945 QUICK SET STOREFRONT

INSTALLATION INSTRUCTIONS

Part NO. Y019

February 13, 2020

WHERE WINDOWS ARE JUST THE BEGINNING®

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Minimizing Condensation

NOTE: Please reference EFCO's "Understanding Condensation" brochure which can be obtained through your EFCO representative.

Condensation will form on any surface when unfavorable conditions (interior temperature and relative humidity and exterior temperature) are present. When the formation of excessive condensation is a concern, it is highly recommended that a design professional is utilized to perform an analysis of the shop drawings to recommend the best installation methods. Please contact EFCO representative for information on EFCO's Thermal Analysis Services.

Many current installation practices lead to an increase in the possibility of the formation of condensation. Though not all inclusive, the list of examples below illustrates conditions under which condensation is likely to occur:

1. Bridging system thermal break with non-thermally broken metal flashing or lintels that are exposed to the exterior.
2. System exposure to cold air cavities.
3. Interior relative humidity levels not maintained at recommended levels, see EFCO's "Understanding Condensation" brochure.
4. Inadequate separation between system and surrounding condition at perimeter.
5. Product combinations during the shop drawing stage that result in bridging thermal breaks of one or all products involved.

SECTION I - GENERAL NOTES

The "QUICK SET" storefront family is a ribbon window system, having many advantages over other systems due to the minimum fabrication and installation steps.

The Quick Set family contains primarily stock length systems with in-the-field fabrication. Entrance doors are also a designed part of these systems, utilizing frames that can accommodate many types of doors and hardware combinations.

1.) Check the shop drawings, installation instructions, and glazing instructions to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. The installation instructions are of a general nature and cover the most common conditions encountered.

2.) Check all materials on arrival and be sure you have everything required to begin installation. See Section II "PARTS IDENTIFICATION" for parts cross reference.

3.) All work should start from bench marks and/or column center lines as established by the architectural drawings and the general contractor. Installers should check building construction for compliance with architectural documents to ensure the proper window system foundation is available before installation.

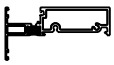
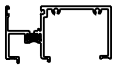
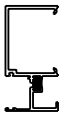
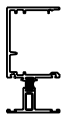
4.) The term "sealant" as used in these instructions is defined as: A weather resistant, gunnable, liquid filler which when dry provides a resilient, flexible air and water seal between similar and dissimilar materials. Use Dow Corning 795 or equivalent when silicone sealant is required, and PTI 707 or equivalent when butyl type sealant is required.

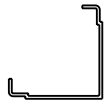
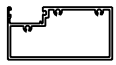
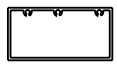
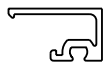
All sealant must be compatible with all surfaces on which adhesion is required, including other sealant surfaces. All frame surfaces should be clean and dry. All perimeter substrate shall be cleaned and properly treated to receive sealant.

5.) All materials are to be installed plumb, level, and true.

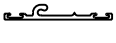
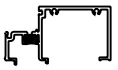
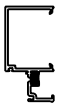
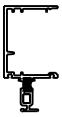
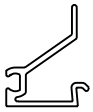
6.) Protect materials after erection. Cement, plaster, alkaline solutions, and acid based materials can be harmful to the finish. Clean exposed finished surfaces with a mild detergent and water. No abrasive cleaning agent should be used.

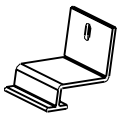
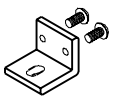
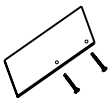
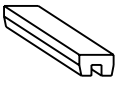
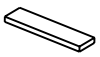
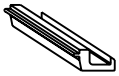
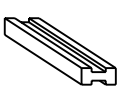
SECTION II - PARTS IDENTIFICATION CHART

	DESCRIPTION	PART NO.
	STANDARD HEAD USE W/ 8314, 8326, FT46, FT47	8300
	STANDARD INTERMEDIATE HORIZONTAL USE W/ 8314, 8323, 8326	8301
	STANDARD INTERMEDIATE BLIND PASS HORIZONTAL USE W/ 8315, 8323, 8325	8302
	STANDARD SILL USE W/ 8324, 2G22	8344
	STANDARD SUBSILL	2G22
	STANDARD JAMB USE W/ 8310, 8324	8307
	STANDARD INTERMEDIATE VERTICAL MULLION USE W/ 8309, 8323, 8324	8308
	MULLION SNAP IN FILLER STD. INT. VERT. & STRUCT. MULLION USE W/ 8307, 8311, 8320, 8340	8309
	PERIMETER JAMB OPEN BACK FILLER USE W/ 8307, 8339	8310
	SHALLOW POCKET EXPANSION MULLION HALF USE W/ 8313, 8323	8312
	DEEP POCKET EXPANSION MULLION HALF USE W/ 8312, 8324	8313
	90˚ INSIDE CORNER FEMALE MULLION USE W/ 8324, 8332, 9297	8331
	90˚ INSIDE CORNER MALE MULLION USE W/ 8324, 8331, 9297	8332
	90˚ INSIDE CORNER "COVER" USE W/ 8331, 8332	9297

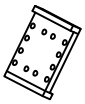
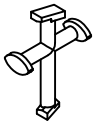
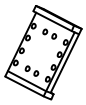
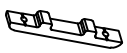
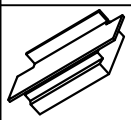
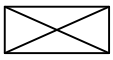
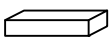
	DESCRIPTION	PART NO.
	90˚ OUTSIDE CORNER "COVER" USE W/8334	8333
	90˚ OUTSIDE CORNER MULLION HALF USE W/ ITSELF, 8324	8334
	90˚ OUTSIDE CORNER SNAP IN FILLER USE W/ 8334	8342
	1" GLASS STOP FOR HEAD & INT. HORIZONTAL USE W/ 8300, 8301, 8327, 8329, 8338, 8341	8314
	1" GLASS STOP FOR INT. BLIND PASS HORIZONTAL USE W/ 8302, 8337	8315
	STANDARD DOOR HEADER USE W/ 8323	8303
	C.O.C. DOOR HEADER USE W/ 8316, 8317, 8328	8304
	DOOR JAMB USE W/ 8309, 8316, 8317, 8324, 8328	8311
	TRANSOM LITE GLASS STOP USE W/ 8304, 8311, 8317, 8328	8316
	TRANSOM LITE 1" GLAZING BEAD USE W/ 8316	8317
	STRUCTURAL GLAZED MULLION USE W/ 8309, 8327, 8330, EY83	8320
	STRUCTURAL GLAZED EXPANSION MULLION FEMALE HALF USE W/ 8468	8469
	STRUCTURAL GLAZED EXPANSION MULLION FEMALE HALF USE W/ 8469	8468

SECTION II - PARTS IDENTIFICATION CHART

	DESCRIPTION	PART NO.
	TWO COLOR / STRUCT. GLAZED FACE COVER USE W/ 8329, 8338, 8339, 8343	8335
	TWO COLOR / STRUCT. GLAZED FACE COVER USE W/ 8337, 8340, 8341	8336
	STRUCT. GLAZED / TWO COLOR STANDARD HEAD USE W/ 8314, 8326, 8335, FT46, FT47	8338
	STRUCT. GLAZED / TWO COLOR INT. HORIZONTAL USE W/ 8314, 8323, 8326, 8336	8341
	STRUCT. GLAZED / TWO COLOR BLIND PASS INT. HORIZONTAL USE W/ 8315, 8323, 8325	8337
	STRUCT. GLAZED / TWO COLOR SILL USE/ 8324, 8335	8343
	STRUCT. GLAZED / TWO COLOR JAMB USE W/ 8324, 8335	8339
	TWO COLOR INT. VERTICAL MULLION USE W/ 8323, 8324, 8336	8340
	STRUCTURAL GLAZED 90˚ OUTSIDE CORNER MULLION FEMALE HALF USE W/ 8466, 8467	8465
	STRUCTURAL GLAZED 90˚ OUTSIDE CORNER MULLION MALE HALF USE W/ 8465, 8467	8466
	STRUCTURAL GLAZED 90˚ OUTSIDE CORNER COVER USE W/ 8465, 8466	8467
	1/4" GLAZING ADAPTER FOR SHALLOW POCKET	8323
	1/4" GLAZING ADAPTER FOR DEEP POCKET	8324

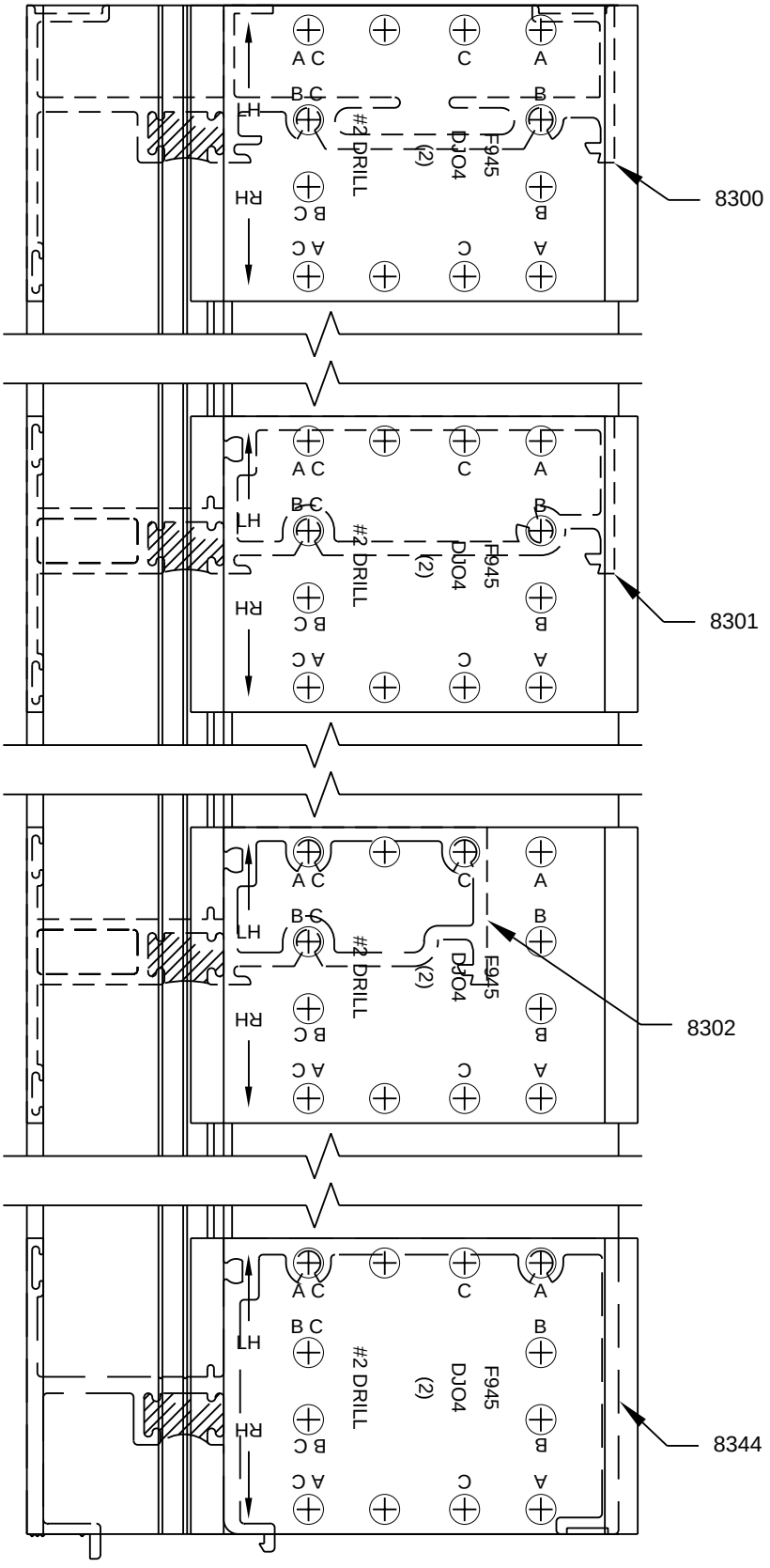
	DESCRIPTION	PART NO.
	1/4" GLASS STOP FOR INT. HORIZONTAL USE W/ 8300, 8301, 8321, 8338, 8341	8326
	1/4" GLASS STOP FOR BLIND PASS INT. HORIZONTAL USE W/ 8302, 8337	8325
	1/4" TRANSOM LITE GLAZING BEAD USE W/ 8316	8328
	1/4" GLAZING ADAPTER FOR STRUCT. GLAZED MULLION USE W/ 8320	8327
	1/4" ADAPTER FOR 90˚ STRUCT. GLAZED MULLION USE W/ 8320, EY83	8330
	90˚ S.S.G. INSIDE CORNER TUBE USE W/ 8320	EY83
	"L" SHAPED ANCHOR STRAP @ HEAD ≥ 36" D.LO. = 2 ANCHORS REQ. < 36" D.L.O. = 3 ANCHORS REQ.	FT46
	"Z" SHAPED ANCHOR STRAP @ HEAD ≥ 36" D.L.O. = 2 ANCHORS REQ. < 36" D.L.O. = 3 ANCHORS REQ.	FT47
	VERTICAL ANCHOR PACKAGE USES FT68, MPD2 USE @ SILL END OF VERT. MULLIONS FOR H.D. ANCHORS	K473
	SUBSILL END DAM PACKAGE INCLUDES FT48,SLQ1 USE W/ 2G22	K458
	1" SILL SETTING BLOCK	HN37
	1" SETTING BLOCK	HEP1
	1/4" SILL SETTING BLOCK	HN36
	APPLIED TRANSOM SETTING BLOCK	HN38

SECTION II - PARTS IDENTIFICATION CHART

	DESCRIPTION	PART NO.		DESCRIPTION	PART NO.
	CAPTURED VERTICAL FILLER / MULLION DRILL FIXTURE	DJ04		S.S.G. TEMPORARY RETAINER USED W/ SSG MULLIONS	HGR1
	STRUCTURAL GLAZED VERTICAL FILLER / MULLION DRILL FIXTURE	DJ05		SPACER SHIM FOR DORMA R.T.S. 88 CONCEALED OVERHEAD CLOSURE	FT71
	1/2" ANTIWALK BLOCK	HN50		#12-14 X 1 1/4" PH-SMS 18-8 TYPE 25 ASSEMBLY SCREW	STC8
	EXTERIOR GLAZING GASKET FOR INSIDE GLAZED	WC12		#10-16 X 1" PH-SMS SG TEK 3 MISC. FASTENER	SLQ8
	INTERIOR GASKET FOR INSIDE GLAZED / EXTERIOR GASKET FOR OUTSIDE GLAZED	W160		S.S.G. INTERMEDIATE HORIZONTAL BRIDGE (USES FT77 AND HB99)	K483
	INTERIOR STRUCTURAL GLAZED GLAZING GASKET @ STRUCTURAL MULLION	WEP0		#8-18 X 9/16" PH-SMS ZC TEK/2 MISC. FASTENER	STT6
	INTERIOR GLAZING GASKET FOR OUTSIDE GLAZED	WNE0		#8-18 X 3/4" FH-SMS 410 TEK/2 MISC. FASTENER	SLQ8
	WEATHER SEAL GASKET @ EXPANSION MULLIONS	W104		SETTING BLOCK (FOR 1/4" GLAZING)	HDR6
				WEEP BAFFLE USED @ SUB SILL	HCW3
	WATER DEFLECTOR @ INT. HORIZONTAL	HWD1		BOND BREAKER TAPE 4" X .062" USED @ SUB SILL SPLICES	WM01
	HOLE PLUG FOR 3/4" ACCESS HOLE @ DOOR JAMB	IM09			

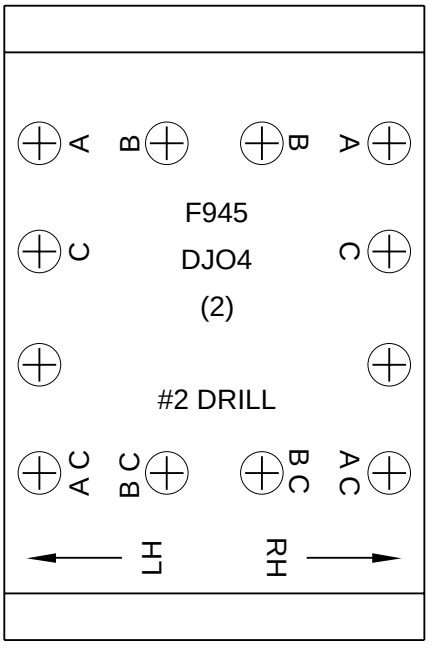
SECTION III A - DRILLING TEMPLATE FOR CAPTURED MULLIONS

LEFT HAND STANDARD INT. VERTICAL (8308) SHOWN. RIGHT HAND OPPOSITE.



USE SIDE #2 OF JIG FOR FABRICATION OF CAPTURED MULLIONS.

USE THE INTERIOR SIDE OF THE GLASS POCKET EDGE TO ALIGN JIG. MAKE SURE THAT THE FABRICATION HOLES ARE IN THE CORRECT POSITION BEFORE DRILLING.



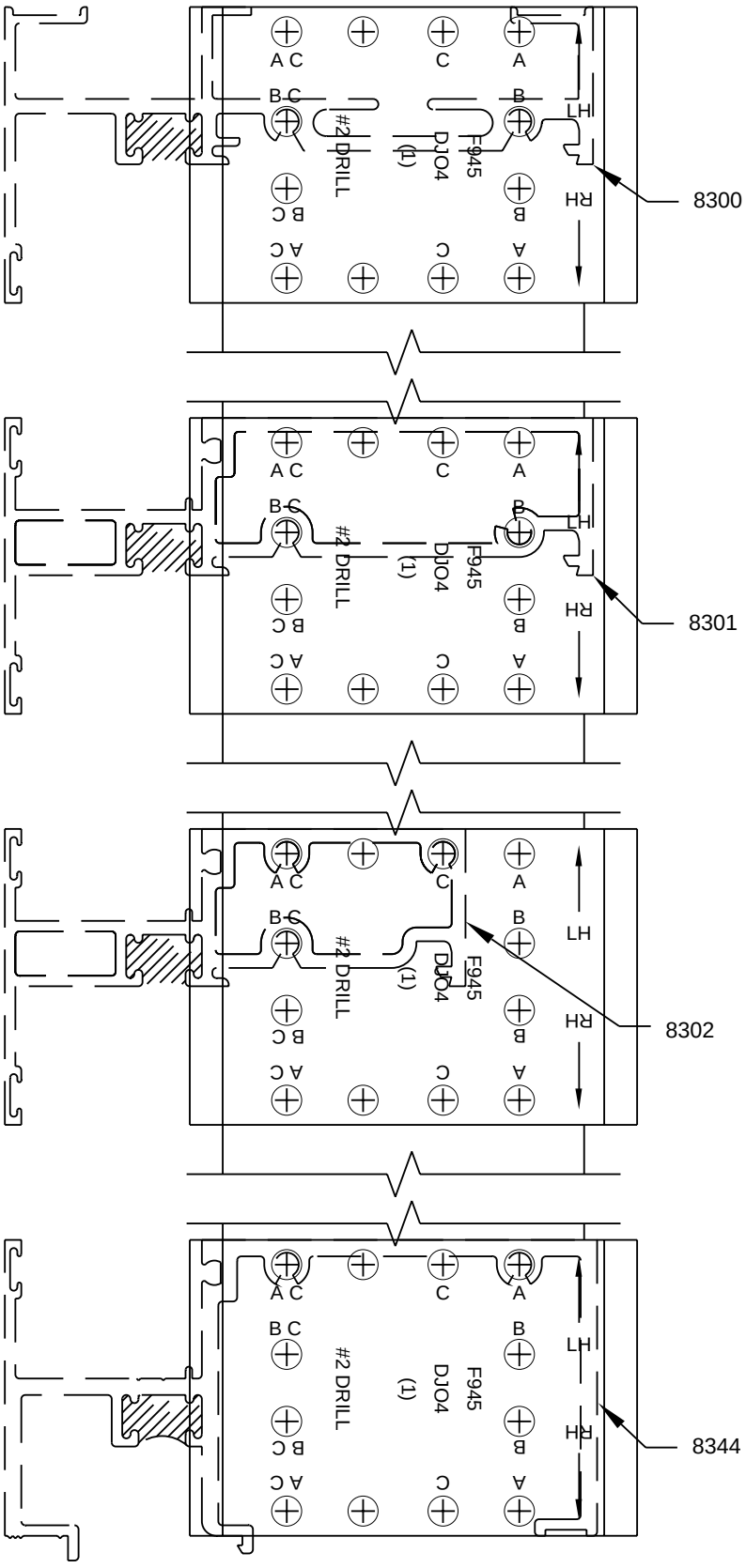
A = SILL HOLE LOCATIONS

B = HEAD AND INTERMEDIATE HORIZONTAL HOLE LOCATIONS

C = BLIND PASS HORIZONTAL HOLE LOCATIONS

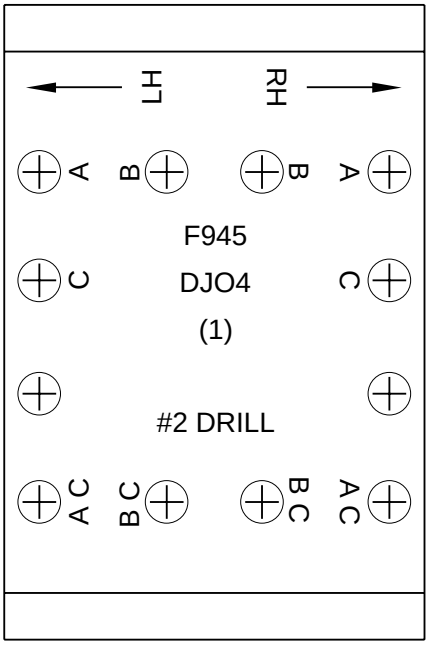
SECTION III B - DRILLING TEMPLATE FOR CAPTURED MULLION FILLERS

LEFT HAND MULLION FILLER (8309) SHOWN. RIGHT HAND OPPOSITE.



USE SIDE #1 OF JIG FOR FABRICATION OF CAPTURED MULLION FILLERS.

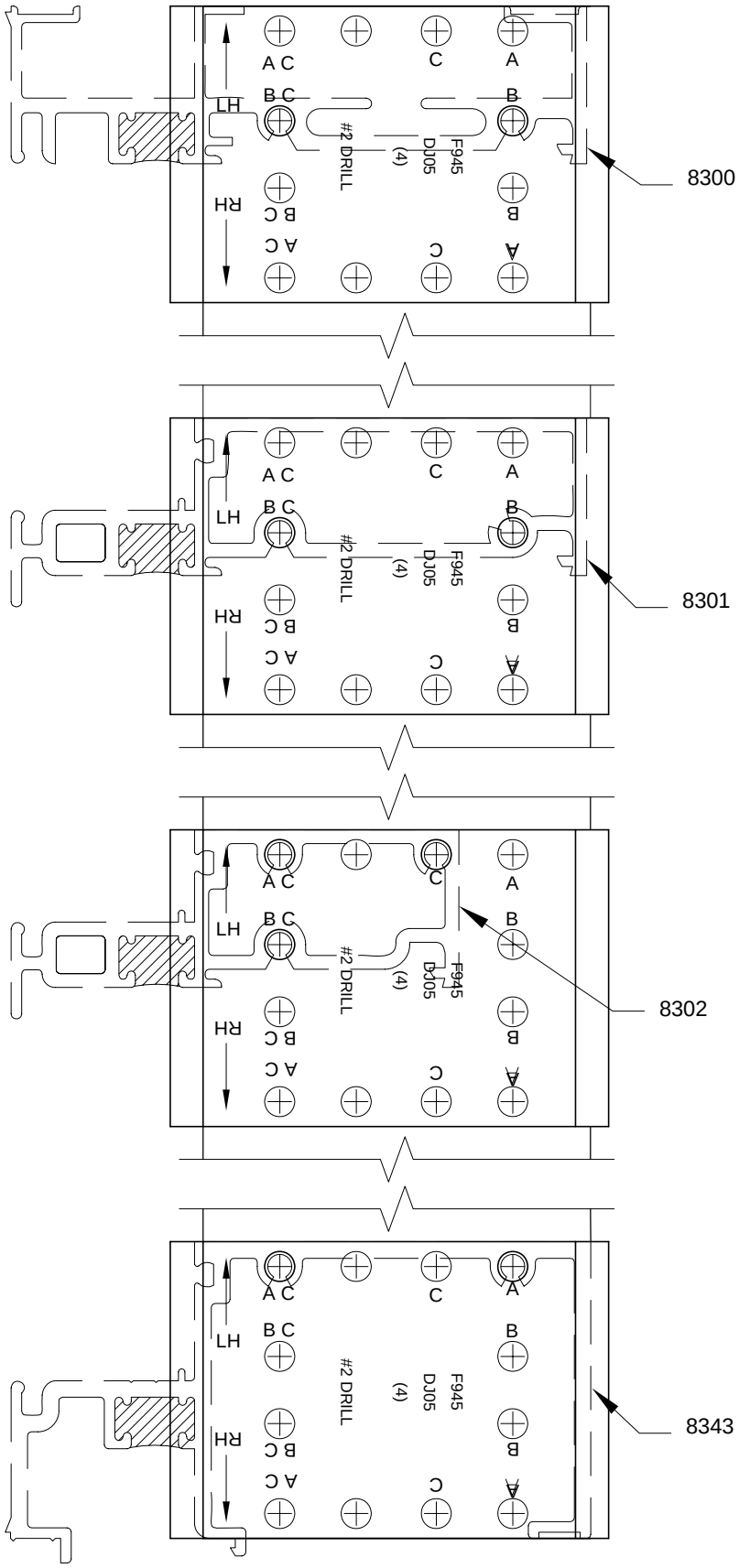
USE THE EXTERIOR EDGE OF FILLER TO ALIGN JIG. MAKE SURE THAT THE FABRICATION HOLES ARE IN THE CORRECT POSITION BEFORE DRILLING.



