

FG5000 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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GENERAL INFORMATION

1. GENERAL INFORMATION:

Vistawall FG-5000 (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-5000 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-5000 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-5000.

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 was the perimeter sealant used on the FG-5000 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 FOR PANELIZED/PRE-GLAZE OPTION

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 smallest dimension less 1/2" allowing for a min 1/4" caulk joint at each jamb.

NOTE: Maximum caulk joint for Dade County, FL. installation is 1/4"

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 smallest dimension less 5/8" to allow for subsill and a 1/4" caulk joint at the head and sill.

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.

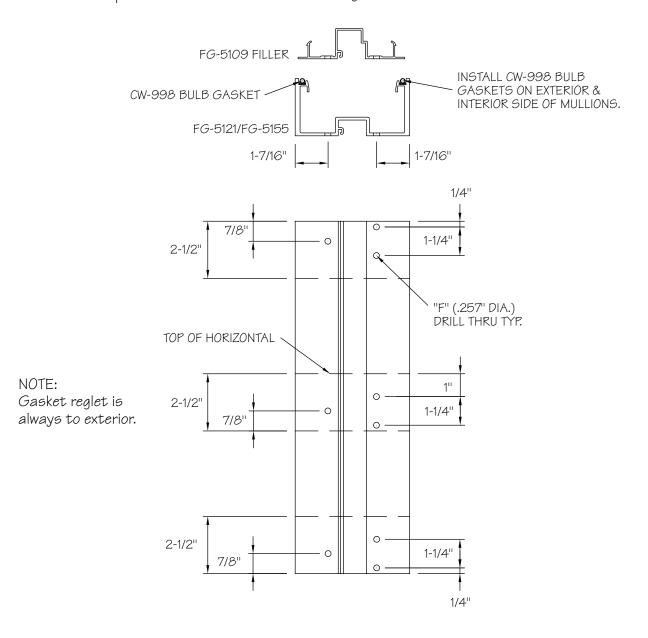
Wall jambs and intermediate vertical mullions are cut to frame height.

Horizontal members are cut to D.L.O.

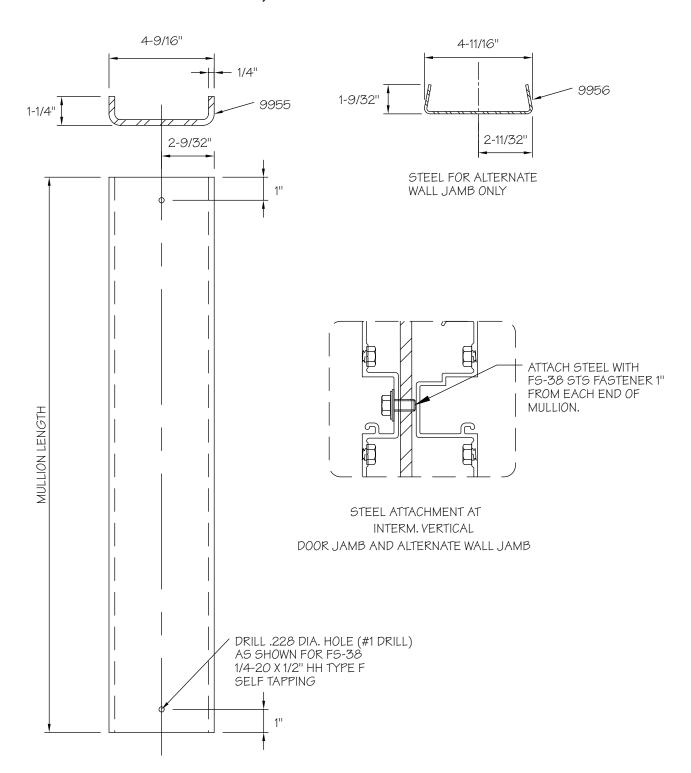
Snap-on glass stops are cut D.L.O. minus(-) 1/16"

STEP 3

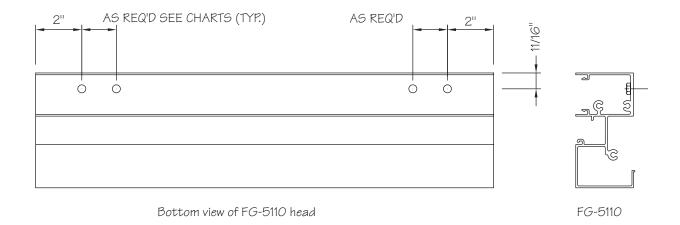
Drill or punch holes in verticals for attaching horizontals.

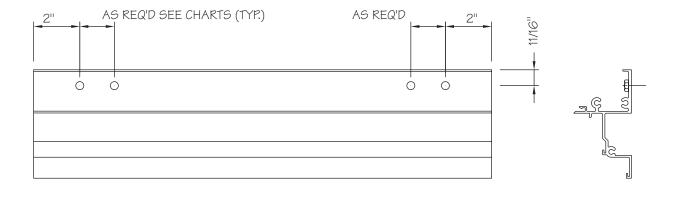


Fabricate steel reinforcement where required.



Fabricate head and sill for 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.





FG-5112

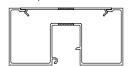
Top view of FG-5112 SILL

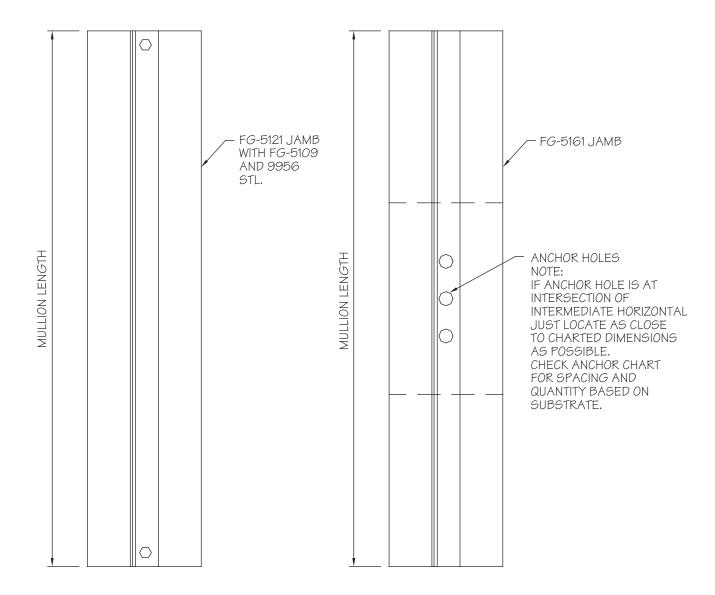
Fabricate wall jamb for anchor holes. Number of anchors vary based on substrate material. (Reference Anchor Charts)

NOTE: Steel reinforced jambs do not need to be anchored to substrate.

