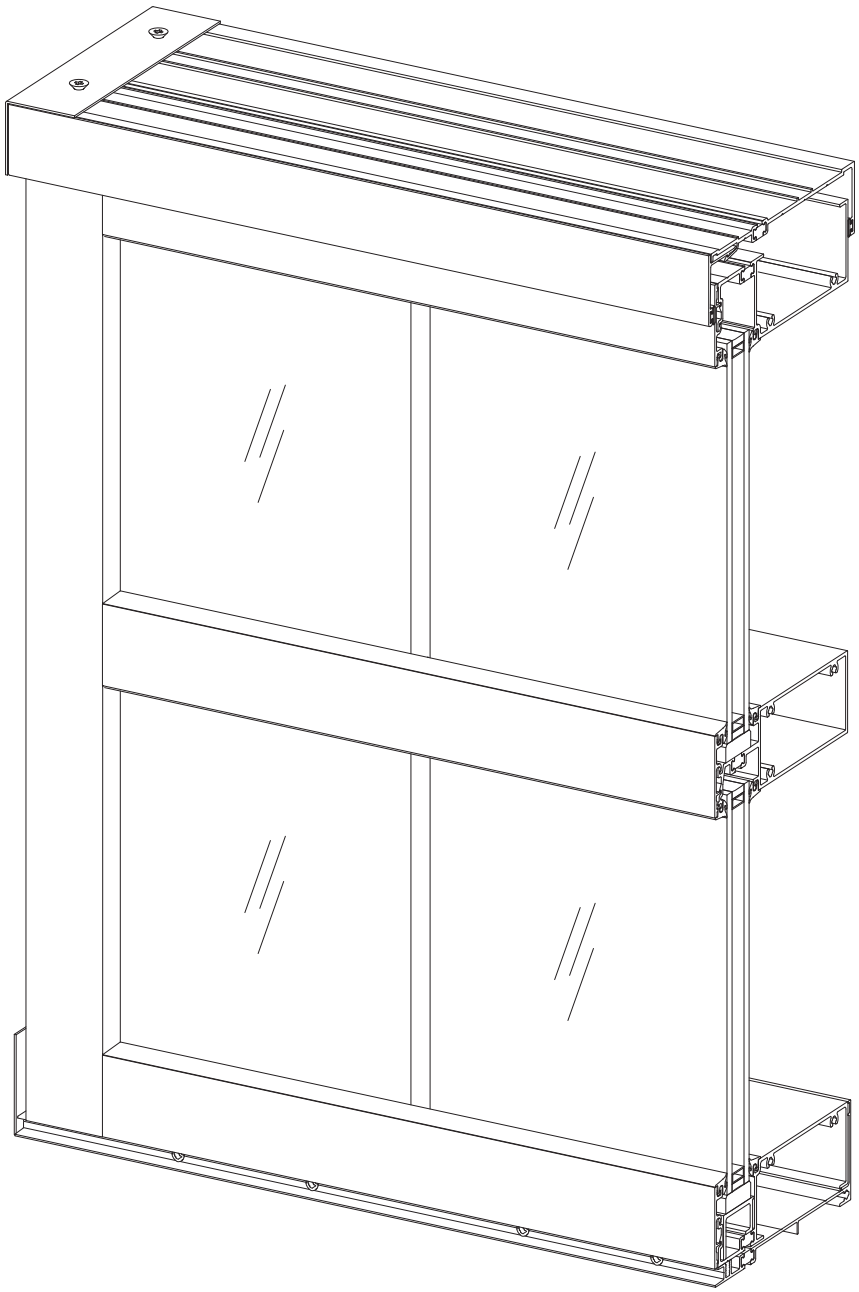
YES 60 TU SSG Front Set Storefront System



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.

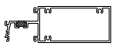
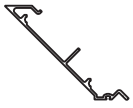
11. If any questions arise concerning YKK AP products or their installation, contact YKK AP for clarification before proceeding.

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.

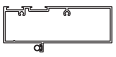
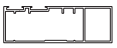
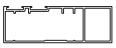
13. Cutting tolerances are plus zero (0"), minus one thirty second (-1/32") unless otherwise noted.

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

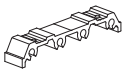
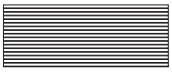
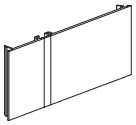
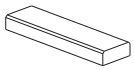
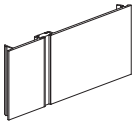
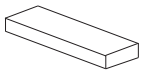
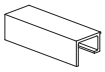
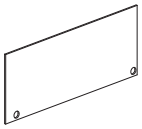
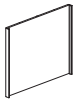
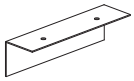
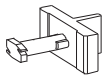
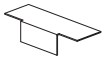
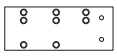
FRAMING MEMBERS (2" x 6")

	**Head / Sill**	**BE9-2621**		**Jamb**	**BE9-2632**
	Glass Stop Use with BE9-2621 & BE9-2623	**E9-2622**		**Corner Mullion**	**BE9-2640**
	**Head Receptor** (Optional)	**BE9-7361**		**90° Corner Cover (Large)** Use with BE9-2640	**E9-2740**
	**Head Receptor Stop** (Optional) Use with BE9-7361	**E9-1033**		**90° Corner Cover (Small)** Use with BE9-2640	**E9-2741**
	**Horizontal**	**BE9-2623**		**135° Corner Cover (Large)** Use with BE9-2640	**E9-2742**
	**Sill Flashing**	**BE9-2624**		**135° Corner Cover (Small)** Use with BE9-2640	**E9-2743**
	**SSG Mullion**	**E9-2633**		**162° to 177° Hinged Mullion**	**BE9-2641**
	**Flush Filler** Use with E9-2633 & E9-2634	**E9-2627**		**162° to 177° Hinged Mullion Adaptor** Use with BE9-2640	**BE9-2642**
	**Tubular SSG Mullion** (Optional)	**E9-2634**		**90° Outside Corner SSG Mullion** (Optional)	**E9-2645**
	**Expansion Male SSG Mullion** Use with E9-2636	**E9-2635**		**90° Outside Corner SSG Mullion Adaptor** (Optional) ,Use with E9-2645 & E9-3439	**BE9-2646**
	**Expansion Female SSG Mullion** Use with E9-2635	**E9-2636**		**90° Outside SSG Corner Trim Cover** (Optional)	**E9-3439**

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 & E9-2664	**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 BE9-2667	**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**	**E2-0104**
	**“T” Door Flat Filler** (2-1/2” Long) Use at Door Jamb Anchor Locations	**E1-2919**		**Side Block**	**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 E9-2633	**E1-2911**		**Foam Backer Tape** (Optional) 1” x 1-1/4” (Roll)	**E2-0259**
	**End Cap** For Head Receptor BE9-7361	**E1-2908**		**Temporary Glass Retainer** For 1” Glazing	**E3-0001**
	**Water Deflector**	**E2-0047**		**Temporary Glass Retainer** For Optional 90° Outside SSG Corner	**E1-3588**
	**Water Deflector**	**E1-2915**		**Flat Filler** (Optional) Use with BE9-2621 & BE9-2632	**E3-0043**
	**RH 90° Outside SSG Corner Water Deflector** For Optional 90° Outside SSG Corner	**E1-2916**		**Drill Fixture**	**H-7218**
	**LH 90° Outside SSG Corner Water Deflector** For Optional 90° Outside SSG Corner	**E1-2917**			

ACCESSORIES (Continued)

	**Glazing Gasket** 3/16” F.C.	**E2-0052**		**Weathering Gasket** Use with Expansion Mullions	**E2-0065**
	**SSG Glazing Spacer** (1/4” F.C.)	**E2-0544**		**Spacer Tape** (1/4” x 1/4”) Use with Corner Mullions	**E2-0110**
	**Elastomer Weathering**	**E2-0051**			

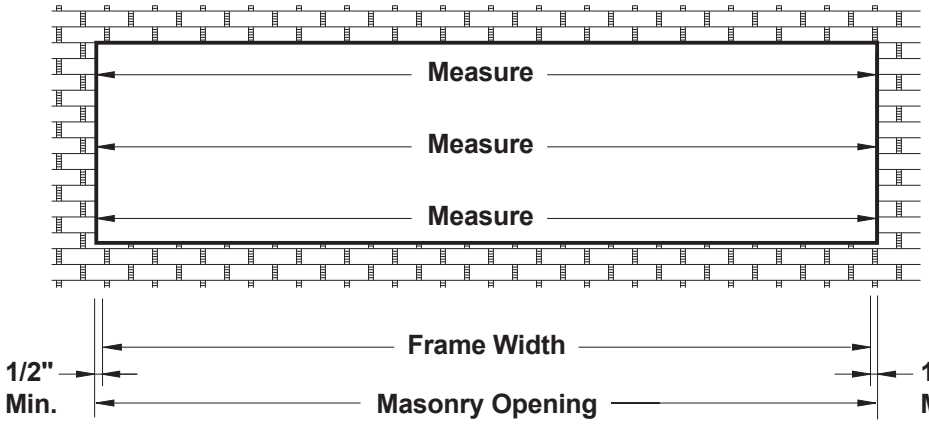
FASTENERS

	**#10 x 1” FHSMS Type AB,** Zinc Plated Steel For OHCC Door Head	**FC-1016**		**#12 x 2-1/2” PHSMS 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” PHMS,** Stainless Steel	**PM-1006 -SS**
	**#12 x 1/2” FHSMS Type AB,** Zinc Plated Steel For E1-2908 End Cap	**FC-1208**		**1/4”-20 x 1/2” PHMS** Zinc Plated Steel, For E1-3588 Temporary Glass Retainer.	**PM-2508**
	**#12 x 1-1/4” PHSMS Type AB** Zinc Plated Steel	**PC-1220**		**#10 x 5/8” PHSMS** Self Drilling, Stainless Steel	**PS-1010-SS**
	**#12 x 1-3/4” PHSMS Type AB** Zinc Plated Steel	**PC-1228**		**#12 x 3/4” UFHSMS Type A**, Zinc Plated Steel For E1-2910 End Dam	**UA-1212**

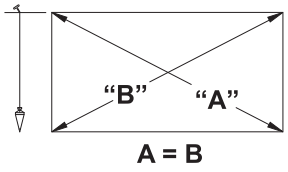
FRAME FABRICATION

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.

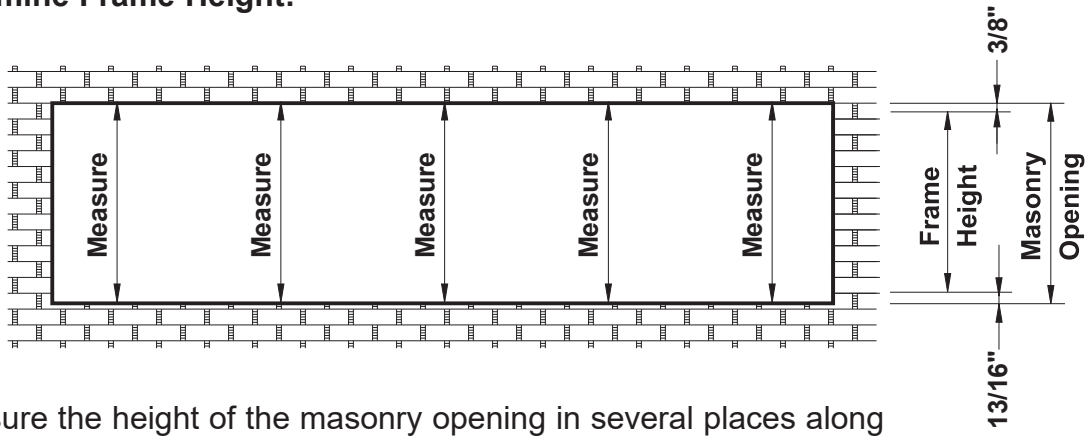


Detail 1

-Measure the width of the masonry opening at the top, middle and bottom.
-Select the smallest dimension measured and subtract 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:



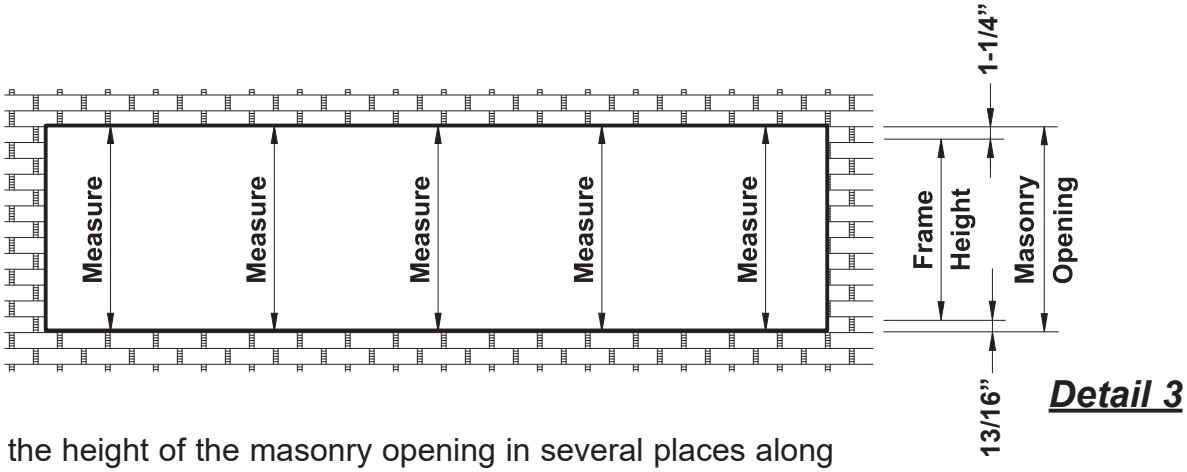
Detail 2

-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

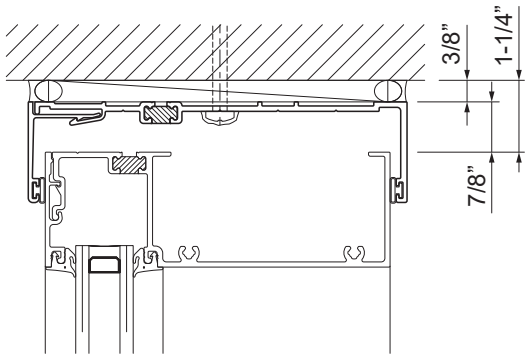
Determine Frame Height for Receptor Conditions:

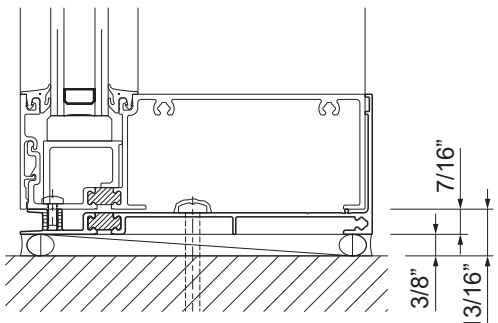


Detail 3

-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

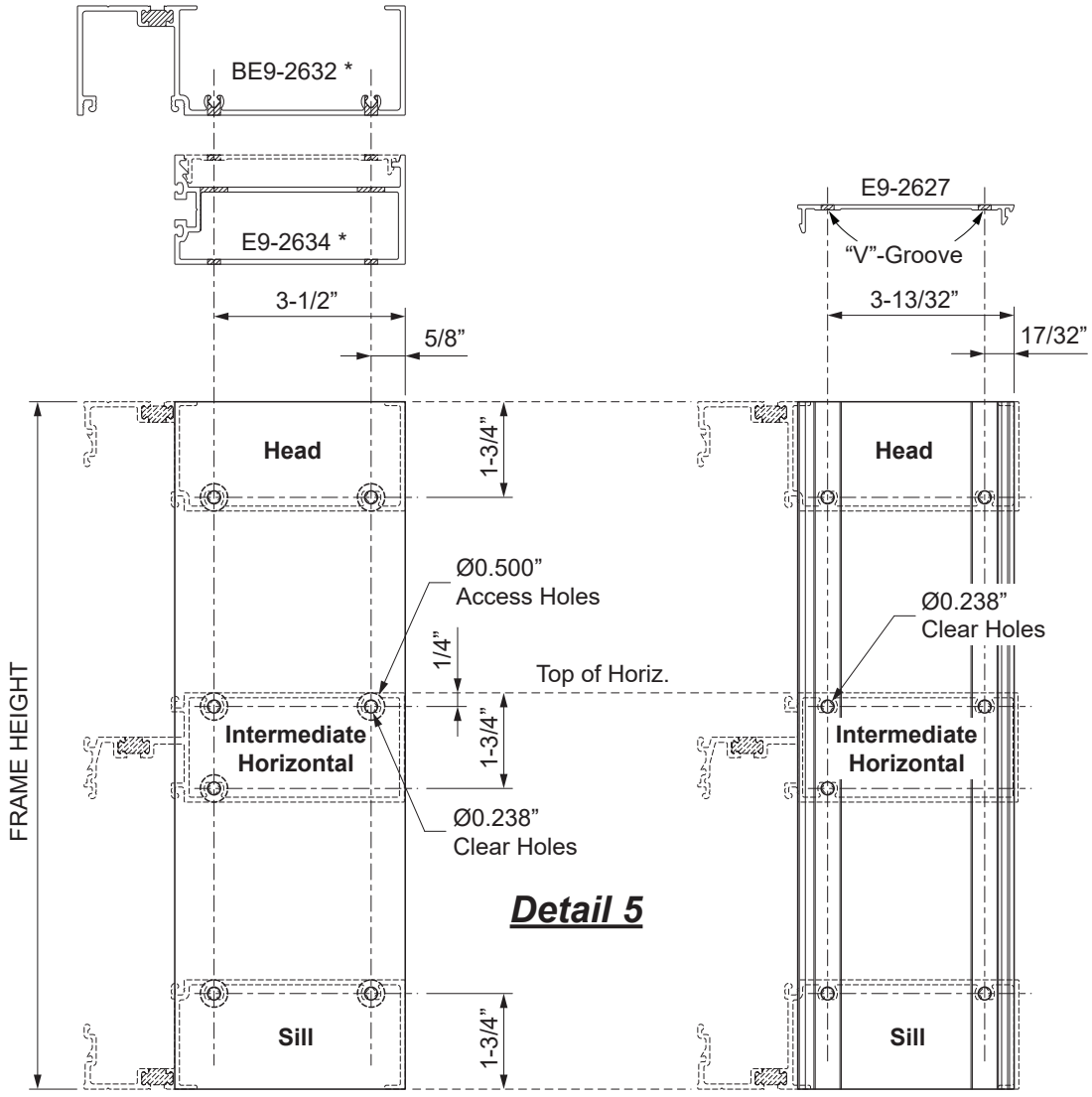
FRAME FABRICATION

STEP 2
FABRICATE VERTICALS

-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

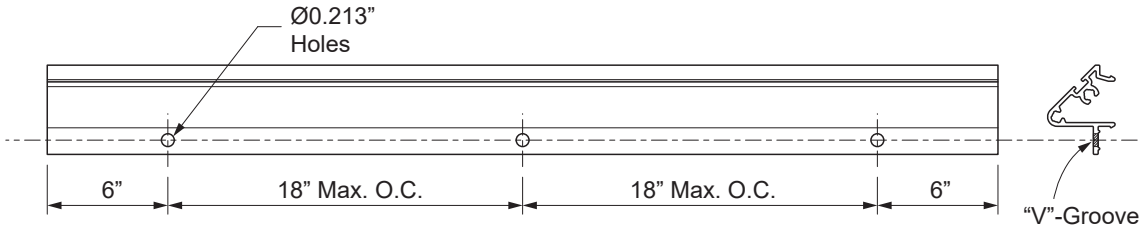
*** Note:** Fabrication for E9-2633, E9-2635, E9-2636, BE9-2640, & BE9-2641 is similar.

