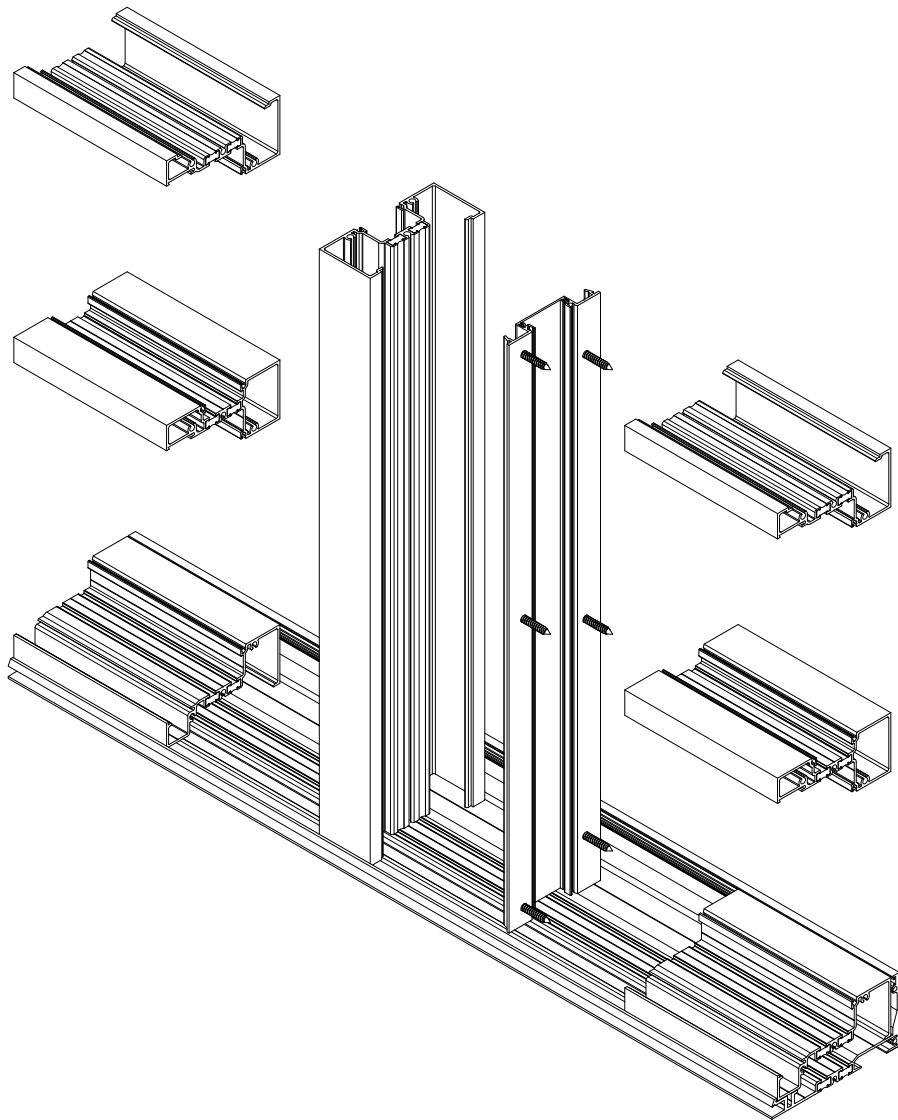


INSTALLATION

SCREW SPLINE ASSEMBLY



Laws and building and safety codes governing the design and use of Kawneer products, such as glazed entrance, window, and curtain wall products, vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

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INSTRUCTIONS

These instructions show the general installation sequence and procedure for typical installation.
They supplement the shop details and notations on installation and glazing.

SECTION	PAGE	
I	3, 4	GENERAL NOTES
II	5-7	TAKEOFF GUIDE
III	8-10	PARTS IDENTIFICATION
IV	11, 12	BASIC FRAMING DETAILS
V	13-18	FABRICATION
VI	19-27	INSTALLATION
VII	28-30	GLAZING
VIII	31-34	MISCELLANEOUS DETAILS

Consult the KawneerDirect website for the latest updates to these instructions before beginning work on your project.

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HANDLING, STORING, AND PROTECTION OF ALUMINUM

The material must be protected against damage. The following precautions are recommended to assure early acceptance of your products and workmanship.

- A. HANDLE CAREFULLY** - Don't drop from the truck. Stack with adequate separation so material will not rub together. Store off the ground. Protect against elements and other construction trades. Wear hand protection to prevent injury due to sharp edges of cut extrusions.
- B. KEEP MATERIAL AWAY FROM WATER, MUD AND SPRAY** - Prevent cement, plaster, or other materials from damaging the finish.
- C. PROTECT THE MATERIALS AFTER ERECTION** - Protect by wrapping with Kraft paper or by erecting Visqueen or canvas splatter screen. Cement, plaster, terrazzo, other alkaline solutions and acid based materials used to clean masonry are very harmful to the finish and should be removed with water and mild soap IMMEDIATELY.

GENERAL INSTALLATION NOTES

The following practices are recommended for all installations:

- A. CHECK 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 most common conditions.
- B.** All materials are to be INSTALLED PLUMB, LEVEL, AND TRUE.
- C.** All work should start from bench marks and/or column lines as established by the ARCHITECTURAL DRAWINGS and the GENERAL CONTRACTOR. Check mullion spacing from both ends of masonry opening to prevent dimensional build-up of day light opening.
- D.** Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the GENERAL CONTRACTOR IN WRITING and resolve differences before proceeding with your work.
- E.** Isolate all aluminum to be placed directly in contact with uncured masonry or incompatible materials with a heavy coat of zinc chromate or bituminous paint.
- F.** Check all materials on arrival for quantity and be sure you have everything required to begin installation.
- G.** Sealants must be compatible with all materials with which they have contact, including other sealant surfaces. Consult with sealant manufacturer for recommendations relative to joint size, shelf life, compatibility, priming, tooling, adhesion, etc.
- H. PERIMETER FASTENING** - "Fastening" means any method of securing one part to another or to adjacent materials. These instructions specify only those fasteners used within the system. Due to varying perimeter conditions and job performance requirements, anchor fasteners are not specified in these instructions. Refer to the Shop Drawings or consult a structural engineer for fastener type, sizing, and location.
- I. CHECK OPENINGS** - Make certain that the opening which will receive your materials is in accordance with the contract documents. If not, notify the General Contractor in writing and resolve differences before proceeding with your work.
- J. BUILDING CODES** - Glass and glazing codes governing the design and use of products vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility for these design considerations. It is the responsibility of the owner, specifier, architect, general contractor and the installer to make these selections in strict conformance with all applicable codes.
- K. EXPANSION JOINTS** - Expansion joints and perimeter seals shown in these instructions and in the shop drawings are shown at normal size. Actual dimensions may vary due to perimeter conditions and /or difference in metal temperature between the time of fabrication and time of installation. For example, a 12 foot unrestrained length of aluminum extrusion can expand or contract 3/32" over a 50° F temperature change. Any movement potential should be accounted for at the time of installation.

- L. FIELD TESTING** - It is recommended that a Water Hose Test be conducted once a sufficient portion of the framing is installed, glazed and caulked to ensure proper installation. The Water Hose Test shall be conducted in accordance with AAMA 501.2. In addition, larger projects should have periodic Water Hose Tests as additional precautionary measures.
- M. GASKET INVENTORY ROTATION** - These high quality rubber extrusions are coated with silicone lubricant. Silicone will dry over time leaving a white "chalky" residue. Please rotate your stock "FIRST IN - FIRST OUT". If the rubber becomes dry, you may use water ONE TIME to reconstitute the silicone, after that, use a soap water solution.

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	CENTER IG / CENTER OG	CENTER OG STOPS UP
SCREW SPLINE FRAMING		
Mullion		452TCG001
Pocket Filler		451TCG002
Jamb		452TCG001
Head	452TCG003	452TCG001
Horizontal	452TCG011	452TCG021
Sill		451UTCG014
Spline Screw		028856
Glass Stop		451CG004
Sill Flashing		451UTVG037
Optional Sill Flashing Gasket		127043
Sill To Sill Flashing Screw		128407
End Dam		451TVG316
End Dam Screw		028808
Drill Fixture		451VG201
ADJUSTABLE / BRAKE METAL CORNERS		
Pivot Mullion		451TCG071
Pivot Mullion Half w/ Weathering		451TCG541
Mullion Half - Brake Metal Corners		452TCG010
90° SNAP CORNERS		
No-Pocket Corner Half		450017
One-Pocket Corner Half		451TCG015
One-Pocket Corner Half (OPPOSITE OF 451CG015)		451TCG035
Two-Pocket Corner Half		451TCG016
Optional Ball - Point Spline Screw		128242
Optional Ball - Point Driver Bit		063040
135° SNAP CORNERS		
135° Mullion Center (Thermal)		451TCG034
135° Pocket Insert (Thermal)		451TCG028
135° Mullion Center (Ultra-Thermal)		452UTCG034
135° Pocket Insert (Ultra-Thermal)		452UTCG028
MISCELLANEOUS		
Flat Filler		452TCG026
Caulking Backer		452145
Snap-in Flat Pocket Filler		451087
GLASSvent™ Pocket Filler		469407
Vent Adaptor		452132
Vent Adaptor for Equal Leg Frames		060888
1/4" Infill Adaptor		451VG029
5/8" Infill Adaptor		451VG030
Mullion End Cap (2" and 2-1/2" Mullion)		451VG384
Mullion End Cap (4-1/2" Wide Mullions)		451VG385
Mullion End Cap (135° Corners)		451VG386
Mullion End Cap (90° Corners)		451VG387
Sill Flashing End Cap (For use at door jambs)		451165

	CENTER IG / CENTER OG	CENTER OG STOPS UP
PRE-GLAZED OPTION (Srew Spline Only)		
Pre-Glazed First Bay Jamb - Standard Weight (451UT)	451UTCG081	
Pre-Glazed Shallow Pocket Mullion Half - Standard Weight (451UT) (451UTCG081 with weathering)	451UTCG581	
Pre-Glazed Deep Pocket Mullion - Standard Weight (451UT)	451UTCG082	
Pre-Glazed Last Bay Jamb - Standard Weight (451UT)	451UTCG083	
Pre-Glazed Last Bay Jamb - Heavy Weight (451UT)	451UTCG083A	
Pre-Glazed Last Bay Filler - Standard Weight (451UT) (451UTCG084 with weathering)	451UTCG584	
Setting Block 5/8" x 1-13/32" x 1-13/32"	127461	
Setting Block 5/8" x 1-13/32" x 1-13/32" (Silicone)	127461-SI	
Setting Block 3/16" x 1-13/32" x 1-13/32"	N/A	127462

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	CENTER IG / CENTER OG	CENTER OG STOPS UP
OPTIONAL MULLIONS & STEEL REINFORCING		
Medium Weight Mullion		452TCG012
Heavy Weight Mullion		452TCG013
2-1/4" Wide Mullion		452TCG112
Steel Reinforcing (2-1/4" Wide Mullion)		450110
Steel Reinforcing (Expansion Mullion)		400110
Expansion Mullion - Male Half w/ Weathering		452TCG540
Expansion Mullion - Female Half		452TCG010

**CENTER SET
INSIDE GLAZED OR OUTSIDE GLAZED**

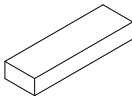







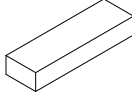

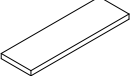
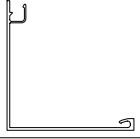




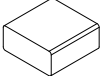

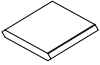



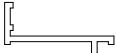

COMPENSATING RECEPTORS		
1-Pc. Compensating Receptor w/ Weathering		451TVG571
2-Pc. Compensating Receptor w/ Weathering		451TVG570
Standard Compensating Receptor Face w/ Weathering		451VG572
HW Compensating Receptor Face w/ Weathering		451VG573
Receptor End Dam		601CG317
Compensating Receptor Reinforcing Clip		451VG374

OPTIONAL HORIZONTALS		
4-1/2" x 4-1/2" Horizontal		451TCG035 & 451TCG115
4-1/2" x 4-1/2" Shear Block Pkg		451CG617

GLAZING MATERIALS		
Water Deflector		451105
Sill Setting Block		027073
Horizontal Setting Block		027081
Side Block		480520
Standard Push-On Gasket		027074
Light Push-On Gasket		027076
Heavy Push-On Gasket		027077


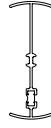

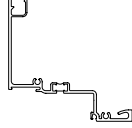
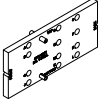
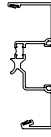
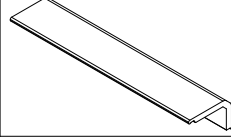


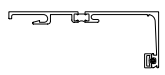




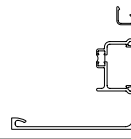
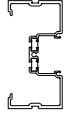
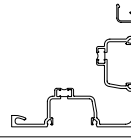
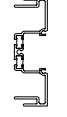
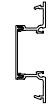

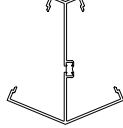

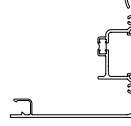
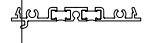
SPLICE SLEEVES		
Splice Sleeve (Silicone Sheet)		127178

ANCHORS		
Flat Filler / Shim Support (3" long)		452TCG126
451UT Tall Sill Filler Clip		451UTCG365
451 Tall Sill Reglet Clip		451CG366

PART NO.	DESCRIPTION	ILLUSTRATION	PART NO.	DESCRIPTION	ILLUSTRATION
027073	SILL SETTING BLOCK		063040	BALL-POINT DRIVER BIT FOR 128242	
027074	STANDARD PUSH-ON GASKET		127043	OPTIONAL SILL FLASHING GASKET	
027076	LIGHT PUSH-ON GASKET		127178	SPLICE SLEEVE (FOR 451UTVG037 FLASHING)	
027077	HEAVY PUSH-ON GASKET		128242	OPTIONAL BALL-POINT SPLINE SCREW #12 x 1" SOCKET HEAD	
027080	HORIZONTAL SETTING BLOCK		400110	OPTIONAL STEEL REINFORCEMENT FOR CENTER EXPANSION MULLION	
027081	HORIZONTAL SETTING BLOCK		450017	90° NO-POCKET CORNER HALF	
028808	END DAM SCREW #8 x 1/2" PHTF		450110	STEEL REINFORCING (450/451 CENTER)	
028856	SPLINE SCREW #12 x 1-1/8" PHTF TYPE "AB"		451087	SNAP-IN FLAT POCKET FILLER	
Use optional 128242 spline screw and 063040 driver bit with 451TCG016 two pocket corner.					
127461	SETTING BLOCK 5/8" x 1-13/32" x 1-13/32"		451105	WATER DEFLECTOR	
127461-SI (Silicone)	SETTING BLOCK 5/8" x 1-13/32" x 1-13/32"				
127462	SETTING BLOCK 3/16" x 1-13/32" x 1-13/32"		451165	SILL FLASHING END CAP (For use at door jambs)	
127462-SI (Silicone)	SETTING BLOCK 3/16" x 1-13/32" x 1-13/32"				
128407	#10 X 7/16" Type 1 CRPHTFS-B SILL TO SILL FLASHING SCREW		451CG004	GLASS STOP	
060888	VENT ADAPTER FOR EQUAL LEG FRAMES		451CG366	451 TALL SILL REGLET CLIP	




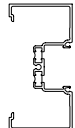



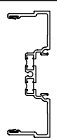


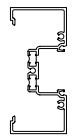
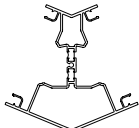
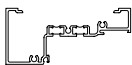