A = SILL HOLE LOCATIONS
B = HEAD AND INTERMEDIATE HORIZONTAL HOLE LOCATIONS
C = BLIND PASS HORIZONTAL HOLE LOCATIONS

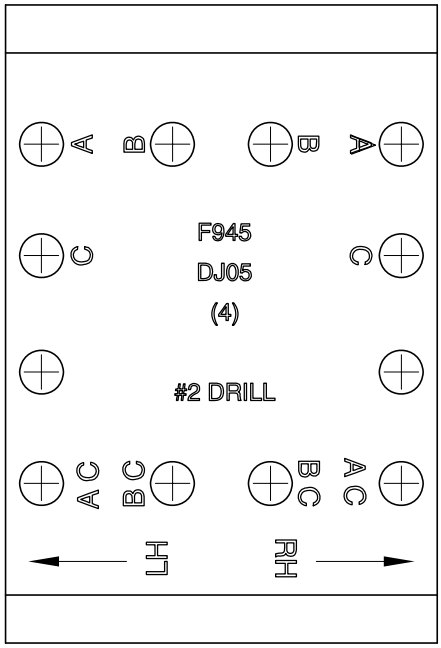
SECTION III C - DRILLING TEMPLATE FOR STRUCTURAL GLAZED MULLIONS

LEFT HAND STRUCTURAL GLAZED MULLION (8320) SHOWN. RIGHT HAND OPPOSITE.



USE SIDE #4 OF JIG FOR FABRICATION OF STRUCTURAL GLAZED MULLIONS.

USE THE EXTERIOR EDGE TO ALIGN JIG. MAKE SURE THAT THE FABRICATION HOLES ARE IN THE CORRECT POSITION BEFORE DRILLING.



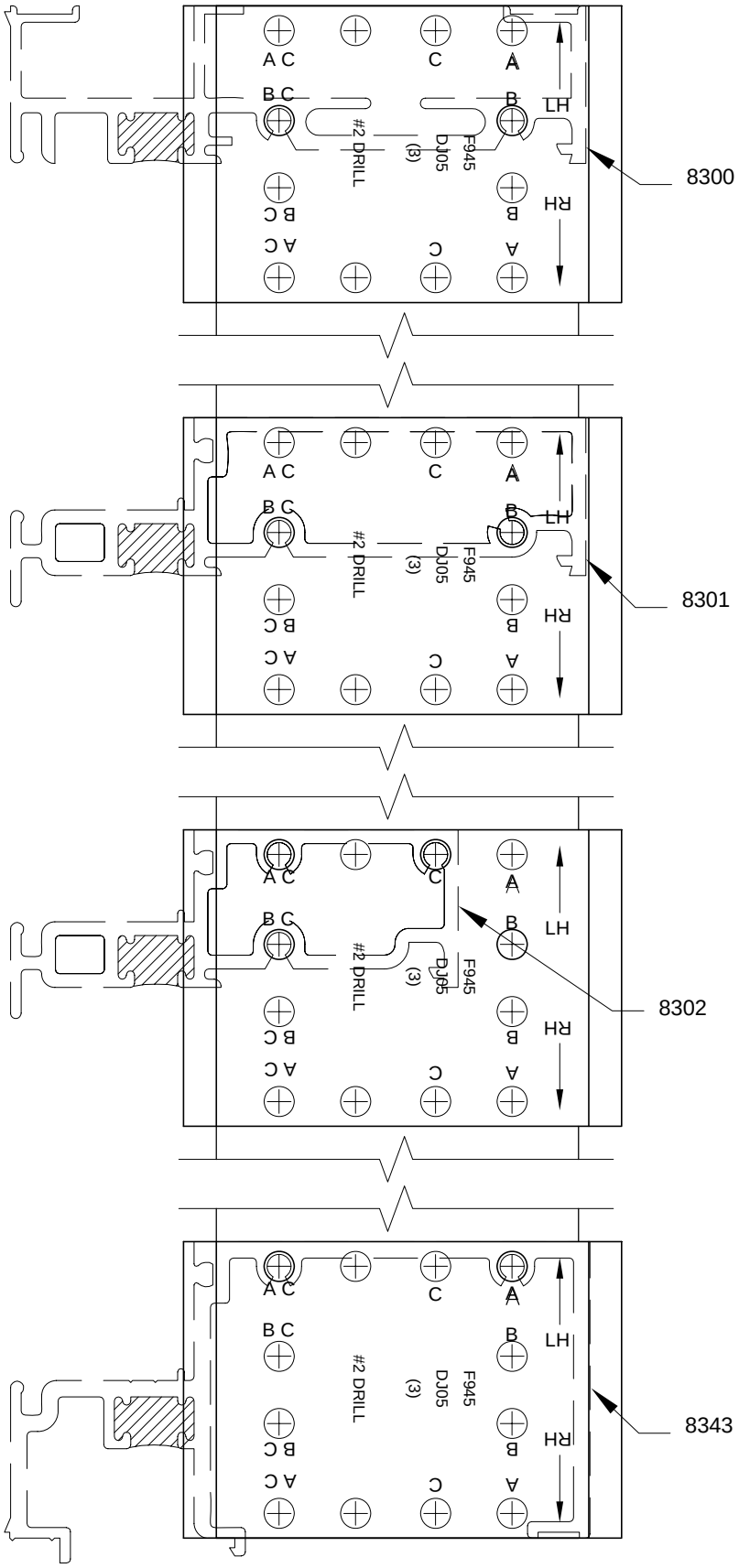
A = SILL HOLE LOCATIONS

B = HEAD AND INTERMEDIATE HORIZONTAL HOLE LOCATIONS

C = BLIND PASS HORIZONTAL HOLE LOCATION

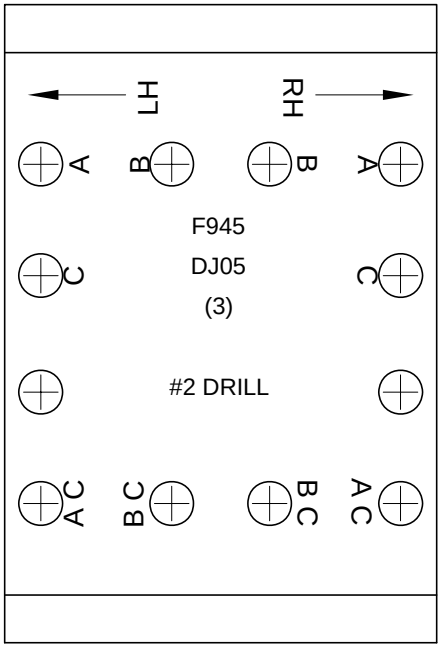
SECTION III D - DRILLING TEMPLATE FOR STRUCTURAL GLAZED MULLION FILLERS

LEFT HAND STRUCTURAL GLAZED MULLION FILLER (8309) SHOWN. RIGHT HAND OPPOSITE.



USE SIDE #3 OF JIG FOR FABRICATION OF STRUCTURAL GLAZED MULLION FILLERS.

USE THE EXTERIOR EDGE OF FILLER TO ALIGN JIG. MAKE SURE THAT THE FABRICATION HOLES ARE IN THE CORRECT POSITION BEFORE DRILLING.



A = SILL HOLE LOCATIONS

B = HEAD AND INTERMEDIATE HORIZONTAL HOLE LOCATIONS

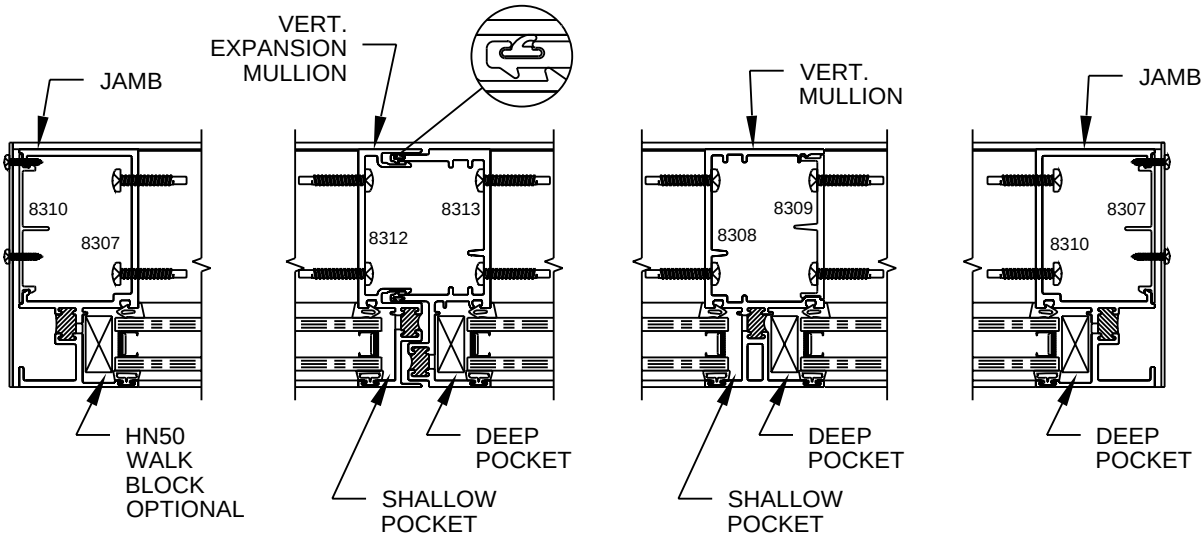
C = BLIND PASS HORIZONTAL HOLE LOCATION

SECTION IV - UNIT ASSEMBLY

INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

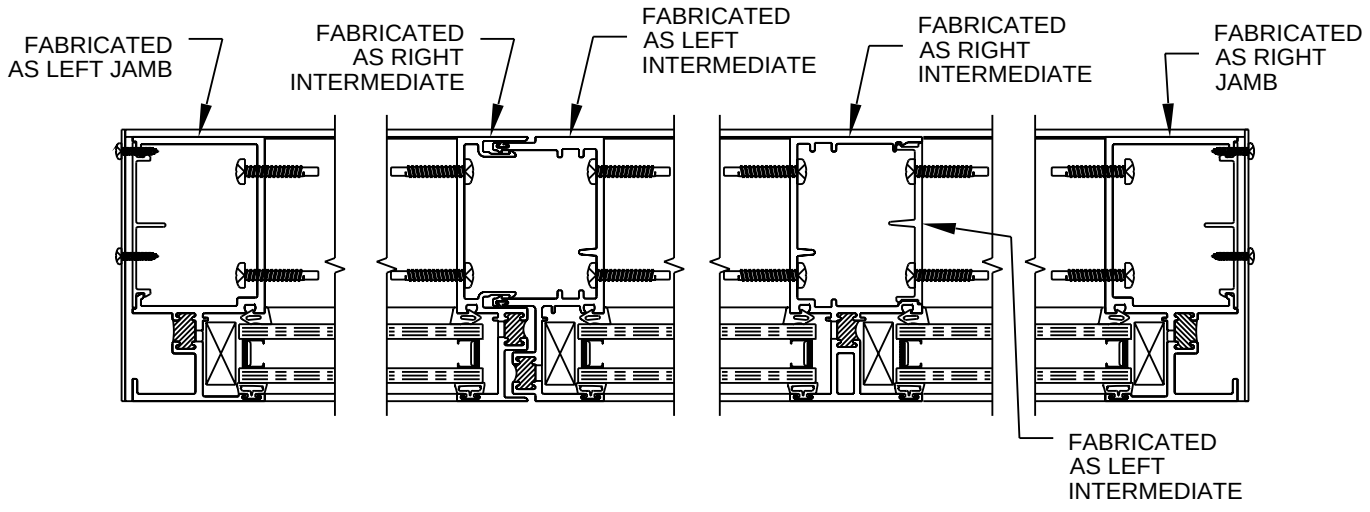
STEP 1) GENERAL NOTES

A. Ensure that all tooling is correct before assembly. For each D.L.O. there should be a deep pocket and a shallow pocket. If only one D.L.O. is required, both pockets will be deep. The glass will not be able to be loaded with two shallow pockets. Also, keep all deep pockets on center D.L.O.'s on the same side of the D.L.O. See Fig. 1 below.



[FIG. 1]

B. Check the fabrication to ensure that the vertical mullion and vertical mullion filler are fabricated opposite of each other. If the mullion is fabricated for the right, the filler should be fabricated for the left. The vertical expansion mullion should be fabricated the same way. See Fig. 2 below.

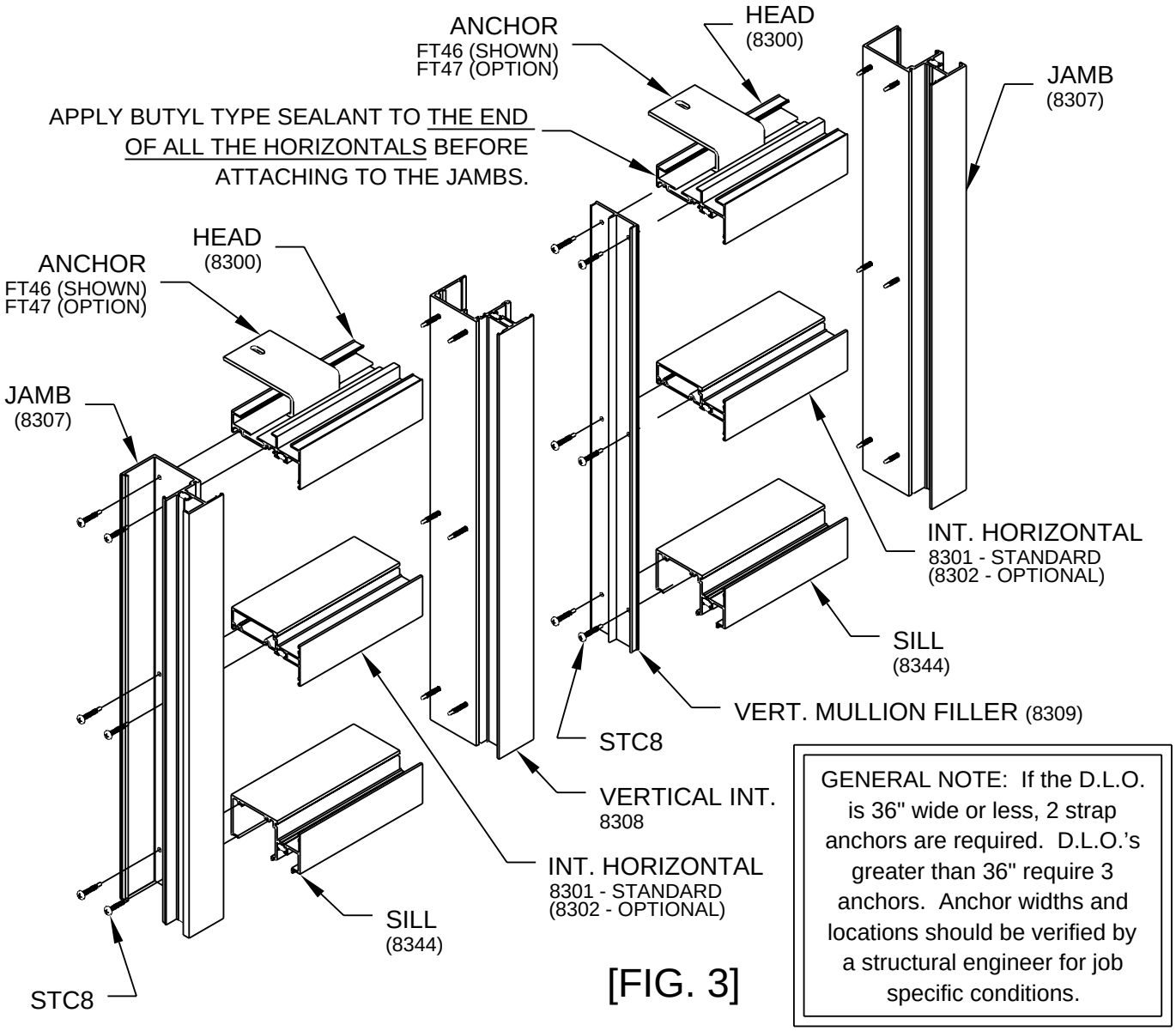


[FIG. 2]

SECTION IV - UNIT ASSEMBLY (CON'T)

CAPTURED MULLION SYSTEMS

STEP 2) HORIZONTALS TO JAMB ASSEMBLY



[FIG. 3]

GENERAL NOTE: If the D.L.O. is 36" wide or less, 2 strap anchors are required. D.L.O.'s greater than 36" require 3 anchors. Anchor widths and locations should be verified by a structural engineer for job specific conditions.

Apply butyl type sealant to the ends of all horizontal members. Before assembly, apply wax lubricant to all STC8 fasteners. Fasten one end of the horizontals to the vertical member. Install anchors into the head. Fasten the opposite vertical member to all horizontal members. Make sure that butyl type sealant has been applied to that end of the horizontal members. Wipe off all excess sealant.

To ensure that the unit will assemble correctly, verify that the intermediate verticals and the fillers are fabricated opposite of each other.

If strap anchors are to be used, slide them into the head before assembling the ladder.

NOTE: For inside glazed systems, install exterior glazing gasket (WC12) prior to assembly. For outside glazed systems, install interior glazing gasket (WNE0) prior to assembly of units.

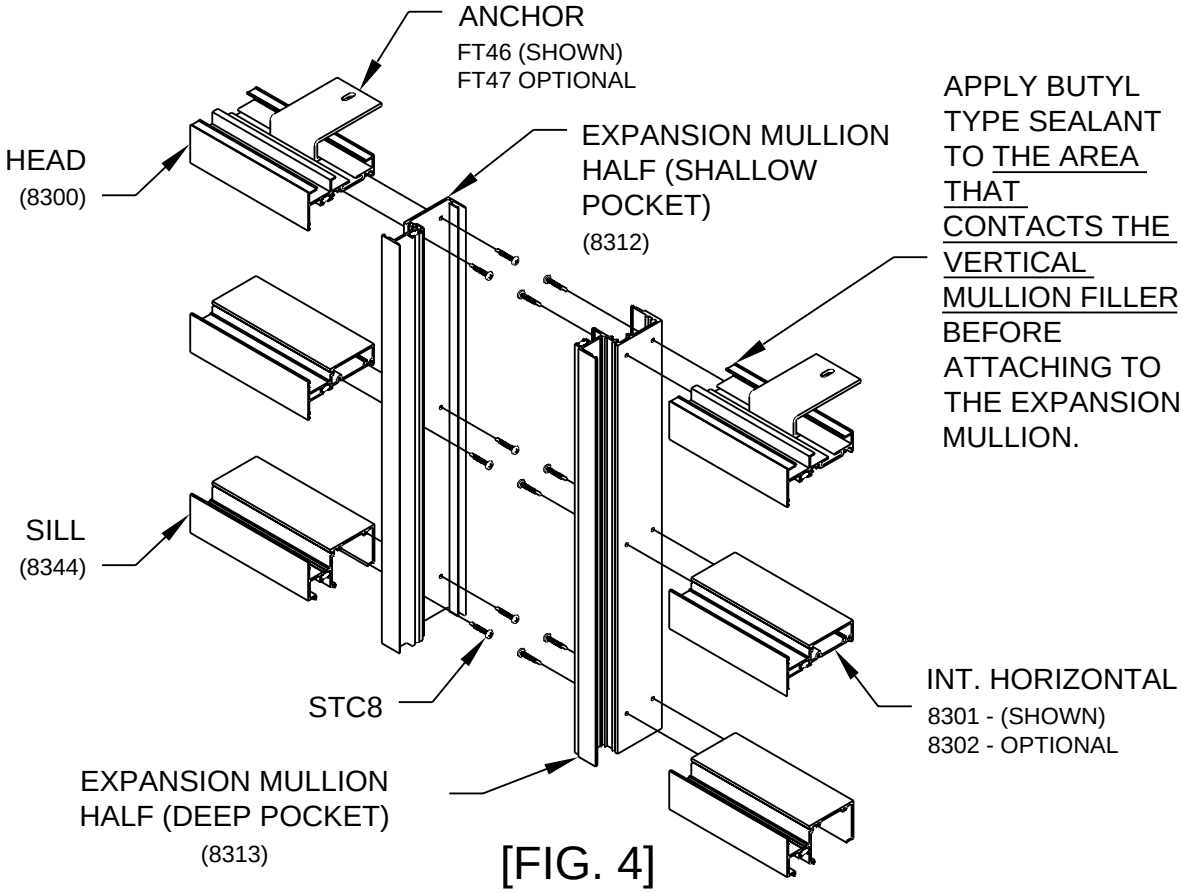
SECTION IV - UNIT ASSEMBLY (CON'T)

CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 3) HORIZONTALS TO EXPANSION MULLION ASSEMBLY

(CAPTURED SYSTEM SHOWN, STRUCTURAL GLAZED SYSTEM SIMILAR)

To ensure that the unit will assemble correctly, verify that the expansion mullion halves are fabricated opposite of each other. See Fig. 4. Apply butyl type sealant to the ends of all horizontal members that come in contact with the expansion mullion. Install anchors into the head. Before assembly, apply wax lubricant to all STC8 fasteners. Fasten the expansion mullion to all horizontal members. Fasten the other vertical mullion, jamb, etc. to the other end of the horizontals. Make sure that you have applied butyl type sealant to the other ends of the horizontal members. Wipe off all excess sealant.



[FIG. 4]

NOTE: For inside glazed systems, install exterior glazing gasket (WC12) prior to assembly. For outside glazed systems, install interior glazing gasket (WNE0) prior to assembly of units.

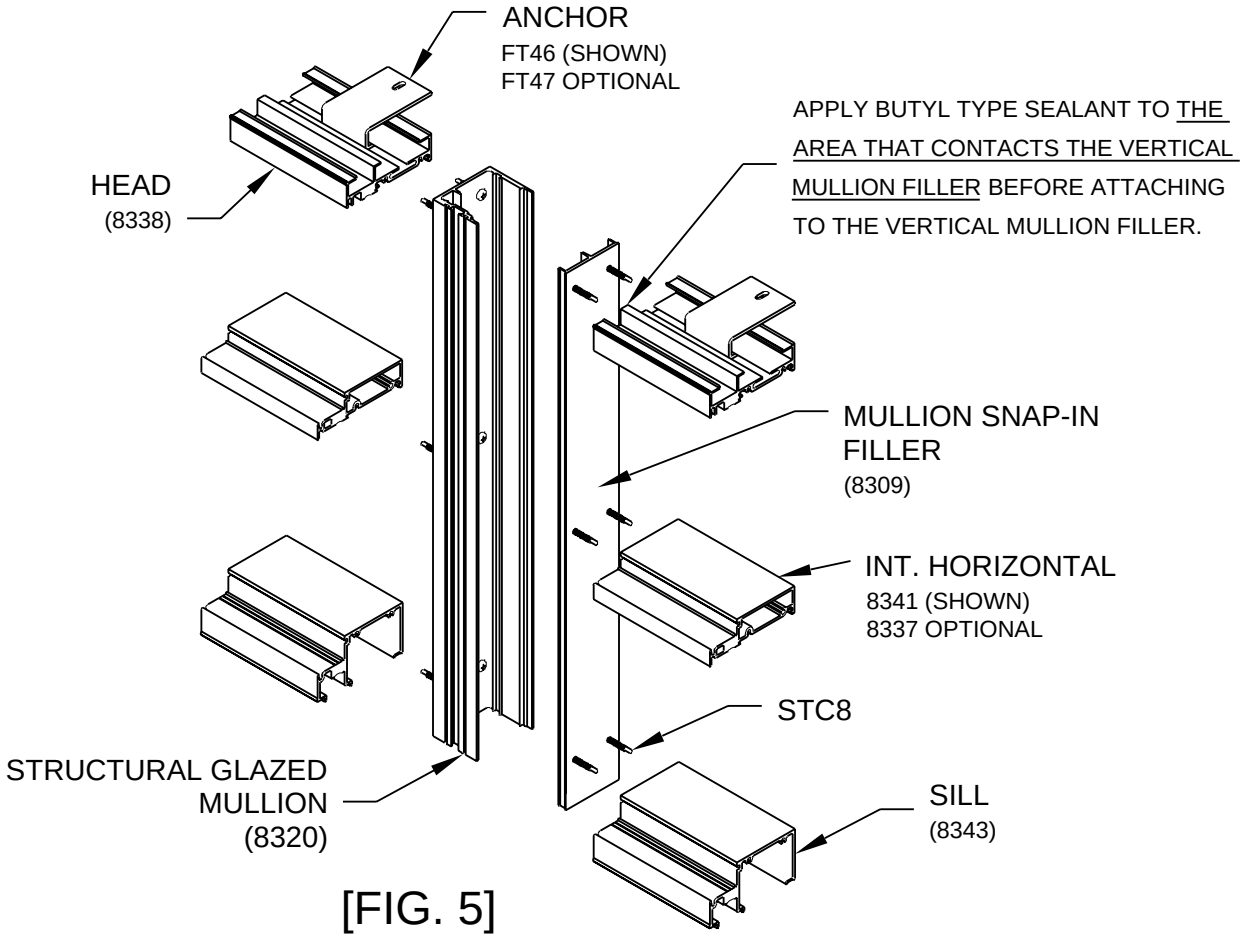
GENERAL NOTE: If the D.L.O. is 36" wide or less, 2 strap anchors are required. D.L.O.'s greater than 36" require 3 anchors. Anchor widths and locations should be verified by a structural engineer for job specific conditions.

SECTION IV - UNIT ASSEMBLY (CON'T)

STRUCTURAL GLAZED MULLION SYSTEMS

STEP 4) STRUCTURAL GLAZED SYSTEM ASSEMBLY

To ensure that the unit will assemble correctly, verify that the structural glazed mullion and filler are fabricated opposite of each other. Apply butyl type sealant to the end of all horizontal members that come into contact with the structural glazed mullion. Install anchors into the head. Before assembly, apply wax lubricant to all STC8 fasteners. Fasten the structural glazed mullion to all horizontal members. Fasten the opposite vertical mullion, jamb, etc. to the other end of the horizontals. Make sure that butyl type sealant has been applied to the other ends of the horizontal members. Ensure that anchor straps have been installed if required. Wipe off all excess sealant.