FRAME FABRICATION

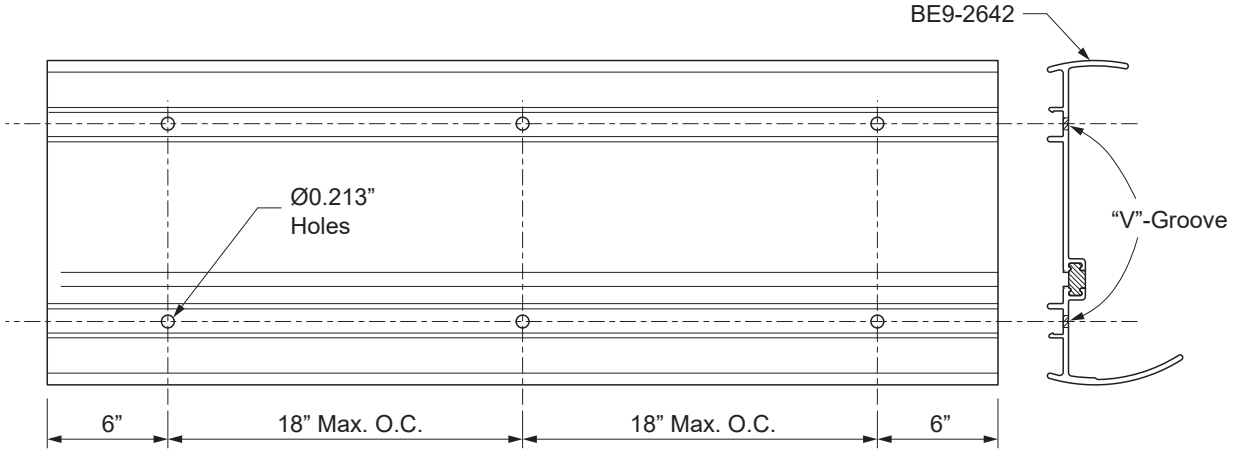
STEP 3
FABRICATE CORNER AND HINGED ADAPTORS

-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 6**.



Detail 6

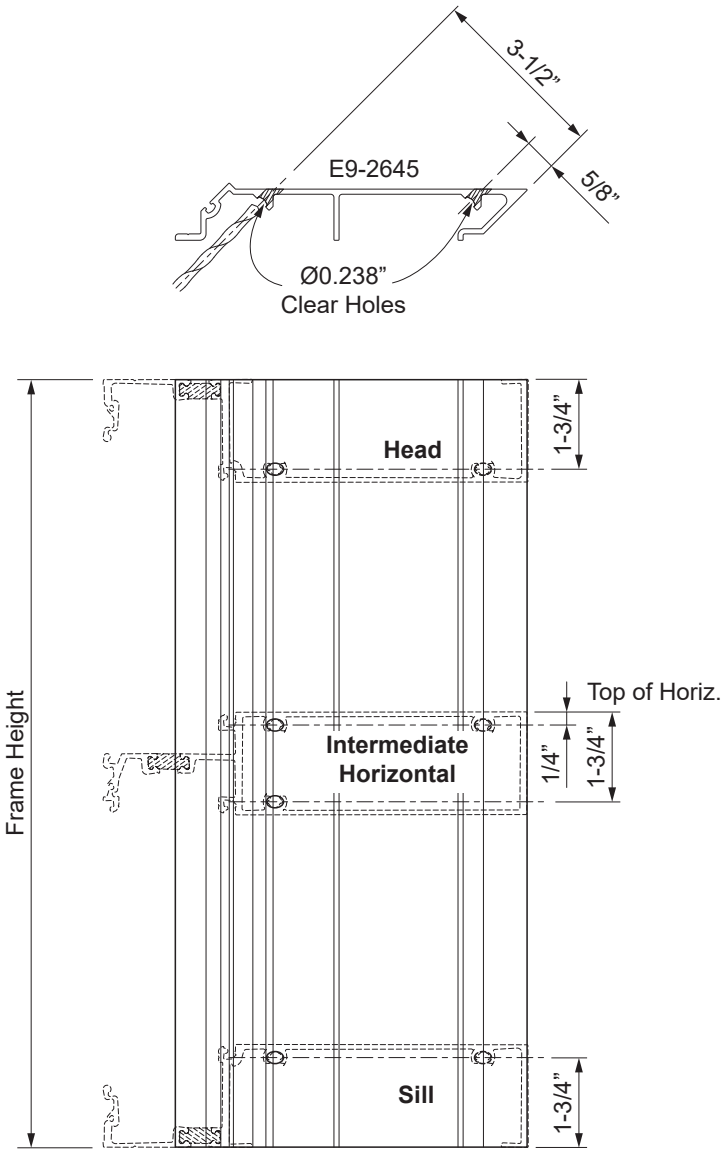


FRAME FABRICATION

STEP 4
FABRICATE OPTIONAL 90° OUTSIDE CORNER MULLIONS

-Cut the E9-2645 corner mullions to the frame height determined in **Step 1**.
-Fabrication is similar to that of standard 2-piece mullions, except the Ø0.238” holes are drilled at a 45° angle from the inside of the mullion half.

See **Detail 7.**

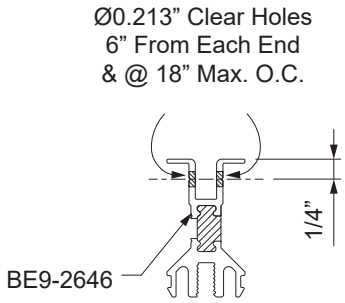


Detail 7

FRAME FABRICATION

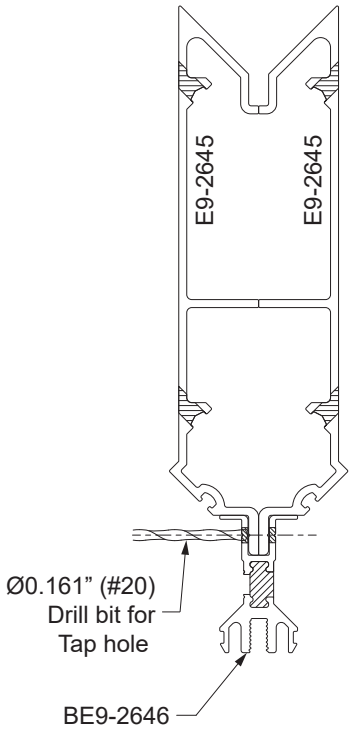
STEP 4 (Continued)
FABRICATE OPTIONAL 90° OUTSIDE CORNER MULLIONS

-Cut the BE9-2646 corner adaptor and E9-3439 adaptor cover to frame height.
-Along the “V”-Groove, drill Ø0.213” holes 6” from each end and at 18” maximum on center.
See **Detail 8**.



DETAIL 8

-Clamp the E9-2645 corner mullion halves together and slip the BE9-2646 adaptor onto the combined glazing tongue of the clamped mullions.
-Using the clear holes as pilot holes, drill Ø0.161” (#20 drill bit) tap holes into the mullion assembly as shown in **Detail 9**. The tap holes should be centered on the “V”-groove in the E9-2645 mullion.
-Do not fasten the corner mullion components together at this time.



DETAIL 9

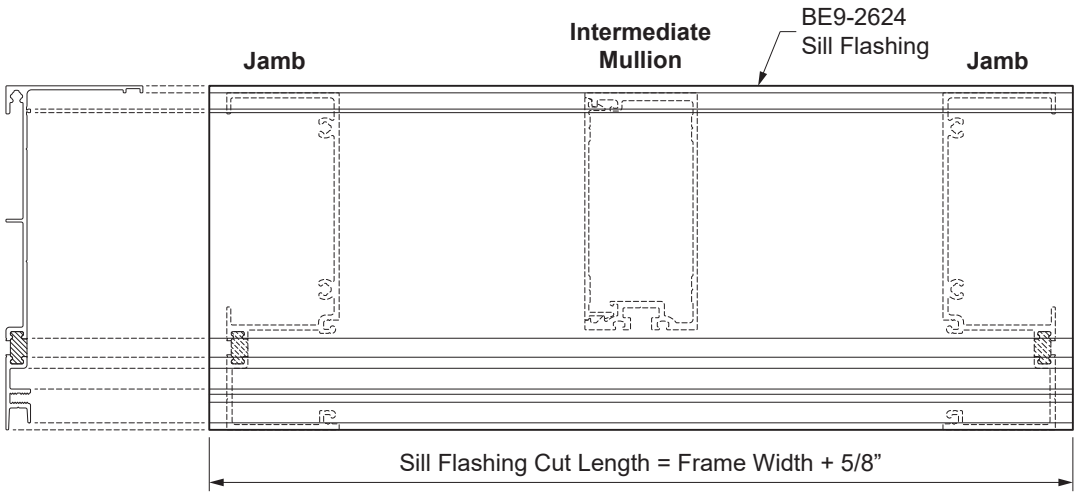
FRAME FABRICATION

STEP 5
FABRICATE SILL FLASHING

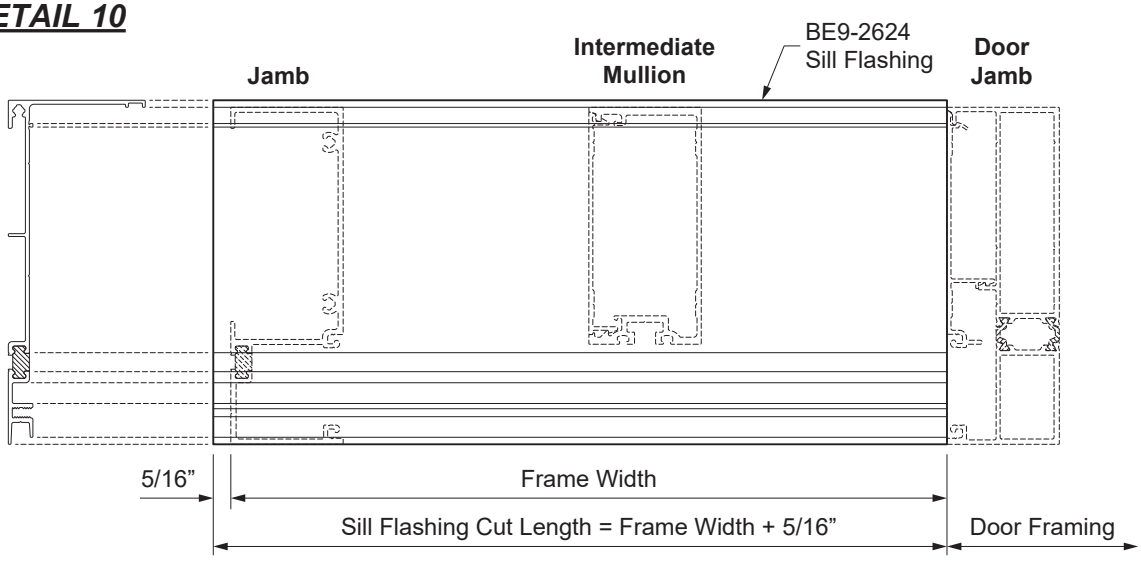
For elevations without door framing:
-Cut sill flashing, BE9-2624 to the end of the frame plus (+) 5/16” at each jamb.

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 10.**



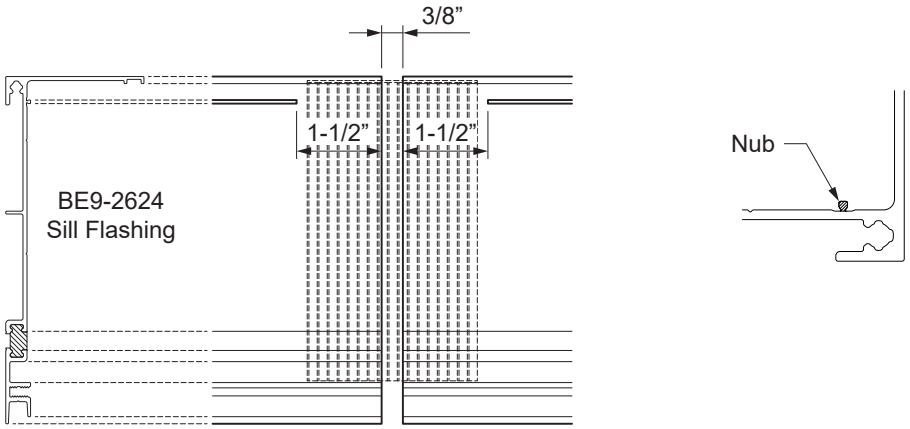
DETAIL 10



FRAME FABRICATION

STEP 5 (Continued)
FABRICATE SILL FLASHING

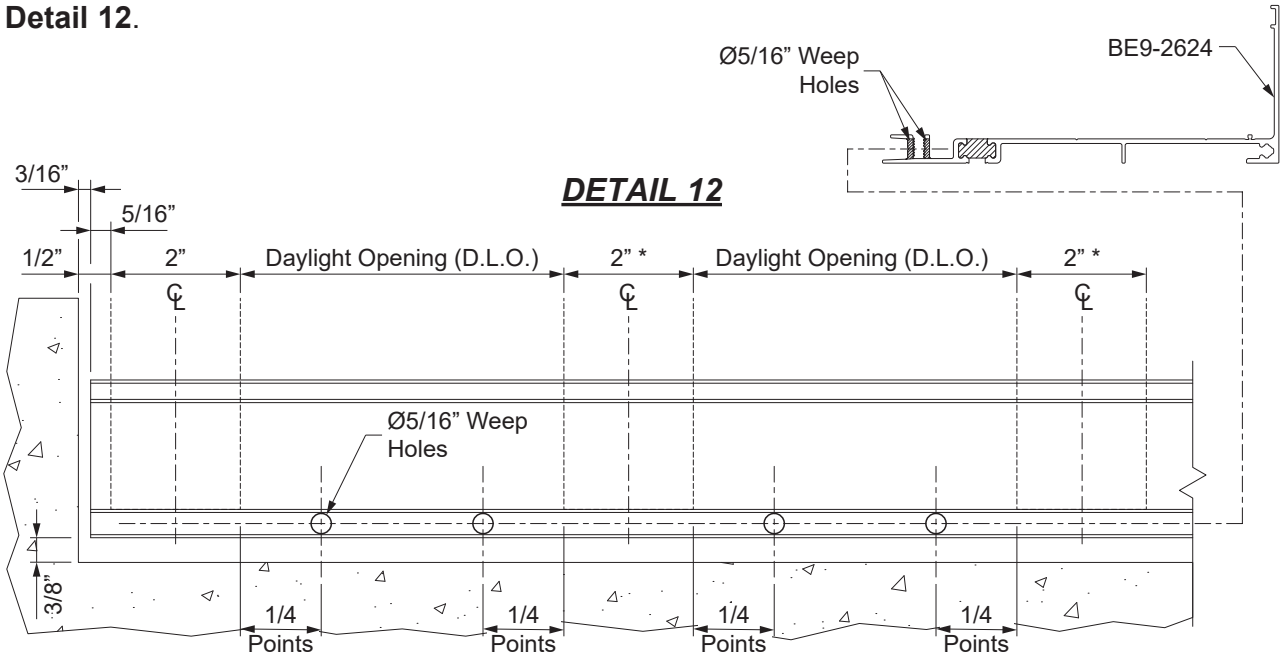
-For openings longer than 24’-0” the sill flashing needs to be spliced every twelve to fifteen feet.
-Allow for a 3/8” joint between sill flashing members.
-Remove the nub with a chisel or pliers 1-1/2” on both sides of splice joint as shown in **Detail 11**.



DETAIL 11

-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 12**.



DETAIL 12

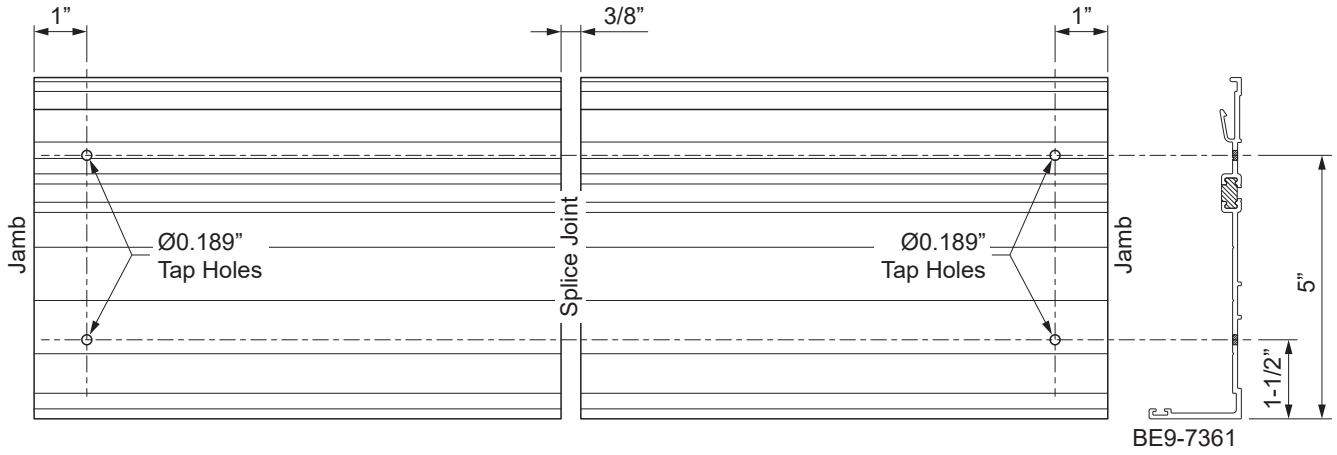
*** Note:** 2-1/4” for expansion mullion dimension.

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) in to 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” joint between head receptor members.
See **Detail 13.**

*** 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 13

FRAME FABRICATION

STEP 7
FABRICATE HORIZONTAL MEMBERS

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

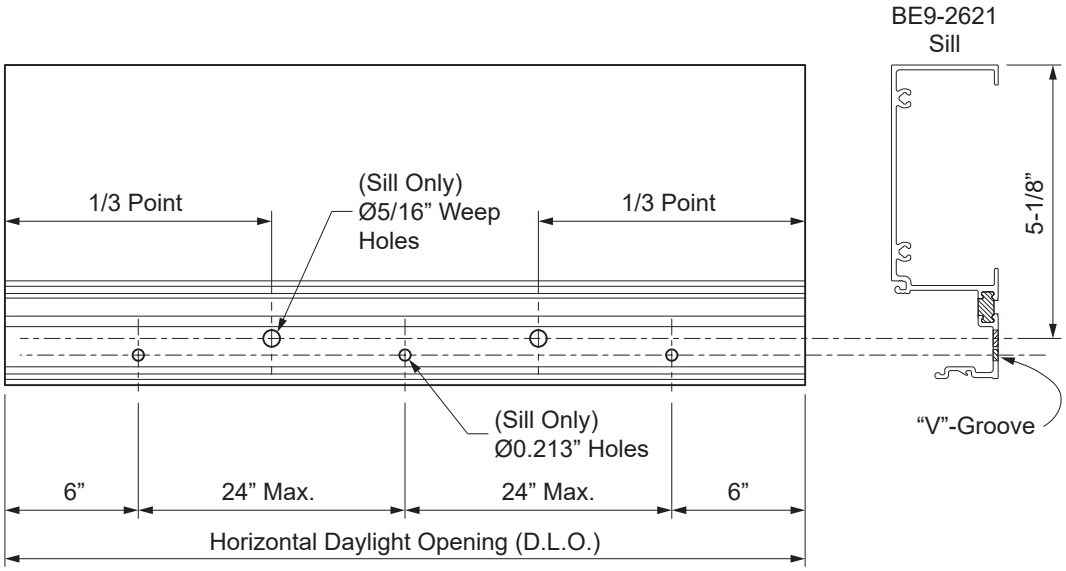
For Sill Members:

-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 14**.

-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.

-Drill two Ø5/16" weep holes, each at 1/3 points of the Daylight opening as marked.



DETAIL 14

FRAME FABRICATION

STEP 7A
FABRICATE HORIZONTAL MEMBERS FOR OPTIONAL 90° OUTSIDE SSG 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 15.**

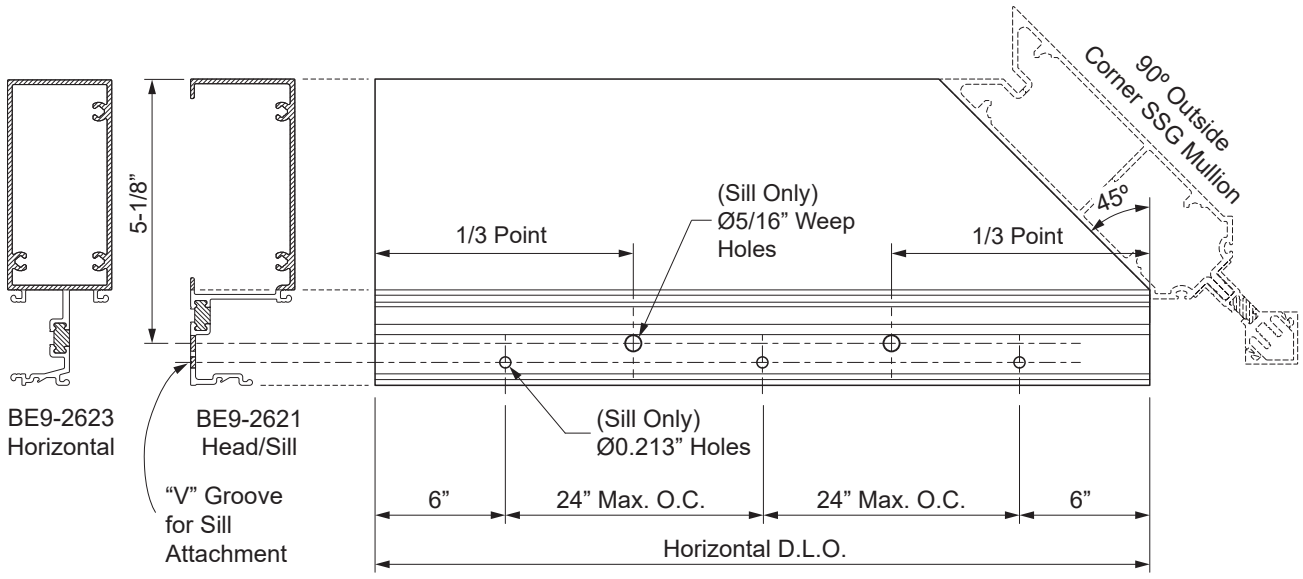
For Sill Members:

-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.