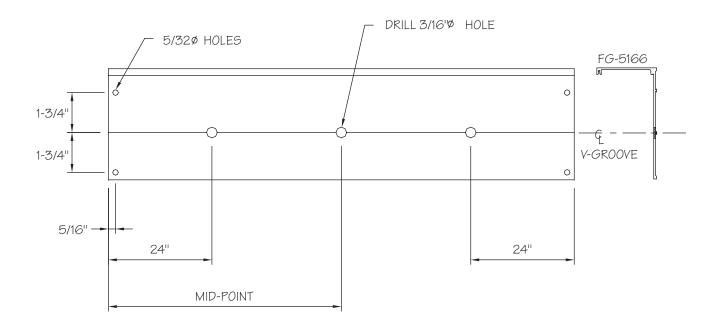


NOTE: Install 18" long FG-5000-FP-12 anchor plate @ mullion midpoint and sill intersection. FG-2188 can be used between anchor plates to support caulking back up.



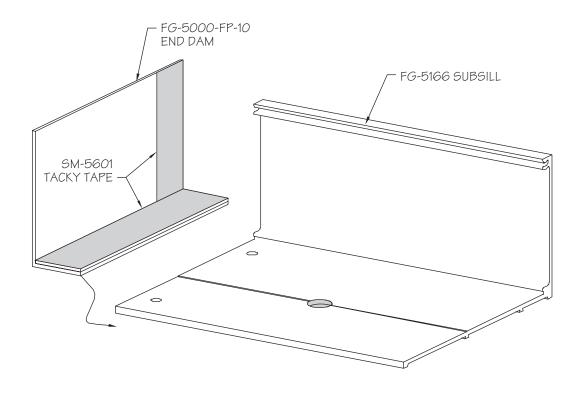


Fabricate FG-5166 subsill flashing for end dams and non-structural fastener holes. Hole location dimensions for fasteners in subsill are approximate.

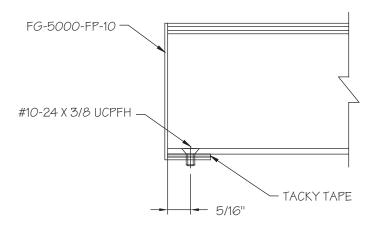


- 1. Drill 3/16 dia. hole for non-structural fasteners used for attaching subsill to substrate as shown. Repeat this hole pattern for each additional 12'-0" of length or as required to temporarily hold subsill in place until structural fasteners are installed.
- 2. Drill two each 5/32 dia. holes at each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

FRAME ASSEMBLY FOR PANELIZED/PRE-GLAZE OPTION

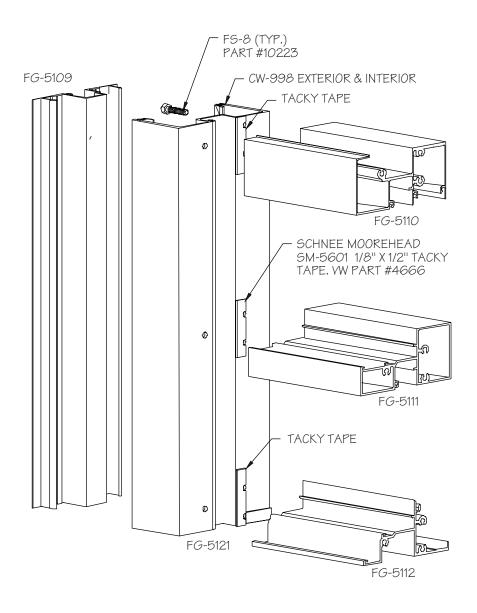


Apply SM-5601 tacky tape to end dams as shown and stick to the ends of subsill



Match drill holes in subsill end d with $5/32''\mathcal{O}$ drill. Attach with two each #10-24 x 3/8'' screws as shown.

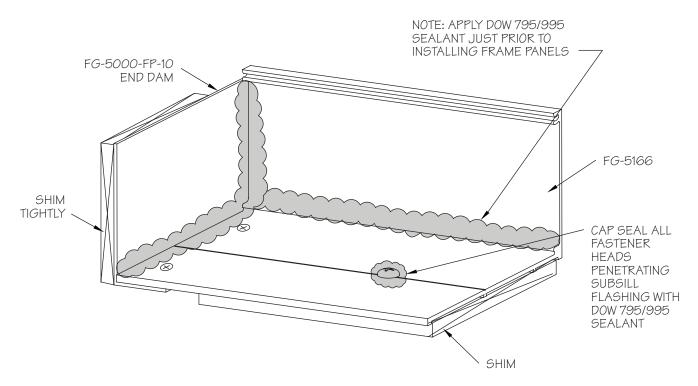
FRAME ASSEMBLY FOR PANELIZED/PRE-GLAZE OPTION



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 **page 5** for hole prep locations.

FRAME INSTALLATION FOR PANELIZED/PRE-GLAZE OPTION

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



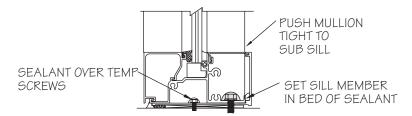
Shim beneath subsill to be a maximum of 1/4". Attach subsill flashing to structure with non-structural fasteners using attachment holes shown on **page 9**.

