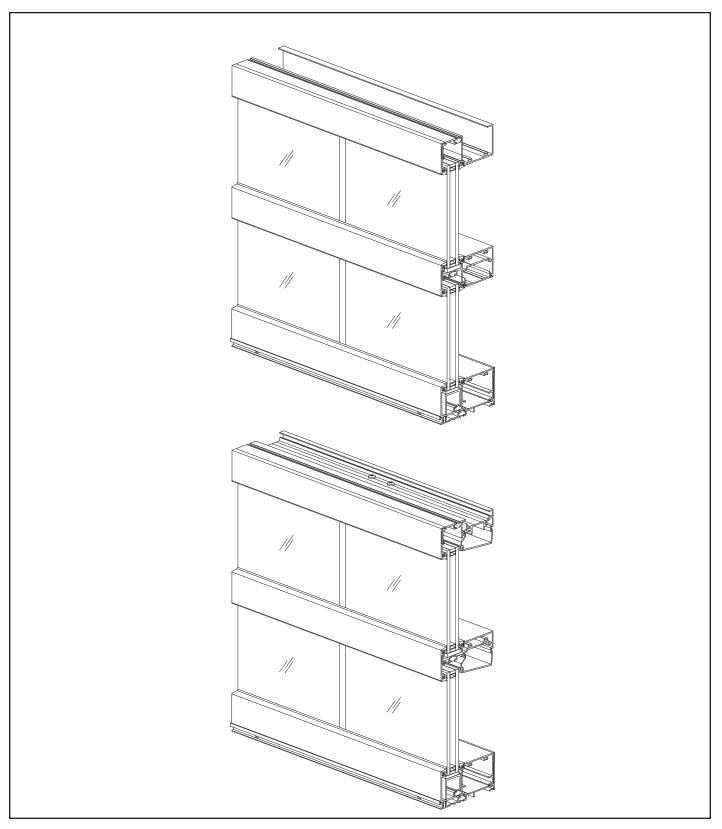


YES 45 TU SSG Front Set Storefront System



Installation Manual



TABLE OF CONTENTS

Installation Notes	Page ii
PARTS DESCRIPTION	
YES 45 TU SSG Front Set Framing Members	Pages 1 & 2
YES 45 TU SSG Front Set Door Framing Members	•
YES 45 TU SSG Front Set Accessories	
	9
FRAME FABRICATION	
Determine Frame Size	Page 6
Fabricate Jambs	9
Fabricate SSG Mullions	Page 8
Fabricate Corner SSG Mullions	Page 9
Fabricate Expansion Mullions	Page 10
Fabricate Snap-in Fillers for Captured Corner Mullions	Page 11
Fabricate Heads & Horizontals	Pages 12 & 13
Fabricate Sill Flashing	•
Fabricate Sill Members	
Fabricate Glass Stops & Glazing Adaptors	Pages 18 & 19
FRAME ASSEMBLY	
Install End Dams for Head	Page 20
Assemble Frames	•
Attach Captured Corner Assemblies	•
Install SSG Corner Mullions	•
	-
FRAME INSTALLATION	
Install Sill Flashing End Dams	•
Install Sill Flashing	
Install Sill Flashing Splice Sleeve	
Sill Preparation	
Fabricate / Install Sill Flashing at Corners	•
Install Frames	Pages 30 to 34
Apply Perimeter Sealant	0
Install Water Deflectors	
Install Horizontal Flush Fillers	-
Apply Internal Sealant	
Install Glazing Adaptors	Page 40
GLAZING	
Install Interior Glazing Gaskets	Pages 41 to 43
Install Glass	•
Install Anti-Walk Blocks	Page 48
Install Exterior Glass Stops & Gaskets	
Apply Exterior Weatherseal	Pages 50 & 51
Install Exterior Glass Stops @ SSG Corners	



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 4-1/2") FOR OUTSIDE GLAZING

	Head For SSG Framing	BE9-2575	SSG Expansion Mullion (Female), Use with Cont. Head & Sill	E9-2548
	Head Receptor	BE9-2562	SSG Expansion Mullion (Male), Use with Cont. Head & Sill	E9-2549
	Head Receptor Stop Use with BE9-2562	E9-1033	90° Outside Corner Mullion Use with Cont- inuous Head & Sill Only	E9-2510
	Horizontal	BE9-2573	90° Outside Corner Trim Base For 1" Glazing	E9-2550
	Glass Stop Use with BE9-2575	E9-2501	90° Outside Corner Trim Cover	E9-3439
	Glass Stop Use with BE9-2573	E9-2508	90° Inside Corner Mullion	BE9-2506
	Sill/Jamb Screw Spline Assembly	BE9-2513	135° Inside Corner Mullion	BE9-2505
	Sill Shear Block Assembly	BE9-2518	0°-12.5° Hinged Inside Corner Mullion (Male)	BE9-2524
	4-1/2" Sill Screw Spline Assembly	BY7-9762	0°–15° Hinged Outside Corner Mullion (Male)	BE9-2527
1	Thermal Sill Flashing	BE9-2578	Hinged Corner Mullion (Female) Use with BE9-2524 or BE9-2527	BE9-2528
	Snap-in Filler Use with E9-0490 at Jamb Conditions	E9-0491	Glazing Adaptor For 1/4" Glazing	E9-1040
	Flush Filler	E9-2512	SSG Glazing Adaptor For 1/4" Glazing	E9-2509
	SSG Mullion Use with Continuous Head & Sill Only	E9-2547		



FRAMING MEMBERS (2" x 4-1/2") FOR INSIDE GLAZING

	Head For I.G. SSG	BE9-2574	89 89 89 89 89 89 89 89 89 89 89 89 89 8	SSG Mullion Use with Continuous Head & Sill Only	E9-2547
	Head Receptor	BE9-2562		SSG Expansion Mullion (Female), Use with Cont. Head & Sill	E9-2548
	Head Receptor Stop Use with BE9-2562	E9-1033	Ls.	SSG Expansion Mullion (Male), Use with Cont. Head & Sill	E9-2549
	Horizontal Shear Block Assembly	BE9-2572		90° Outside Corner Mullion Use with Cont- inuous Head & Sill Only	E9-2510
2	Glass Stop Use with BE9-2574 & BE9-2572	E9-2523		90° Outside Corner Trim Base For 1" Glazing	E9-2550
	Glass Stop Use with BE9-2574	E9-2501		90° Outside Corner Trim Cover	E9-3439
	Glass Stop Use with BE9-2572	E9-2508		90° Inside Corner Mullion	BE9-2506
	Sill/Jamb Screw Spline Assembly	BE9-2513		135° Inside Corner Mullion	BE9-2505
	Sill Shear Block Assembly	BE9-2518		0°-12.5° Hinged Inside Corner Mullion (Male)	BE9-2524
	4-1/2" Sill Screw Spline Assembly	BY7-9762		0°-15° Hinged Outside Corner Mullion (Male)	BE9-2527
'u_w	Thermal Sill Flashing	BE9-2578		Hinged Corner Mullion (Female) Use with BE9-2524 or BE9-2527	BE9-2528
	Snap-in Filler Use with E9-0490 at Jamb Conditions	E9-0491		Glazing Adaptor For 1/4" Glazing	E9-1040
	Flush Filler	E9-2512		SSG Glazing Adaptor For 1/4" Glazing	E9-2509



DOOR FRAMING MEMBERS THERMAL STANDARD

ITERWAL		STANDARD			
	Door Jamb For 25T/35T/50T Doors E2-0051 Not Included	BE9-1340		Door Jamb Use with AS-0409	E9-0490
	Slotted Pocket Filler Use with BE9-2539	E9-2546		Snap-in Pocket Filler	E9-2546
1441	Pocket Filler Use with BE9-2537 at Jamb Conditions	BE9-2570		Snap-in Filler Use With E9-0490 at Jamb Conditions	E9-0491
<u>Lann</u>	Snap-in Filler	BE9-2571	Ļ	Snap-in Filler	E9-1020
Į.	Interior Transom Glass Stop Use With BE9-1342	E9-2542		Intermediate Door Jamb Use with AS-0409	E9-9312
	Applied Exterior Transom Glass Stop Use With E9-2542 & FC-0808	BE9-1342		Applied Door Stop E2-0052 Elastomer Weathering Included	AS-0409
	Transom Bar For 25T/35T/50T Doors E2-0051 Not Included	BE9-1341		Door Stop Base Used with AS-0409	E9-1113
	Exterior Transom Head Glass Stop Use With BE9-1341	E9-2425		Transom Jamb Pocket Adaptor	E9-2543
	Interior Transom Head Glass Stop Use With BE9-1341	E9-2536	c#	Transom Bar E2-0051 Elastomer In- cluded	AS-0488
	Threshold 1/2" x 4-1/2" For 25T/35T/50T Doors	BE9-0465		OHCC Transom Bar	E9-0489
			<u>.</u>	OHCC Door Stop E2-0051 Elastomer In- cluded	AS-0718
				Exterior Transom Head Glass Stop	E9-2425
			Ŋ	Interior Transom Head Glass Stop	E9-2540
				Threshold 1/2" x 4"	E9-0407



ACCESSORIES

		1			
Fist	Glazing Gasket	E2-0052		End Dam For Sill Flashing	E1-0199
	Structural Glazing Spacer (1/4" F.C.) For I.G.	E2-0543		Snap-in Filler Use with AS-2539 at Jamb Conditions	E1-1148
	Structural Glazing Spacer (1/4" F.C.) For O.G	E2-0544		Water Deflector	E2-0047
	Elastomer Weathering	E2-0051		Horizontal Water Deflector For SSG	E1-1189
•	Pile Weathering	E2-0062		RH 90° Corner Water Deflector For SSG Outside Glazing	E1-1179
	Weathering Gasket Use with Expansion Mullions	E2-0065		LH 90° Corner Water Deflector For SSG Outside Glazing	E1-1180
	Shear Block All Members - Inside Glazing Sill Only - Outside Glazing	E1-1145	3	1-1/8" "W" Side Block For Jamb	E2-0545
	Setting Block For Intermediate Horizontal	E2-0611		3/4" "W" Side Block Only at Thermal Transom Jamb Pocket	E2-0519
	Setting Block For 1" Glazing Transom Head	E2-0104	3	3/8" "W" Side Block Only at Standard Transom Jamb Pocket	E2-0533
	Setting Block For Sill	E2-0177		End Dam For BE9-2521 Head, Continuous Head & Sill Frames	E2-0069
	Setting Block For 1/4" Glazing	E2-0019		End Dam For BE9-2575 Head, Continuous Head & Sill Frames	E2-0548
	Setting Block For 1" Glazing Used with BY7-9762	E2-0020		Temporary Glass Retainer For 90° Outside SSG Corner	E1-3588
	Setting Block Chair Use with E2-0177 Setting Block at Sill	E1-2530		Temporary Glass Retainer For 1" GL.	E3-0001



