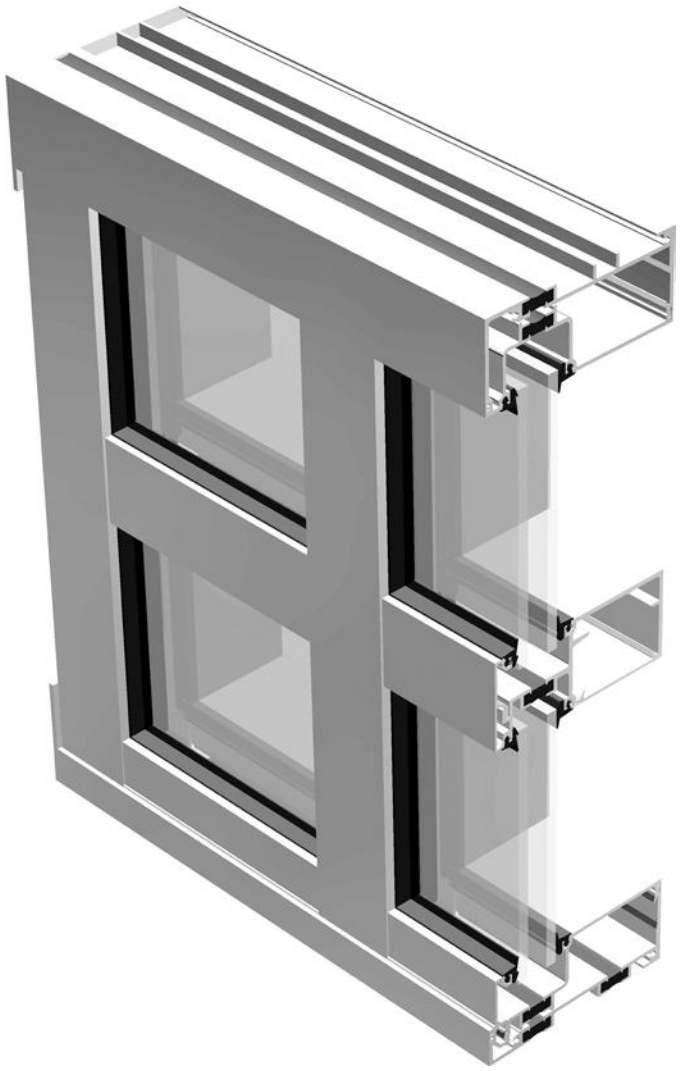
INSTALLATION INSTRUCTIONS

ThermaStack™
Thermal Storefront



Oldcastle BuildingEnvelope®

Phone: 1-866-OLDCASTLE (653-2278) • OBE.com

06/04/2024

IMPORTANT: READ THIS MANUAL THOROUGHLY BEFORE BEGINNING INSTALLATION

THE ASSEMBLY DETAILS FOUND IN THIS PACKAGE ARE GENERIC AND ARE FOR REPRESENTATION ONLY WITH THE INTENT OF GIVING THE ASSEMBLY TEAM A VISUAL REPRESENTATION AS TO HOW THE ASSEMBLIES TYPICALLY ASSEMBLE. THE SHOP SUBMISSION DRAWINGS AND DETAILS ARE THE GOVERNING DOCUMENTS AND AS SUCH THIS PACKAGE IS TO BE USED ONLY AS A RESOURCE.

FOLLOW SEALANT MANUFACTURER'S RECOMMENDATIONS FOR USE AND APPLICATION OF WEATHER SEAL SILICONE SEALANT.

NOTE: CUSTOMER / PROJECT QUALITY ASSURANCE PROCEDURES ARE SEPARATE DOCUMENTS AND ARE TO BE FOLLOWED IN CONJUNCTION WITH THIS MANUAL.

GENERAL INFORMATION

PRODUCT USE

The air and water performance of the ThermaStack™ thermal storefront is directly related to the completeness and integrity of the assembly and installation process of the seal installed at the horizontal to vertical connections and at the interior side of the glass.

Variations on details shown may occur but are not the responsibility of Oldcastle BuildingEnvelope®.

BUILDING CODES

Oldcastle BuildingEnvelope® does not control the application of its product configurations, sealant, or glazing material and assumes no responsibility for the application. It is the responsibility of the owner, architect, and installer to make these selections in strict compliance with applicable laws and building codes.

INSTALLER QUALIFICATION

The ThermaStack™ thermal storefront is intended for fabrication, assembly, sealing, installation and glazing by professionals with appropriate knowledge and experience of the system(s) and their incorporation into various building conditions.

MATERIAL HANDLING, PROTECTION, AND STORAGE

Handle all material carefully. Do not drop from the truck. Stack with adequate separation so the material will not rub together. Store material off the ground, protecting against the elements and other construction hazards by using a well ventilated covering. Remove material from package if wet or located in a damp area. For further guidelines consult AAMA publication "Care and Handling of Architectural Aluminum from Shop to Site".

SHOP

- Cardboard wrapped or paper interleaved material must be kept dry.
- Check arriving materials for quantity and keep record of where various materials are stored.

JOB SITE

- Material at job site must be stored in a safe place well removed from possible damage by other trades.
- Cardboard wrapped or paper interleaved materials must be kept dry.
- Keep record of where various materials are stored.
- Protect materials after erection. Cement, plaster, and other alkaline solutions are very harmful to the finish.

GENERAL INFORMATION (CONTINUED)

CHECK MATERIAL

Check glass dimensions for overall size as well as thickness. Oldcastle BuildingEnvelope® cannot be held responsible for gaskets that are not water tight due to extreme glass tolerances. The ThermaStack™ system is designed to accommodate glass or panels measuring 1" in thickness (+/- 1/32").

Check all materials upon arrival at job site for quality and to determine any shipping damage. Using the contract documents, completely check the surrounding conditions that will receive your materials. Notify the general contractor by letter of any discrepancies before proceeding with the work. Failure to do so constitutes acceptance of work by other trades.

Check shop drawings, installation instructions, architectural drawings and shipping lists to become familiar with the project. The shop drawings take precedence and include specific details for the project. The assembly and installation instructions are of a general nature and cover the most common conditions.

SEALANTS

Due to varying job conditions, all sealant must be approved by the sealant manufacturer to ensure it will perform per conditions shown on the instructions and shop drawings. The sealant must be compatible with all surfaces in which adhesion is required, including other sealant surfaces. Use primers where directed by sealant manufacturer. Properly store sealant at the recommended temperatures and check sealant for expiration date and shelf life before using.

STRUCTURAL SEALANTS

The fabrication and installation of a structural silicone-glazed (SSG) or wet glazed system requires more technical knowledge and experience than is required for a conventional pressure-glazed or dry glazed system. The glazing contractor should take all steps as outlined and required by the structural silicone sealant manufacturer, glass fabricator, framing manufacturer, and the project professional engineer of record as well as follow local building code requirements and industry best practices to ensure the proper installation and safe performance of the SSG system.

The glazing contractor for each project needs to ensure compliance with each step, including, but not limited to, design reviews, formal adhesion testing, formal compatibility testing, project specification compliance, validating procedures, field testing, and quality control validation of installed product and surrounding conditions.

Testing of component materials for use in a SSG or wet glazed system is mandatory to fulfill project specifications and warranty requirements and must be submitted by the glazing contractor to the structural silicone manufacturer. All materials that comprise the structural silicone joint, such as the framing system (with the job-specific finish) and job-specific glass must be tested by the structural silicone manufacturer for compatibility and adhesion. All other accessory materials in contact with the structural silicone, such as setting blocks, spacers, gaskets, sweeps, air seals and expansion joints, must also be submitted to the silicone sealant manufacturer for compatibility testing.

To ensure that nothing has changed in formulation or chemistry since the initial tests, subsequent testing during periodic time frames of the project is to be conducted to confirm continued acceptance of the material for use on the project.

To ensure the structural performance and integrity of the insulating glass unit (IGU), the glazing contractor must submit the project shop drawings to the glass fabricator to obtain approval for use of their product(s) in any 2, 3 or 4-sided SSG applications.

GENERAL INFORMATION (CONTINUED)

Quality control procedures for field glazing are to be increased beyond those required for shop glazing. Job conditions will normally have dust, dirt, and other construction debris on the surfaces where structural silicone is to be applied. Great care should be exercised in cleaning and preparing these surfaces for silicone application. The recommendations of the silicone sealant manufacturer are to be strictly enforced and followed. The fabrication and installation of the SSG system and its components, whether shop or field glazed, should be governed by a quality control program, and all steps, procedures, and test reports should be documented throughout the project.

Prior to installation of any SSG system, refer to industry documents (e.g., AAMA Curtain Wall Design Guide Manual, ASTM C1401-14, and AAMA SSGDG-17) for detailed instructions and recommendations.

THE GLAZING CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR ENSURING COMPLIANCE WITH THE ABOVE AND ASSUMES FULL LIABILITY FOR ANY ISSUES ARISING FROM NONCOMPLIANCE.

FIELD CONDITIONS

All material to be installed plumb, level, and true. Aluminum to be placed in direct contact with masonry or incompatible material should be isolated with a heavy coat of zinc rich, bituminous paint or non-metallic material unless otherwise specified. After sealant is set and a representative amount of the wall has been glazed (250 sq. ft. or more), perform a water hose test in accordance with AAMA 501.2. On large projects the hose test must be repeated during the glazing operation. Review anchors or embeds in structure as early as possible to confirm that 'as built' building structure can accommodate anticipated anchor tolerances.

CLEANING MATERIALS

Cement, plaster terrazzo, alkaline, and acid based materials used to clean masonry are very harmful to finishes. Any residue should be removed with water and mild soap immediately or permanent staining will occur. A spot test is recommended before any cleaning agent is used. Refer to the architectural finish guide in the detail catalogue.

EXPANSION JOINTS

Expansion joints and perimeter joints shown in these instructions and in the shop drawings are shown at nominal size. Actual dimensions may vary due to perimeter conditions and/or differences in metal temperature between the time of fabrication and the time of assembly/installation. For example, a 12' unrestrained length of aluminum can expand or contract 3/32" over a temperature change of 50 degrees F. Any movement potential should be accounted for at the time of fabrication, assembly, and installation.

GENERAL INFORMATION (CONTINUED)

GLAZING PRACTICES

The air and water performance of the ThermaStack™ Thermal Storefront is directly related to the completeness and integrity of the installation process, including but not limited to the assembly seals of the framing joinery, the installed glazing gaskets, and the alignment of the framing joinery glazing plane. Before glazing, verify the glazing pocket width and glazing infill thickness, as both must be in tolerance to assure adequate edge pressure and to achieve the desired air and water performance levels. (In general, framing systems utilizing 1" insulating glass are designed to accommodate a thickness variance of +/- 1/32"). Note: Excessive pressure can cause glass breakage and/or IGU failure. Consult the glass manufacturer for their recommended edge pressure per lineal inch.

To achieve the designed and tested air and water performance, best practices include:

- Glazing gaskets should be cut ¼" longer per foot, and lay flat, preferably for 24 hours
- Gaskets should be cut as single monolithic pieces and "crowded" during their installation to avoid corner gaps caused by post-installation relaxation
- The interior glazing gasket should be installed so as to avoid stretching, buckles, or tears
- Corners must be cut square, and at a slight angle when required to conform to the bevel on the intersecting gasket; sealed and butted together.
- Gasket corner joinery must also be crowded, and sealant applied onto the gasket contact frame surface and into gasket reglet raceway where applicable.
- Gasket corner seals are to be done just prior to installing glass, while the sealant is still wet and uncured, and ensure exterior gaskets are installed so as to place the glass into it's final in service condition and allow the sealant to conform to optimum configuration. Note: If the sealant cures prior to glazing, the cured sealant could create excessive edge pressure onto the glass and has the potential to cause glass breakage.
- The glass must be checked for squareness, size dimension, and thickness along the edges paying attention to any variances from center edge to corner edge
- Check the placement of the installed glass and verify there is proper edge bite into the pocket, and proper edge clearance from framing elements

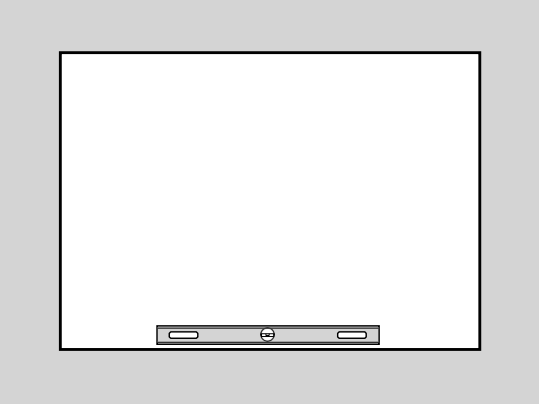
After sealant has set and a representative amount of the wall has been installed and glazed (250 square feet or more) run a water hose test in accordance with AAMA 501.2 specifications to check installation. On large projects the hose test should be repeated during the glazing operation. Consult and follow NGA's GANA Manual and FGMA Glazing Manual for proper glazing technique and procedure.

Table of Contents

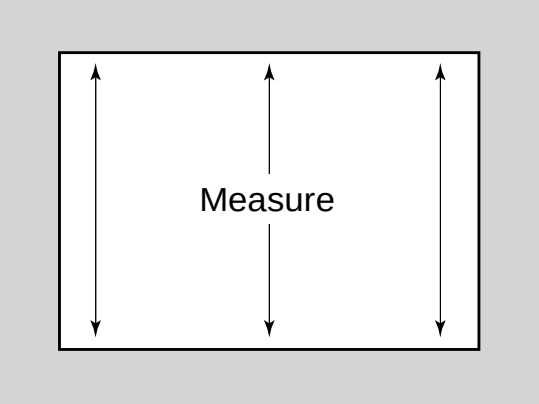
SITE PREPARATION

BEFORE INSTALLATION

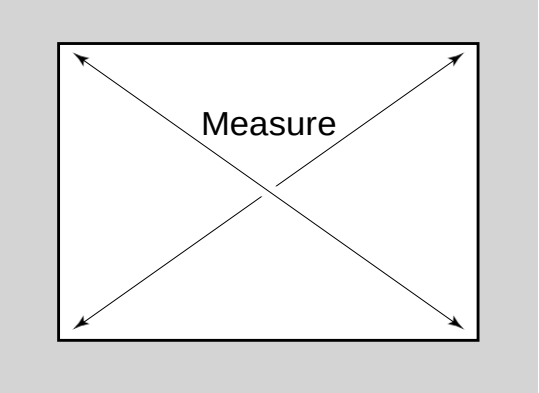
1. Review and measure the opening. Verify framing is plumb, straight, and true around window opening.
2. Verify rough window opening size has 1/2" (12.7) clearance in both width and height to the window. Measure opening at each end and at center vertically and horizontally. Make corrections to openings as required. Measure opening diagonally to check squareness. Chip concrete high points to flush and rounded corners to square.



