



Oldcastle BuildingEnvelope®

RELIANCE -TCIG CURTAIN WALL

INSTALLATION AND GLAZING MANUAL

*Note: Installation and Glazing Manuals are product specific. **FOR REVIEW ONLY!***

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<u>Quick Reference Guide</u>	
1. Torque pressure plate screws to 60 IN-LBS	
2. Glass Sizing:	
Field Glazing -	
1/2" bite @ Captured mullions	
1" bite @ SSG Verticals	
1/2" glass bite at horizontals	
3. Locate pressure plate screws @ 9" o.c. (1 1/2" from ends)	

GENERAL INFORMATION

PRODUCT USE

The Reliance-™ TC IG curtain wall system is intended for installation by glazing professionals with appropriate experience. Subcontractors without experience should employ a qualified person to provide field instruction and project management.

Oldcastle BuildingEnvelope® does not control the application or selection of its product configurations, sealant or glazing material 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.

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

The air and water performance of the Reliance-™ TC IG curtain wall system is directly related to the completeness and integrity of the installation process both the seal installed at the horizontal to vertical connections and the glazing gasket installed at the interior side of the Oldcastle BuildingEnvelope®. All pressure plates must also be installed properly. To insure top performance for this system, particular attention should be given to the following procedures:

1. Surfaces to be sealed should be cleaned with isopropyl alcohol or solvent and dried as recommended by sealant manufacturer to remove dirt and cutting oils. Sealant at horizontal to vertical connections should be a minimum 3/16" diameter bead on surfaces where horizontal abutts vertical per glazing instructions herein. No gaps should be visible 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. The exterior glazing gasket should be installed so as to avoid stretching, buckles or tears. Corners must be cut square, sealed and butted together. To avoid damage to gasket and corner joints during glazing, glass should be level and straight during installation.
3. Vertical movement of mullion at intermediate floors requires special expansion joints and glazing materials. See page 15 & 16 for details which permit 1/4" movement. For designs and applications that may require greater movement or special considerations please contact your local Oldcastle BuildingEnvelope® facility.

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 use its Engineering department for 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 Oldcastle BuildingEnvelope® manufacturer for correct setting block location and length for glass sizes in excess of 40 sq.ft.

GENERAL INFORMATION

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 "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 water tight due to extreme glass tolerances. The Reliance-TC IG curtain wall system is designed to accommodate glass or panels measuring 1" and 1/4" 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 must be approved by the sealant manufacturer to insure 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 sq.ft. or more), perform 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.

GENERAL INFORMATION

EXPANSION JOINTS

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

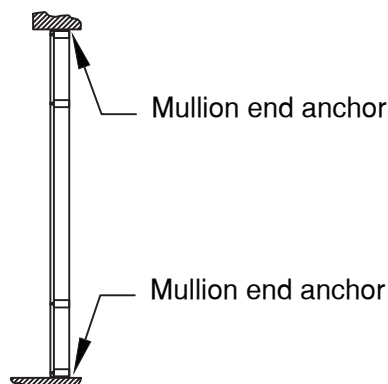
SUGGESTIONS FOR IMPROVING SYSTEM THERMAL PERFORMANCE

To maintain or improve your wall installation the following items should be considered.

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

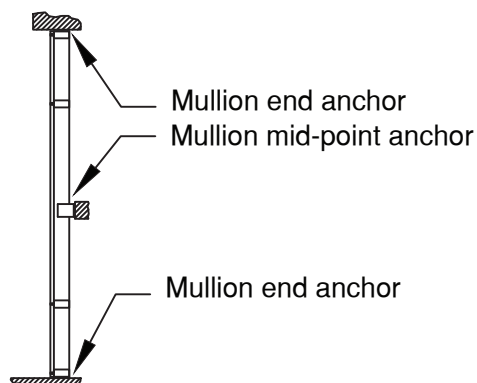
INSTALLATION TYPES

The following wall sections represent common types of installations for this product. Refer to approved shop drawings for specifics regarding splicing and anchoring of frame.



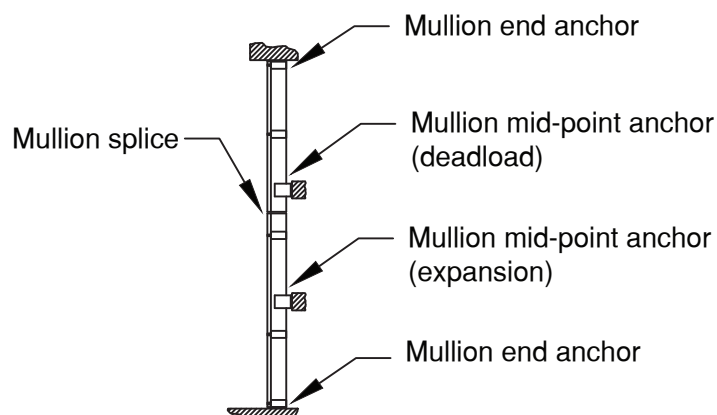
SINGLE SPAN

Refer to steps 2.1.1 through 2.1.3



TWIN SPAN

Refer to steps 2.1.4 through 2.1.8



MULTI-SPAN

Refer to steps 2.1.9 through 2.1.16

FRAME FABRICATION

Unless otherwise noted, the details shown in these instructions reflect the 7 1/4" system for 1" glazing. Instructions for other backmember depths are similar.

- 1.1 Measure ROUGH OPENING to determine FRAME WIDTH and FRAME HEIGHT dimensions. Allow 1/2" minimum clearance for shimming and caulking around perimeter of frame.
- 1.2 Cut material to size. **SEE FIGURE 1** for guide. NOTE: Layout vertical mullions so that two shallow pockets will not be adjacent to each other. **SEE MULLION LAYOUT below.**

Frame Members

Verticals	FRAME HEIGHT (ROUGH OPENING - top & bottom joints)
Intermediate horizontals	Daylight opening (D.L.O.) - 1/16"
Head and sill	D.L.O. - 1/16"
Horizontal face covers	D.L.O.
Horizontal pressure plate	D.L.O. - 1/4"

Accessories

Vertical gaskets	D.L.O. + 1" + allowance*
Horizontal gaskets	D.L.O. + allowance*
*Glazing gaskets should be cut 1/4" longer per foot. Set aside and lay flat until ready to glaze.	

Other Members (as required)

Horizontal glazing adaptors	D.L.O. - 1/32"
Vertical glazing adaptors	D.L.O. + 1"
Glass Stops	D.L.O. - 1/16"
Sill Filler	D.L.O. - 1/16"
Door jamb subframe	DOOR OPENING + 3/4"
Door header subframe	DOOR OPENING - 1/32"
Flush door horizontal pressure plate	D.L.O. - 1/16"
Flush door horizontal face cover	D.L.O. - 1/16"

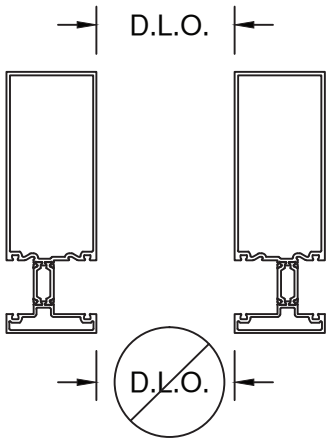


Figure 1a
Measuring D.L.O. for Cut Lengths

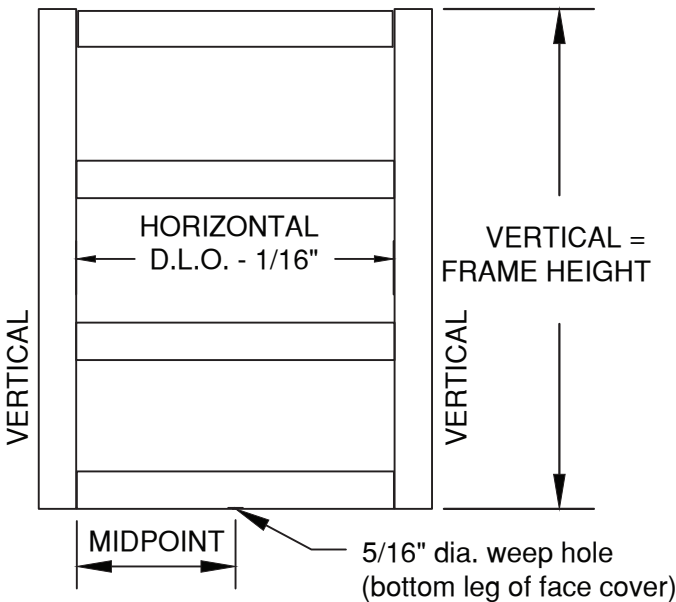
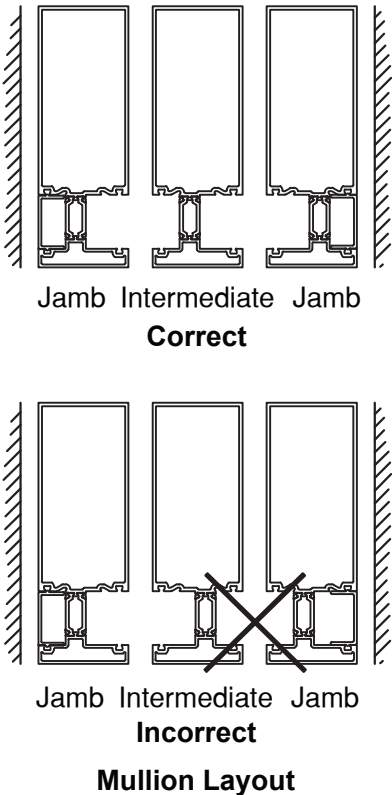


Figure 1
Material Fabrication Guide



FRAME FABRICATION

- 1.3 Fabricate vertical mullions for horizontal members using the DJ-102 drill jig or layout shown in **FIGURE 2**. Drill holes for head shear blocks using holes "A" & "B" (6" system) or "A" & "C" (7 1/4" system). For horizontal shear blocks, use holes "D" and "E" (6" system) or "D" & "F" (7 1/4" system). Align top of jig with top of vertical for head members and top of horizontal for the intermediate horizontals. For sill members, align bottom of jig with bottom of vertical using holes "G" & "H" (6" system) or "G" & "J" (7 1/4" system). **SEE FIGURE 2**.
- 1.4 Install and seal end caps to top and bottom of all jamb and intermediate vertical mullions with (4) FS-320 #10 x 1/2" drive screws. **SEE FIGURE 2**. Modify end cap at jambs as shown in **FIGURE 3**

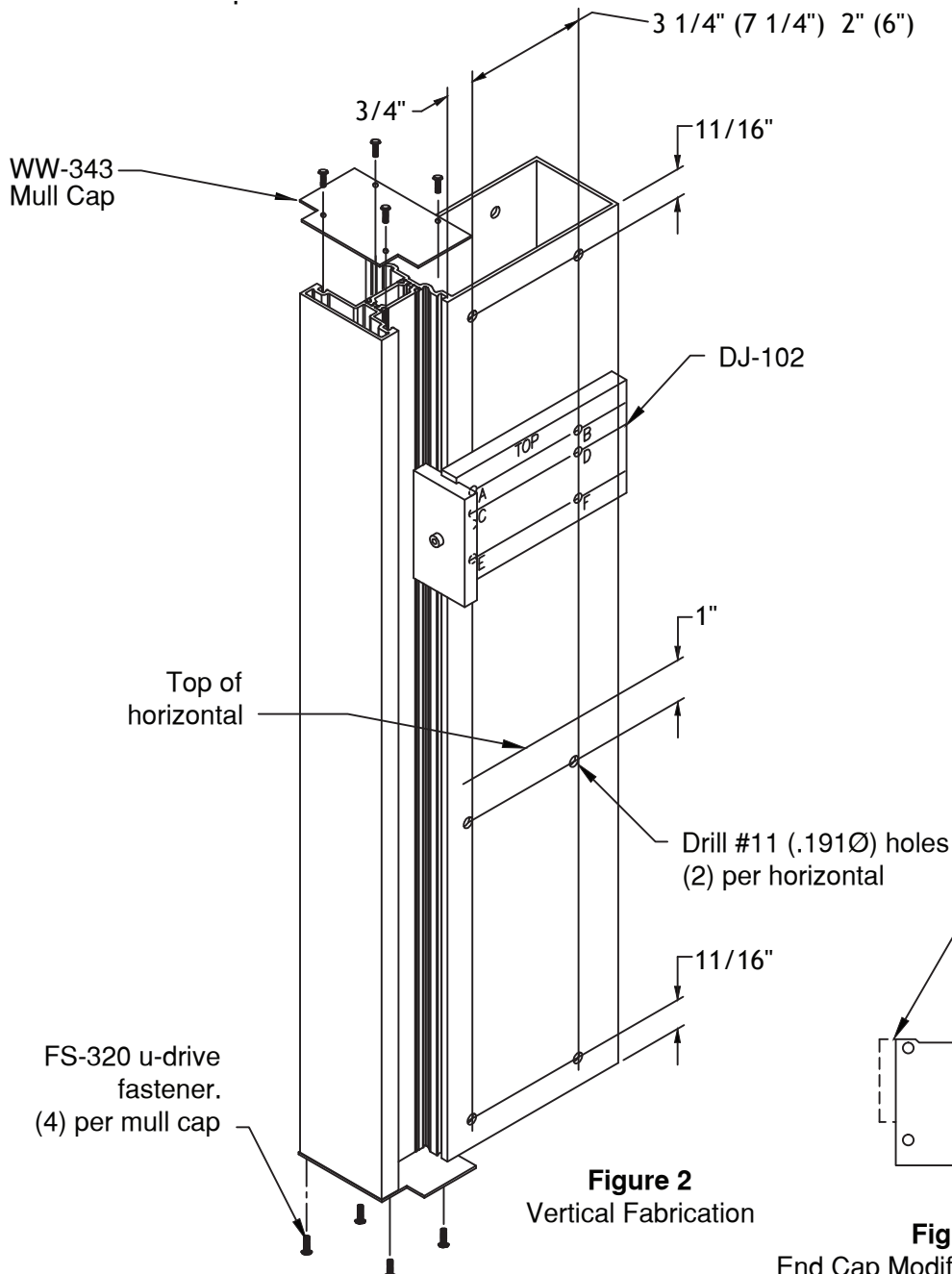


Figure 2
Vertical Fabrication

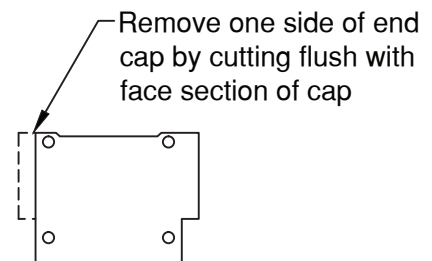


Figure 3
End Cap Modification for Jamb

FRAME FABRICATION

- 1.5 Drill (2) 7/32" holes on each end of horizontal for attachment to shear block. **SEE FIGURE 4.** Drill 5/16" weep holes at 1/4 points as shown in **FIGURE 5.**
- 1.6 Drill 5/16" diameter weep holes at centerline of DLO in face cap in intermediate horizontals only. **SEE FIGURE 6.**