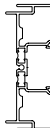
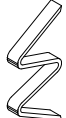
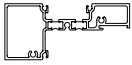
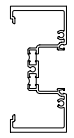
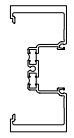
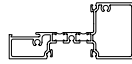
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PART NO.	DESCRIPTION	ILLUSTRATION	PART NO.	DESCRIPTION	ILLUSTRATION
451VG029	1/4" INFILL ADAPTER		451TCG071	PIVOT MULLION	
451VG030	5/8" INFILL ADAPTER		451TCG115	4-1/2" HORIZONTAL HALF	
451VG201	DRILL FIXTURE (SCREW SPLINE / 451/451T)		451TCG541	PIVOT MULLION HALF W/ WEATHERING	
451VG374	COMPENSATING RECEPTOR REINFORCING CLIP		451TVG316	END DAM (FOR 451UTVG037)	
451VG572	STANDARD COMPENSATING RECEPTOR FACE W/ WEATHERING		451TVG570	2-PC. COMPENSATING RECEPTOR W/ WEATHERING	
451VG573	HW COMPENSATING RECEPTOR FACE W/ WEATHERING		451TVG571	1-PC. COMPENSATING RECEPTOR W/ WEATHERING	
451TCG002	POCKET FILLER		451UTCG014	SILL	
451TCG015	ONE-POCKET CORNER HALF		451UTCG080	PRE-GLAZED FIRST BAY JAMB (STANDARD WEIGHT)	
451TCG016	TWO-POCKET CORNER HALF		451UTCG082	PRE-GLAZED DEEP POCKET MULLION HALF (STANDARD WEIGHT)	
Use optional 128242 spline screw and 063040 driver bit with 451TCG016 two pocket corner.					
451TCG028	DEEP POCKET FILLER		451UTCG083	PRE-GLAZED LAST BAY JAMB (STANDARD WEIGHT)	
451TCG034	135° CORNER MULLION		451UTCG083A	PRE-GLAZED LAST BAY JAMB (HEAVY WEIGHT)	
451TCG035	ONE-POCKET CORNER HALF		451UTCG365	451UT TALL SILL FILLER CLIP	

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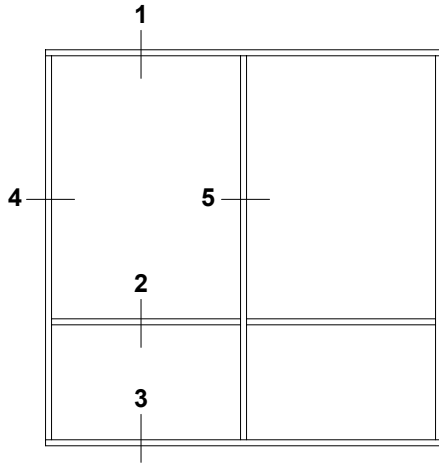
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PART NO.	DESCRIPTION	ILLUSTRATION	PART NO.	DESCRIPTION	ILLUSTRATION
451UTCG581	PRE-GLAZED SHALLOW POCKET MULLION HALF WITH WEATHERING (STANDARD WEIGHT)		452TCG026	FLAT FILLER	
451UTCG584	PRE-GLAZED LAST BAY FILLER WITH WEATHERING (STANDARD WEIGHT)		452TCG112	2 1/4" WIDE MULLION	
451UTVG037	SILL FLASHING		452TCG126	FLAT FILLER / SHIM SUPPORT (3" LONG)	
452132	VENT ADAPTER		452TCG540	EXPANSION MULLION - MALE HALF W/ WEATHERING	
452145	CAULKING BACKER		452UTCG028	135° SNAP CORNER POCKET INSERT	
452TCG001	MULLION / JAMB / HEAD		452UTCG034	135° SNAP CORNER MULLION CENTER	
452TCG003	HEAD		469407	GLASSvent® POCKET FILLER	
452TCG010	EXPANSION MULLION - FEMALE HALF AND MULLION HALF FOR BRAKE METAL CORNER		480520	SIDE BLOCK	
452TCG011	HORIZONTAL				
452TCG012	MEDIUM WEIGHT MULLION				
452TCG013	HEAVY WEIGHT MULLION				
452TCG021	HORIZONTAL				

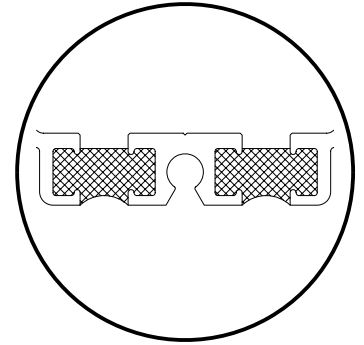
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The Screw Spline System is a fabrication and erection method that permits the pre-assembly of single units in the shop or at the job site. These units are then erected by mating the male mullion half of one unit with the female half of the unit already installed.



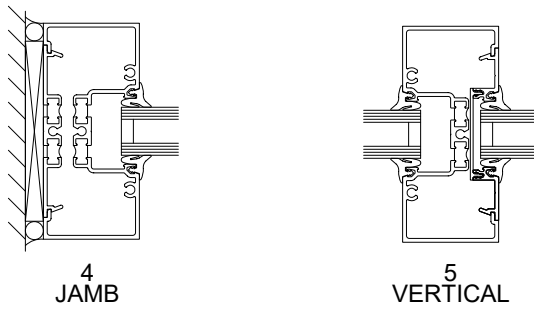
NOTES:
If opening is over 24' wide, a splice joint is required every 12'. (See splice joint procedure on section VII)



**TRIFAB[™] 451UT FRAMING
 THERMALLY BROKEN MEMBERS**

ELEVATION IS NUMBER KEYED TO DETAILS

OUTSIDE GLAZED



4 JAMB

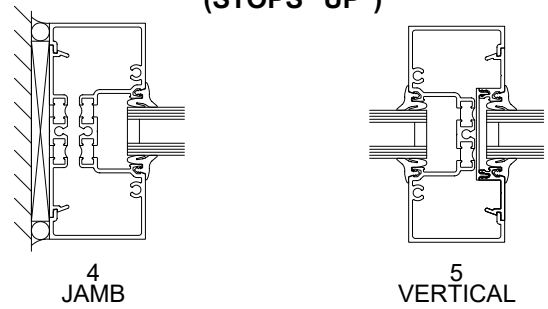
5 VERTICAL

1 HEAD

2 HORIZONTAL

3 SILL

OUTSIDE GLAZED (STOPS "UP")



4 JAMB

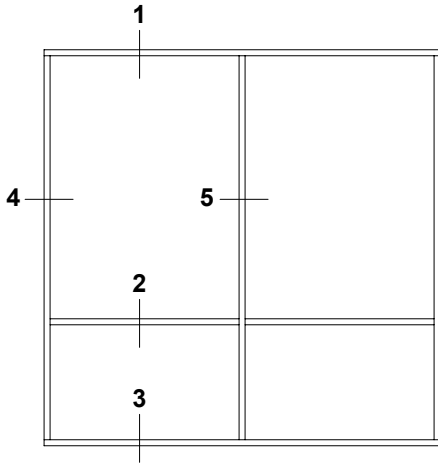
5 VERTICAL

1 HEAD

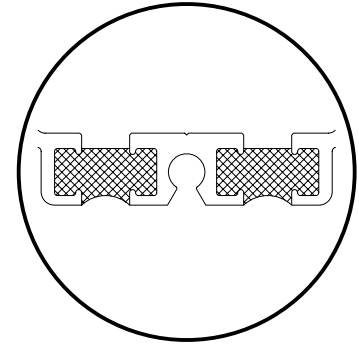
2 HORIZONTAL

3 SILL

The Screw Spline System is a fabrication and erection method that permits the pre-assembly of single units in the shop or at the job site. These units are then erected by mating the male mullion half of one unit with the female half of the unit already installed.



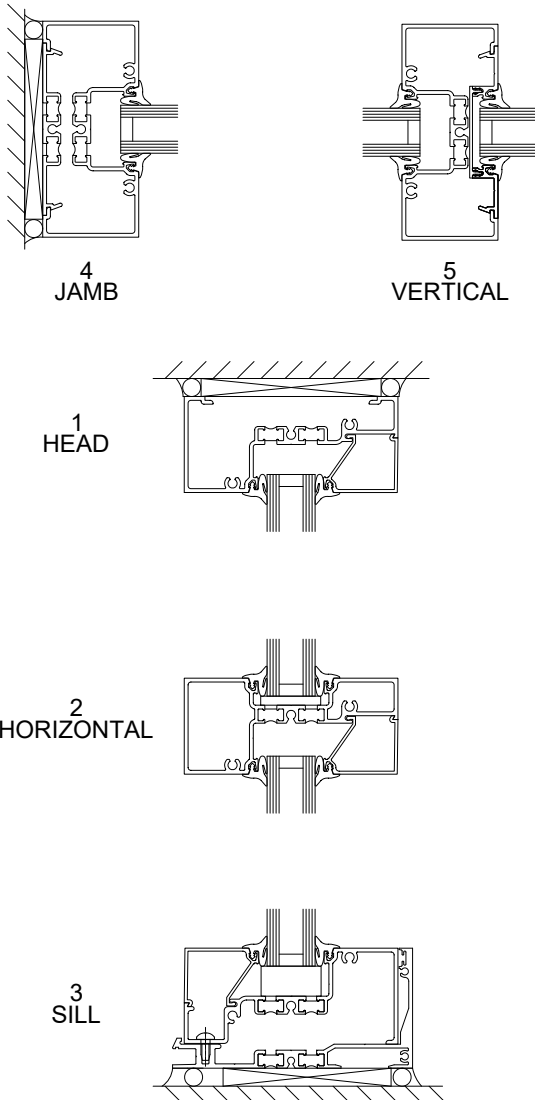
NOTES:
If opening is over 24' wide, a splice joint is required every 12'. (See splice joint procedure on section VII)



**TRIFAB[™] 451UT FRAMING
THERMALLY BROKEN MEMBERS**

ELEVATION IS NUMBER KEYED TO DETAILS

INSIDE GLAZED



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FABRICATE VERTICAL MULLIONS (Outside Glazed)

STEP A: Measure minimum height of opening to determine Opening Dimension (OD). Allow 3/8" (9.5) minimum Shim Space clearance at the head (SSH), and sill (SSS), to facilitate installation and provide space for sealant joint. Allow 1/2" (12.7) for Sill Flashing Height (SFH). If job conditions are uncertain, or masonry openings are irregular, allow extra clearance to accommodate construction tolerances.

STEP B: Cut vertical members to required Mullion Height (MH). Vertical Mullion Height (MH) equals Opening Dimension (OD) minus 1-1/4" (31.8). At desired horizontal locations drill the proper holes in the vertical members for attachment of the spline screws, as shown below. Please refer to Step A under GENERAL INSTALLATION NOTES on page 3 as approved shop drawings take precedence over the formula indicated.

NOTE 1: When using a head receptor, or head/jamb receptor combination, the Frame Height (FH) and Frame Width (FW) vary from these diagrams; refer to approved shop drawings.

NOTE 2: When using the sill-to-sill flashing clip, in applications where the frame height is less than 6 feet tall, add 1/4" (6.4) to the Shim Space at Head (SSH + 1/4" (6.4)) to obtain the proper clearance during installation of the frame.

SHIM SPACE (Sealant Joint) AT HEAD (SSH)

SHIM SPACE AT SILL (SSS)

SHIM SPACE (SSH, SSS) = 3/8" (9.5) minimum (Note: Typically specified by sealant manufacturer)

OPENING DIMENSION (OD)

MULLION HEIGHT (MH)

FRAME HEIGHT (FH)

SILL FLASHING HEIGHT (SFH)

$MH = OD - (SSH + SSS + SFH)$

$FH = OD - (SSH + SSS)$

$MH = FH - SFH$

EXAMPLE:

$SFH = 1/2" (12.7)$

SHIM SPACE (SSH or SSS) = 3/8" (9.5) minimum (Note: Typically specified by sealant manufacturer)

$MH_{IMPERIAL} = OH - (3/8" + 3/8" + 1/2")$

$MH_{IMPERIAL} = OH - 1-1/4"$

$MH_{METRIC} = OH - (9.5 + 9.5 + 12.7)$

$MH_{METRIC} = OH - 31.8$

For openings less than 24' (7.32 m) wide, length.

SHIM SPACE AT LEFT JAMB (SSL)

SHIM SPACE RIGHT JAMB (SSR)

SILL FLASHING LENGTH (SFL)

FRAME WIDTH (FW)

SILL FLASHING LENGTH: $SFL = OD - (SSL + SSR) - 1/4" (6.4)$

$FW = OD - (SSL + SSR)$

$SFL = FW + 1/4" (6.4)$

EXAMPLE: $SFL_{IMPERIAL} = OD - (3/8" + 3/8") - 1/4"$

$SFL_{IMPERIAL} = OD - 1/2"$

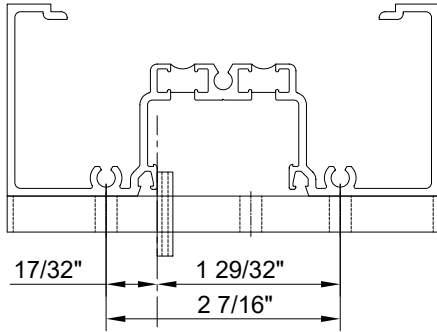
$SFL_{METRIC} = OD - (9.5 + 9.5) - 6.4$

$SFL_{METRIC} = OD - 12.7$

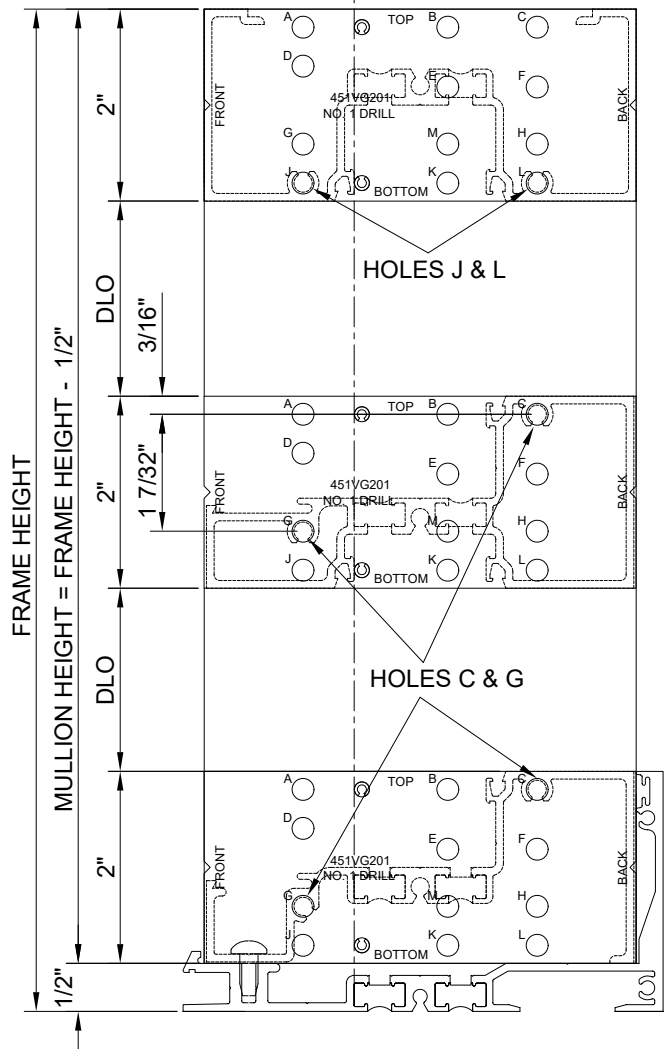
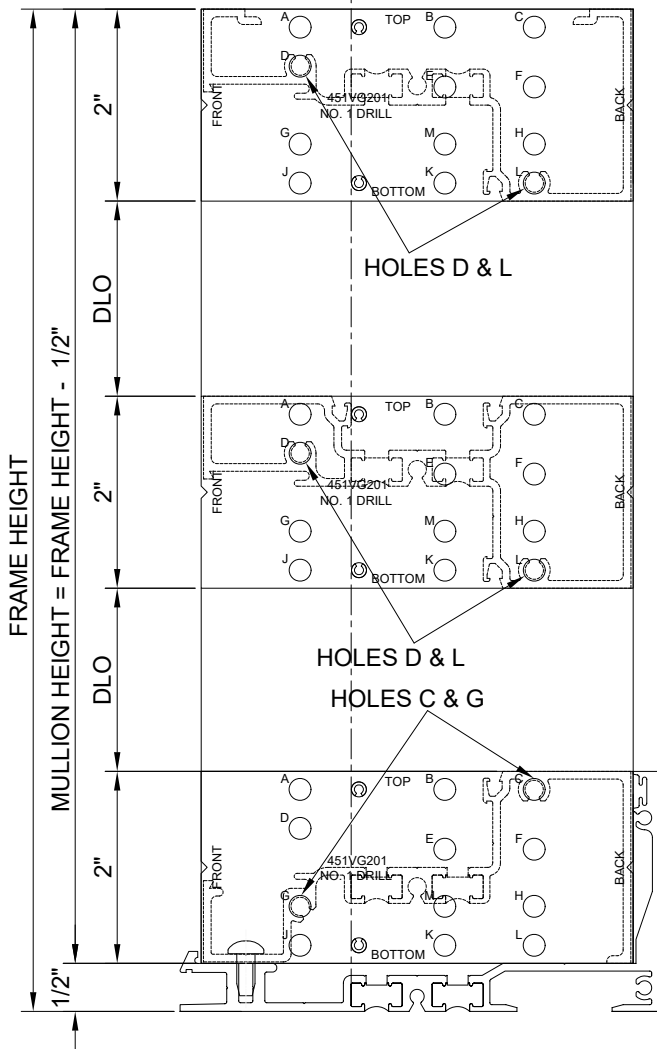
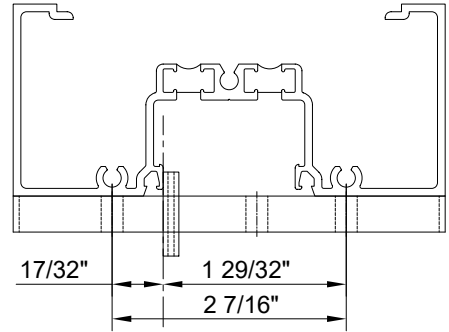
Please refer to Step A under GENERAL INSTALLATION NOTES on page 3 as approved shop drawings take precedence over the formula indicated. For opening widths greater than 24' (7.32 m), refer to approved shop drawings. (See Sill Flashing Splice)

For openings greater than 24' (7.32 m) wide, splicing is required every 12' (3.66 m) and splices must be located at the center of DLO. (See Splice Joint Installation)

**TRIFAB™ 451UT FRAMING
OUTSIDE GLAZED**
(PLACE ONTO MULLION AS SHOWN BELOW)



**TRIFAB™ 451UT FRAMING
OUTSIDE GLAZED - STOPS "UP"**
(PLACE ONTO MULLION AS SHOWN BELOW)



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FABRICATE VERTICAL MULLIONS (Inside Glazed)

STEP A: Measure minimum height of opening to determine Opening Dimension (OD). Allow 3/8" (9.5) minimum Shim Space clearance at the head (SSH), and sill (SSS), to facilitate installation and provide space for sealant joint. Allow 1/2" (12.7) for Sill Flashing Height (SFH). If job conditions are uncertain, or masonry openings are irregular, allow extra clearance to accommodate construction tolerances.