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 <u>continuous</u> bead of Dow 795 or 995 sealant along the full length of the sub sill as shown above **just prior to installing frame panels**. Do not allow sealant to harden prior to installing frame panels.

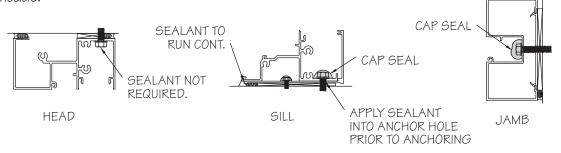
FRAME INSTALLATION FOR PANELIZED/PRE-GLAZE OPTION

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 tightly against the upright leg of the subsill.

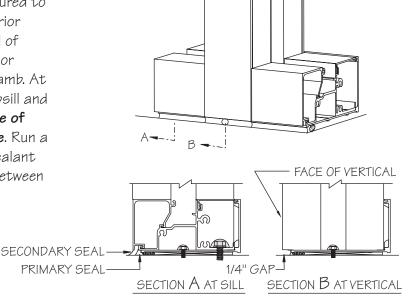


After all panels are installed, shim beneath subsill as required at sill anchors. Match drill holes through sill into substrate. Remove dust from hole and apply sealant into anchor holes prior to anchoring. Cap seal fastener heads and install FG-5165 cover. Match drill holes into substrate at head. Anchor and shim as shown. Install FG-5113 cover. It is not necessary to cap seal fasteners at head. Do no install FG-5165 or FG-5113 until after bolt inspectioin.

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

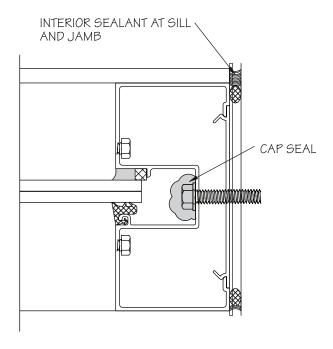


Once all individual frames are secured to the opening, completely seal exterior perimeter with a continuous bead of Vulkem 921 polyurethane sealant or equal, across head and at each jamb. At the sill run a bead across the subsill and sill leaving 1/4" gaps at centerline of each vertical mullion for weepage. Run a continuous bead of Vulkem 921 sealant or equal along the interior joint between the head and substrate.

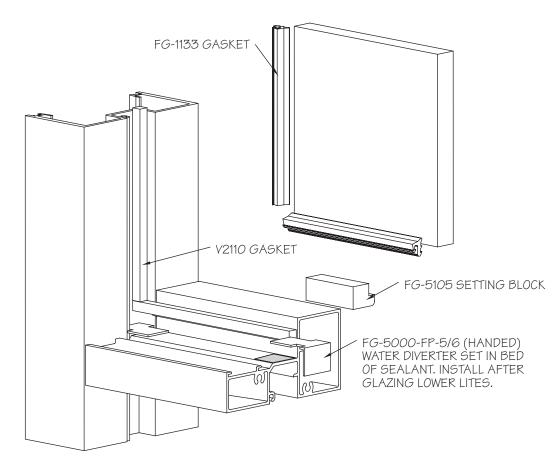


FRAME INSTALLATION FOR PANELIZED/PRE-GLAZE OPTION

Starting from the bottom, seal up the jamb to the interior to a height of 3". It is not necessary to seal the balance of the jamb on the interior or beneath the interior side of the subsill flashing except for cosmetic reasons.

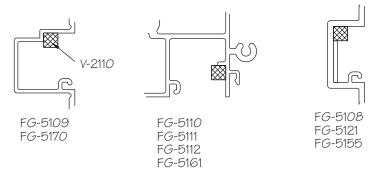


GLAZING FOR PANELIZED/PRE-GLAZE OPTION



Remove all debris from glazing pockets to prevent blockage of weeps/drains. Clean backside of glazing pockets with isopropyl alcohol prior to installation of V2110 spacer gasket to remove all dirt and cutting oils.

It is recommended that the interior spacer gasket be installed just prior to glazing. Install two each 4" long setting blocks at 1/4 point of horizontal length in sill and intermediate horizontals.



Make sure spacer gasket is positioned in pockets as shown.

GLAZING FOR FOR PANELIZED/PRE-GLAZE OPTION

Glaze from bottom to top. Install water diverters as shown on **page 15** after lower lite is in position.

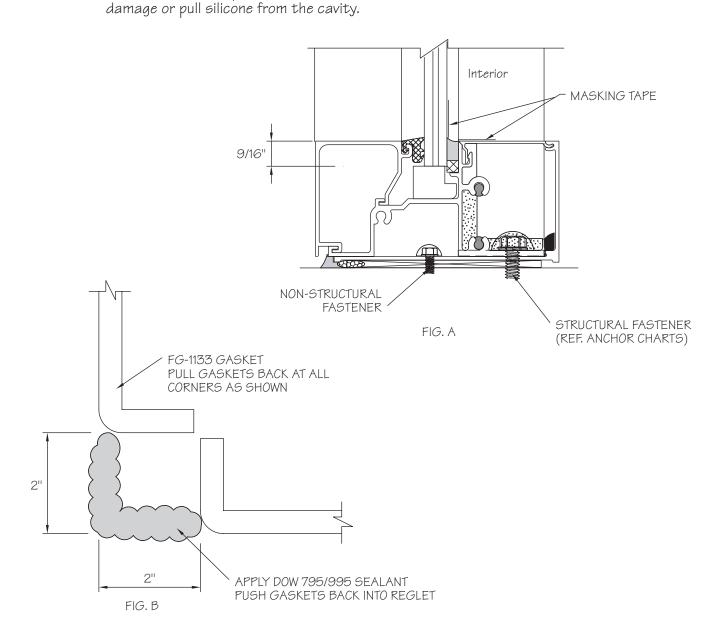
Install exterior glass stops.

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 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) as shown. Push gaskets into reglet.