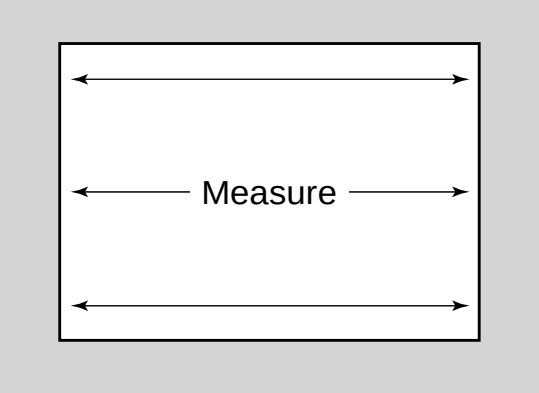
LEVEL



VERTICAL DIMENSION



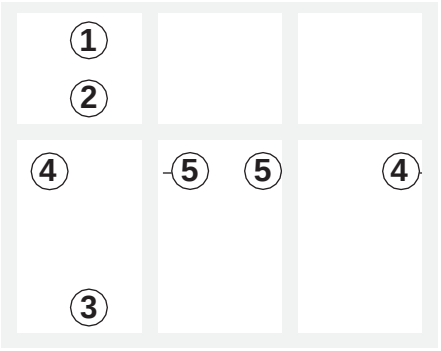
SQUARE



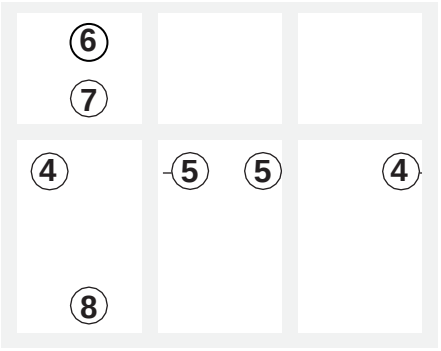
HORIZONTAL DIMENSION

TYPICAL ELEVATIONS
EXTERIOR AND INTERIOR GLAZING

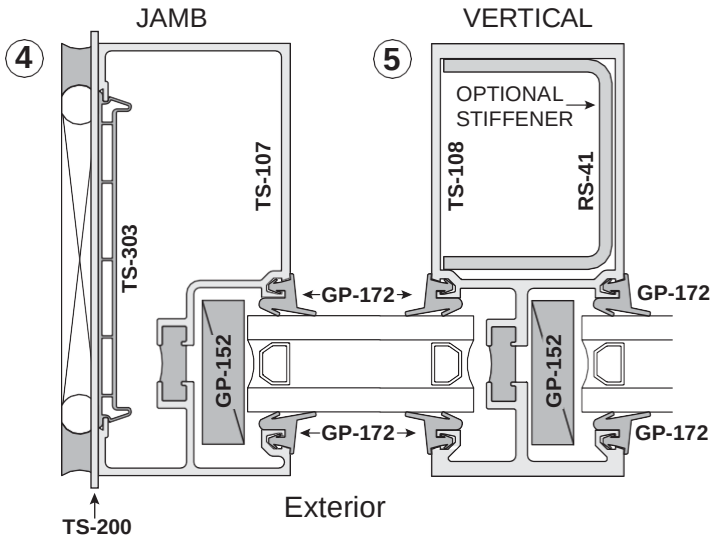
TYPICAL ELEVATION EXTERIOR GLAZING



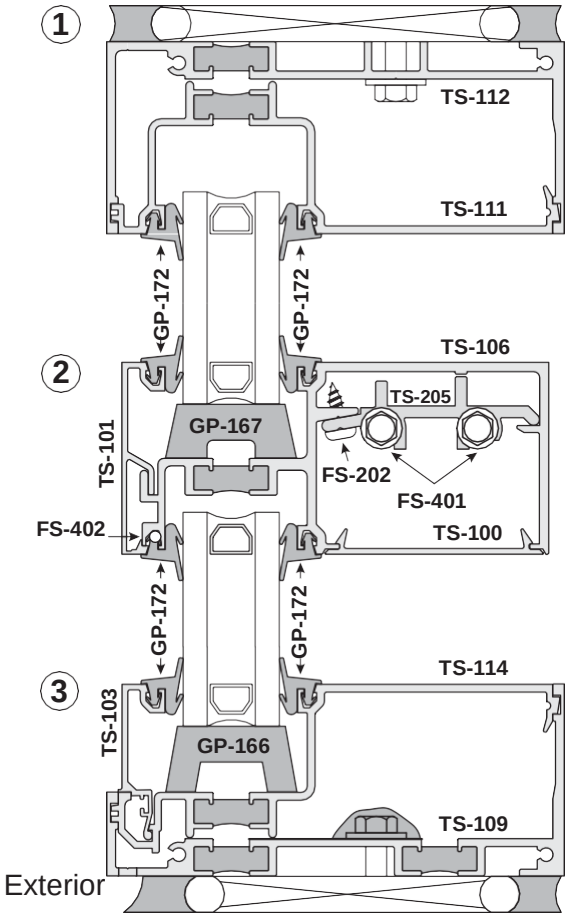
TYPICAL ELEVATION INTERIOR GLAZING



EXTERIOR AND INTERIOR GLAZING



EXTERIOR GLAZING

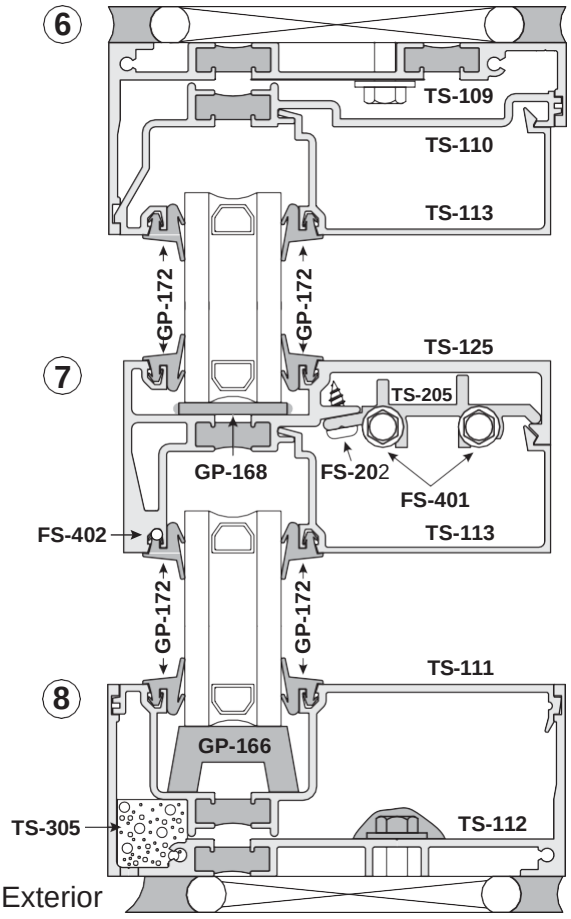


HEAD

INTERMEDIATE HORIZONTAL

SILL

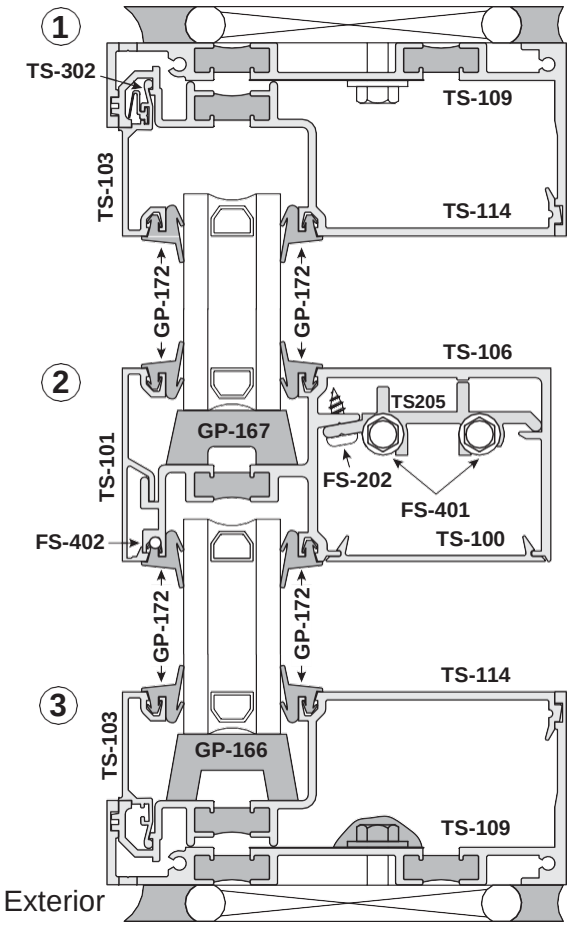
INTERIOR GLAZING

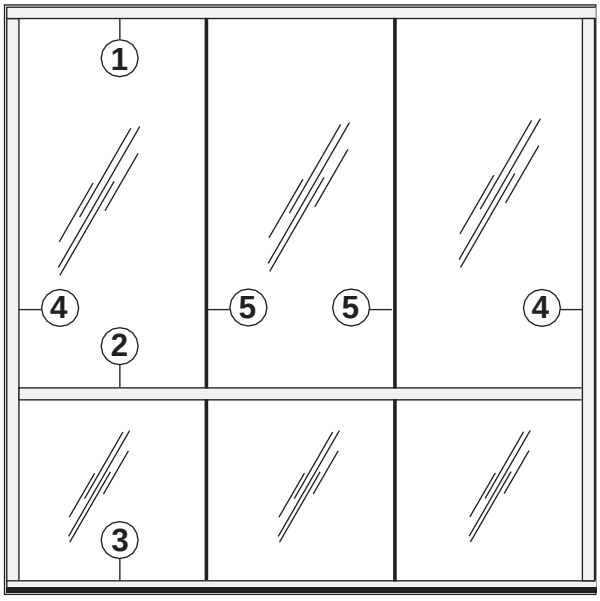


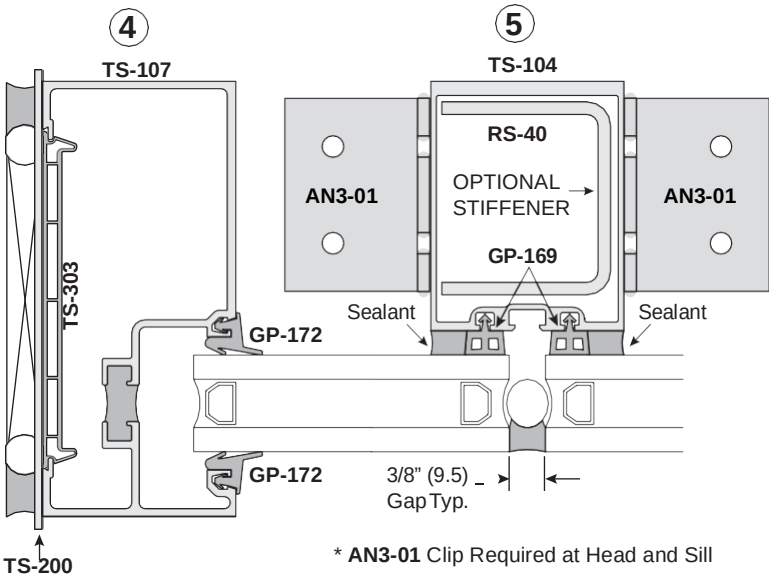
TYPICAL ELEVATIONS (CONTINUED)

EXTERIOR GLAZING FOR STRUCTURAL SILICONE APPLICATION

The following schematic details show proper member selection.







* **AN3-01** Clip Required at Head and Sill

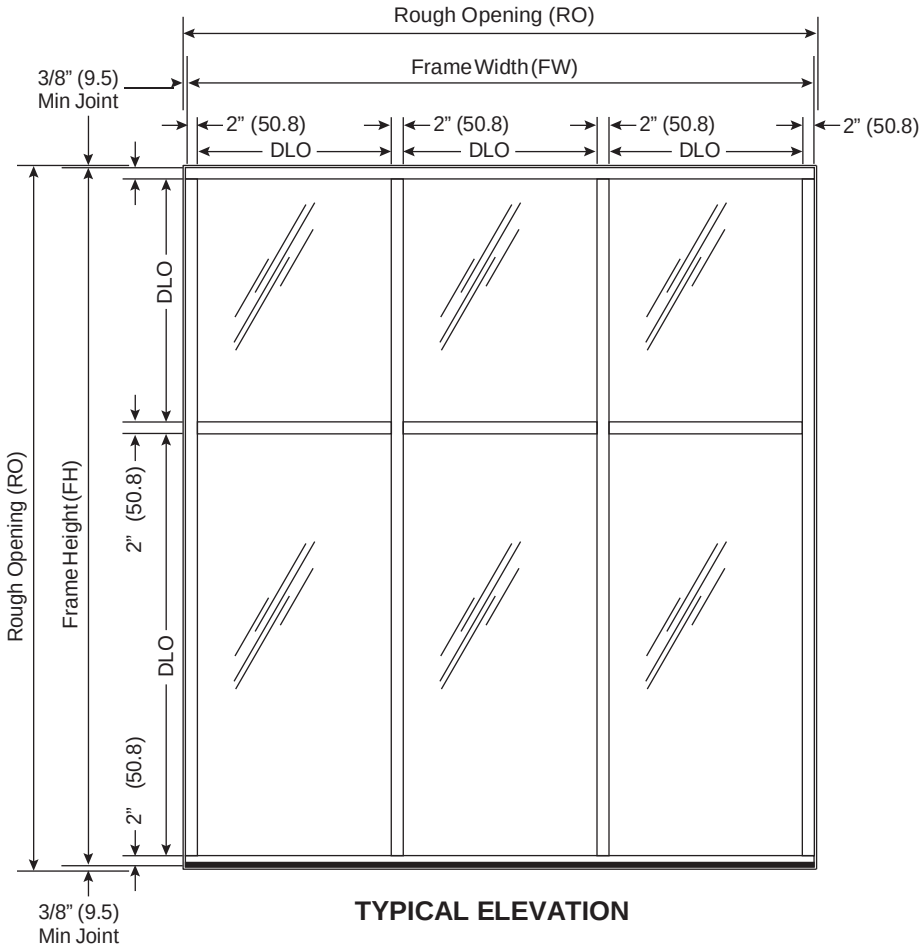
FRAME FABRICATION

Details shown in these instructions are 1" (25) glazing systems. Measure ROUGH OPENING to determine FRAME DIMENSION allowing 3/8" (9.5) minimum clearance for shimming and caulking around perimeter.

CUT MEMBERS

1. Cut members to size. Use the information below:

Component	Dimensioning
Head and Sill Channels:	FRAME WIDTH
Wall Jambs and Verticals:	FRAME HEIGHT minus 1-1/32" (26.2)
Head and Sill Fillers:	D.L.O. plus 0 minus 1/32" (0.8)
Horizontal Members:	D.L.O. plus 0 minus 1/32" (0.8)
Intermediate Horizontal Fillers:	D.L.O. minus 1/32" (0.8)
Horizontal Glazing Beads:	D.L.O. minus 1/32" (0.8)
Horizontal face Covers: ThermaStack™	D.L.O. minus 1/32" (0.8)
Horizontal face Covers: ThermaStack™ SSG	FRAME WIDTH minus 4-1/32" (102.4)
Vertical Spandrel Adaptors:	D.L.O. plus 1" (25.4)
Horizontal Spandrel Adaptors:	D.L.O. minus 1/8" (3.2)



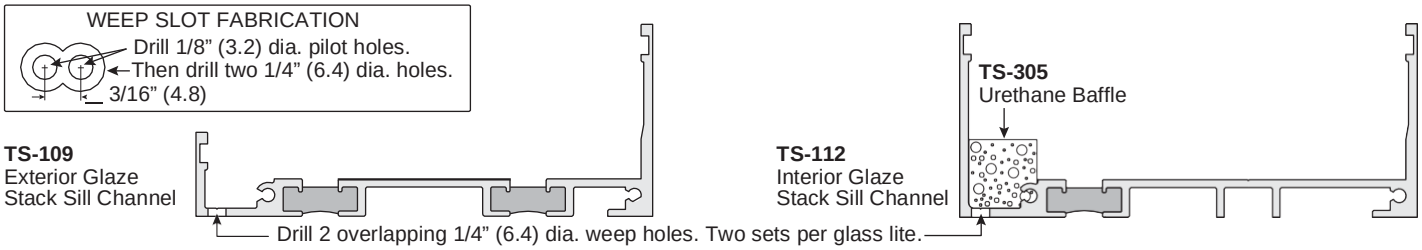
TYPICAL ELEVATION

FRAME FABRICATION (CONTINUED)

FABRICATE WEEP HOLES

2. Fabricate weep slots shown below in sill channel, two sets per glass lite at 12" (304.8) from verticals. See **DETAIL A**. Weep slots may be drilled on bottom or face of sill channel. Insert Urethane Baffle at Weep Hole locations for Interior Glaze. (Use silicone to hold them in place if necessary)

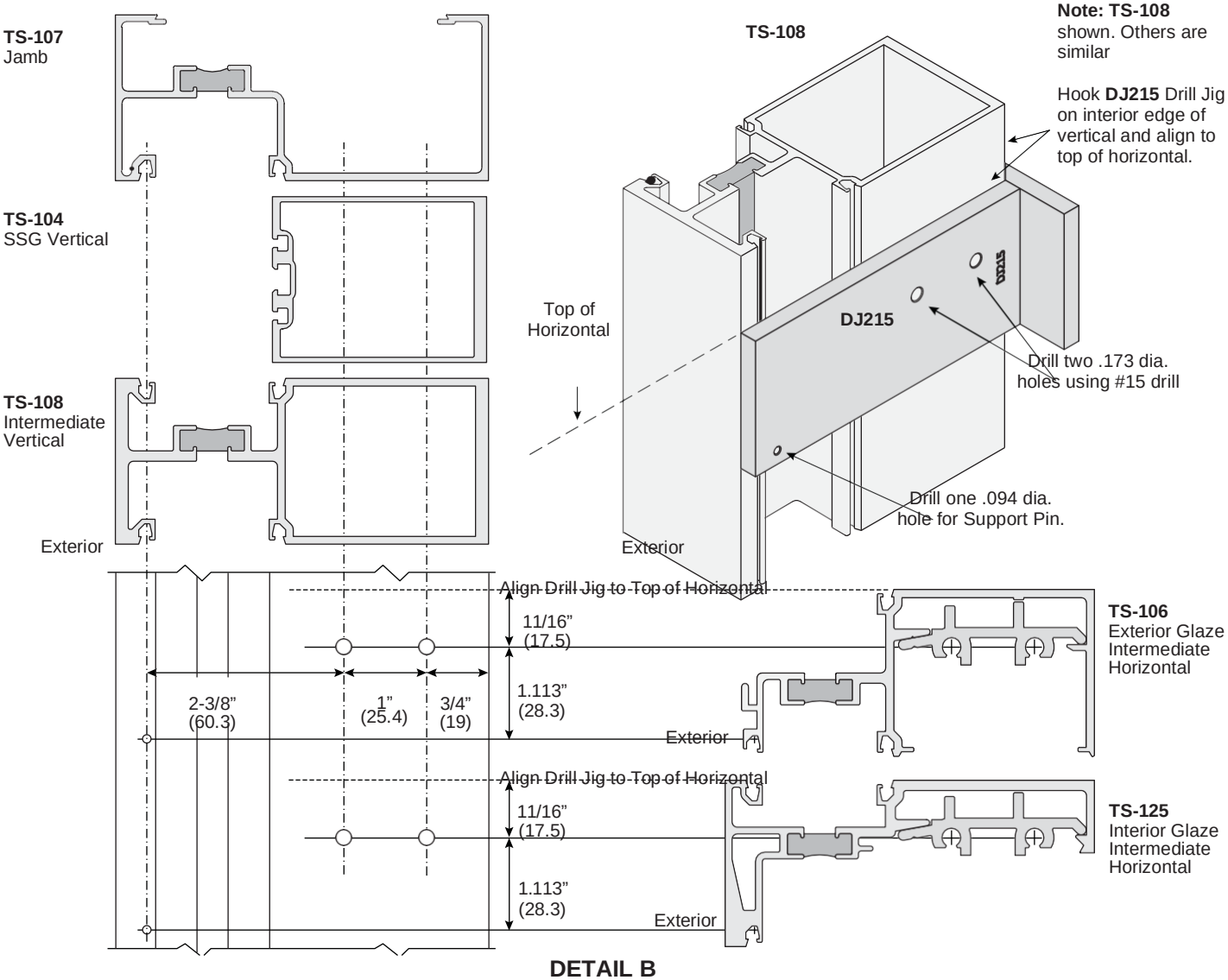
NOTE: For best water performance locate weep slots on bottom of sill channel.



DETAIL A

FABRICATE ANCHOR CLIP AND SUPPORT PIN HOLES

3. Mark on verticals the location of horizontal members and drill holes for **TS-201** anchor clips. Drill Jigs are available. The use of Oldcastle BuildingEnvelope® **DJ215** Drill Jig is recommended. See **DETAIL B**.

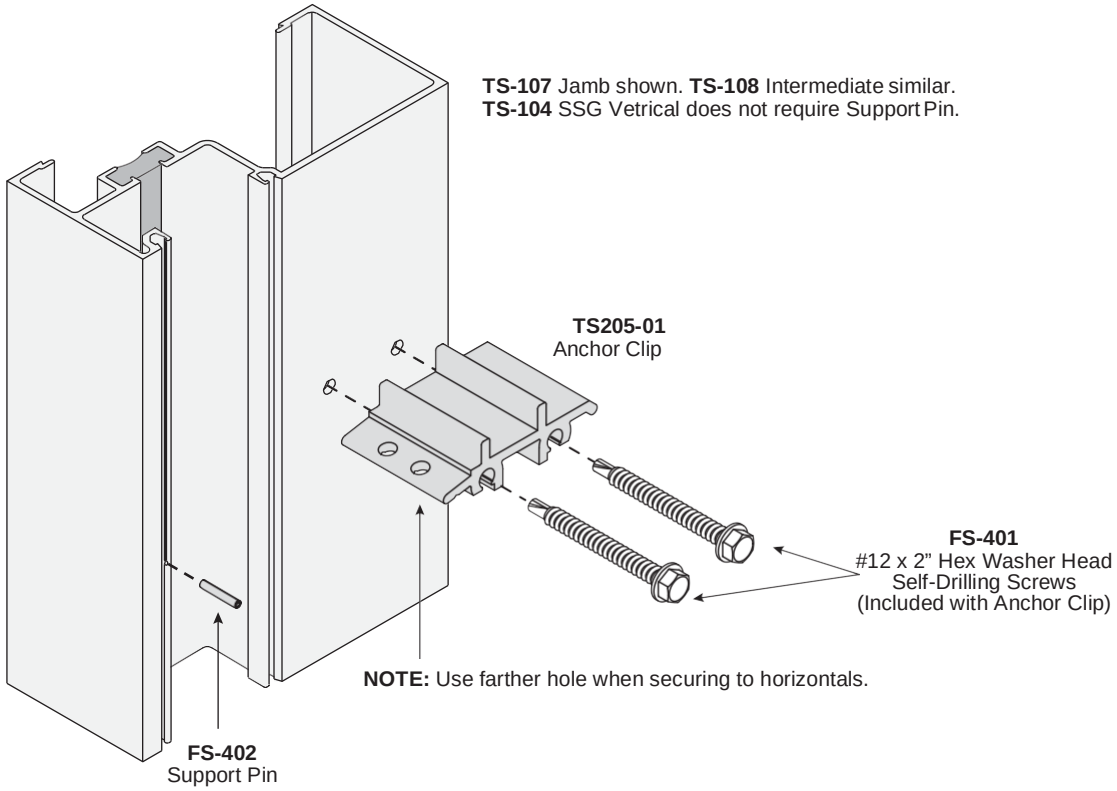


DETAIL B

FRAME ASSEMBLY

INSTALL ANCHOR CLIPS

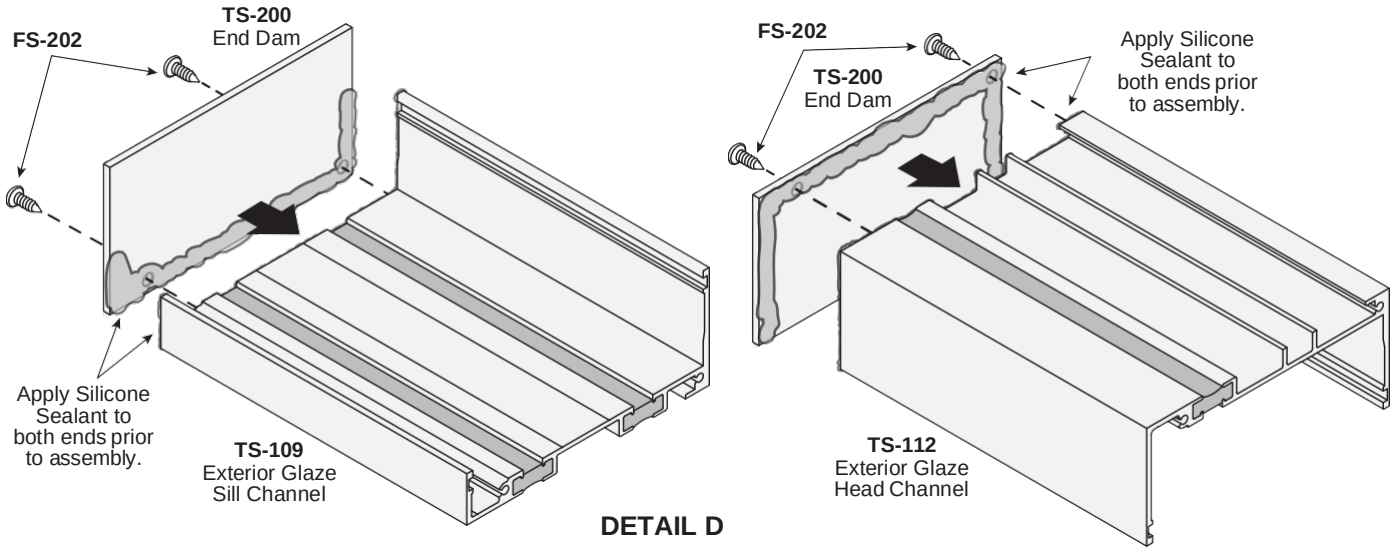
1. Attach anchor clips to verticals with screws provided. See **DETAIL C**.