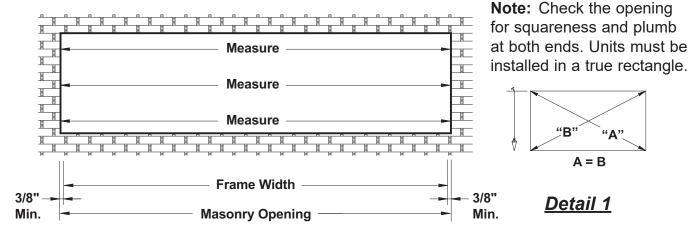
ACCESSORIES

	Temporary Glass Retainer For 1/4" GL.	E3-0006	(<u> </u>	#12 x 1-1/4" PHSMS Type AB, Zinc Plated Steel, For Screw Spline Attachment	PC-1220
	Frame Filler (Optional) Use with BE9-2513 & BE9-2574	E3-0028	<u> </u>	#12 x 1-1/2" PHSMS Type AB, Zinc Plated Steel, For Screw Spline Attachment	PC-1224
0 0 0	Drill Fixture For Outside Glazing	H-7214	{\\ \ \ \ \ \ \ \ \ \ \ \ \ \	#12 x 1-3/4" PHSMS Type AB Zinc Plated Steel, For Attachment of Shear Block to Vertical	PC-1228
0 0 0	Drill Fixture For Inside Glazing	H-7215)mmm»	#8 x 1/2" FHSMS Type AB, Zinc Plated Steel For Attach- ment of E9-2541 to Transom Jamb	FC-0808
Summe.	#8 x 3/8" PHSMS Zinc Plated Steel For Hinged Mullions	PC-0806	<u> </u>	#10-32 x 2" FHSMS Zinc Plated Steel, For Attachment of OHCC Door Stop	FN-1032
Emm.	#10-24 x 3/8" PHMS, Stainless Steel, For Attachment of Sill to Sill Flashing	PM-1006 -SS	Jummump	#12 x 3/4" UFHSMS Type A, Zinc Plated Steel Alternative End Dam Attach. in Restrictive Spaces	UA-1212
	#12 x 5/8" PHSMS Type AB, Zinc Plated Steel, For Attach- ment of horizontals to shear blocks	PC-1210	Emmun	#1/4"-20 x 1" HWHMS Zinc Plated Steel For Attachment Corner Temp Glass Retainer	HM-2516



STEP 1 DETERMINE FRAME SIZE

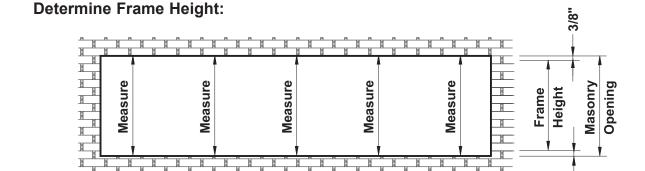
Determine Frame Width:



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

See Detail 1.

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



-Measure the height of the masonry opening in several places along the entire length of the opening.

<u>Detail 2</u>

-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.

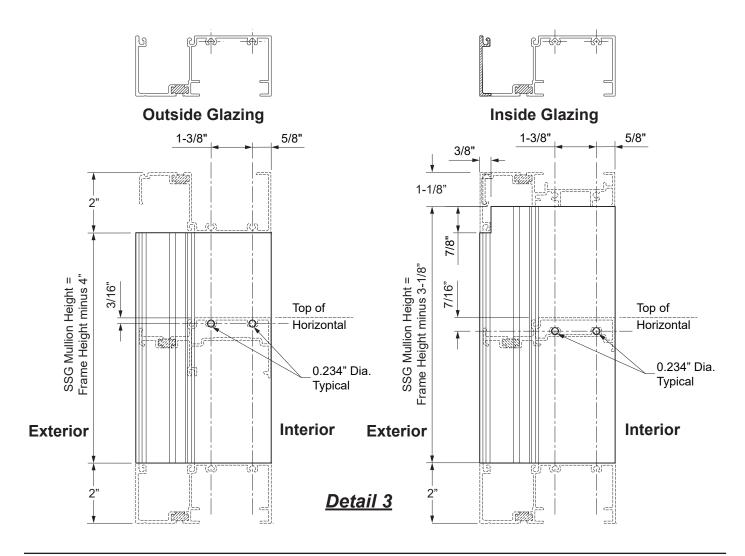
See Detail 2.

13/16"



STEP 2 FABRICATE JAMBS

- -Cut the jamb mullion as shown in **Detail 3**.
- -Fabricate holes in mullions for screw spline attachment using one of the methods below:
 - 1. Layout the hole locations as shown in **Detail 3** and drill a 0.234" dia. (15/64" drill bit) clearance hole at each location marked, or per drill fixture.
 - 2. Use punch press with appropriate die set.





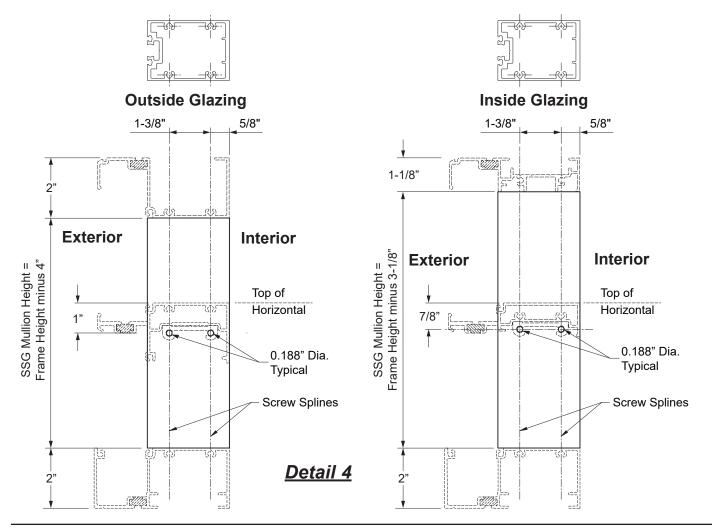
STEP 2 (Continued) FABRICATE INTERMEDIATE SSG MULLIONS

Notes: SSG Mulllions can only be used in continuous head and sill applications. For inside glazed SSG framing, horizontal Daylight Openings must be 24" or greater where SSG mullions are used.

-Cut the SSG mullion as shown in **Detail 4**.

Note: Open back horizontals, BE9-2572 and BE9-2573, must be used when using shear blocks.

- -Mark the location for each shear block using one of the methods below:
 - 1. Use a short piece of each horizontal member with a shear block installed as a template. Center the template on the face of the vertical and mark each hole location.
 - 2. Layout the shear blocks as shown in **Detail 4**.
- -Drill a 0.188" diameter hole (#12 or 3/16" drill bit) at each location marked.
- -Attach the shear blocks to the verticals using three (3) PC-1228 fasteners.



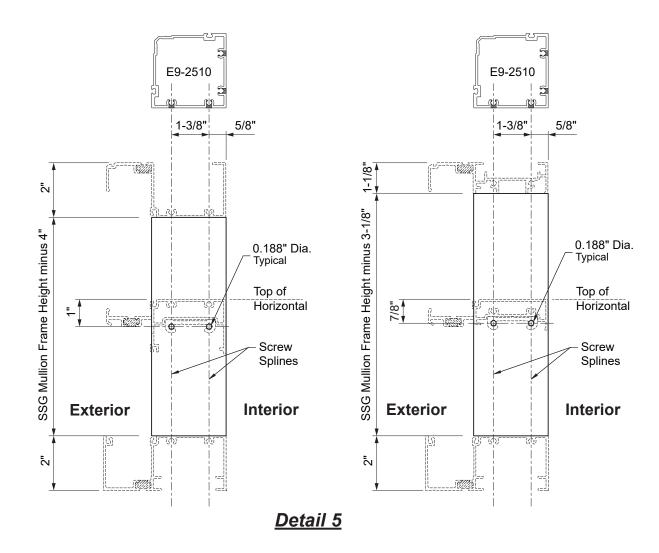


STEP 2 (Continued) FABRICATE CORNER MULLIONS

-Tubular mullions require shear blocks for the attachment of horizontal members:

Note: Open back horizontals, BE9-2572 and BE9-2573, must be used when using shear blocks.

- -Mark the location for each shear block using one of the methods below:
 - 1. Layout the shear blocks as shown in **Detail 5**.
- -Drill a 0.188" diameter hole (#12 or 3/16" drill bit) at each location marked.
- -Attach the shear blocks to the verticals using two (2) PC-1228 fasteners.

