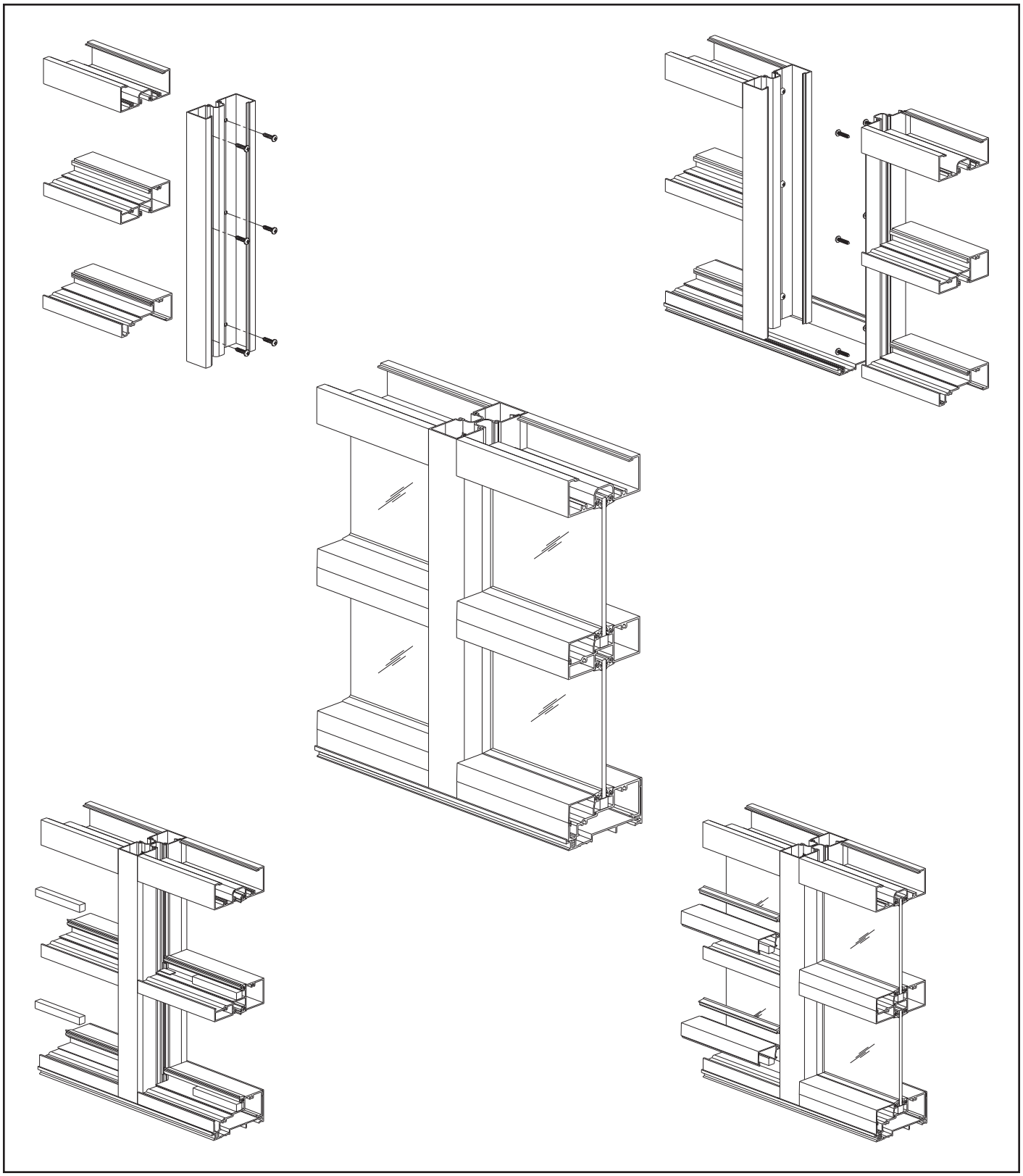
YES 45 FS/FI Storefront System



Installation Manual

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Installation Notes

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

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

3. All materials should be checked for quality and quantity upon receipt, YKK AP must be notified immediately of any discrepancies in shipment. Check to make sure that you have the required shims, sealants, supplies and tools necessary for the installation.

4. Carefully check the openings and surrounding conditions that will receive your material. Remember, if the construction is not per the construction documents, it is your responsibility to notify the general contractor in writing. Any discrepancies must be brought to the general contractor's attention before you proceed with the installation.

5. Gather your shop drawings, materials, packing list, and this installation manual. Carefully review parts location, the sequence it goes therein, when you glaze it and how you seal it. Installation instructions are of a general nature and may not cover every condition you will encounter. The shop drawings and/or installation manuals were prepared specifically for the product.

6. Any material substitutions must be of equal or greater quality.

7. Make certain that material samples have been sent for compatibility testing for all manufacturer's sealants involved. Make certain sealants have been installed in strict accordance with the manufacturer's recommendations and specifications.

8. Remember to isolate, in an approved manner, all aluminum from uncured masonry or other incompatible materials.

9. System-to-structure fasteners are not supplied by YKK AP. Fasteners called out on shop drawings are to indicate minimum sizes for design loading.

10. Entrances are to be installed plumb, square, level and true.

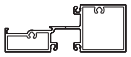
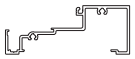
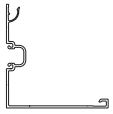
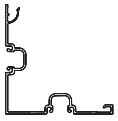
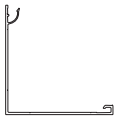
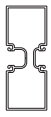
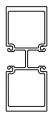
11. If any questions arise concerning YKK AP products or their installation, contact YKK AP for clarification before proceeding.

12. YKK AP storefront and/or curtain wall framing is typically completed before drywall, flooring and other products which may still be in process. Take the extra time to wrap and protect the work produced.

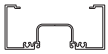
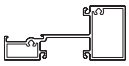
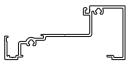
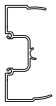
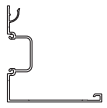
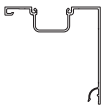
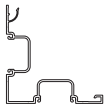
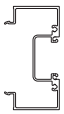
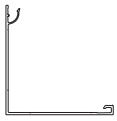
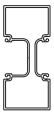
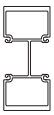
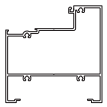
13. Cutting tolerances are plus zero (0"), minus one thirty second (-1/32") unless otherwise noted.

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

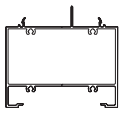
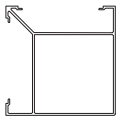
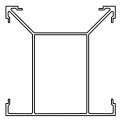
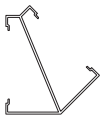
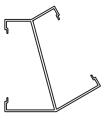
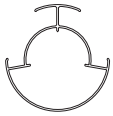
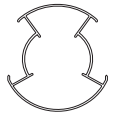
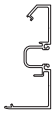
YES 45 FS FRAMING MEMBERS (1-3/4” x 4-1/2”)

	**Head/Jamb/Vertical**	**E9-1003**		**Hinged Mullion** 0° to 15° Female	**E9-1007**
	**Horizontal**	**E9-1006**		**Hinged Mullion** 0° to 15° Male	**E9-1008**
	**Sill/Horizontal**	**E9-1069**		**Expansion Mullion** Female Weathering Gasket K2-2441 Not Included	**E9-1024**
	**Glass Stop**	**E9-1005**		**Expansion Mullion** Male	**E9-1025**
	**Sill Flashing**	**E9-1068**		**Two Piece** **90° Corner Post**	**E9-1044**
	**Jamb/Vertical**	**E9-1001**		**Two Piece** **90° Corner Post**	**E9-1045**
	**Shallow Pocket Filler**	**E9-1002**		**Two Piece** **90° Corner Post**	**E9-1046**
	**Deep Pocket Filler**	**E9-1009**		**Two Piece** **90° Corner Post**	**E9-1050**
	**Heavy Duty** **Two Piece Vertical**	**E9-1059**		**Flat Filler**	**E9-1038**
	**Tubular Vertical**	**E9-1071**		**Flush Pocket Filler**	**E9-1010**
	**Heavy Duty** **Tubular Vertical**	**E9-1078**			

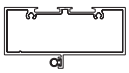
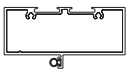
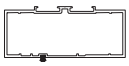
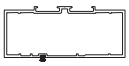
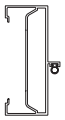
YES 45 FI FRAMING MEMBERS (2” x 4-1/2”)

	**Head/Jamb/Vertical**	**E9-1013**		**8” Horizontal** Use with Self	**E9-1056**
	**Horizontal**	**E9-1016**		**Expansion Mullion** Female Weathering Gasket K2-2441 Not Included	**E9-1026**
	**Sill/Horizontal**	**E9-1089**		**Expansion Mullion** Male	**E9-1027**
	**Glass Stop**	**E9-1015**		**Hinged Mullion** 0° to 15° Female	**E9-1017**
	**Sill Flashing**	**E9-1068**		**Hinged Mullion** 0° to 15° Male	**E9-1018**
	**Jamb/Vertical**	**E9-1011**		**Two Piece** **90° Corner Post**	**E9-1047**
	**Two Piece** **Heavy Duty Vertical**	**E9-1041**		**Two Piece** **90° Corner Post**	**E9-1048**
	**Shallow Pocket Filler**	**E9-1012**		**Two Piece** **90° Corner Post**	**E9-1049**
	**Double Vertical Half** Use with E9-1011, E9-1013 or E9-1041	**E9-1043**		**Two Piece** **90° Corner Post**	**E9-1050**
	**Tubular Vertical**	**E9-1075**		**Glazing Adaptor** For 3/16”, 1/4”, 5/16”, & 3/8” Glazing	**E9-1040**
	**Heavy Duty** **Tubular Vertical**	**E9-1079**		**Glazing Adaptor** For 5/8” & 3/4” Glazing	**E9-1039**
	**4-1/2” Horizontal/Sill**	**E9-1082**		**Glazing Adaptor** For 1/4” Glazing	**E9-1057**
	**Flush Pocket Filler**	**E9-1020**		**Flat Filler**	**E9-1038**

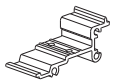
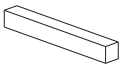
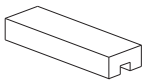
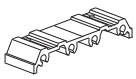
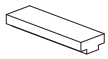
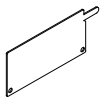
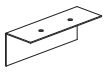
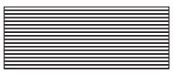
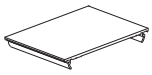
YES 45 FS/FI Alternate Framing Members

	**Sidelite Base Adaptor/Horizontal** Use with E9-1069 or E9-1089	**E9-1023**		**Two Way 90° Corner Post** Use with E9-1009 or E9-1019	**E9-1021**
	**Sidelite Base**	**E9-1034**		**Three Way 90° Corner Post** Use with E9-1009 or E9-1019	**E9-1022**
	**Sidelite Base Shoe**	**E9-1035**		**135° Corner Post** Use with E9-1009 or E9-1019	**E9-1037**
	**Sidelite Base Glass Stop** For 1/4” Glazing	**E9-0403**		**150° Corner Post** Use with E9-1009 or E9-1019	**E9-1058**
	**Sidelite Base Glass Stop** For 1” Glazing	**E9-0413**		**Deep Pocket Filler** For 1/4” Glazing	**E9-1009**
	**Mid-Panel Sidelite** (2-1/8” x 7-1/8”)	**E9-1051**		**Deep Pocket Filler** For 1” Glazing	**E9-1019**
	**Mid-Panel Sidelite Glass Stop** For 1/4” Glazing	**E9-1052**		**Flexible Corner Post** 93° to 133° Use with E9-1028 or E9-1029	**E9-1117**
	**Mid-Panel Sidelite Glass Stop** For 1” Glazing	**E9-1053**		**Flexible Corner Post** 134° to 170° Use with E9-1028 or E9-1029	**E9-1118**
	**Head Receptor** Elastomer Weathering E2-0051 Not Included	**E9-1032**		**Flexible Corner Mullion** Use with E9-1117 or E9-1118 For 1/4” Glazing	**E9-1028**
	**Head Receptor Stop** Elastomer Weathering E2-0051 Not Included	**E9-1033**		**Flexible Corner Mullion** Use with E9-1117 or E9-1118 For 1” Glazing	**E9-1029**

Door Framing Members

YES 45 FS (1-3/4” x 4-1/2”)			YES 45 FI (2” x 4-1/2”)		
	**Single Acting Transom Bar** Elastomer Weathering E2-0051 Included	**AS-0402**		**Single Acting Transom Bar** Elastomer Weathering E2-0051 Included	**AS-0412**
	**Double Acting Transom Bar** Pile Weathering E2-0062 Included	**AS-0425**		**Double Acting Transom Bar** Pile Weathering E2-0062 Included	**AS-0426**
	**Single Acting Door Jamb** Elastomer Weathering E2-0051 Included	**AS-0421**		**Single Acting Door Jamb** Elastomer Weathering E2-0051 Included	**AS-0411**
	**Double Acting Door Jamb**	**E9-0422**		**Double Acting Door Jamb**	**E9-0415**
	**Intermediate Door Jamb**	**E9-0410**		**Intermediate Door Jamb**	**E9-9312**
	**Transom Glass Stop** For 1/4” Glazing	**E9-0403**		**Transom Glass Stop** For 1” Glazing	**E9-0413**
	**Transom Glazing Pocket** For 1/4” Glazing	**E9-0434**		**Transom Glazing Pocket** For 1” Glazing	**E9-0435**
	**Door Stop O/P Assembly** Elastomer Weathering E2-0051 Included	**AS-0409**		**Door Stop O/P Assembly** Elastomer Weathering E2-0051 Included	**AS-0409**
	**Door Stop Base** Used with AS-0409	**E9-1113**		**Door Stop Base** Used with AS-0409	**E9-1113**
	**Door Stop Assembly** Elastomer Weathering E2-0051 Included	**AS-0417**		**Door Stop Assembly** Elastomer Weathering E2-0051 Included	**AS-0417**
	**Sash Base** Use with E9-0403	**E9-0408**		**Sash Base** Use with E9-0403	**E9-0408**
	Threshold 1/2” x 4”	**E9-0407**		**Threshold** 1/2” x 4”	**E9-0407**

YES 45 FS/FI Accessories

	**Shear Block** For Head, Horizontal & Sill (YES 45 FS)	**E1-1012**		**Setting Block** For 1/4" Glazing (YES 45 FS)	**E2-0019**
	**Shear Block** For Head, Horizontal & Sill (YES 45 FI)	**E1-1013**		**Setting Block** For 1" Glazing (YES 45 FI)	**E2-0020**
	**Shear Block** For Transom Bar AS-0425 & AS-0426	**E1-0317**		**Setting Block** For Transom Bar 1" Glazing (YES 45 FI)	**E2-0056**
	**Shear Block** For Sidelite Base (YES 45 FS)	**E1-1010**		**Water Deflector** For 1" Glazing (YES 45 FI)	**E2-0047**
	**Shear Block** For Sidelite Base (YES 45 FI)	**E1-1011**		**Water Deflector** For 1/4" Glazing (YES 45 FS)	**E2-0048**
	**End Dam** For Sill Flashing E9-1068	**E1-0199**		**Anti-Walk Block** For Deep Pocket (YES 45 FI)	**E2-0153**
	**End Cap** For Head Receptor E9-1032	**E1-2603**		**Glazing Gasket**	**E2-0052**
	**Splice Sleeve** For Sill Flashing E9-1068 and Head Receptor E9-1032	**E2-0070**		**Glazing Gasket**	**E2-0053**
	**Flat Filler** Use at all Anchor Locations	**E1-1054**		**Glazing Gasket**	**E2-0064**
	**Steel Reinforcing** (YES 45 FS)	**E1-0155**		**Elastomer Weathering**	**E2-0051**
	**Steel Reinforcing** (YES 45 FI)	**E1-0156**		**Pile Weathering**	**E2-0062**