DETAIL C

INSTALL END DAMS AT HEAD AND SILL CHANNELS

2. Apply End Dams to head and sill channels at ends of opening and secure with screws. See **DETAIL D**.



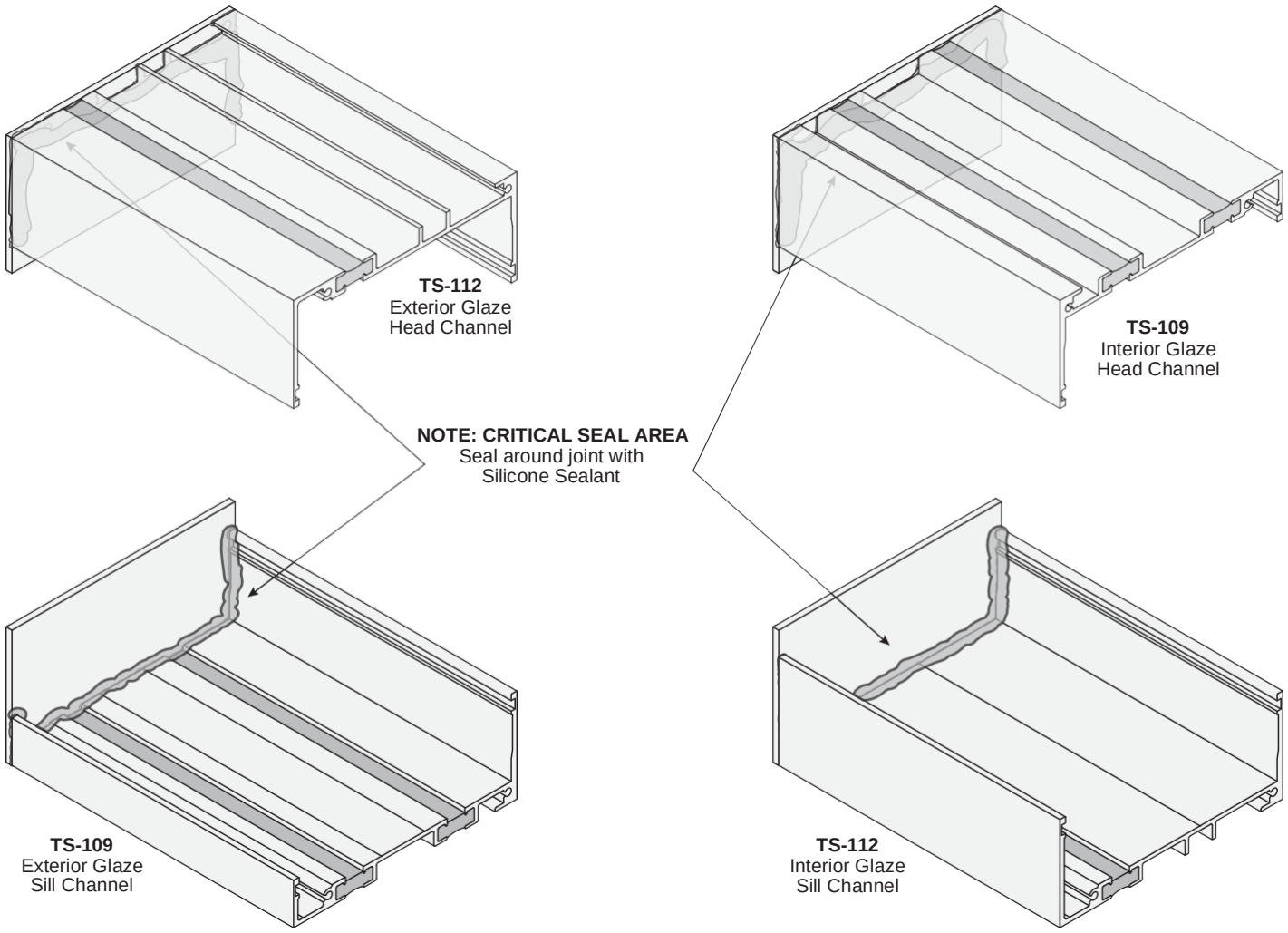
DETAIL D

FRAME ASSEMBLY (CONTINUED)

INSTALL END DAMS AT HEAD AND SILL CHANNELS (CONTINUED)

3. Seal around joint with Silicone to control water infiltration. See **DETAIL E**.

NOTE: Clean all surfaces prior to applying sealants.
See sealant manufacturer requirements.
TYPICAL AT ALL CONDITIONS



DETAIL E

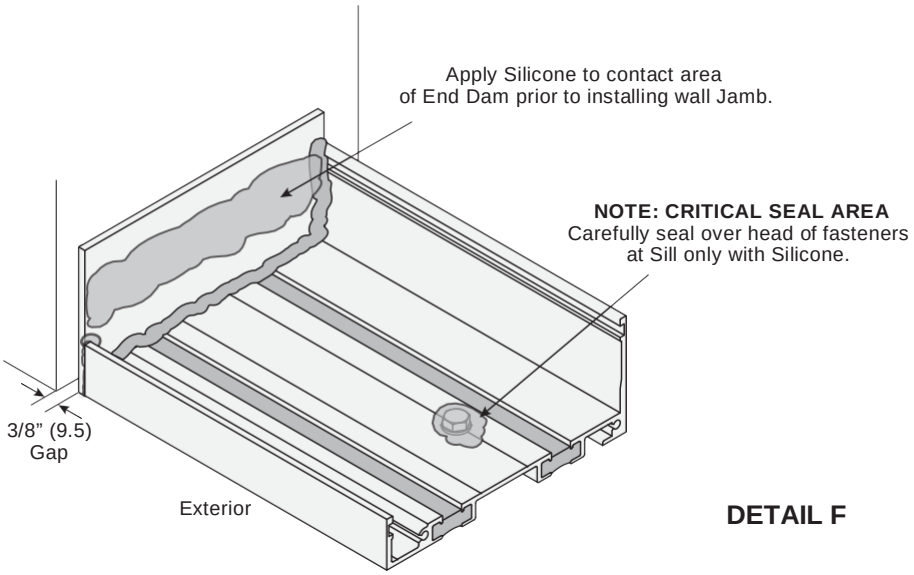
FRAME INSTALLATION

INSTALL HEAD AND SILL CHANNELS

1. Set head and sill channels in place plumb and square; shim as required to level and anchor to structure. Locate fasteners 6" (152.4) each side of verticals and 24" (609.6) on center or as required. Holes for fasteners should be elongated laterally to allow for thermal expansion. Seal over head of fasteners with Silicone. See **DETAIL F**. **Pin head and sill to structure at one point only per cut length.** (This hole is not elongated). Sill should be shimmed at fastener's location and under loading points.

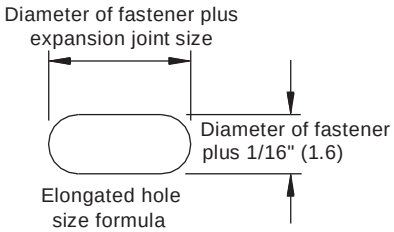
Ensure sill channel remains clean of debris during installation to prevent blockage of weep holes.

2. Install urethane baffles into sill channel at weep slot locations (Use Silicone to hold them in place if necessary). See **DETAIL I** on Page 16.



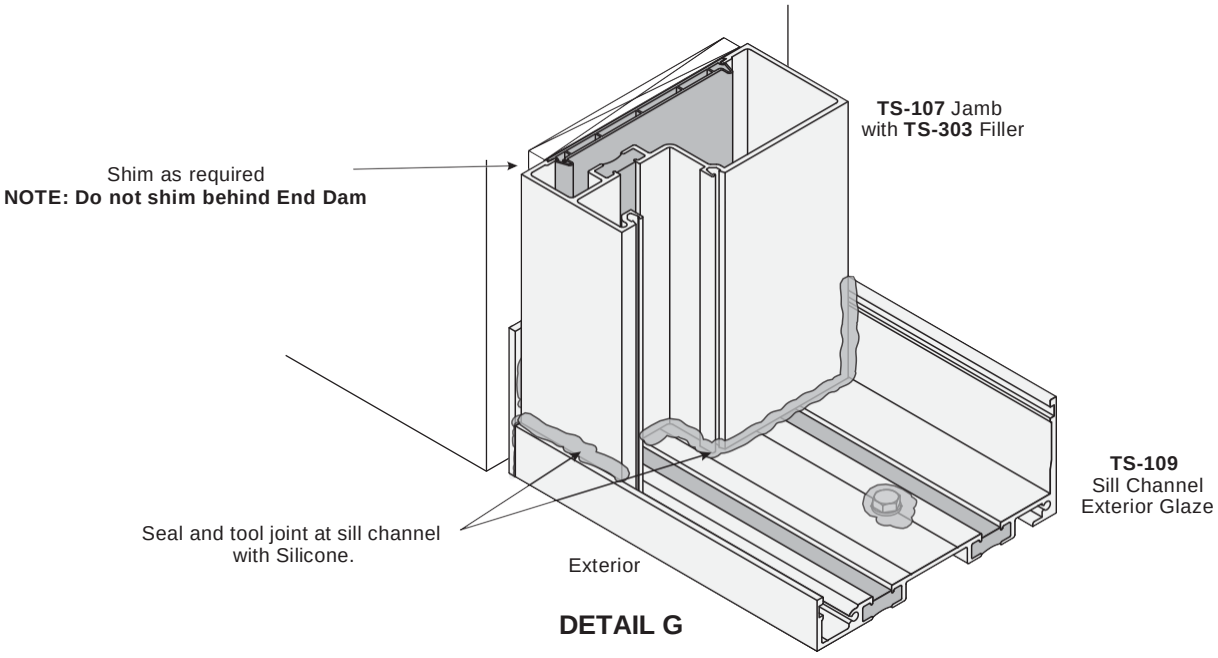
DETAIL F

NOTE: The projection of some wedge type fasteners in close proximity to Vertical members will require a simple clearing notch on Vertical for installation. Sleeve type anchors offer minimal projection.



INSTALL WALL JAMB

3. Install wall jamb into head and sill channels. Shim and plumb as required. See **DETAIL G**.



DETAIL G

FRAME INSTALLATION (CONTINUED)

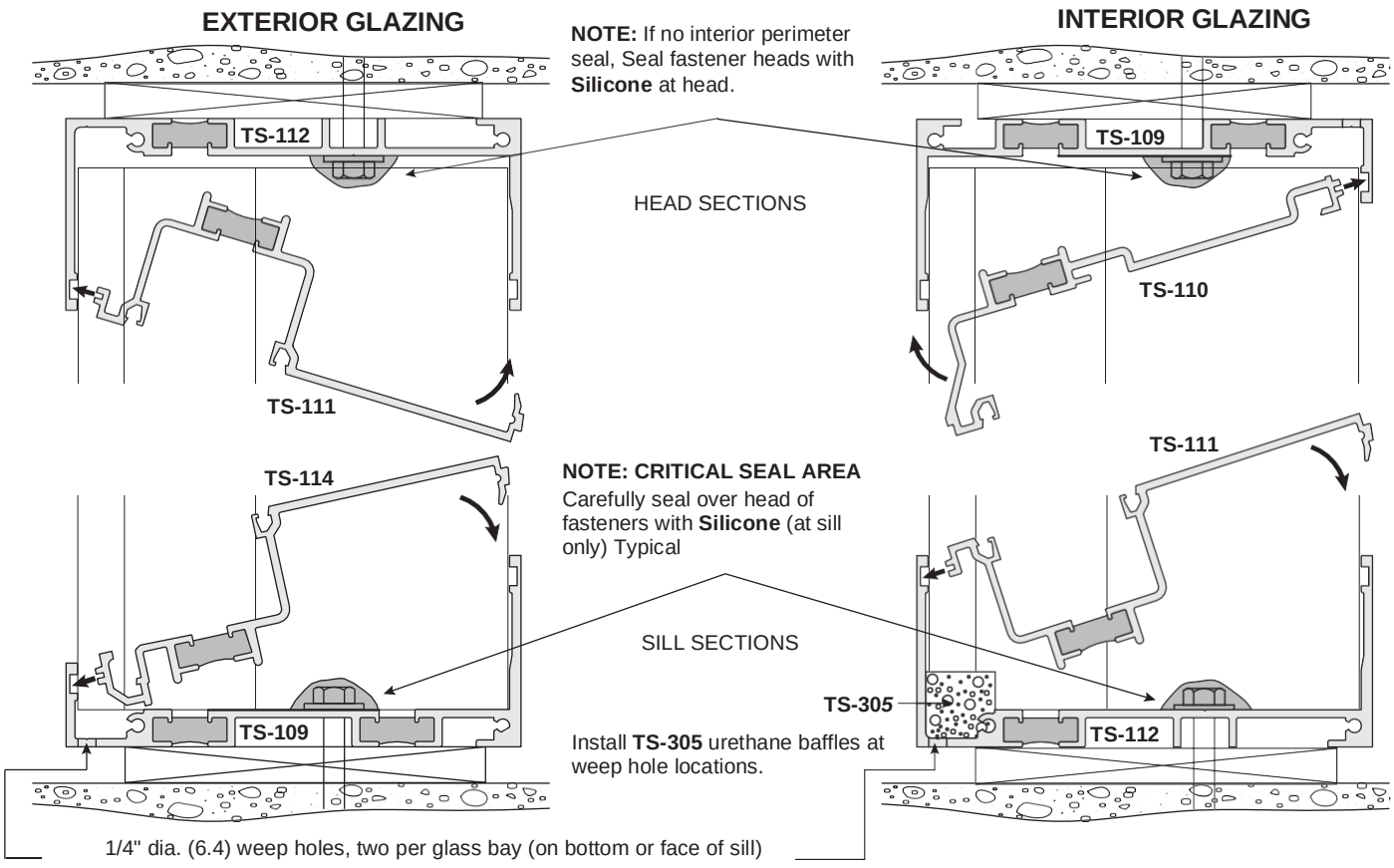
4. Snap-in head and sill fillers for the first glass bay. See **DETAIL H**.
5. Install next vertical tight against head and sill fillers.

NOTE: Verticals are not symmetrical. Never allow two shallow pockets to face each other.
Verticals must be secured to head/sill channels when end reactions exceed 500 lbs. (2224 N)

6. Snap-in head and sill fillers for the second glass bay and repeat Steps 4 and 5 until all verticals are installed and all head and sill inserts are snapped-in place. At the last glass bay install wall jamb in place before snapping-in head and sill fillers.

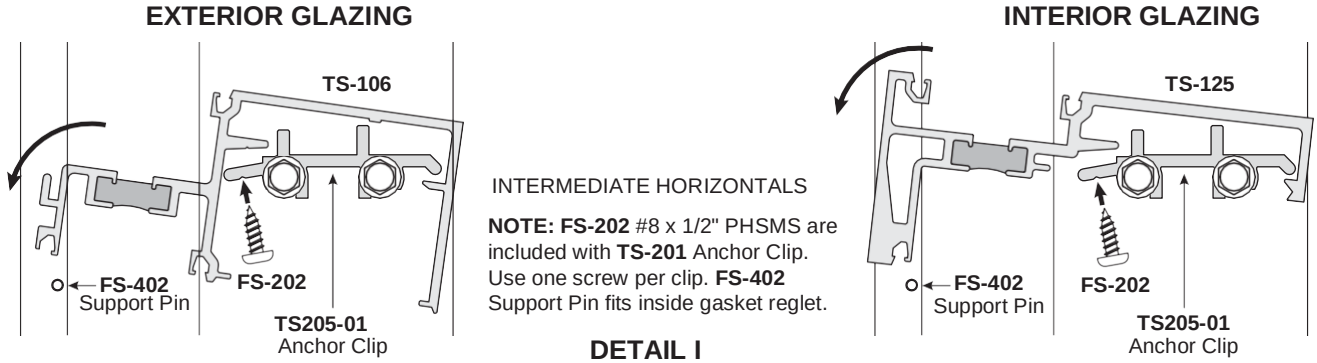
NOTE: A check should be made every four bays to monitor accumulation of horizontal members cutting tolerances.

7. Seal joint where verticals meet head and sill. See **DETAIL G** on Page 15.



DETAIL H

8. Roll horizontal over anchor clip and support pin. Secure with provided screw. See **DETAIL I**.



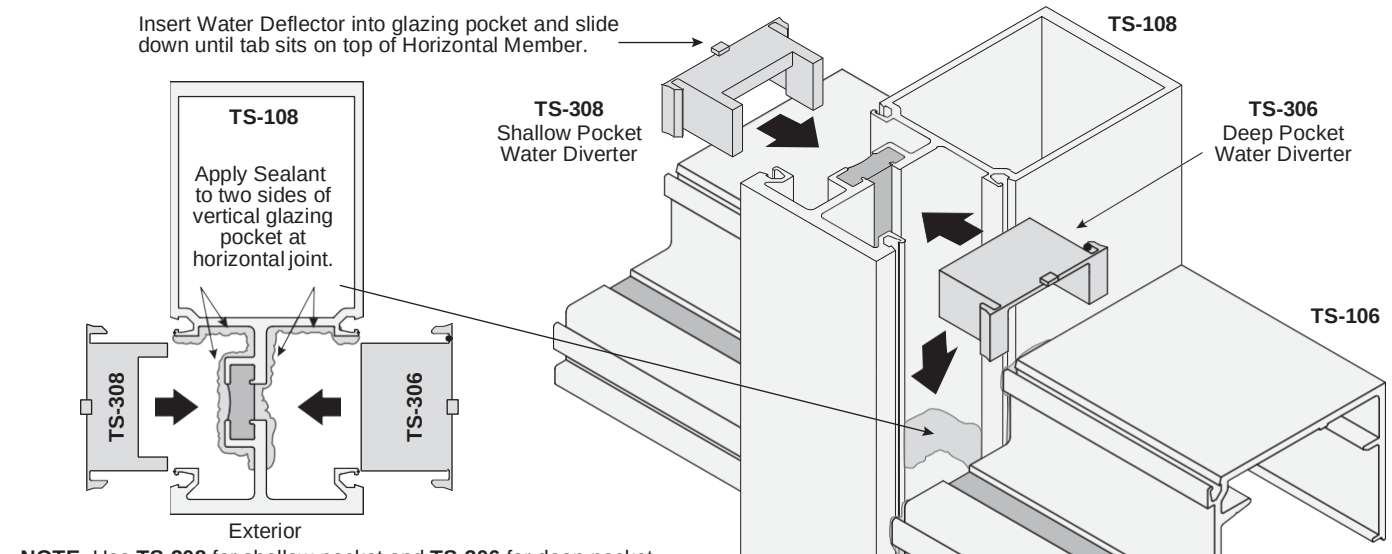
DETAIL I

FRAME INSTALLATION (CONTINUED)

INSTALL WATER DEFLECTORS

NOTE: Exterior Glazing shown. See Page 20 for Interior Glazing. For Structural Glazing See Page 22.

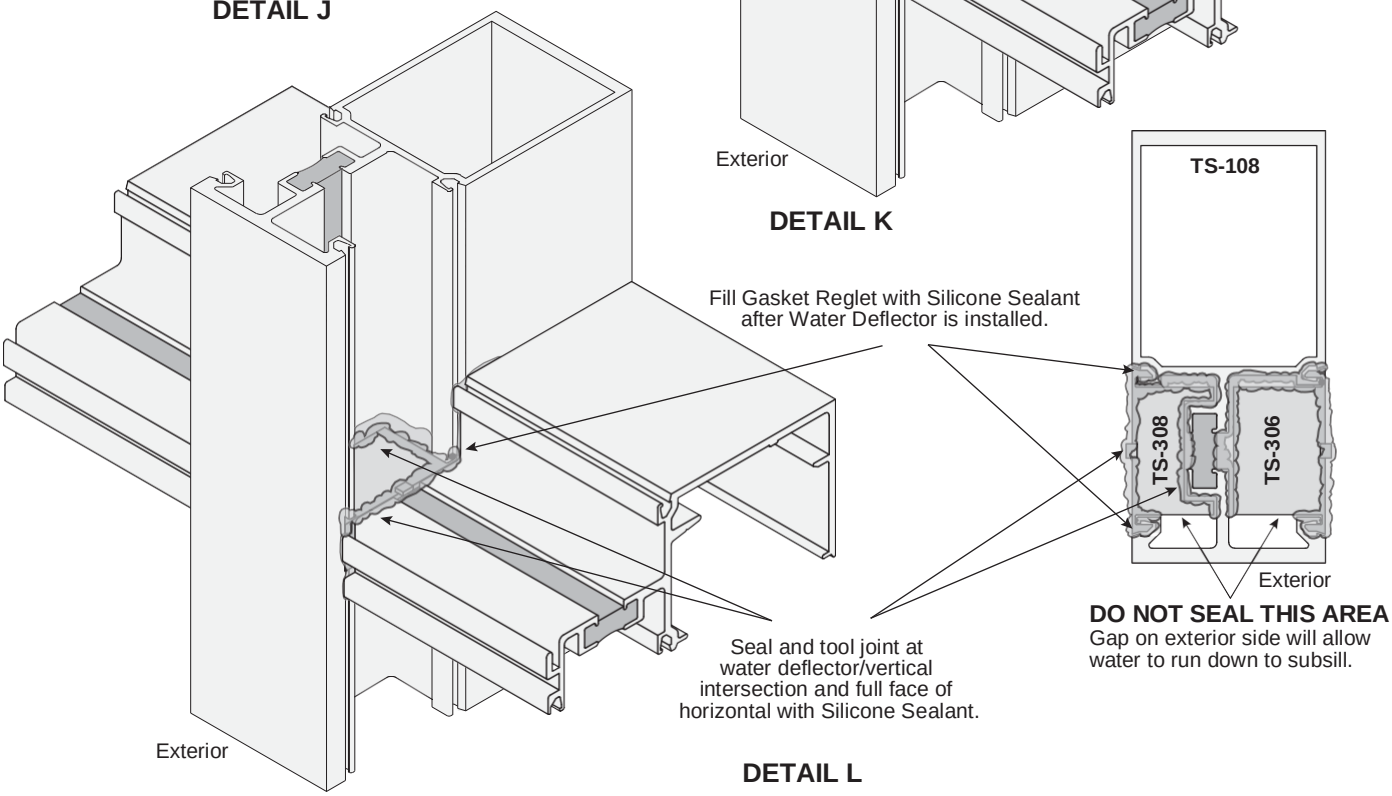
9. Apply Silicone Sealant to vertical glazing pocket at vertical/horizontal intersection. Silicone must be applied to two sides of pocket only. Clearance at outside will allow infiltrated water to run down to subsill. See **DETAIL J**.
10. Insert water deflectors into glazing pocket and slide them down to position. Top of deflector must be flush with horizontal glazing pocket. See **DETAIL K**.
11. After water deflector is installed, fill Gasket Reglets and seal and tool Water Deflector/Horizontal Joint and full face of Horizontal at Vertical intersection with Sealant. See **DETAIL L**.



NOTE: Use **TS-308** for shallow pocket and **TS-306** for deep pocket.