Mask off glass and aluminum with 2" wide low adhesion masking tape. Fill cavity with Dow 795 or 995 sealant as shown below (FIG. A) and immediately tool. Remove masking tape immediately after installation of silicone taking care not to



FRAME FABRICATION WET AND DRY GLAZE FRAMING

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 1/2" caulk joint at each jamb.

NOTE: Maximum caulk joint for Dade County, FL. installation is 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 11/8" to allow for subsill and a 1/4" caulk joint at the head and sill.

FRAME FABRICATION WET AND DRY GLAZE FRAMING

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.

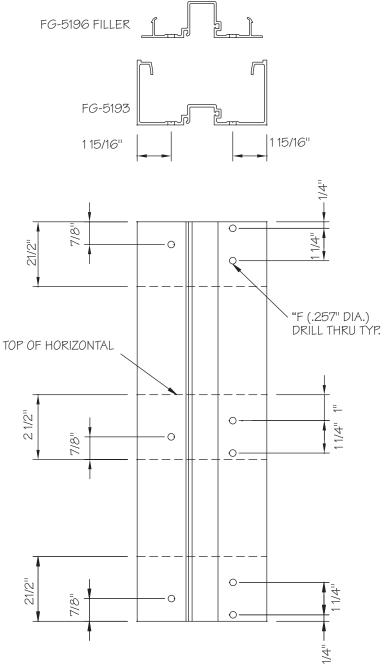
Wall jambs and intermediate vertical mullions are cut to frame height.

Horizontal members are cut to D.L.O.

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

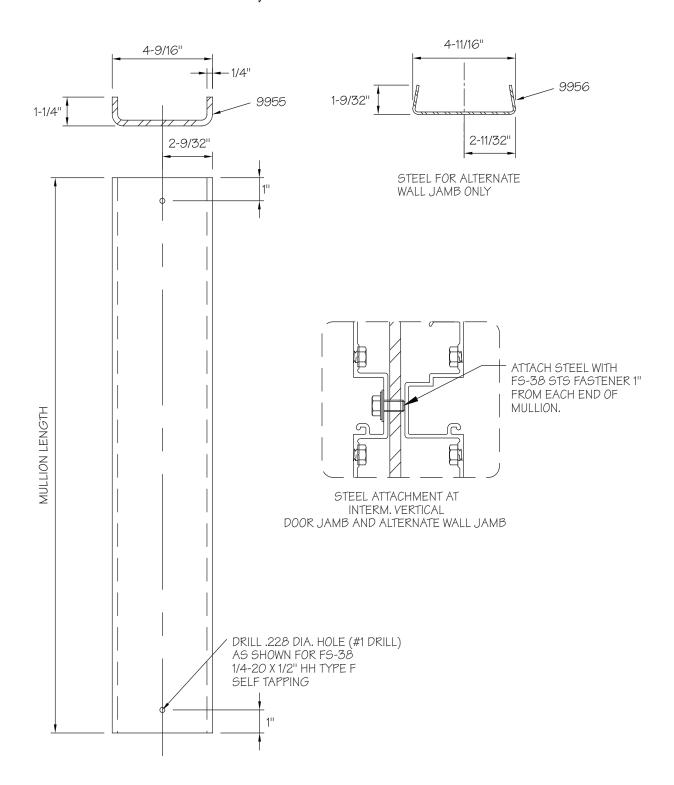
STEP 3

Drill or punch holes in verticals for attaching horizontals.



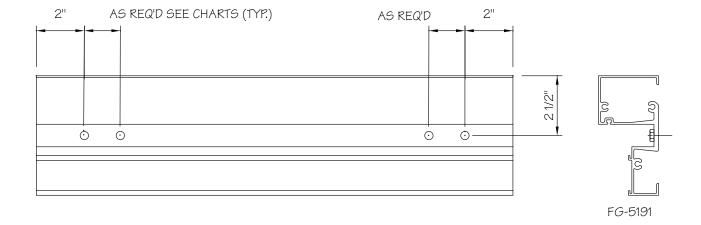
FRAME FABRICATION WET AND DRY GLAZE FRAMING

Fabricate steel reinforcement where required.



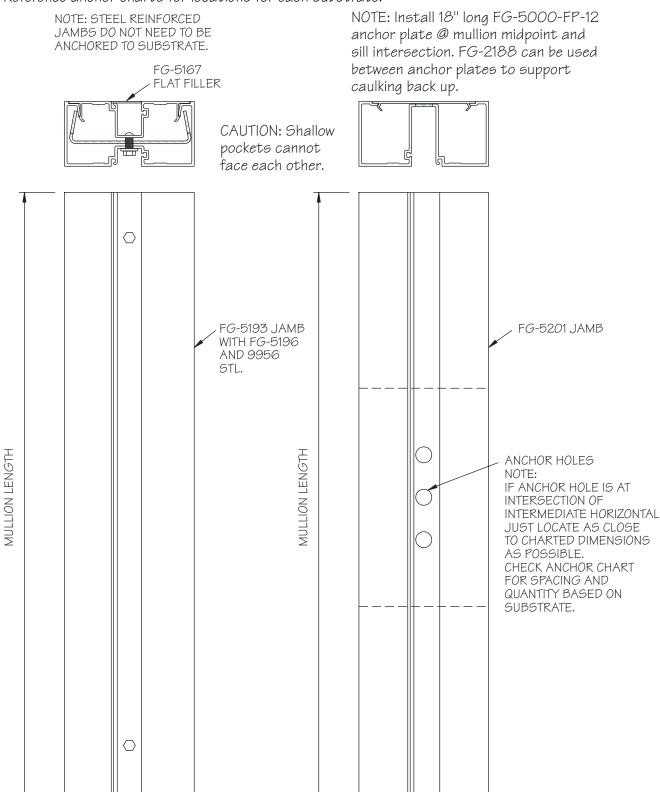
FRAME FABRICATION WET AND DRY GLAZE FRAMING

Fabricate head and sill for 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.

