Oldcastle BuildingEnvelope®

ArmorDefend™ Plus storefront

installation & glazing manual

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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Version: 2024-0612

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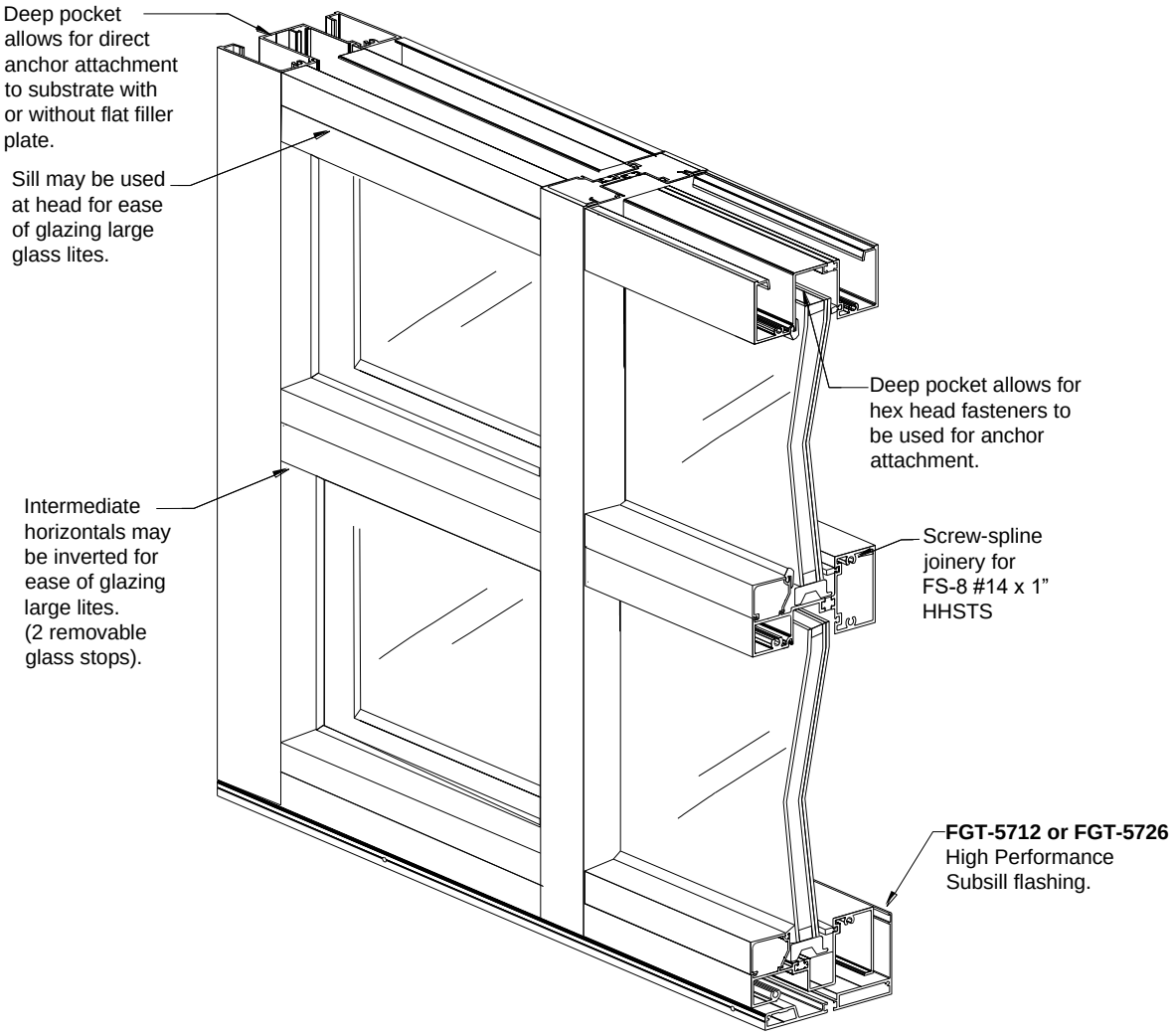
PRODUCT FEATURES

- Screw-spline joinery
- EZPunch or Drill Jig fabrication
- Panelized assembly
- Deep pocket perimeter sections:
    - Eliminates drilling access holes with blind seals
    - Eliminates flat filler plate at head and wall jambs
    - Intermediate horizontals may be inverted for ease of glazing large lites
    - Sill may be used at head for ease of glazing large lites
- Heavy wall mullion option without reinforcement
- Tested without reinforcement at various design pressures
- Anodized or factory painted finishing options



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IMPORTANT NOTICE:

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

GENERAL INFORMATION

Oldcastle BuildingEnvelope® ArmorDefend™ Plus (2-1/2" x 5") thermally broken storefront system represents the latest in delayed forced-entry performance. This system was especially designed to meet the stringent requirements of ASTM E2395, *Standard Specification for Voluntary Security Performance of Window and Door Assemblies with Glazing Impact*, for glass and glazing systems. Proper use of this system will assure optimal results in erection and long-term performance. ArmorDefend™ Plus was designed and tested to work in unison with ArmorGarde™ or ArmorGarde™ Plus glazing for delayed forced-entry security applications for schools, daycares, pharmacies, luxury brands, jewelers, wineries, restaurants, and other business where security is a priority.

Check all shop drawings and installation instructions to become familiar with the project before work begins. The shop drawings take precedence and include specific details for the project. The installation instructions are of a general nature and cover the most common conditions.

BUILDING CODES

Oldcastle BuildingEnvelope® does not control the application nor selection of its product configurations, sealant, or glazing materials, and assumes no responsibility thereof. 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 **ArmorDefend™ Plus** 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.

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.

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.

DOWSIL™ 995 Silicone Structural Sealant was used on the ArmorDefend™ Plus test specimen for glass to metal adhesion.

PERIMETER SEALANTS

Due to varying job conditions, all perimeter sealants used should be approved by the sealant manufacturer to ensure the sealant will function for the conditions shown on these instructions and shop drawings. Sealants must be compatible with all surfaces where adhesion is required, including other sealant surfaces. Use primers where directed by sealant manufacturer. Be sure to properly store sealants at recommended temperature and check container for remainder of shelf life before using.

GLAZING PRACTICES

The air and water performance of the **ArmorDefend™ Plus** storefront 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 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.

MATERIAL AND WORK ACCEPTANCE

OLDCASTLE® BUILDINGENVELOPE MATERIALS

Check all material upon arrival for quality and to assure against shipping damage. Any visible damage must be noted on the freight bill at the time of receipt. If a claim is required, then the receiving party must process a claim with the freight company.

OTHER TRADES WORK

Completely check construction that will receive your materials against contract documents. Notify general contractor by letter of any discrepancies before proceeding with work. Failure to do so constitutes acceptance of work by other trades.

MATERIAL HANDLING

Handle the material carefully. Do not drop from the truck. Stack with adequate separation so that the material will not rub together. Store material off the ground. Protect against the elements and other construction hazards by using a well-ventilated covering away from other trades. Remove material from package if it is wet or located in a damp area.

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.

EXPANSION JOINTS

Expansion joints and perimeter seals shown in these instructions and in the shop drawings are shown at standard size. Actual dimensions may vary due to perimeter conditions and/or differences in metal temperature between the time of fabrication and time of installation. For example, a 12-foot unrestrained length of aluminum extrusion can expand or contract 3/32 of an inch over a 50-degree Fahrenheit change. Any movement potential should be accounted for at time of the installation.

CLEANING

Cement, plaster, terrazzo, alkaline and acid-based materials used to clean masonry are very harmful to finishes and should be removed immediately or permanent staining will occur. A spot test is recommended before any cleaning agent is used. Aluminum shall be cleaned with plain water containing a mild detergent or a petroleum product, such as white gasoline, kerosene, or distillate. No abrasive agent shall be used.

THERMAL IMPROVEMENT SUGGESTIONS

To maintain or improve wall installation, the following items should be considered:

1. Blinds or drapes prevent warm air from washing the window.
2. Warm air ventilators too far from window will not adequately wash the window with air to prevent condensation.
3. In extreme conditions, the fan of the heating systems should not cycle on and off but run continuously.
4. Some heating systems have a water injection feature that can raise humidity levels. The higher the humidity levels the more likely condensation or frost will form. Raising the temperature and reducing humidity will usually solve this problem.
5. On rare occasions, an extremely cold storm may cause frost to appear on the glass or framing. A space heater and electric fan blowing along the plane of the window wall can reduce or eliminate this temporary condition.

FABRICATION SUGGESTIONS

Oldcastle BuildingEnvelope® recommends the use of our EZ Punch tooling for faster and more accurate fabrication of wall systems. If hand fabricating the mullions, drill fixtures are available to improve accuracy.

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GENERAL CONSTRUCTION NOTES

A. Study these instructions, shop drawings, erection drawings, and architectural drawings before starting any work. Follow installation and glazing instructions.
B. All materials are to be installed plumb and level.
C. All work should start from an established benchmark and column centerlines established by the architect and the general contractor.
D. Do not install wall if there is a walkway with a downslope towards an entrance or a storefront.
E. Completely check construction which will receive your materials against contract documents. Notify the general contractor by letter of any discrepancies before proceeding with your work since this constitutes acceptance of work by other trades.
F. Protect all aluminum to be placed directly in contact with uncured masonry or incompatible materials with a heavy coat of zinc chromate or bituminous paint.
G. Coordinate protection of installed materials with general contractors and other trades.
H. After sealant is set and a representative amount of the wall has been glazed (500 square feet or more), run a water hose test to check installation. On large jobs, hose test should be repeated during glazing operation. Test should be conducted in accordance with AAMA 501.2 specifications. This test should not be performed at entrances installed in the system.

FRAME FABRICATION

1.0 Establish Frame Size

NOTE: *The storefront opening must be square and plumb before installation.*

When measuring the rough opening, take multiple measurements and use the smallest dimension. This assures a proper fit of the storefront system. For the rough opening's width, measure the top, middle, and bottom of the opening. For the rough opening's height, measure the left, center, and right side of the opening.

Measure width of rough opening.

A. Measure opening at bottom.
B. Measure opening at center.
C. Measure opening at top.

Measure height of rough opening.

A. Measure opening from top to bottom of left side.
B. Measure opening from top to bottom of middle.
C. Measure opening from top to bottom of right side.

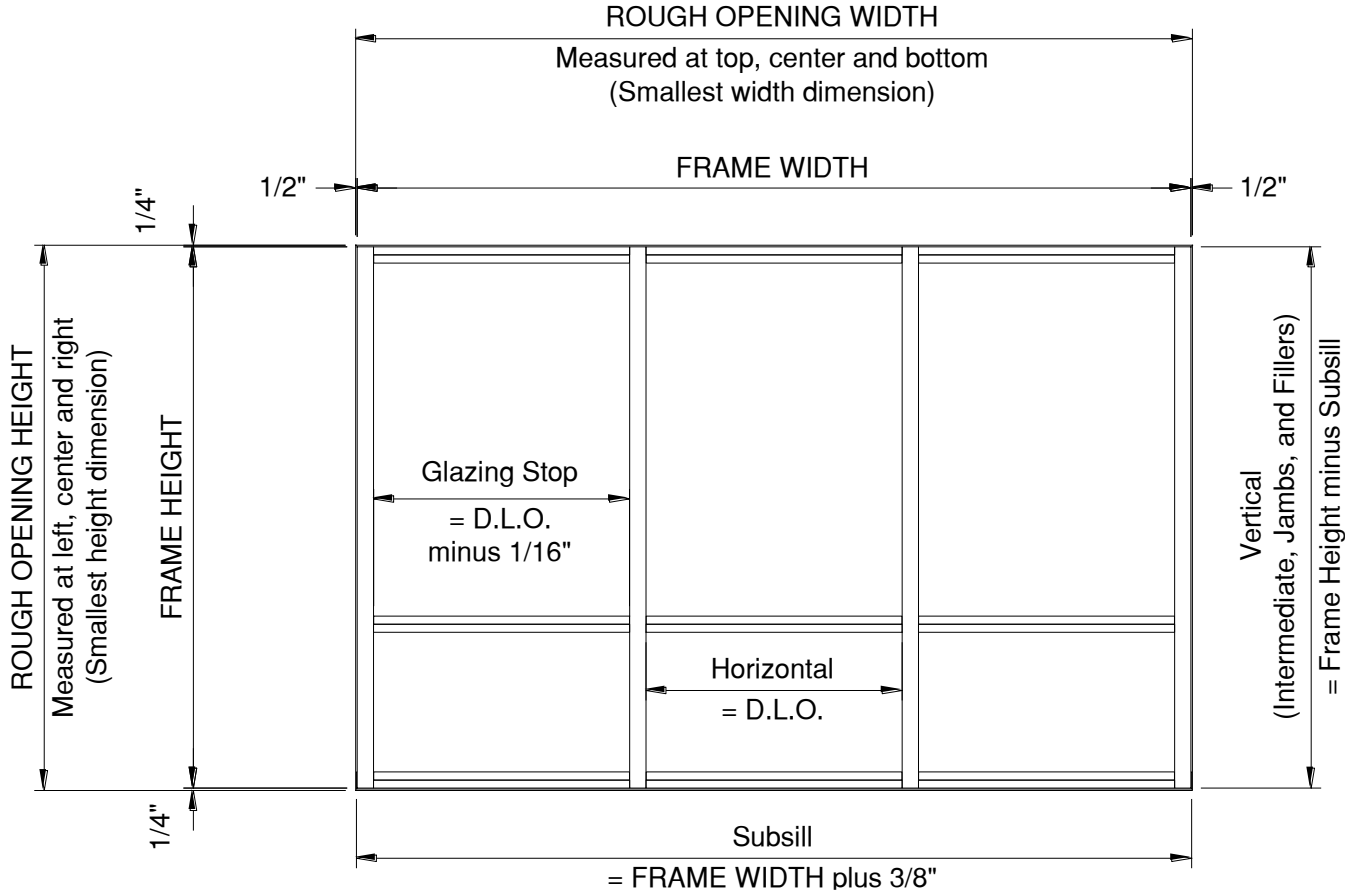

Figure 1: Measuring Rough Opening, Guide without Door

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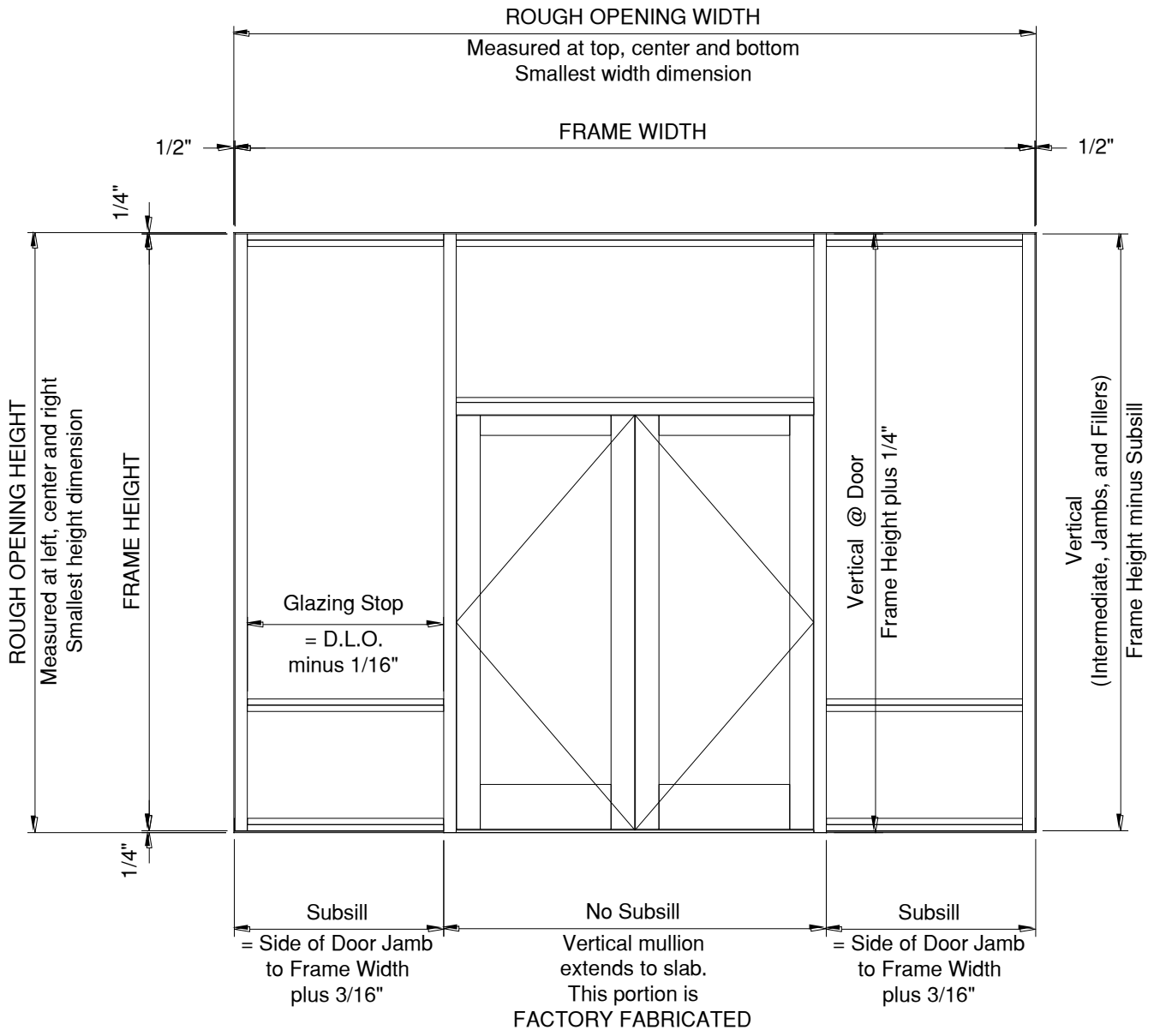

