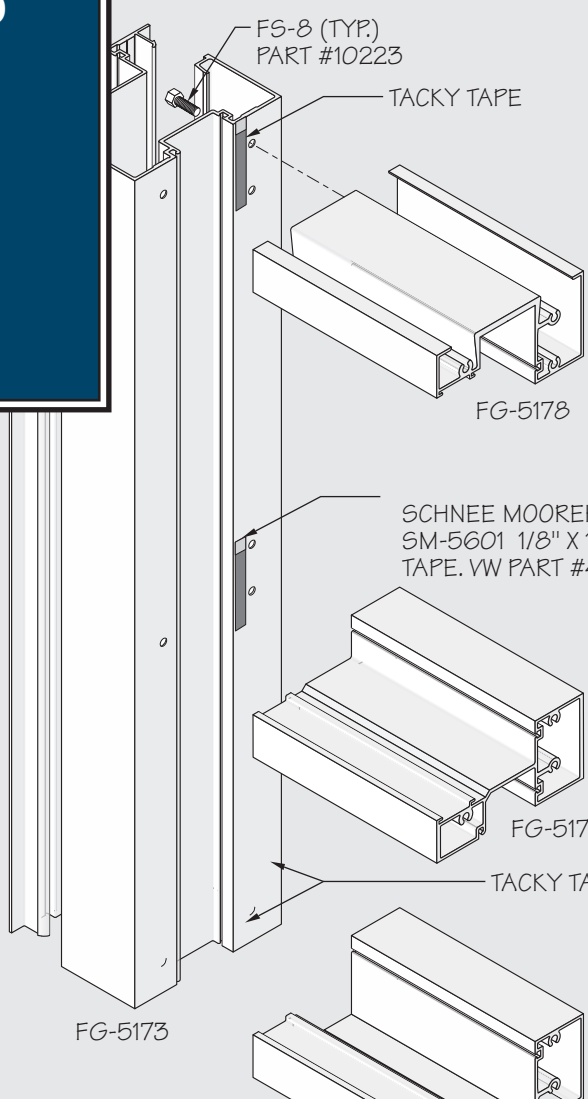
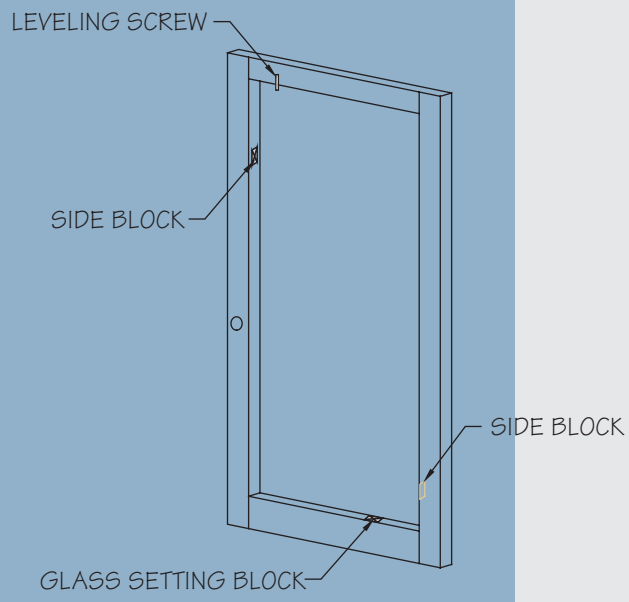
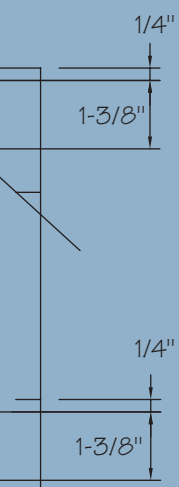
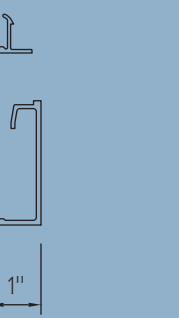
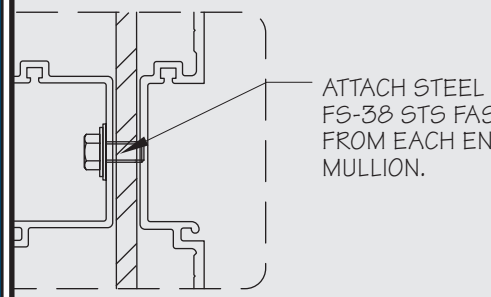
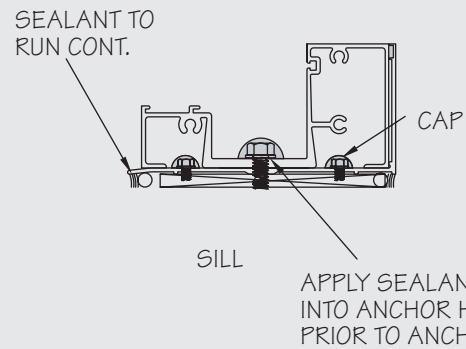
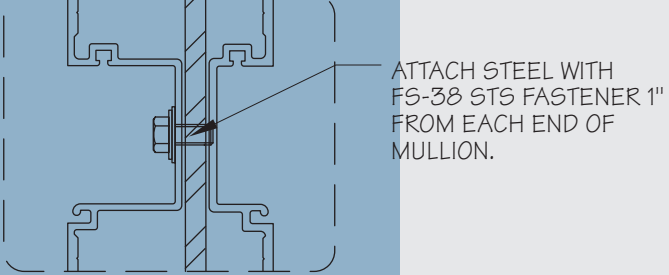
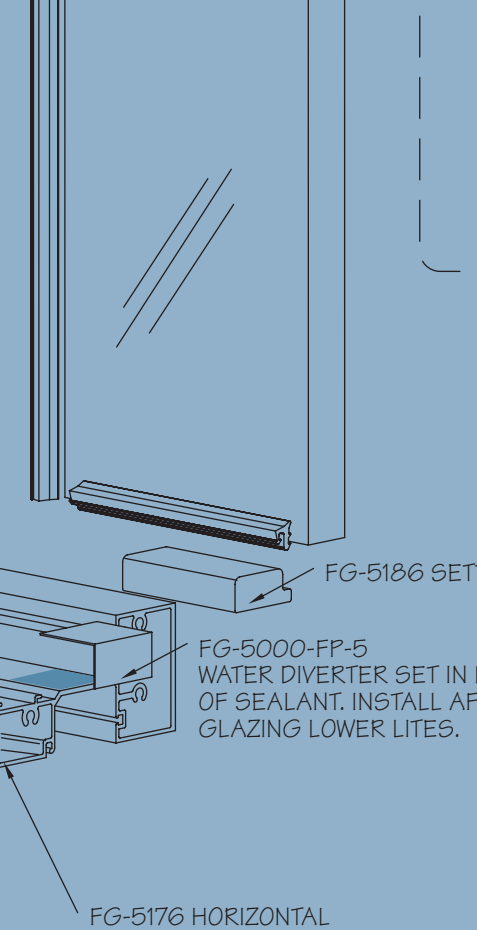


**StormMax
FG-5100
IMPACT RESISTANT
SYSTEM FOR
HIGH VELOCITY
HURRICANE ZONES**

**INSTALLATION AND
GLAZING MANUAL**

**2nd Edition
March 2007**



FG5100 INSTALLATION INSTRUCTIONS

These instructions are to be used for typical installations. Reference shop drawings for special notations on installations and glazing.

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Installation of Door Frame Page 21

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GENERAL INFORMATION

1. GENERAL INFORMATION:

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

2. BUILDING CODES:

Vistawall 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.

3. STRUCTURAL SEALANTS:

Both DOW 795 and 995 structural sealants were used on the FG-5100 test specimen for glass to metal adhesion approved by Dade County. To comply with Dade County and Florida Building Code Protocols, DOW 795 and 995 sealant must be used for glass to metal adhesion with FG-5100 .

4. 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. VULKEM 921 polyurethane and DOW 795 were the perimeter sealants used on the FG-5100 test specimen approved by Dade County.

5. MATERIAL HANDLING:

A. 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.

B. 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.

C. 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.

6. 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.

FRAME FABRICATION

Establish Frame Size & Cut Metal to Length

STEP 1

Measure width of rough opening.

A. Measure opening at bottom.

B. Measure opening at center.

C. Measure opening at top.

The frame width will be the largest dimension less 1" allowing for a max $\frac{1}{2}$ " caulk joint at each jamb.

NOTE: Maximum caulk joint for Dade County, FL. installation is $\frac{1}{2}$ "

Repeat process to determine frame height.

A. Beginning on left side of opening, measure dimension from top to bottom.

B. Repeat at center.

C. Repeat at right side of opening.

The frame height will be the largest dimension less $1\frac{1}{8}$ " to allow for subsill and a max $\frac{1}{2}$ " caulk joint at the head and sill.

FRAME FABRICATION

STEP 2

Cut members to size.

Cut subsill flashing to frame dimension plus 1/4". Subsill at entrance locations butt tight against door jamb(s) and is cut 1/8" longer than width of side light(s) on either side of door frame.