DETAIL J

DETAIL K



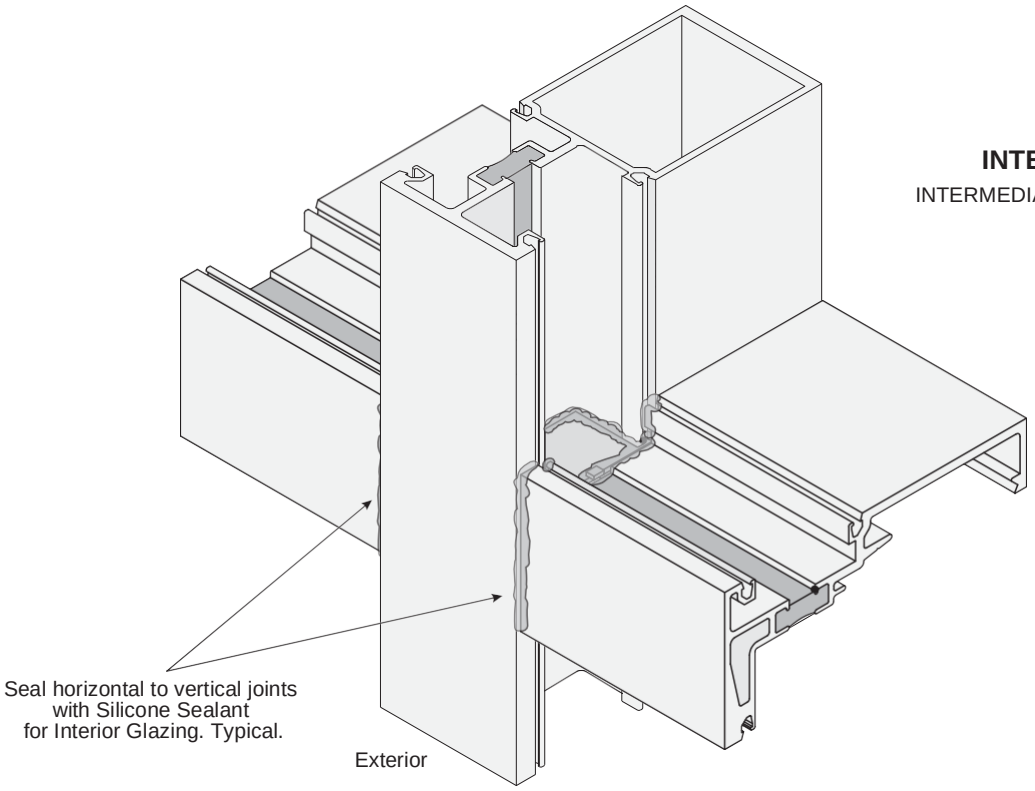
DETAIL L

FRAME INSTALLATION (CONTINUED)

INSTALL WATER DEFLECTORS (CONTINUED)

12. For interior glazing applications, seal horizontal to vertical joints. See **DETAIL M**.

NOTE: Water deflectors applied to door jambs must be sealed all around to prevent water from running to floor (water will drain at opposite end).



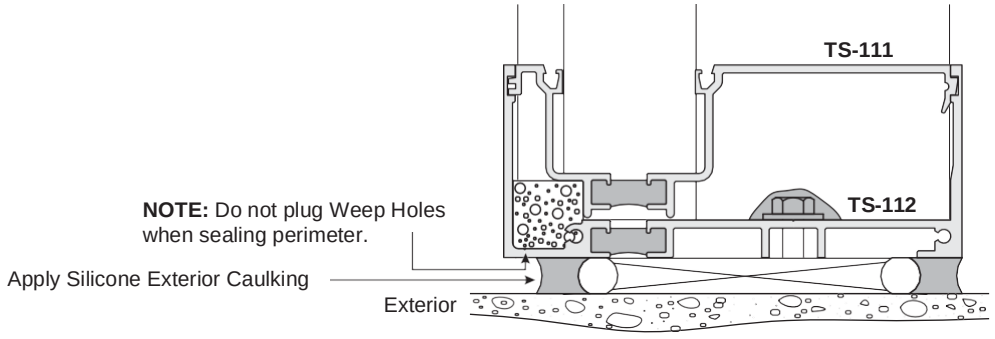
INTERIOR GLAZING
INTERMEDIATE HORIZONTAL SECTION

DETAIL M

PERIMETER SEALING

INTERIOR GLAZING. When interior glazing a multistory building exterior perimeter sealing must be done before glazing, unless caulking is to be done from the exterior as a secondary operation. See **DETAIL N**.

EXTERIOR GLAZING. Perimeter sealing may be done later.



INTERIOR GLAZING
SILL SECTION

DETAIL N

GLAZING

GLASS SIZES FOR EXTERIOR AND INTERIOR GLAZING

Glass Size: Daylight Opening + 7/8" (22.2)

NOTE: These formulas do not take into account glass tolerance. Consult glass manufacturer before ordering glass.

GLAZING GASKETS

Cut glazing gaskets to size. Gaskets should be cut 1/8" (3.2) longer per foot of aluminum member to allow for shrinkage. Same gaskets are used for interior and exterior.

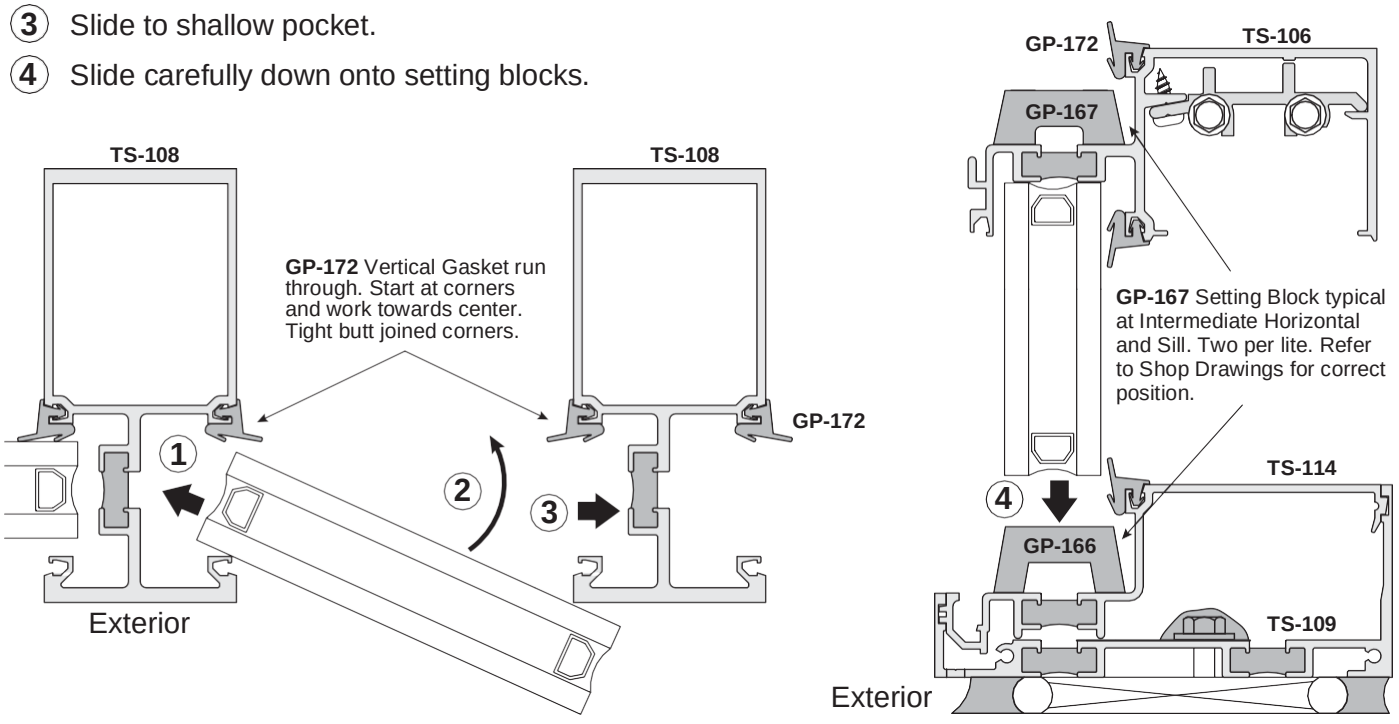
EXTERIOR GLAZING GLASS INSTALLATION

1. Install interior gaskets. Horizontal gaskets run through. Start at corners and work towards center. Tight butt joined corners are critical to avoid leakage.
2. Install setting blocks in horizontal/sill members. Check deadload charts and shop drawings for correct setting block locations. Rest glass on setting blocks pressed against interior gaskets.
3. Set glass in place following the four step procedure. See **DETAIL O**. Be careful not to disturb interior gasket while installing glass. Center glass in the opening.

NOTE: All glazing pockets must be clean of debris before glazing to prevent blockage of weeps or drains.

EXTERIOR GLAZING SEQUENCE

1. Angle panel into deep pocket.
2. Swing into plane.
3. Slide to shallow pocket.
4. Slide carefully down onto setting blocks.



DETAIL O

GLAZING (CONTINUED)

INTERIOR GLAZING GLASS INSTALLATION

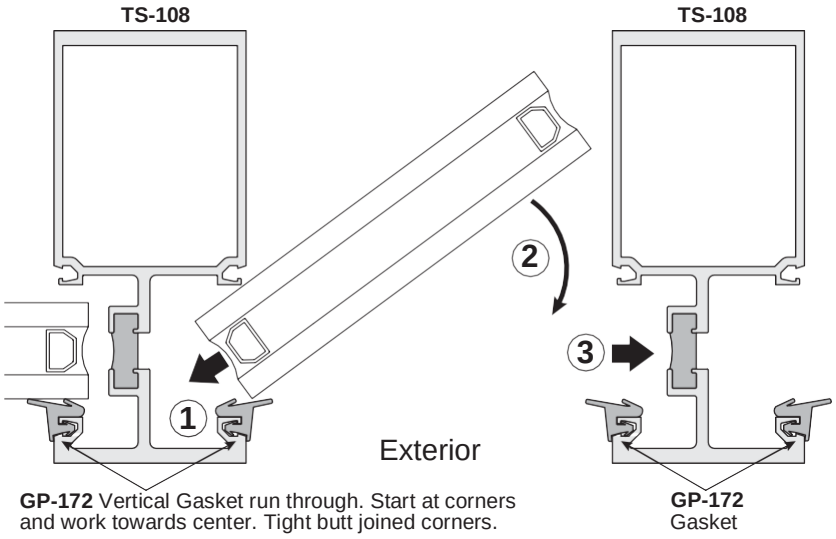
1. Install setting blocks, two per glass lite, into horizontal and sill members. Check deadload charts and shop drawings for correct setting block locations.
2. Install exterior gaskets. Vertical gaskets run through. Start at corners and work towards center. Tight butt joined corners are critical to avoid leakage.
3. Set glass in place following four step procedure. See **DETAIL P**. Be careful not to disturb exterior gasket while installing glass. Center glass in opening and rest on setting blocks. Press against exterior gaskets.

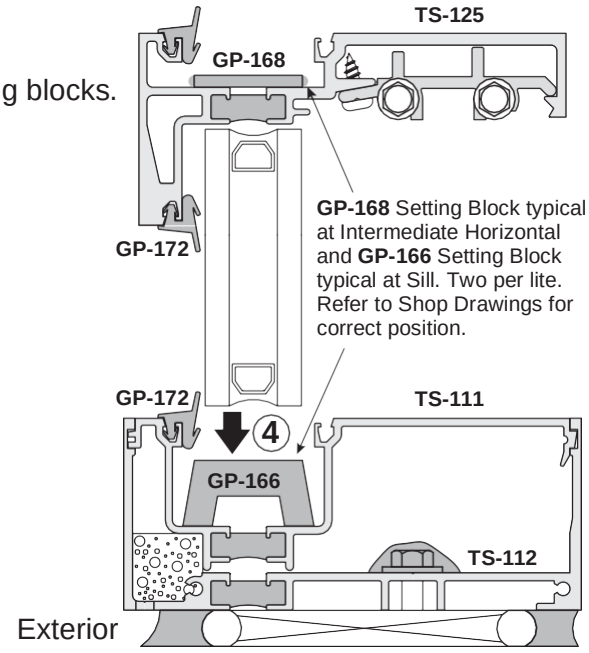
NOTE: All glazing pockets must be clean of debris before glazing to prevent blockage of weeps or drains.

INTERIOR GLAZING SEQUENCE

① Angle panel into deep pocket. ③ Slide to shallow pocket.

② Swing into plane. ④ Slide carefully onto setting blocks.

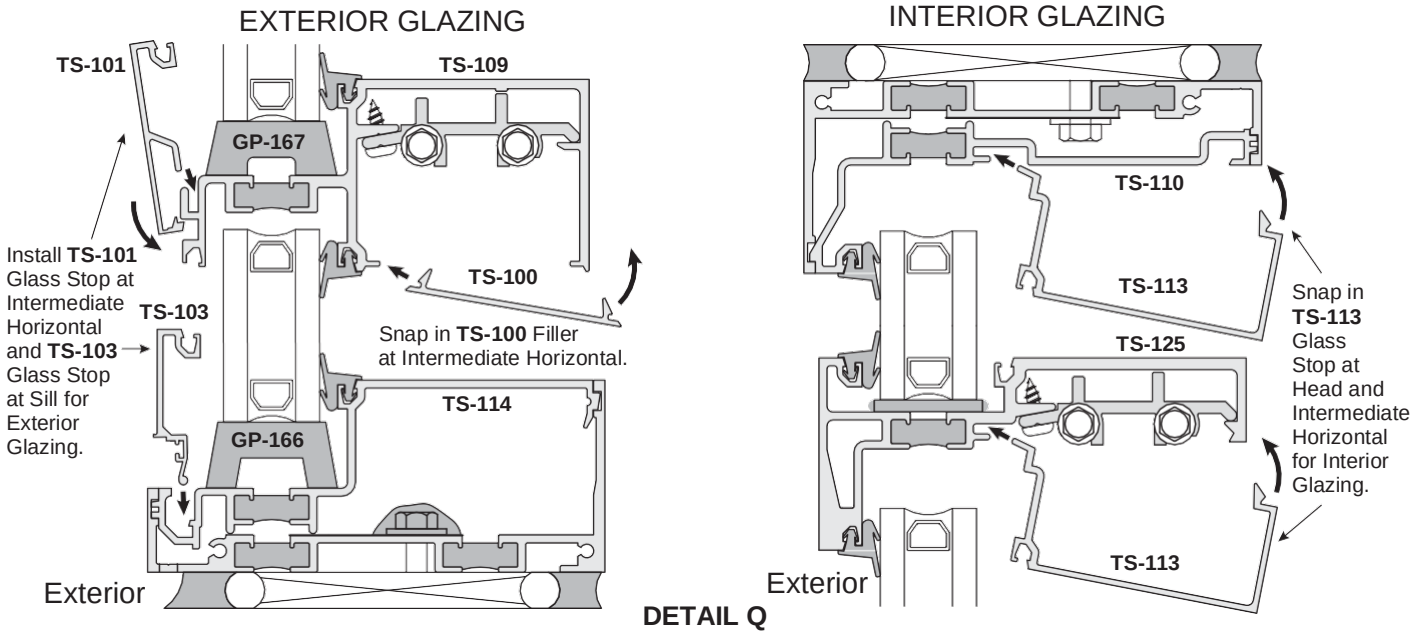




DETAIL P

GLASS STOP INSTALLATION

4. Install glass stops as shown in **DETAIL Q**.

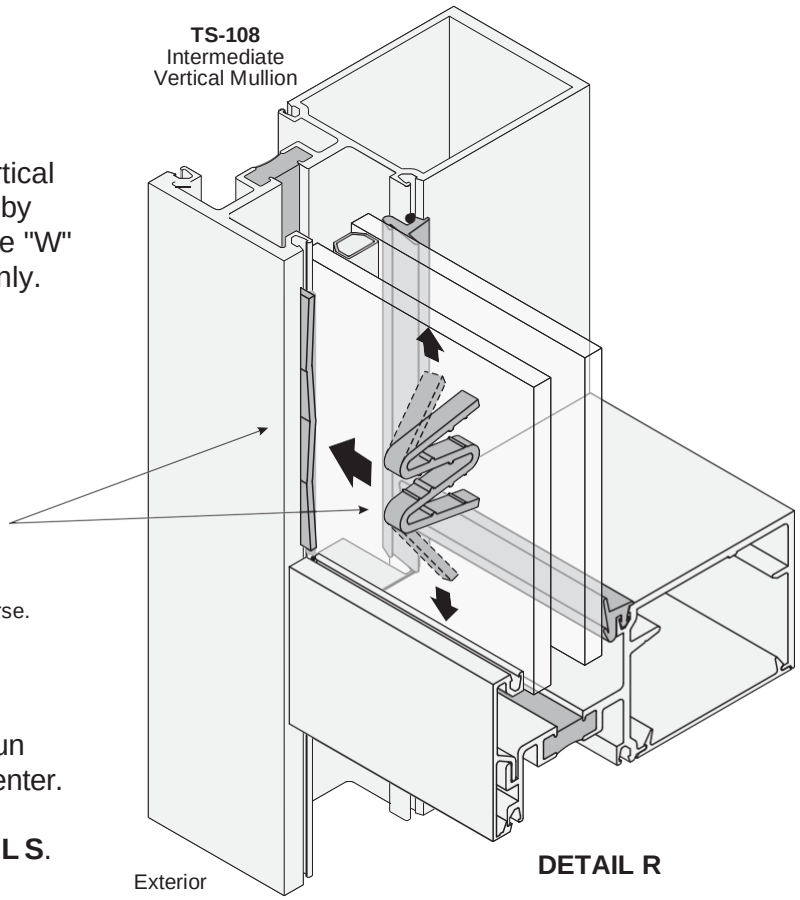


DETAIL Q

GLAZING (CONTINUED)

EDGE BLOCK INSTALLATION

5. To prevent glass from shifting in the opening "W" Edge Blocks should be installed into vertical pockets at center point or as recommended by glass manufacturer. See **DETAIL R**. Use one "W" block per glass lite at deep glazing pocket only.

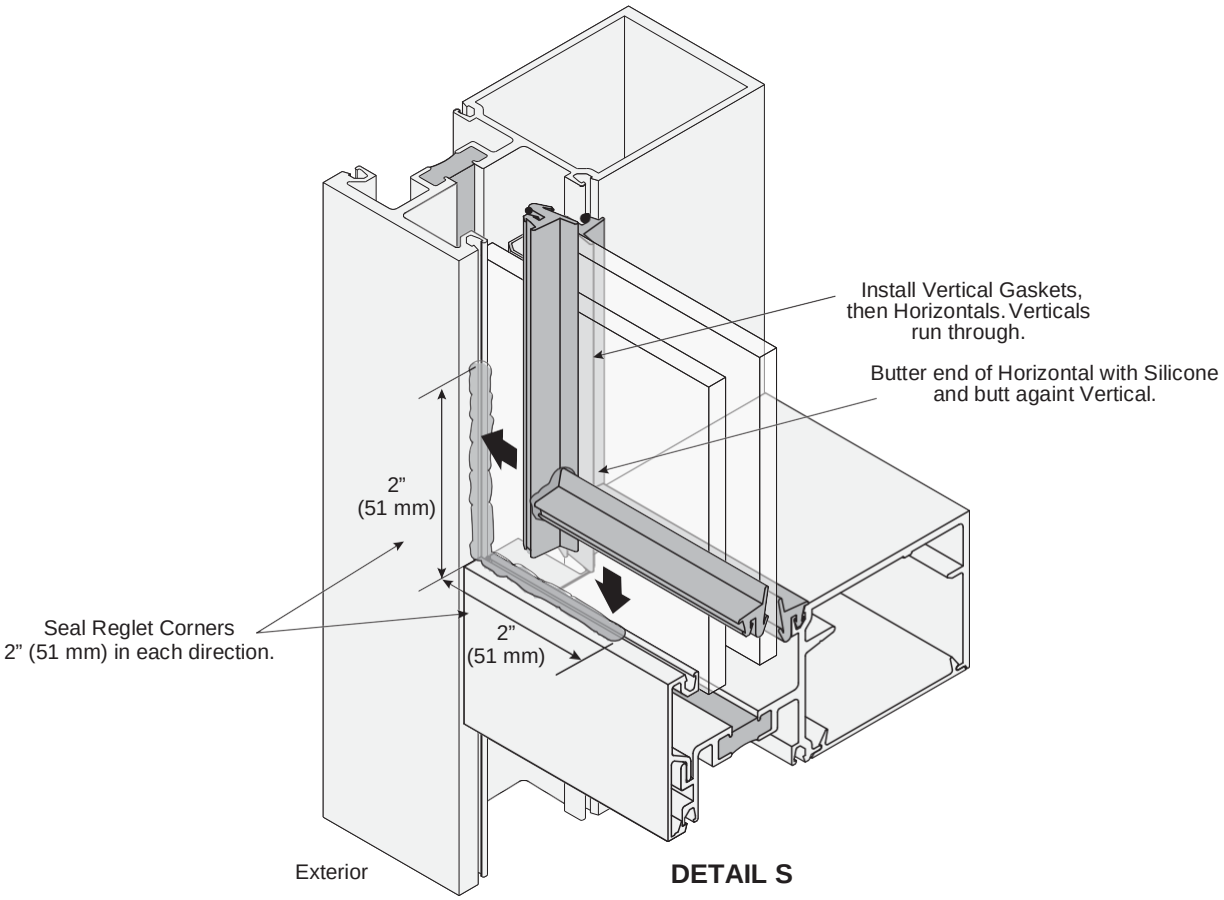


DETAIL R

NOTE: Exterior Glazing shown, Interior Glazing reverse.