YES 45 FS/FI Accessories

	**Weathering Gasket**	**K2-2441**		**Foam Backer Tape** 1” x 1-1/4” (Roll)	**E2-0259**

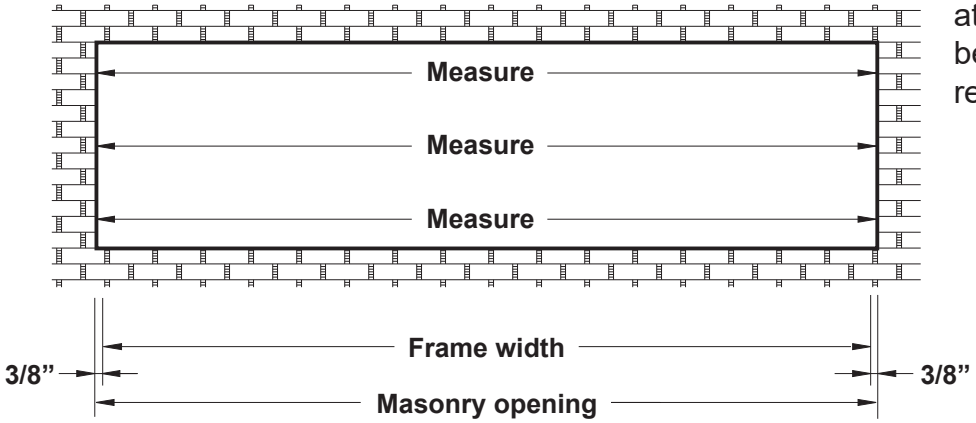
YES 45 FS/FI Fasteners

	**#8 x 1/4” FHMS,** Zinc Plated Steel, For Attachment of Steel Reinforcing to Vertical (YES 45 FI)	**FM-0804**		**#12 x 5/8” PHSMS** Type AB, Zinc Plt. Stl., For Attachment of Horizontal & Sill to Shear Block E1-1013	**PC-1210**
	**#8 x 3/8” FHMS,** Zinc Plated Steel, For Attachment of Steel Reinforcing to Vertical (YES 45 FS)	**FM-0806**		**#12 x 1” PHSMS** Type AB, Zinc Plated Steel For Screw Spline Attachment	**PC-1216**
	**#10 x 1/2” FHSMS** Type AB Zinc Plated Steel, For Attach. of Horiz. to Shear Blocks E1-0317, E1-1010, E1-1011	**FC-1008**		**#12 x 1-1/4” PHSMS** Type AB, Zinc Plated Steel For Screw Spline Attachment	**PC-1220**
	**#10 x 1-3/4” PHSMS** Type AB, Zinc Plt. Stl., For Attachment of Shear Blocks E1-1012 & E1-1013 to Vert.	**PC-1028**		**#12 x 1-3/4” PHSMS** Type AB, Zinc Plated Steel For Attachment of Shear Block E1-0317 to Vertical	**PC-1228**
	**#12 x 3/8” PHSMS** Type B, Zinc Plated Steel, For Attachment of Horizontal & Sill to Shear Block E1-1012	**PB-1206**		**#12 x 3” PHSMS** Type AB, Zinc Plt. Steel., For Attach. of Shear Block E1-1010 & E1-1011 to Vert.	**PC-1248**
	**#10 x 1/2” PHMS** Stainless Steel, For Attachment of Sill to Sill Flashing	**PM-1008 -SS**		**#12 x 3/4” UFHSMS** Type A, Zinc Plt. Stl., For Attachment of End Dam to Sill Flashing	**UA-1212**
	**#12 x 1/2” FHSMS** Type AB, Zinc Plt. Stl., For Attachment of Head to Shear Blocks E1-1012 & E1-1013 and Receptor End Cap E1-2603	**FC-1208**			

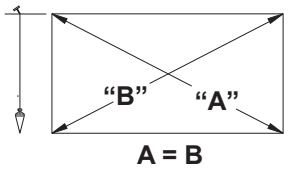
FRAME FABRICATION

STEP 1
DETERMINE FRAME SIZE

Determine Frame Width:



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

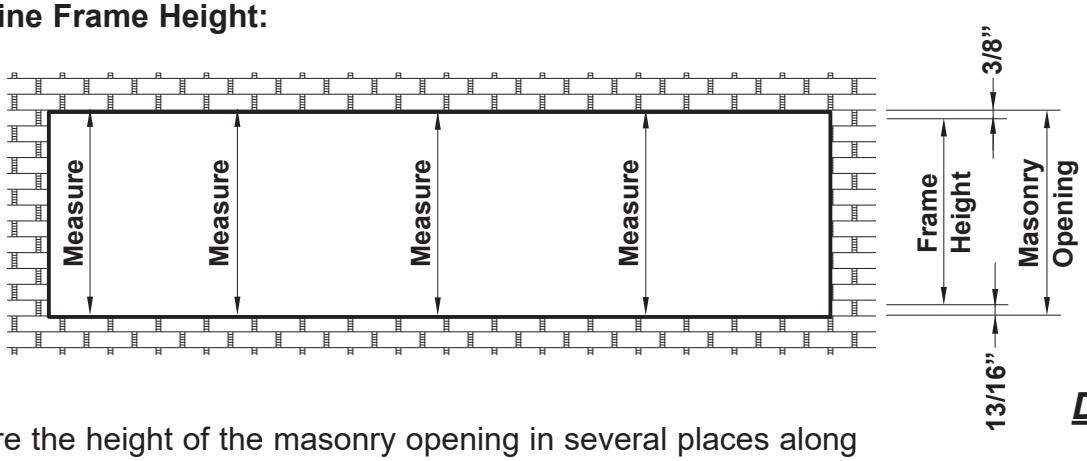


Detail 1

-Measure the width of the masonry opening at the top, middle and bottom.
-Select the smallest dimension measured and subtract 3/4” to the determine the frame width to be used.
See **Detail 1.**

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

Determine Frame Height:



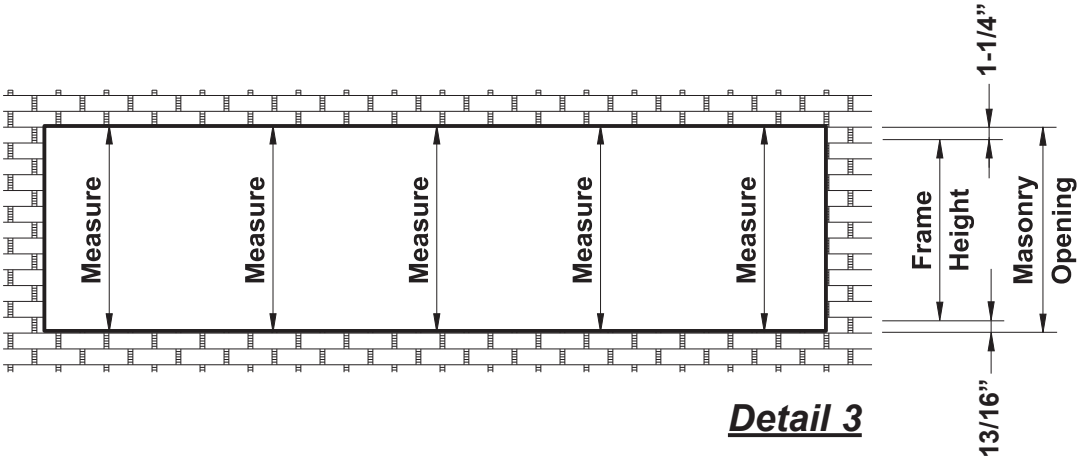
Detail 2

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

FRAME FABRICATION

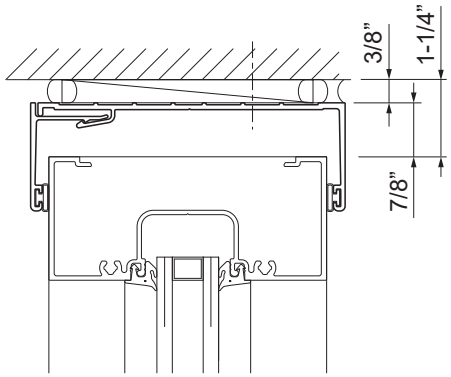
STEP 1
DETERMINE FRAME SIZE

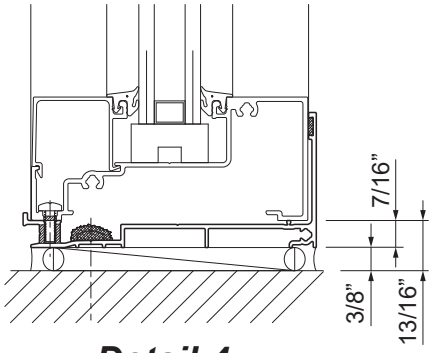
Determine Frame Height for Receptor Conditions:



Detail 3

-Measure the height of the masonry opening in several places along the entire length of the opening.
-Select the smallest dimension measured and subtract 2-1/16” to determine the frame height to be used:
Minimum 3/8” shim/caulk joint at the head.
7/8” for the head receptor
7/16” for sill flashing.
Minimum 3/8” shim/caulk joint below the sill flashing.
See **Details 3 & 4**.





Detail 4

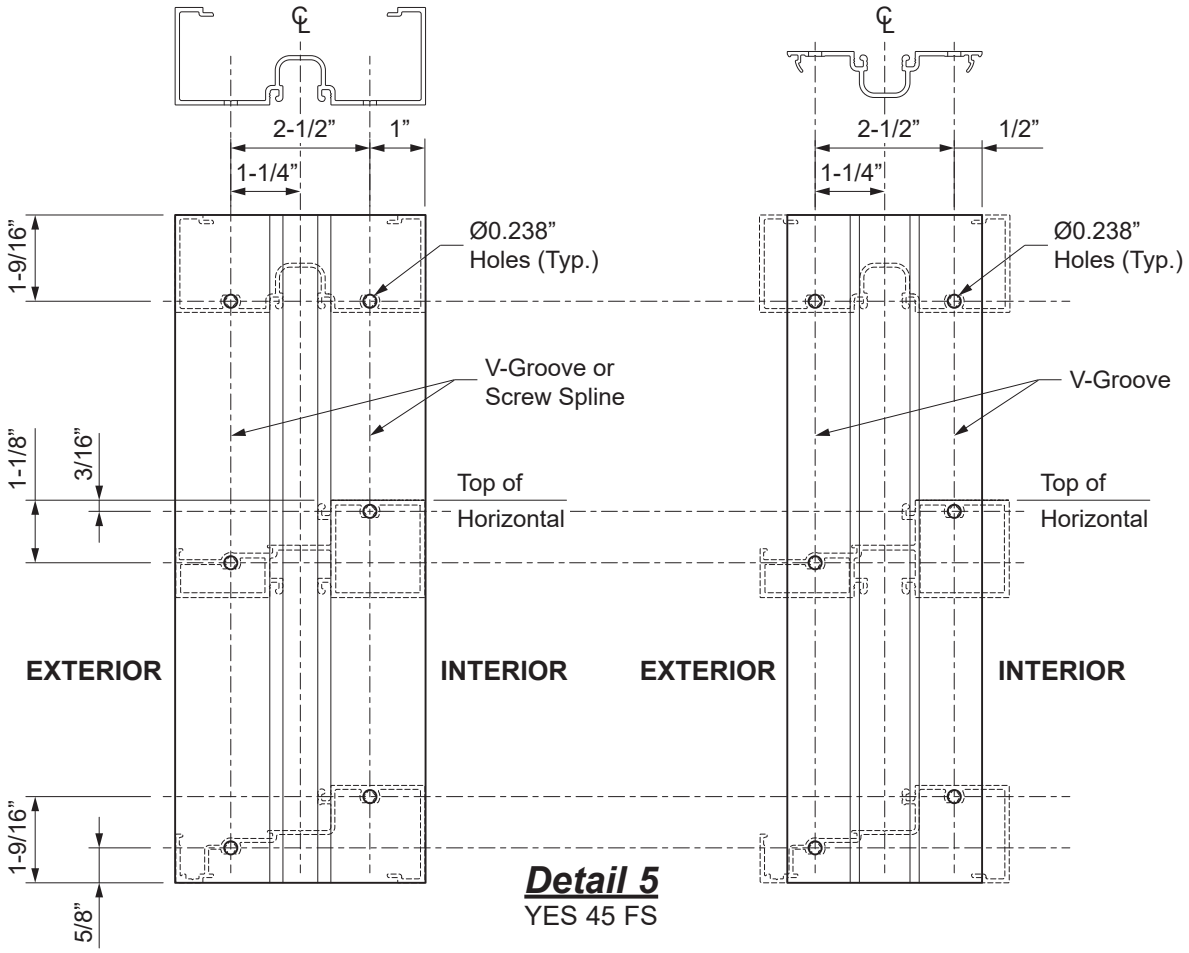
FRAME FABRICATION

STEP 2
FABRICATE TWO PIECE VERTICALS FOR SCREW SPLINE ASSEMBLY

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

1. Using a short piece of each horizontal member as a template, center the template on the face of the vertical and mark the location of each screw spline. Drill a Ø0.238” (#B drill bit) hole at each location marked.
2. Layout the hole locations as shown in **Detail 3** and drill a 0.236” dia. (#B drill bit) clearance hole at each location marked.
3. Use the YKK AP drill fixture, H-7201, to drill the holes.
4. Use punch press with appropriate die set.

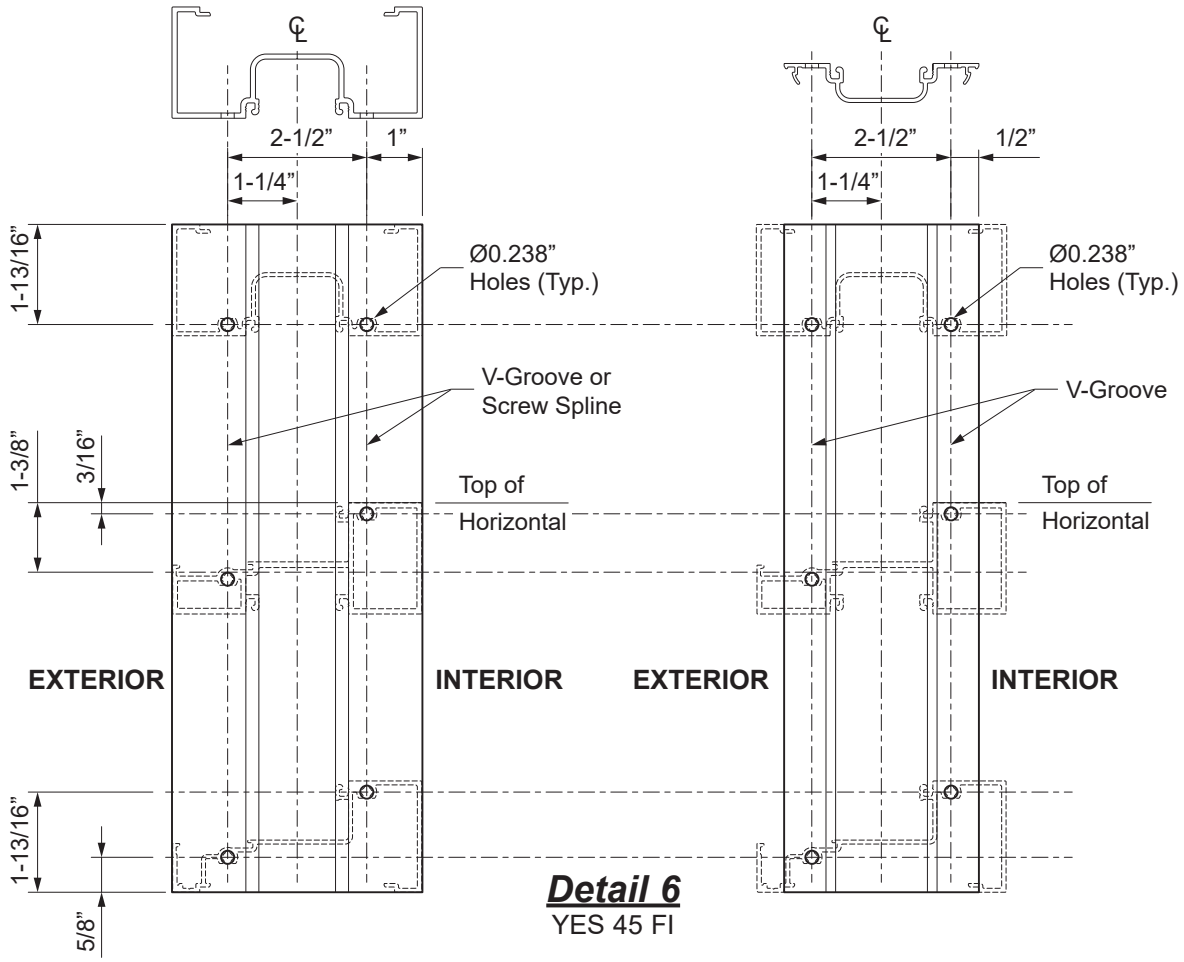
See **Details 5 & 6**.



