YWW 50 T Thermal Window Wall System Continuous Head & Sill SSG



Installation Manual



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Installation Notes

1. Do not drop, roll or drag boxes of aluminum framing. Move and stack boxes with proper support to prevent distortion. If fork lifts are used be especially careful about striking the boxes when lifting or moving.

2. Store in a dry, out of the way area. If rain exposure, condensation or any water contact is likely, then all packaging material should be removed. Wet packaging materials will discolor and may stain aluminum finishes and paints.

3. All materials should be checked for quantity and quality 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 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 that 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 store front and/or curtain wall framing is typically completed before drywall, flooring and other products that may still be in process. Take the extra time to wrap and protect the work produced.

13. Cutting tolerances are plus zero, minus one thirty second unless otherwise noted.

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

FRAMING MEMBERS FOR OUTSIDE GLAZING

	Vertical For Continuous Head & Sill Construction	BE9-2803		Aluminum Plate Adaptor Use with BE9-2814	E9-8222
	Head / Jamb	BE9-2816		Head Receptor	BE9-2819
	Horizontal	BE9-8728		Snap Cover Use with BE9-2819	E9-8720
	Sill	BE9-2823		Pocket Filler	BE9-8734
ا م د	Exterior Glass Stop Use with BE9-2823 & BE9-8728	E9-1715	۶	Glazing Adapter For 1/4" glazing Use with BE9-8734	E9-1725
5	Deep Pocket Glazing Adaptor For 1/4" Glazing	E9-1707		6-1/8" Slab Edge Cover For use with 5-1/8" Slab	E9-8059
2	Shallow Pocket Glazing Adaptor For 1/4" Glazing	E9-1708		6-5/8" Slab Edge Cover For use with 5-5/8" Slab	E9-7723
	Sill Flashing	BE9-2818	ŀ	7-3/8" Slab Edge Cover For use with 6-3/8" Slab	E9-8223
	Sill Flashing With Integral Plate Adaptor	BE9-2812	}	7-7/8" Slab Edge Cover For use with 6-7/8" Slab	E9-8231
ر میں البقی ا	Sill Flashing	BE9-2814		8" Slab Edge Cover For use with 7" Slab	E9-8589



FRAMING MEMBERS FOR OUTSIDE GLAZING

ļ	9" Slab Edge Cover For use with 8" Slab	E9-8428	Expansion Mullion Male	BE9-2827
	90° Corner Mullion Use with (2) BE9-8734	BE9-8731	 Slip-On Face Cap Use with BE9-2827	E9-1763
	135° Outside Corner Mullion Use with (2) BE9-8734	BE9-8725	Hinged Mullion Female	BE9-7912
	Expansion Mullion Female Elastomer Weathering E2-0065 not Included	BE9-8708	Outside Hinged Mullion Male 3° to 20°	BE9-7911



FRAMING MEMBERS FOR STRUCTURAL SILICONE GLAZING

	Vertical For Structural Silicone Glazing	E9-2805	La Bra	SSG Expansion Mullion Female	E9-2824
LAJ	Glazing Adaptor For 1/4" Glazing Use with E9-2805	E9-2716		SSG Expansion Mullion Male	E9-2825
S S S S S S S S S S S S S S S S S S S	Head / Jamb / Sill	BE9-2816	<u>_11.839, 1 23</u>	Sill Flashing	BE9-2818
	Head For Spliced Runs Longer than 24'-0"	BE9-2801		Sill Flashing With Integral Plate Adaptor	BE9-2812
	Horizontal	BE9-8728	<u></u>	Sill Flashing	BE9-2814
	Sill For Spliced Runs Longer than 24'-0"	BE9-2823		Aluminum Plate Adaptor Use with BE9-2814	E9-8222
2 - 	Exterior Glass Stop Use with BE9-8728 & BE9-8706	E9-1715		Head Receptor	BE9-2819
<u>و</u> ال	Exterior Glass Stop Use with BE9-2801	E9-1730		Snap Cover Use with BE9-2819	E9-8720
j. L	Deep Pocket Glazing Adaptor For 1/4" Glazing	E9-1707		Pocket Filler	BE9-8734
2 L	Glazing Adaptor For 1/4" Glazing	E9-1708	۳.	Glazing Adapter For 1/4" glazing Use with BE9-8734	E9-1725



FRAMING MEMBERS FOR STRUCTURAL SILICONE GLAZING

ŀ	6-1/8" Slab Edge Cover For use with 5-1/8" Slab	E9-8059	6	9" Slab Edge Cover For use with 8" Slab	E9-8428
ę	6-5/8" Slab Edge Cover For use with 5-5/8" Slab	E9-7723		90° Corner Mullion For structural silicone glazing	E9-2821
l	7-3/8" Slab Edge Cover For use with 6-3/8" Slab	E9-8223	- Je	90° Outside Corner Trim Base For 1" Glazing	E9-2550
l	7-7/8" Slab Edge Cover For use with 6-7/8" Slab	E9-8231	<u> </u>	90° Outside Corner Trim Cover	E9-3439
ļ	8" Slab Edge Cover For use with 7" Slab	E9-8589		90° Corner Mullion Use with (2) BE9-8734	BE9-8731