STEP B: Cut vertical members to required Mullion Height (MH). Vertical Mullion Height (MH) equals Opening Dimension (OD) minus 1-1/4" (31.8). At desired horizontal locations drill the proper holes in the vertical members for attachment of the spline screws, as shown below. Please refer to Step A under GENERAL INSTALLATION NOTES on page 3 as approved shop drawings take precedence over the formula indicated.

NOTE 1: When using a head receptor, or head/jamb receptor combination, the Frame Height (FH) and Frame Width (FW) vary from these diagrams; refer to approved shop drawings.

NOTE 2: When using the sill-to-sill flashing clip, in applications where the frame height is less than 6 feet tall, add 1/4" (6.4) to the Shim Space at Head (SSH + 1/4" (6.4)) to obtain the proper clearance during installation of the frame.

SHIM SPACE (Sealant Joint) AT HEAD (SSH)

SHIM SPACE AT SILL (SSS)

SHIM SPACE (SSH, SSS) = 3/8" (9.5) minimum (Note: Typically specified by sealant manufacturer)

OPENING DIMENSION (OD)

MULLION HEIGHT (MH)

FRAME HEIGHT (FH)

SILL FLASHING HEIGHT (SFH)

$MH = OD - (SSH + SSS + SFH)$

$FH = OD - (SSH + SSS)$

$MH = FH - SFH$

EXAMPLE:

$SFH = 1/2" (12.7)$

SHIM SPACE (SSH or SSS) = 3/8" (9.5) minimum (Note: Typically specified by sealant manufacturer)

$MH_{IMPERIAL} = OH - (3/8" + 3/8" + 1/2")$

$MH_{IMPERIAL} = OH - 1-1/4"$

$MH_{METRIC} = OH - (9.5 + 9.5 + 12.7)$

$MH_{METRIC} = OH - 31.8$

For openings less than 24' (7.32 m) wide, length.

SHIM SPACE AT LEFT JAMB (SSL)

SHIM SPACE RIGHT JAMB (SSR)

SILL FLASHING LENGTH (SFL)

FRAME WIDTH (FW)

SILL FLASHING LENGTH: $SFL = OD - (SSL + SSR) - 1/4" (6.4)$

$FW = OD - (SSL + SSR)$

$SFL = FW + 1/4" (6.4)$

EXAMPLE: $SFL_{IMPERIAL} = OD - (3/8" + 3/8") - 1/4"$

$SFL_{IMPERIAL} = OD - 1/2"$

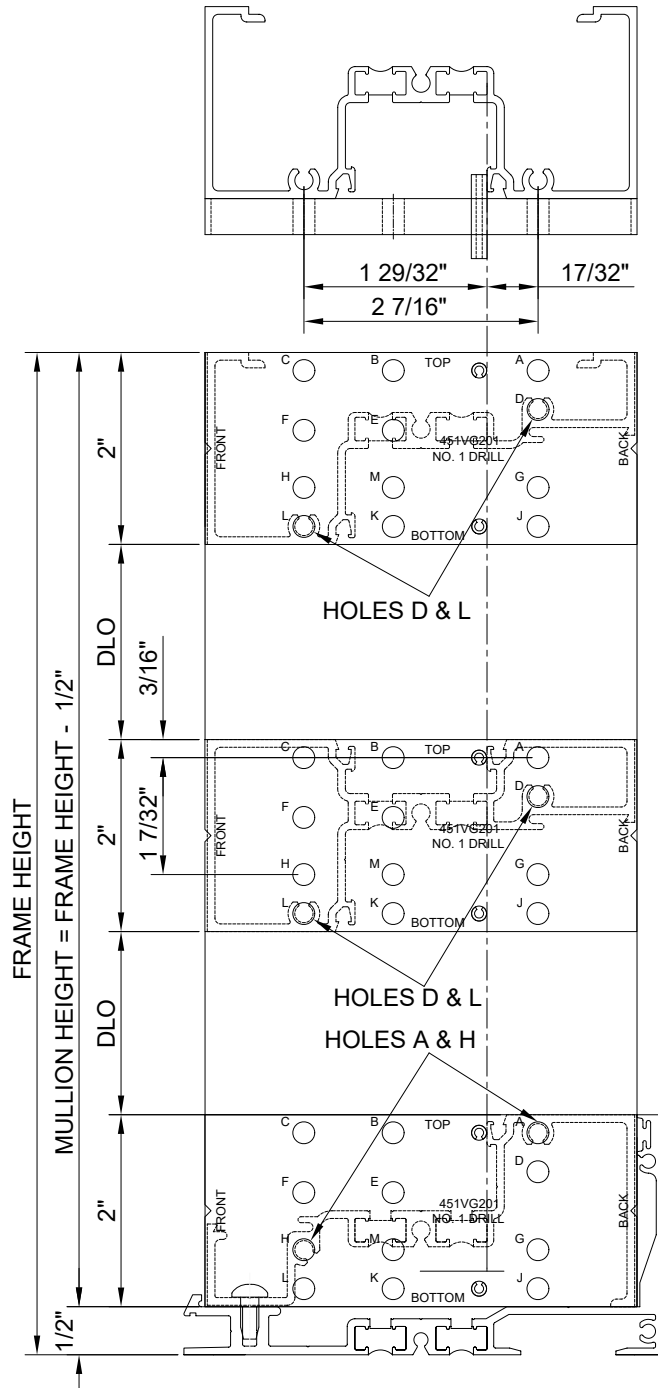
$SFL_{METRIC} = OD - (9.5 + 9.5) - 6.4$

$SFL_{METRIC} = OD - 12.7$

Please refer to Step A under GENERAL INSTALLATION NOTES on page 3 as approved shop drawings take precedence over the formula indicated. For opening widths greater than 24' (7.32 m), refer to approved shop drawings. (See Sill Flashing Splice)

For openings greater than 24' (7.32 m) wide, splicing is required every 12' (3.66 m) and splices must be located at the center of DLO. (See Splice Joint Installation)

**TRIFAB[™] 451UT FRAMING
INSIDE GLAZED**
(PLACE ONTO MULLION AS SHOWN BELOW)



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STEP A: Cut horizontals to length (D.L.O.) and apply sealant to the ends ensuring a good seal to the vertical member. (Glass stops should be D.L.O. - 1/16").

STEP B: Assemble the units using two 028856 (#12 x 1-1/8" PHTF Screws) at each joint as shown below. Be sure that each unit is fabricated with a male and female mullion half.

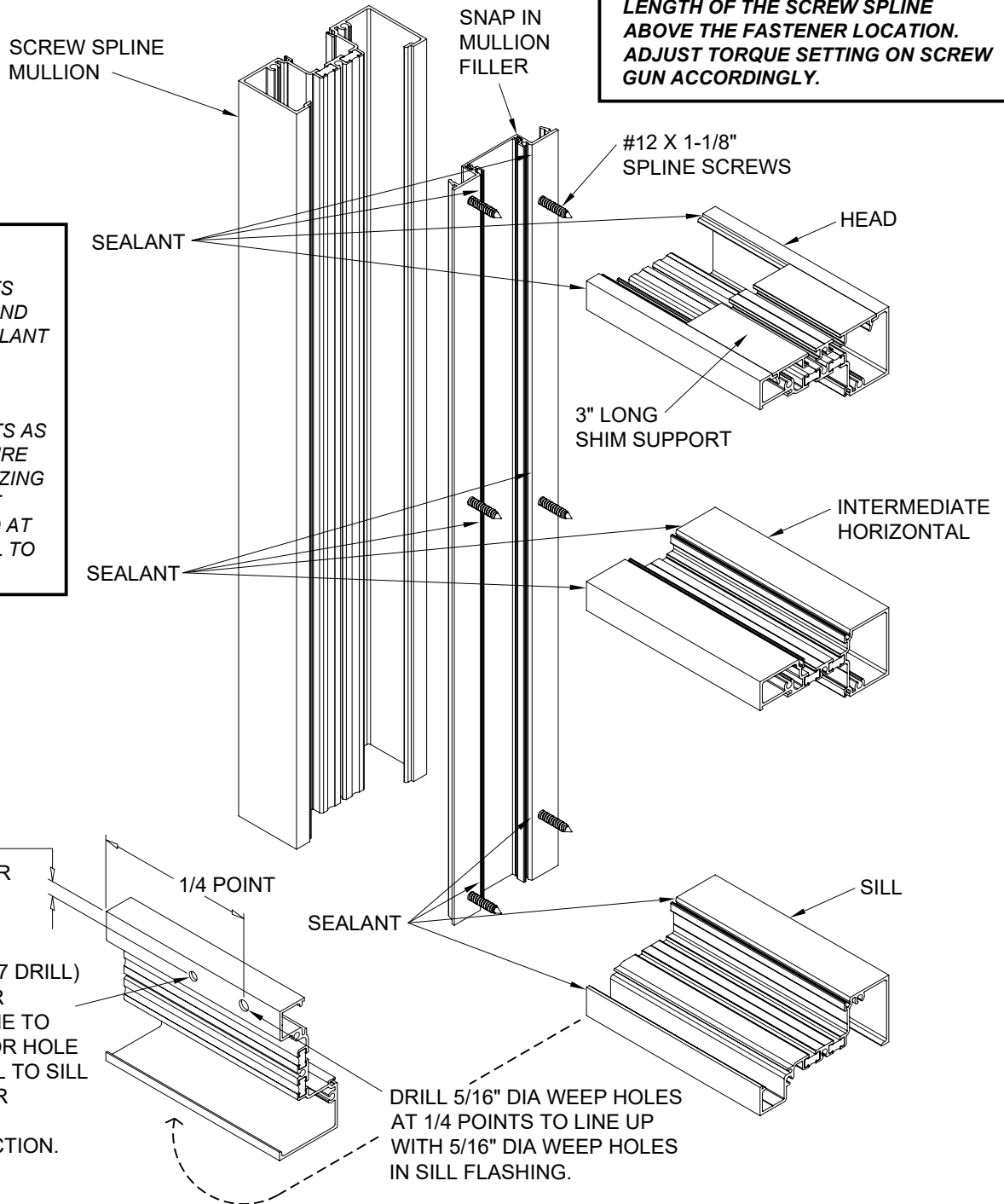
NOTE: EVERY UNIT MUST HAVE AT LEAST ONE DEEP VERTICAL POCKET.

STEP C: When an entrance is required, Shear Block joinery must be used to attach horizontals to the immediate door frame. The other side of the sidelite will be fabricated for screw spline joinery as usual.

NOTE:

SCREW SPLINE FASTENERS SHOULD BE INSTALLED WITH A NON-HAMMER/NON-IMPACT TYPE SCREW GUN. THE FASTENER HEAD SHALL BE SNUG AGAINST THE EXTRUSION BUT NOT OVER TIGHTENED. OVER TIGHTENING FASTENERS MAY CAUSE CRAZING IN ANODIZED FINISHES ALONG THE LENGTH OF THE SCREW SPLINE ABOVE THE FASTENER LOCATION. ADJUST TORQUE SETTING ON SCREW GUN ACCORDINGLY.

NOTE:
CLEAN ALL JOINTS WITH ALCOHOL AND THEN APPLY SEALANT TO ENDS OF ALL HORIZONTAL MEMBERS AND GLAZING REGLETS AS SHOWN TO ENSURE GOOD SEAL. GLAZING ADAPTERS MUST ALSO BE SEALED AT THE HORIZONTAL TO VERTICAL JOINT.



0.442" OR INTERIOR V-GROOVE
1/4 POINT
SEALANT

DRILL 0.201" DIA (#7 DRILL) CLEAR HOLES FOR ANCHORING FRAME TO SILL FLASHING. FOR HOLE SPACING SEE "SILL TO SILL FLASHING ANCHOR SCHEDULE" IN INSTALLATION SECTION.

DRILL 5/16" DIA WEEP HOLES AT 1/4 POINTS TO LINE UP WITH 5/16" DIA WEEP HOLES IN SILL FLASHING.

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FABRICATE SILL FLASHING

STEP A: Measure minimum width of opening to determine Opening Dimension (OD). Allow 3/8" (9.5) minimum Shim Space clearance (SSL and SSR) at the jambs to facilitate installation and provide space for sealant joint. If job conditions are uncertain, or masonry openings are irregular, allow extra clearance to accommodate construction tolerances.

STEP B: For opening widths less than 24' (7.32 m), cut Sill Flashing to require length. Sill Flashing Length (SFL) equals Opening Dimension (OD) minus 1/2" (12.7).

For openings less than 24' (7.32 m) wide, length.

$$SFL_{\text{IMPERIAL}} = OD - (SSL + SSR) + 1/4" (6.4)$$

$$FW = OD - (SSL + SSR)$$

$$SFL = FW + 1/4" (6.4)$$

EXAMPLE: SHIM SPACE (SSL or SSR) = 3/8" (9.5) minimum (Note: Typically specified by sealant manufacturer)

$$SFL_{\text{IMPERIAL}} = OD - (3/8" + 3/8") - 1/4"$$

$$SFL_{\text{IMPERIAL}} = OD - 1/2"$$

$$SFL_{\text{METRIC}} = OD - (9.5 + 9.5) - 6.4$$

$$SFL_{\text{METRIC}} = OD - 12.7$$

Please refer to Step A under GENERAL INSTALLATION NOTES on page 3 as approved shop drawings take precedence over the formula indicated.

For opening widths greater than 24' (7.32 m), refer to approved shop drawings. (See Sill Flashing Splice)

For openings greater than 24' (7.32 m) wide, splicing is required every 12' (3.66 m) and splices must be located at the center of DLO.

(See Splice Joint Installation)

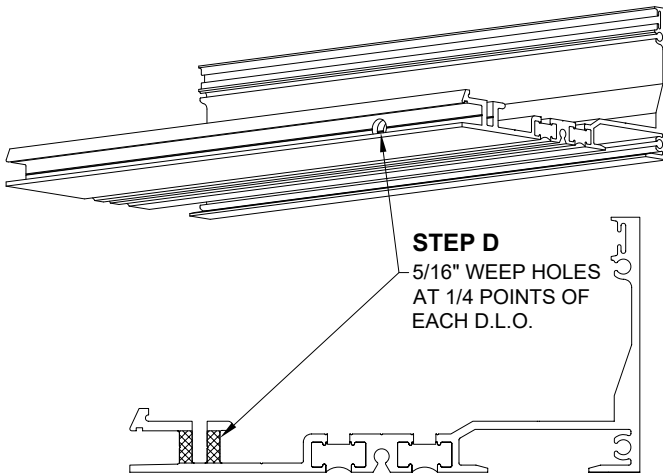
STEP C: Drill perimeter anchor holes through the flashing (DO NOT DRILL THROUGH THERMAL BREAKS). Anchor holes should be located within 6" of each end of the flashing and 12" O.C. between or as determined by structural calculations. (See note below.)

