



Oldcastle BuildingEnvelope®

Reliance™ Blastmax®
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 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 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

PRODUCT USE

The **Reliance™ BlastMax** curtain wall system is intended for fabrication, assembly, sealing, installation and glazing by professionals with appropriate knowledge and experience of the system(s) and their incorporation into various building conditions.

Consult sealant manufacturer for review and recommendation of sealant application. Follow sealant manufacturer's recommendations and literature for proper installation.

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.

GLAZING PRACTICES

The air and water performance of the **Reliance™ BlastMax** curtain wall 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:

1. Surfaces to be sealed should be cleaned with isopropyl alcohol or solvent and dried as recommended by sealant manufacturer to remove all dirt and cutting oils. Sealant at shear blocks should be a minimum 3/16" diameter nominal placed completely around the top, face and bottom of the shear block without gaps in the sealant. Exposed surfaces should be cleaned after installing the horizontal. Inspect joint for complete sealant contact, especially where the horizontal meets the face of the vertical member. Repair joint as required.
2. Glazing gaskets should be cut 1/4" longer per foot, and lay flat, preferably for 24 hours.
3. Gaskets should be cut as single monolithic pieces and "crowded" during their installation to avoid corner gaps caused by post-installation relaxation.
4. The interior glazing gasket should be installed so as to avoid stretching, buckles, or tears.
5. 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.
6. Gasket corner joinery must also be crowded, and sealant applied onto the gasket contact frame surface and into gasket reglet raceway where applicable.
7. 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.
8. 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.
9. Check the placement of the installed glass and verify there is proper edge bite into the pocket, and proper edge clearance from framing elements.
10. 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.

Variations on the details shown are inevitable and are not the responsibility of Oldcastle BuildingEnvelope when drawn by others. Oldcastle BuildingEnvelope strongly encourages its customers to utilize Oldcastle BuildingEnvelope® supplied calculations and shop drawings.

For Structural Silicone Glazing applications, the stress on the silicone should not exceed 20 PSI. Consult sealant manufacturer for specific applications to ensure proper loading on silicone joint. Alternate spacer gaskets are available to accommodate larger sealant contact widths. Consult your nearest Oldcastle BuildingEnvelope facility for assistance.

Consult glass manufacturer for correct setting block location and length for glass sizes in excess of 40 sq.ft.

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.

PROTECTION AND STORAGE

Handle all material carefully. Do not drop from the truck. Stack with adequate separation so the material will not rub together. Store material off the ground, protecting against the elements and other construction hazards by using a well ventilated covering. Remove material from package if wet or located in a damp area. For further guidelines consult AAMA publication CW-10 "Care and Handling of Architectural Aluminum From Shop to Site."

CHECK MATERIAL

Check glass dimensions for overall size as well as thickness. Oldcastle BuildingEnvelope cannot be held responsible for gaskets that are not watertight due to extreme glass tolerances. The Reliance BlastMax curtain wall system is designed to accommodate glass or panels measuring 1-5/16" and 9/16" in thickness (+/- 1/32").

Check all material upon arrival at job site for quality and to determine any shipping damage.

Using the contract documents, completely check the surrounding conditions that will receive your materials. Notify the general contractor by letter of any discrepancies before proceeding with the work. Failure to do so constitutes acceptance of work by other trades.

Check shop drawings, installation instructions, architectural drawings and shipping lists to become familiar with the project. 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. Due to varying job conditions all sealant used must be approved by the sealant manufacturer to ensure it will perform per the conditions shown on the instructions and shop drawings. The sealant must be compatible with all surfaces in which adhesion is required, including other sealant surfaces. Use primers where directed by sealant manufacturer. Properly store sealant at the recommended temperatures and check sealant for remainder of shelf life before using.

FIELD CONDITIONS

All material to be installed must be plumb, level and true. Aluminum to be placed in direct contact with masonry or incompatible material should be isolated with a heavy coat of zinc chromate, bituminous paint or non-metallic material.

After sealant is set and a representative amount of the wall has been 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.

CLEANING MATERIALS

Cement, plaster terrazzo, alkaline and acid-based materials used to clean masonry are very harmful to finishes. Any residue should be removed with water and mild soap immediately or permanent staining will occur. A spot test is recommended before any cleaning agent is used. Refer to the Architectural Finish Guide in the Detail Catalog.

FRAME FABRICATION

1.0 Unless otherwise noted, the details shown in these instructions reflect the 7 1/2" system for 1-5/16" glazing. NOTE : Structural silicone glazed vertical mullion is referred to as SSG mullion.

- a. Measure ROUGH OPENING to determine FRAME WIDTH and FRAME HEIGHT dimensions. Allow 1/2" minimum clearance for shimming and caulking around perimeter of frame.

- b. Cut material to size. SEE FIGURE 1 for guide.

Frame Members

Verticals FRAME HEIGHT (ROUGH OPENING minus top & bottom joints)

Vertical pressure plates	FRAME HEIGHT minus 1/4"
Vertical face covers.....	FRAME HEIGHT (vertical covers run through)
Intermediate horizontals (tubular).....	Daylight opening (D.L.O.)
Intermediate horizontals (rollover).....	D.L.O. minus 1/16"
Head and sill.....	D.L.O. minus 1/16"
Horizontal pressure plates.....	D.L.O. minus 1/4"
Horizontal face covers.....	D.L.O. minus 1/16"
Horizontal interior trim (for rollover).....	D.L.O. minus 1/16"

Accessories

Glazing gaskets (Wet Glazed)

Exterior.....	Pressure plate length plus allowance*
Interior at verticals.....	D.L.O. plus 1" plus allowance*
Interior at horizontals.....	D.L.O. plus allowance*
Silicone spacer gaskets.....	D.L.O. plus 1" plus allowance*

*Glazing gaskets should be cut 1/4" longer per foot. Set aside and lay flat until ready to glaze.

Glazing gaskets (Dry Glazed)

Exterior.....	Pressure plate length plus allowance*
Interior at verticals.....	D.L.O. plus 1-1/2"
Interior at horizontals.....	D.L.O. plus 3/16"

Other Members (as required)

Glazing adaptors

Horizontal.....	D.L.O. minus 1/32"
Vertical.....	D.L.O. plus 1"

Door subframe

Jamb.....	DOOR OPENING plus 1"
Header.....	DOOR OPENING minus 1/32"

Flush door pressure plate

Jamb.....	DOOR OPENING plus 3/4"
Header.....	DOOR OPENING minus 1/16"

Flush door face cover

Jamb.....	DOOR OPENING plus 2 1/2"
Header.....	DOOR OPENING minus 1/16"

FRAME FABRICATION

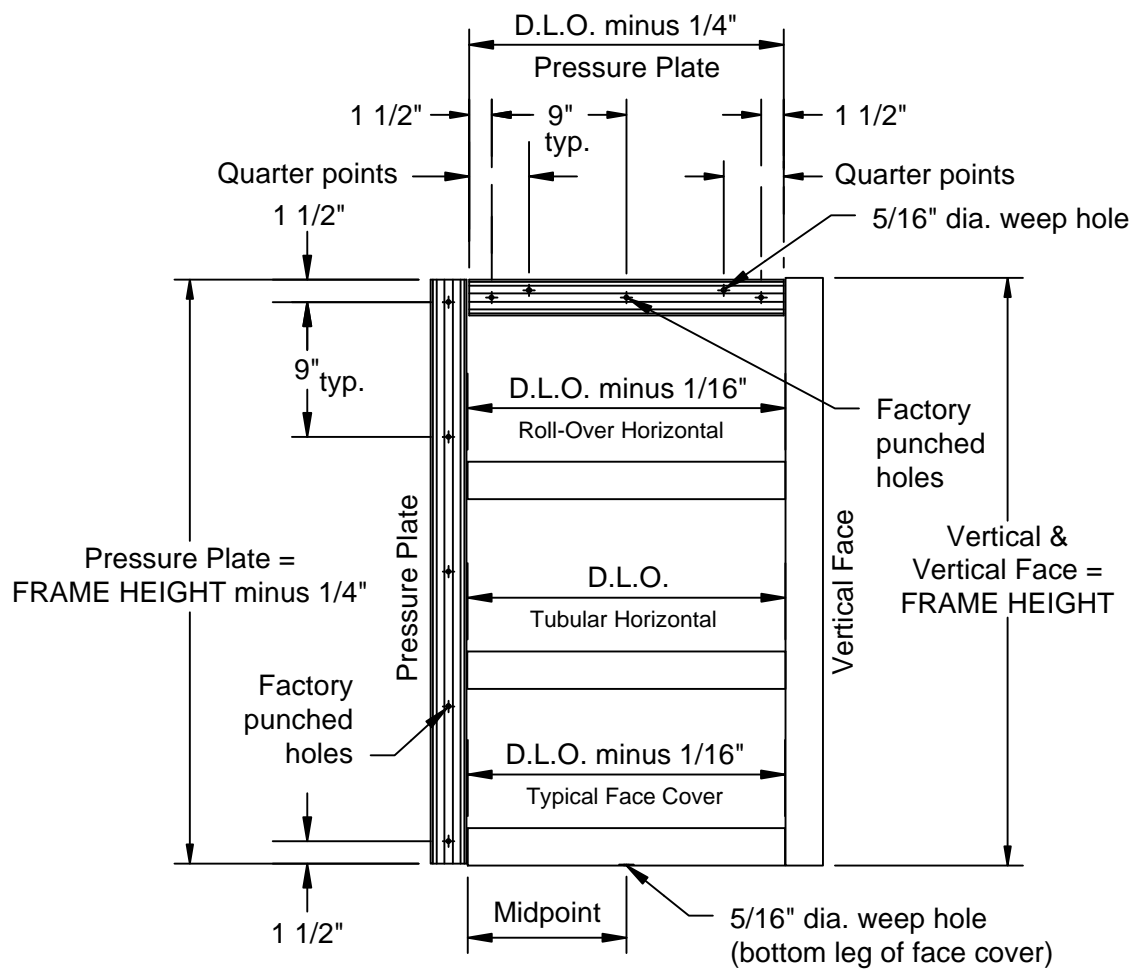
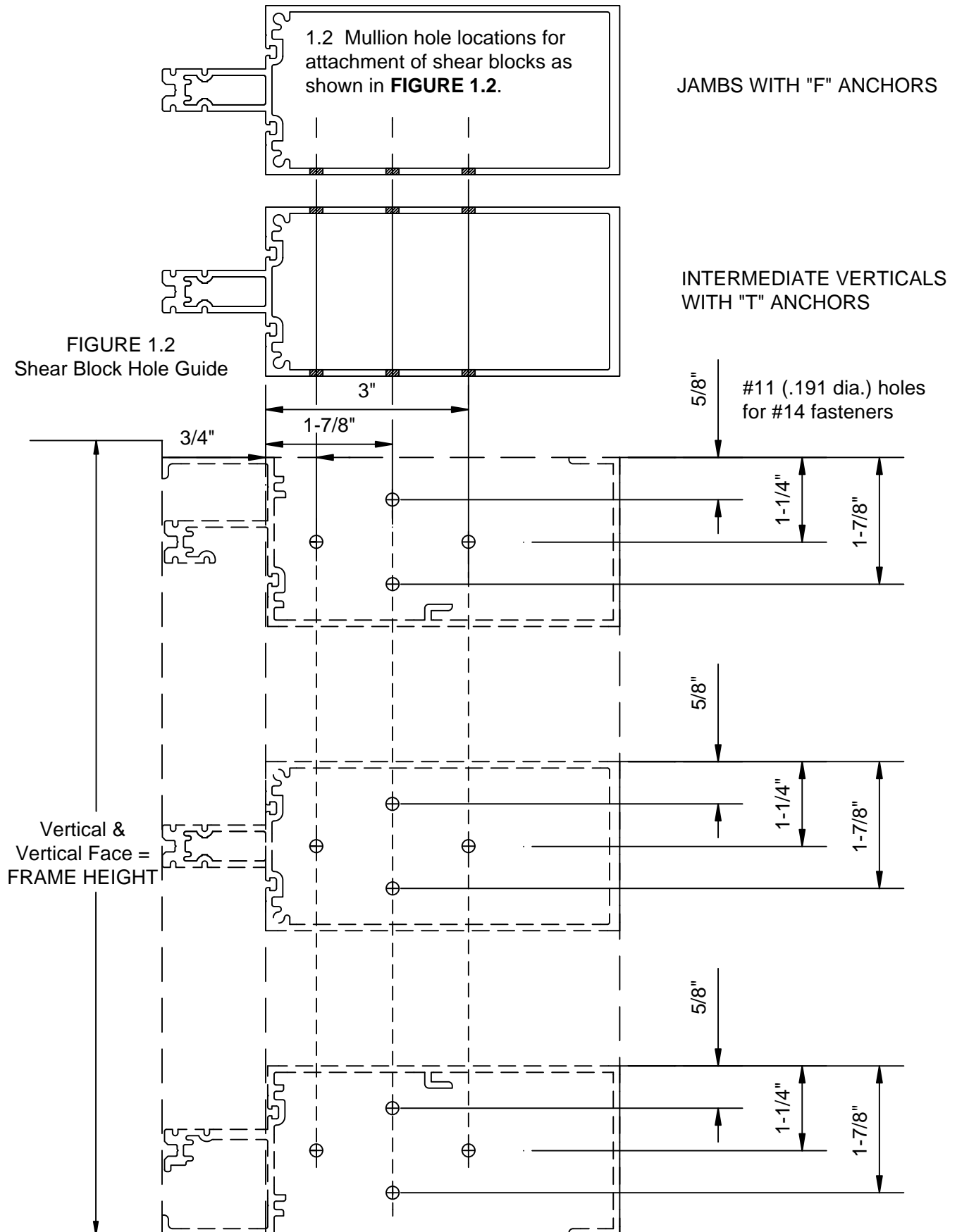