ACCESSORIES

	Shear Block For BE9-8728 Horizontal Use (2) PC-1228 & (2) FC-1212 not Included	E1-2802		SSG Mullion End Cap	E1-2805
	" F" Anchor For Head & Jamb	E1-2803	<u> </u>	Expansion Mullion End Cap	E1-2806
	Splice Sleeve For Head Receptor	E1-2813		Standard Mullion End Cap	E1-2809
	Splice Sleeve For Head Receptor	E1-9962		End Cap For BE9-2812 Sill Flashing	E1-9951
	Splice Sleeve For Sill Flashing at Slab Edge Cover	E1-9959		End Cap For E9-8222 Adaptor	E1-1196
	Splice Sleeve For Sill Flashing and Head Receptor	E2-0070		End Cap For Head Receptor at Jamb	E1-9952
	Joint Sleeve For Head & Sill (Forward Chamber)	E1-1027	C ³	End Cap For Head Receptor at Splice Joint	E1-9957
TT TT	Joint Sleeve For SSG Head & Sill (Forward Chamber)	E1-1028		Setting Block / Side Block 1" Glazing	E2-0184
	Joint Sleeve For Head & Sill (Rear Chamber)	E1-2804		Setting Block For Sill 1" Glazing	E2-0182
0 0	Water Deflector For Horizontals at Structural Silicone Glazed Verticals	E1-1038		Setting Block For Horizontal 1/4" Glazing	E2-0192
	Water Deflector For Horizontals at 90° Structural Silicone Glazed Corners	E1-1039		Setting Block For Sill 1/4" Glazing	E2-0190



ACCESSORIES

	Setting Block Use with BE9-2819	E2-0054	A A A A A A A A A A A A A A A A A A A	Temporary Glass Retainer For 1/4" Structural Silicone Glazing	E3-0006
	Weep Baffle	E2-0098		Temporary Glass Retainer For 90° Outside SSG Corner	E1-3588
	Weep Baffle	E2-0099	E F	End Cap Use with E9-8059	E1-9984
	Side Block	E2-0186	e for	End Cap Use with E9-7723	E1-9985
	Side Block	E2-0537	E	End Cap Use with E9-8223	E1-9953
R	Anti-Walk Block For Deep Pocket	E2-0153	k	End Cap Use with E9-8231	E1-9954
Z	Anti-Walk Block	E2-0546	k	End Cap Use with E9-8589	E1-9955
$\sqrt{2}$	Water Deflector	E2-0047	k	End Cap Use with E9-8428	E1-9956
	End Dam For Frame Ends Where Head & Sill Run Through	E2-0193		Push-In Glazing Gasket	E2-0801
	End Dam For Frame Ends Where Head & Sill Run Through	E2-0194		Wedge Glazing Gasket	E2-0808
	Temporary Glass Retainer For 1" Structural Silicone Glazing	E3-0001		Push-In Glazing Gasket For SSG Glazing	E2-0541

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ACCESSORIES

60	Wedge Glazing Gasket For SSG Glazing	E2-0542		#1/4"-20 x 1" HWHMS Zinc Plated Steel For Attachment Corner Temp Glass Retainer	HM-2516
	SSG Glazing Spacer For Inside Glazing	E2-0543	Samo	#10 x 3/8" PHSMS-SS Type AB , Stainless Steel For Attachment of Head Receptor Splice	PC-1006 -SS
	SSG Glazing Spacer For Outside Glazing	E2-0544	Summun	#10 x 5/8" PHSMS Type AB Zinc Plated Steel For Attachment of E9-1724 Adaptor	PC-1010
2	Weathering Gasket For Expansion Mullion	E2-0065	Junumad	#12 x 3/4" FHSMS Type AB Zinc Plated Steel For Attachment of Horizontal to Shear Block E1-1037	FC-1212
	Airtight Gasket For Head Receptor	E2-0051	(]11111>	#12 x 5/8" PHSMS Type AB Zinc Plated Steel, For Attachment of Shear Clip E1-1040 to Vertical & Horiz.	PC-1210
	Steel Reinforcing 3/16" x 2-3/4" Use with E9-8443, E9-2805	E1-2811	(]	#12 x 1" PHSMS Type AB Zinc Plated Steel For Screw Spline Attachment	PC-1216
	Drill Fixture	H-7250	()	#12 x 1-1/4" PHSMS Type AB Zinc Plated Steel, For Screw Spline Attachment When Using BE9-1704 as Jamb	PC-1220
) ann an a'	#8 x 1/2" FHSMS Type AB Zinc Plated Steel For Attachment of Hinged Mullions	FC-0808	()	#12 x 1-3/4" PHSMS Type AB , Zinc Plated Steel For Attachment of Shear Block E1-2802 to Vertical	PC-1228
	#10 x 3/8" FHSMS Type AB Zinc Plated Steel For Attachment of Mullion End Caps	FC-1006	Smm	#10 x 3/8" PHMS Stainless Steel, For Attachment of Sill Flashing	PM-1006 -SS
	#12 x 3/4" UFHSMS Type A , Zinc Plated Steel, For End Dam Attachment	UA-1212			



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 determine the frame width. See **Detail 1**.