STEP D: Drill two 5/16" weep holes at 1/4 points of each D.L.O. through exterior face and adjacent interior wall of sill flashing.

STEP E: Installer has option to use sealant on upturned interior leg at frame installation OR install 127043 weathering before attaching end dams.

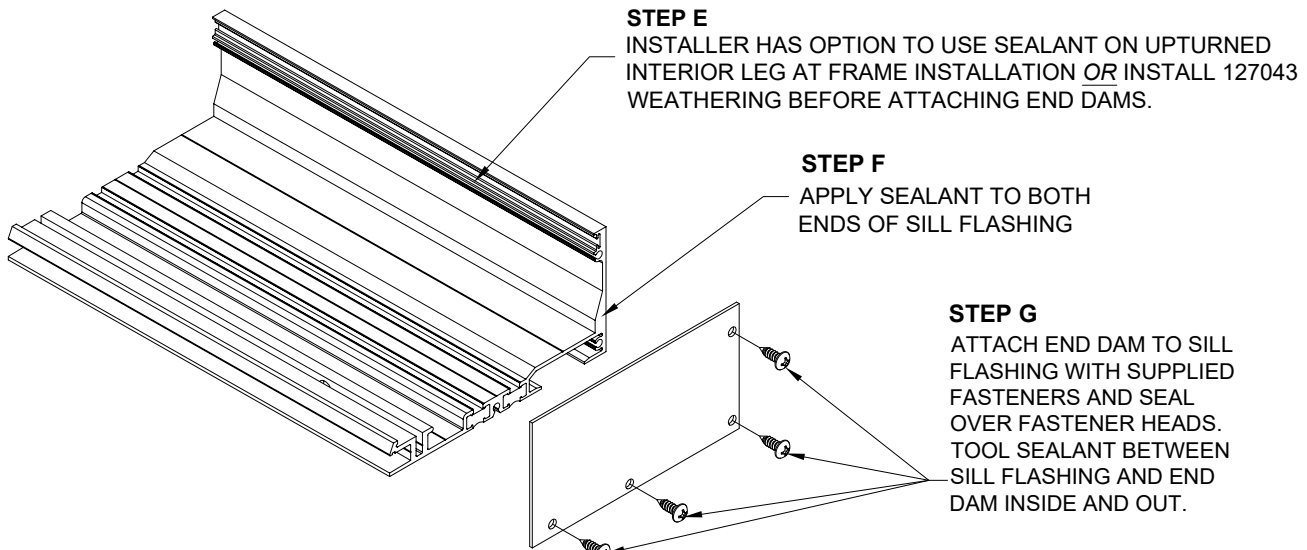
STEP F: Apply sealant to ends of flashing.

STEP G: Attach end dams to flashing with four 028808 (#8 x 1/2" PHTF) supplied screws, and seal over heads. Tool sealant along outside edges and inside corners between end dam and flashing.



NOTE:

1. REFER TO SHOP DRAWINGS OR CONSULT ENGINEERING FOR PERIMETER FASTENER SIZE AND LOCATIONS.
2. IF OPENING IS OVER 24' WIDE, A SPLICE JOINT IS REQUIRED EVERY 12'.
3. WHEN USING A HEAD RECEPTOR, OR HEAD/JAMB RECEPTOR COMBINATION, THE FRAME HEIGHT AND FRAME WIDTH VARY FROM THESE DIAGRAMS; REFER TO APPROVED SHOP DRAWINGS FOR FRAME HEIGHT AND WIDTH.



STEP E

INSTALLER HAS OPTION TO USE SEALANT ON UPTURNED INTERIOR LEG AT FRAME INSTALLATION OR INSTALL 127043 WEATHERING BEFORE ATTACHING END DAMS.

STEP F

APPLY SEALANT TO BOTH ENDS OF SILL FLASHING

STEP G

ATTACH END DAM TO SILL FLASHING WITH SUPPLIED FASTENERS AND SEAL OVER FASTENER HEADS. TOOL SEALANT BETWEEN SILL FLASHING AND END DAM INSIDE AND OUT.

PROCEDURE FOR INSTALLING SILICONE SPLICE SLEEVE

(Follow silicone supplier recommendation for cleaning and priming the joint)

- Step 1: Cut Silicone Splice Sleeve (127178) to 7 inches long.
- Step 2: Clean splice area with solvent.
(For cold weather applications see note below.)
- Step 3: Install Backer Rod into splice. Insure Backer is set back enough to allow for perimeter sill and backer rod to run through.
- Step 4: Apply bead of silicone within 1/2" of the edge of the sill members on each side of the 1/2" joint. (Figure 1)
- Step 5: Fill front screw chase completely with silicone beyond splice a minimum of 1 inch from cut end of sill. (Figure 2)
- Step 6: Remove protective liner from Splice Sleeve.
- Step 7: Center the Splice Sleeve over the joint. Then, using a putty knife, form the Splice Sleeve along the profile of the flashing. (Figure 3)
- Step 8: Silicone will squeeze out from under the Splice Sleeve. Use putty knife to tool excess silicone over edges of splice sleeve. There should not be excessive build up of sealant thickness at the front and back of the splice where the horizontal sits down on top of the splice.(Figure 3)
- Step 9: Seal back and front of exposed joint and marry into perimeter seals. Be sure to force sealant up under the Splice Sleeve in front. If using 127084 gasket at the sill flashing, install before sealing the exposed joint. Seal the exposed joint. (Figure 3)

SILL FLASHING SPLICE

APPLY BEAD OF SILICONE SEALANT OVER BACKER ROD BETWEEN 1/2" JOINT IN FLASHING AND TOOL INTO JOINT.

APPLY BEAD OF SILICONE SEALANT WITHIN A 1/2" OF SPLICE JOINT ON FLASHING.

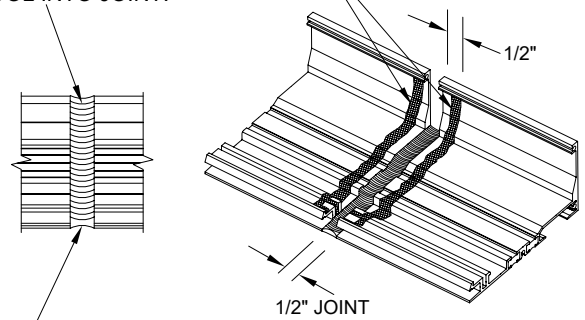


FIGURE 1

PLACE BACKER ROD BETWEEN SPLICE IN THE SHIM SPACE AND SEAL BETWEEN SPLICE WITH SILICONE. BACKER ROD NEEDS TO BE SET BACK ENOUGH FOR PERIMETER SEAL TO RUN THROUGH.

FILL FRONT SCREW CHASE AND THERMAL BREAK AREAS COMPLETELY WITH SILICONE A MINIMUM OF 1 INCH FROM CUT ENDS OF SILL. DO NOT PUT SILICONE SLEEVE INTO THESE GROOVES.

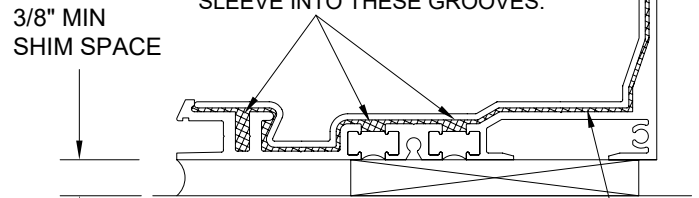


FIGURE 2

127178 SILICONE SPLICE SLEEVE (CUT TO 7" LENGTH)

USE PUTTY KNIFE TO FORM SILICONE SPLICE SLEEVE ALONG THE PROFILE OF THE FLASHING

SEAL BACK AND FRONT OF EXPOSED JOINT

BED SPLICE SLEEVE IN SEALANT AND TOOL EXCESS

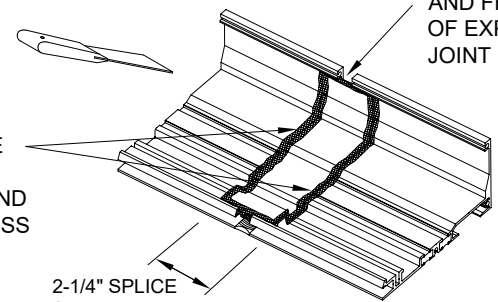


FIGURE 3

NOTE:

1) **SPLICES SHOULD BE INSTALLED EVERY 12' WHEN FLASHING IS OVER 24'. SPLICE SLEEVES ARE TO BE LOCATED AT THE CENTER OF A DLO.**

DO NOT LOCATE SPLICE SLEEVES AT MULLIONS.

2) **IF THERE IS AN ENTRANCE, THE ENTRANCE FRAME AND ATTACHED SIDELITE(S) SHOULD BE INSTALLED FIRST, BEING CAREFUL TO LOCATE THEM ACCURATELY IN THE OPENING. FASTEN THE ENTRANCE FRAME TO THE PERIMETER CONDITION AS NECESSARY USING THE REQUIRED PERIMETER FASTENERS.**

3) **SILICONE MUST BE TESTED AND APPROVED FOR COMPATIBILITY AND ADHESION BY THE SEALANT MANUFACTURER.**

COLD WEATHER NOTE:

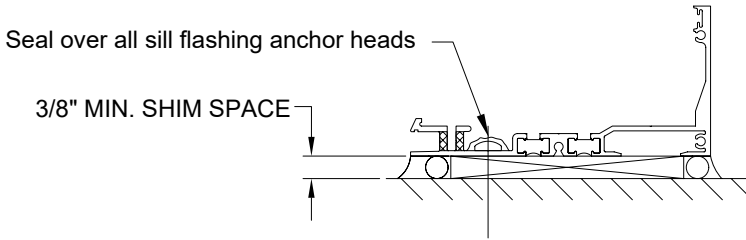
FOR TEMPERATURES BELOW 40° THE FOLLOWING PRECAUTIONS SHOULD BE TAKEN. JUST PRIOR TO INSTALLING THE SILICONE SPLICE SLEEVE, WIPE RECEPTOR WITH A SOLVENT OR CLEANING SOLUTION RECOMMENDED BY THE SEALANT MANUFACTURER. THIS WILL REMOVE ANY CONDENSATION OR FROST THAT MAYBE PRESENT.

***CAUTION:**

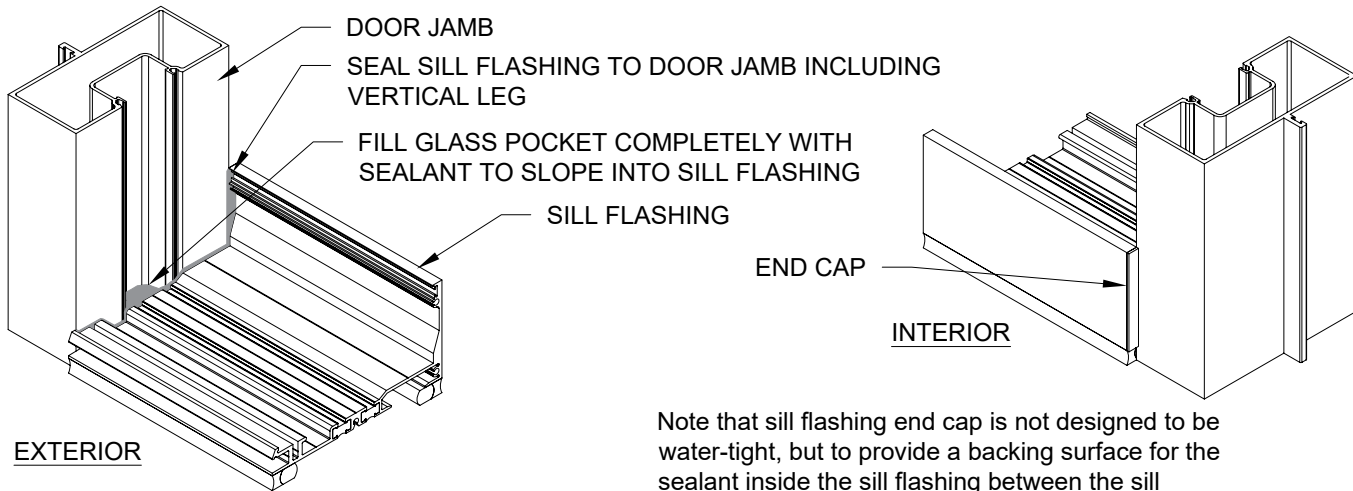
CAREFULLY FOLLOW THE RECOMMENDATIONS CONTAINED IN THE MATERIAL SAFETY DATA SHEET PROVIDED BY THE SOLVENT/CLEANING SOLUTION MANUFACTURER REGARDING HEALTH AND FIRE/EXPLOSION RISKS.

FLASHING INSTALLATION

Install sill flashing level and true in opening. The sill flashing should be shimmed up a minimum of 3/8" as required at each fastener and under the location of each mullion to level flashing. Seal over all fasteners at the sill flashing.



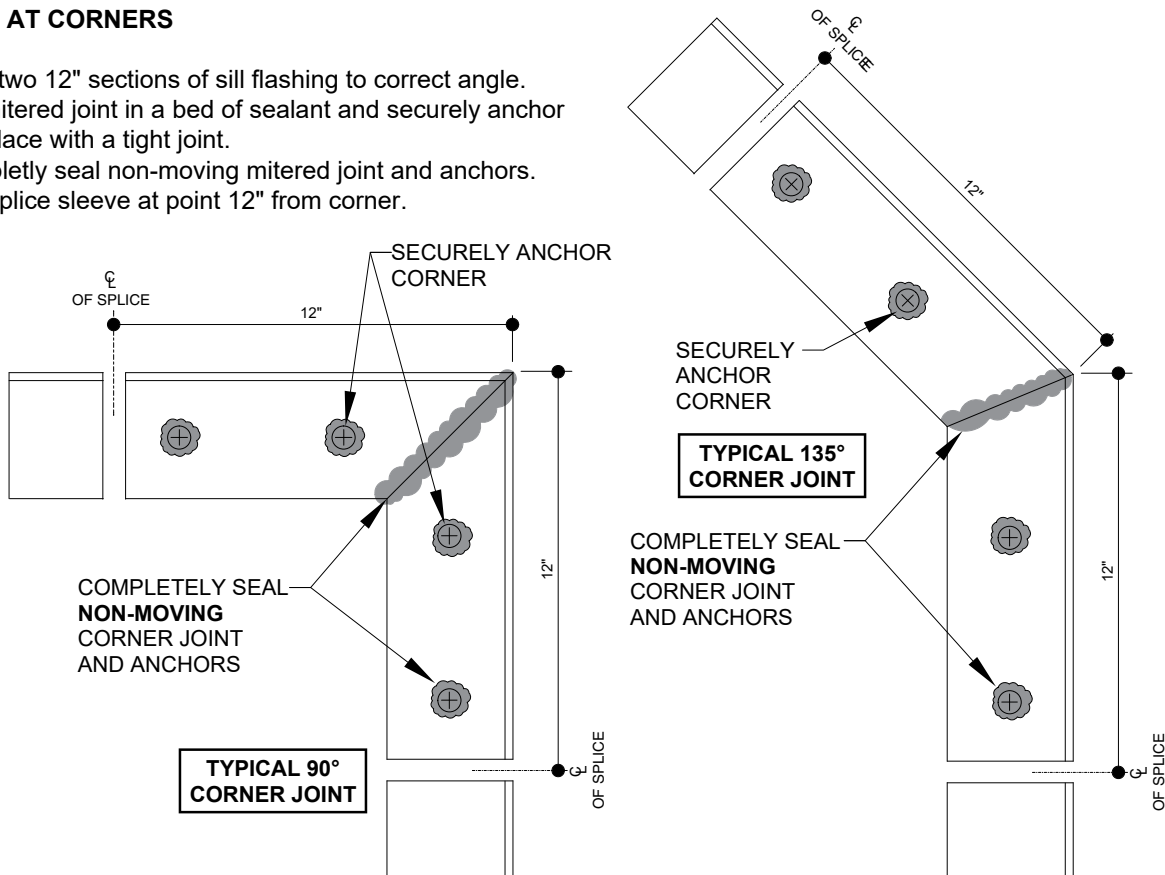
SILL FLASHING AT DOOR JAMB



Note that sill flashing end cap is not designed to be water-tight, but to provide a backing surface for the sealant inside the sill flashing between the sill flashing and the door jamb.