Detail 5
YES 45 FS

FRAME FABRICATION

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



Detail 6
YES 45 FI

FRAME FABRICATION

STEP 2 (Continued)
FABRICATE TUBULAR VERTICALS FOR SHEAR BLOCK ASSEMBLY

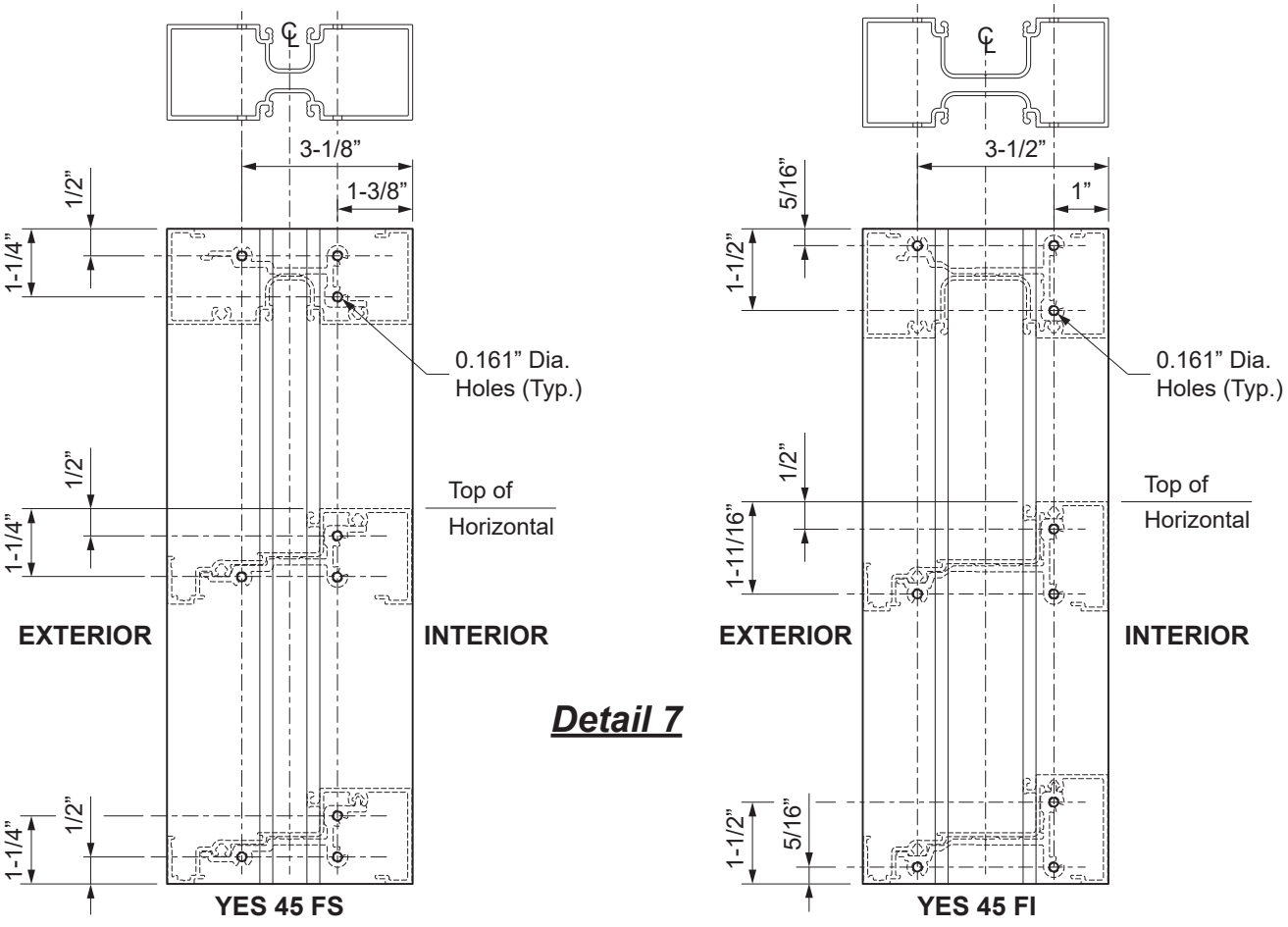
YES 45 FS & YES 45 FI:

-Cut the vertical and jamb members to the frame height determined in **Step 1**.
-Tubular verticals require shear blocks for the attachment of head, horizontal and sill members:
E1-1012 for YES 45 FS.
E1-1013 for YES 45 FI.

Note: Open back horizontals and sills, E9-1069 (YES 45 FS) and E9-1089 (YES 45 FI), 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 7**.

-Drill a 0.161” diameter hole (#20 drill bit) at each location marked.
-Attach the shear blocks to the verticals using three (3) PC-1028 fasteners.



Detail 7

FRAME FABRICATION

STEP 3
FABRICATE HEAD, HORIZONTAL & SILL MEMBERS

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

-Members that are to be attached to shear blocks require additional fabrication:

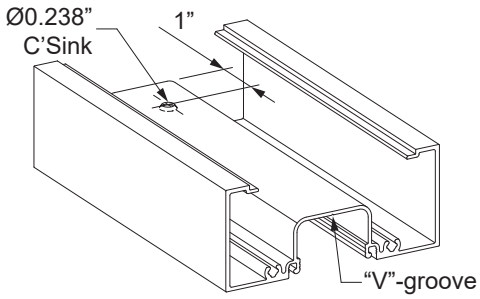
Head Members: Mark a hole location at each end, 1” from the ends centered along the glazing pocket “V”-groove.

YES 45 FS horizontal and sill members:
Mark a hole location at each end, 1” from the ends centered along the glazing pocket “V”-groove.

YES 45 FI horizontal and sill members:
Measure up 1/4” from the glazing pocket and mark a hole location at each end, 1” from the ends.

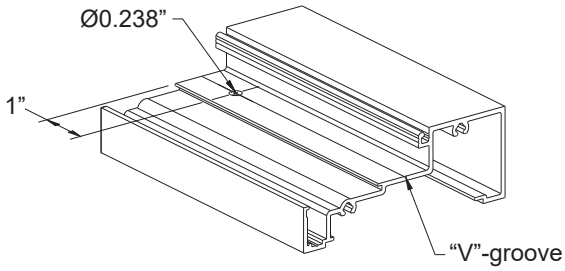
-Drill a Ø0.238” hole (# B drill bit) at each location marked. At the head, countersink the hole from inside the glazing pocket for a flat head fastener.

See **Detail 8.**

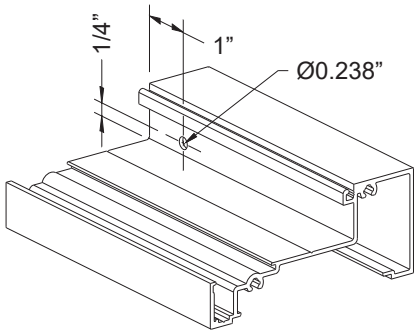


YES 45 FI Head Shown
Others Similar

Detail 8



YES 45 FS
Horizontal/Sill



YES 45 FI
Horizontal/Sill

STEP 4
FABRICATE GLASS STOPS & GLAZING ADAPTORS

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

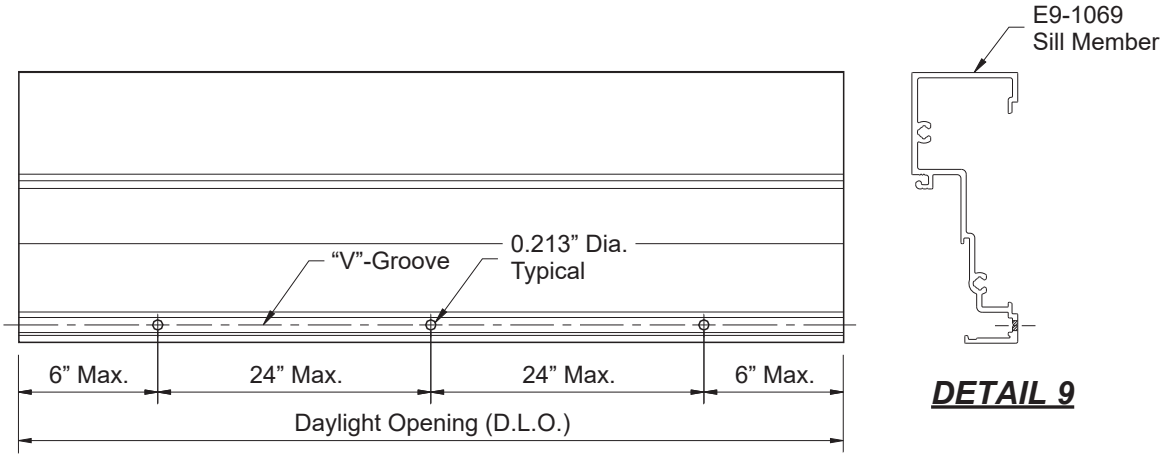
YES 45 FI only:
-Cut vertical glazing adaptors to the frame height.
-Cut horizontal glazing adaptors to the daylight opening minus(–) 1/32”.

FRAME FABRICATION

STEP 5
FABRICATE SILL MEMBERS

-For end reactions over 500 lbs., fabricate sill members for anchoring to sill flashing:
- -Measure in 6” from each end of the sill member and mark hole locations along the “V”-groove as shown in **Detail 8**.
- -Mark additional hole locations a maximum of 24” on center (O.C.).
- -Drill a 0.213” diameter (#3 drill bit) hole at each location marked.
- -If end reaction is under 500 lbs., one (1) .213” dia. weep hole is required at the center of each daylight opening.

See **Detail 9**.



DETAIL 9

STEP 6
FABRICATE SILL FLASHING

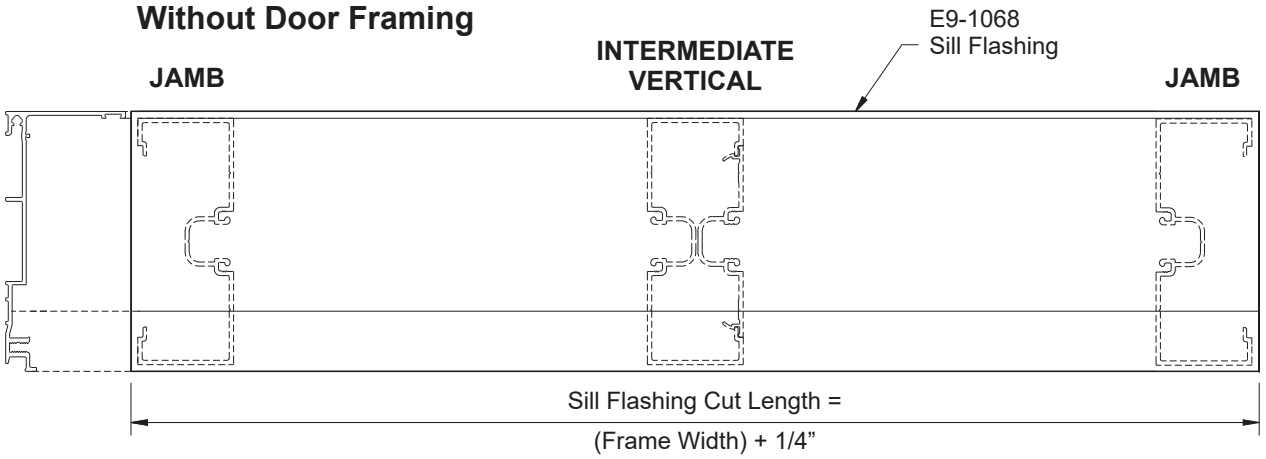
For elevations without door framing:
-Cut sill flashing, E9-1068 to the frame width + 1/8” at each jamb.

For elevations with door framing:
-Cut the sill flashing from the end of the frame to the door jamb + 1/8”.
(See approved shop drawings for this dimension)

See **Detail 10.**

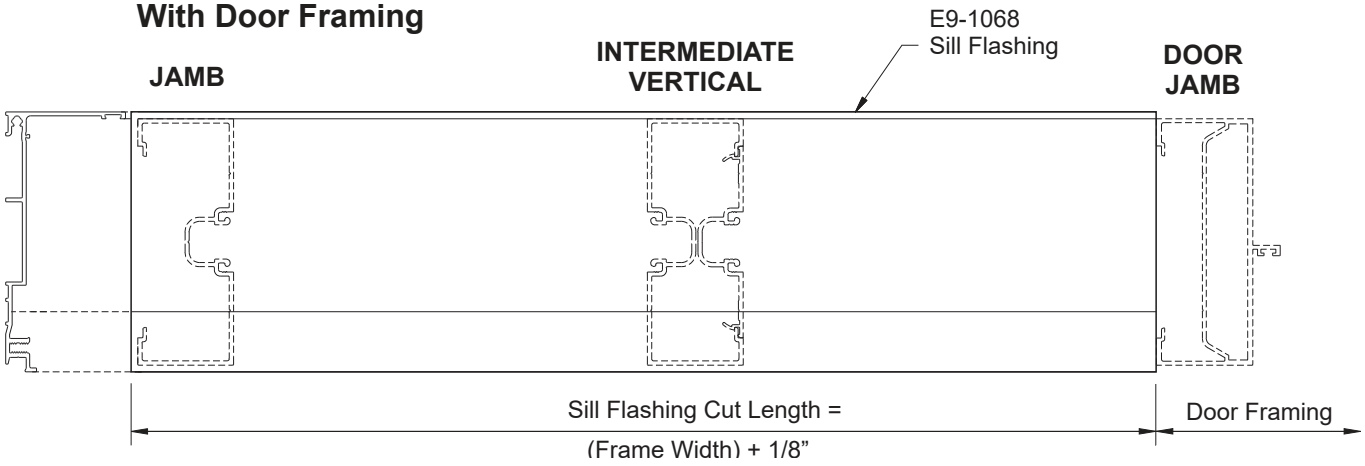
FRAME FABRICATION

Without Door Framing



Detail 10
YES 45 FS Shown
YES 45 FI Similar

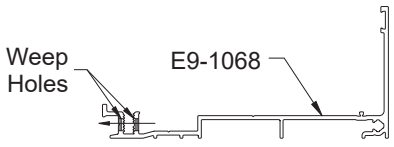
With Door Framing

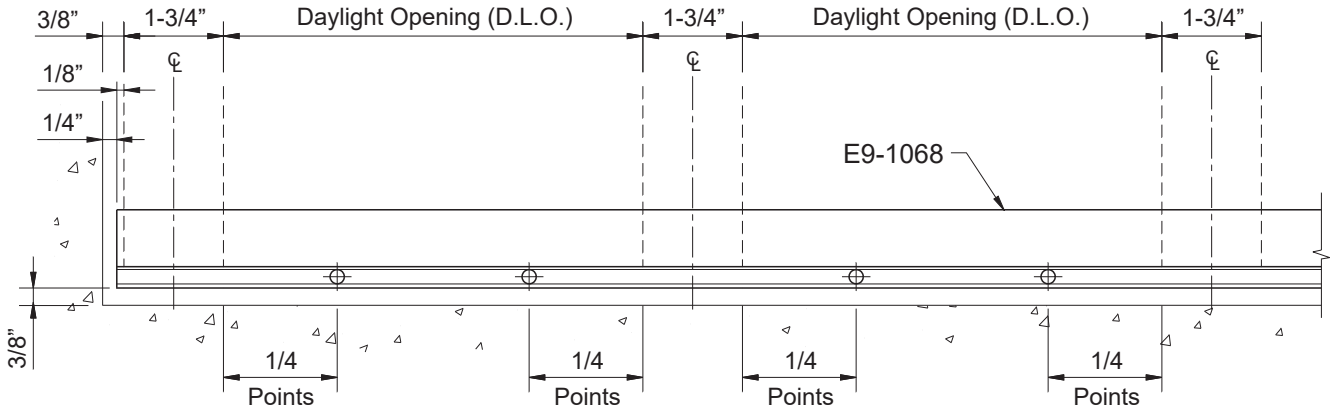


-Drill 5/16” diameter weep holes in the front of the sill flashing at the quarter points of each D.L.O.

