

**Oldcastle BuildingEnvelope<sup>®</sup>**

***FG-5100T STORMMAX<sup>®</sup>***  
***INSTALLATION AND 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 MANUFACTURES RECOMMENDATIONS FOR USE AND APPLICATION OF STRUCTURAL SILICONE SEALANT AND WEATHER SEAL SILICONE SEALANT.

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

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## GENERAL INFORMATION:

Oldcastle BuildingEnvelope<sup>®</sup> FG-5100T (2-1/2" x 5") thermally broken impact resistant storefront system represents the latest in product development technology. This system was especially designed to meet the stringent requirements of Miami-Dade County and Florida Building Codes as well as the International Building Code for glass and glazing systems. FG-5100T successfully passed a series of large missile impact and cyclic wind test with a variety of impact-resistant glass.

## BUILDING CODES:

Oldcastle BuildingEnvelope<sup>®</sup> 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.

## STRUCTURAL SEALANTS:

Dow Corning 995 structural sealants were used on the FG-5100T test specimen for glass to metal adhesion approved by Miami-Dade County. To comply with Miami-Dade County and Florida Building Code Protocols, Dow Corning 995 sealant must be used for glass to metal adhesion with FG-5100T.

## 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 in which adhesion is required, including other sealants 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.

## MATERIAL HANDLING:

### SHOP

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

### JOB SITE

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

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## CLEANING

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.

## GENERAL CONSTRUCTION NOTES

- A. Study these instructions, shop drawings, erection drawings and architectural drawings before starting any work.
- 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. 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.
- E. 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.
- F. Follow installation and glazing instructions.
- G. 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.

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## 1.1 Establish Frame Size & Cut Metal to Length

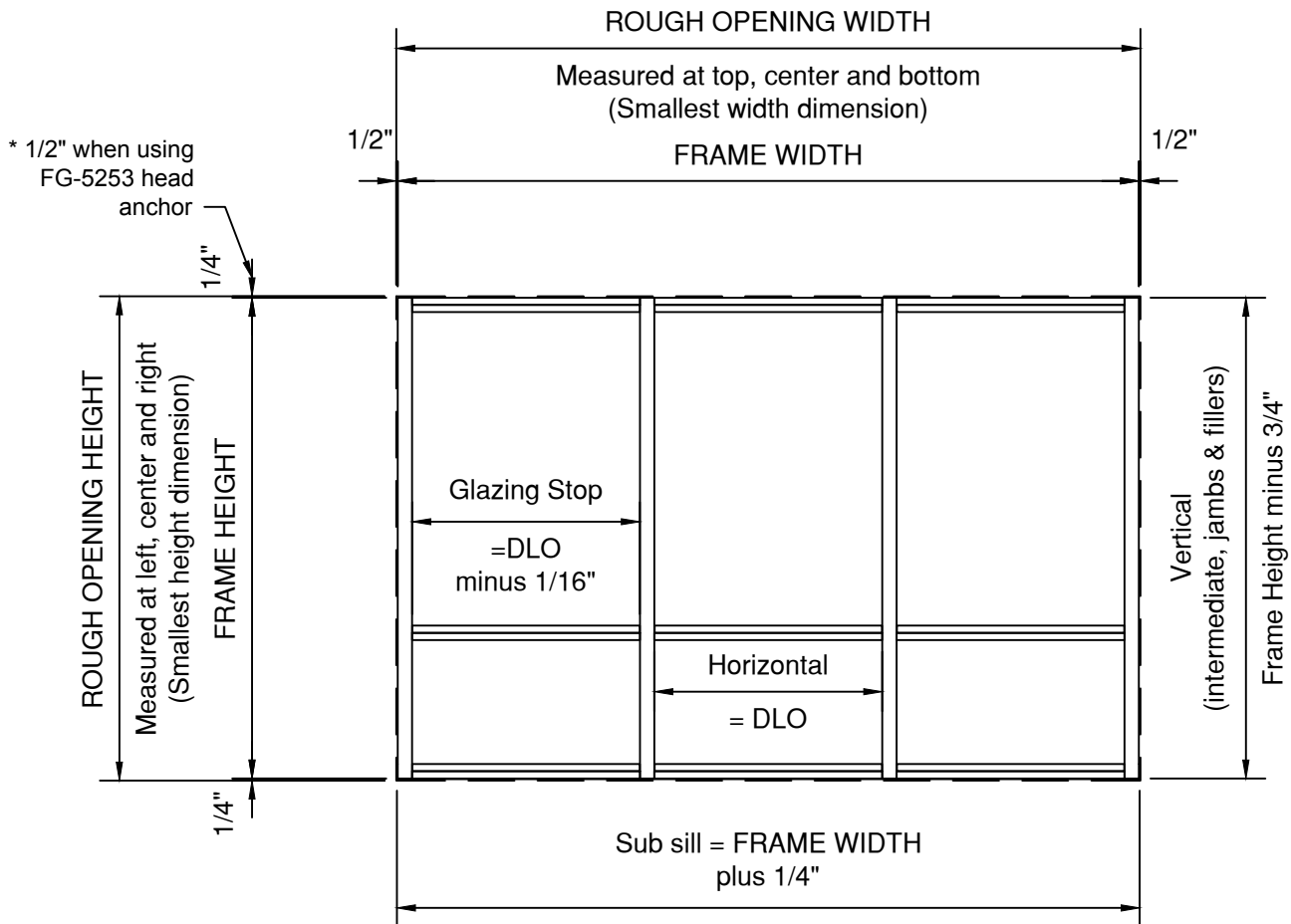
It's important to check the opening for squareness and plumb at both ends of the opening.

Measure width of rough opening.

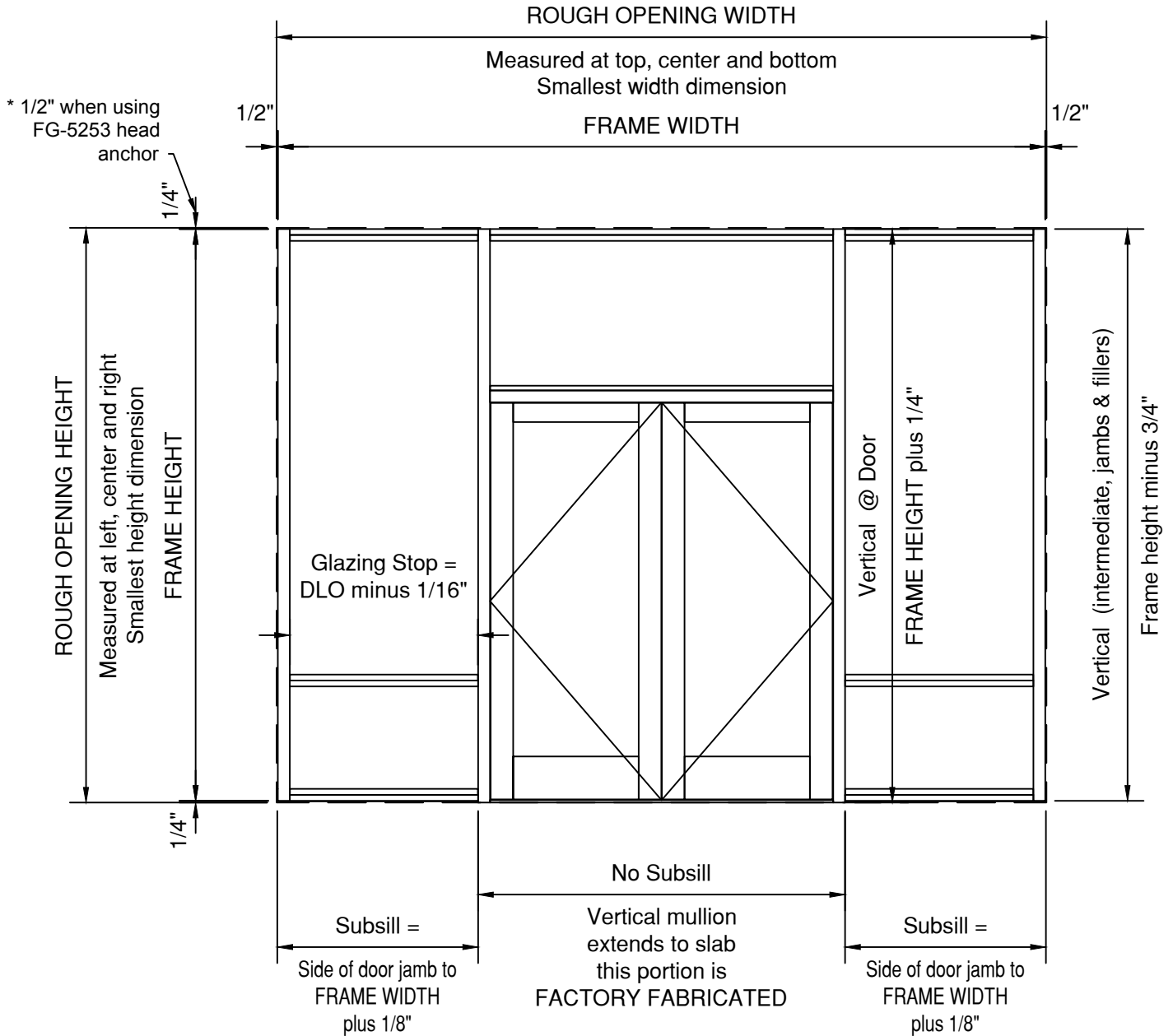
- A. Measure opening at bottom.
- B. Measure opening at center.
- C. Measure opening at top.

Repeat process to determine frame height.

- A. Beginning on left side of opening, measure rough opening from top to bottom.
- B. Repeat at center.
- C. Repeat at right side of opening.



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MEASURE OPENING

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## 1.2 Cut Material to Size.

### Framing Members

- FG-5260 Subsill flashing at frames without doors .....
- FG-5260 Subsill at entrance locations .....

Frame Width plus (+) 1/4".  
 Door jamb to Frame Width plus (+)1/4". (Subsill is to butt tight against door jamb(s) and is cut 1/8" longer than width of side light(s) on either side of door frame.)

### Verticals

- FG-5250 and FG-5251 Jambs .....
- FG-5250, FG-5251 Vertical Mullions and FG-5217 filler .....
- FG-5255/FG-5256 Expansion Verticals.....
- FG-5261 and FG-5262 Corner Mullions and FG-5255 Filler...

Cut Frame Height Minus 3/4".  
 Cut Frame Height Minus 3/4".  
 Cut Frame Height Minus 3/4".  
 Cut Frame Height Minus 3/4".

### Horizontals

- FG-5214 Horizontal, FG-5213 Sill, FG-5250 Head.....
- and FG-5252 Sill
- Slide in FG-5258 Glass Stops .....