SILL FLASHING AT CORNERS

- STEP A:** Miter two 12" sections of sill flashing to correct angle.
- STEP B:** Set mitered joint in a bed of sealant and securely anchor into place with a tight joint.
- STEP C:** Completely seal non-moving mitered joint and anchors.
- STEP D:** Use splice sleeve at point 12" from corner.



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FRAME INSTALLATION

STEP 1:

Apply a continuous bead of sealant to front ledge of flashing as shown below.

STEP 2:

If 127043 weathering was not installed into reglet at top of interior upturned leg of sill flashing, then apply a continuous bead of sealant bead to fill reglet. Make sealant bead large enough to sit proud of reglet so that when each frame is installed there is good sealant contact between sill and sill flashing. After installing each frame tool sealant along seam between sill and sill flashing. Remove any excess sealant from visible surfaces.

STEP 3:

Position the assembled frame into the opening to align with sill flashing. Anchor sill to sill flashing per "SILL TO SILL FLASHING ANCHOR SCHEDULE" in Installation section.

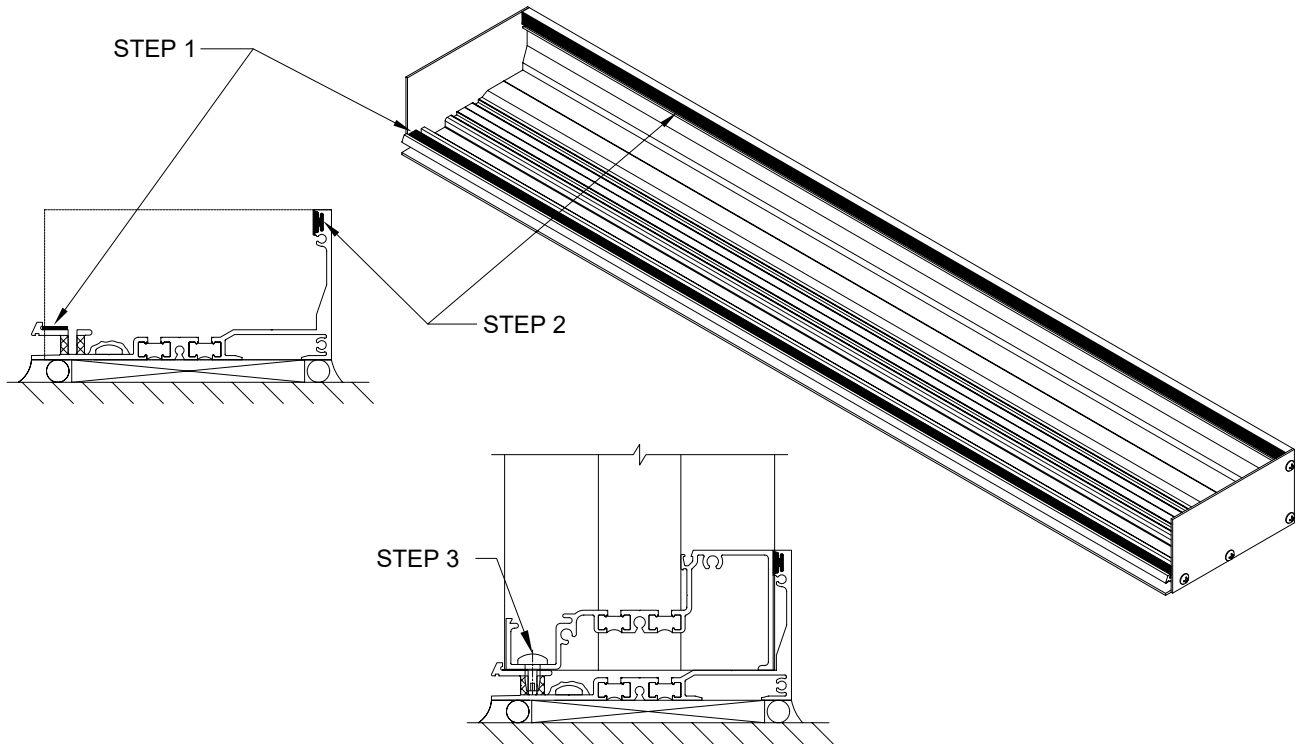
STEP 4:

Insert shims and anchor as needed at head and jambs, checking that the unit is level and plumb.

NOTE:

If heavy mullion or steel reinforcing is used, extra perimeter fasteners may be required to handle larger loads. Consult Area Application Engineering Department.

STEP 5: Caulk both interior and exterior at head, jambs and under sill flashing with a high quality sealant.



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SILL TO SILL FLASHING ANCHOR SCHEDULE

Mullion end reactions ≤ 400 lbs. require (1) fastener on each side of the vertical mullion, located 3" from the end of the sill members.

Mullion end reactions > 400 lbs. and ≤ 800 lbs. require (2) fasteners on each side of the vertical mullion, starting 3" from the end of the sill member and spaced 2" o.c. going away from the end.

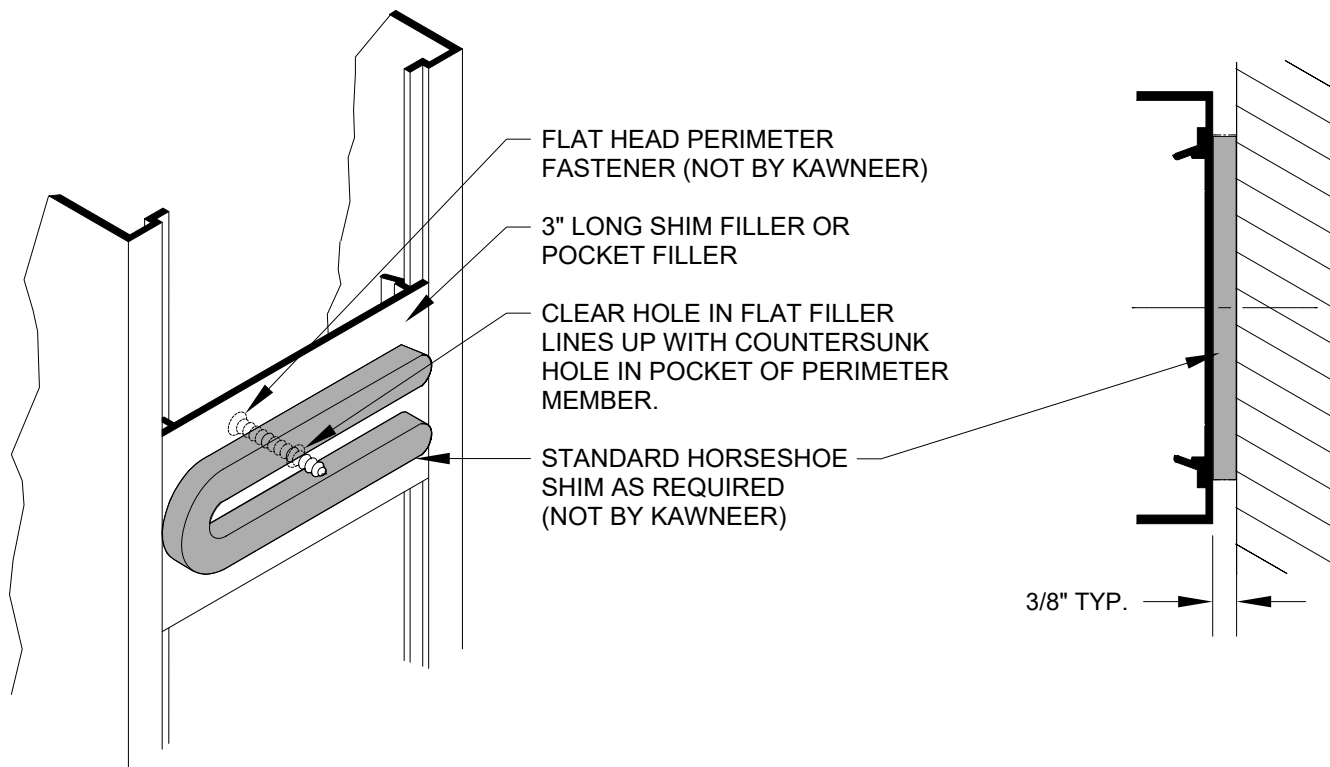
Mullion end reactions > 800 lbs. require (3) fasteners on each side of the vertical mullion, starting 3" from the end of the sill member and spaced 2" o.c. going away from the end.

Also, locate a minimum of (1) fastener at the centerline of the DLO with a maximum of 36" from adjacent anchors and a maximum 200 lbs. reaction per fastener.

Center glazing applications use fastener: 128407 #10 -16 x 7/16" CRPHTFS-B / 300 Series SS

SHIM INSTALLATION

Install support shims at head, sill and jamb. Place between pocket fillet and perimeter condition at perimeter anchor locations.



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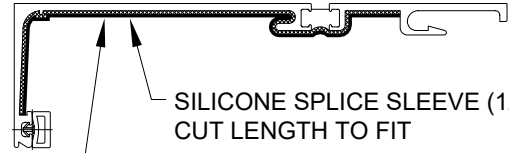
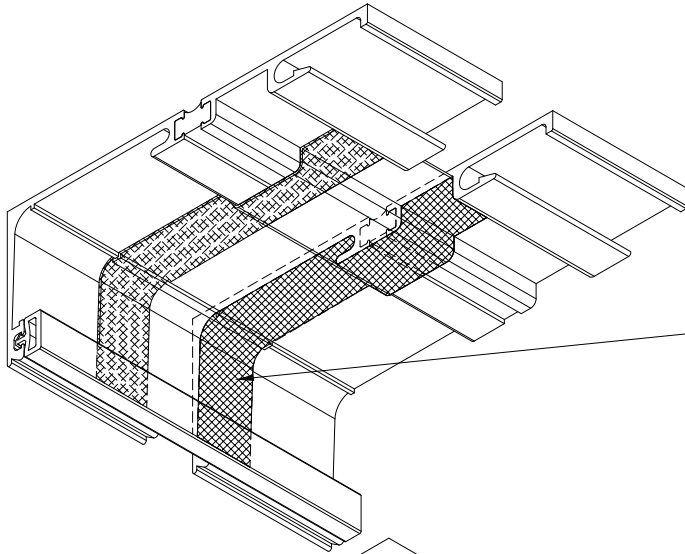
HEAD RECEPTOR SPLICE INSTALLATION

Install Splice Sleeve onto Head Receptor as shown.

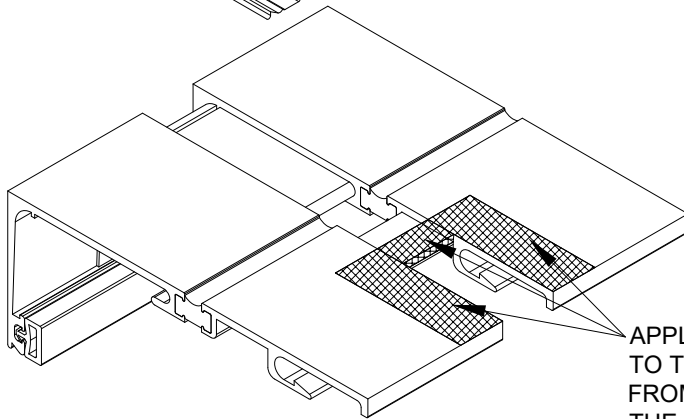
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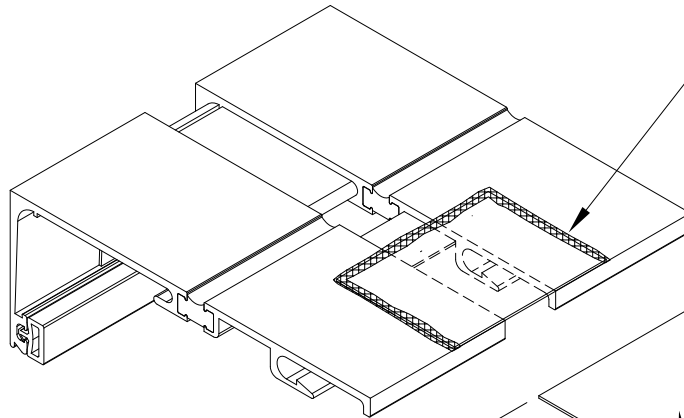
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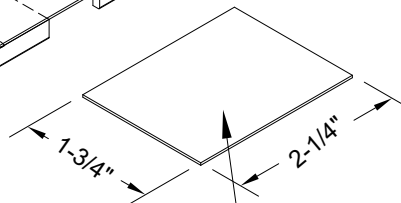
CUT THE SILICONE SPLICE SLEEVE TO FIT THE AREA SHOWN. REMOVE THE PROTECTIVE LINER AND APPLY SILICONE SEALANT TO INSIDE TOP SURFACE OF HEAD RECEPTOR WITHIN 3/4" FROM EACH END OF THE CUT MEMBERS. APPLY THE SILICONE SPLICE SLEEVE AS SHOWN CENTERING OVER THE CUT SPLICE JOINT AND BED THE SPLICE SLEEVE IN SEALANT USING A PUTTY KNIFE TO FORM THE SLEEVE AROUND THE PROFILE.



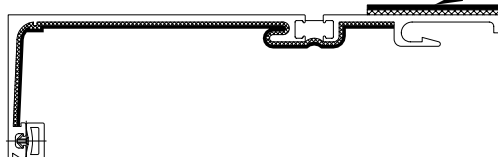
APPLY SILICONE SEALANT AT SPLICE JOINT TO TOP SURFACE OF RECEPTOR, 3/4" FROM EACH END, AND ALONG THE TOP OF THE SPLICE SLEEVE AS SHOWN.



CUT THE SILICONE SPLICE SLEEVE AS SHOWN AND REMOVE THE PROTECTIVE LINER. CENTER THE SPLICE SLEEVE OVER THE SPLICE JOINT AND BED INTO THE SILICONE SEALANT AND TOOL SMOOTH.



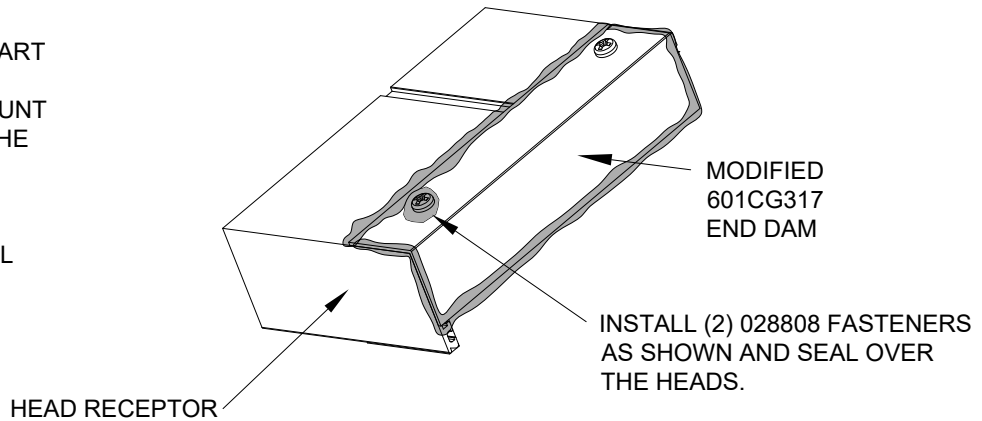
SILICONE SPLICE SLEEVE (127178) CUT TO SIZE AS SHOWN



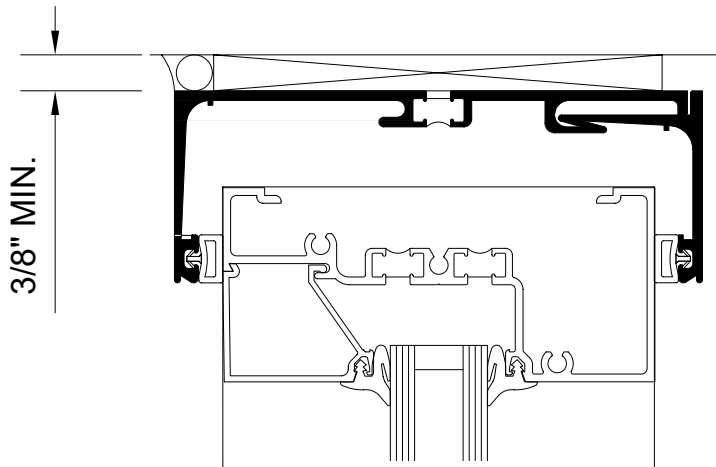
HEAD RECEPTOR END DAM PLACEMENT

Install End Dam onto Head Receptor as shown.