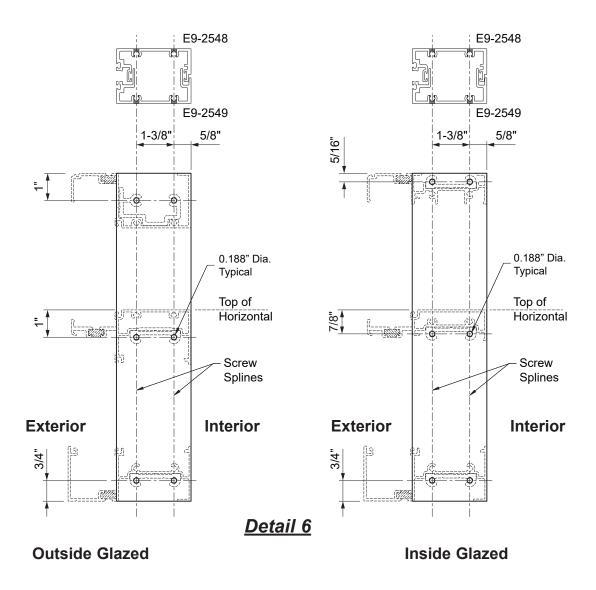




STEP 2 (Continued) FABRICATE EXPANSION MULLIONS

- -Cut the E9-2548 and E9-2549 expansion mullions to the frame height determined in **Step 1**.
- -Drill 0.188" diameter holes (#12 or 3/16" drill bit) at each location marked at the intermediate horizontals.

See Detail 6.

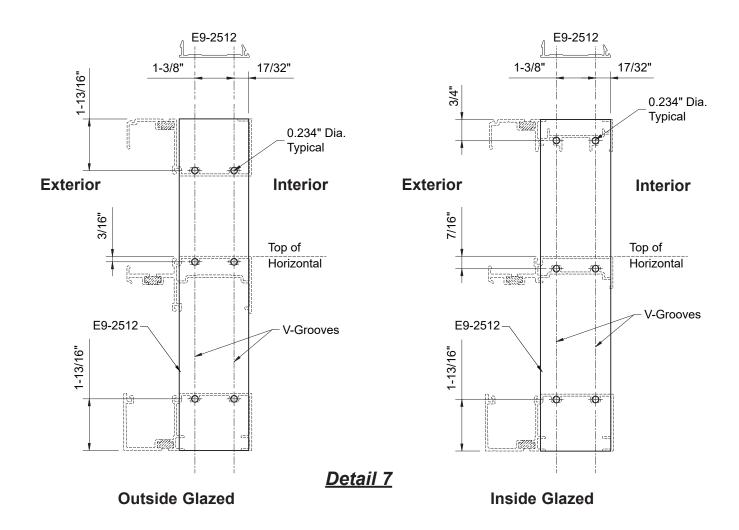




STEP 2 (Continued) FABRICATE SNAP-IN FILLER FOR INSIDE CAPTURED CORNER MULLIONS

- -Cut the E9-2512 snap in fillers to the frame height determined in **Step 1**.
- -Fabricate holes in vertical mullions for screw spline attachment using one of the methods below:
 - 1. Layout the hole locations as shown in **Detail 7** and drill a 0.234" dia. (15/64" drill bit) clearance hole at each location marked.
 - 2. Use punch press with appropriate die set.

See Detail 7.



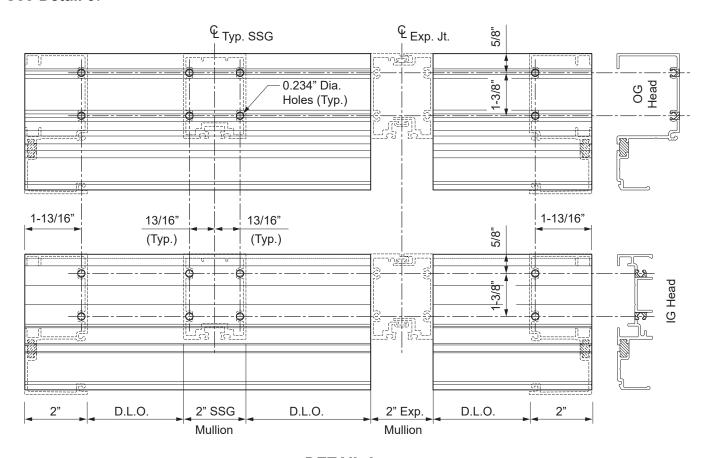


STEP 3 FABRICATE CONTINUOUS HEAD FOR SSG GLAZING

Notes: Due to framing geometry of the inside glazed system, the horizontal Daylight Openings must be 24" or greater where SSG mullions are used. Also, expansion ssg mullions run through.

- -Cut head members as continuous run through as indicated on the shop drawings.
- -Both inside and outside glazed heads will receive the same fabrication. Drill a 0.234" diameter hole (15/64" drill bit) at each location marked for a #12 (PC-1220) fastener.
- -For storefront frames greater than 24 feet wide, the continuous heads and sills will have to be spliced every 12 to 15 feet. Allow for 3/8" expansion joint at continuous head and sill where ssg expansion mullions are used.

See Detail 9.



DETAIL 9



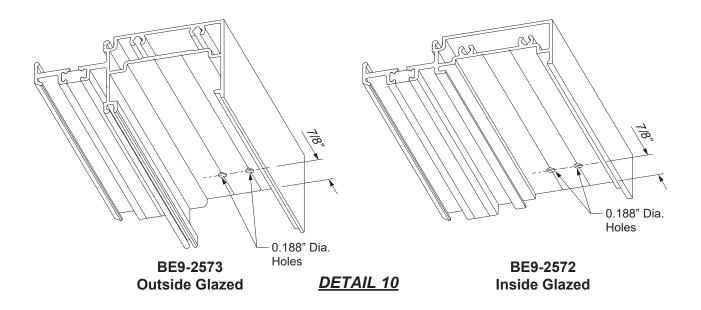
STEP 3 FABRICATE HORIZONTALS

- -Cut horizontal members to the daylight opening (D.L.O.) as indicated on the shop drawings.
- -Intermediate horizontal members that will be attached to shear blocks require additional fabrication:

BE9-2572 & BE9-2573 Intermediate Horizontal Members:

- -Mark hole location at each end, 7/8" from the ends and centered along the "V"-groove.
- -Drill a 0.188" diameter hole (#12 or 3/16" drill bit) at each location marked for a #12 (PC-1210) fastener.

See Detail 10.





STEP 4 FABRICATE SILL FLASHING

Note: Sill flashing is required in all conditions including continuous head and sill.

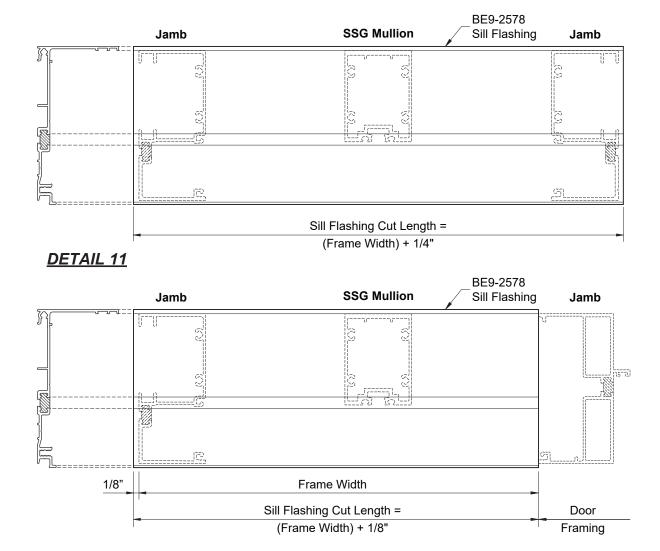
For elevations without door framing:

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

For elevations with door framing:

-Cut the sill flashing from the end of the frame to the door jamb plus (+) 1/8". (See approved shop drawings for this dimension)

See Detail 11.





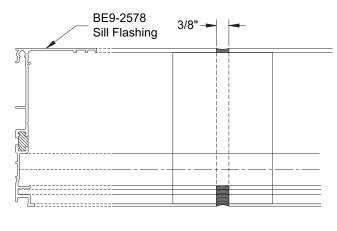
Page-15

FRAME FABRICATION

STEP 4 (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.
- -Mark the quarter points between vertical mullions on the sill flashing.

See Detail 12.



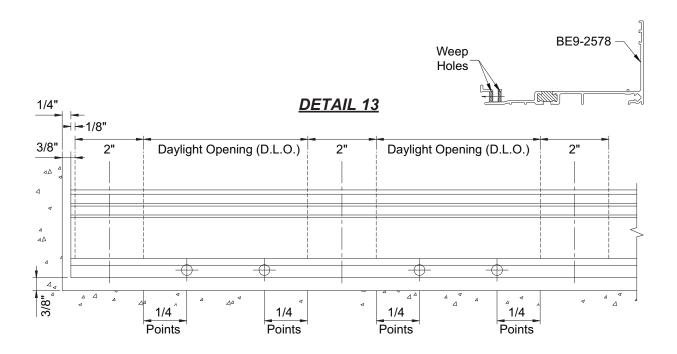
DETAIL 12



STEP 4 (Continued) FABRICATE WEEP HOLES FOR SILL FLASHING

-Mark and drill a 5/16" diameter weep hole in the front of the sill flashing at each D.L.O. quarter point.

See Detail 13.

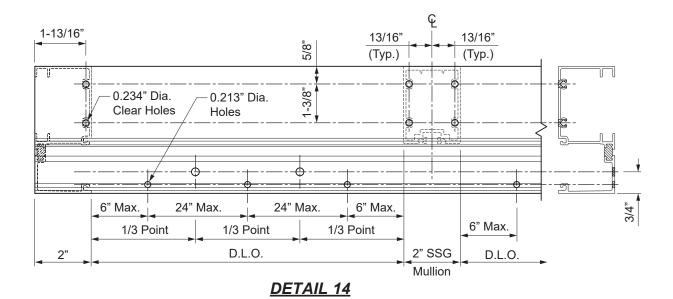




STEP 5 FABRICATE CONTINUOUS SILL MEMBERS FOR SSG GLAZING

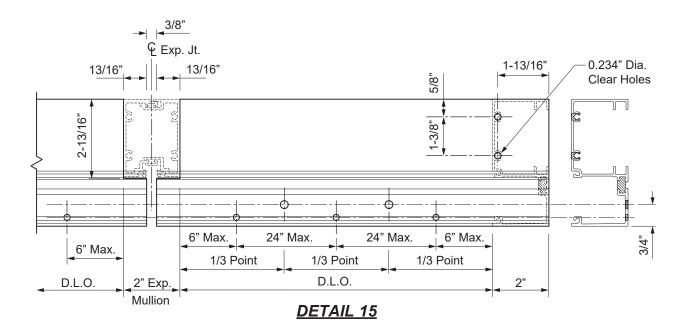
For YES 45 TU SSG applications, sill members run through, except at expansion mullions. Expansion mullions where required are to be every 12 to 15 feet.