See **Detail 11**.

DETAIL 11
YES 45 FS Shown
YES 45 FI Similar



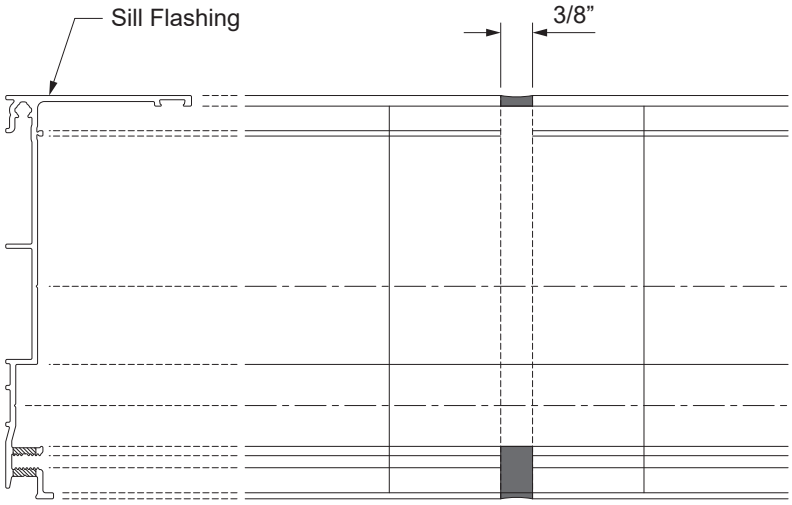


FRAME ASSEMBLY

STEP 6 (Continued)
FABRICATE SILL FLASHING

-For openings longer than 24’-0” the sill flashing needs to be spliced every twelve to fifteen feet at the center of a D.L.O.
-Allow for a 3/8” joint for expansion between sill flashing members.

See **Detail 12.**

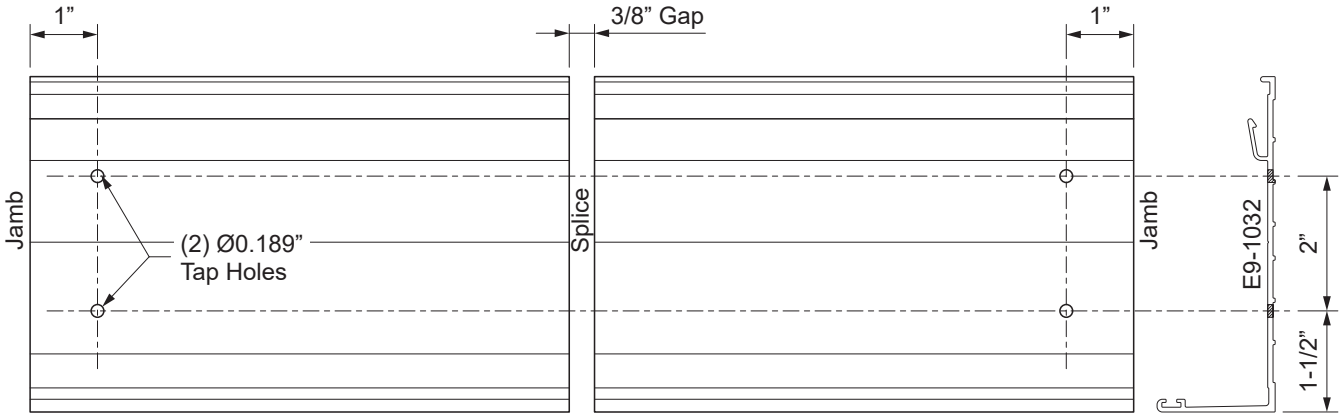


DETAIL 12

STEP 6A
FABRICATE HEAD RECEPTOR

-Cut the head receptor E9-1032 and the E9-1033 snap cover to the frame width + 1/8” at each jamb or as indicated on the approved shop drawings.
-At each jamb, drill two Ø0.189” tap holes in to the BE9-2562 head receptor as shown.
-For openings longer than 24’-0” the head receptor needs to be spliced every twelve to fifteen feet at the center of a D.L.O.
-Allow for a 3/8” joint for expansion between head receptor members.

See **Detail 13.**



DETAIL 13

FRAME ASSEMBLY

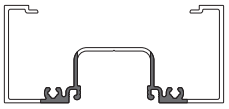
STEP 7
ASSEMBLE FRAMES

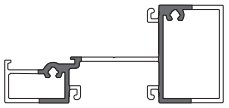
Screw Spline Assembly:

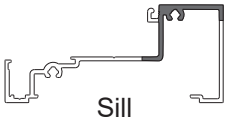
-Clean all joint surfaces using cleaner approved by sealant manufacturer.
-Apply (butter) sealant to both ends of head, horizontal and sill members just prior to assembly.
-Attach head, horizontal and sill members to vertical members with two (2) PC-1216 fasteners at each end.

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

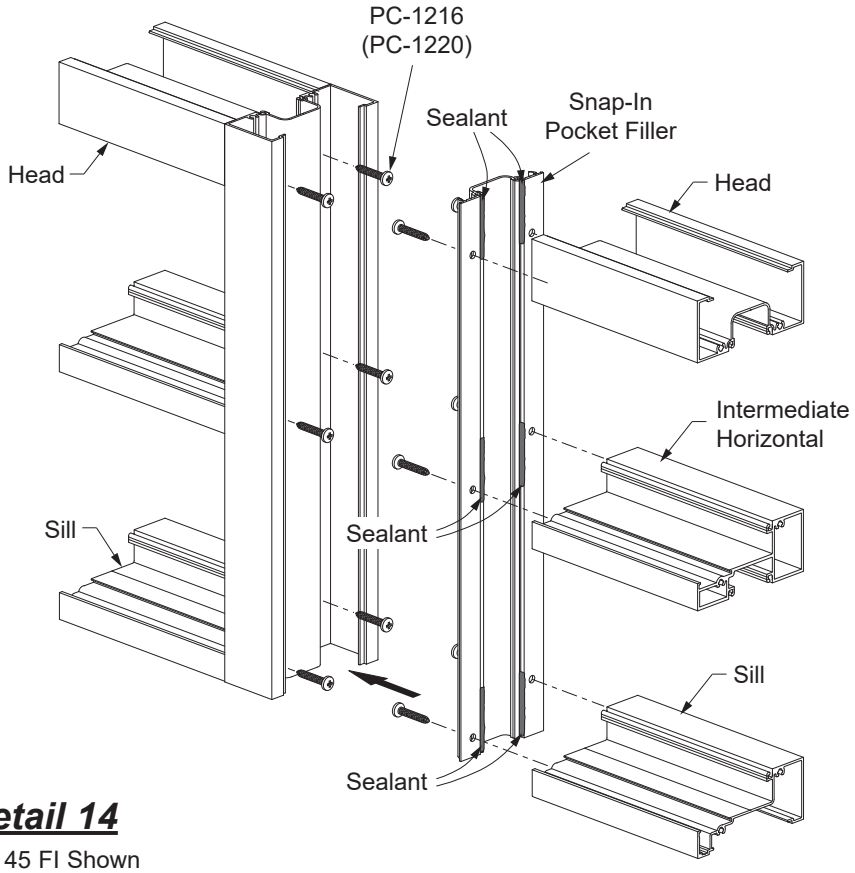
-Tool the sealant into the joints and wipe away any excess sealant.
See **Detail 14.**







Apply sealant to the shaded areas at each end.



Detail 14

YES 45 FI Shown
YES 45 FS Similar

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

FRAME ASSEMBLY

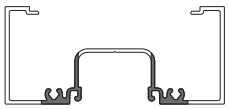
STEP 7 (Continued)
ASSEMBLE FRAMES

Shear Block Assembly:

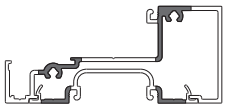
-Clean all joint surfaces using cleaner approved by sealant manufacturer.
-Apply (butter) sealant to both ends of head, horizontal and sill members.
-Apply sealant to the shear blocks as shown.
-Attach head members to shear blocks at each end with one (1) FC-1208 fastener.
-Attach horizontal and sill members to shear blocks at each end with:
one (1) PB-1206 fastener for YES 45 FS.
one (1) PC-1210 fastener for YES 45 FI.

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

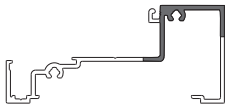
See **Detail 15.**



Head

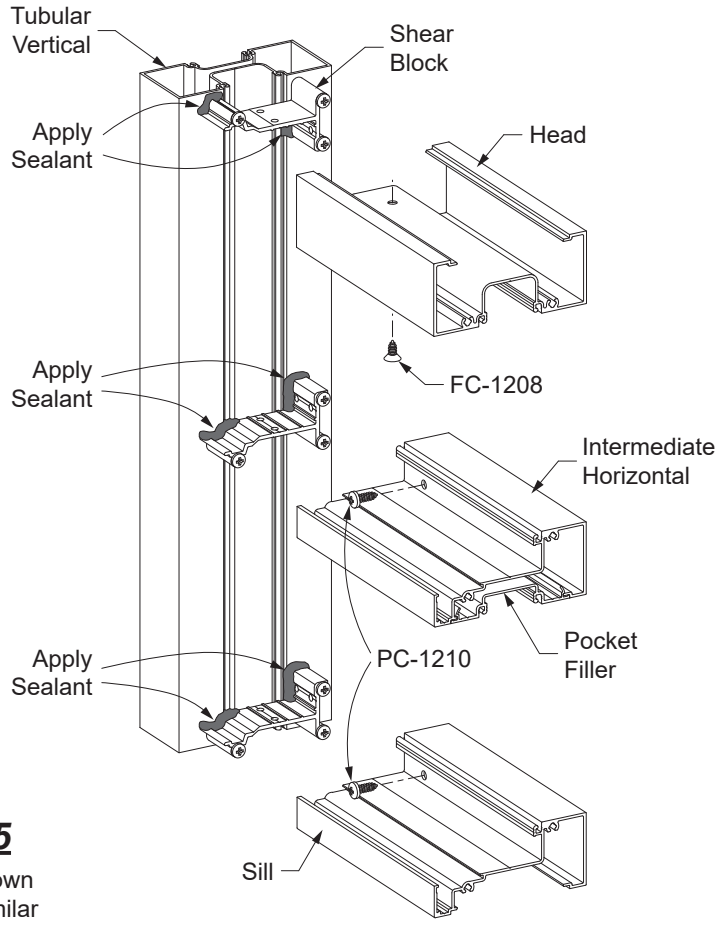


Horizontal



Sill

Apply sealant to the shaded areas at each end.



Detail 15

YES 45 FI Shown
YES 45 FS Similar

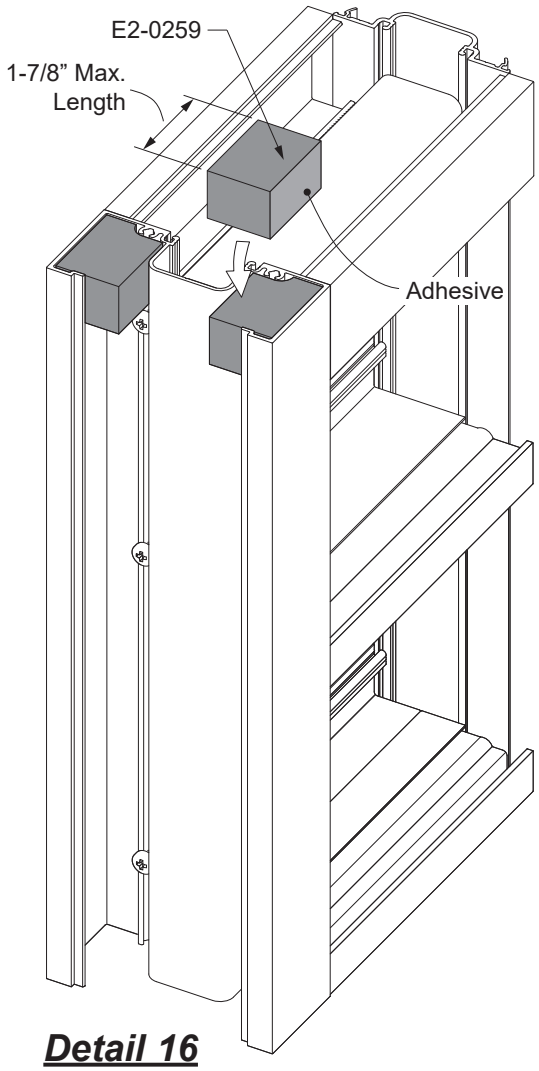
CAUTION: Always assemble frames such that each lite of glass will have a minimum of one deep vertical glazing pocket.

FRAME ASSEMBLY

STEP 8 (Not necessary with Head Receptor)
INSTALL FOAM PLUGS AT HEAD (Optional)

-Cut pieces of E2-0259 foam backer tape (maximum 1-7/8” long for typical mullion) to be adhered at the head only.
These will serve as end cap support for perimeter backer rods and sealant.
-Peel the adhesive tape from the foam pieces and adhere them to the front and back of the mullion as shown in **Detail 16**. The foam can be easily compressed to accomodate obstacles in the assembled verticals.

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



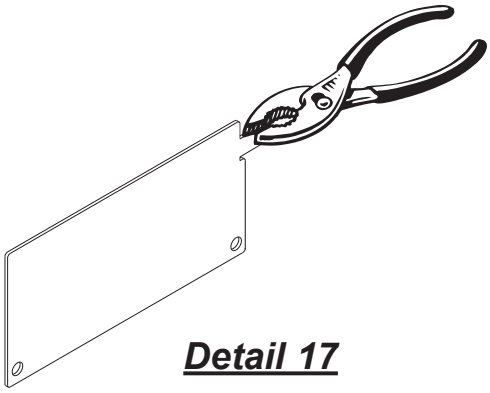
Detail 16

FRAME INSTALLATION

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 left or right 90 degrees in the proper direction.