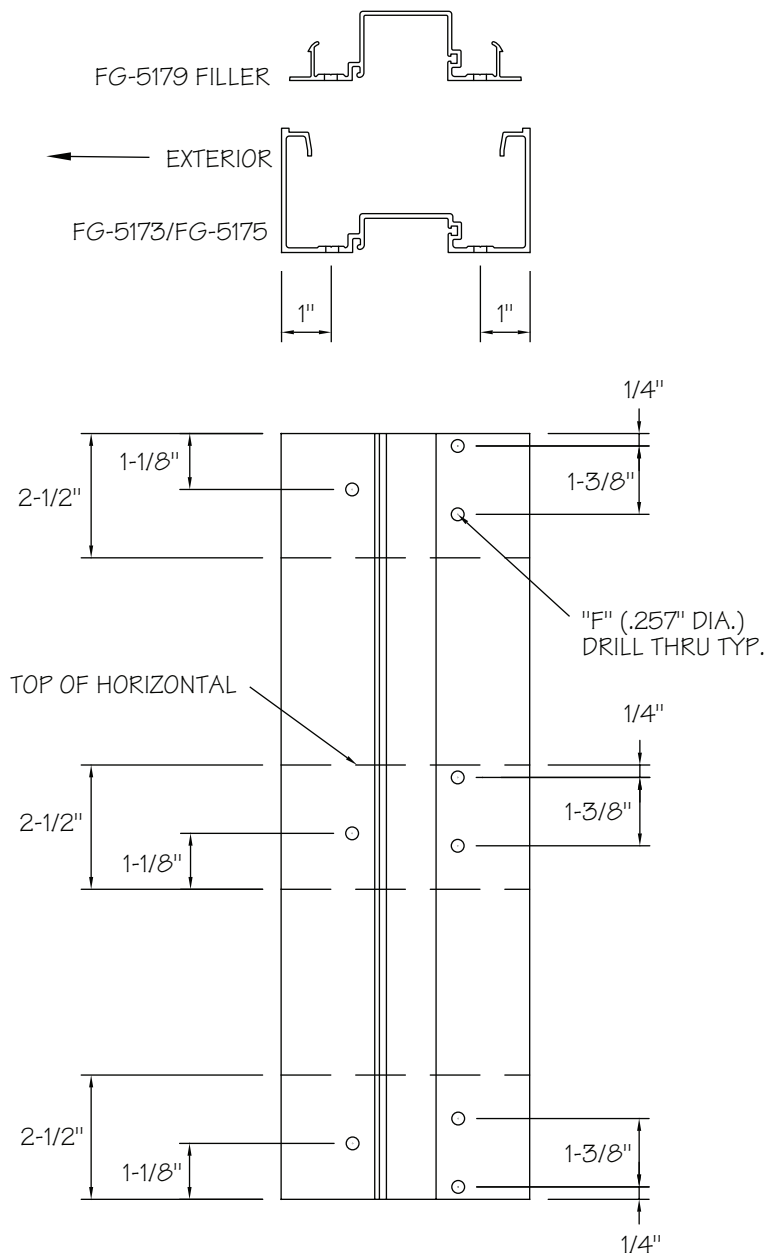
Wall jambs and intermediate vertical mullions are cut to frame height.

Horizontal members are cut to D.L.O.

Snap-on glass stops are cut D.L.O. minus(-) 1/16"

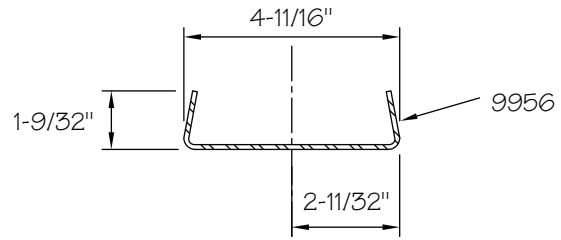
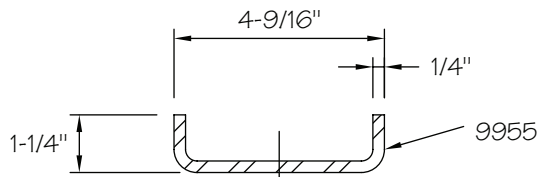
STEP 3

Drill or punch holes in verticals for attaching horizontals.

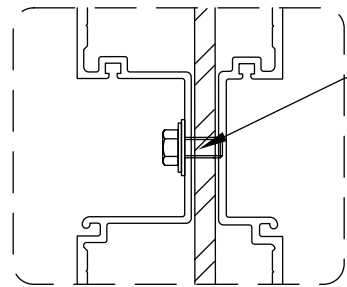
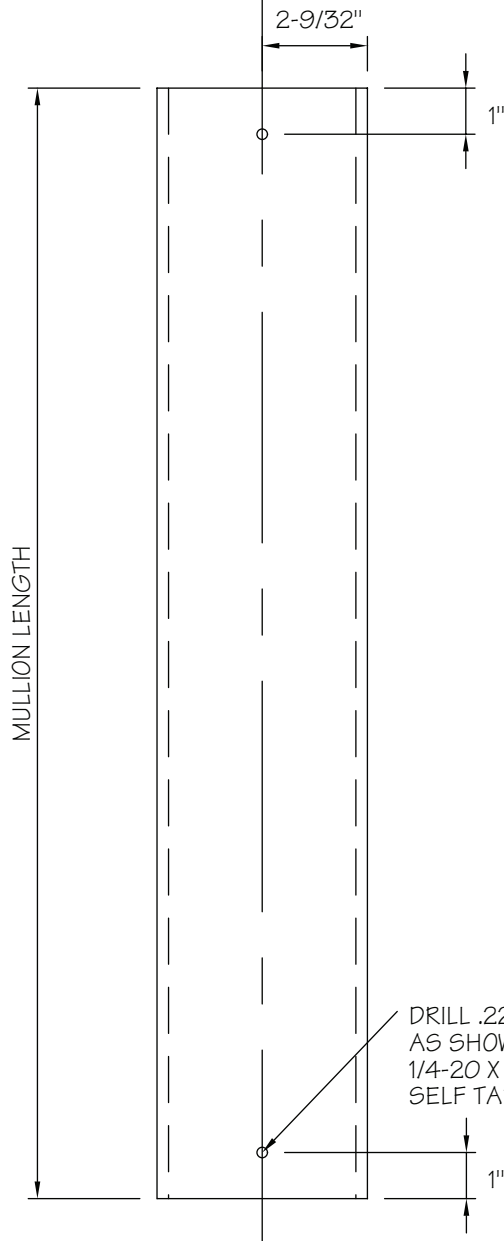


FRAME FABRICATION

Fabricate steel reinforcement where required.



STEEL FOR ALTERNATE WALL JAMB ONLY

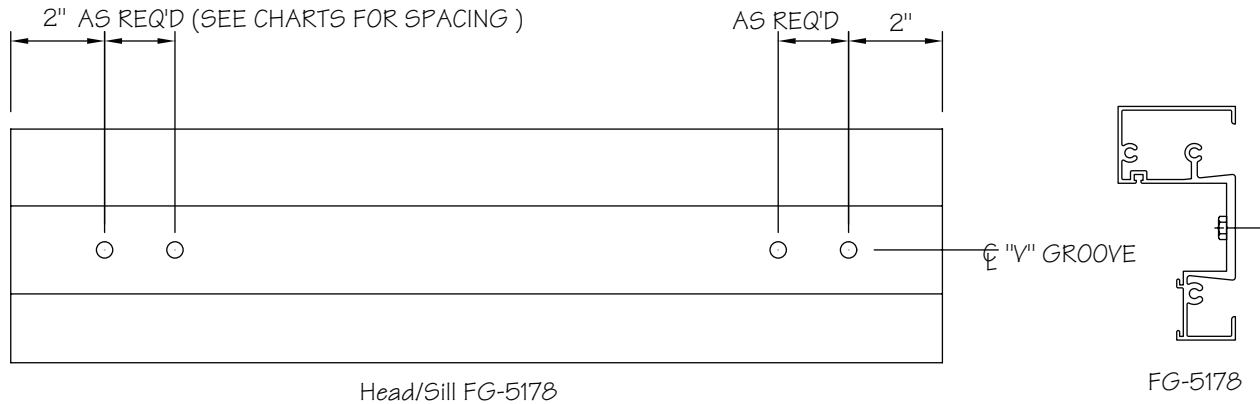


ATTACH STEEL WITH FG-38 STS FASTENER 1" FROM EACH END OF MULLION.

STEEL ATTACHMENT AT INTERM. VERTICAL DOOR JAMB AND ALTERNATE WALL JAMB

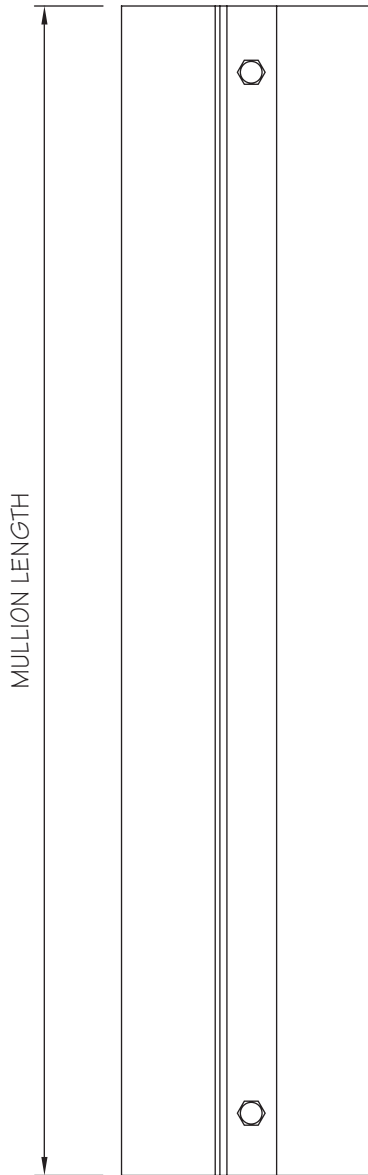
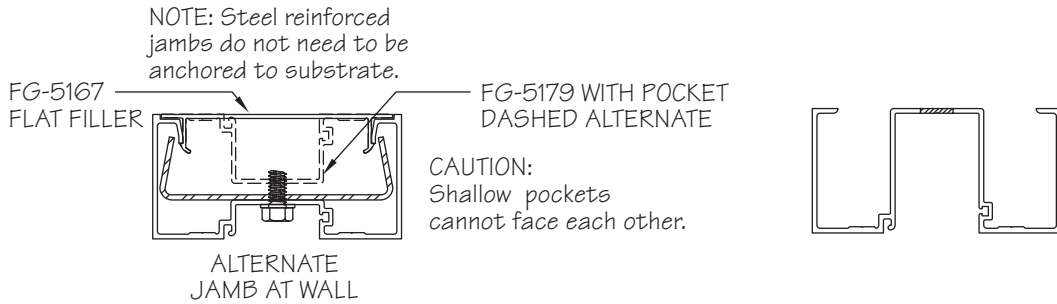
FRAME FABRICATION

Fabricate head and sill anchor holes. Number of anchors vary based on substrate material. Reference anchor charts for number of anchor holes and locations for each substrate. First hole is always 2" from end. Each additional fastener hole is at required minimum spacing between fastener as shown in anchor charts.