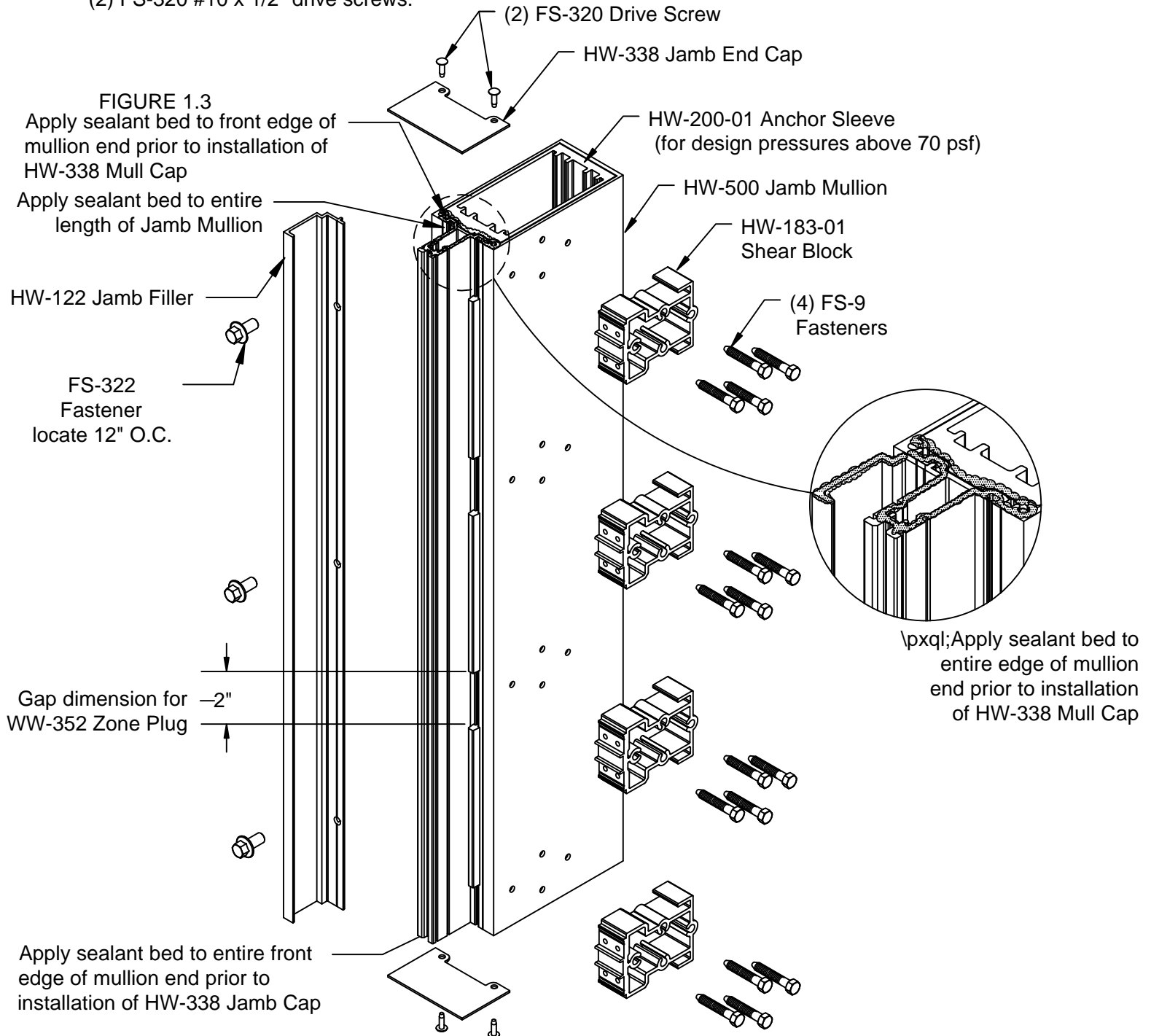
FIGURE 1.1
Material Fabrication Guide

FRAME FABRICATION



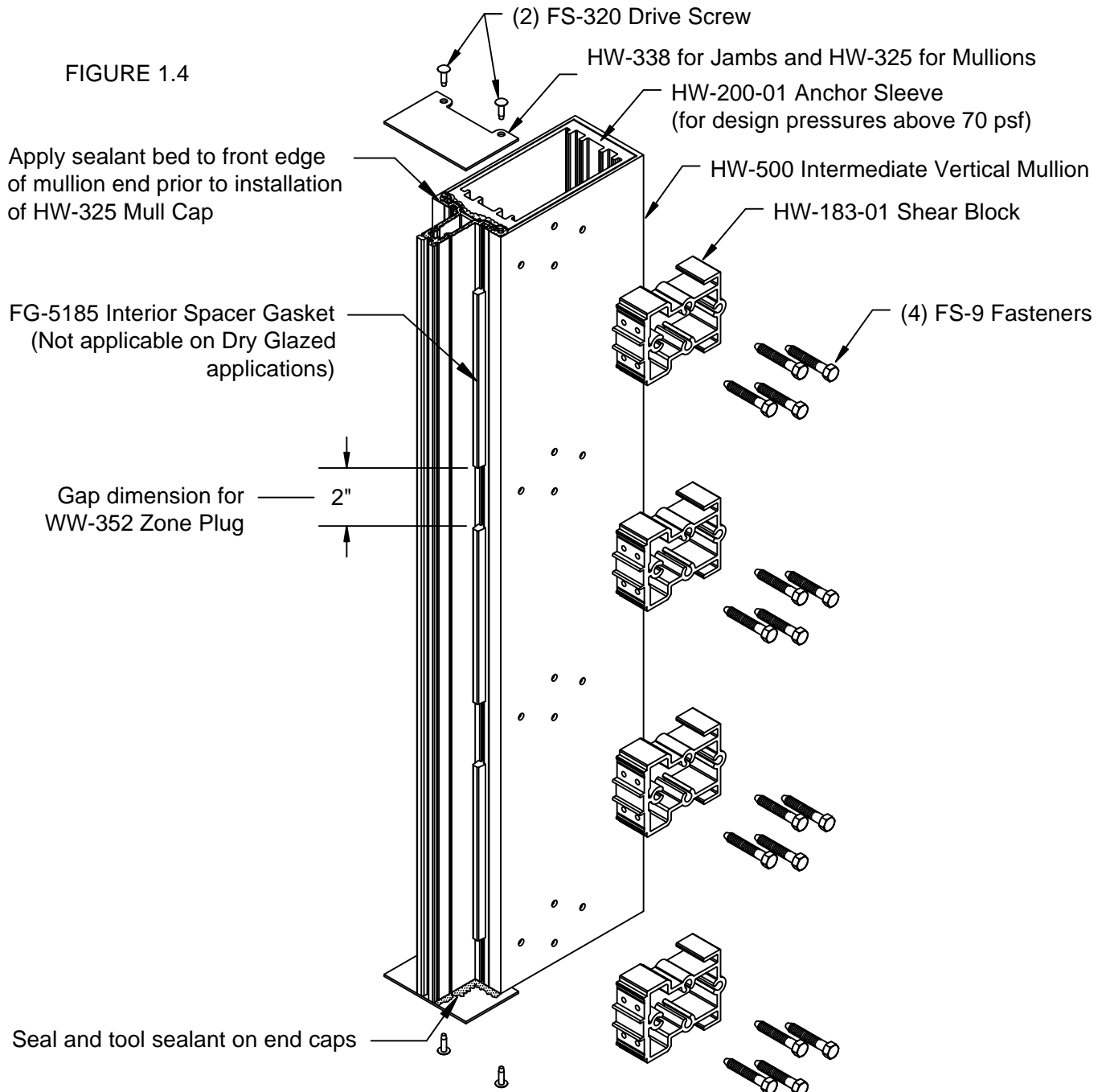
JAMB FABRICATION

- 1.3 a. Prior to HW-183-01 shear block attachment insert HW-200-01 Anchor Sleeves at Jamb ends and match drill .191 dia. hole. (This step is only required for design pressures above 70 psf.)
- b. Attach HW-183-01 shear block to HW-500 Jamb with FS-9 fastener.
- c. Attach HW-122 Jamb Filler to HW-500 Jamb using FS-322 Fastener locate 12" O.C (Drill #11 - .191" clear hole in HW-122 Jamb Filler and #25 - .1495" pilot hole in Jamb)
HW-122 Filler should be bed in sealant.
- Tool sealant on gap space between HW-122 Filler and Jamb Mullion.
- d. Install interior FG-5185 Spacer Gasket cut to 2" from ends and 2" gaps at horizontal to allow for zone plugs.
- e. Install, seal and tool HW-338 End Caps to top and bottom of Jamb screw boss with (2) FS-320 #10 x 1/2" drive screws.



VERTICAL MULLION FABRICATION

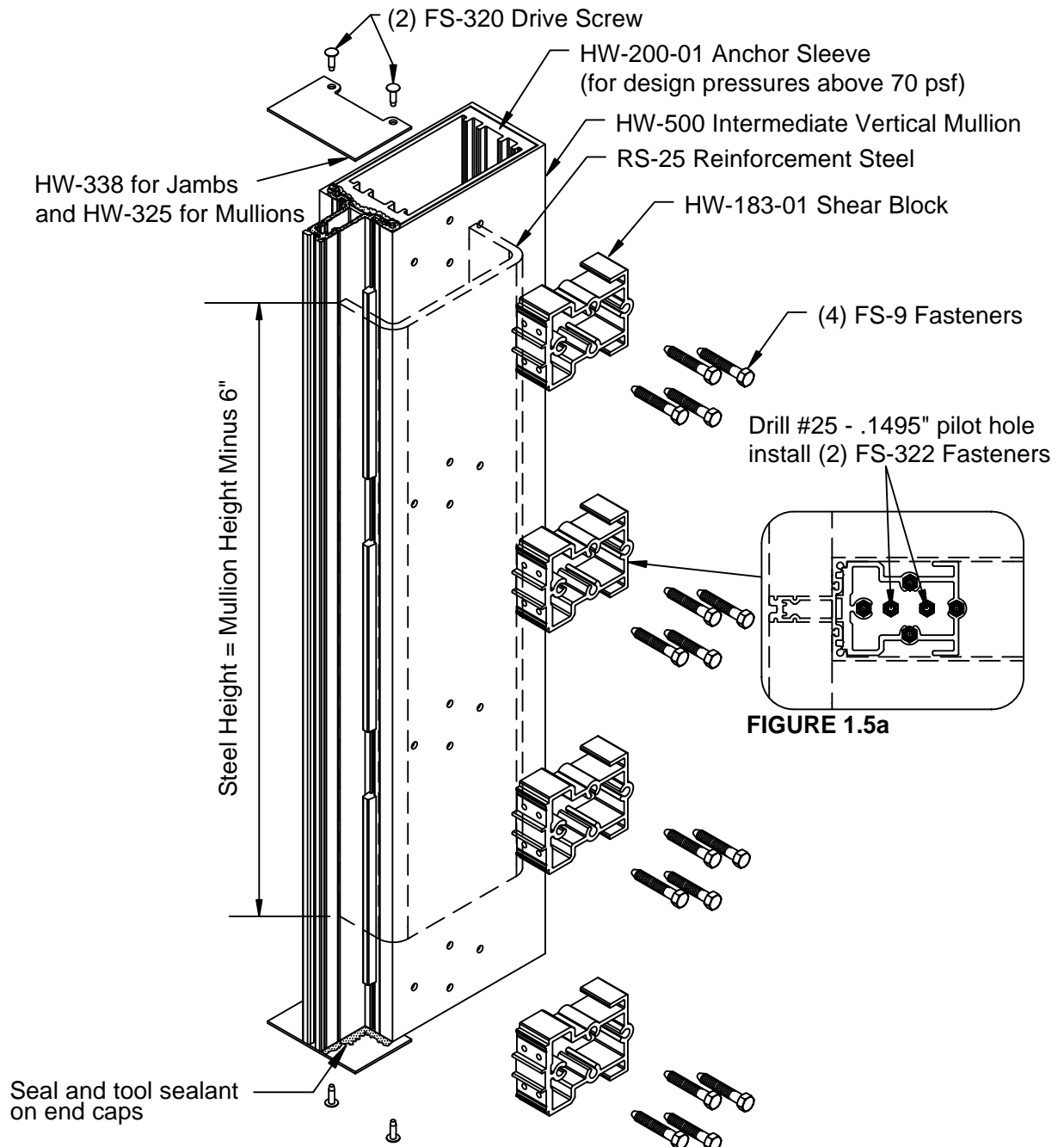
- 1.4 a. Prior to HW-183-01 Shear Block attachment insert HW-200-01 Anchor Sleeves at HW-500 Vertical Mullion ends and match drill .191 dia. hole.
(This step is only required for design pressures above 70 psf.)
- b. Attach HW-183-01 Shear Block to HW-500 Vertical Mullion with FS-9 fastener.
- c. Install FG-5185 interior spacer gasket cut to 2" from ends and 2" gaps at horizontal to allow for WW-352 Zone Plugs. (Not applicable on Dry Glazed applications)
- d. Install and seal HW-325 End Caps to top and bottom of HW-500 Vertical Mullion screw boss with (2) FS-320 #10 x 1/2" drive screw .



ALTERNATIVE REINFORCEMENT STEEL CHANNEL

- 1.5 a. Insert RS-25 Reinforcement Steel into HW-500 Jamb or Mullion
(Steel Height = Mullion Height Minus 6")
- b. Prior to HW-183-01 Shear Block attachment insert HW-200-01 Anchor Sleeves at HW-500 Vertical Mullion ends and match drill .191 dia. hole.
- c. Attach HW-183-01 Shear Block to HW-500 Vertical Mullion with FS-9 fastener
- d. Attach RS-25 Reinforcement Steel to HW-500 Jamb or Mullion with (2) FS-322 fasteners to be located within the Intermediate Horizontal shear block as show in FIGURE 1.5a
- e. Install FG-5185 interior spacer gasket cut to 2" from ends and 2" gaps at horizontal to allow for WW-352 Zone Plugs.
- f. Install and seal HW-325 End Caps to top and bottom of HW-500 Vertical Mullion screw boss with (2) FS-320 #10 x 1/2" drive screw.

FIGURE 1.5



ALTERNATIVE REINFORCEMENT STEEL BAR

- 1.6 a. Insert and attach RS-15 Reinforcement Steel into HW-500 Jamb or Mullion (Steel Height = Mullion Height) Attach RS-15 Steel to HW-200-01 Anchor Sleeve using FS-322 at Head and Sill. See Figures 1.6a & b
- b. Prior to HW-183-01 Shear Block attachment insert HW-200-01 Anchor Sleeves at HW-500 Vertical Mullion ends and match drill .191 dia. hole.
- c. Attach HW-183-01 Shear Block to HW-500 Vertical Mullion with FS-9 fastener.
- d. Install FG-5185 interior spacer gasket cut to 2" from ends and 2" gaps at horizontal to allow for WW-352 Zone Plugs.
- e. Install and seal HW-325 End Caps to top and bottom of HW-500 Vertical Mullion screw boss with (2) FS-320 #10 x 1/2" drive screw .

FIGURE 1.6

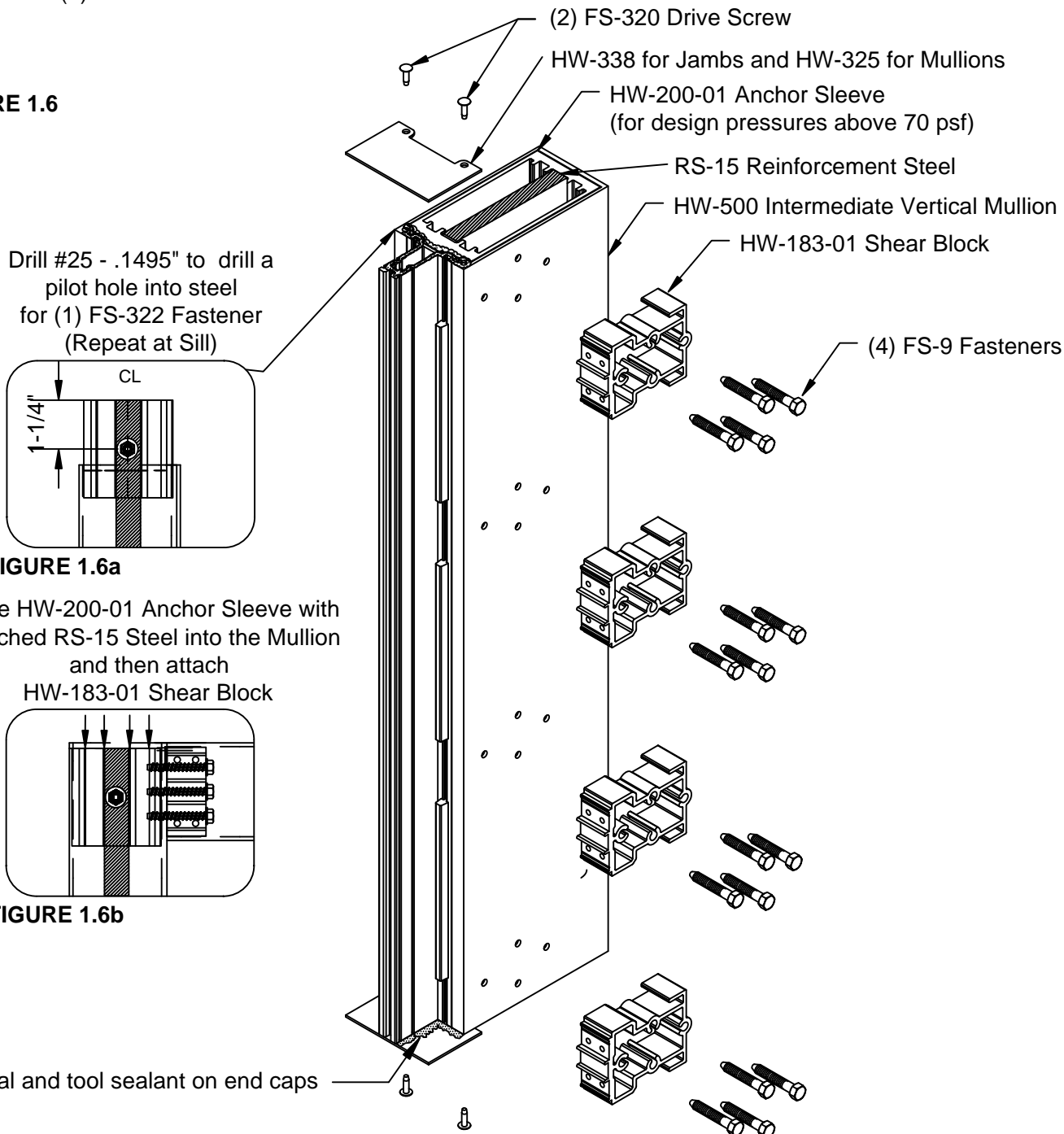


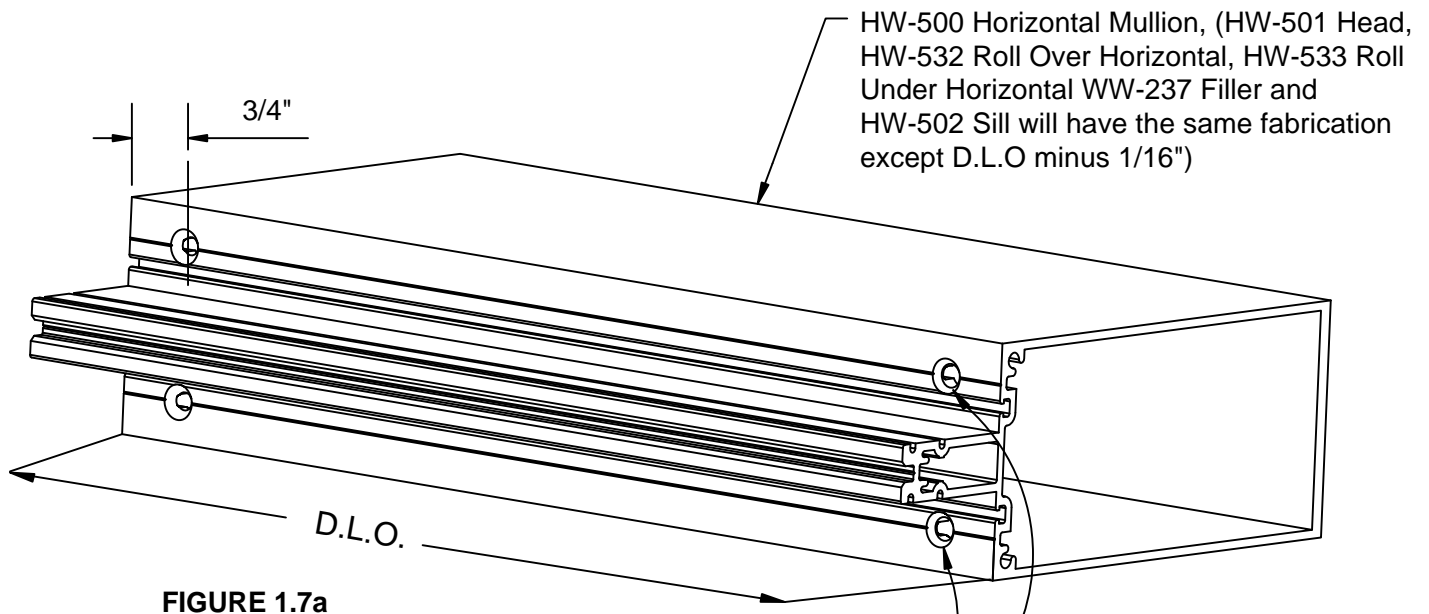
FIGURE 1.6a

Slide HW-200-01 Anchor Sleeve with attached RS-15 Steel into the Mullion and then attach HW-183-01 Shear Block