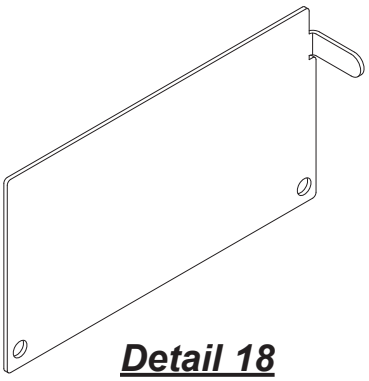
See **Details 17 & 18.**



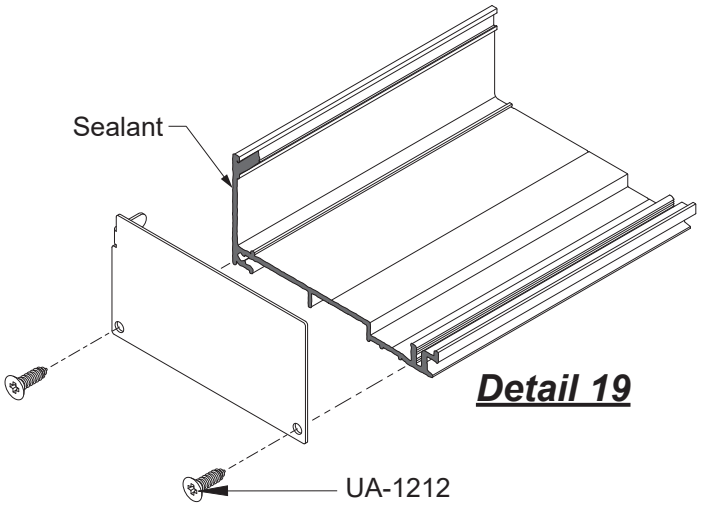
Detail 17

Note: The end dam must be bent in the correct position for the left or right end of the sill flashing.

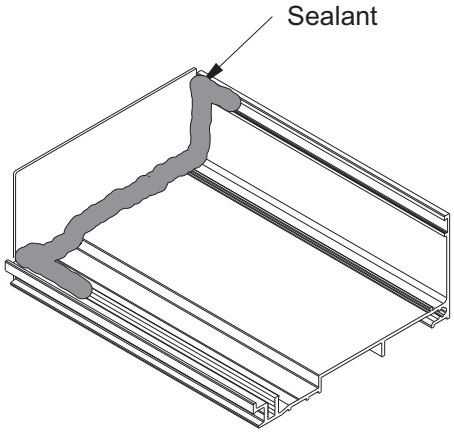
-Clean all joint surfaces using Isopropyl Alcohol.
-Apply silicone sealant to the end of the sill flashing as shown in **Detail 19.**
-Slide the tab into the top portion of the sill flashing.
-Tap the tab into place with a small tool until the end dam is snug against the end cut of the flashing.
-Fasten the end dam to the sill flashing with two UA-1212 screws, starting at the back, followed by the front as shown in **Detail 19.**
-Tool sealant along the joint between the end dam and the sill flashing as shown in **Detail 20.**
-Seal over any exposed screw threads.



Detail 18



Detail 19



Detail 20

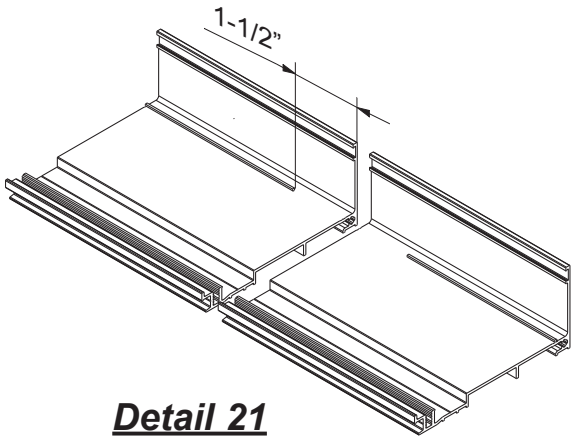
FRAME INSTALLATION

STEP 10
INSTALL SILL FLASHING

-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.

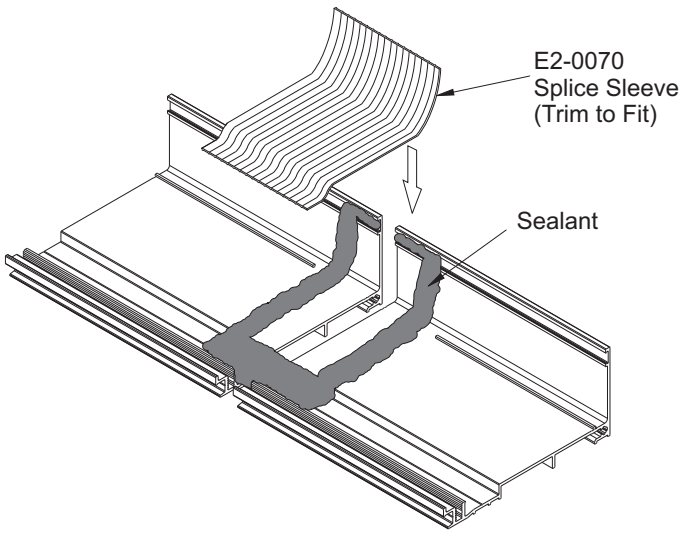
STEP 11
INSTALL SILL FLASHING SPLICE SLEEVE

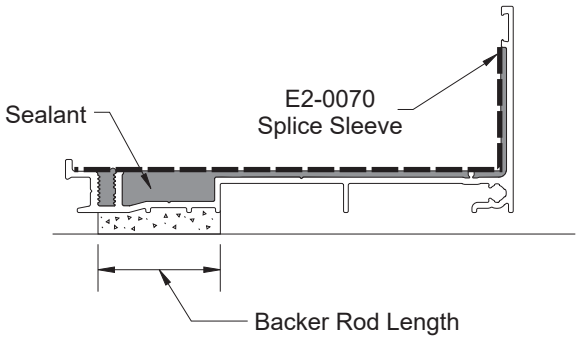
-Remove the nub with a chisel or needle nose pliers a minimum length of 1-1/2” as shown in **Detail 21** .
-After the sill flashing has been shimmed and installed to the building structure, apply a small backer rod under the sill flashing as shown in **Detail 22**.
-Position the Silicone Splice Sleeve 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 iso-propyl alcohol at the splice location
-Seal the flashing at the splice location as shown in **Detail 22**, before positioning the flashing. Set the Silicone Splice Sleeve into the Silicone Splice Sleeve.
-Tool sealant tight as shown in **Detail 22**, squeezing the sheet flat.



Detail 21

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





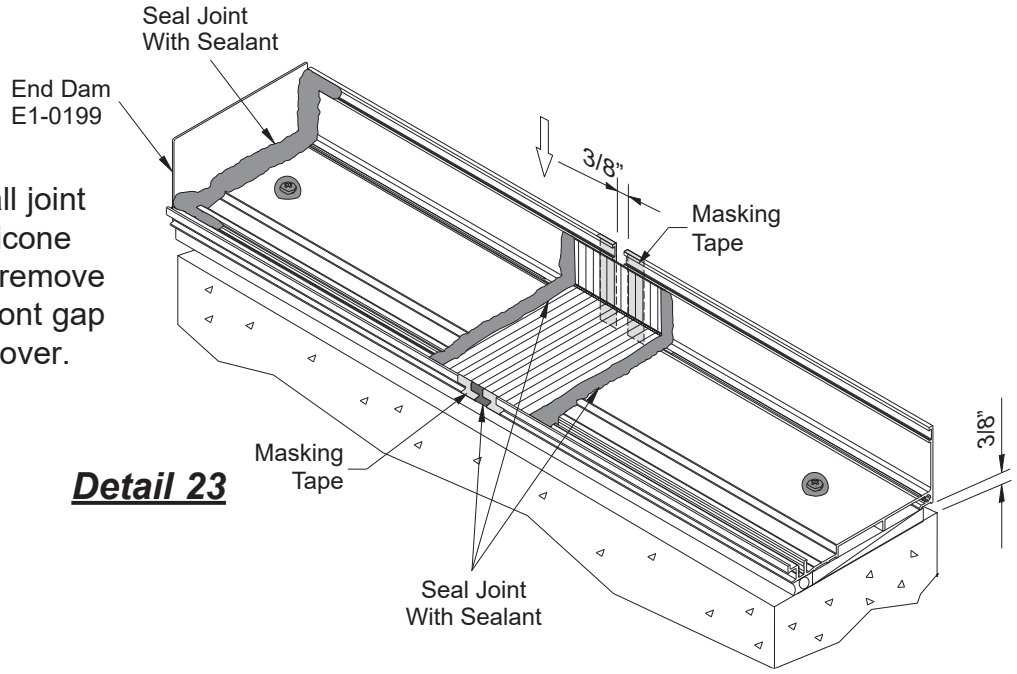
Detail 22

FRAME INSTALLATION

STEP 11
INSTALL SILL FLASHING SPLICE SLEEVE (Continued)

-Apply masking tape to the back of the sill flashing at the splice and at the front as shown in **Detail 23**.

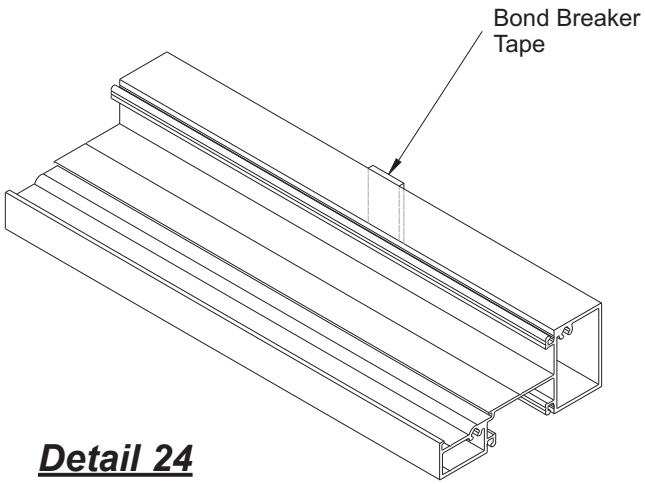
-Thoroughly seal the small joint directly in front of the Silicone Splice Sleeve. Carefully remove masking tape from the front gap before the sealant skins over.



Detail 23

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 24.**

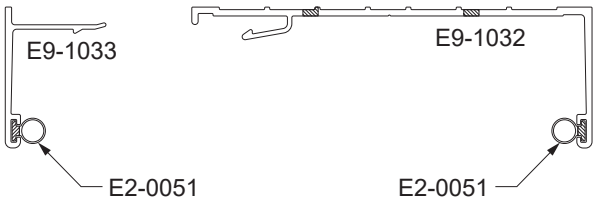


Detail 24

FRAME INSTALLATION

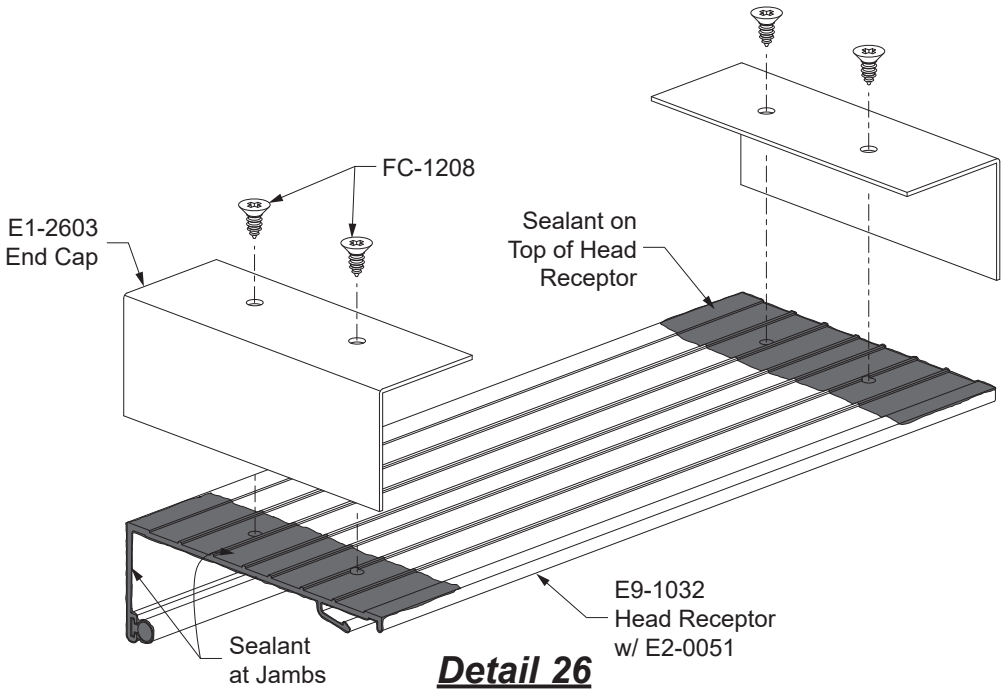
STEP 13
ATTACH HEAD RECEPTOR END CAPS

-Cut E2-0051 bulb gaskets to the same length as the head receptor and insert them into the reglet of both the BE9-2562 head receptor and E9-1033 snap cover. See **Detail 25**.



Detail 25

-Clean all joint surfaces using cleaner approved by sealant manufacturer.
-Apply sealant to the end of the head receptor as shown in **Detail 26.**
-Fasten the E1-2603 end caps to each jamb using two FC-1208 fasteners.
-Tool sealant to the inside of the end caps at the jambs similar to that for the sill flashing end dams (see **Detail 28**). Tape down the top corners to hold the end cap in place until the sealant cures.



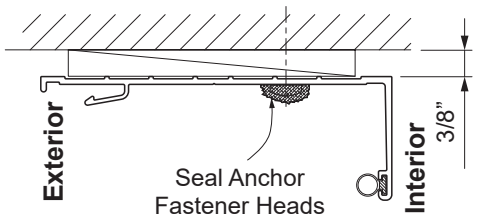
Detail 26

FRAME INSTALLATION

STEP 13
INSTALL RECEPTOR

-Install the E9-1032 head receptor to the substrate using fasteners per approved shop drawing or P.E. calculations. Allow for a 3/8” shim space to the substrate and a 3/8” gap at the splice joints.
-Seal all anchor fastener heads.
-Fill the gap at the exterior of the head receptor with sealant.

See **Details 27 & 28.**

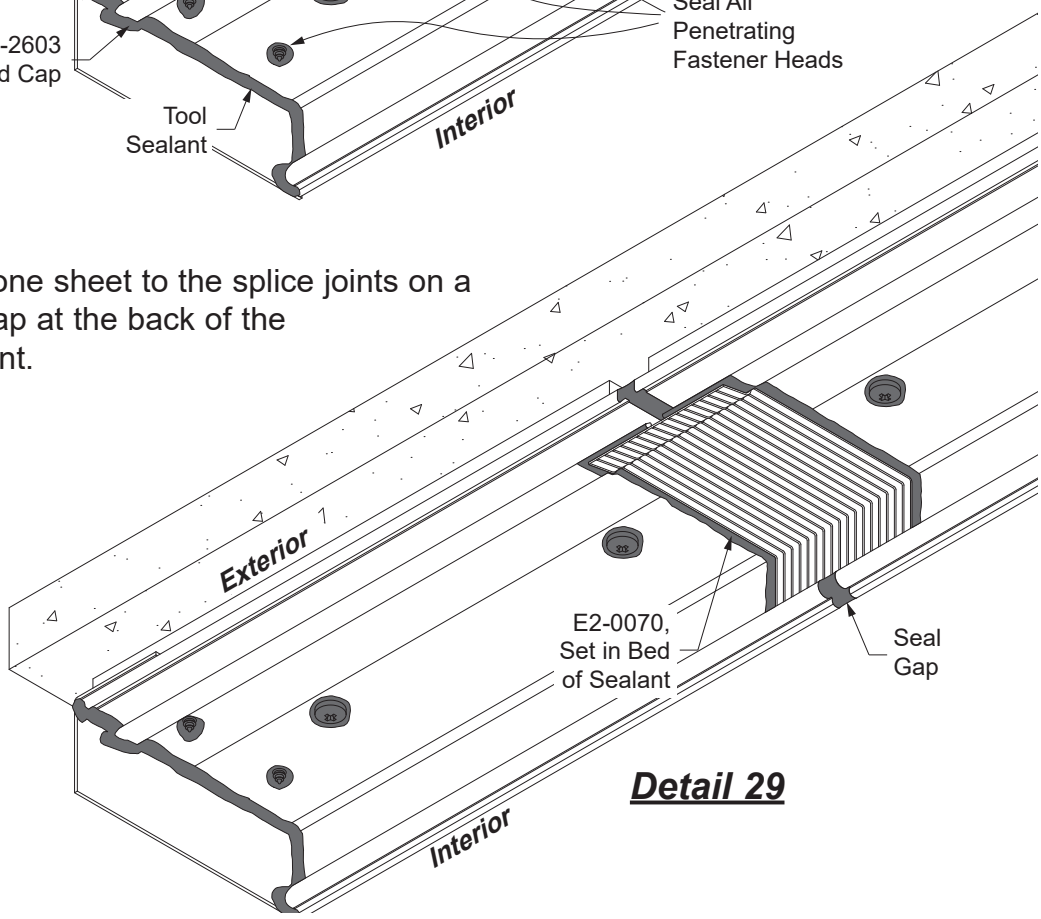


Detail 27

Detail 28

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

See **Detail 29**.