Figure 2: Measuring Rough Opening, Guide with Door

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2.0 Cut Material to Length

Verticals

FG-5719, FGT-5780, and FGT-5781 Filler	Frame Height minus (-) 5/8"
FGT-5706 and FGT-5707 Corner Mullion	
FGT-5773, and FGT-5774 Vertical	
FGT-5773 and FGT-5770 Jamb	
FGT-5782 and FGT-5783 Expansion Vertical (CW-998 pre-installed)	

Horizontals

Note: *Reference Entrance Installation manual for Transom and Door Header cut dimensions.*

FGT-5771 Sill	D.L.O.
FGT-5771 and FGT-5770 Head	
FGT-5772 Horizontal	
FG-5719 Filler	D.L.O. minus (-) 1/16"
FG-5760 Glass Stops	

Subsill without Entrance

FGT-5712 or FGT-5726 Subsill	Frame Width plus (+) 3/8"

Subsill at Entrance Sidelite

Note: *Subsill to butt tight against Door Jamb.*

FGT-5712 or FGT-5726 Subsill	Door Jamb to Frame Width plus (+) 3/16"

Accessories: Dry Glaze

Note: *Reference Entrance Installation manual for gaskets at Transom and Door Header.*

FG-5730 and FG-5736 Exterior Gasket at Vertical	D.L.O. plus (+) 1/4" per foot plus (+) 1-1/2"
FG-5732 Interior Gasket at Vertical	
FG-5730 and FG-5736 Exterior Gasket at Horizontal	D.L.O. plus (+) 1/4" per foot
FG-5732 Interior Gasket at Horizontal	

Accessories: Wet Glaze

Note: *Reference Entrance Installation manual for gaskets at Transom and Door Header.*

FG-5730 and FG-5736 Exterior Gasket at Vertical	D.L.O. plus (+) 1/4" per foot plus (+) 1-1/2"
FG-5731 Spacer Gasket at Vertical	D.L.O. plus (+) 1/4" per foot plus (+) 1-7/8"
FG-5730 and FG-5736 Exterior Gasket at Horizontal	D.L.O. plus (+) 1/4" per foot
FG-5731 Spacer Gasket at Horizontal	

Abbreviations used within these instructions:

D.L.O. = Day Light Opening
D.O.W. = Door Opening Width
D.O.H. = Door Opening Height
Ø = Diameter

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3.0 Subsill Fabrication

NOTE: *The maximum length of the Subsill without a splice is 20'. For Frame Widths over 24', every 20' must include Expansion Verticals to accommodate thermal expansion with a splice equally spaced in the Subsill no more than every 12'.*

3.1 Drill 5/16" weep holes along front face of **FGT-5712** or **FGT-5726** Subsill at mid-lite located at the noted height from bottom of Subsill shown in *Figure 3, Detail A*. Drill weep holes 1-3/4" deep to penetrate into center section of subsill.

3.2 Fabricate **FGT-5712** or **FGT-5726** Subsill for anchor installation placing holes at 1-3/4" from face of Subsill. Hole shown are generic locations and should be located per approved Shop Drawings. Reference *Figure 3.*

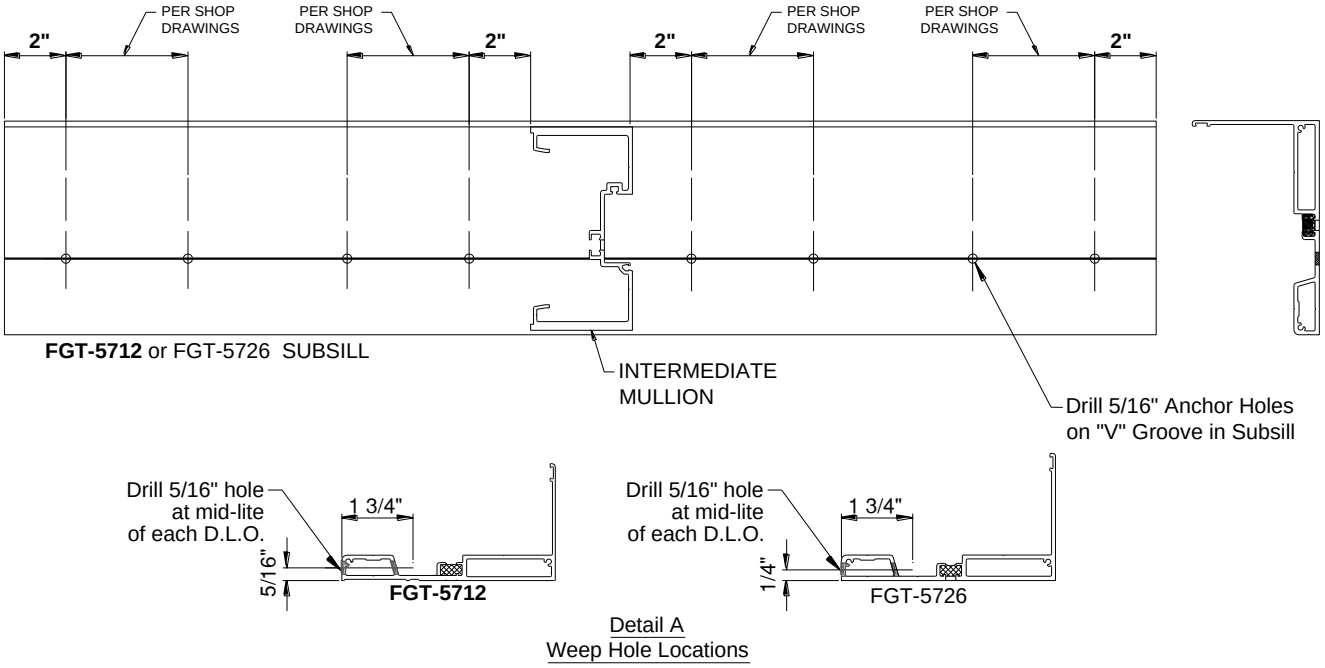

Figure 3: Subsill Fabrication

4.0 Head / Sill Fabrication

4.1 Prepare Sill for **FS-27** installation by placing access and pilot holes 1/2" from face of metal, referencing *Figure 4* for hole location. Holes should be placed at 2" and 4" from the ends of Sill to accommodate two fasteners on each side. After frames are installed the **FGT-5712** or **FGT-5726** subsill will be match drilled using a 3/16" drill bit.

4.2 Prepare Head for anchor installation by placing pilot holes centered on V-grooves of metal, referencing Figure 5 for generic hole location. Verify quantity and locations per approved Shop Drawings.

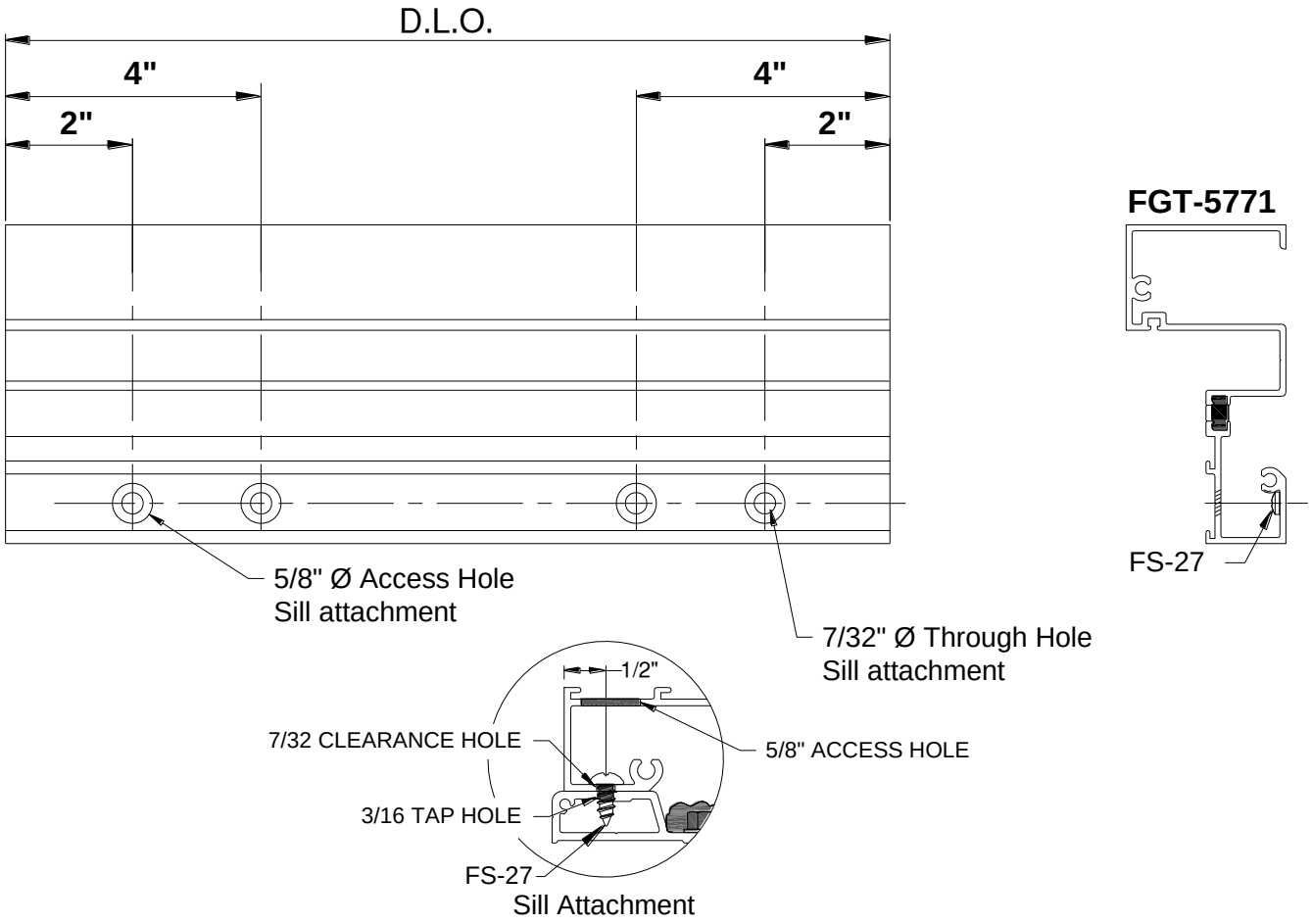

Figure 4: Sill Fabrication

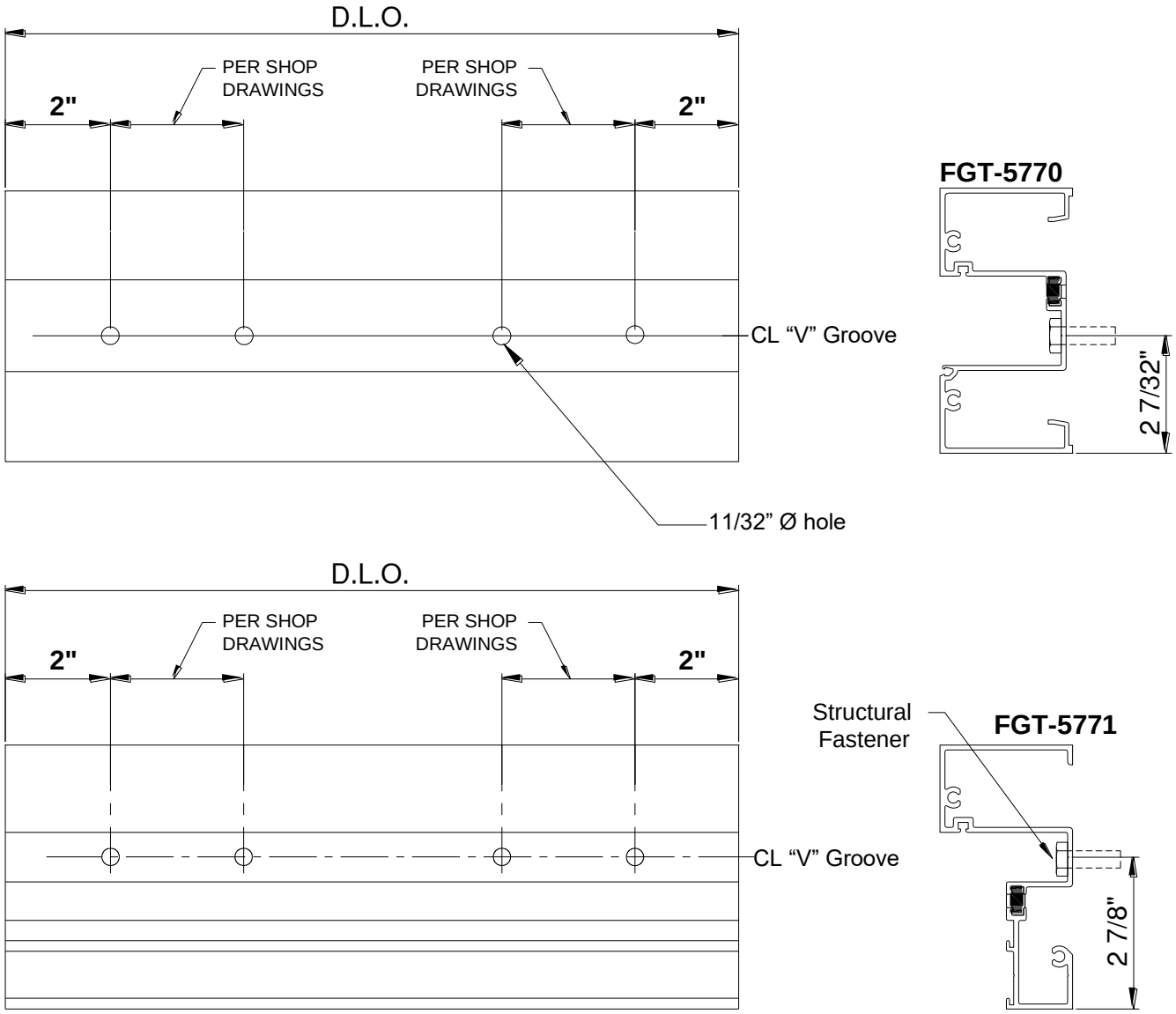

Figure 5: Head Fabrication

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5.0 Vertical Hole Prep Locations

NOTES:

- Reglet for **FG-5730** or **FG-5736** Gasket is always located on the exterior of system.
- When using EZ Punch, seal over any unused holes created.

Drill or punch holes in Verticals for attaching Horizontals per *Figure 6*. To use Drill Jig **DJ-5750**, reference *Figure 7*.