[FIG. 5]

NOTE: For inside glazed systems, install exterior glazing gasket (WC12) prior to assembly. For outside glazed systems, install interior glazing gasket (WNE0) prior to assembly of units.

GENERAL NOTE: If the D.L.O. is 36" wide or less, 2 strap anchors are required. D.L.O.'s greater than 36" require 3 anchors. Anchor widths and locations should be verified by a structural engineer for job specific conditions.

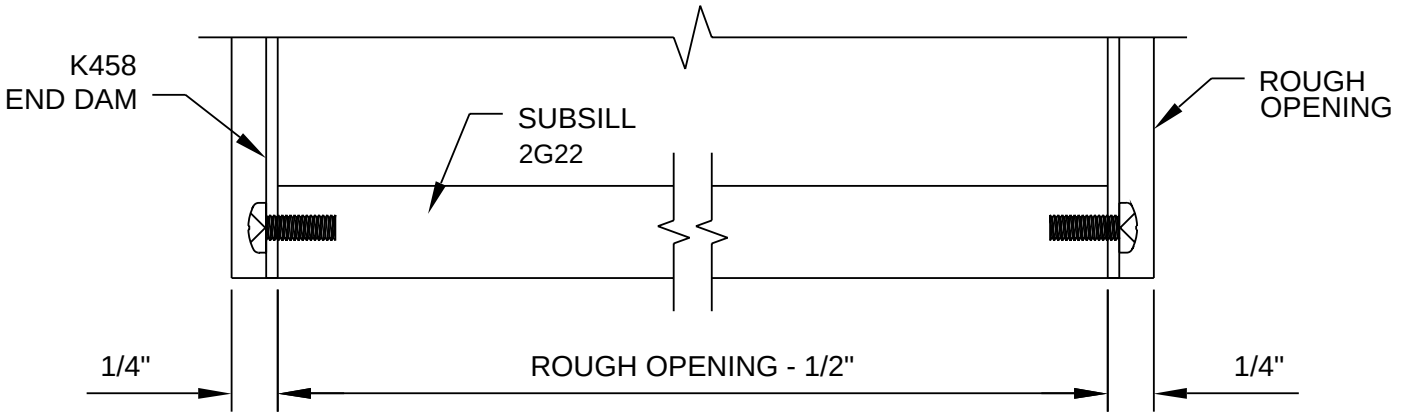
SECTION V - SUBSILL FABRICATION

INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 1) CUT LENGTH

Measure the opening to determine the cut length of the subsill. Subtract 1/4" for the width of the end dam and fastener head from the rough opening for each end. Cut the subsill to the determined length.

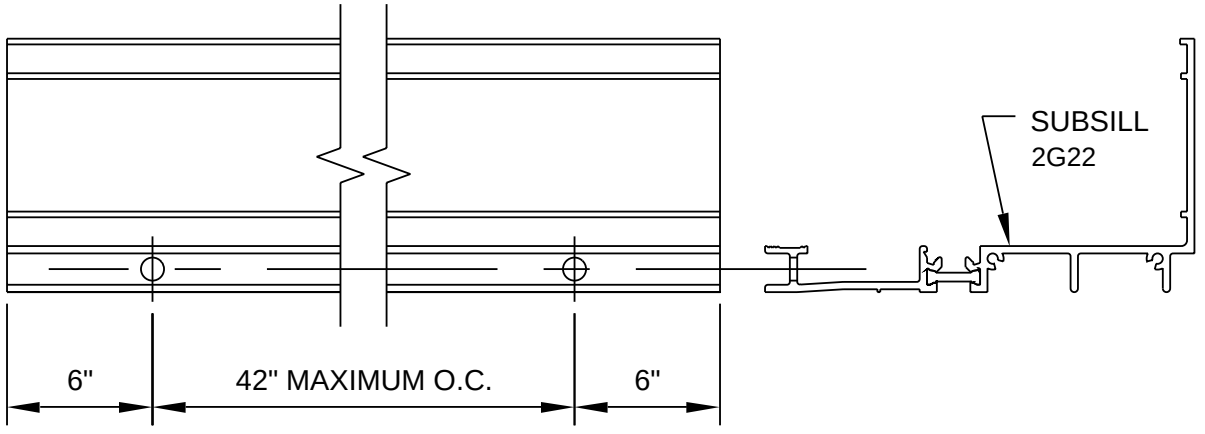
CUT LENGTH = R.O. - 1/2" $^{+1/8"}_{-0}$



[FIG. 6]

STEP 2) WEEP FABRICATION

Drill 5/16" weep holes in the subsill 6" from jambs and no more than 42" apart.



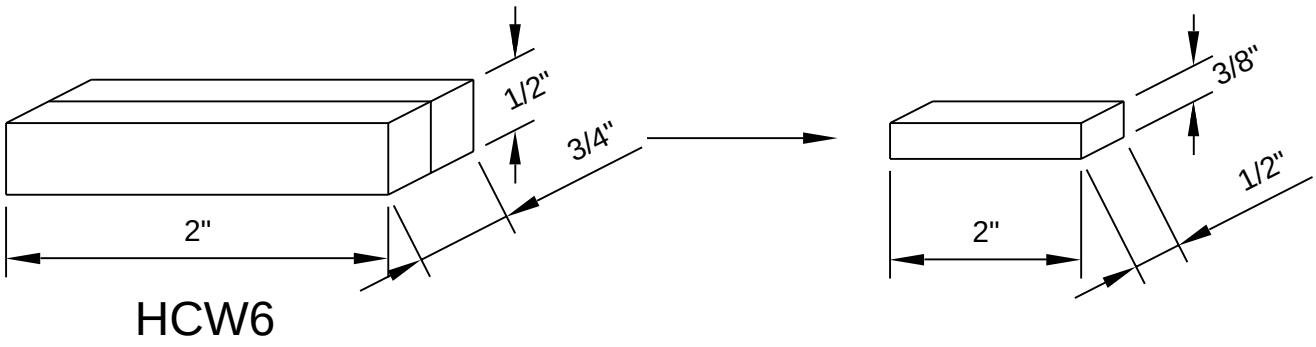
[FIG. 7]

SECTION V - SUBSILL FABRICATION (CON'T)

INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 3) BAFFLE FABRICATION

Weep baffles are cut from (1) HCW6, halved. This provides (2) weep baffles per HCW6. See Fig. 8 below.

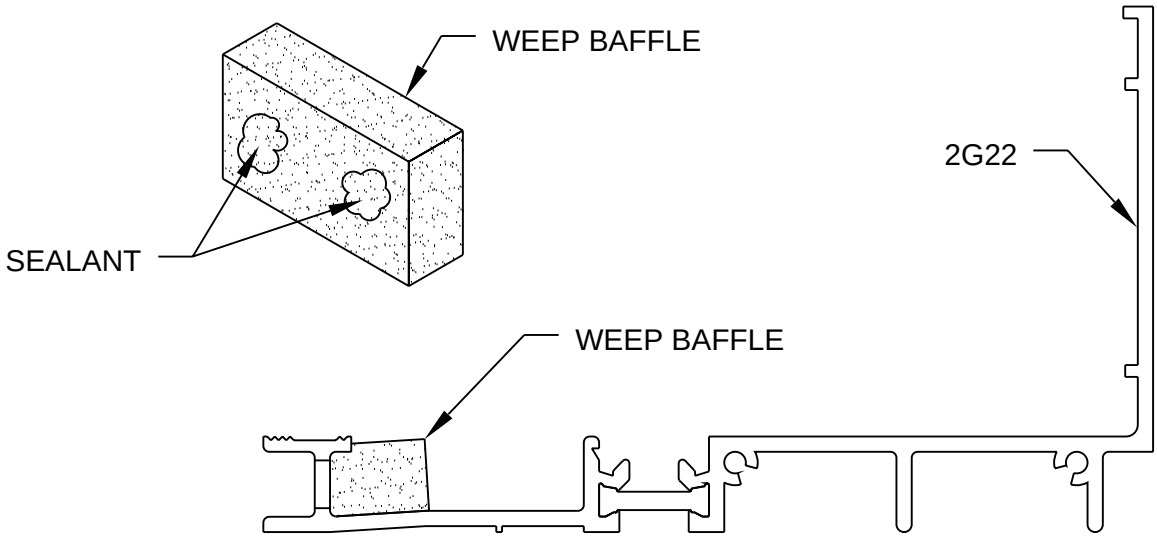


[FIG. 8]

STEP 4) WEEP BAFFLE INSTALLATION

Apply a small amount of silicone type sealant to the baffles, and locate them over the weep holes.

-- DO NOT PLUG THE WEEP HOLES WITH SEALANT--



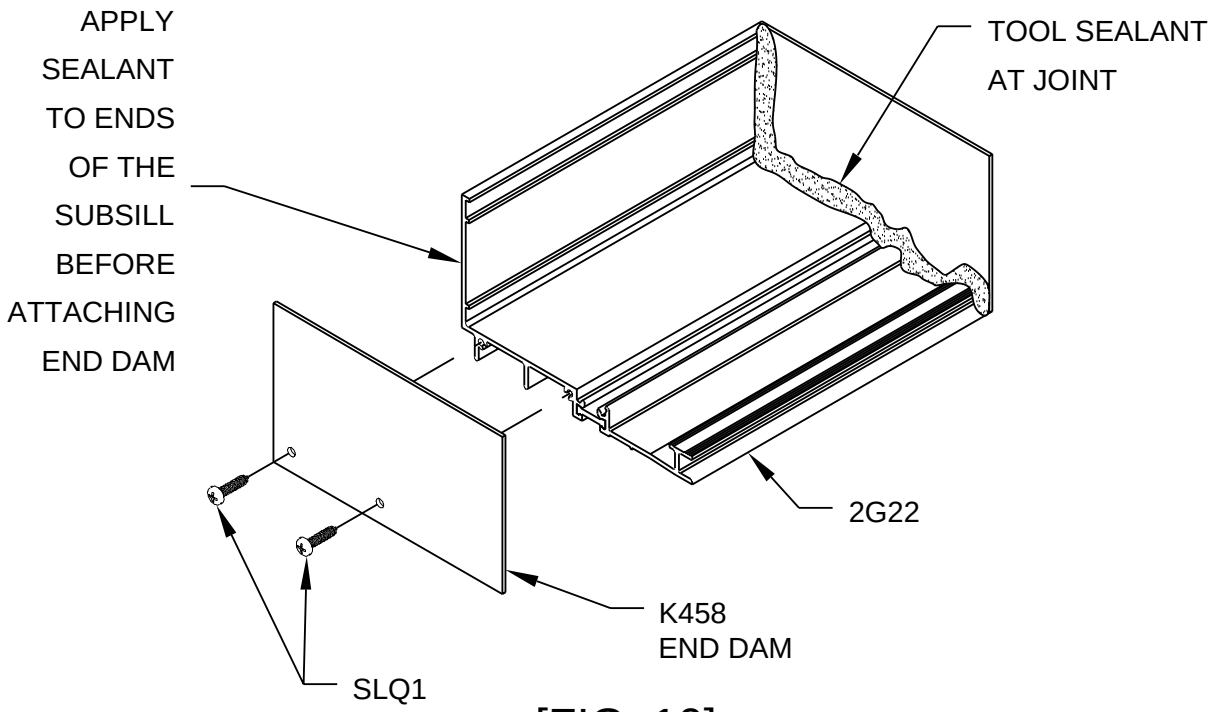
[FIG. 9]

SECTION V - SUBSILL FABRICATION (CON'T)

INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 5) END DAM INSTALLATION

The end dam is to be attached to the subsill with 2 SLQ1 fasteners on each end. Seal the end of the subsill with silicone sealant before attaching the end dam to the subsill. Tool the sealant at the interior joint of the end dam to ensure a good watertight seal. See Figure 10 below.



[FIG. 10]

STEP 6) CHALK LINE FOR SUBSILL

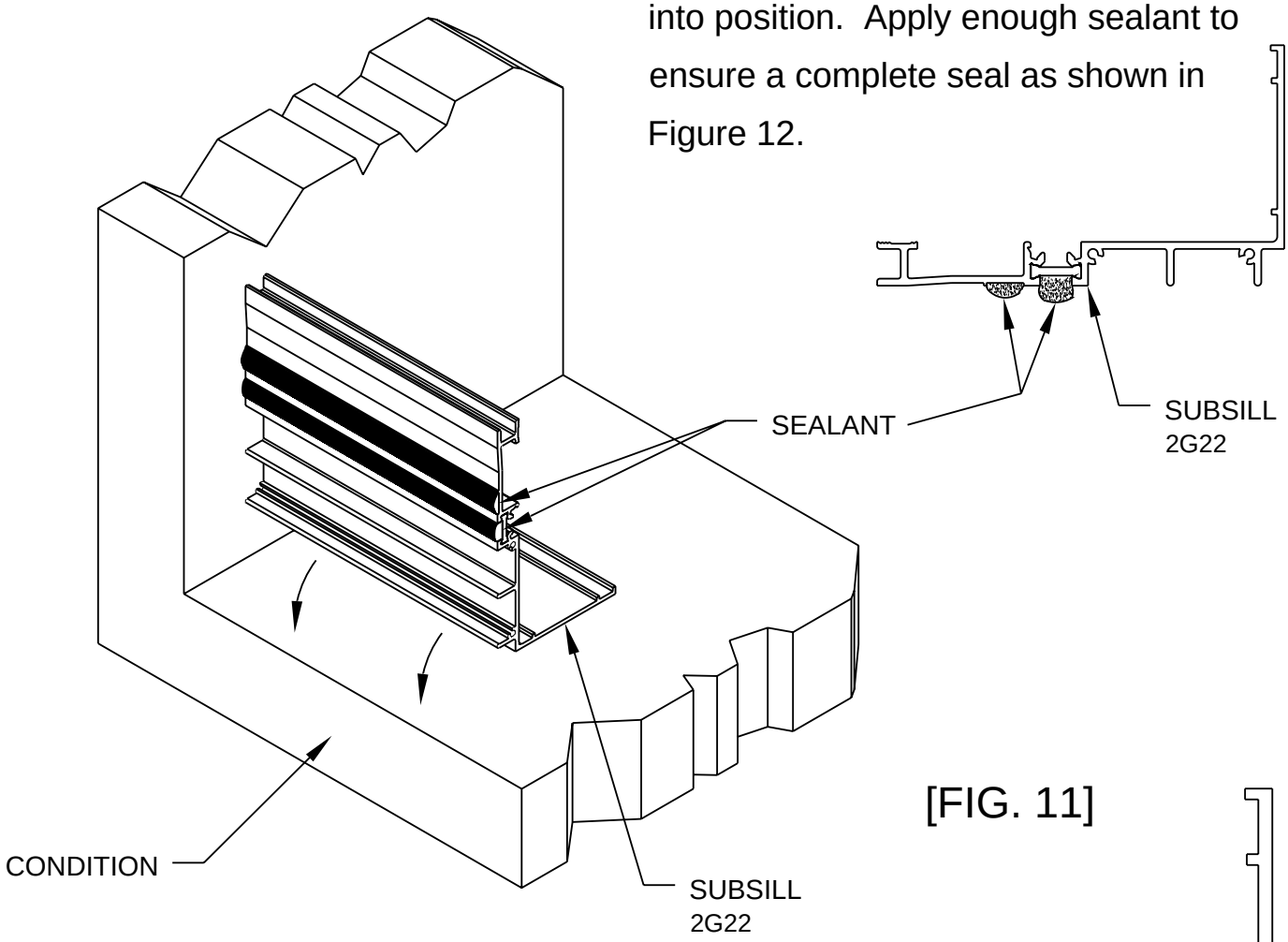
Before installing the subsill, measure the distance from the exterior of the condition to the desired location at the EXTERIOR of the subsill. (The exterior of the subsill will be flush with the rest of the system.) Do this at both ends of the condition. Snap a chalk line between the two marks to align the subsill. If the condition is too wide for just two marks, measure every 15 feet and snap a chalk line.

SECTION V - SUBSILL FABRICATION (CON'T)

INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

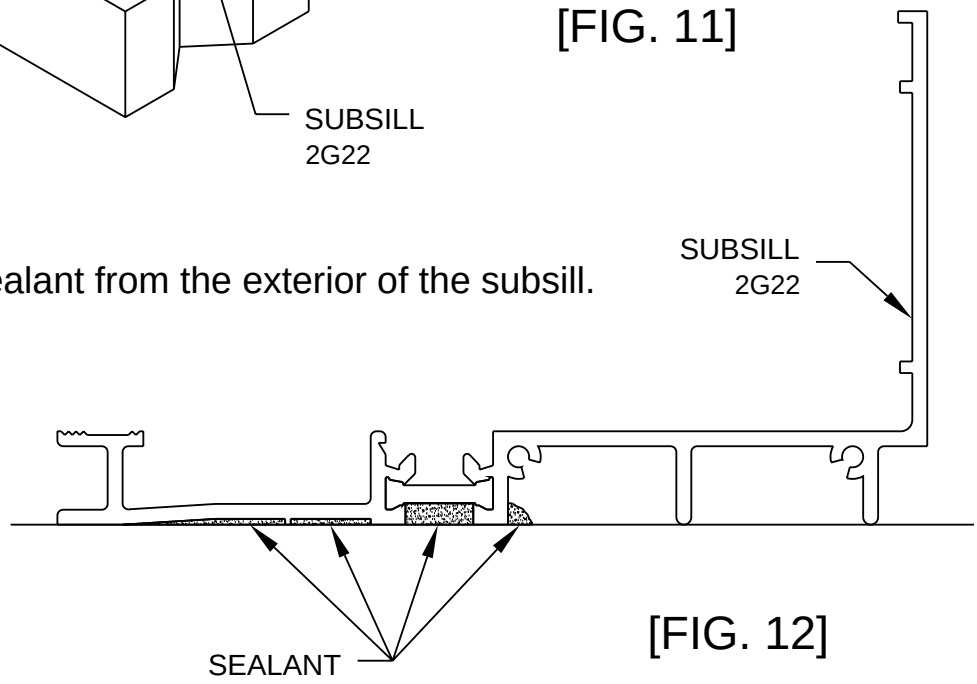
STEP 7) SEALANT BED

Apply sealant to the subsill as shown in Figure 11. Place the subsill into the rough opening, and rotate the exterior face down into position. Apply enough sealant to ensure a complete seal as shown in Figure 12.



[FIG. 11]

Wipe off any excess sealant from the exterior of the subsill.



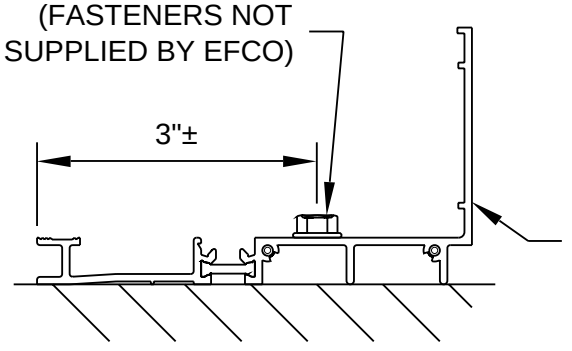
[FIG. 12]

SECTION V - SUBSILL FABRICATION (CON'T)

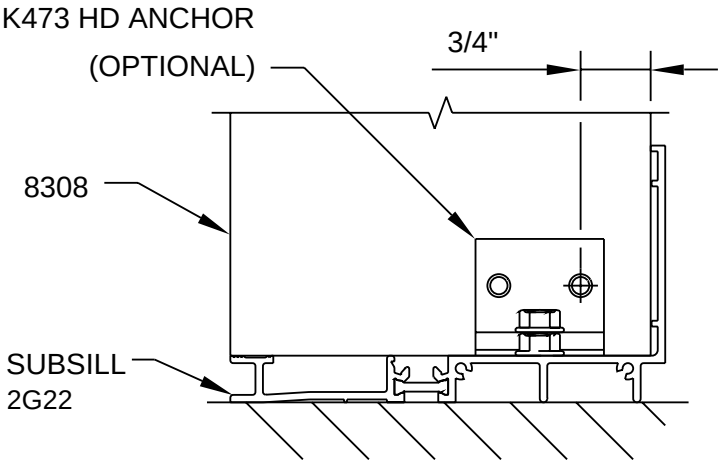
INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 8) SUBSILL ANCHOR INSTALLATION

At a minimum, anchor at 6" from jambs and corners, (1) on each side of vertical mullions, and 24" O.C. between verticals. These are general guidelines. Size fasteners as required to meet structural loads.

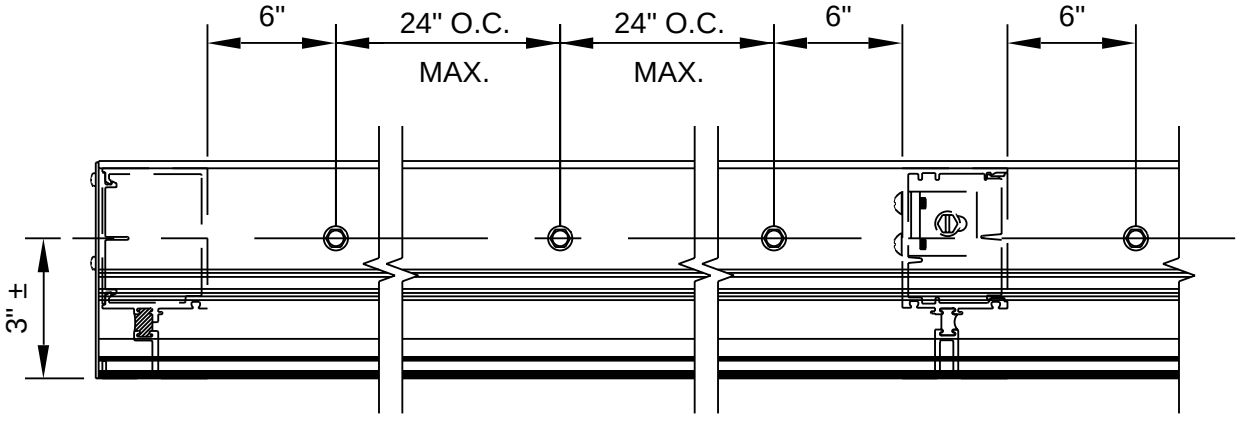


[FIG. 13]



[FIG. 13A]

For standard applications utilize anchorage shown in Figure 13. If heavy-duty anchorage is required, refer to the location of K473 heavy-duty anchor as shown in Figure 13A.



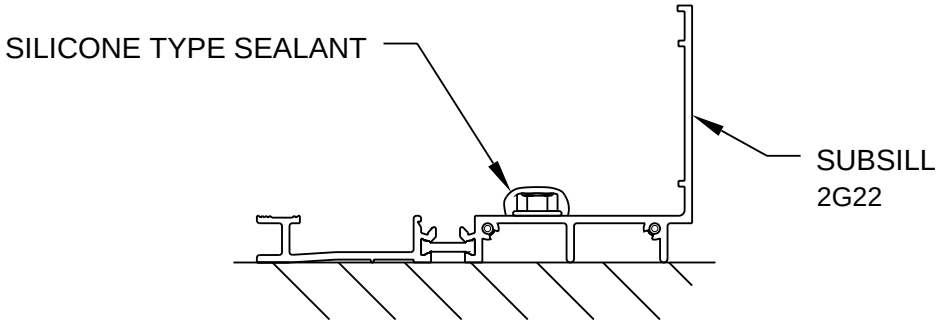
[FIG. 14]

SECTION V - SUBSILL FABRICATION (CON'T)

INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 9) SUBSILL ANCHOR SEAL

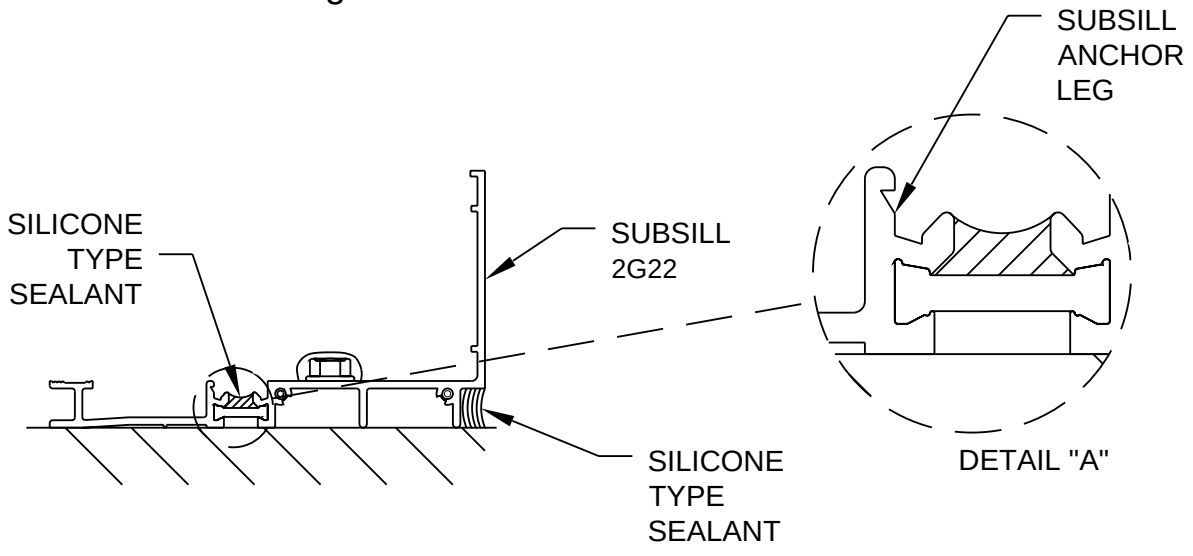
The subsill anchor must be sealed with a silicone type sealant. To ensure a good seal, tool the sealant onto the fastener.