- -Sill members are to be cut as shown on **Details 14 & 15**.
- -For end reactions over 500 lbs., fabricate sill members for anchoring to sill flashing:
- -Drill a 0.234" diameter hole (15/64" drill bit) at each location marked for a #12 (PC-1220) fastener.
 - -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 **Details 14** & **15**.
 - -Mark additional hole locations a maximum of 24" on center (O.C.).
 - -Drill a 0.213" diameter (#3 drill bit) hole at each location marked. See Details 14 & 15.





STEP 5 (Continued) FABRICATE CONTINUOUS SILL MEMBERS FOR SSG GLAZING

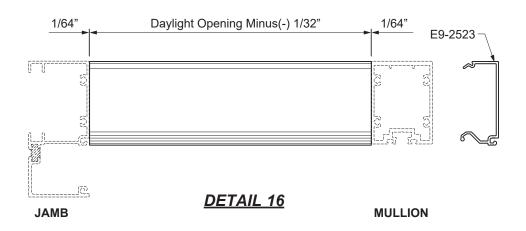


STEP 6 FABRICATE GLASS STOPS

For Inside Glazing

- -Cut glass stops to Daylight Opening Minus(-) 1/32".
- -Cut glazing adaptors to Daylight Opening Minus(-) 1/32".

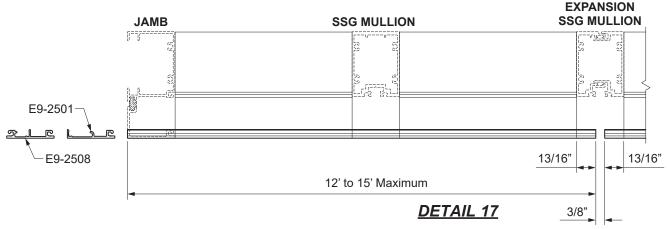
See Detail 16.

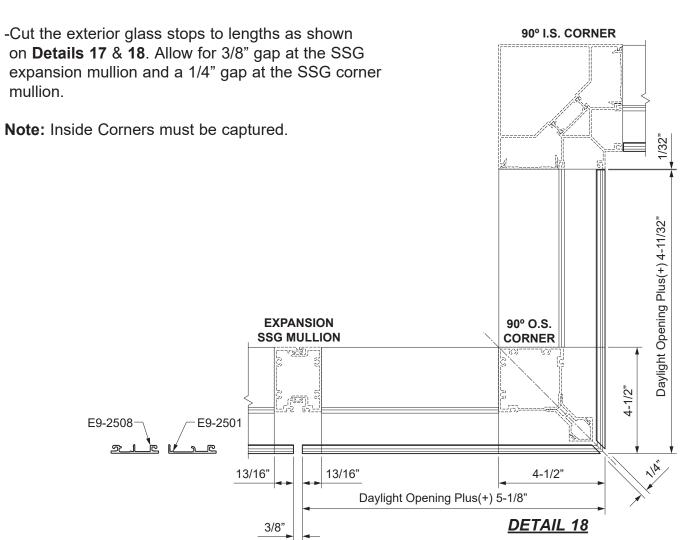




STEP 6 (Continued) FABRICATE GLASS STOPS

For Exterior Glass Stops







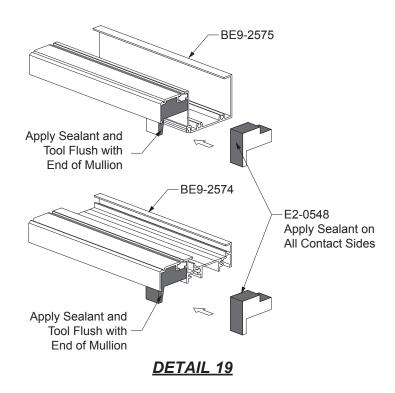
STEP 7 INSTALL END DAMS FOR HEAD

The ends of head members of the continuous head and sill frames must be plugged using end dams, E2-0548 at the outside glazed head, and E2-0069 at the inside glazed head.

Use the following technique to install end dams at the head and sill:

- -Clean the ends of the head and sill members using a cleaner approved by sealant manufacturer.
- -Apply sealant to all contact sides of the end dam.
- -Insert the end dam into each end, leaving it 1/8" recessed from the edge of the mullion.
- -Apply sealant to the end dams and tool the sealant flush with the ends of the mullion.

See Detail 19.





STEP 8 ASSEMBLE FRAMES

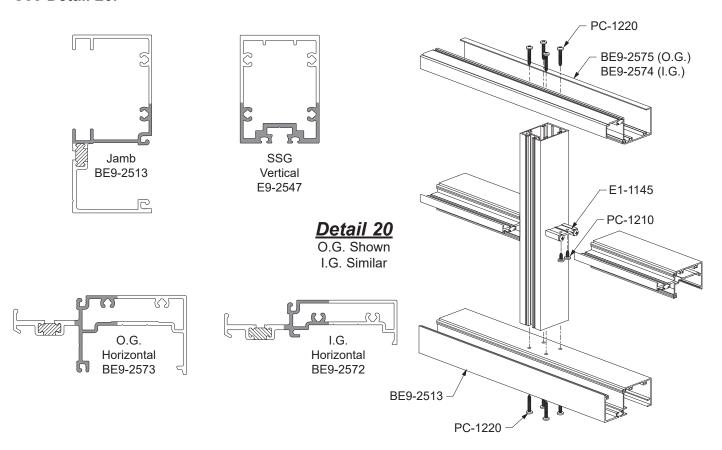
SSG Assembly

- -Clean all joint surfaces using cleaner approved by sealant manufacturer.
- -Apply sealant to both ends of jamb and ssg mullions just prior to assembly.

Note: Exterior glass stop E9-2501 should be applied to the inside glazed head member prior to assembly.

- -Attach vertical members to the head and sill using (2) PC-1220 fasteners per jamb and (4) PC-1220 fasteners per SSG mullion at each end.
- -Attach shear blocks to verticals with PC-1228 fasteners as shown.
- -Match drill shear block with 3/16" (#12 drill bit) hole for PC-1210 fastener.
- -Apply sealant to both ends of intermediate horizontal members just prior to assembly. Make sure that the sealant does not get into the glass stop reglets of the horizontal.
- -Attach horizontals to the shear blocks with (2) PC-1210 fasteners at each end.
- -Using a clean cloth, wipe off the excess sealant while pushing it into the joints.

See Detail 20.

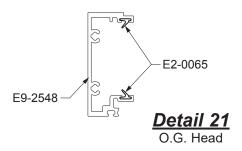




STEP 8 (Continued) ASSEMBLE FRAMES

Install End Caps for SSG Expansion Mullions

Since the expansion mullions run through for ssg applications, no splice sleeve is needed at the head, but an end cap will need to be installed prior to erection.



FC-1208

Set in Sealant

E1-1047

For Inside Glazing Only:

 -Snap on the exterior glass stops onto the head and horizontals prior to erection.

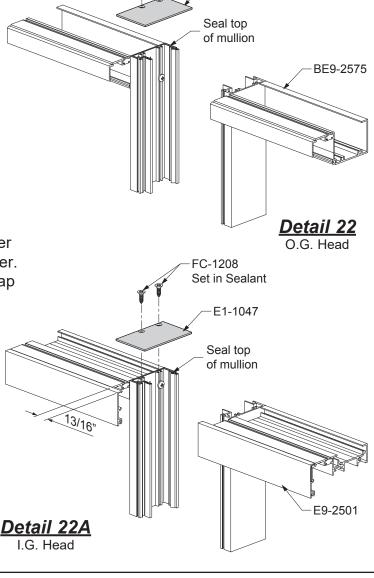
E9-2501 for the head E9-2508 for the horizontals

-Allow the glass stops to overlap the mullion by 13/16".

For all SSG Expansion Mullions:

- -Cut (2) weathering gaskets E2-0065 each running full length of the female mullion, and insert them into the reglets as shown in **Detail 21**.
- -Clean all sealant contact surfaces with cleaner and method approved by sealant manufacturer.
- -Apply sealant to the mullion where the end cap will be fastened.
- -Install the E1-1047 end cap to the top of the mullion using (2) FC-1208 fasteners.

See Details 22 & 22A.

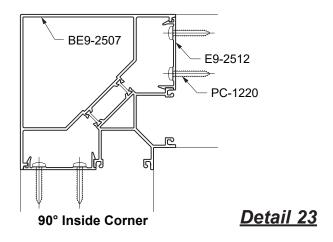


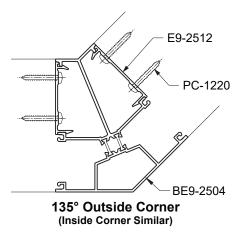


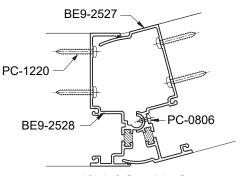
STEP 8 (Continued) ATTACH CAPTURED CORNER ASSEMBLIES

- -For YES 45 TU SSG, 90° inside corner mullions, 135° inside and outside corner mullions, and all hinged mullions are captured only and run through.
- -Attach horizontal members to standard mullions as previously shown.
- -Attach the other end of the horizontals to the corner mullions, hinged mullions, or flat fillers, or using the same technique.
- -Snap the corner framing members together to form the corner assemblies.
- -Hinged mullions must be fastened through the ball joint 6" from each end and no more than 18" on center with PC-0806 fasteners.
- -Carefully move the corner assembly into place and snap it into the rest of the frame one side at a time.

See Detail 23.







