



SERIES OST451 AND OST451SSG

OFFSET GLAZED WINDOW WALL

NOTE

THE INSTALLATION DETAILS FOUND IN THIS PACKAGE ARE GENERIC AND ARE FOR REPRESENTATION ONLY WITH THE INTENT OF GIVING THE INSTALLATION TEAM A VISUAL REPRESENTATION AS TO HOW THE ASSEMBLIES TYPICALLY INSTALL. 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 MANUFACTURERS' RECOMMENDATIONS FOR USE AND APPLICATION OF ALL STRUCTURAL SILICONE SEALANT AND WEATHER SEAL SILICONE SEALANT.

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

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HANDLING, STORAGE, AND PROTECTION OF ALUMINUM

The following precautions are recommended to protect the material against damage. Following these precautions will help ensure early acceptance of your products and workmanship.

A. HANDLE CAREFULLY.

All aluminum materials 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.

B. CHECK ARRIVING MATERIALS.

Check for quantities and keep records of where various materials are stored.

C. KEEP MATERIALS AWAY FROM WATER, MUD, AND SPRAY.

Prevent cement, plaster or other materials from damaging the finish.

D. PROTECT THE MATERIALS AFTER ERECTION.

Protect erected frame with polyethylene or canvas splatter screen. Cement, plaster, terrazzo, other alkaline solutions, and acid based materials used to clean masonry are harmful to the finish. If any of these materials come in contact with the aluminum, IMMEDIATELY remove with water and mild soap.

IMPORTANT: READ THIS MANUAL THOROUGHLY BEFORE BEGINNING INSTALLATION

GENERAL INSTALLATION NOTES

Recommended Guidelines for All Installations:

- 1. REVIEW CONTRACT DOCUMENTS.** Check shop drawings, installation instructions, architectural drawings, and shipping lists to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. Note any field verified notes on the shop drawings prior to installing. The installation instructions are of a general nature and cover most conditions.
- 2. INSTALLATION.** All materials are to be installed plumb, level, and true.
- 3. INSTALLER QUALIFICATION.** The **OST451/OST451SSG** window wall system 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.
- 4. BENCH MARKS.** All work should start from bench marks and/or column lines as established by the architectural drawings and the general contractor with guaranteed accuracy. Working from these datum points and lines determine:
 - a) The plane of the wall in reference to offset lines provided on each floor.
 - b) The finish floor lines in reference to bench marks on the outer building columns.
 - c) Mullion spacing from both ends of masonry opening to prevent dimensional build-up of daylight opening.
- 5. FIELD WELDING.** All field welding must be adequately shielded to avoid any splatter on glass or aluminum. Results will be unsightly and/or structurally unsound. Advise general contractor and other trades accordingly. All field welds of steel anchors must receive touch-up paint (zinc chromate) to avoid rust.
- 6. SURROUNDING CONDITIONS.** 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 work.
- 7. ISOLATION OF ALUMINUM.** Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be isolated with a heavy coat of bituminous paint. For steel reinforcement primer, use manufacturer's standard corrosion resistant primer, meeting or exceeding Sherwin Williams Kem Kromik® and ASTM D5894, 1008 Corrosion Resistance.

GENERAL INSTALLATION NOTES (CONTINUED)

Recommended Guidelines for All Installations:

8. **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.

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.

9. **FASTENING.** Within the body of these instructions "fastening" means any method of securing one part to another or to adjacent materials. Only those fasteners used within the system are specified in these instructions. Due to the varying perimeter conditions and performance requirements, perimeter and anchor fasteners are not specified in these instructions. For perimeter and anchor fasteners refer to the shop drawings or consult the fastener supplier.
10. **BUILDING CODES.** Due to the diversity in state/provincial, local, and federal laws and codes that govern the design and application of architectural products, it is the responsibility of the individual architect, owner, and installer to assure that products selected for use on projects comply with all the applicable building codes and laws. U.S. Aluminum exercises no control over the use or application of its products, glazing materials, and operating hardware, and assumes no responsibility thereof.
11. **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 the time of installation. Gaps between expansion members should be based on temperature at time of installation.
12. **GLAZING PRACTICES.** The air and water performance of the framing system 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

GENERAL INSTALLATION NOTES (CONTINUED)

Recommended Guidelines for All Installations:

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 1/4" 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.

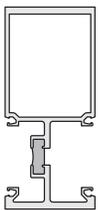
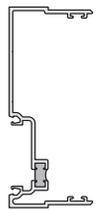
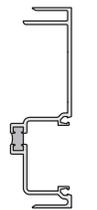
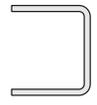
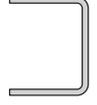
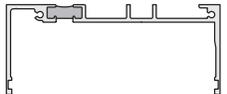
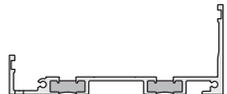
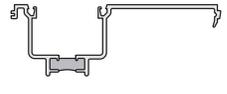
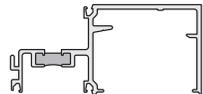
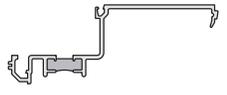
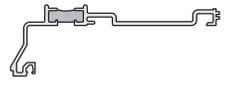
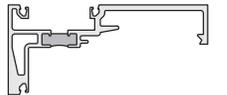
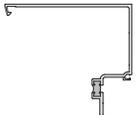
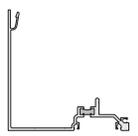
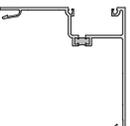
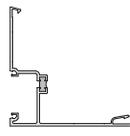
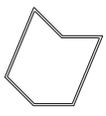
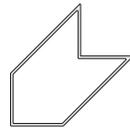
- 13. COORDINATION WITH OTHER TRADES.** Coordinate with the general contractor any sequence with other trades which offset curtain wall installation (i.e. fire proofing, back-up walls, partitions, ceilings, mechanical ducts, converters, etc.)
- 14. CARE AND MAINTENANCE.** Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA 609.1 for anodized aluminum and 610.1 for painted aluminum.
- 15. WEATHER SEALANTS.** Check shop drawings, installation instructions, architectural drawings and shipping lists to become thoroughly familiar with all sealants referenced in these instructions, which must be a one part elastomeric acetic or neutral cure silicone and must be applied according to the silicone manufacturer's recommendations.
- 16. APPLICATION.** Structural silicone must be applied from the interior, and weather seal from the exterior, after the interior structural silicone has fully cured.
- 17. MAXIMUM ALLOWABLE STRESS ON SILICONE.** The maximum allowable size of the glass lite is controlled by the width and depth of the silicone joint combined with the specified design windload (PSF or Pa). The stress on the structural silicone must not exceed 20 PSI (137 KPa) for a 6:1 safety factor. Check Structural Silicone Chart in the Architectural Design Manual for this product series.
- 18. ARCHITECT.** It is the responsibility of the architect to secure approval of the system and request from the Glazing Contractor the compatibility and adhesion test reports described below.
- 19. U.S. ALUMINUM.** It is the responsibility of U.S. Aluminum to supply a system to meet the architect's specifications.

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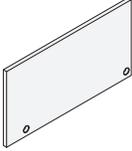
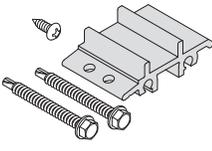
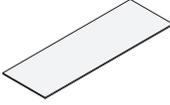
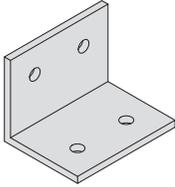
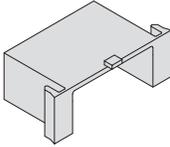
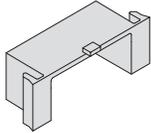
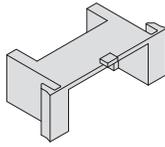
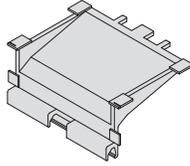
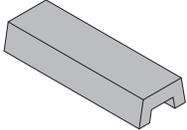
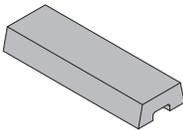
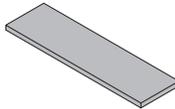
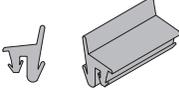
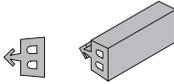
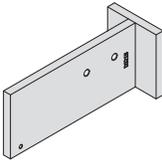
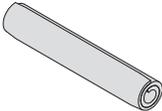
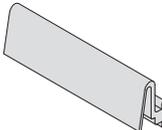
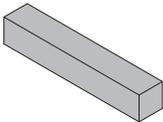
PARTS IDENTIFICATION

PROFILES

<p>OT652</p>  <p>Jamb</p>	<p>OT655</p>  <p>Vertical Mullion</p>	<p>FF561</p>  <p>Male Expansion Mullion</p>	<p>FF569</p>  <p>Female Expansion Mullion</p>
<p>OG551</p>  <p>SSG Vertical</p>	<p>SS520000016</p>  <p>Optional Stiffener for OG551</p>	<p>SS569</p>  <p>Optional Stiffener Expansion Mullion</p>	<p>SS555</p>  <p>Optional Stiffener for OT655</p>
<p>PV100</p>  <p>Jamb Filler</p>	<p>P125</p>  <p>Pocket Filler</p>	<p>OG539</p>  <p>Face Plate Sill Exterior Glaze</p>	<p>OG534</p>  <p>Face Plate Intermediate Horizontal Exterior Glaze</p>
<p>OT668</p>  <p>Head Channel Exterior Glazing Sill Channel Interior Glazing</p>	<p>OT662</p>  <p>Sill Channel Exterior Glazing Head Channel Interior Glazing</p>	<p>OT666</p>  <p>Head Insert Exterior Glazing Sill Insert Interior Glazing</p>	<p>OT633</p>  <p>Intermediate Horizontal Exterior Glazing</p>
<p>OT676</p>  <p>Sill Insert Exterior Glazing</p>	<p>OT664</p>  <p>Head Insert Interior Glazing</p>	<p>OT663</p>  <p>Intermediate Horizontal Interior Glazing</p>	<p>OT673</p>  <p>Glass Stop Interior Glazing</p>
<p>OG532</p>  <p>Insert Intermediate Horizontal Exterior Glaze</p>	<p>TT245</p>  <p>Threshold</p>	<p>FF570</p>  <p>90 Degree Male Inside Corner</p>	<p>FF575</p>  <p>90 Degree Female Inside Corner</p>
<p>FF580</p>  <p>90 Degree Male Outside Corner</p>	<p>FF590</p>  <p>90 Degree Female Outside Corner</p>	<p>OG535</p>  <p>135 Degree SSG Corner</p>	<p>OG590</p>  <p>90 Degree SSG Corner</p>

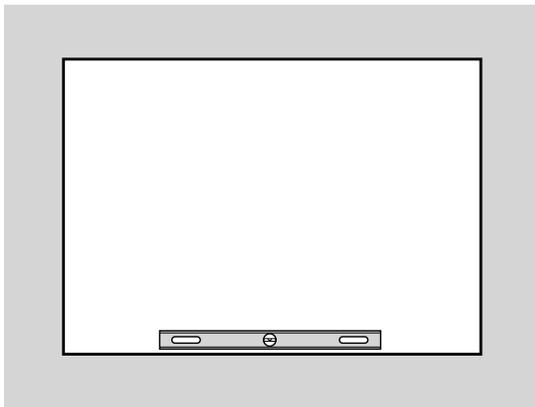
PARTS IDENTIFICATION (CONTINUED)

ACCESSORIES

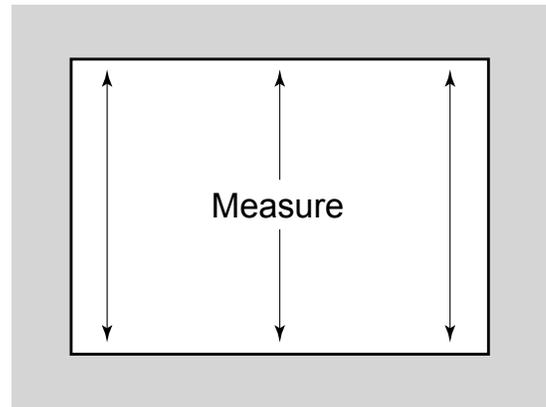
<p>EC451</p>  <p>End Dam</p>	<p>AP563</p>  <p>Anchor Clip</p>	<p>UW466</p>  <p>2" Silicone Sheet Splice</p>	<p>CLP451</p>  <p>SSG Clip Angle</p>
<p>WD200</p>  <p>Deep Pocket Water Deflector</p>	<p>WD210</p>  <p>Shallow Pocket Water Deflector for FF561</p>	<p>WD215</p>  <p>Shallow Pocket Water Deflector</p>	<p>WD551</p>  <p>SSG Water Deflector</p>
<p>SB230</p>  <p>Setting Block Sill Interior and Exterior Glaze</p>	<p>SB451</p>  <p>Setting Block Exterior Glaze Intermediate</p>	<p>SB452</p>  <p>1/8" x 1-1/8" Setting Block Interior Glaze Intermediate</p>	<p>WB452</p>  <p>"W" Edge Block</p>
<p>NP225</p>  <p>Gasket</p>	<p>SP450</p>  <p>Vertical SSG Gasket</p>	<p>ST206</p>  <p>#8 x 1/2" PH SMS Attach Anchor to Horizontal</p>	<p>12X12HHDTEK</p>  <p>#12 x 2" Hex Washer Head Self-Drilling Screws Attach Anchor to Vertical</p>
<p>DJ215</p>  <p>Drill Jig</p>	<p>201757</p>  <p>3/32 x .5 Coiled Spring Support Pin</p>	<p>NC539</p>  <p>Retainer Clip</p>	<p>EC539</p>  <p>Splice End cap</p>
<p>RG700</p>  <p>Temporary Glass Retainer</p>	<p>UB635</p>  <p>Weep Baffle</p>		

SITE PREPARATION BEFORE INSTALLATION

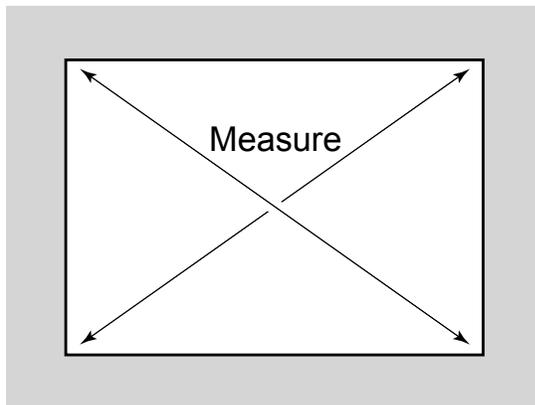
1. Review and measure the opening. Verify framing is plumb, straight, and true around window opening.
2. Verify rough window opening size has 1/2" (12.7) clearance in both width and height to the window. Measure opening at each end and at center vertically and horizontally. Make corrections to openings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