RECEPTOR CORNER END DAM PART NO. 601CG317, MODIFY TO 5 1/2" LENGTH. APPLY A LIBERAL AMOUNT OF SILICONE SEALANT UNDER THE AREA WHERE THE END DAM IS TO BE PLACED AND PUSH IN, SQUEEZING THE SEALANT SO IT WILL SPREAD OUT EVENLY. TOOL THE SILICONE AROUND ALL THE EDGES TO GET A GOOD SEAL.

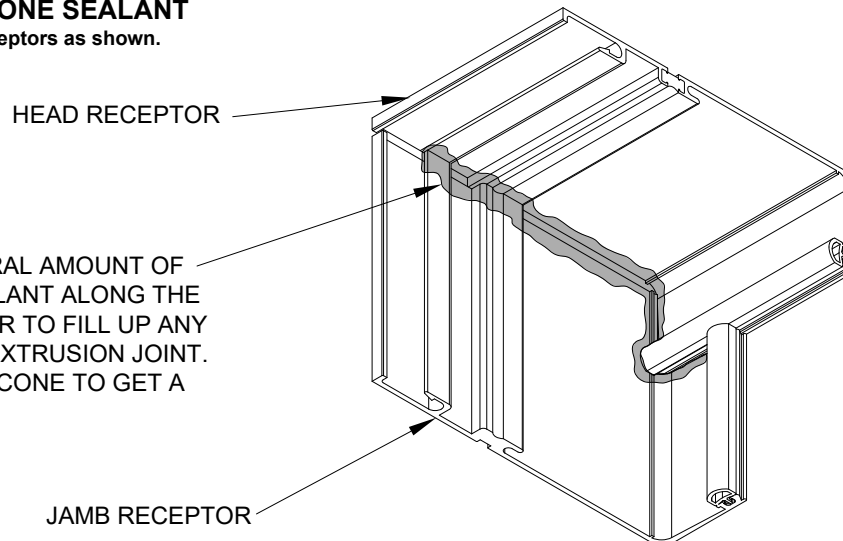
**HEAD RECEPTOR INSTALLATION**

Install Head Receptor with a 3/8" minimum space at the head.
Place a backer rod on the exterior side as shown and fill the gap with silicone.

**HEAD RECEPTOR SILICONE SEALANT**

Apply Silicone Sealant onto Receptors as shown.

APPLY A LIBERAL AMOUNT OF SILICONE SEALANT ALONG THE INSIDE CORNER TO FILL UP ANY GAPS IN THE EXTRUSION JOINT. TOOL THE SILICONE TO GET A GOOD SEAL.

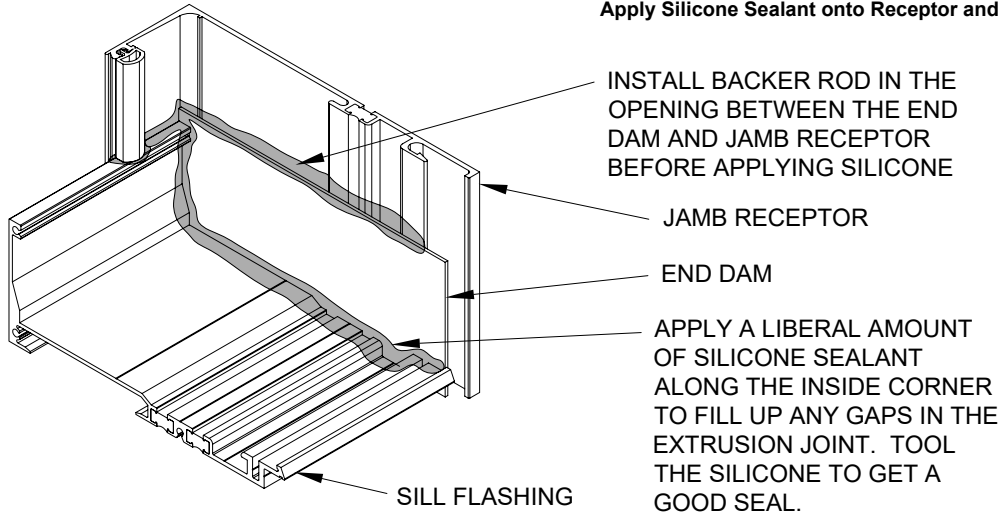


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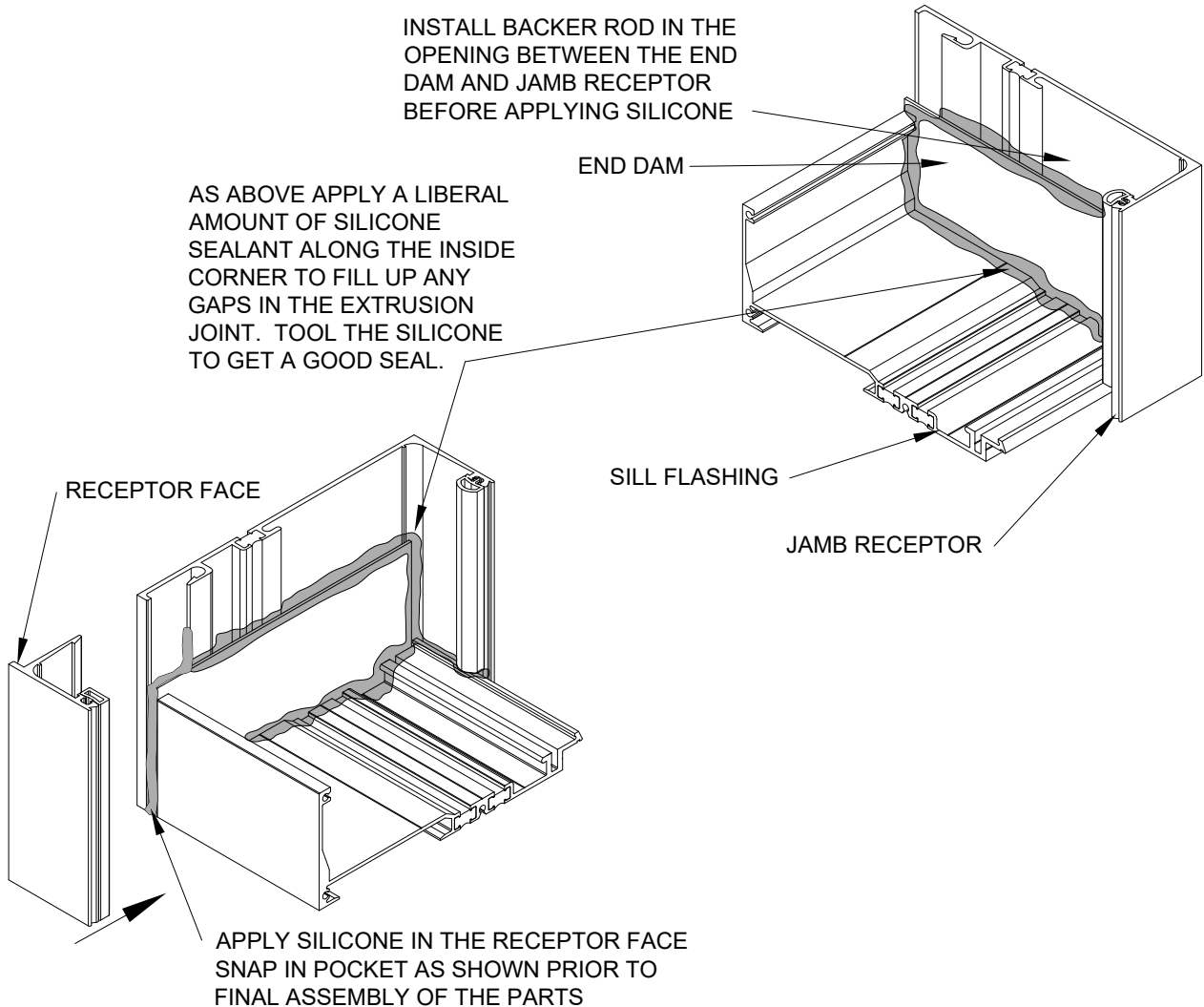
JAMB RECEPTOR AND SILL FLASHING JOINT WITH REMOVABLE FACE ON THE EXTERIOR

Apply Silicone Sealant onto Receptor and flashing as shown.



JAMB RECEPTOR AND SILL FLASHING JOINT WITH REMOVABLE FACE ON THE INTERIOR

Apply Silicone Sealant onto Receptor and flashing as shown.



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Install water deflectors on Intermediate Horizontals by removing the paper backing from the water deflectors. Install on a clean, dry surface centered in the glazing pocket and seal. (Figure 1) Be sure to extend Water Deflector past glass edge below. (Figure 2)

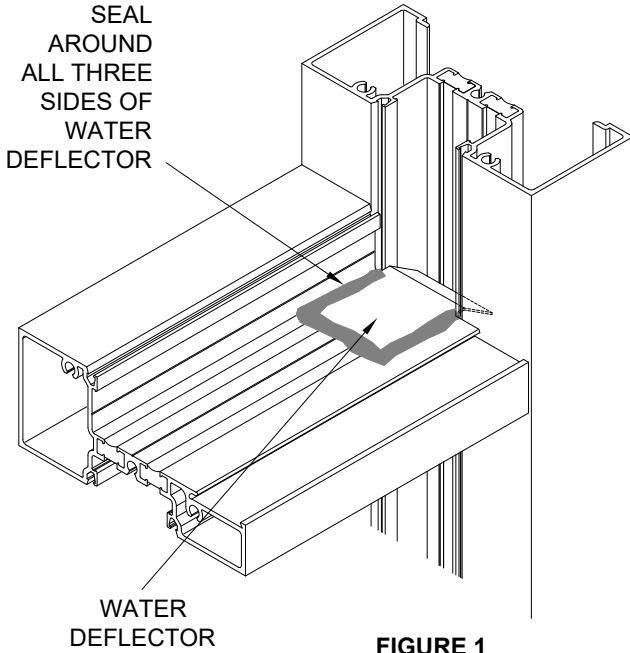


FIGURE 1

COLD WEATHER NOTE:
 For temperatures below 40° the following precautions should be taken. Just prior to installing the water deflector, wipe glazing pocket with a solvent or cleaning solution recommended by the sealant manufacturer.
***CAUTION:**
 Carefully follow the recommendations contained in the material safety data sheet provided by the solvent/cleaning solution manufacturer regarding health and fire/explosion risks.

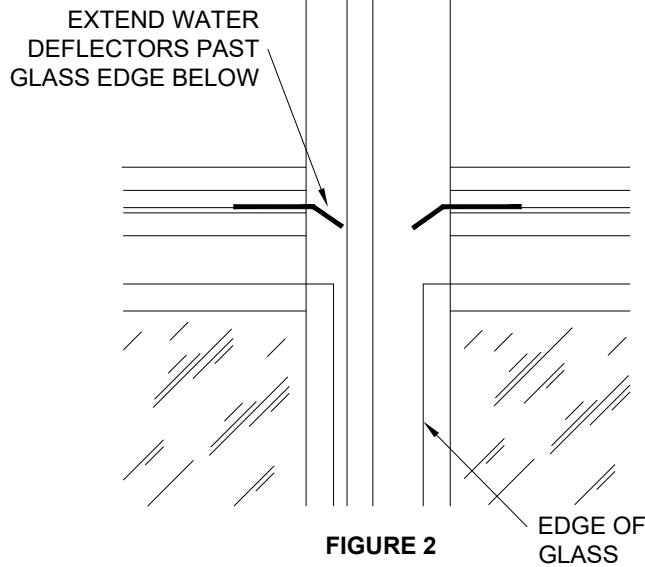


FIGURE 2

After the water deflectors are installed, apply sealant around the edges of the deflector (Figure 1) and seal the joint between the back leg of the Horizontal and the Vertical. Make sure to fill the gasket reglets in the area as shown to prevent water from running down the lite below. (Figure 3 and 4)

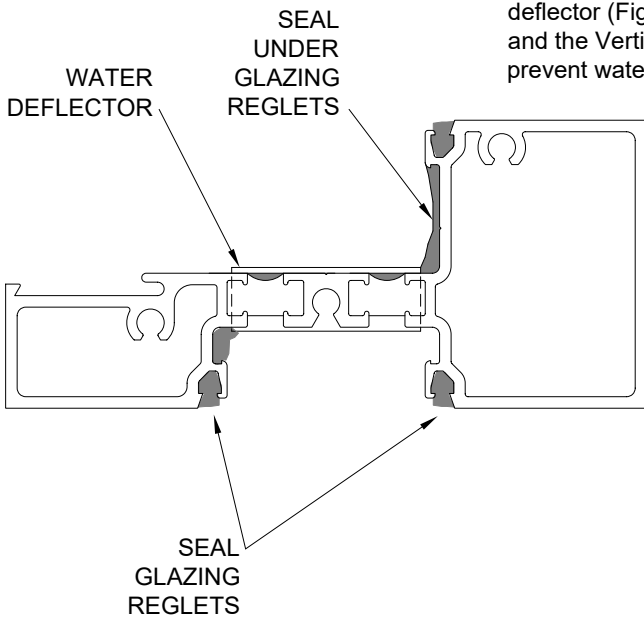


FIGURE 3

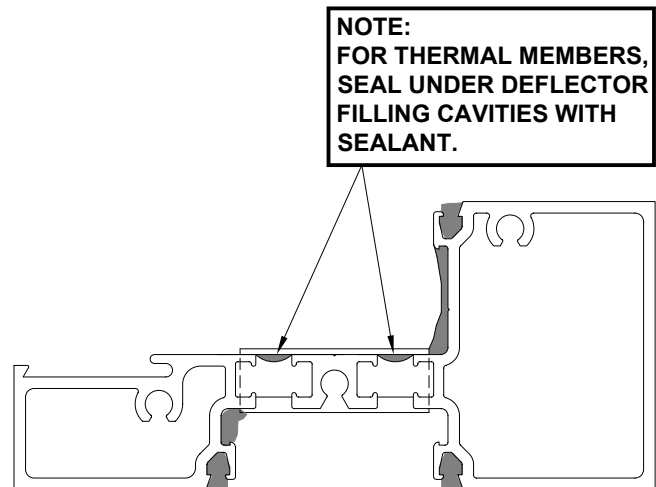


FIGURE 4

Laws and building and safety codes governing the design and use of Kawneer products, such as glazed entrance, window, and curtain wall products, vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

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TYPICAL INSTALLATION OF PARTIAL OR FULL LENGTH VERTICAL GLAZING ADAPTERS - PRIOR TO FRAME ASSEMBLY

Vertical glazing adapters may be installed for partial, (Figure 1) or full-length, (Figure 2) applications at the time the frames are assembled.

STEP 1: Cut VERTICAL glazing adapters to D.L.O. Plus 1/2" for partial length applications or to Vertical member length for full-length applications.

STEP 2: Cut HORIZONTAL glazing adapters to D.L.O.

STEP 3: Snap vertical adapters into glazing reglets of frame and assemble frame as instructed. In partial length applications, vertical adapter should be positioned to allow sealing of the horizontal adapter to the vertical adapter (approximately 1/4" projection into horizontal pocket, It may be necessary to lightly crimp vertical adapter in place to prevent sliding.

SPECIAL NOTE: When using pre-installed vertical glazing adapters, care should be taken at the time of the frame assembly, to seal the vertical glazing reglets where they meet the intermediate horizontals. The 1/4" water deflector should also be used on all full-length applications (Figure 4), and installed as shown in Section VII. 1" water deflectors are used for partial adapter applications as long as the adapter does not impede water evacuation of the intermediate horizontal. The water deflector must allow water to drain into the vertical pocket beyond the edge of the glass below.

STEP 4: Apply sealant to vertical adapter at the final position of the snapped-in horizontal adapter.

STEP 5: Snap the HORIZONTAL glazing adapters into the glazing reglet allowing the adapter to rotate into the pocket and contact the sealant at the vertical adapter.