0°-15° Outside Corner (Inside Corner Similar)



STEP 8 (Continued) INSTALL CORNER SSG MULLIONS

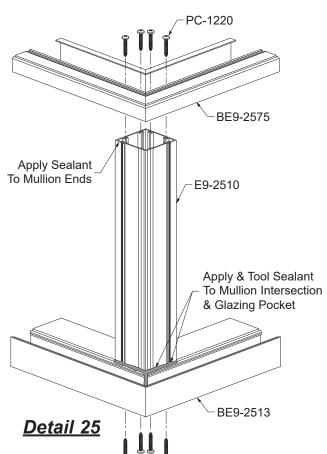
90° outside corner SSG mullions are available only for OG continuous head and sill frames.

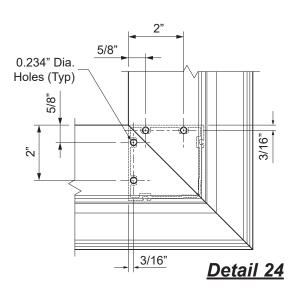
Fabricate Head and Sill Members for Corners:

Head and sill members are mitered (45°) at the corners and must be fabricated for attachment of the SSG corner mullion, E9-2510.

- -Layout hole locations shown on **Detail 24**. OR
- -Using a short piece of E9-2510 as a template, line up the glazing pockets and mark hole locations through the screw splines.
- -Drill a 0.236" diameter hole at each location marked.

See Detail 24.





Install Corner Assemblies:

- -Apply sealant to the ends of the corner mullions and attach them to the head and sill members with (4) PC-1220 fasteners at each end.
- -Apply and tool sealant to the joint where the corner mullion and the head & sill members intersect and along the glazing pocket where the head and sill members are mitered.

See Detail 25.

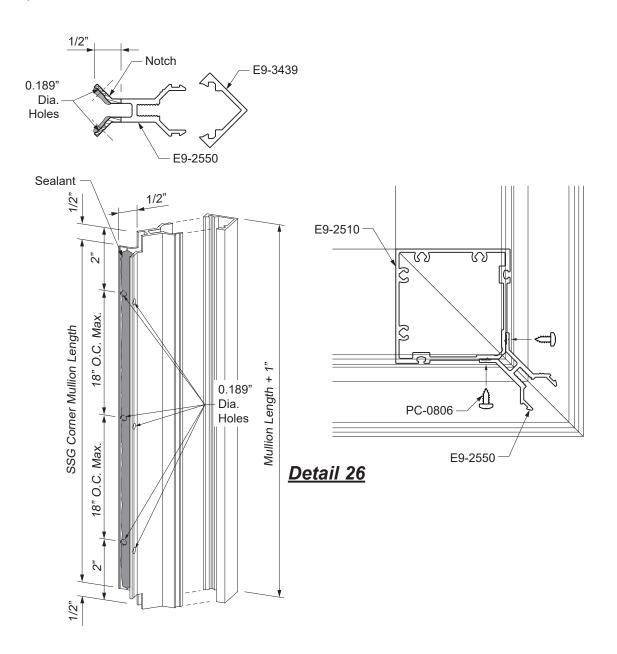
- -Attach intermediate horizontal members (only BE9-2572 & BE9-2573 may be used with SSG corners) to the verticals and corner mullion using shear blocks as shown in **Page 21**.
- -Carefully move the corner assembly into place and anchor the frame to the structure as shown in **Step 14**.

Note: For wider frames, YKK AP recommends expansion mullions be used adjacent to the corner mullion on both sides of the corner mullion as shown in **Page 22**.



STEP 8 (Continued) INSTALL CORNER SSG MULLIONS

- -Cut the E9-2550 Corner mullion Trim Adaptor Base and the E9-3439 Corner Cover to the length of the SSG corner mullion plus(+) 1".
- -Notch 1/2" x 1/2" from each end of the legs of the E9-2550 corner mullion trim adaptor base as shown in **Detail 26**. Drill 0.189" diameter clear holes in the legs of the adaptor 2" from each end and at 18" on center. Apply sealant to the legs of the trim adaptor prior to fastening to the corner mullion.
- -Install the E9-2550 adaptor using PC-0806 fasteners at 18" on center. Do not snap on the corner cover yet.



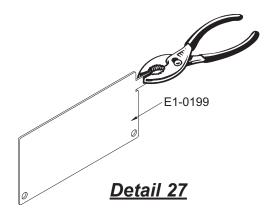


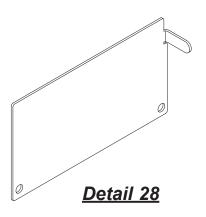
STEP 9 INSTALL SILL FLASHING END DAMS

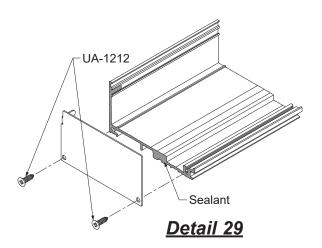
- -Hold the end dam with one hand and grab the tab with a pair of pliers.
- -Bend the end dam tab left or right 90 degrees in order to "hand" the end dam for the left or right end of the flashing.

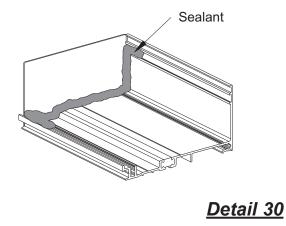
See Detail 27 & 28.

- -Clean all joint surfaces using cleaner approved by sealant manufacturer.
- -Apply sealant to end of the sill flashing as shown in **Detail 29.**
- -Slide the tab into the top portion of the sill flashing.
- -Tap the tab into place with a small tool until the end dam is snug against the end cut of the flashing.
- -Fasten the end dam to the sill flashing with two UA-1212 screws, starting at the back, followed by the front as shown in **Detail 29**.
- -Tool sealant along the joint between the end dam and the sill flashing as shown in **Detail 30**.
- -Seal over any exposed screw threads.









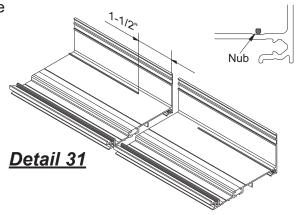


STEP 10 INSTALL SILL FLASHING

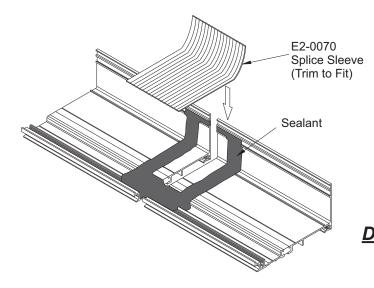
- -Install the sill flashing with a minimum of 3/8" shim underneath. Sill flashing must be installed level.
- -Anchor the sill flashing to the structure a maximum of 4" from each end and then 18" to 24" on center.
- -Apply and tool sealant to cover the heads of all anchors.

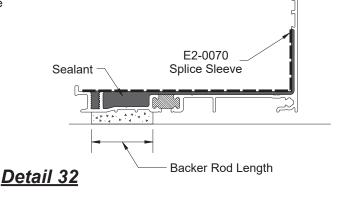
STEP 11 INSTALL SILL FLASHING SPLICE SLEEVE

- -Remove the nub with a chisel or pliers 1-1/2" on both sides of splice joint as shown in **Detail 31**.
- -After the sill flashing has been shimmed and installed to the building structure, insert a small backer rod under the sill flashing as shown in **Detail 32**.
- -Position the Silicone Splice Sleeve against the back wall below the groove.
- -Bend the Silicone Splice Sleeve into the front on the channel as shown. Mark and cut the sleeve at this position.
- -Clean Sill Flashing and Silicone Splice Sleeve with isopropyl alcohol at the splice location
- -Seal the flashing at the splice location as shown in **Detail 32**, before positioning the flashing. Set the Silicone Splice Sleeve into the Silicone Splice Sleeve.
- -Tool sealant tight as shown in **Detail 33**, squeezing the sheet flat with a seam roller.



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.

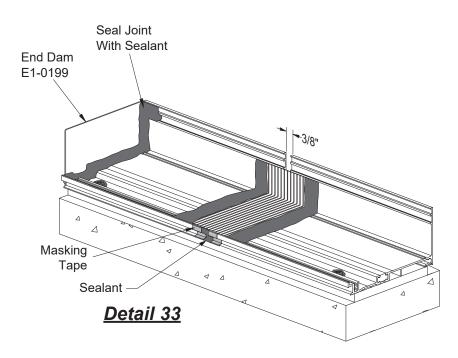






STEP 11 INSTALL SILL FLASHING SPLICE SLEEVE (Continued)

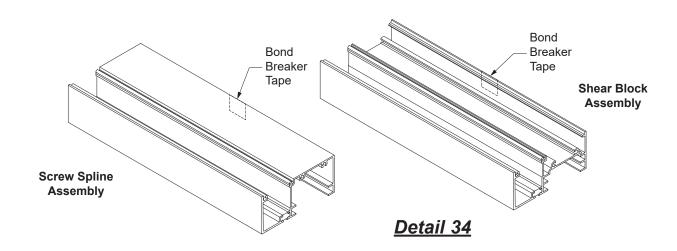
- -Apply masking tape to the front of the sill flashing at the splice as shown in **Detail 33**.
- -Thoroughly seal the small joint directly in front of the Silicone Splice Sleeve. Remove masking tape from the front gap after applying the sealant.



STEP 12 SILL PREPARATION

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

See **Detail 34**.





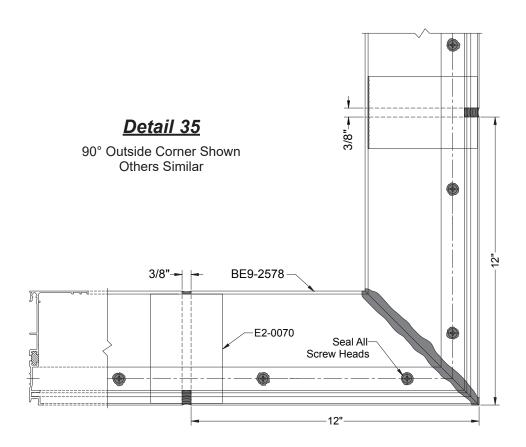
STEP 13 FABRICATE / INSTALL SILL FLASHING FOR CORNERS

Install sill flashing at corners:

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

See Detail 35.