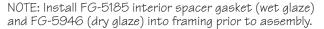


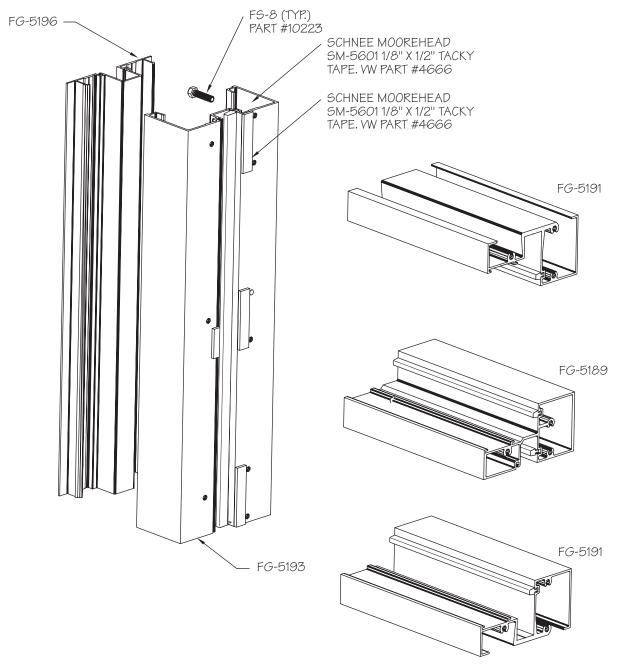
FRAME FABRICATION WET AND DRY GLAZE FRAMING

Fabricate wall jamb for anchor holes. Number of anchors vary based on substrate material. Reference anchor charts for locations for each substrate.



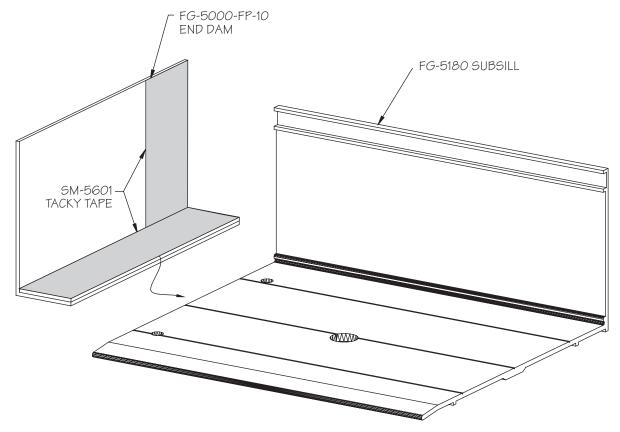
FRAME ASSEMBLY WET AND DRY GLAZE FRAMING



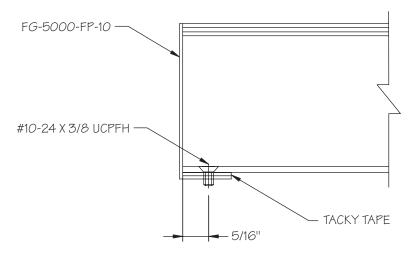


Attach horizontals to verticals using FS-8 (#14 x 1" sts spline screws) Trim excess sealant tape at joints with razor knife. **DO NOT PULL TAPE TO TRIM.** See sheet 15 for hole prep locations.

FRAME ASSEMBLY WET AND DRY GLAZE FRAMING



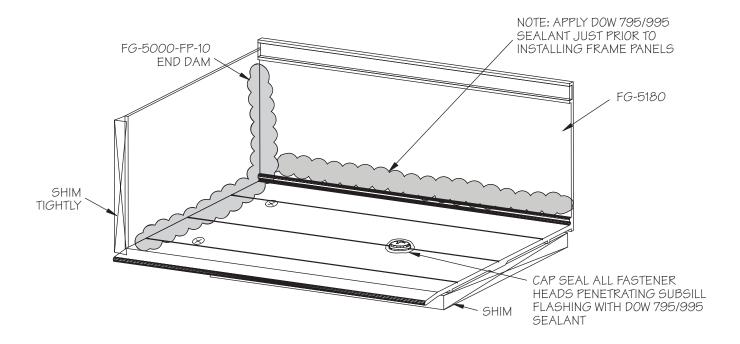
Apply SM-5601 tacky tape to end dams as shown and stick to the ends of subsill.



Match drill holes in subsill end dam with $5/32''\emptyset$ drill. Attach with two each $\#10-24\times3/8''$ screws as shown.

FRAME INSTALLATION WET AND DRY GLAZE FRAMING

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

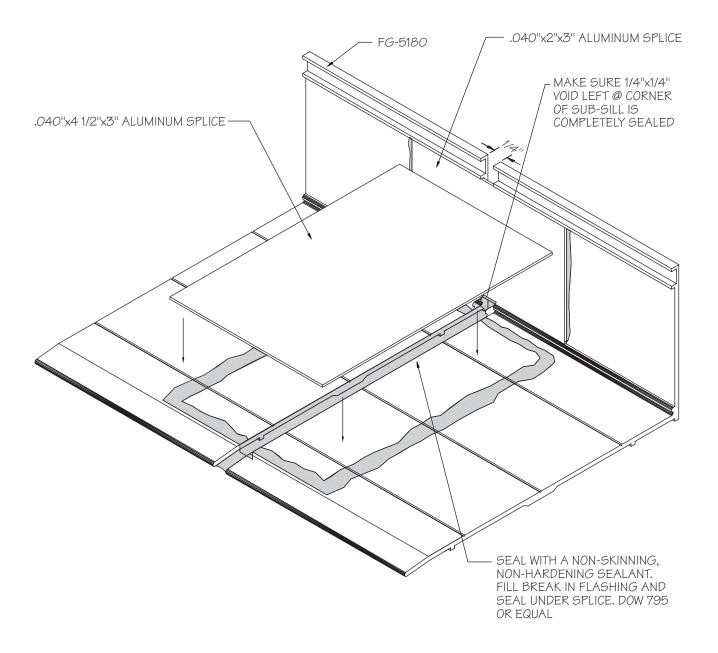


Shim beneath subsill to be a maximum of 1/2". Attach subsill flashing to structure with non-structural fasteners using attachment holes, shown on page 19.