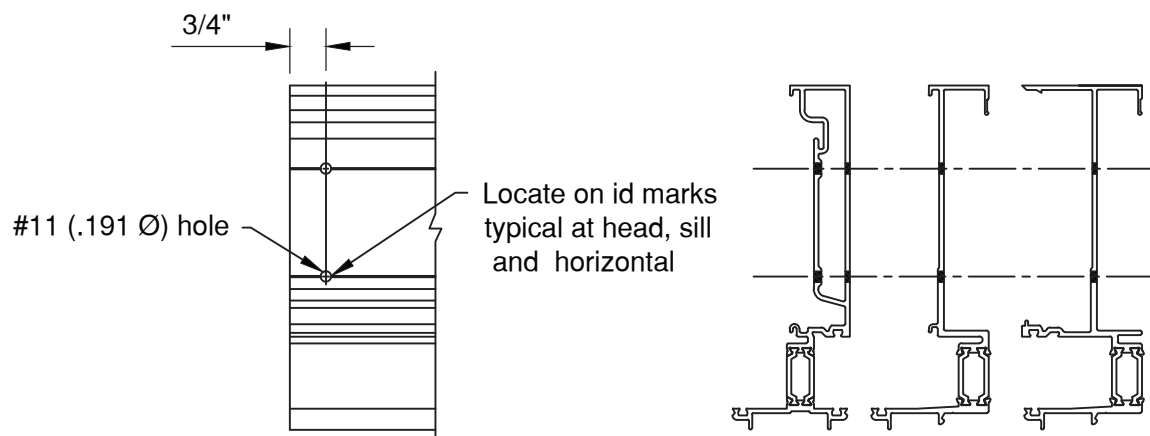


Figure 4
Horizontal Shear Block Fabrication

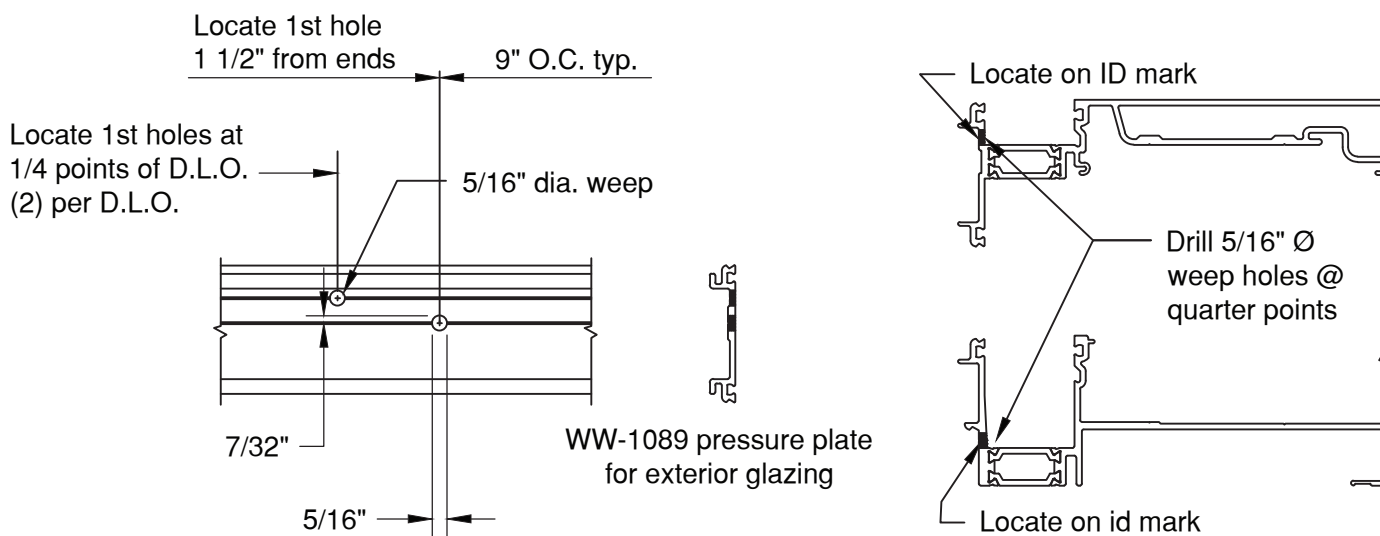


Figure 5
Horizontal Weep Hole Fabrication

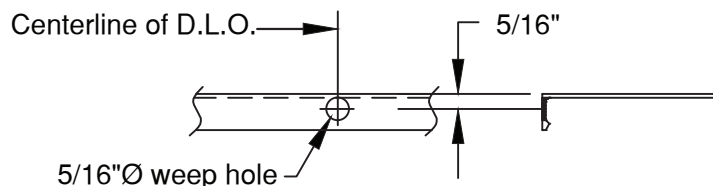


Figure 6
Horizontal Face Cover Fabrication

FRAME ASSEMBLY

Anchor type and sizes vary per job requirements. Details shown in these instructions are to be used as a guide only. Refer to approved shop drawings for actual conditions.

2.1 Vertical mullion installation:

SINGLE SPAN INSTALLATION:

- 2.1.1 Attach shear blocks to all vertical members. **SEE FIGURE 7** for proper orientation and installation on mullion.
- 2.1.2 Install verticals plumb and level. Place shims under vertical mullion and anchor at sill to evenly distribute deadload from wall. Place shims under sill at setting blocks to evenly distribute deadload from glass. **(SEE PAGE 17)**
Prior to installation, install (2) FS-55 (#10 x 1/2" PPH) fasteners at each end of mullion to hold jamb "F" anchor centered in vertical. Install tee anchor at head to allow for thermal movement of the vertical mullions.
Anchor type and sizes vary per job requirements. Details shown in these instructions are to be used as a guide only. refer to approved shop drawings for actual conditions.

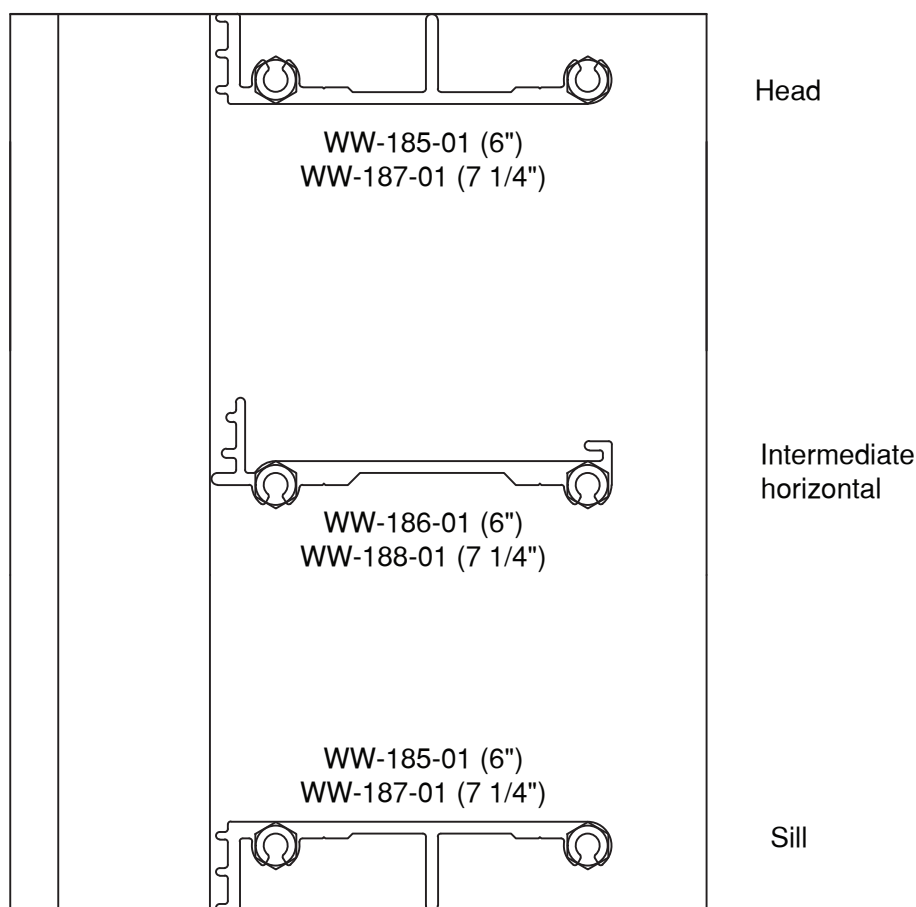


FIGURE 7
Shear Block Orientation

FRAME INSTALLATION

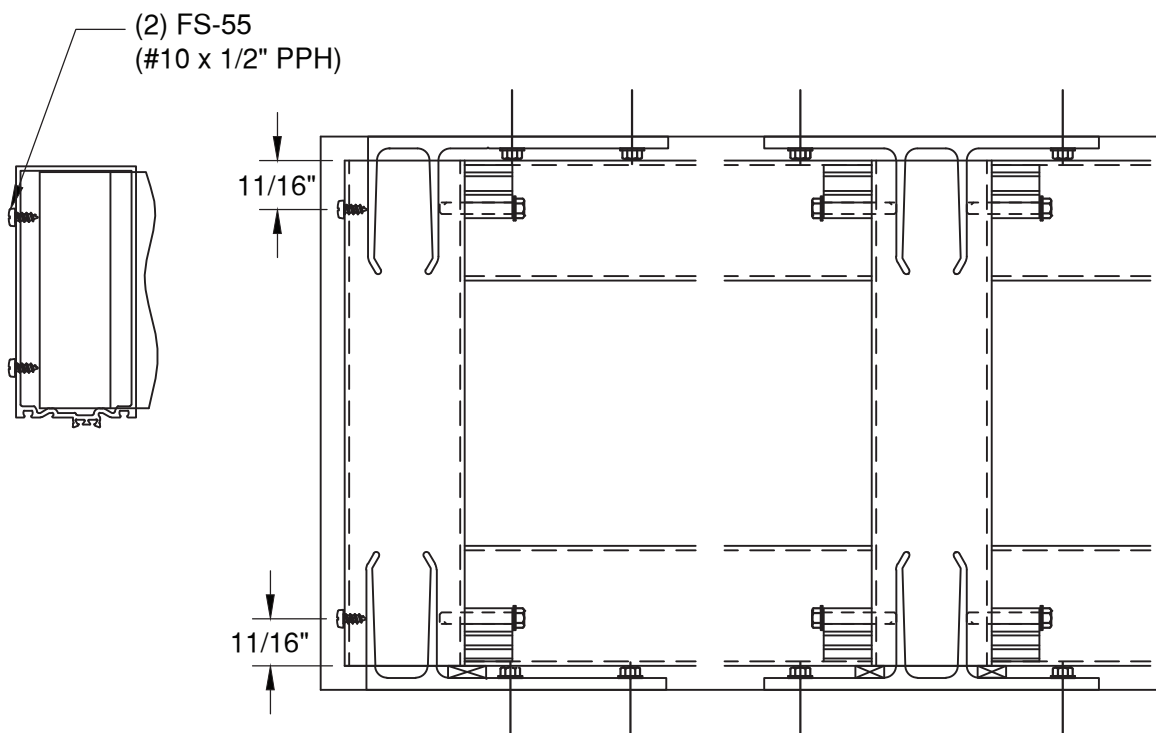


Figure 8

Single Span Anchorage

- 2.1.3 Check D.L.O. and diagonal dimensions every five bays to ensure correct spacing and frame squareness to prevent dimensional buildup.

TWIN SPAN INSTALLATION:

- 2.1.4 Attach shear blocks to all vertical members.
SEE FIGURE 7 for proper orientation on mullion.
- 2.1.5 When using tee anchors, slide tee anchors into top and bottom of vertical mullions. The tee anchors are designed to clear the shear block fasteners. Prior to installation, when using jamb "F" anchor, install (2) FS-55 (#10 x 1/2" PPH) fasteners at each end of mullion to center F anchor in vertical. **SEE FIGURE 8**
- 2.1.6 Install verticals plumb and level, ensuring proper spacing out from floor slab or beam. Place shims under vertical mullion and anchor at sill to evenly distribute deadload from wall. Anchor top and bottom of mullions to the structure. Place shims under sill at setting blocks to evenly distribute deadload from glass. **(SEE PAGE 17)**
NOTE: All vertical mullions can be installed first, followed by horizontal members.
- 2.1.7 Anchor the mullion to floor slab or beam. Do not overtighten bolt(s). For expansion anchors, back off nut 1/4 turn and stake bolt.
- 2.1.8 Check D.L.O. every five bays to ensure correct spacing to prevent dimensional buildup.