Detail 29

FRAME INSTALLATION

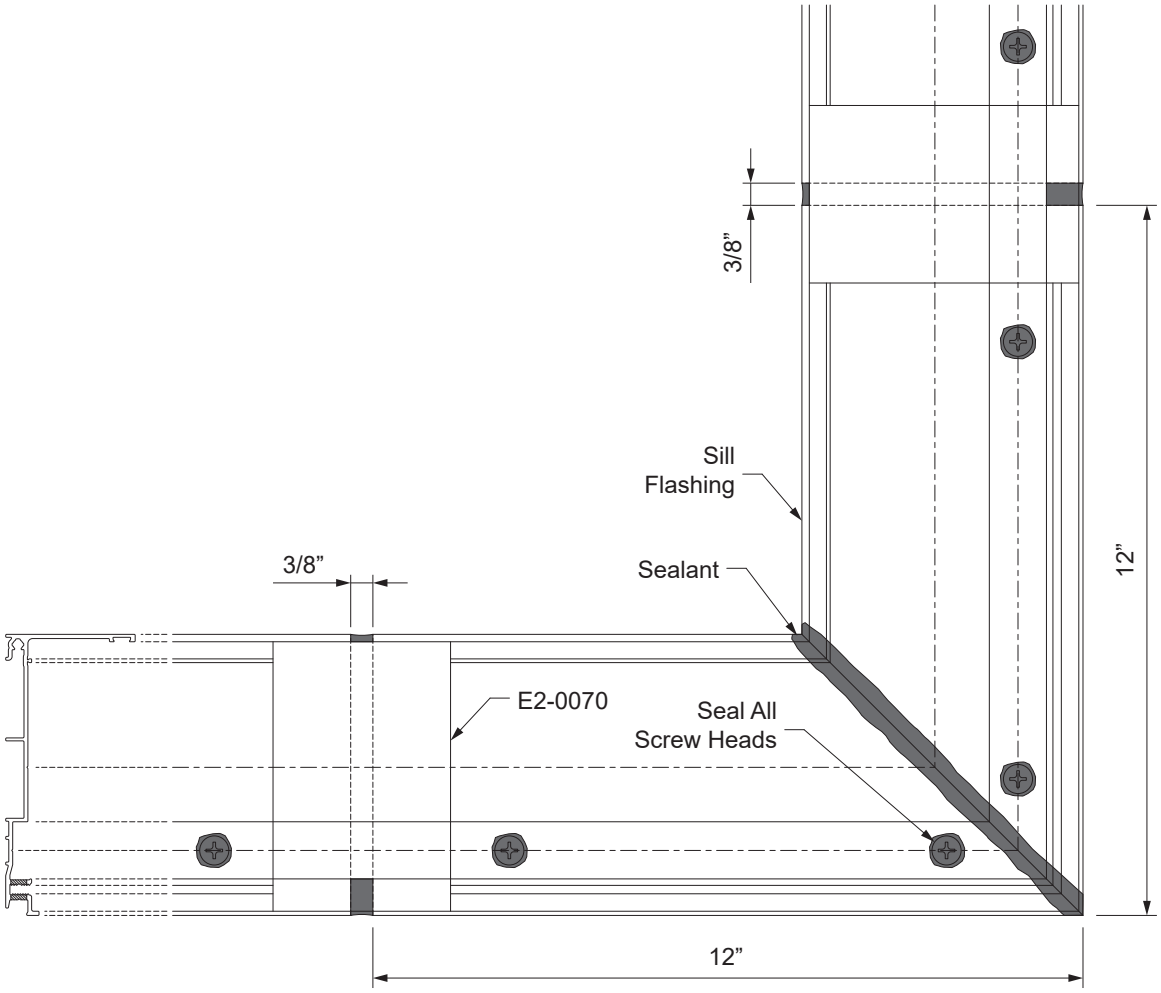
STEP 14
INSTALL SILL FLASHING AT CORNERS

-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 11** on **Page 20**.

*** Note:** Similar technique required for E9-1032 head receptor.



Detail 30

FRAME INSTALLATION

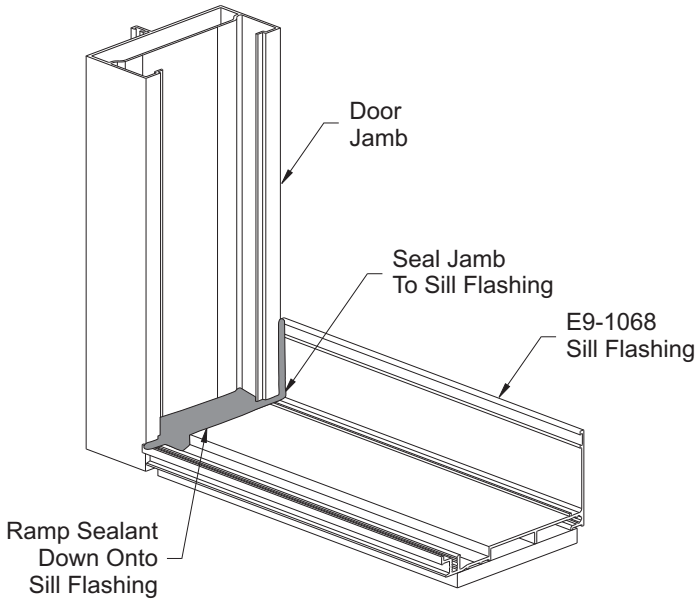
STEP 15
PREPARE DOOR JAMBS

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

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

See **Detail 31**.

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



Detail 31

FRAME INSTALLATION

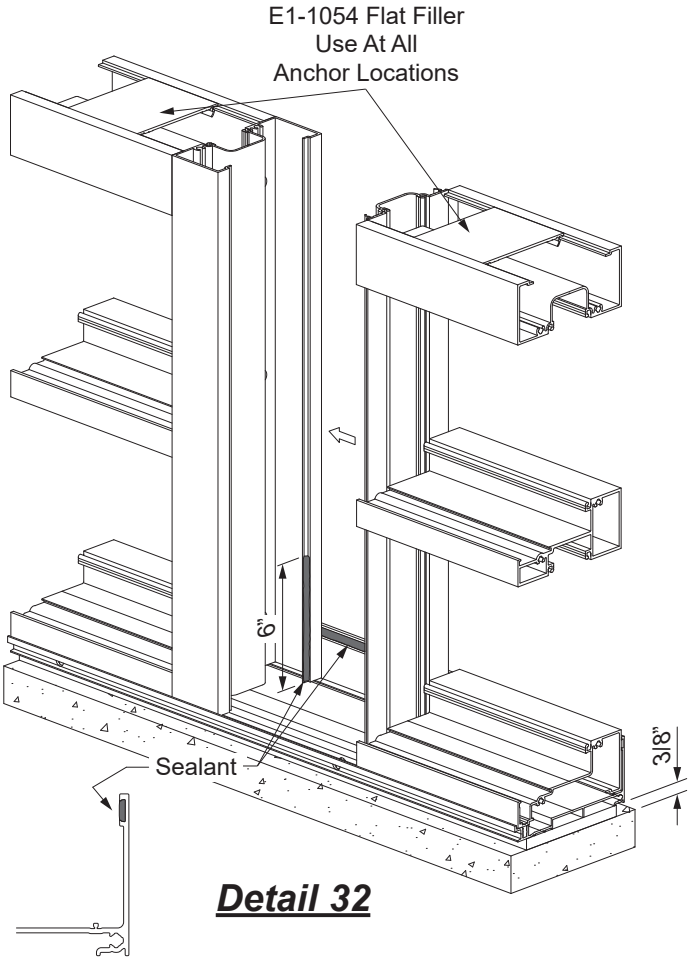
STEP 16
INSTALL FRAMES

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

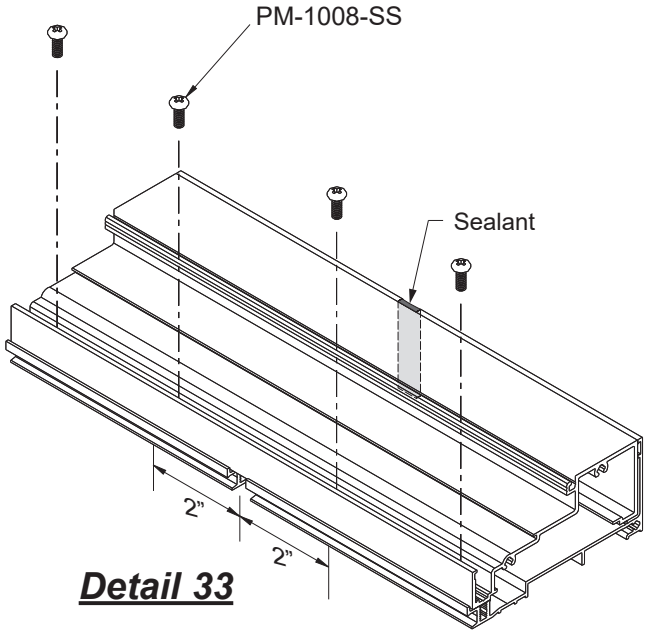
See **Detail 32**.

-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.
-Always install a shim at all anchor locations.

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



Detail 32



Detail 33

-For end load reactions over 500 lbs., attach the sill to the sill flashing using PM-1008-SS screws.
-Additionally, add one (1) PM-1008-SS fastener 2” in both directions from the centerline of the splice.
See **Detail 33**.

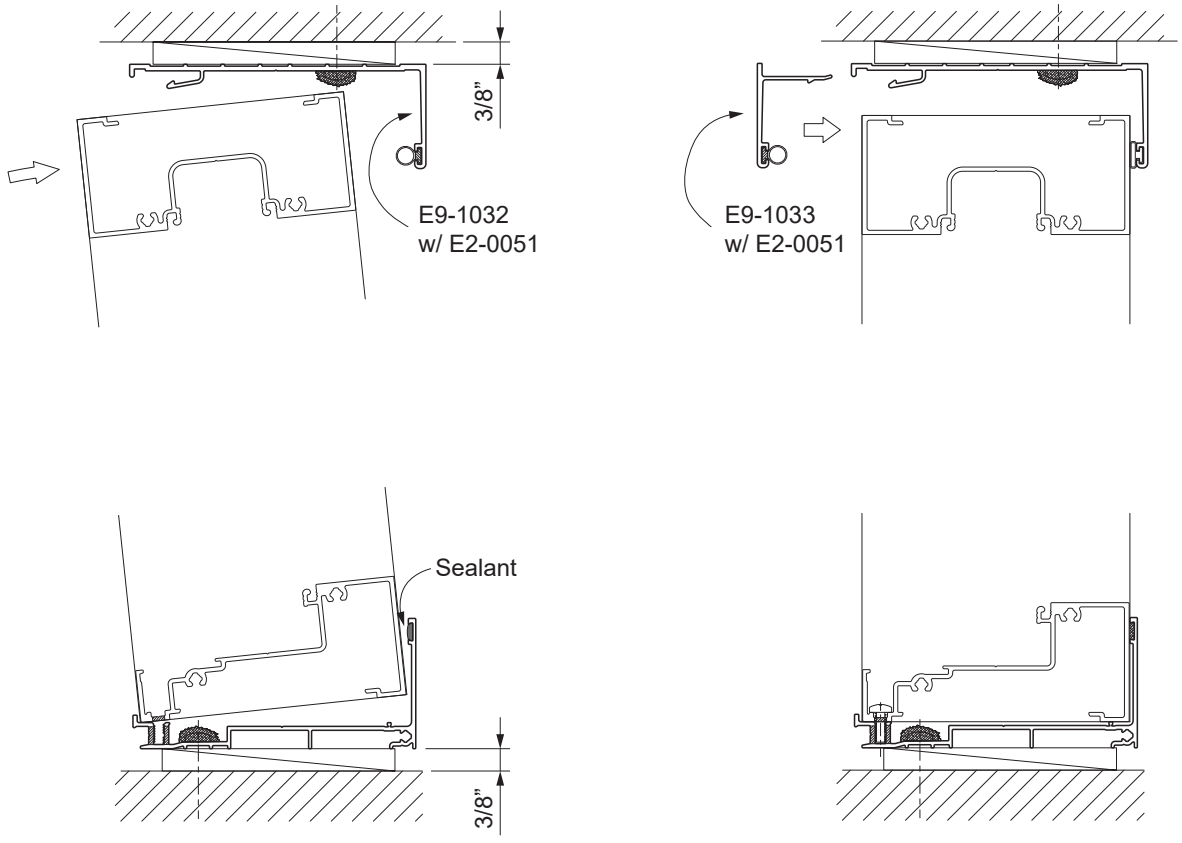
-Apply and tool sealant to the gap in the back of the sill flashing splice. Carefully remove the masking tape before the sealant skins over.

FRAME INSTALLATION

STEP 16 (Continued)
INSTALL FRAMES W/ HEAD RECEPTOR

-Rotate the assembled frames into position from the exterior, ensuring engagement into the sill flashing.
-Snap on the E9-1033 snap cover (with E2-0051 bulb gasket) into the head receptor.
-Attach the sill to the sill flashing using fasteners as indicated on the approved shop drawings or P.E. calculations.

See **Detail 34**.