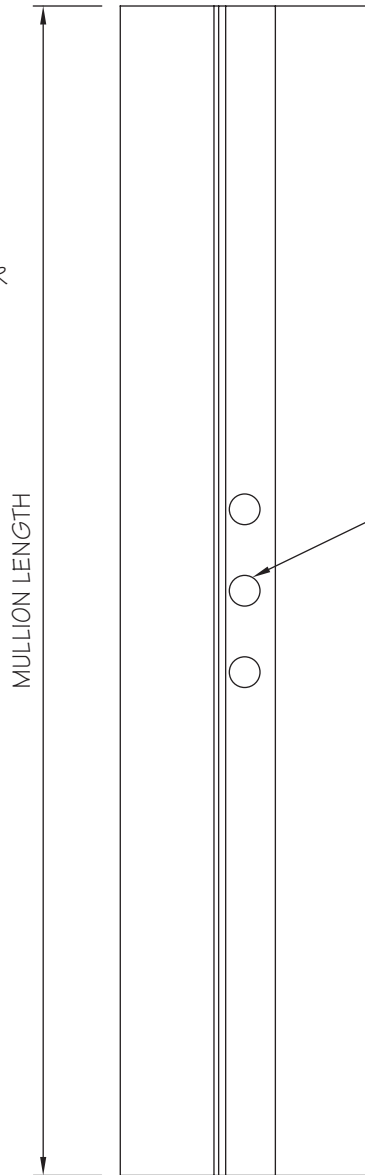


FRAME FABRICATION

Fabricate wall jamb for anchor holes. Number of anchors vary based on substrate material. (Reference Anchor Charts)



FG-5173 JAMB WITH FG-5167 OR FG-5179 AND 9956 STL.

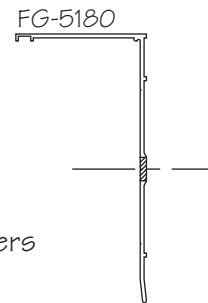
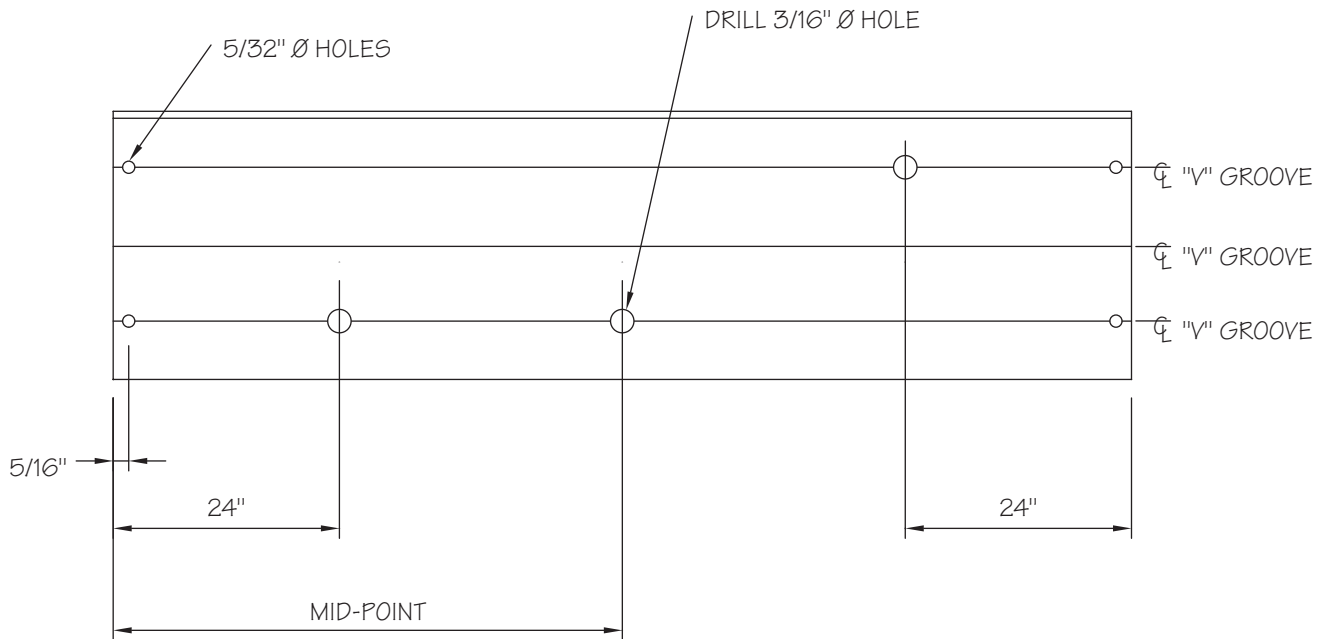


ANCHOR HOLES

NOTE: IF ANCHOR HOLE IS AT INTERSECTION OF INTERMEDIATE HORIZONTAL, JUST LOCATE AS CLOSE TO CHARTED DIMENSIONS AS POSSIBLE. CHECK ANCHOR CHART FOR SPACING AND QUANTITY BASED ON SUBSTRATE.

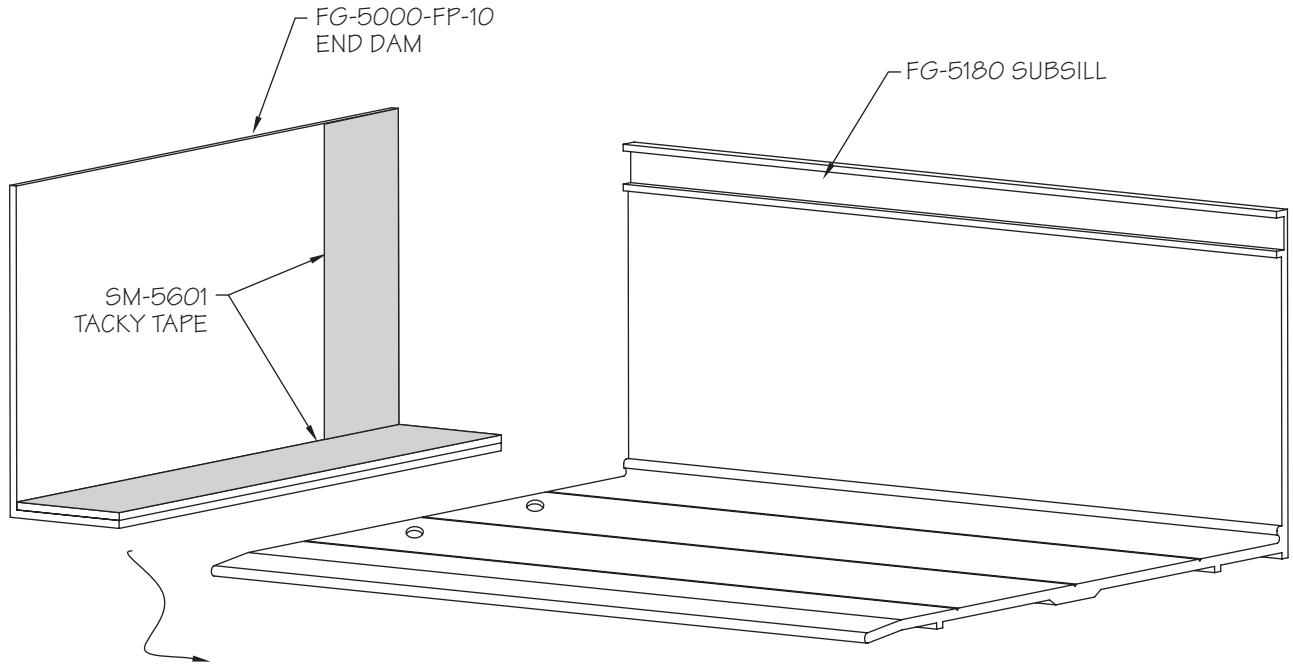
FRAME FABRICATION

Fabricate FG-5180 subsill flashing for end dams and non-structural fastener holes. Hole location dimensions for fasteners in subsill are approximate.

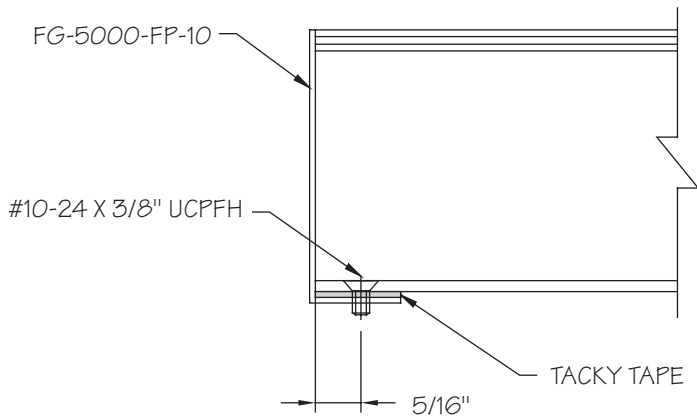


1. Drill 3/16 dia. hole for non-structural fasteners used for attaching subsill to substrate as shown. Repeat this hole pattern for each additional 12'-0" of length or as required to temporarily hold subsill in place until structural fasteners are installed.
2. Drill two each 5/32 dia. holes at each end (except end abutting a door jamb for attaching FG-5000-FP-10 end dams. Countersink for #10-24 x 3/8 UCPFH screw.