Cut to D.L.O.  
 Cut D.L.O. minus(-) 1/16"

## 1.3 Drill or punch holes in verticals for attaching horizontals.

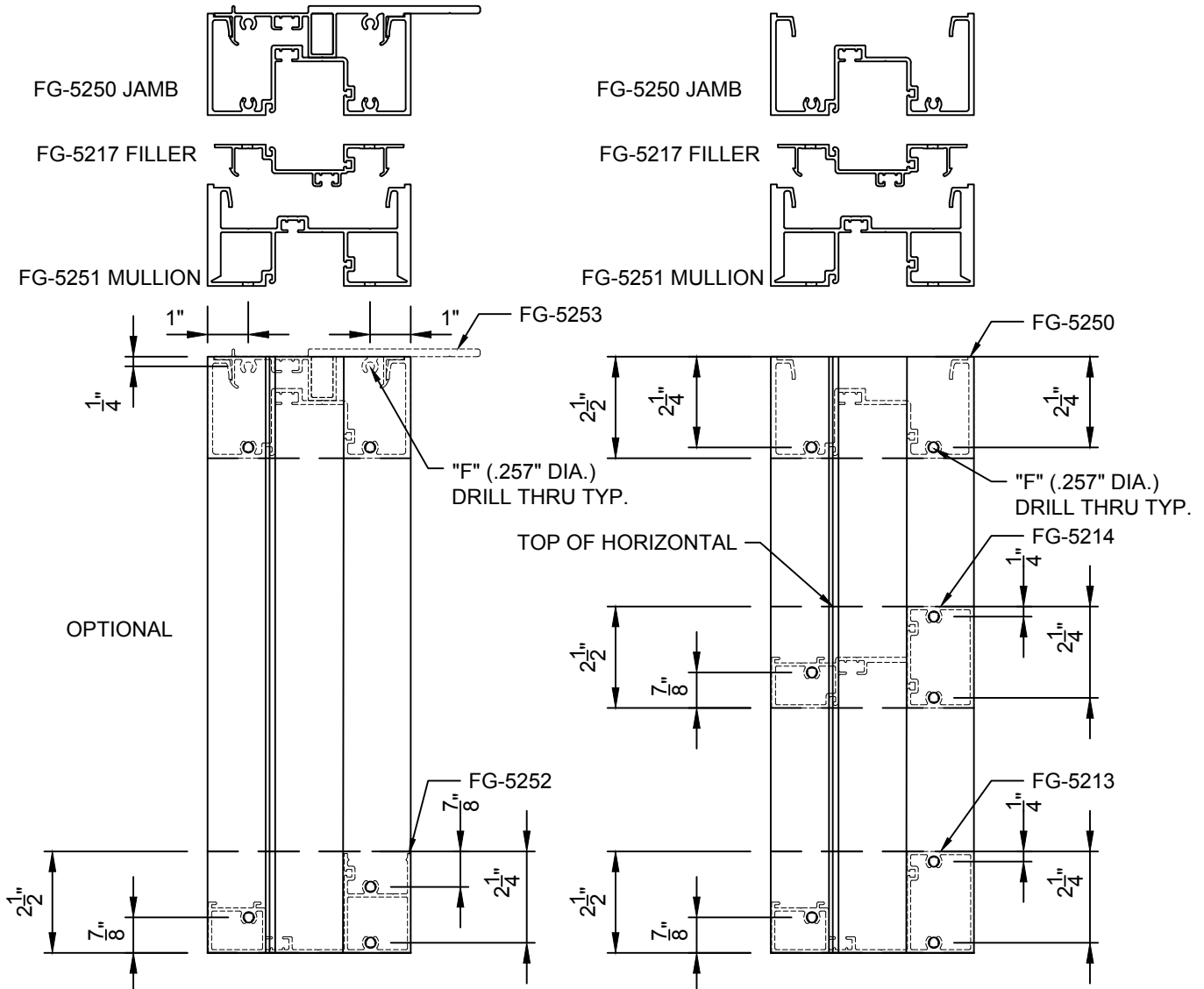
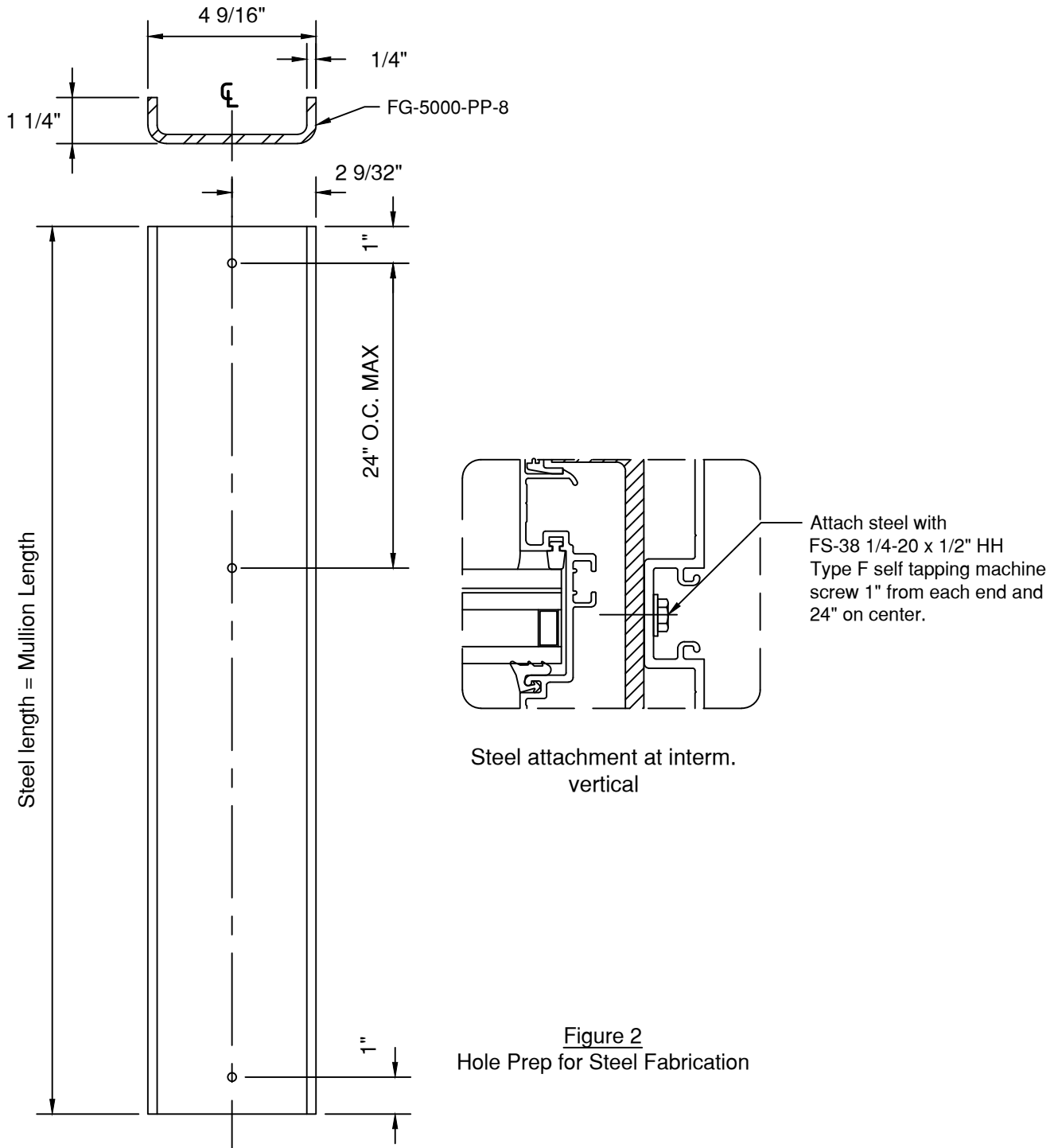


Figure 1

Vertical Mullion Fabrication

**CUT MATERIAL**  
**05**

1.4 Steel Reinforcement Fabrication





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1.5 Head / Sill Fabrication  
 Figure 3  
 Sill Fabrication

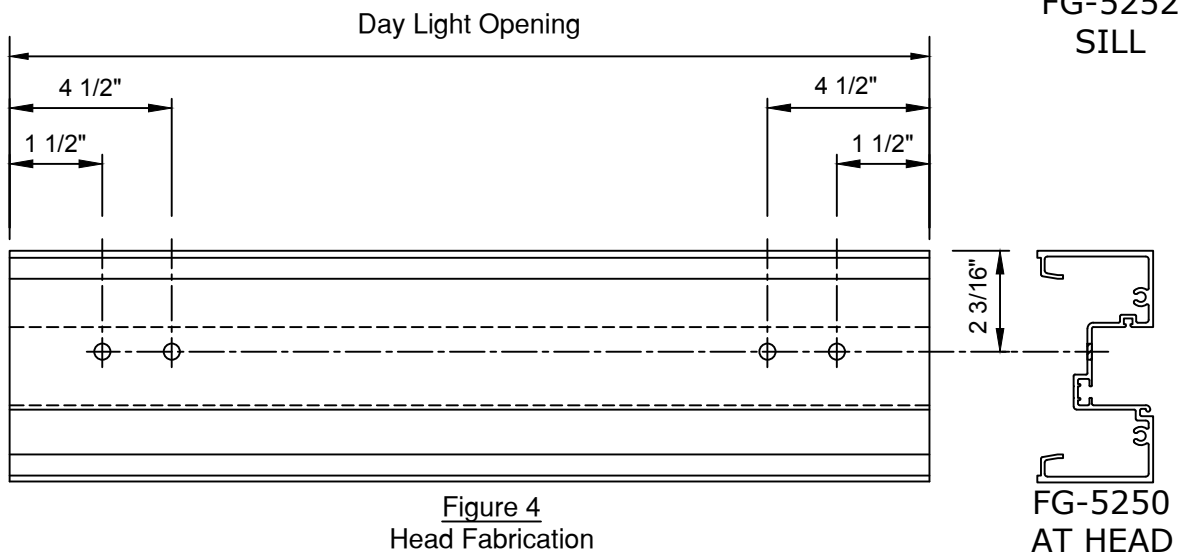
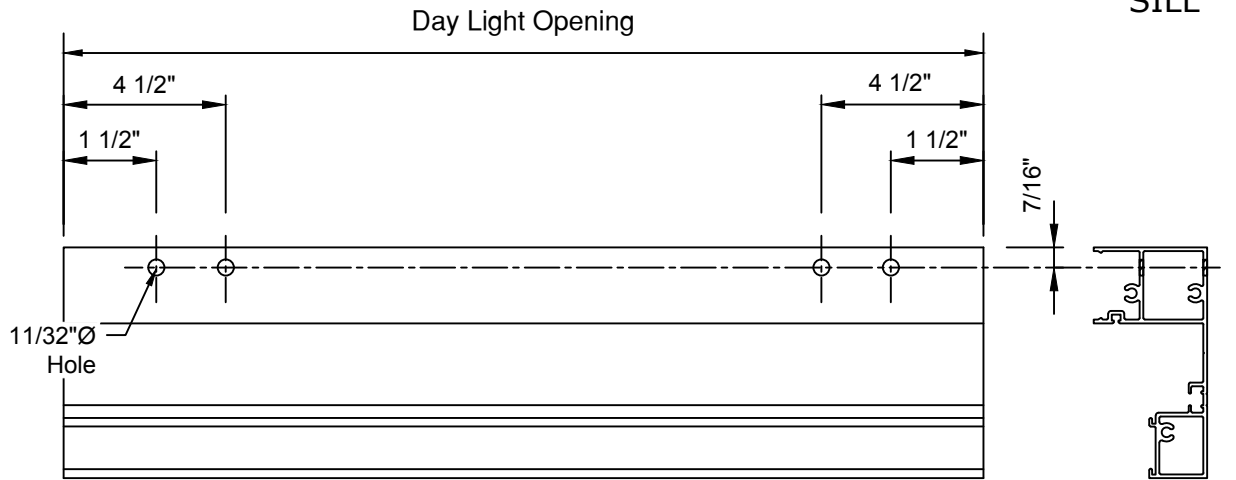
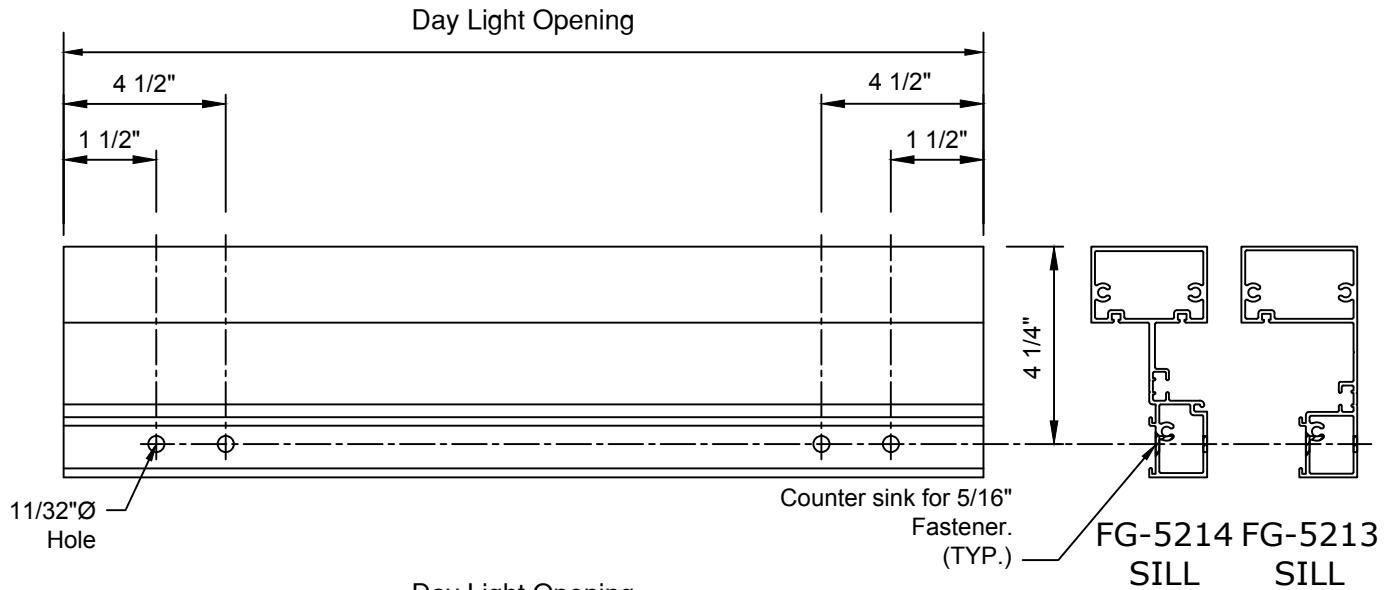