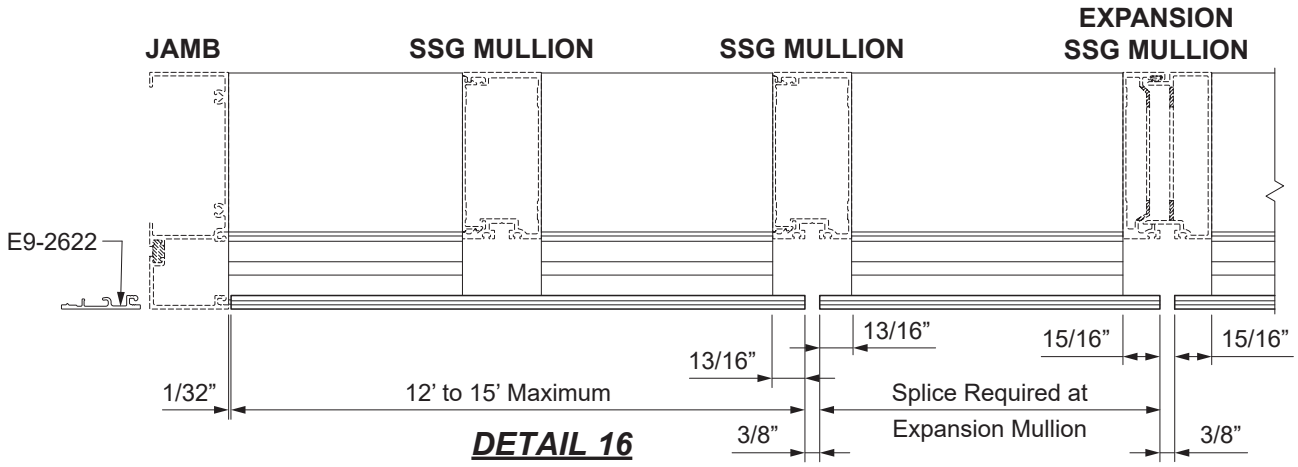
-Drill two Ø5/16" weep holes, each at 1/3 points of the Daylight opening as marked.



DETAIL 15

FRAME FABRICATION

STEP 8
FABRICATE GLASS STOPS

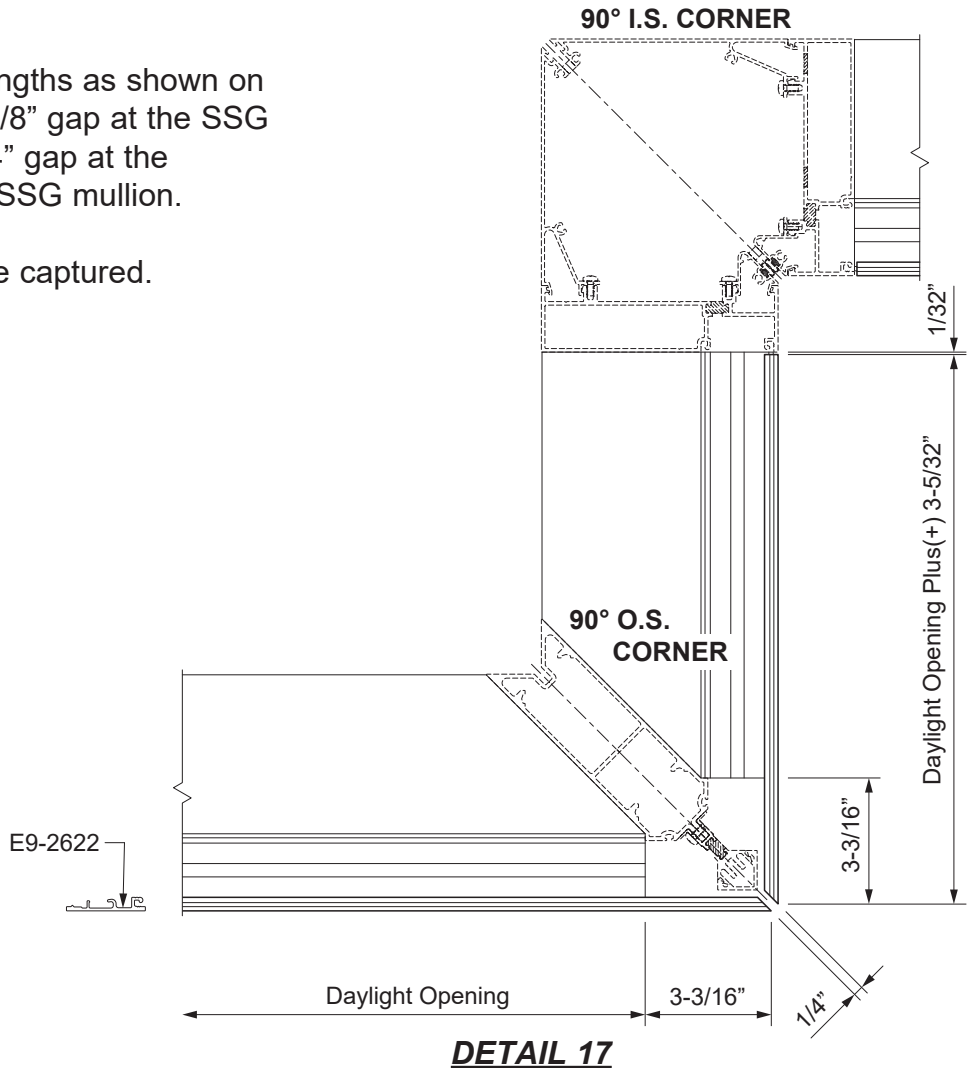


DETAIL 16

For Exterior Glass Stops:

-Cut exterior glass stop to lengths as shown on **Details 16 & 17**. Allow for 3/8” gap at the SSG expansion mullion and a 1/4” gap at the optional 90° outside corner SSG mullion.

Note: Inside corners must be captured.



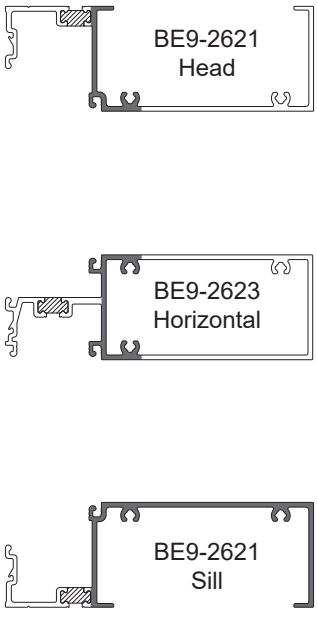
DETAIL 17

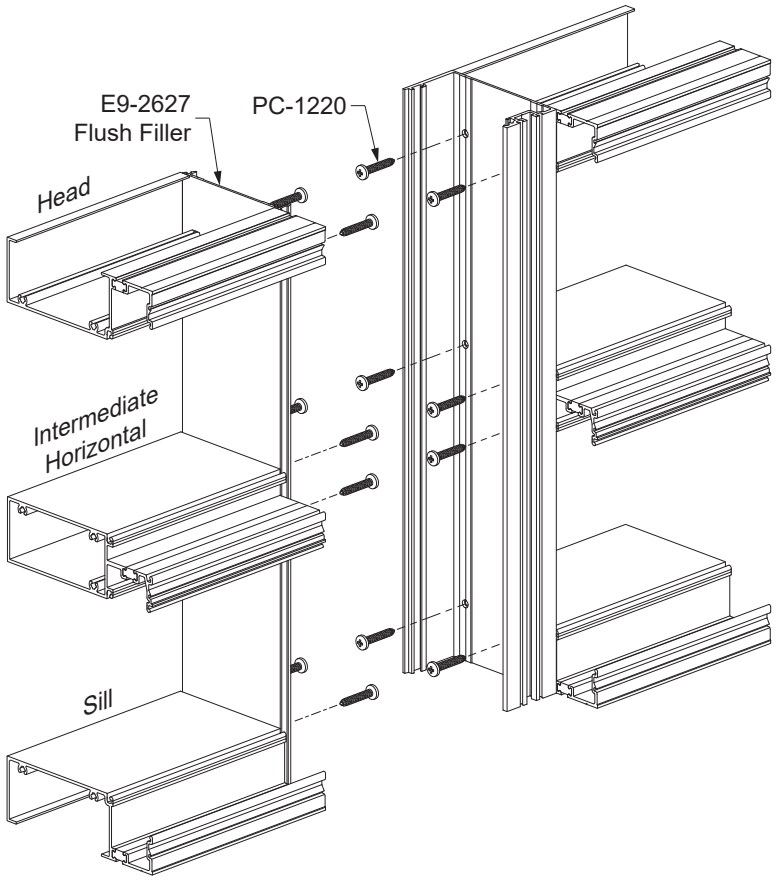
FRAME ASSEMBLY

STEP 9
ASSEMBLE FRAMES

-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 two PC-1220 fasteners at each end as shown below.
-Tool the sealant into the joints and wipe away any excess sealant.

See **Detail 18.**





Detail 18

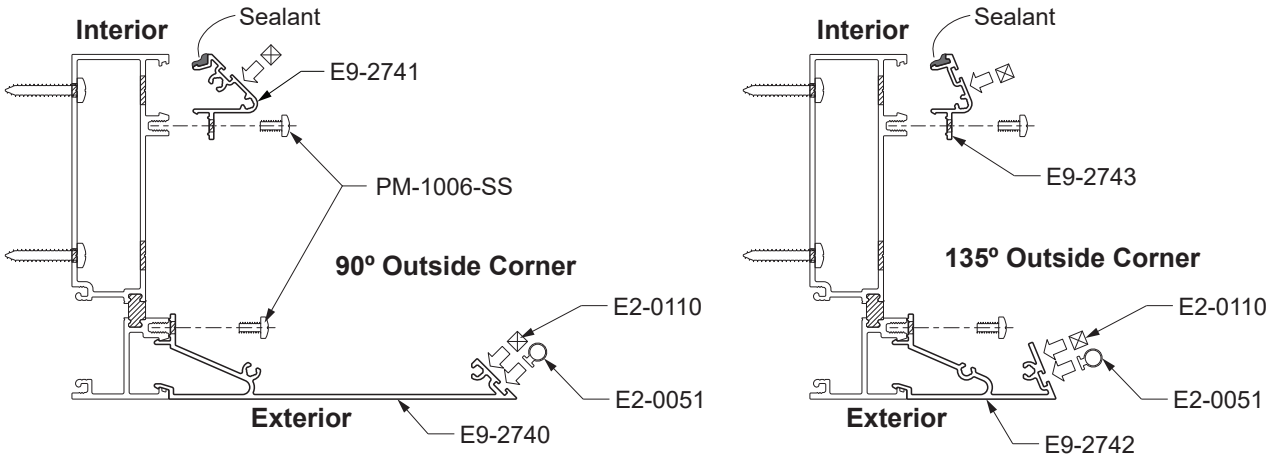
CAUTION: Always assemble frames such that each lite of glass will have a minimum of one deep vertical glazing pocket.

FRAME ASSEMBLY

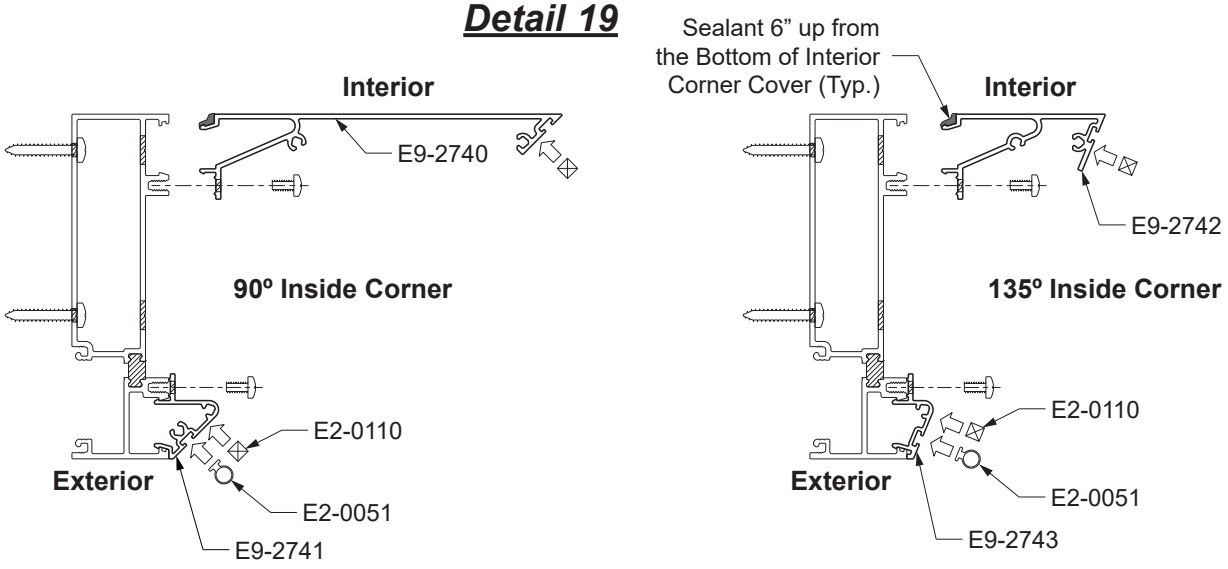
STEP 9 (Continued)
ASSEMBLE FRAMES

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 19**.



Detail 19



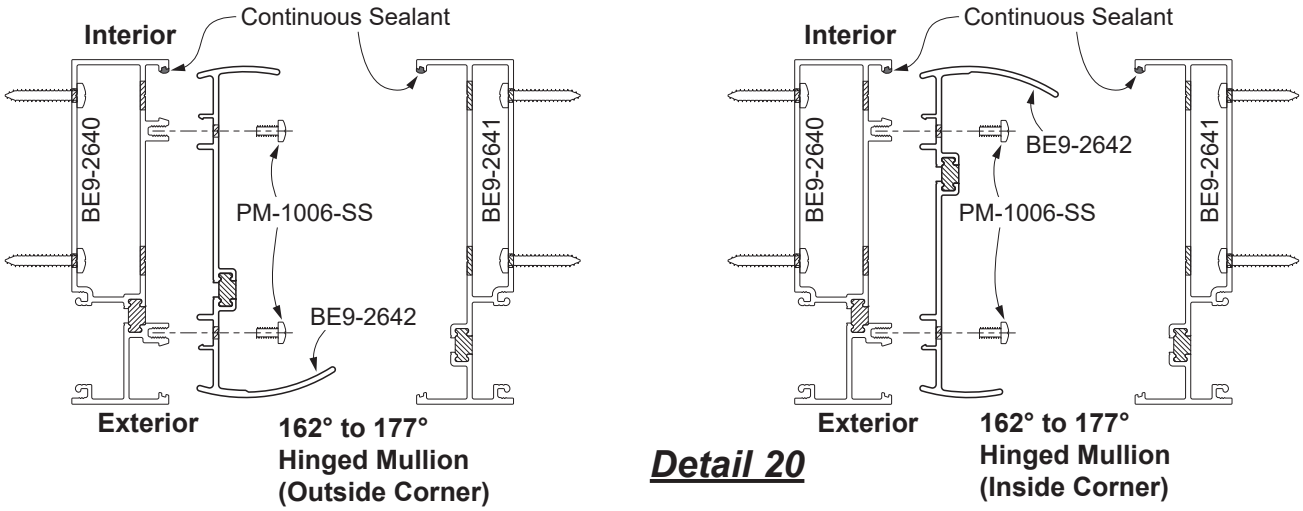
FRAME ASSEMBLY

STEP 9 (Continued)
ASSEMBLE FRAMES

Hinged Mullion Assemblies:

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

See **Detail 20**.

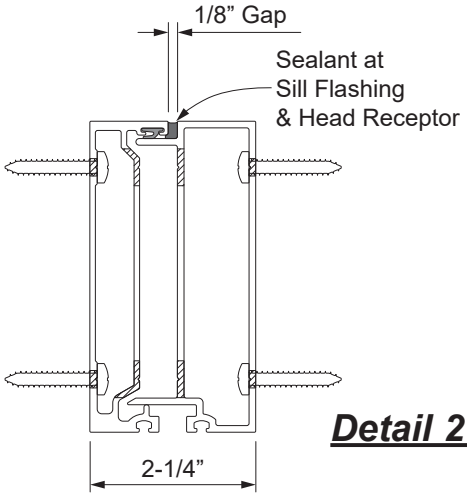


Detail 20

INSTALL EXPANSION MULLIONS WHERE REQUIRED

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

See **Detail 21**.



Detail 21

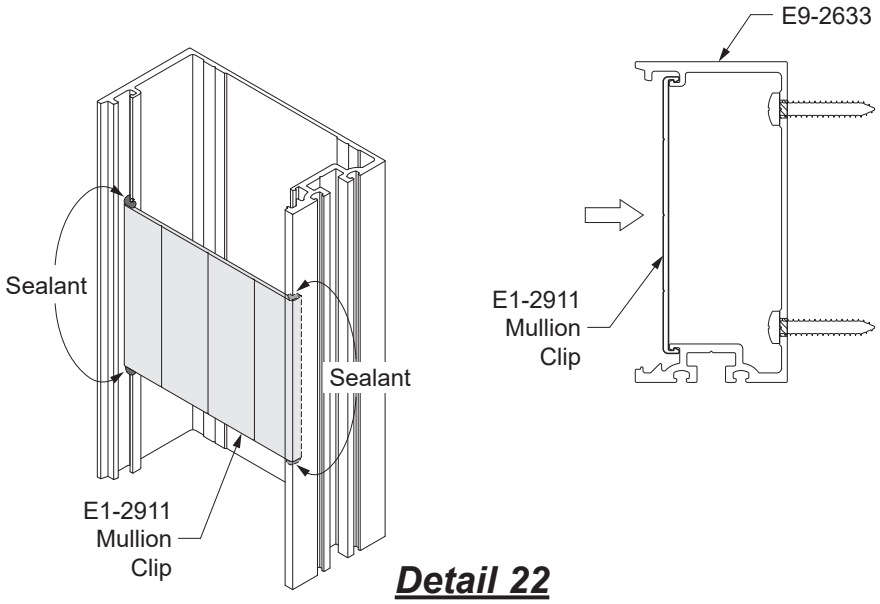
FRAME ASSEMBLY

STEP 9 (Continued)
ASSEMBLE FRAMES

INSTALL OPTIONAL E1-2911 MULLION CLIPS

-For E9-2633 SSG mullions, snap in E1-2911 mullion clips to reduce unbraced lengths 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 22.**



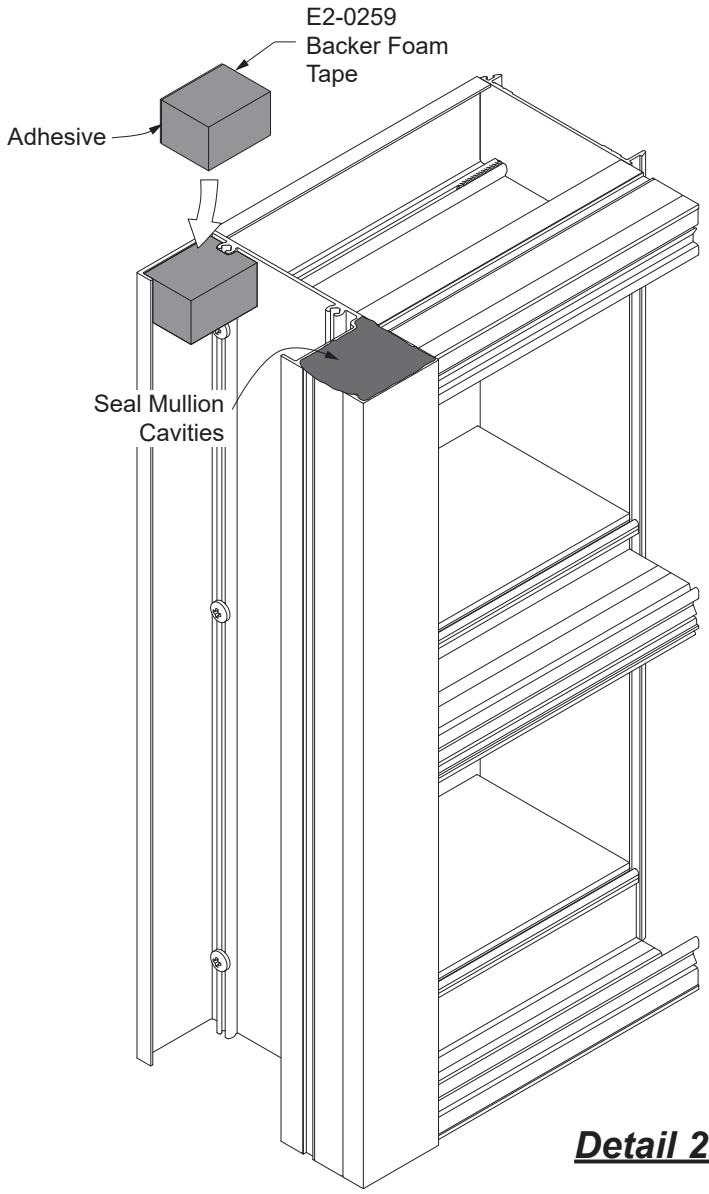
Detail 22

FRAME ASSEMBLY

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

-Cut pieces of E2-0259 foam backer tape to be adhered to 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 23**. 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.