FRAME ASSEMBLY



Apply SM-5601 tacky tape to end dams as shown and stick to the ends of subsill

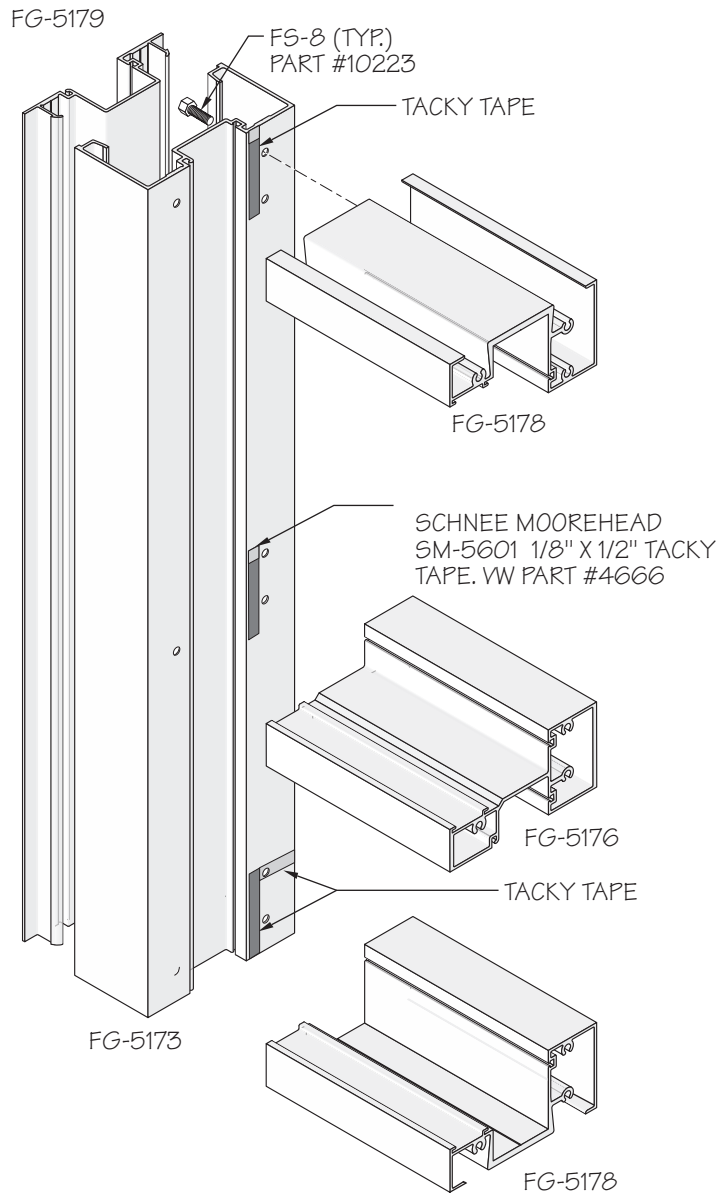


Match drill holes in subsill in end dam with 5/32"Ø drill. Attach with two each #10-24 x 3/8" screws as shown.

FRAME FABRICATION

NOTE: Install FG-5185 interior spacer gasket (wet) & FG-5946 (dry) into framing prior to assembly.

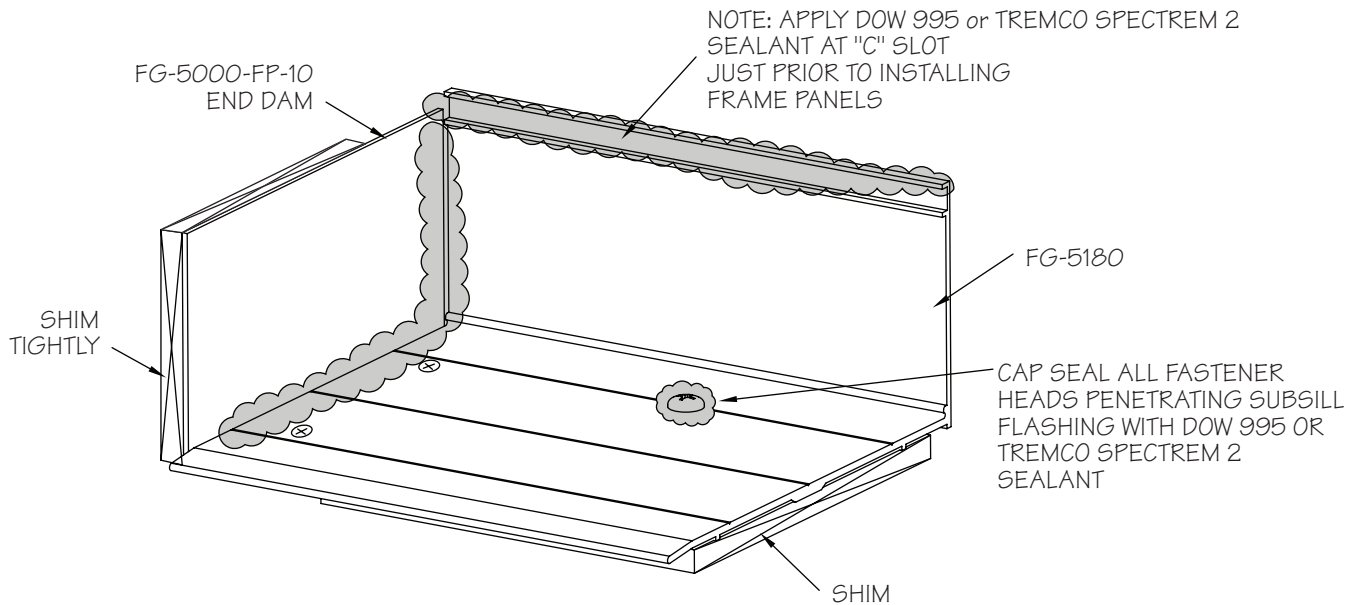
NOTE:
Shallow glazing pockets
cannot face each other.



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 sheet 5 for hole prep locations.

FRAME INSTALLATION

Position fabricated subsill with end dams into opening. Center into opening allowing shim space at jambs.

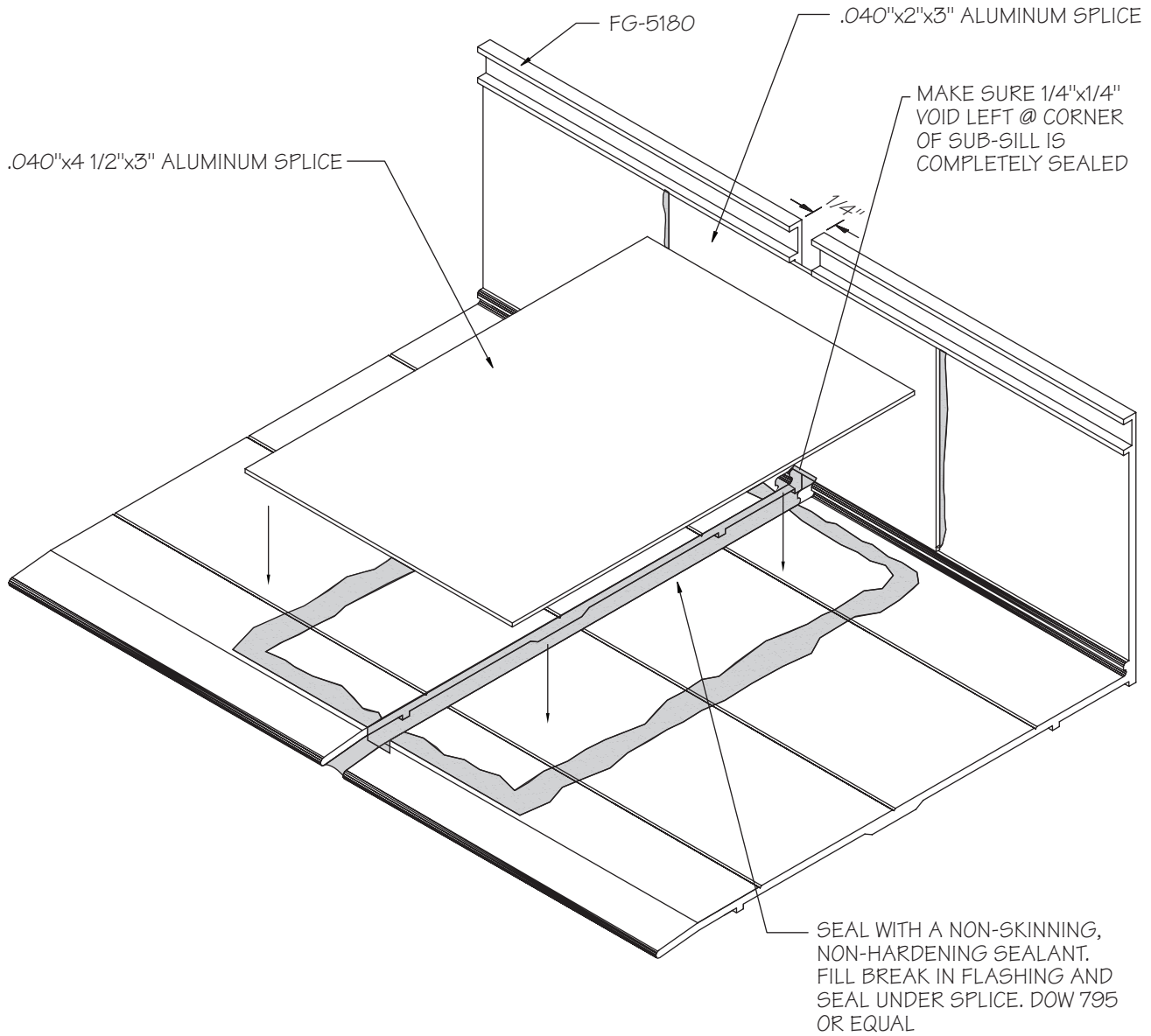


Shim beneath subsill to be a maximum of 1/2". Attach subsill flashing to structure with non-structural fasteners using attachment holes shown on page 9.