[FIG. 15]

STEP 10) SUBSILL PERIMETER SEAL

The subsill interior should be sealed with a silicone type sealant. Apply sealant and tool the sealant to ensure a good seal. Clean off all excess sealant. At this time, use a silicone type sealant to seal the thermal break area as shown in Figure 16. Tool the sealant into the thermal break area, and ensure that the sealant does not interfere with the subsill anchor leg notch. See Detail "A."



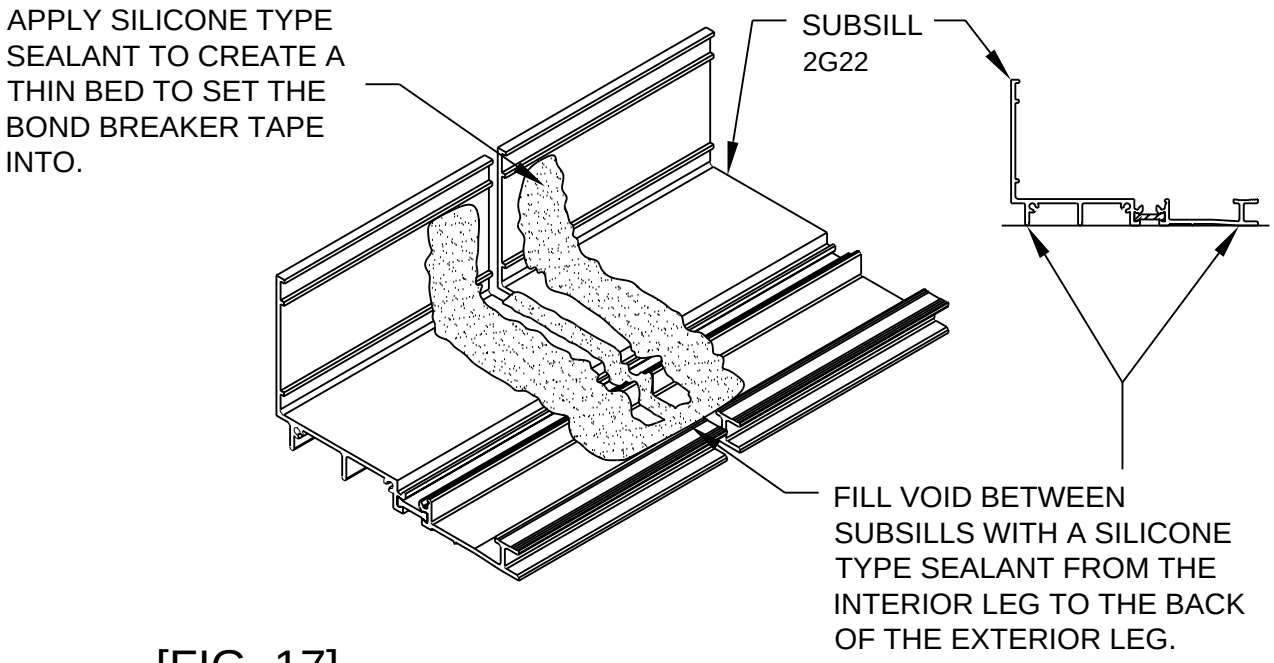
[FIG. 16]

SECTION V - SUBSILL FABRICATION (CON'T)

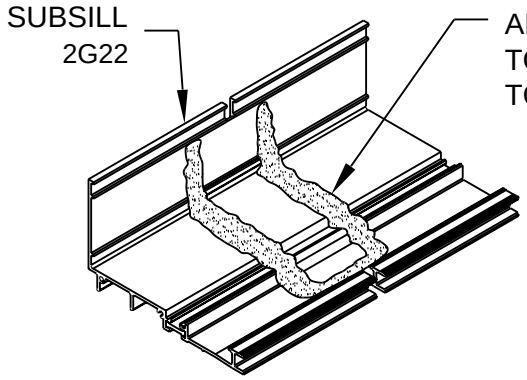
INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 11) SUBSILL SPLICING

Verify that the subsill has been installed according to the instructions on Pages 9 through 14. Splice areas are to be centered at a vertical mullion only. Maximum subsill length between splices is 20'. If a splice is required, leave a 1/4" gap between the subsill ends at the splice area. Install and anchor the next run of subsill. Use a silicone type sealant and a strip of, WM01, bond breaker tape 2" wide and approximately 7 3/4" long to create the splice material. Apply silicone to both sides of the subsill ends and fill the void between the subsills as shown in Figure 17. Ensure that the bond breaker tape is centered over the 1/4" gap, and set the bond breaker tape into the sealant. Tool the silicone over the bond breaker tape to create a water tight seal. If more sealant is required to cover the bond breaker tape, apply the required amount. Ensure that the splice joint does not interfere with the anchor legs of the sill and subsill. This is done by making sure that the splice joint is located at the center of the vertical mullions. Refer to the shop drawings or architectural drawings for mullion center lines.



[FIG. 17]



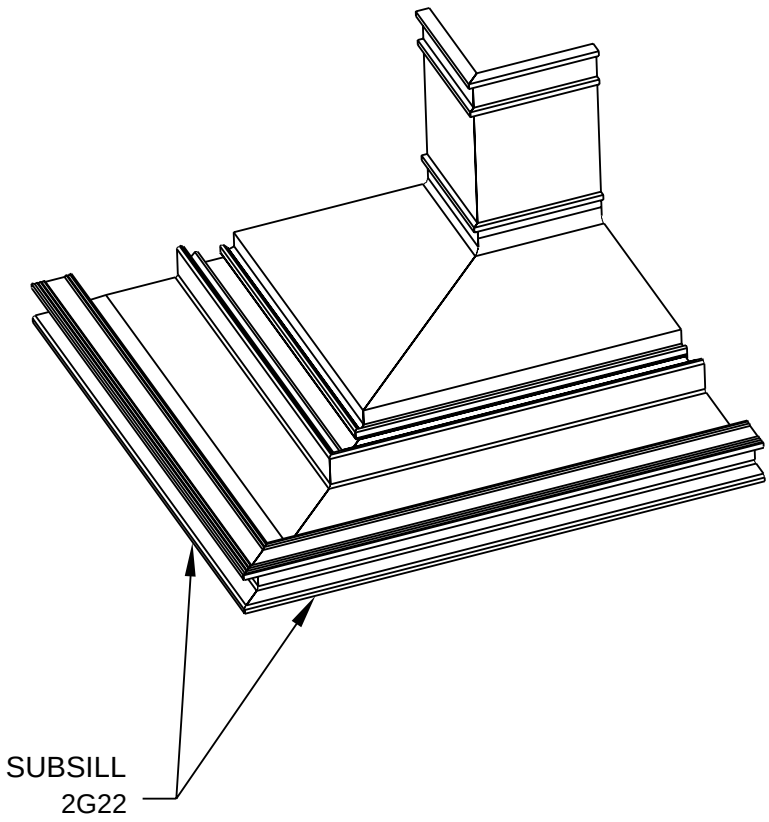
AFTER THE SPLICE IS INSTALLED, APPLY A COSMETIC SEAL TO THE INTERIOR GAP, VERTICALLY.

SECTION V - SUBSILL FABRICATION (CON'T)

INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 12) SUBSILL CORNER MITER AND SPLICING

When mitering the subsill for corner applications, cut the subsill material at the appropriate angle required to form the correct corner. Install the subsill by following the previous subsill installation instructions. Once the subsill is installed and a tight miter joint is achieved, use the instructions on Page 19 for creating a splice joint seal. Ensure that the bond breaker tape and sealant used to create the seal are smooth, so they do not interfere with the anchor legs on the sill and subsill.



[FIG. 18]

SECTION VI - CORNERS

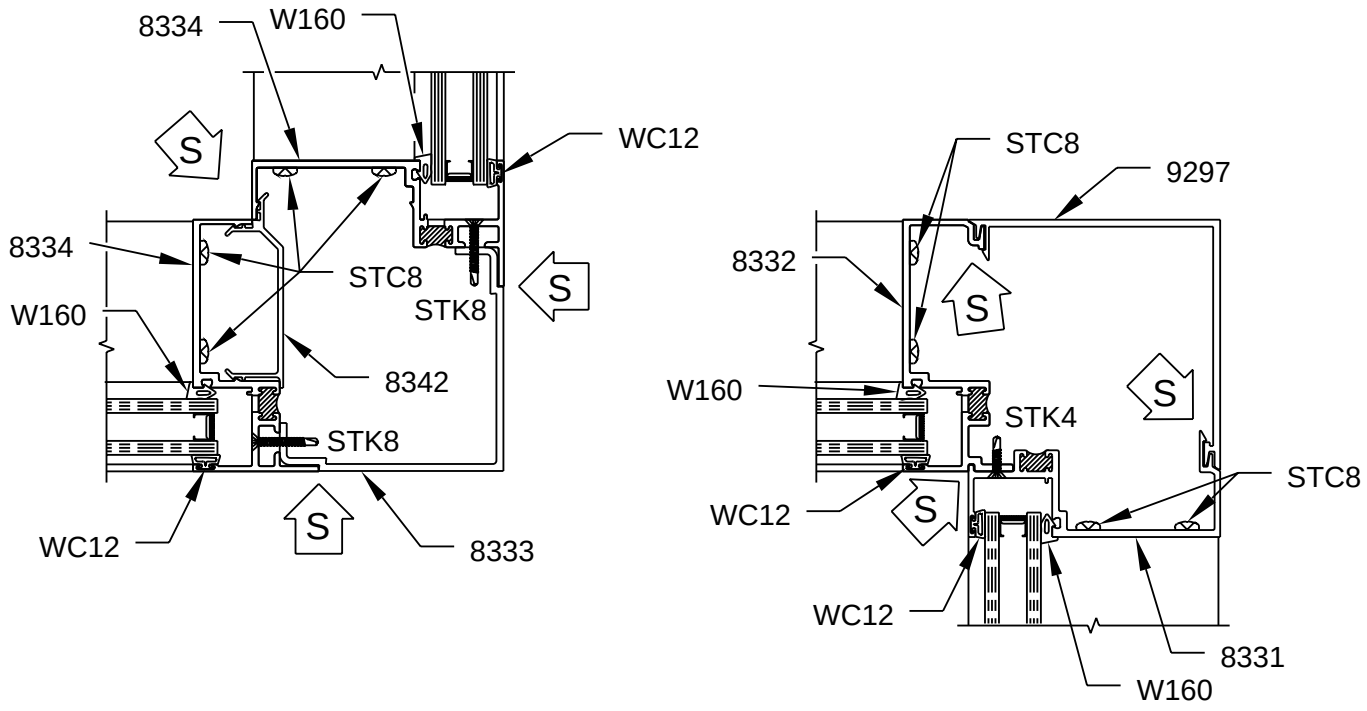
CORNER IDENTIFICATION AND ASSEMBLY

Proper identification of the required corner members is necessary to ensure a timely installation process.

1) 90˚ captured outside corner
2) 90˚ captured inside corner
3) 90˚ S.S.G. inside corner
4) 90˚ S.S.G. outside corner
5) 135˚ S.S.G. outside corner

Determine that the subsill has been installed according to the instructions listed on Pages 13 through 20. Assemble the appropriate extrusions to create the required corner member. Utilize the fasteners shown in Figures 19 through 21A on Pages 21 and 22. The fasteners should be installed 6" from each end and 12" on center. Install the appropriate assembled corner member into the subsill. It may be necessary to temporarily brace the vertical corner member until the adjacent ladders are installed and anchored.

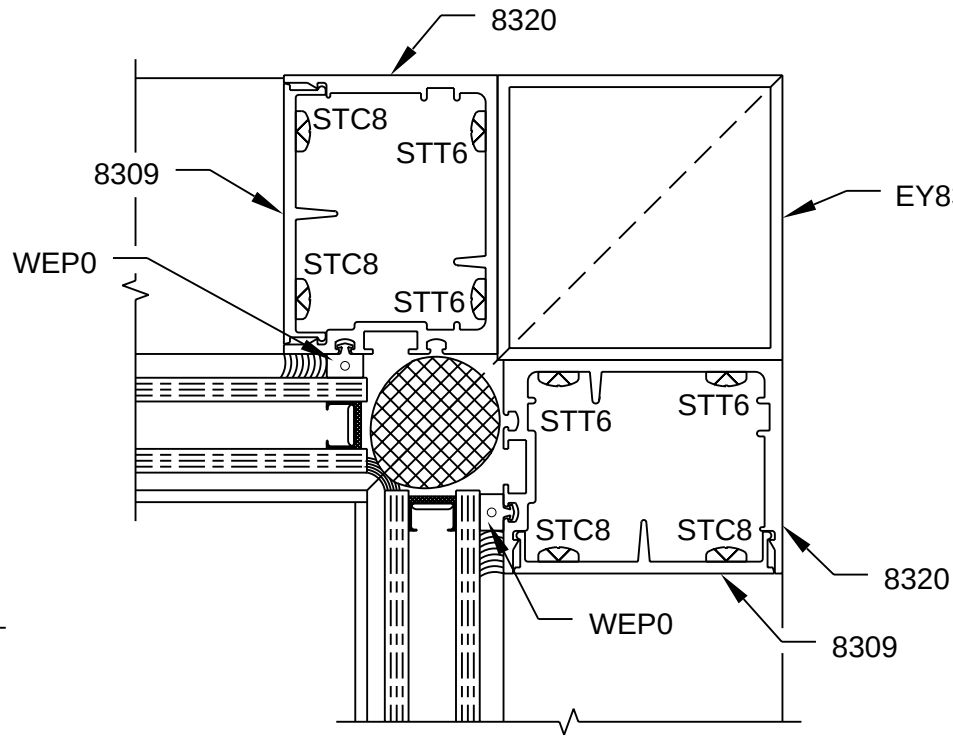
If door openings are required on a run that incorporates a corner member, begin at the door frame and assemble towards the corner area with the required ladders. Unassembled corner extrusions must be attached to the ladders, and the corner member must be assembled after installation of both adjacent ladders.



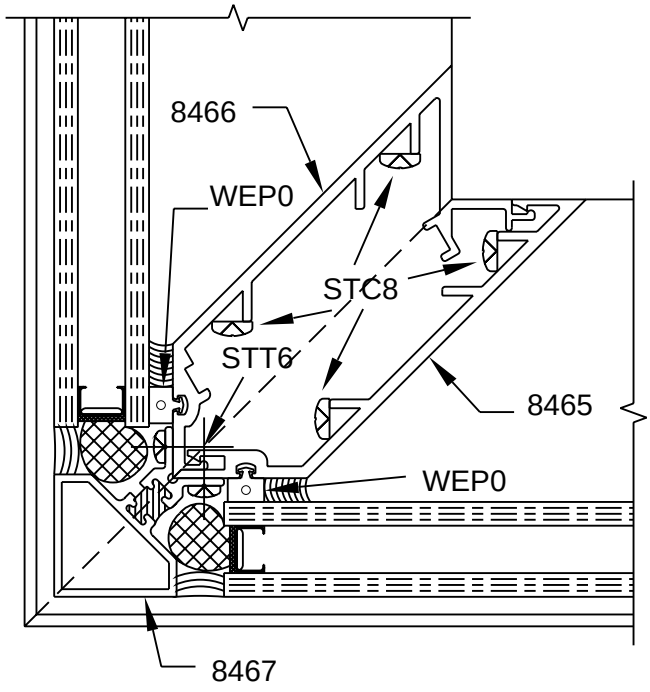
[FIG. 19]

SECTION VI - CORNERS (cont.)

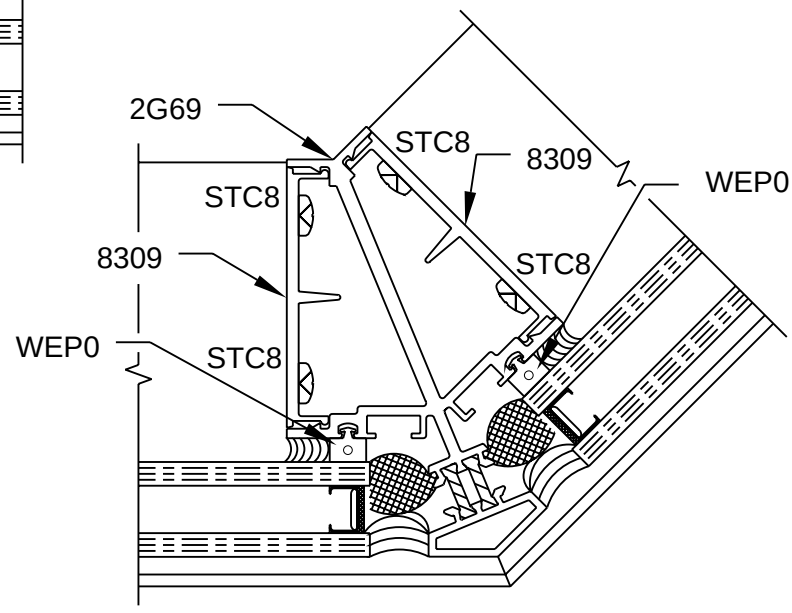
CORNER IDENTIFICATION AND ASSEMBLY (CON'T)



[FIG. 20]



[FIG. 21]

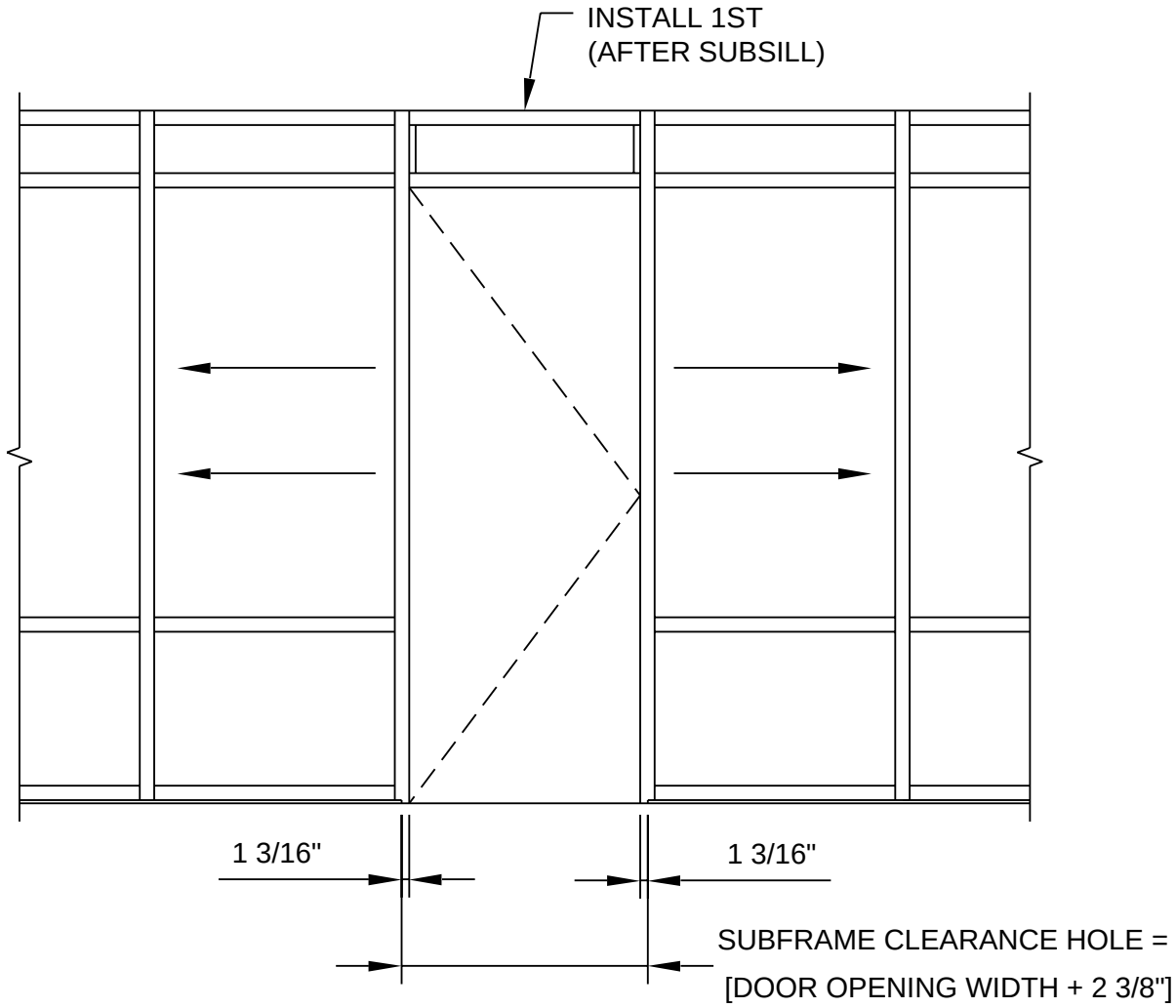


[FIG. 21A]

SECTION VII - DOOR FRAME INSTALLATION

STEP 1) GENERAL NOTES

If a door opening is required, the subsill must be installed into the opening from the door framing, ensuring that the appropriate clearance is available for the door frame. All subsequent ladders must be installed from the door jamb out.



[FIG. 22]

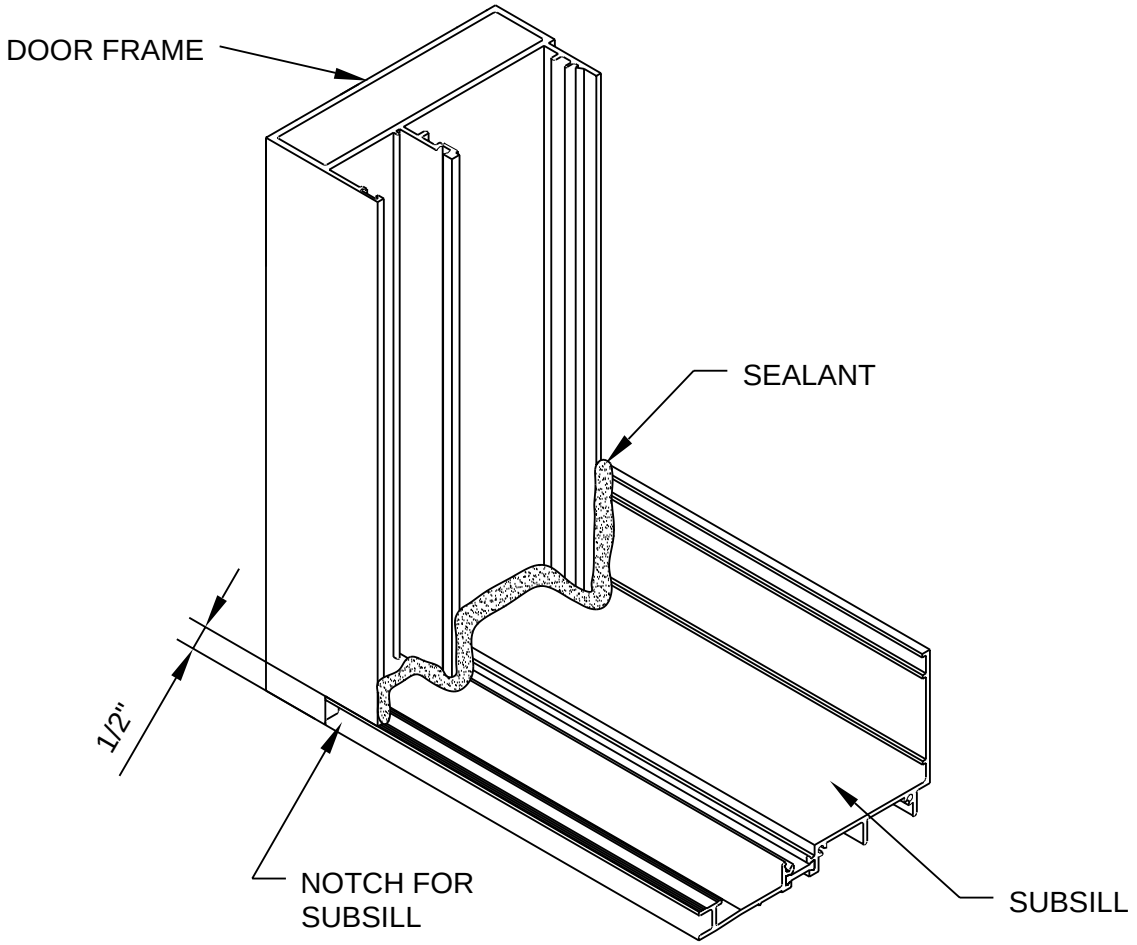
STEP 2) SUBSILL INSTALLATION AT DOOR OPENING

Where a door opening is required, use the equation in Figure 22. Install the subsill in the same manner as illustrated on Pages 13 through 20, leaving the appropriate clearance in the subsill for all door framing. End dams are not required at the door frame end of the subsill. See Figure 23 on Page 24 for subsill sealant requirements at door framing.

SECTION VII - DOOR FRAME INSTALLATION (cont.)

STEP 3) SUBSILL SEALANT AT DOOR FRAME

Before installing the door frame to the subsill, seal the end of the subsill with a silicone type sealant. Install the door frame, and tool all excess sealant into the joint. If required, add more sealant to create a smooth water tight seal.