Figure 4  
 Head Fabrication  
 HEAD / SILL FABRICATION

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## 1.6 Jamb Fabrication (Optional Outside Florida)

Fabricate wall jamb for anchor holes. number of anchors vary based on substrate material. Reference approved shop drawings, for locations for each substrate.

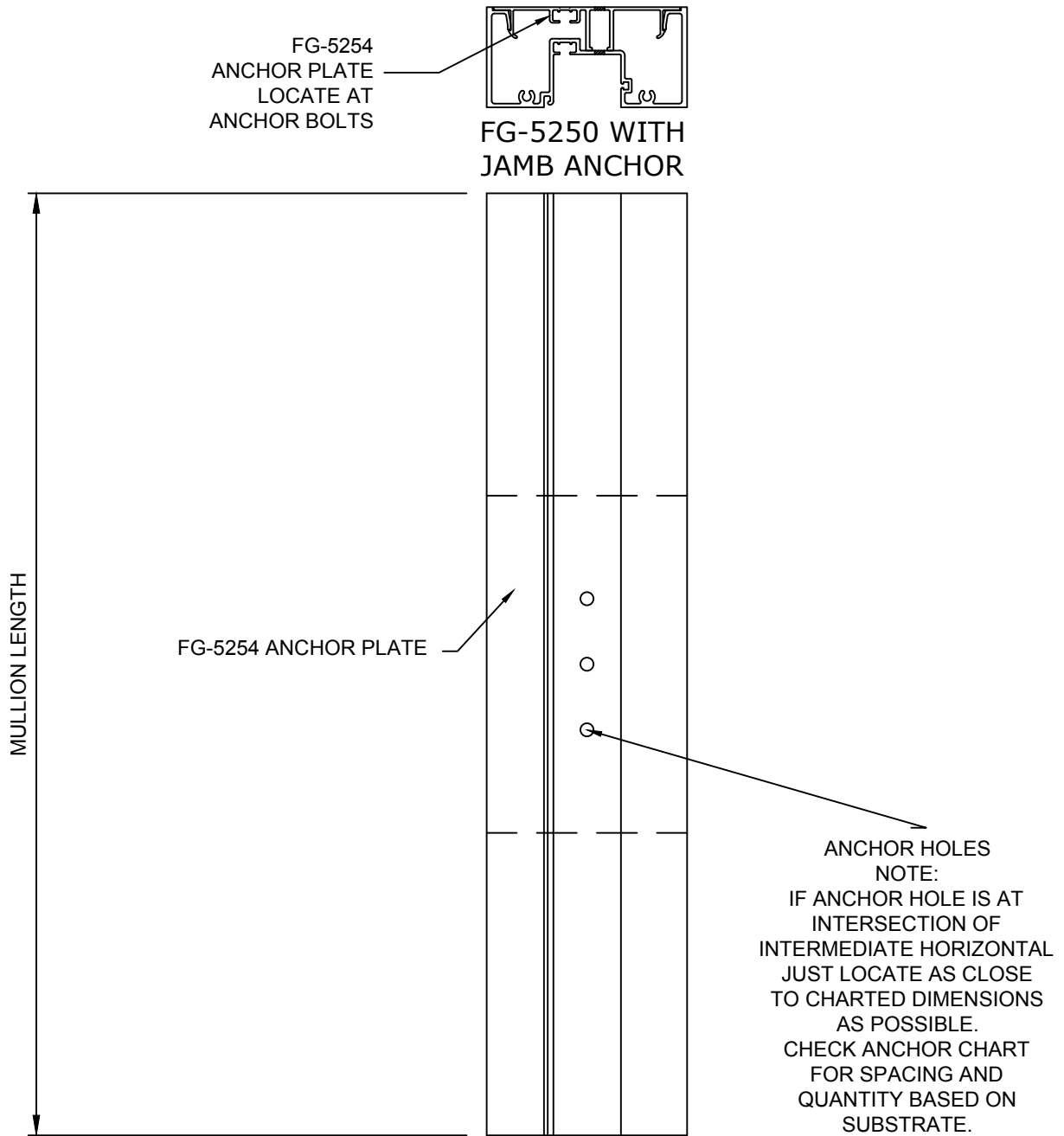
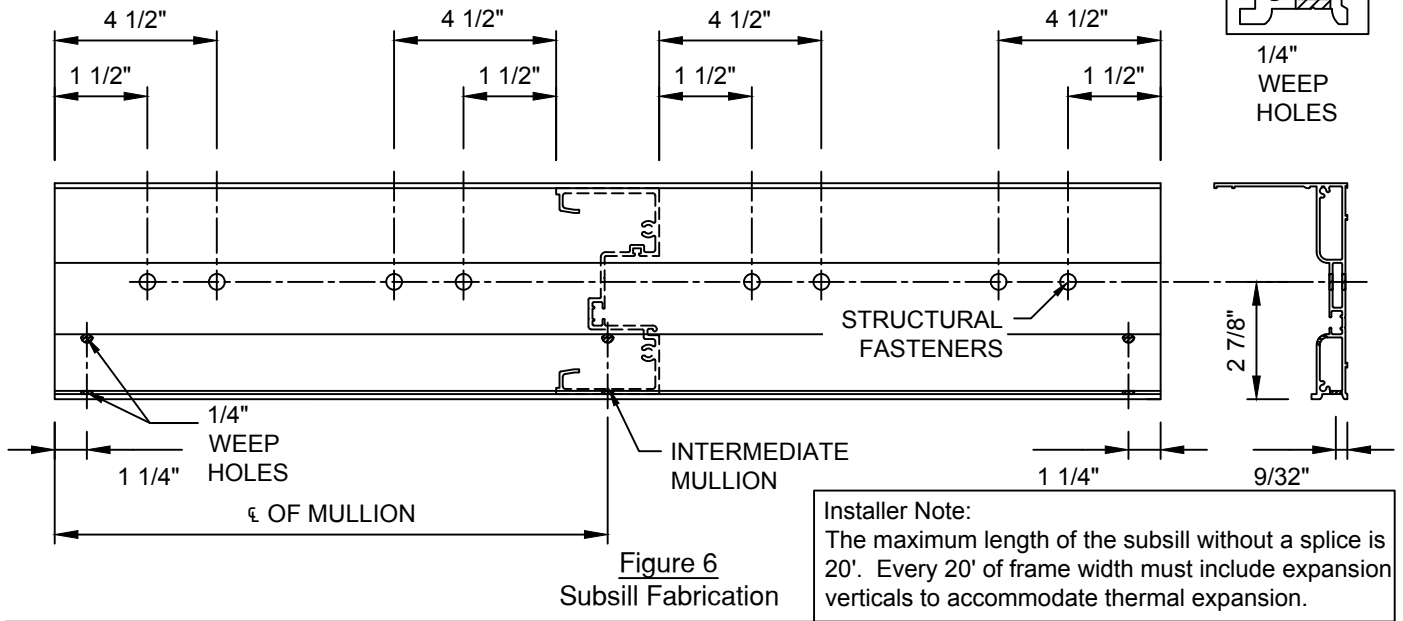


Figure 5

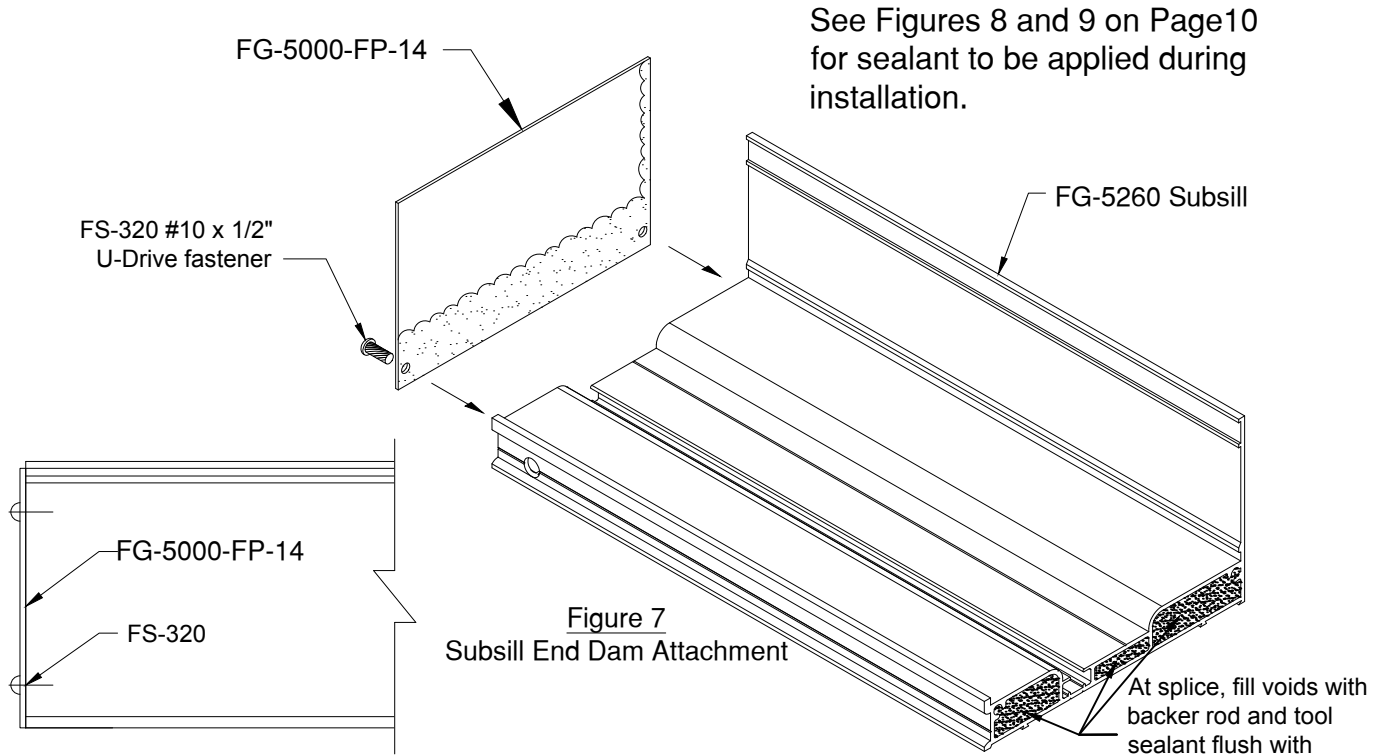
1.7 Subsill Fabrication

Fabricate FG-5260 subsill flashing for structural fastener holes. Hole location dimensions for fasteners in subsill are approximate, and should ALWAYS be confirmed in project specific shop drawings.