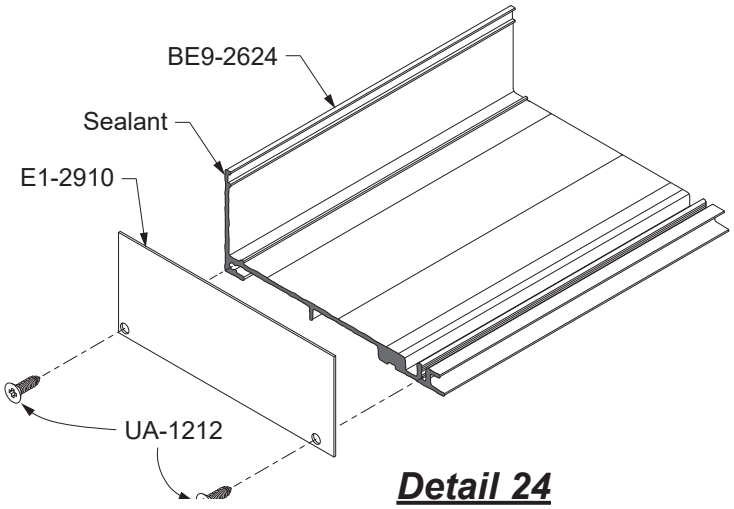
Detail 23

FRAME INSTALLATION

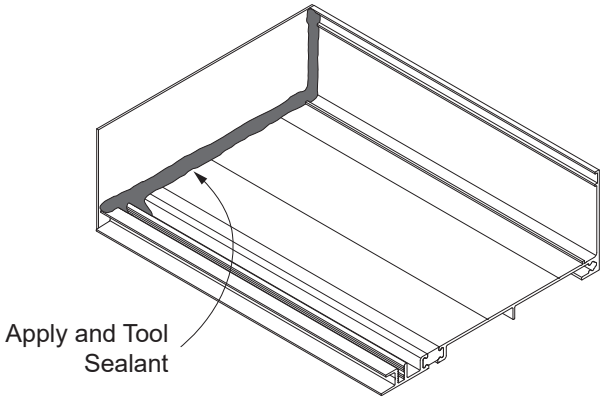
STEP 11
INSTALL SILL FLASHING END DAMS

-Clean all joint surfaces using cleaner approved by sealant manufacturer.
-Apply sealant to the end of the sill flashing as shown in **Detail 24.**
-Fasten the end dam to the sill flashing with two UA-1212 screws as shown in **Detail 24.**

-Tool sealant along the joint between the end dam and the sill flashing as shown in **Detail 25.**
-Seal over any exposed screw threads.



Detail 24

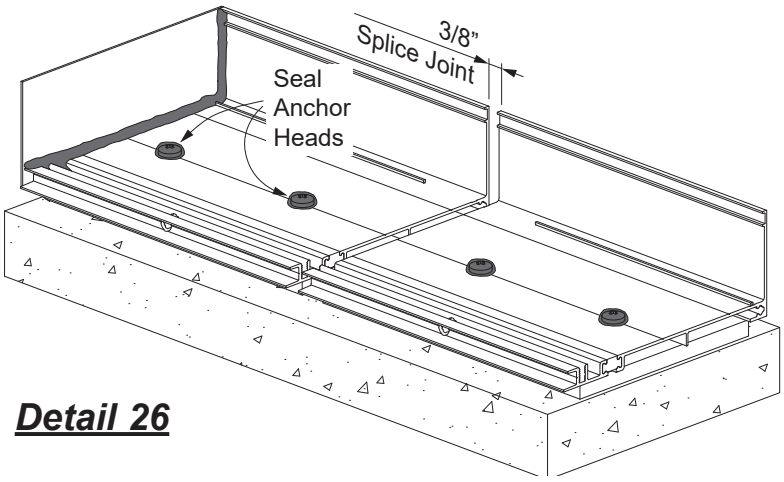


Detail 25

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 26**.

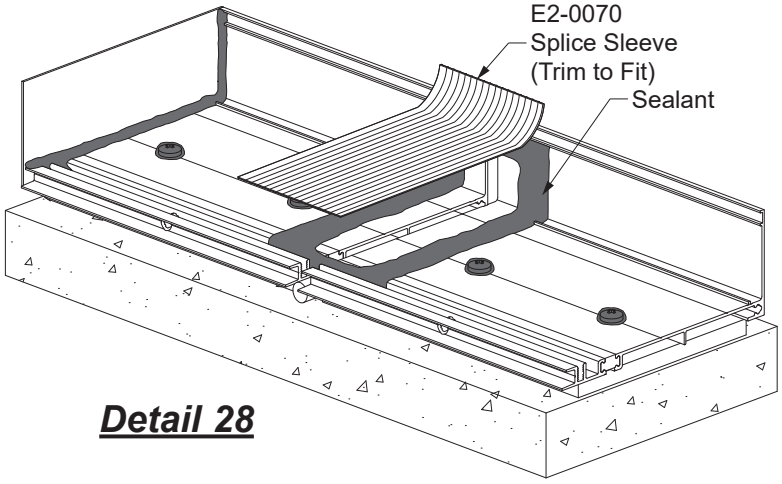


Detail 26

FRAME INSTALLATION

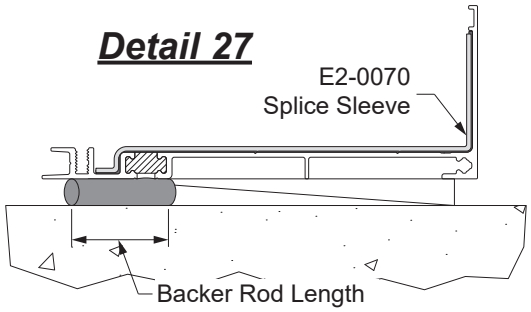
STEP 13
INSTALL SILL FLASHING SPLICE SLEEVE

-Insert a small backer rod under the sill flashing at every splice location as shown in **Detail 27**.
-Position the E2-0070 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 sheet 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 28**, before positioning the flashing. Set the silicone splice sleeve into the sill flashing.
-Tool sealant tight as shown in **Detail 27**, squeezing the sleeve flat with a seam roller.



Detail 28

Detail 27

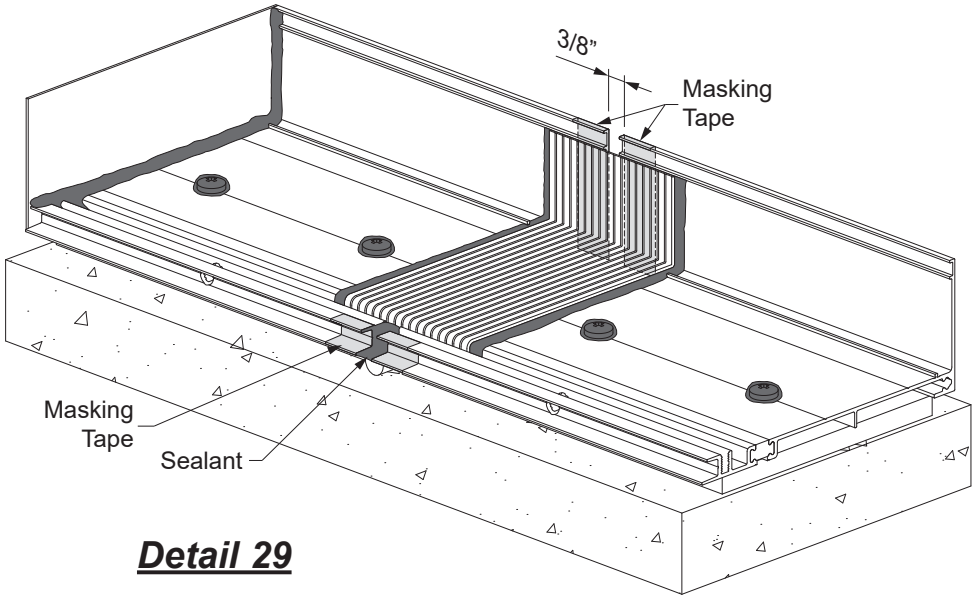


When using E2-0070, a compatible Silicone Sealant must be used at the splice. Compatible Silicone Sealants include Tremco® Spectrem 2® and Dow Corning® 795.

FRAME INSTALLATION

STEP 13 (Continued)
INSTALL SILL FLASHING SPLICE SLEEVE

-Apply masking tape to the front of and the back leg of the sill flashing at the splice as shown in **Detail 29**.
-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 29

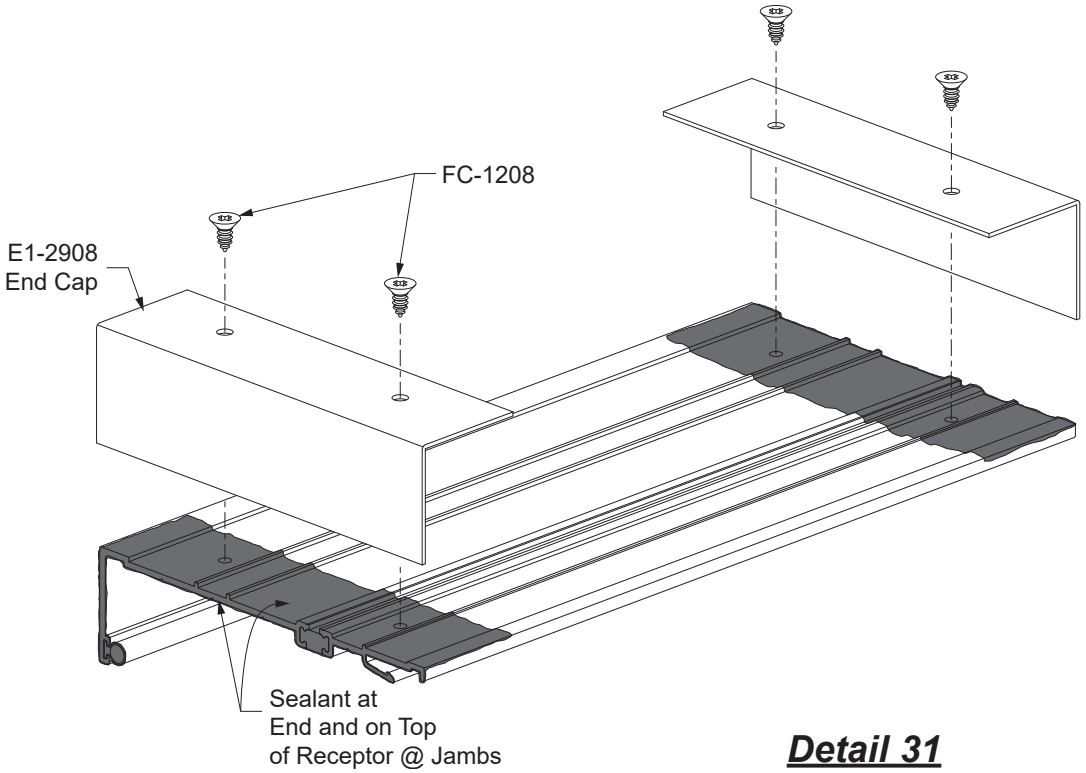
FRAME INSTALLATION

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 30**.

Detail 30

-Clean all joint surfaces using cleaner approved by sealant manufacturer.
-Apply sealant to the end of the head receptor as shown in **Detail 31.**
-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 33**). Tape down the top corners to hold the end cap in place until the sealant cures.



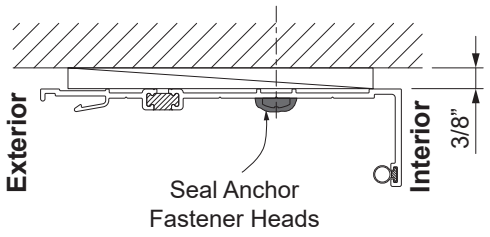
Detail 31

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 32 & 33.**

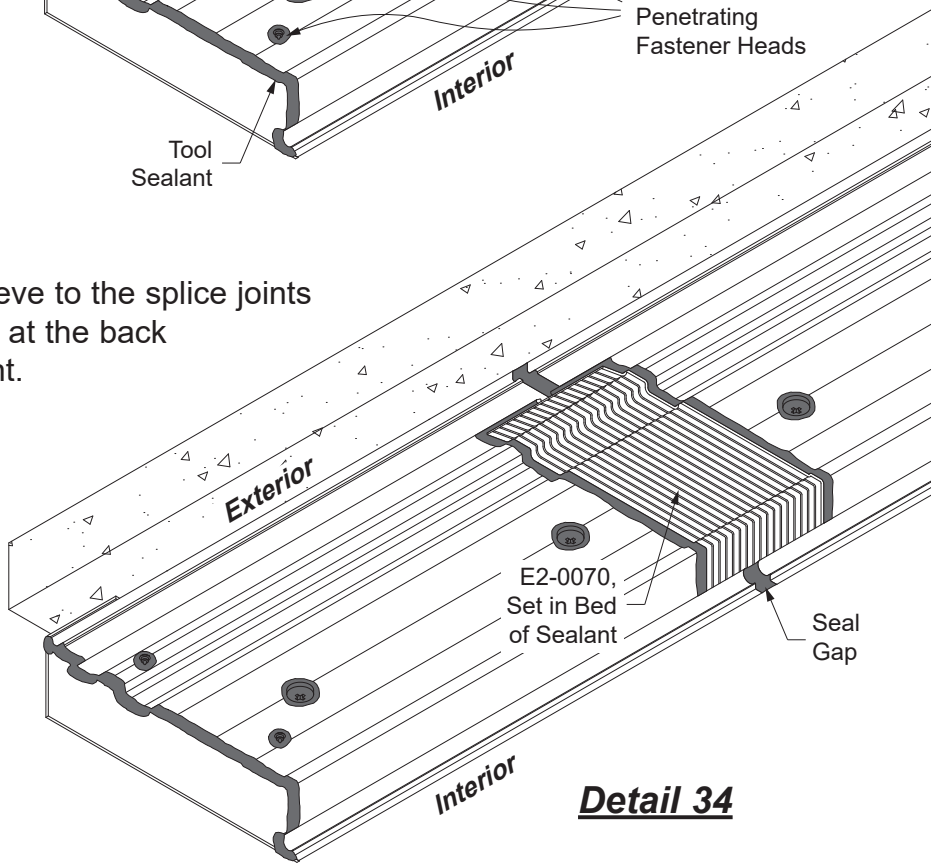


Detail 32

Detail 33

-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 34**.



Detail 34

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.

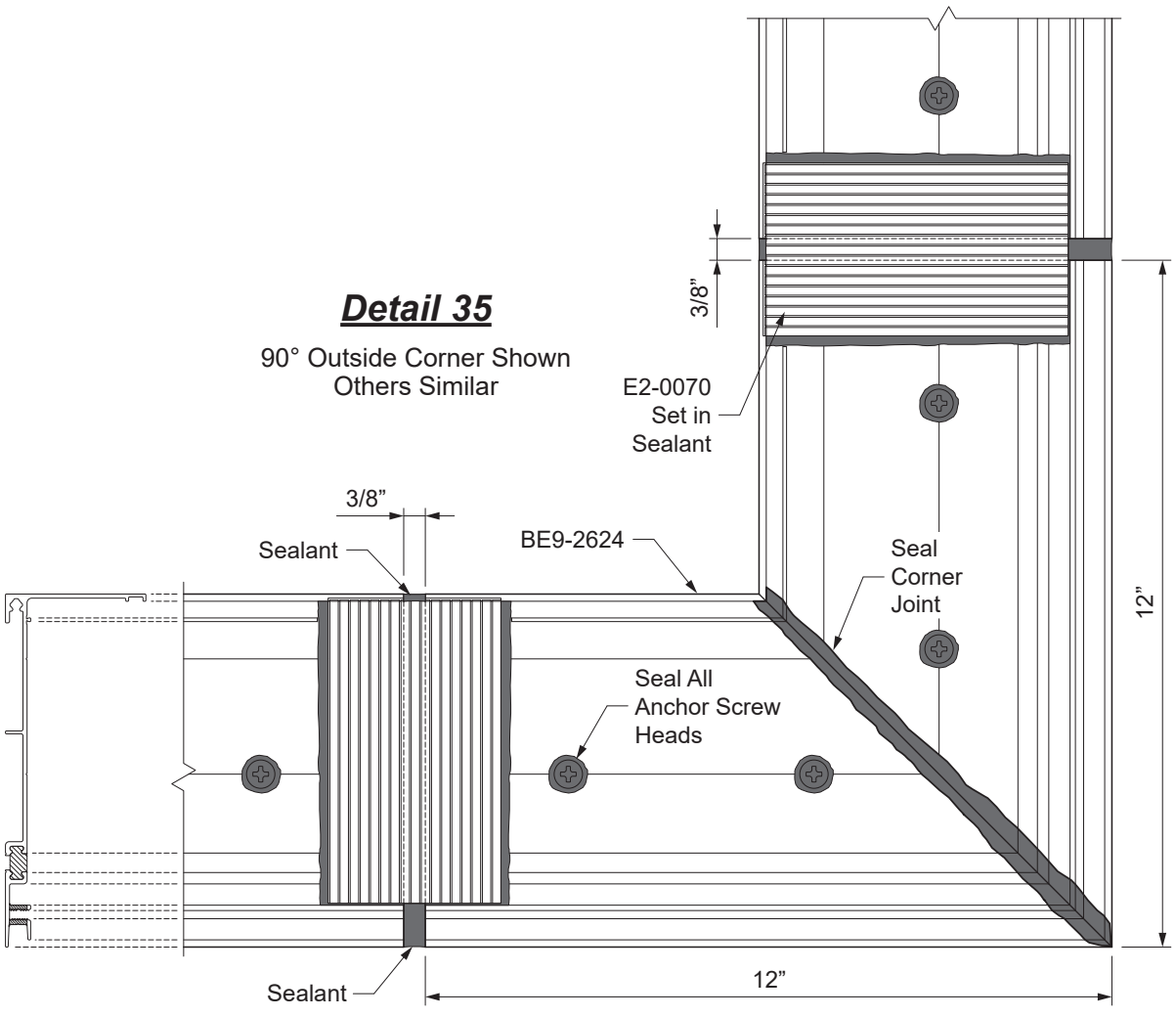
See **Detail 35**.

-Continue installing the rest of the sill flashing providing a 3/8" joint at splices as shown in **Step 12** on **Page 22**.