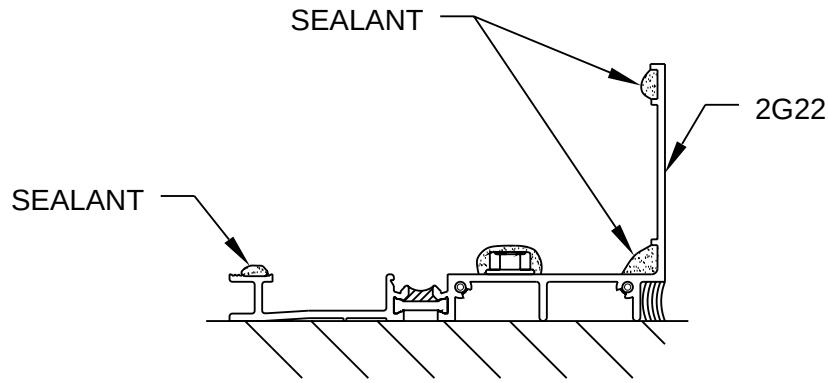
[FIG. 23]

SECTION VIII - INSTALLATION

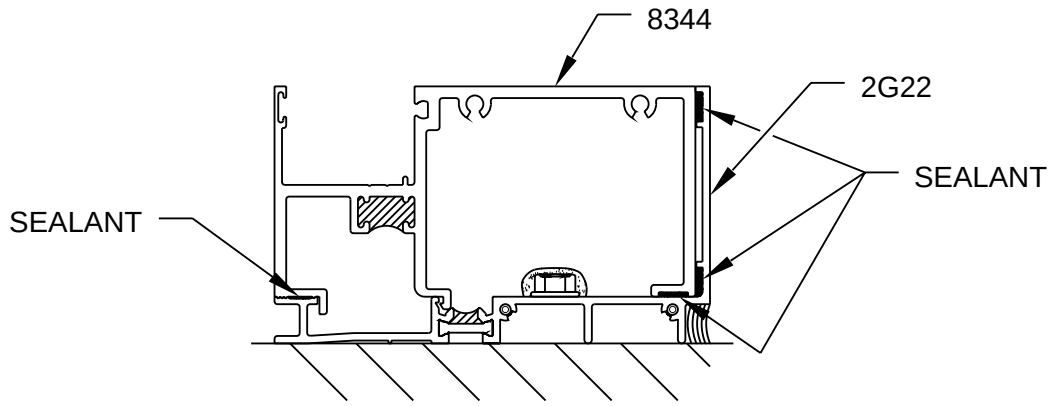
INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 1) SEALING THE SILL ONTO THE SUBSILL

Apply a silicone type sealant to the subsill in the location shown in Figure 24 before installing the first ladder. Make sure that enough sealant is applied to seal the areas shown in Figure 25. After installing the ladder and anchoring it, clean off all excess sealant.



[FIG. 24]



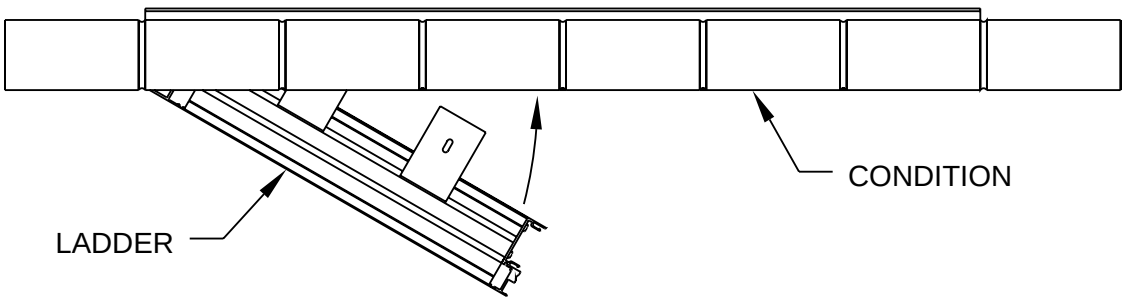
[FIG. 25]

SECTION VIII - INSTALLATION (CON'T)

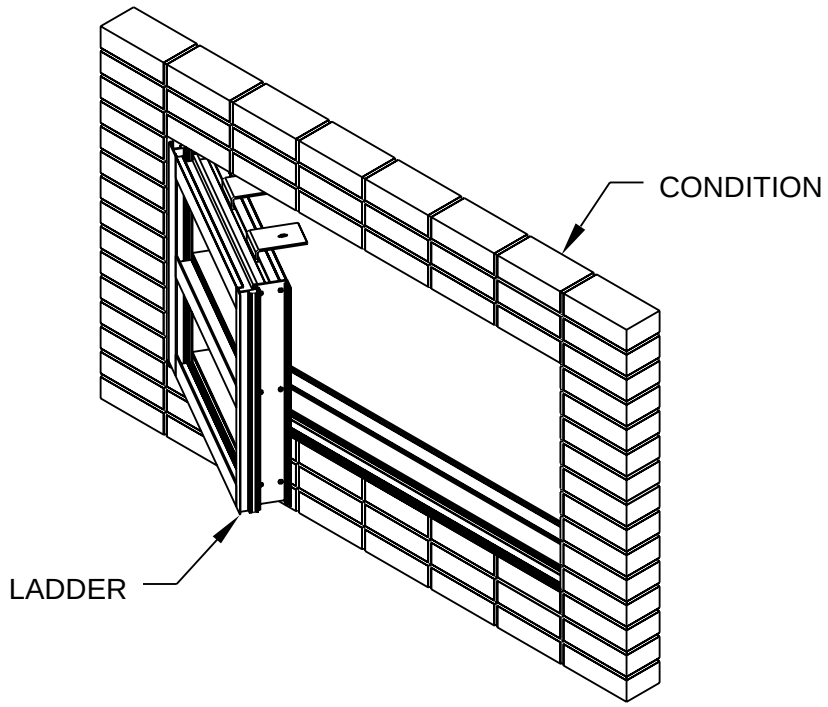
INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 2) INSTALLING JAMB SIDE LADDER

Make sure that the anchors are installed into the head. Place the ladder on the subsill at an approximate 30˚ angle. While applying pressure upwards, rotate the ladder into the condition. See Figure 25 on Page 25 for sill placement into the subsill. When rotated correctly, the exterior face of the sill should be flush with the exterior face of the subsill.



[FIG. 26]



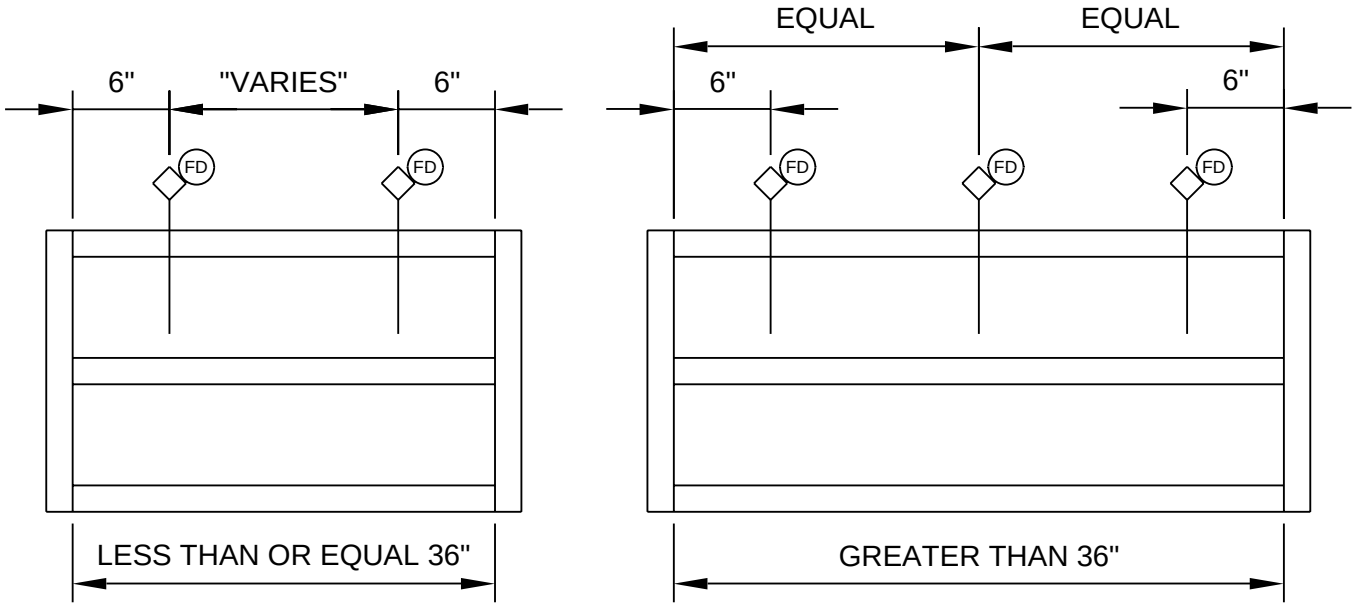
[FIG. 27]

SECTION VIII - INSTALLATION (CON'T)

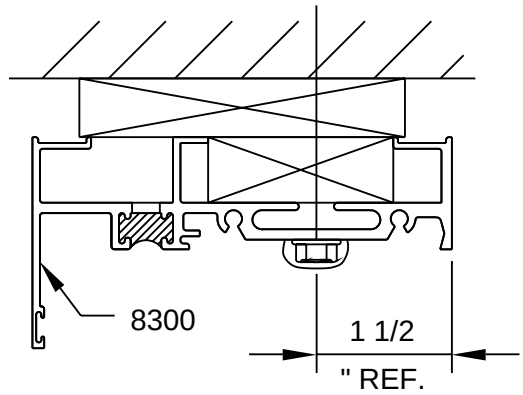
INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 3) ANCHORING THE HEAD

For D.L.O.'s 36" and narrower, the anchors must be spaced 6" from the jamb or vertical members. For D.L.O.'s 36" and wider, the outside anchors must be spaced 6" from the jamb with the center anchor centered on the D.L.O. See Figure 28. If no strap anchor is used, anchor the head as shown in Figure 29, and use the same anchor spacing requirements. These are general anchoring guidelines. All actual anchor requirements should be verified by a structural engineer.



[FIG. 28]



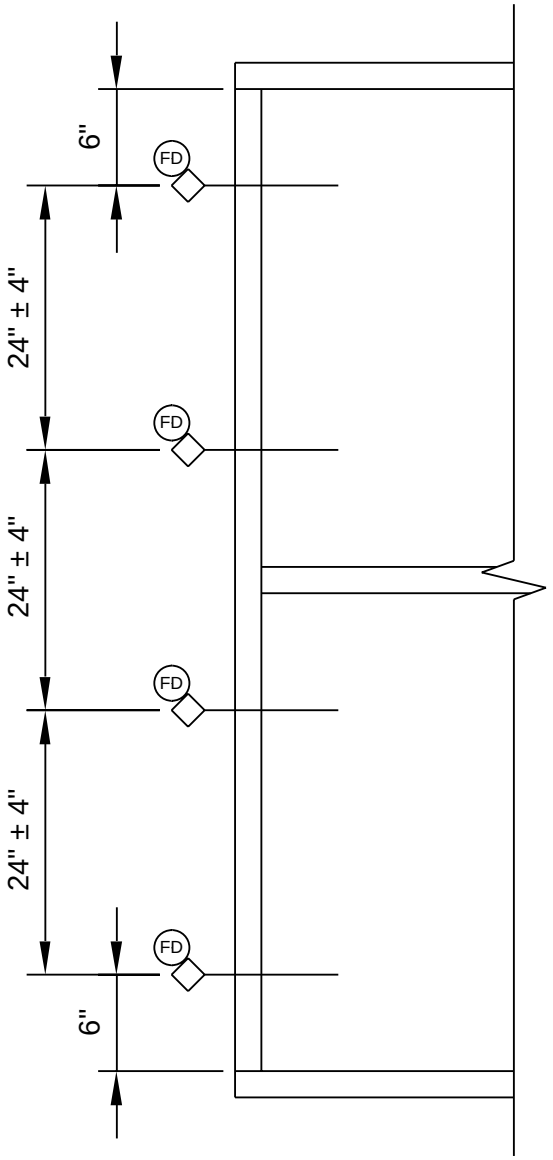
[FIG. 29]

SECTION VIII - INSTALLATION (CON'T)

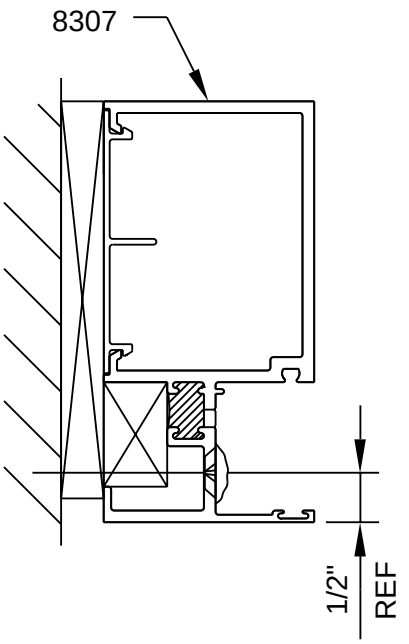
INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 4) ANCHORING THE JAMB

Anchors must be spaced 6" from the sill or head, and 24" O.C. ± 4", so they do not interfere with the horizontal members. The size and type of anchors depend on structural loads and surrounding condition. Anchors are not by EFCO.



[FIG. 30]



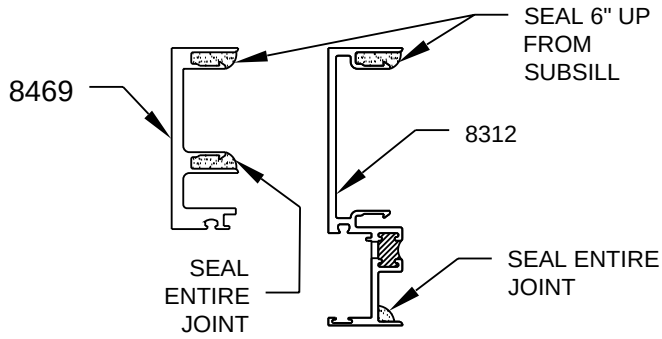
[FIG. 31]

SECTION VIII - INSTALLATION (CON'T)

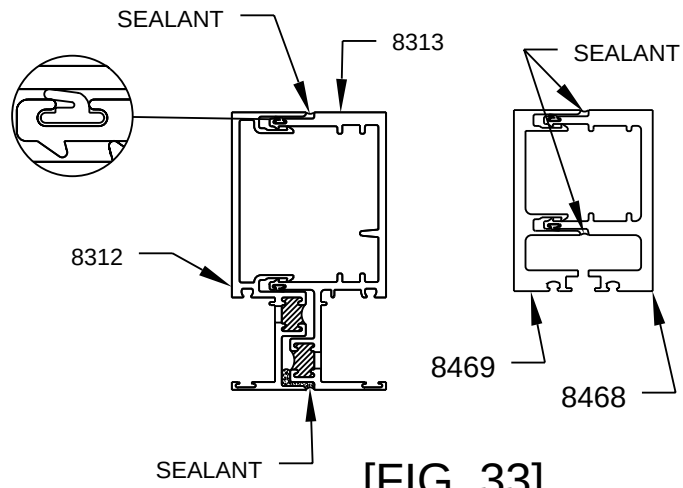
INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 5) SEALING THE EXPANSION MULLION

If installing an expansion mullion, apply silicone type sealant in the locations shown below. The interior should be sealed up 6" from the subsill, and the entire exterior joint should be sealed. Apply enough sealant so that when the expansion mullion is collapsed, it will squeeze the sealant out and create a good seal. Clean off any excess sealant. See Figures 32 and 33.



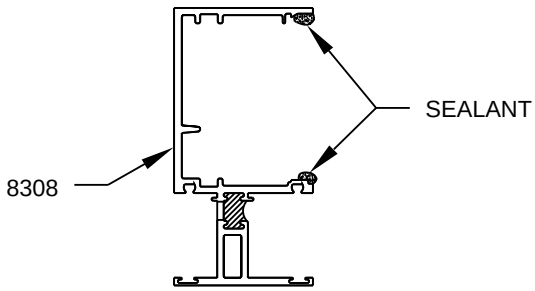
[FIG. 32]



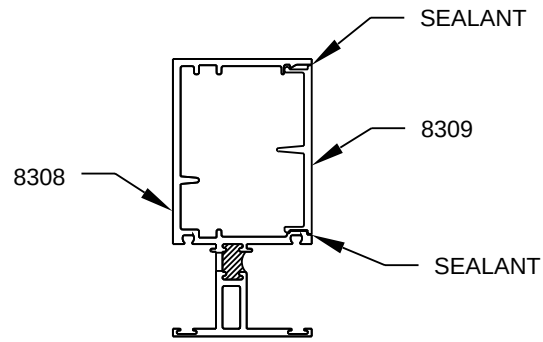
[FIG. 33]

STEP 6) SEALING THE INTERMEDIATE VERTICAL MULLION SNAP IN FILLER

If installing an intermediate vertical mullion, apply silicone type sealant to the intermediate vertical mullion in the locations shown below. Both sides of the entire mullion should be sealed. Apply enough sealant so that when the filler is snapped, it will create a good seal. Wipe off excess sealant. See Figures 34 and 35.



[FIG. 34]



[FIG. 35]

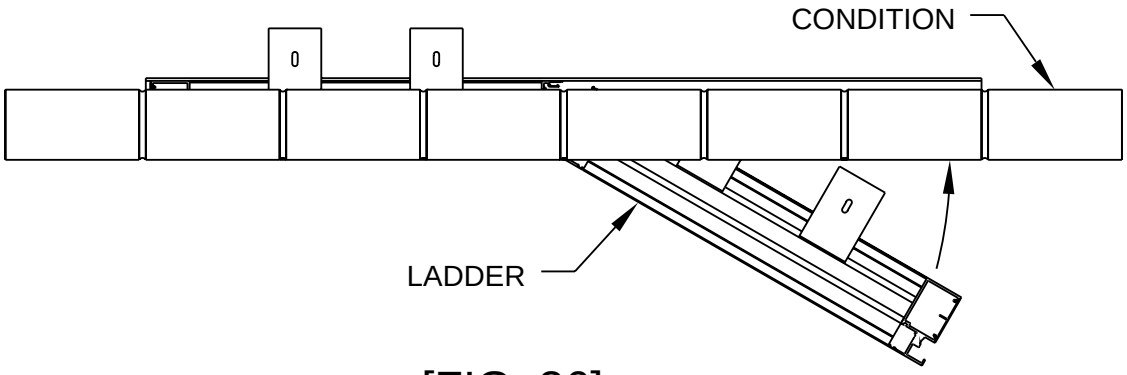
SECTION VIII - INSTALLATION (CON'T)

INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

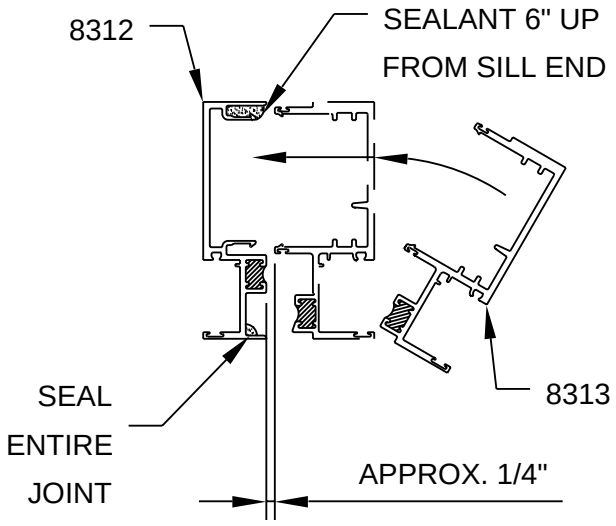
STEP 7) INSTALLING THE SECOND LADDER

(CAPTURED SYSTEM SHOWN, STRUCTURAL GLAZED SYSTEM SIMILAR)

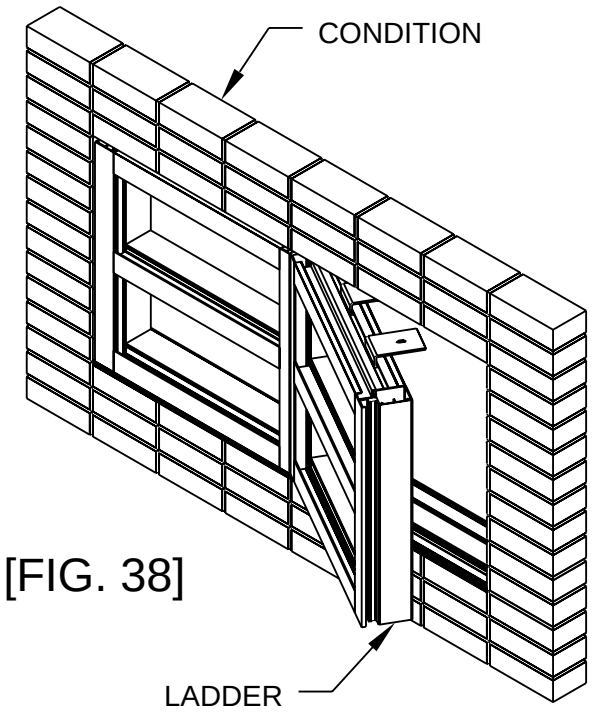
Make sure that the anchors are installed into the head. Apply silicone type sealant to the interior leg clip 6" from the subsill, and seal the entire exterior face as shown in Figure 37. Apply sealant to the subsill as shown on Page 25. Place the second ladder on the subsill at an approximate 30˚ angle. Rotate the ladder into the condition approximately 1/4" away from the female expansion mullion half. See Figures 36 and 38.



[FIG. 36]



[FIG. 37]



[FIG. 38]

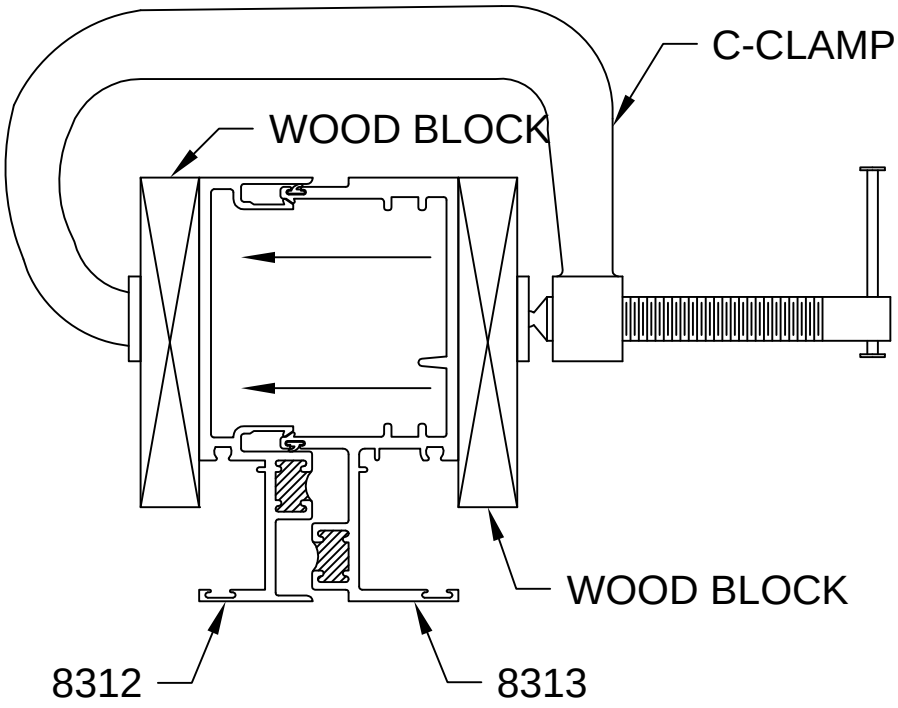
SECTION VIII - INSTALLATION (CON'T)

INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

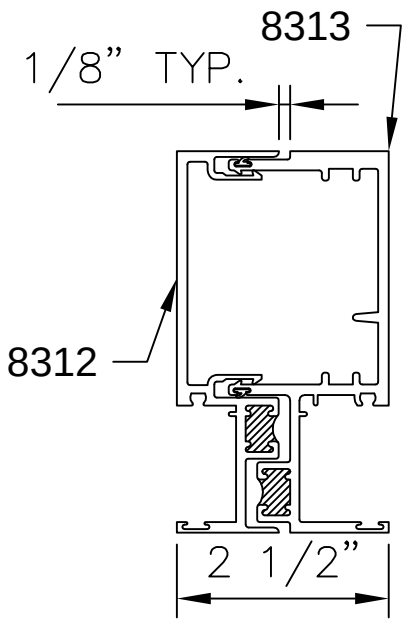
STEP 8) SNAPPING THE EXPANSION MULLION

(CAPTURED SYSTEM SHOWN, STRUCTURAL GLAZED SYSTEM SIMILAR)

To snap the expansion mullion together, line up the mullion halves and gaskets. See Figure 39. Place one clamp at the bottom of the expansion mullion using wood blocks to protect the extrusions. Tighten the C-clamp until the expansion mullion halves begin to snap together. Place another set of wood blocks and a C-clamp at the middle of the expansion mullion and tighten it. Then repeat the same process on the top. Tighten the C-clamps until the sight line becomes 2 1/2". It may be necessary to work from one clamp to the next several times, or move the clamps, to ensure the mullions are snapped together evenly. See Figure 40. DO NOT try to hammer the expansion mullion together! This will dent, bend, scratch, or deform the expansion mullion and may cause it to leak. Anchor the head using the requirements on Page 27 before installing the next ladder using the requirements on Page 30. If this is the last ladder, anchor the jambs as required on Page 28 and proceed to the perimeter sealing process, Step 11 on Page 33.