FRAME INSTALLATION

MULTI-SPAN INSTALLATION:

- 2.1.9 Install tee anchors at the sill condition prior to setting mullions. Prior to installation, install (2) FS-55 (#10 x 1/2" pph) fasteners at each end of mullion to hold jamb "F" anchor centered in vertical. Each tee anchor must be anchored with a minimum of two anchor bolts. See approved shop drawings for bolt size and location.
- 2.1.10 Attach shear blocks to all vertical members. **SEE FIGURE 7, page 8** for proper orientation on mullion.
- 2.1.11 Install lower verticals plumb and level, ensuring proper spacing out from floor slab or beam. Place shims under vertical mullion and anchor at sill to evenly distribute deadload from wall. Place shims under sill at setting blocks to evenly distribute deadload of glass.
SEE page 17
- 2.1.12 Anchor the mullion to floor slab or beam. Do not overtighten bolt(s).
- 2.1.13 Repeat steps 2.1.11 and 2.1.12 until all lower verticals are in place. Check D.L.O. every five bays to ensure correct spacing to prevent dimensional buildup.
- 2.1.14 Slide tee anchors into top of upper-most mullions. The tee anchors are designed to clear the shear block fasteners.
- 2.1.15 Install the next vertical above, temporarily attaching mullions using fasteners on both sides of joint or by shimming between verticals to maintain proper splice joints (refer to approved shop drawings). **SEE page 27** for vertical splicing. Attach tee anchor to building condition.
- 2.1.16 Anchor the mullion to floor slab or beam. Do not overtighten bolt(s).
For expansion anchors, back off nut 1/4 turn and stake bolt.
- 2.1.17 When the wall is set, remove fasteners from one side of joint at splices or remove shims.

FRAME INSTALLATION

Continue with step 2.2 for remaining installation after all verticals have been erected.

- 2.2 Seal around shear blocks prior to installing each horizontal mullion. **SEE FIGURE 9 & 10.** Install horizontal mullions as shown in **FIGURE 12, page 13** An alternate horizontal is available to allow exterior glazing of system. **SEE FIGURE 13, page 13** When installing alternate horizontal, attach pressure plate using FS-322 (#12 x 1" HWH Drill Flex) @ 9" o.c. and torque to 60 in/lbs. Secure horizontals to shear block with two (2) FS-43 (#12 x 3/4" pph) at each end of horizontal and to head and sill using (2) FS-55 (#10 x 3/4" pph).

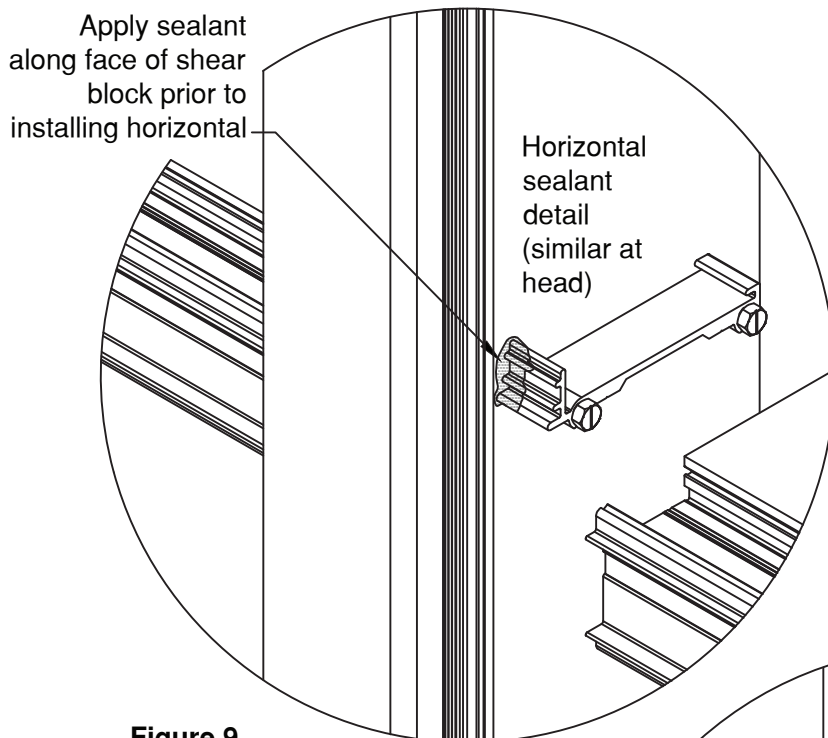
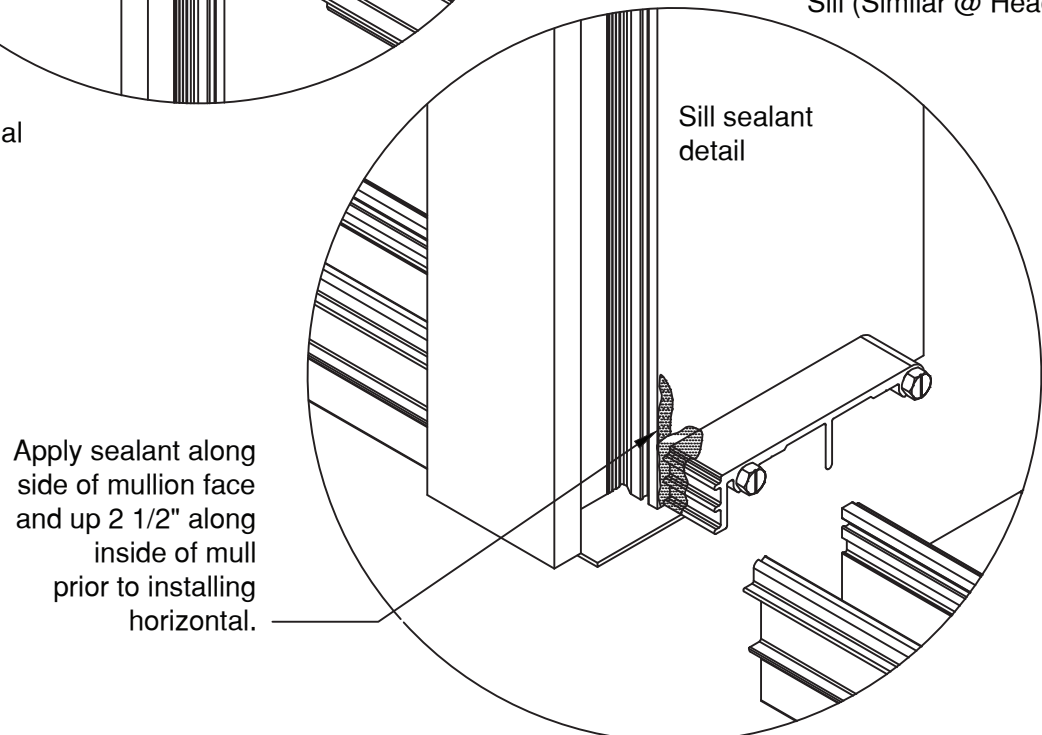
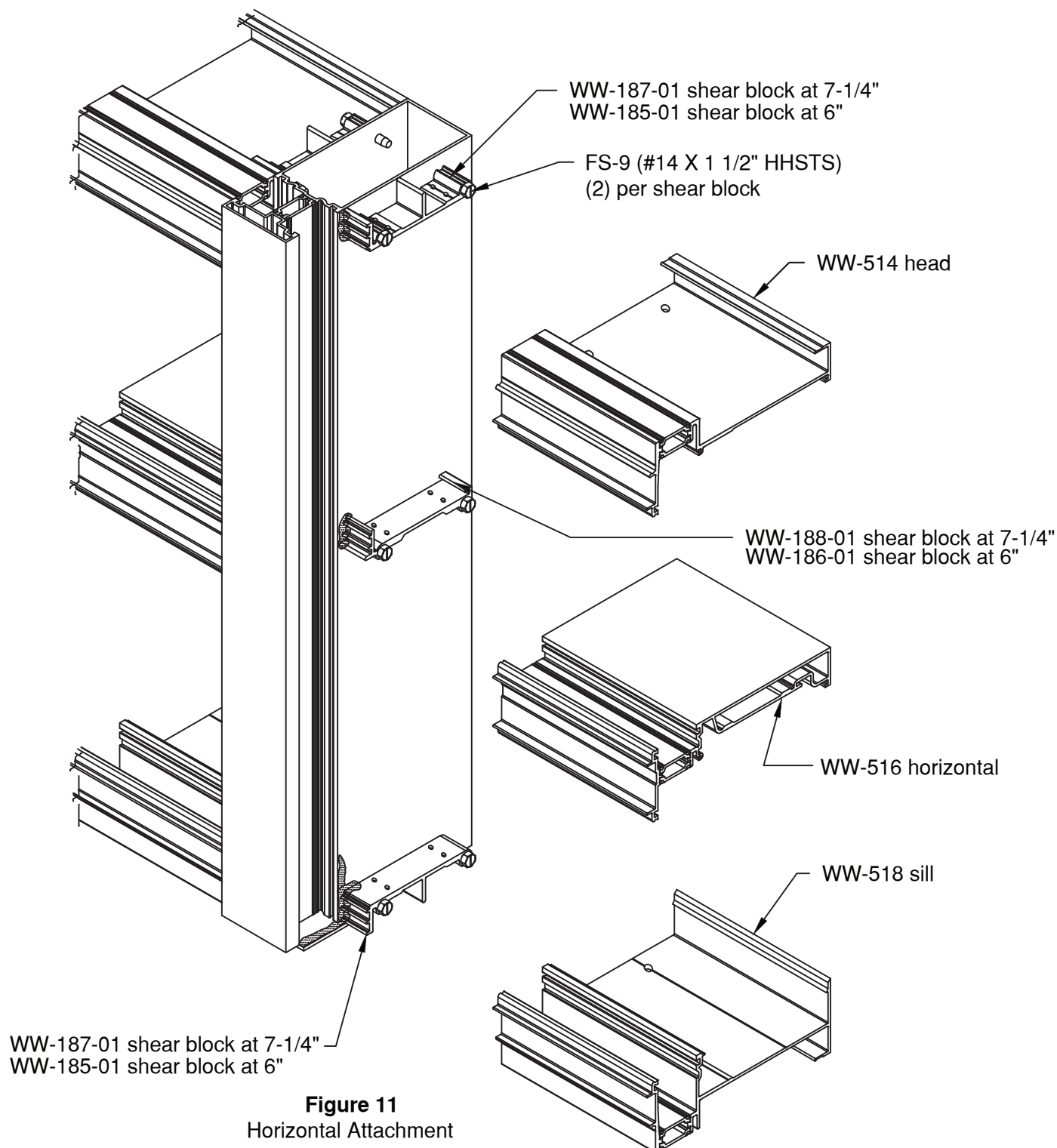


Figure 9
Shear Block Seal
@ Horizontal

Figure 10
Shear Block Seal @
Sill (Similar @ Head)



FRAME INSTALLATION



2.3 Install cover plates for open back sill horizontals.

2.4 Wipe excess sealant from exposed areas. Tool sealant into the joint between the horizontal and vertical at the glazing pocket. At the sill, apply a bead of sealant behind the glass pocket.
SEE FIGURE 12, Avoid a buildup of sealant on the gasket surfaces or in the gasket reglets.
 Reference **FIGURE 14, page 14** for additional sealant instructions.
 TIP: Use a short piece of glazing gasket to clean out excess sealant in glazing

FRAME INSTALLATION

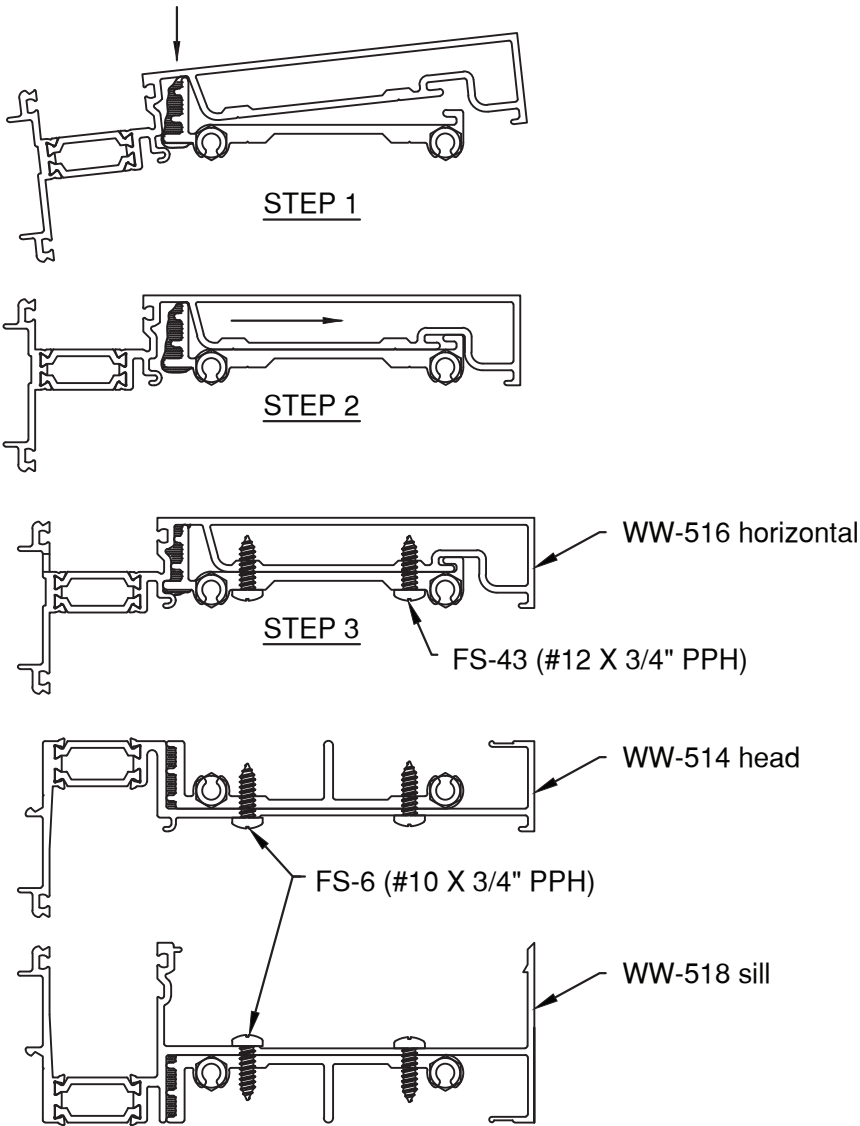


Figure 12
Horizontal Installation

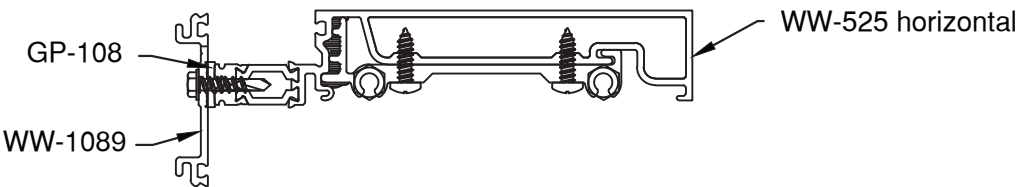


Figure 13
Alternate Horizontal for Exterior Glazing

FRAME INSTALLATION

2.5 Zone Plug installation: (See FIGURE 14)

- Step 1: Seal gasket races; run sealant 1/2" down from top of stem of horizontal tooling sealant into the gasket race and glazing adaptor tracks.
- Step 2: Apply generous bead of sealant to front and back legs of zone plugs.
- Step 3: Apply additional sealant around glazing pocket of mullion and horizontal. Run sealant up 1" onto wall of mullion and top of horizontal, tooling sealant into edges of thermal strips.