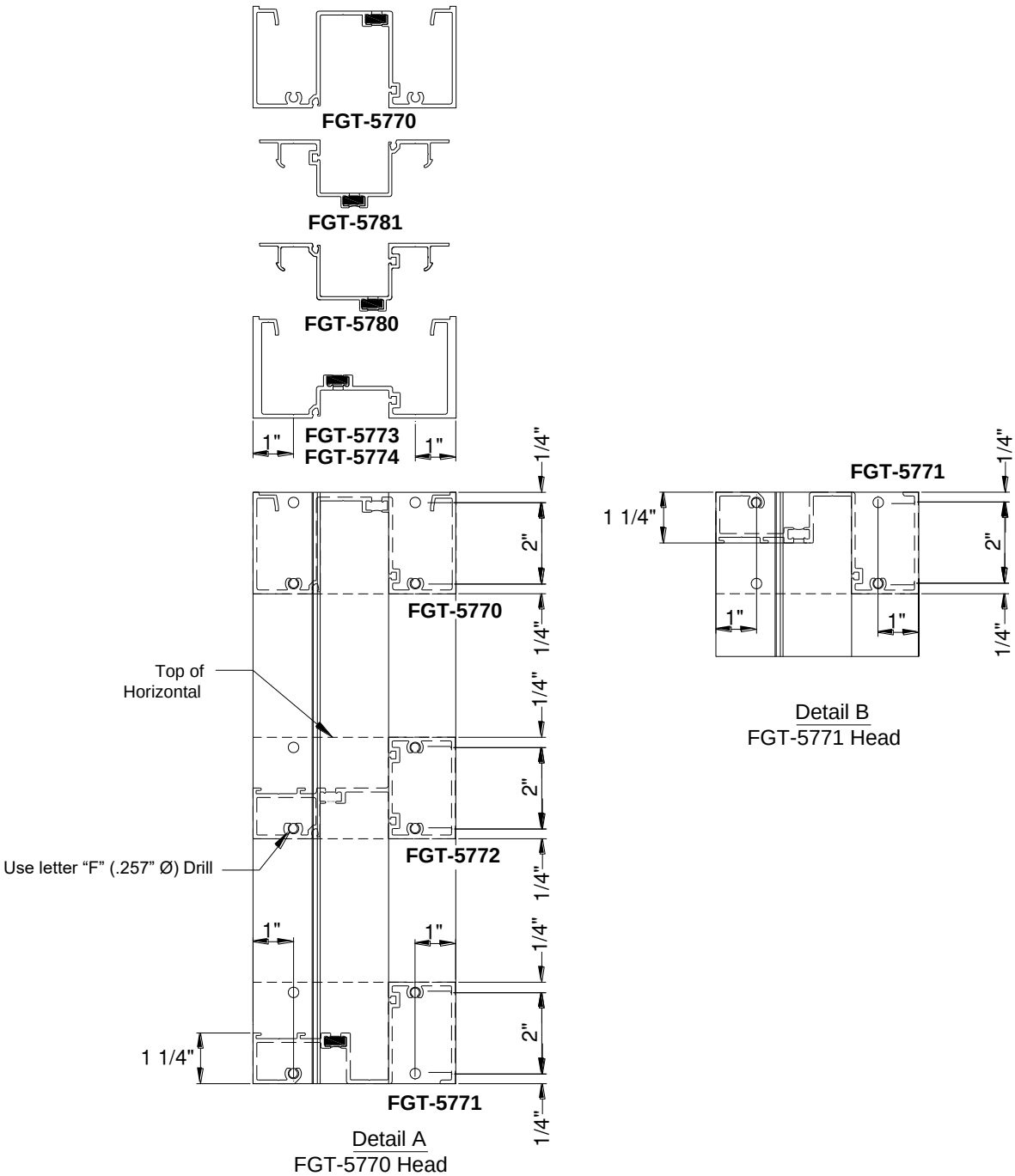

Figure 6: Vertical Mullion Fabrication

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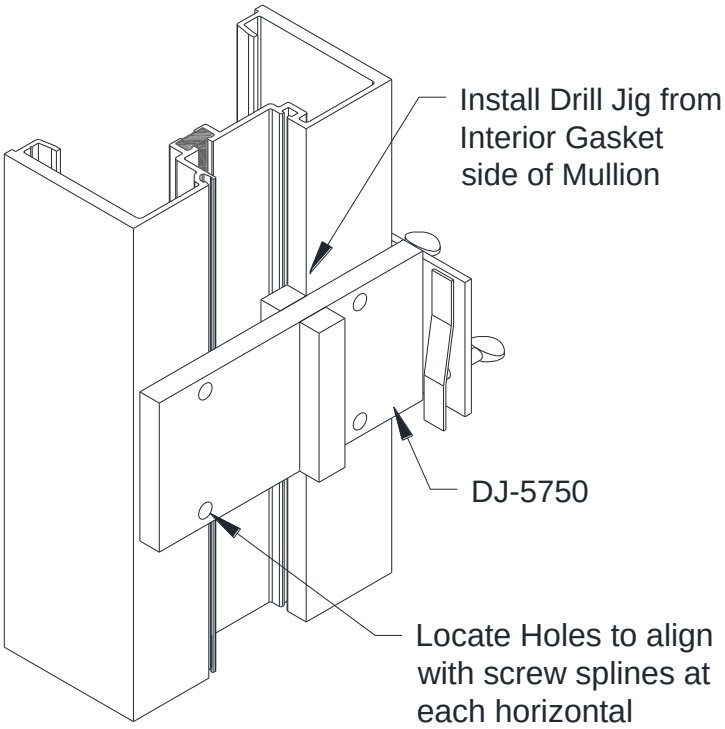

Figure 7: Drill Jig Fabrication

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6.0 Jamb Anchor Fabrication

When required holes for anchors must be fabricated in the Jamb. The number of anchors will vary. Reference approved shop drawings and engineered calculations for the exact number and locations. If an anchor hole occurs at the intersection of an Intermediate Horizontal, locate the hole as close to the intended location as possible, avoiding the Horizontal.

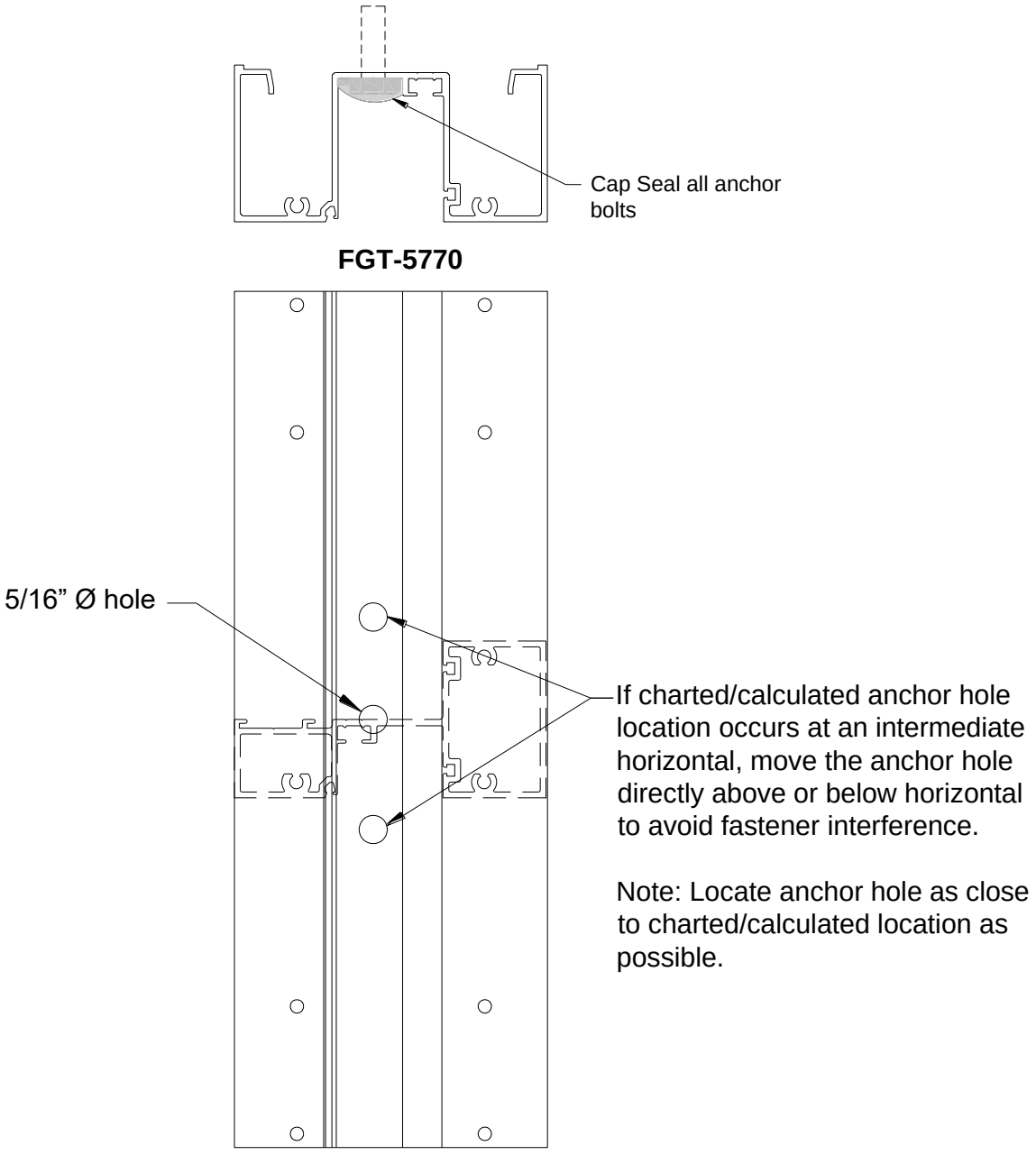

Figure 8: Vertical Jamb Mullion Anchor Fabrication

SILL ASSEMBLY / INSTALLATION

7.0 Subsill End Dam Fabrication and Assembly

7.1 **AN104-01** End Dam is pre-fabricated. If using **AN101-01** End Dam, drill holes per detail in *Figure 9*. Mirror for opposite end.

7.2 Bed End Dam in Sealant and attach with (2) **FS-23** (#6 x 3/8" PPH A Pt) Fasteners.

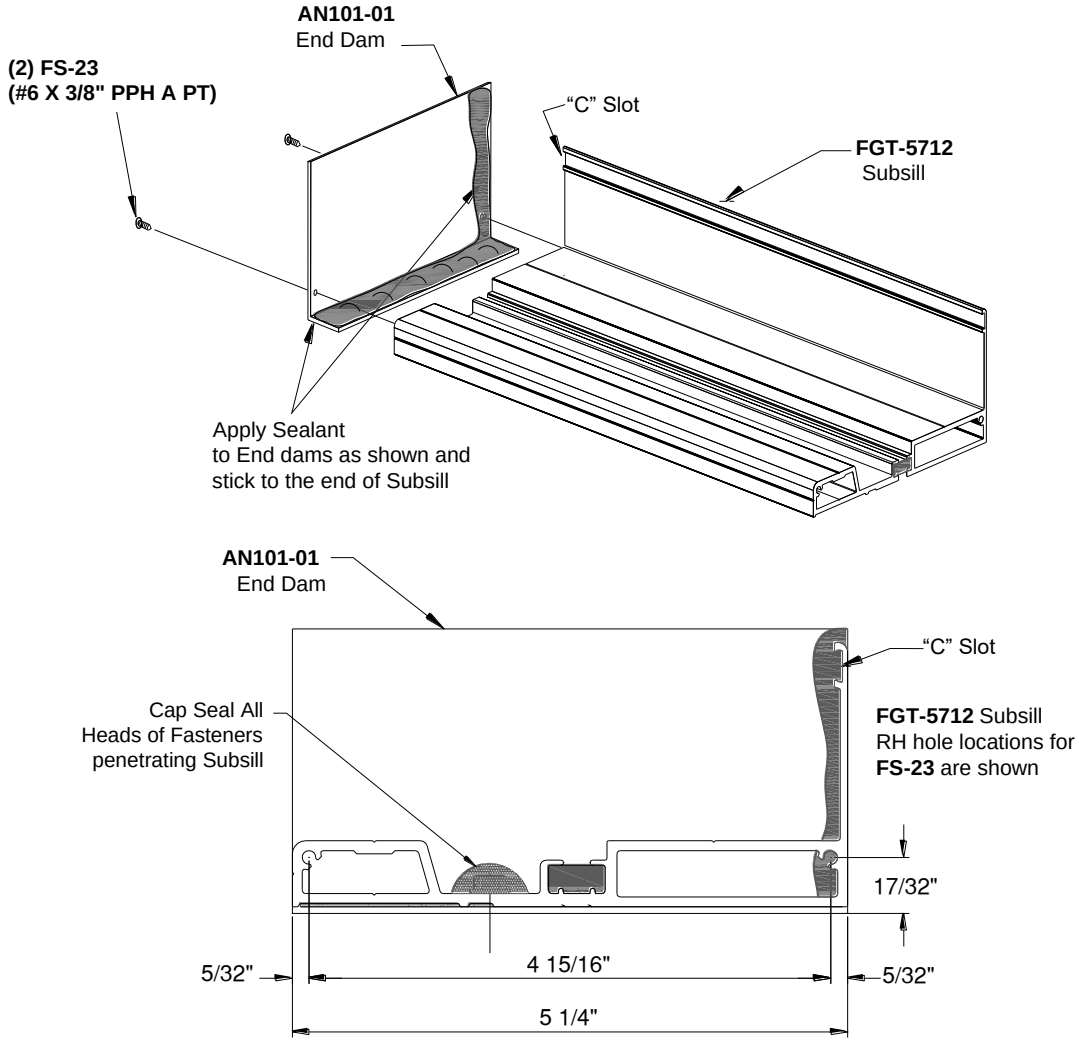

Figure 9: Subsill End Dam Attachment

8.0 Subsill Installation

8.1 Position fabricated Subsill with End Dams into opening. Center into opening allowing shim space at Jambs. Shim to level with 1/4" of shim at highpoint, adding shims at each fastener.

8.2 Wedge shims tightly between End Dams and Jamb substrate at each end prior to installing frame panels. These shims prevent the End Dams from being dislodged while frame panels are being installed. Completely seal End Dams as shown in *Figure 10*.

8.3 When required, insert Backer Rod and Sealant before applying Sealant to **UW466** Silicone Splice Sheet at all Subsill Splices, *Figure 11*.

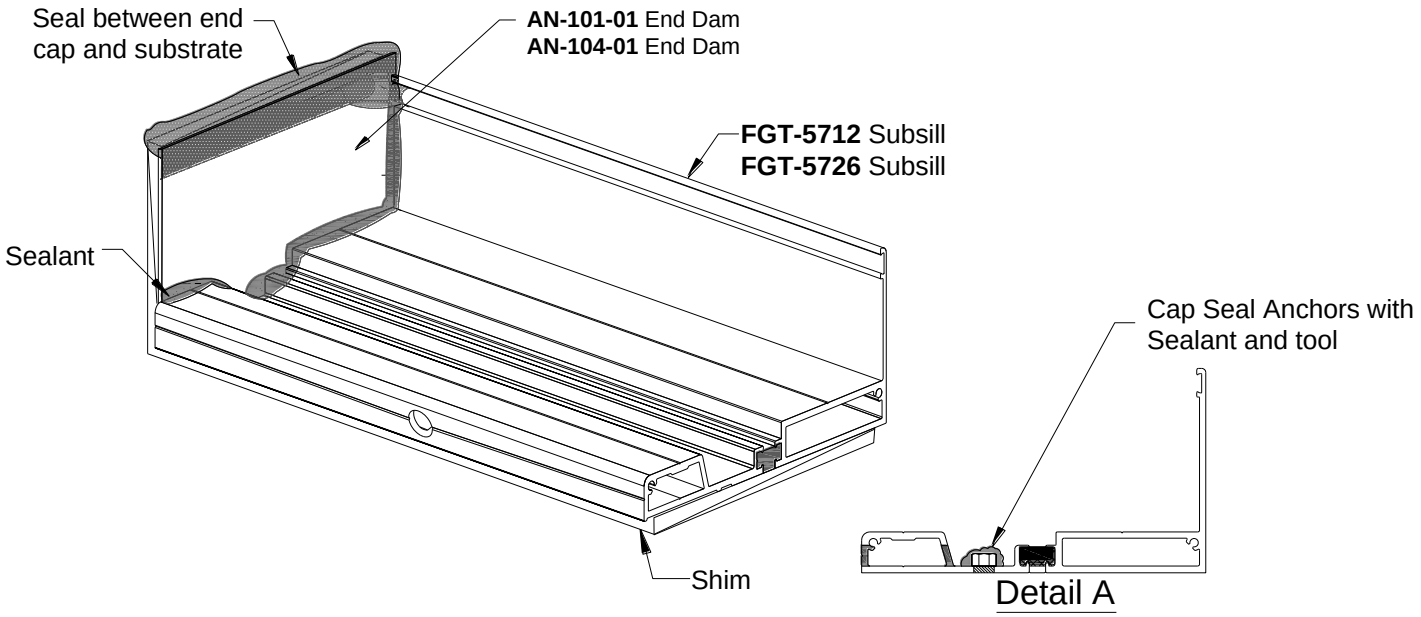

Figure 10: Subsill Installation and Sealing of End Dam

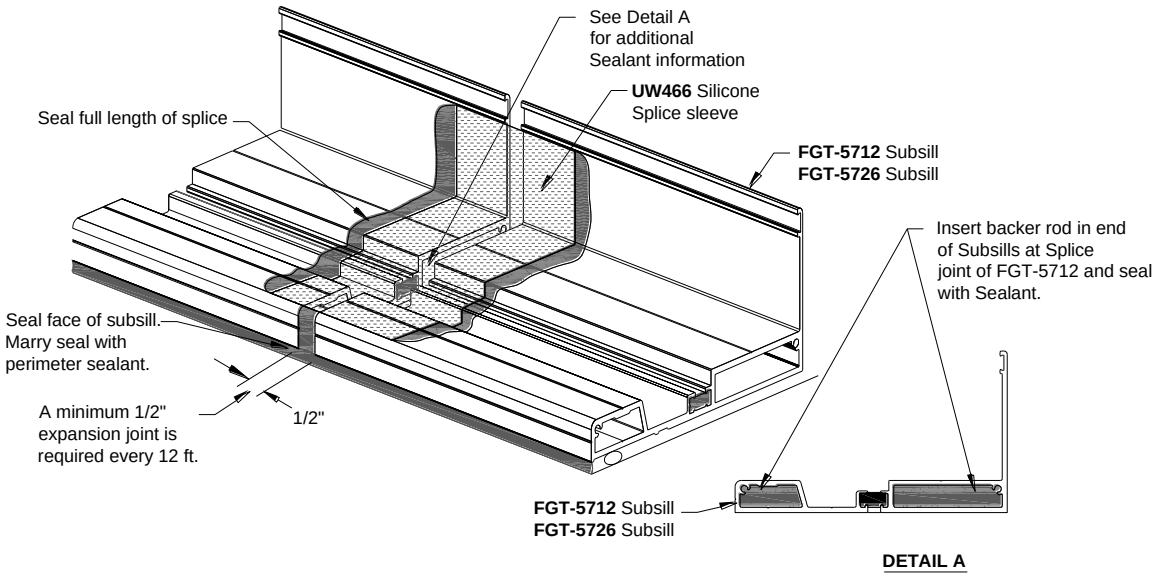

Figure 11: Subsill Splice Installation and Sealant

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9.0 Sidelite Subsill Installation at Door Frame

When entrances occur, install entrance frames first. Subsill butts against Door Jamb(s). The Subsill abutting the Door Jamb does not require an End Dam. Seal joint between Subsill and door jamb marrying sealant along top of Subsill and sealant between door jamb and mullion filler.