2.1 Subsill End Dam Fabrication and Assembly

Bed end dam in sealant and attach with (2) FS-320 #10 x 1/2" U-Drive Fasteners.



DRY & WET GLAZED FRAMING

2.2 Subsill installation

2.2.1 Position fabricated subsill with end dams into opening. Center into opening allowing shim space at jambs. Shim to level with 1/4" of shim @ highpoint of opening, adding shims at each fastener.

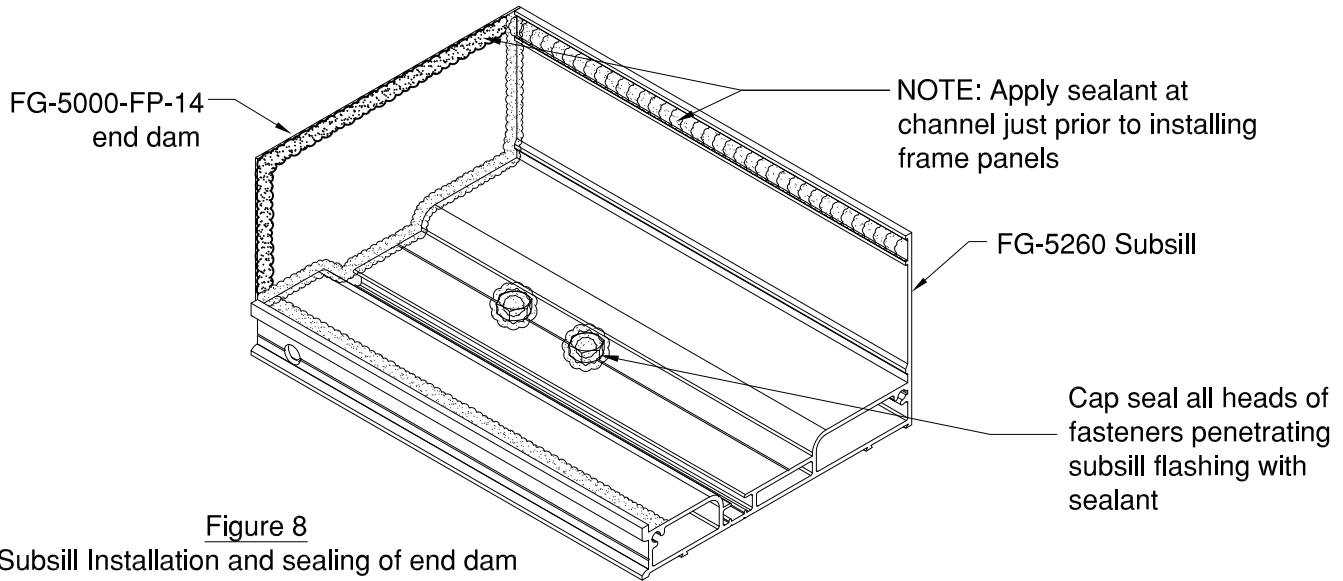


Figure 8

Subsill Installation and sealing of end dam

2.2.2 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 See Figure 8.

2.2.3 Apply sealant to silicone splice sheet as shown at all subsill splices. See Figure 9.

2.2.4 Run a continuous bead of sealant along the full length of the sub sill channel as shown above just prior to installing frame panels. Do not allow sealant to harden prior to installing frame panels. Remove excess sealant after panels are installed.

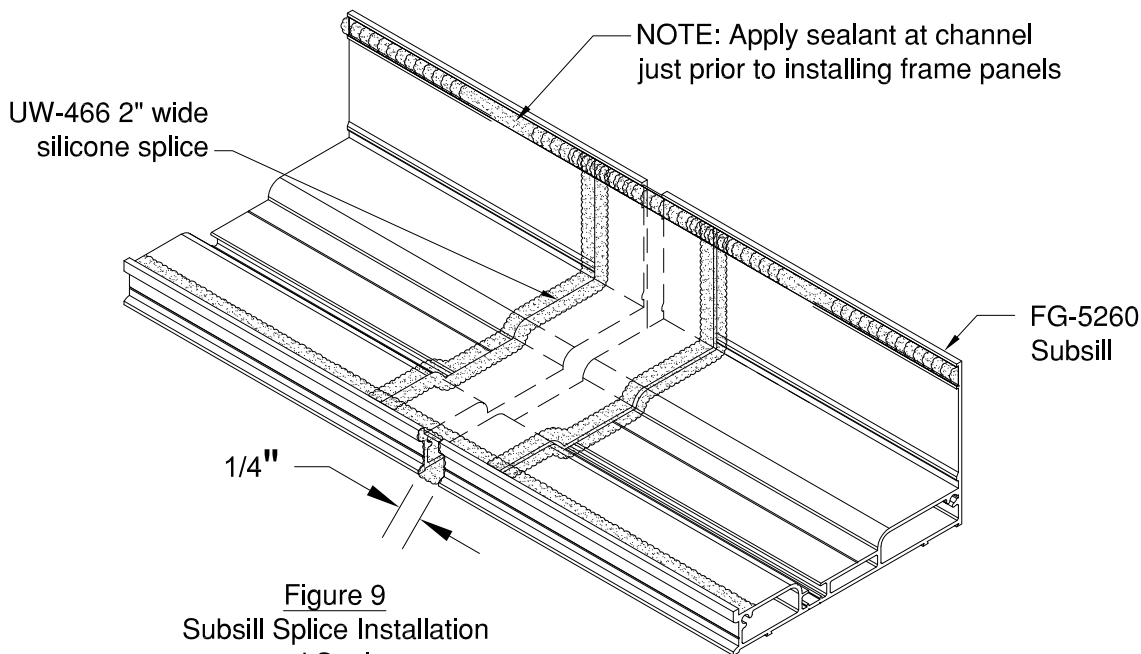


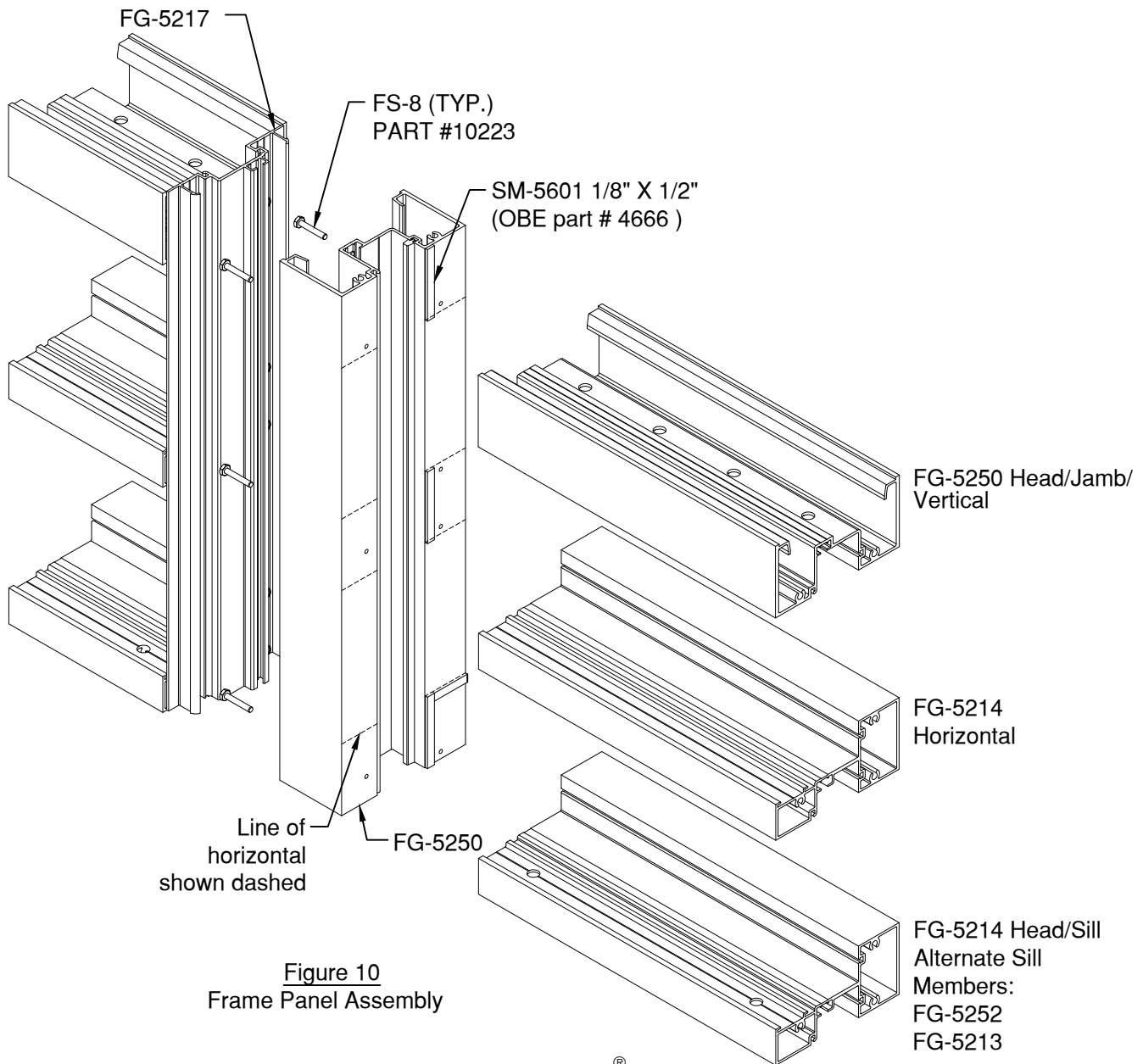
Figure 9

Subsill Splice Installation and Sealant

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## FRAME ASSEMBLY / INSALLATION

### 3.1 Frame Panel Assembly.



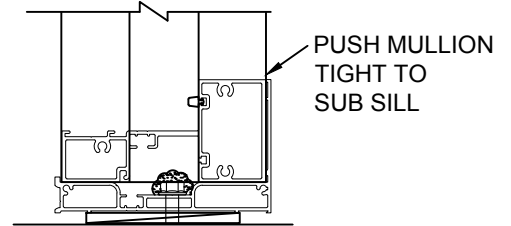
- 3.1.1 Clean framing members at locations where Isocryl<sup>®</sup> Tape is noted to be attached. SEE FIGURE 10, at tape intersection there should be no gaps.
- 3.1.2 Install FG-5185 spacer gasket prior to assembling horizontals, sill and head members. Spacer gasket runs through entire length of vertical members.
- 3.1.3 Attach horizontals to verticals using FS-8 (#14 x 1" sts spline screws) Trim excess sealant tape at joints with razor knife. DO NOT PULL TAPE TO TRIM. See Figure 1, Sheet 5 for hole prep locations.