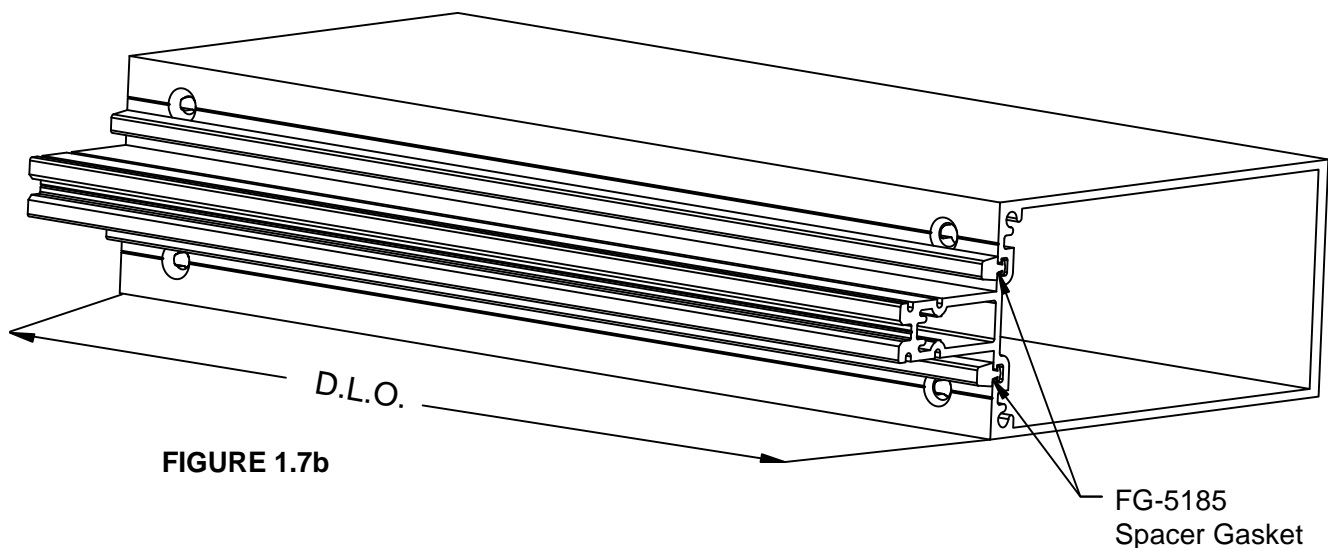
FIGURE 1.6b

HORIZONTAL MEMBER FABRICATION

- 1.7 a. Cut all Horizontal members as follows:
- HW-500 Horizontal to D.L.O.
 - HW-501 Head, HW-502 Sill, HW-532 Roll Over Horizontal, HW-533 Roll Under Horizontal, WW-237 Filler to D.L.O. minus 1/16"
- b. Drill (2) #11 - .191" holes and counter sink locate 3/4" from each end at "V" grooves
- c. Slide FG-5185 Spacer Gasket into reglet on all Horizontal members cut to D.L.O. size as shown in **FIGURE 1.8b**.



Drill (2) #11-.191" holes and countersink. Locate .75" from end of each member.



PRESSURE PLATE FABRICATION

- 1.8 a. Cut WW-162 Pressure Plate to D.L.O. minus 1/4" for horizontal members.
b. Drill (2) 5/16" weep holes at 1/4 points on "V" grooves of WW-162 Pressure Plate. See Figure 1.9a
c. Cut WW-162 Pressure Plates vertical members to Frame Height minus 1/4".
d. Cut GP-117 Gasket to D.L.O. plus 1/4" for relaxation on horizontal members. Vertical members are cut to frame height plus 1/4". Crowd gasket into riglet. See **FIGURE 1.9b**

FIGURE 1.8a
Horizontal Pressure
Plate Fabrication

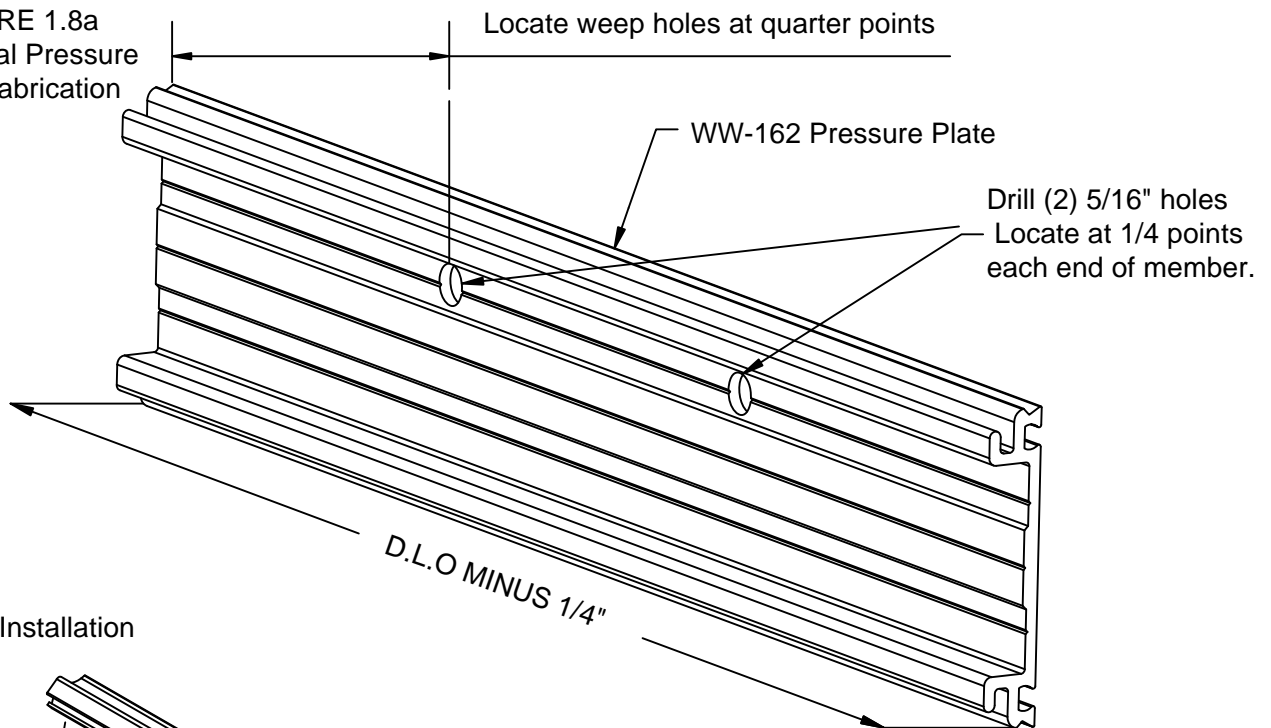
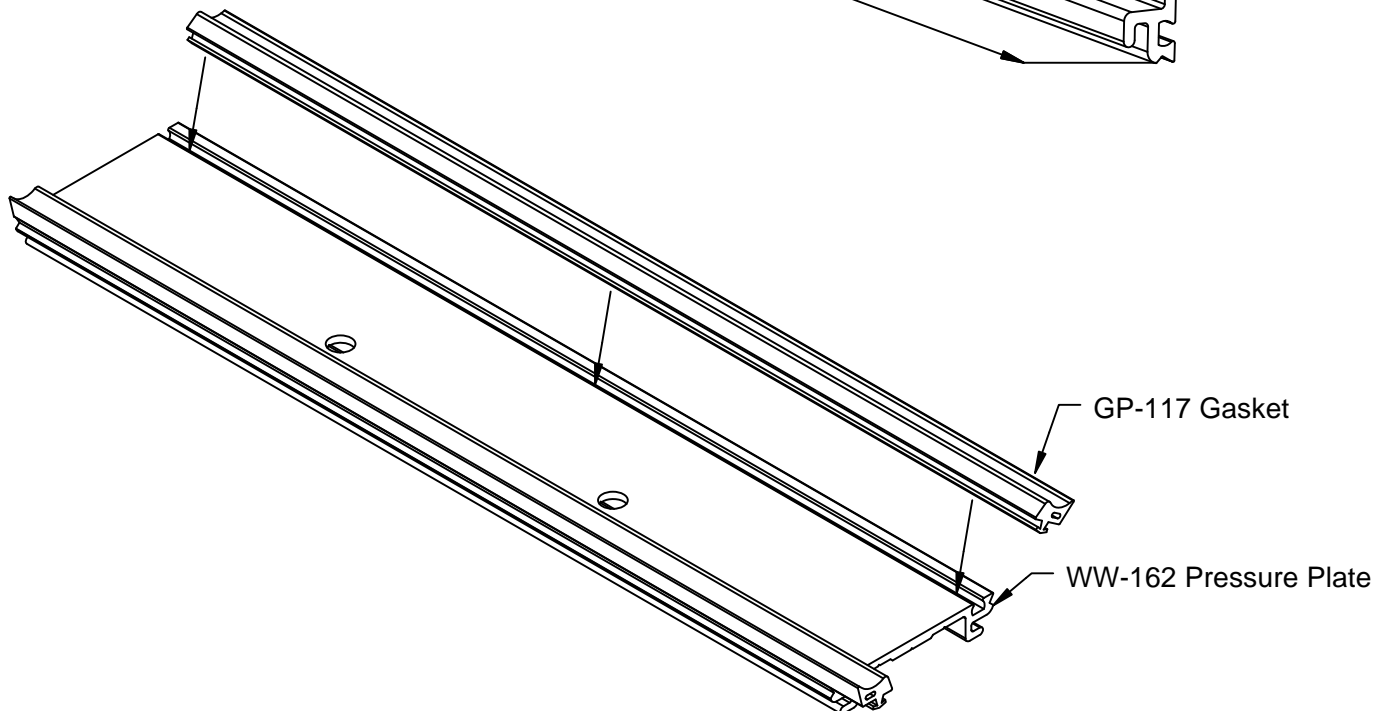


FIGURE 1.8b
Gasket Installation



JAMB AND MULLION INSTALLATION

- 2.0
- Insert "F", "T" or "L" Anchor into the top and bottom of the mullions before erecting them as shown in FIGURE 2.0a.
 - Erect and locate jamb and vertical mullions and temporarily attach them to structure. (Install plumb & true)
 - Field Drill holes in "F", "T" or "L" Anchor for appropriate fastener according to approved shop drawings.
 - Shim and Anchor into opening.
 - Apply Dow Corning 795 silicone sealant to face, top, bottom and screw tracks of shear block as shown in FIGURE 2.0b.

FIGURE 2.0a

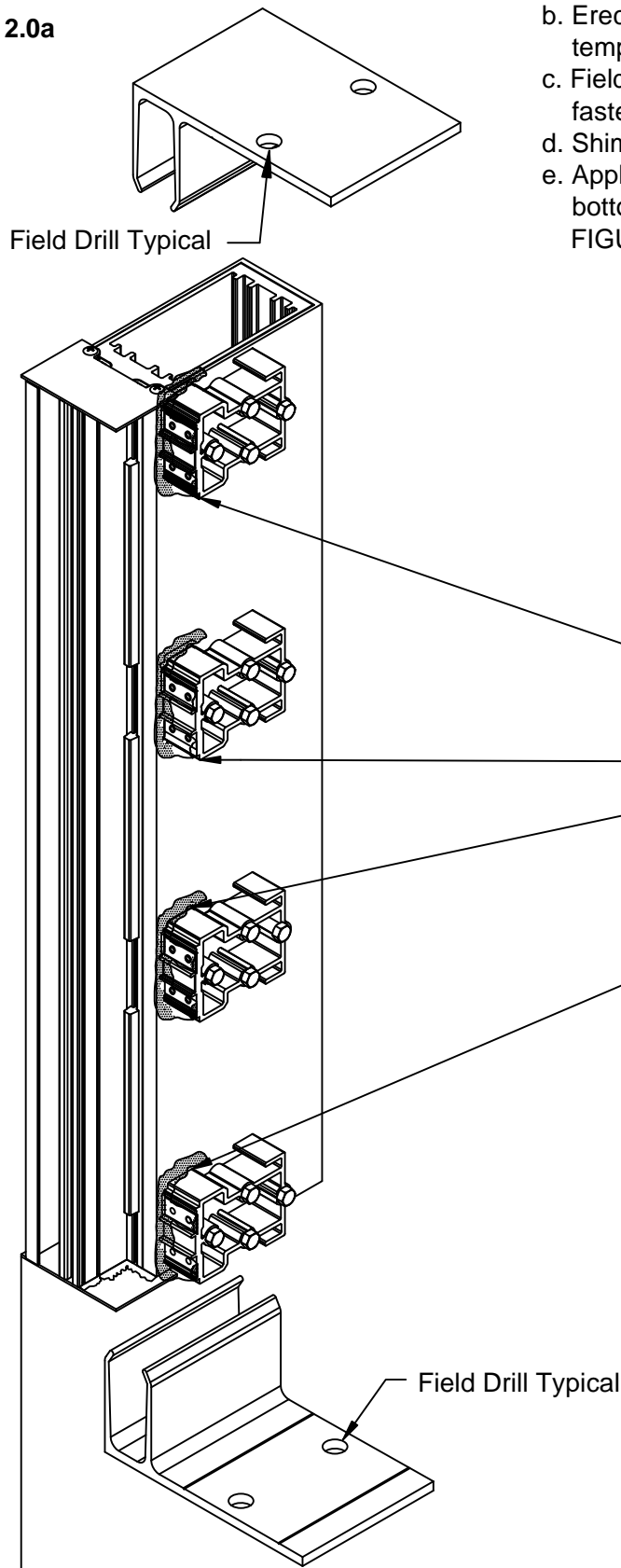
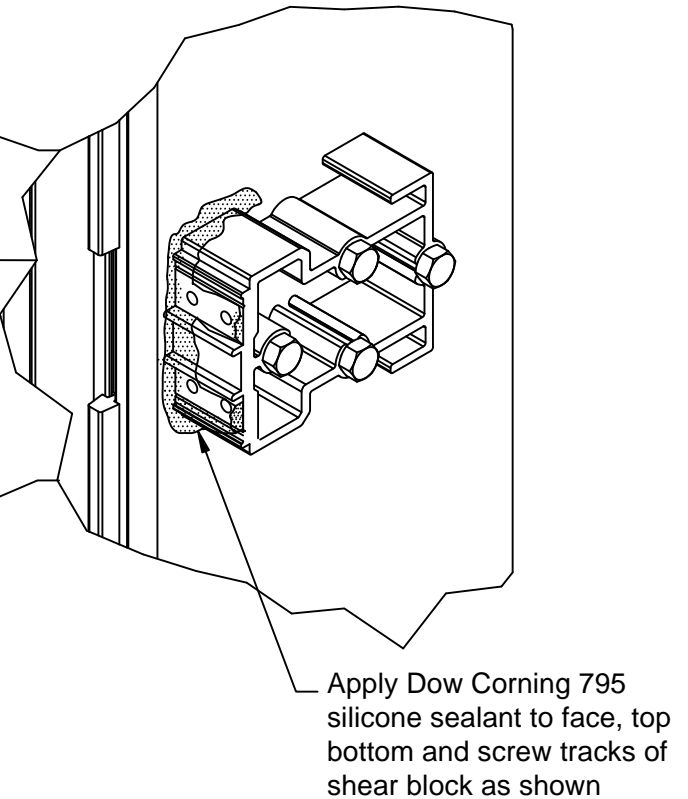