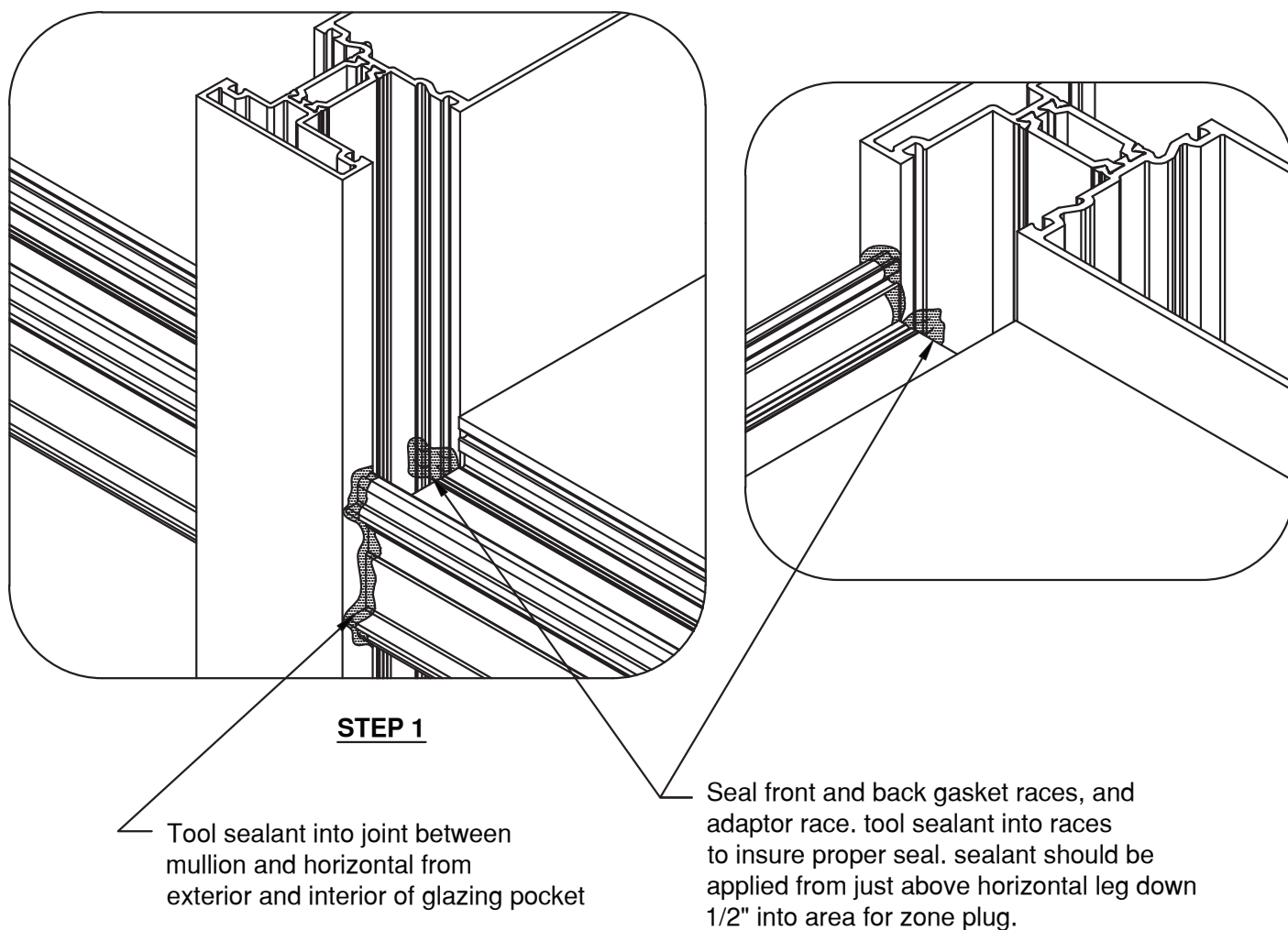
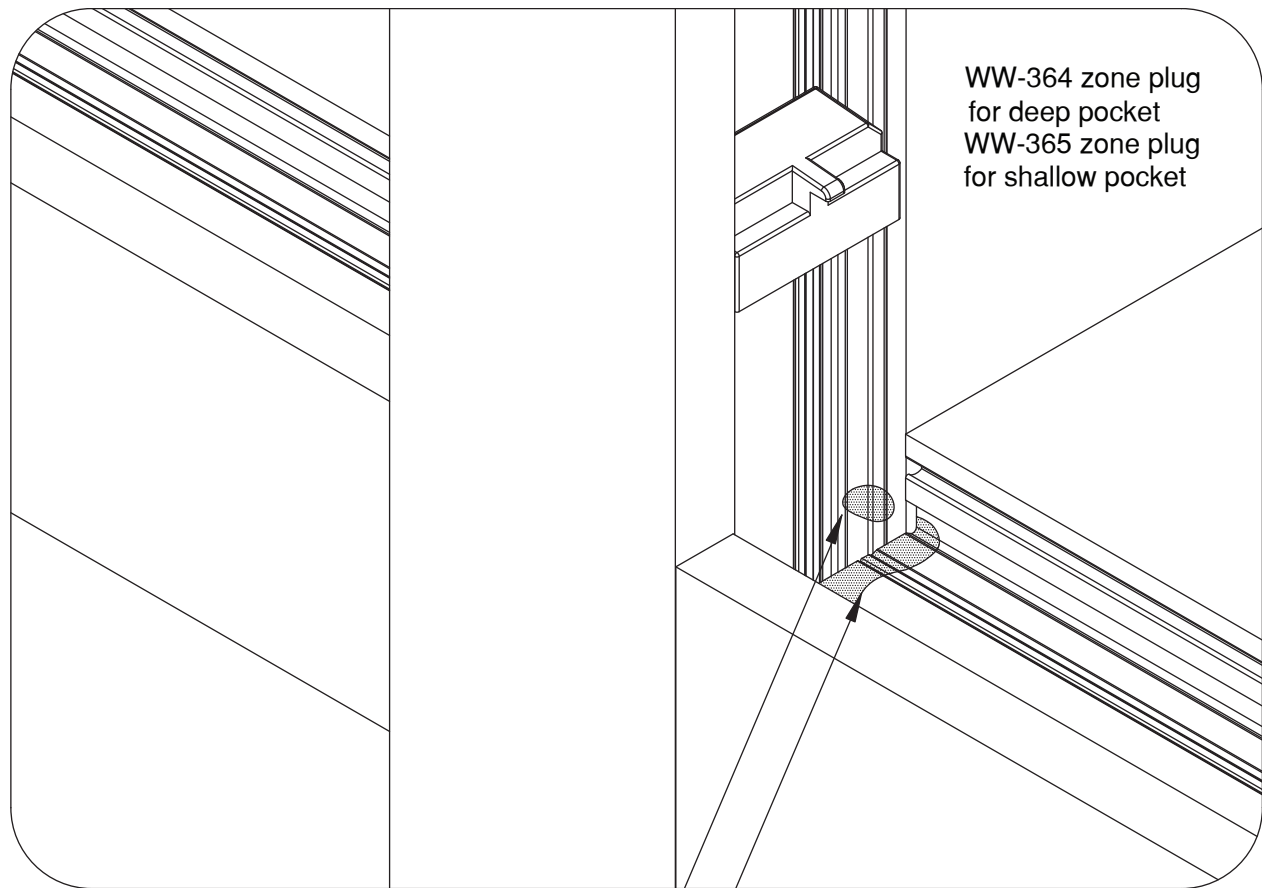


Figure 14
Zone Plug Installation
(continued on page 15)

FRAME INSTALLATION



Force sealant into gasket races at interior and exterior of glazing pocket

Apply sealant to front and back of zone plug prior to installing into mullion.

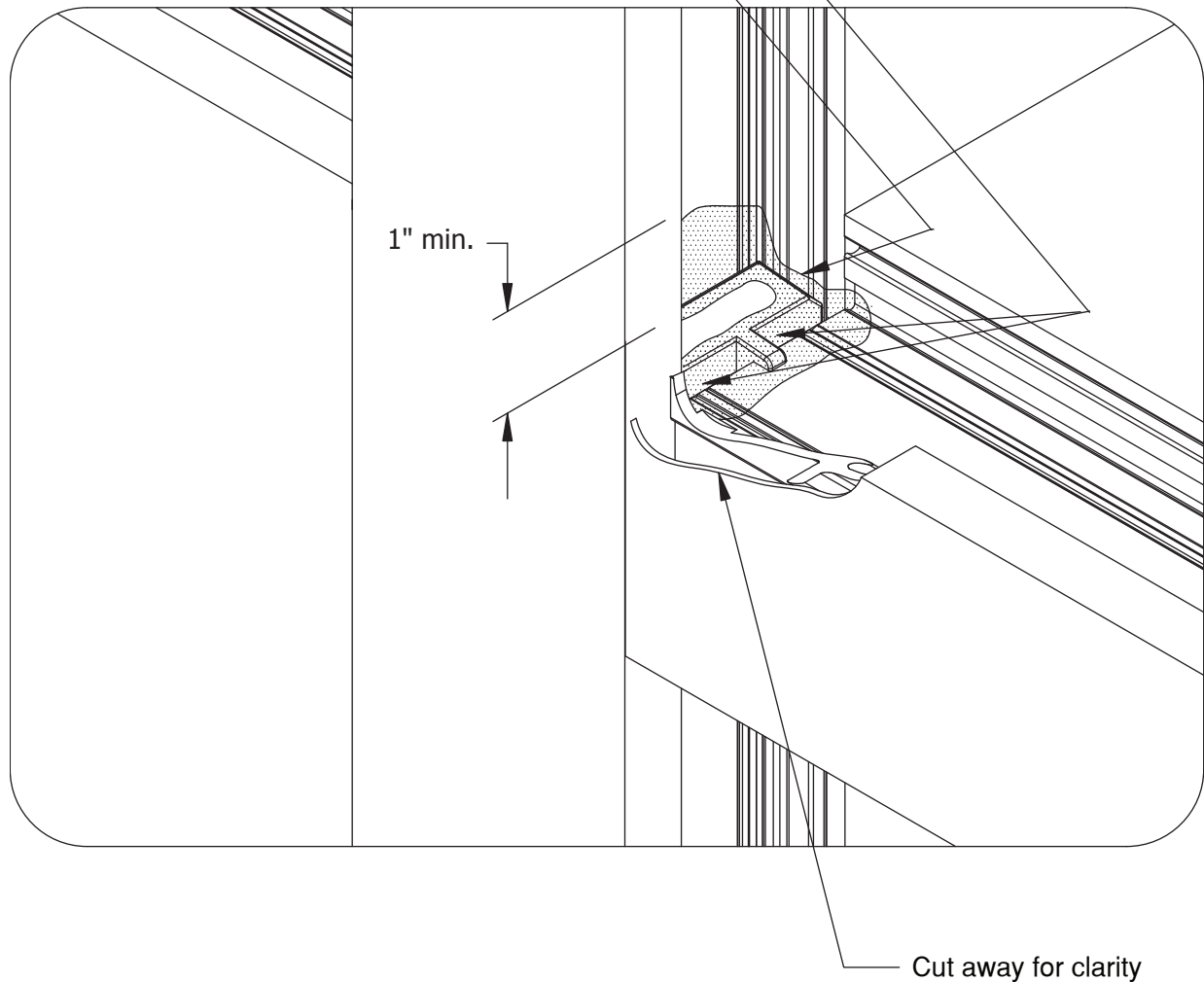
STEP 2

Figure 14 - continued
Zone Plug Installation

FRAME INSTALLATION

Tool sealant into pockets of zone plug at mullion and horizontal.

Apply additional sealant to zone plug at mullion and horizontal. marry sealant with sealant applied into mullion races.