GASKET INSTALLATION

6. Install remaining gaskets. Vertical gaskets run through. Start at corners and work toward center. Tight butt joined corners are critical to avoid leakage. Seal gasket at corners. See **DETAIL S**.



DETAIL S

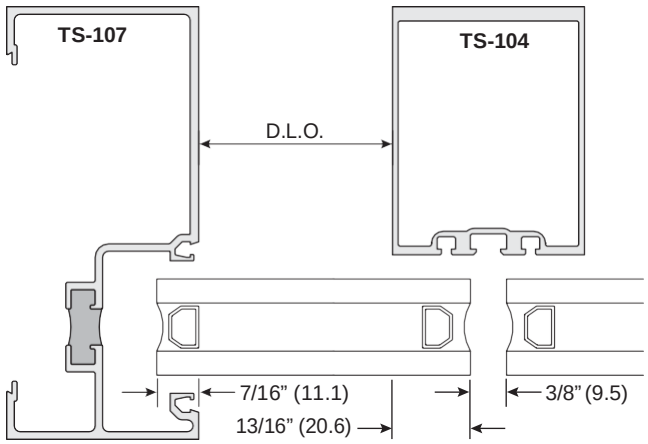
STRUCTURAL SILICONE GLAZING

GLASS SIZES FOR STRUCTURAL SILICONE GLAZING

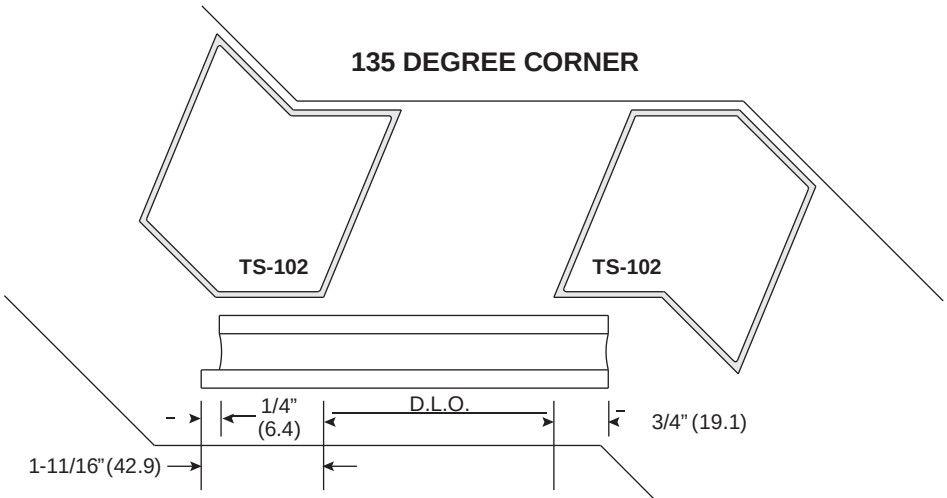
Glass Height: Daylight Opening + 7/8" (22.2) **Glass Width: Daylight Opening + Glass Bites**

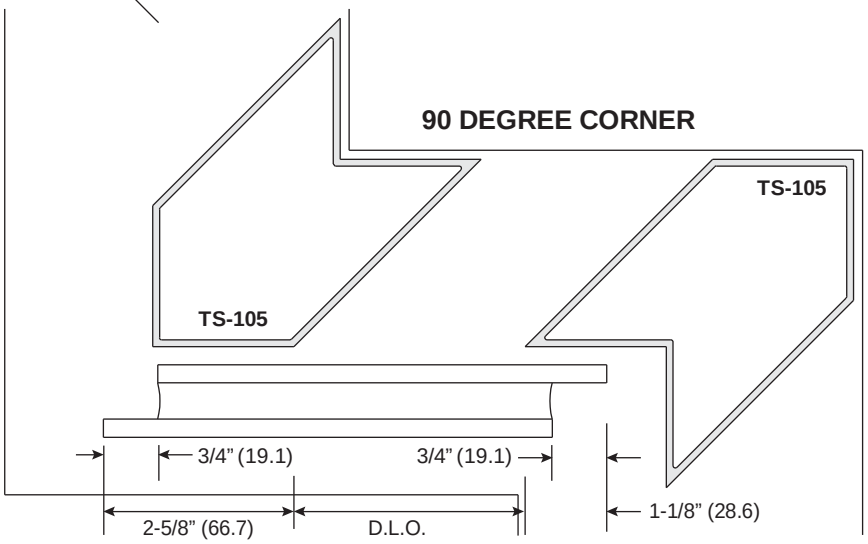
NOTE: These formulae do not take into account glass tolerance. Consult glass manufacturer before ordering glass.

GLASS BITES: NON-CORNERS



GLASS BITES: CORNER CONDITIONS



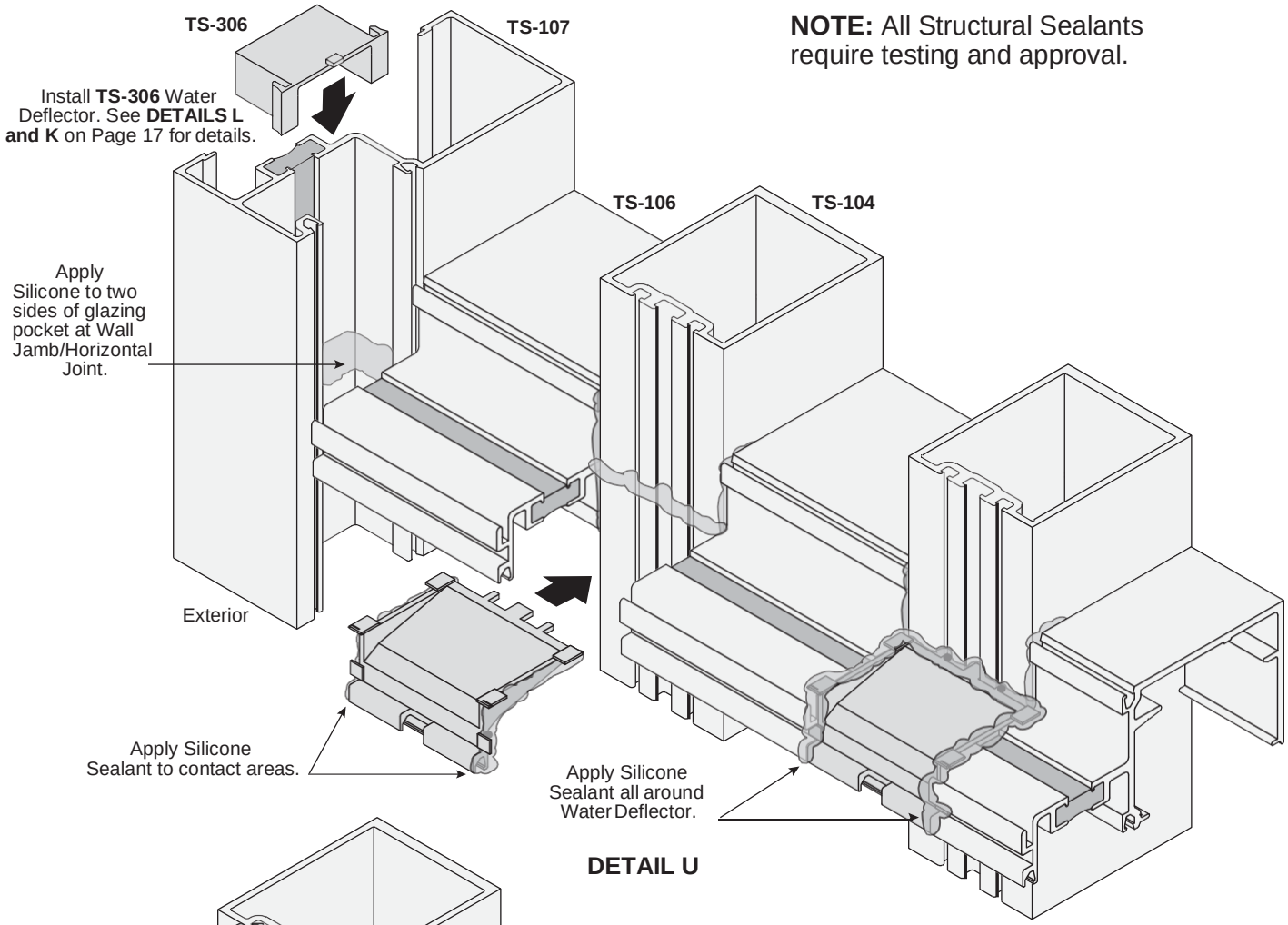


DETAIL T

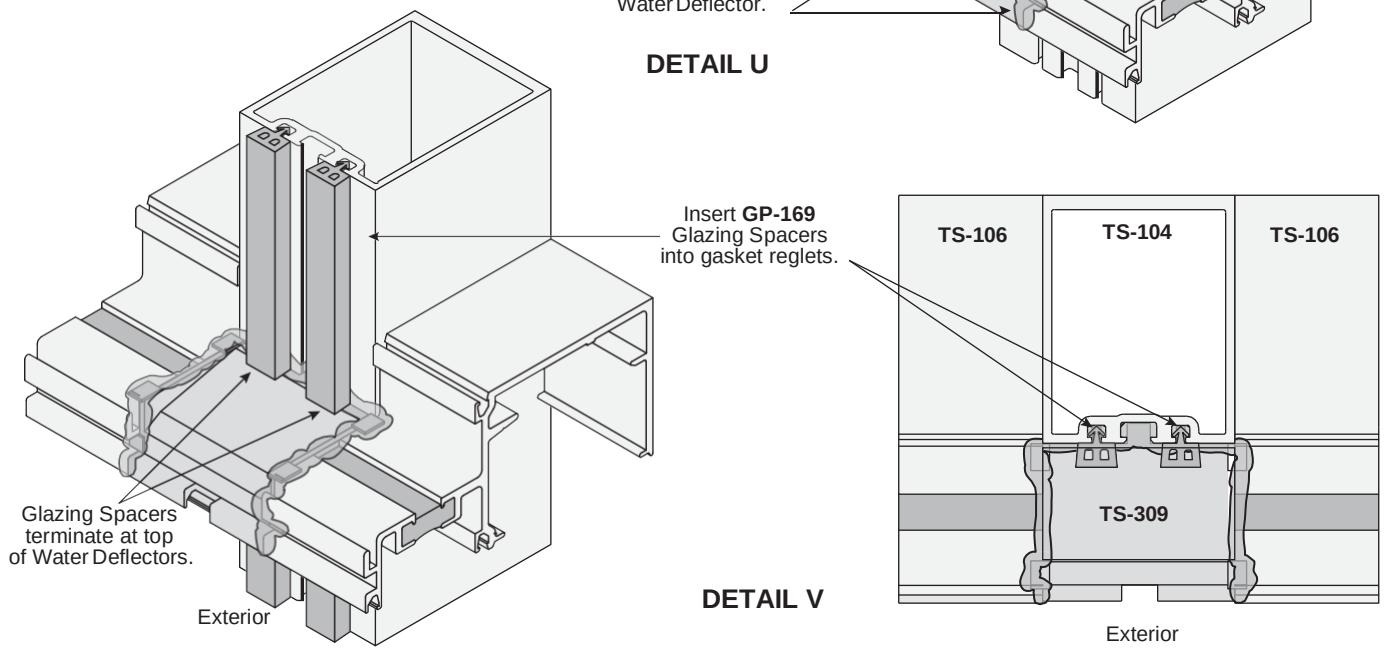
STRUCTURAL SILICONE GLAZING (CONTINUED)

1. Seal joints between horizontals and verticals. Apply sealant across face of intermediate verticals at water deflectors location. See **DETAIL U**.
2. Apply Silicone Sealant to deflectors contact areas and set them in place. See **DETAIL V**.
3. Insert **GP-169** Spacers into intermediate verticals. See **DETAIL V**. NOTE: **GP-169** Glazing Spacers terminate at top of Water Deflectors.

NOTE: All Structural Sealants require testing and approval.



DETAIL U



DETAIL V

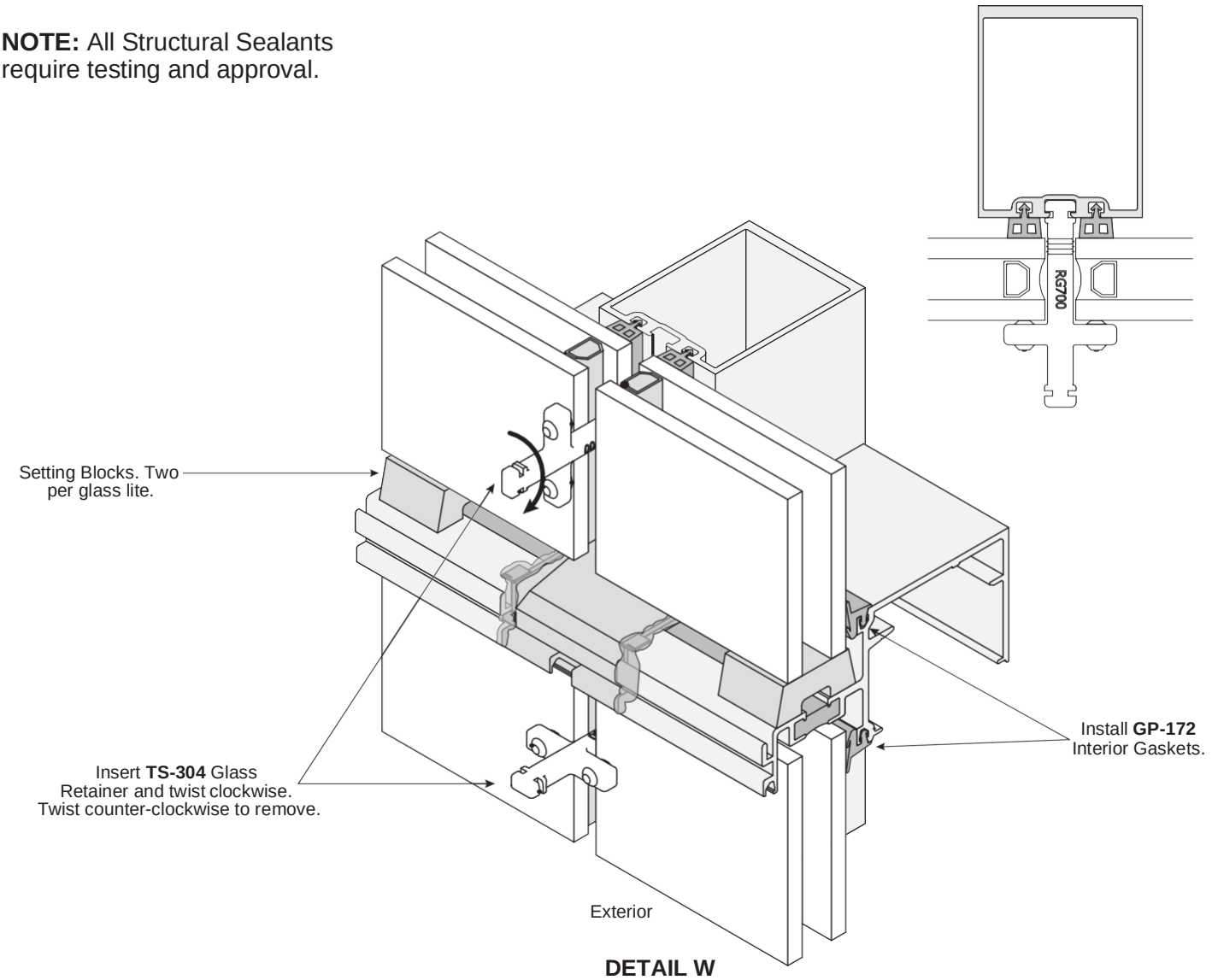
STRUCTURAL SILICONE GLAZING (CONTINUED)

NOTE: All glazing pockets must be clean of debris before glazing. Always protect edges of glass carefully to avoid damage.

1. Install two setting blocks per glass lite in horizontal and sill members. Check deadload charts and shop drawings for correct positioning of setting blocks.
2. Cut glazing gaskets 1/8" (3.2) longer per foot of aluminum member to allow for shrinkage.
3. Install interior gaskets into wall jambs, horizontals, head and sill members.
4. Set lower glass onto setting blocks, holding 3/8" (9.5) joints between lites.
5. Hold glass in place with temporary retainers. See **DETAIL W**.

NOTE: Use one retainer for every 150 lbs. (667.2 N) of load I.E. If GLASS HEIGHT x GLASS WIDTH x WINDLOAD = 350 lbs. (1556.9 N) use three temporary retainers.

NOTE: All Structural Sealants require testing and approval.



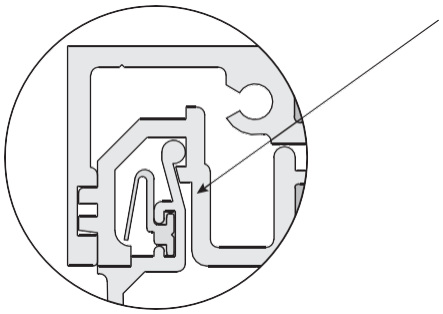
DETAIL W

STRUCTURAL SILICONE GLAZING (CONTINUED)

6. Install exterior face plates at head, sill and intermediate horizontals. See **DETAIL X**.

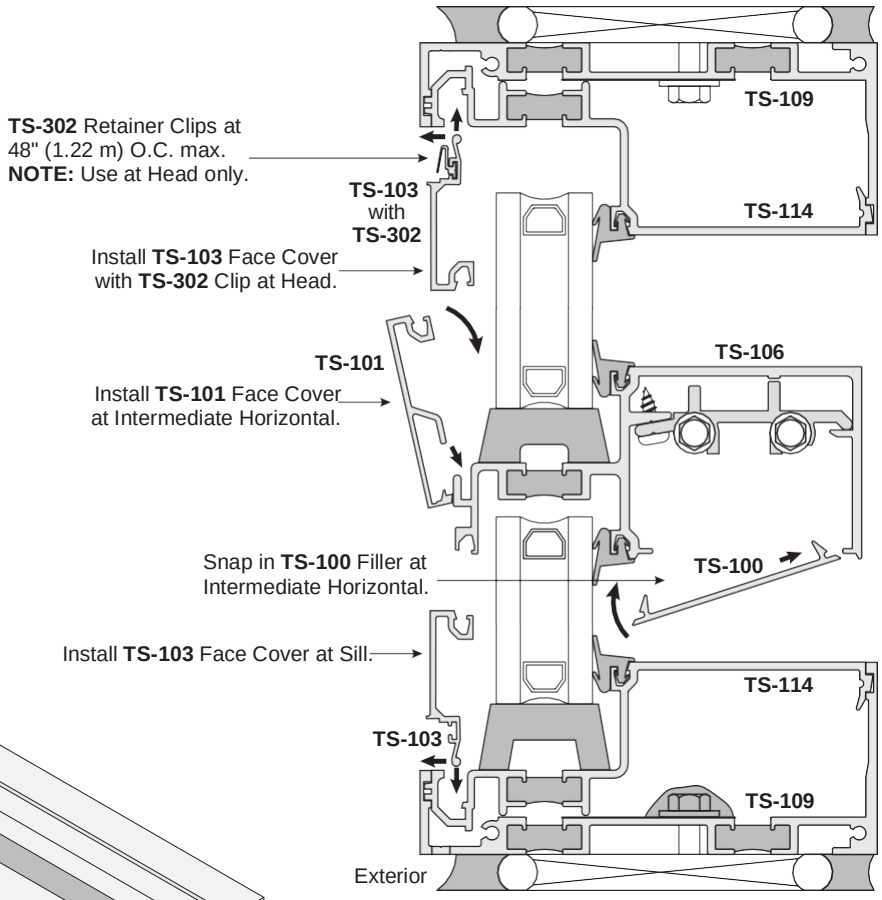
NOTE: Head face plate requires the use of **TS-302** Clips at 48" (1.22 m) on center maximum. See **DETAIL Y**. Exterior face plates run through and should be spliced as required. See page 28.