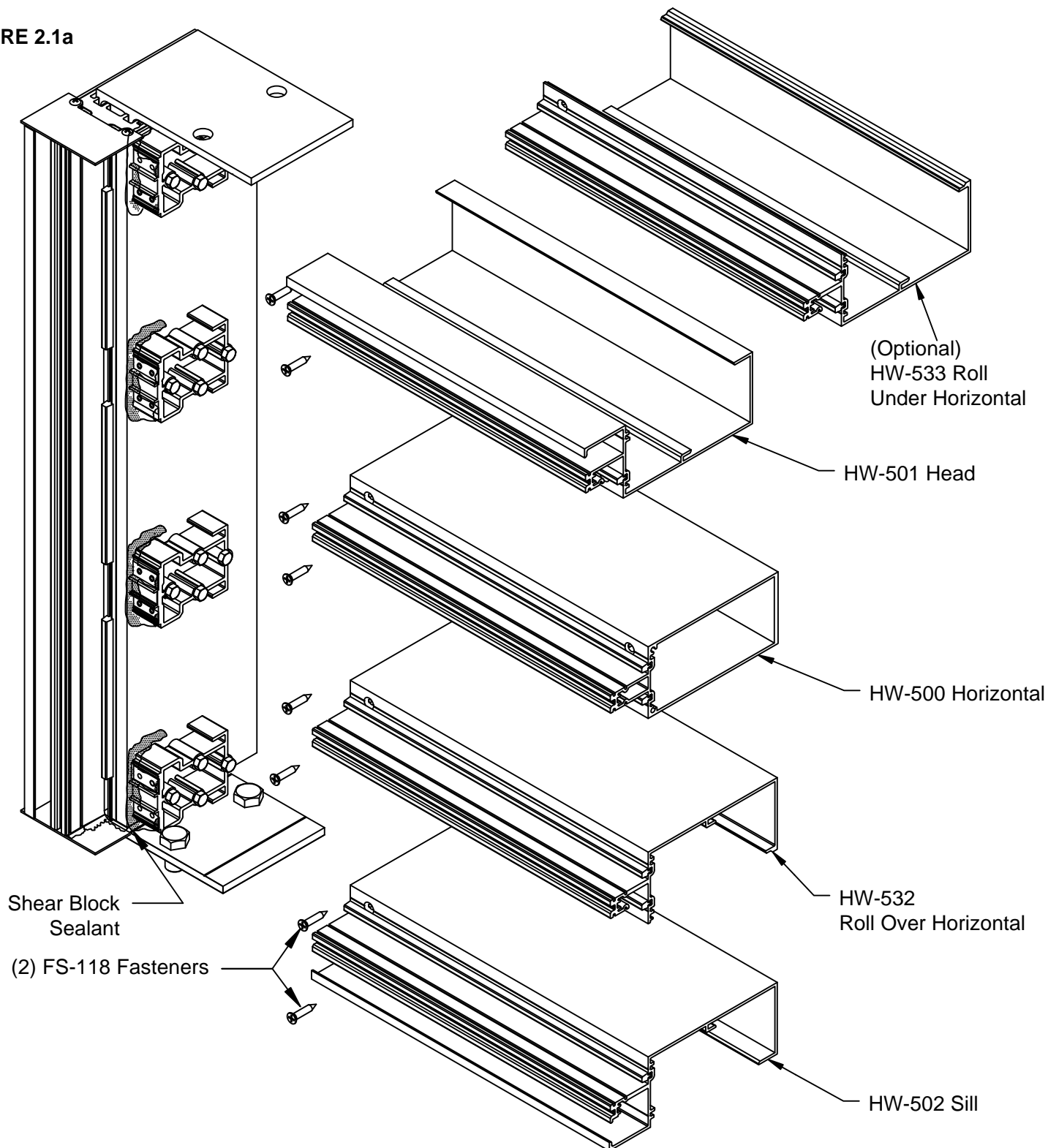
FIGURE 2.0b



HORIZONTAL MEMBER INSTALLATION

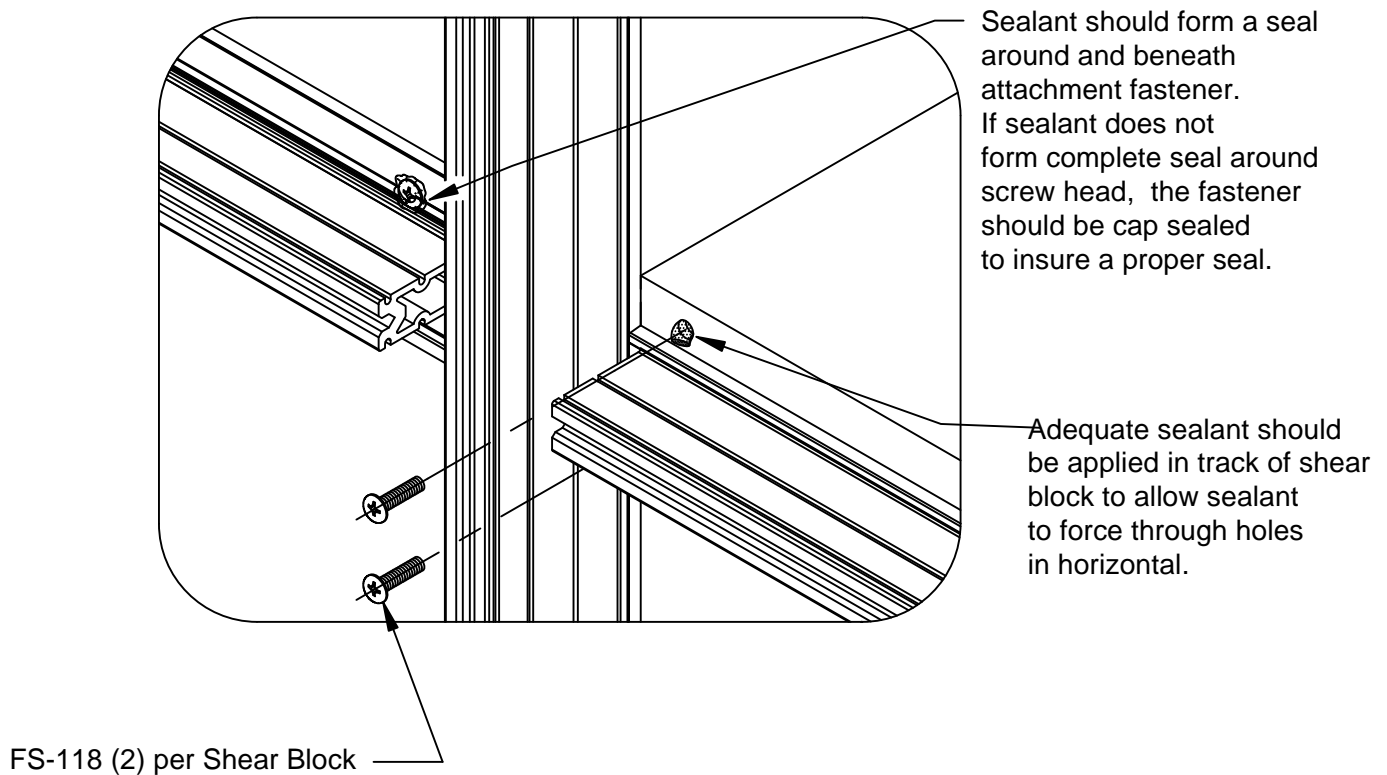
- 2.1 a. Prior to attaching horizontal members follow sealant instructions given in Detail 2.0b.
b. Slide Horizontal Member into opening from back to front. This will force sealant through the attachment holes on horizontal member as shown in FIGURE 2.1a
c. Install (2) FS-118 Fasteners on each side of horizontal through the horizontal member face.

FIGURE 2.1a



HORIZONTAL MEMBER INSTALLATION CONTINUED

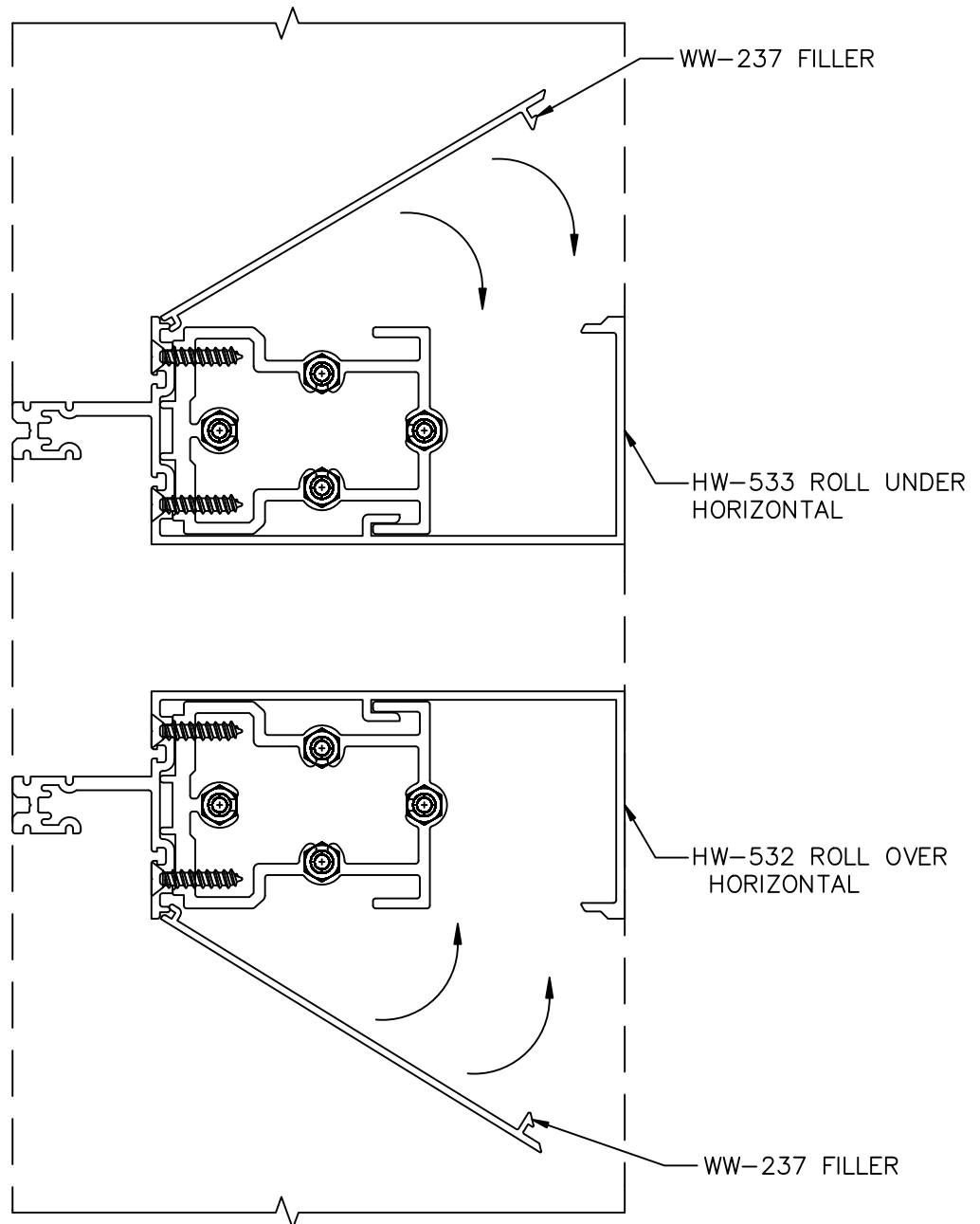
FIGURE 2.1b
Shear Block Sealing



HORIZONTAL FILLER INSTALLATION

- 2.2 a. Insert WW-237 Filler front leg into receptor leg of HW-532 or HW-533 Horizontal
- b. Rotate WW-237 Filler until it engages into rear snap.
- c. Use a rubber mallet to fully engage WW-237 Filler.

FIGURE 2.2



PERIMETER SEALANT APPLICATION

- 2.3 a. Position backer rod around the perimeter of the frame.
b. Clean gap area on frames with isopropyl alcohol (50%) and wipe clean.
c. Apply Dow Corning 795 silicone sealant to the perimeter of the frame.
(Interior seal is optional)

FIGURE 2.3a

Jamb Condition

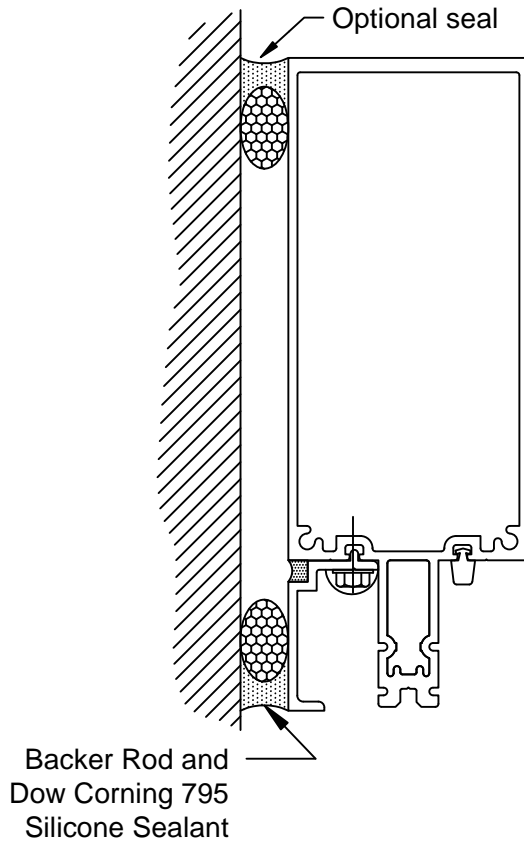
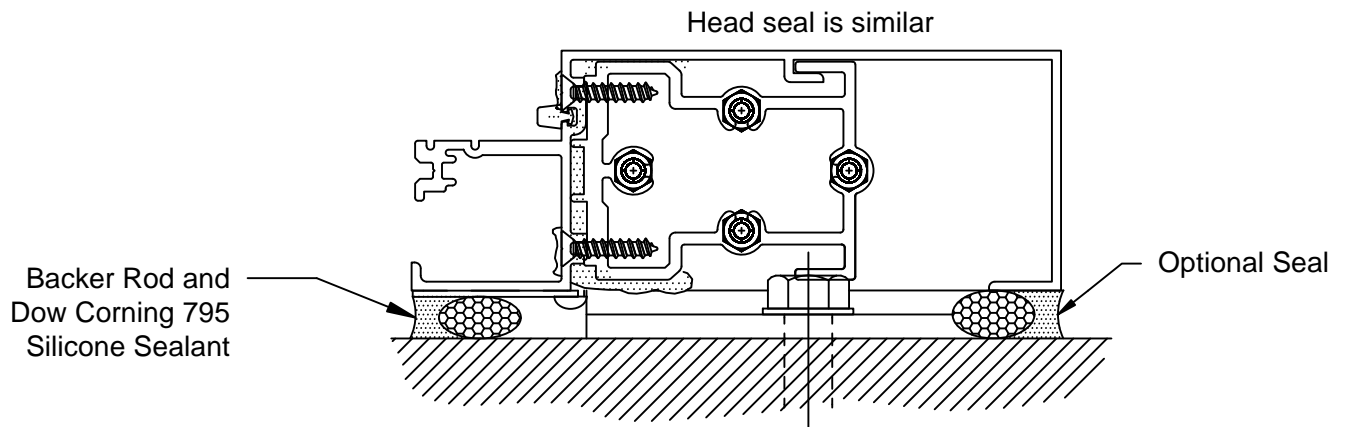


FIGURE 2.3b

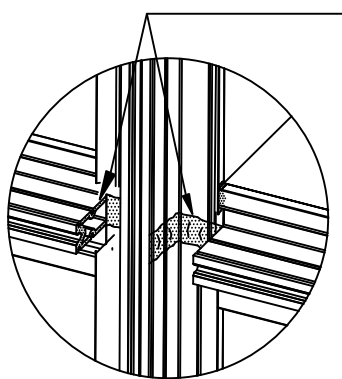
Sill Condition



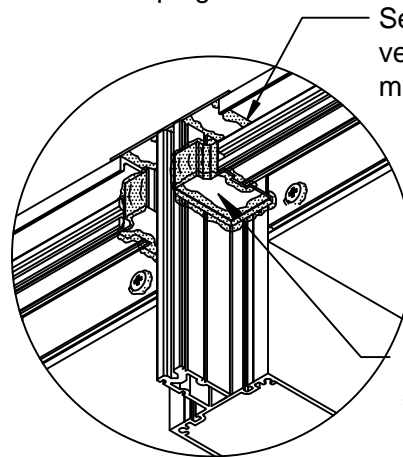
ZONE PLUG INSTALLATION

FIGURE 2.4

STEP 1



Seal along tongue of horizontal & across face and tongue of mullion before installing WW-352 zone plugs.