-Continue installing the rest of the sill flashing providing a 3/8" joint at splices as shown in **Step 11** on **Page 27**.



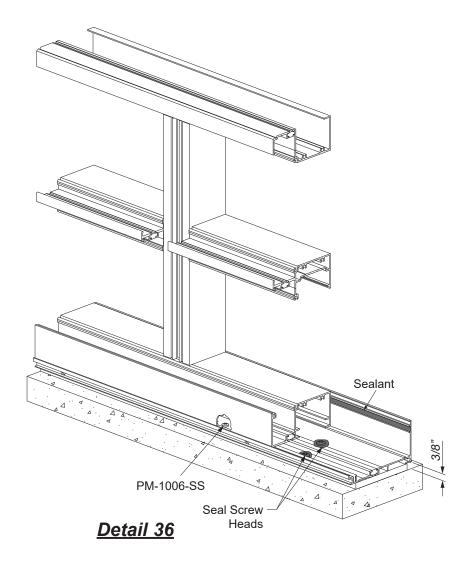


STEP 14 INSTALL FRAMES

- -Snap assembled frames together if using screw spline assembly.
- -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.

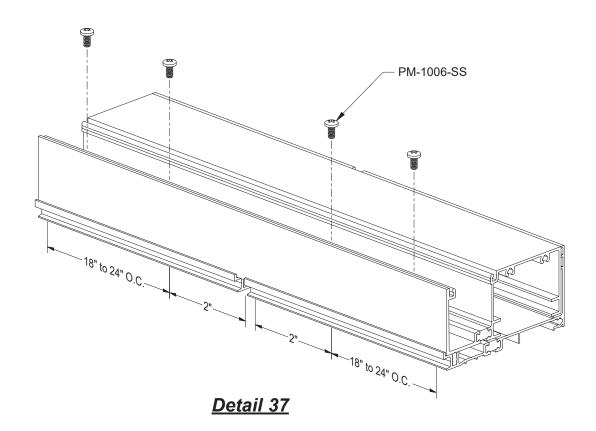
- -Shim jamb and head members with a minimum of 3/8" shim.
- -Anchor the frame to the structure at the sill*, head, and jamb: 3" from the ends and then 18" to 24" on center, or as required by P. E. calculations.
- -Always install a shim at all anchor locations.
- -Seal all screw heads.





STEP 14 (Continued) INSTALL FRAMES

- -For mullion end load reactions over 500 lbs., attach the sill to the sill flashing using PM-1006-SS screws.*
- -Also, add one (1) PM-1006-SS fastener 2" in both directions from the center line of the splice. See **Detail 37**.
- *To determine end load reactions, refer to approved shop drawings or P. E. stamped calculations.

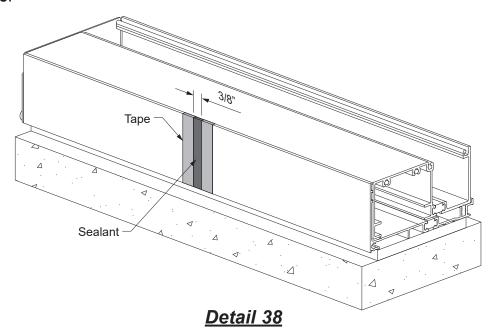




STEP 14 (Continued) INSTALL FRAMES

- -Apply masking tape to the edges of sill flashing splice joint at the interior of the sill flashing.
- -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 38.



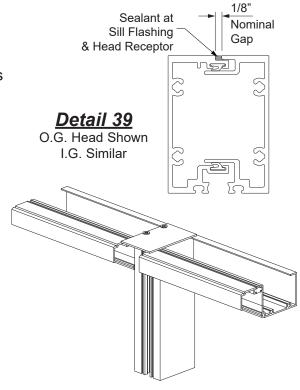


STEP 14 (Continued) INSTALL FRAMES

Join the Expansion Mullions

- -Erect and slide the expansion mullions into place leaving a 1/8" nominal gap between the mullion halves (1/4" maximum at lowest service temperature.)
- -Fill the interior gap between the mullion halves with sealant at the sill flashing and head receptor.

See Detail 39.

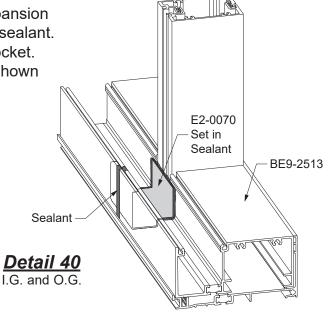


Splice the sill at the Expansion Mullion:

-Apply sealant to the contact surfaces in the glazing pocket of the sill where the E2-0070 will be placed.

-Firmly press into place the E2-0070 silicone splice sleeve into the sealant bed, centered on the expansion joint, and with the ribs of the sleeve against the sealant. Trim the splice sleeve as required to fit in the pocket.

-Apply and tool sealant to the face of the sill as shown in **Detail 40**





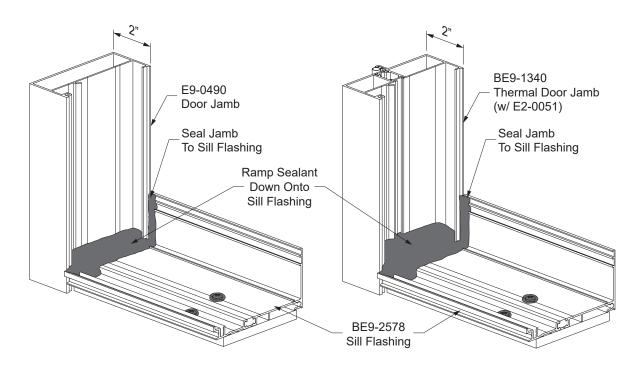
STEP 14 (Continued) INSTALL FRAMES

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 41.

Refer to the Entrances Installation Manual for door installation instructions.



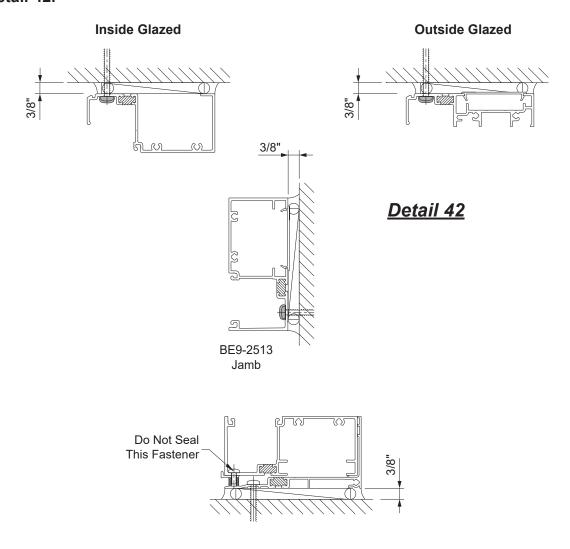
Detail 41



STEP 15 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 screw and anchor heads are sealed.

See Detail 42.





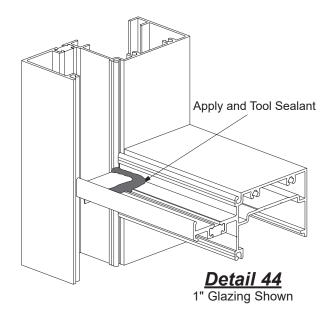
STEP 16 INSTALL WATER DEFLECTORS

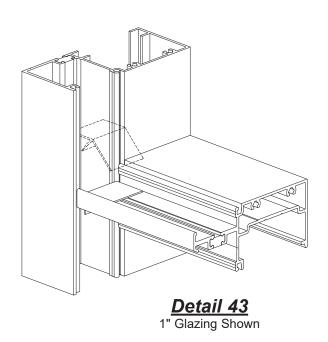
YES 45 TU requires the installation of a water deflector, E2-0047, at the ends of the intermediate horizontals at the jambs to keep water off of the insulating glass units.

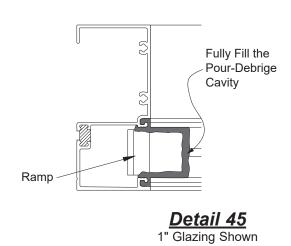
- -Peel away the protective paper from the bottom of the water deflector, E2-0047, and install the water deflector by rotating it over each end of the horizontal.
- -Position the vertical leg of the water deflector against the end of the horizontal.

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

See Detail 43.







- -Apply and tool sealant along the edges of the water deflector and down onto the horizontal. See **Detail 44**.
- -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 45**.

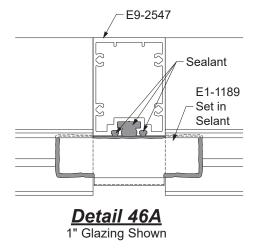


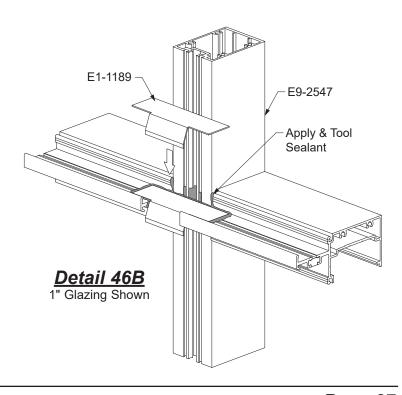
STEP 16A INSTALL WATER DEFLECTORS

For SSG mullions, the installation of water deflectors, E1-1189, is required to bridge the gap between intermediate horizontals at the SSG mullion. SSG corner mullions use E1-1179 & E1-1180 (OG only).

- -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 46A**.
- -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 46B.



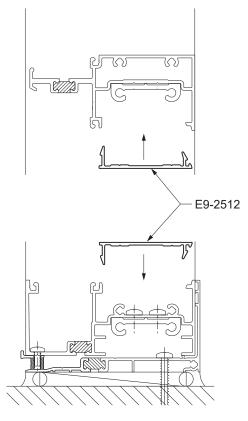


Effective Date: May 11, 2023 | 02-4018-12



STEP 17 INSTALL HORIZONTAL FLUSH FILLERS

-Snap in the E9-2512 flush filler into the horizontals and sill members as shown in **Detail 47**.