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## 3.2 Installation of Framing Panels.

3.2.1 Install assembled frame panels into opening starting at either jamb and continue working toward the other jamb until the last frame panel is installed. Ensure that the frame panels are pushed tight against the upright leg of the subsill. Remove excess sealant after panels are installed and anchored.

3.2.2 Prior to assembling each additional panel frame, apply 6" of silicone sealant to bottom of interior snap engagement. See Figure 11 below



Detail A

Frame Panel Installation to Subsill

FG-5250 Mullion

Prior to inserting and engaging filler in to mullion apply 6" of silicone sealant as shown. Remove excess squeeze out after frame is anchored

FG-5217 Filler

FG-5260 Subsill

FG-5214 Head/Sill

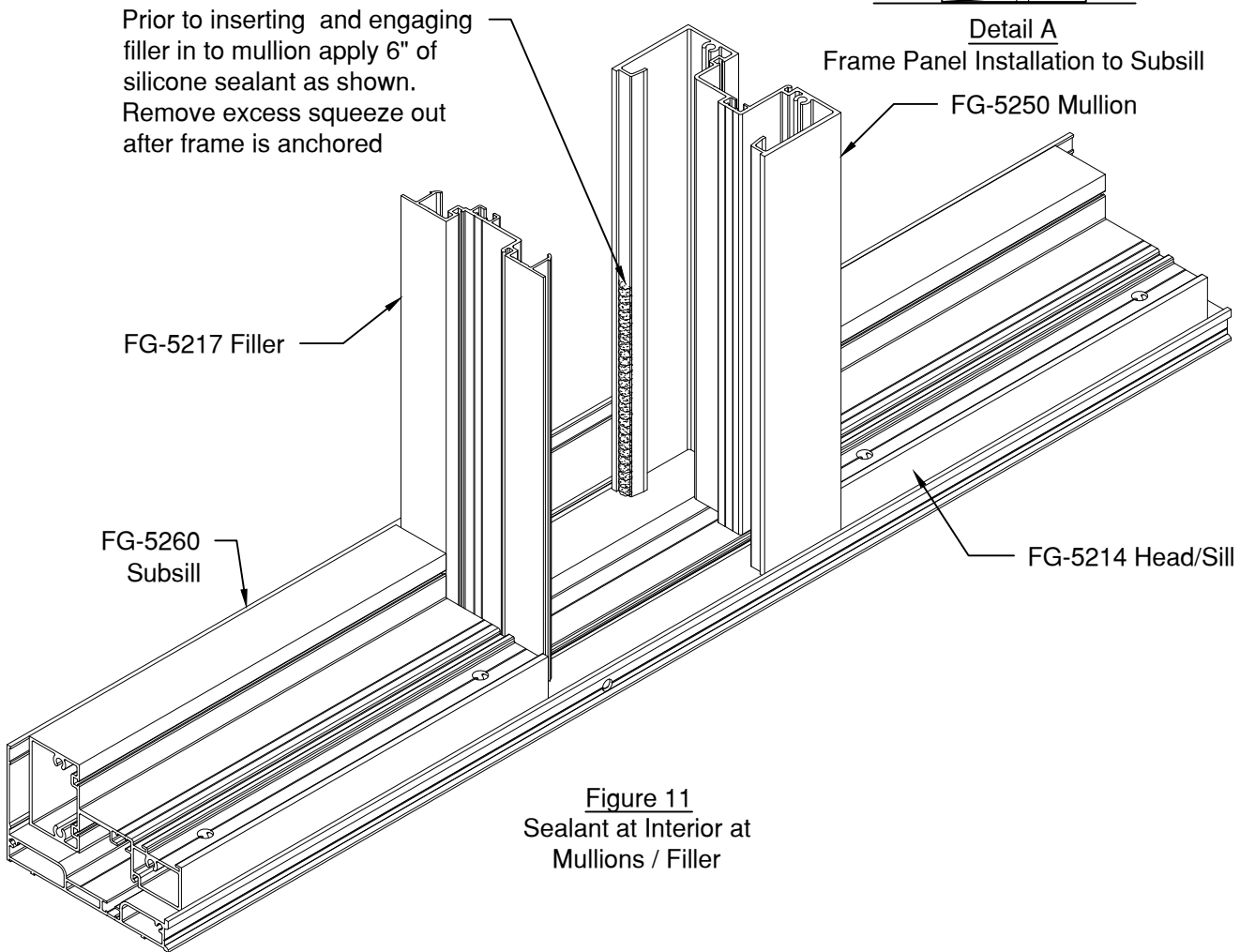
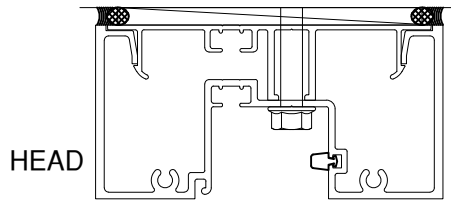


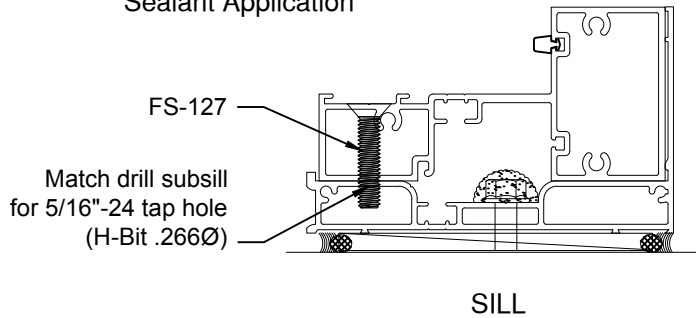
Figure 11  
Sealant at Interior at  
Mullions / Filler

3.2.3 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. Check D.L.O. and diagonal dimensions every 4 bays to ensure correct spacing and frame squareness to prevent dimensional buildup.

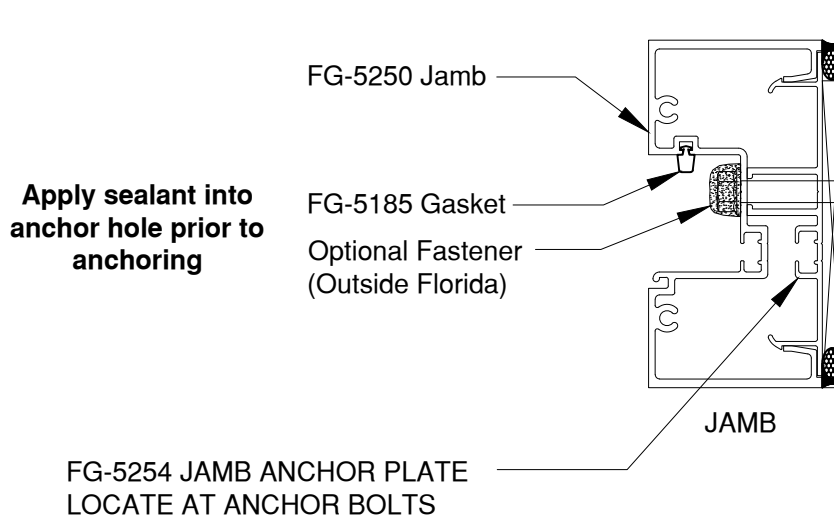
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**Figure 12**  
Sealant Application



- 3.2.5 Once all individual frames are secured to the opening, complete perimeter seal with a continuous bead of silicone sealant across head and at each jamb. At the sill run a bead across the subsill.
- 3.2.6 Interior sealant @ jambs and along subsill  
Starting from the bottom, seal up the jamb.



**Figure 13**  
Sealant at Interior at Jambs

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## 4.1 WET GLAZING PREPARATION -Wet Glazing option

- 4.1.1 Remove all debris from glazing pockets to prevent blockage of weeps/drains.
- 4.1.2 Install water diverters see Figure 14 after lower lite is in position.
- 4.1.3 When using FG-5213 sill, install FG-5226 setting chair (2 per lite at 1/4 points or per glass manufacturer guidelines)