NOTE: *The bottom of the inside of the Door Jamb Mullion must be sealed to the substrate and the end of the Subsill must also be sealed. Reference* Figure 12*.*

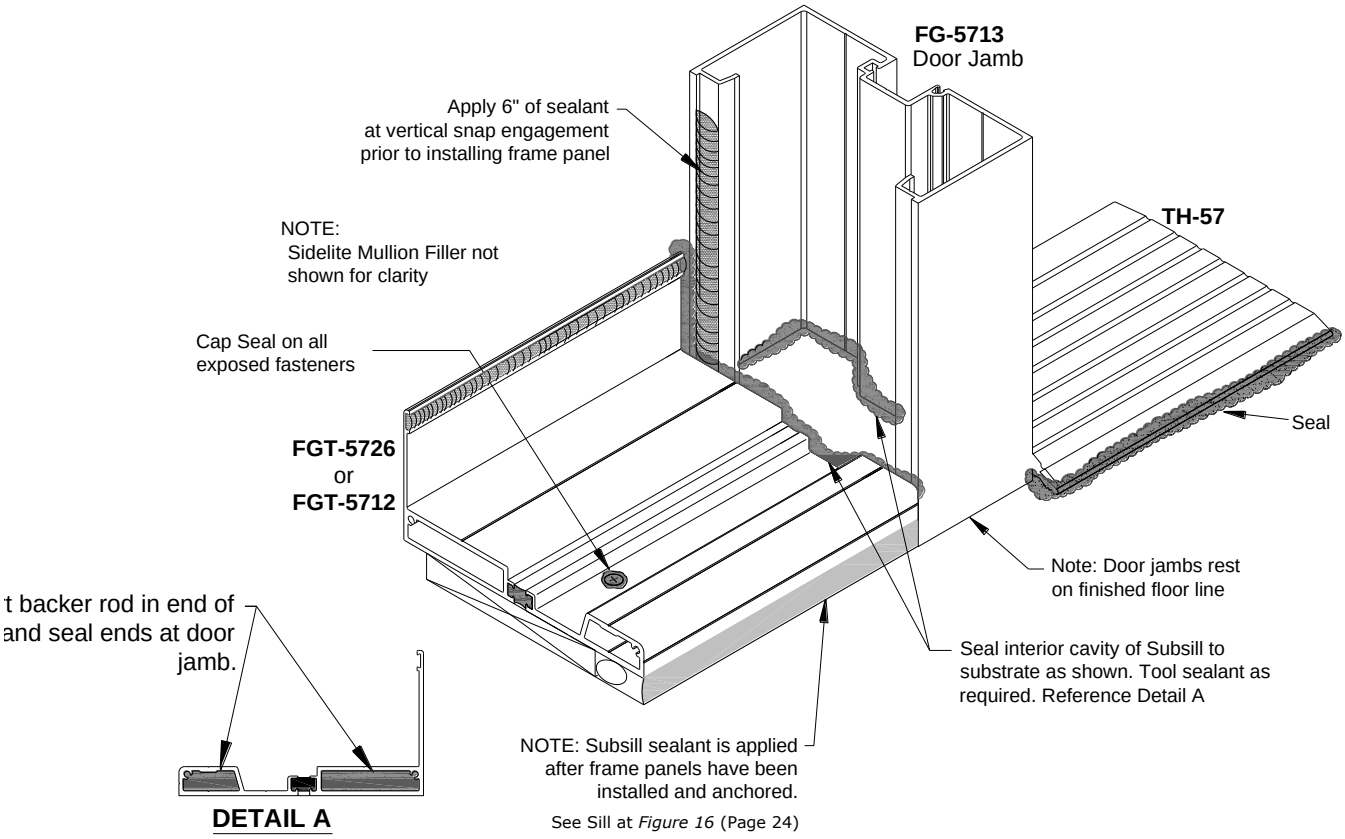

Figure 12: Door Jamb and Subsill Sealant Application

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FRAME ASSEMBLY / INSTALLATION

10.0 Frame Panel Assembly

10.1 If the **FG-5731** Spacer Gasket is pre-installed, remove it and verify length or cut per *2.0 Cut Material to Length* (page 11). Set aside.

10.2 Clean framing members at locations where **SM5601** Isocryl Tape is noted to be applied. At tape intersection, there should be no gaps. Apply **SM5601** to ends of horizontal working tape around the screw splines so fastener does not pull tape during assembly.

10.3 Attach Horizontals to Verticals using **FS-8** (#14 x 1" HHSTS Spline Screws). Trim excess sealant tape at joints with razor knife. DO NOT PULL TAPE TO TRIM. See *Figure 6* (page 15) for hole prep locations.

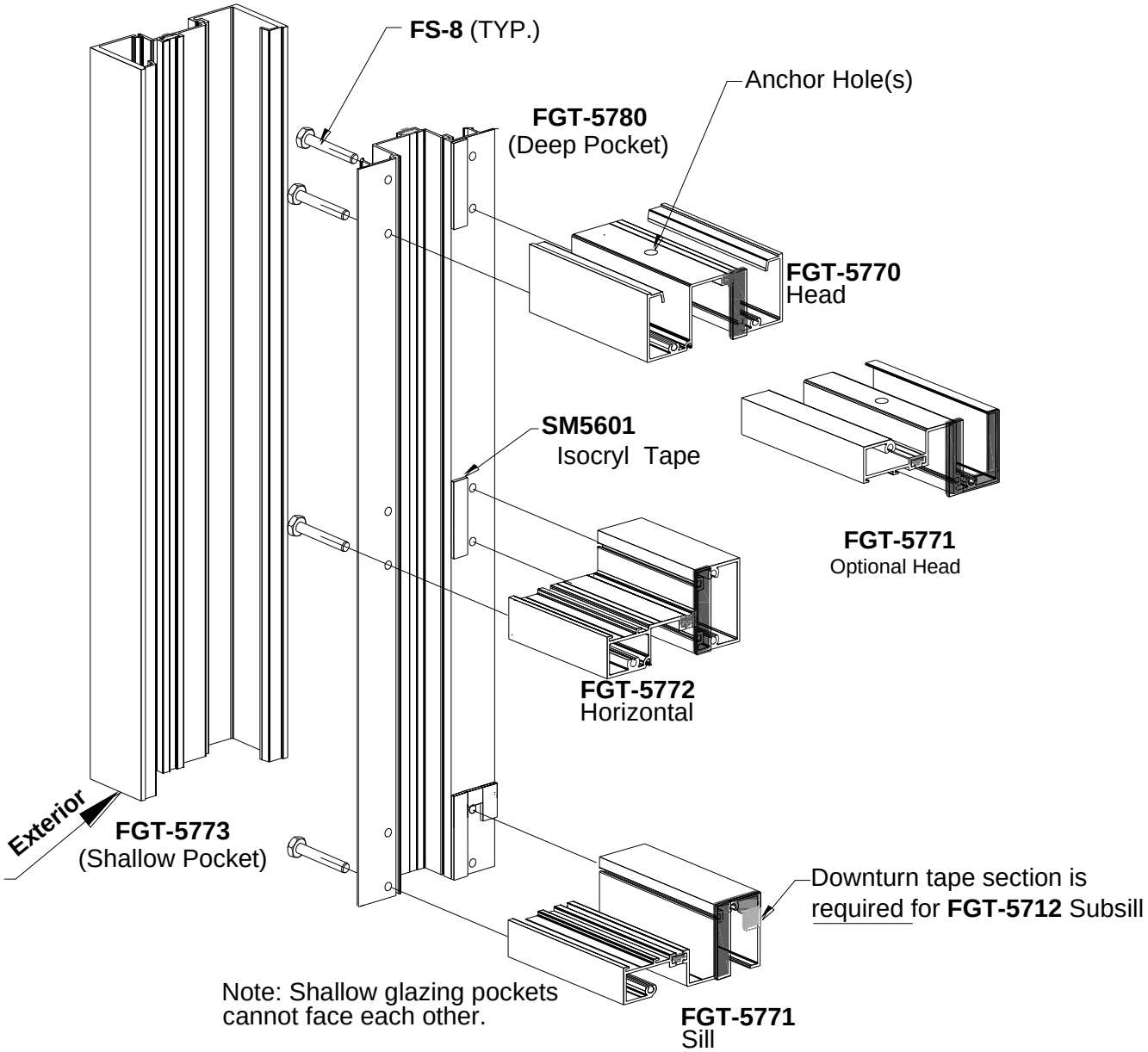

Figure 13: Frame Panel Assembly

11.0 Installation of Framing Panels

11.1 Install assembled frame panels into opening starting at either Jamb and continue working toward the opposite Jamb until the last frame panel is installed. Reference installation illustrations shown in *Figure 15*. Use option A or B as required.

NOTES:

- *When Jamb Anchors are required, cap-seal all anchor heads.*
- *A 3/16" joint between End Dam and Jamb Mullion must be maintained to ensure a proper seal at each end.*
- *When snapping assemblies, it is critical that the filler is being snapped into the Mullion so seal along face of Subsill is not disturbed.*

11.2 Before each panel is placed, run a bead of Sealant along the top of the End Dam and along the C-channel of the back of the Subsill, just the width of the incoming panel. Do not allow Sealant to harden prior to installing frame panels.

11.3 When placing each panel, it is critical to hold the Frame off of the End Dam and the back of the Subsill to prevent scraping Sealant off before final placement.

11.4 Ensure that the frame panels are pushed against the upright leg of the Subsill, as shown in *Figure 14, Detail A*. Mull should be tight against Subsill, but care should be taken not to force out all of the sealant between Mullion and Sill.

11.5 Apply an additional bead of Sealant at the End Dam and Jamb Mullion.

11.6 Remove excess sealant after panels are installed and anchored.

11.7 Prior to installing each additional panel frame, apply 6" of silicone sealant to bottom of interior snap engagement, as indicated in *Figure 14*.

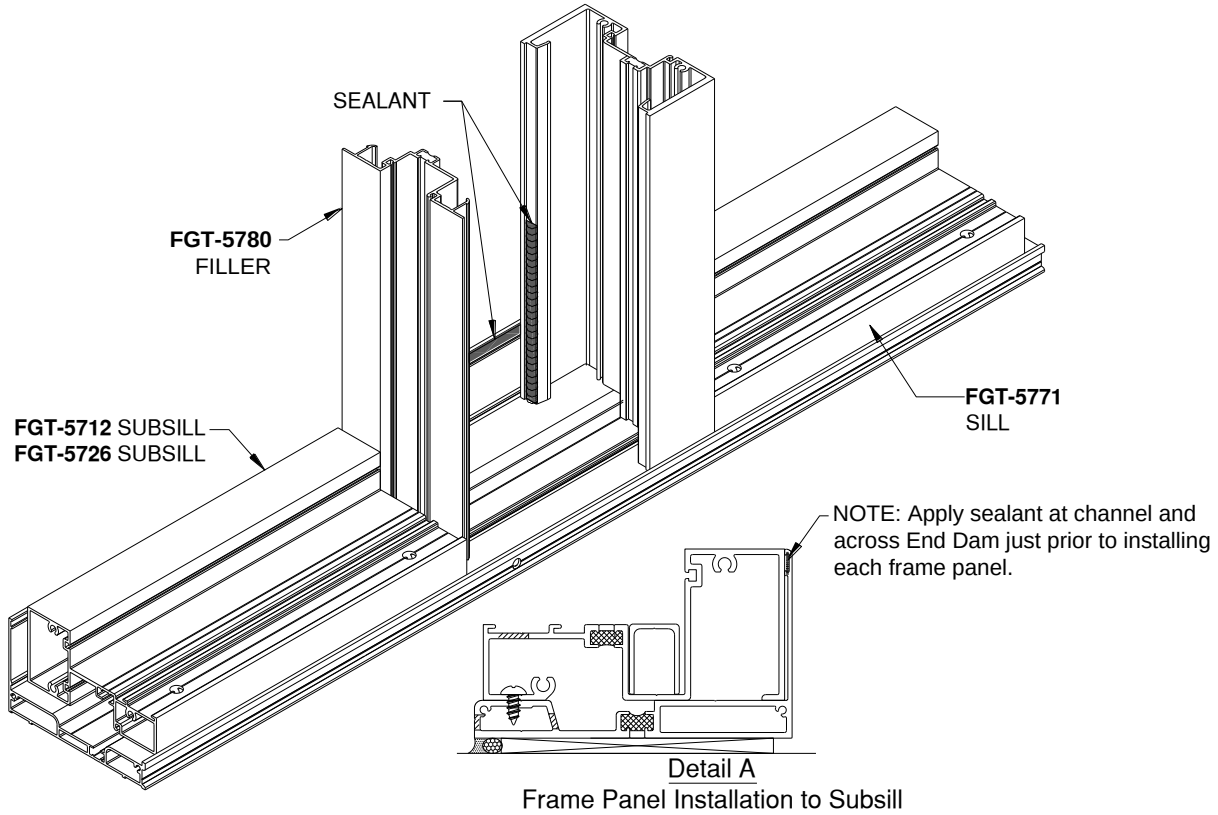

Figure 14: Sealant at Interior at Mullions / Fillers

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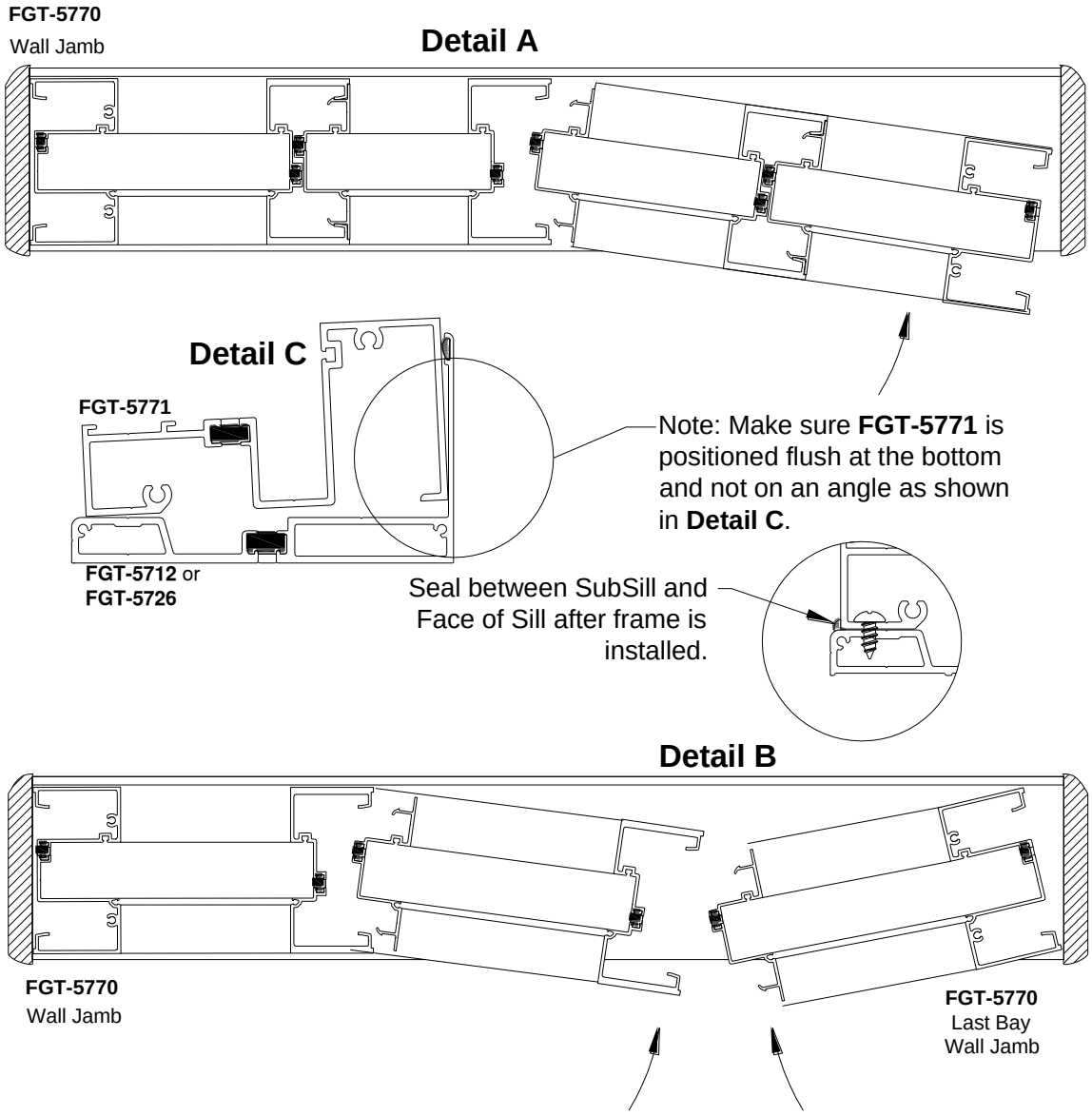