[FIG. 39]



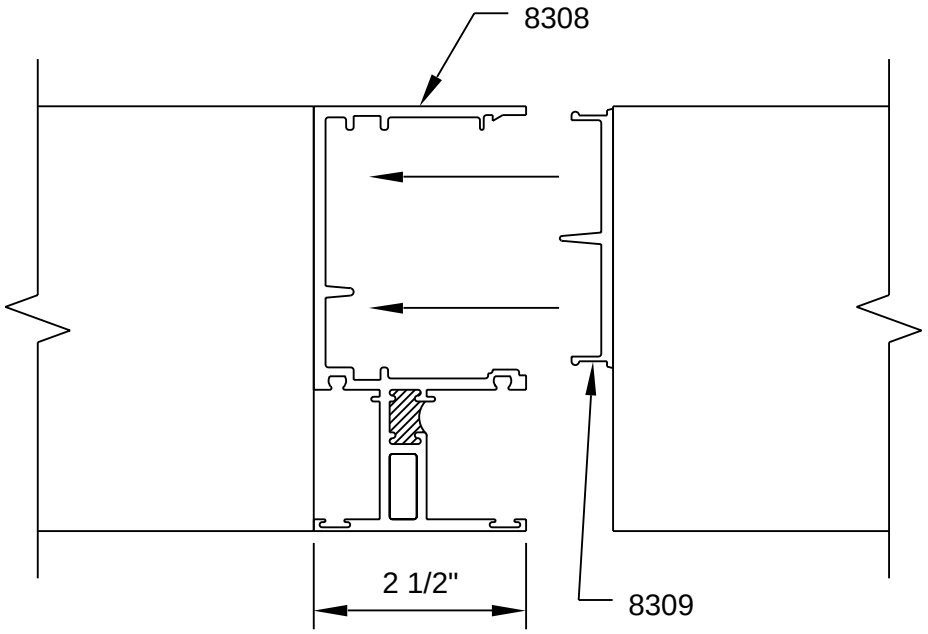
[FIG. 40]

SECTION VIII - INSTALLATION (CON'T)

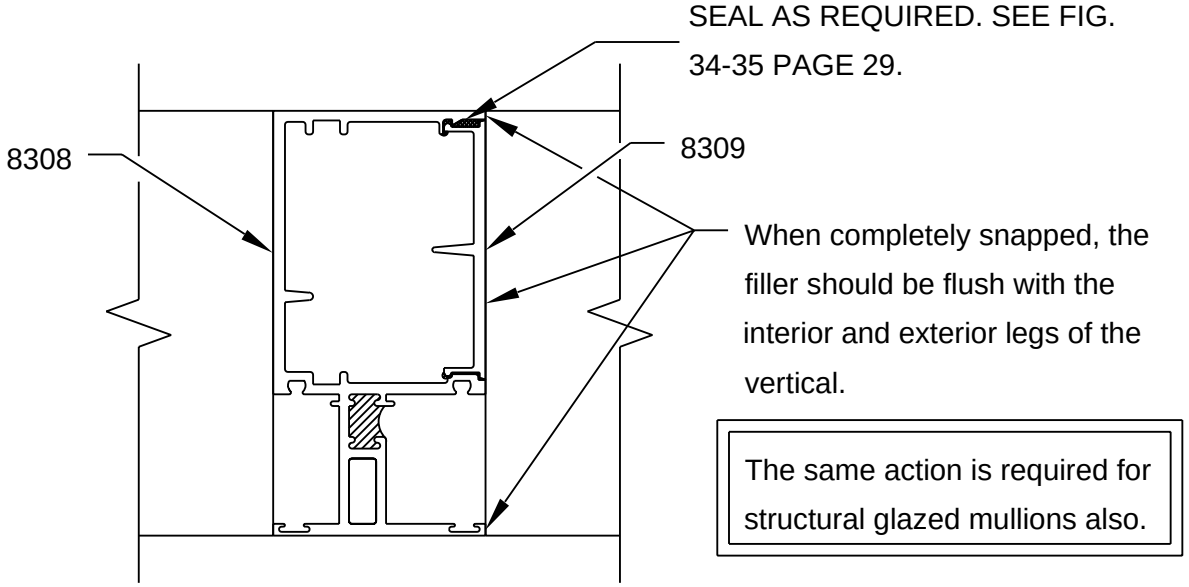
INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 9) SNAPPING THE SNAP-IN FILLER

To snap the snap-in filler, place the ladder in the subsill and align the snap-in filler with the intermediate vertical, ensuring that the ladders are as tight together as possible before continuing. Using a rubber mallet, gently tap the filler into place if necessary. Work from the head to the sill, verifying that the ladder is completely engaged before anchoring the head. See Figure 42.



[FIG. 41]



[FIG. 42]

SECTION VIII - INSTALLATION (CON'T)

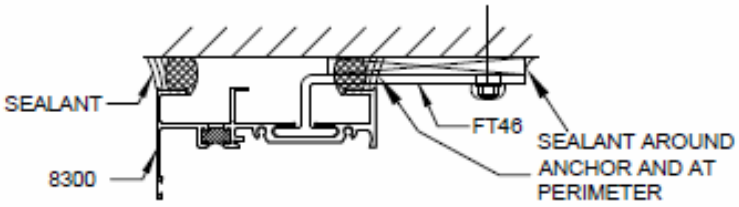
INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 10) ANCHORING THE SECOND LADDER

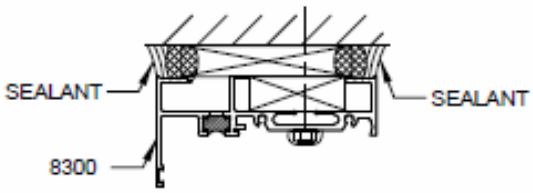
After the filler is snapped correctly, anchor the head & jamb as shown on pgs. 27 & 28.

STEP 11) PERIMETER SEAL

When the unit is installed and anchored, begin placing caulk rope into the gap between the perimeter and the frame. Then apply a generous amount of silicone type sealant to the gap between the frame and rough opening. Tool off all excess sealant to ensure a good seal and to achieve an appropriate appearance. See Figure 43.

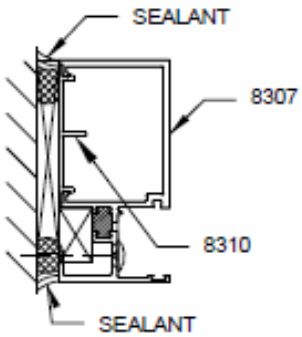


HEAD (W/ STRAP ANCHOR)



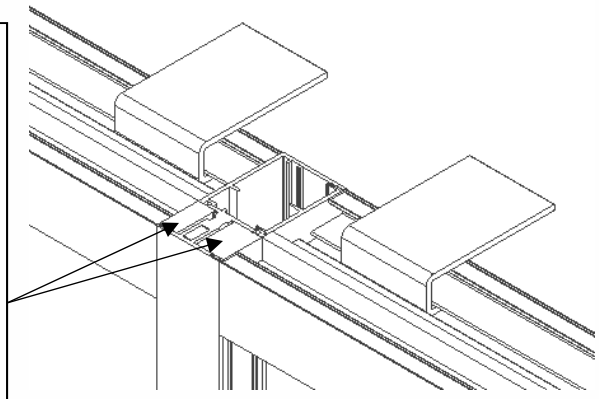
HEAD (W/O STRAP ANCHOR)

[FIG. 43]



JAMB

All open-ended vertical frame members must be closed off before installing the frame into the building opening. Insert a foam plug (N.B.E.) into the top of the mullion at the exterior side of the system. Make sure that the top of the plug is flush with the top of the vertical mullion in order to keep the exterior perimeter joint seal continuous.



ISOMETRIC VIEW OF HEAD

The same action is required for outside glazed and structural glazed mullions also. Make sure that the face covers are installed prior to the perimeter seal for these members. This step will be completed after glass installation.

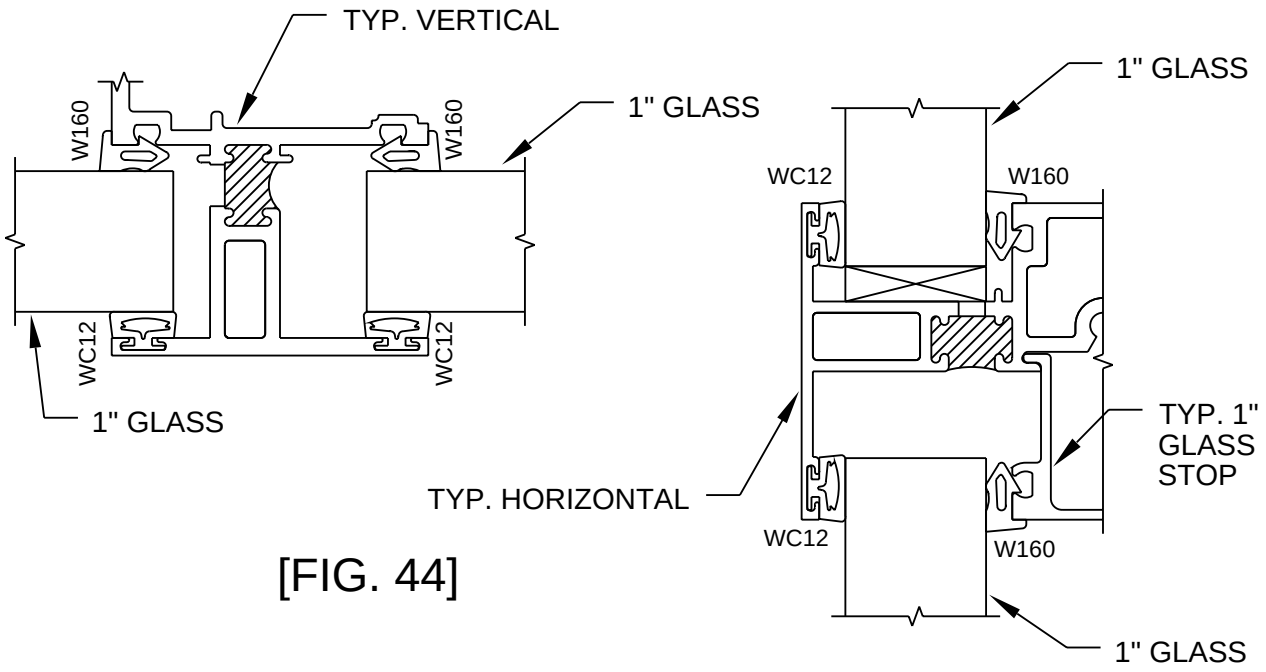
Josue C.
12/2019

SECTION IX - GLAZING

FOR INSIDE GLAZED CAPTURED FRAMING SYSTEMS

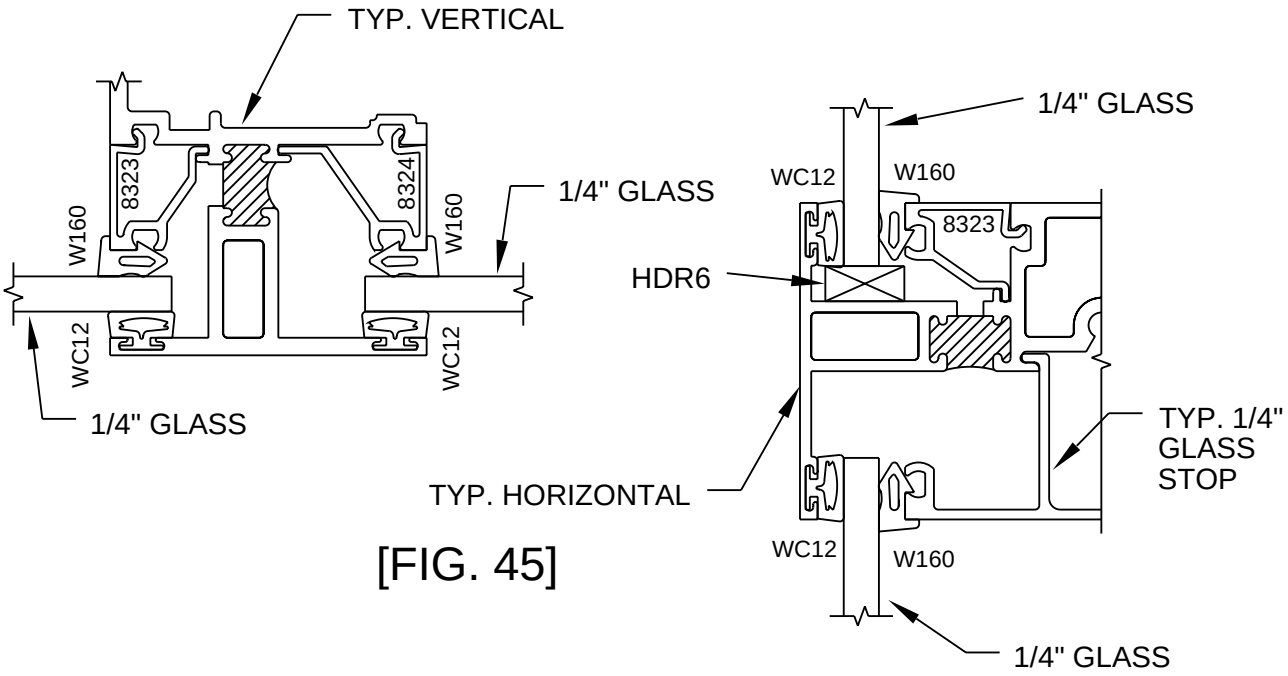
STEP 1A) IDENTIFICATION OF GLASS POCKETS

1" GLAZING FOR INSIDE GLAZED CAPTURED FRAMING SYSTEM



[FIG. 44]

1/4" GLAZING FOR INSIDE GLAZED CAPTURED FRAMING SYSTEM



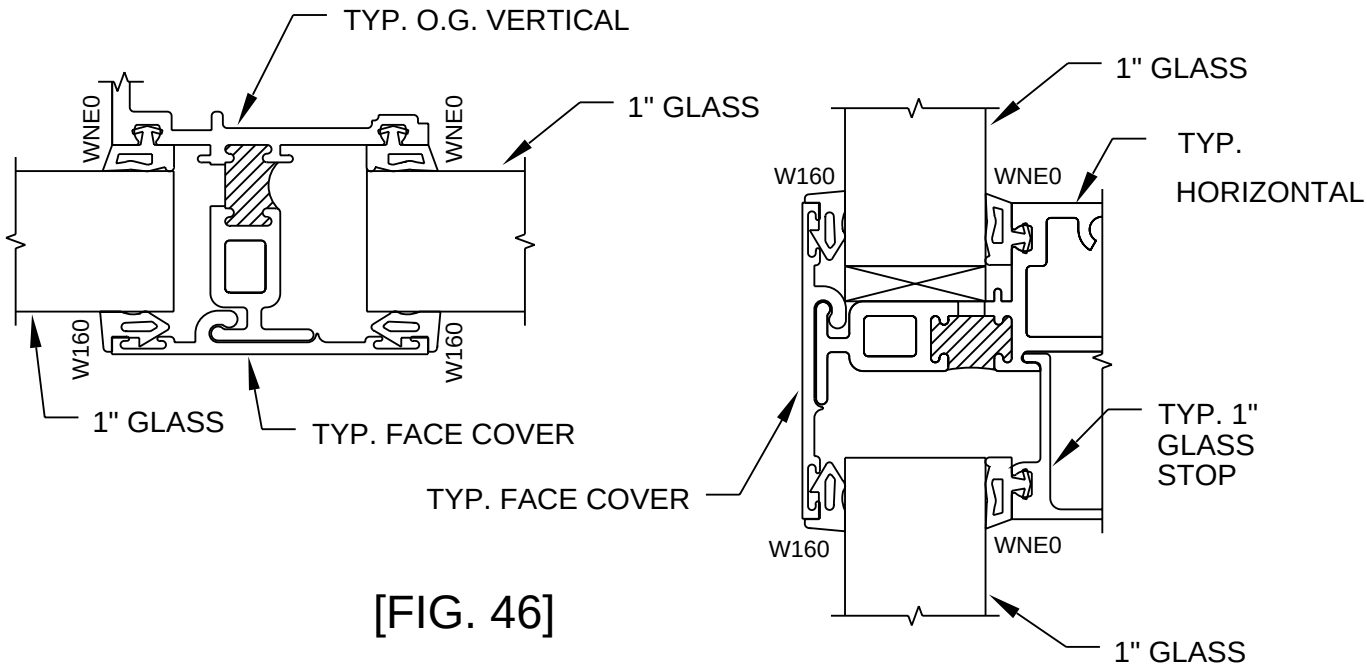
[FIG. 45]

SECTION IX - GLAZING (cont.)

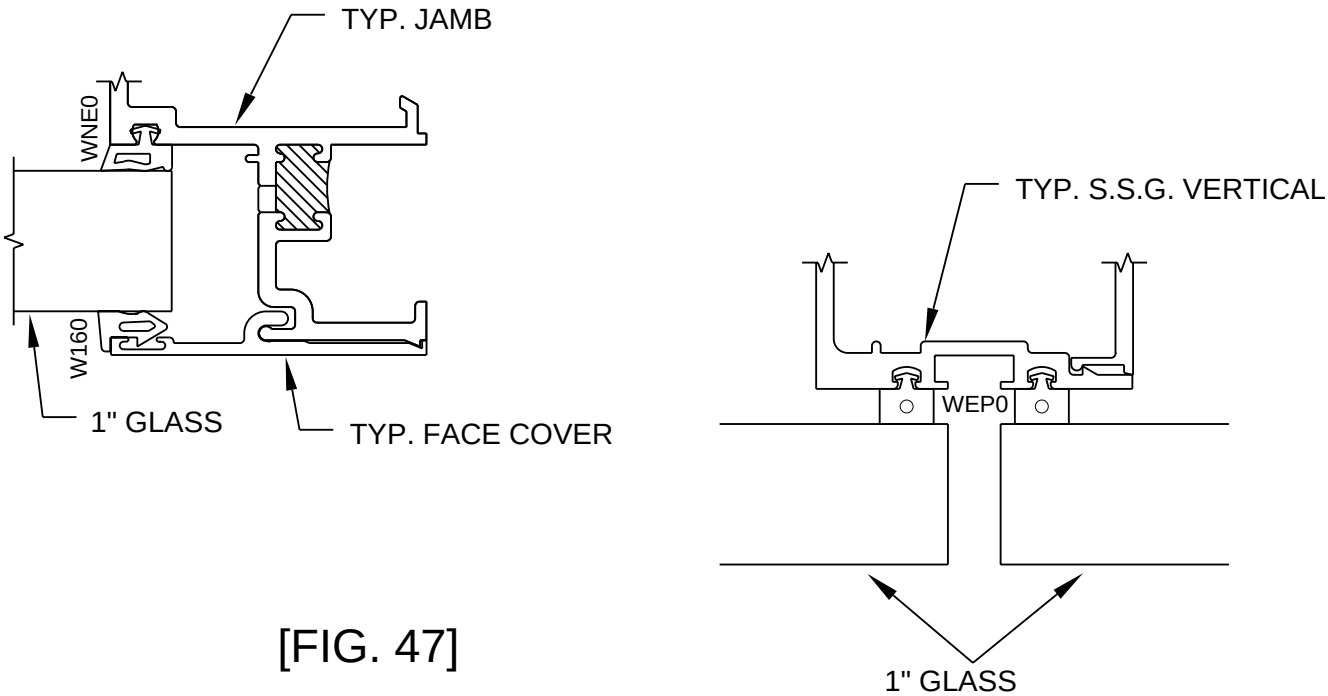
FOR OUTSIDE GLAZED AND STRUCTURAL GLAZED FRAMING SYSTEMS

STEP 1B) IDENTIFICATION OF GLASS POCKETS

1" GLAZING FOR OUTSIDE GLAZED AND STRUCTURAL SILICONE GLAZED FRAMING SYSTEM



[FIG. 46]



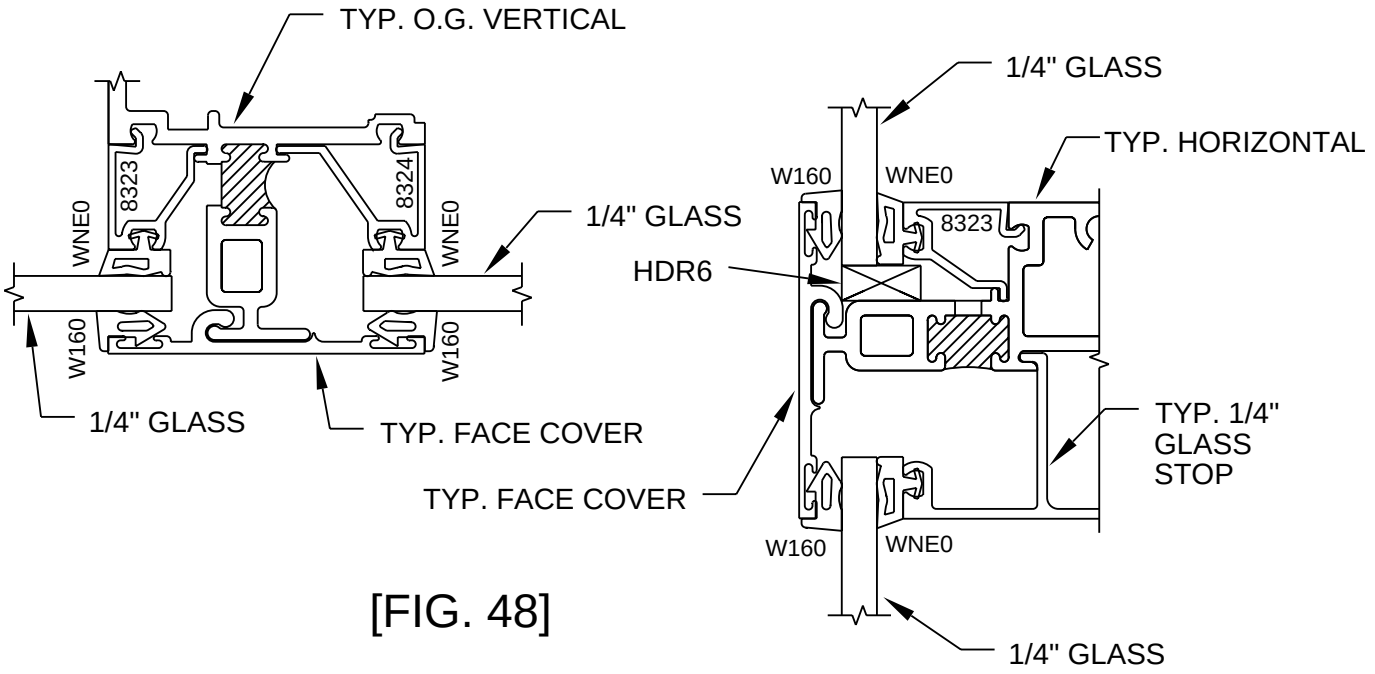
[FIG. 47]

SECTION IX - GLAZING (cont.)

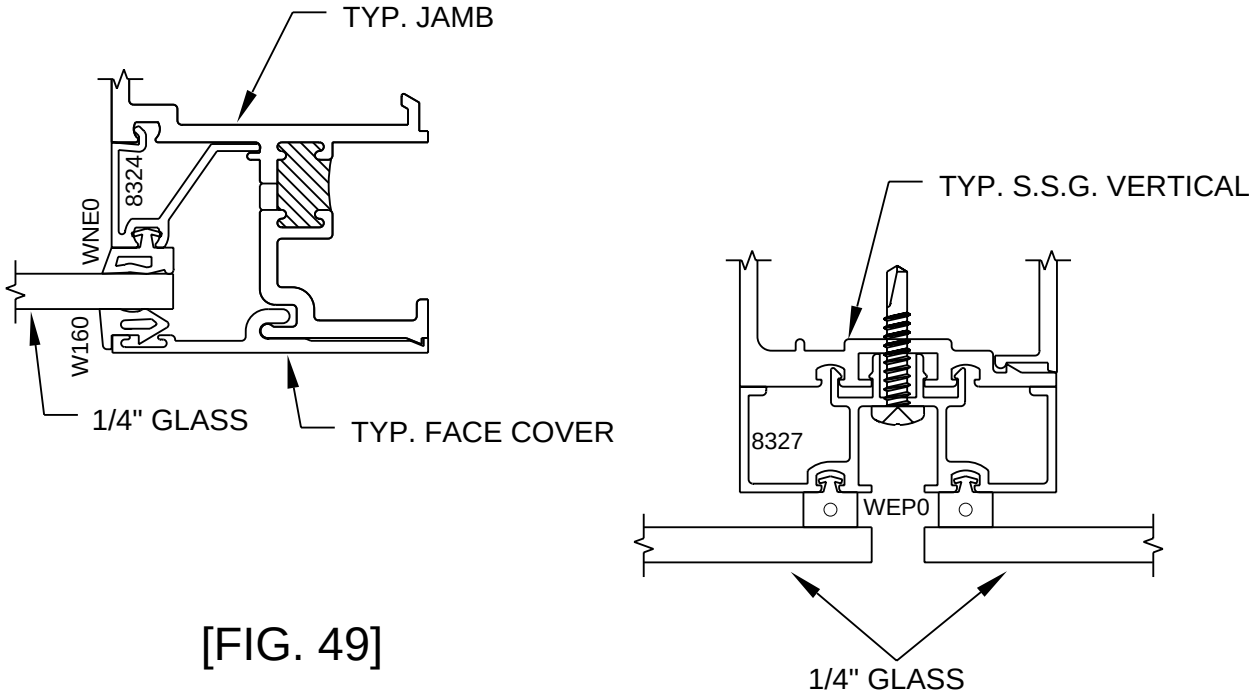
FOR OUTSIDE GLAZED AND STRUCTURAL GLAZED FRAMING SYSTEMS

STEP 1C) IDENTIFICATION OF GLASS POCKETS

1/4" GLAZING FOR OUTSIDE GLAZED AND STRUCTURAL SILICONE GLAZED FRAMING SYSTEM



[FIG. 48]



[FIG. 49]

SECTION IX - GLAZING (cont.)

INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

CUT LENGTH FOR ALL REMOVABLE GLASS STOPS = D.L.O. - 1/32"

STEP 2) GLASS SIZE FORMULAS

CAPTURED:

GLASS SIZE = [D.L.O. + 7/8"]

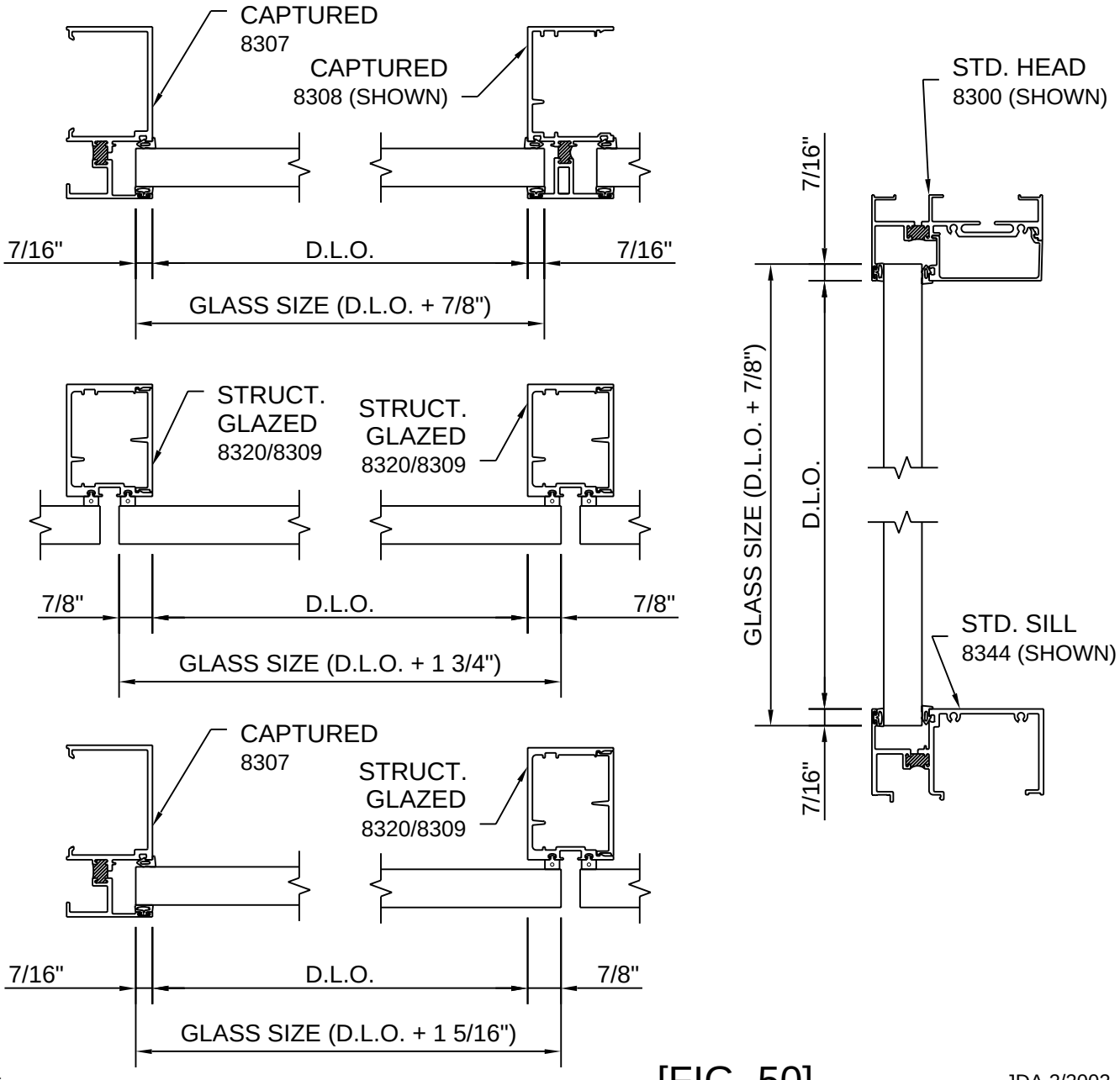
STRUCTURAL GLAZED:

(TWO STRUCTURAL GLAZED MULLIONS) GLASS SIZE = [D.L.O. + 1 3/4"]

(ONE STRUCTURAL GLAZED MULLION AND ONE CAPTURED MULLION) -

GLASS SIZE = [D.L.O. + 1 5/16"]

ALL VERTICAL GLASS SIZES = [D.L.O. + 7/8"]

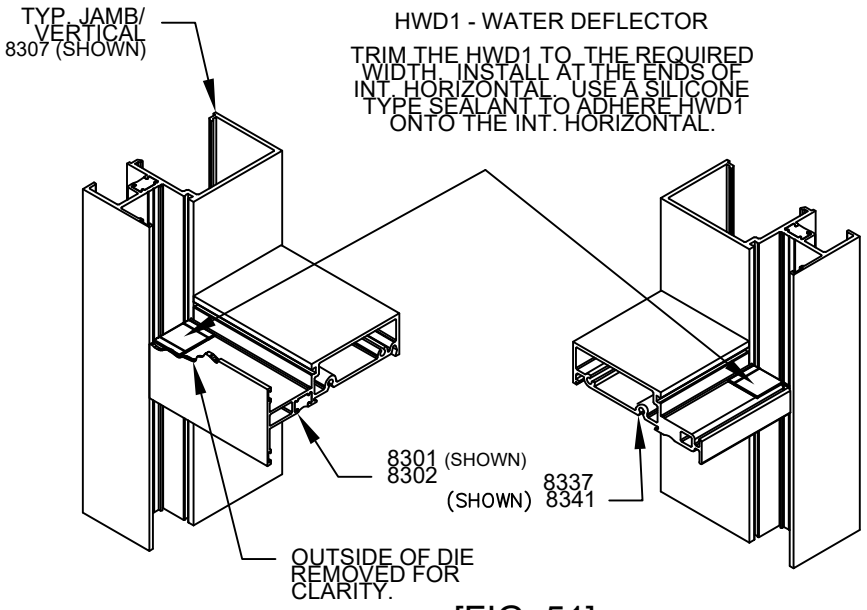


[FIG. 50]

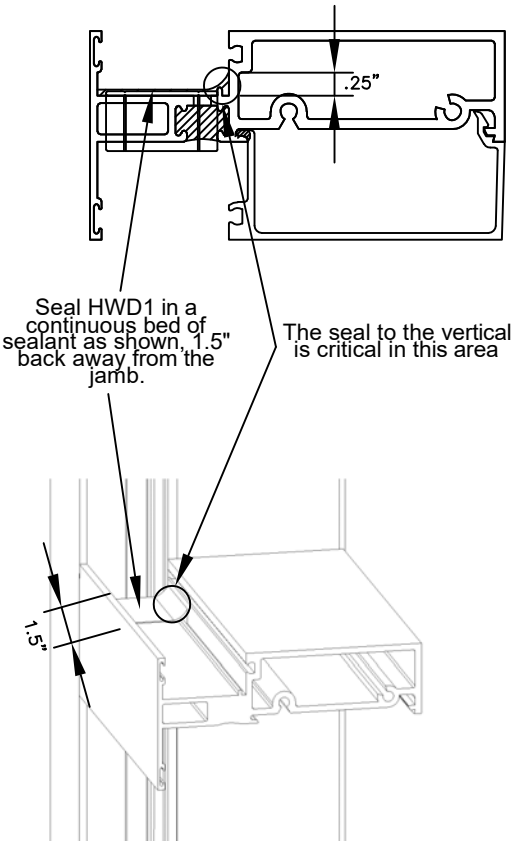
SECTION IX - GLAZING (cont.)

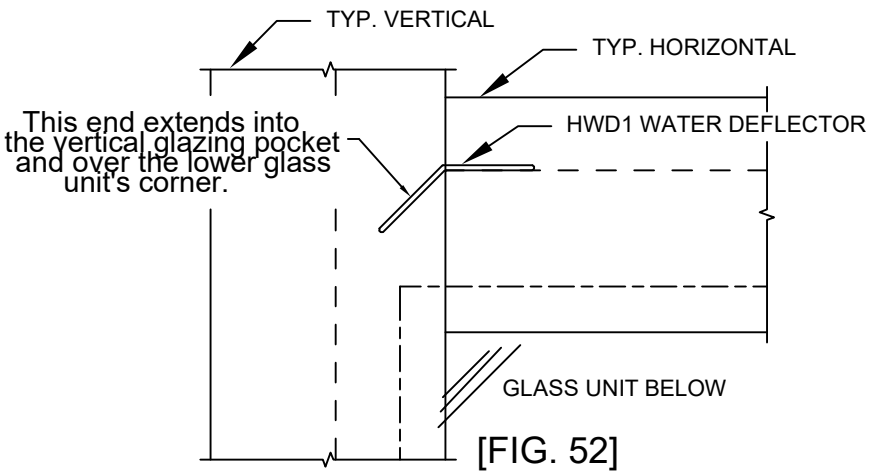
INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 3) INSTALLING THE WATER DEFLECTOR

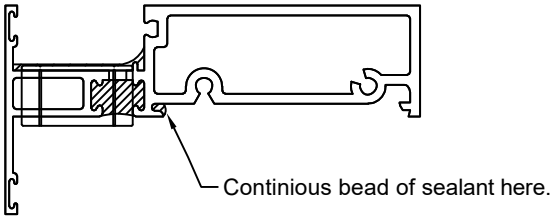


[FIG. 51]

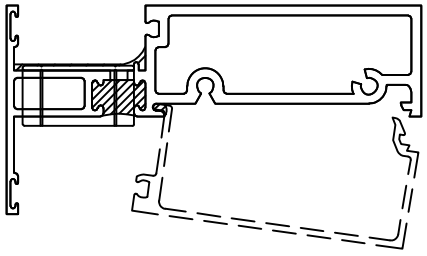




[FIG. 52]



Glass Stop - Ensure that the glass stop hook is clean and free of oil and dirt. Run a continuous bead of silicon at area shown above.



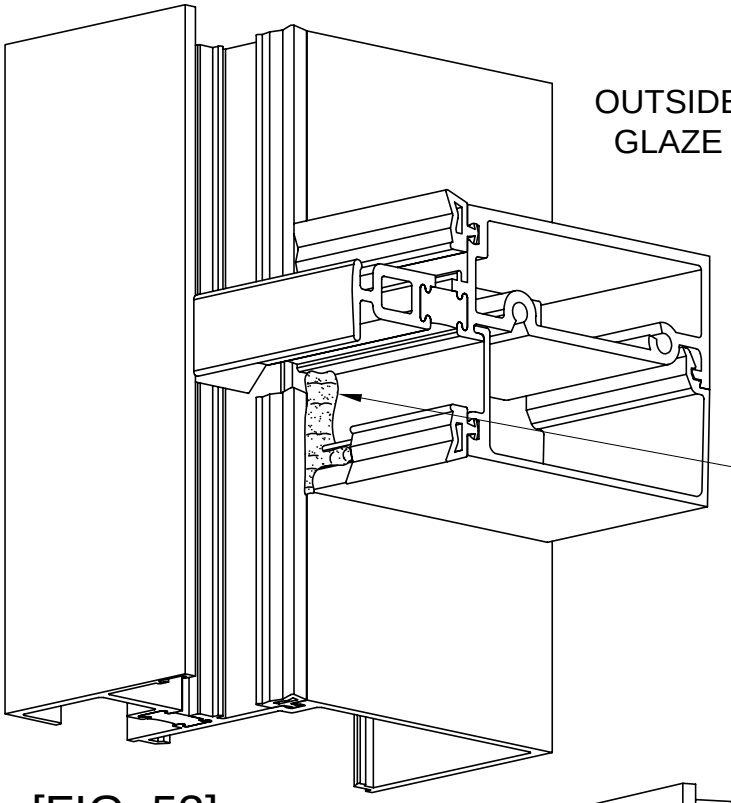
Before sealant cures, place stop as shown and rotate into final position as shown to the right. Strong hand pressure or a slight tap with a mallet will ensure the glass stop is fully engaged. This step is for both outside and inside glazed units.

Josue C.
2/13/2020

SECTION IX - GLAZING (cont.)

INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 4) APPLYING SEALANT AT GLAZING BEAD AND VERTICAL MULLION



NOTE: THIS STEP MUST BE DONE TO ENSURE A WATERTIGHT SEAL AT THE INTERIOR OF THE UNIT AROUND THE HORIZONTAL GLAZING BEAD.

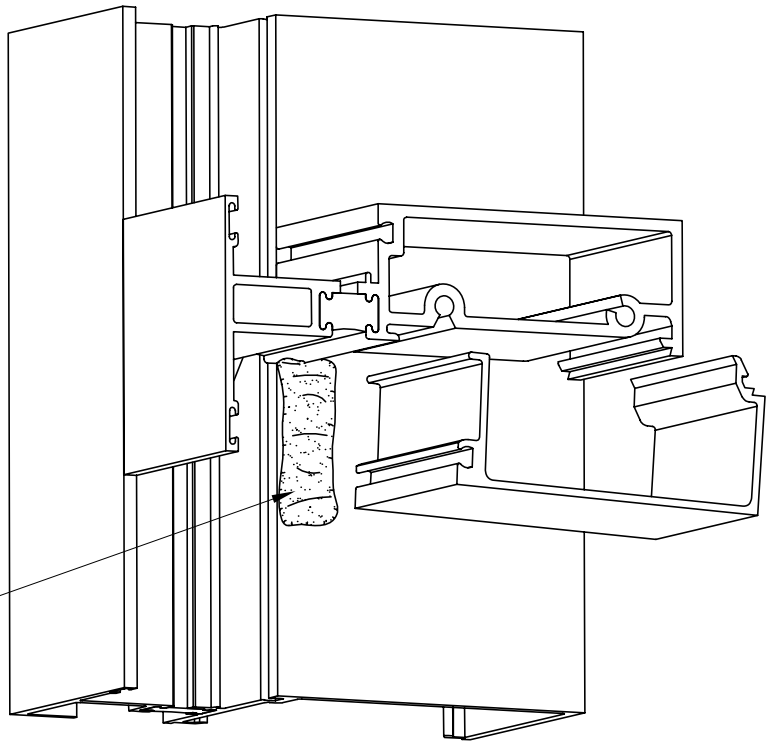
AFTER GLAZING BEAD IS INSTALLED, RUN A BEAD OF SEALANT DOWN THE SEAM OF THE BEAD AND 1" UP THE GASKET RACE. TOOL THE SEALANT ALONG THE SEAM SO A WATERTIGHT SEAL IS MADE. (FOR OUTSIDE GLAZED OR SSG THIS IS DONE PRIOR TO GLASS INSTALLATION)

[FIG. 53]

INSIDE
GLAZE

GLAZING NOT SHOWN
FOR CLARITY

AFTER GLASS IS INSTALLED, APPLY A HEAVY BEAD OF SEALANT TO THE FLAT SIDE OF THE VERTICAL WHERE THE UP TURNED LEG OF THE GLAZING BEAD WILL ALIGN WHEN INSTALLED AFTER BEING GLAZED. ROTATE AND SNAP THE GLAZING BEAD INTO PLACE.



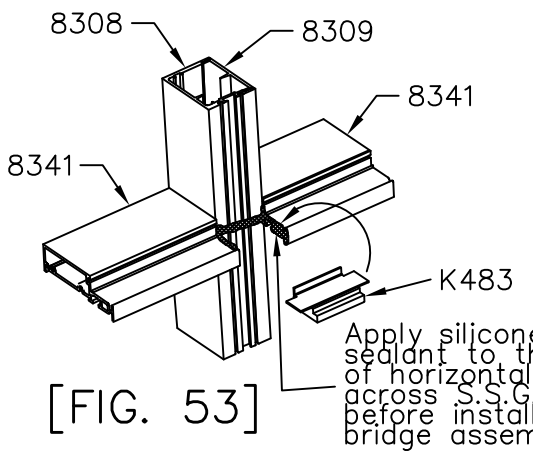
[FIG. 54]

SECTION IX – GLAZING (cont.)

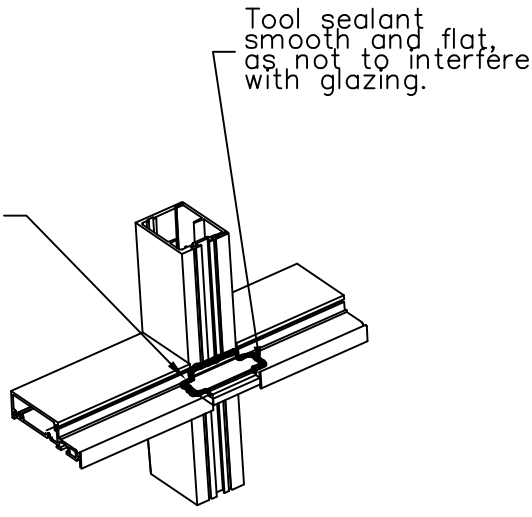
INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 4) INSTALLING THE S.S.G. MULLION HORIZONTAL BRIDGE ASSEMBLY

NOTE: USE THIS PROCEDURE WHERE THE STRUCTURAL GLAZED EXPANSION MULLION IS USED.



[FIG. 53]



[FIG. 54]

STEP 5) SEALING THE INTERIOR GASKET FOR OUTSIDE GLAZING

Before installation of the glass units, seal 1" of the interior gasket horizontally and vertically at all intersections. Pull the WNE0 out of the race at the intersection, seal with a silicone type sealant, and reinstall in the gasket race. After reinstalling the gasket, seal the ends of all gaskets. See Figure 65 on page 43.

MH
8/2017

SECTION IX - GLAZING (cont)

INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 6A) GLASS INSTALLATION (INSIDE GLAZED)

A) Make sure the setting blocks are placed at 1/4 points in each D.L.O. or as required on the architectural drawings. (See Figure 57)

- For the following steps, use Figures 58 and 59.

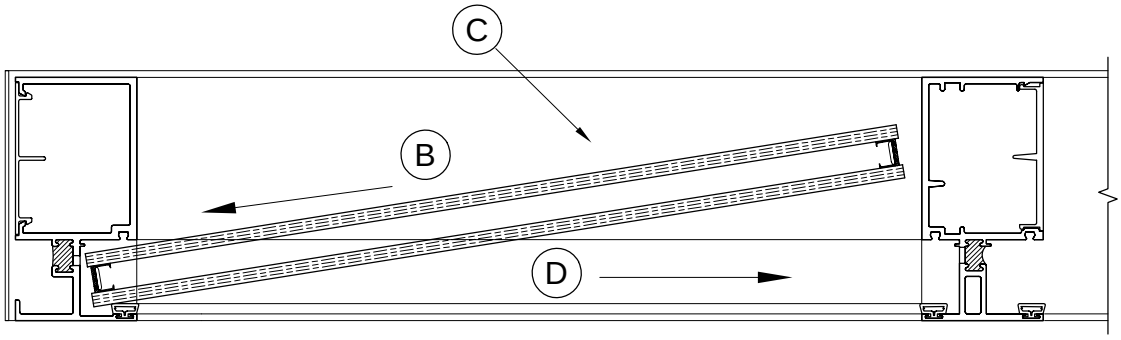
B) Position the glass on the interior of the framing without the removable stop installed. Shift the glass into the deep pocket to begin glass installation.

C) Swing the opposite edge of the glass around to align with the glazing pocket.

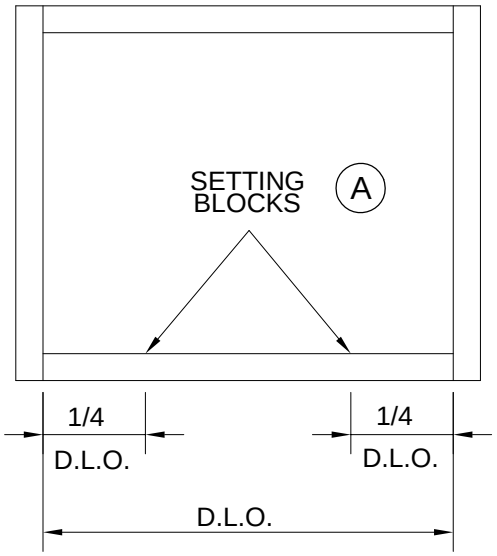
D) Slide the glass into the shallow pocket and lower onto the setting blocks. Shift the glass until there is equal glass bite on both edges of the D.L.O.

E) Snap-on the removable stop and install the glazing gasket. See Step 8 on page 45.

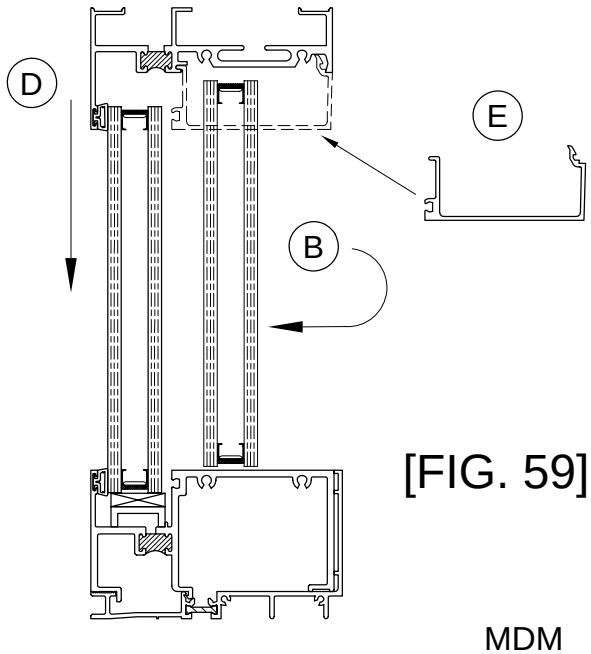
CUT LENGTH FOR ALL REMOVABLE GLASS STOPS = D.L.O. - 1/32"



[FIG. 58]



[FIG. 57]



[FIG. 59]

INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 6B) GLASS INSTALLATION (OUTSIDE GLAZED)

- For the following steps, use Figures 61 and 62.

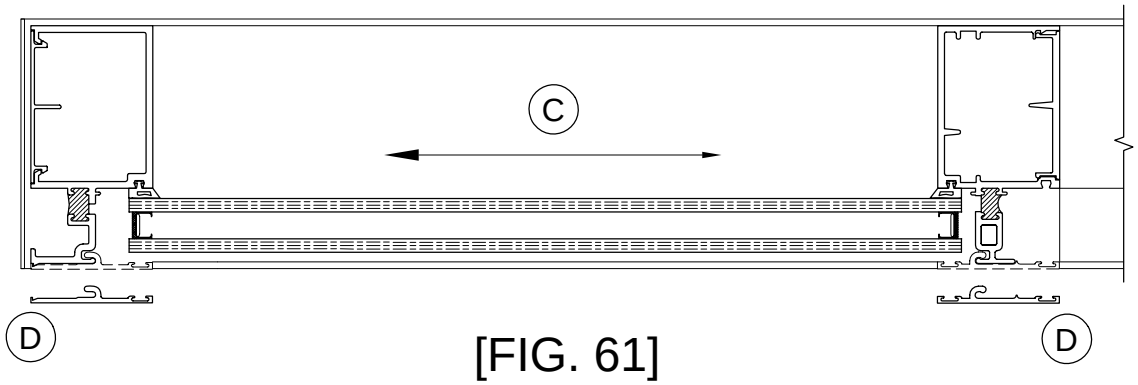
A) Make sure the setting blocks are placed at 1/4 points in each D.L.O. or as required on the architectural drawings. (See Figure 57 on Page 41)

B) Position the glass at the exterior of the framing with all the face covers removed. Lift the glass into the frame and onto the setting blocks.

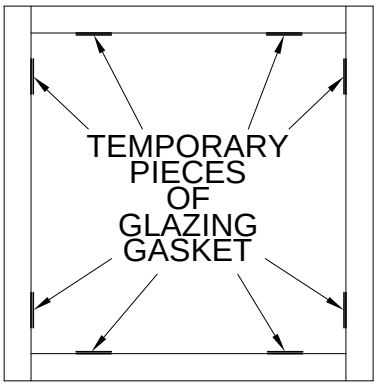
C) Shift the glass until there is equal glass bite on both edges of the D.L.O.

D) Install the vertical and horizontal face covers. Place temporary pieces of the glazing gasket along them, as shown in Figure 60 below. Install all glazing gaskets. See Step 8 on Page 45.

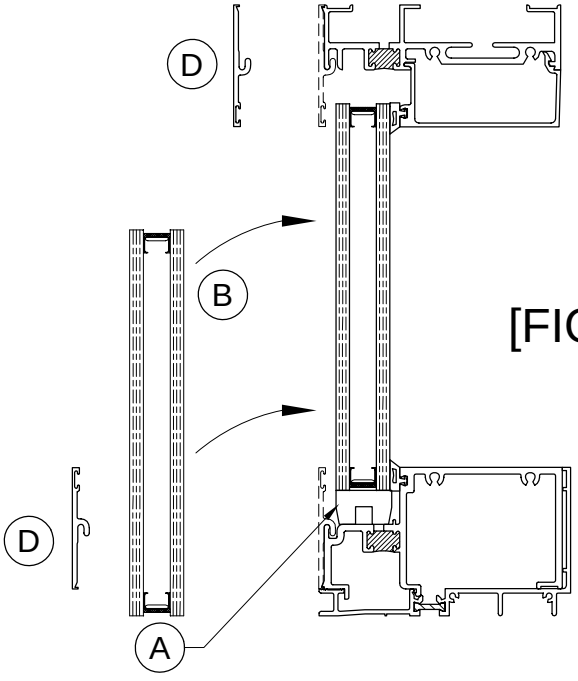
CUT LENGTH FOR ALL REMOVABLE GLASS STOPS = D.L.O. - 1/32"



[FIG. 61]



[FIG. 60]



[FIG. 62]

INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 6C) GLASS INSTALLATION (STRUCTURAL GLAZED)

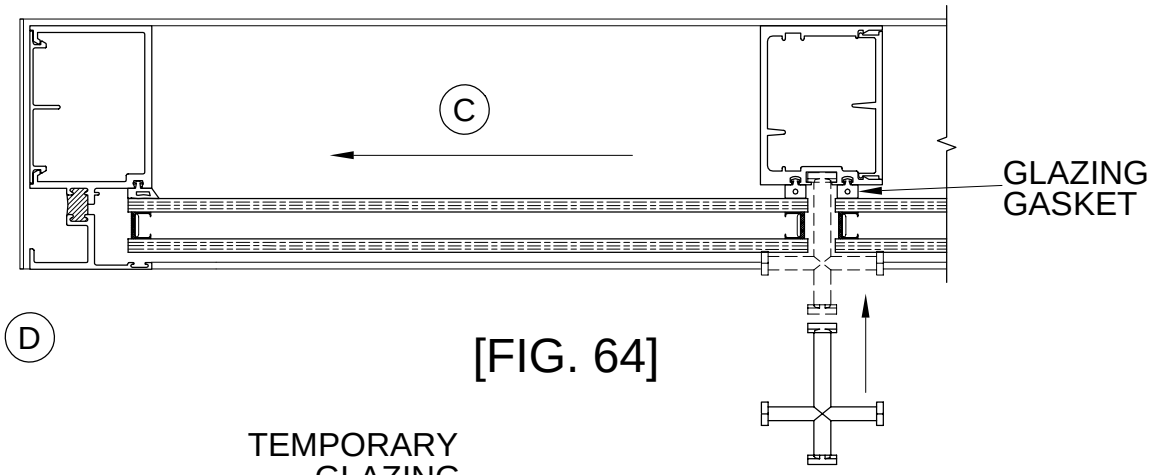
- For the following steps, use Figures 64 and 65.