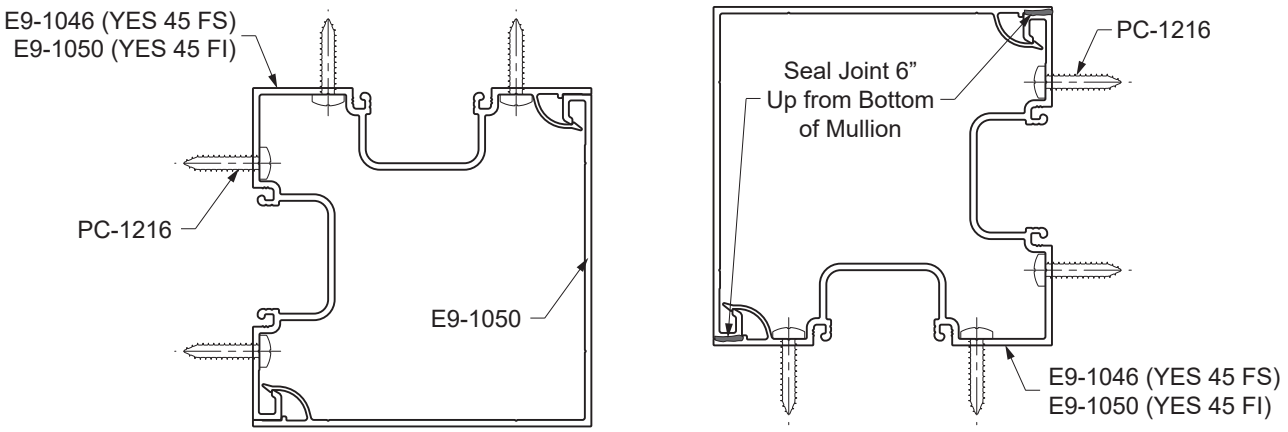
Detail 34

FRAME INSTALLATION

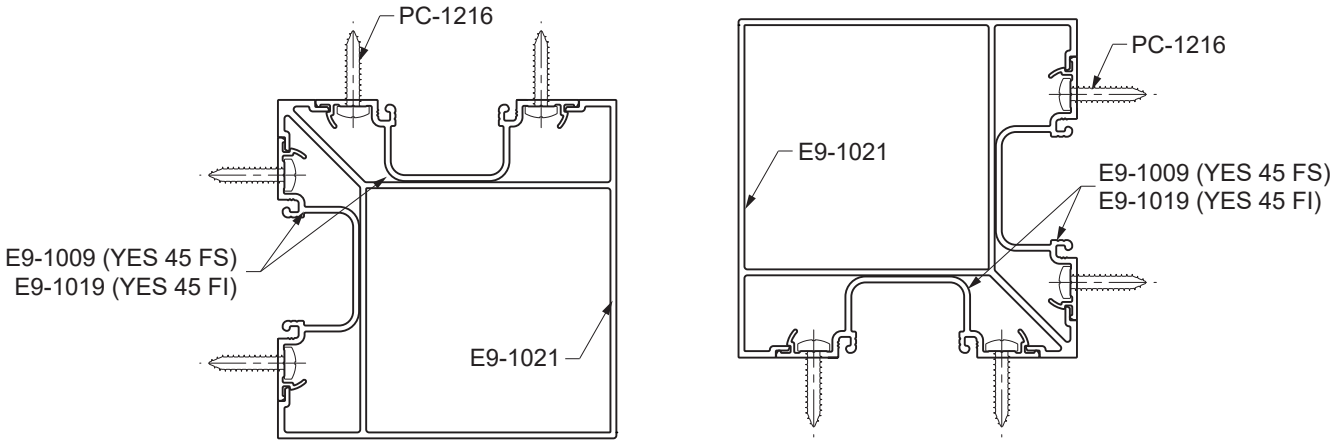
STEP 16 (Continued)
INSTALL CORNER ASSEMBLIES

-Attach horizontal members to standard mullions as shown before in **Step 7**.
-Attach the other end of the horizontal to the 2-piece corner posts or deep pocket fillers to be used at the corners.
-Apply sealant to any interior snap joint 6” up from the bottom of the mullion.
-Snap the corner framing members together to form the corner assemblies.
-Carefully move the corner assembly into place and snap it into the rest of the frame one side at a time.

See Detail 35.



Detail 35
YES 45 FI Shown
YES 45 FS Similar

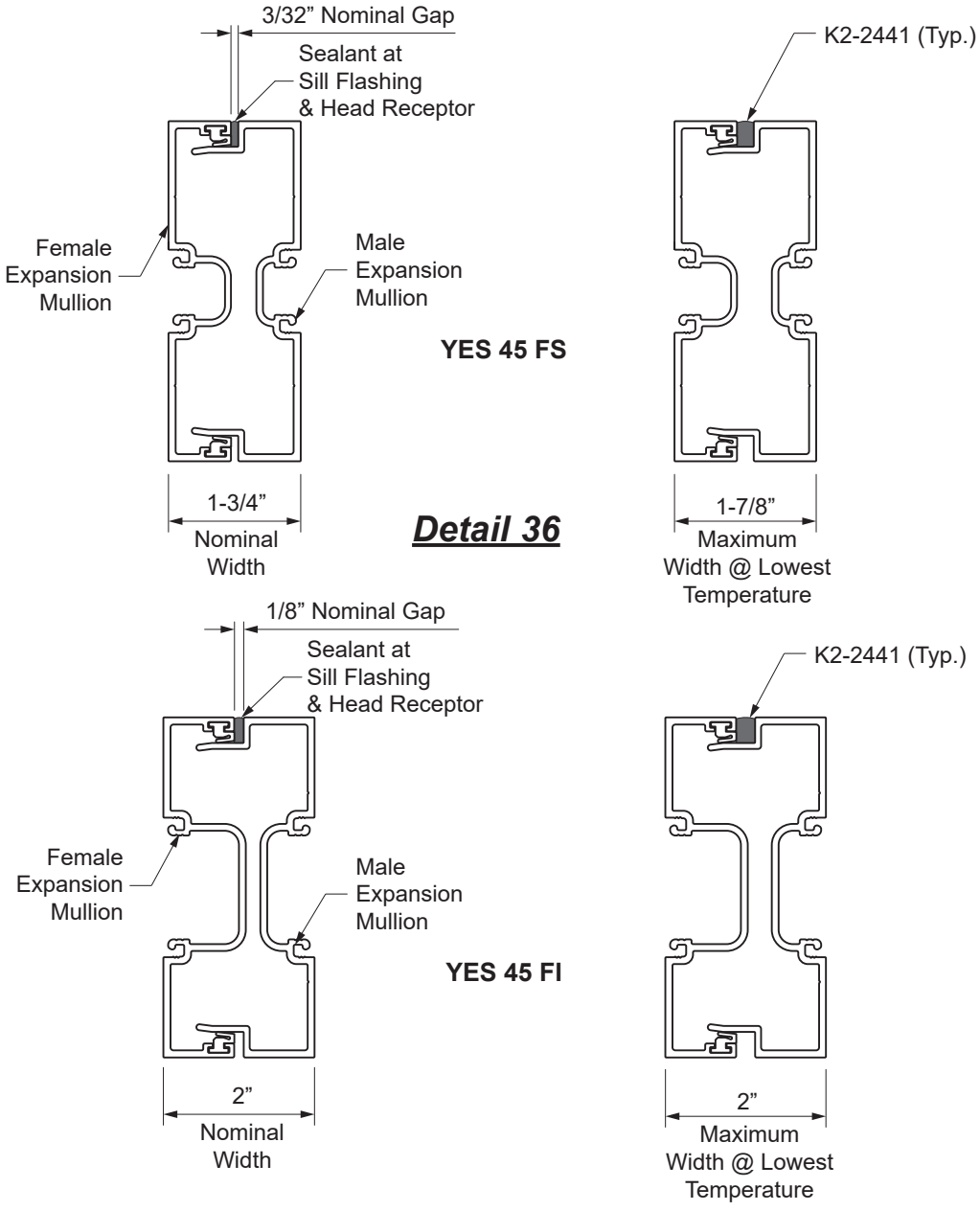


FRAME INSTALLATION

STEP 16 (Continued)
INSTALL EXPANSION MULLIONS WHERE REQUIRED

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

See Detail 36.



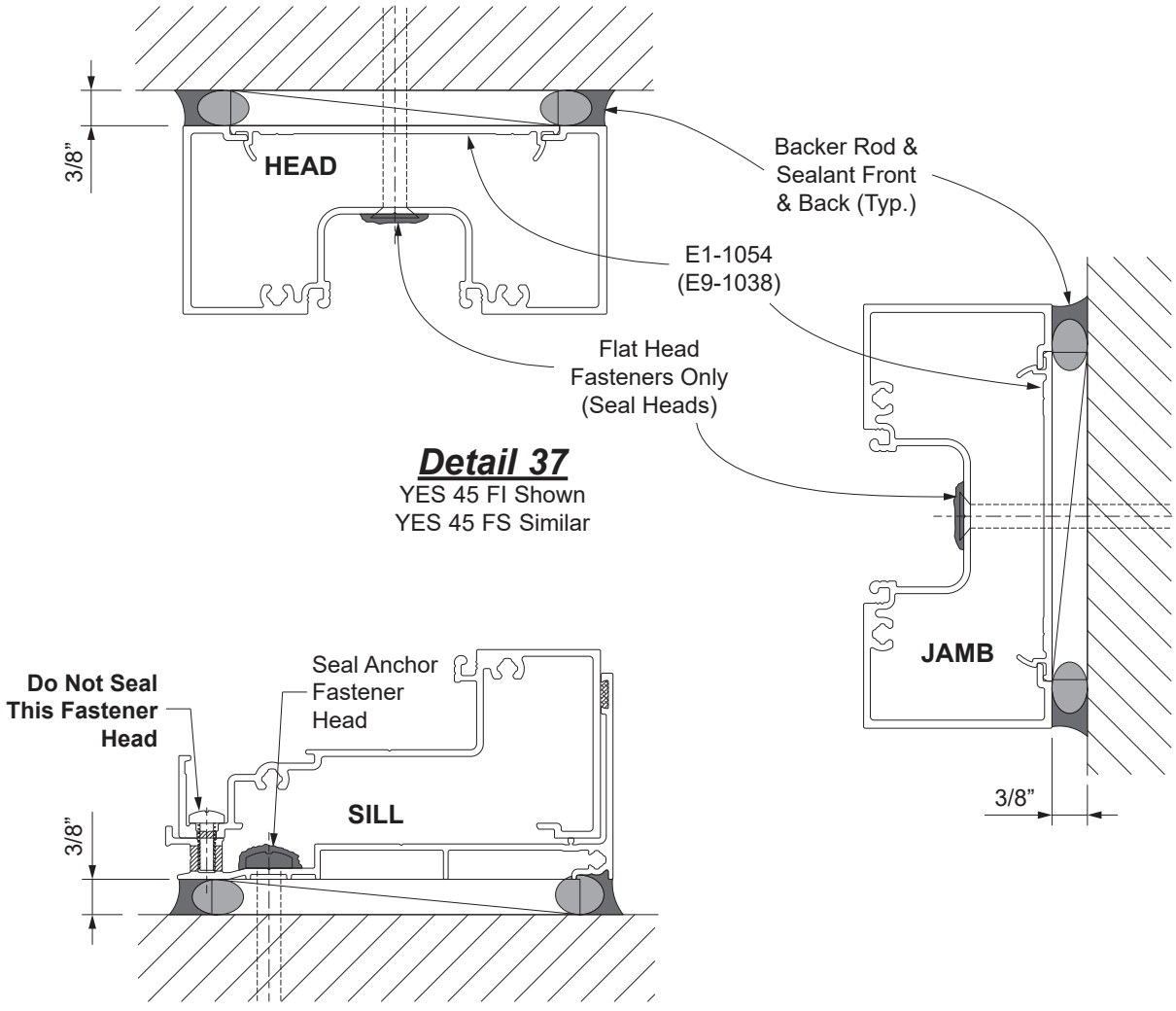
Detail 36

FRAME INSTALLATION

STEP 17
APPLY PERIMETER SEALANT

-Perimeter seal required on interior and exterior.
-Install backer rod around the perimeter of the frame.
-Apply perimeter sealant to the joint between the frame and the structure.
-**Do not** seal the joint between the sill and the sill flashing.
-Make sure all screw heads are sealed.

See **Detail 37.**



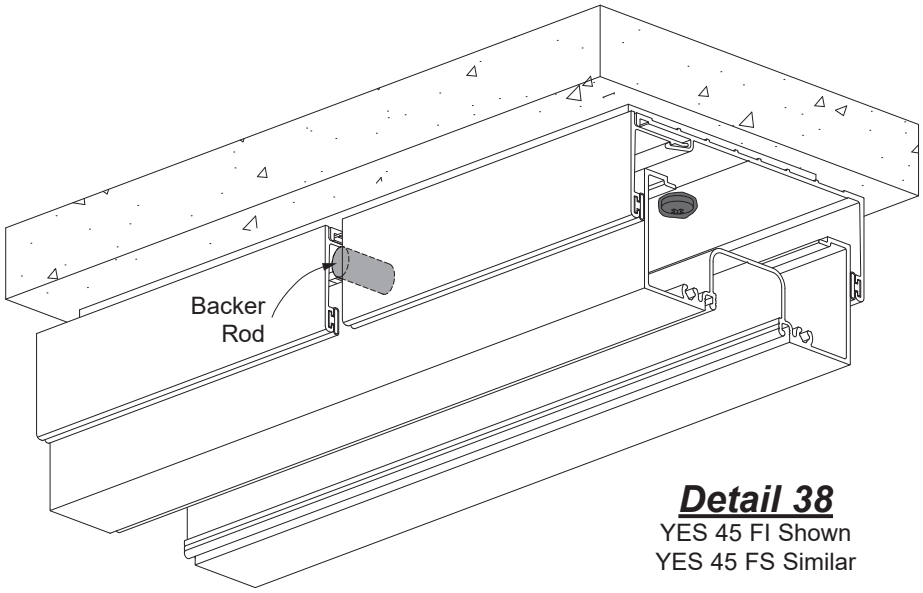
Detail 37
YES 45 FI Shown
YES 45 FS Similar

FRAME INSTALLATION

STEP 17A
APPLY PERIMETER SEALANT @ HEAD RECEPTOR

-Insert backer rods as required into the head receptor snap cover to provide support for sealant at the exterior gap.

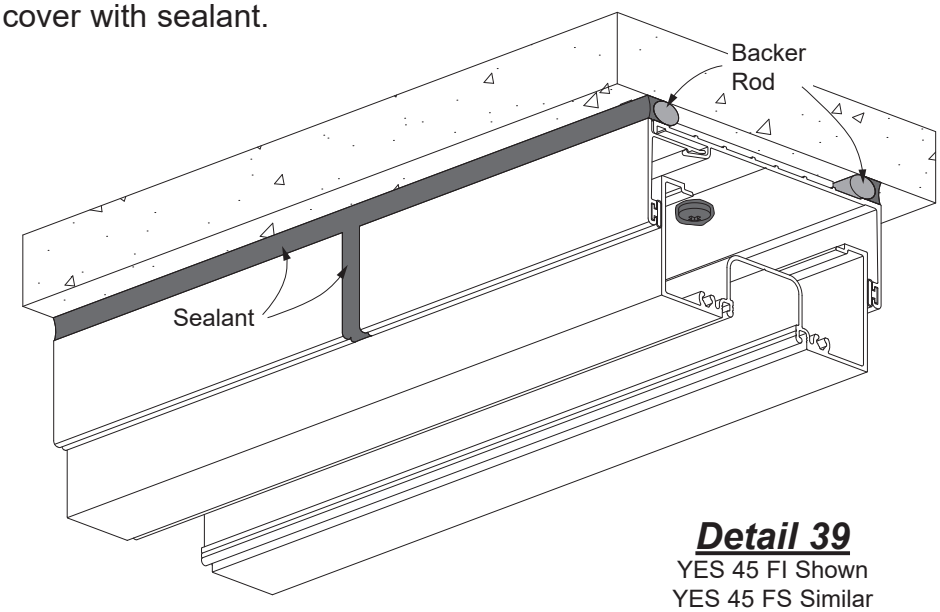
See **Detail 38.**



Detail 38
YES 45 FI Shown
YES 45 FS Similar

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

See **Detail 39.**



Detail 39
YES 45 FI Shown
YES 45 FS Similar

FRAME INSTALLATION

STEP 18
INSTALL WATER DEFLECTORS

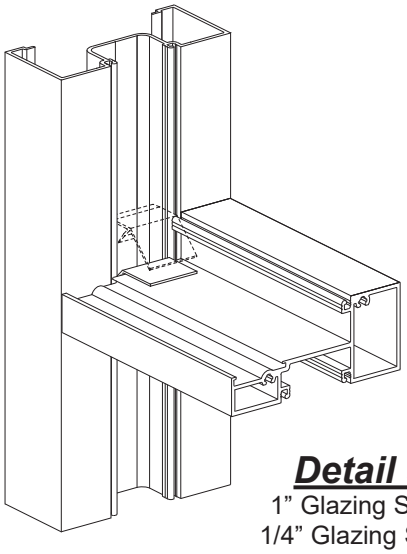
YES 45 FS/FI requires the installation of water deflectors, E2-0047 (for 1” glazing) or E2-0048 (for 1/4” glazing), at each end of the intermediate horizontals. Water deflectors aid to properly divert water away from the framing system.

-Peel away the protective paper from the bottom of the water deflector and install the water deflector by rotating it over each end of the horizontal.