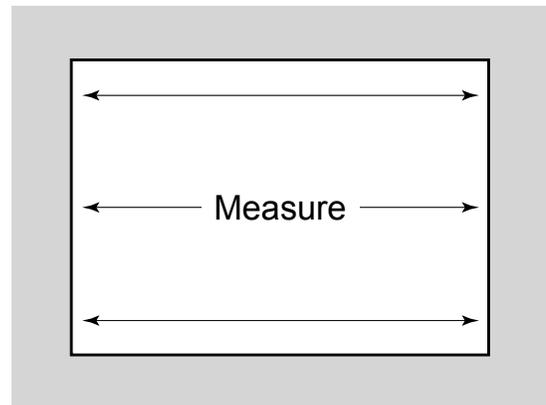
LEVEL



VERTICAL DIMENSION



SQUARE

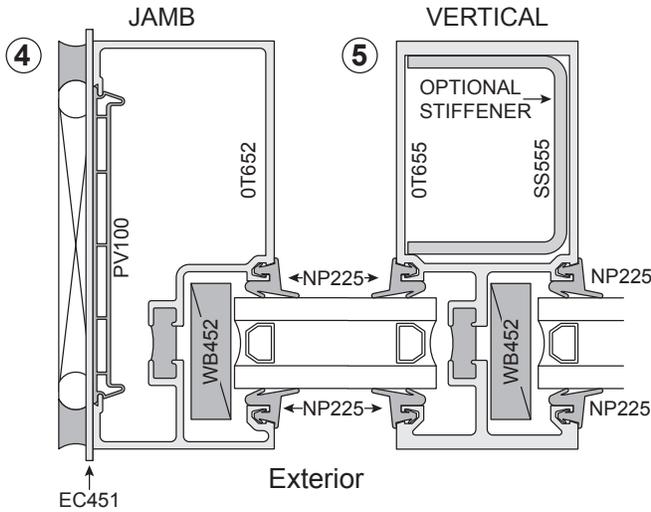


HORIZONTAL DIMENSION

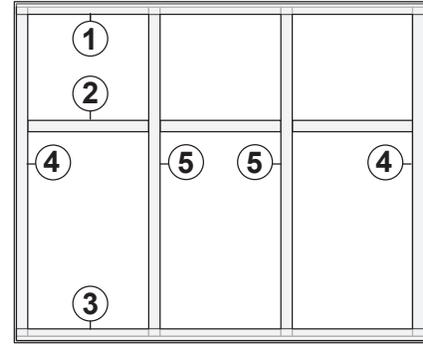
TYPICAL ELEVATIONS

EXTERIOR AND INTERIOR GLAZING

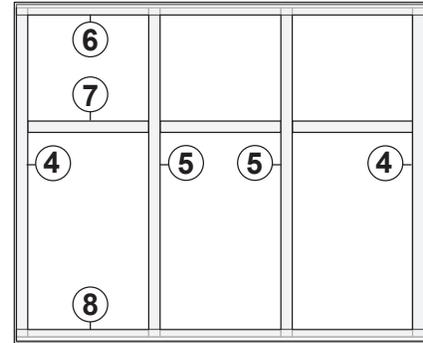
EXTERIOR AND INTERIOR GLAZING



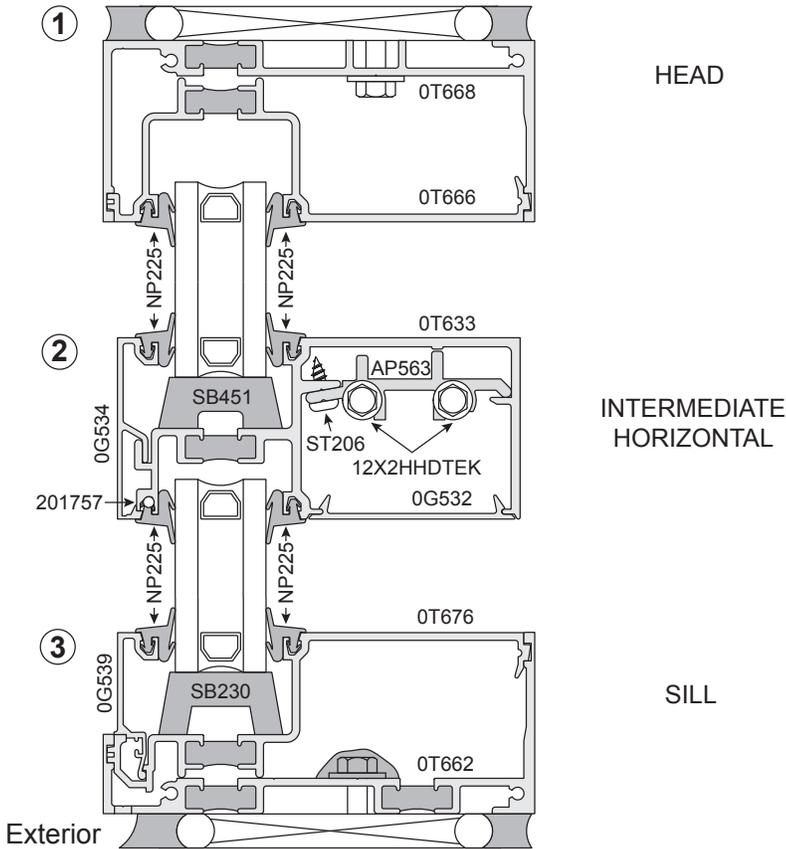
TYPICAL ELEVATION EXTERIOR GLAZING



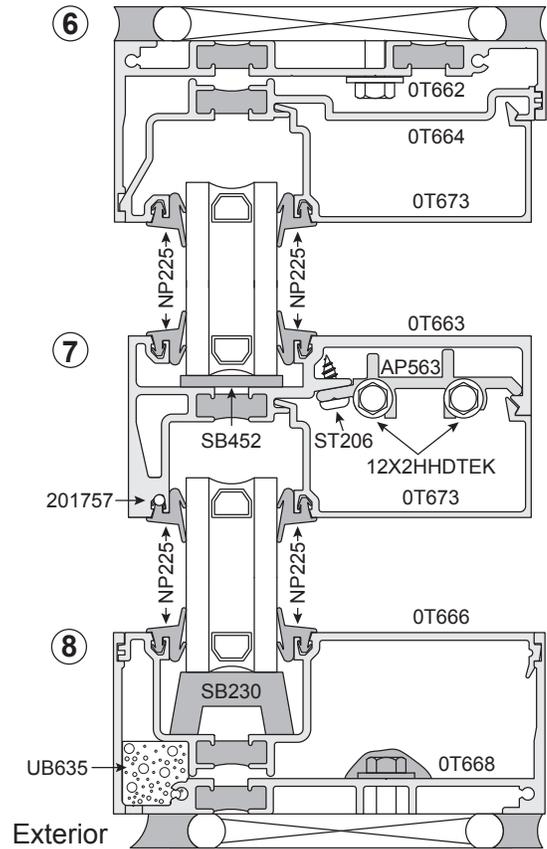
TYPICAL ELEVATION INTERIOR GLAZING



EXTERIOR GLAZING



INTERIOR GLAZING



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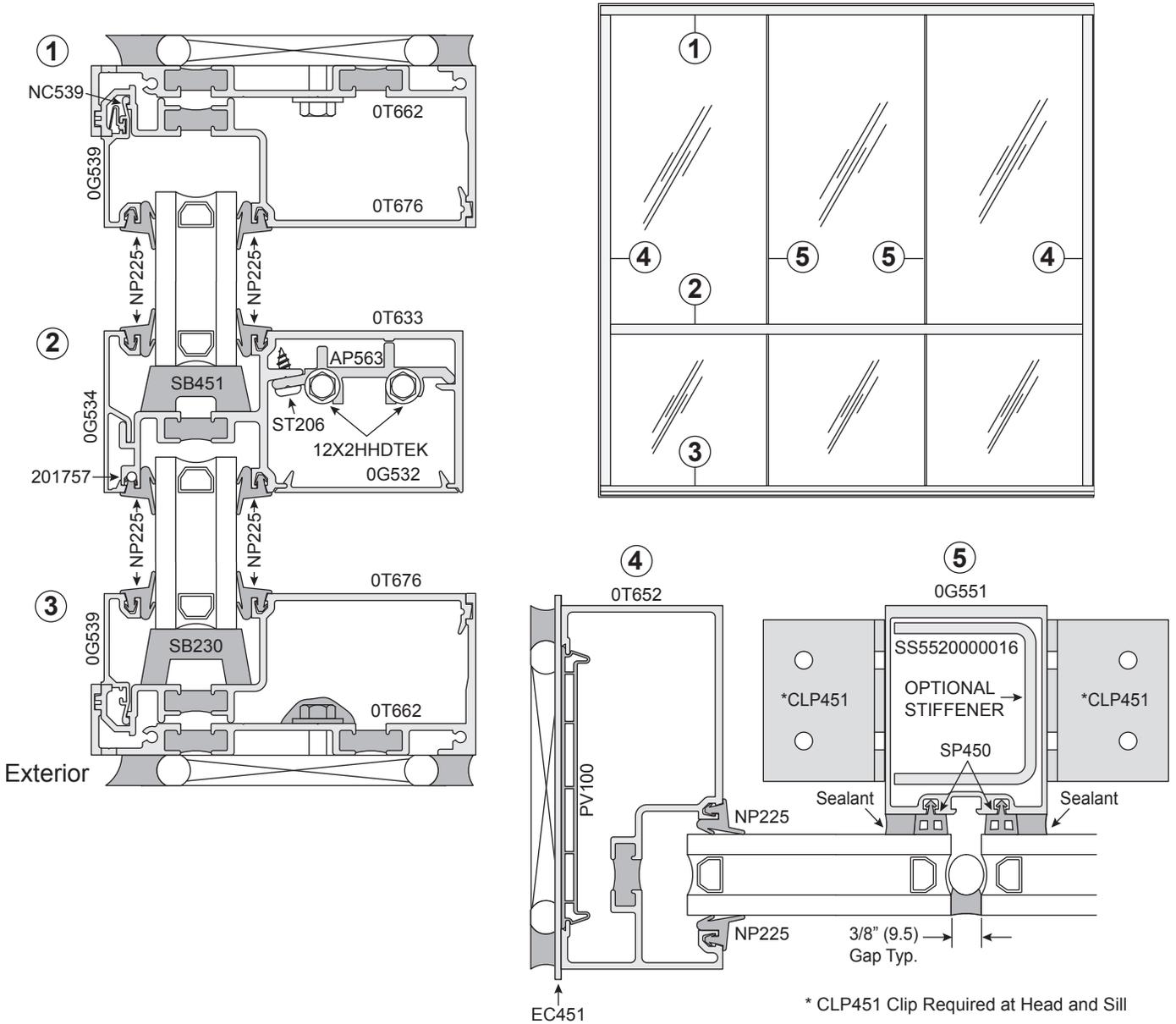
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TYPICAL ELEVATIONS (CONTINUED)

EXTERIOR GLAZING FOR STRUCTURAL SILICONE APPLICATION

The following schematic details show proper member selection.



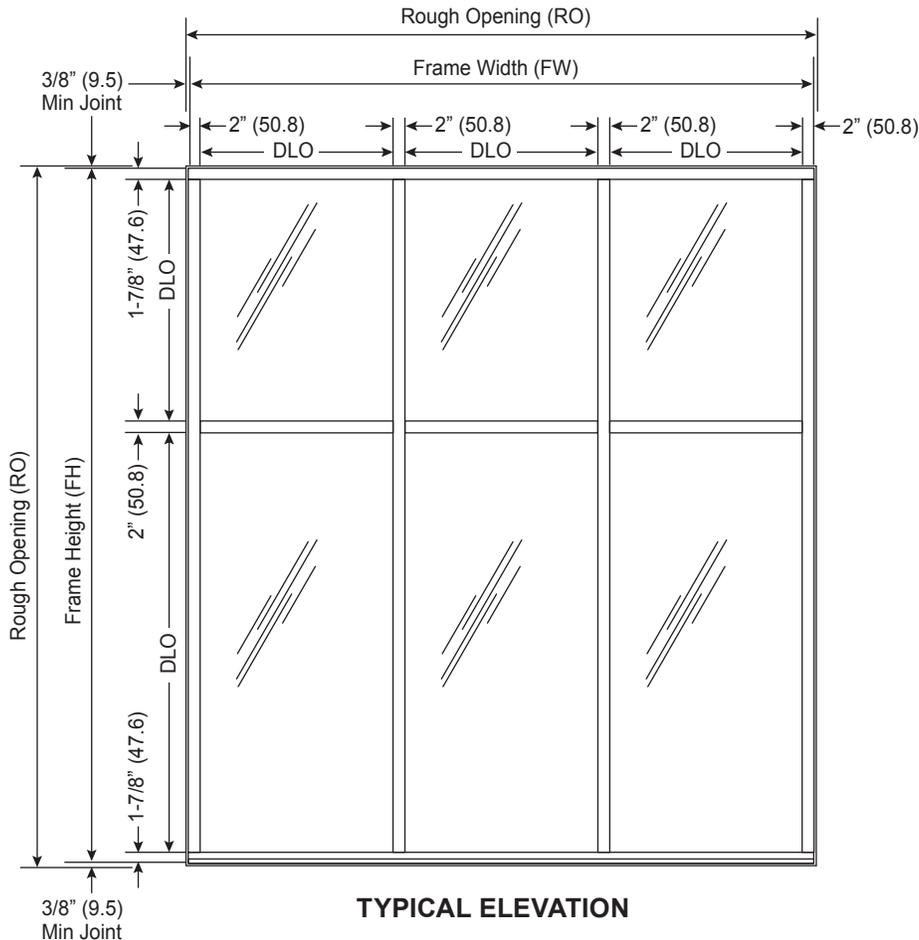
FRAME FABRICATION

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 Jambes and Verticals:	FRAME HEIGHT minus 15/16" (23.8)
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: OST451	D.L.O. minus 1/32" (0.8)
Horizontal face Covers: OST451SG	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)



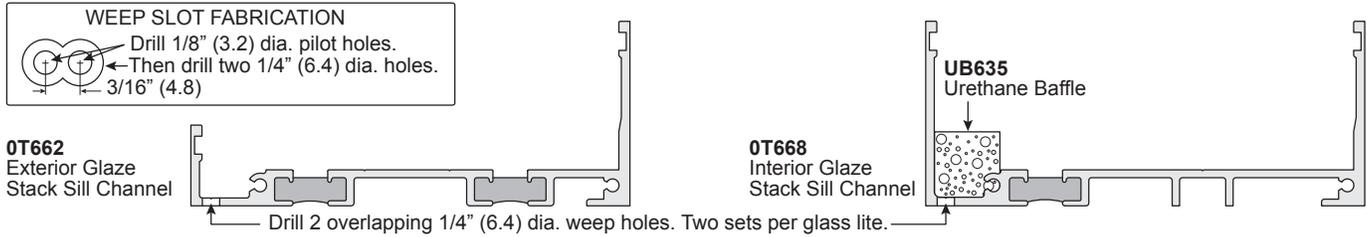
FRAME FABRICATION (CONTINUED)

FABRICATE WEEP HOLES

FRAME FABRICATION

Details shown in these instructions are 1" (25) glazing systems. Measure ROUGH OPENING to determine

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

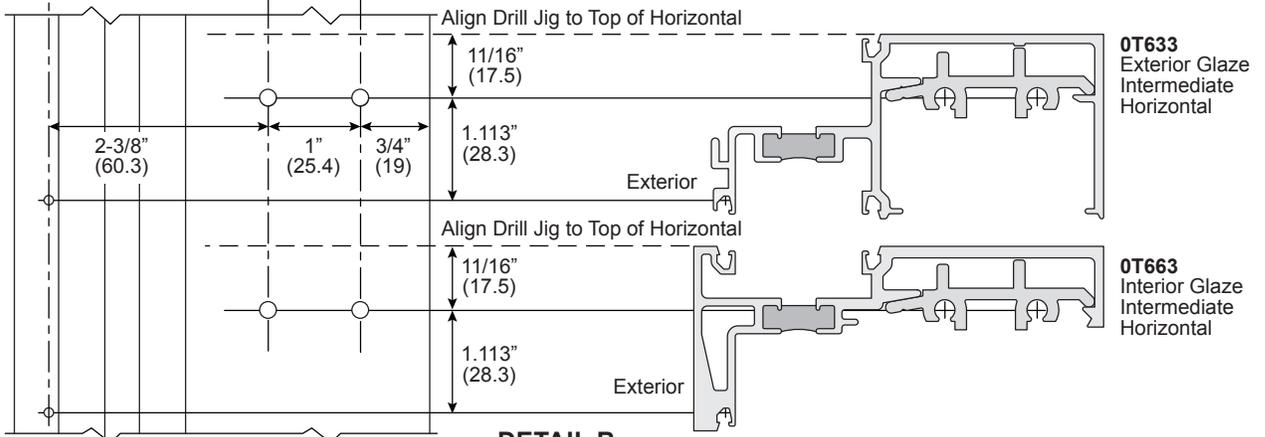
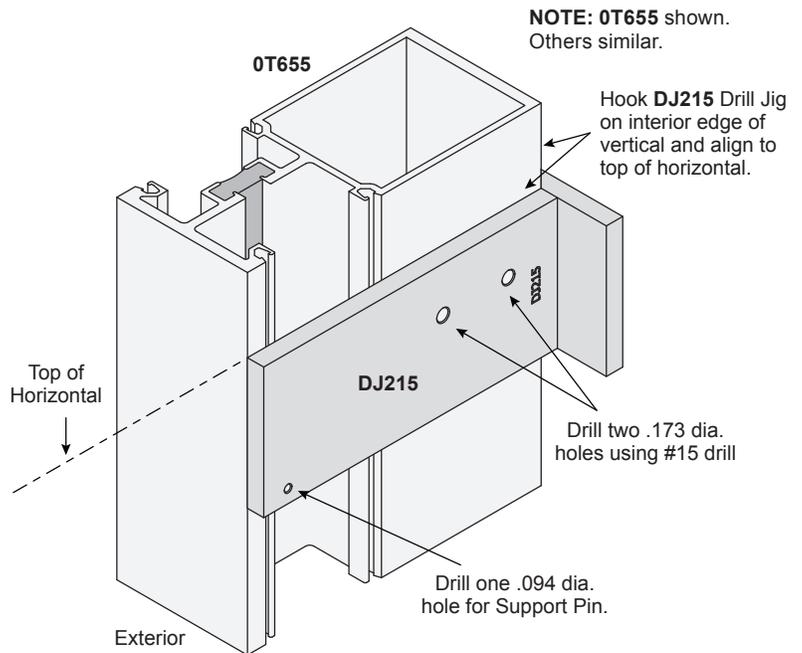
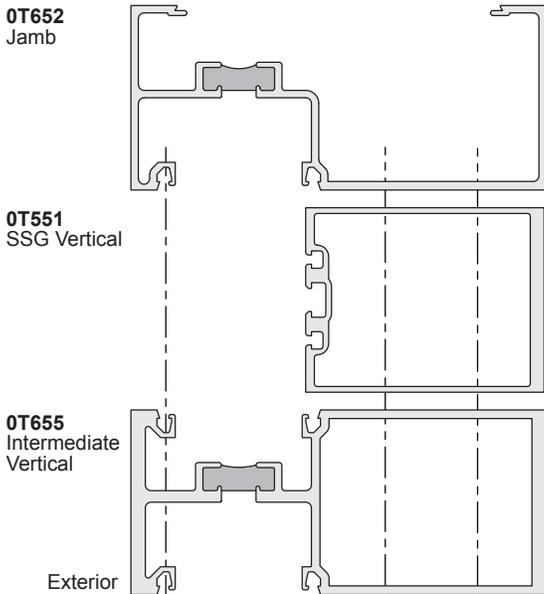


DETAIL A

FABRICATE ANCHOR CLIP AND SUPPORT PIN HOLES

FRAME DIMENSION allowing 3/8" (9.5) minimum clearance for shimming and caulking around perimeter.