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.

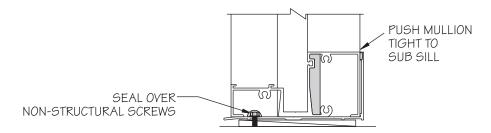
Run a continuous bead of Dow 795 or 995 sealant along the full length of the sub sill channel as shown above **just prior to installing frame panels**. Do not allow sealant to harden prior to installing frame panels. Remove excess sealant after panels are installed.

FRAME INSTALLATION SUB-SILL SPLICE WET AND DRY GLAZE FRAMING



FRAME INSTALLATION WET AND DRY GLAZE FRAMING

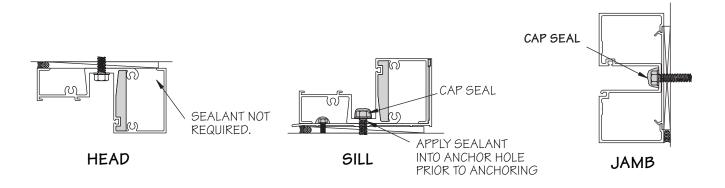
Install assembled frame panels into opening starting at either jamb and continue working toward the other jamb until the last frame panel is installed. Ensure that the frame panels are pushed tight against the upright leg of the subsill. Remove excess sealant after panels are installed.



After all panels are installed, shim beneath subsill as required at fasteners. Match drill holes through sill into substrate. Remove dust from holes. Apply sealant 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.

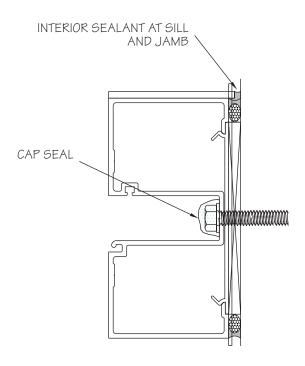
Match drill holes in jamb to substrate. Anchor and shim as required. Cap seal fastener heads.



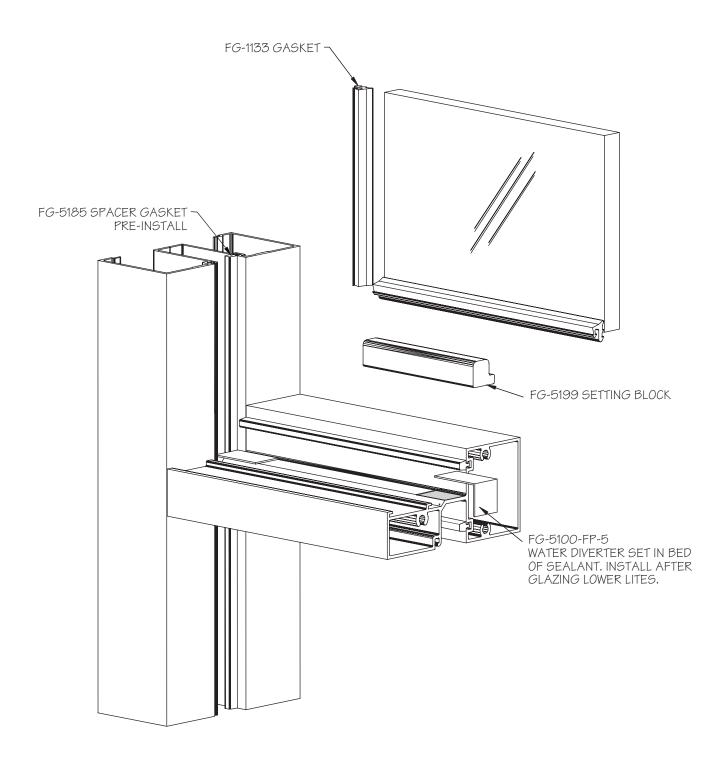
Once all individual frames are secured to the opening, then completely seal with a continuous bead of Vulkem 921 polyurethane sealant or equal, across head and at each jamb. At the sill run a bead across the subsill.

FRAME INSTALLATION WET AND DRY GLAZE FRAMING

Starting from the bottom, seal up the jamb at the interior to a height of 3". It is not necessary to seal the balance of the jamb on the interior or beneath the interior side of the sub sill flashing other than for cosmetic reasons.



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 28** after lower lite is in position. At sill, install FG-5192 setting chair (2 per lite at setting block locations). Install exterior glass stops.

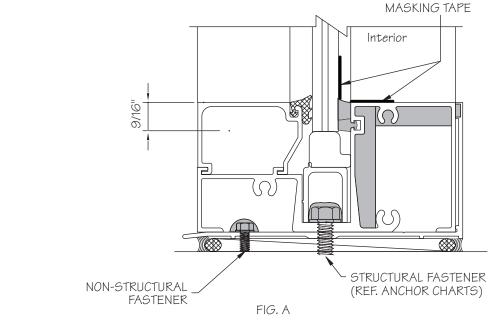
Install exterior FG-1133 glazing gaskets as shown on page 28.

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.

Mask off glass and aluminum with 2" wide low adhesion masking tape. Fill cavity with Dow 795 or 995 sealant as shown below (FIG. A) and immediately tool.

Remove masking tape immediately after tooling; taking care not to damage tooled sealant.