Figure 15: Panel Installation

11.8 Plumb Vertical Mullions and match drill holes into substrate at Head. Anchor and shim as shown. It is not necessary to cap seal fasteners at Head. To prevent dimensional buildup, check D.L.O. and diagonal dimensions every 4 bays to ensure correct spacing and frame squareness.

11.9 Once all individual frames are secured to the opening, complete perimeter seal with a continuous bead of sealant across Head and at each Jamb. At the Sill, run a bead across face of the Subsill and sill.

11.10 Place interior sealant at Jambs and along Subsill, starting from the bottom and sealing up the Jamb.

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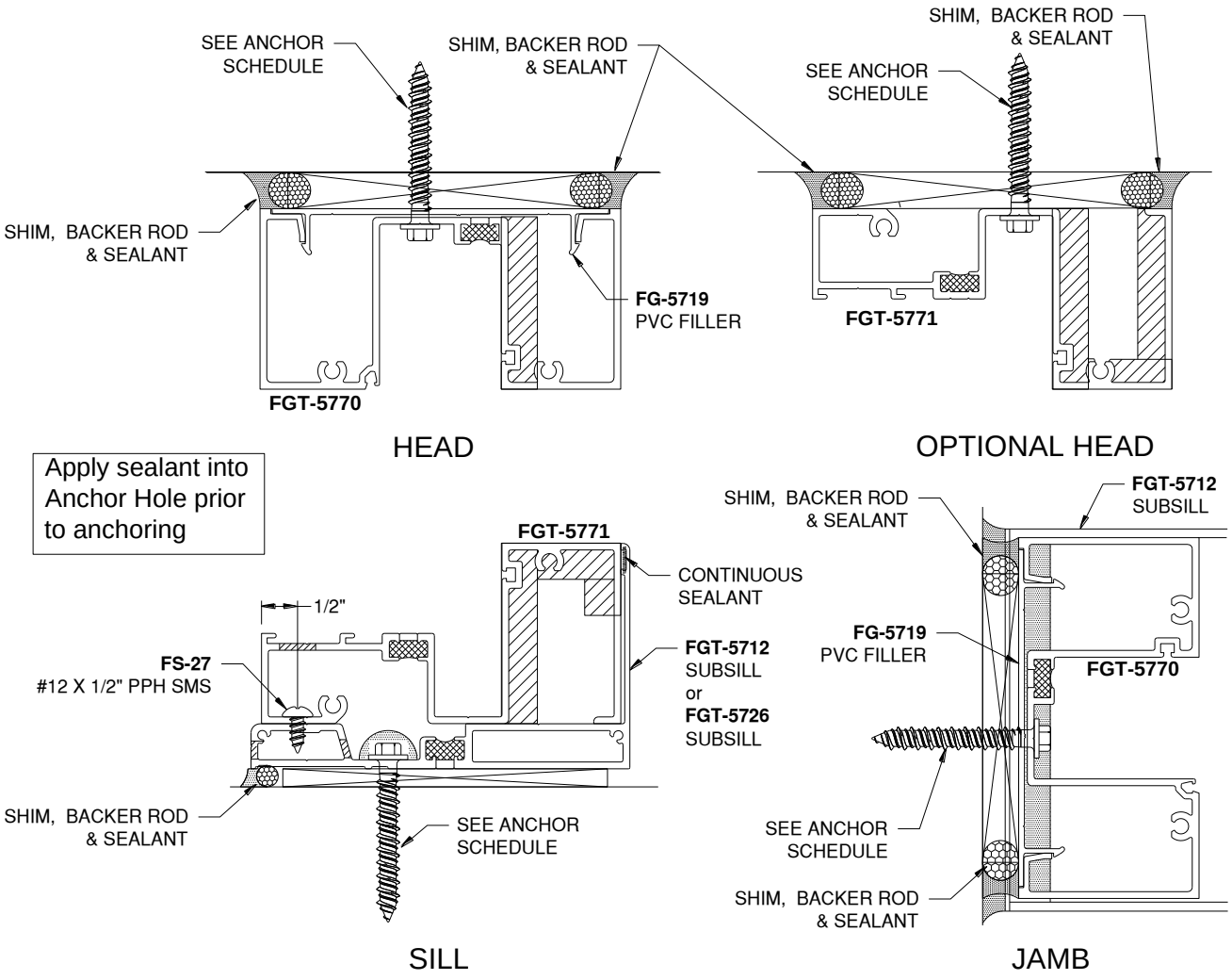

Figure 16: Sealant Application

12.0 Corner Condition

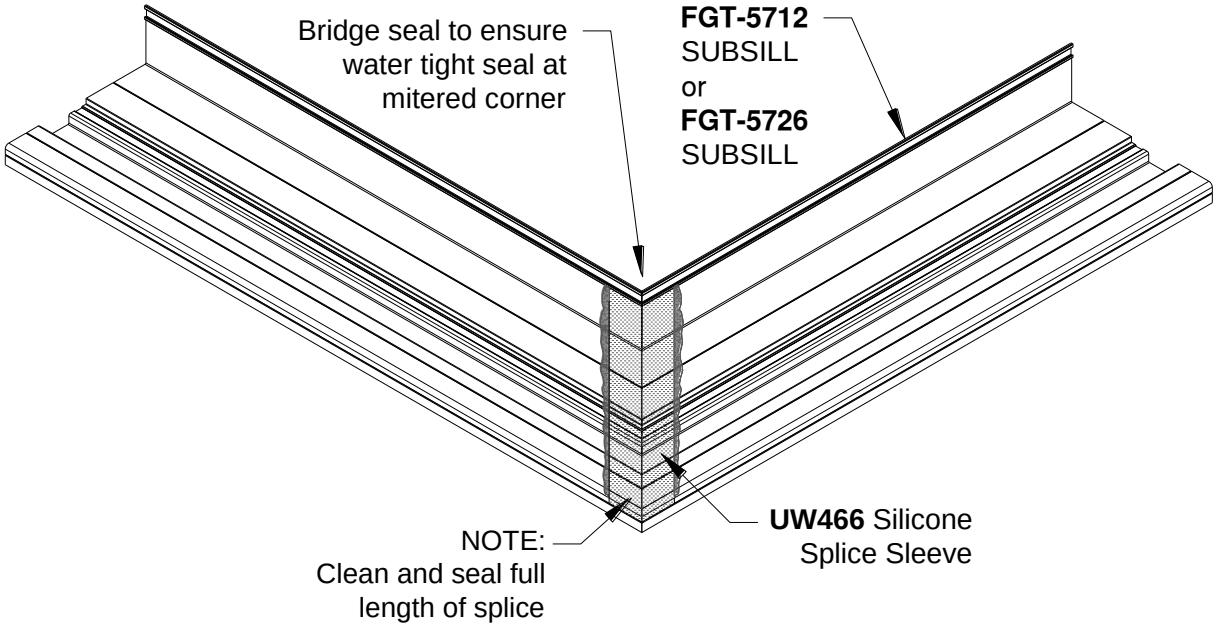

Figure 17: Sealant at Subsill Corner (Wet and Dry)

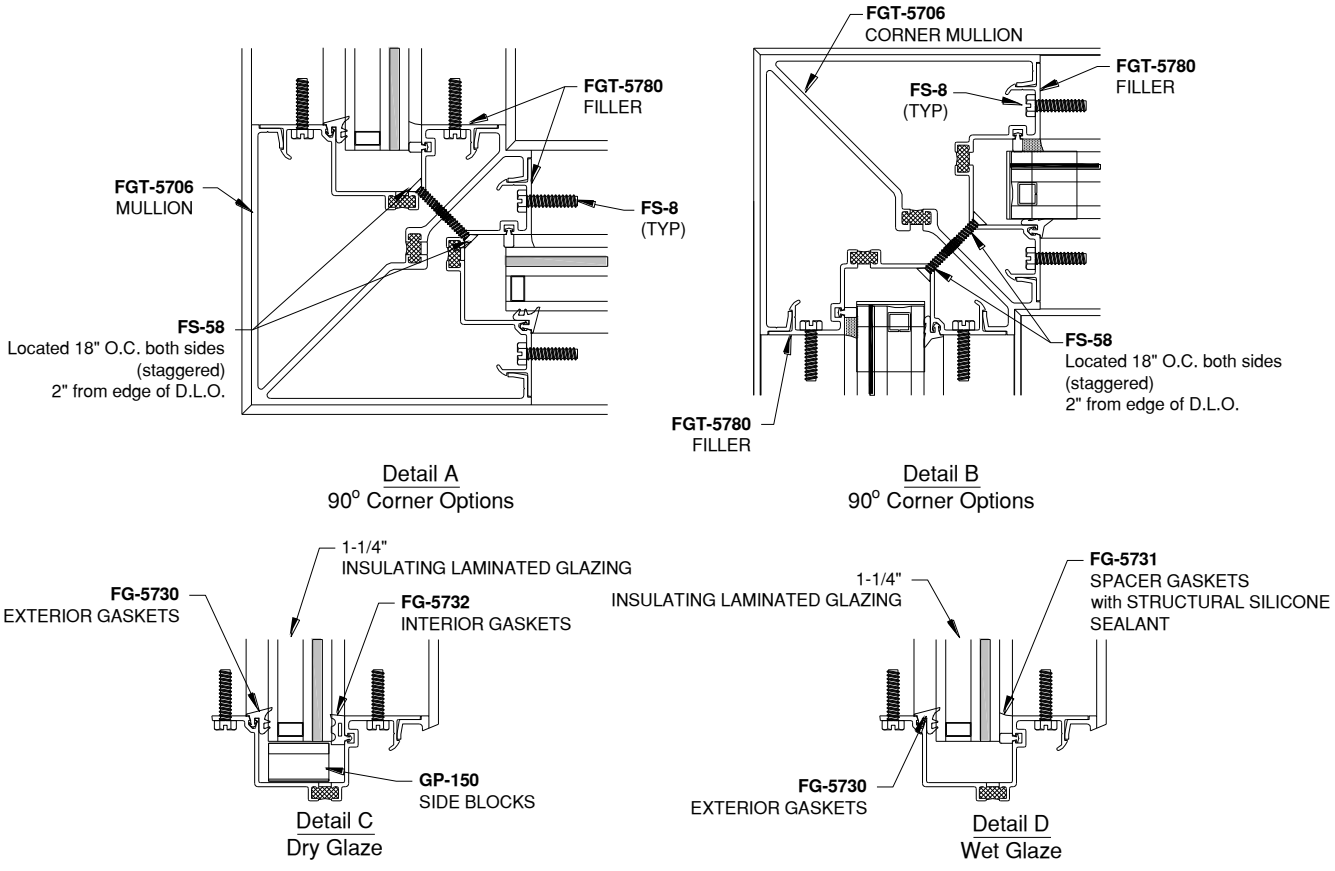

Figure 18: 90° Corner Details

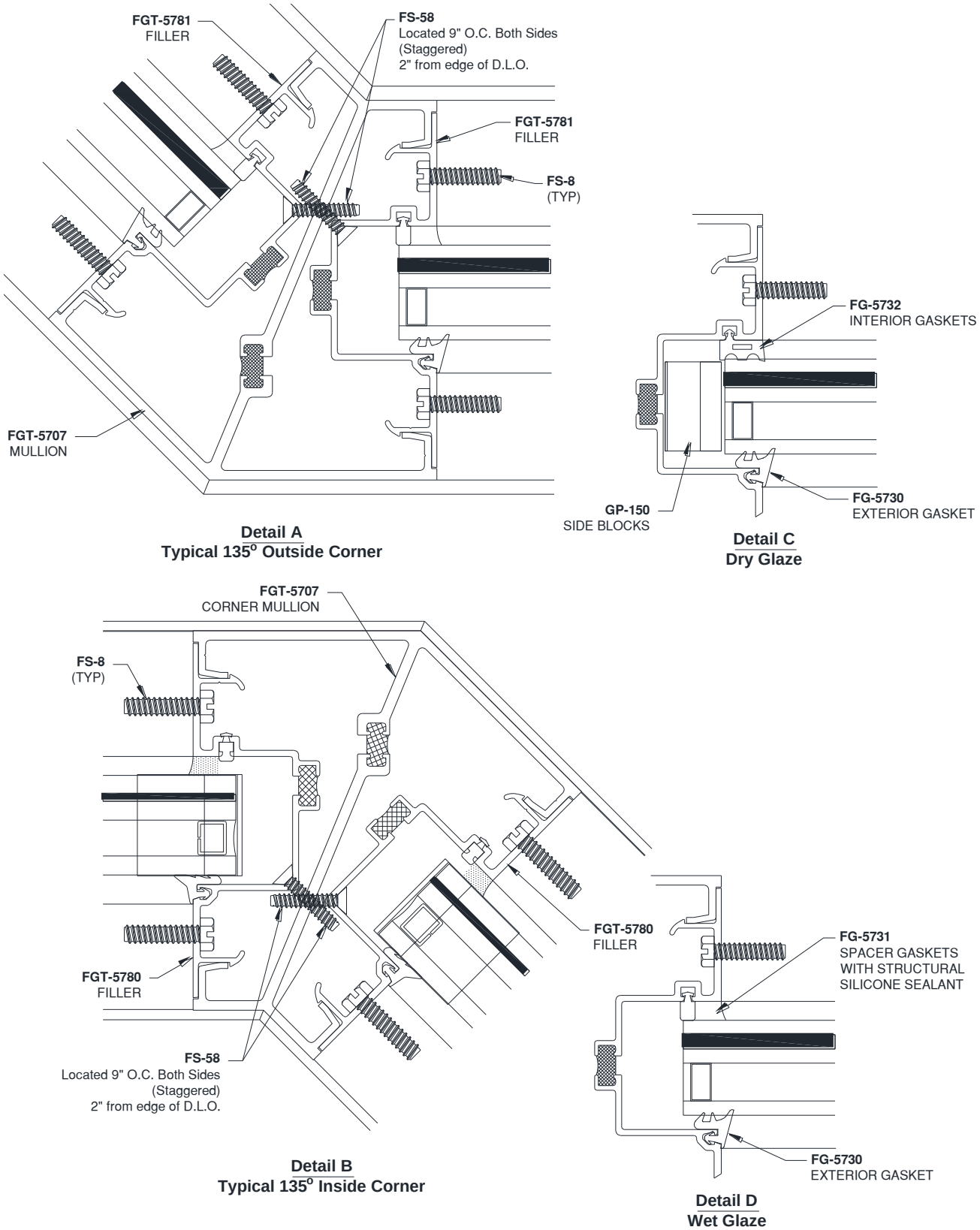

Figure 19: 135° Outside Corners

13.0 Expansion Mullion Installation

When elevation of multiple units exceeds 24' in length, an Expansion Mullion is required. Expansion Mullions should be located at no more than 20' intervals. When Expansion Mullions are in use, locate Subsill splices equally spaced at no more than every 12', referencing Section 8.0 Subsill Installation as needed. Verify all Sill Anchors are cap sealed prior to any panel installation.