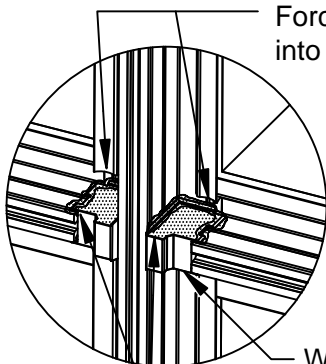


Seal between head, vertical mullion and mullion cap

Bottom side of zone plug shown. Seal top side similar.

ZONE PLUG AT HEAD

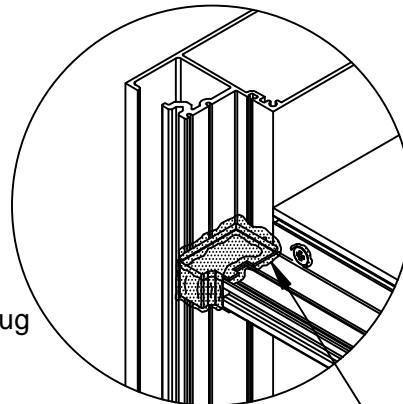
STEP 2



Force sealant into gasket race

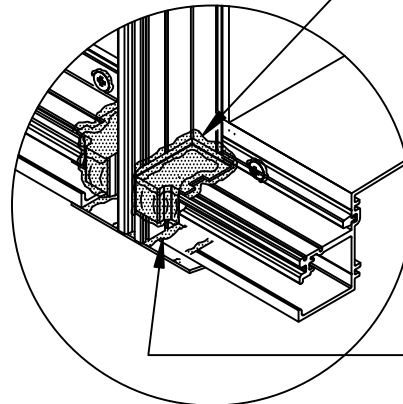
WW-352 zone plug

Tool sealant along top of zone plug to form a water tight seal.



ZONE PLUG AT JAMB

Seal jamb & sill zone plugs same as shown at left



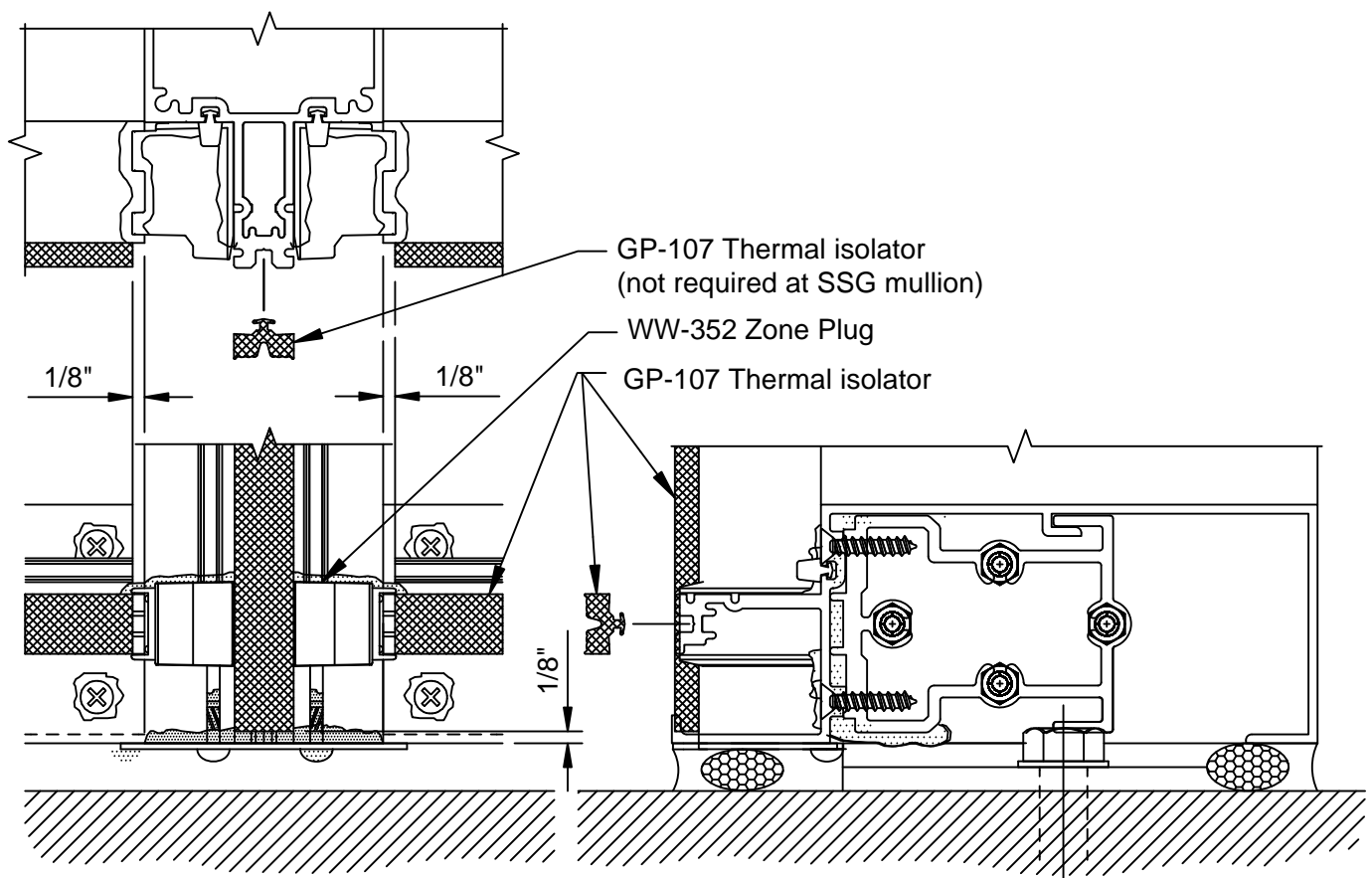
ZONE PLUG AT SILL

Seal between sill, vertical & mullion cap

ISOLATOR GASKET INSTALLATION

- 3.0 a. Install face gaskets into all pressure plates. Crowd all gaskets into members to avoid gaps caused by relaxation of gasket material.
- b. Install thermal spacer into groove on face of mullion tongues. Cut short 1/8" from each end of the mullion. See **FIGURE 3.0**
- c. Position setting blocks at correct location (two per lite). Refer to approved shop drawings. Lubricating the top of setting blocks will help insure proper setting of glass. Note: Consult glass manufacturer for correct setting block location and length for glass sizes.

FIGURE 3.0
Thermal Isolator Installation



GLASS SIZING AND INSTALLATION

GLASS SIZE CALCULATION

CAPTURED = D.L.O. PLUS 1.50" WIDTH & HEIGHT

- 3.1 a. Set glass in opening. Ensure that glass bite is equal on all sides. **CAUTION:** Be certain that glass is placed firmly against interior spacer gasket to ensure a proper seal and to avoid binding of the glass on the setting block.
- b. Temporarily hold glass in the opening with WW-333 temporary glazing retainers & FS-325 screw. Torque the **FS-325** screw to 90 in-lbs.
- WW-333 temporary glazing retainers must be applied at each glass edge 3" from the corner (minimum of 8 per lite). Glass edges greater than 4' in length but less than 8' require an additional retainer at the glass mid-span.
 - Retainers are intended for short term use only. Additional retainers may be required to withstand full design wind load pressures.
 - Full length pressure plates must be installed if severe weather or high wind loads are anticipated.
- See Figure 3.2a & 3.2b

FIGURE 3.1a
Glazing Instructions

WW-333-01 temporary glazing retainer. Locate at 3" from edge of glass. Additional clips may be required based on field conditions and glass size.

WW-352 zone plug see Figure 2.4 for sealant notes

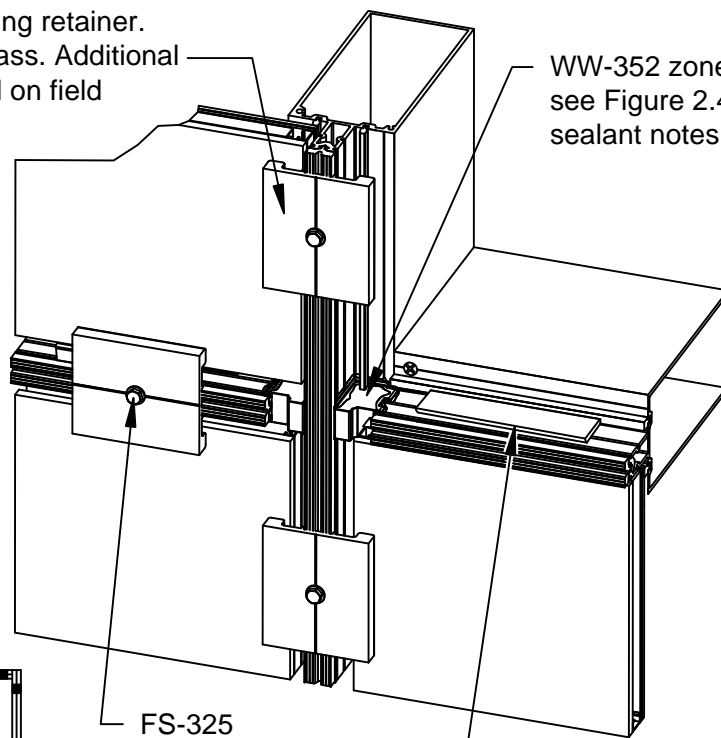
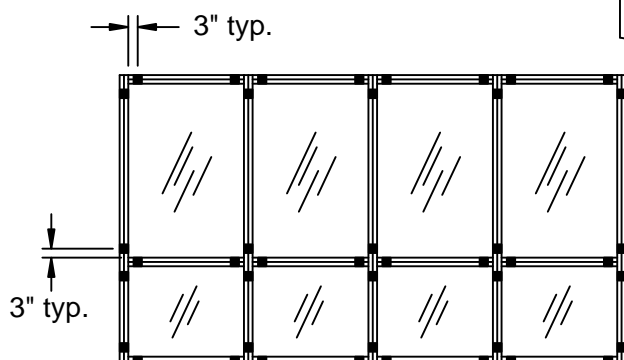


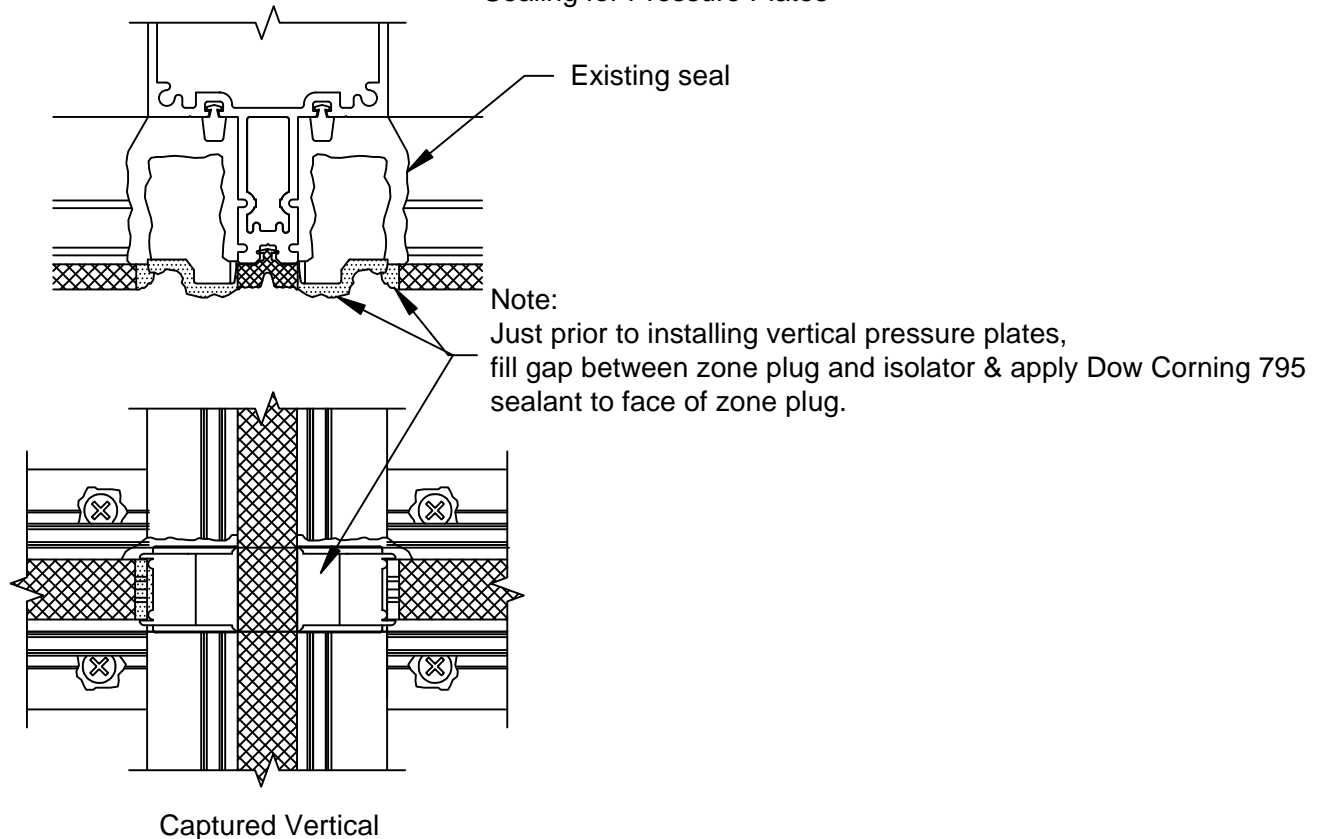
FIGURE 3.1b
Typical Location of Temporary
Glazing Retainers



PRESSURE PLATE SEALING

- 3.2 Repeat steps 3.1 until all glass is set, working row by row up the elevation.
- Prior to installing vertical pressure plates, apply sealant to the face of each horizontal zone plug. See Figure 3.2a. Vertical pressure plates must be installed before the horizontal pressure plates are applied.
 - FS-325 pressure plate fasteners must be located 1 1/2" from horizontal/vertical mullion intersections in order to maintain proper compression on the glass. Drill 7/32" holes in pressure plates as required.

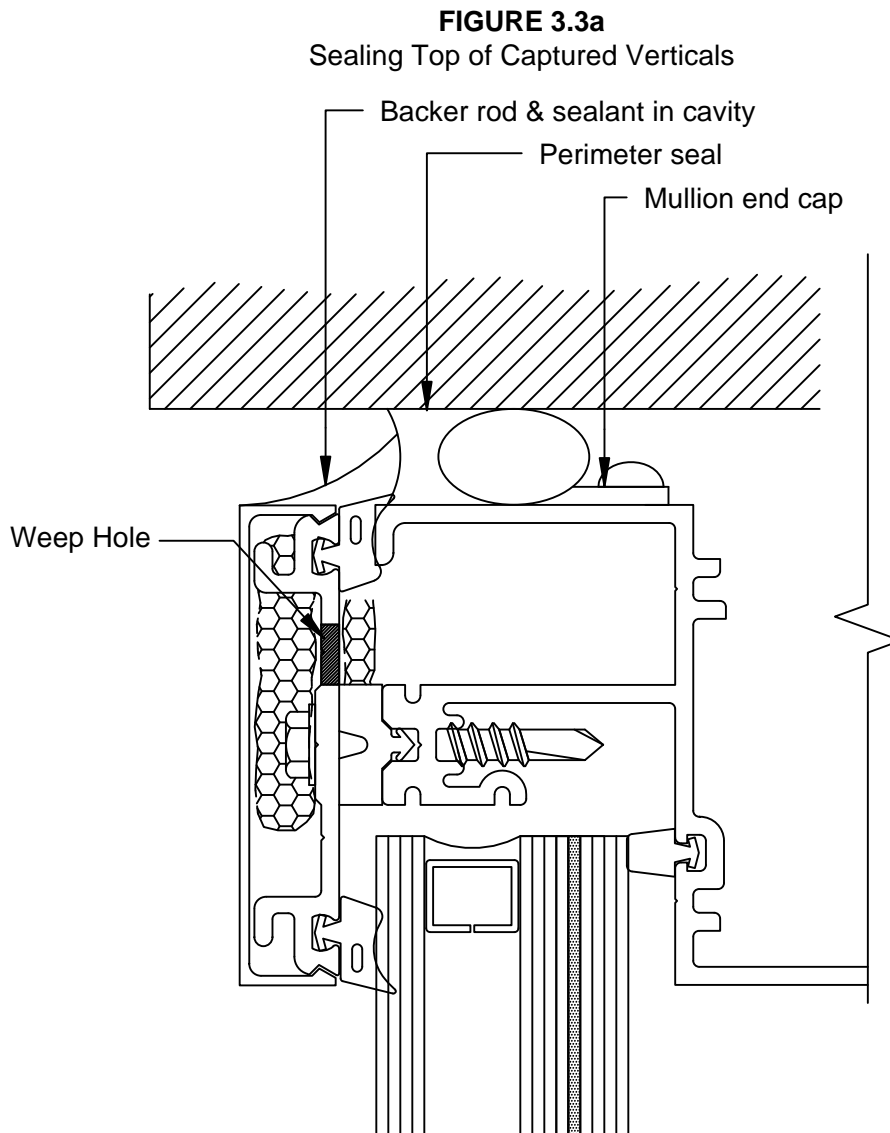
FIGURE 3.2a
Sealing for Pressure Plates



- After removing vertical temporary retainers, install vertical pressure plates with FS-325 screws, holding back 1/8" from the ends of the vertical mullion.
- After removing horizontal temporary retainers, center horizontal pressure plates in opening, leaving 1/8" gap on each end. Make sure that weep holes are on the top side of the pressure plate.