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.

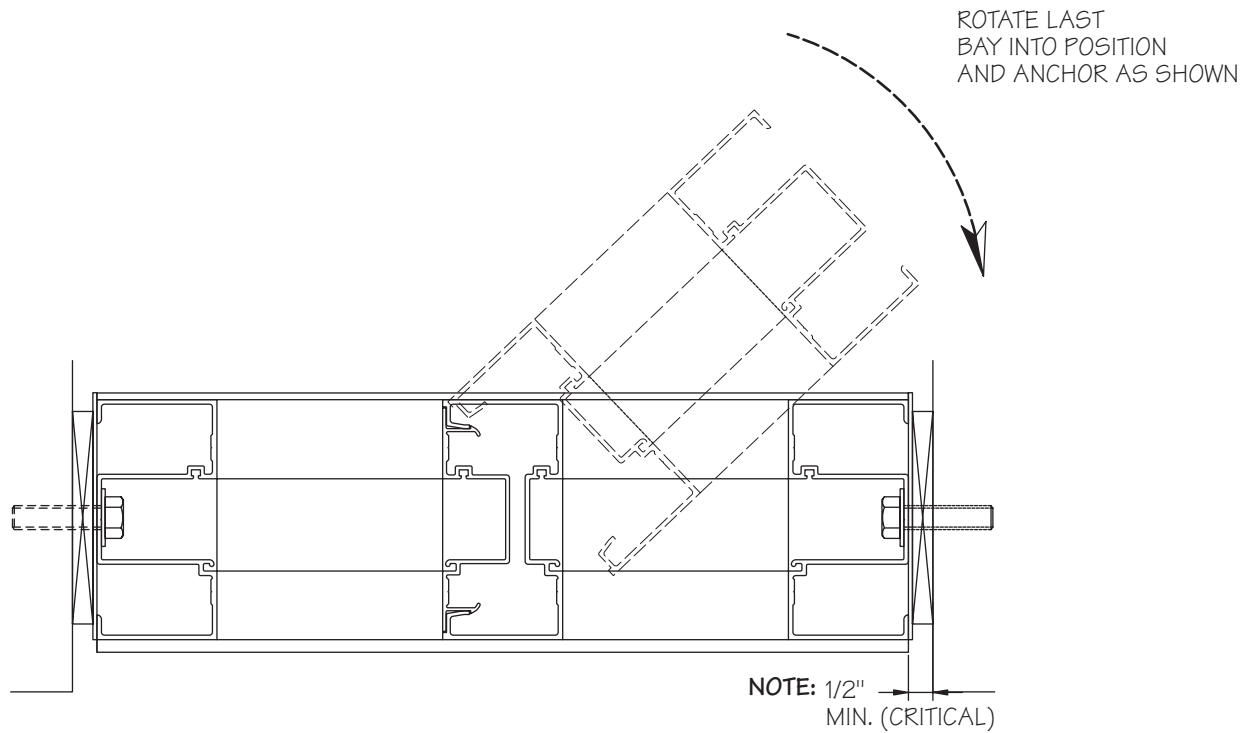
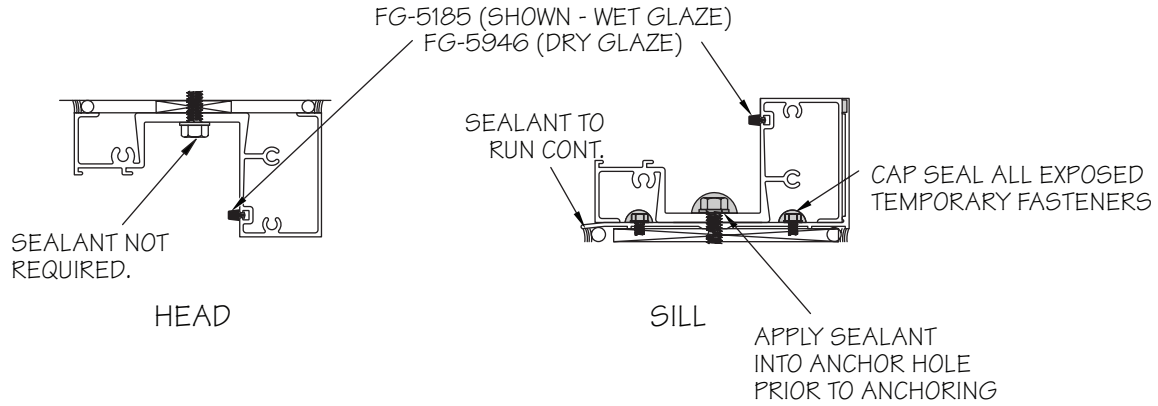
Run a continuous bead of Dow 995 or TREMCO SPECTREM 2 sealant along the full length of the sub sill "c" slot as shown above **just prior to installing frame panels**. Do not allow sealant to harden prior to installing frame panels. Remove excess sealant after panels are installed.

**FRAME INSTALLATION SUB-SILL SPLICE
WET AND DRY GLAZE FRAMING**



FRAME INSTALLATION

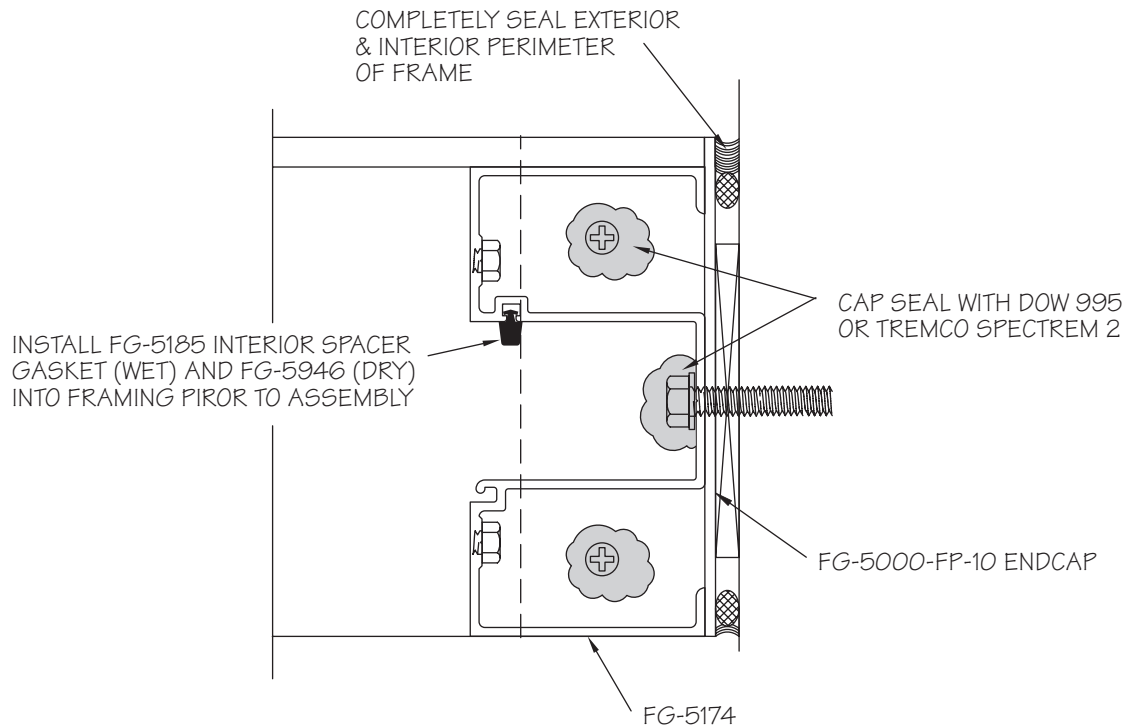
After all panels are installed, Shim beneath subsill as required at fasteners. Match drill holes through sill into substrate. Remove dust from hole and apply DOW 995 or TREMCO SPECTREM 2 sealant as shown below into anchor holes prior to anchoring. Cap seal fastener heads. Match drill holes into substrate at head. Anchor and shim as shown. It is not necessary to cap seal fasteners at head.