STEP 3

Figure 14 - cont.
Zone Plug Installation

FRAME INSTALLATION

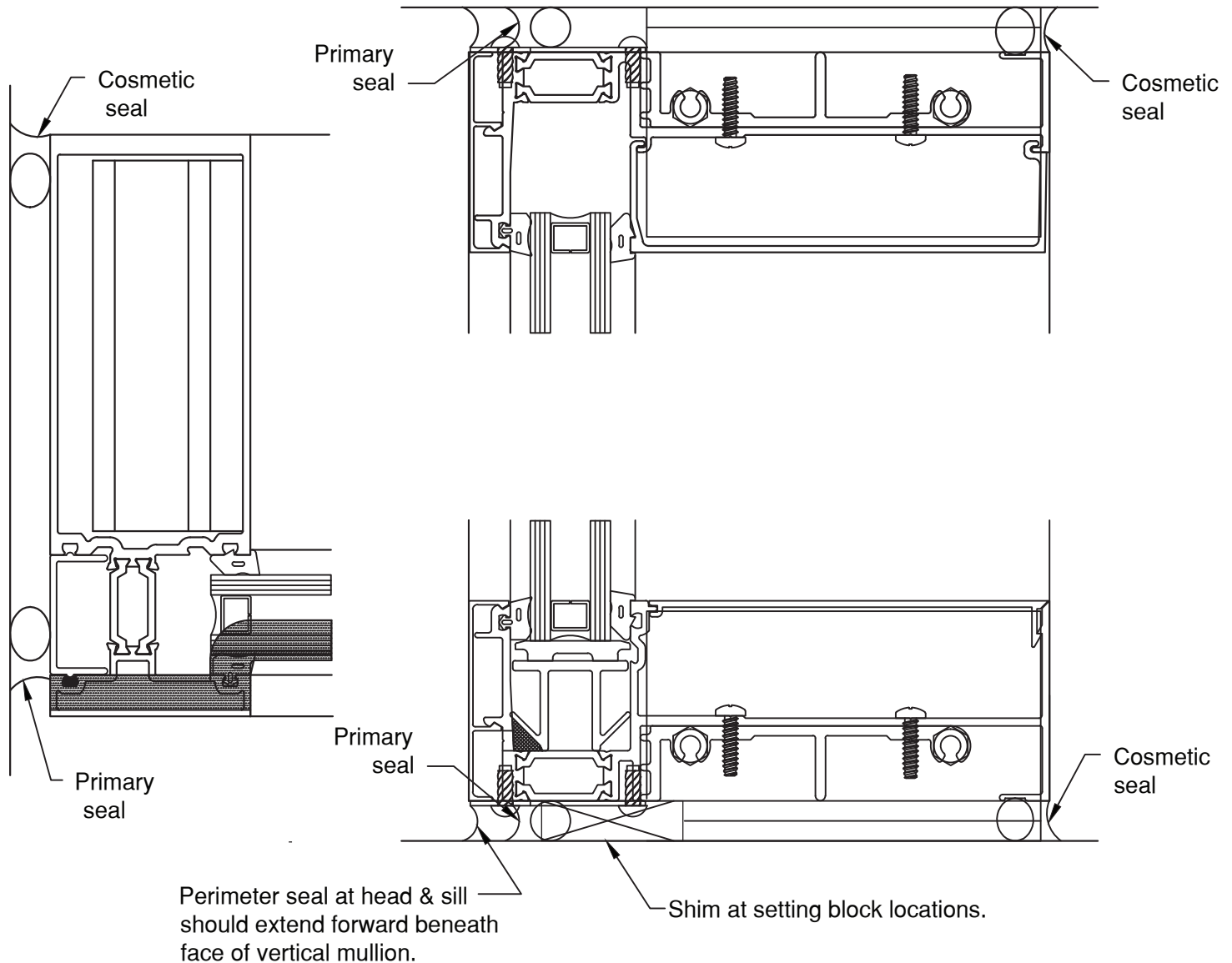


Figure 15
Perimeter Seal

- 2.6 Locate shims underneath sill at setting block/setting chair to evenly distribute deadload of glass..
SEE FIGURE 15
- 2.7 When all framing members are installed, apply the perimeter seal. **SEE FIGURE 15.** The interior perimeter seal is not required for system performance, but can be installed for cosmetic purposes.

GLAZING

GLASS SIZE CALCULATION

Captured verticals and jambs	D.L.O. + 1"
All horizontals	D.L.O. + 1"
SSG verticals	D.L.O. + 1"
Corner verticals	SEE FIGURE 16 below

Note: Steps 3.1 through 3.7 refer to standard glazing of 1" infill. For openings requiring transition glazing with adaptors, refer to "TRANSITION GLAZING", page 15.

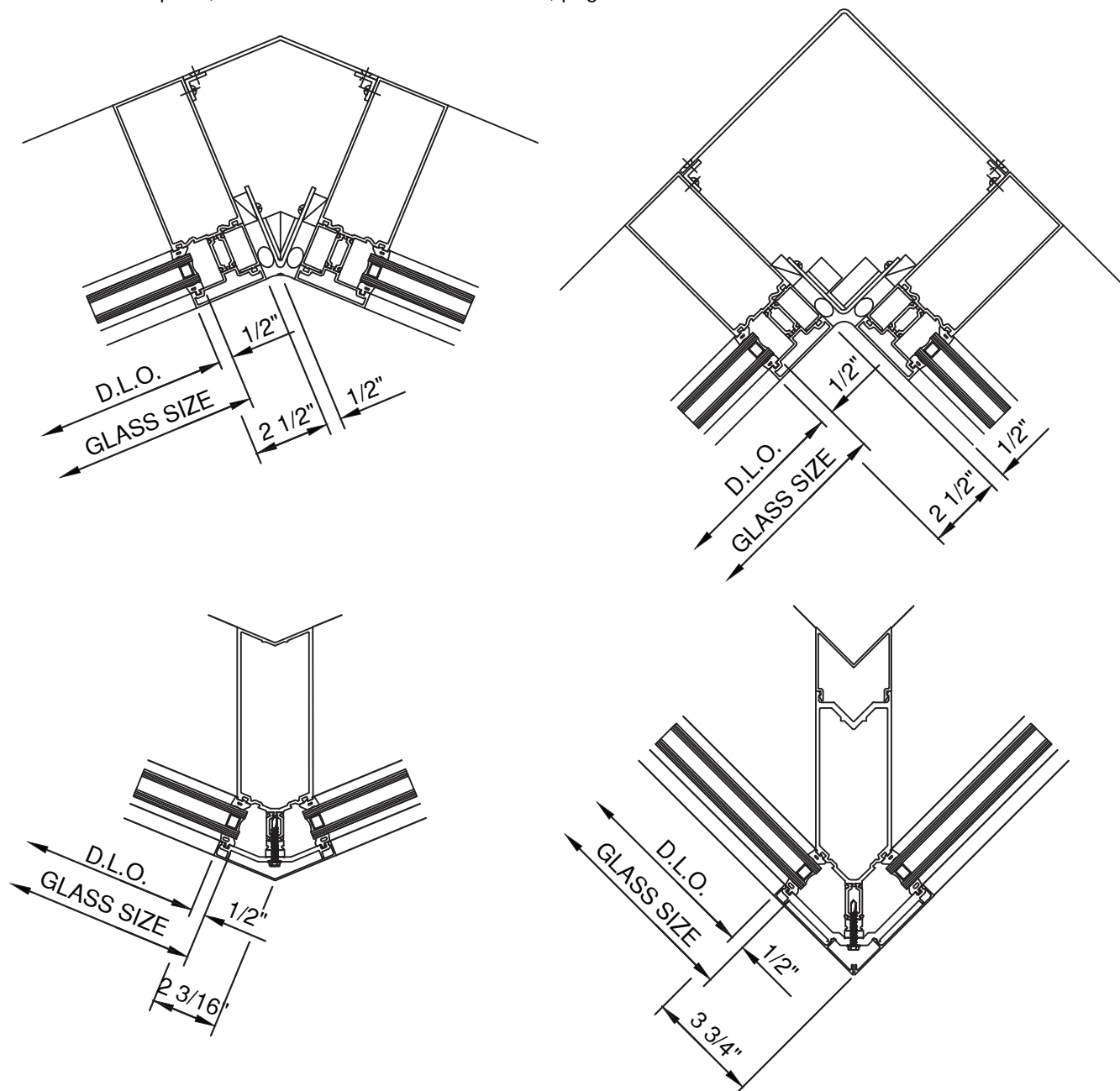


Figure 16
Glass Size Calculation at Corners
SOME PARTS NOT SHOWN FOR CLARITY

GLAZING

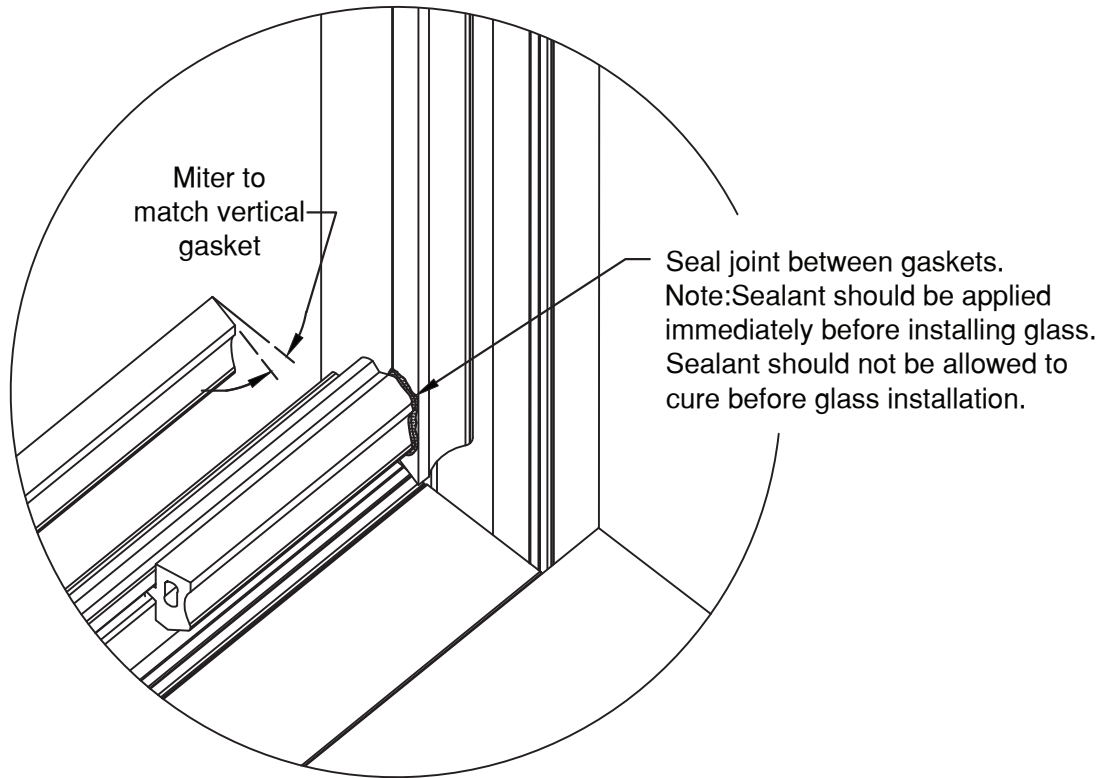


Figure 17
Seal @ Gasket Corners

- 3.1 Note:** To avoid silicone curing before glass is set in place and contamination from job-site debris, glazing prep must be done as each opening is glazed. Do not pre-seal the gaskets in the entire frame; install and seal gaskets as you are ready to set glass in each opening.

Install exterior gaskets, both horizontal and vertical, installing vertical gaskets first. If the vertical mullion is spliced, run gasket through the splice joint, setting gasket in fresh silicone at splice joint, trimming the gasket dart as necessary to form an airtight seal. Glazing gaskets at verticals run through; horizontal gaskets butt into vertical gaskets. Crowd the gaskets into corners, cutting the horizontal gaskets at an angle to match bevel on vertical gaskets. Pulling the horizontal gasket back, seal joint between the corners of the gaskets just prior to setting the glass. Release the gasket back to its original position, making sure sealant fills the entire joint.

- 3.2** Position setting blocks at correct location (two per lite). Refer to approved shop drawings or deadload charts. Lubricating the top of the setting block will help insure proper setting of glass.
Note: Consult glass manufacturer for correct setting block location and length for glass sizes in excess of 40 sq. ft.
- 3.3** Set glass in opening from the interior. System should be glazed from the bottom to top. Place one edge of the glass into the deep pocket of the vertical. Swing the glass into the adjacent vertical pocket and lower onto setting blocks, ensuring that the glass bite is equal on all sides.

CAUTION: Be certain that glass is placed firmly against exterior gasket to ensure a proper seal and to avoid binding of the glass on the setting block.

GLAZING

- 3.4 Temporarily hold glass in place at each corner of the glass with 4" long interior wedge gaskets at the vertical. Locate at the corners for proper sealing of the gasket joint. Temporary pieces of wedge may also be required at the center of each horizontal if glass edges are greater than 4 ft. in length.
- 3.5 If required, install GP-114 and GP-115 side blocks at centerline of each lite along vertical edges. Hold GP-114 in place with silicone applied along legs of setting block. For framing that may be subjected to seismic events, consult glass manufacturer for preferred location.
- 3.6 Repeat steps 3.1 through 3.5 until all glass is set, working row by row up the elevation.

For elevations requiring vertical mullion splices, refer to the **VERTICAL SPLICING** section, page 27 & 28, before continuing the installation.