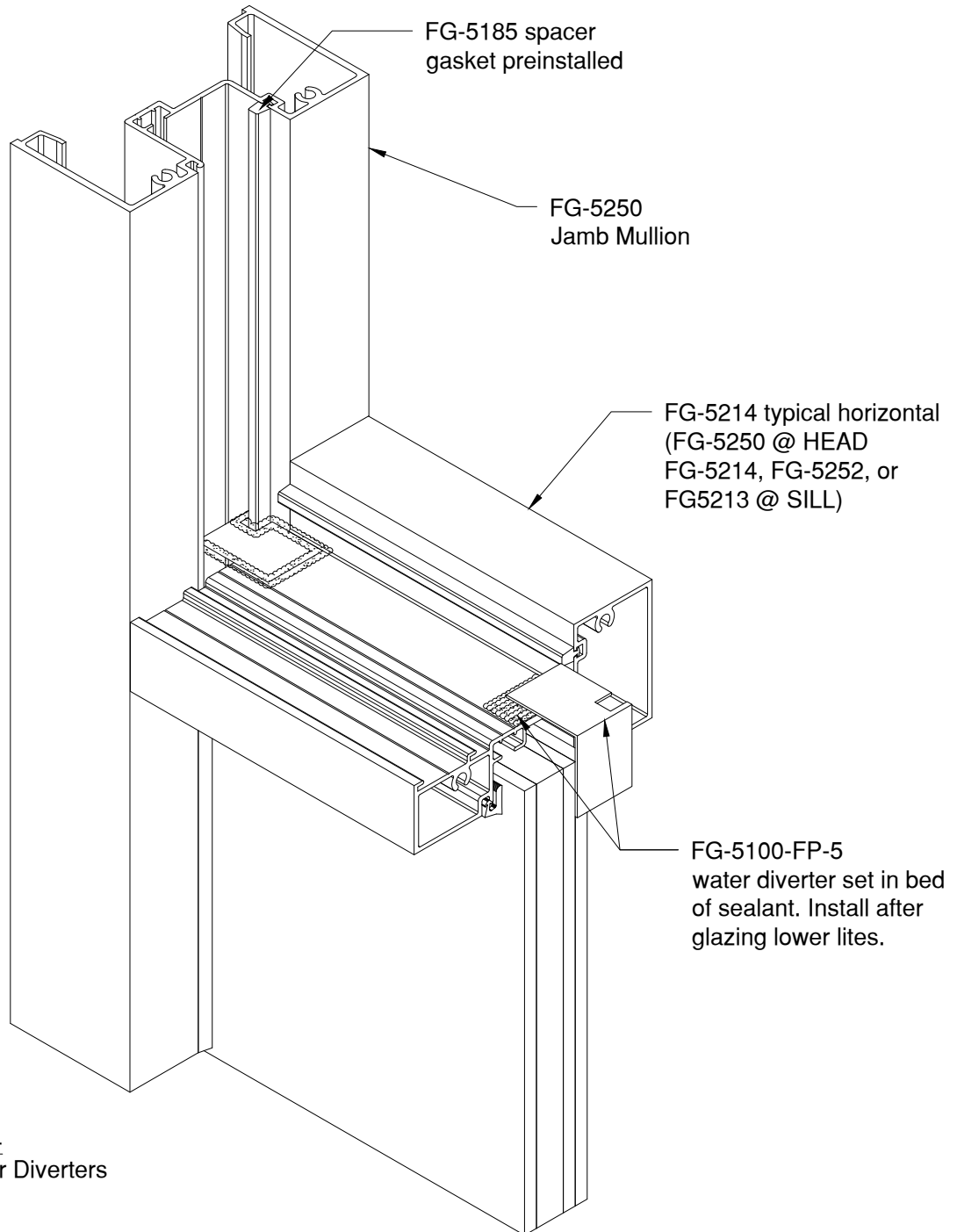


Figure 14  
Installation of Water Diverters



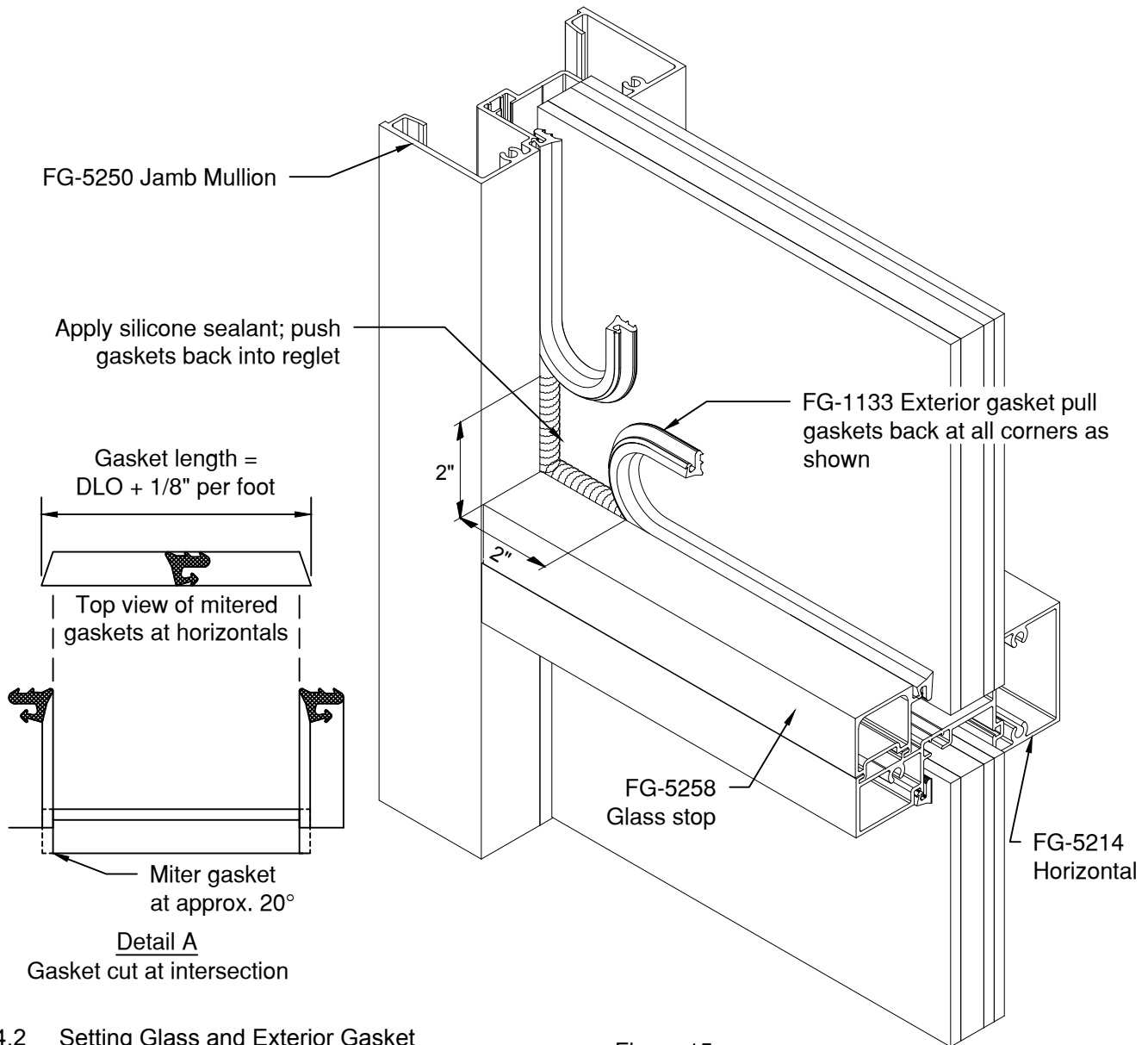


Figure 15  
Exterior Gasket Installation

4.2 Setting Glass and Exterior Gasket

Glaze from bottom to top.

- 4.2.1 Set glass into opening, push in to deep pocket first, then after centering in DLO, pull glass up and position FG-5186 setting block.
- 4.2.2 Install exterior FG-5258 glass stops.
- 4.2.3 Install exterior FG-1133 glazing gaskets starting at the middle of the glass
- 4.2.4 Cut gaskets a minimum of 1/8" per foot longer than daylight opening to provide adequate compression as shown at Figure 15 Detail A.
- 4.2.5 After gaskets are pressed in place, pull gasket from pocket as shown in Figure 15 above. Clean glass and gaskets a minimum of 2" from each end with isopropyl alcohol. Apply sealant and push gaskets into reglet. See Figure 16 on Page 16

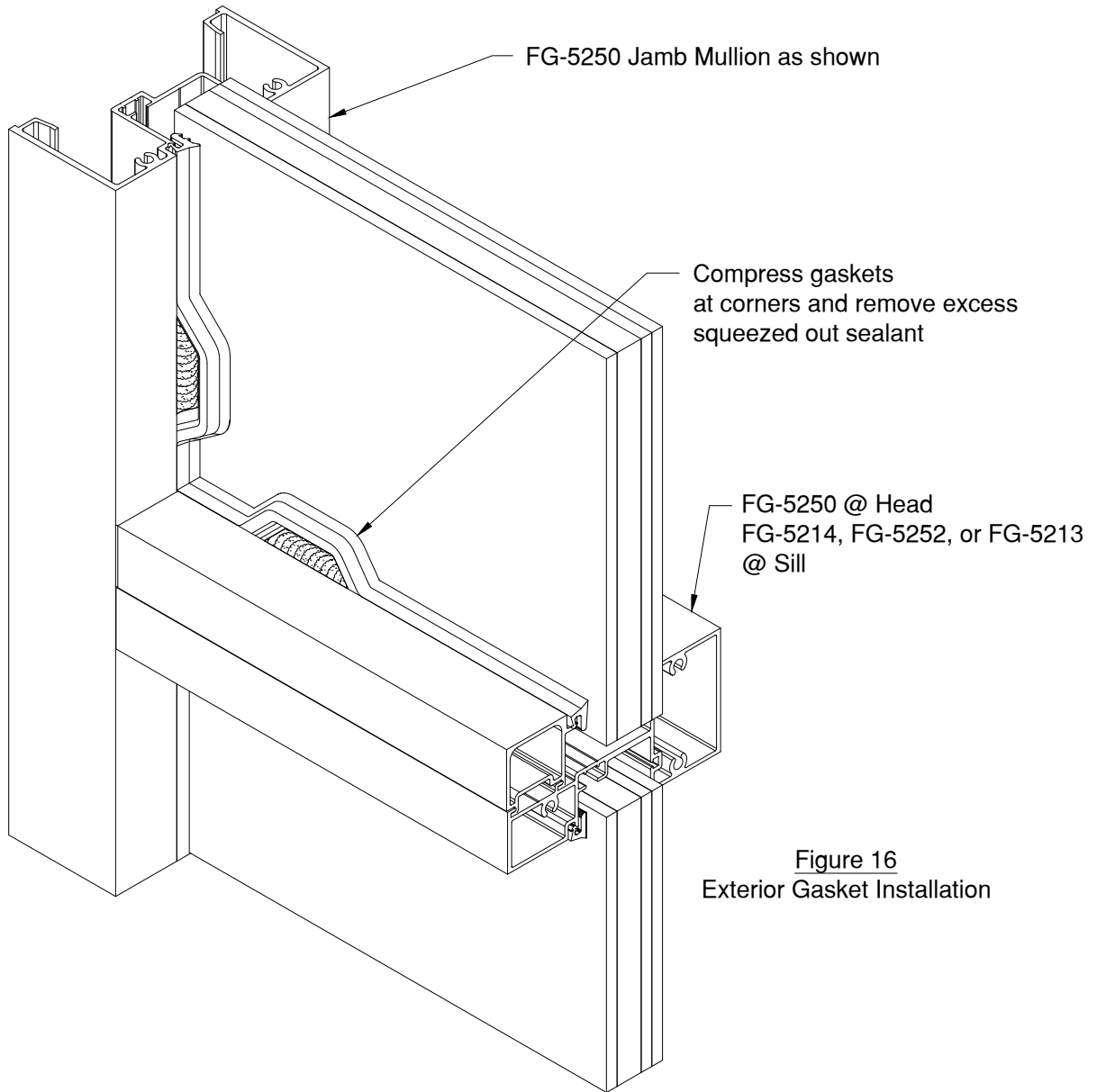


Figure 16  
Exterior Gasket Installation

#### 4.2 Application of Interior Structural Sealant

- 4.2.6 Mask off glass and aluminum with 1" wide (minimum) low adhesion masking tape. (See Figure 17 Page 17). Working a single DLO at a time, fill cavity around full perimeter of DLO with Dow Corning 995 sealant as shown, 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 . (See Details A and B on Page 17)
- 4.2.7 Remove masking tape before sealant skins; taking care not to damage tooled sealant.