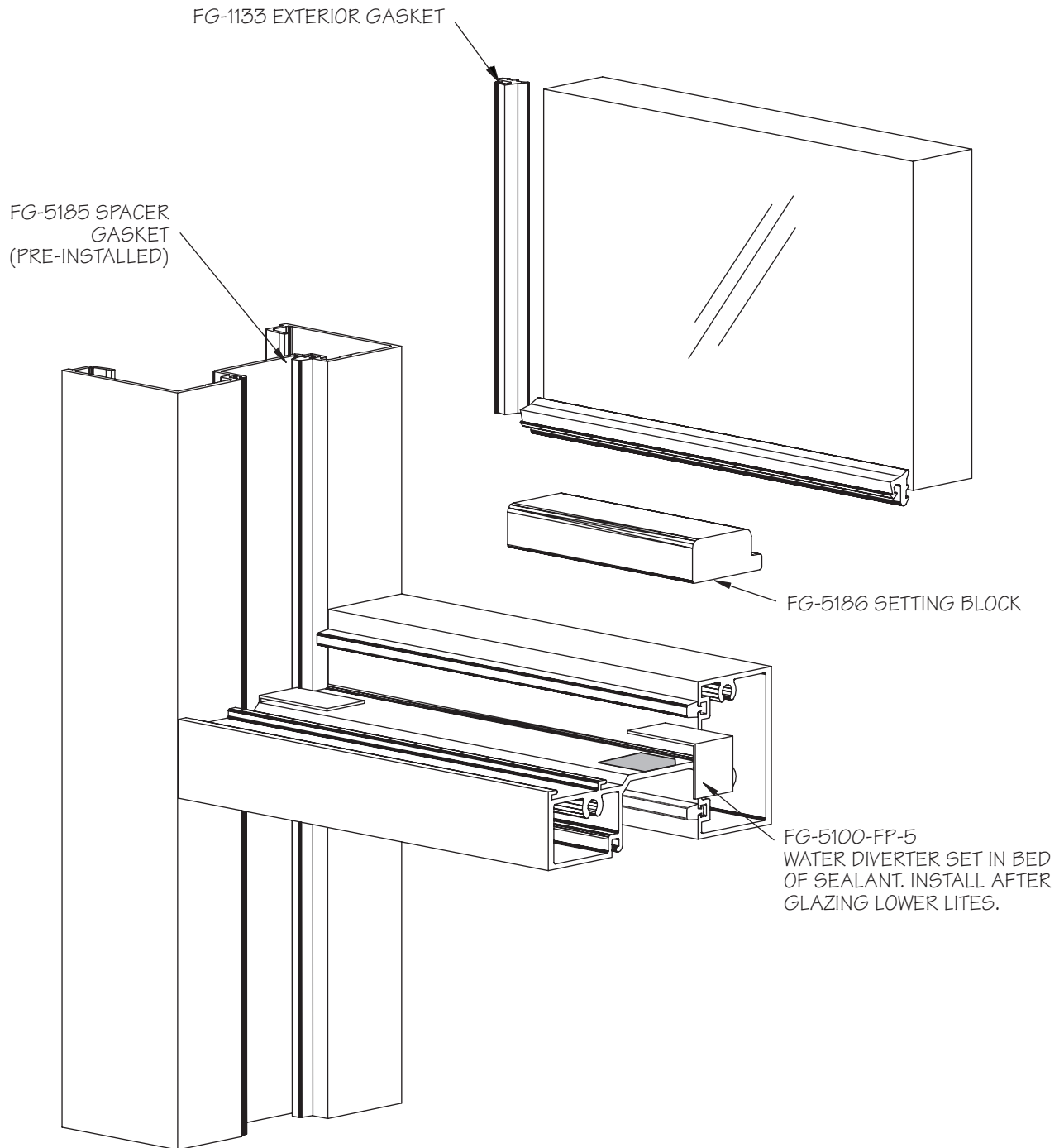
FRAME INSTALLATION

Match drill holes in jamb to substrate. Anchor and shim as required. Cap seal fastener heads.

Once all individual frames are secured to the opening, then completely seal exterior and interior perimeter with a continuous bead of Vulkem 921 polyurethane sealant or equal, across head/sill and at each jamb.



GLAZING WET GLAZE OPTION



Remove all debris from glazing pockets to allow for proper drainage.

GLAZING WET GLAZE OPTION

Glaze from bottom to top. Install water diverters as shown on **page 15** after lower lite is in position. At sill, install FG-5184 setting chair (2 per lite at setting block locations).

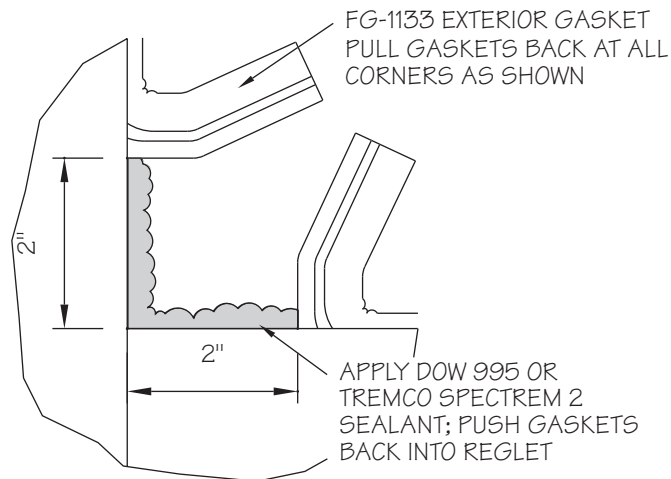
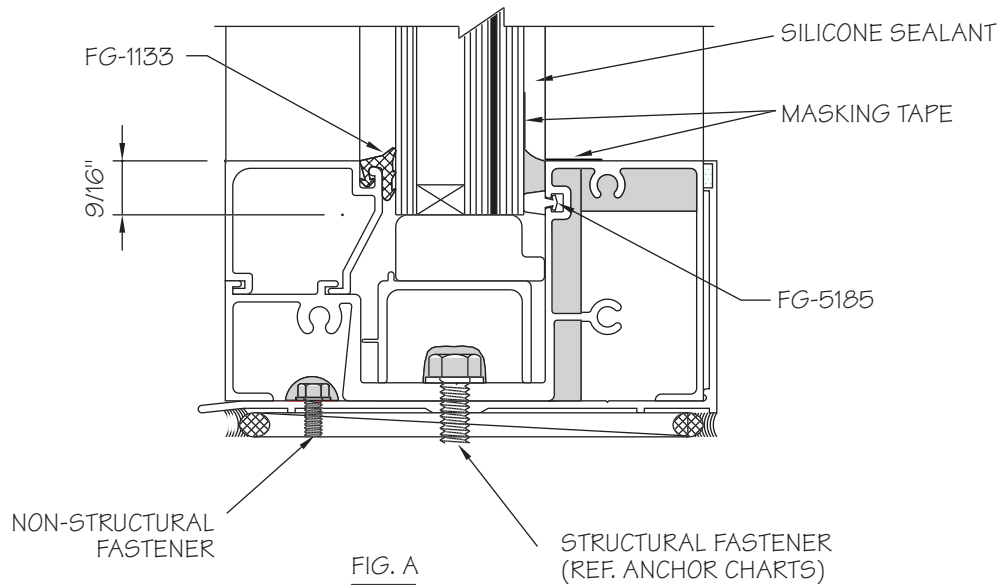
Install exterior glass stops.

Install exterior FG-1133 glazing gaskets as shown on **page 15**.

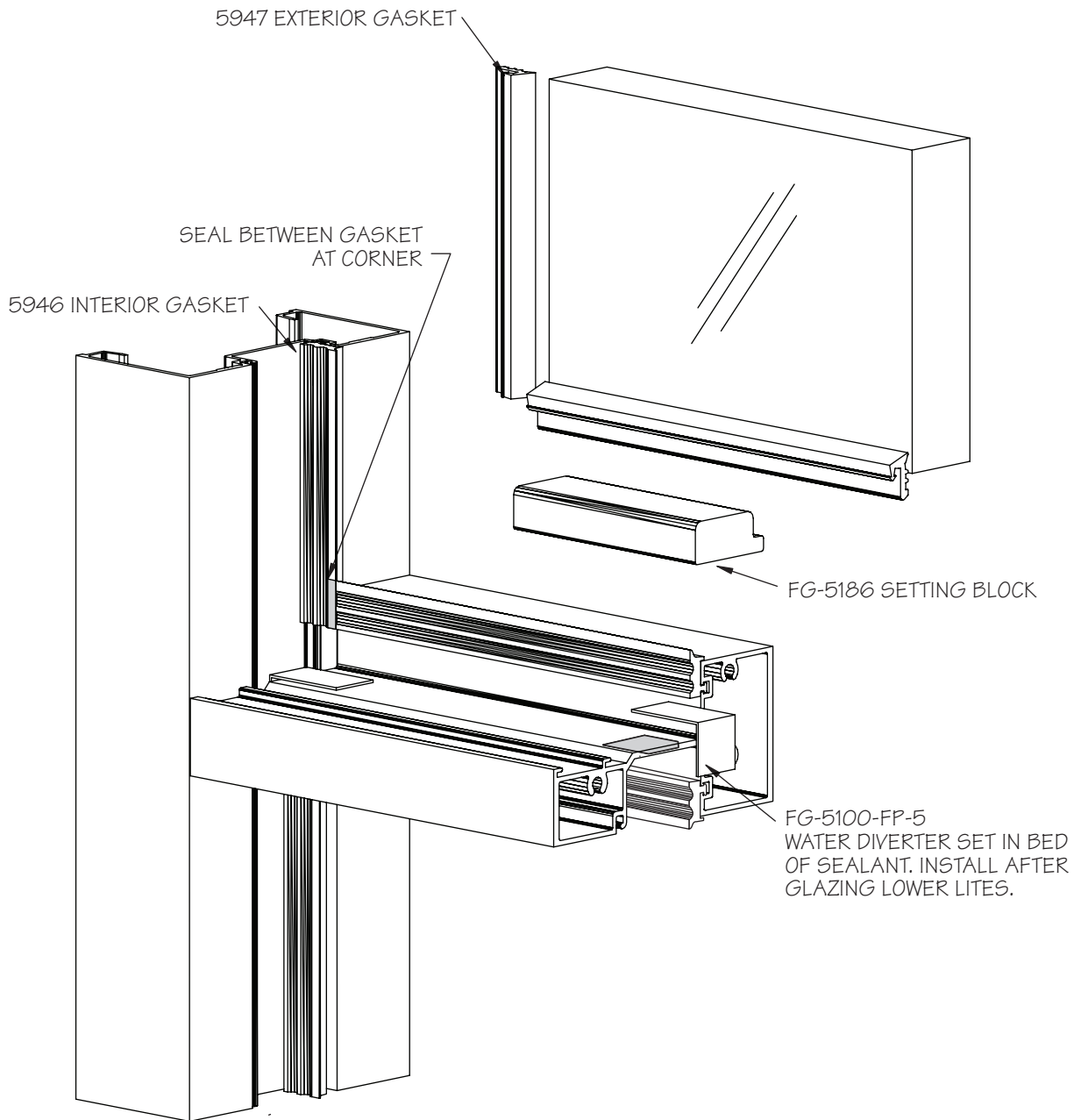
Cut gaskets a minimum of 1/8" per foot longer than daylight opening to provide for adequate compression. Pull gaskets from pocket as shown in FIG. B below.

Clean gaskets 2" from each end with isopropyl alcohol. Apply Dow 995 or TREMCO SPECTREM 2 sealant (FIG. B) as shown. Push gaskets into reglet.