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

Detail 35

90° Outside Corner Shown
Others Similar



FRAME INSTALLATION

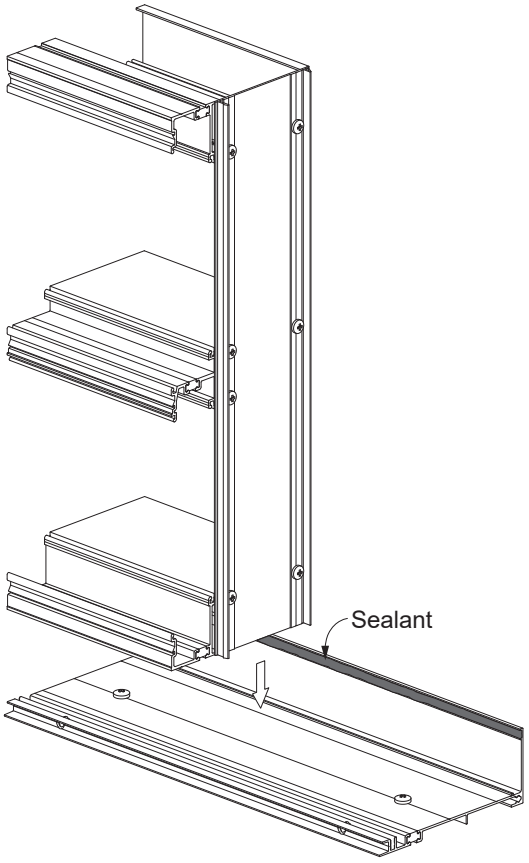
STEP 17
INSTALL FRAMES

-Apply sealant continuously to the front of the back leg of the sill flashing and immediately set the frame into the opening.
See **Detail 36**.

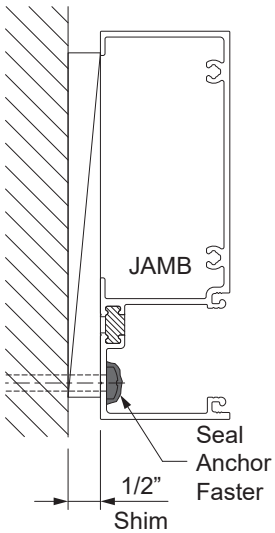
-Shim jamb and head members.

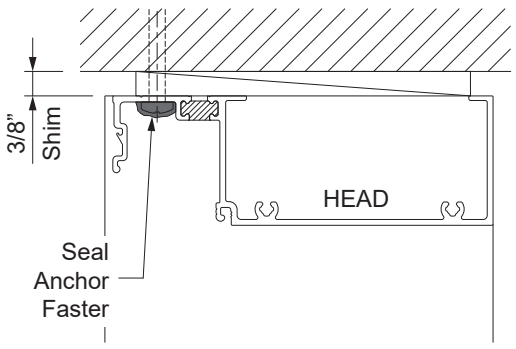
-Anchor the frame to the structure at the head and jamb as specified by the approved shop drawings and or P.E. calculations.
-Always install a shim at all anchor locations.
-Seal the jamb and head anchor fastener heads.

See **Detail 37**.



Detail 36





Detail 37

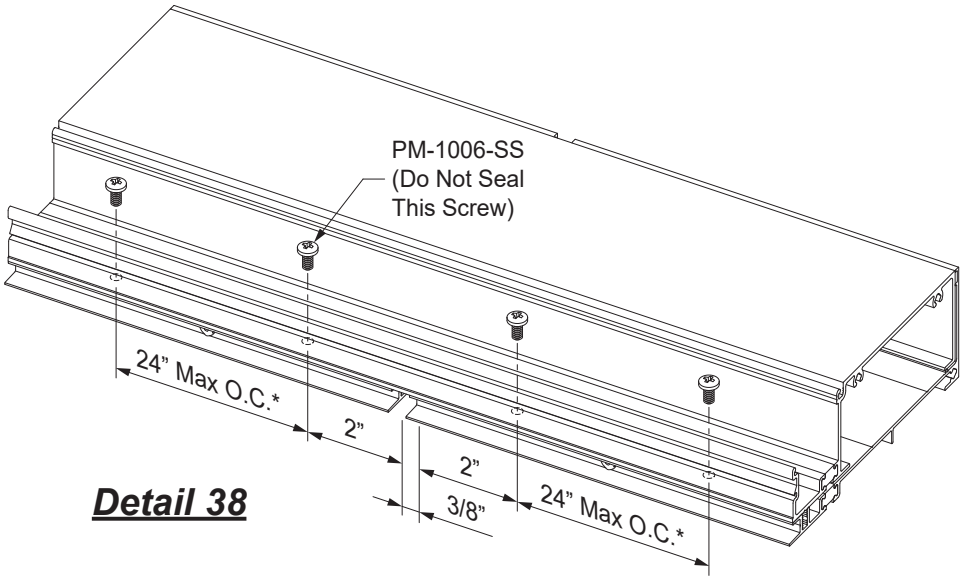
FRAME INSTALLATION

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 38**.

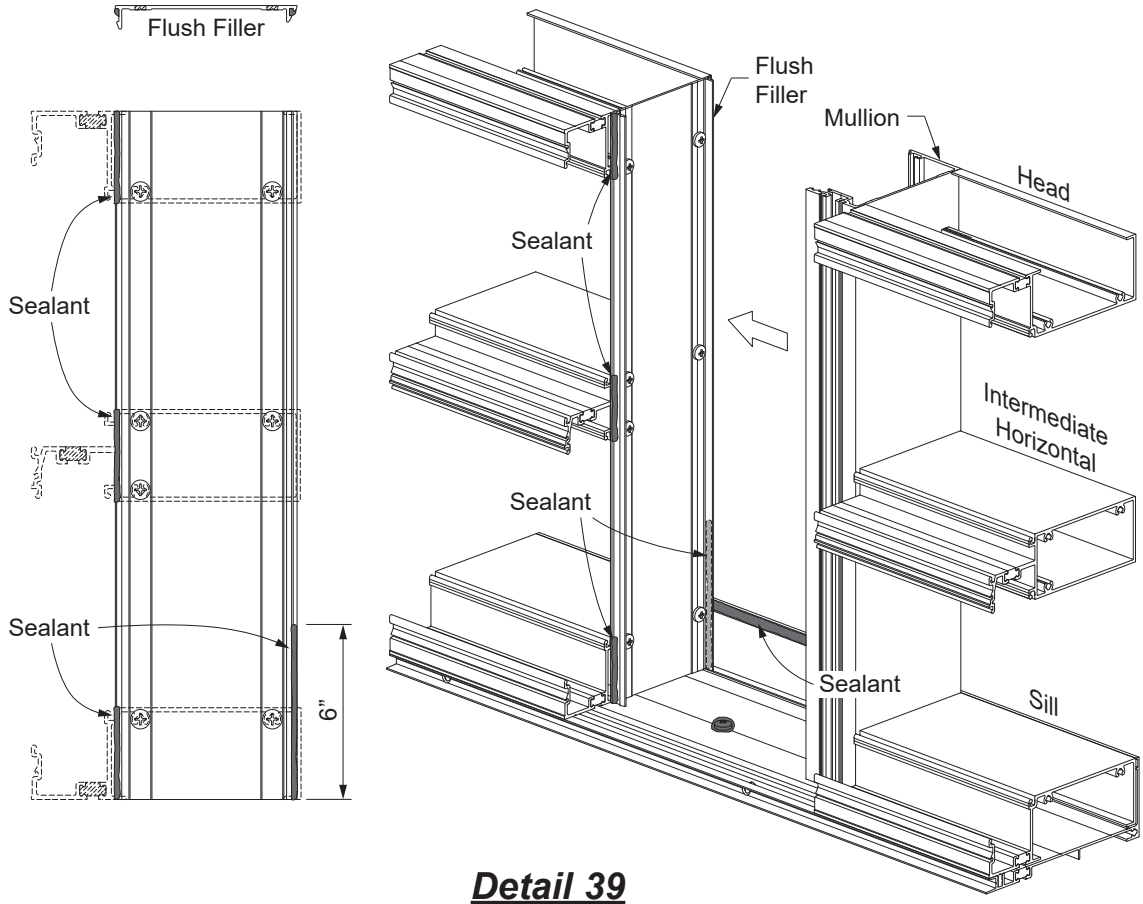


Detail 38

FRAME INSTALLATION

STEP 17 (Continued)
INSTALL FRAMES

Make sure all the surface are clean.
-Apply sealant to the shaded areas of the flush filler as shown in **Detail 39** 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 if using screw spline assembly, and tool excess sealant.



Detail 39

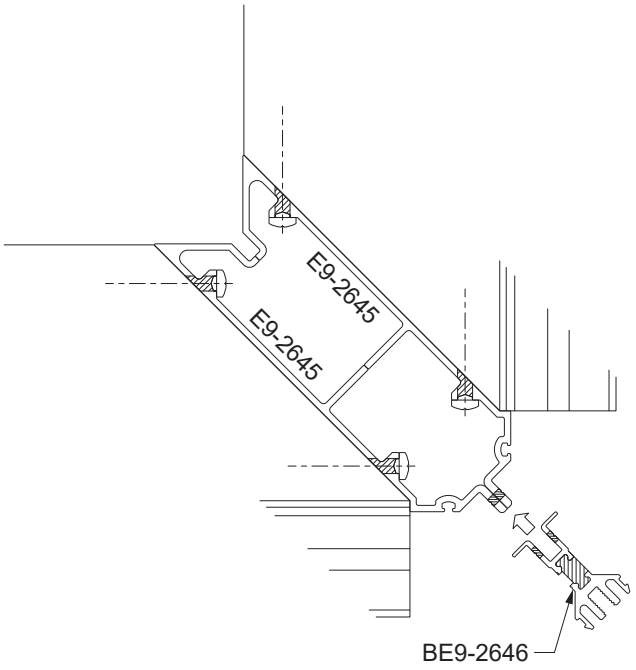
FRAME INSTALLATION

STEP 17 (Continued)
INSTALL FRAMES

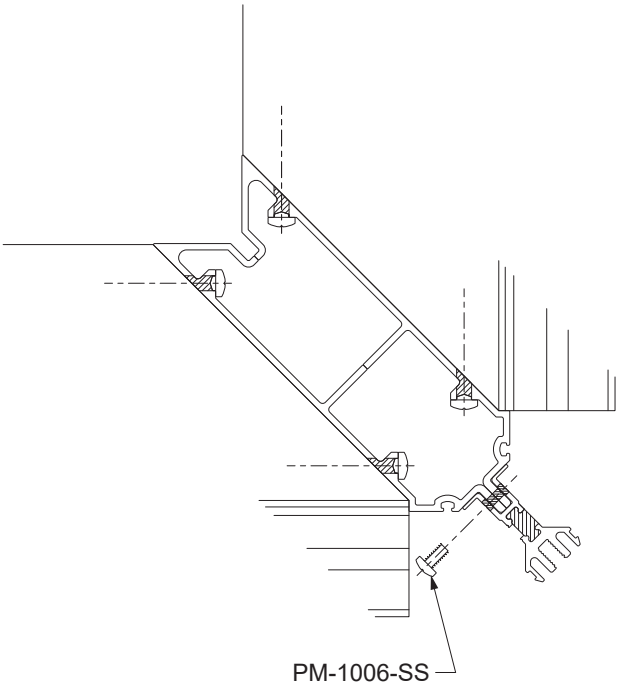
Join Together Optional 90° Outside Corner SSG Mullions:

Note: Horizontals must be attached prior to joining corner mullion halves.

-Clamp the mullion halves together, and slip the BE9-2646 adaptor onto the combined glazing tongue of the mullions as shown in **Detail 40**.
-Fasten together with PM-1006-SS fasteners as shown in **Detail 41**.



Detail 40



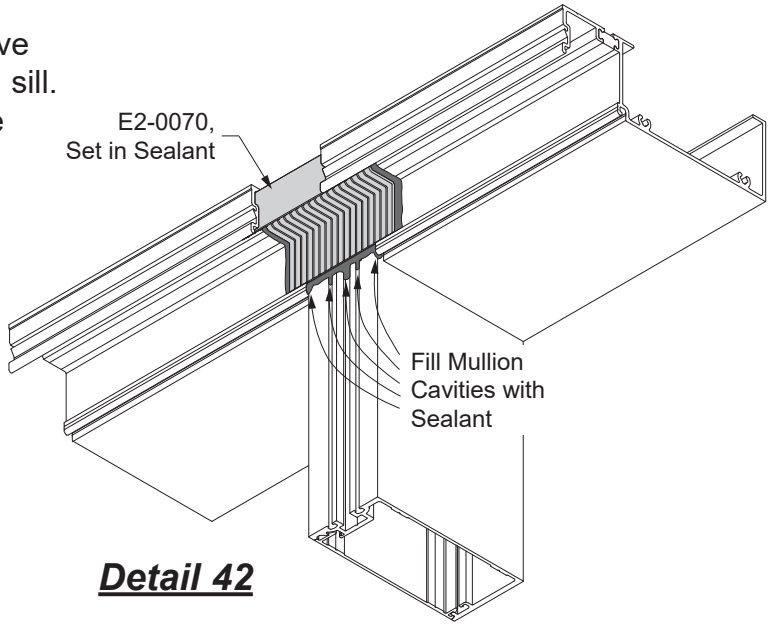
Detail 41

FRAME INSTALLATION

STEP 17 (Continued)
INSTALL FRAMES

Splice Head and Sill at SSG Mullions:

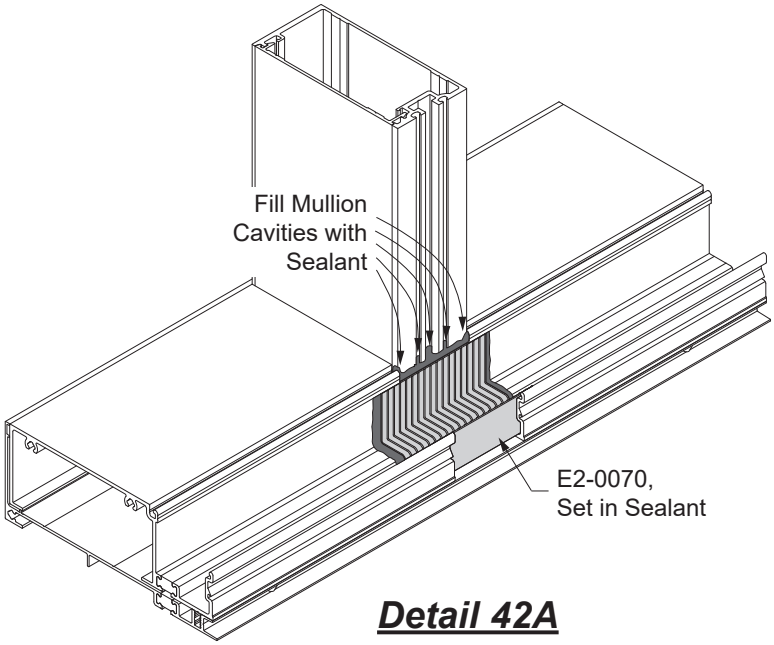
-Position the E2-0070 silicone splice sleeve along the glazing pocket of the head and sill. Bend the silicone splice sleeve within the pocket as shown. Trim to fit.
-Clean head or sill glazing pocket and silicone splice sleeve with isopropyl alcohol at the SSG mullion location
-Adhere the splice sleeve to the glazing pocket with sealant, centered horizontally on the SSG mullion.
-Fill the cavities in the SSG mullion with sealant.
-Also seal the joint between the head or sill to the vertical.



Detail 42

See **Detail 42 & 42A.**

Note: Adhere the splice sleeveto optional 90° Outside Corner SSG mullions in similar manner.



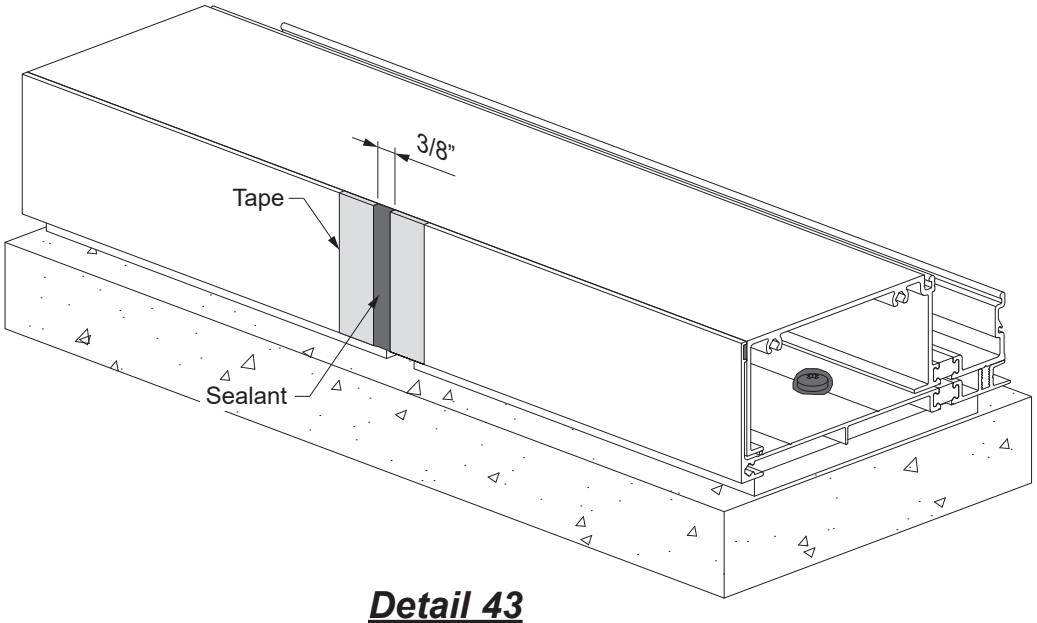
Detail 42A

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 43**.



Detail 43

FRAME INSTALLATION

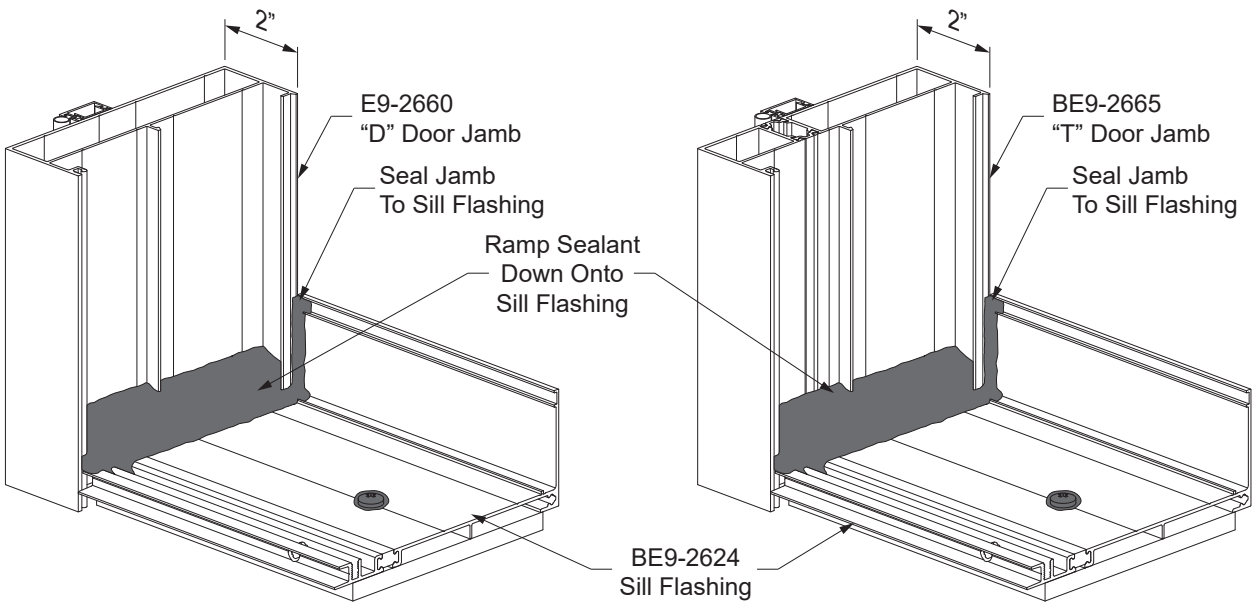
STEP 17 (Continued)
INSTALL FRAMES

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 44**.