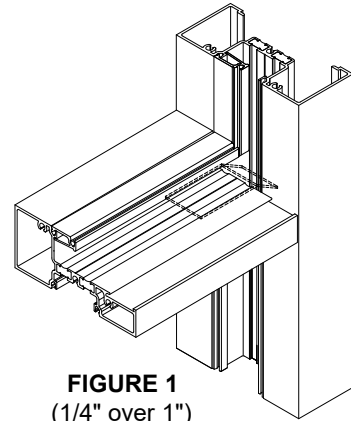


FIGURE 1
(1/4" over 1")

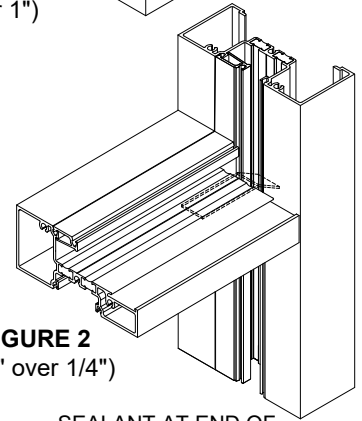


FIGURE 2
(1/4" over 1/4")

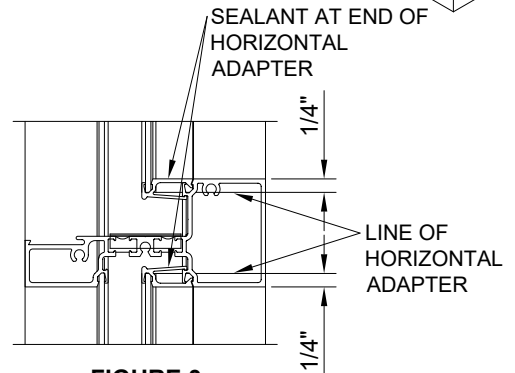


FIGURE 3

INSTALLATION OF GLAZING ADAPTERS - AFTER FRAME ASSEMBLY AND FOR FIELD RETROFIT APPLICATIONS

STEP 1: Cut VERTICAL glazing adapters to D.L.O. + 1/2".

STEP 2: Make a 1/4" by 1/4" notch at each end of the vertical glazing adapter. Notch should be made on the face side of the adapter nearest the gasket region as shown. (Figure 5)

STEP 3: Cut HORIZONTAL glazing adapters to D.L.O.

STEP 4: Snap vertical adapters into glazing reglets of frame. Adapter should be positioned to allow sealing of horizontal adapter to the vertical adapter (approximately 1/4" projection into horizontal pocket, Figure 3)

SPECIAL CARE NOTE: Care should be taken to insure that the glazing adapter does not impede water evacuation at the intermediate horizontal. The previously installed 1" water deflector must allow water to drain into the vertical pocket the edge of the glass below.

STEP 5: Apply sealant to vertical adapter at the final position of the snapped-in horizontal adapter.

STEP 6: Snap the HORIZONTAL glazing adapters in the glazing reglet allowing the adapter to rotate into the pocket and contact the sealant at the vertical adapter.

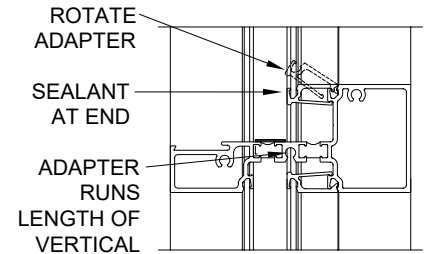


FIGURE 4

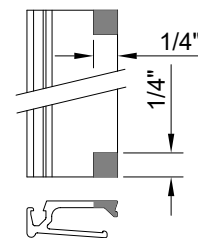


FIGURE 5

NOTES:

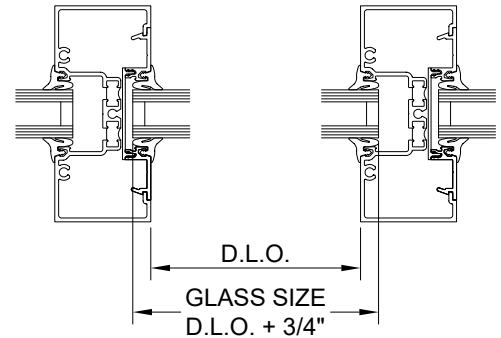
- 1) THESE FORMULAS DO NOT ALLOW FOR UNDERSIZE OR OUT OF SQUARE DAYLITE OPENINGS.
- 2) THE GLASS MANUFACTURER MUST INDICATE THE SPECIFIC GLAZING REQUIREMENTS FOR THE MATERIAL BEING USED.

NOTE:

IF PERIMETER SEAL WAS NOT INSTALLED PREVIOUSLY, INSTALL IT NOW, MAKING SURE IT MARRIES TO ALL RECEPTORS, JAMBS, END DAMS, AND SPLICES.

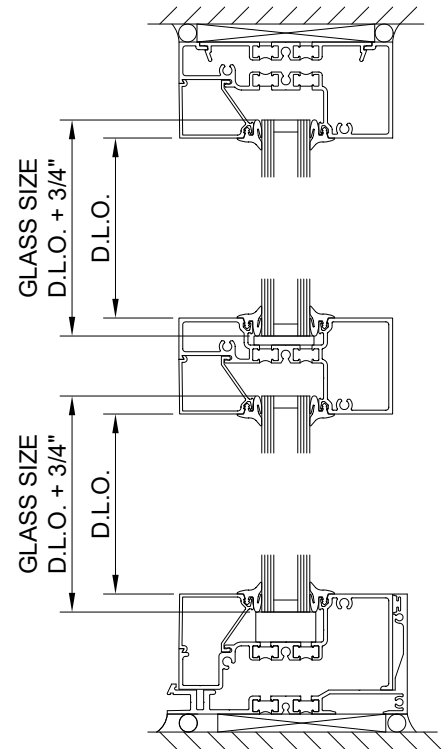
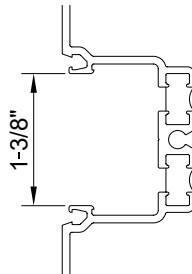
STEP A: All pockets for 1" infill are 1-3/8" in width and will accept up to 1-1/8" glass dry glazed. All pockets for 1/4" infill are 5/8" in width, and will accept up to 3/8" glass dry glazed.

STEP B: Glass size is D.L.O. (Daylight Opening) + 3/4" for captured systems.

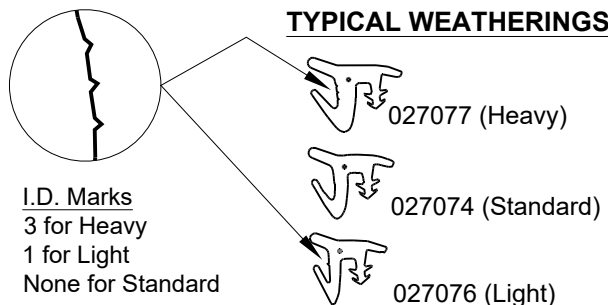


GLAZING CHART FOR 1" SYSTEM

Infill Thickness	*Adaptor	Weathering for Typical Systems
1/8"	451VG029	027077 (Both Sides)
1/4"	451VG029	027074 (Both Sides)
3/8"	451VG029	027076 (Both Sides)
1/2"	451VG030	027077 (Both Sides)
5/8"	451VG030	027074 (Both Sides)
3/4"	451VG030	027076 (Both Sides)
7/8"	_____	027077 (Both Sides)
1"	_____	027074 (Both Sides)
1-1/8"	_____	027076 (Both Sides)



NOTE: For infill thickness in 1/16" increments or oversize and undersize glass, use a combination of the standard (027074) with either the light (027076) or heavy (027077) gaskets.



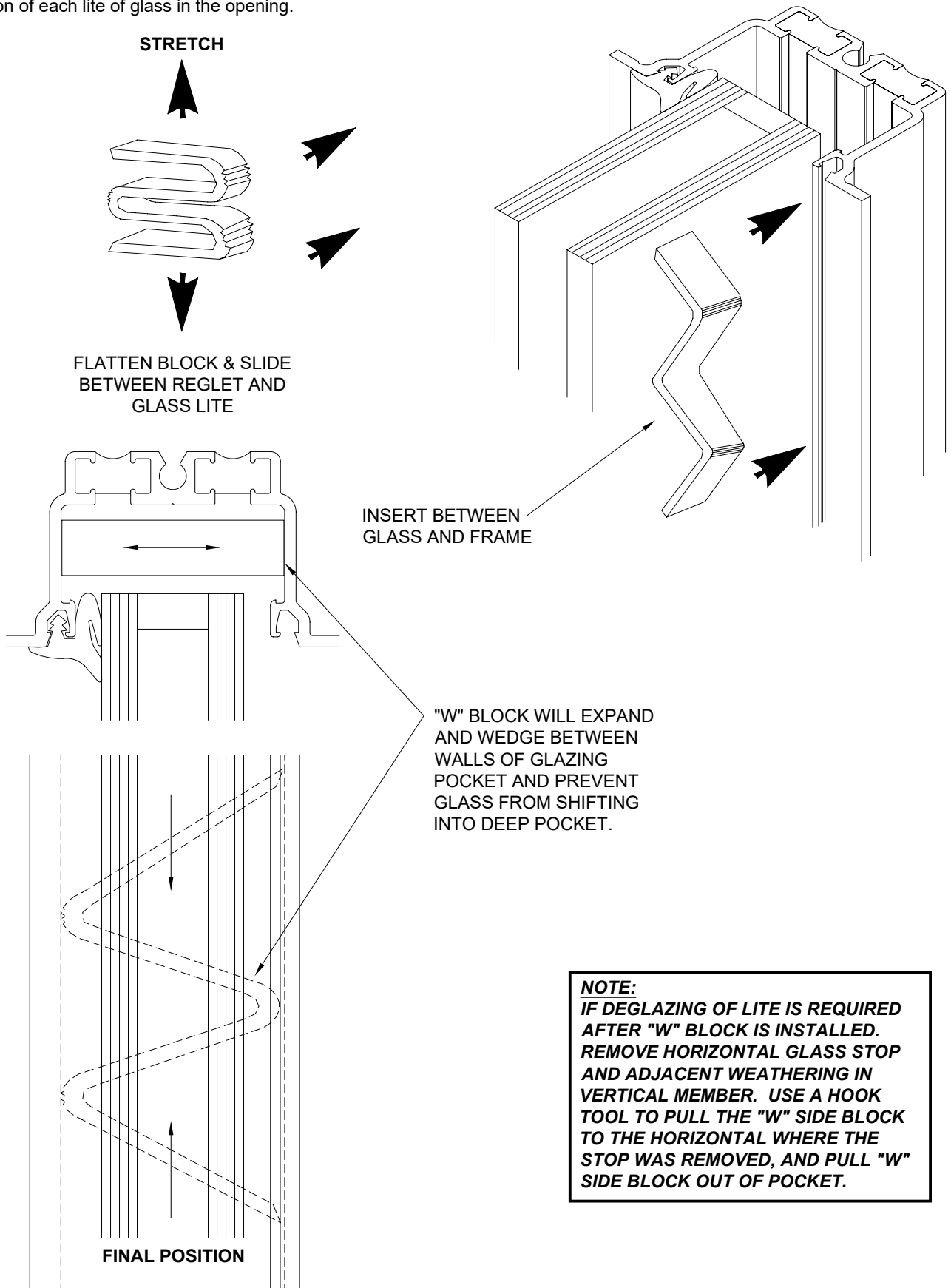
***NOTE:**

Snap-in glazing adaptors 451VG029 and 451VG030 are provided for applications requiring infills less than 1" in thickness at adaptation. Reference Section III, Glazing Adaptors, for adaptor cut lengths and seal information.

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One "W" Side Block should be installed into the deep pocket of the mullion of each lite of glass in the opening.



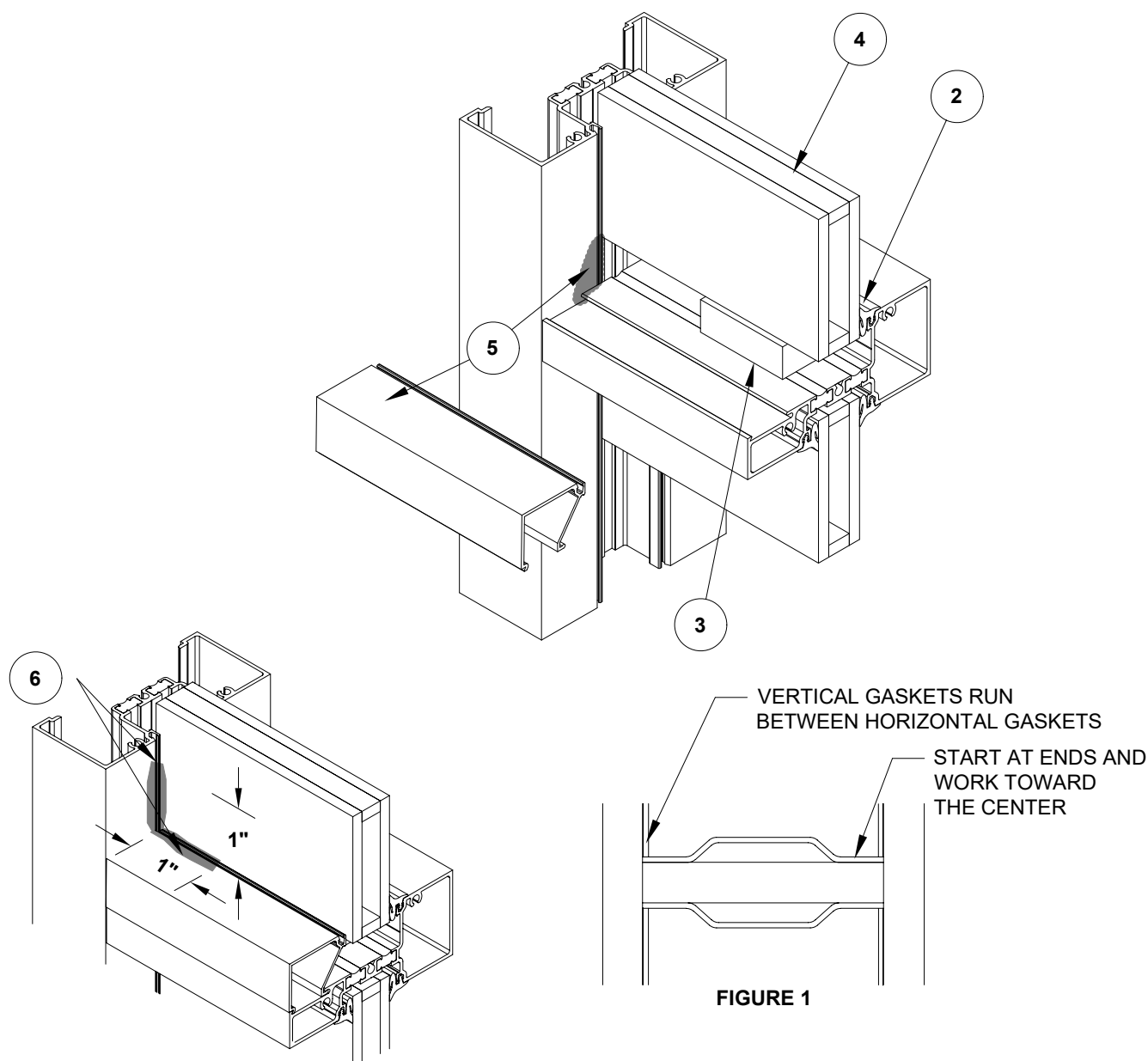
NOTE:
 IF DEGLAZING OF LITE IS REQUIRED AFTER "W" BLOCK IS INSTALLED. REMOVE HORIZONTAL GLASS STOP AND ADJACENT WEATHERING IN VERTICAL MEMBER. USE A HOOK TOOL TO PULL THE "W" SIDE BLOCK TO THE HORIZONTAL WHERE THE STOP WAS REMOVED, AND PULL "W" SIDE BLOCK OUT OF POCKET.

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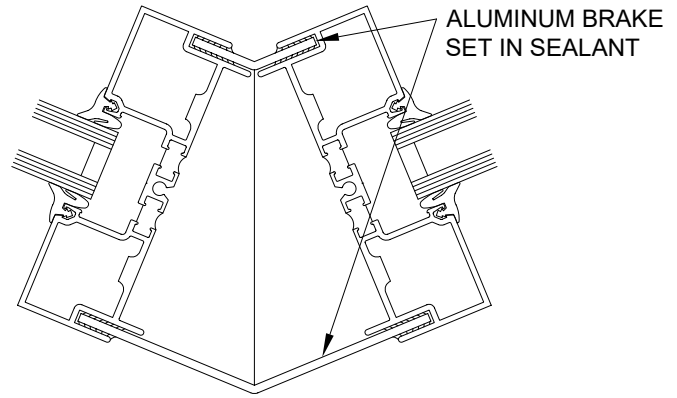
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- STEP 1:** Square cut horizontal and vertical gaskets to an approximate length of D.L.O. + 1/4" per foot of D.L.O.
- STEP 2:** Install gaskets on the side of frame opposite glass stops first.
- A. Insert gaskets into the horizontal members first starting at the ends and work toward the center as shown.
(See Figure 1)
- B. Install vertical gaskets into the same side of frame after horizontal gaskets are in place in the same manner.
- STEP 3:** Position setting blocks at points under glass as required.
- STEP 4:** Install glass into frame using standard flush glazing technique.
- STEP 5:** Run bead of sealant along vertical reglets where glass stop meets, then install glass stop.
- STEP 6:** Run beads of sealant along external vertical and horizontal **gasket** reglets at **all horizontal members**, 1" from corners.
- STEP 7:** Install horizontal and vertical gaskets into glass stop side of frame in the same manner as described in Step #2.