CUT MEMBERS

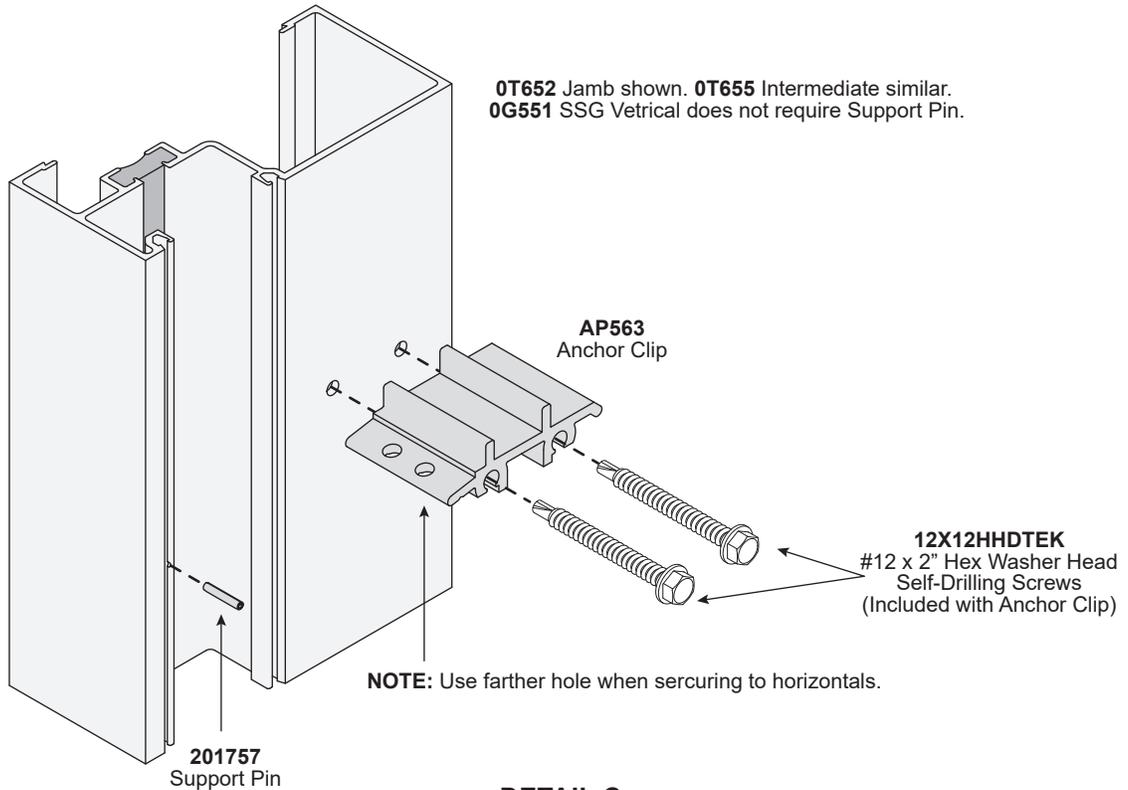


DETAIL B

FRAME ASSEMBLY

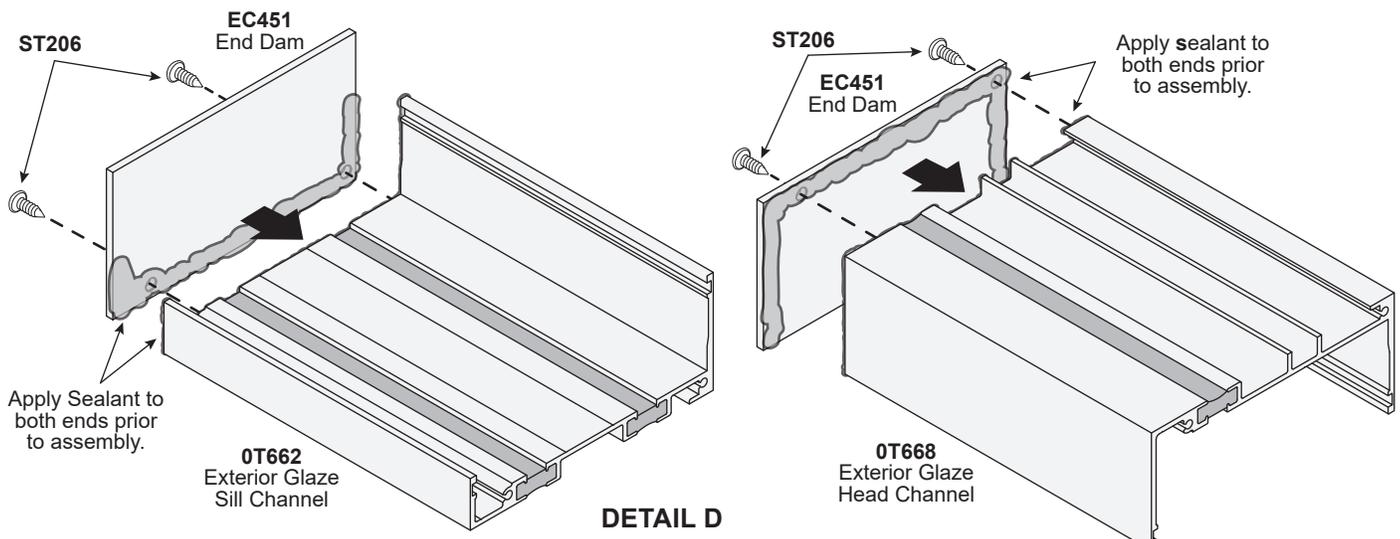
INSTALL ANCHOR CLIPS

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

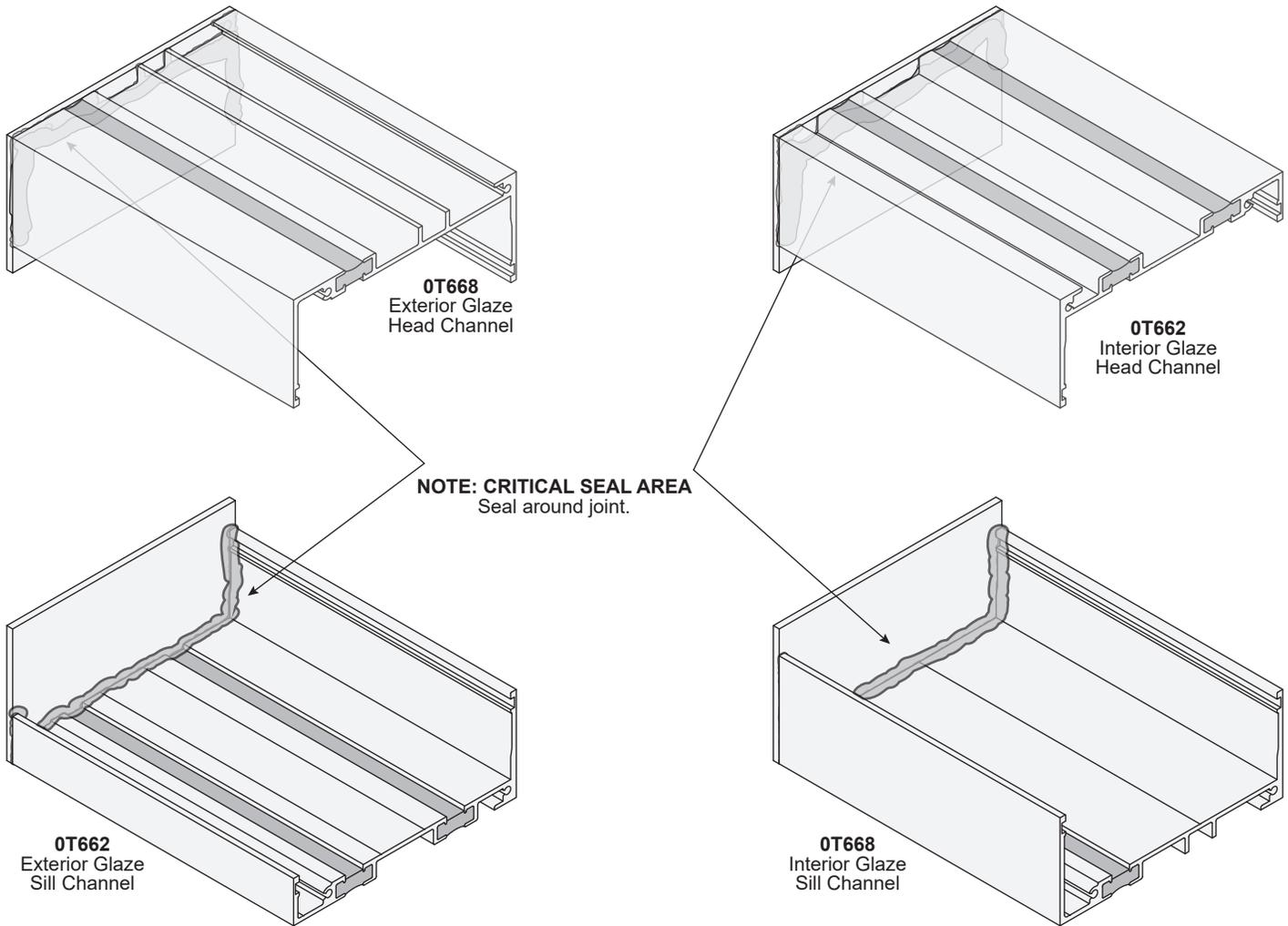


FRAME ASSEMBLY (CONTINUED)

INSTALL END DAMS AT HEAD AND SILL CHANNELS (CONTINUED)

1. Attach anchor clips to verticals with screws provided. See **DETAIL C**.
2. Apply End Dams to head and sill channels at ends of opening and secure with screws. See **DETAIL D**.
3. Seal around joint 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

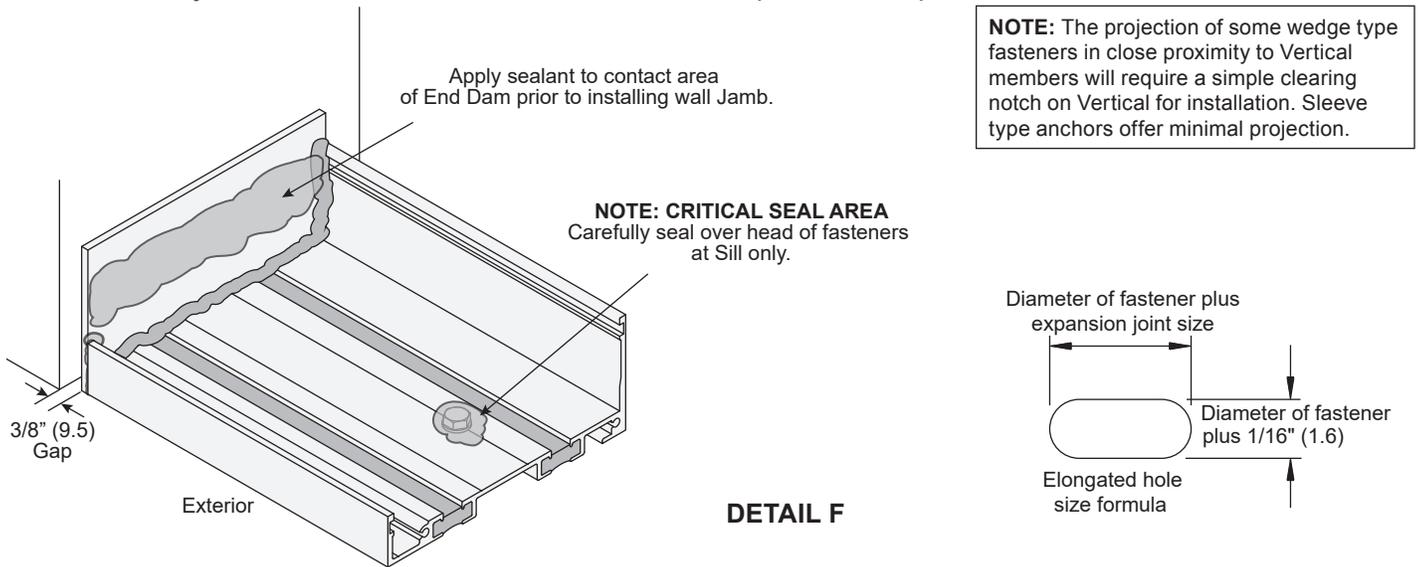
FRAME INSTALLATION

INSTALL HEAD AND SILL CHANNELS

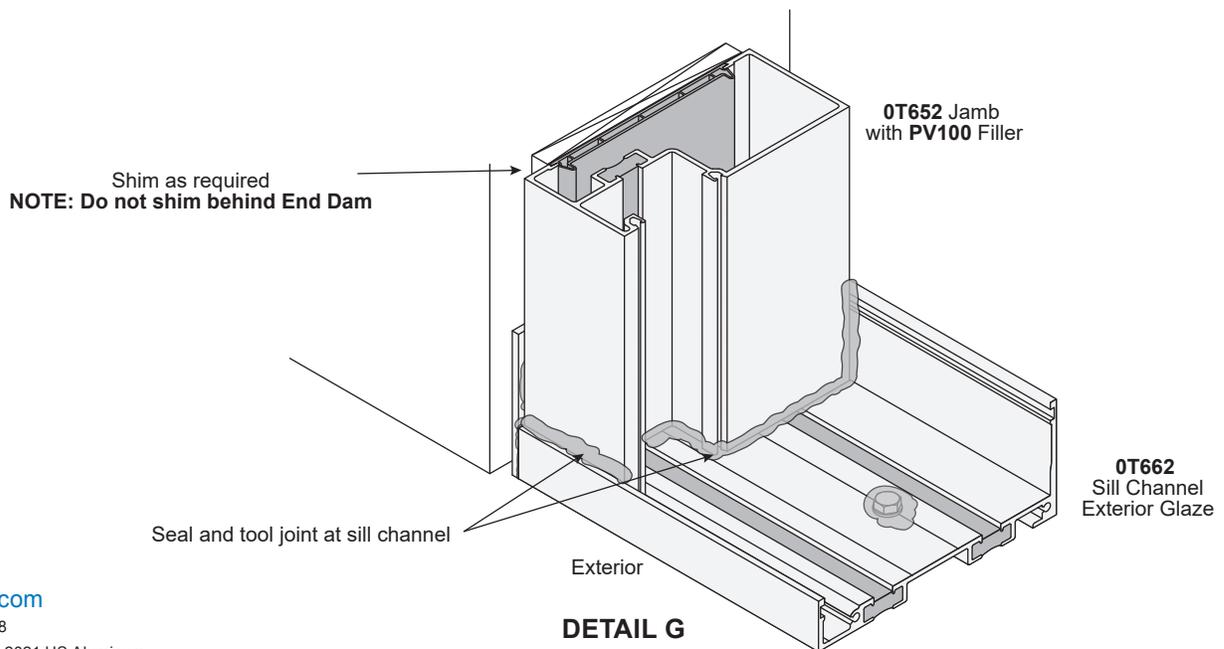
1. Set head and sill channels in place plumb and square; shim as required to level and anchor to structure. Locate fasteners 6" (152.4) each side of verticals and 24" (609.6) on center or as required. Holes for fasteners should be elongated laterally to allow for thermal expansion. Cap seal fasteners. 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 locations 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 15.
3. Install wall jamb into head and sill channels. Shim and plumb as required. See **DETAIL G.**



INSTALL WALL JAMB



FRAME INSTALLATION (CONTINUED)

- 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

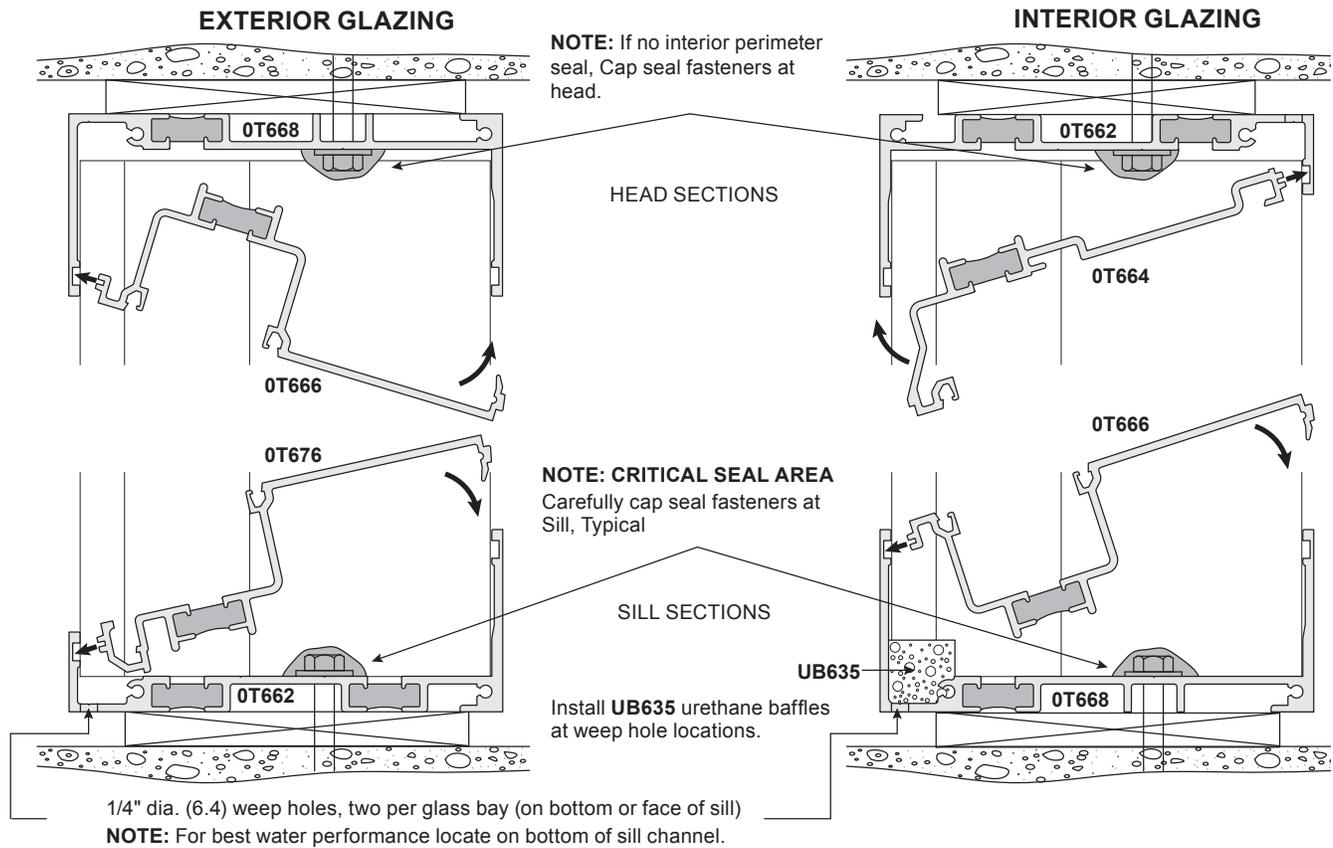
NOTE: Verticals are not symmetrical. Never allow two shallow pockets to face each other.