13.1 Reference Section 10.0 Frame Panel Assembly to build the panels, using **FGT-5782** (female half) and **FGT-5783** (male half) at Expansion Mullion locations.
NOTE: FGT-5783 *should come with gasket* ***CW-998*** *pre-installed. If this is not pre-installed, cut the gasket to the* ***FGT-5783*** *length per Section 2.0 Cut Material to Length.*

13.2 Reference Section 11.0 Installation of Framing Panels for generic panel installation instructions and *Figure 20* for how to snap Expansion Mullions together.

13.3 Once all units are centered in the opening, verify all joints are equal before anchoring per approved shop drawings.

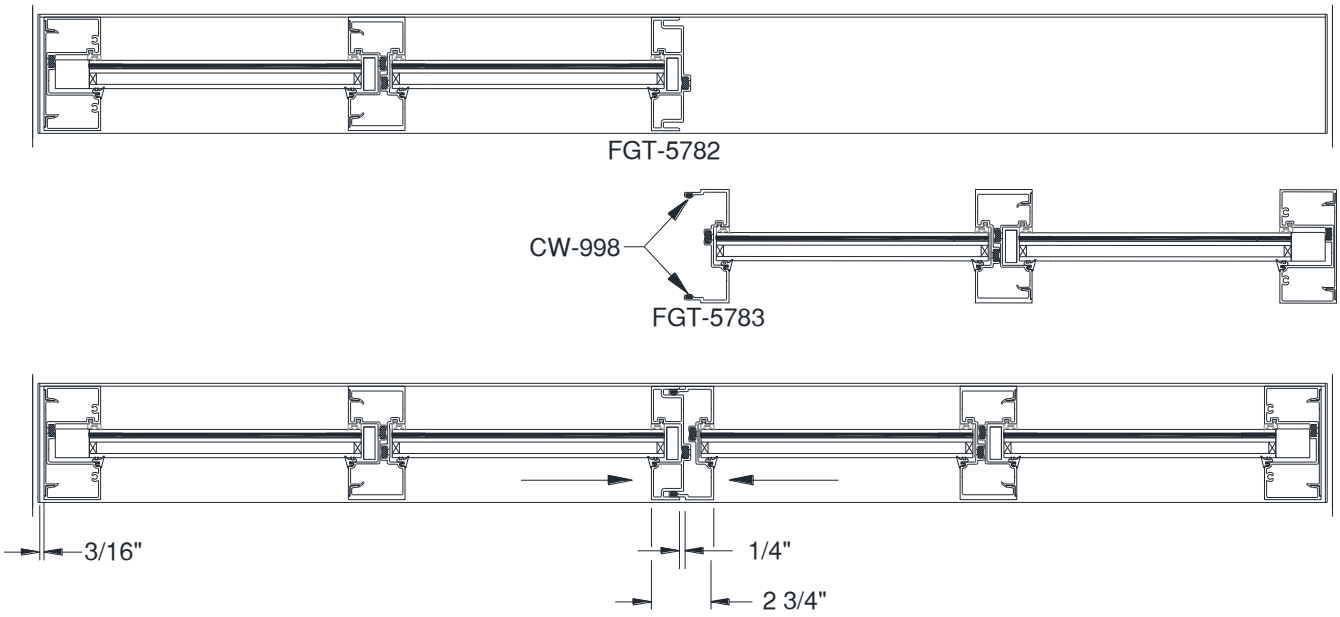

Figure 20: Expansion Mullion Installation

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GLAZING

14.0 Glass Sizes for FG-5750T System

ArmorDefend™ Plus storefront may be installed with either ArmorGarde™ or ArmorGarde™ Plus. The formula for glass sizing is below along with a chart for which Gasket to use with which glazing thickness.

Glass Width and Height = D.L.O. + 1”

Glazing Thickness	Gasket
1-1/4"	FG-5730
1-5/16"	FG-5736

NOTES:

- *Glass tolerances are not addressed in the above formula. Consult glass manufacturer for glass tolerances prior to ordering.*
- *At entrance, **FGT-5780** Mullion Filler may be used with **FG-5713** Door Jamb when reinforcement is not required.*

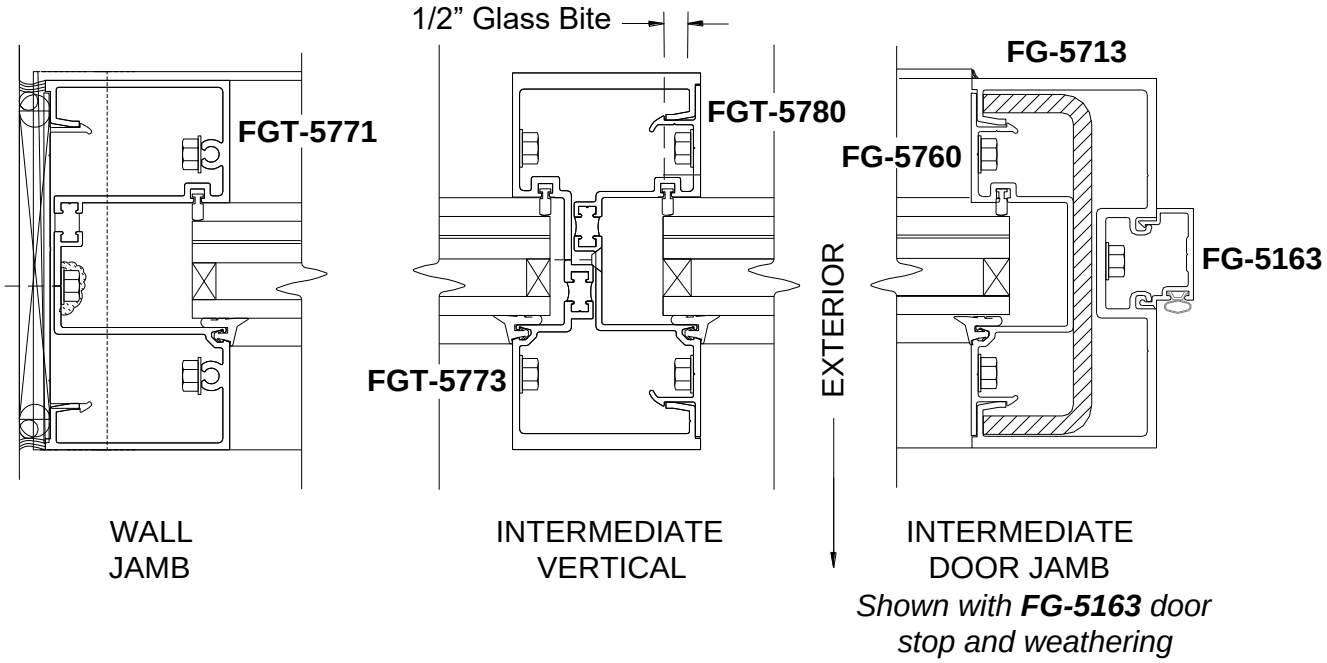

Figure 21: Glass Sizing

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15.0 Preparation of Frame Opening for Glass

15.1 Prepare the frame opening by removing all dirt and debris from the glazing pockets and gasket reglets.

SETTING BLOCKS

15.1.1 Set glass on two setting blocks, part number noted in the shop drawings. The preferred location is at the 1/4 points.

DEFLECTION

15.1.2 If the 1/4-point location causes excessive deflection of the intermediate horizontal, move the setting blocks equally towards the corners of the lite as far as the 1/8 points. The outer end of the block **CANNOT** be closer than 6" to the corner of the glass.

15.1.3 The intermediate horizontal must not exceed 1/8" and a door header is limited to 1/16". Check deadload charts for proper setting block locations.

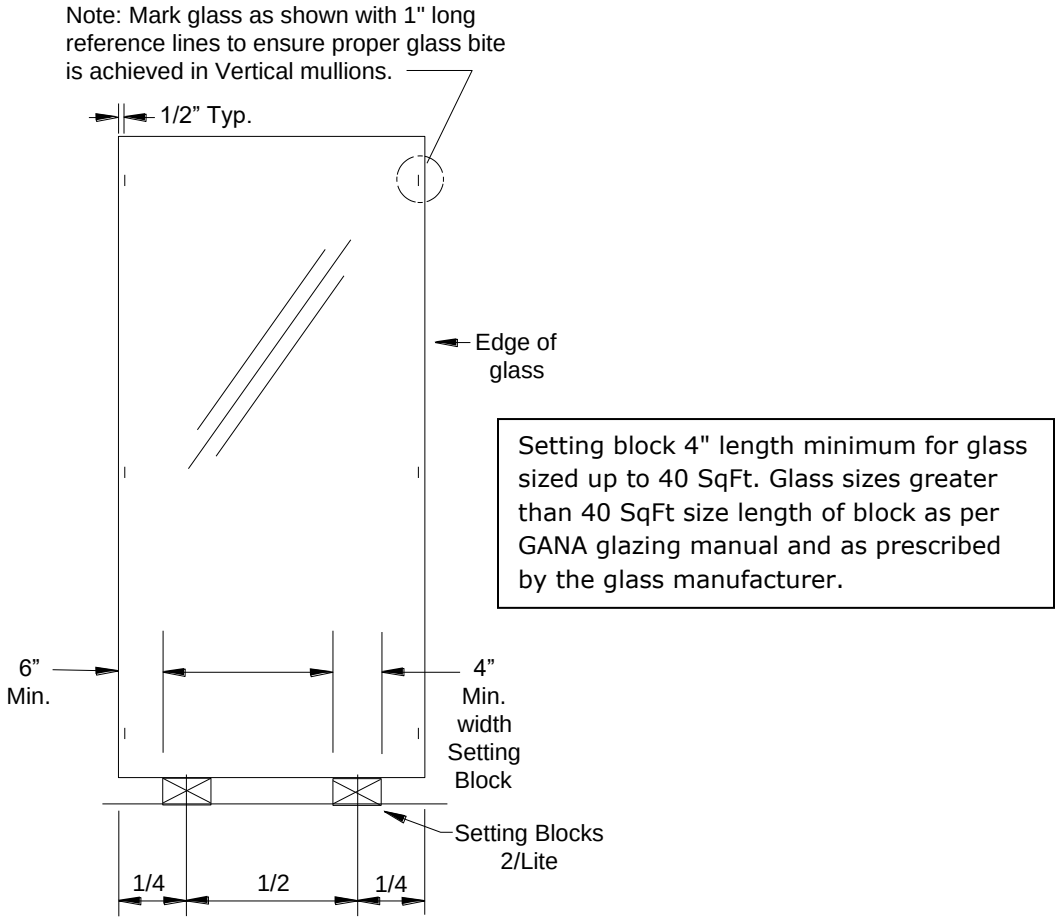

Figure 22: Glass Marking and Setting Blocks

16.0 Wet Glazing

16.1 Preparing Wet Glazing Option

16.1.1 Remove Gaskets from roll and allow to relax in a protected location overnight. Cut Gasket per material cut list on page 11.

NOTE: *When installed, vertical Gasket runs through while horizontal Gasket butts into the vertical Gasket. Reference* Figure *24 for representation of the Gasket corner.*

16.1.2 Remove all debris from glazing pockets to prevent blockage of weeps/drains.

16.1.3 Install **FG-5731** Spacer Gasket around the opening. Vertical gasket extends into glazing pocket a minimum of 3/4" or to top of water diverter at intermediate horizontals.

16.1.4 Install **FG5721-01** Setting Chair in Sill and **FG-5745** Setting Block at quarter points of each lite or as specified by glass manufacturer. See *Figure 22* and *Figure 23*.

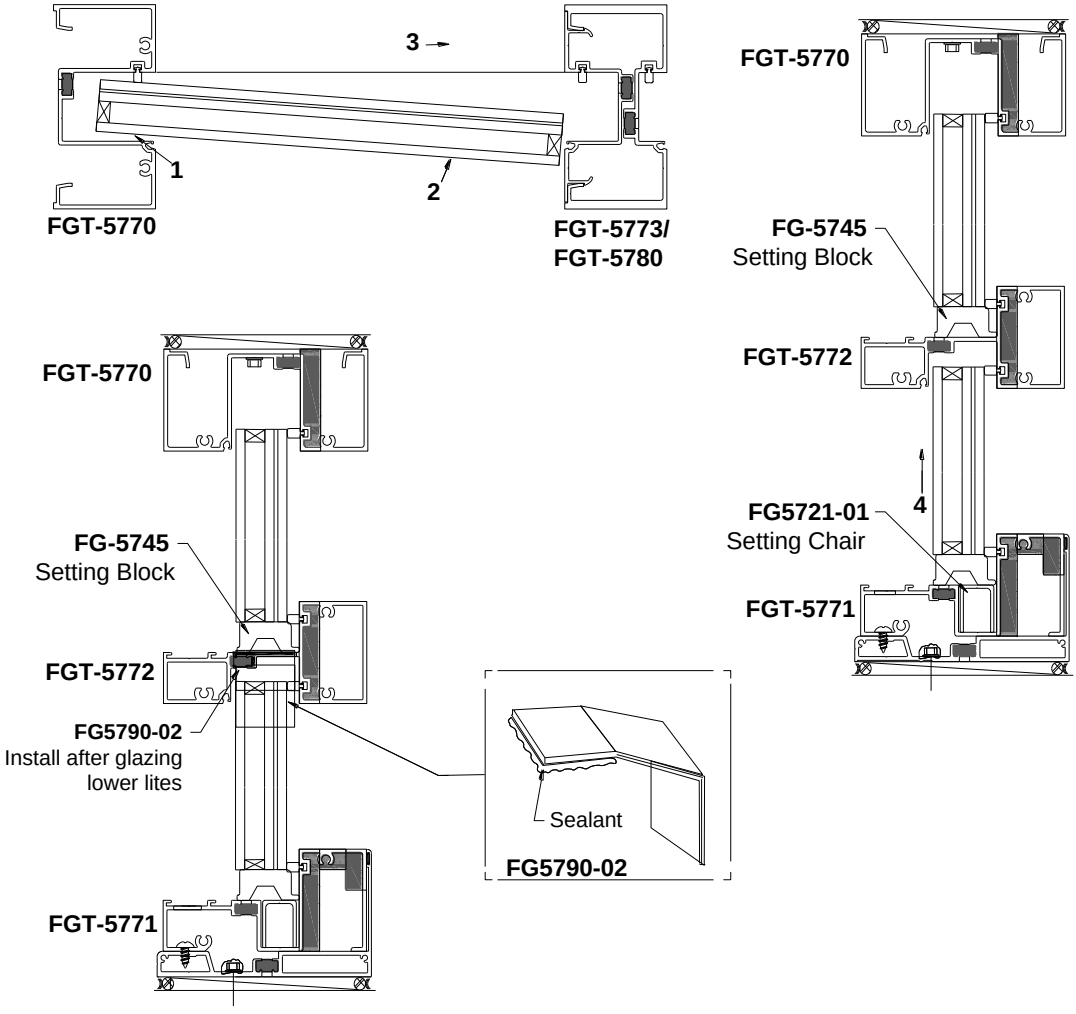

Figure 23: Wet Glaze Glass Installation

16.2 Setting Glass and Exterior Gasket

NOTE: *Glaze from bottom up*

16.2.1 Install 1-1/4" thick ArmorGarde™ or ArmorGarde™ Plus Security Glazing into framing, pushing into the deep pocket first. After centering in the D.L.O., pull glass up and position the Setting Blocks.

16.2.2 Verify the glass bite is 1/2".

16.2.3 Install **FG5790-02** Water Diverters at intermediate horizontals after lower lite is in position. Place a bed of sealant on the end of the Horizontal and place the Water Diverter per *Figure 24*.