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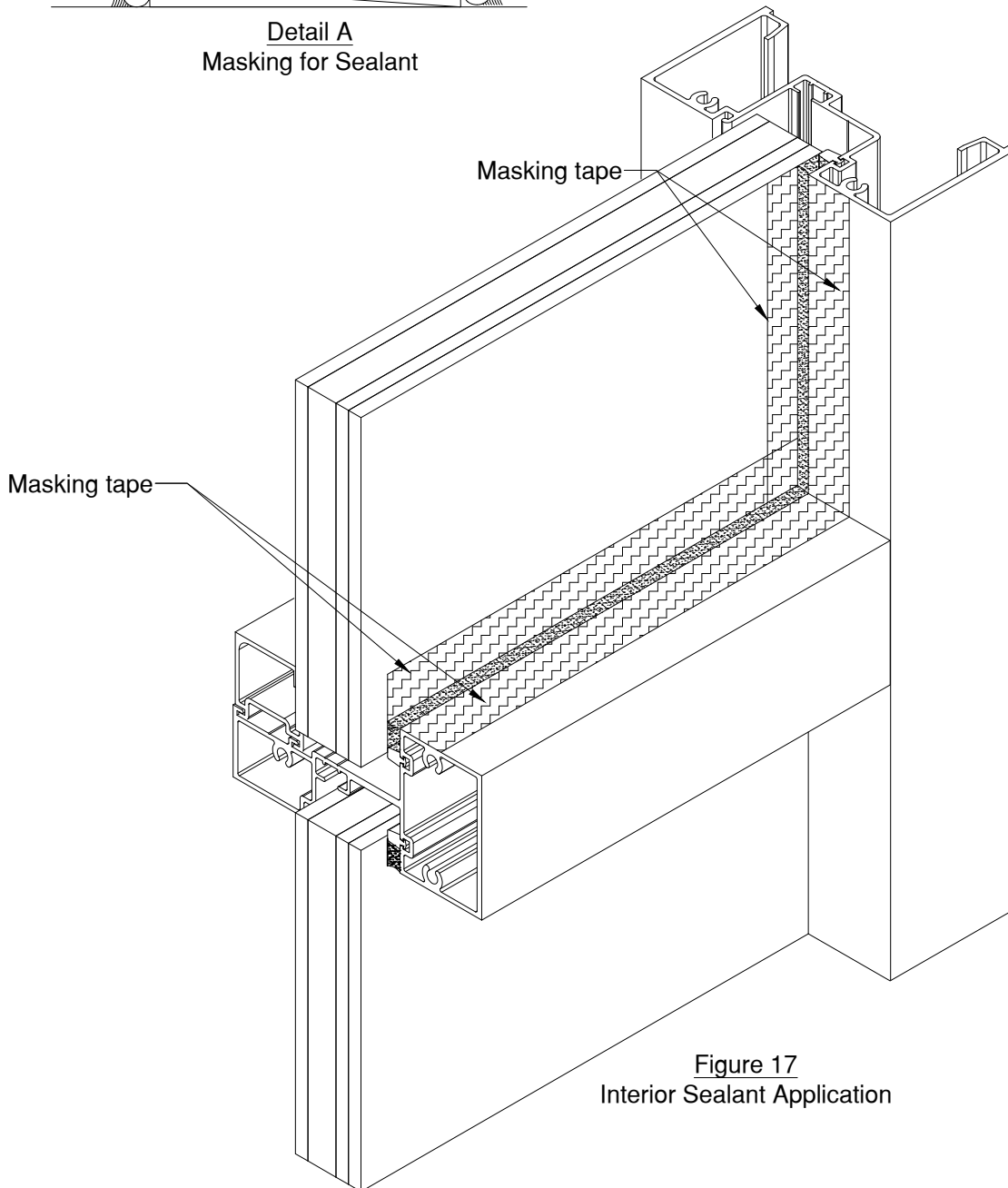
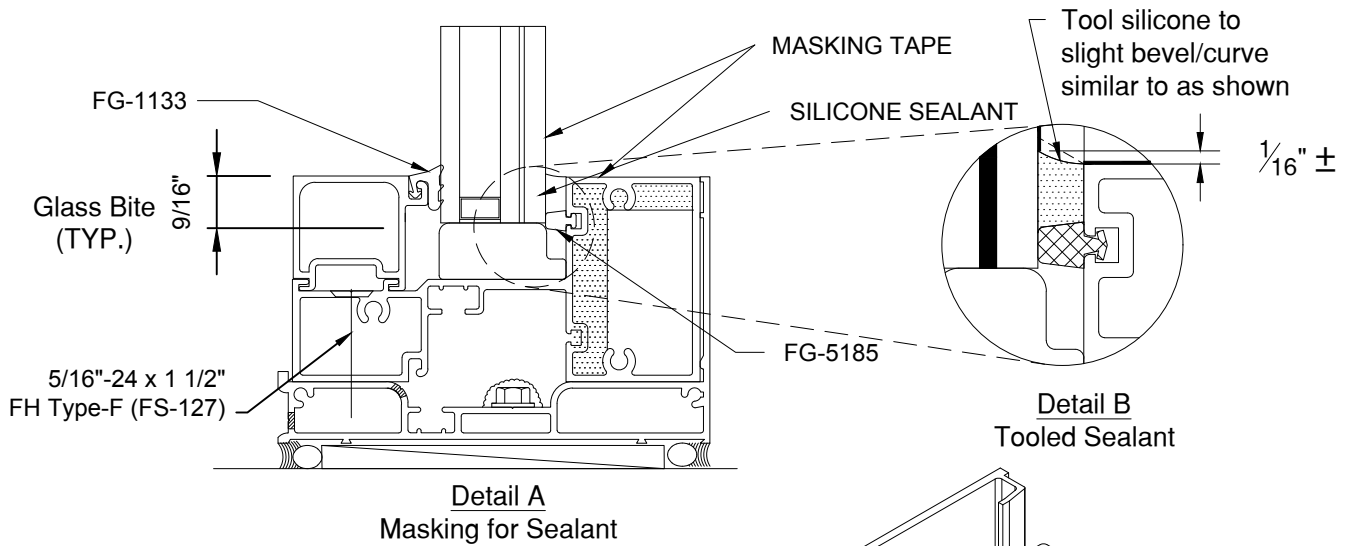


Figure 17  
Interior Sealant Application

INSTALL UPPER ADJACENT FRAME

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FG-5250 Jamb Mullion as shown (FG-5250 Mullion and FG-5217 Filler @ typical mullions)

FG-5949 interior gasket cut to DLO plus 1½"(min)

## 4.3 GLAZING PREPARATION -Dry Glazing option

- 4.3.1 Remove all debris from glazing pockets to prevent blockage of weeps/drain.
- 4.3.2 Install water diverters as shown on at Figure 18 after lower lite is in position.
- 4.3.3 Install FG-5949 interior gaskets
  - @ vertical mullions gasket is cut to DLO plus 1 1/2"
  - @ horizontals gasket is cut to DLO plus ¼" per foot of length,
  - Start installation @ middle of DLO's.

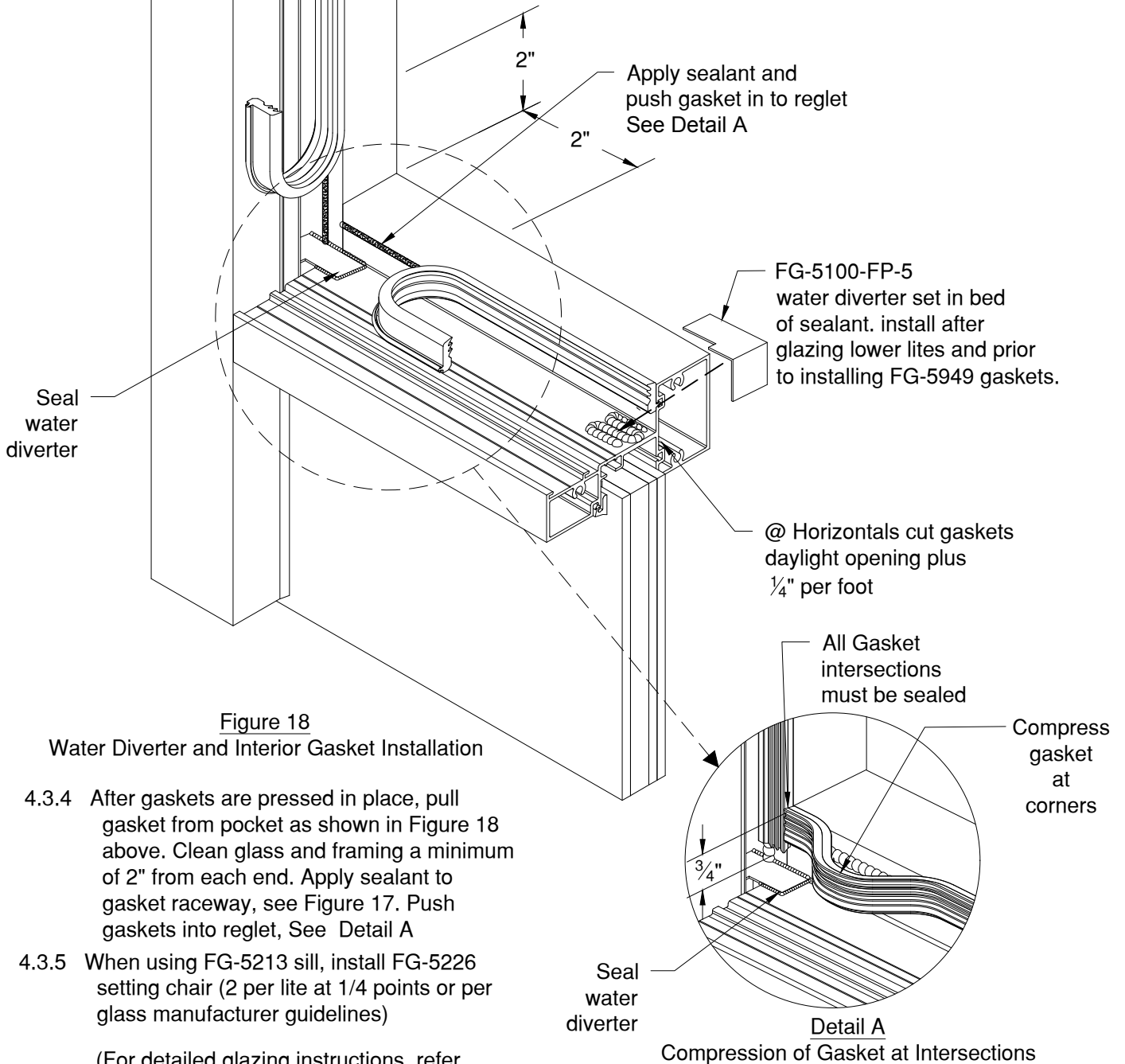


Figure 18  
Water Diverter and Interior Gasket Installation

4.3.4 After gaskets are pressed in place, pull gasket from pocket as shown in Figure 18 above. Clean glass and framing a minimum of 2" from each end. Apply sealant to gasket raceway, see Figure 17. Push gaskets into reglet, See Detail A

4.3.5 When using FG-5213 sill, install FG-5226 setting chair (2 per lite at 1/4 points or per glass manufacturer guidelines)

(For detailed glazing instructions, refer to 4.2.1-4.2.5)

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Apply sealant just prior to installing frame panels