Verticals must be secured to head/sill channels when end reactions exceed 500 lbs. (2224 N)

Holes for fasteners should be elongated laterally to allow for thermal expansion. Seal over head of fasteners. 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.

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

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



DETAIL H

- Install urethane baffles into sill channel at weep slot locations (Use silicone to hold in place).



DETAIL I

FRAME INSTALLATION (CONTINUED)

INSTALL WATER DEFLECTORS

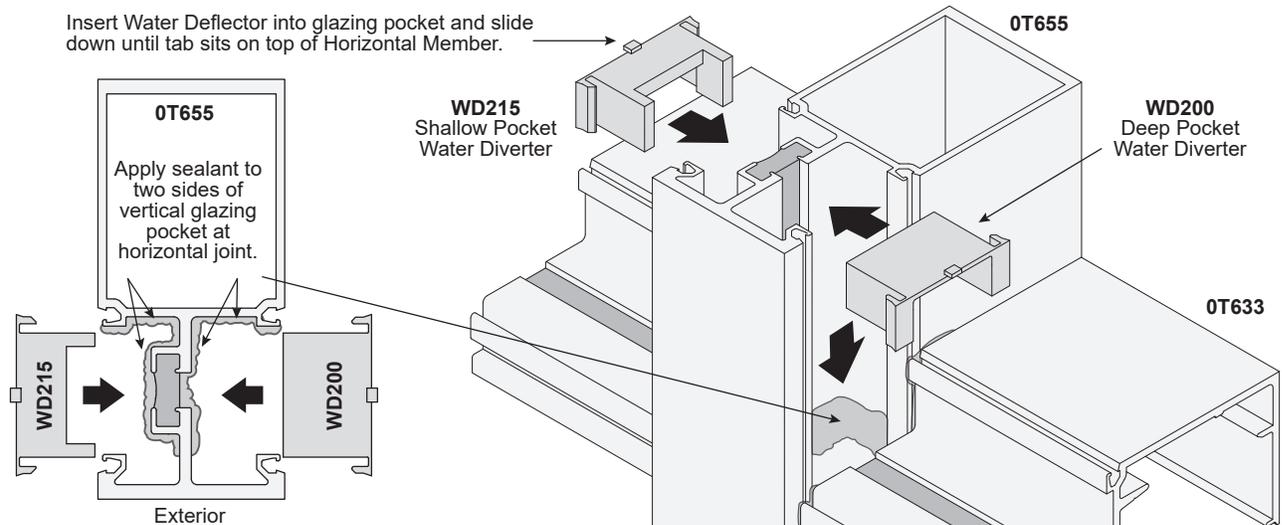
NOTE: Exterior Glazing shown. See Page 17 for Interior Glazing. For Structural Glazing See Page 22.

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. 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 sealant to hold them in place).

Insert Water Deflector into glazing pocket and slide down until tab sits on top of Horizontal Member.



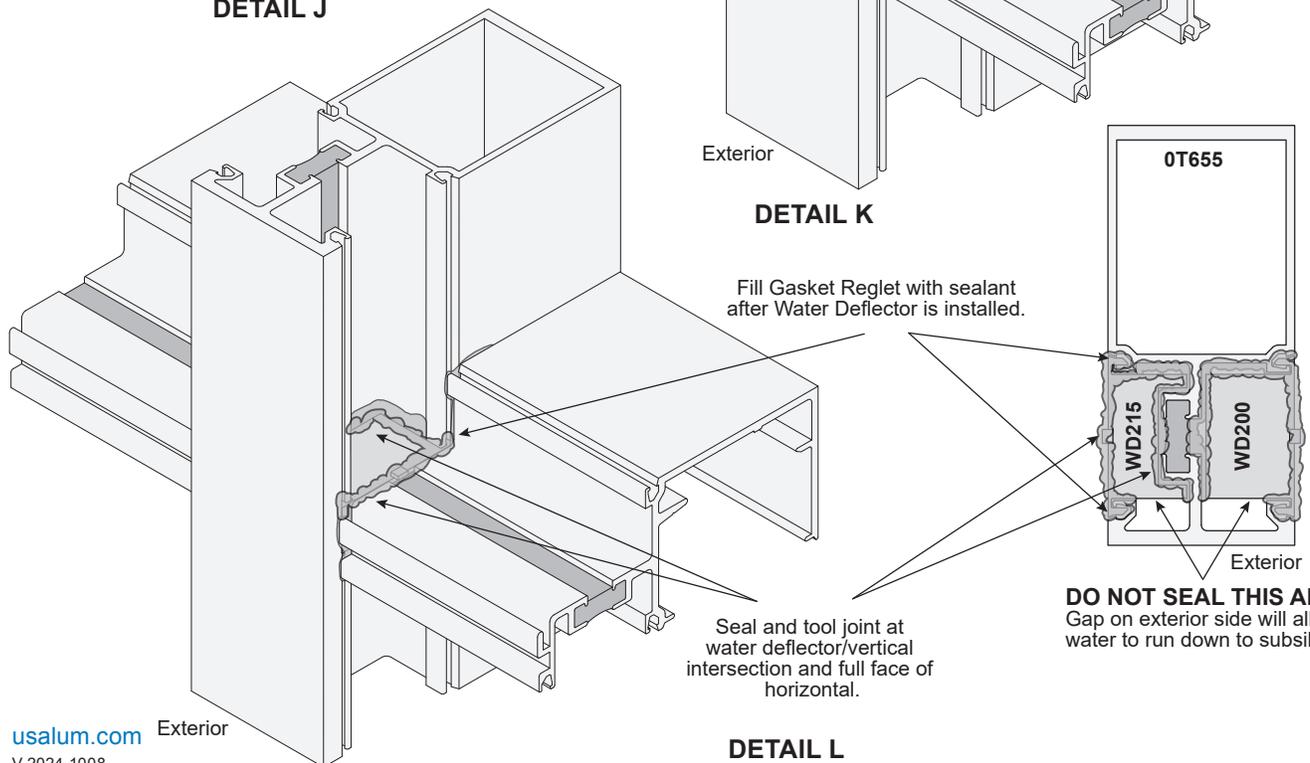
NOTE: Use WD215 for shallow pocket and WD200 for deep pocket.

DETAIL J

Exterior

DETAIL K

Fill Gasket Reglet with sealant after Water Deflector is installed.



DETAIL L

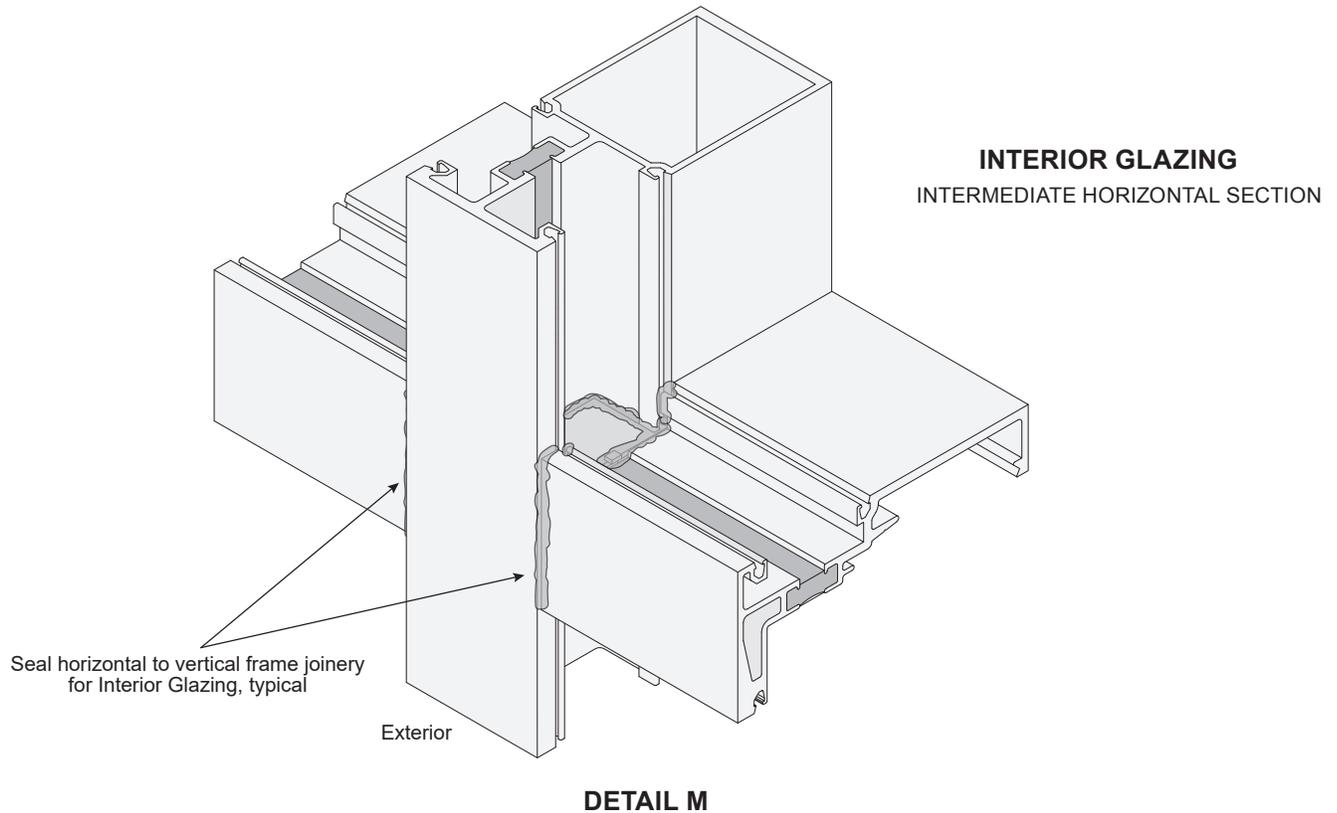
DO NOT SEAL THIS AREA
Gap on exterior side will allow water to run down to subsill.

FRAME INSTALLATION (CONTINUED)

INSTALL WATER DEFLECTORS (CONTINUED)

1. Set head and sill channels in place plumb and square; shim as required to level and anchor to structure.

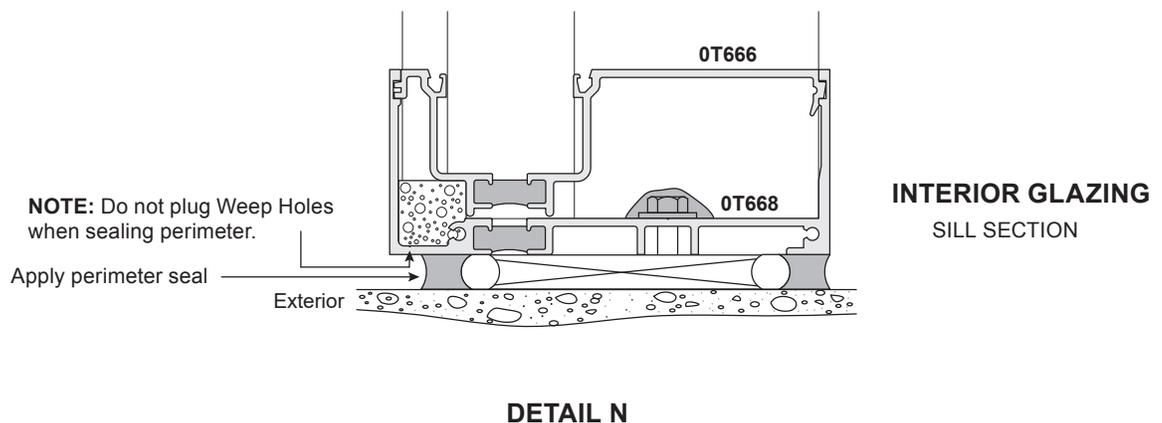
NOTE: Water deflectors applied to door jambs must be sealed all around to prevent water from running to floor (water will drain at opposite end).



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.



GLAZING

GLASS SIZES FOR EXTERIOR AND INTERIOR GLAZING

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

NOTE: These formulae 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.

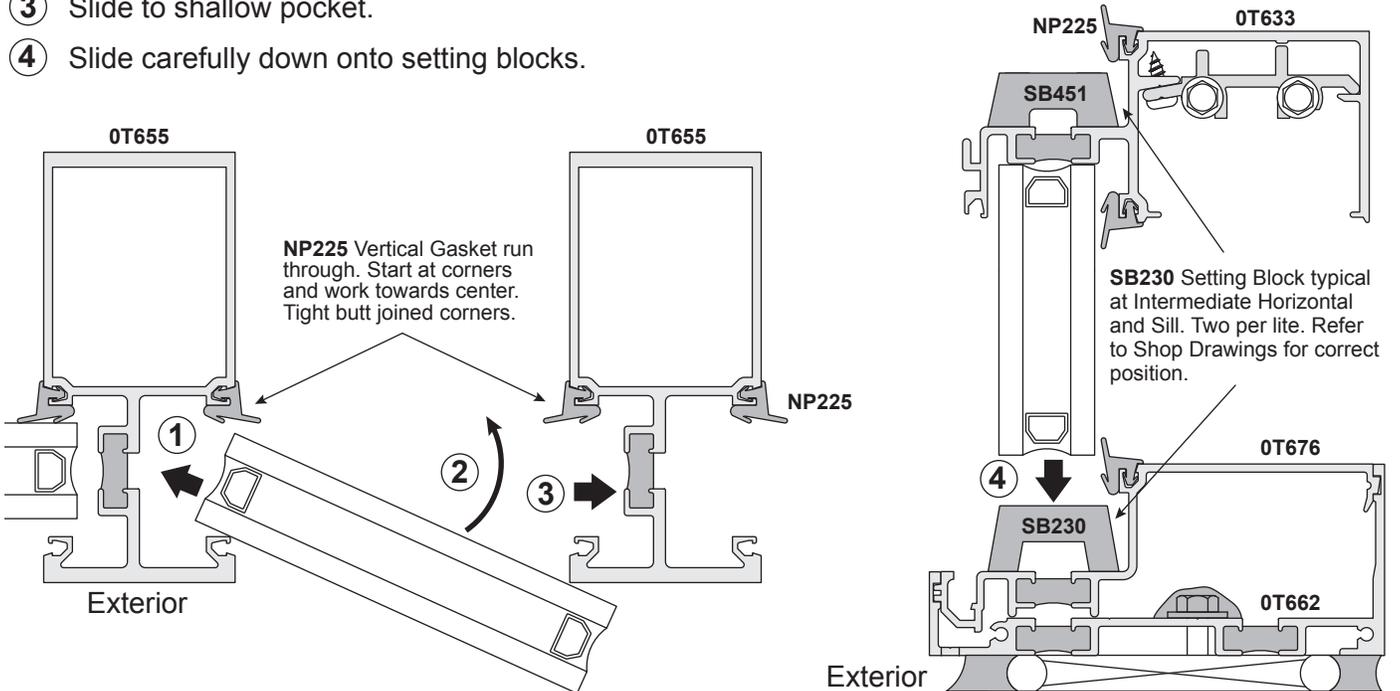
EXTERIOR GLAZING GLASS INSTALLATION

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

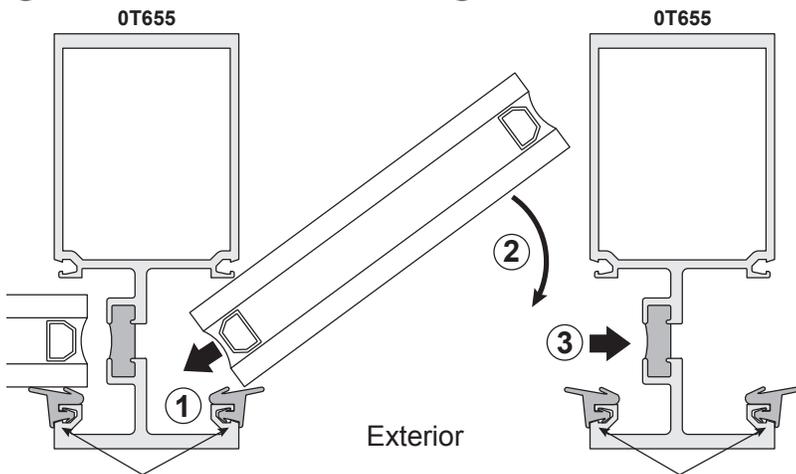
GLAZING (CONTINUED)

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.