-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:

-3/8" for the shim/caulk joint at the head.

-7/16" for the sill flashing.

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

See Detail 2.

STEP 1 (Continued) DETERMINE FRAME SIZE

Determine Frame Height for Slab Edge Conditions:



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

-Select the smallest dimension measured and subtract 2-15/16" to determine the frame height to be used:

-5/8" for the shim/caulk joint at the head.

-1-1/4" for the head receptor.

-7/16" for the sill flashing.

-5/8" for the shim/caulk joint below the sill flashing. See **Detail 3**.



1-7/8"

5/8"





STEP 2 FABRICATE SILL FLASHING

YWW 50 T requires the use of extruded sill flashing for continuous head and sill frames:

-Cut the sill flashing, BE9-2812, BE9-2818, BE9-2814 as determined in **Step 1**: Frame width plus(+) 1/4" at each jamb.

-For openings longer than 24'-0" the sill flashing needs to be spliced every twelve to fifteen feet. -Allow for a 3/8" splice joint between sill flashing members.

-Mark the centerline of each vertical mullion on the sill flashing.



-Drill a 5/16" diameter weep hole in the face of the sill flashing at the centerline of each vertical mullion and at the midpoints between vertical mullions.

See Detail 4.

NOTE: Sill flashing is required for installation.



BE9-2823

FRAME FABRICATION

STEP 3 FABRICATE HEAD & SILL MEMBERS

FOR VERTICAL THROUGH FRAMES

-Cut all head and sill members to the daylight opening between verticals.

Sill members require additional fabrication for anchoring to the sill flashing.

-Measure in 6" from each end of the sill member and mark hole locations along the glazing pocket "V"-groove.

-Mark additional hole locations a maximum of 24" on center (O.C.).

-Drill 0.213" diameter (#3 drill bit) holes at the underside of the "V" groove.

-Drill 7/16" diameter access holes at the top of the sill.

See Detail 5.



FOR CONTINUOUS HEAD & SILL FRAMES (YWW 50 T SSG Only)

With the YWW 50 T Structural Silicone Glazed (SSG) option, head and sill members may run continuously across the frame.

For Frames 24'-0" or shorter:

-Cut the head and sill members, BE9-2816, to the frame width determined in Step 1.

For Frames Longer Than 24'-0":

-Head member BE9-2801 and sill member BE9-2823 must be used instead of BE9-2816. -Determine the location of the expansion mullions from the shop drawings (typically ten to fifteen feet on center).

-Cut the head and sill members to the dimension between the jamb and expansion mullions at end members and between the expansion mullions for intermediate members.



STEP 3 (Continued) FABRICATE HEAD & SILL MEMBERS FOR CONTINUOUS HEAD & SILL FRAMES (YWW 50 T SSG Only)

-Mark the centerline of each SSG vertical member along the head and sill members. -Mark hole locations on the head and sill members for screw spline attachment of vertical members using one of the methods below:

-Using short pieces of vertical members as a template, align the template with the vertical centerline and the front of the head/sill and mark hole locations through the screw splines.

OR

-Layout hole locations on head and sill members as shown in **Detail 6**. -Drill 0.236" diameter (#B drill bit) clearance holes at each location marked.





STEP 4 FABRICATE SSG MULLIONS & JAMB MEMBERS

-Cut two piece verticals, fillers, and jamb members to the frame height minus (-) 4-1/2" as determined in **Step 1** on **Page 11** or as shown on approved shop drawings.

Fabrication of Verticals for Inside Glazed Frames:

-Use a short piece of each horizontal member as a template. -Center the template on the face of the vertical member. -Line up the glazing pockets and mark the location of each screw spline.

-OR-

-Layout the hole locations along the "V"-grooves of each member as shown in **Detail 7**.

-Drill a 0.189" diameter hole at each location marked.

Note: Drill fixture can be used.





STEP 4 (Continued) FABRICATE TWO PIECE VERTICALS & JAMB MEMBERS

-Cut two piece verticals, fillers, and jamb members to the frame height determined in **Step 1** on **Page 11** or as shown on approved shop drawings.

Fabrication of Verticals for Outside Glazed Frames:

-Use a short piece of each horizontal member as a template. -Center the template on the face of the vertical member.

-Line up the glazing pockets and mark the location of each screw spline.

-OR-

-Layout the hole locations along the "V"-grooves of each member as shown in **Detail 8**. -Drill a 0.234" diameter hole at each location marked.

Note: Drill fixture can be used.





STEP 6 FABRICATE EXTERIOR GLASS STOP FOR OUTSIDE GLAZED HORIZONTALS

-Exterior glazed horizontals require exterior glass stops:

BE9-8706 and BE9-8728 requires interior glass stop E9-1715. -Cut the glass stop to the same dimension as the horizontals (D.L.O.) minus (-) 1/32". See **Detail 9**.