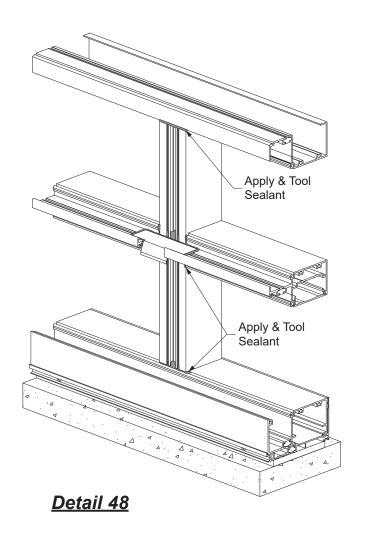
Detail 47 1" Glazing Shown



STEP 18 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.
- -Make sure all exposed screw heads are sealed.

See Detail 48.



Effective Date: May 11, 2023 | 02-4018-12



STEP 19 (Optional) INSTALL GLAZING ADAPTORS

For SSG applications, the E9-2509 glazing adaptor can be utilized for 1/4" glazing only.

-Cut glazing adaptor E9-2509 for SSG mullions:

Cut length between intermediate horizontals

= Daylight Opening plus(+) 1-1/8"

Cut length involving one continuous head or sill

= Daylight Opening plus(+) 9/16"

Cut length with both a continuous head and sill and no horizontals = length of SSG mullion.

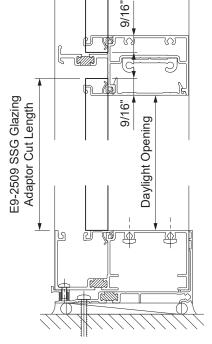
-Cut glazing adaptor E9-1040 for horizontals:

Cut length = Daylight Opening minus(-) 1/32"

-Run a bead of sealant along the gasket reglets.

Attach the SSG vertical glazing adaptor first:

- -Center the SSG vertical adaptor in the opening.
- -Attach the SSG glazing adaptor, E9-2509, to the mullion with PC-1016 fasteners, 3" from each end and no more than 18" on center, and seal all screw heads.



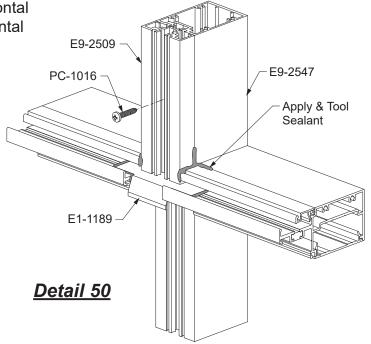
Detail 49

Attach the horizontal glazing adaptors last:

-Apply sealant to the ends of the horizontal glazing adaptors and install the horizontal adaptors.

-Tool the excess sealant at the intersections of the adaptors to completely seal the joint.

See Details 49 & 50.





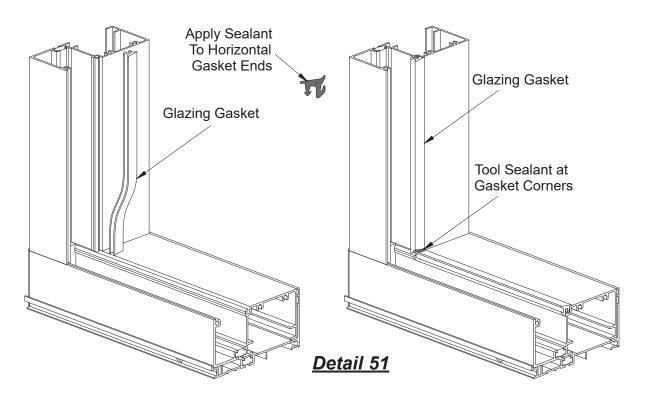
STEP 20 INSTALL INTERIOR GLAZING GASKETS AT JAMBS

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

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

Vertical glazing gaskets must be installed first:

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



Install horizontal glazing gaskets next:

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

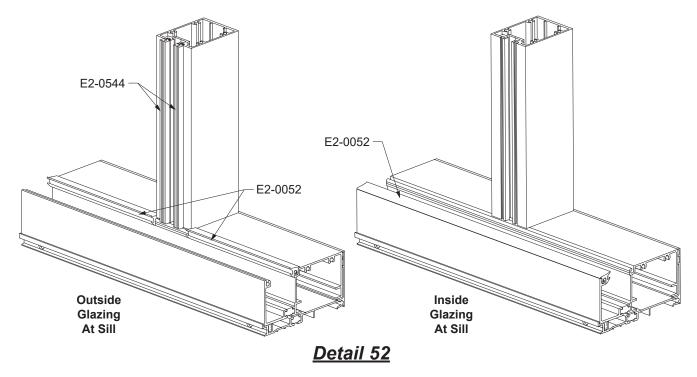
See Detail 51.



STEP 20 (CONTINUED) INSTALL GLAZING GASKETS AT SSG MULLIONS

The glazing gaskets must be installed prior to the glazing process. For outside glazing, use the outside gasket reglet, and for inside glazing, use the inside reglet.

- -Using a small brush clean out any dirt that may have accumulated in the gasket reglets.
- -Cut horizontal glazing gaskets to Daylight Opening plus(+) 1/4" for each foot of length.
- -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.



For Outside Glazing Only:

- -Cut E2-0544 vertical glazing spacers to length of the SSG mullion.
 - -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.

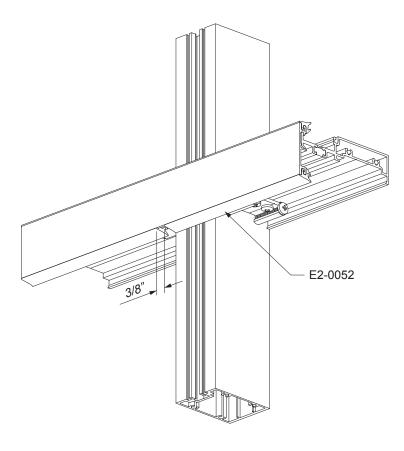
See Detail 52.



STEP 20 (CONTINUED) INSTALL GLAZING GASKETS AT SSG MULLIONS

Prior to glazing an inside glazed SSG system, snap on the exterior glass stops and install the E2-0052 gaskets.

- -The gasket on the upper side of the exterior glass stop is to be cut to length of glass stops.
- -The gasket on the sill is also to be cut to the length of the sill as previously shown in Detail 51.
- -For the lower side of the glass stops, allow a 3/8" space at the center of each SSG mullion as shown in **Detail 53**. This will allow the system to weep.



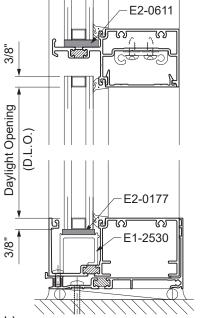
Detail 53



STEP 21 INSTALL GLASS FOR OUTSIDE GLAZED STRUCTURAL SILICONE GLAZING

	Width	Height	
Jamb to SSG	D.L.O. + 1-1/8"	D.L.O. + 3/4"	
SSG to SSG	D.L.O. + 1-1/2"	D.L.O. + 3/4"	

- -Install setting blocks at 1/4 points or according to engineering calculations; E2-0611 at the intermediate horizontal and E2-0177 with setting block chair E1-1080 at the sill.
- -Cut the structural silicone glazing spacers, E2-0544, to the same dimension as the glass plus(+) 3/16" per foot.
- -Install the ssg spacers centered along the opening.
- -Carefully install the first lite of glass from the exterior starting at one of the jambs.
- -Slide the glass into the glazing pocket of the jamb until it clears the vertical; slide the glass back 7/8" over in front of the first vertical.
- -Install glazing gaskets to the jambs and glass stops as shown in **Step 20** except leave 3/8" gaps on the underside where the glass stops are spliced or notched to allow proper weepage.
- -Install the next the lite and center it to maintain a 1/2" joint between lites.

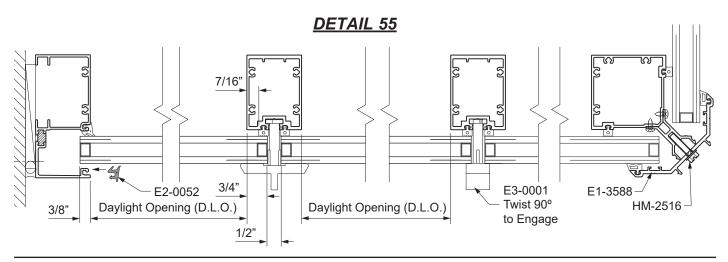


DETAIL 54

-Insert temporary glass retainers, E3-0001 (1" gl.) or E3-0006 (1/4" gl.), from the open side of the vertical and twist them 90° clockwise to engage. Locate temporary glass retainers 18" to 24" on center.

- -At 90° outside corner mullions, use E1-3588 with HM-2516 fasteners.
- -Install the next the lite and center it to maintain a 1/2" joint between lites.
- -Repeat the instructions above until all lites are installed.