## 4.4 Corner Condition

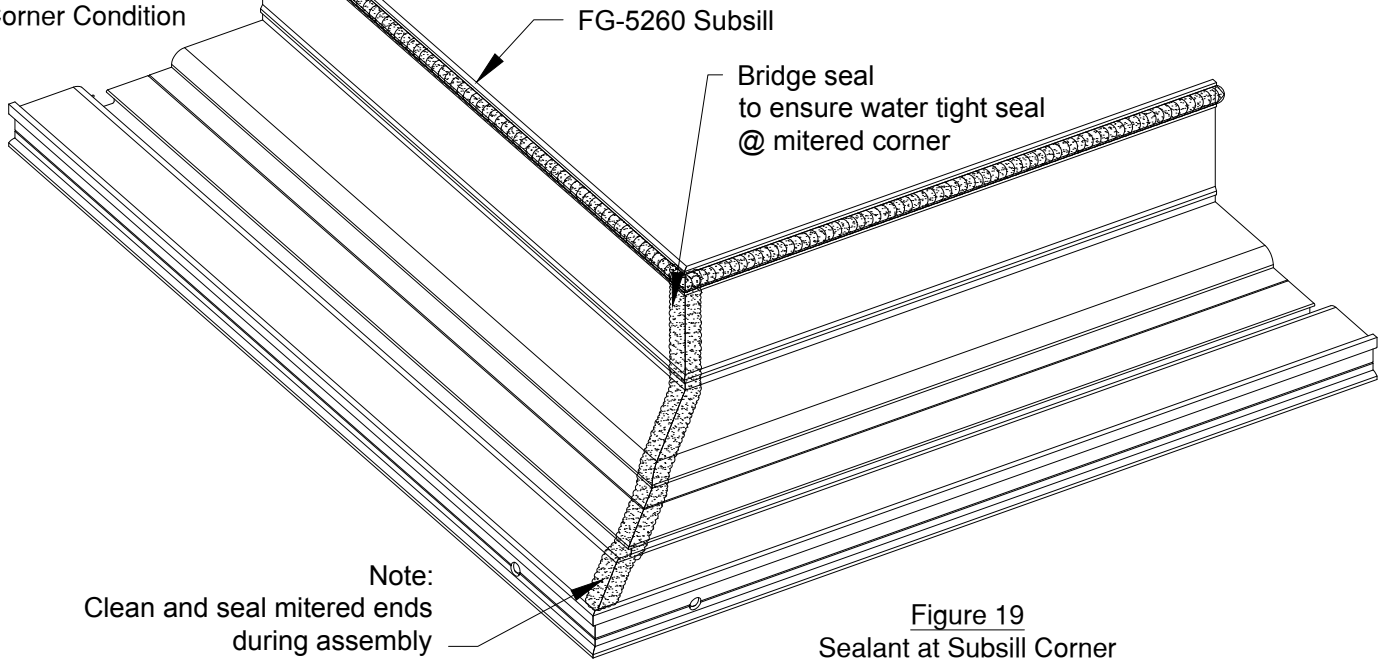


Figure 19  
Sealant at Subsill Corner

#10-24 X 1 1/4" PFH SS (FS-125)  
9" OC Both sides and  
2" from edge of DLO

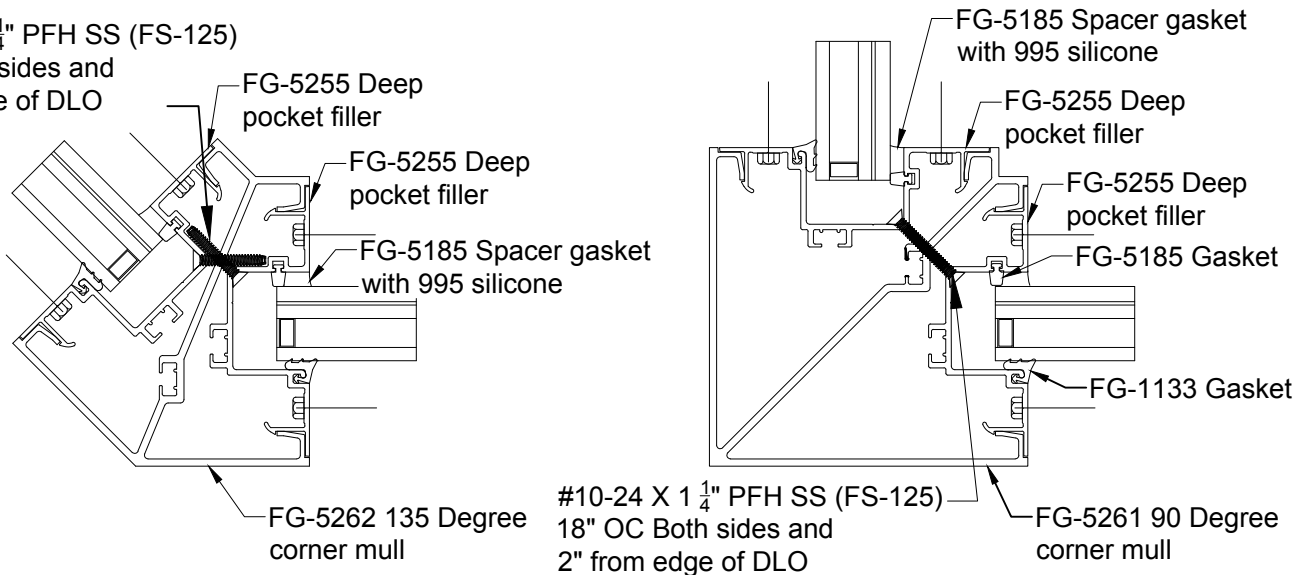


Figure 20  
Corner Assemblies

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\*\*For door frame preparation, installation and Glazing, refer to MSD-375 StormMax® Installation Manual

## 5.1 ENTRANCE DOOR FRAME INSTALLATION WITH SUBSILL FOR SIDELIGHTS

When entrance occur, install entrance frames first. Subsill butts against door jamb(s). The subsill abutting the door jamb does not require an end dam.

Field 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 see Figure 21 below .

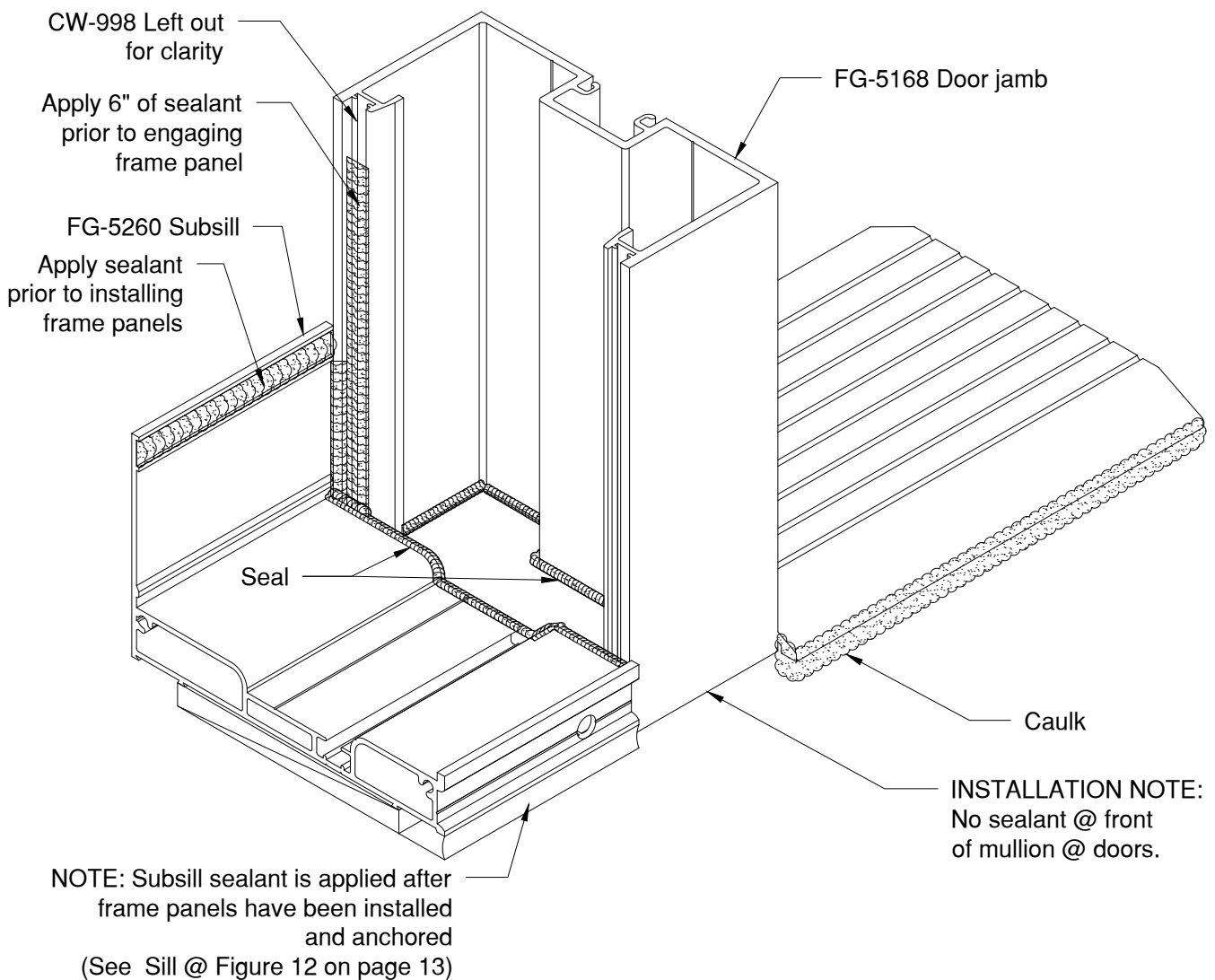






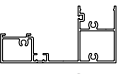


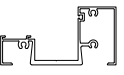
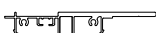

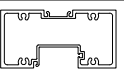


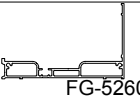

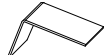
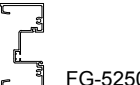
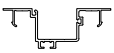




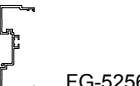





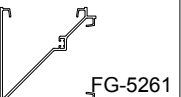
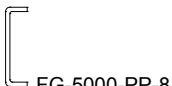

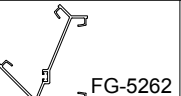


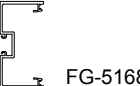
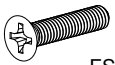
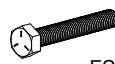

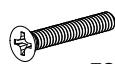


Figure 21  
Door Jamb and Subsill Sealant Application

# FG-5100T StormMax® - INSTALLATION AND GLAZING MANUAL

 FG-5213	HEAD / SILL HORIZONTAL	 FG-5177	GLASS STOP	 FG-1133	EXTERIOR GLAZING GASKET
 FG-5214	HEAD / SILL / INTERMEDIATE HORIZONTAL	 FG-5217	POCKET FILLER FOR FG-5168	 FG-5185	INTERIOR SPACER GASKET WET GLAZE OPTION
 FG-5252	PRE-GLAZED SILL	 FG-2188	PVC FLAT FILLER	 CW-998	BULB GASKET
 FG-5178	SILL HORIZONTAL	 FG-5253	ANCHOR PLATE	 FG-5949	DRY GLAZE GASKET
 FG-5235	DOOR HEADER	 FG-5254	HEAD / JAMB FILLER	 FG-5186	SETTING BLOCK
 FG-5260	SUB-SILL	 FG-5219	JAMB ANCHOR PLATE	 FG-5100-FP-5	WATER DIVERTER
 FG-5250	MULLION (TYP.)	 FG-5255	DEEP POCKET FILLER	 FG-5000-FP-14	SUB-SILL END DAM
 FG-5251	HEAVY JAMB / MULL MULLION	 FG-5258	GLASS STOP	 SM-5601	JOINT SEALANT TAPE 1/8" x 1/2"
 FG-5256	EXPANSION MALE	 FG-5259	POCKET FILLER	 UW-466	100' Roll 15151 1' Piece 15126
 FG-5257	EXPANSION FEMALE	 FG-5226	SETTING CHAIR	 FS-8	#14 x 1" HHSTS ASSEMBLY SCREW
 FG-5261	90° CORNER MULLION	 FG-5000-PP-8	STEEL REINFORCEMENT	 FS-320	#10 x 1/2" U-Drive Fastener
 FG-5262	135° CORNER MULLION	 FG-5000-FP-13	THRESHOLD CLIP	 FS-38	1/4"-20 x 1/2" HH Type F
 FG-5168	OPEN BACK DOOR JAMB			 FS-127	5/16"-24 x 1 1/2" FH Type F Stainless Steel Screw
				 FS-128	5/16"-24 x 2" Gr. 5 HWH
				 FS-126	1/4"-14 x 1" HWH
				 FS-125	#10-24 x 1 1/4" PFH Stainless Steel

## PARTS LIST 21