Detail 9



STEP 6 (continued) FABRICATE EXTERIOR GLASS STOP FOR OUTSIDE GLAZED HORIZONTALS

Structural Silicone Glazing (SSG):

-For frame widths 24'-0" or less cut the face covers to the frame width minus 4-9/16". -For frame widths greater than 24'-0" face members are spliced every ten to fifteen feet at the center of an intermediate vertical.

-Allow for a 1/32" joint at each jamb and a 3/8" joint between face cover splices.

Caution: DO NOT splice the face cover at an expansion mullion!

See Detail 10A.





STEP 6 (continued) FABRICATE EXTERIOR GLASS STOP FOR OUTSIDE GLAZED HORIZONTALS



Detail 10B



STEP 6 FABRICATE GLAZING ADAPTORS

YWW 50 T offers glazing adaptors for 1/4" glazing:

E9-1707 for captured mullion deep pockets.

E9-1708 for captured mullion shallow pockets.

E9-2716 for structural silicone glazed (SSG) vertical mullions.

E9-1725 for BE9-8734 pocket fillers for 90° corner posts and door jambs.

-Cut vertical glazing adaptors to the daylight opening dimension between horizontals plus(+) 7/8".

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

Detail 11

Glazing adaptor, E9-2716, requires additional fabrication:

-Mark hole locations along the recessed area in the middle of the adaptor 2" from each end and 12" on center. -Drill 0.213" (#3 bit) dia. holes at each location marked.

See Detail 11.







STEP 7 FABRICATE PLATE ADAPTOR

-Cut the aluminum plate adaptor, E9-8222, to the same length as the sill flashing. -Notch the aluminum plate adaptor 2-1/2" from each end where adjacent to a splice location as shown in **Detail 12**.



-Drill a hole at each location marked for anchoring to the sill flashing. Anchor size and location as determined by structural calculations.

-Alternate perimeter fasteners as shown with dimensions a and b.

Note: It is necessary to also notch the sill flashing 2-1/2" from each end where adjacent to a splice location as shown in **Detail 13**.



STEP 8 FABRICATE HEAD RECEPTOR AND SLAB EDGE COVER

-Cut the head receptor and snap cover to the same dimension of the sill flashing as determined in **Step 2**.

-Alternate perimeter fasteners and drill weep holes as shown in Detail 14.



Detail 14

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STEP 9 FABRICATE HEAD NEAR EXPANSION JOINT (Captured Verticals Only)

The square nubs at the head will need to be notched at the expansion mullions to clear the end caps.

-Cut the nub 1/2" at the expansion mullion half of which the end cap is not attached to.

See Detail 15.



Detail 15



STEP 10 ATTACH MULLION END CAPS

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Mullion end caps are required at the top of the expansion mullion of continuous head and sill frames.

-Clean the vertical mullion ends and mullion end caps with a cleaner and method approved by the sealant manufacturer.

-Apply sealant to the gasket reglet and along the front of the vertical members on both ends prior to installing mullion end caps

For expansion mullions, apply sealant to the fastener side mullion only.

- -Attach the mullion end caps to each end of the mullion with fasteners as shown **Detail 16**. -Install E1-2806 mullion cap as shown on expansion mullion half. On the SSG expansion mullion, use the E1-2805 mullion cap.
- -Tool the excess sealant along the inside of the glazing pocket between the mullion end cap and the mullion.

Field note: At the top of each mullion, the perimeter sealant must cover the extrusions entire front edge, thus completely covering the mullion cap. -Seal all screw heads.

See **Detail 15**.

STEP 11 INSTALL END DAMS (For Continuous Head & Sill Frames Only)

The ends of head and sill members of continuous head & sill frames must be plugged using end dams, E2-0193 and E2-0194.

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

-Clean the ends of the head and sill members with a cleaner and method 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 17** (sill shown, head similar).



Detail 16





STEP 12 PREPARE FRAMES FOR ASSEMBLY

Continuous Head & Sill Frames:

-Preparation is similar to Vertical Through Frames. Apply sealant to the ends of the Continuous Head and Sill members as shown in **Detail 18**.



Continuous Head & Sill Frames With One Piece SSG Verticals:

- -Attach jamb members to continuous head and sill members using (2) PC-1220 fasteners at each end.
- -Attach one piece verticals to continuous head and sill members using (4) PC-1220 fasteners at each end.
- -Attach intermediate horizontals to shear block, E1-2802, using (2) FC-1212 fasteners at each end.

See Detail 19.







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STEP 14 ASSEMBLE SILL FLASHING FOR SLAB EDGE COVER

-Install 2 rows of gasket, E2-0065 at the slab edge cover pocket side of the plate adapter, E9-8222, or into the integrated adaptor of the BE9-2812 sill flashing.

-Install the aluminum plate adaptor into the BE9-2814 sill flashing, by sliding into place.

See Detail 20.



-At the jamb, clean all joint surfaces using cleaner approved by sealant manufacturer. -Apply silicone sealant to the end of the plate adaptor region as shown in **Detail 21**. -Fasten the appropriate end dam into the plate adaptor using one UA-1212 fastener.