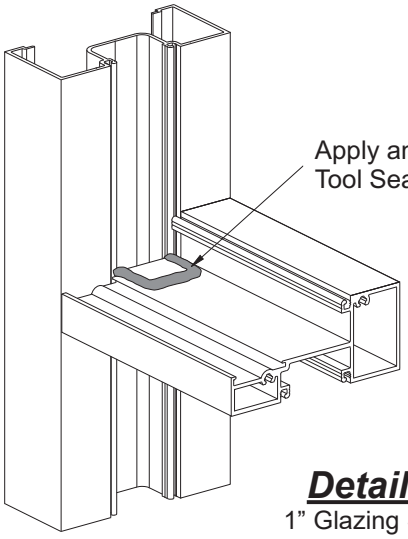
See **Detail 40.**

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

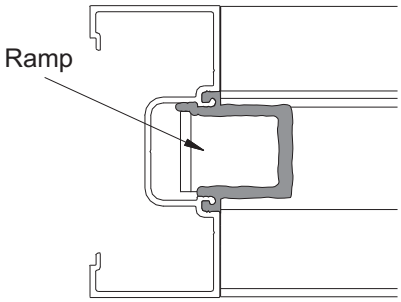
Note: For best adhesion, make sure that the horizontal is clean and dry.



Detail 40
1” Glazing Shown
1/4” Glazing Similar



Detail 41
1” Glazing Shown
1/4” Glazing Similar



Detail 42
1” Glazing Shown
1/4” Glazing Similar

-Apply and tool sealant along the edges of the water deflector and down onto the horizontal.
See **Detail 41**.

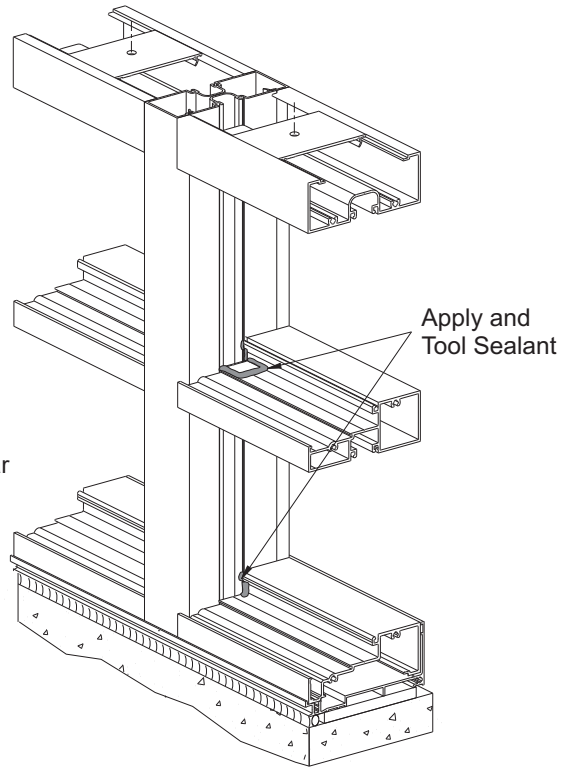
-Seal the ramp of the water deflector to the sides of the vertical gasket reglets.
See **Detail 42**.

FRAME INSTALLATION

STEP 19
APPLY INTERNAL SEALANT

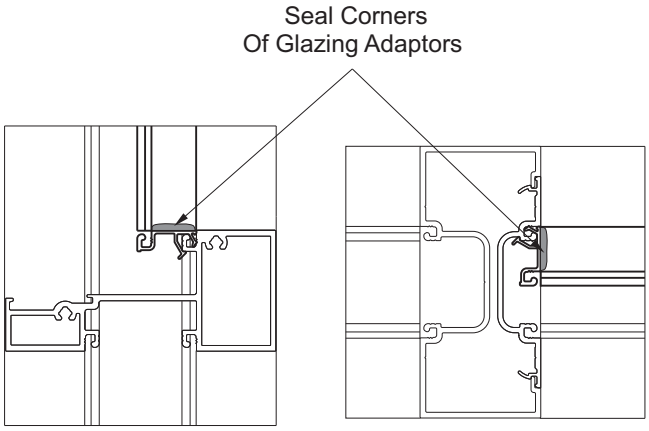
-Apply a generous amount of sealant to the vertical intersection of the horizontal and vertical members.
-Tool all of the sealant to ensure a water-tight joint.
-Make sure all exposed screw heads are sealed.

See **Detail 43.**



Detail 43

YES 45 FI Shown
Other Systems Similar



Detail 44

STEP 20 (Optional)
INSTALL GLAZING ADAPTORS

Please refer to the glazing tables on the right for possible adaptor/gasket combinations.

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

See **Detail 44.**

Glazing Table - YES 45 FS

Glass Thickness	Exterior	Interior
3/16”	E2-0052	E2-0064
1/4”	E2-0052	E2-0052
5/16”	E2-0053	E2-0052
3/8”	E2-0053	E2-0053

Glazing Table - YES 45 FI

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

GLAZING

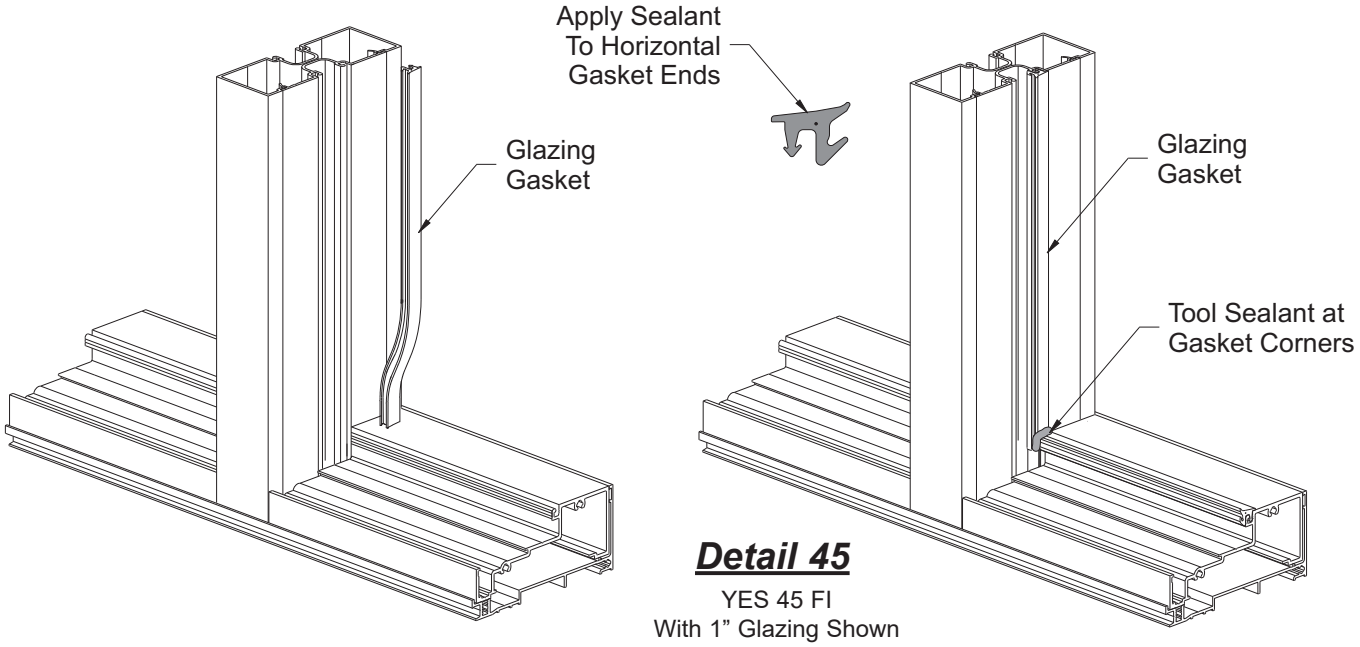
STEP 21
INSTALL INTERIOR GLAZING GASKETS

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

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

Vertical glazing gaskets must be installed first:

-Cut vertical glazing gaskets to Daylight Opening plus(+) 3/16” for each foot of length.
-Insert the gasket into the reglet at each end first, and then insert the gasket at the midpoint of the opening.
-Push the gasket into the reglet starting at the midpoint and work towards each end.



Detail 45
YES 45 FI
With 1” Glazing Shown
Other Systems Similar

Install horizontal glazing gaskets next:

-Cut horizontal glazing gaskets to Daylight Opening plus(+) 3/16” for each foot of length.
-Apply sealant to each end of the horizontal glazing gasket prior to inserting into the reglet.
-Insert the gasket into the reglet at each end first and push each end tight against the vertical gasket.
-Then insert the gasket at the midpoint of the opening and push the gasket into the reglet starting at the midpoint and work towards each end.
-Tool the excess sealant at the gasket corners to ensure a watertight seal.

See **Detail 45**.

GLAZING

STEP 22
INSTALL GLASS

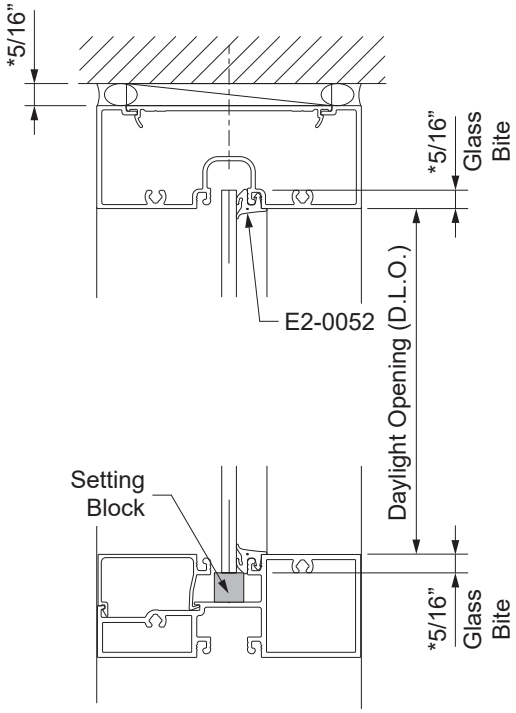
Determine the glass size:

	1/4” Glass Size	1” Glass Size
Vertical	D.L.O. + 5/8”	D.L.O. + 7/8”
Horizontal	D.L.O. + 5/8”	D.L.O. + 7/8”

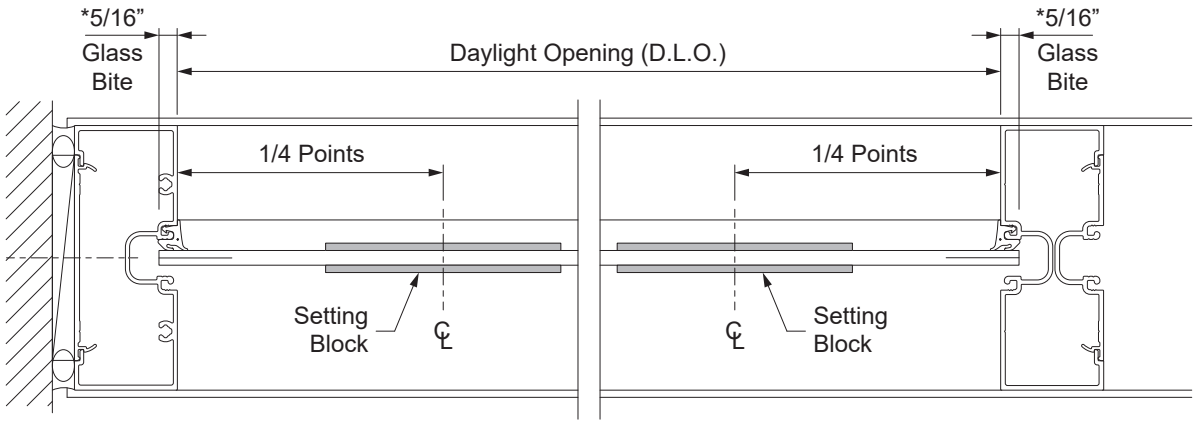
-Carefully install the glass into the opening: bring the lite up and into the deep pocket first and then rotate the other end in place.
-Carefully lift lite of glass, install setting blocks at quarter points of horizontal D.L.O. or according to engineering calculations.
-Make sure the glass is engaged with all setting blocks.

See **Detail 46**.

*** Note:** For 1” glazing, glass bite is 7/16”.



Detail 46
1/4” Glazing Shown
1” Glazing Similar



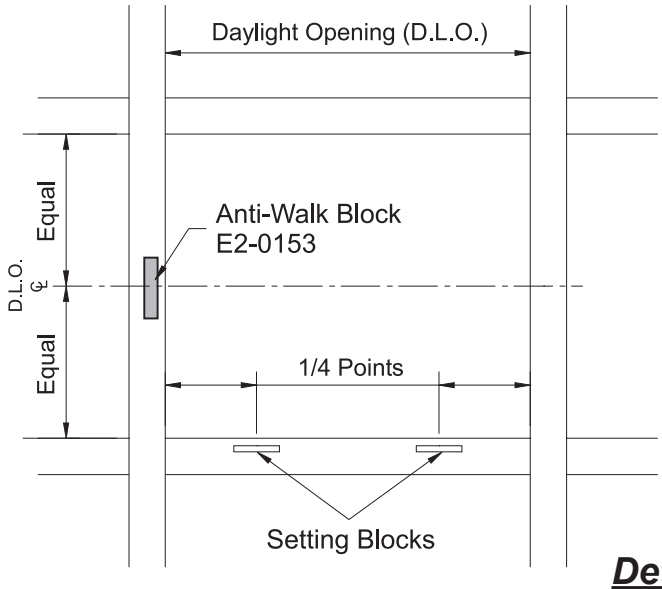
GLAZING

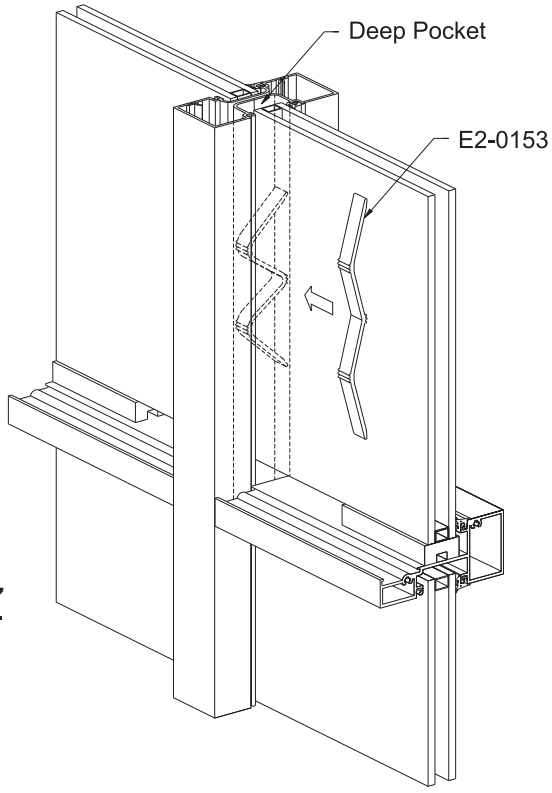
STEP 23 (YES 45 FI Only)
INSTALL ANTI-WALK BLOCKS

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

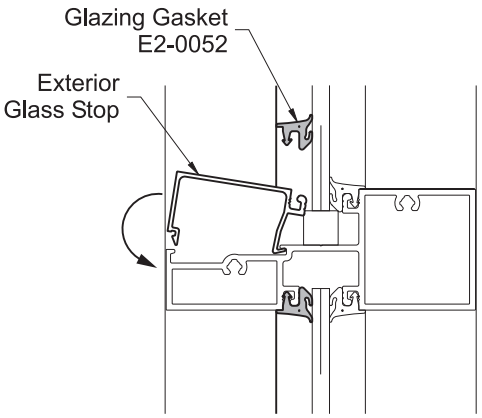
-Flatten the anti-walk block against the exterior surface of the glass and push it into the opening between the glass and the mullion until it is released into the glazing pocket.

See **Detail 47**.





Detail 47



Detail 48
1/4” Glazing Shown
1” Glazing Similar

STEP 24
INSTALL EXTERIOR GLASS STOPS & GLAZING GASKETS

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

-Install the exterior glazing gaskets using the same technique described in **Step 21** on **Page-34**. Always install the vertical glazing gasket first.

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

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