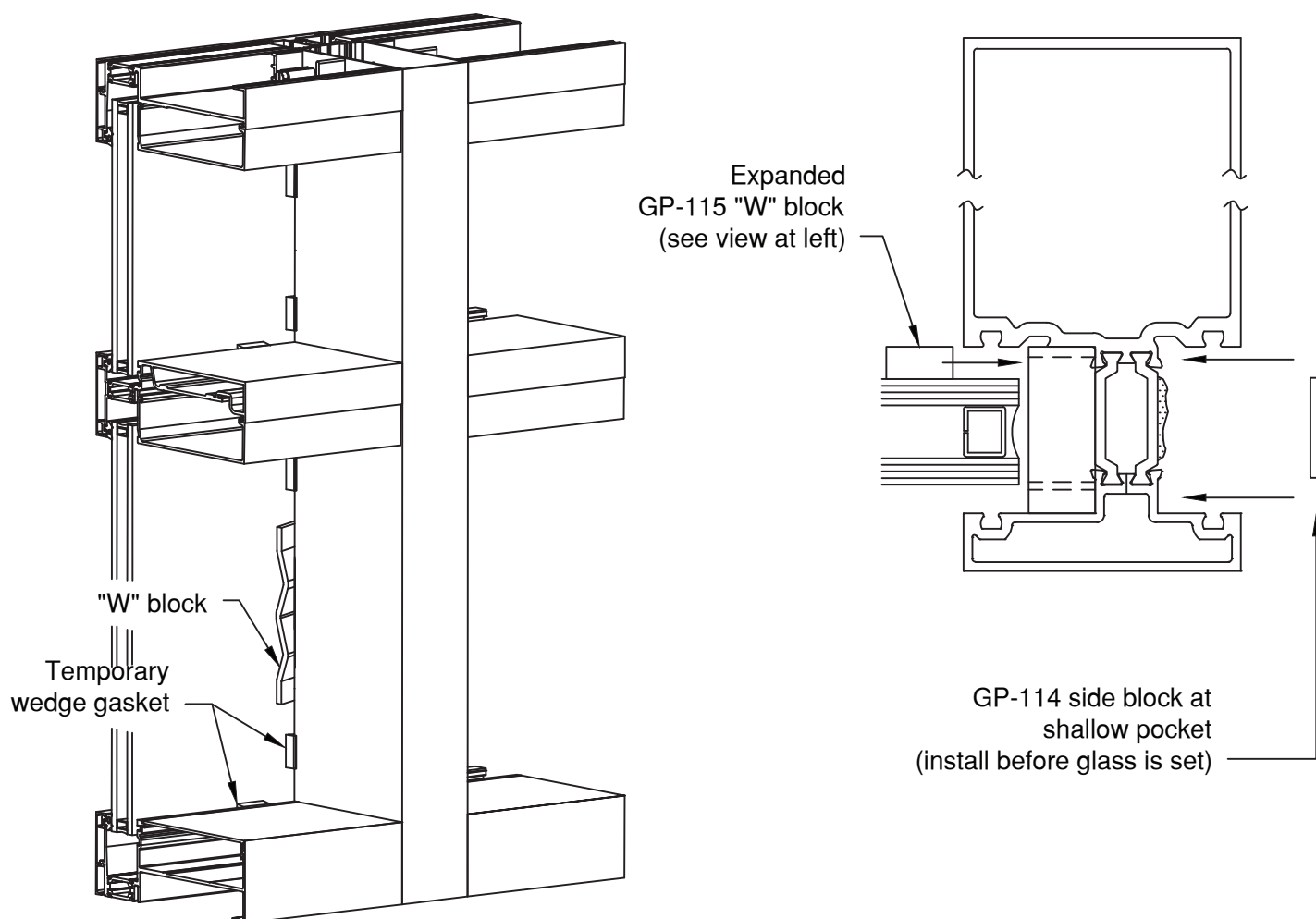


Figure 18
Glazing Retainers

GLAZING

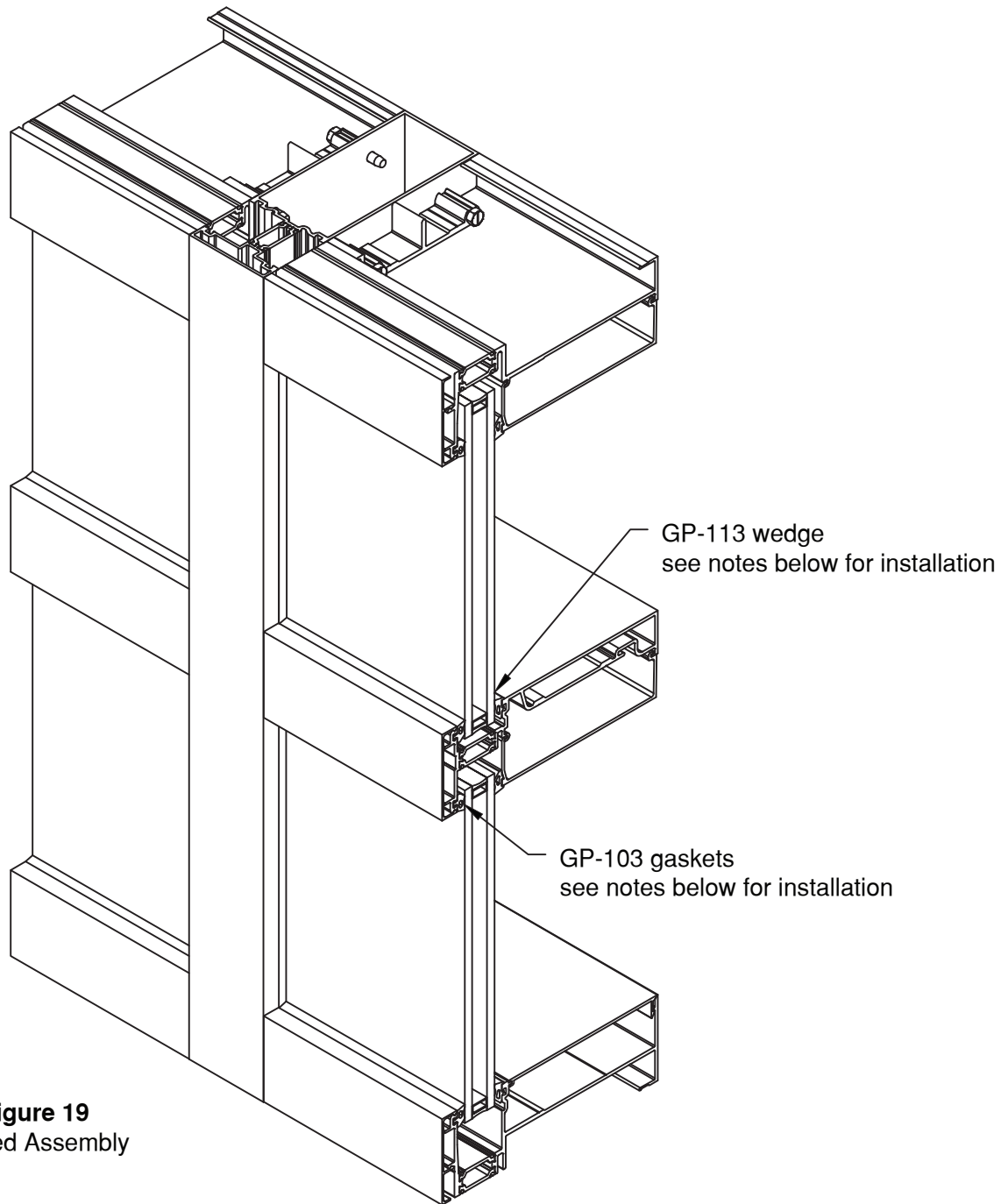


Figure 19
Glazed Assembly

GLAZING NOTES:

- 1) Interior gaskets: GP-113 wedge gasket
Exterior gaskets: GP-103 push-in gasket
 - 2) Remove gaskets from reels and allow to relax overnight before installing.
 - 3) Cut gaskets 1/4" longer per foot of aluminum extrusion to allow for relaxation.
- 3.7 Install horizontal face covers, leaving an equal gap at each end. Make sure the weep hole is on the bottom covers. Install using a wood block to protect the cover and a dead blow soft face hammer.

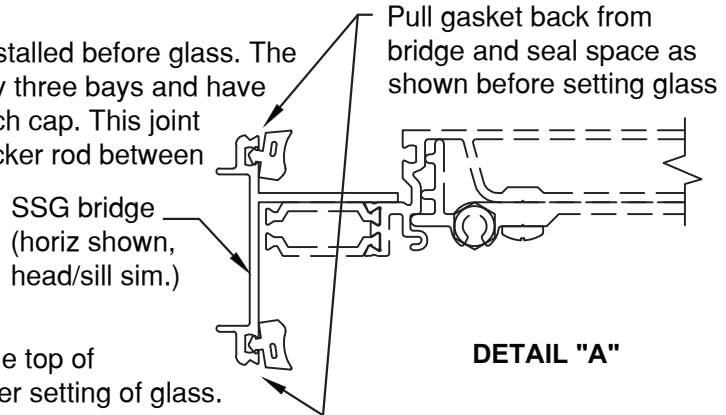
GLAZING AT SSG MULLIONS

3.8 Glazing using the SSG mullions typically will be accomplished by setting glass from the interior of the building. If special conditions exist which mandate setting glass from exterior, **see page 25.**

3.9 Prior to installing glass, horizontal bridges must be installed and sealed (**SEE FIGURES 21 thru 23, page 23**). **Note: The bridges shown are for interior glazing only**

3.10 Horizontal face caps should be installed before glass. The face caps should be spliced every three bays and have a minimum 1/8" joint between each cap. This joint should be sealed by installing backer rod between caps and then applying sealant.

3.11 Position setting blocks at correct location (two per lite). Refer to approved shop drawings or deadload charts. Lubricating the top of setting block will help insure proper setting of glass. **Note: Consult glass manufacturer for correct setting block location and length for glass sizes in excess of 40 sq. ft.**



3.12 Install horizontal exterior gasket, running fasket across horizontals and bridges. Apply sealant along top edge of gasket at each bridge, at upper and lower gasket, just prior to installing glass. **SEE DETAIL "A" above** If a gasket must be spliced, ends must be sealed and butted together. Cut gaskets 1/4" longer per foot of aluminum extrusion to allow for relaxation.

3.13 Set glass in opening from the interior. Place one edge of glass in front of the SSG mullion and swing the glass into the adjacent vertical pocket. Lower onto setting blocks. It may be necessary to leave glass offset in openings until the end of the run is complete, then slide each lite over to center into openings. The glass should be positioned to leave a 1/2" joint between each lite of glass.

3.14 Once glass is centered into opening, install temporary clips (SPW-PP-3) at 24" o.c. or minimum 3 per lite. Install GP-102 spacer along each side of vertical mullion pushing spacer behind glass to create a sealant joint of minimum 3/8" depth. Spacer should be cut vertical opening plus 1" and placed in opening to extend 1/2" above and below edge of horizontals. This joint should then cleaned using isopropyl alcohol and sealed using an approved structural silicone. **SEE FIGURE 20**

3.15 The exterior joint between the glass should be sealed by installing backer rod and sealant into the joint.

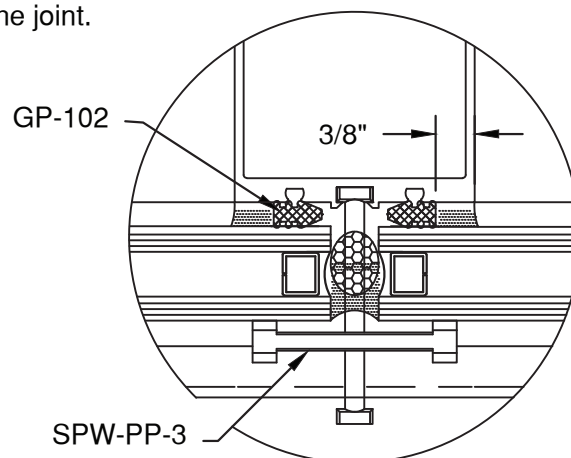


Figure 20
Glazing retainer

GLAZING AT SSG MULLIONS

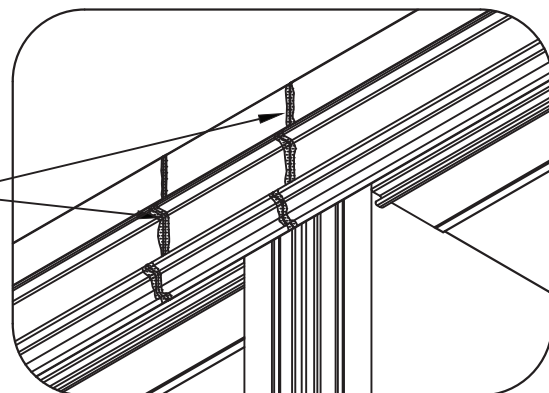
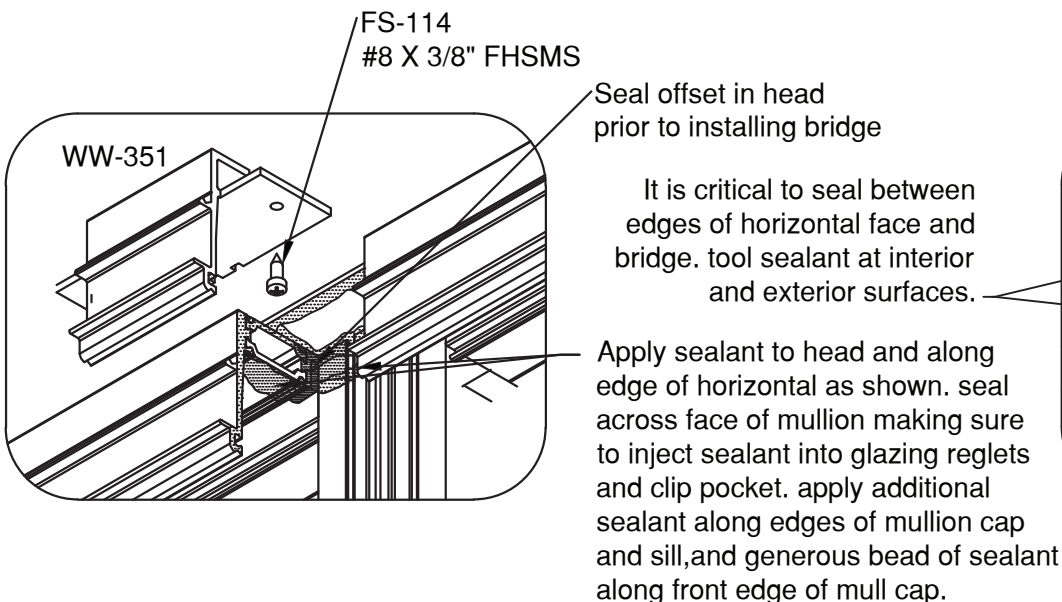