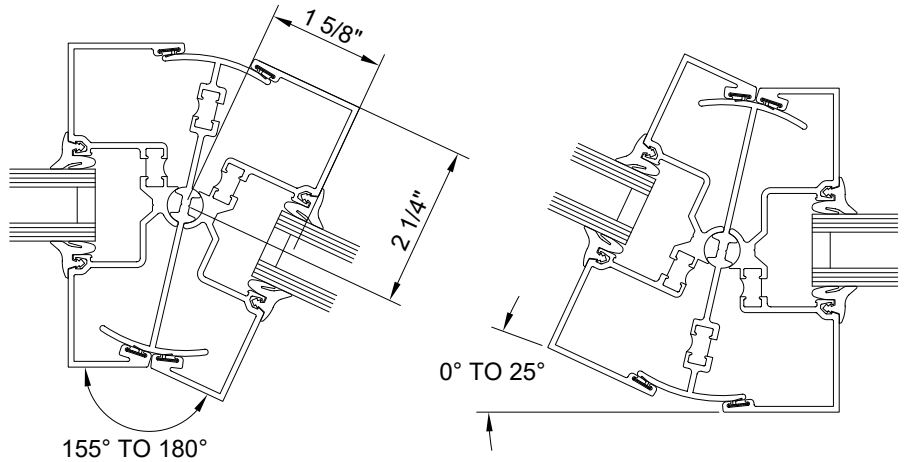
ADJUSTABLE BRAKE METAL CORNERS

Use the same preps as are required for the standard vertical, refer to section VII.



PIVOTED INSIDE AND OUTSIDE CORNERS

Use the same preps as are required for the standard vertical, refer to section VII. Drill (#26) and countersink 0.147 diameter holes for assembly screws (#10 x 9/16"). Fasten together with supplied screws. Screws should be located 6" from each end and 24" on center.

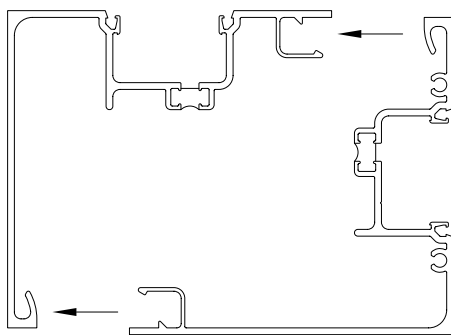


NOTES:

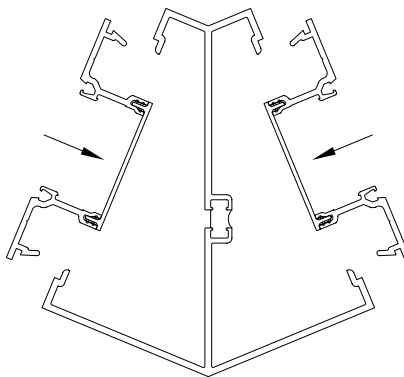
- 1) CONTINUOUS WEATHERING INSTALLED INTO BOTH INTERIOR AND EXTERIOR OF CORNER HALVES BEFORE ASSEMBLY.
- 2) LAYOUT AND CUT SIZES CAN BE DETERMINED USING PIVOT CENTER LINES.

SNAP CORNERS

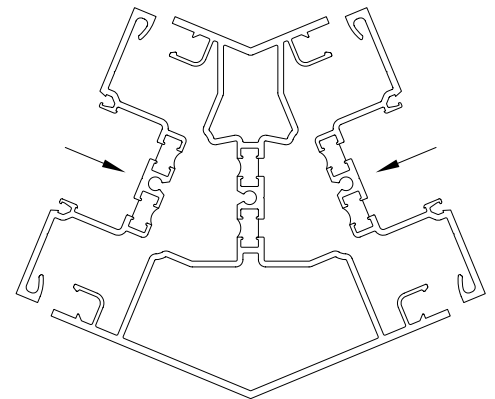
Use the same preps as are required for the standard vertical, refer to section VII. Snap corners together as shown.



90° CORNER



135° CORNER



135° CORNER

NOTE:

TIGHT SNAPS MAY BE WAXED TO MAKE ENGAGEMENT EASIER. CORNERS ARE NOT DESIGNED TO BE UNSNAPPED.

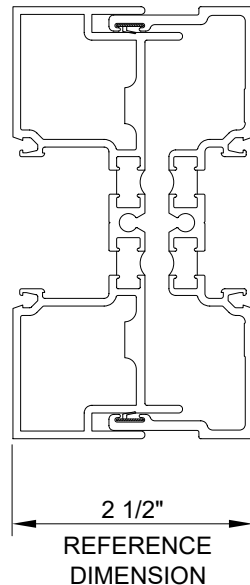
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EXPANSION MULLIONS

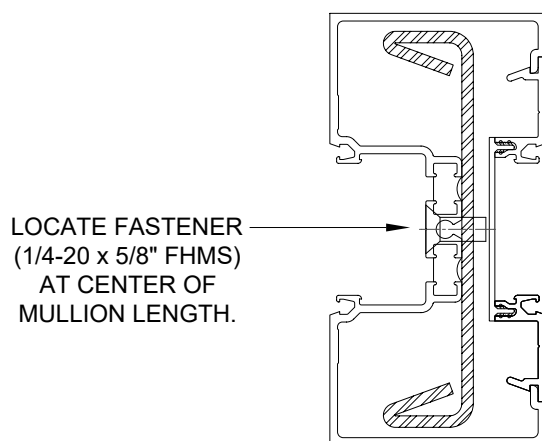
An expansion mullion is to be used every 20' in large openings. The dimension of the assembly should be adjusted based on the temperature at the time of assembly and expected high and low service temperatures use reference dimension. (For example, the sight line will be reduced slightly when installed in hot weather and increased slightly when installed in cold weather).



NOTE:
DO NOT LINE UP
EXPANSION
MULLIONS WITH
THE SPLICE JOINT
OF THE HEAD AND
SILL RECEPTORS

STEEL REINFORCING

Steel reinforcement should be cut to mullion length minus 12" and fastened into place to prevent movement of the steel in the mullion. Position steel 6" from top of mullion and 6" from bottom of mullion, providing room for the mullion anchors. The cut ends of the steel reinforcing must be coated with a corrosion-inhibiting primer before installation.



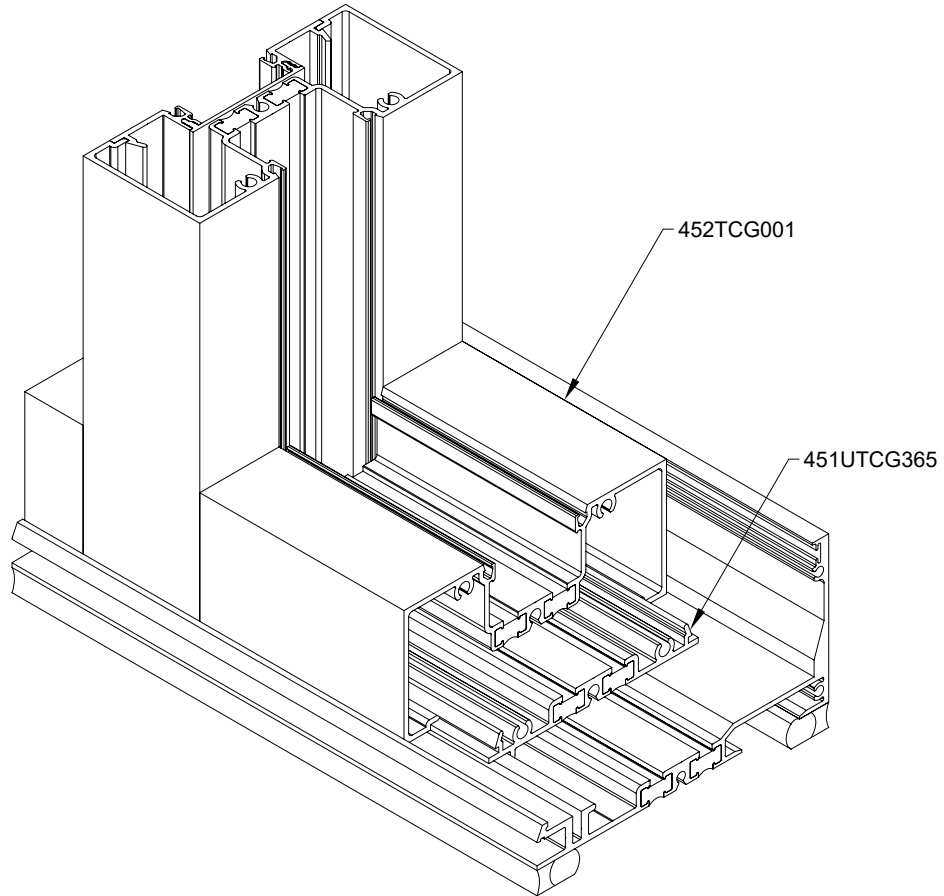
2-1/4" WIDE MULLION
WITH 450110 STEEL
REINFORCING

NOTE:
CONSULT
APPLICATION
ENGINEERING FOR
FRONT AND BACK
PLANE SYSTEMS
WITH STEEL
REINFORCING

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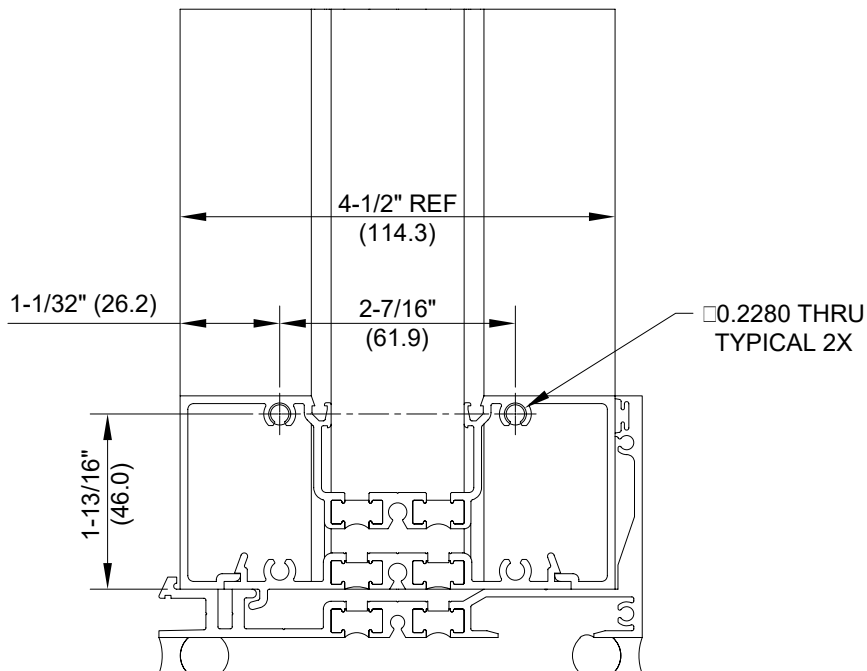
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452TCG001 SILL FOR CENTER GLAZED OPTION



NOTE 1: When using tall sill clips, no clips are required in the last bay.

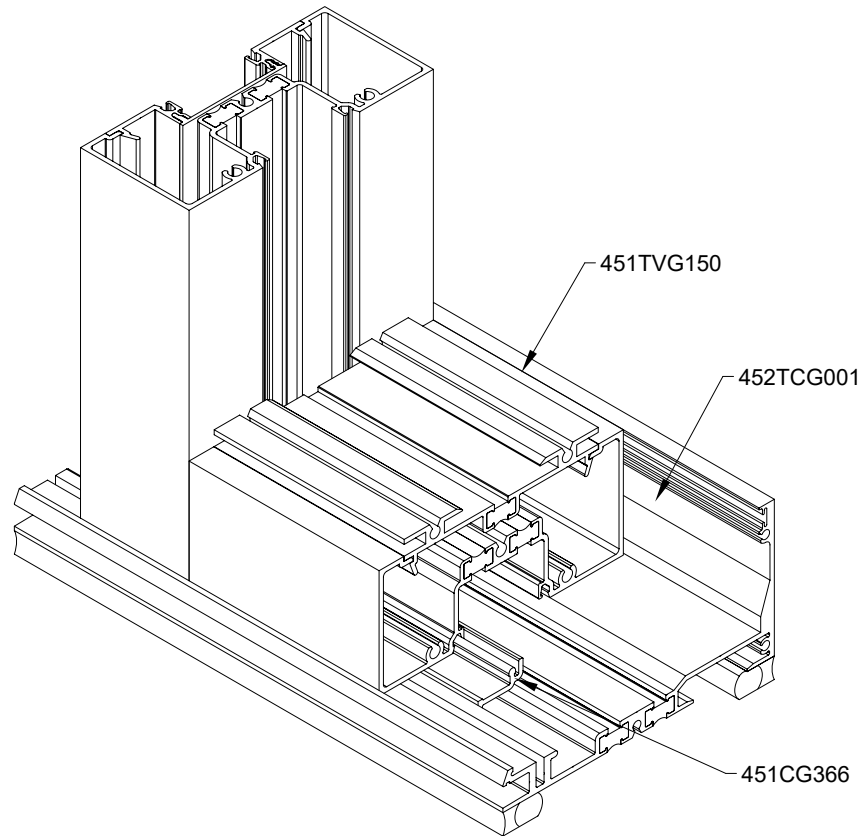
NOTE 2: When using the sill-to-sill flashing clip, in applications where the frame height is less than 6 feet tall, add 1/4" (6.4) to the Shim Space at Head (SSH +1/4" (6.4)) to obtain the proper clearance during installation of the frame.



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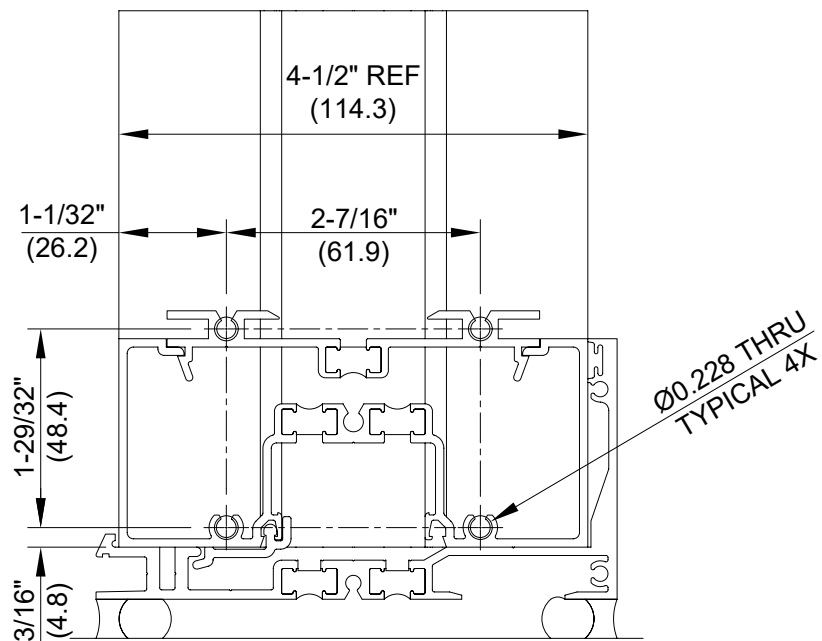
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BRAKE METAL ADAPTER AT SILL (SCREW SPLINE) FOR CENTER GLAZED OPTION



NOTE 1: When using tall sill clips, no clips are required in the last bay.

NOTE 2: When using the sill-to-sill flashing clip, in applications where the frame height is less than 6 feet tall, add 1/4" (6.4) to the Shim Space at Head (SSH + 1/4" (6.4)) to obtain the proper clearance during installation of the frame.



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