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



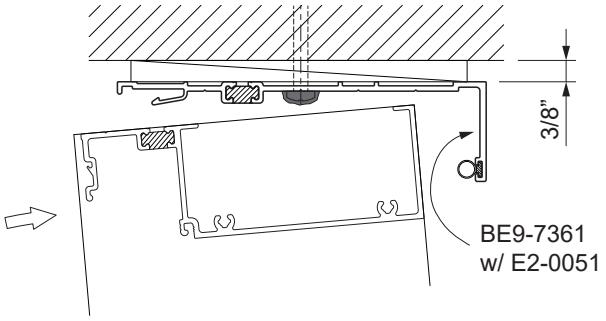
Detail 44

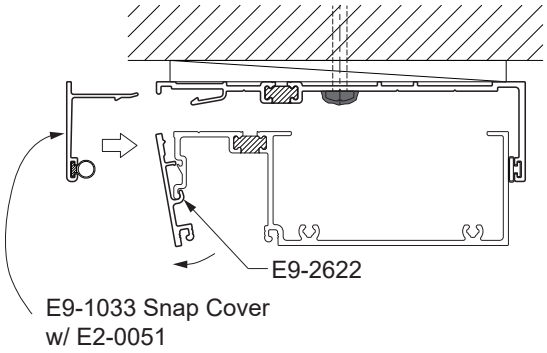
FRAME INSTALLATION

STEP 17 (Continued)
INSTALL FRAMES W/ HEAD RECEPTOR

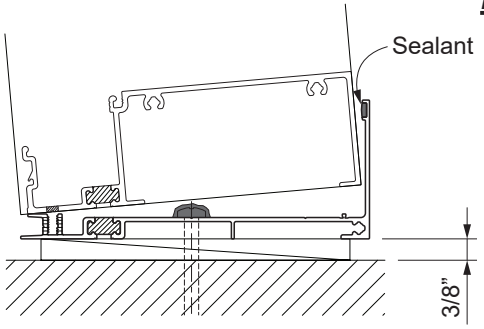
-Rotate the assembled frames into position from the exterior, ensuring engagement into the sill flashing.
-Attach the sill to the sill flashing using PM-1006-SS screws.
-Attach the E9-2622 glass stop at the head by hooking it on and rotating it until it snaps into place.
-Snap on the E9-1033 snap cover (with E2-0051 bulb gasket) into the head receptor.

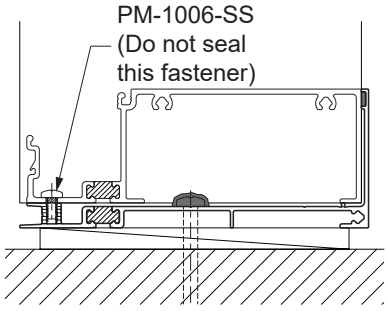
See **Detail 45**.





Detail 45





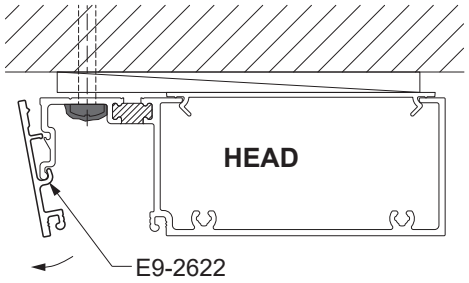
FRAME INSTALLATION

STEP 18
APPLY PERIMETER SEALANT

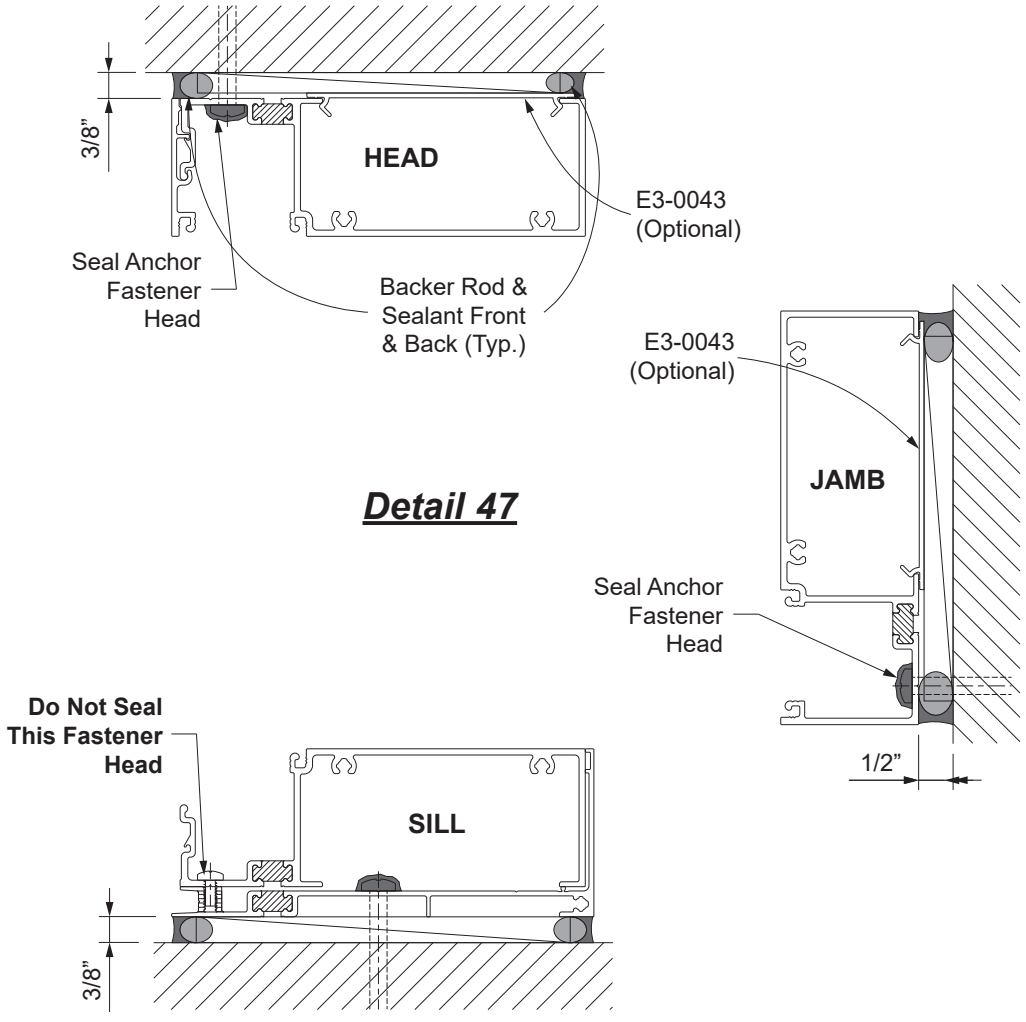
-Prior to perimeter sealant application, attach the E9-2622 glass stop at the head by hooking it on and rotating it until it snaps into place as shown in **Detail 46**.

-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 47.**



Detail 46



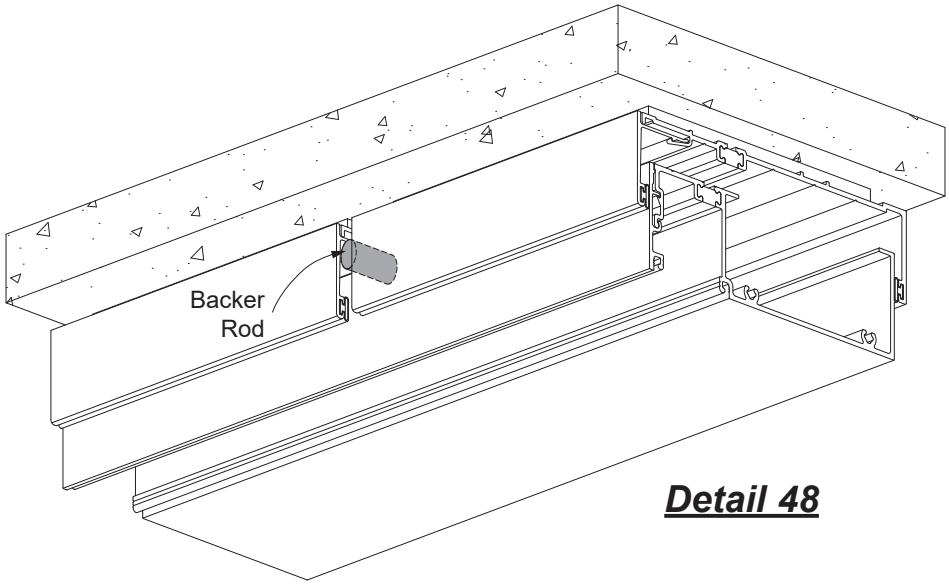
Detail 47

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.

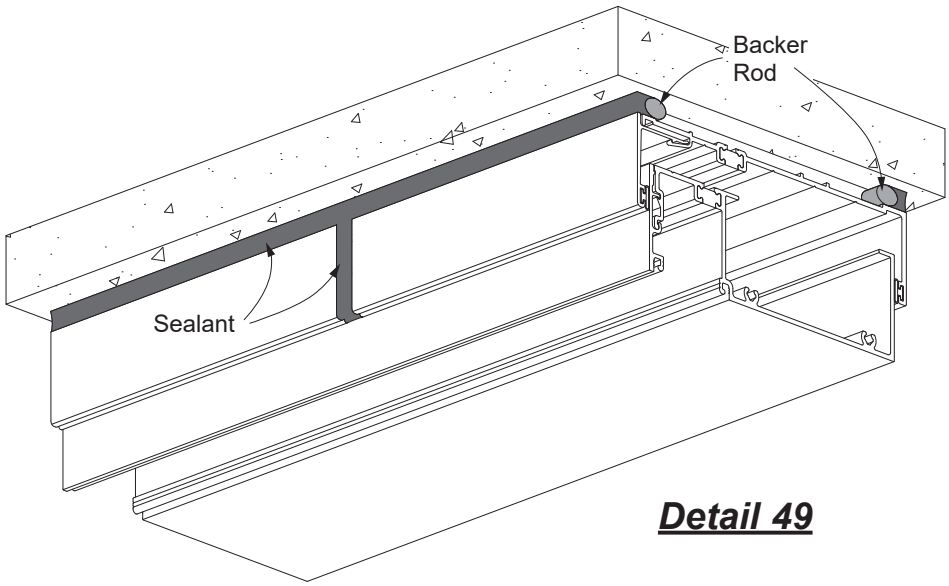
See **Detail 48.**



Detail 48

-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 49.**



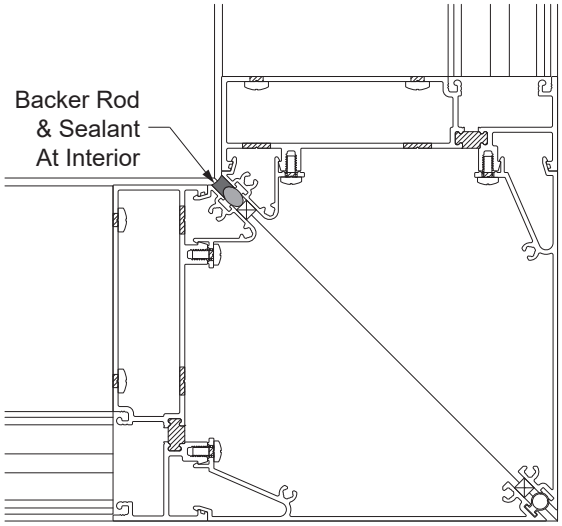
Detail 49

FRAME INSTALLATION

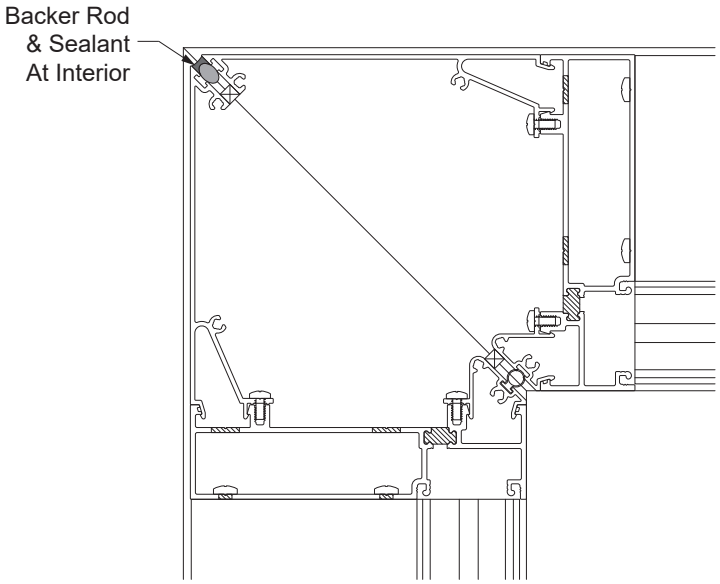
STEP 18B
APPLY SEALANT AT CORNER MULLIONS

-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.

See **Detail 50.**

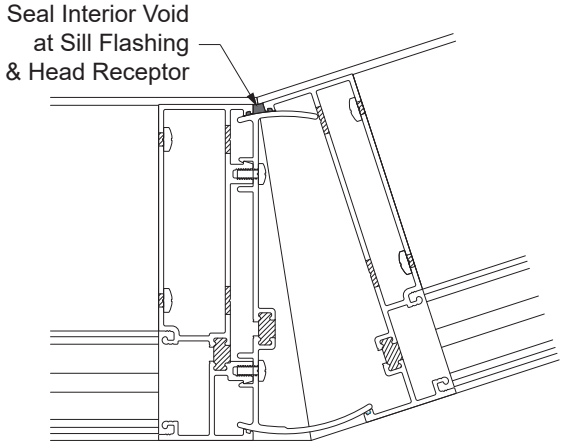


90° Outside Corner Shown
(135° Corner Similar)

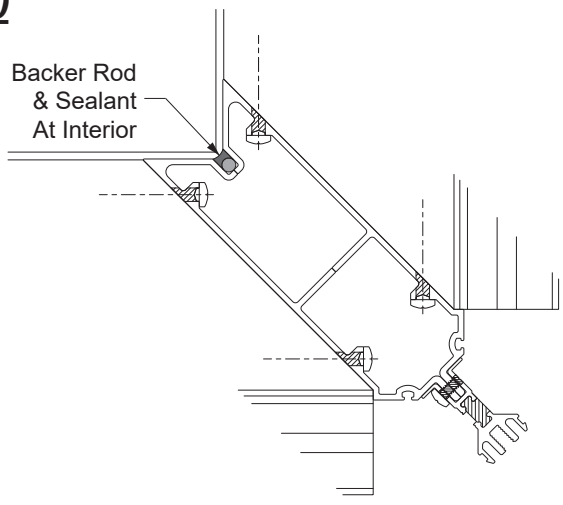


90° Inside Corner Shown
(135° Corner Similar)

Detail 50



162° to 177° Hinged Mullion



Optional 90° Outside SSG Corner

FRAME INSTALLATION

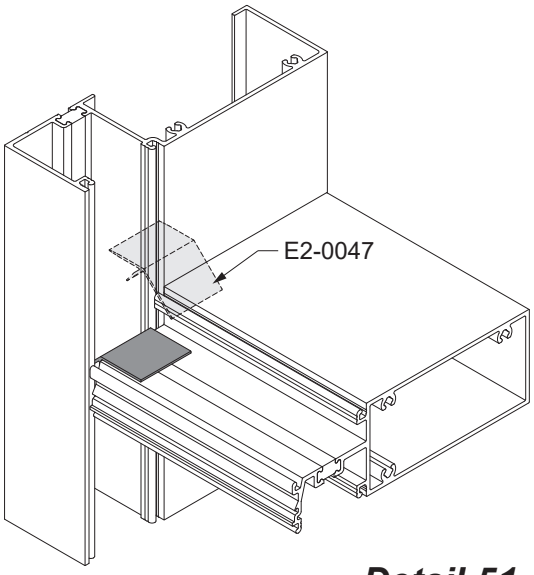
STEP 19
INSTALL WATER DEFLECTORS AT JAMBS

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

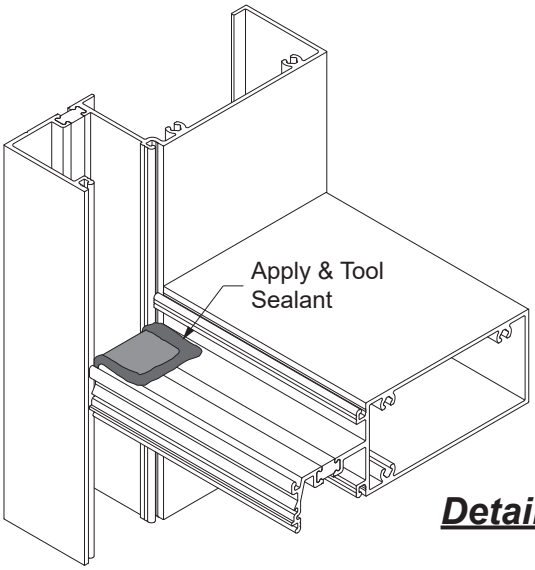
-Peel away the protective paper from the bottom of the water deflector, E2-0047, and install the water deflector by rotating it over each end of the horizontal.
-Position the vertical leg of the water deflector against the end of the horizontal.

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

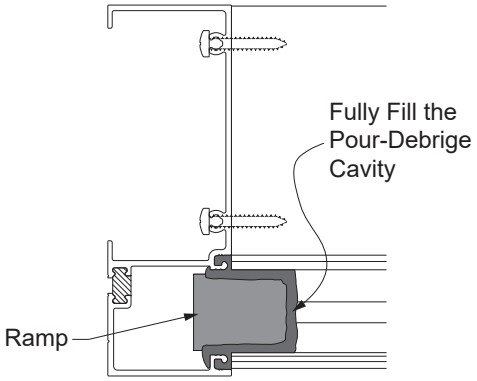
See **Detail 51.**



Detail 51



Detail 52



Detail 53

-Apply and tool sealant along the edges of the water deflector and down onto the horizontal. See **Detail 52**.

-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 53**.

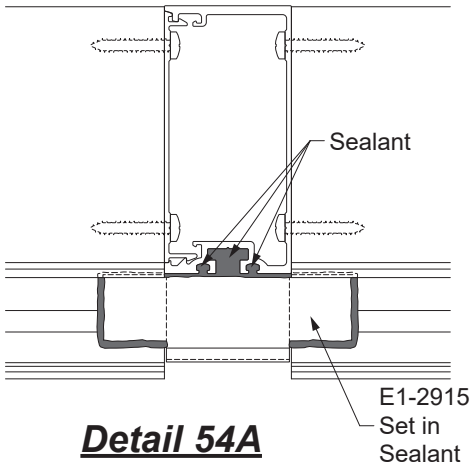
FRAME INSTALLATION

STEP 19A
INSTALL WATER DEFLECTORS AT SSG MULLIONS

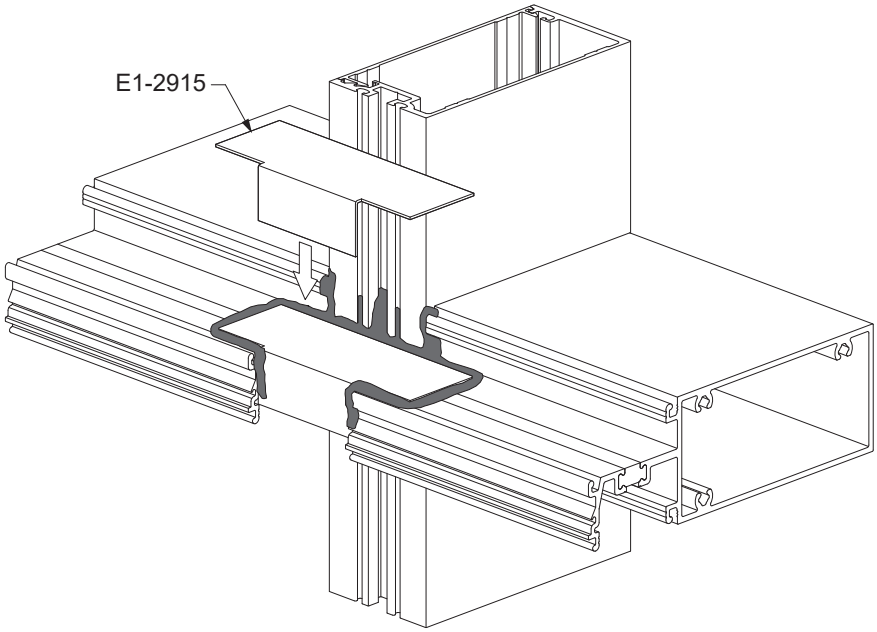
For SSG mullions, the installation of water deflectors, E1-2915, is required to bridge the gap between intermediate horizontals at the SSG mullion.

-Clean and dry off the glazing pocket of each horizontal at the ends.
-Apply sealant to the reglet of the SSG mullion as shown in **Detail 54A**.
-Peel away the protective paper on the underside of the SSG water deflector.
-Install the water deflector centered over the gap, pressing it firmly down onto the glazing pocket.
-Apply and tool sealant at all bridge to horizontal and vertical joints to ensure a watertight seal.