Mask off glass and aluminum with 2" wide low adhesion masking tape. Fill cavity with Dow 995 or TREMCO SPECTREM 2 sealant as shown below (FIG. A) and immediately tool. Remove masking tape immediately after installation of silicone taking care not to damage or pull silicone from the cavity.



GLAZING DRY GLAZE OPTION



Remove all debris from glazing pockets to allow for proper drainage.

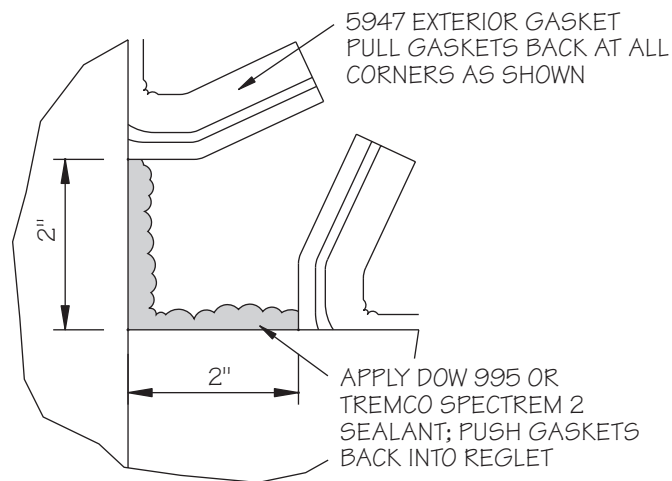
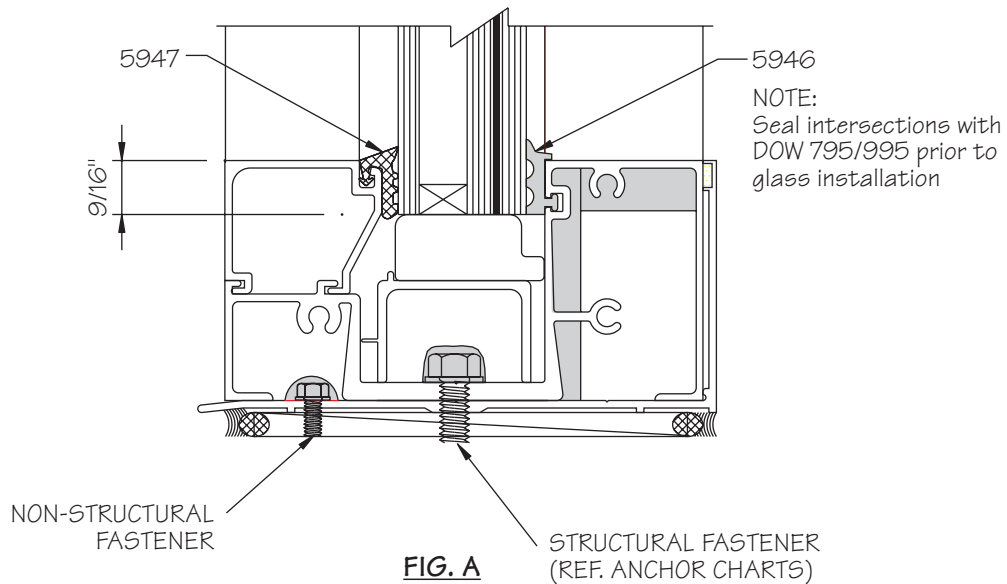
GLAZING DRY GLAZE OPTION

Glaze from bottom to top. Install water diverters as shown on **page 17** after lower lite is in position. At sill, install FG-5184 setting chair (2 per lite at setting block locations). Install exterior glass stops.

Install exterior 5947 glazing gaskets as shown on **page 17**.

Cut gaskets a minimum of 1/8" per foot longer than daylight opening to provide for adequate compression. Pull gasket from pocket as shown in FIG.B below.

Clean gaskets 2" from each end with isopropyl alcohol. Apply Dow 795/995 sealant (FIG. B). Push gaskets into reglet.



PREPARATION OF DOOR FRAME

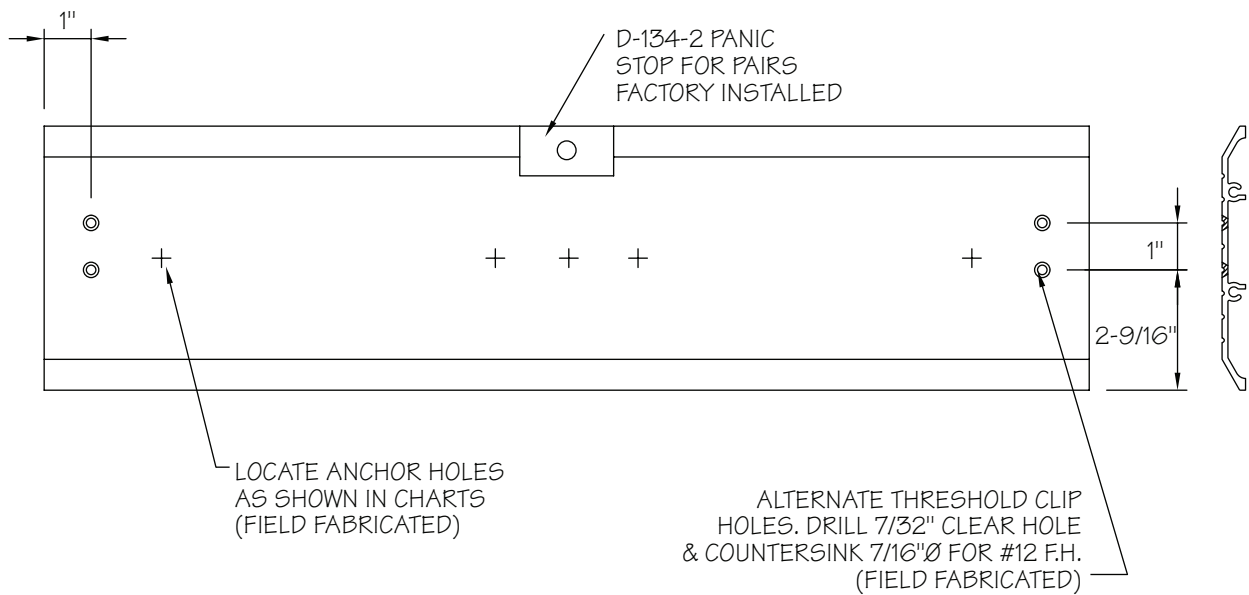
All hardware back-up plates are installed in the frame at the factory. Door stops and transom sash will have been cut to length and prepped in the factory. Stock transom frames are fabricated for a vertical frame size of 120". If your opening is smaller, cut the verticals and the sash down to the appropriate length. Leave a maximum 1/4" caulk joint at the head. The prep for the transom head horizontal should be made using either a drill fixture or EZ-punch die sets for the Series 5100 framing. See Page 5 for hole locations.

Review frame anchor charts for configuration and substrate for which the frame will be attached. Drill anchor holes into FG-5168 door jamb, FG-5167 flat filler and TH-57 threshold as shown in charts.

Attach frame portion of offset pivots to frame if applicable. Apply Schnee-Morehead SM-5601 1/8" x 1/2" tacky tape to joint intersections at door header or transom bar and transom head horizontal.

Note: Keep tape away from screw splines.

Assemble frame and threshold with FS-8 spline screws or use alternate threshold clips and fabricate two holes in each end of threshold as shown below. Snap-in transom sash if applicable. The frame is now ready for installation.

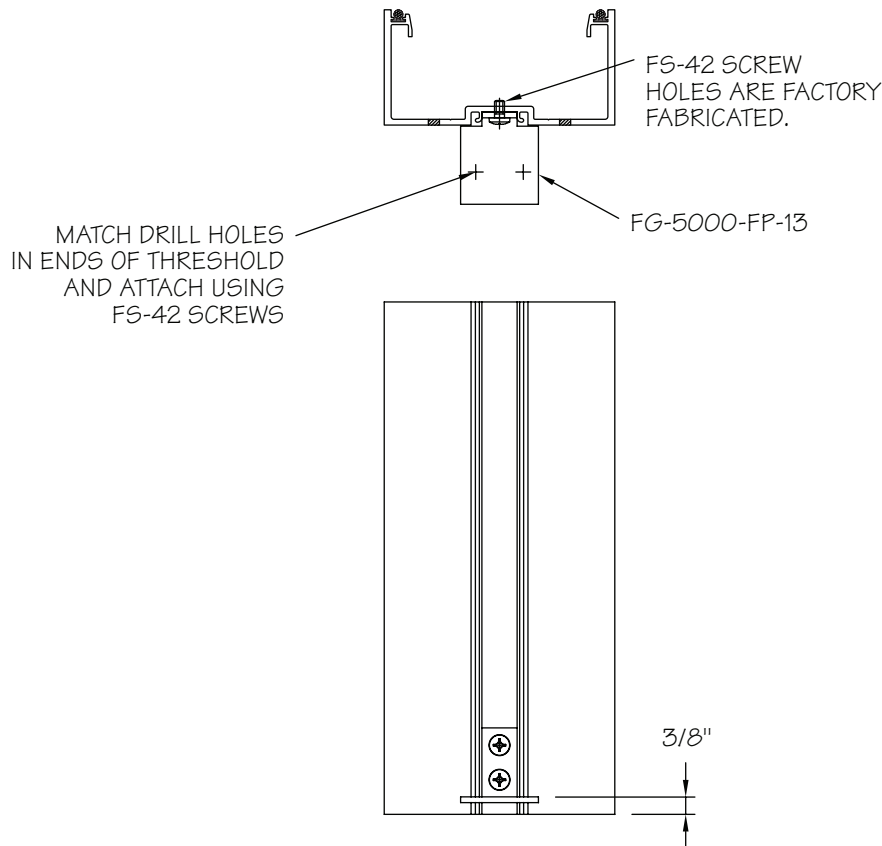


THRESHOLD FABRICATION

INSTALLATION OF DOOR FRAME

1. Door frame and threshold shall be completely assembled with joints neatly aligned and tight.
2. Door frame shall be installed square and plumb. Measure frame diagonally from corner to corner and shim until the measurements are equal.
3. Level door frame threshold at the high point in the slab. It is preferable to not have a high point in the slab. The door frame is designed to have the jambs run down to the slab.
4. Install fasteners through frame and threshold anchor holes and securely anchor to the substrate. Position shims between framing and substrate to prevent members from bowing.
5. Install door stops.
6. You are now ready to install the door.