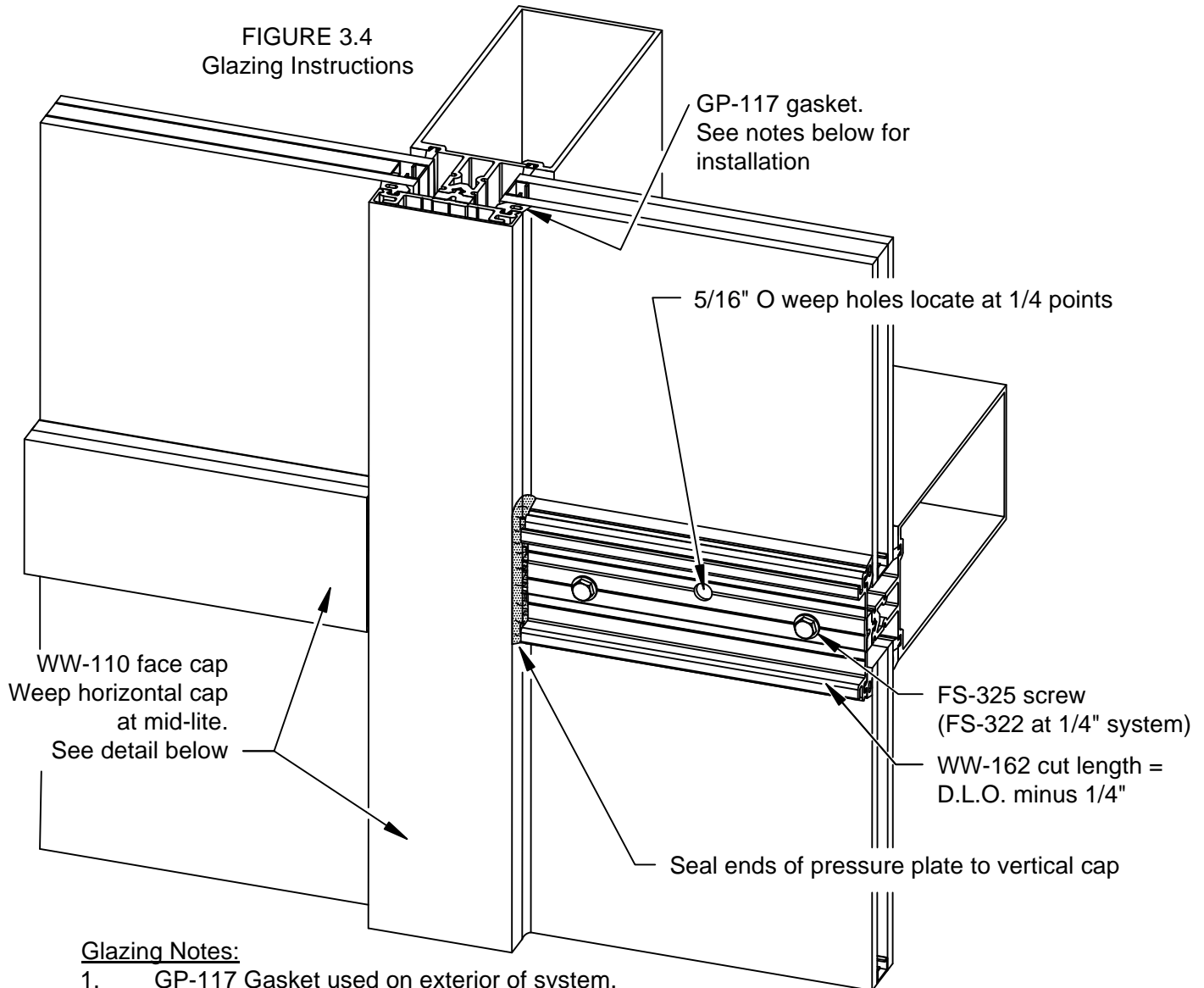
GLAZING INSTRUCTIONS

- 3.3 a. After all pressure plates are installed on the frame, torque FS-325 screws to 90 in-lbs. The use of either a drill motor with a torque limiter or torque wrench can be used. If using a cordless drill, check torque periodically since battery usage will affect the torque setting.
- b. Install vertical face covers. Using a wood block to protect the cover, apply with dead blow soft face hammer. Pin the vertical face covers once per length as required, concealing pin at a horizontal location.
- c. Insert backer rod into cavity at the top of each vertical mullion. Seal off end of vertical, sloping sealant back to marry with the perimeter seal. See FIGURE 3.4
- d. Seal horizontal pressure plates against the vertical face covers. Tool sealant into the joint. See FIGURE 3.3a.
- e. Install horizontal face covers, leaving an equal gap at each end. Make sure that the weep hole in the face cover is on the top.



GLAZING INSTRUCTIONS

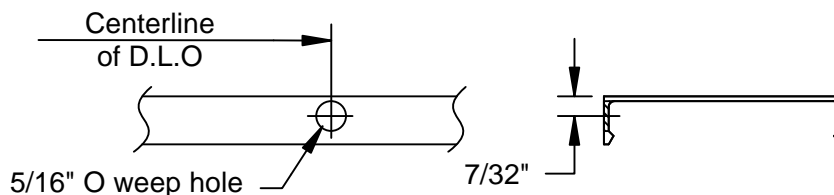
FIGURE 3.4
Glazing Instructions



Glazing Notes:

1. GP-117 Gasket used on exterior of system.
2. Remove gaskets from reels and allow to relax overnight before installing.
3. Cut gaskets to allow minimum 1/4" per foot for any relaxation of gasket that may occur after installation.
4. To ensure proper pressure on the glazing, 7/32" diameter holes may need to be drilled at the ends of each horizontal pressure plate as required. locate at 1 1/2" maximum from the ends.

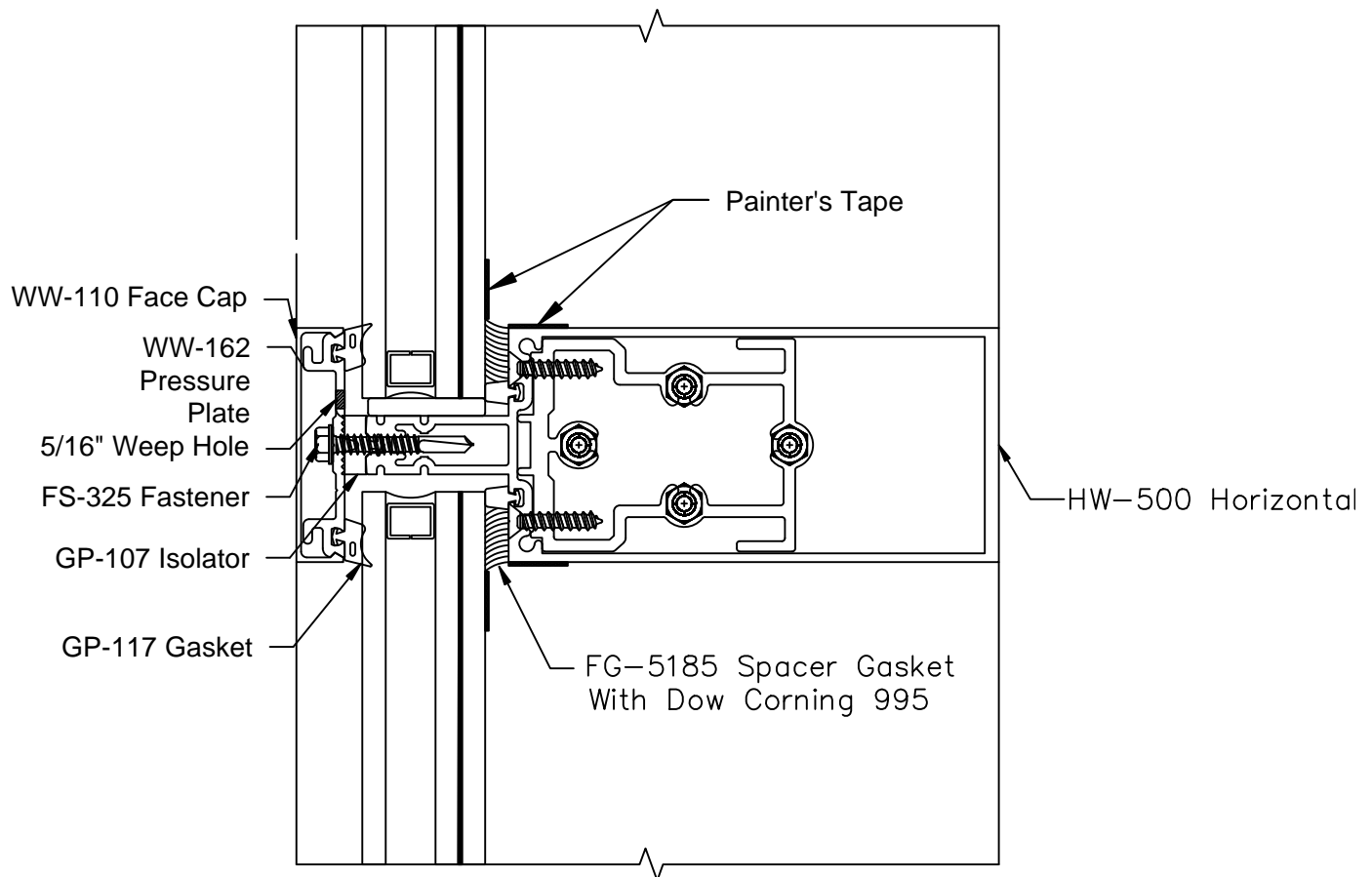
FIGURE 3.4a
Glazing Instructions
Horizontal Face Cap Fabrication



INTERIOR SEALING FOR WET GLAZED APPLICATIONS

- 3.5
- Clean all silicone surfaces and joints with 50% isopropyl alcohol and wipe clean.
 - Apply painter's tape to the mullion and glass as shown in FIGURE 3.6
 - Apply Dow Corning 995 structural silicone sealant into pocket between the mullion and the glass starting from the bottom and work towards the top. Be sure to use positive pressure to completely fill the pocket and prevent voids in sealant.
 - Use a proper implement to tool the silicone sealant smooth immediately after running the bead.
 - Remove painter's tape after tooling and before silicone sealant skins over.

FIGURE 3.5
Glazing Instructions



ENTRANCE SUBFRAME INSTALLATION

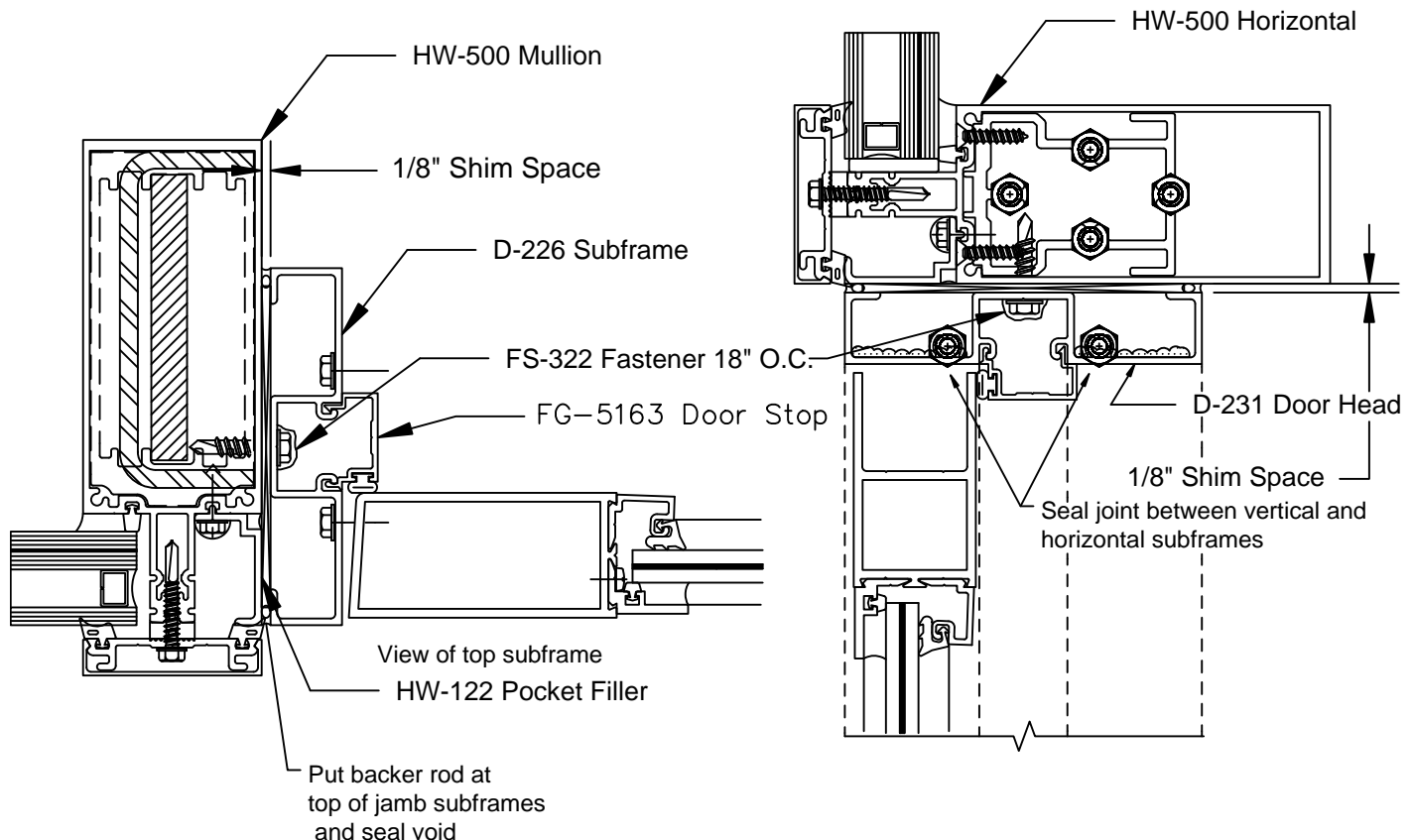
3.6 All door framing components are shipped fabricated from the factory. The main curtain wall framing can be erected prior to installing the doors. Refer to **FIGURE 3.6** for door header fabrication and installation instructions.

a. Curtain wall verticals and door subframes run through to finished floor. Bed adjacent curtain wall verticals in sealant and anchor to floor per approved shop drawings. See shop drawings for anchoring door jamb mullion.

b. SUBFRAME INSTALLATION:

- b.1 Assemble Door Subframe including TH-57 Threshold.
- b.2 Install subframe into curtain wall frame. Shim plumb and true.
- b.3 Anchor subframe with FS-322 space 18" O.C. Anchor threshold per shop drawings
- b.4 Install door stops in subframe. The vertical stops run through.
- b.5 Mask off frame with painter's tape and clean & seal perimeter of frame on exterior & interior
- b.6 Install door per DOOR & FRAME INSTALLATION & GLAZING MANUAL.