7. Use pieces of exterior gasket to temporarily hold glass tight against interior gaskets. See **DETAIL Z**.

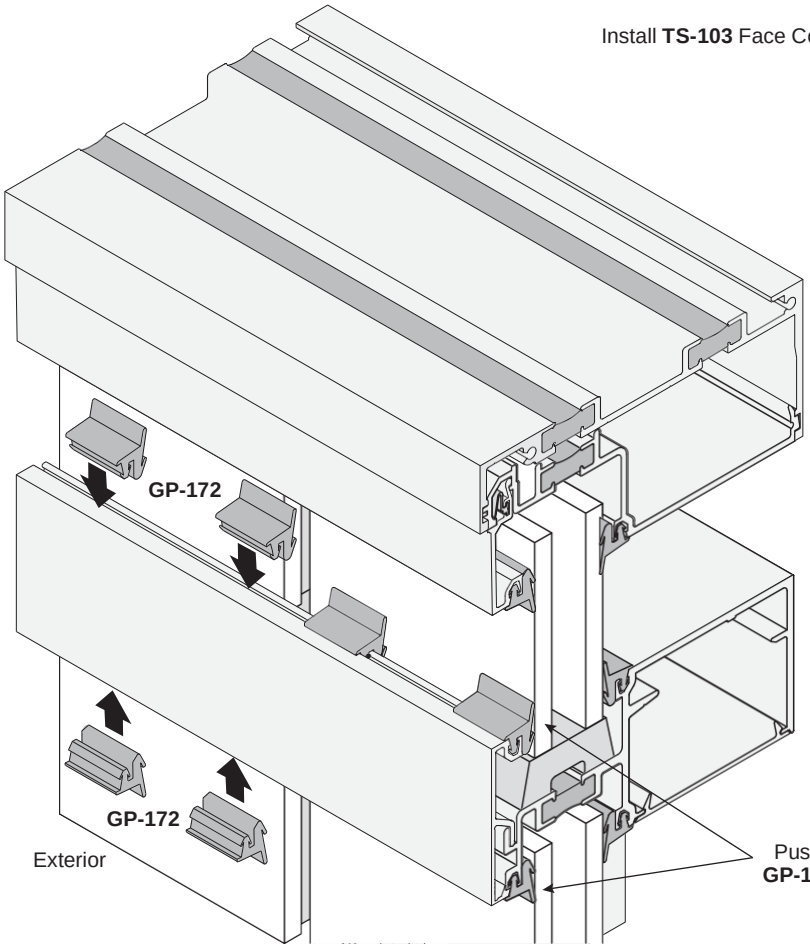


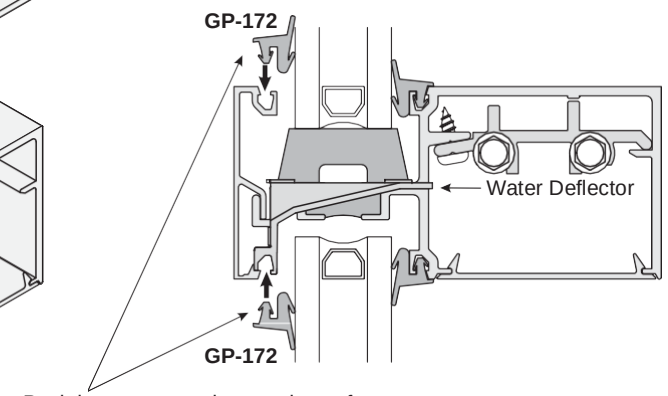
DETAIL Y

NOTE: All Structural Sealants require testing and approval.



DETAIL X





Push in temporary short wedges of **GP-172** Gasket to hold glass in place.

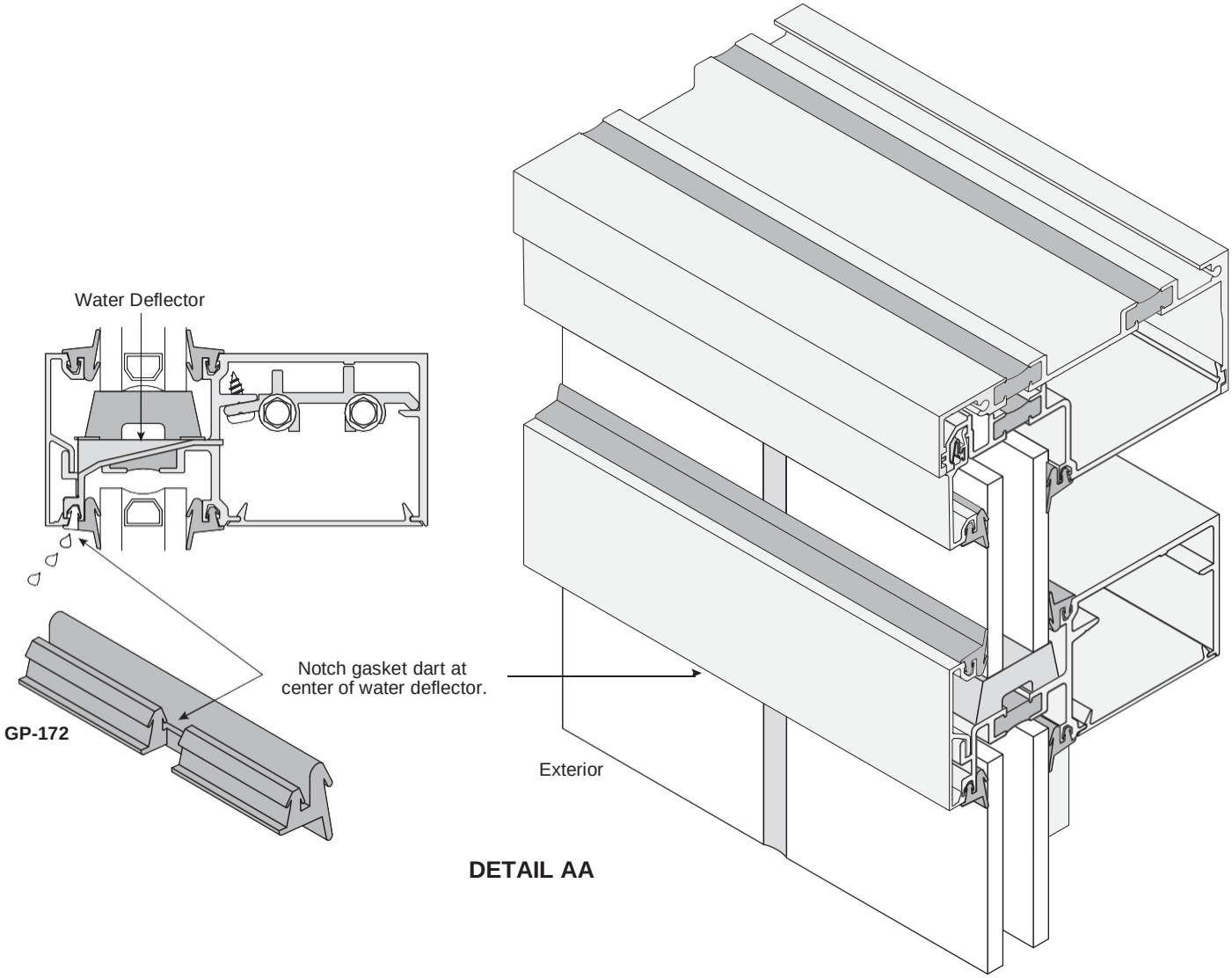
DETAIL Z

STRUCTURAL SILICONE GLAZING (CONTINUED)

Structural silicone is applied from the interior. **Follow silicone manufacturer's instructions and recommendations for surface preparation and silicone application.**

8. Mask face of glass and aluminum adjacent to silicone glazing joint.
9. Apply silicone making sure it completely fills the space behind the glass. Air pockets or voids are not acceptable.
10. Remove masking tape right after tooling, before skin cure begins. Do not remove temporary retainers until silicone has completely cured.
11. After structural silicone has fully cured remove temporary retainers, insert open cell polyurethane rod between glass edges, mask glass and aluminum adjacent to joint, and then apply exterior weatherseal.
12. Install exterior gaskets after removing temporary pieces. Horizontal gaskets run through. Start at corners and work toward center. Tight butt joined corners are critical to avoid leakage.

NOTE: On bottom side of intermediate horizontal notch the dart of the glazing gasket at center of verticals to create a 1/2" (12.7) wide weep slot. See **DETAIL AA**.



DETAIL AA

STRUCTURAL SILICONE GLAZING (CONTINUED)

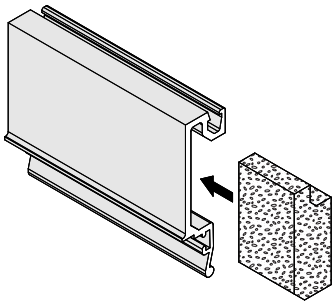
HORIZONTAL EXPANSION JOINTS

EXTERIOR FACE SPLICE JOINTS

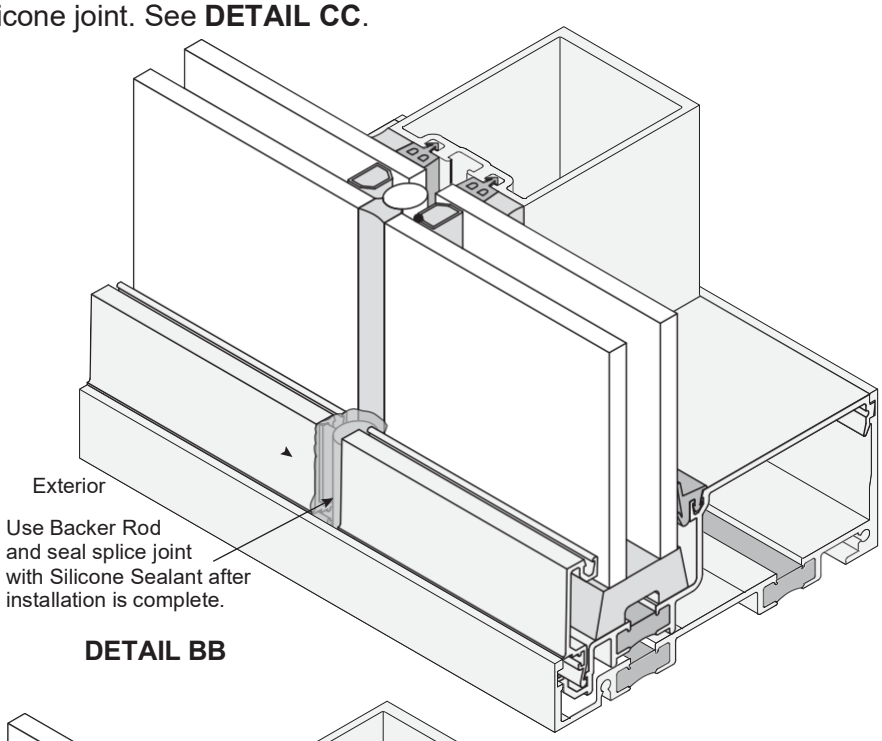
Head and sill faces should be spliced at a different point than head and sill channels. Silicone end caps to edge of sill faces. See **DETAIL BB**. Leave required gap between adjacent pieces.

Insert backer rod between end caps to facilitate joint sealing.

Intermediate horizontal exterior faces should be spliced every three bays or 15' (4.5 m) maximum for easier installation. Align splice with structural silicone joint. See **DETAIL CC**.

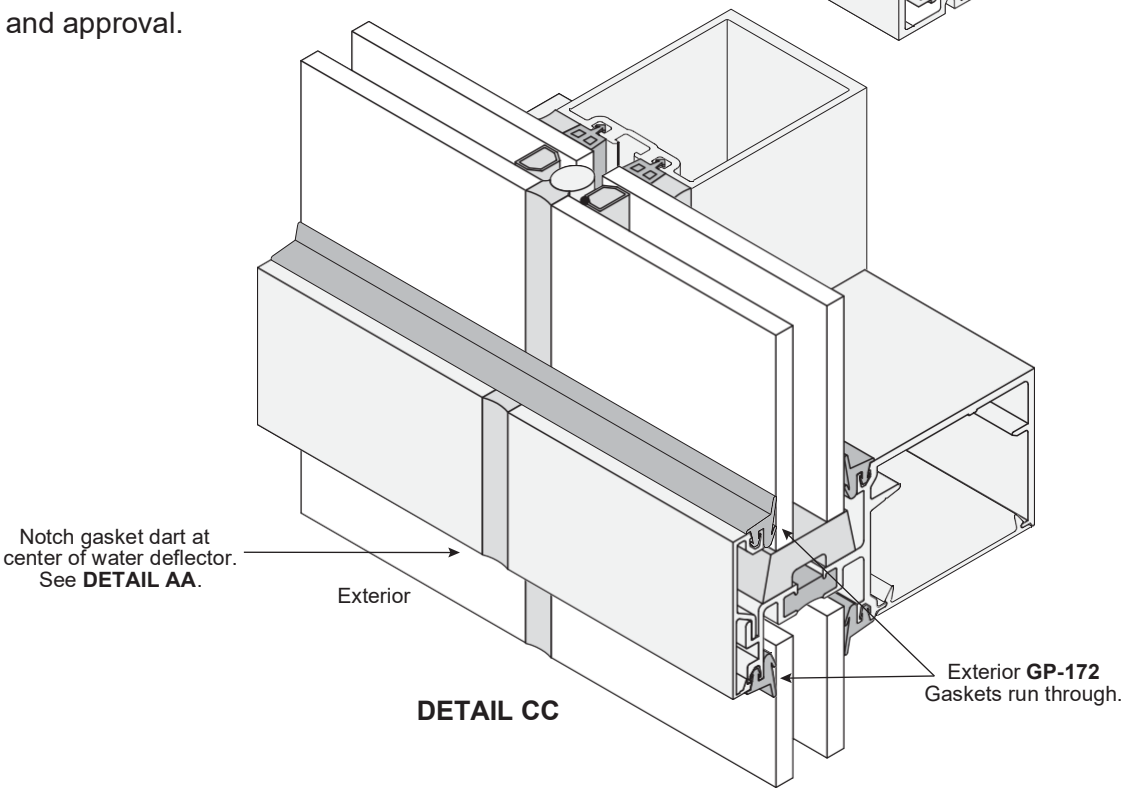


Prior to installation, stuff splice end of each **TS-103** section with **TS-206** splice backer.



DETAIL BB

NOTE: All structural silicone sealants require testing and approval.



DETAIL CC

HORIZONTAL EXPANSION JOINTS

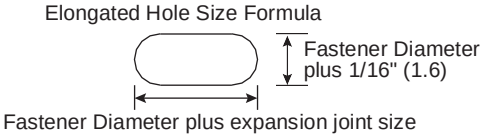
Elevations exceeding 24' (7.32 m) in width require splice sleeves to accommodate thermal movement. Joints width should be calculated according to job conditions and architectural specifications.

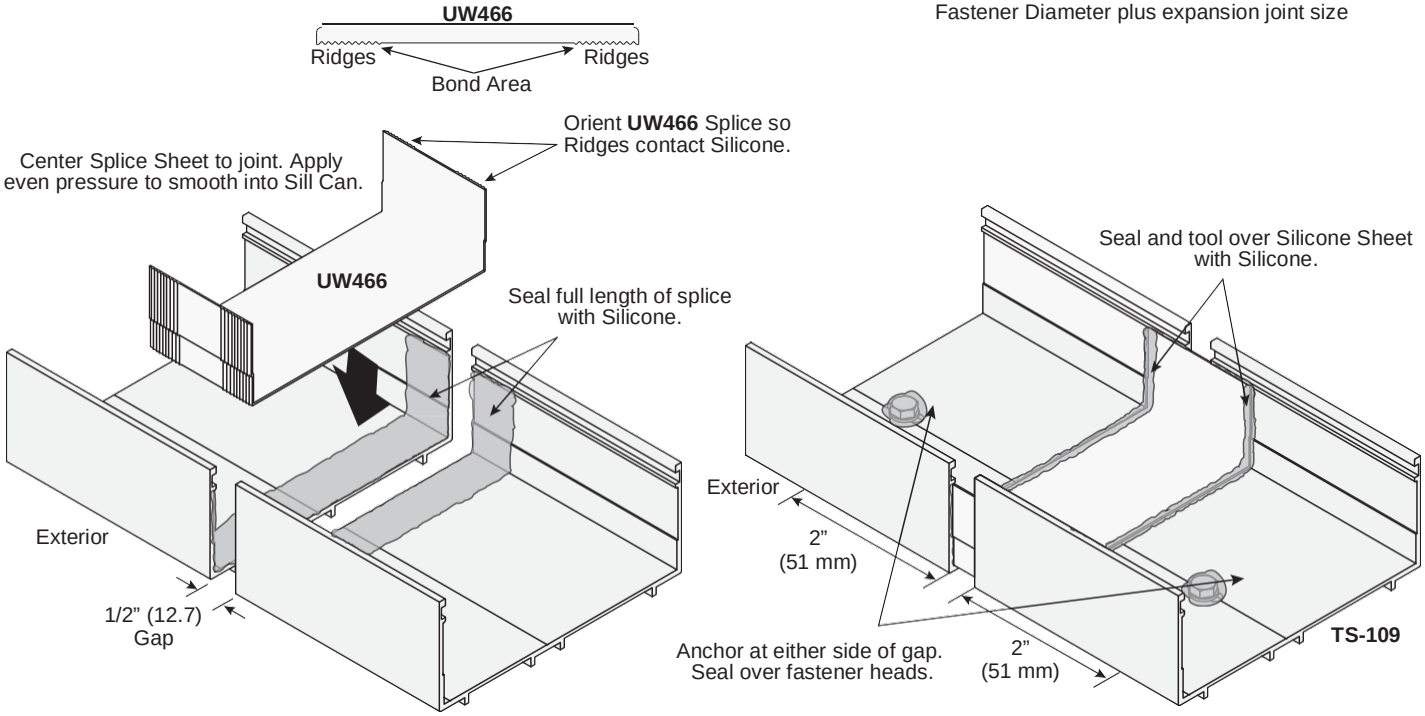
Linear expansion for aluminum, in inches = Length (") x F° difference in temperature x .0000129

Linear expansion for aluminum, in millimeters = Length (m) x C° difference in temperature x .02322

Locate splice joints near center of D.L.O. Elongate holes for installation fasteners at head and sill channels to allow for thermal movement. **Pin head and sill channels at one point only per cut length.** (This hole is not elongated)

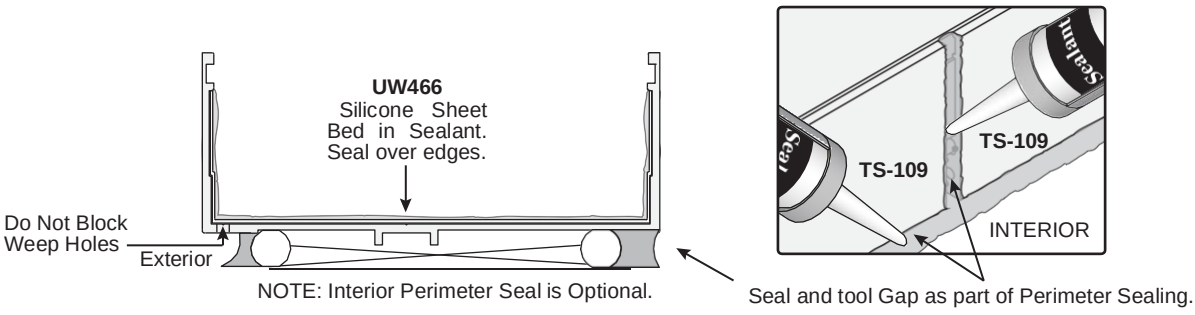
NOTE: A minimum 1/2" (12.7) Expansion Joint is required every 24' (7.32 m)





DETAIL DD

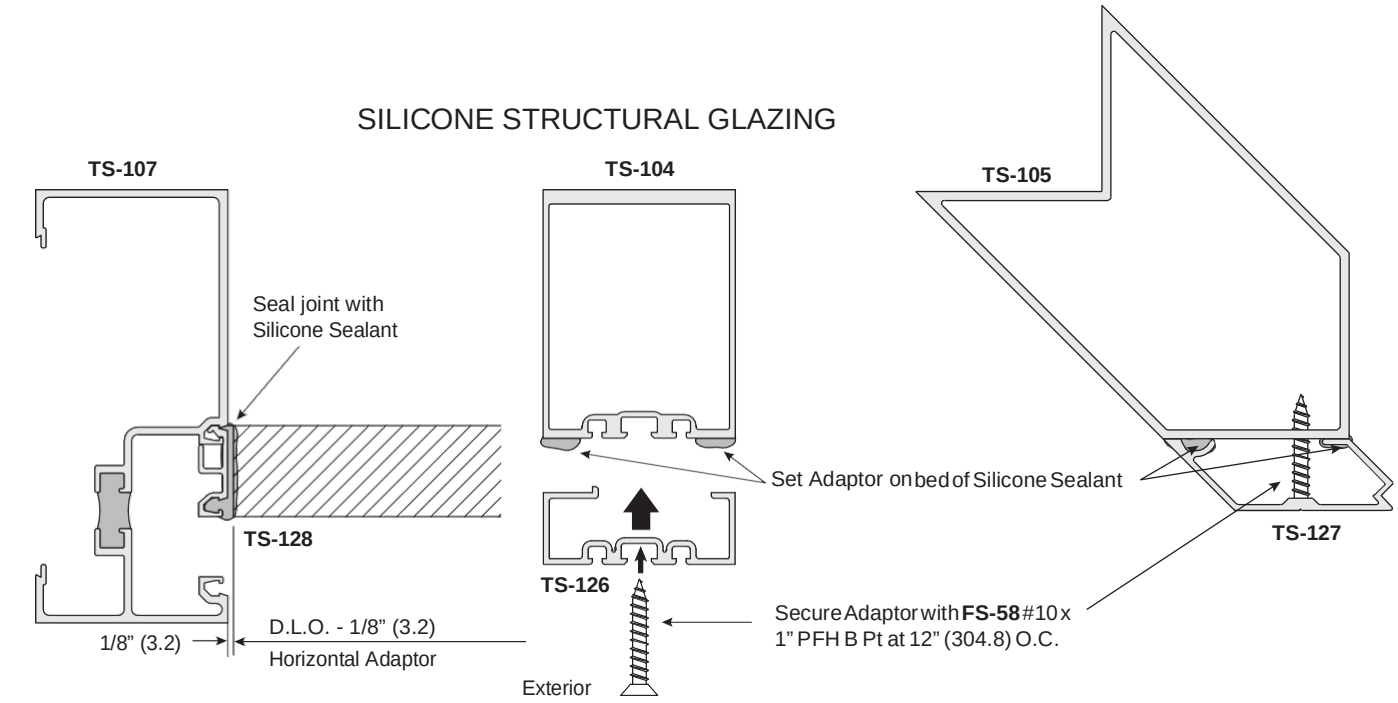
NOTE: Sill Channel for Exterior Glazing Shown. Head Channel for Exterior Glazing and Head and Sill Channels for Interior Glazing similar.