STEP 15 ASSEMBLE HEAD RECEPTOR FOR SLAB EDGE COVER

-Install weep baffle, E2-0099, over every weep hole location.

-Install gasket, E2-0051, (cut to receptor length plus 3/8") on YWW 50 T frame side of receptor. -Install gasket, E2-0051, (cut to receptor snap cover length) onto the E9-8720 snap cover. -Install two rows of gasket, E2-0065, on the slab edge cover pocket side of head receptor.

See Detail 22.



-Clean the ends of the receptor using cleaner approved by sealant manufacturer. -Where the receptor is used at the jamb, apply sealant to the end as shown in **Detail 23A**. -Attach the E1-9952 end dam to the head receptor using two UA-1212 fasteners. -On the inside of the end dam, tool sealant as shown in Detail 35B.

-At splice joints, the E1-9957 end dam is used. Apply sealant as shown in **Detail 23B**. -Attach the E1-9957 end dam with one UA-1212 fastener.





STEP 15 (Continued) ASSEMBLE HEAD RECEPTOR FOR SLAB EDGE COVER

-On the inside of the E1-9957 end cap, tool sealant as shown in **Detail 23C**.



STEP 16 ASSEMBLE SLAB EDGE COVER PLATES

-Clean the ends of the slab edge cover and attachment areas of end caps using a cleaner approved by sealant manufacturer. -Apply and tool sealant to each end of the slab edge cover prior to attaching the end caps.

-Attach end caps to each end of the slab edge cover using (2) UA-1212 fasteners.

-Tool and wipe away any excess sealant at the joints.

See Detail 24.

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STEP 17 INSTALL SILL FLASHING

Note: For slab edge cover applications, see Step 21 on Page 34.

-Starting at the smallest opening height, 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 fasteners.

STEP 18 INSTALL SILL FLASHING SPLICE SLEEVE

-Remove the nub with a chisel or needle nose pliers a minimum length of 1-1/2" as shown in **Detail 25**.

-After the sill flashing has been shimmed and installed to the building structure, apply a small backer rod under the sill flashing as shown in **Detail 27**.

-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 26**, before positioning the flashing. Set the Silicone Splice Sleeve into the sealant and flashing.
- -Tool sealant tight as shown in **Detail 28**, squeezing the sheet flat.
- -Thoroughly seal the small joint directly in front of the Silicone Splice Sleeve as shown in **Detail 28**.





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







STEP 19 SILL PREPARATION

At every sill flashing splice condition, apply bond breaker tape to the back of the sill member before it is placed into the sill flashing. See **Detail 29.**





STEP 20 INSTALL SILL FLASHING AT CORNERS

-Cut two 12" long pieces of sill flashing 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 30.

-Continue installing the rest of the sill flashing providing a 3/8" expansion joint at splices as shown in **Step 18** on **Page 27 & 28**.



3/8"



FRAME INSTALLATION

STEP 20A INSTALL BE9-2814 / BE9-2812 SILL FLASHING AT CORNERS *

-Cut two 13-3/16" long pieces of sill flashing and E9-8222 slab edge cover adaptor,

and miter (45° for 90° corners). The head receptor that is to be installed below will also receive the same miter cut fabrication.

-Install the head receptor using similar procedure as previously desribed for the sill flashing.

-Miter cut the slab edge cover plates 45° for 90° corners, such that upon installation, they leave a 1/2" gap at the corner.

-Fasten end caps onto the edge of the slab edge cover plates.

-Install the slab edge plates onto the setting blocks of the head receptor below.

-Align the two pieces of the sill flashing at the corner condition with the mitered ends pushed together tight and anchor the sill flashing as indicated on the approved shop drawings and or P.E. calculations.

-Apply and tool sealant to the mitered joint and anchor heads.

See Detail 31.

-Continue installing the rest of the sill flashing providing a 3/8" expansion joint at splices as shown in **Step 18 Pages 27 & 28**.

* Note: Similar technique required for head receptor.



90° Outside Corner Shown Others Similar



STEP 21 **INSTALL HEAD RECEPTORS**

With slab edge cover applications, the head receptor of the system below is installed first, then the slab edge cover, and then the sill flashing with slab edge adaptor for the system above.

-Starting at the smallest opening height, install the head receptor with a minimum of 1/2" shim space underneath. Head receptor must be installed level. Allow for a 3/8" splice joint between spans.

-Anchor the head receptor to the structure a maximum of 4" from each end and then 18" to 24" on center.

-Apply and tool sealant to the heads of all fasteners.





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FRAME INSTALLATION

STEP 21 (Continued) INSTALL HEAD RECEPTORS

-Prior to installing the E1-2813 splice sleeve, clean head receptor and splice sleeve with isopropyl alchohol at the splice location.

-Apply bond breaker tape to the top side of the splice sleeve at the center.

-Position the splice sleeve inside the front wall inside the head receptor, set in sealant centered on the splice joint as shown in **Detail 34**. Press the sleeve tight against the receptor.



-Install E2-0054 setting blocks at 1/4 points of the head receptor.

See Detail 35.