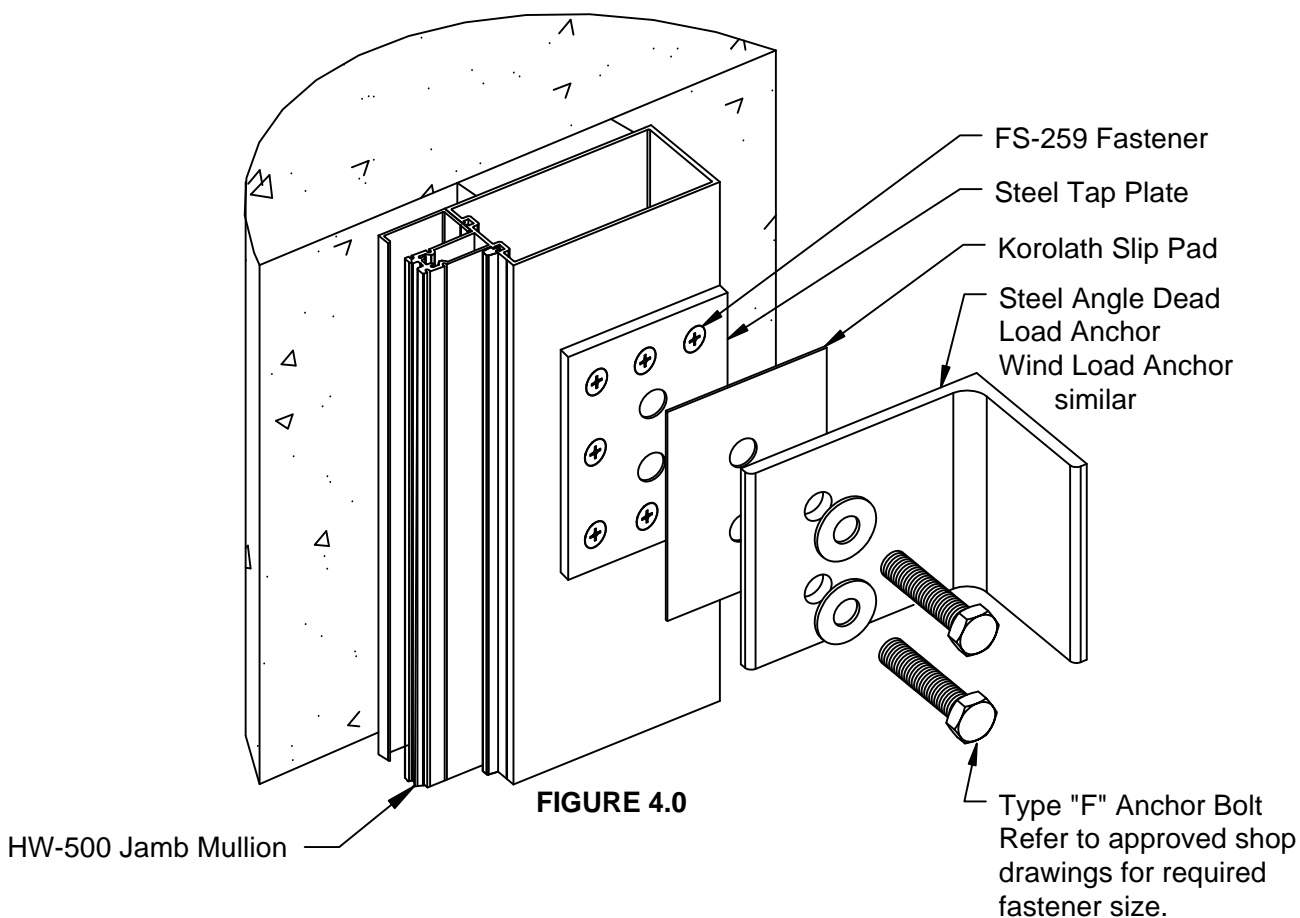
FIGURE 3.6
Attaching Subframes



MID POINT ANCHOR AT JAMB PANEL FRAME

- 4.0 a. Attach steel tap plate to HW-500 Jamb Mullion with FS-259 Fastener see Figure 4.0.
- b. Install plumb and align vertical Jamb Mullion drill appropriate sized holes for anchor bolts as shown on approved shop drawings.
- c. Insert a (minimum) 1/16" Korolath slip pad between the anchor and the tap plate prior to inserting fasteners.

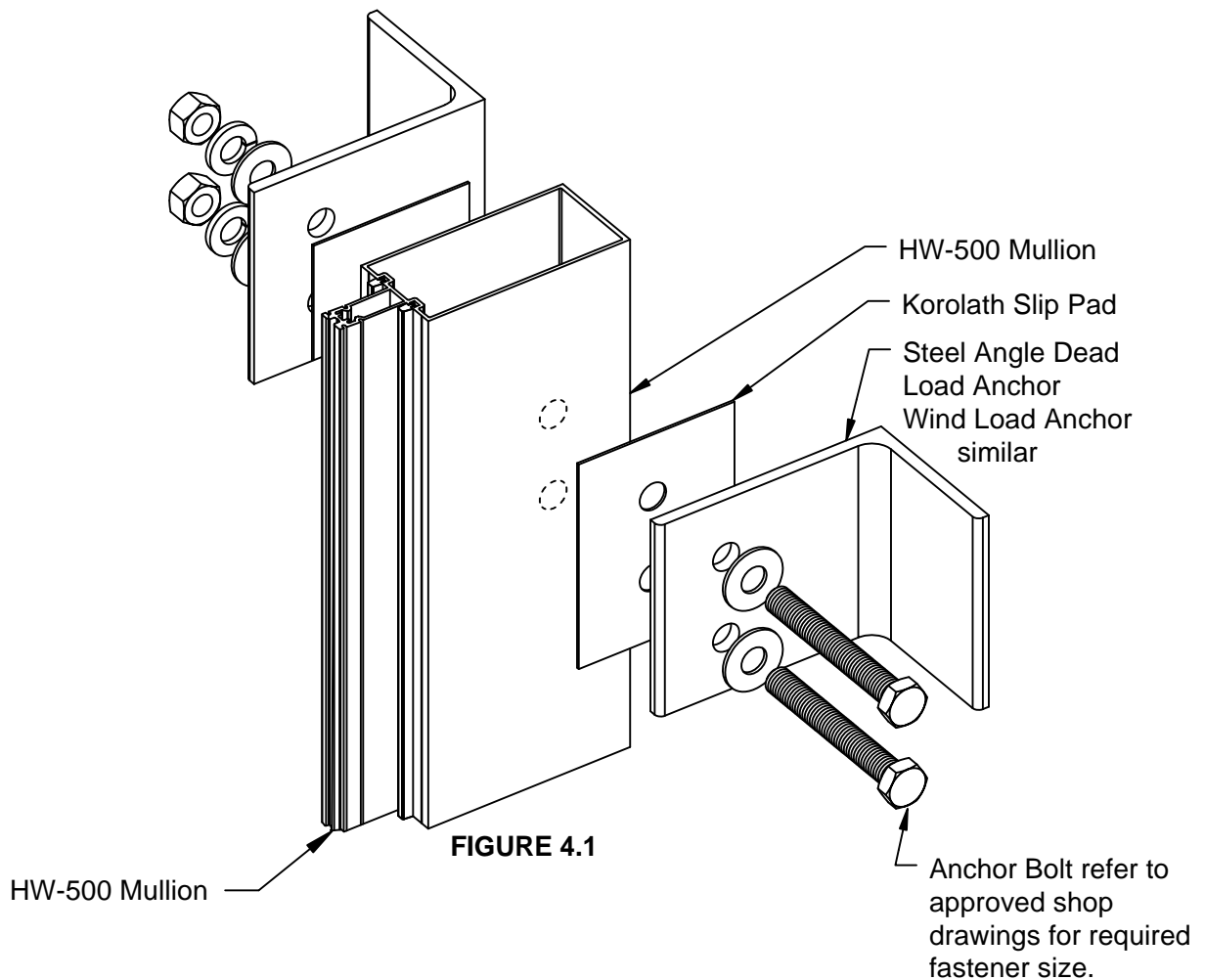
NOTE: Details shown are to be used as a guide only. See approved shop drawings for actual conditions.



MID POINT ANCHOR AT MULLION

- 4.1 a. Install plumb and align vertical mullion drill appropriate sized holes for anchor bolts as shown on approved shop drawings.
- b. Insert a (minimum) 1/16" Korolath slip pad between the anchor and the tap plate prior to inserting fasteners.
- c. Insert anchor bolts through the mullion and install lock washers and nuts as required.

NOTE: Details shown are to used as a guide only. See approved shop drawings for actual conditions.



STACKED HORIZONTAL INSTALLATION

- 5.0 a. Apply Bond Breaker Tape to HW-194-01 Splice
- b. Insert HW-194-01 Splice into bottom half of HW-500 Mullion.
- c. Attach splice to bottom half of HW-500 Mullion with FS-8 Fastener (2) per side.
- d. Insert top half of HW-500 Mullion on to splice. Insert anchors on both ends and install into opening. Corner mullion has similar assembly.

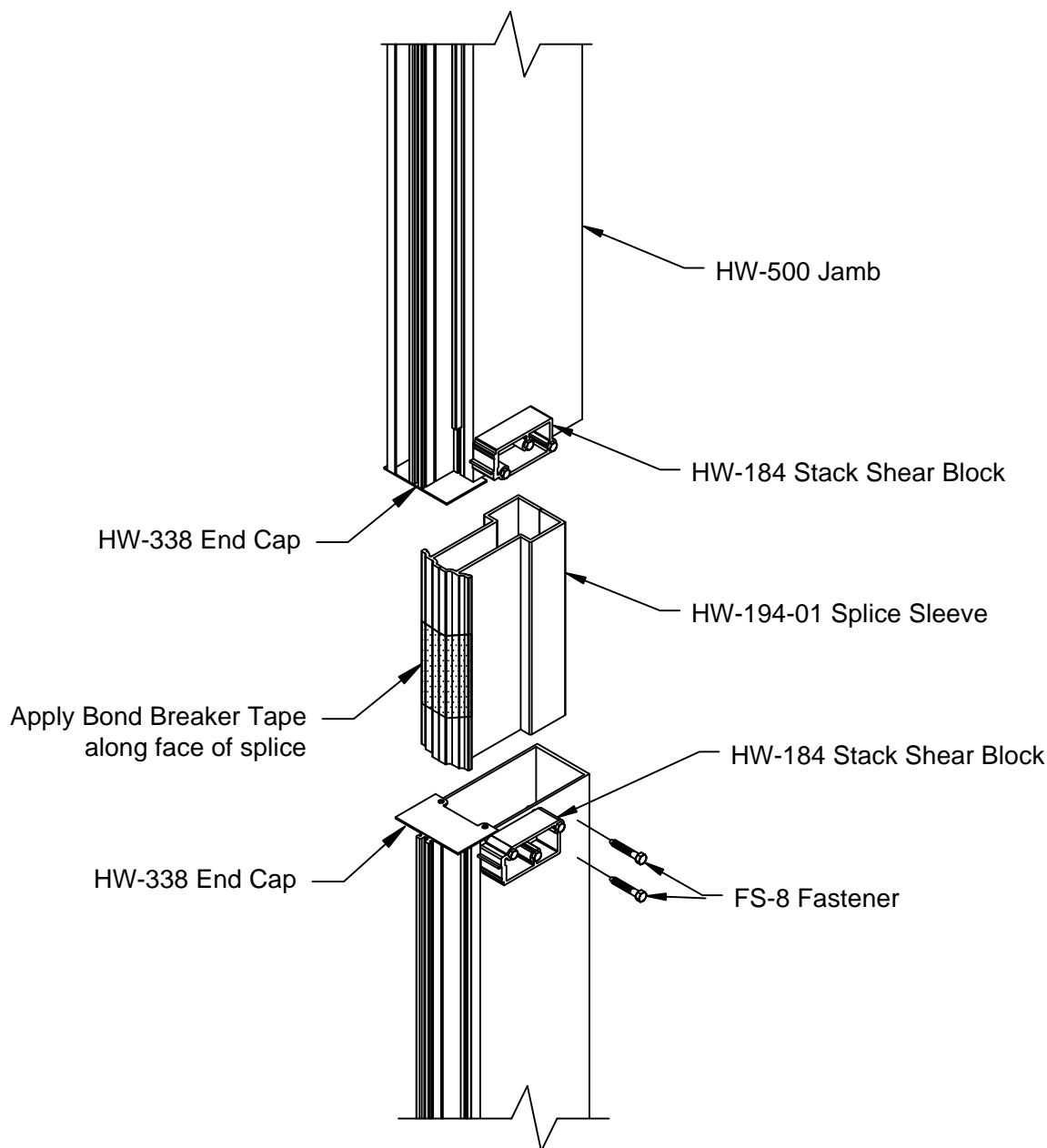


FIGURE 5.0

STACKED HORIZONTAL INSTALLATION

- 5.1 a. Attach HW-536 Stack Horizontals to HW-500 Jamb with FS-118 Fasteners.
- b. Shim 1.25" at Splice Sleeve. Remove shim once mid point anchor is installed
- c. Gaskets and Zone Plug installation are similar to the instructions given in standard horizontal installation given in Section 2.4.

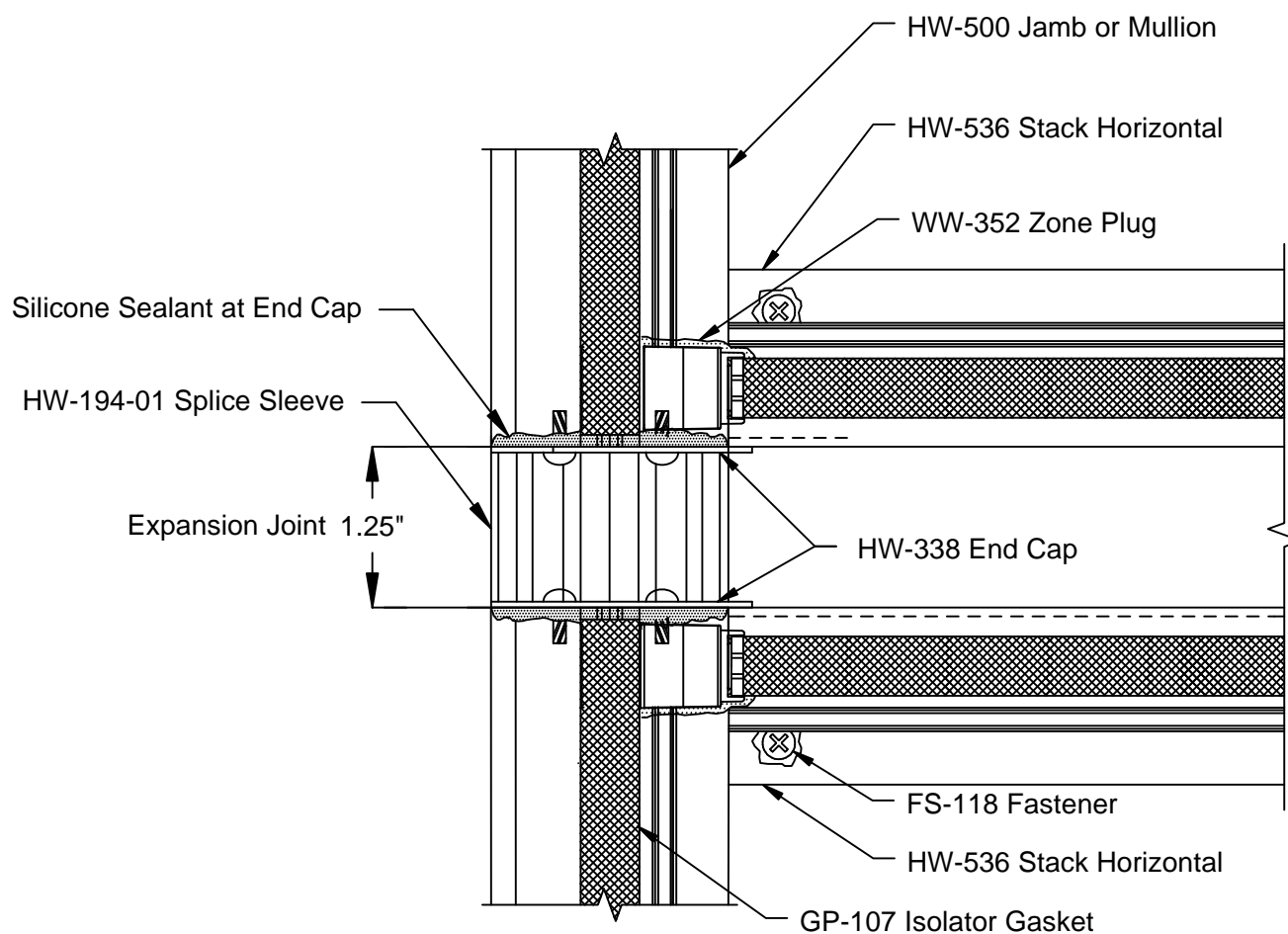


FIGURE 5.1

STACKED HORIZONTAL INSTALLATION

- 5.2 a. Once all bays have been installed, anchored and zone plugs have been installed then begin to install backer rod and sealant as shown in FIGURE 5.2
- b. At Jamb condition marry silicone sealant with perimeter sealant.
- c. Remove Splice Stop fastener and seal hole.