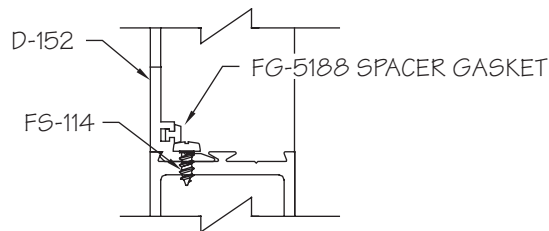
ALTERNATE THRESHOLD ATTACHMENT TO JAMB



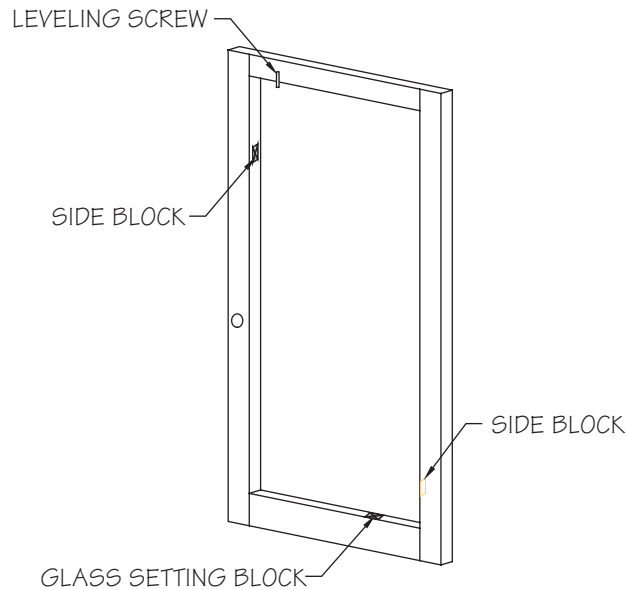
DOOR PREPARATION AND GLAZING

FP-5000-PP1 setting side block, FS-114 (#8 x 3/8" PPHSMS) fasteners for attaching D-152 glass stop and FG-1133 gasket are shipped loose.

1. D-152 glass stop may be installed on either interior or exterior side of the door. It is recommended that D-152 be installed on the interior side of the doors receiving panic hardware to allow for reglazing without removing the panic bars.
2. Pilot holes are predrilled in D-152 glass stop. Determine side of door you desire to place the glass stop and match drill holes as shown below into the horizontal rails, vertical door stiles and attach.

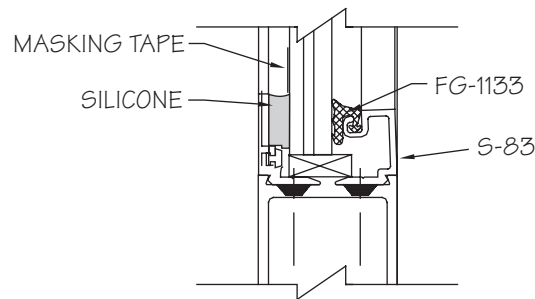


3. Install FP-5000-PP1 adhesive back setting block/side block as shown below. Blocks may be doubled as required due to glass tolerances.



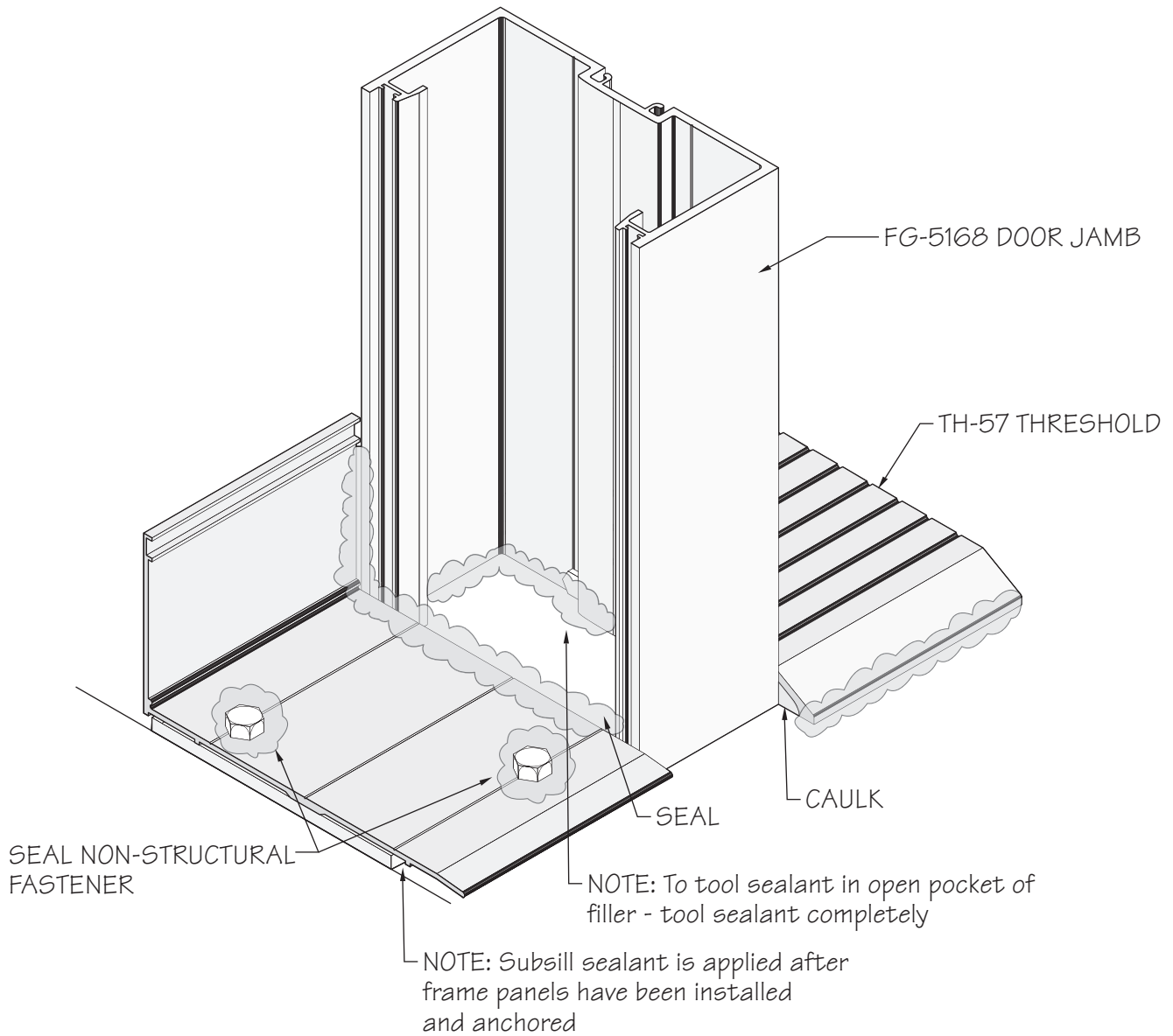
DOOR PREPARATION AND GLAZING

4. Center glass in opening on setting blocks and aligned with side blocks.
5. Once the glass is in the correct position, lightly screw the glass jack down to the top of the glass.
6. Install horizontal S-83 glass stop first.
7. Roll FG-1133 gasket into S-83.
8. Mask off glass with 2" wide low adhesion masking tape and install Dow 995 or TREMCO SPECTREM 2 into the cavity between the glass and D-152 glass stop. Remove masking tape immediately after installation of silicone taking care not to damage or pull silicone from the cavity.


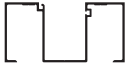

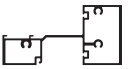
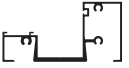











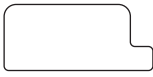



ENTRANCE DOOR FRAME INSTALLATION WITH SUBSILL FOR SIDELIGHTS

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.






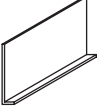





PARTS LIST

ITEM	DESCRIPTION
 FG-5173	Vertical Mullion
 FG-5174	Wall Jamb
 FG-5175	Heavy Mullion
 FG-5176	Intermediate Horizontal
 FG-5178	Head/Sill
 FG-5177	Glass Stop
 FG-5179	Pocket Filler for FG-5173 & FG-5175
 FG-5180	Subsill Flashing
 FG-5200	Corner Mullion (Fits with FG-5196)

ITEM	DESCRIPTION
 FG-5167	Flat Filler Plate
 FG-5183	Glazing Adaptor (9/16" Infill)
 FG-5184	Setting Chair
 FS-38	#14 x 1" HHSTS Assembly Screw
 FS-8	Steel Attachment Screw
 FG-5186	Setting Block
 FG-5187	Transition Setting Block
 HP-17	Setting Block
 SM-5601	Joint Sealant Tape 1/8" x 1/2"

PARTS LIST

ITEM	DESCRIPTION
 5947	Exterior Glazing Gasket (Dry glaze option)
 5946	Interior Glazing Gasket (Dry glaze option)
 FG-1133	Exterior Glazing Gasket (Wet glaze option)
 FG-5185	Interior Spacer Gasket (Wet glaze option)
 FS-119	#10 x 1 3/8" PFH Fastener for attaching DS-104
 FG5000-FP-10	Sill Flashing End Dam (Attach with 2 ea. FS-54 screws)
 FG5100-FP-5	Water Diverter
 9955	Steel Reinforcing 10'-0" Used with FG-5168
 9956	Steel Reinforcing 10'-0" Used with FG-5173

FG-5100 IMPACT RESISTANT SYSTEM