STEP 22 INSTALL SLAB EDGE COVER FASCIA

-Push slab edge cover into the head receptor to make contact with setting blocks, E2-0054. -Be sure to leave a 3/8" joint between the plates for runs longer than 24'-0".

See Detail 36.



FRAME INSTALLATION

DETAIL 38

STEP 23 INSTALL SILL FLASHING FOR SLAB EDGE COVER

Before installing the sill flashing, install an E1-9959 splice sleeve at the underside of the sill flashing and slab edge adaptor.

-Apply bond breaker tape down the middle of the splice sleeve and sealant to one side of the splice sleeve as shown in **Detail 37**.

-Adhere the sealed half of the splice sleeve to the underside of the sill flashing.

Bond Sealant Breaker Tape **DETAIL 37** Splice Sleeve

-Install the sill flashing assembly onto the substrate (1/2" minimum shim space), engaging the slab edge cover plates below and sealing all anchor fastener heads. -Install the next slab edge sill flashing assembly onto the splice sleeve as shown in **Detail 38**. Be sure to leave a 3/8" splice joint between the sill flashing assemblies.



STEP 23 (Continued) INSTALL SILL FLASHING FOR SLAB EDGE COVER

-Installation of the E2-0070 splice sleeve is the same as previously outlined in **Step 18**, except to apply sealant to the joint at the slab edge cover plate, adaptor, and head receptor as shown in **Detail 39**.





STEP 24 INSTALL ASSEMBLED FRAMES

-Immediately before installing the frames, apply a continuous bead of sealant to the top of the upturned leg of the sill flashing, and a generous amount of sealant to the pilot holes in the sill flashing. Be sure not to obstruct weep holes on exterior of sill. Make sure all surfaces are clean before applying sealant.

-Snap frame assemblies together and set onto the sill flashing.

-Shim the head and jamb members to ensure that the frame is installed plumb, square, and true. -Anchor the head members at 6" on each side of every vertical centerline and then no more than 24" on center.

-Anchor jamb members 6" from each end and then no more than 24" on center.

-Follow by inserting and tightening fasteners into flashing through sealant.

-Seal all anchor heads.

Note: Shims must be installed at all anchor locations.

See Detail 40.

(Inside glazed shown, outside glazed similar)



STEP 25 APPLY INTERNAL & PERIMETER SEALANT

-Apply sealant to all vertical/horizontal joints at the glazing pockets.

-Tool the sealant to ensure a watertight joint. See **Detail 42**.

-Install backer rod around the perimeter of the frame between the frame and the structure.
-Apply and tool sealant to ensure a watertight joint.
See **Detail 43**.

Note: Interior and exterior seals are required.





STEP 26 INSTALL ASSEMBLED FRAMES WITH SLAB EDGE COVER

-Install E2-0098 sill weep baffle at each weep hole location.

-Clean the surfaces using cleaner approved by sealant manufacturer.

See Detail 44.

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-Apply and tool sealant between wall and end dam. -Apply and tool sealant to the sealant track on the back of the sill flashing.

See Detail 45.



STEP 26 (Continued) INSTALL ASSEMBLED FRAMES WITH SLAB EDGE COVER

-Set unglazed YWW 50 T frame into the opening pressing the excess sealant out of the sealant track on the sill flashing.

-Clean up excess sealant.

-Apply receptor snap cover into head receptor.

-Match drill hole in sill flashing for PM-1006-SS and install screws.

See Detail 46.





STEP 27 APPLY PERIMETER SEALANT

-Install backer rod and apply sealant to the back of the sill flashing and head receptor. -Tool sealant prior to skinning over. See **Detail 47.**

-Also apply and tool sealant to the splice joint between the slab edge cover plates. See **Detail 47A**.





STEP 27 Continued) APPLY PERIMETER SEALANT

-Install backer rod and apply sealant to the back of the sill flashing and head receptor. -Tool sealant prior to skinning over.

See Detail 48.



DETAIL 48 (WITHOUT SLAB EDGE COVER)



STEP 28 INSTALL WATER DEFLECTORS (Standard Mullions and Jambs)

The installation of a water deflector, E2-0047, at the ends of every intermediate horizontal is required to divert water away from the insulated units.

-Clean and dry off the glazing pocket of each horizontal at the ends.

-Peel off the protective paper and install the water deflector at the end of the horizontal.

-Position the vertical leg of the deflector against the end of the horizontal.

Apply and tool sealant along the edges of the water deflector down onto the horizontal.
Seal the ramp of the water deflector to the sides of the glazing pocket wall.

See Detail 49.



STEP 29 INSTALL HORIZONTAL BRIDGES (For SSG Verticals Only)

The installation of horizontal bridge, E1-1038, is required to bridge the gap between intermediate horizontals at the SSG vertical.

-Clean and dry off the glazing pocket of each horizontal at the ends.

-Install E1-1038 from the underside of the horizontals with a PC-1006 fastener on each side.

-Fill the cavity of the horizontal with backer rod and completely cover the end of the horizontals with sealant.