DETAIL EE

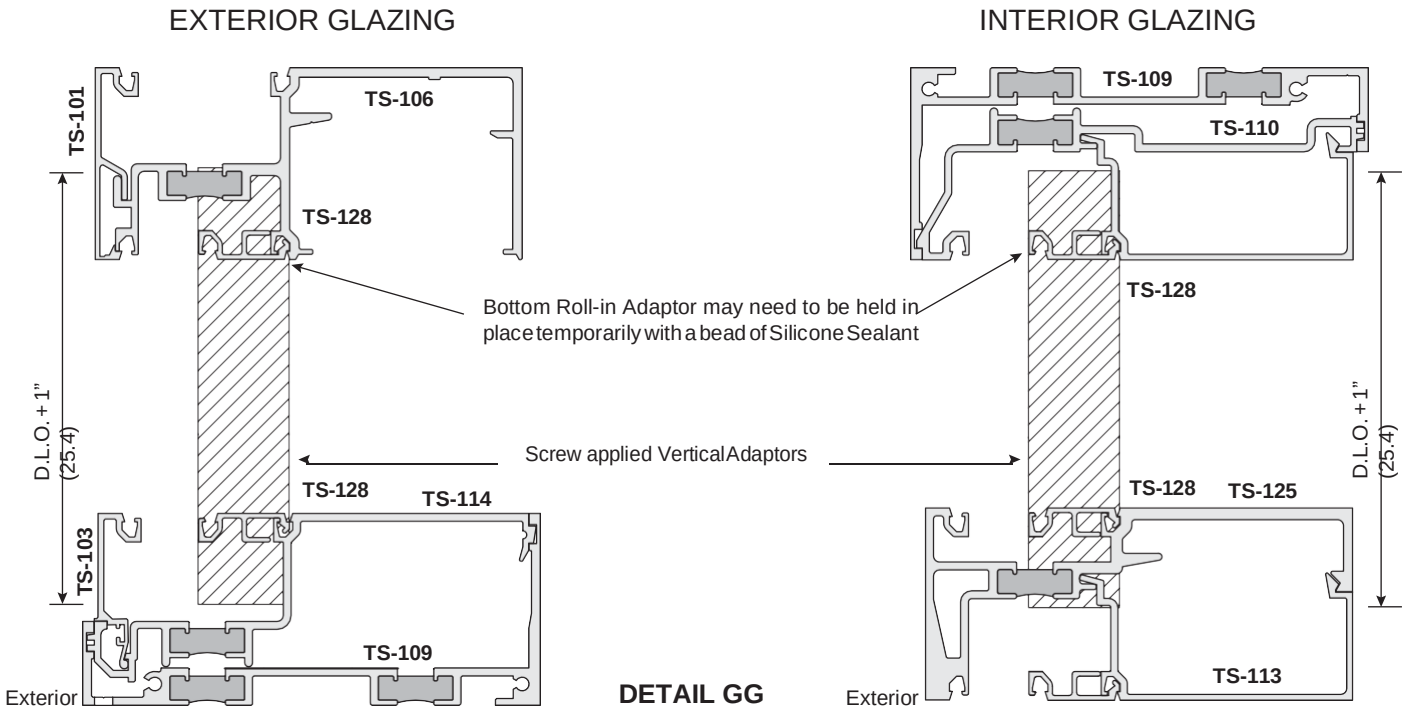
TRANSITION GLAZING

Vertical adaptors run through. Adaptors for intermediate verticals are screw applied. Run a bead of Silicone Sealant in vertical member or in the back of adaptor before setting it in place. See **DETAIL FF**.



DETAIL FF

Horizontal adaptors run between Verticals. Roll-in adaptors need to be installed when setting glass and held in place temporarily with a piece of gasket. When inside access is not possible the adaptor on the bottom of the Horizontal may be held in place with a bead of silicone. Glazing beads for 1/4" (6) spandrel are used for interior glazing applications. See **DETAIL GG**.



DETAIL GG

CORNER CONDITIONS

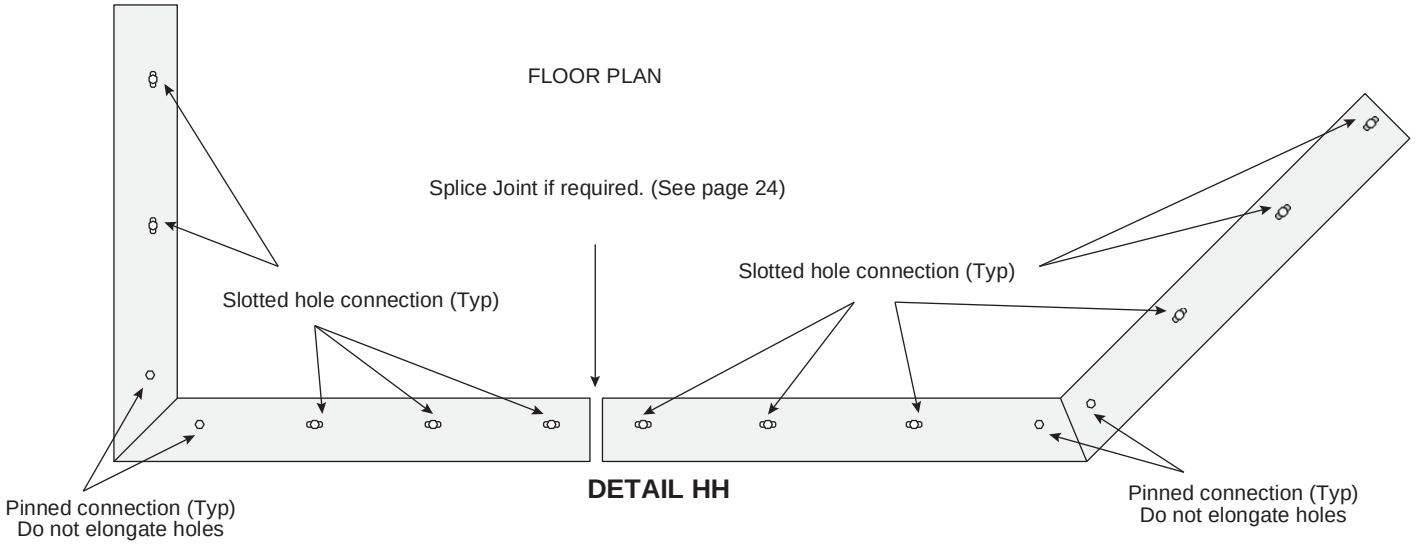
AVAILABLE CORNER OPTIONS: 90° INSIDE AND OUTSIDE CORNERS FOR INTERIOR AND EXTERIOR GLAZING. 90° AND 135° INSIDE AND OUTSIDE CORNERS FOR STRUCTURAL SILICONE GLAZING.

Head and sill channels should be mitered as required.

Corner members should be cut the same length as intermediate verticals.

Head and sill channel **must be pinned to structure on both sides of corner**, to prevent movement at mitered joint. (Do not elongate the hole where it is pinned).

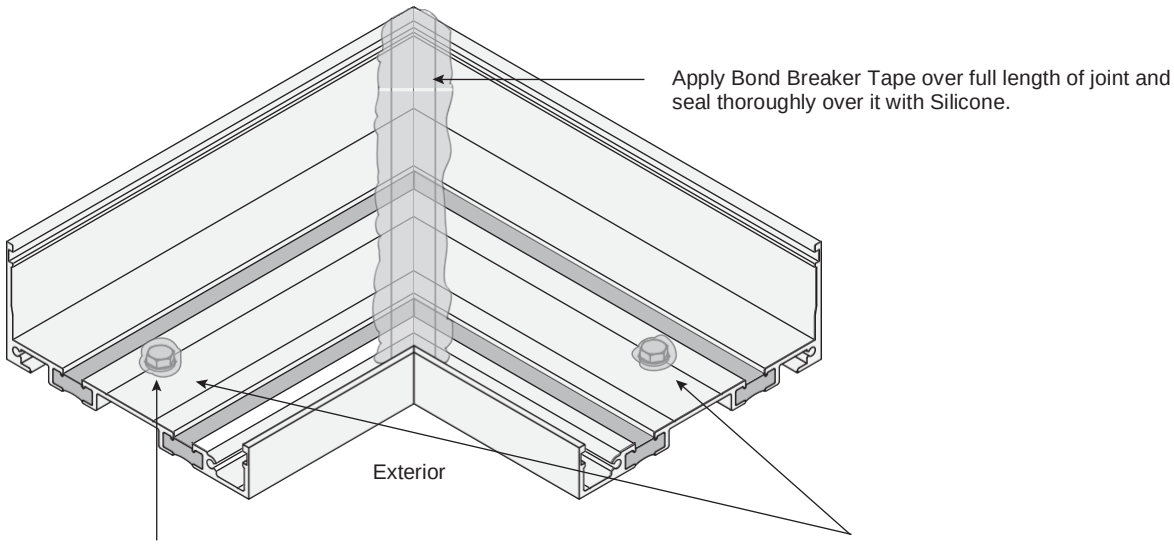
Elevations with corners at both ends may require a splice joint to accommodate thermal movement. See **DETAIL HH**.



DETAIL HH

CORNER INSTALLATION

1. Install mitered head and sill channels in place and secure them to structure. See **DETAIL II**.
2. Seal joint thoroughly with Silicone. See **DETAIL II**.



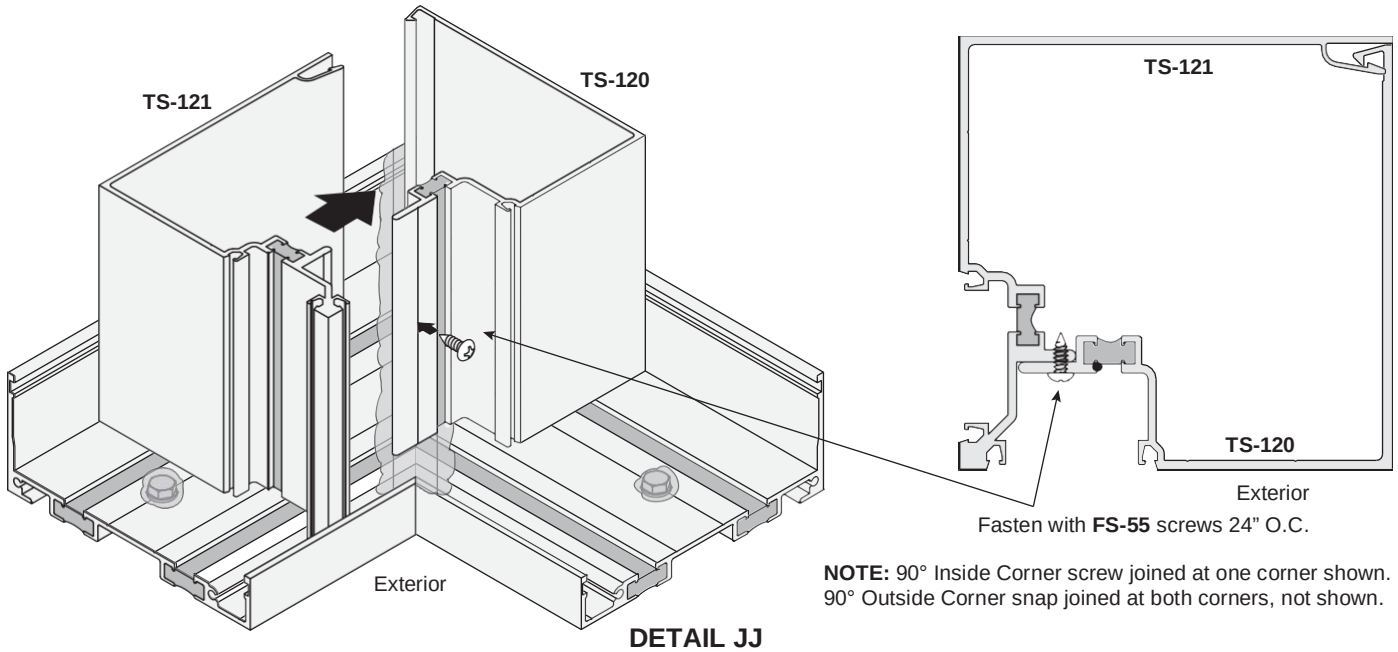
NOTE: The projection of some wedge type fasteners in close proximity to Vertical Members will require a simple clearing notch on Vertical for installation.

DETAIL II

CORNER INSTALLATION (CONTINUED)

3. Install corner components. Corner components should be installed before adjacent head and sill fillers are snapped-in. Corner components may be installed as a unit. Inside Corner components should be fastened together with **FS-55 (**#10 x 1/2" A Pt.) screws every 24" (609.6) O.C. See **DETAIL JJ**.

Optional: Corners may be preassembled and installed as a unit to avoid blind sealing of mitered joint. Attach corner members to preassembled head/sill corner components with clip angles at both sides of vertical.

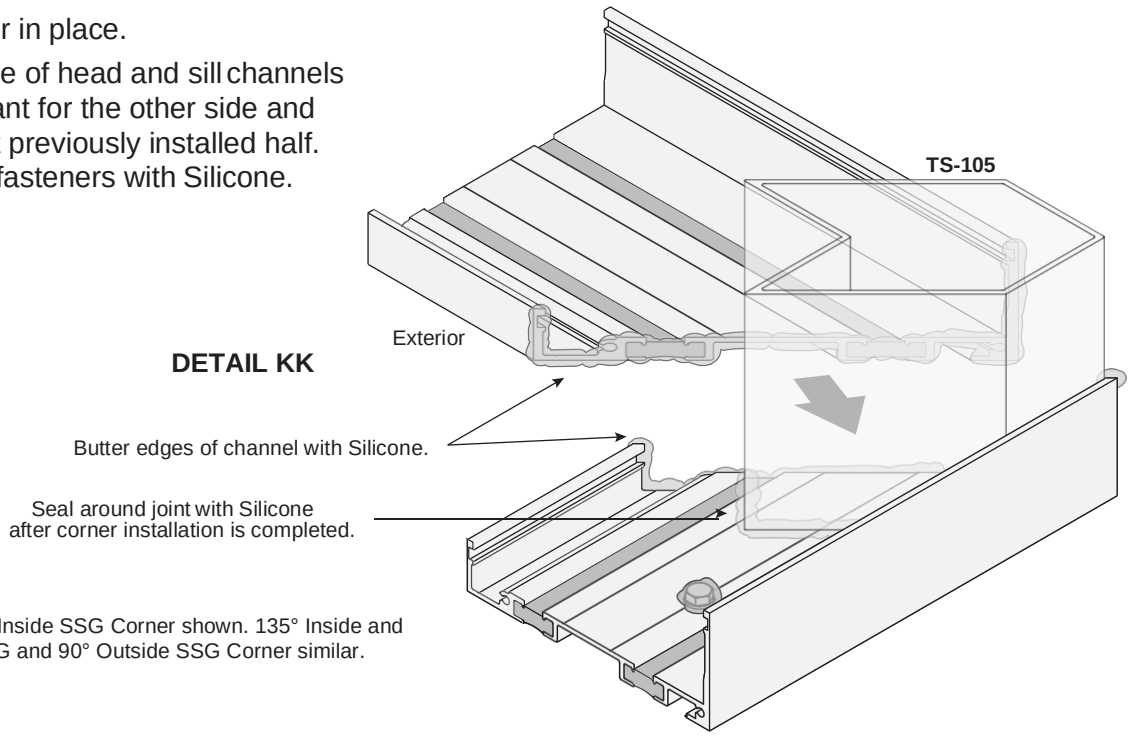


NOTE: 90° Inside Corner screw joined at one corner shown. 90° Outside Corner snap joined at both corners, not shown.

DETAIL JJ

SPECIAL INSTALLATION SEQUENCE FOR FIELD ASSEMBLY

1. Install head and sill channels on one side of corner only and secure to structure.
2. Apply Silicone Sealant to mitered edge.
3. Set corner member in place.
4. Butter mitered edge of head and sill channels with Silicone Sealant for the other side and install tight against previously installed half. Seal over head of fasteners with Silicone.



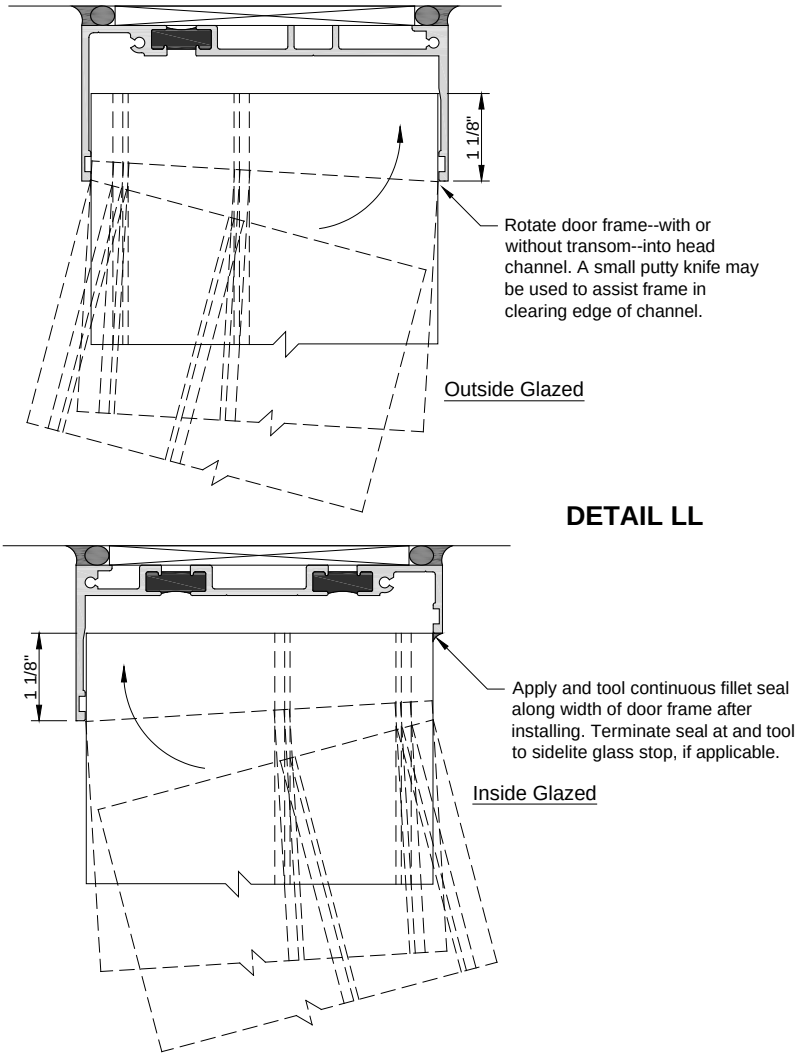
DETAIL KK

NOTE: 90° Inside SSG Corner shown. 135° Inside and Outside SSG and 90° Outside SSG Corner similar.

ENTRANCE FRAMES

Note: Cut door jambs to FRAME HEIGHT minus 1/2" (12.7).

Door frames will be pre-assembled as units and rotated into place as shown in **DETAIL LL.** Door jambs run to floor, bed in sealant, and assembled frame will extend into head channel 1-1/8”, leaving 7/8” of door header or transom head exposed. Door jambs must be anchored at top and bottom to head and sidelite sill channels via **AN27-01** and **AN3-01** angle clips at head and sill, respectively. Where there is no sidelite, such as an entrance at the perimeter of an elevation, door jamb will be anchored directly to jamb substrate, bolt size and spacing per structural review. Head channel will run continuously across door frame (see **DETAILS PP & QQ**), while sidelite sill channel butts directly into door jamb(s).