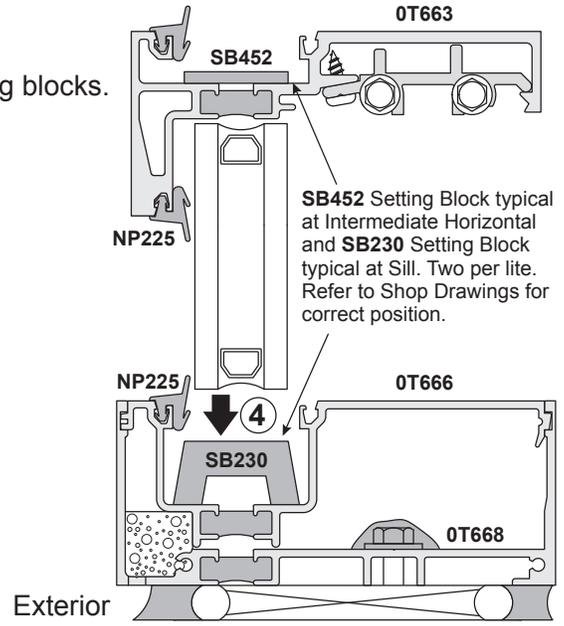
INTERIOR GLAZING SEQUENCE

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



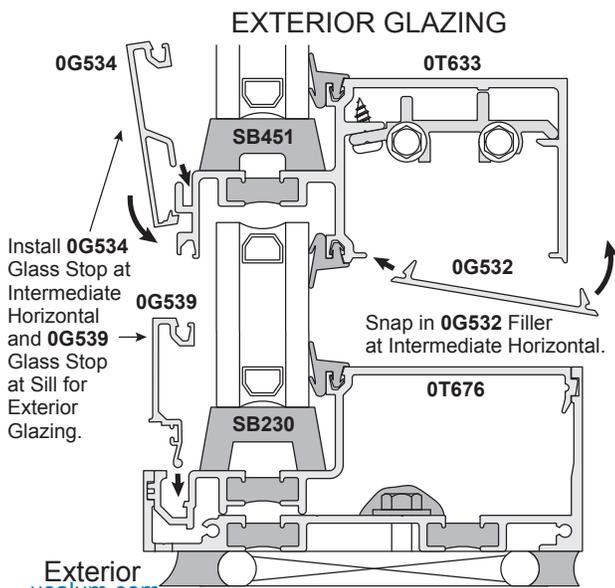
NP225 Vertical Gasket run through. Start at corners and work towards center. Tight butt joined corners.

DETAIL P



GLASS STOP INSTALLATION

1. Install interior gaskets. Horizontal gaskets run through. Start at corners and work towards center. Tight



Exterior
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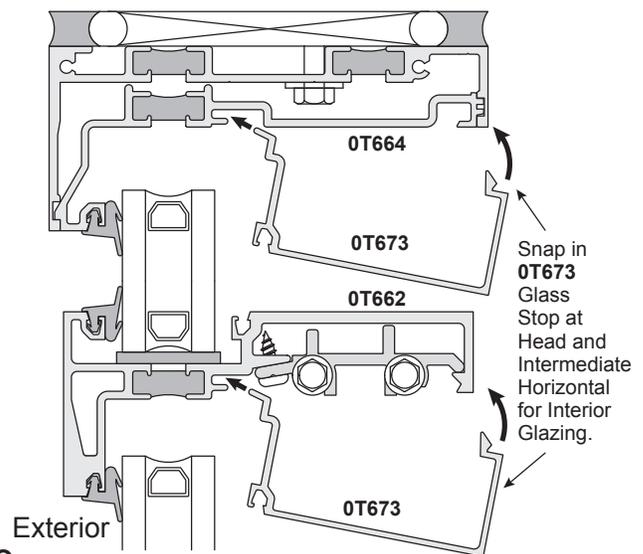
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INTERIOR GLAZING



DETAIL Q

GLAZING (CONTINUED)

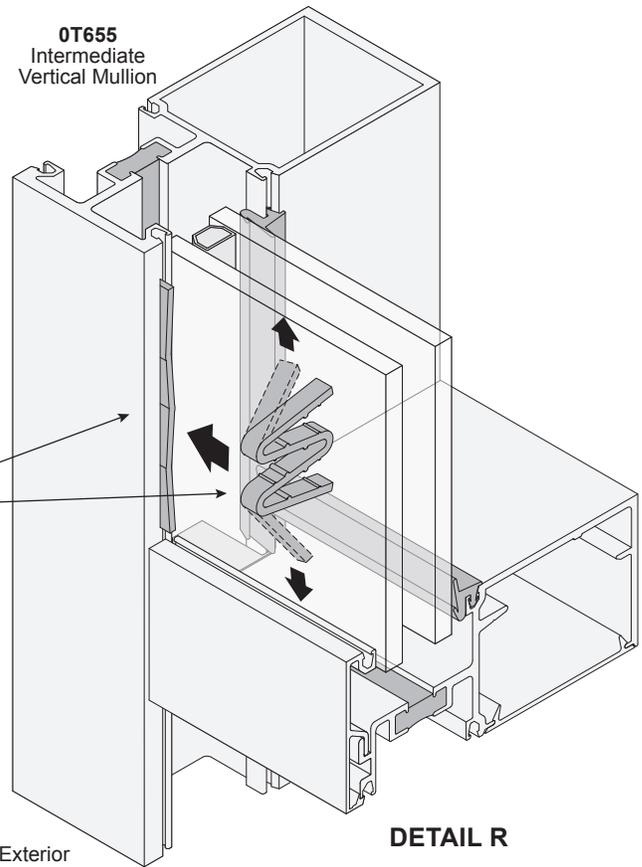
EDGE BLOCK INSTALLATION

1. Install interior gaskets. Horizontal gaskets run through. Start at corners and work towards center. Tight butt joined corners are critical to avoid leakage.

WB452 "W" Edge Block at deep pocket of **OT652** and **OT655** only.

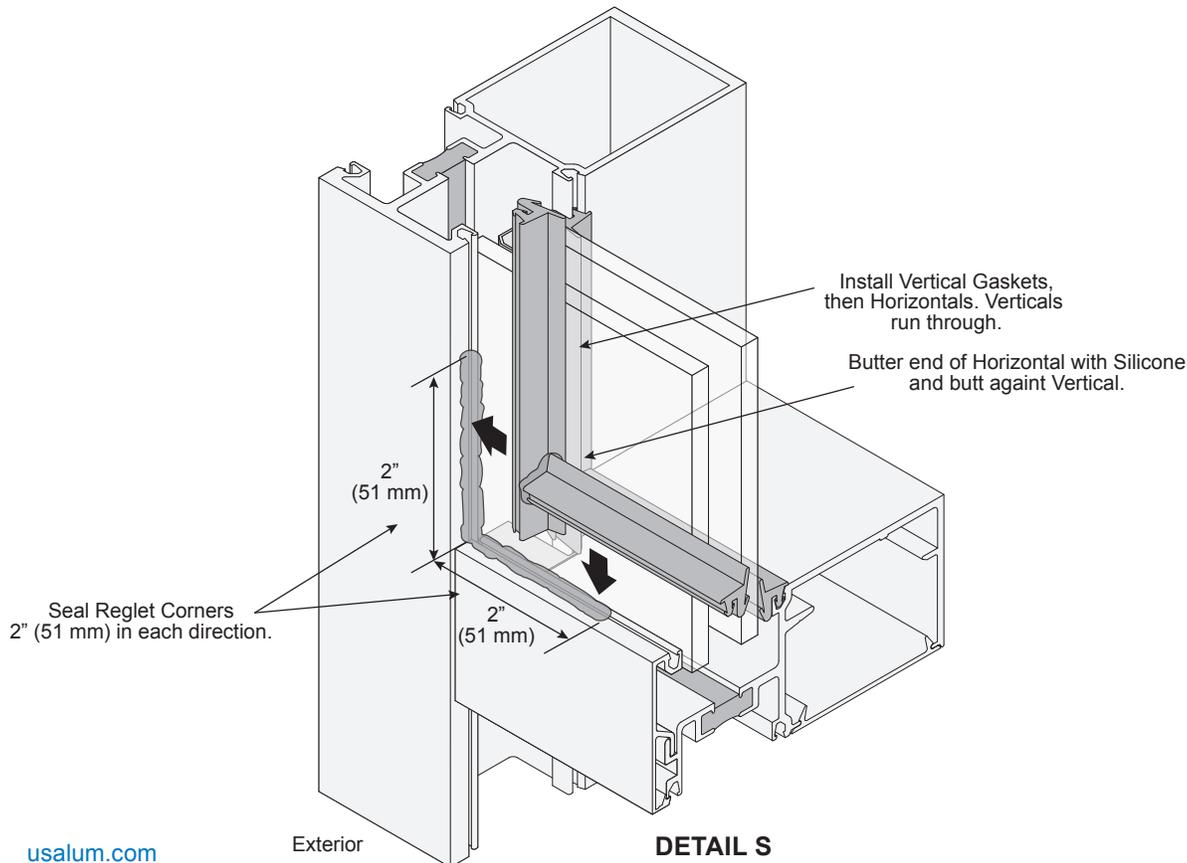
Stretch "W" Block and slide it between glass and mullion into glazing pocket. Push it all the way until it clears glass and locks itself in place.

NOTE: Exterior Glazing shown, Interior Glazing reverse.



GASKET INSTALLATION

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.



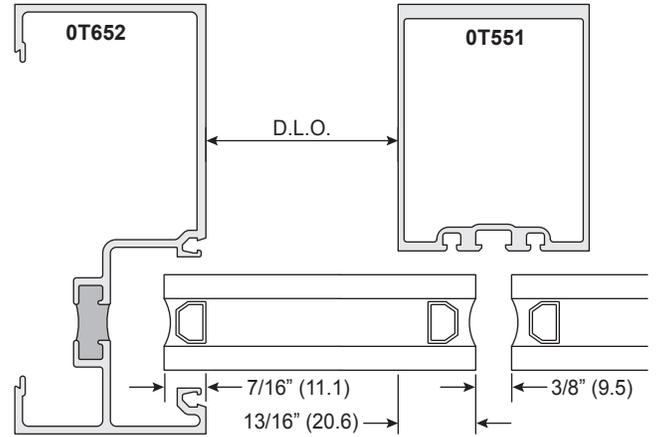
STRUCTURAL SILICONE GLAZING

GLASS SIZES FOR STRUCTURAL SILICONE GLAZING

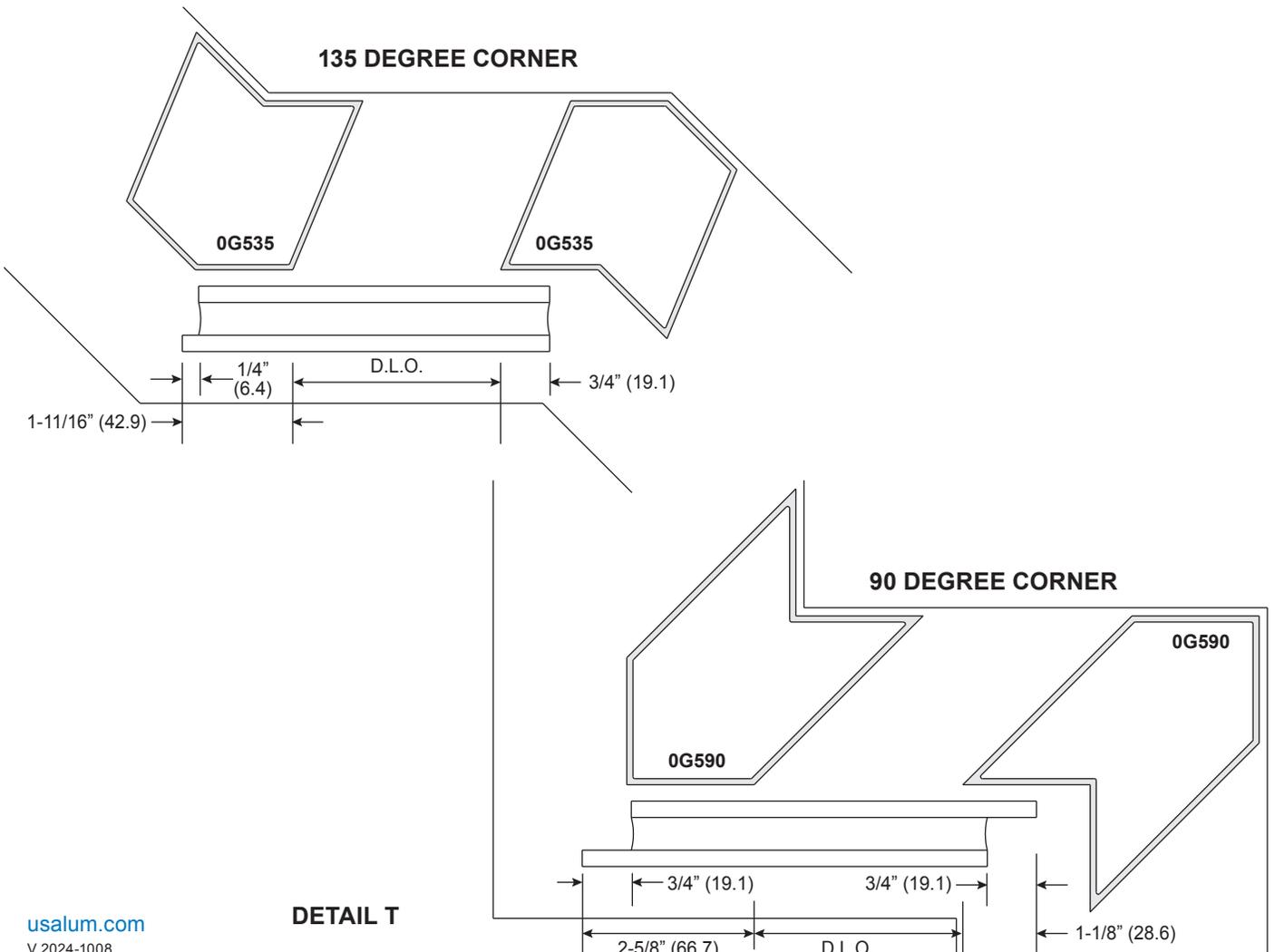
Glass Height: Daylight Opening + 7/8" (22.2) **Glass Width: Daylight Opening + Glass Bites**

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

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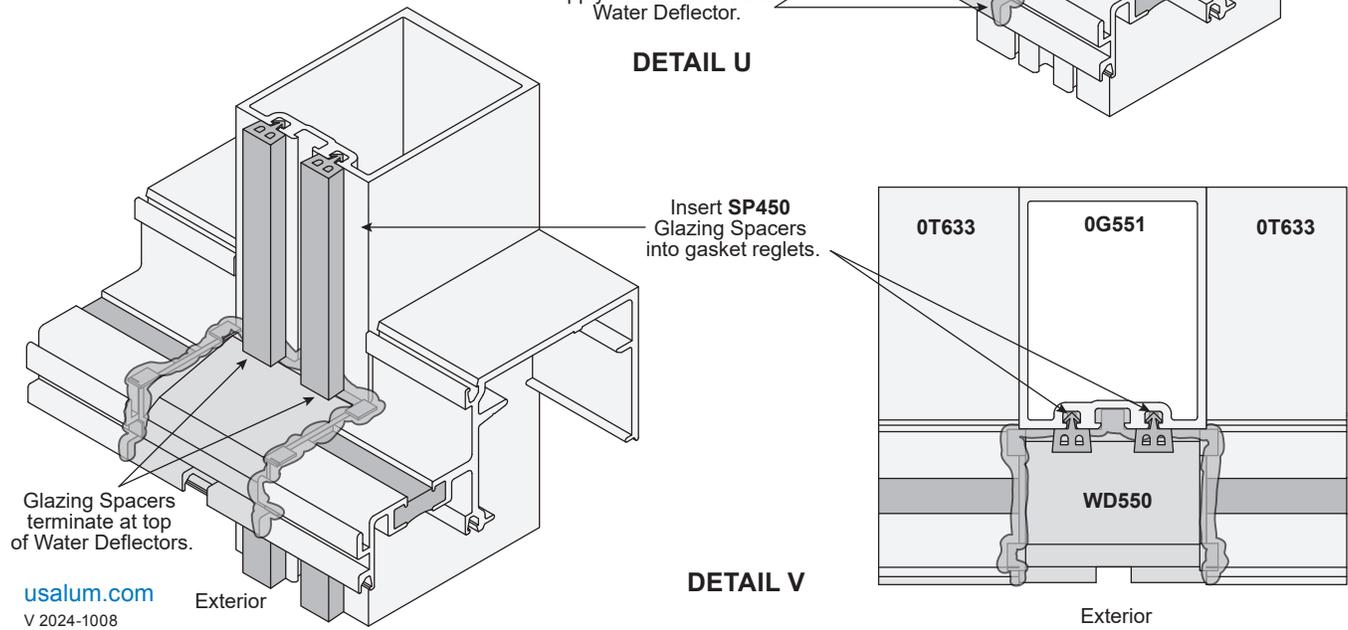
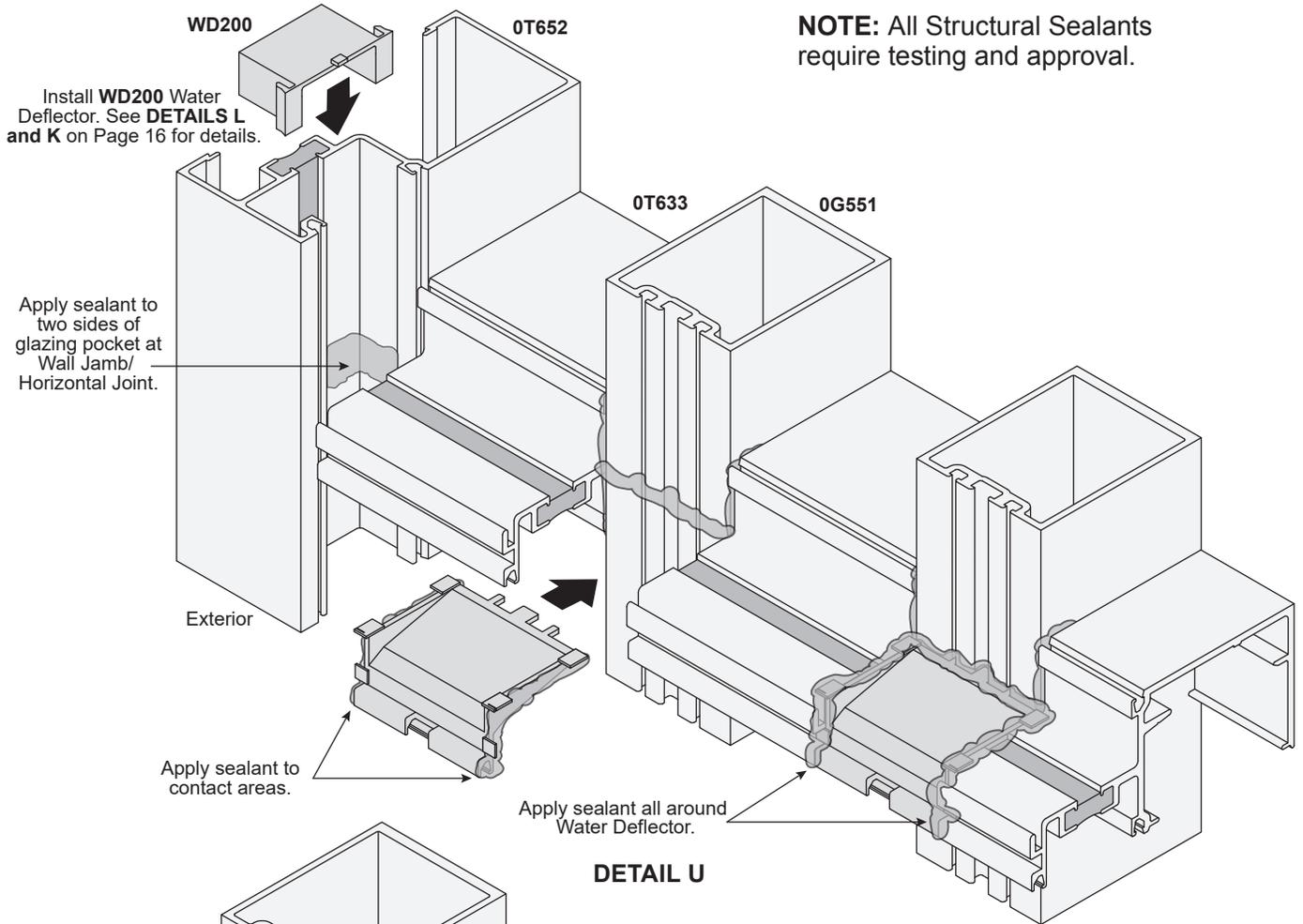
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STRUCTURAL SILICONE GLAZING (CONTINUED)