Figure 21

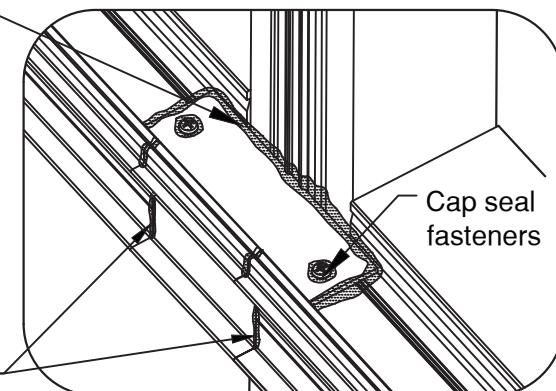
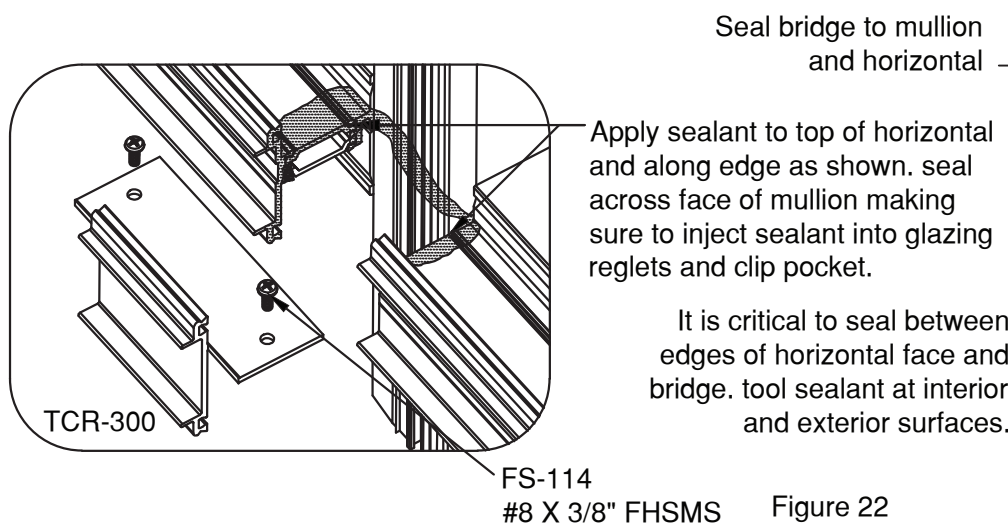


Figure 22

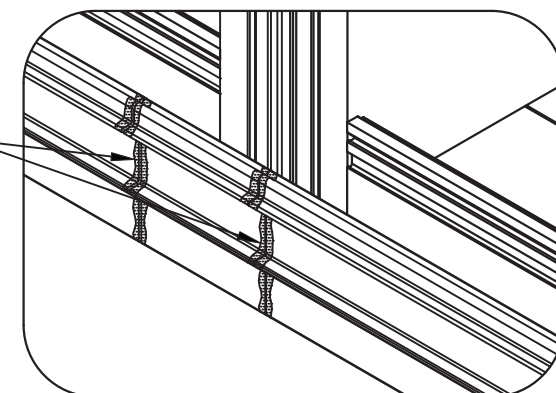
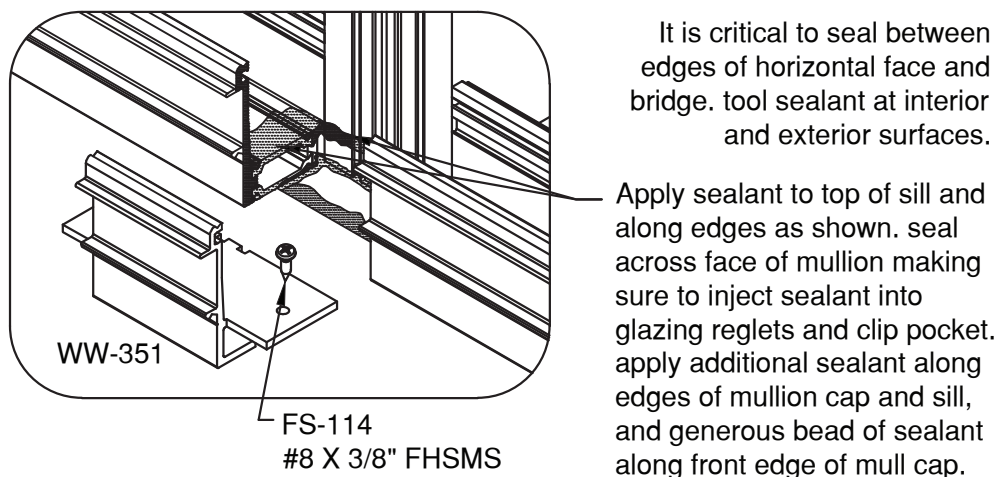


Figure 23

EXTERIOR GLAZING

- 3.16 It may be necessary on lites located adjacent to building floors and mid-anchors to exterior glaze these lites. Horizontal with removable pressure plate must be used at top of lite to allow for exterior glazing. SEE **FIGURE 13, page 13** If exterior glazing SSG system, WW-300 bridges will be installed at each horizontal **See FIGURES 36 & 37, page 32.**
- 3.17 Position setting blocks at correct location (two per lite). Refer to approved shop drawings or deadload charts. Lubricating the top of setting block will help insure proper setting of glass. Note: Consult glass manufacturer for correct setting block location and length for glass sizes in excess of 40 sq. ft .
- 3.18 Glazing captured system: Install exterior gaskets running the vertical gasket through and butting horizontal gaskets between. Joint between vertical and horizontal gaskets must be sealed. Horizontal gaskets should be mitered per **FIGURE 17. page 19.** Crowd gasket using formula of 1/4" per foot of aluminum extrusion. Note: gaskets will be installed at verticals and sill of opening when using pressure plate horizontal at head prior to installing glass.
- 3.19 Glazing SSG system: Install horizontal gaskets continuous across opening at lower horizontal.. Crowd gasket using formula of 1/4" per foot of aluminum extrusion.
- 3.20 Set glass in opening from the exterior. Place one edge of glass in deep vertical pocket or in front of the SSG mullion and swing the glass into the adjacent vertical pocket. Lower onto setting blocks.

When glazing captured system, slide glass until centered in opening which should provide 1/2" glass bite on all edges. It may be necessary to leave glass offset in openings on the SSG system until the end of the run is complete, then slide each lite over to center into openings. The glass for SSG system should be positioned to leave a 1/2" joint between each lite of glass.

- 3.21 Install pressure plate on horizontal at top of opening. These will be installed after glass has been centered in opening. Gaskets should be installed into pressure plates prior to installation. The GP-108 spacer gasket must be installed onto horizontal prior to attaching pressure plate.. Attach pressure plate using FS-322 (#12-14 x 1" HWH Drill Flex) @ 9" o.c. and torquing to 60 in/lbs.
- 3.22 Seal ends of pressure plate to sides of vertical mullions and seal ends of horizontal gaskets to vertical gaskets. (**SEE FIGURE 24**)
- 3.23 After installation of glass is complete, install GP-113 interior wedge around opening and for SSG system install GP-102 spacer along each side of vertical mullion pushing spacer behind glass to create a sealant joint of minimum 3/8" depth. (**SEE FIGURE 20, page 22**) Spacer should be cut vertical opening plus 1" and placed in opening to extend 1/2" above and below edge of horizontal. This joint should then cleaned using isopropyl alcohol and sealed using a structural silicone. When using pressure plates for SSG system, they will extend maximum 3 bays and should have 1/2" joint located at mullion centerline. Insert backer rod between pressure plates and seal. (**SEE FIGURE 25**)
- 3.24 On SSG system, seal the exterior joint between the glass by installing backer rod and sealant between the lites. Marry this seal into the gaskets or sealant joint on each end.
- 3.25 Horizontal face caps should be installed centered in opening. The face caps on SSG system should be spliced every three bays and have a minimum 1/8" joint between each cap. This joint should be sealed by installing backer rod and sealant between caps. (**SEE FIGURE 26**)

EXTERIOR GLAZING

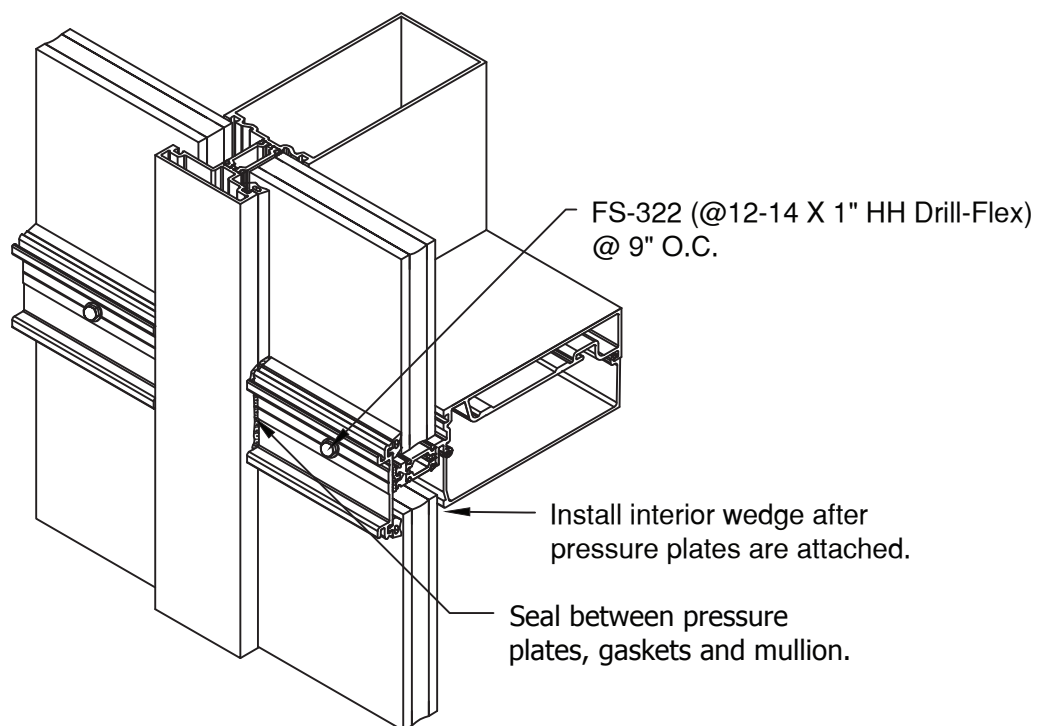


Figure 24

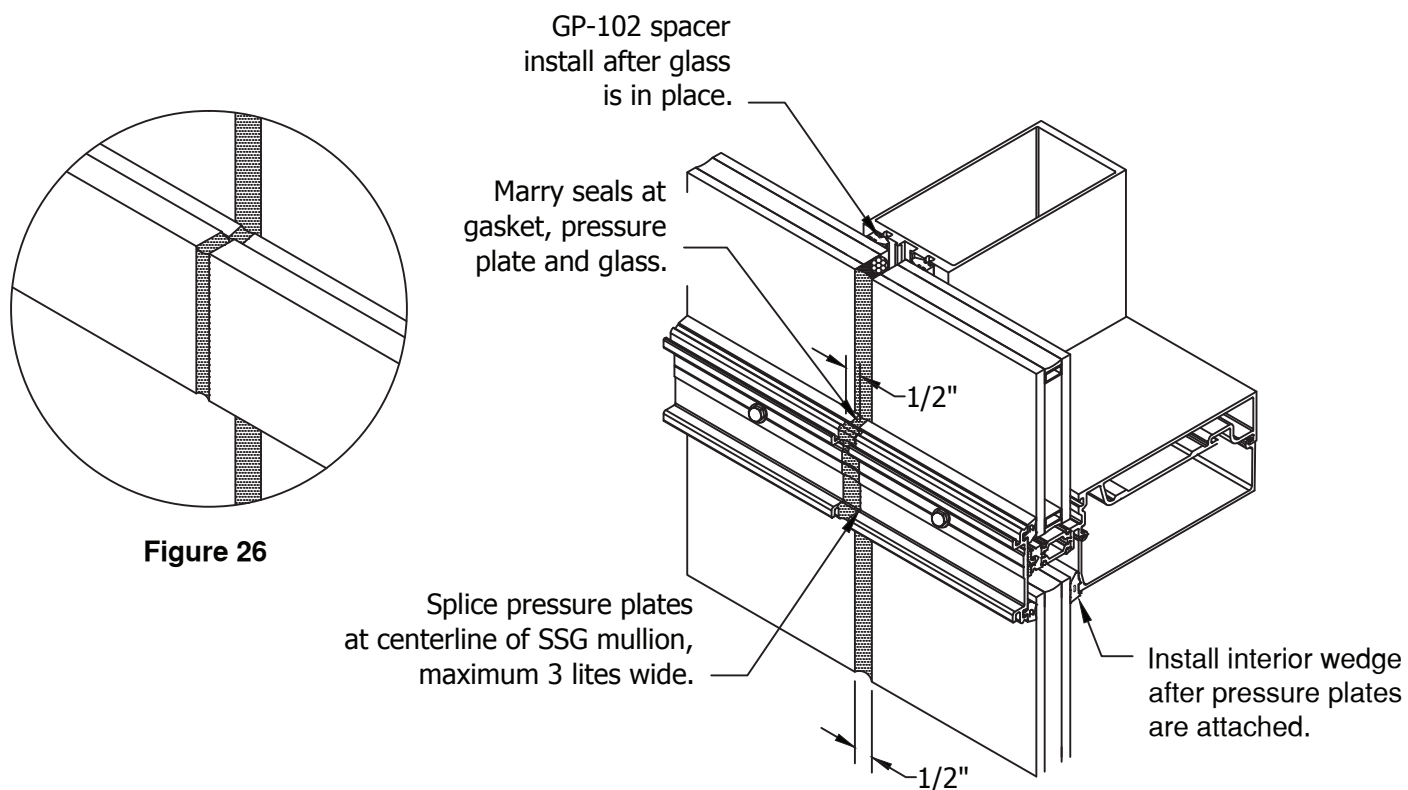


Figure 26

Figure 25

TRANSITION GLAZING

- A.1 Install vertical adaptors first, leaving an equal overlap into each pocket. **SEE FIGURE 27.** Refer to **VERTICAL SPLICING** if vertical mullion is spliced within a spandrel lite. Transition adaptors must be installed after mullion splice is sealed.
- A.2 Install horizontal adaptors maintaining an equal gap at each end. Once all adaptors have been installed in the opening, seal all corner joints. Run a bead of sealant in the groove formed between the adaptor and mullions. This seal must be continuous around the opening and must marry with the seal at the corner joints. **SEE FIGURE 28.**

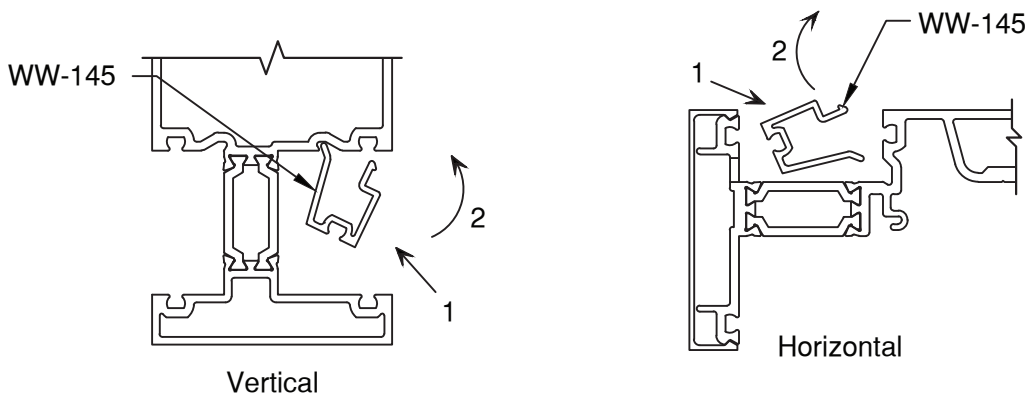


Figure 27
Installing Glazing Adaptors

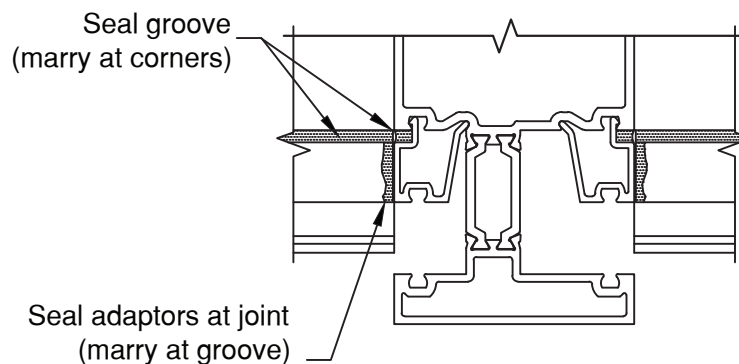


Figure 28
Sealing Glazing Adaptors

VERTICAL SPLICING

Refer to **MULTI-SPAN INSTALLATION**, page 10 for splice sleeve installation.