See **Detail 54B.**



Detail 54A



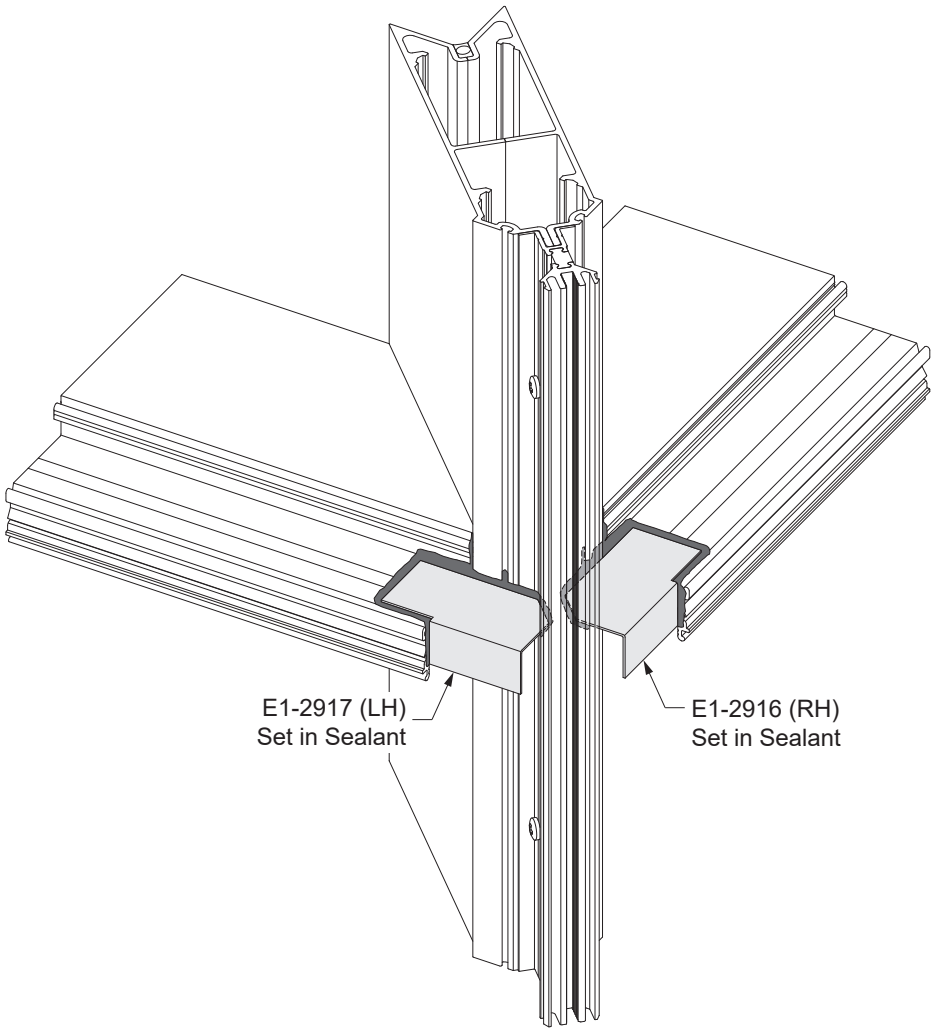
Detail 54B

FRAME INSTALLATION

STEP 19B
INSTALL WATER DEFLECTORS AT OPTIONAL CORNER SSG MULLIONS

For optional 90° outside corner SSG mullions, use E1-2916 and E1-2917 water deflectors, and seal the cavities around them.

See **Detail 55.**



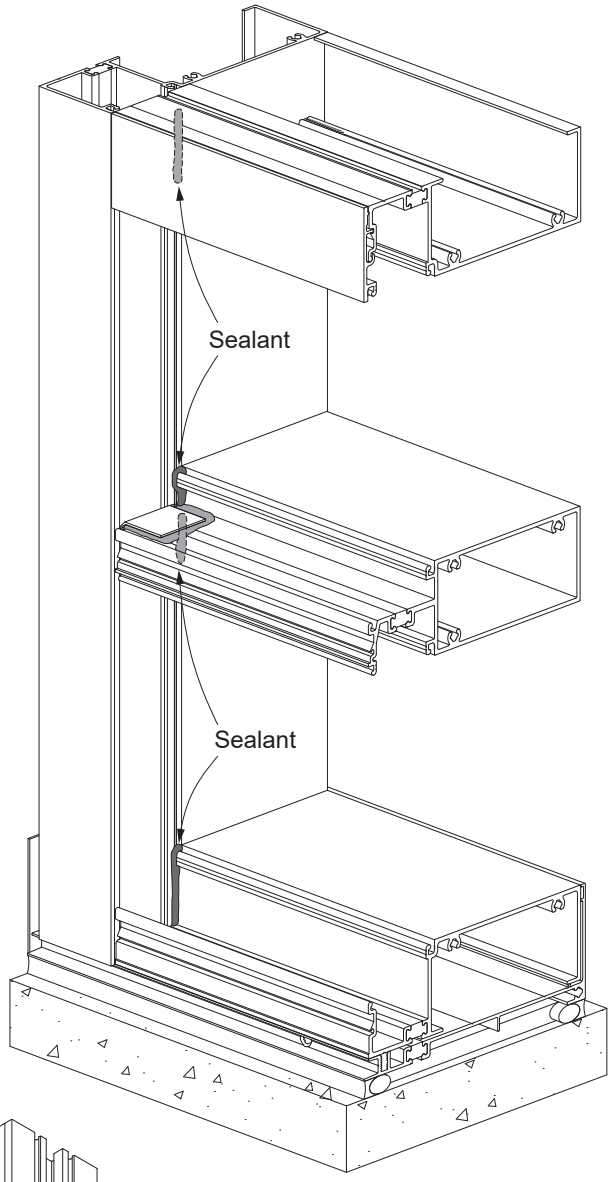
Detail 55

FRAME INSTALLATION

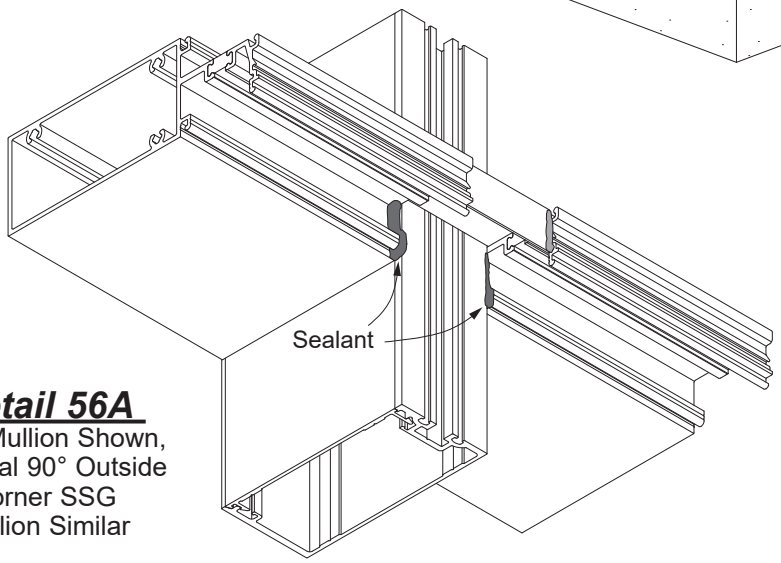
STEP 20
APPLY INTERNAL SEALANT

-Apply sealant to the vertical intersection of the horizontal and vertical members.
-Be sure to include the undersides of the water deflector at SSG mullions and optional 90° corner SSG mullions.
-Tool all of the sealant to ensure a water tight joint.
-Make sure all exposed screw heads are sealed.

See **Details 56 & 56A.**



Detail 56
Jamb Mullion Shown, Captured Corner Mullion Similar



Detail 56A
SSG Mullion Shown, Optional 90° Outside Corner SSG Mullion Similar

GLAZING

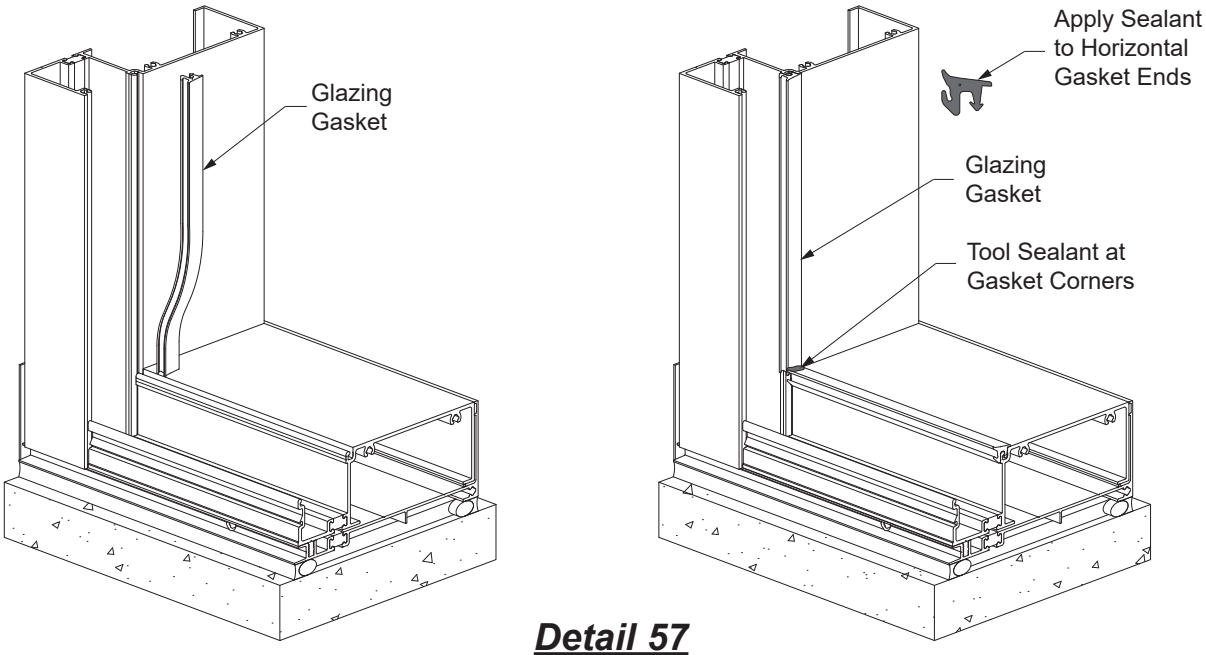
STEP 21
INSTALL INTERIOR GLAZING GASKETS

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.



Detail 57

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.

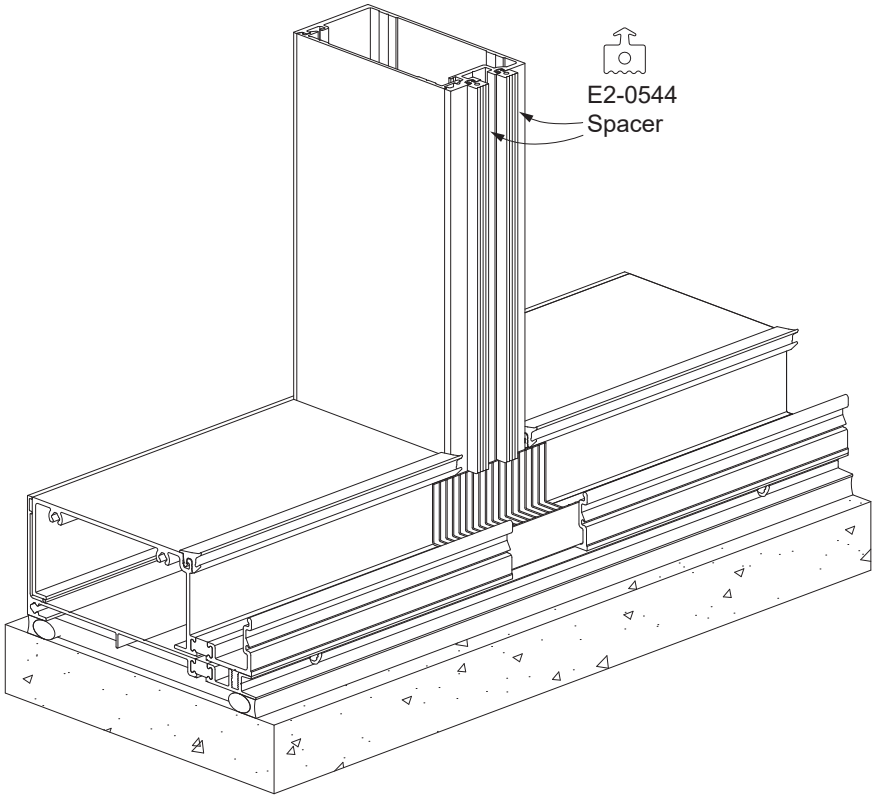
See **Detail 57**.

GLAZING

STEP 21A
INSTALL E2-0544 SSG GLAZING SPACERS

-Cut the structural silicone glazing spacers, E2-0544 to the Daylight Opening plus(+) 3/4” plus(+) 1/4” for each foot of length.
-Install the ssg spacers in to the vertical reglets, centered on the opening.

See **Detail 58**.

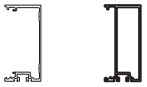
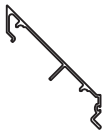
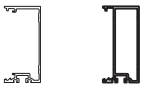
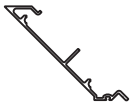


Detail 58

GLAZING

STEP 22
INSTALL GLASS

Determine the glass size:

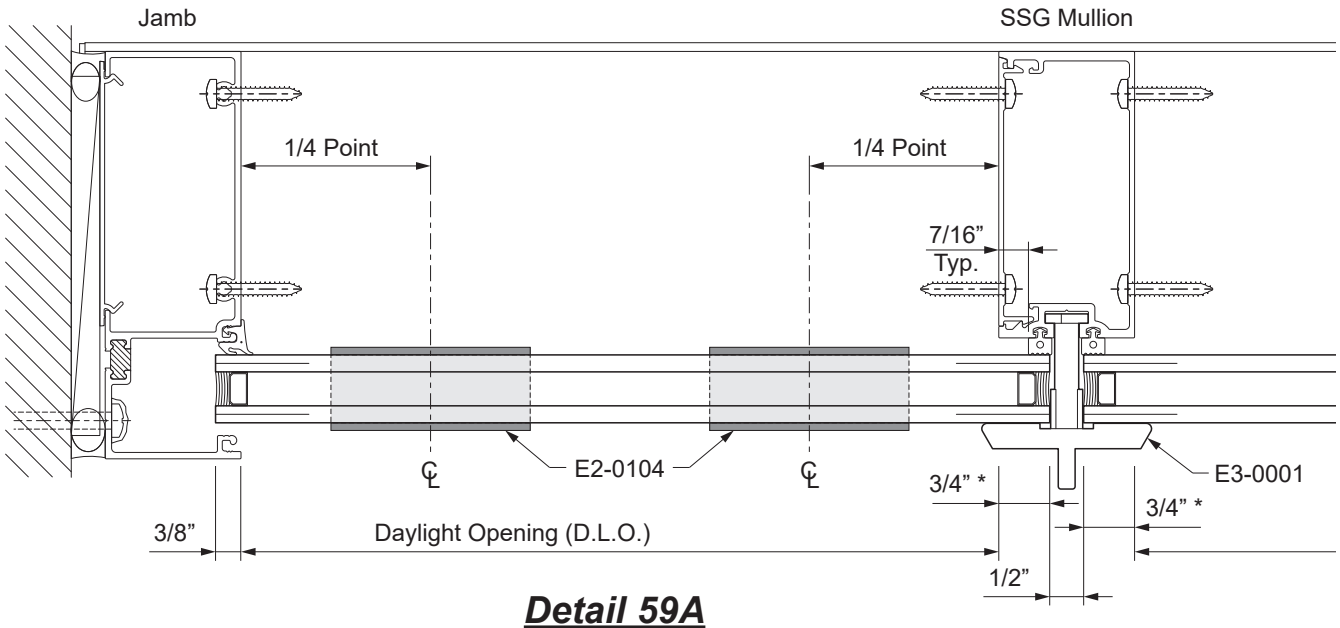
Glass Width = D.L.O. + Dimension Listed Below					
R / **L**	Jamb BE9-2632	Mullion E9-2633 / E9-2634	Expansion E9-2635 & E9-2636	Optional 90° Corner E9-2645	
Jamb BE9-2632		**1-1/8”**	**1-1/4”**	**1-1/2”**	 Glass Bite 3/8”
Mullion E9-2633 / E9-2634	**1-1/8”**	**1-1/2”**	**1-5/8”**	**1-7/8”**	 Glass Bite 3/4”
Expansion E9-2635 & E9-2636	**1-1/4”**	**1-5/8”**	**1-3/4”**	**2”**	 Glass Bite 7/8”
Optional 90° Corner E9-2645	**1-1/2”**	**1-7/8”**	**2”**	**2-1/4”**	 Glass Bite 1-1/8”
	 Glass Bite 3/8”	 Glass Bite 3/4”	 Glass Bite 7/8”	 Glass Bite 1-1/8”	
Glass Height = D.L.O. + 3/4”					

GLAZING

STEP 22 (Continued)
INSTALL GLASS

-Carefully install the first lite of glass from the exterior starting at one side of the jambs.
-Slide the glass in to the glazing pocket of the jamb until a 3/8” glass bite is achieved at the jambs.
-Carefully lift lite of glass, install E2-0104 setting blocks at quarter points of horizontal D.L.O. or according to engineering calculations. See **Detail 59A**.
-Make sure the glass is properly positioned on all setting blocks.
-Install the next lite and center it to maintain a 1/2” joint between the lites.

* **Note**: Glass byte for typical 2” width SSG mullions. See table on previous page for other conditions.



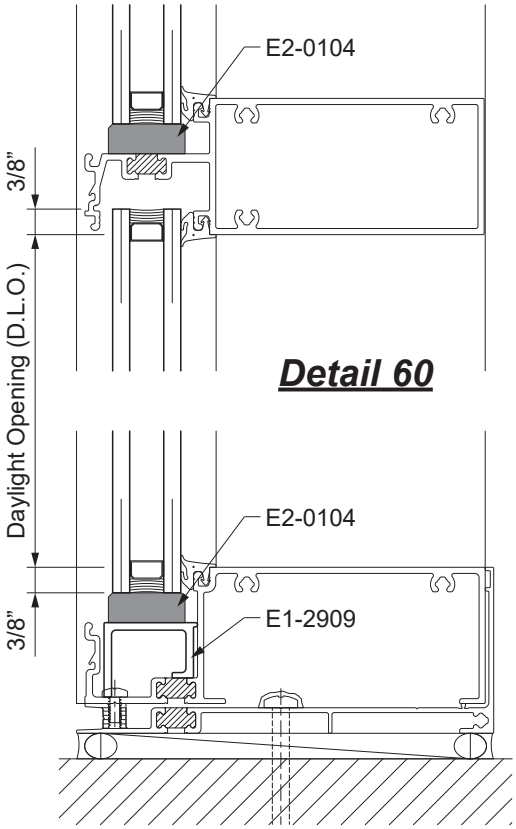
Detail 59A

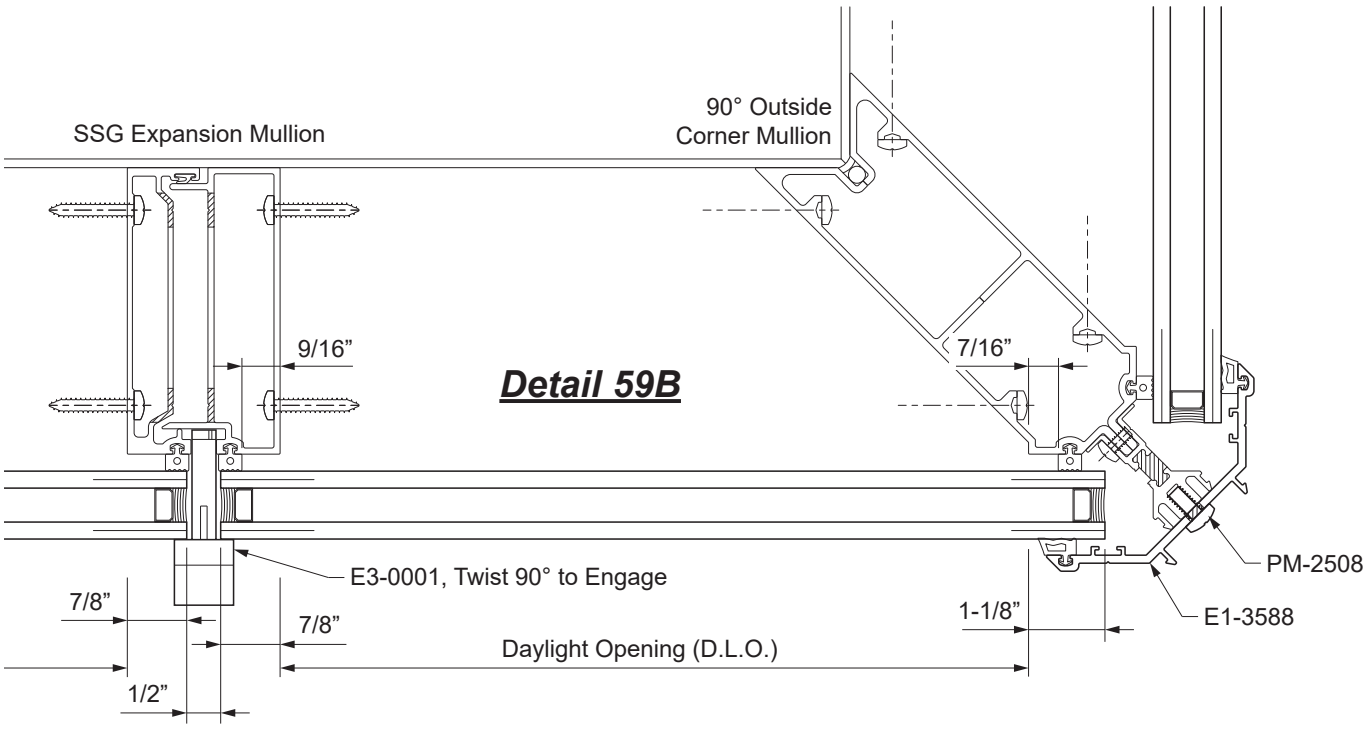
GLAZING

STEP 22 (Continued)
INSTALL GLASS

-Insert E3-0001 temporary glass retainers into open side of the SSG vertical and twist them 90° clockwise to engage. Locate the retainers 18” to 24” on center.
-At the 90° outside corner SSG mullions, use E1-3588 with PM-2508 fasteners.
-Install the next lite and center it to maintain a 1/2” joint between the lites.
-Repeat the glazing instructions until all lites are installed.