1. Seal joints between horizontals and verticals. Apply sealant across face of intermediate verticals at water deflectors location. See **DETAIL U**.
2. Apply sealant to deflectors' contact areas and set them in place. See **DETAIL V**.
3. Insert **SP450** Spacers into intermediate verticals. See **DETAIL V**. NOTE: **SP450** Glazing Spacers terminate at top of Water Deflectors.



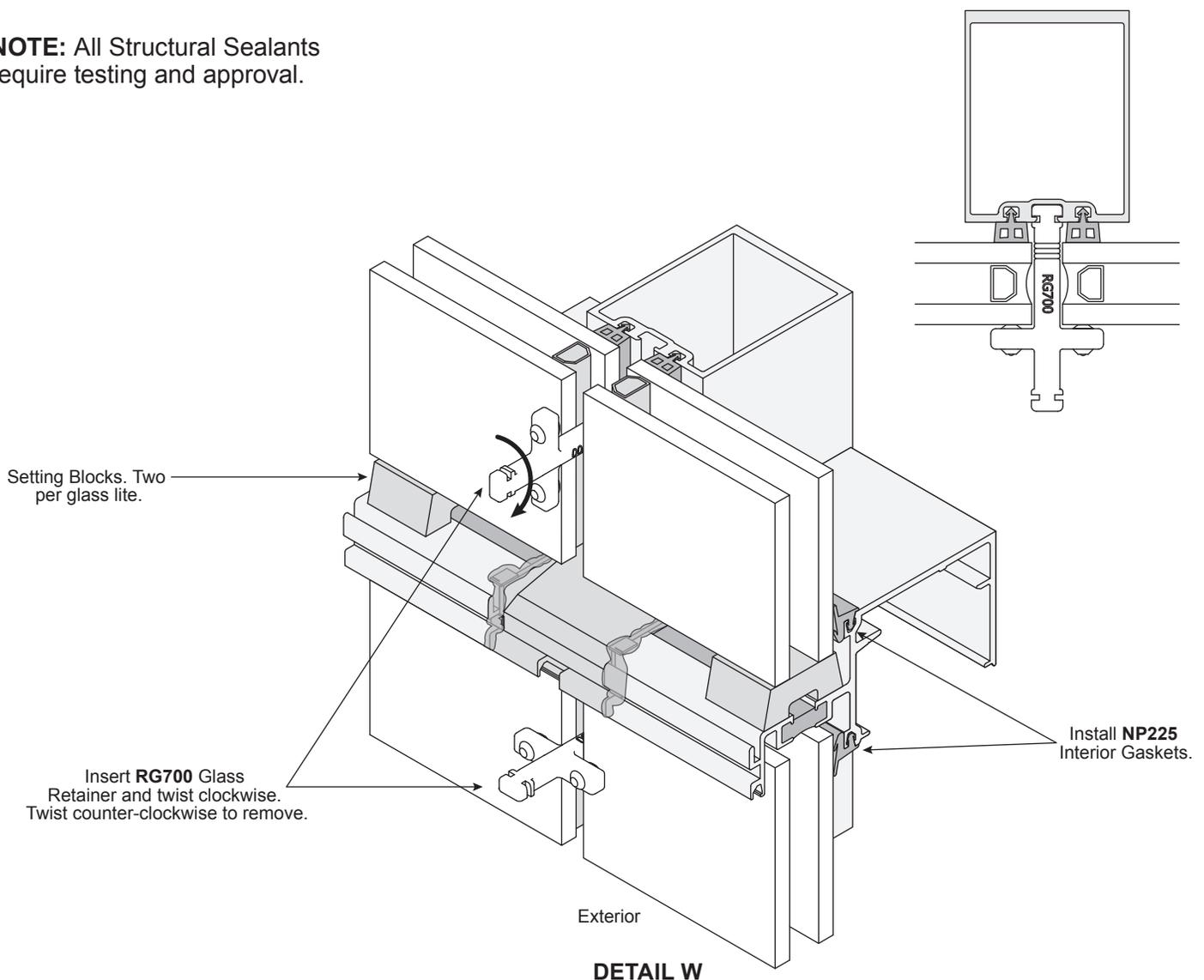
STRUCTURAL SILICONE GLAZING (CONTINUED)

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**.

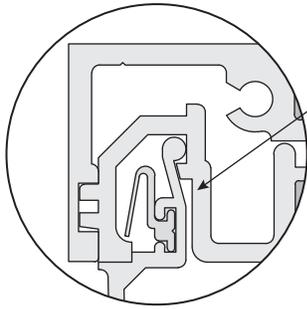
NOTE: Use one retainer for every 150 lbs. (667.2 N) of load I.E. If GLASS HEIGHT x GLASS WIDTH x WINDLOAD = 350 lbs. (1556.9 N) use three temporary retainers.

NOTE: All Structural Sealants require testing and approval.



STRUCTURAL SILICONE GLAZING (CONTINUED)

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.



DETAIL Y

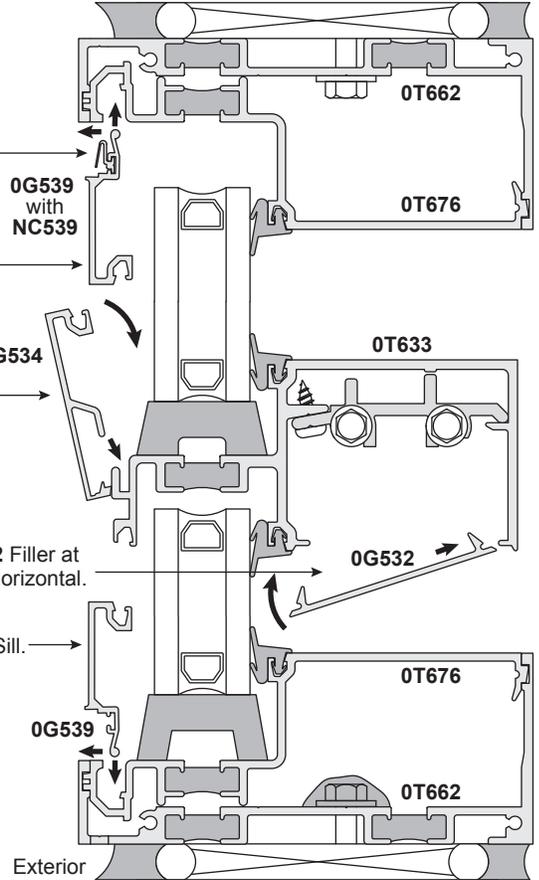
NC539 Retainer Clips at 48" (1.22 m) O.C. max.
NOTE: Use at Head only.

Install OG539 Face Cover with NC539 Clip at Head.

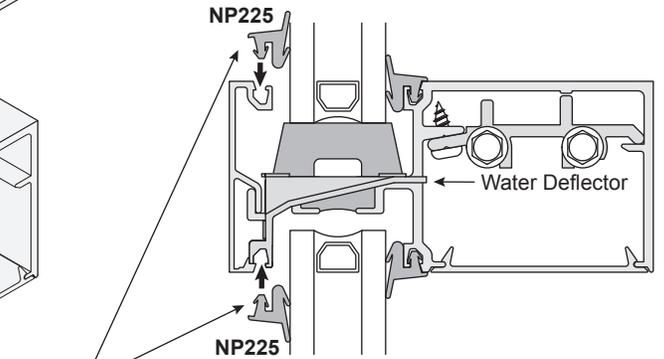
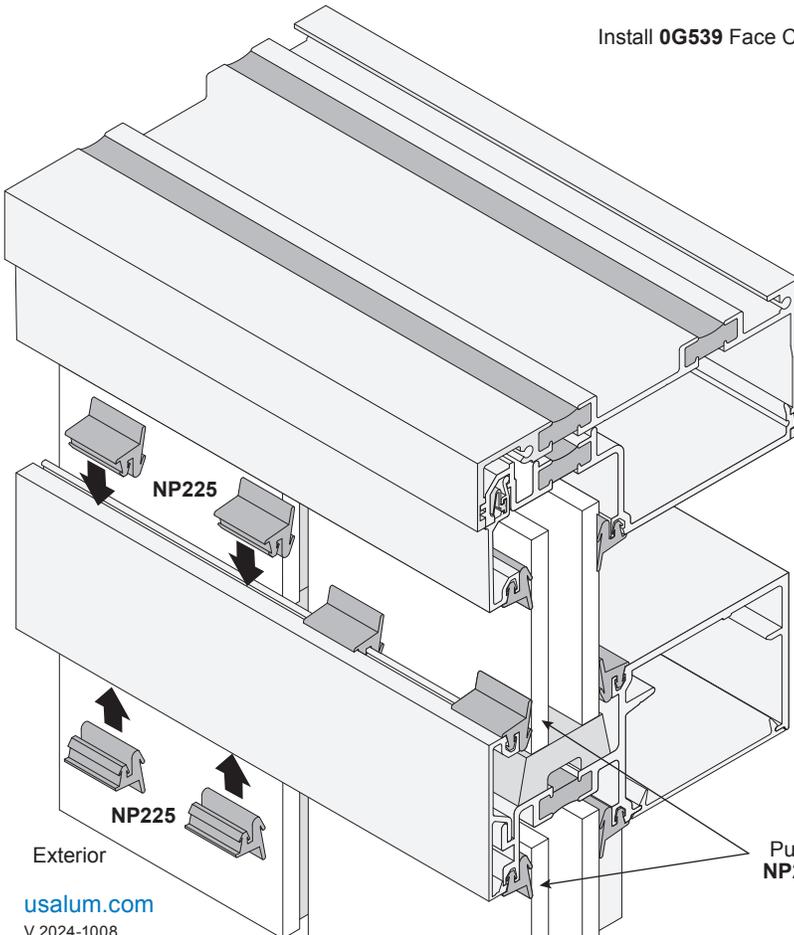
Install OG534 Face Cover at Intermediate Horizontal.

Snap in OG532 Filler at Intermediate Horizontal.

Install OG539 Face Cover at Sill.



DETAIL X



Push in temporary short wedges of NP225 Gasket to hold glass in place.

DETAIL Z

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STRUCTURAL SILICONE GLAZING (CONTINUED)

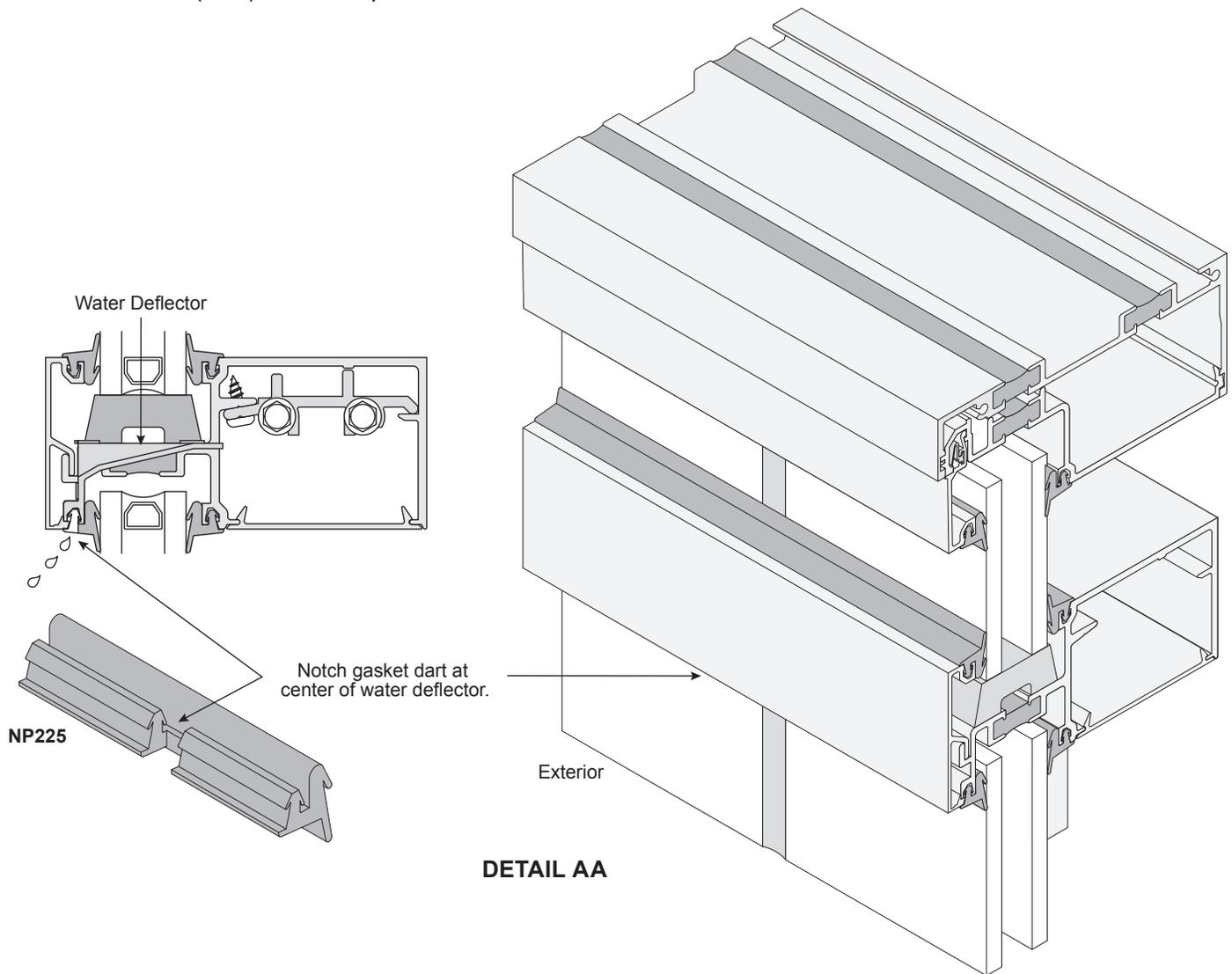
Structural silicone is applied from the interior. **Follow silicone manufacturer's instructions and recommendations for surface preparation and silicone application.**

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.

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

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**.