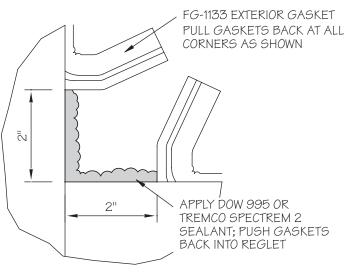
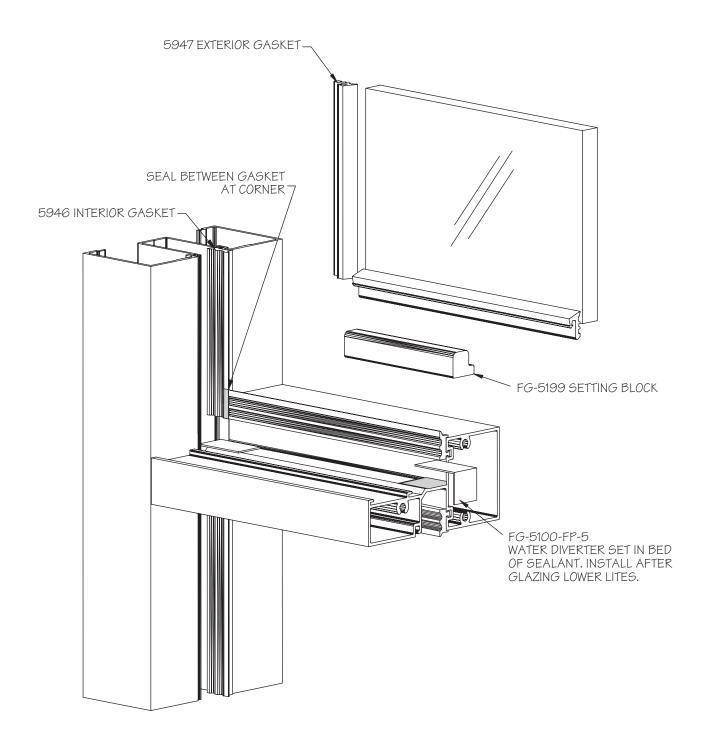


FIG. B

GLAZING DRY GLAZE OPTION



Remove all debris from glazing pockets to allow proper drainage.

GLAZING DRY GLAZE OPTION

Glaze from bottom to top. Install water diverters as shown on **page 30** after lower lite is in position. At sill, install FG-5192 setting chair (2 per lite at setting block locations).

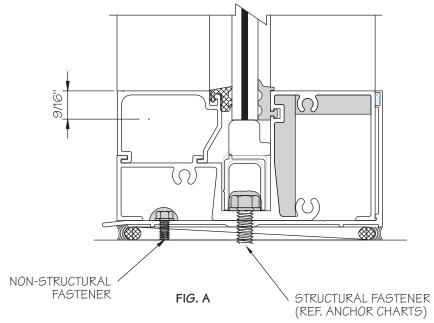
Install exterior glass stops.

Install exterior 5947 glazing gaskets as shown on page 30.

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 aaskets into realet.

5946 gasket must be slid in before frame is assembled. Gasket intersections must be caulked with Dow 995/795 prior to setting glass.



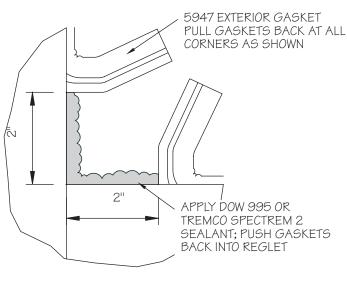


FIG. B

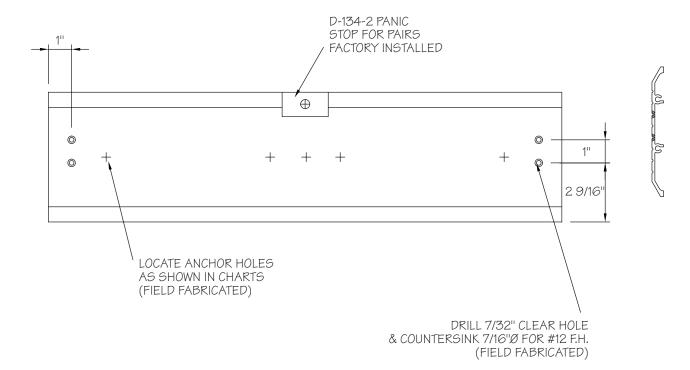
PREPARATION OF DOOR FRAME

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 5000 framing.

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. (Note: CW-998 bulb gasket is not required in the FG-5168 jamb at wall).

Attach frame portion of offset pivots to frame if applicable. Apply Schnee-Morehead SM-5601 1/8" \times 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.

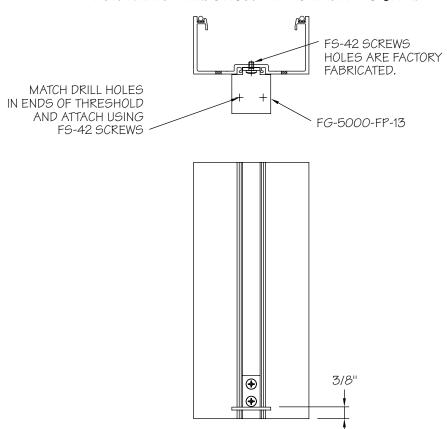


THRESHOLD FABRICATION

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.

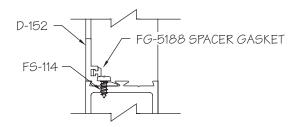
ALTERNATE THRESHOLD ATTACHMENT TO JAMB



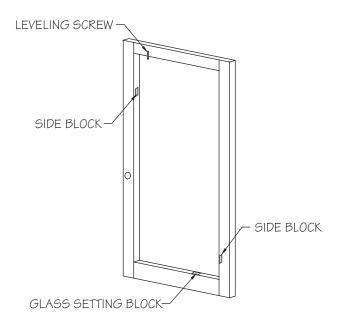
DOOR PREPARATION AND GLAZING

FP-5000-PP1 setting side block, FS-114 (# $8 \times 3/8$ " 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 hole's are predrilled in D-152 glass stop. Determine side of door you desire to place the glass stop and match drill holes into the horizontal rails, vertical door stiles and attach as shown below.



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

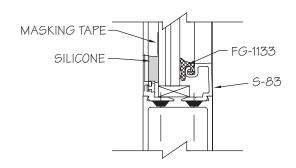


DOOR PREPARATION AND GLAZING

- 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.