-Apply and tool sealant at all bridge to horizontal and vertical joints to ensure a watertight seal. See **Detail 50**.



STEP 29 (Continued) INSTALL HORIZONTAL BRIDGES (For SSG Verticals Only)

The installation of horizontal bridge, E1-1039, is required to bridge the gap between intermediate horizontals at the SSG corner.

-Clean and dry off the glazing pocket of each horizontal at the ends.

-Install E1-1039 from the underside of the horizontals with a PC-1006 fastener on each side. See **Detail 51**.

-Fill the cavity of the horizontal with backer rod and completely cover the end of the horizontals with sealant.

-Apply and tool sealant at all bridge to horizontal and vertical joints to ensure a watertight seal. See **Detail 52**.





STEP 30 INSTALL CORNER TRIM AT 90° OUTSIDE SSG CORNER

-Cut the E9-2550 90° Outside Trim Cover Base and E9-3439 Trim Cover to Daylight Opening (D.L.O.H.) plus (+) 1".

-Mark hole locations on the trim cover no more than 3" from each end and then 18" on center maximum on both sides along the "V"-groove. Drill 0.189" diameter holes at each hole location. See **Detail 53**.

-For application at the continuous head or sill, notch 1/2" x 1/2" from the ends of the legs of the E9-2550 corner mullion trim adaptor base as shown in **Detail 53**. 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



STEP 30 (Continued) INSTALL CORNER TRIM AT 90° OUTSIDE SSG CORNER

-Position the trim cover onto the corner mullion centered along the vertical daylight opening and match drill 0.141" diameter holes into the mullion.

-Attach the corner trim base to the corner mullion with PC-0806 fasteners. Do not attach the trim cover at this time.

-Apply and tool sealant to all screw heads. See **Detail 54**.





STEP 31 INSTALL 1/4" GLAZING ADAPTORS (When Required)

Attach the vertical glazing adaptors first.

For Standard Verticals:

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Apply sealant in the vertical gasket reglets.
Center the vertical adaptor in the opening.
Position the foot of the adaptor into the MegaTherm recess and rotate the other end into the gasket reglet of the mullion.

For SSG Verticals:

-Center the vertical adaptor in the opening. -Attach the SSG glazing adaptor, E9-2716, to the mullion with PC-1010 fasteners, 2" from each end and no more than 18" on center.

-Seal all screw heads.

See Detail 55.

Attach the horizontal glazing adaptors last.

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

-Install the horizontal adaptors.





-Tool the sealant at the intersections of the adaptors to completely seal the joint. See **Detail 56**.





STEP 32 SEAL INSIDE GLAZED HORIZONTALS

Note: For Outside Glazing, skip this step and proceed to Step 33 on Page 47.

Before installing the gaskets on an inside glazed window wall, the horizontals must be sealed to the verticals at the face of the system from the inside as shown in **Detail 57**.







STEP 33 INSTALL PUSH IN GLAZING GASKETS

For inside glazing: Push-in gasket, E2-0801, must be installed on the exterior prior to glazing. **For outside glazing:** Push-in gasket, E2-0801, must be installed on the interior prior to glazing.

-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 the Daylight Opening plus(+) 3/4" plus(+) an additional 1/4" for each foot of length. Notch ends of the vertical gasket as shown.

-Insert the gasket into the reglets at each end first; 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 58**.



Install horizontal glazing gaskets next:

-Cut horizontal glazing gaskets to Daylight Opening plus(+) 1/4" for each foot of length. -Apply sealant to each end of the horizontal glazing gasket prior to inserting into the reglet. -Insert the gasket into the reglet at each end first; 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. -Tool the excess sealant at the gasket corners to ensure a watertight seal.

See Detail 58.

-See Step 35 on Page 52 for SSG gasket instructions.



STEP 34 INSTALL GLASS FOR STANDARD GLAZING

Determine the glass size:

	Width	Height
Standard Glazing	D.L.O. + 7/8"	D.L.O. + 7/8"

-Install setting blocks at 1/4 points or according to engineering calculations.

At intermediate horizontals: E2-0184 for 1" glazing and E2-0192 for 1/4" glazing.

At sill conditions: E2-0182 for 1" glazing and E2-0190 for 1/4" glazing.

See Detail 59.

Install side blocks, E2-0186, in the shallow glazing pocket of each vertical at the midpoint of daylight opening.
Carefully install glass into the frame making sure that setting and side blocks are properly aligned with the glass.

Note: Be careful not to disengage any gaskets that have already been installed when installing glass.

See Details 59 & 60.

After glass is set, install one (1) E2-0153 anti-walk block at the deep pocket mullion locations.







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b/C + 3/

3/8"

STEP 34 (Continued) INSTALL GLASS FOR STANDARD GLAZING

For Interior Glazing:

Interior glass stops are required at all head and intermediate horizontals:

E9-8711 for 1" glazing and

E9-7703 for 1/4" glazing.

-Apply sealant to each end of the glass stops and snap them into position.

-Tool the sealant into the joint between the glass stop and the vertical to ensure a watertight seal and wipe away any excess sealant.

See Detail 61.