16.2.4 Install exterior **FG-5760** Glass Stops. See *Figure 25*.

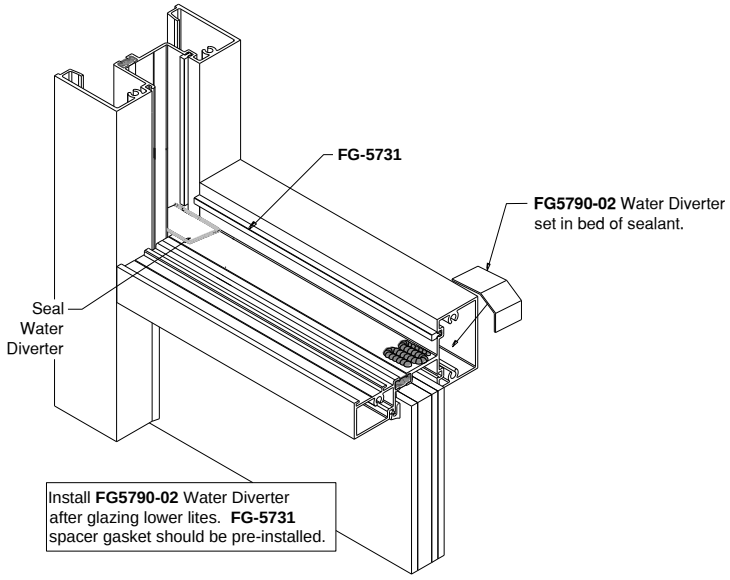

Figure 24: Water Diverter Installation

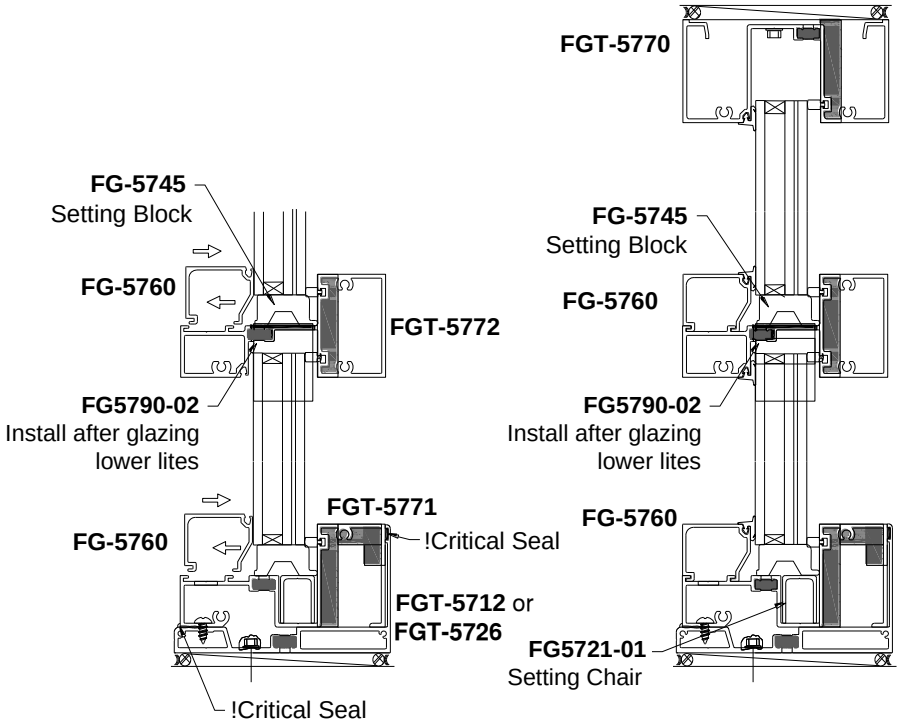

Figure 25: Glass Stop Installation

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16.2.5 Install exterior **FG-5730** or **FG-5736** glazing gaskets starting at the middle of the glass.

16.2.6 After gaskets are pressed into place, pull gasket from pocket at corners as shown in *Figure 26*, *Detail B*. Clean glass and gaskets a minimum of 2" from each end with isopropyl alcohol.

16.2.7 Apply sealant and push Gasket into reglet, compressing from the corner first, *Figure 26*, *Detail C*. Clean squeeze out immediately.

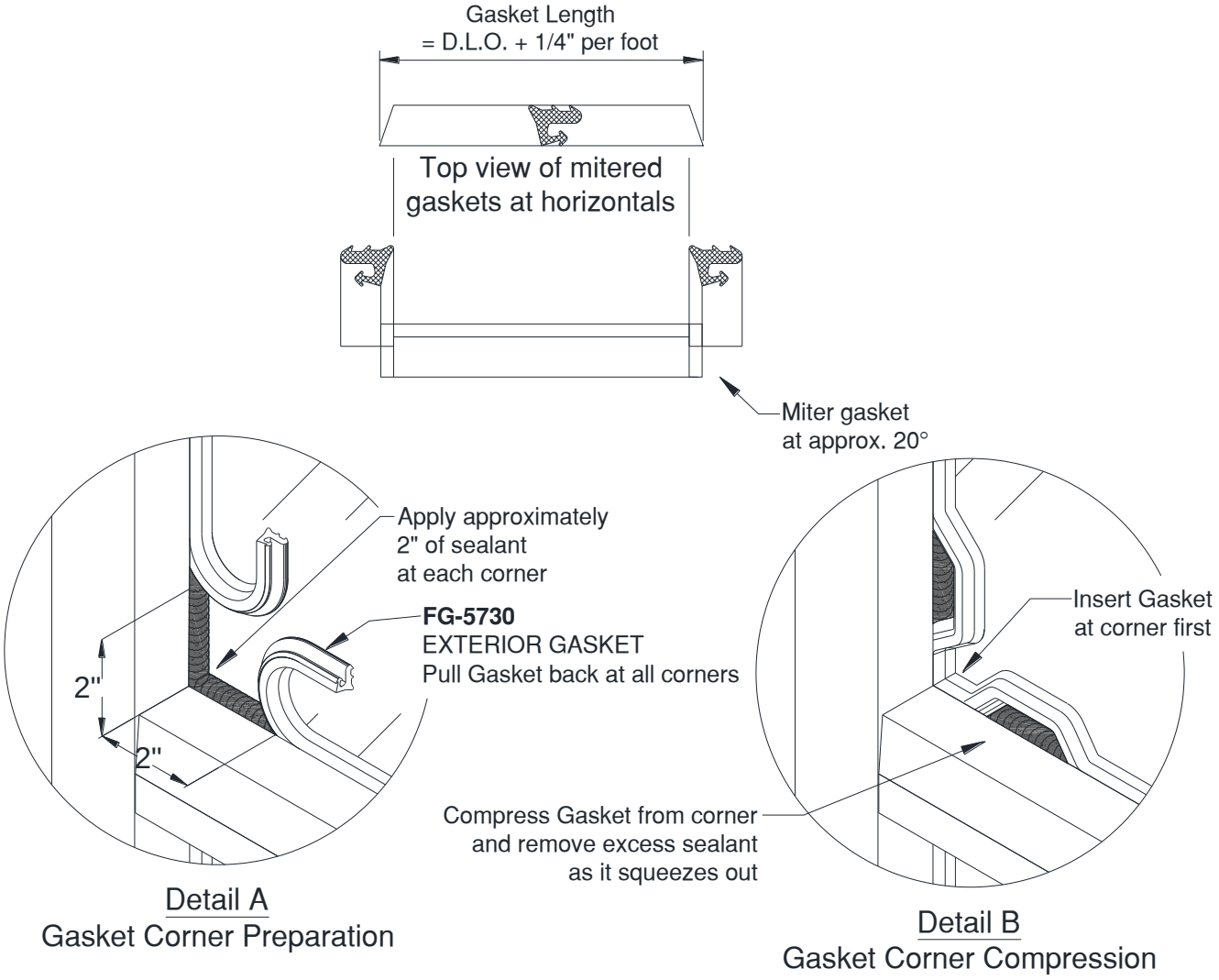

Figure 26: Exterior Gasket Installation

16.3 Application of Interior Structural Sealant

16.3.1 Mask off glass and aluminum with 1" wide (minimum) low adhesion masking tape. Reference *Figure 27* for masking tape application location. Working a single D.L.O. at a time, fill cavity around full perimeter of D.L.O. with Structural Silicone Sealant, as shown in *Figure 27, Detail A*; care should be taken not to leave any voids and eliminate air bubbles in sealant. Immediately tool, creating a finished joint with a beveled/curved joint surface, similar to shown in *Figure 27, Detail A*.

16.3.2 Remove masking tape before sealant skins, taking care not to damage tooled sealant.

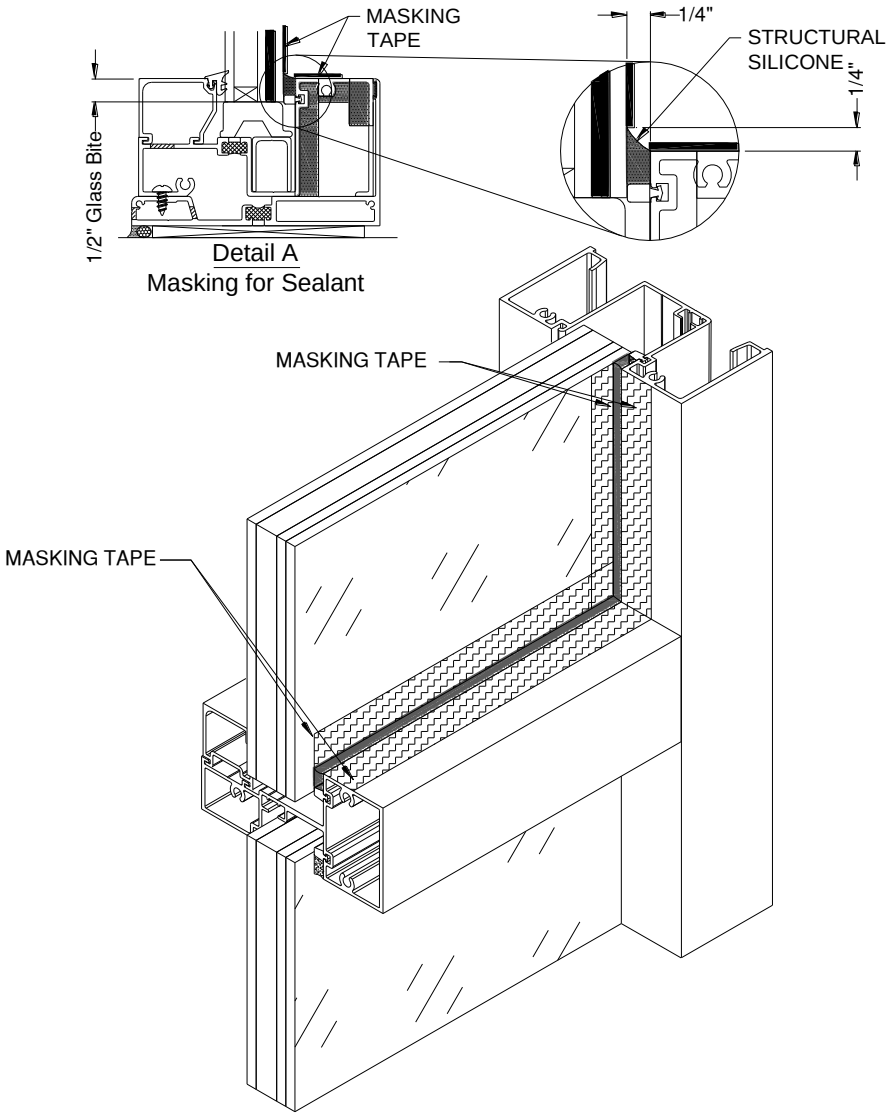

Figure 27: Interior Sealant Application

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17.0 Dry Glazing

17.1 Preparing Gasket and Installing Interior Gasket

17.1.1 Remove Gasket from roll and allow to relax in a protected location overnight. Cut Gasket per material cut list on page 11.

NOTE: *When installed, vertical Gasket runs through while horizontal Gasket butts into the vertical Gasket. See* Figure *28, Detail A for representation of the Gasket corner.*

17.1.2 Remove all debris from glazing pockets to prevent blockage of weeps/drains.

17.1.3 Install Water Diverters after lower lite is in position. Place a bed of sealant on the end of the Horizontal and place the Water Diverter per *Figure 24*, page 31.

17.1.4 Install interior Gasket prior to glazing, starting gaskets at the middle of the glass and working out toward the corners.

17.1.5 After Gasket is installed, pull Gasket from pocket at corner junctions a minimum of 2", *Figure 28*.

17.1.6 Clean Gasket and framing surfaces with isopropyl alcohol.

17.1.7 Set the vertical Gasket first. Apply sealant at the connection point of the horizontal Gasket and the vertical Gasket before setting horizontal Gasket. Clean any squeeze out immediately.

17.1.8 Install **FG-5745** Setting Blocks per shop drawings; depending on the glass size, Setting Blocks will be located at either 1/4 points or 1/8 points.

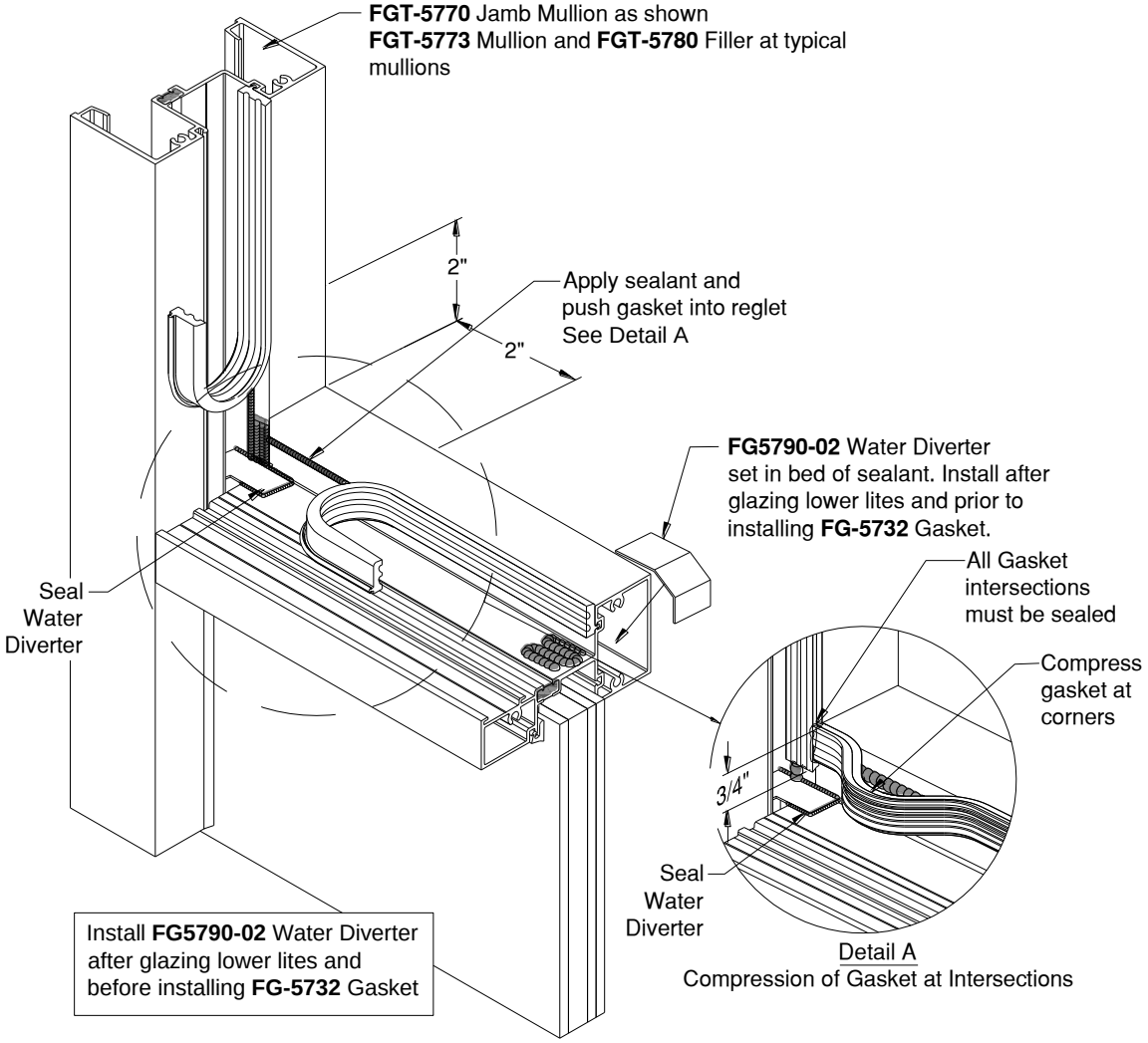

Figure 28: Dry Gasket Installation

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17.2 Setting Glass and Interior Gasket

NOTE: *Glaze from bottom up. Reference* 26

17.2.1 Install 1-1/4" thick ArmorGarde™ or ArmorGarde™ Plus Security Glazing into framing, pushing into the deep pocket first. After centering in the D.L.O., pull glass up and position the Setting Block. See *Figure 29*.

17.2.2 Verify the glass bite is 1/2".

17.2.3 Install **FG5790-02** Water Diverters at intermediate horizontals after lower lite is in position. Place a bed of sealant on the end of the Horizontal and place the Water Diverter per *Figure 29*.