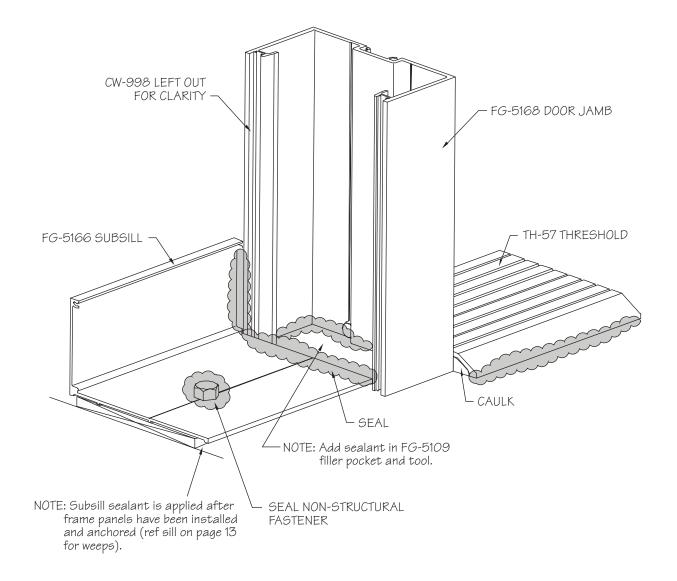
Note: Top stops are notched to clear glass jack. Be sure to hook the stop into the dovetails on the rails and stiles; then snap into place. A mallet may be used to drive stops into place.

- 7. Install vertical S-83 glass stops.
- 8. Roll FG-1133 gasket into S-83.
- 9. Mask off glass with 2" wide low adhesion masking tape and install Dow 795 or 995 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 SUB-SILL FOR SIDELIGHTS

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



PARTS LIST

PRE-GLAZED FRAMING		
ITEM		DESCRIPTION
	FG-5110	Head
11	FG-5113	Filler Plate at Head
6, 0	FG-5111	Intermediate Horizontal
[] [*]	FG-5114	Glass Stop for Intermediate Horizontal
	FG-5112	Sill
Ţ,	FG-5115	Glass Stop for Sill
7	FG-5165	Filler Plate at Sill
	FG-5166	Subsill Flashing
	FG-5121	Mullion
	FG-5155	Heavy Wall Mullion
	FG-5161	Wall Jamb
1	FG-5109	Pocket Filler for FG-5121 & FG-5155

PRE-GLAZED FRAMING (cont'd)		
ITEM	DESCRIPTION	
	Flat Filler for FG-5121	
F G-1133	Exterior Glazing Gasket	
V-2110	5/16" Tape SSA Interior Spacer	
FG-5105	Setting Block 2 per lite	
SM-5601	Joint Sealant Tape 1/8" x 1/2"	
CW-998	Bulb Gasket	
FG5000-FP-10	Sill Flashing End Dam (Attach with 2 ea. FS-54 screws)	
FS-54	#10-24 x 3/8" UCPFH Screws	
FS-8	#14 x 1" HHSTS Assembly Screw	
FG5000-FP-12	18" Long Anchor Plate for FG-5161 Jamb	
FG5000-FP-13	Threshold Clip Pack for TH-57 2 per bag with (8) FS-42 Screws	
FS-38	Steel Attachment Screw	

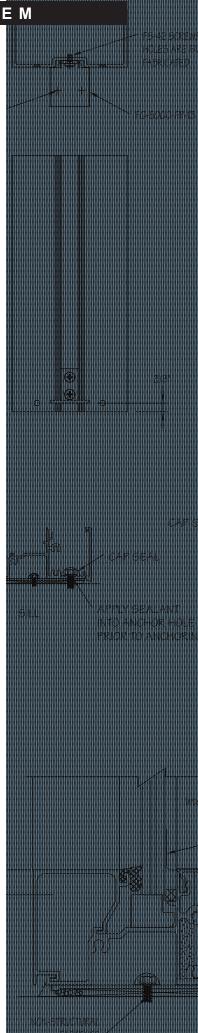
PARTS LIST

PRE-GLAZED FRAMING (cont'd)		
ITEM	DESCRIPTION	
FG5000-PP-8	Steel Reinforcing 10'-0" Use with FG-5121	
FG5000-PP-9	Steel Reinforcing 10'-0" Use with Wall Jamb	
FG5000-FP-6	Left Hand Water Diverter	
FG5000-FP-5	Right Hand Water Diverter	
HP-17	Setting Block for Door Header 2 per lite	

SSG AND DRY GLAZE FRAMING		
ITEM		DESCRIPTION
	FG-5193	Vertical Mullion
	FG-5201	Wall Jamb
	FG-5195	Heavy Mullion
	FG-5189	Intermediate Horizontal
	FG-5191	Head/Sill
[]	FG-5190	Glass Stop
1	FG-5196	Pocket Filler for FG-5193 & FG-5195
	FG-5180	Subsill Flashing
	FG-5200	Corner Mullion (Fits with FG-5196)
<u> </u>	FG-2122	Flat Filler Plate
Annum	FS-8	#14 x 1" HHSTS Assembly Screw
	FS-38	Steel Attachment Screw

PARTS LIST

WET AND DRY GLAZE FRAMING (cont'd)	
ITEM	DESCRIPTION
FG-5199	Setting Block
SM-5601	Joint Sealant Tape 1/8" x 1/2"
5947	Exterior Glazing Gasket (Dry glaze option)
5946	Interior Glazing Gasket (Dry glaze option)
1 FG-1133	Exterior Glazing Gasket (SSG option)
FG-5185	Interior Spacer Gasket (SSG option)
FG-2188	Flat PVC Filler (Runs between anchor plates)
FG5000-FP-10	Sill Flashing End Dam (Attach with 2 ea. FS-54 screws)
FS-54	#10-24 x 3/8" UCPFH Screws
FG5000-FP-5	Water Diverter
9955	Steel Reinforcing 10'-0"
FG-5192	Setting Chair



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