-Install the interior horizontal wedge gaskets, E2-0808, to the Daylight Opening plus(+) 1/4" for each foot of length, leaving the ends out until the vertical gasket is installed.

-Cut the vertical wedge gasket to vertical Daylight Opening plus (+) 3/4". Notch the ends of the gasket as shown in **Detail 62**.

DETAIL 62

Insert the vertical gasket into the glazing pocket, pushing the notched ends into the horizontals.
Apply sealant to the ends of the horizontal wedge gaskets and finish inserting them into the glazing pocket against the vertical wedge gaskets.

See Detail 63.



E9-1715

Seal Ends

STEP 34 (Continued) INSTALL GLASS FOR STANDARD GLAZING

For Outside Glazing:

Exterior face covers are required at all sill and intermediate horizontals:

E9-1715 for BE9-2823 horizontal members.

-Apply sealant to the ends of the face covers, and engage the hook of the face covers with the ball of the horizontal members and rotate them into position.

See Detail 64.

-Install the exterior horizontal wedge gaskets, E2-0808, to the Daylight Opening plus(+) 1/4" for each foot of length, leaving the ends out until the vertical gasket is installed.

-Cut the vertical wedge gasket to vertical Daylight Opening plus (+) 3/4". Notch the ends of the gasket as previously shown in **Detail 62**.

Insert the vertical gasket into the glazing pocket, pushing the notched ends into the horizontals.
Apply sealant to the ends of the horizontal wedge gaskets and finish inserting them into the glazing pocket against the vertical wedge gaskets.

See Detail 65.





STEP 35 INSTALL GLASS FOR STRUCTURAL SILICONE GLAZING

Determine the glass size:

	Width	Height
Jamb to SSG	D.L.O. + 1-5/16"	D.L.O. + 7/8"
SSG to SSG	D.L.O. + 1-3/4"	D.L.O. + 7/8"

-Install setting blocks at 1/4 points or according to engineering calculations.

At intermediate horizontals: E2-0184 for

1" glazing and E2-0192 for 1/4" glazing.

At sill conditions: E2-0182 for 1" glazing and E2-0190 for 1/4" glazing. See **Detail 66**.

-Cut glazing spacer, E2-0544, to the Daylight Opening.

-Install the glazing spacer as shown in **Detail 63**.

-Install the interior glazing gaskets at the jambs

and horizontals as shown in Step 34 on Page 49.

-Carefully install each lite of glass leaving a 1/2"

joint between lites of glass. Be careful not to

disturb the interior gaskets and spacers. -Insert the temporary glass retainers, E3-0001 for 1"

glazing or E3-0006 for 1/4" glazing, between the lites and twist them 90° clockwise to engage.

-Locate temporary glass retainers 18" to 24" on center. -Snap on exterior face covers and install exterior wedge gaskets, E2-0542, starting at one end and work towards the opposite end. Seal the ends of the horizontal wedge gasket to the vertical gasket at the jamb.

See Detail 67.



Determine the gasket size:

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E2-0542

Daylight Opening

7/16"

DETAIL 66

Jamb	D.L.O. + 3/4", notched at ends
Spacer	D.L.O.
Head/Sill	D.L.O. + 1/4" per Foot of D.L.O.

Notch head/sill gaskets as shown on **Page 49**. Notch jamb gaskets as shown on **Page 51**.

E2-0184

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E2-0541

Midpoint of D.L.O.

E2-0184



STEP 35 (Continued) INSTALL GLASS FOR 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 Detail 68.



DETAIL 68



STEP 35 (Continued) INSTALL GLASS FOR STRUCTURAL SILICONE GLAZING

Apply Interior Structural Silicone:

-Prior to applying structural silicone, clean all contact surfaces using an approved cleaner. -Run masking tape vertically on the glass with one edge in line with the side of the mullion. -Run another piece of masking tape vertically along the edge of the vertical next to the glass.



-Apply an approved structural silicone from the bottom to the top of the joint.

Use positive pressure to completely fill the cavity between the glass and vertical mullion. -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.

See Detail 69.

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



STEP 35 (Continued) INSTALL GLASS FOR STRUCTURAL SILICONE GLAZING

Apply Exterior Weatherseal:

Interior structural silicone must be fully cured before removing temporary retainers. Please consult sealant manufacturer for recommended cure time.

Remove the temporary glass retainers and insert a 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 silicone into the joint between the lites of glass. Apply moderate pressure so that the void is completely filled, and tool.

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

See Detail 70.

-At face cover splices, carry the sealant down over the face cover without sealing off the bottom to allow the system to weep properly. See **Detail 71.**

-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.



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



STEP 35 (Continued) APPLY FACE COVER SEAL AT 90° OUTSIDE SSG CORNERS

-Install exterior glazing gaskets and snap on face covers to the horizontal members at the SSG corner as previously shown in this manual.

-After glass is installed and exterior weatherseal is applied, apply a bead of sealant at the intermediate horizontal and sill along the top of the face cover gasket from weatherseal to weatherseal at the corner mullion.

-Tool the sealant to form a complete seal at the SSG corners.

See Detail 72.





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