STRUCTURAL SILICONE GLAZING (CONTINUED)

HORIZONTAL EXPANSION JOINTS

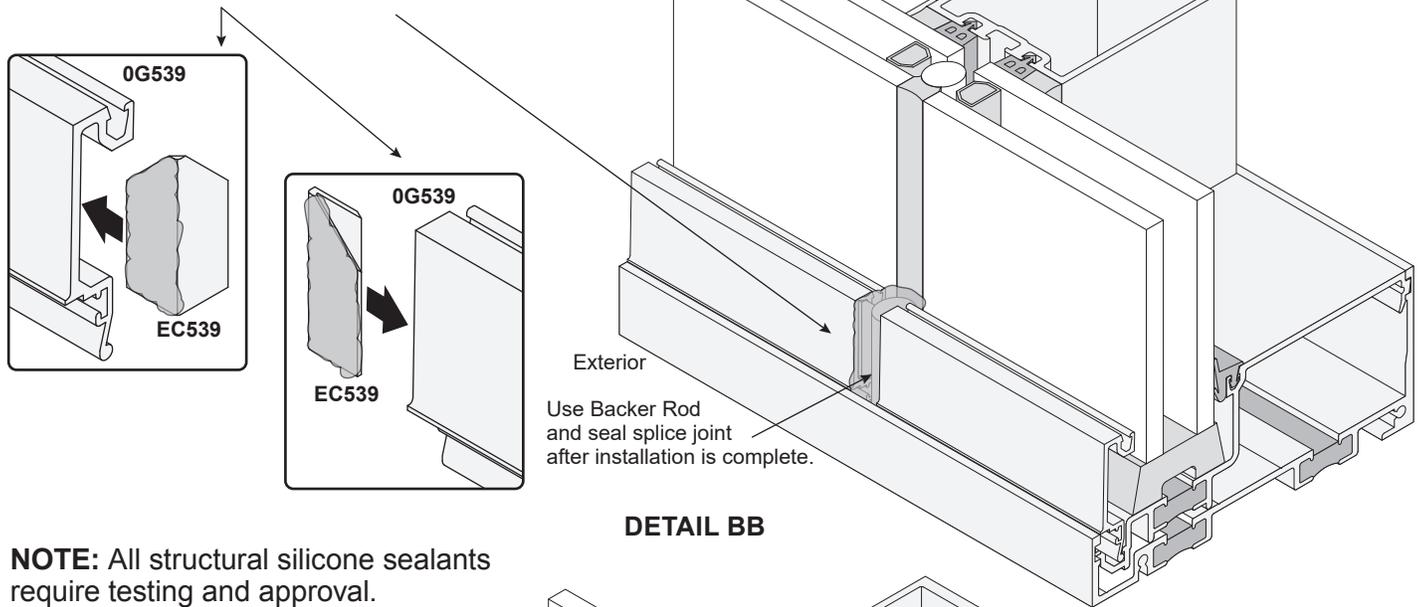
EXTERIOR FACE SPLICE JOINTS

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.

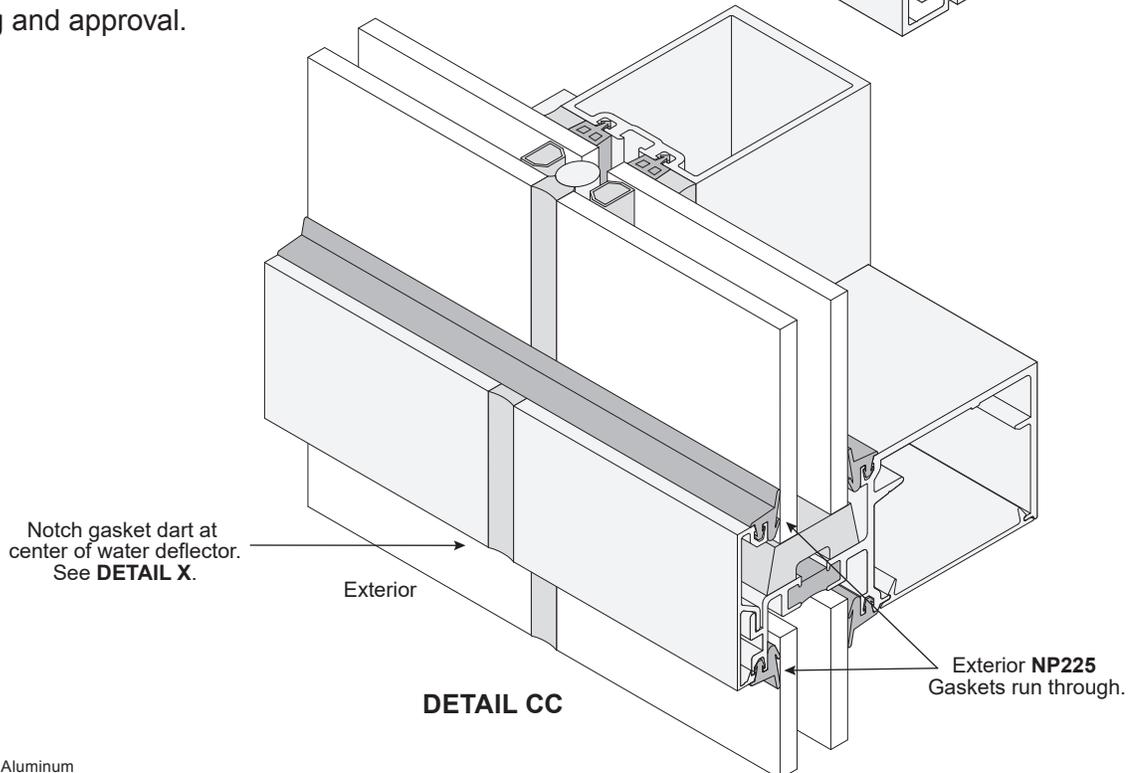
Insert backer rod between end caps to facilitate joint sealing.

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**.

Seal **EC539** Splice End Cap and install to ends of **OG539** Sill Face at splice joint.



NOTE: All structural silicone sealants require testing and approval.



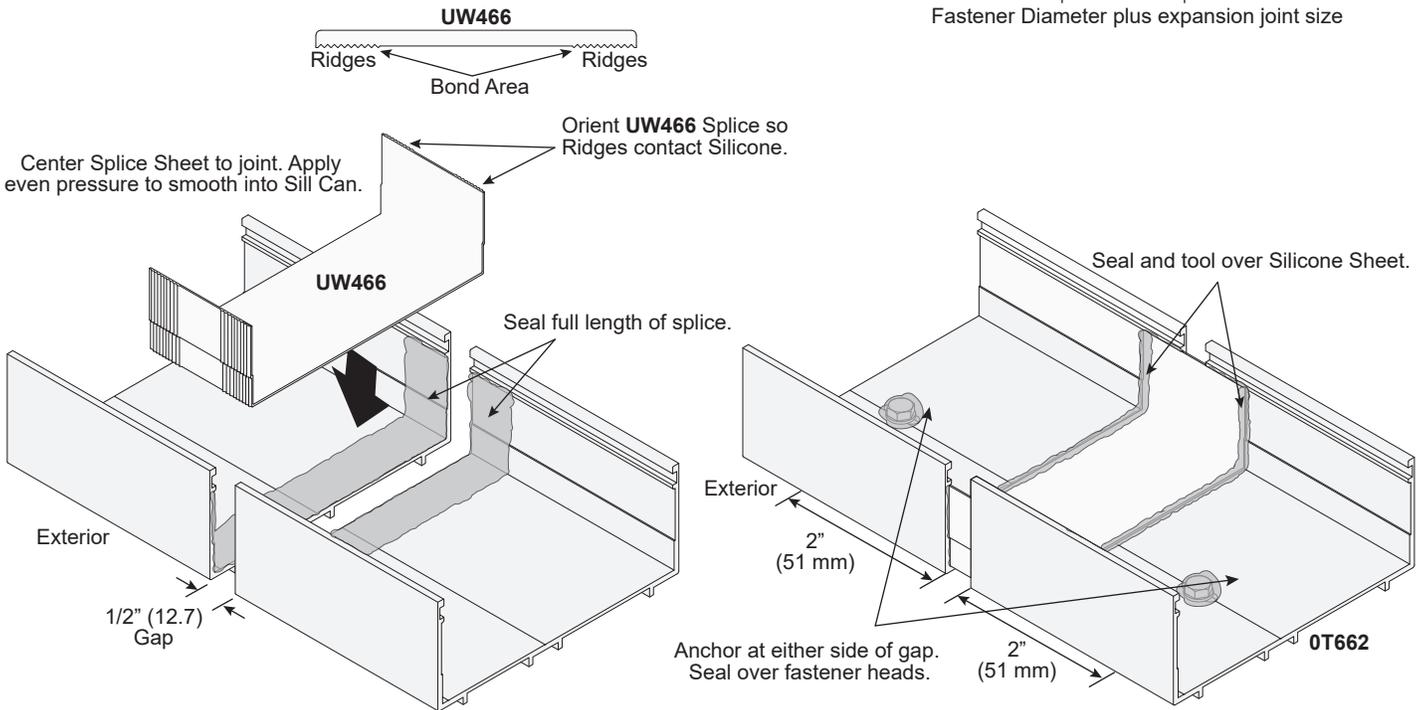
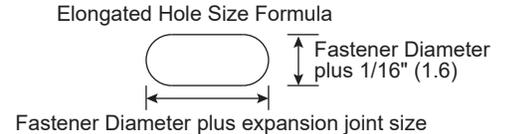
HORIZONTAL EXPANSION JOINTS

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

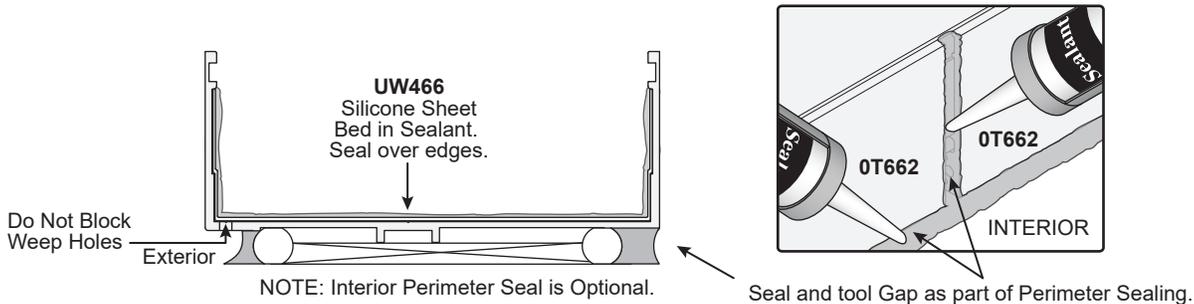
Locate splice joints near center of D.L.O. Elongate holes for installation fasteners at head and sill channels to allow for thermal movement. **Pin head and sill channels at one point only per cut length.** (This hole is not elongated)

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



DETAIL DD

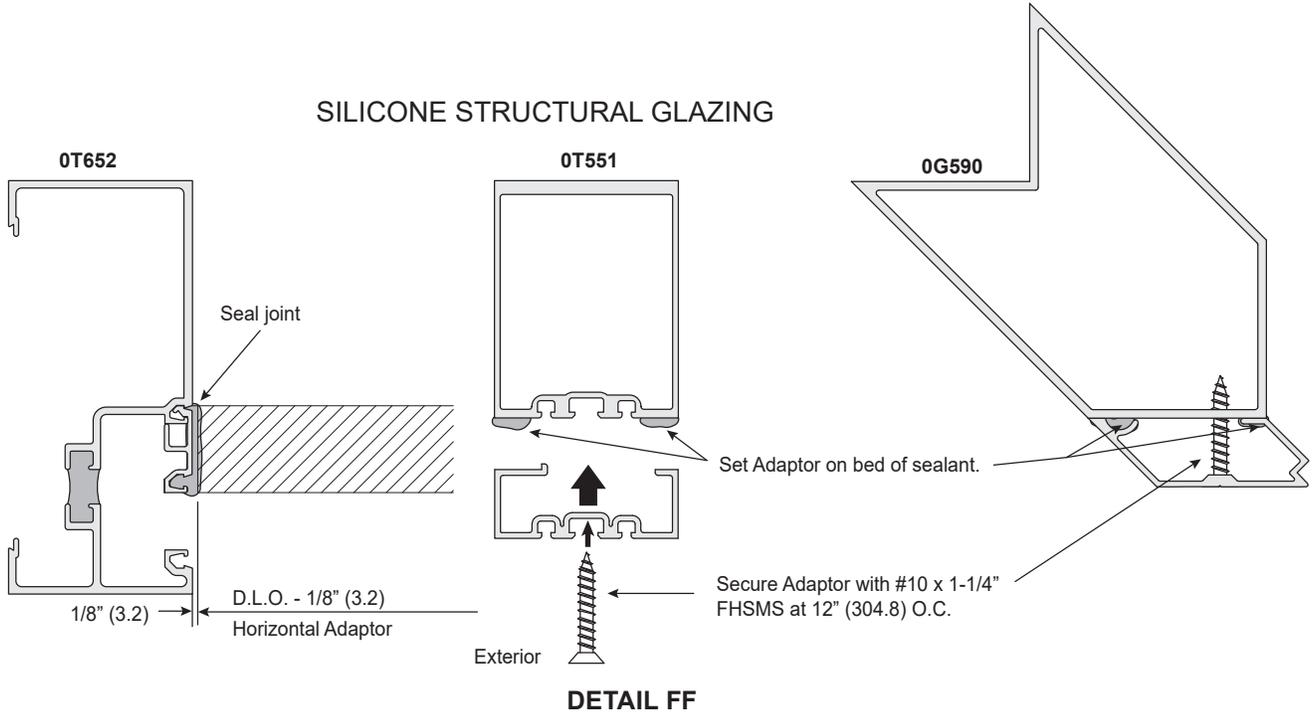
NOTE: Sill Channel for Exterior Glazing Shown. Head Channel for Exterior Glazing and Head and Sill Channels for Interior Glazing similar.



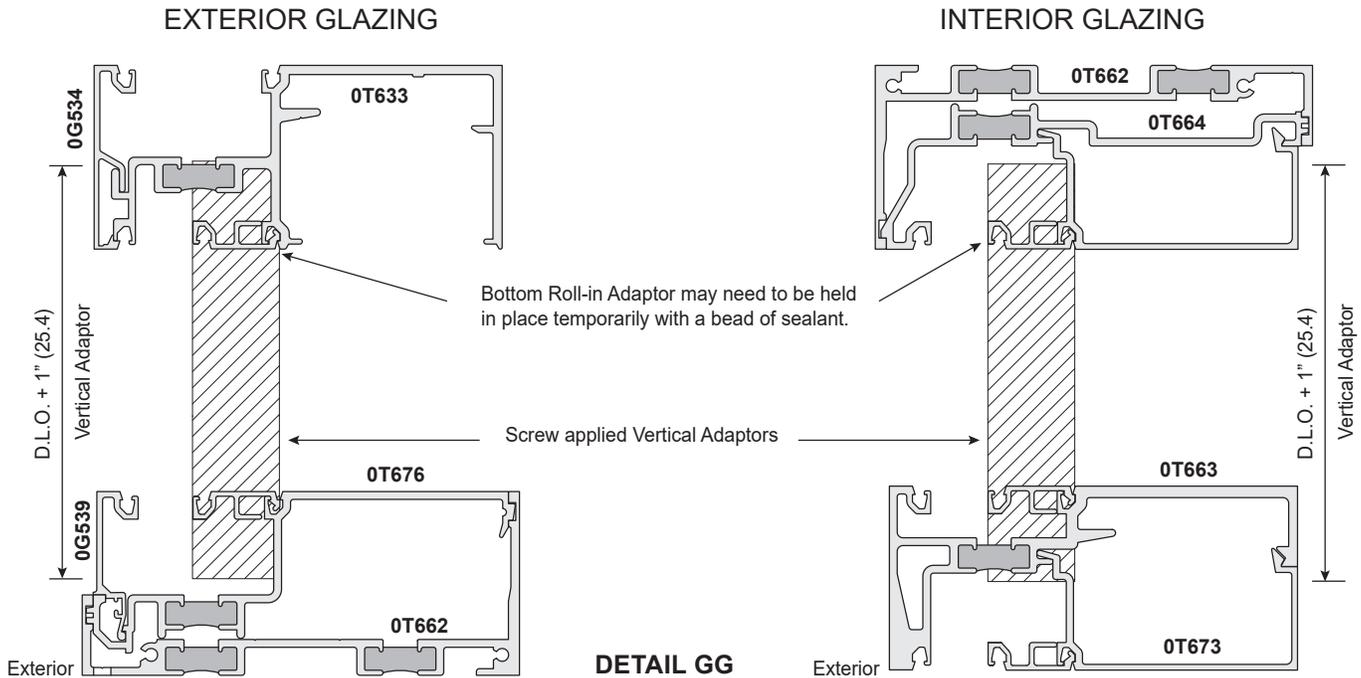
DETAIL EE

TRANSITION GLAZING

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



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CORNER CONDITIONS

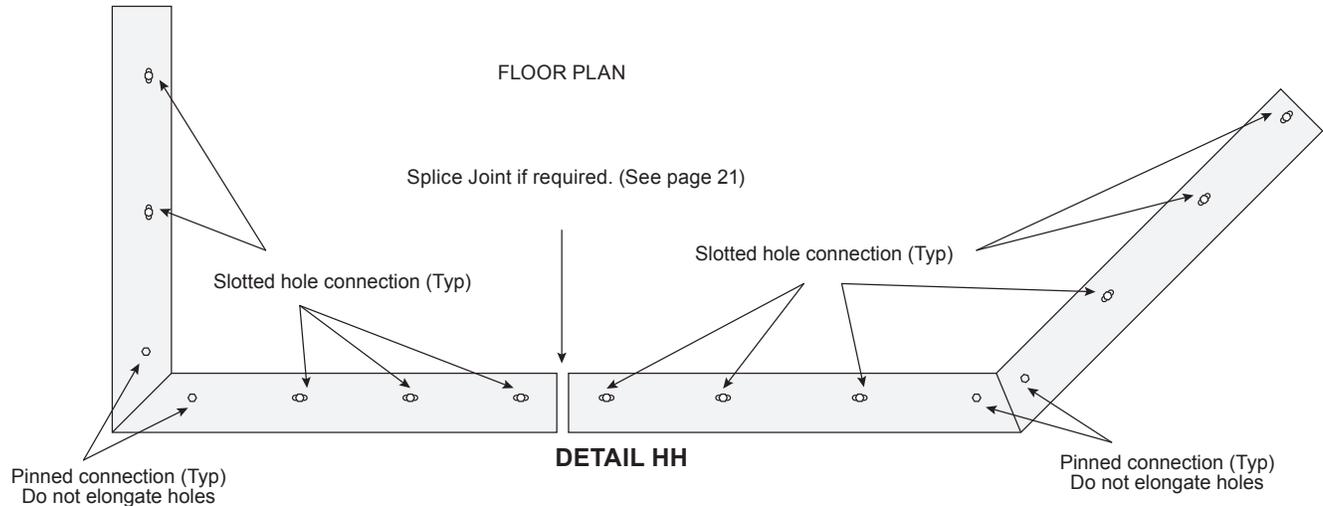
AVAILABLE CORNER OPTIONS: 90° INSIDE AND OUTSIDE CORNERS FOR INTERIOR AND EXTERIOR GLAZING. 90° AND 135° INSIDE AND OUTSIDE CORNERS FOR STRUCTURAL SILICONE GLAZING.