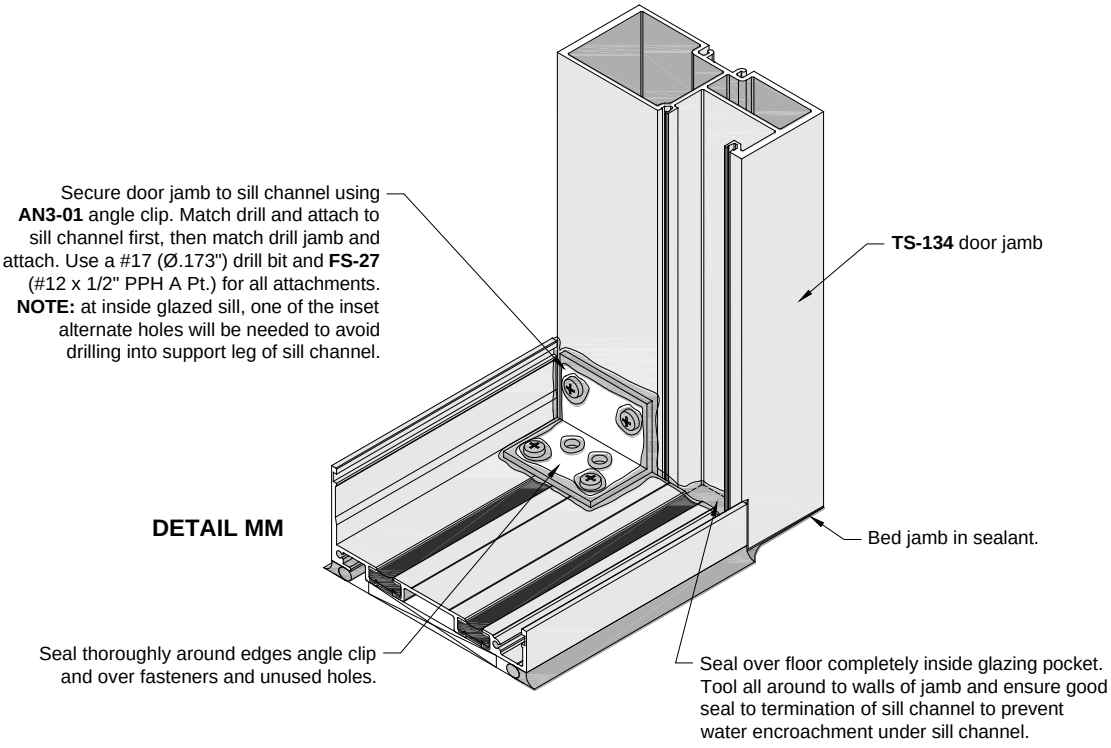


DETAIL LL

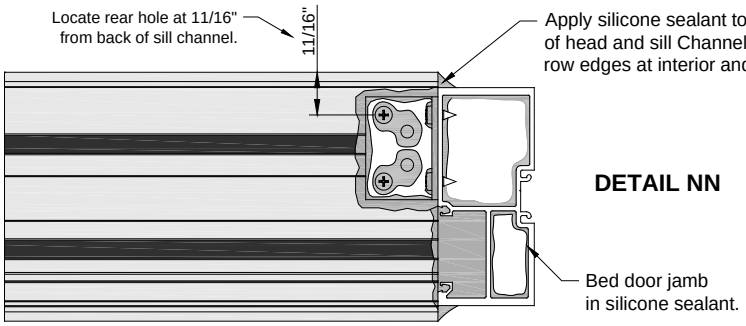
ENTRANCE FRAMES (CONTINUED)

SILL CHANNEL

Butter ends of channel and butt against door jamb. Pin together with **AN3-01** angle clip using **FS-27** fasteners. Anchor sill channel per instructions on Page 15. Seal all round joinery of sill channel to door jamb as well as over angle clip perimeter, fasteners, and any unused holes of the clip. Sill channel is 1/4" deeper than door jamb; seal projecting edges of channel to corners of door jamb. At inside glazed sill channel, one of the alternate attachment holes on the clip must be used to avoid drilling through support leg of **TS-112** channel. Refer to **DETAILS MM** and **NN**.



DETAIL MM



DETAIL NN

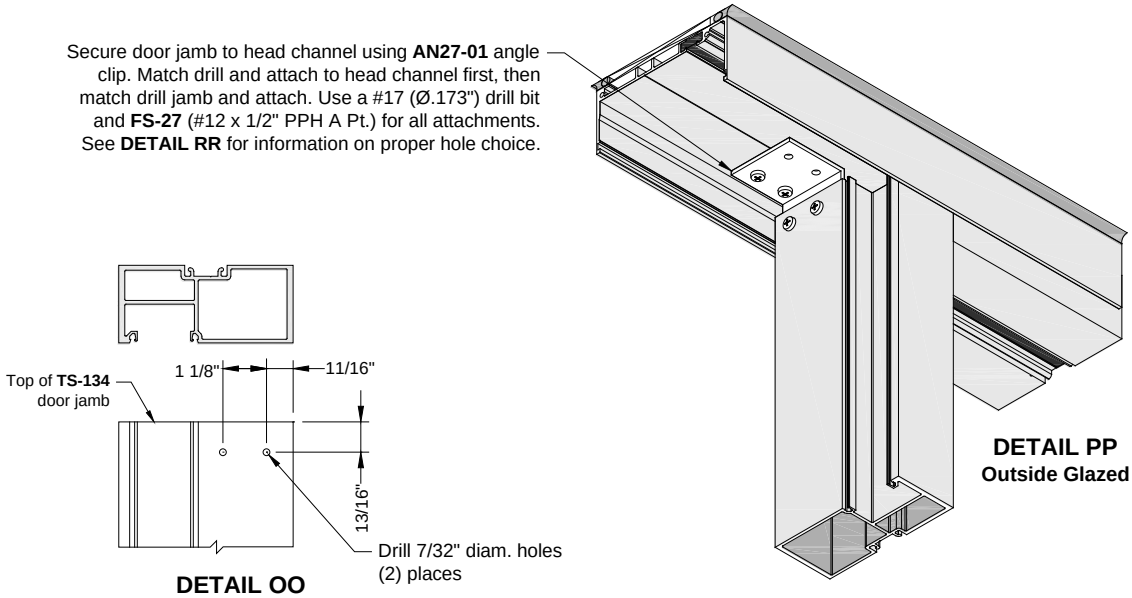
ENTRANCE FRAMES (CONTINUED)

HEAD CHANNEL

DOOR JAMB WITHOUT TRANSOM

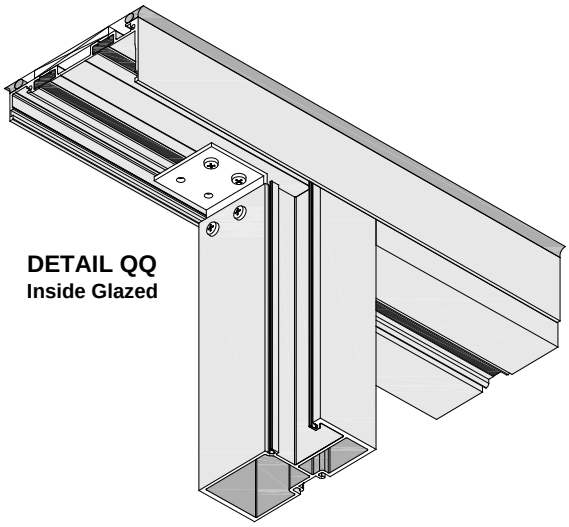
Drill (2) 7/32” diameter holes at top of jamb on the sidelite side for attachment of the **AN27-01** angle clip. See **DETAIL OO**.

Using **AN27-01** angle clip, attach door jamb to head channel. **Note that clip slots inside the door jamb.** Match drill and attach to head channel first, then match drill through jamb into angle clip. A #17 (.173” diam.) drill bit and **FS-27** (#12 x 1/2" PPH A Pt.) screws will be used for all clip connections. Hole choice used to attach clip to the head channel depends on the application and is necessary to avoid drilling through either the thermal break of **TS-109** or the support leg of **TS-112**. See **DETAIL RR**.

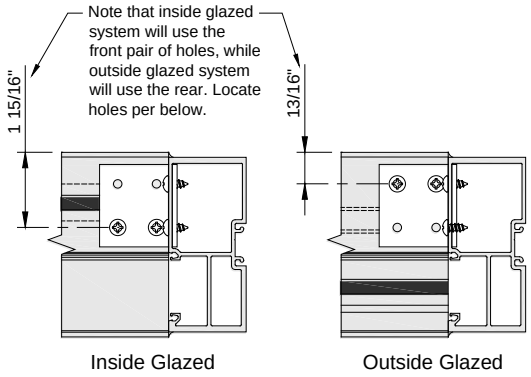


DETAIL OO
Jamb Prep for AN27-01 Angle Clip

DETAIL PP
Outside Glazed



DETAIL QQ
Inside Glazed



DETAIL RR
AN27-01 Angle Clips at Head Channel
(reflected plan views)

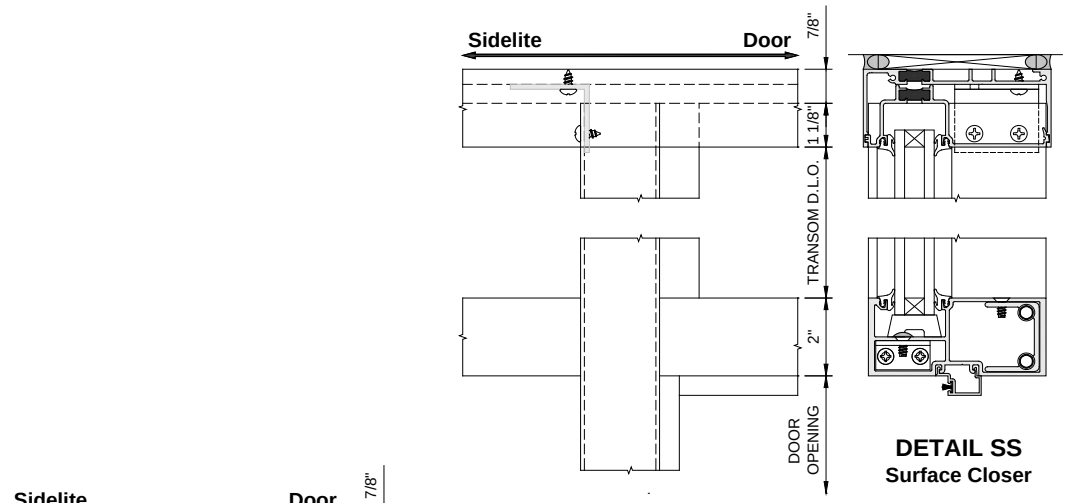
ENTRANCE FRAMES (CONTINUED)

DOOR JAMB WITH TRANSOM

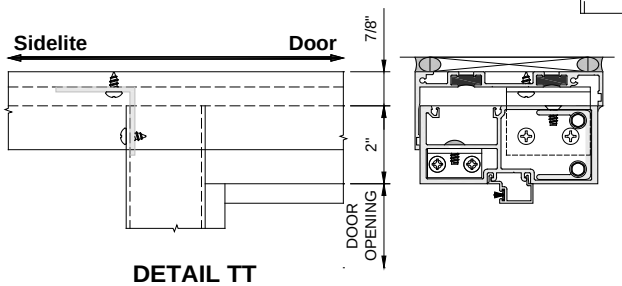
Entrances with transoms are fabricated, assembled and installed similarly to those without. Follow the guidelines on the preceding pages. The cut length of door jambs is identical, **FRAME HEIGHT** minus 1/2".

Transom Glass Size is Transom D.L.O. plus 7/8". Note that transoms are always glazed from the exterior, even when the rest of the elevation is inside glazed. With the inside glazed application, the **TS-113** glass stop at the transom head will be installed prior to glazing and prior to installing vertical transom sashes.

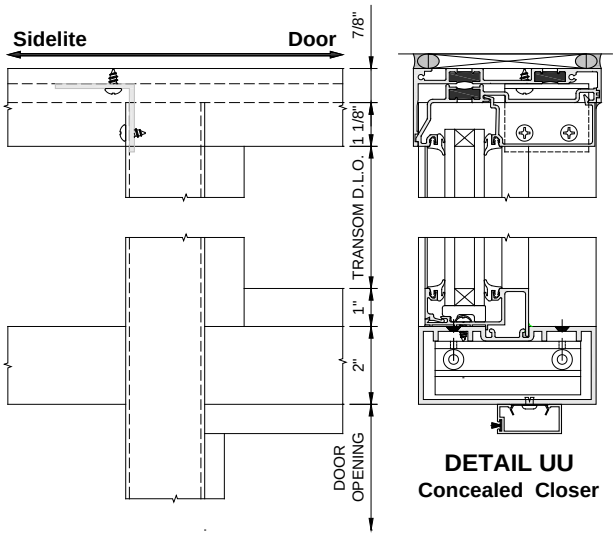
Refer to **DETAILS SS, TT** and **UU** below.



DETAIL SS
Surface Closer



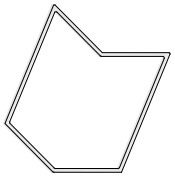
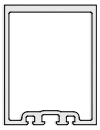
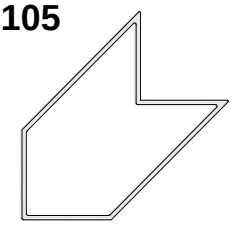
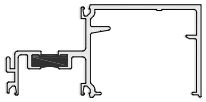
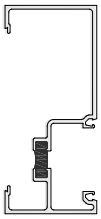
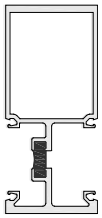
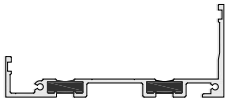
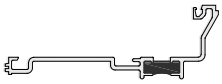
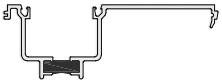
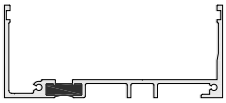
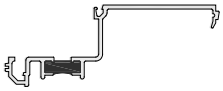
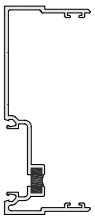
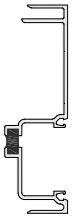
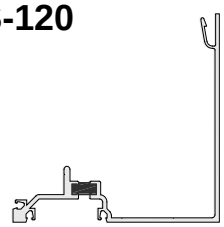
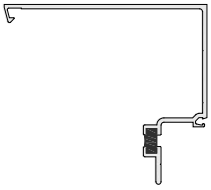
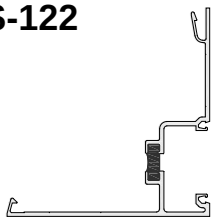
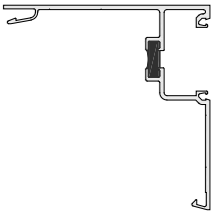
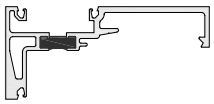
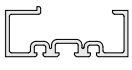
DETAIL TT
No Transom



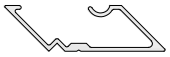
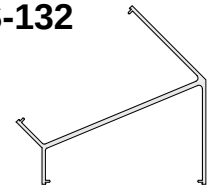
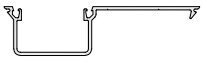
DETAIL UU
Concealed Closer

PARTS IDENTIFICATION

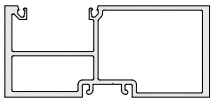
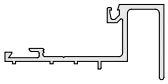
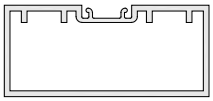
EXTRUSIONS

TS-100  Snap Cover for Intermediate Horizontal - Outside Glazed	**TS-101**  Glass Stop for Intermediate Horizontal - Outside Glazed	**TS-102**  135° SSG Corner Mullion	**TS-103**  Glass Stop for Outside Glazed Sill or Head for SSG
TS-104  SSG Mullion	**TS-105**  90° SSG Corner Mullion	**TS-106**  Intermediate Horizontal - Exterior Glazed	**TS-107**  Jamb
TS-108  Typical Mullion	**TS-109**  Head Channel - Int. Glazed Sill Channel - Ext. Glazed	**TS-110**  Head Insert - Interior Glazed	**TS-111**  Head Insert - Ext. Glazed Sill Insert - Int. Glazed
TS-112  Head Channel - Ext. Glazed Sill Channel - Int. Glazed	**TS-113**  Glass Stop - Interior Glazed	**TS-114**  Sill Insert - Ext. Glazed Head Insert - 2-sided SSG System	**TS-118**  Expansion Mullion Male
TS-119  Expansion Mullion Female	**TS-120**  90° Inside Corner Female	**TS-121**  90° Inside Corner Male	**TS-122**  90° Outside Corner Male
TS-123  90° Outside Corner Mullion Female	**TS-124**  Pocket Filler	**TS-125**  Intermediate Horizontal - Inside Glazed	**TS-126**  SSG 1/4" Pocket Reducer

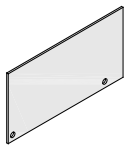
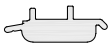
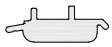
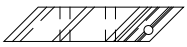
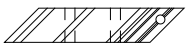
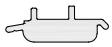
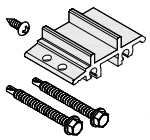
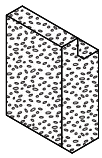
EXTRUSIONS (cont.)

TS-127  SSG Outside 90° Pocket Reducer	**TS-128**  Typical Captured Pocket Reducer	**TS-129**  SSG Inside 90° Pocket Reducer	**TS-130**  SSG Outside 135° Pocket Reducer
TS-131  SSG Inside 135° Pocket Reducer	**TS-132**  135° Captured Corner Mullion	**TS-133**  135° Captured Corner Mullion Filler	

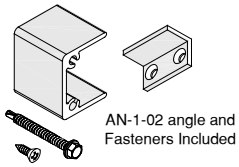
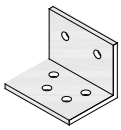
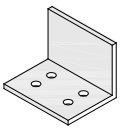
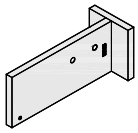
ENTRANCE FRAMING EXTRUSIONS

TS-134  Door Frame for Standard Entrance	**TS-135**  Transom Sash	**TS-136**  Transom Sash Stop	**FG-3160**  Door Header for Concealed Closer

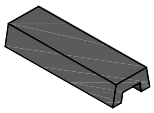
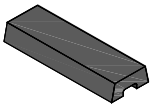
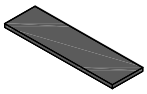
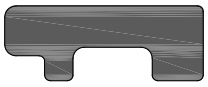
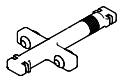
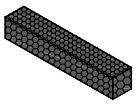
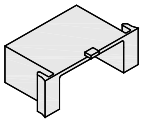
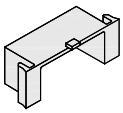
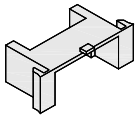
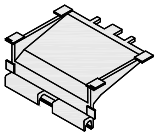
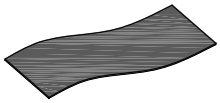
PARTS & ACCESSORIES

TS-200  End Dam for Head & Sill Channels	**TS-203**  SSG Corner Water Diverter Plate	**TS204-01**   SSG 90° Outside Corner Shear Block Kit w/ Screws - Left Hand	**TS204-02**   SSG 90° Outside Corner Shear Block Kit w/ Screws - Right Hand
TS204-03   SSG 90° Inside Corner Shear Block Kit w/ Screws - Left Hand	**TS204-04**   SSG 90° Inside Corner Shear Block Kit w/ Screws - Right Hand	**TS204-05**   SSG 135° Outside Corner Shear Block Kit w/ Screws - Left Hand	**TS204-06**   SSG 135° Outside Corner Shear Block Kit w/ Screws - Right Hand
TS204-07   SSG 135° Inside Corner Shear Block Kit w/ Screws - Left Hand	**TS204-08**   SSG 135° Inside Corner Shear Block Kit w/ Screws - Right Hand	**TS205-01**  Typical Shear Block Kit w/ Screws	**TS206**  Splice Backer at SSG Head & Sill

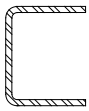
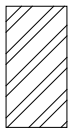
PARTS & ACCESSORIES (cont.)

TS207-01  **Shear Block Kit for TS-134 Door Header**	**AN3-01**  **SSG & Sidelite Sill Clip Angle**	**AN27-01**  **Door Jamb at Header Clip Angle**	**DJ-215**  **Drill Fixture for Vertical Mullions**

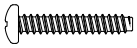
GASKETS, GLAZING MATERIALS WATER CONTROL

GP-152  **'W' Edge Block**	**GP-166**  **Setting Block at Sill**	**GP-167**  **Setting Block at Exterior Glazed Intermediate Horizontal**	**GP-168**  **Setting Block at Exterior Glazed Intermediate Horizontal**
GP-169  **Vertical SSG Spacer Gasket**	**GP-172**  **Typical Glazing Gasket (3/16" face clearance)**	**GP-173**  **Light Glazing Gasket (1/8" face clearance)**	**GP-174**  **Heavy Glazing Gasket (1/4" face clearance)**
GP-190  **Setting Block at Transom Sash**	**TS-302**  **Retainer Clip at Head in 2-sided SSG Application**	**TS-303**  **Vinyl Jamb Filler**	**TS-304**  **Temporary Glazing Clip for SSG Mullion**
TS-305  **1-3/8" x 1-3/8" Weep Baffle**	**TS-306**  **Deep Pocket Water Diverter**	**TS-307**  **Shallow Pocket Water Diverter at Expansion Vertical**	**TS-308**  **Typical Shallow Pocket Water Diverter**
TS-309  **SSG Water Deflector**	**UW466**  **2" Wide Silicone Splice Sheet**	**V-11**  **Weather Seal at Expansion Vertical**	**V2108-20**  **1/4" x 5/8" DSA Spacer Tape**

STEEL REINFORCEMENT

RS-40	RS-41	RS-42	RS-43
			
Stiffener for TS-104 SSG Mullion	**Stiffener for TS-108 Typical Mullion**	**Stiffener for TS-119 Expansion Mullion**	**Stiffener for TS-134 Door Jamb**

FASTENERS

FS-27	FS-42	FS-55	FS-58
			
#12 x 1/2" PPH A Pt., for attaching angle clips	**#12 x 1/2" PFHUC B Pt., for attaching entrance frame shear block (included in kit)**	**#10 x 1/2" PPH AB Pt., for pinning IS90 corner mullion halves and attaching transom sash**	**#10 x 1" PFH B Pt., for attaching SSG pocket reducers**
FS-202	**FS-238**	**FS-258**	**FS-322**
			
#8 x 1/2" PPH A Pt., for attaching end dams at head & sill channels	**1/4"-20 x 5/8" PPH type F thread cutting screw, for attaching RS-43 steel bar at door jamb**	**#12 x 1-1/4" PPH B Pt., for attaching SSG corner shear blocks (included in kits)**	**#12-14 x 1" HWH #3 Pt. Gr. 5 self-drilling screw, for attaching steel channels**
FS-401	**FS-402**		
			
#12 x 2" HWH TEKS, for vertical attachment of typical shear block (included in kit)	**3/32" x 1/2" coiled roll pin, for front of system support at intermediate horizontals**		