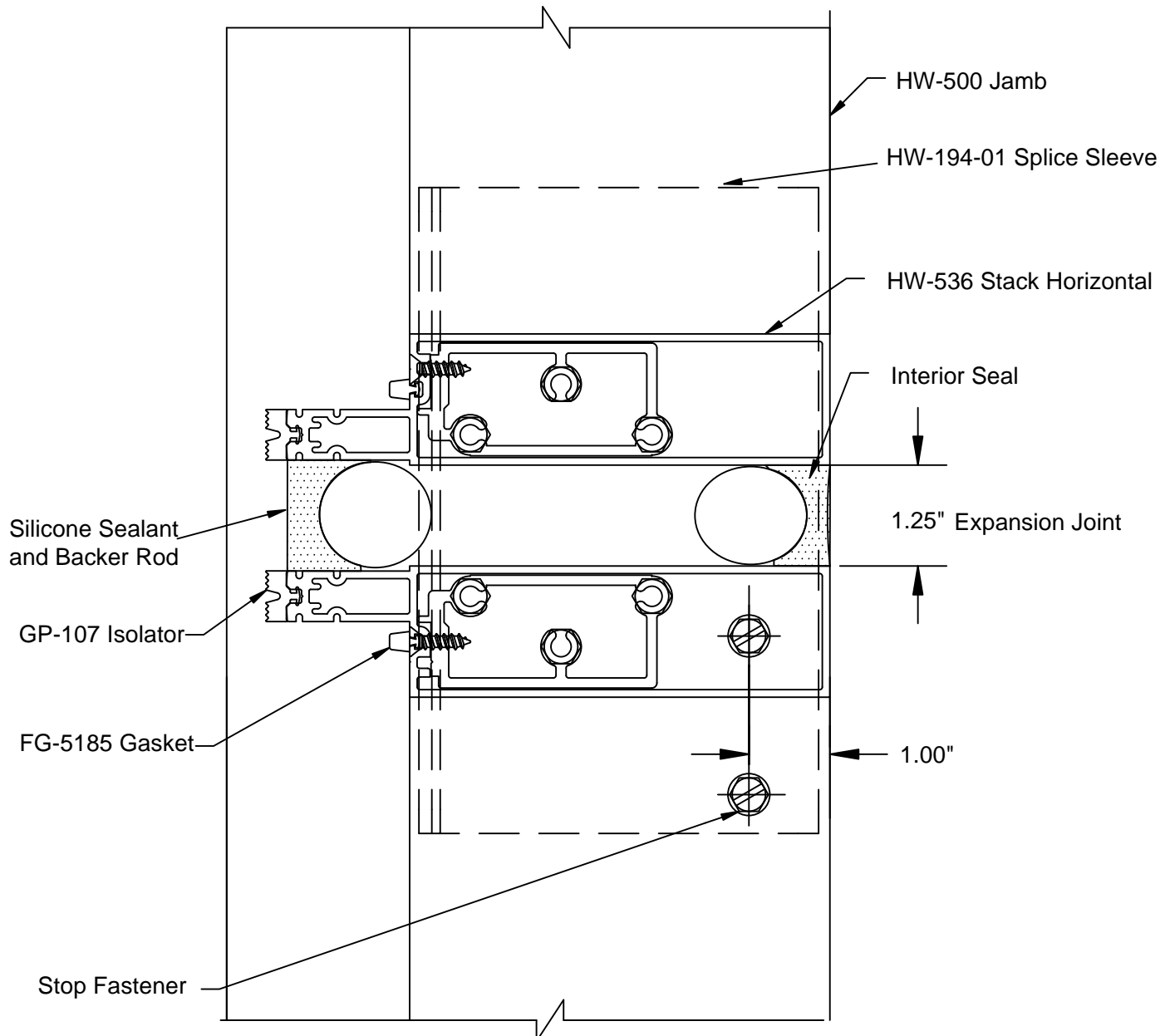
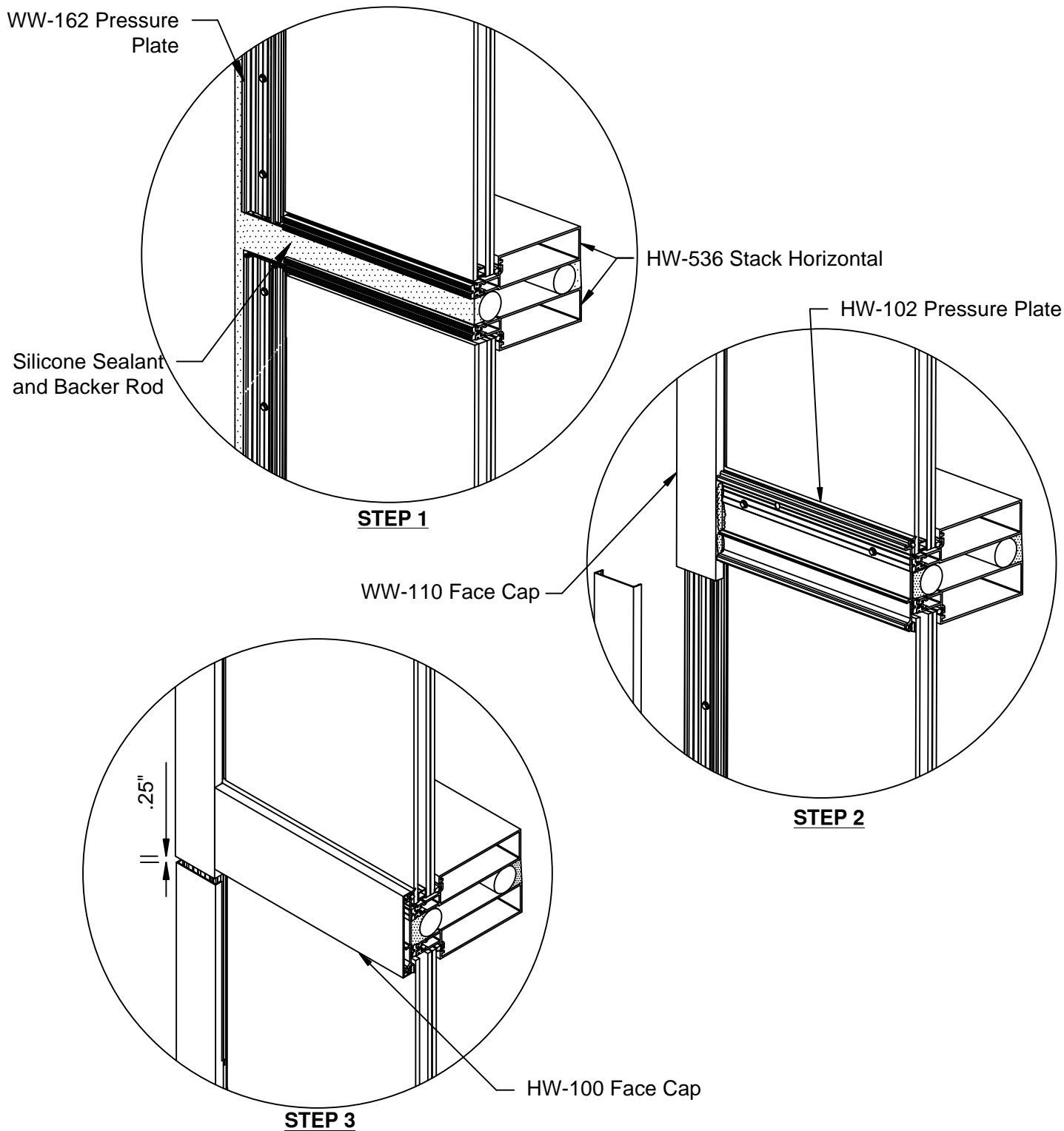


FIGURE 5.2

STACKED HORIZONTAL VERTICAL PRESSURE PLATE INSTALLATION

- 5.3 a. Step 1 - After Glazing has been temped in, install WW-162 Vertical Pressure Plates.
- b. Step 2 - Install WW-110 Face Cap and seal HW-102 Pressure Plate to WW-110 Face Cap.
- c. Step 3 - Install vertical HW-100 Face Cap.



OS 90 DEGREE CORNER GLASS SIZE CALCULATION

6.0 FIGURE 6.0a shows the 90 Degree Captured Corner dimensions. These details are for general reference and do not necessarily reflect all conditions. For specific assembly, sealing and anchoring notes, refer to approved shop drawings.

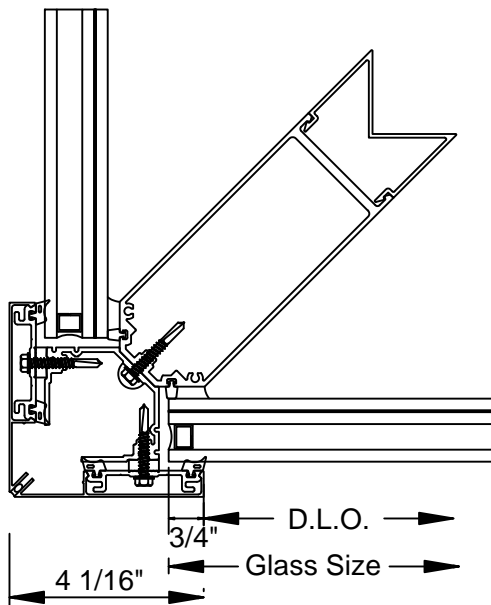
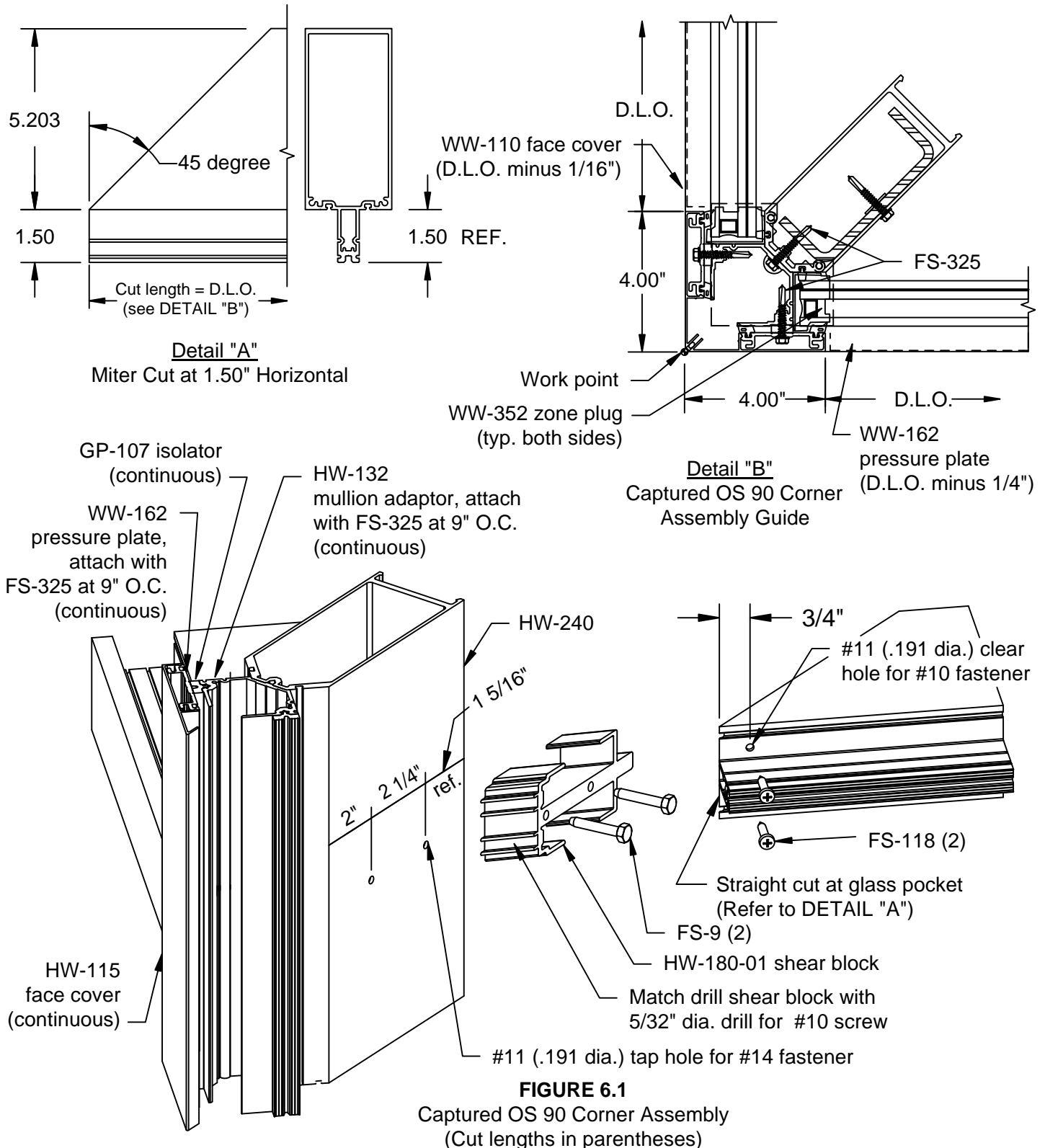


FIGURE 6.0a
OS 90 Captured Corner glass sizing

CAPTURED CORNER GLASS SIZE CALCULATION
D.L.O. PLUS 1.50" WIDTH & HEIGHT

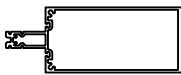

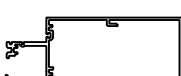
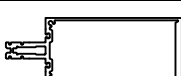
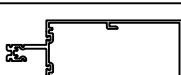
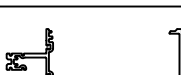

OS 90 DEGREE CAPTURED CORNER ASSEMBLY

6.1 FIGURE 6.1 shows the basic layout of the standard one-piece corner mullion assemblies. These details are for general reference and do not necessarily reflect all conditions. For specific assembly, sealing and anchoring notes, refer to approved shop drawings.


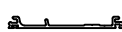

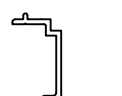


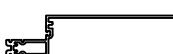

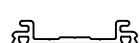



RELIANCE™ BLASTMAX® INSTALLATION AND GLAZING MANUAL

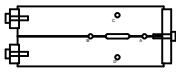

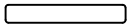




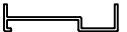




Mullions / Horizontals / Fillers













ITEM	DESCRIPTION
 HW-500	Mullion
 HW-501	Head
 HW-502	Sill
 HW-510	Heavy Mullion
 HW-532	Roll Over Horizontal
 HW-533	Roll Under Horizontal
 WW-237	Filler

Miscellaneous Parts List








ITEM	DESCRIPTION
 HW-100	4.50" Face Cap
 HW-102	4.50" Pressure Plate
 HW-115	Corner Face Cap
 HW-122	Pocket Filler (Use with Exterior Gasket)
 HW-132	Corner Pressure Plate
 HW-240	Corner Mullion
 HW-536	Stack Horizontal
 WW-110	Typical Face Cap
 WW-162	Typical Pressure Plate
 WW-224	Corner Cover

Accessories List







ITEM	DESCRIPTION
 DJ-112	Typical Drill Jig for Mullions (Non-Corners)
 CW-2101	4" Setting Block
 CW-2102	4" Setting Block
 FG-5185	Spacer Gasket
 GP-107	Thermal Isolator
 GP-117	Exterior Gasket
 GP-160	Exterior Gasket Stacked Horizontal
 HW-74-01	Splice for HW-504 & HW- 510
 HW-103-01	"F" Anchor for sleeve
 HW-103-02	"F" Anchor
 HW-105-01	"T" Anchor for sleeve
 HW-105-02	"T" Anchor

ITEM	DESCRIPTION
 HW-105-03	Corner "T" Anchor
 HW-174-01	"L" Anchor for Wood Substrates
 HW-180-01	Corner Shear Block
 HW-180-02	Shear Block for Stacked Horizontal Corner
 HW-180-03	Shear Block for Stacked Horizontal Corner
 HW-183-01	Shear Block
 HW-184-01	Shear Block for Stacked Horizontal
 HW-191-01	Splice for HW-240 Corner Mullion
 HW-194-01	Splice for HW-500 Mullion
 HW-200-01	Anchor Sleeve for HW-500
 HW-201-01	Anchor Sleeve for HW-510 & HW-504
 HW-312	Corner Mullion Bridge

Fastener List

ITEM	DESCRIPTION
 FS-9	#14 x 1 1/2" Hex Shear Block Screw
 FS-118	#10 x 1" Phillips Flat Head at Horizontal Members
 FS-119	#10 x 1 1/2" Phillips Flat Head at 9/16" Glazing Adaptor
 FS-259	1/4-20 Phillips Flat Head Type "F"
 FS-320	#10 x 1/2" U-Drive, at End Caps
 FS-322	#12-14 x 1" Hex Washer Head Drill Flex Jamb Filler
 FS-325	#12-24 x 1 11/32" Hex Washer Head Drill Flex at Pressure Plates

Misc. Parts

ITEM	DESCRIPTION
 HW-323	OS 90 Corner Mullion Cap
 HW-325	Mullion Cap
 HW-338	Jamb Cap
 RS-15	1/2" x 4 " Steel Bar 150"
 RS-25	4 9/16" x 1 1/4 " Steel Channel 120"
 WW-352	Zone Plug at Captured Mullion & O.S. 90 degree capt