See Details 54 & 55





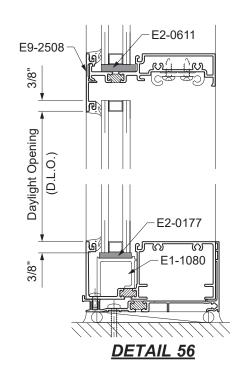
STEP 21 (CONTINUED) INSTALL GLASS FOR INSIDE GLAZED STRUCTURAL SILICONE GLAZING

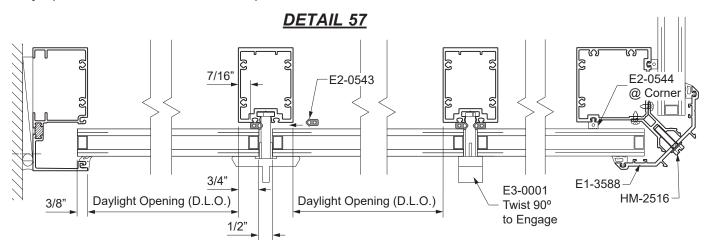
	Width	Height	
Jamb to SSG	D.L.O. + 1-1/8"	D.L.O. + 3/4"	
SSG to SSG	D.L.O. + 1-1/2"	D.L.O. + 3/4"	

- -Determine the glass size:
- -Install setting blocks at 1/4 points or according to engineering calculations; E2-0611 at the intermediate horizontal and E2-0177 with setting block chair E1-1080 at the sill.
- -Install glazing gaskets to the glass stops except leave 1/2" gaps on the underside where the glass stops are spliced or notched to allow proper weepage.
- -Carefully install the first lite of glass from the interior starting at one of the jambs. Bring the glass in front of the SSG mullion first, and then swing the other end past the vertical to where it can be lowered onto the setting blocks.
- -Final alignment of the glass will leave a 1/2" wide gap between the glass lites (3/4" glass bite at SSG mullions). However, in order to glaze this SSG system from the inside, it may be necessary to delay the alignment of the glass lites with respect to the D.L.O. until all SSG glass lites between captured verticals have been set and lowered onto their setting blocks. Then, the glass lites may be aligned to their proper position.

See Details 56 & 57.

- -Cut the structural silicone glazing spacers, E2-0543, to the same dimension as the glass plus(+) 3/16" per foot.
- -Align the bottom of the spacer with the bottom of the glass. Push the spacer in until it locks into place and work your way up the vertical until the entire spacer is installed.





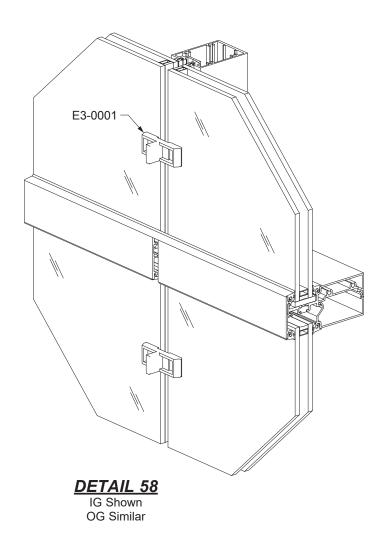
Effective Date: May 11, 2023 | 02-4018-12



STEP 22 INSTALL GLASS FOR INSIDE GLAZED STRUCTURAL SILICONE GLAZING

-Insert temporary glass retainers, E3-0001 (1" gl.) or E3-0006 (1/4" gl.), from the open side of the vertical and twist them 90° clockwise to engage. Locate temporary glass retainers 18" to 24" on center.

See Detail 58.

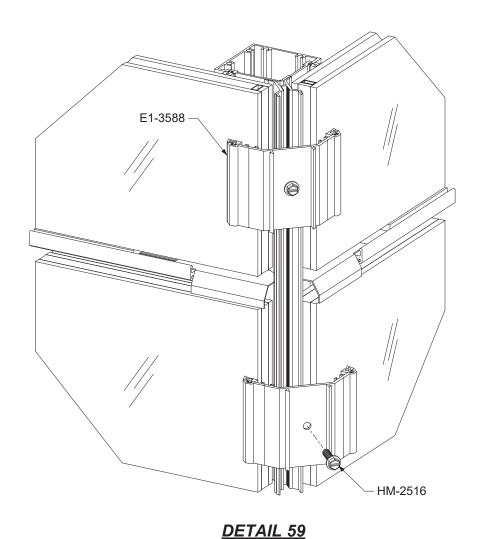




STEP 22A INSTALL GLASS FOR INSIDE GLAZED STRUCTURAL SILICONE GLAZING

-At the 90° corner SSG mullions, use E1-3588 retainers with HM-2516 fasteners, spaced at 2'-0" maximum on center.

See Details 59.



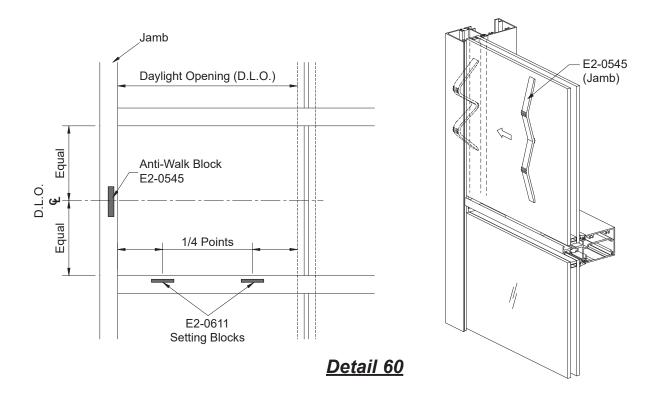


STEP 23 INSTALL ANTI-WALK BLOCKS AT JAMBS

YES 45 TU SSG frames require the installation of an anti-walk block E2-0545, in the glazing pocket at the jambs, centered on the daylight opening.

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

See Detail 60.



1" Glazing Shown 1/4" Glazing Similar



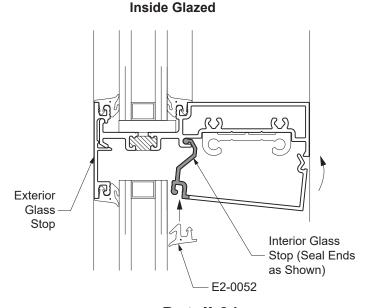
STEP 24 INSTALL EXTERIOR GLASS STOPS & GLAZING GASKETS (INSIDE GLAZING)

- -Snap the interior glass stops into place as shown in **Detail 61**.
- -Install the exterior glazing gaskets using the same technique described in **Step 20** on **Page 41**.

Always install the vertical glazing gasket at the jamb first.

Note: Do not seal the 3/8" gap in the gaskets at the underside of the glass stop.

Repeat **Steps 21 through 24** until all lites are installed.



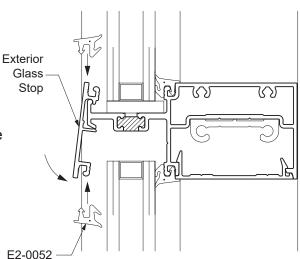
Detail 611" Glazing Shown 1/4" Glazing Similar

STEP 24A INSTALL INTERIOR GLASS STOPS & GLAZING GASKETS (OUTSIDE GLAZING)

- -Apply sealant to the ends of the interior glass stops as shown in **Detail 61A**.
- -Install exterior glass stops, E9-2508 at the intermediate horizontal. Do not yet install the glass stops at the corner SSG mullion.
- -Install the interior glazing gaskets using the same technique described in **Step 20** on **Page 41**. Always install the vertical glazing gasket first.

Repeat **Steps 21 through 24A** until all lites are installed.

Outside Glazed



Detail 61A



STEP 25 APPLY EXTERIOR WEATHERSEAL

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. At the SSG expansion mullion, run the backer rod all the way to the top of the head member.
- -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.

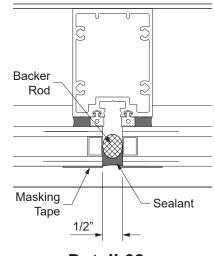
See Detail 62.

Caution: Be careful not to puncture the backer rod or push it out of the way.

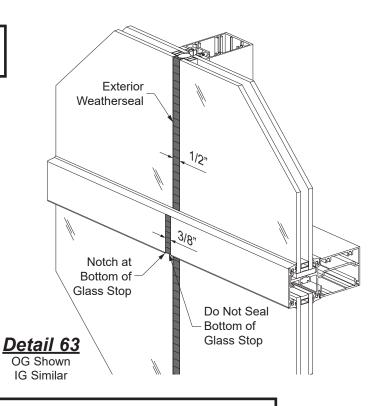
-At face member splices, carry the sealant down over the face member without sealing off the bottom.

See Detail 63.

- -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 62



Caution: Do not permit the silicone to skin over before it is tooled. Immediately remove masking tape after tooling the silicone.



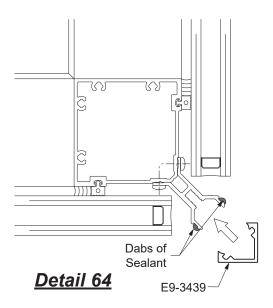
STEP 25 APPLY EXTERIOR WEATHERSEAL @ SSG CORNER

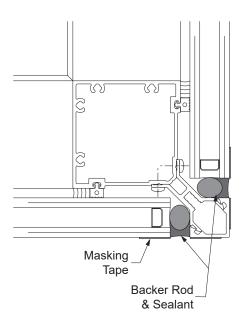
Once the interior structural silicone has cured*, it is necessary to seal the 1/2" wide exterior joint at the corner ssg mullion.

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

- -Remove the temporary glass retainers. Apply dabs of sealant onto the corner trim base as shown in **Detail 64**, and snap on the E9-3439 corner trim cover onto the corner trim base.
- -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 65.





Detail 65

Effective Date: May 11, 2023 | 02-4018-12 Page-51

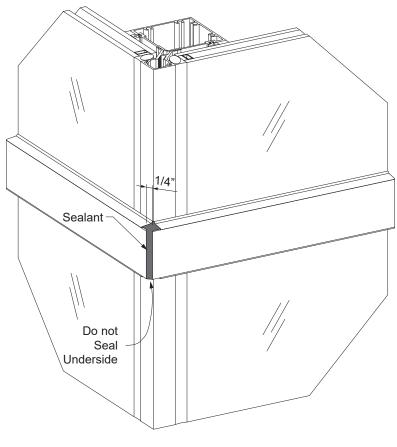


STEP 26 INSTALL HORIZONTAL GLASS STOPS @ SSG CORNER

- -Once the corner structural silicone has cured*, install the glass stops at the intermediate horizontals along with the E2-0052 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 66.

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



Detail 66

YKK AP America Inc.

101 Marietta Street NW Suite 2100 Atlanta, Georgia 30303 www.ykkap.com