A) Make sure the setting blocks are placed at 1/4 points in each D.L.O. or as required on the architectural drawings. (See Figure 57 on Page 41)

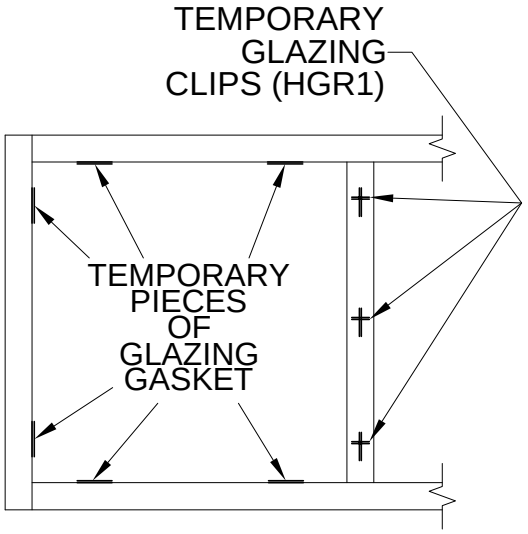
B) Position the glass at the exterior of the framing with the head and sill face covers removed. Lift the glass into the frame and onto the setting blocks.

C) Shift the glass into the pocket in the perimeter jamb until there is the correct glass bite on both edges of the D.L.O. (7/16" captured vertical or 7/8" SSG vertical)

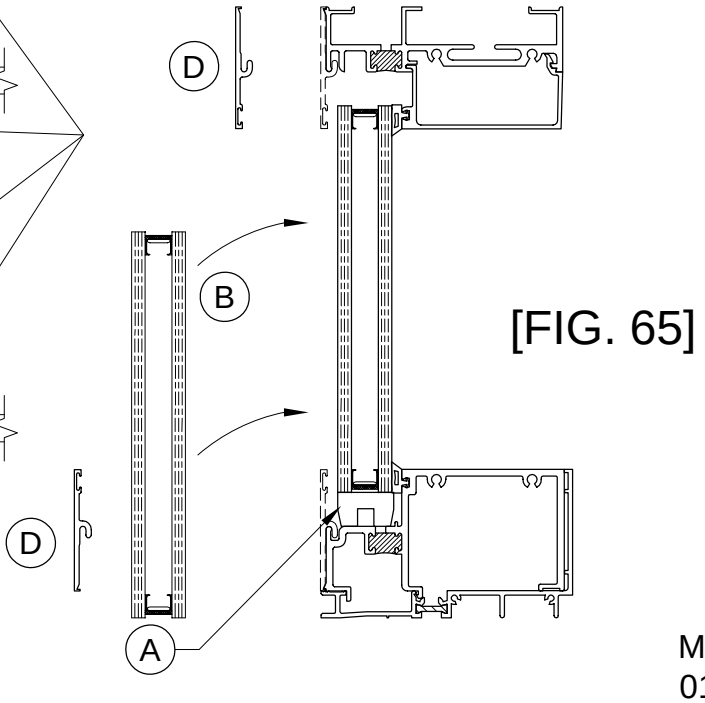
D) Install the appropriate covers. Place temporary pieces of the glazing gasket along the head, perimeter jamb, and sill. Place the temporary glazing clips in the structural mullion race and rotate to hold glass at the structural mullion. See Figure 64. Install all glazing gaskets. See Step 8 on Page 45. Install the next lite before filling the structural glazing gap. See Step 9 on Page 46.



[FIG. 64]



[FIG. 63]

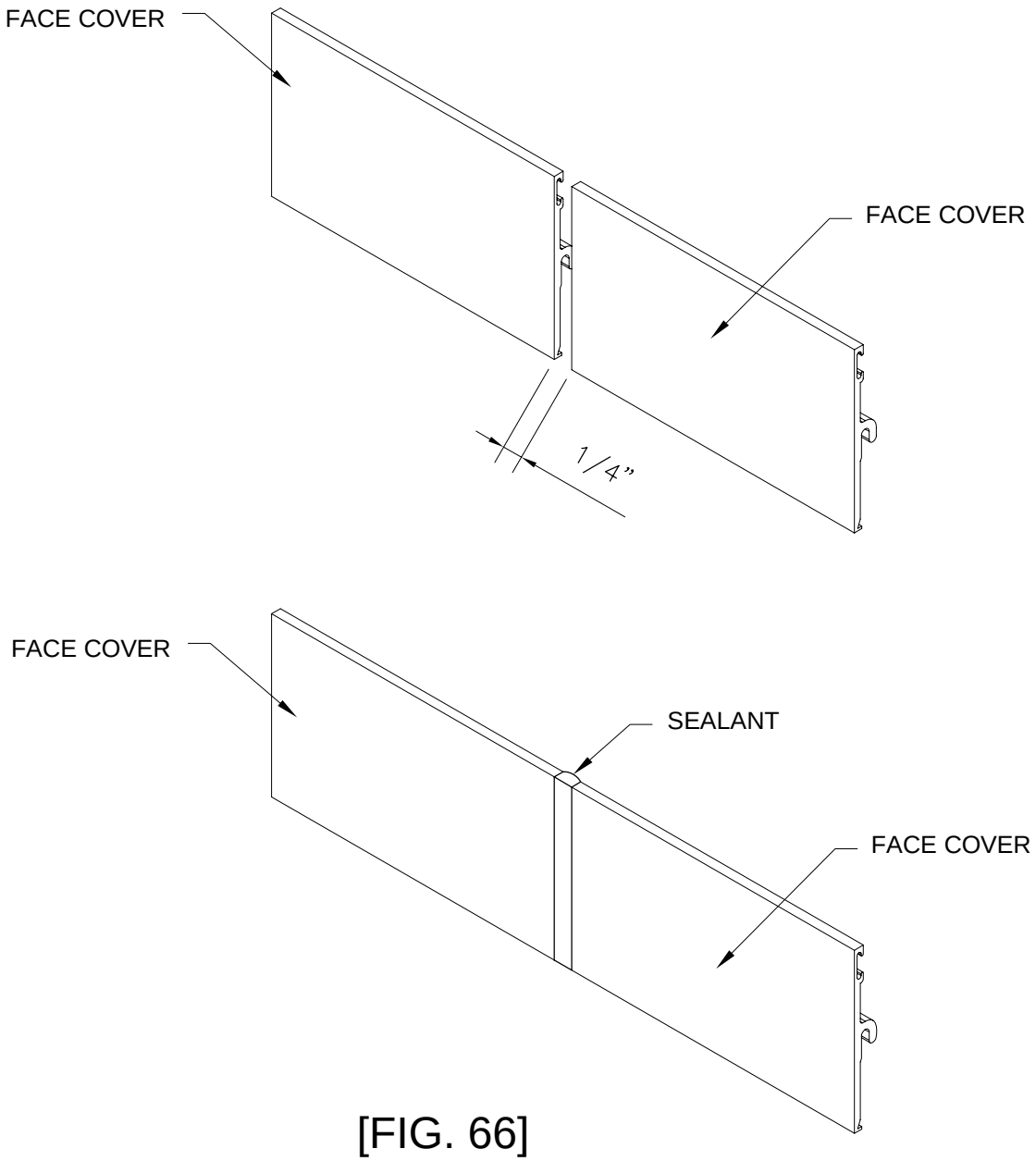


[FIG. 65]

SECTION IX - GLAZING (cont.)

STEP 7) FACE COVER SPLICING

Splicing of the head and sill face covers can be accomplished at any place along the horizontal span. Splicing of the intermediate horizontal face covers must be done at the center line of a vertical mullion. Ensure that the face cover end cuts are square, clean of burrs or sharp edges, and clean of all cutting oils or other contaminants. Space the face covers 1/4" apart at the required splice area. If necessary, use small diameter backer rod to support the splice joint sealant. Fill the splice joint gap with a silicone type sealant, and tool smooth to create a weather tight and cosmetic seal. See Figure 66.



[FIG. 66]

SECTION IX - GLAZING (cont.)

INCLUDES CAPTURED AND STRUCTURAL GLAZED MULLION SYSTEMS

STEP 8) INSTALLATION OF GLAZING GASKET

INSIDE GLAZED

Install W160 gasket at the vertical members. See note below. Install W160 gasket into the horizontal members so they fit tightly into the vertical gaskets. (D.L.O. + 2%)

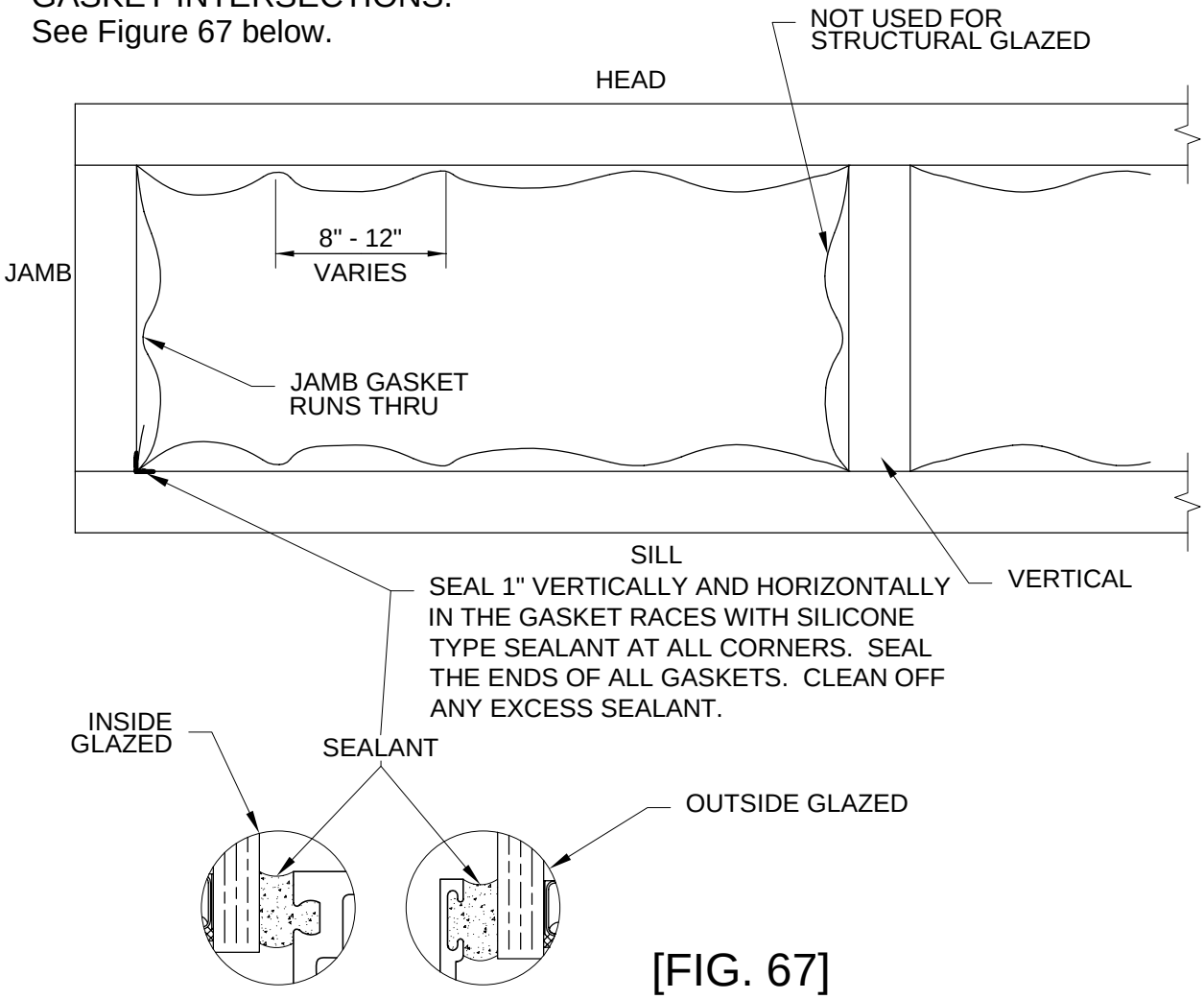
OUTSIDE GLAZED

Install W160 gasket at the vertical members. See note below. Install W160 gasket into the horizontal members so they fit tightly into the vertical gaskets. (D.L.O. + 2%)

STRUCTURAL GLAZED

Install W160 gasket at the vertical members. See note below. Install W160 gasket into the horizontal members so they run continuously from perimeter to perimeter across the structural glazed mullion.

NOTE: To install W160 gasket, start by pushing the gasket in place at the ends. Move to the middle, then to quarter points and work the "WAVES" toward the ends. DO NOT STRETCH THE GASKET OR IT WILL RETURN TO ITS ORIGINAL FORM, CREATING GAPS AT THE GASKET INTERSECTIONS.
See Figure 67 below.



[FIG. 67]

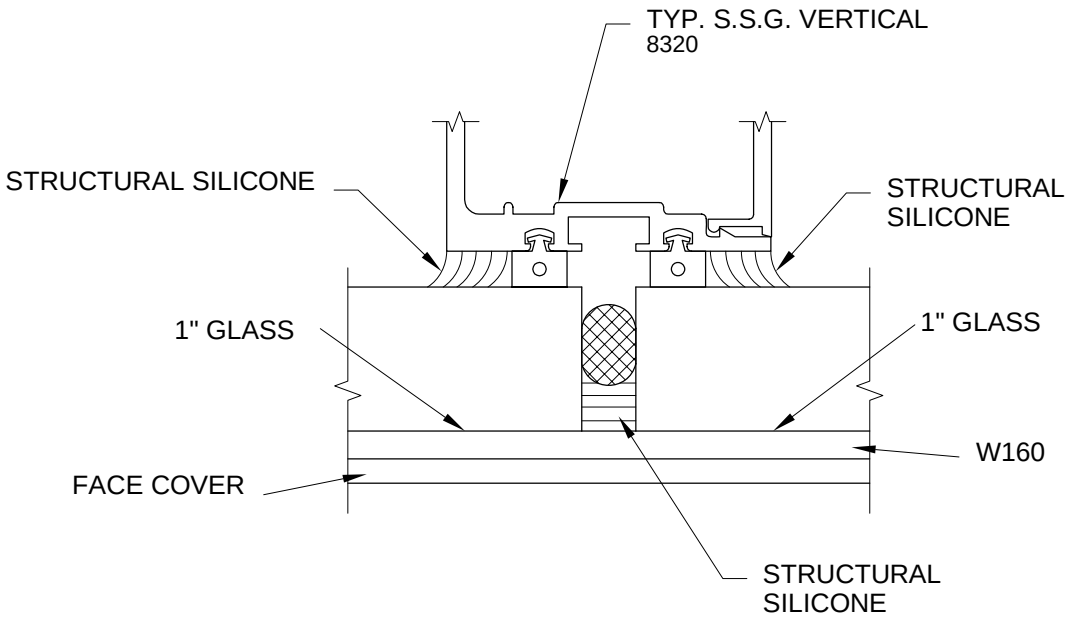
SECTION IX - GLAZING (cont.)

STRUCTURAL GLAZED MULLION SYSTEMS

STEP 9) FILLING THE STRUCTURAL GLAZING GAP

- THIS PROCEDURE APPLIES TO THE STANDARD STRUCTURAL GLAZED VERTICAL AND THE STRUCTURAL GLAZED EXPANSION MULLION. -

After the interior sealant has cured, typically an overnight setup is required. Mask off the glass edges with masking tape to minimize cleanup and provide a professional appearance. Then remove the temporary glazing clips and proceed with filling the void between the glass units at the exterior with backer rod and structural silicone sealant for a weather tight seal. At the horizontal members, fill the cavity with sealant to fill the void out to the gasket. See Figure 68. Tool sealant using a putty knife across the glass edges. Remove excess silicone from the glass surface by removing the masking tape before a skin begins to form. Any excess sealant on the glass units can be removed with a razor blade.



[FIG. 68]

NOTE:

THE SUCCESS OF STRUCTURAL SILICONE GLAZED PROJECTS HAS BEEN THE RESULT OF COMPATIBILITY TESTS PERFORMED ON ACTUAL MATERIALS SUPPLIED TO THE PROJECT. THE INSTALLER MUST MAKE SURE THAT SUCCESSFUL COMPATIBILITY TESTS ARE PERFORMED IN ACCORDANCE WITH THE SILICONE MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES.

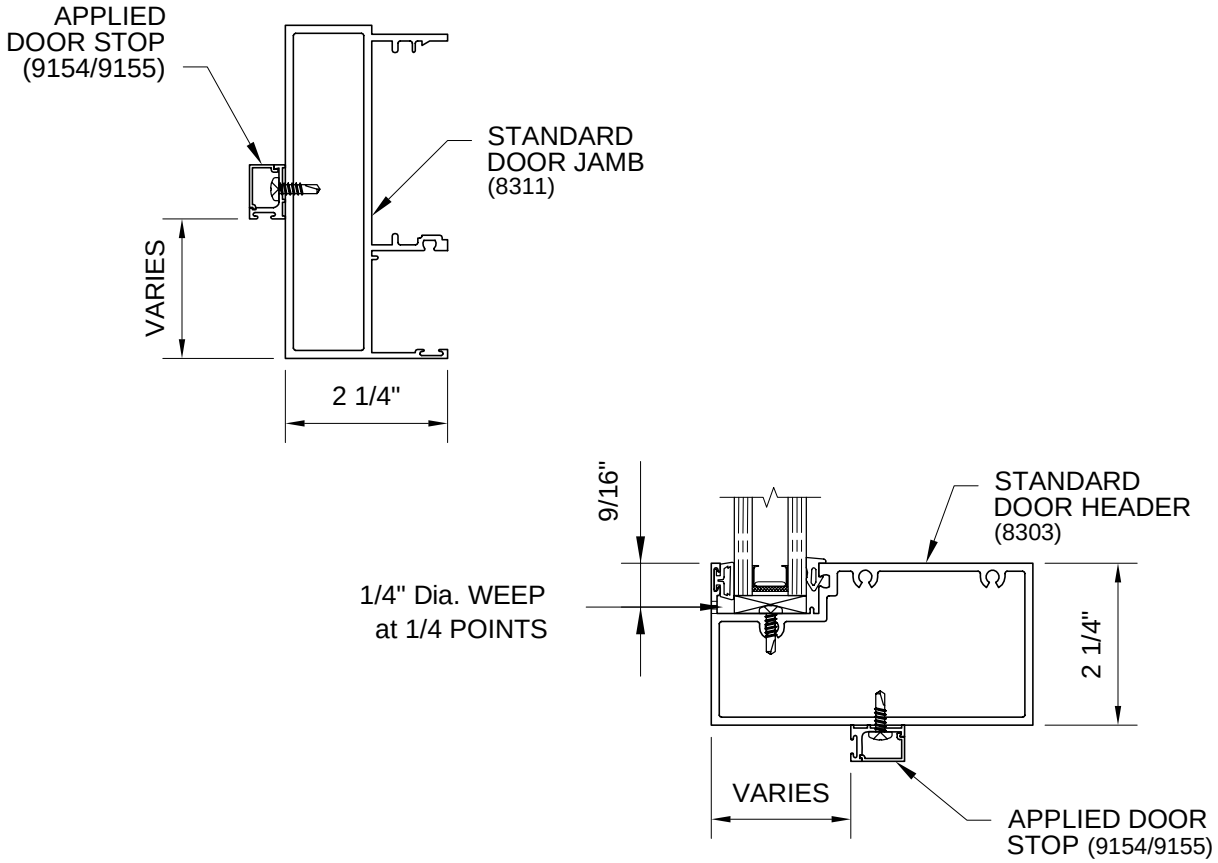
STEP 1) DOOR STOP CUT LENGTH AND INSTALLATION

DOOR STOP

Install the applied door stop into position on the door frame by spacing it off the exterior face of the door frame at the appropriate dimension, depending on door thickness. Using STT6 fasteners, 3" from each end and 12" O.C., fasten the door stop to the door jamb and door header. After determining that the door stop is in the correct position, apply the door stop cover by snapping it into the door stop raceway. See Figure 69.

HORIZONTAL CUT LENGTH = DOOR OPENING WIDTH

VERTICAL CUT LENGTH =
[DOOR OPENING HEIGHT - HORIZONTAL DOOR STOP HEIGHT]



[FIG. 69]

STEP 2) TRANSOM GLASS STOP CUT LENGTH AND INSTALLATION

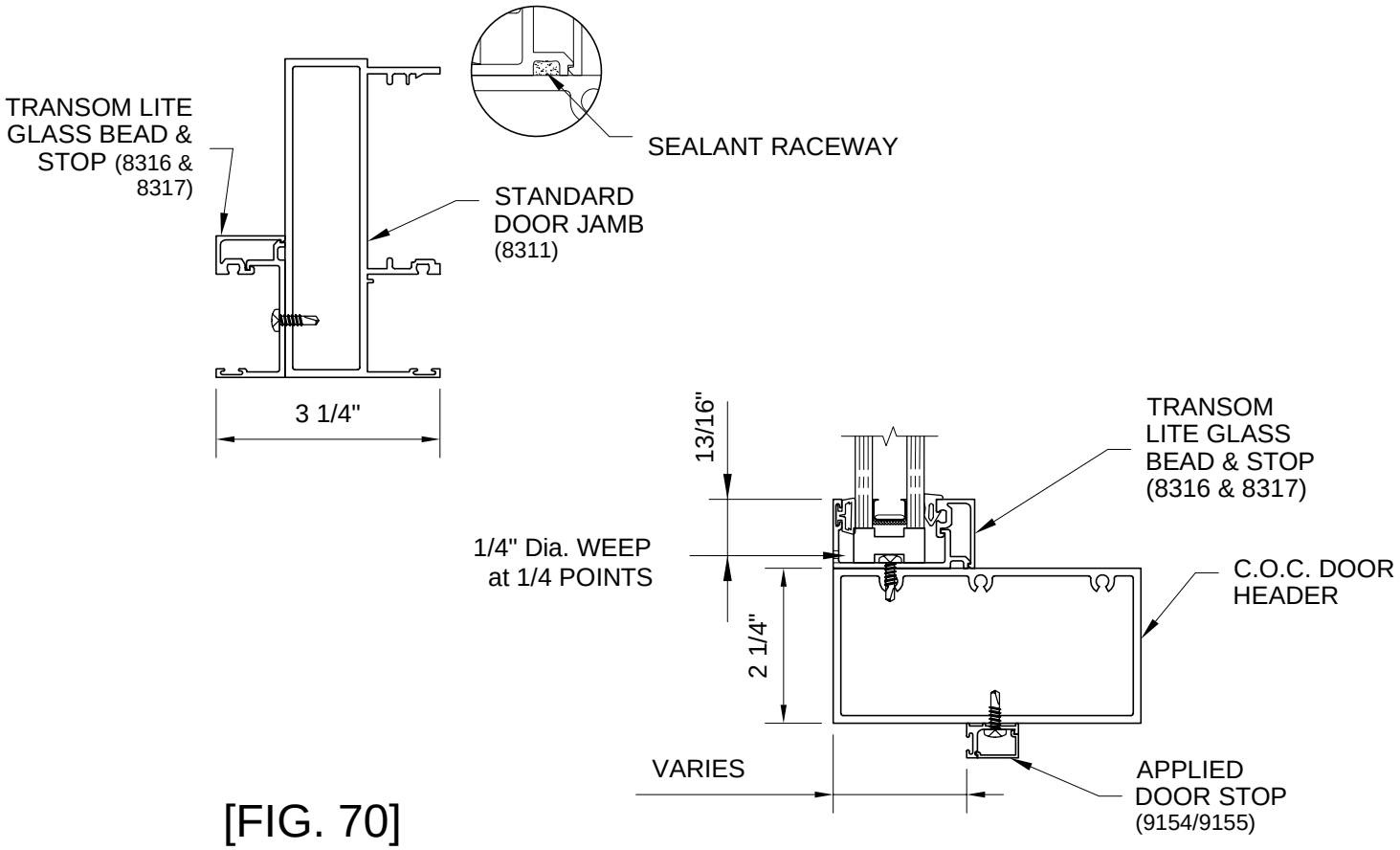
TRANSOM LITE GLASS STOP

Install the transom lite glass stop with the long glass stop leg flush to the exterior of the door framing at the transom area. Use a silicone type sealant the full perimeter of the transom lite glass stop in the sealant raceway and at the ends to provide a water tight seal. Make sure that all horizontal members run through. This will ensure that a water dam is established. Using STT6 fasteners, 3" from each end and 12" on center, fasten the transom glass stop to the appropriate door frame member. Drill 1/4" diameter weep holes 6" from each end in the face of the transom lite glass stop or in the face of the transom lite door header, whichever is applicable. In concealed overhead closure applications, install a transom lite glass stop horizontally on the door header. See Figure 70.

HORIZONTAL CUT LENGTH = TRANSOM FRAME OPENING WIDTH

VERTICAL CUT LENGTH = TRANSOM FRAME OPENING HEIGHT (FOR STANDARD HEADER)

VERTICAL CUT LENGTH = TRANSOM FRAME OPENING HEIGHT - 1" (FOR C.O.C. HEADER)



[FIG. 70]