See **Details 59A, 59B, & 60**.





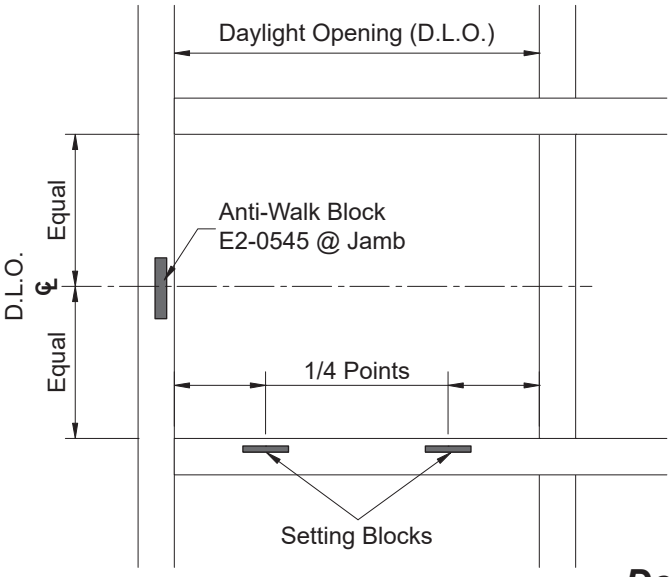
GLAZING

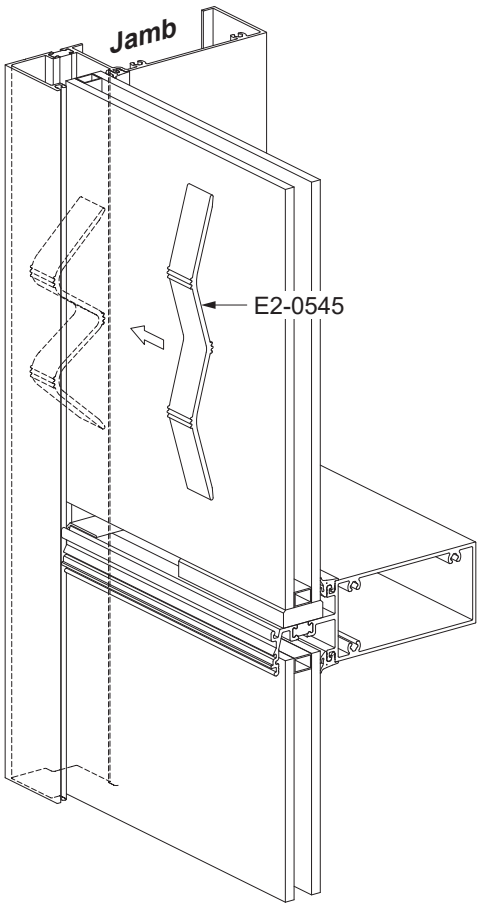
STEP 23
INSTALL ANTI-WALK BLOCKS

YES 60 TU frames require the installation of an anti-walk block, E2-0545, in the glazing pocket at jamb conditions and an anti-walk block, E2-0154, in the glazing pocket at the captured corner mullion.

-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 61**.





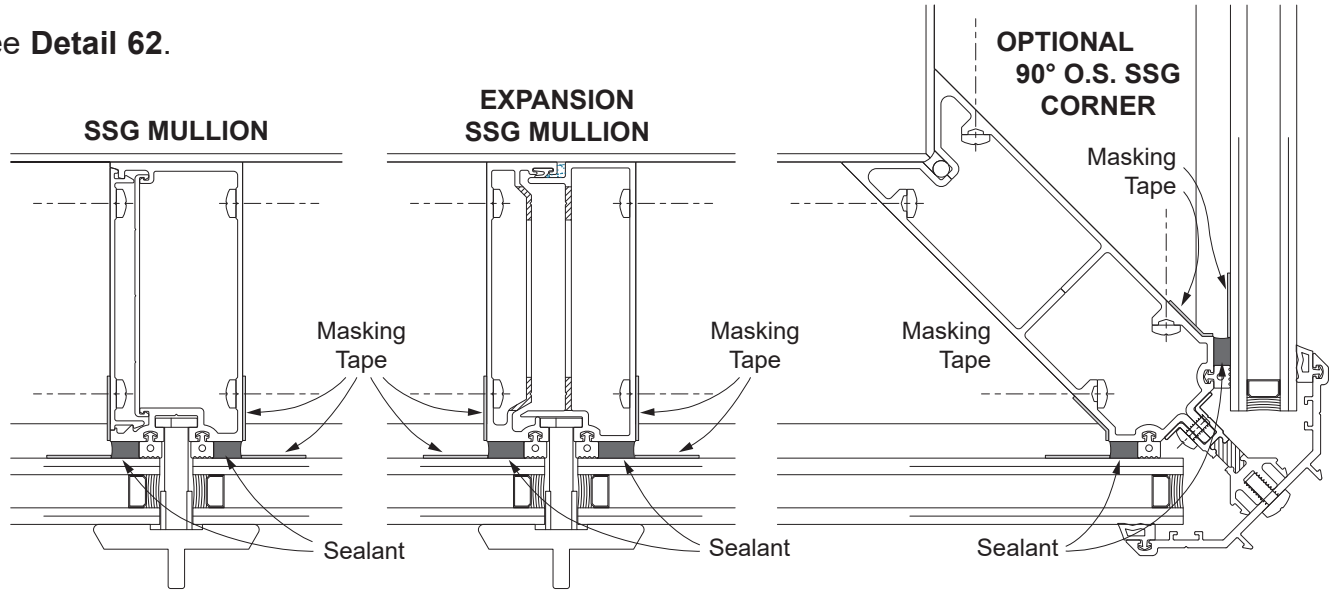
Detail 61

GLAZING

STEP 24
APPLY INTERIOR SSG SEALANT

-Apply masking tape to the glass and aluminum surfaces around the areas that will be filled with structural silicone sealant. Fill the cavities as shown with sealant and tool. Remove the masking tape immediately afterward to avoid the sealant skinning over.
-Consult the sealant manufacturer for the sealant cure time. Remove the temporary retainers after the sealant has fully cured.

See **Detail 62**.

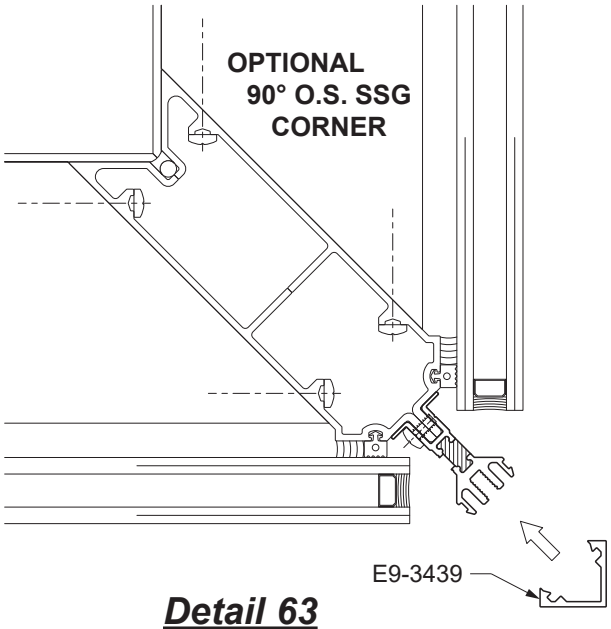


Detail 62

STEP 25
ATTACH OPTIONAL 90° SSG CORNER ADAPTOR COVER

-At the optional 90° outside SSG corner, snap on the E9-3439 corner adaptor cover.

See **Detail 63**.



Detail 63

GLAZING

STEP 26
INSTALL EXTERIOR GLASS STOPS
& GLAZING GASKETS

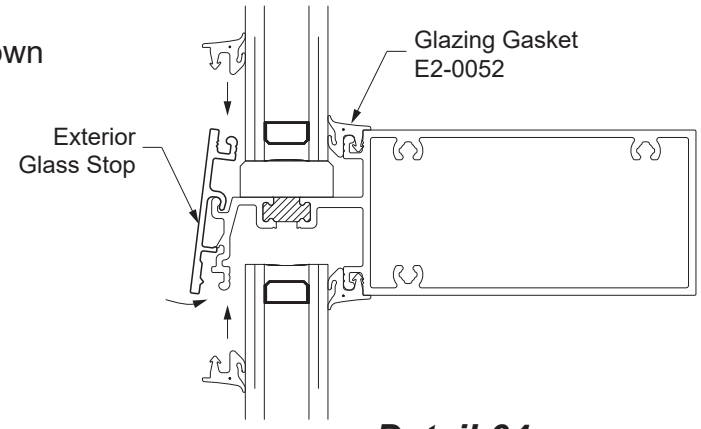
-Snap the exterior glass stops into place as shown in **Detail 64.**

-For the upper side of the exterior glass stops, cut the glazing gasket to the length of the glass stop.

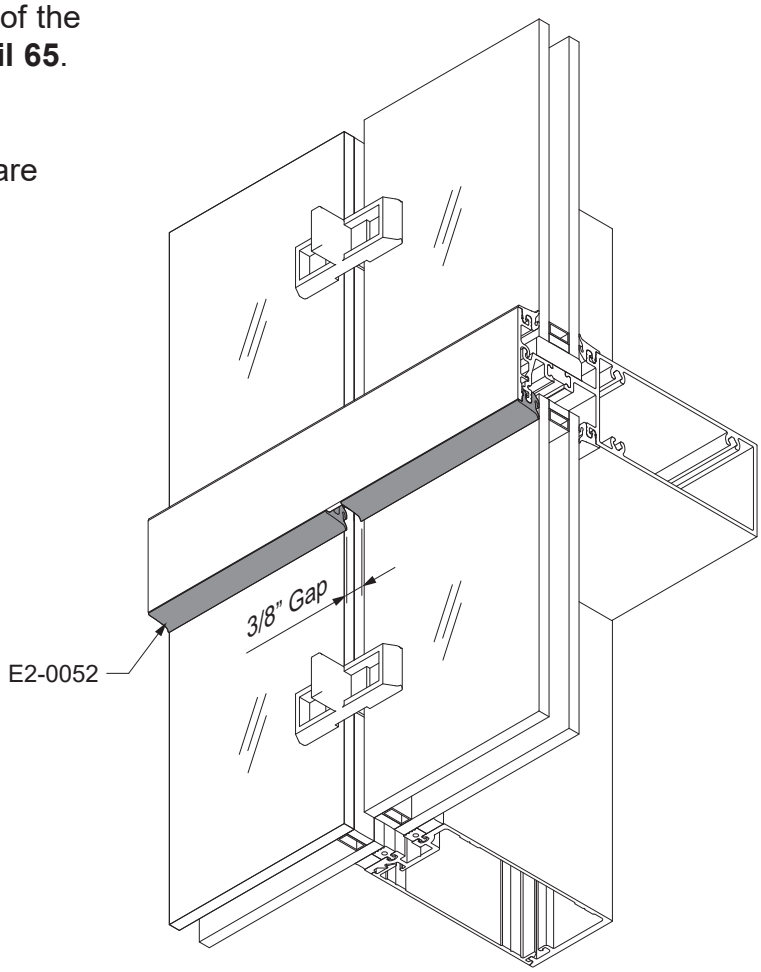
-Install the exterior glazing gaskets using the same technique described in **Step 21** on **Page 43.** Always install the vertical glazing gasket first.

-At SSG mullions, allow a 3/8” gap between horizontal gasket lengths at the underside of the exterior glass stop for weepage. See **Detail 65**. Do not allow sealant to block this gap.

Repeat **Steps 21 through 25** until all lites are installed.



Detail 64



Detail 65

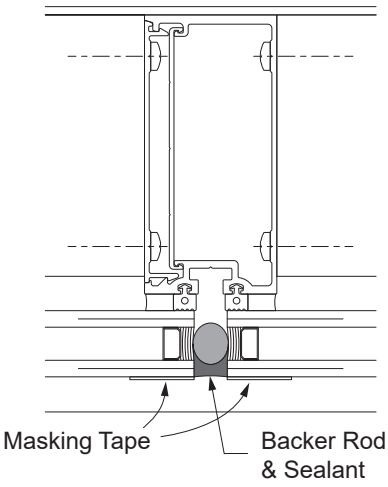
GLAZING

STEP 27
APPLY EXTERIOR WEATHESEAL

Once the interior structural silicone has cured*, it is necessary to seal the 1/2” wide exterior joint between the lites of glass.

Note: * Please consult sealant manufacturer for recommended cure time.

-Remove the temporary glass retainers and insert an approved, open cell polyurethane backer rod between the lites of glass.
-Clean all contact surfaces with an approved cleaner and apply masking tape to both vertical edges of the glass.
-Starting at the bottom of the lite, pump sealant into the joint between the lites of glass. Apply moderate pressure so that the void is completely filled.
See **Detail 66.**

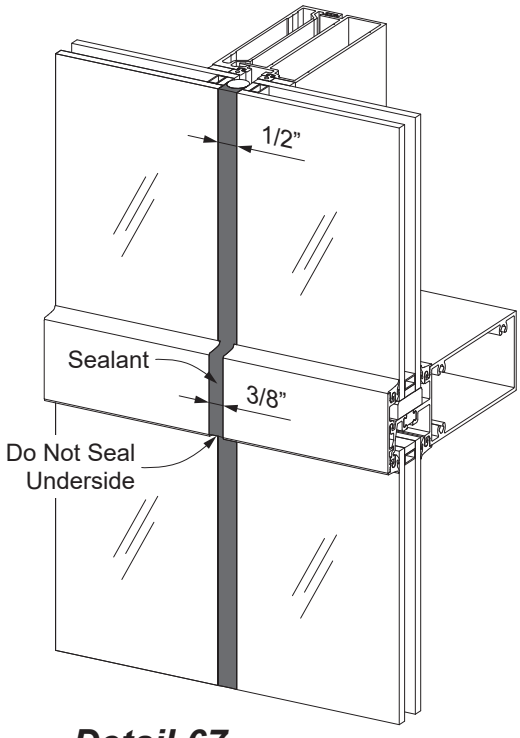


Detail 66

-At face member splices, carry the sealant down over the face member without sealing off the bottom.
See **Detail 67.**

-Using a nylon spatula or other non-scratching implement, tool the silicone immediately after running the vertical joint. Exert positive pressure while tooling to ensure that the silicone completely fills the cavity.

-Be careful not to remove too much silicone. The silicone should make complete contact with the glass and aluminum surfaces. The finished joint should be flush with the edge of the vertical.



Detail 67

GLAZING

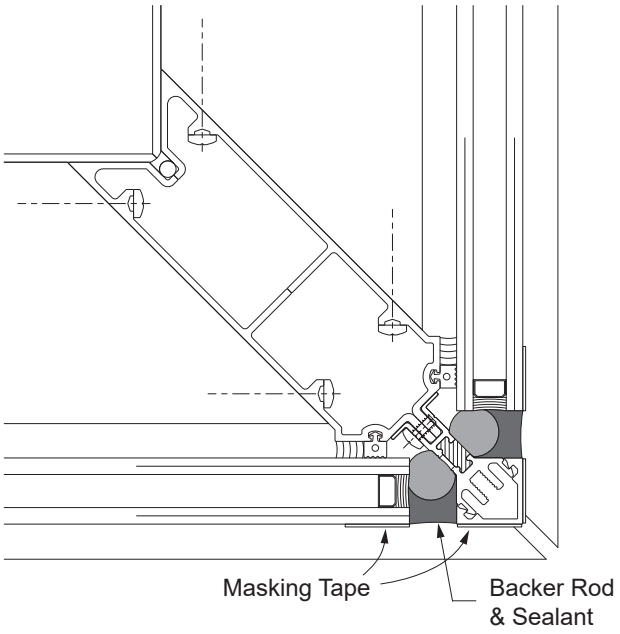
STEP 27 (Continued)
APPLY EXTERIOR WEATHERSEAL @ OPTIONAL 90° SSG CORNER

Once the interior structural silicone has cured*, it is necessary to seal the exterior joint at the optional corner ssg mullion.

Note: * Please consult sealant manufacturer for recommended cure time.

-Remove the temporary glass retainers.
-Clean all contact surfaces with an approved cleaner and apply masking tape to both vertical edges of the glass.
-Insert an approved, open cell polyurethane backer rod between the glass and the corner trim.
-Starting at the bottom of the lite, pump sealant into the joint between the lites of glass. Apply moderate pressure so that the void is completely filled.

See **Detail 68.**



Detail 68

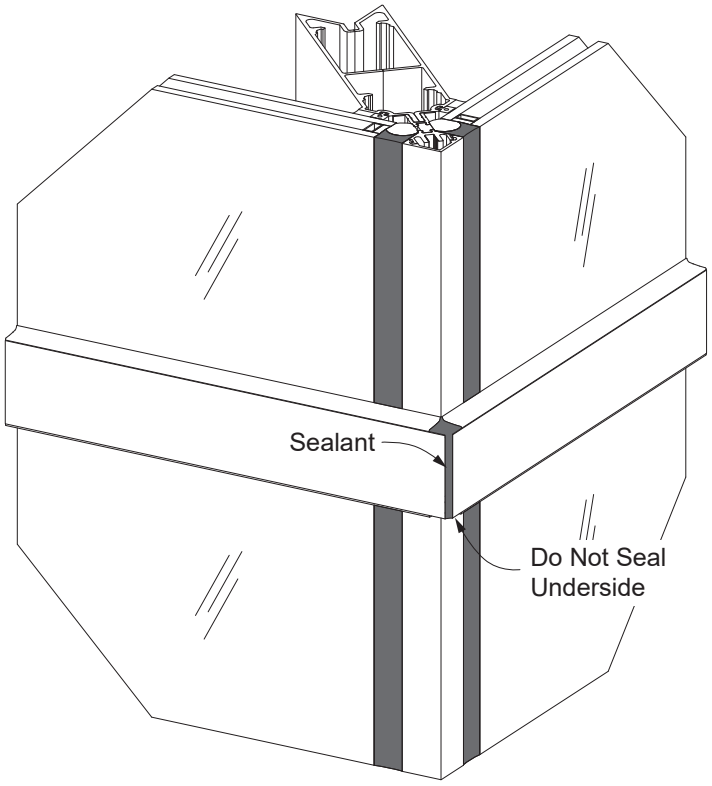
GLAZING

STEP 28
INSTALL HORIZONTAL GLASS STOPS @ OPTIONAL 90° SSG CORNER

-Once the corner structural silicone has cured*, install the glass stops at the intermediate horizontals along with the exterior glazing gaskets. Be sure to leave a 1/4” gap between the glass stops at the corner.
-Apply and tool sealant, filling the gap between the glass stops, but not the underside of the gap.

See **Detail 69**.

Note: * Please consult sealant manufacturer for recommended cure time.



Detail 69

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