17.2.4 Install exterior **FG-5760** Glass Stops. See *Figure 31*.

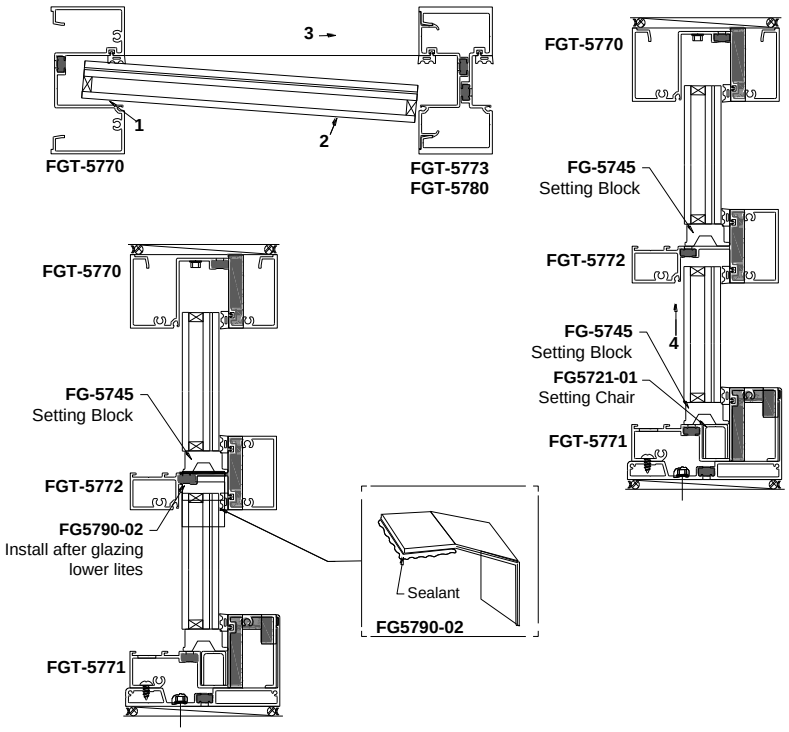

Figure 29: Dry Glaze Installation, Exterior Glaze

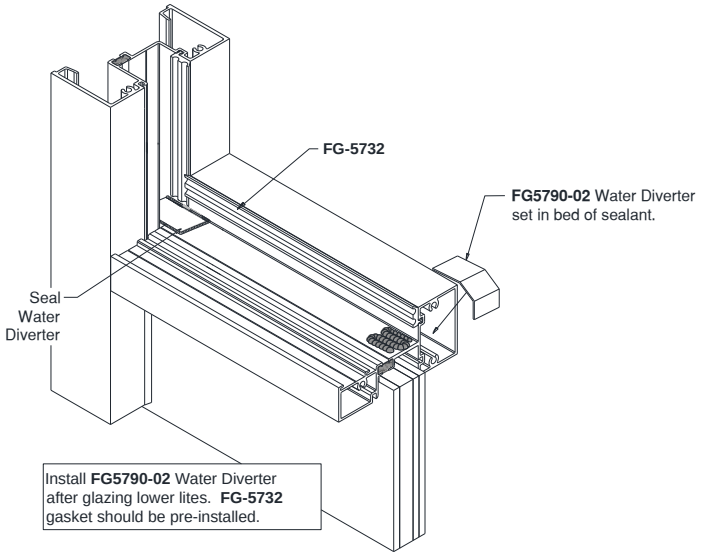

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Figure 30: Water Diverter Installation

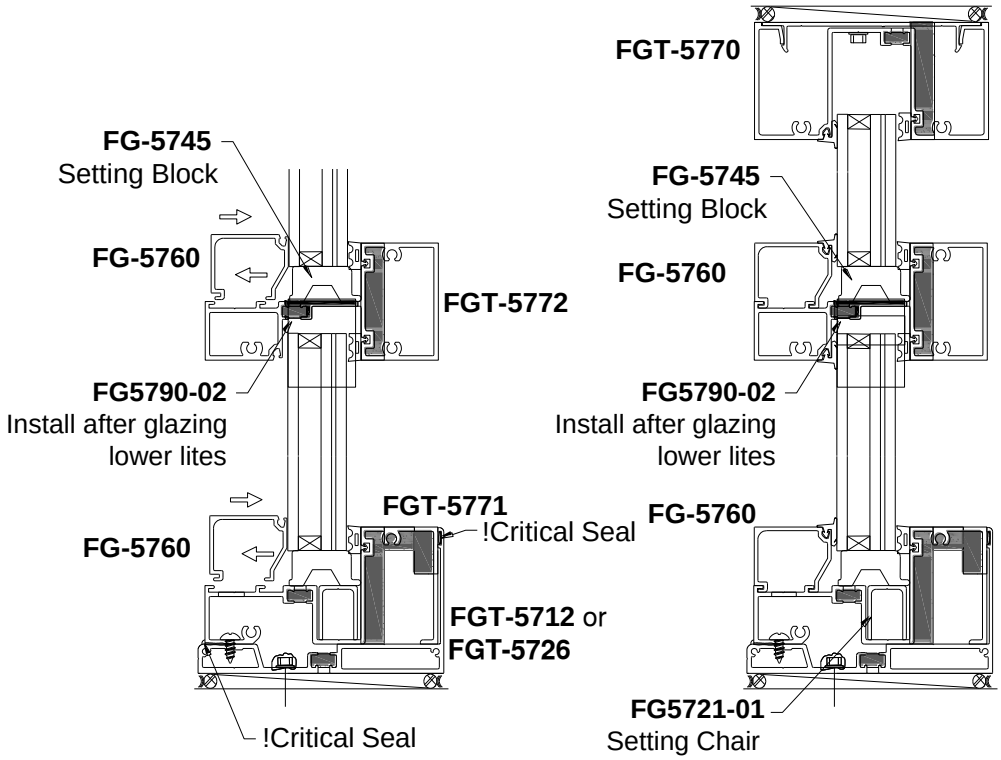

Figure 31: Dry Glaze Glass Stop Installation, Exterior Glaze

17.2.5 Cut the **FG-5730** or **FG-5736** Gasket a minimum of 1/4" per foot longer than the D.L.O., to provide adequate compression, and miter the ends of the gaskets at a 20° angle, as shown in *Figure 32.*

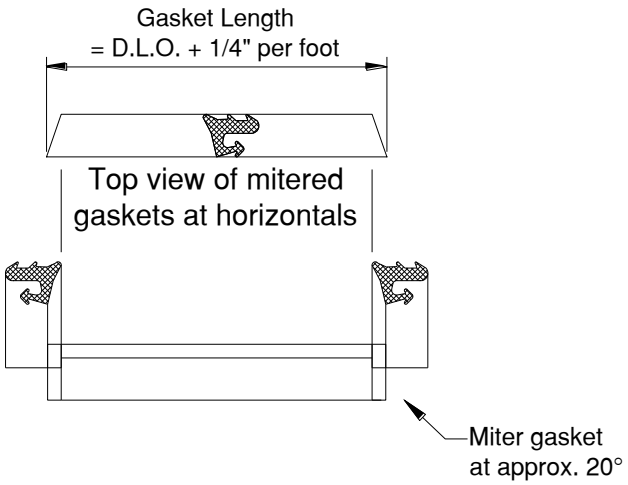

Figure 32: Exterior Gasket Cut Detail

17.2.6 Install exterior Gaskets starting at the middle of the glass. ***Do not stretch gaskets to make them fit.***

17.2.7 After Gaskets are pressed into place, pull gasket from pocket at corners as shown in Figure *33 Detail A*. Clean glass and gaskets a minimum of 2" from each end with isopropyl alcohol.

17.2.8 Apply sealant and push Gasket into reglet, compressing from the corner first, Figure *33, Detail B*. Clean squeeze out immediately.

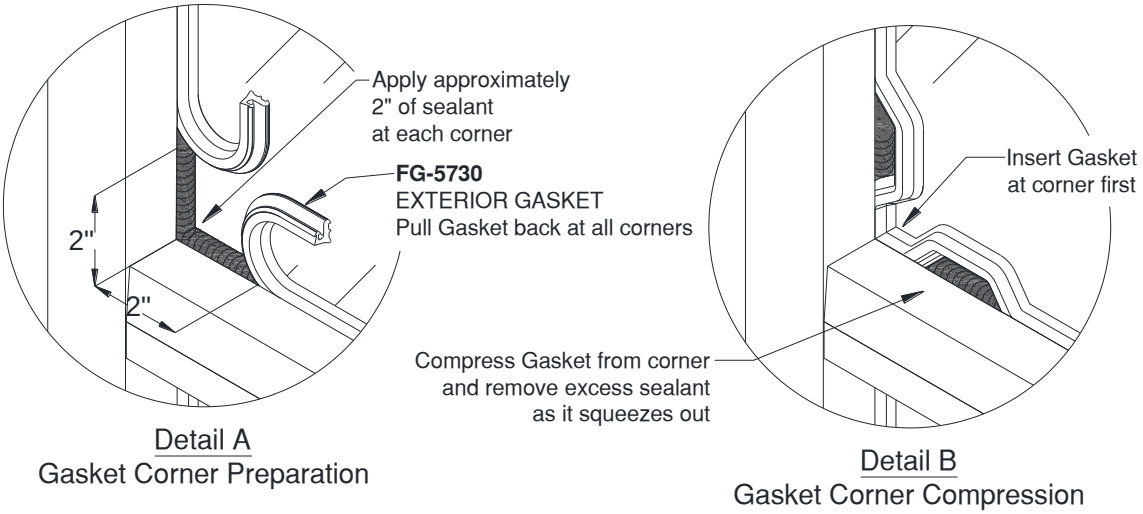

Figure 33: Exterior Gasket at Corners

17.3 Side Block Installation in Dry Glazed system

17.3.1 Install **GP-154** side blocks in shallow pocket of mullion prior to glazing. Blocks to be located at centerline of lites smaller than 4' tall and quarter points of larger lites. See *Figure 34*.

17.3.2 Install **GP-150** in deep mullion pocket and **GP-162** in Deep Jamb Mullion pocket after glass is installed. Blocks to be located at centerline of lites smaller than 4' tall and quarter points of larger lites. See *Figure 34*.

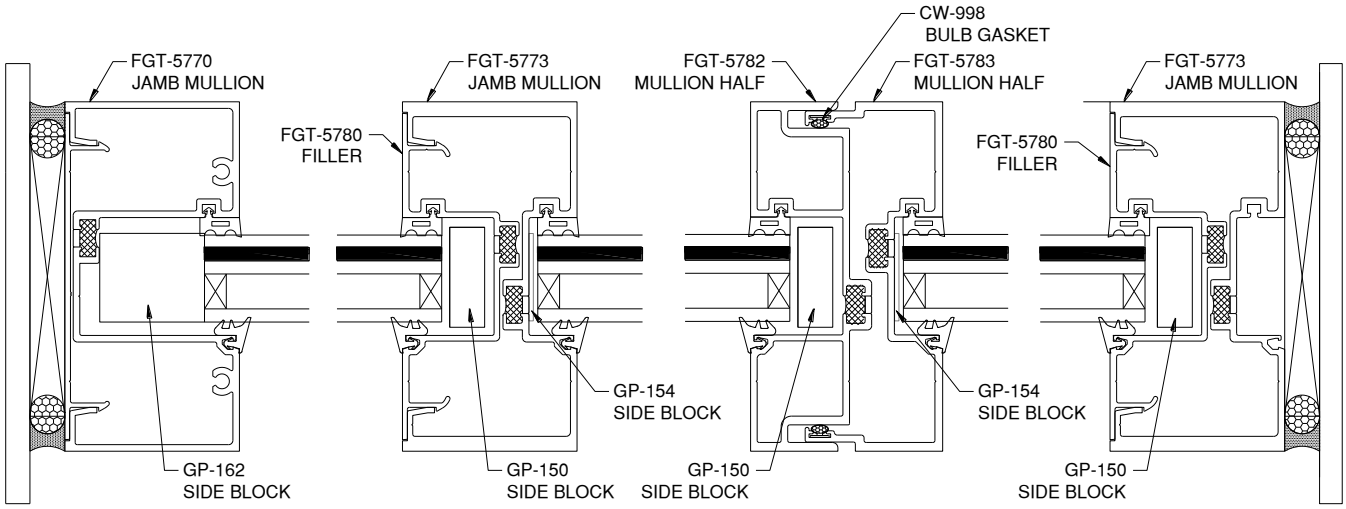

Figure 34: Side Block Installation

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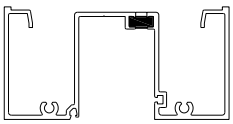
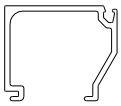
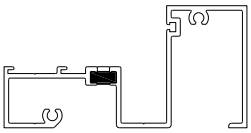
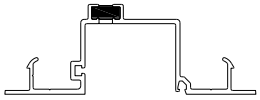
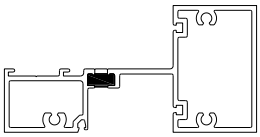
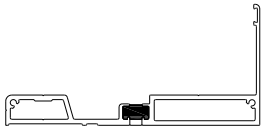
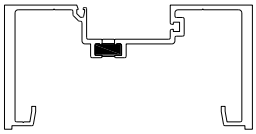
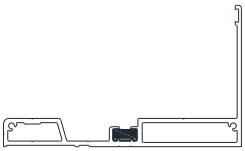
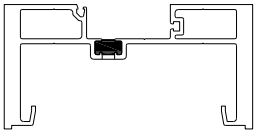
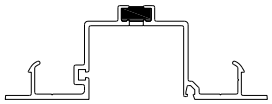
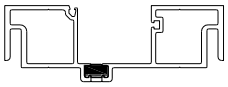
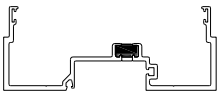
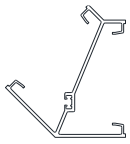
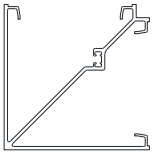
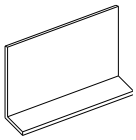
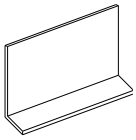
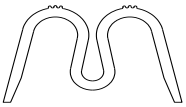
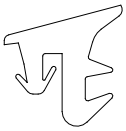
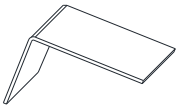
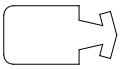
PARTS LIST

Parts not shown to scale.

Framing Members

FGT-5770 	HEAD / MULLION (TYP)	FG-5760 	GLASS STOP
FGT-5771 	HEAD / SILL	FGT-5780 	MULLION FILLER
FGT-5772 	INTERMEDIATE HORIZONTAL	FGT-5712 	SUBSILL
FGT-5773 	MULLION	FGT-5726 	SUBSILL
FGT-5774 	HEAD JAMB / MULLION	FGT-5781 	MULLION FILLER (OS135 CORNER)
FGT-5782 	EXPANSION (FEMALE)	FG-5719 	PVC FLAT FILLER
FGT-5783 	EXPANSION (MALE)	FGT-5707 	135º CORNER MULLION
FGT-5706 	90º CORNER MULLION		

Accessories & Glazing Materials

AN101-01 	SUBSILL END DAM	GP-154	SIDE BLOCK
AN104-01 	SUBSILL END DAM	GP-150 	SIDE BLOCK
UW466 	SILICONE SPLICE (FOR FGT-5712) 10’ ROLL	GP-162 	SIDE BLOCK
FG5721-01 	SETTING CHAIR	CW-998 	BULB GASKET (FOR EXPANSION MULLION)
FG-5745 	SETTING BLOCK	FG-5730 	GLAZING GASKET
FG5790-02 	WATER DIVERTER	FG-5731 	SPACER GASKET
SM5601 	1/8” X 1/2” ISOCRYL SEALANT TAPE	FG-5732 	DRY GLAZE GASKET
	STUCTURAL SILICONE	FG-5736 	GLAZING GASKET

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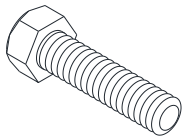
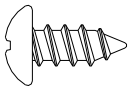
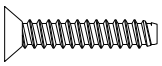
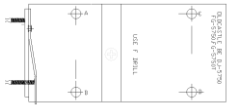
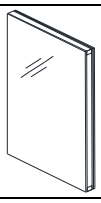
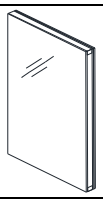
Fasteners

FS-8 	#14 x 1” HEX HEAD STS ASSEMBLY SCREW	FS-23 	#6 X 3/8” PHILLIPS PAN HEAD A PT
FS-27 	12 X 1/2” PHILLIPS PAN HEAD	FS-58 	#10 X 1” PHILLIPS FLAT HEAD

Tools

DJ-5750 	DRILL JIG		

Glazing Options

	ArmorGarde™		ArmorGarde Plus™