Head and sill channels should be mitered as required.

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

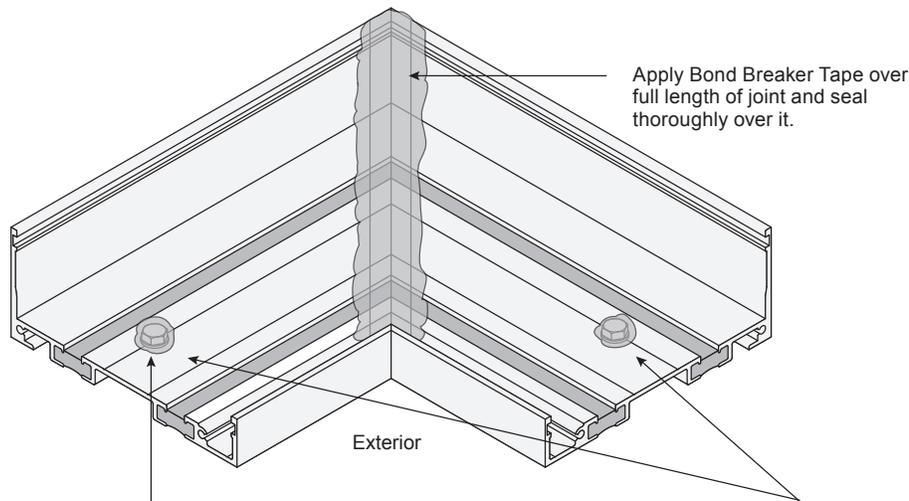
Head and sill channel **must be pinned to structure on both sides of corner**, to prevent movement at mitered joint. (Do not elongate the hole where it is pinned).

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



CORNER INSTALLATION

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

Pin Head and Sill Channels on both sides of the corner. Seal over head of fasteners (at Sill only).

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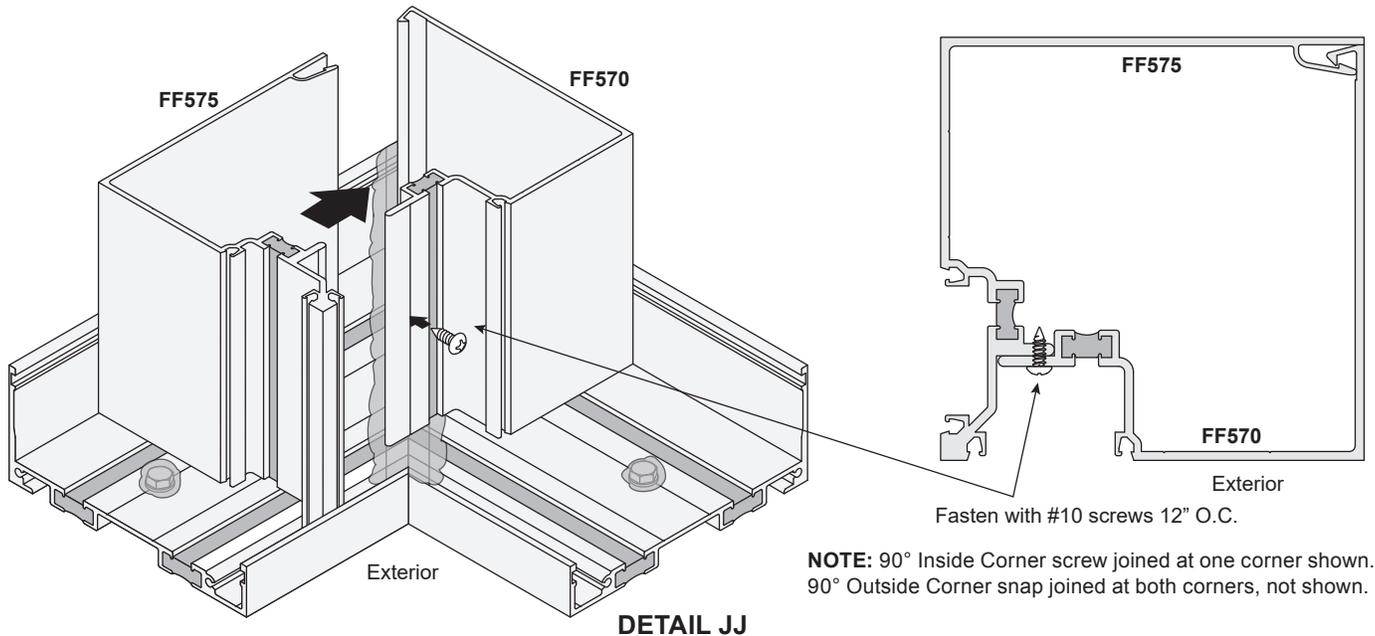
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CORNER INSTALLATION (CONTINUED)

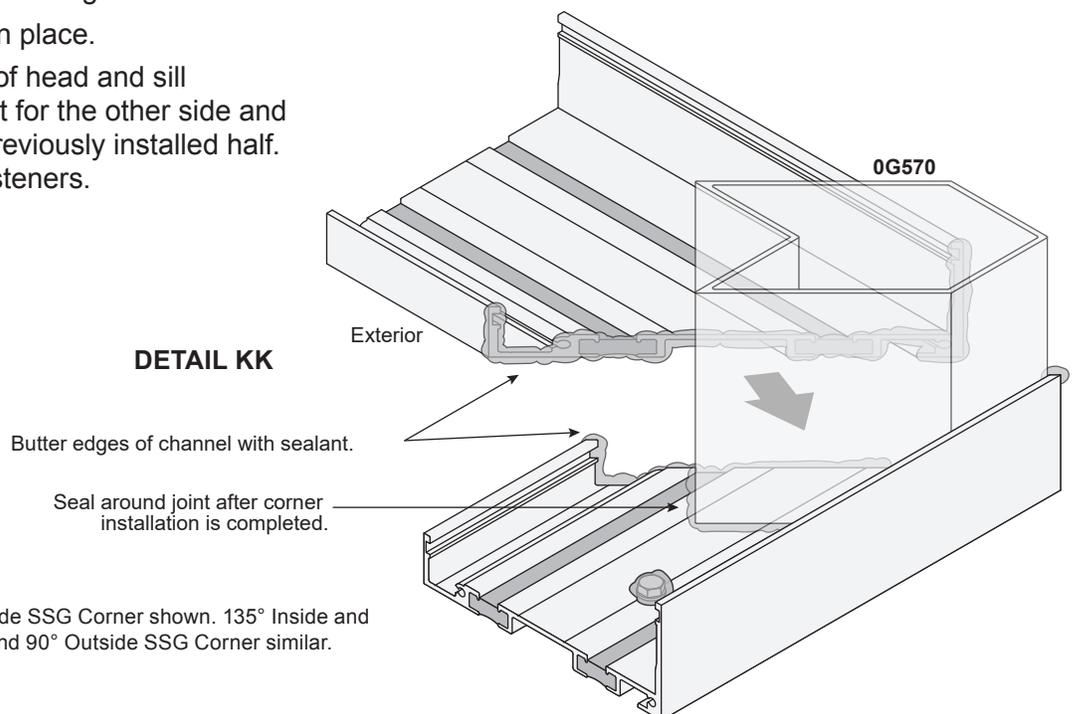
1. Install mitered head and sill channels in place and secure them to structure. See **DETAIL II**.
2. Seal joint thoroughly. See **DETAIL II**.

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.



SPECIAL INSTALLATION SEQUENCE FOR FIELD ASSEMBLY

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



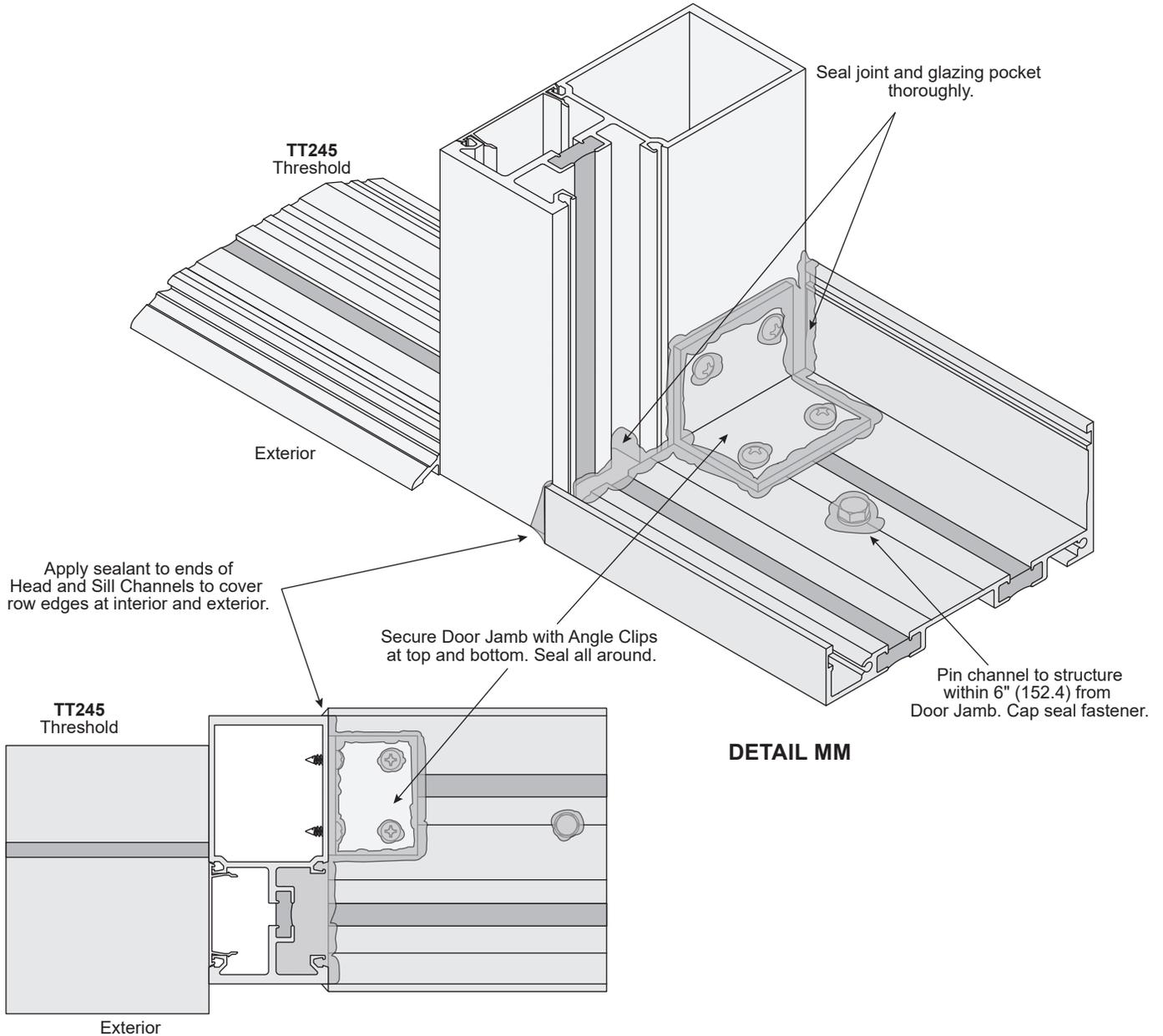
ENTRANCE FRAMES

Door jambs run to floor. Door jambs must be anchored at top and bottom. Sill and head channels are 1/4" (6.4) deeper than vertical members. In conditions where they butt against door jamb, apply sealant to end of channels to cover row edges. See **DETAIL LL**.

SILL CHANNEL

Butt Sill Channel against door jamb and pin to prevent movement. Seal thoroughly around joint.

See **DETAIL LL**.



ENTRANCE FRAMES (CONTINUED)

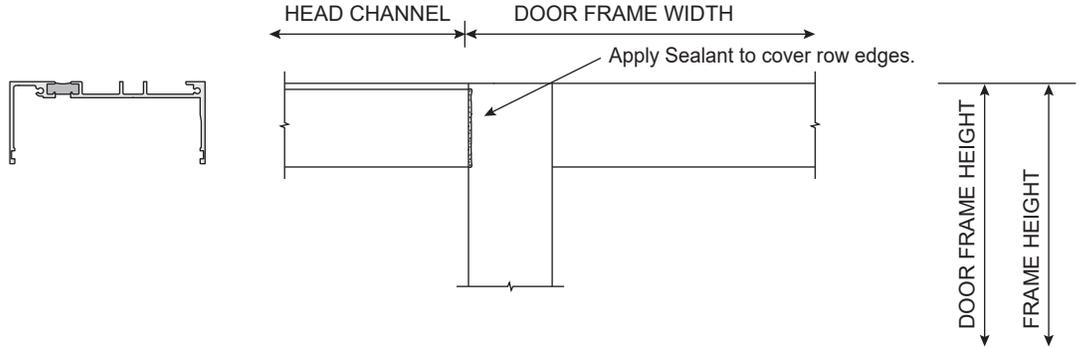
HEAD CHANNEL

DOOR WITHOUT TRANSOM:

Head channel may run continuous or butt against door jamb. See **DETAIL MM**.

Condition 1:

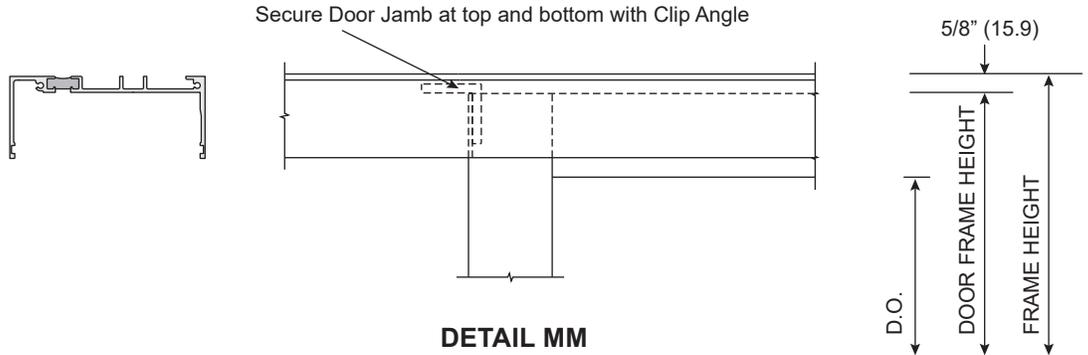
Head Channel butts against door frame



Condition 2:

Head Channel runs continuous

NOTE: Cut door jambs to FRAME HEIGHT minus 5/8" (15.9).



DOOR WITH TRANSOM:

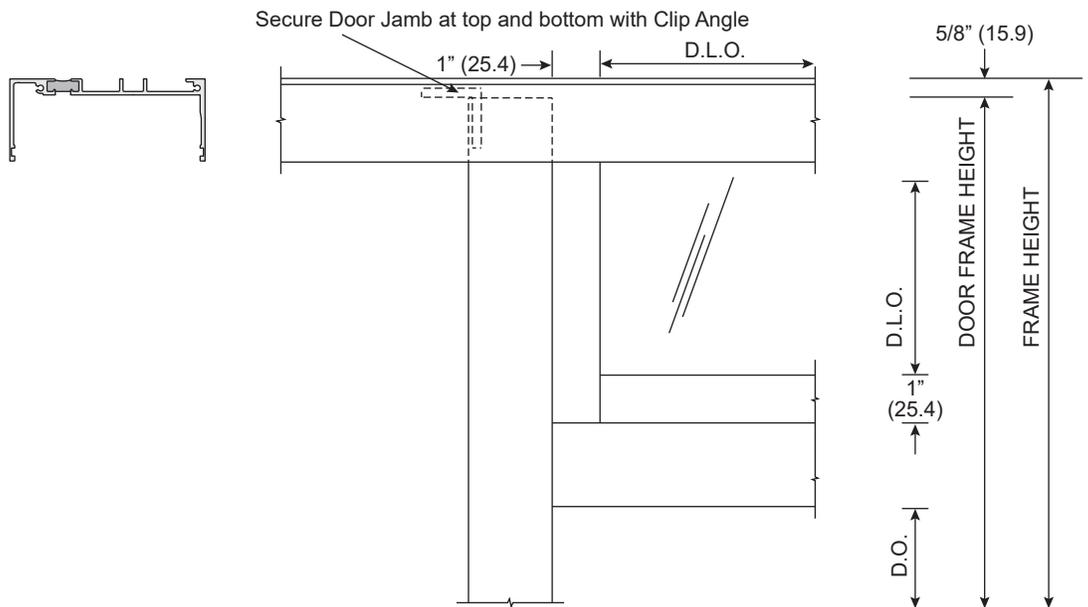
Head channel runs continuous. See **DETAIL NN**.

Transom glazing requires the use of profiles **1425/1M425** for 1" (25) glazing sash at jambs and door header.

Condition 3:

Head Channel runs continuous

NOTE: Cut door jambs to FRAME HEIGHT minus 5/8" (15.9).



DETAIL NN