Follow sealant manufacturer's guidelines for proper joint width based on anticipated movement. A minimum 1/2" joint is recommended. Note: Standard splice sleeves are engineered to accommodate thermal expansion only. They do not allow for movement in floor levels. Refer to approved shop drawings for special circumstances, or contact your nearest facility.

- B.1 Apply bond breaker tape to the face of backmember splice sleeve, returning back on the sides 1" minimum. Apply bond breaker tape around entire perimeter of face splice sleeve. Insert backer rod into

the hollow section at the struts. Seal all around splice joint from the face to the 1" return on the backmember. Tool sealant to follow the contour of the glazing reglets to insure a good seal when gaskets are installed. **SEE FIGURE 29.**

- B.2 Discontinue glazing adaptors at splice joints. Install backer rod into cavity and seal between adaptors. Marry this seal with the main seal at the mullion. Refer to step B.1 above for sealing notes at the glazing reglets.

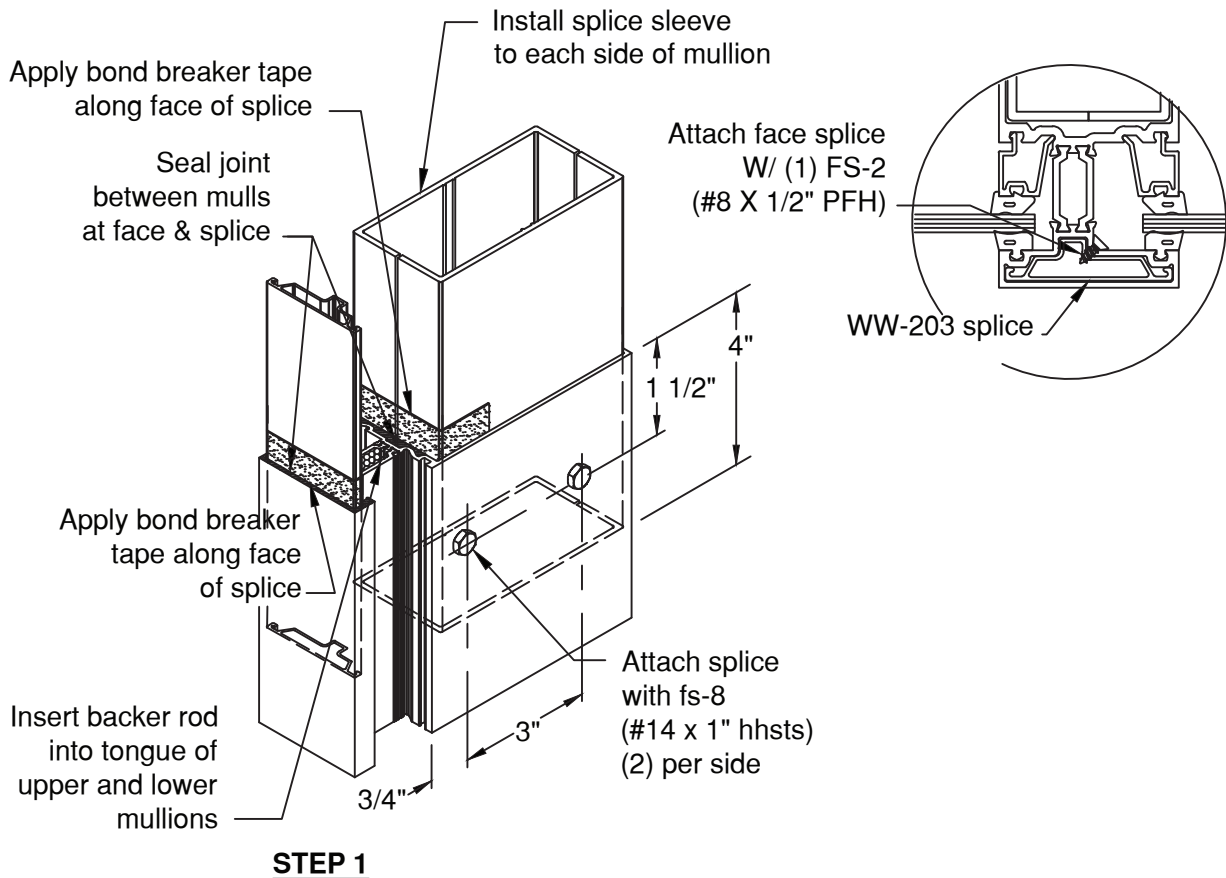


Figure 29
Sealing Splice Joint

VERTICAL SPLICING

Attach splice with fs-8 (#14 x 1" hhsts)
(2) per side (fasteners required
for deadload splice only.
remove for expansion connection)

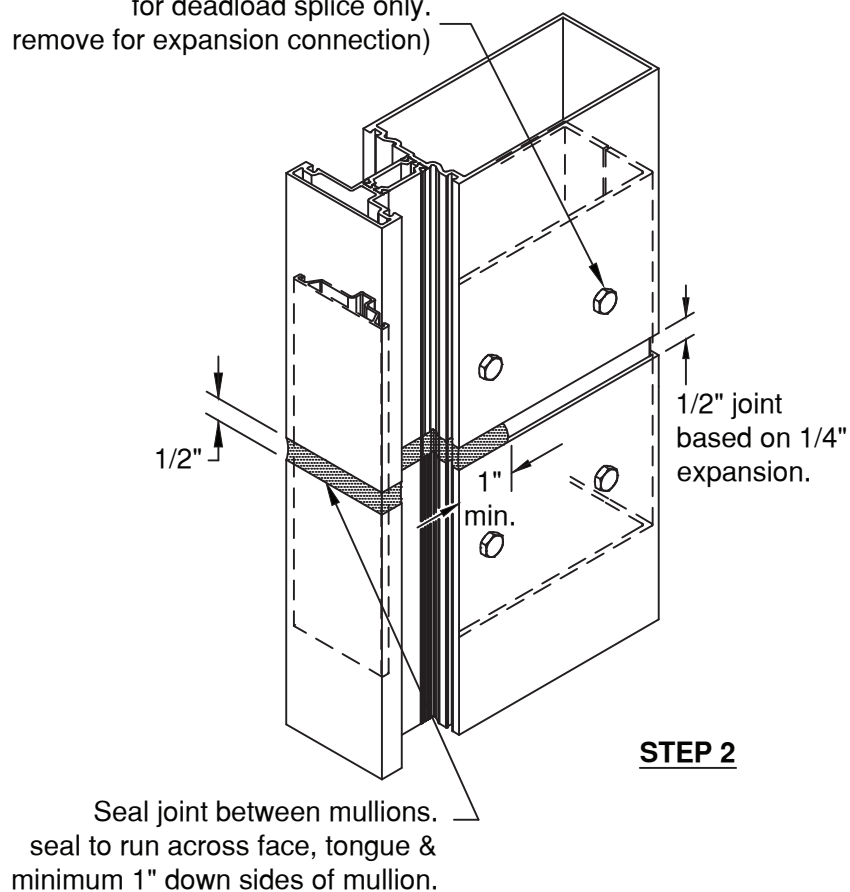


Figure 29 - cont.
Sealing Splice Joint

ENTRANCE FRAMES

All door framing components are shipped fabricated from the factory. The main curtain wall framing can be erected prior to installing the doors.

- C.1 Curtain wall verticals and door subframes run through to finish floor. Bed adjacent curtain wall verticals in sealant and anchor to floor per approved shop drawings.
- C.2 SUBFRAME INSTALLATION:
- C.2.1 Attach TH-44 threshold clip to bottom of each jamb subframe with two (2) FS-256 #8 x 1 1/2" Phillips Round Head Screws.
- C.2.2 Install WW-341 pocket filler into pocket of vertical facing the door opening. Install horizontal glass stop, then install CH-93 channel and attach channel with FS-55 (#10 x 1/2" pph) at 12" o.c. through face of horizontal. Cap seal all fasteners, then install the horizontal face cap.
- C.2.3 Bed subframes in sealant and anchor to curtain wall framing members with FS-325 #12-14 x 1 1/2" Drillflex at 18" O.C. Seal joint between jamb and header subframes. Seal also the tops of the jamb subframes. **SEE FIGURE 30**

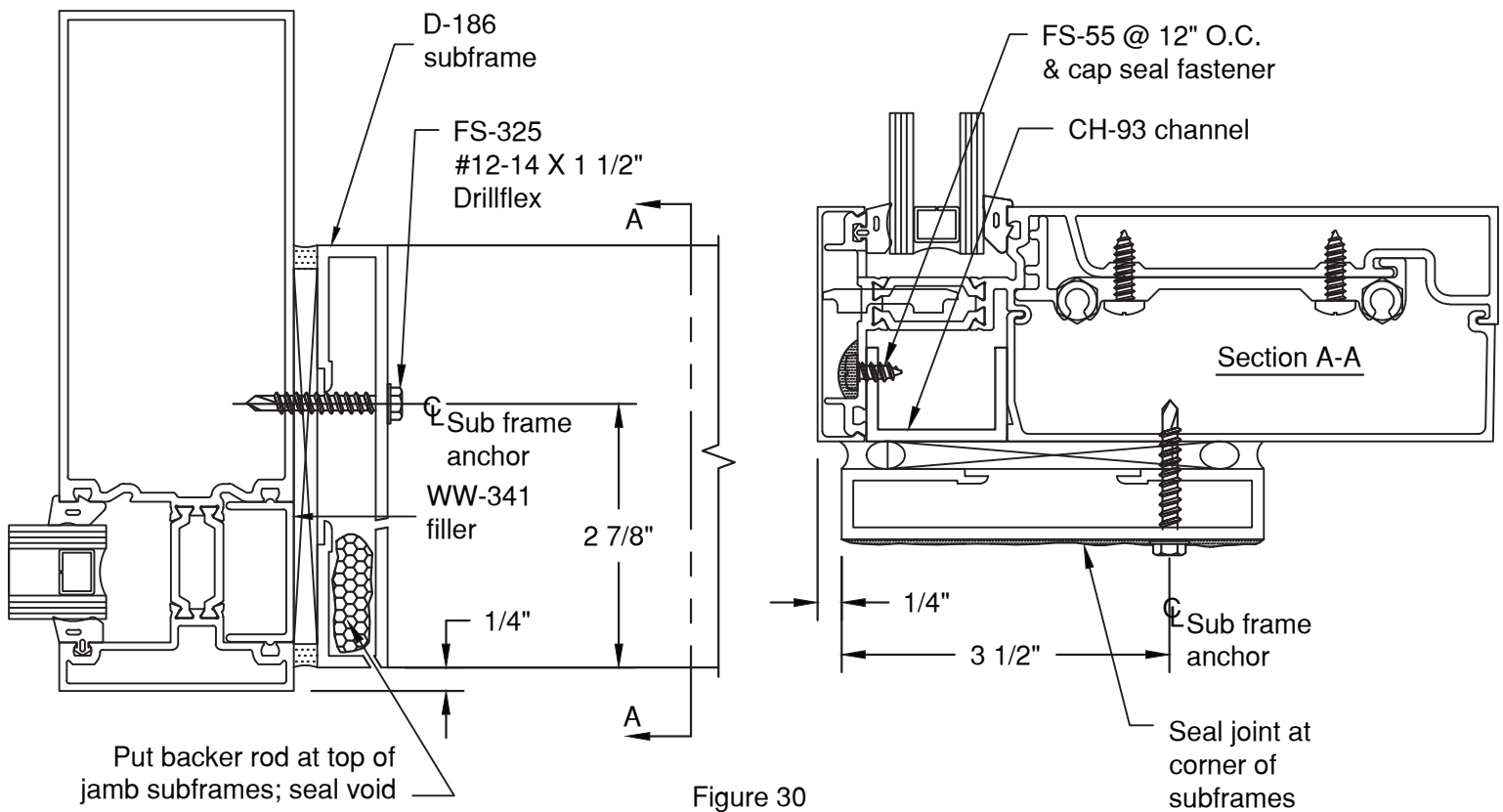


Figure 30
Attaching Subframes

ENTRANCE FRAMES

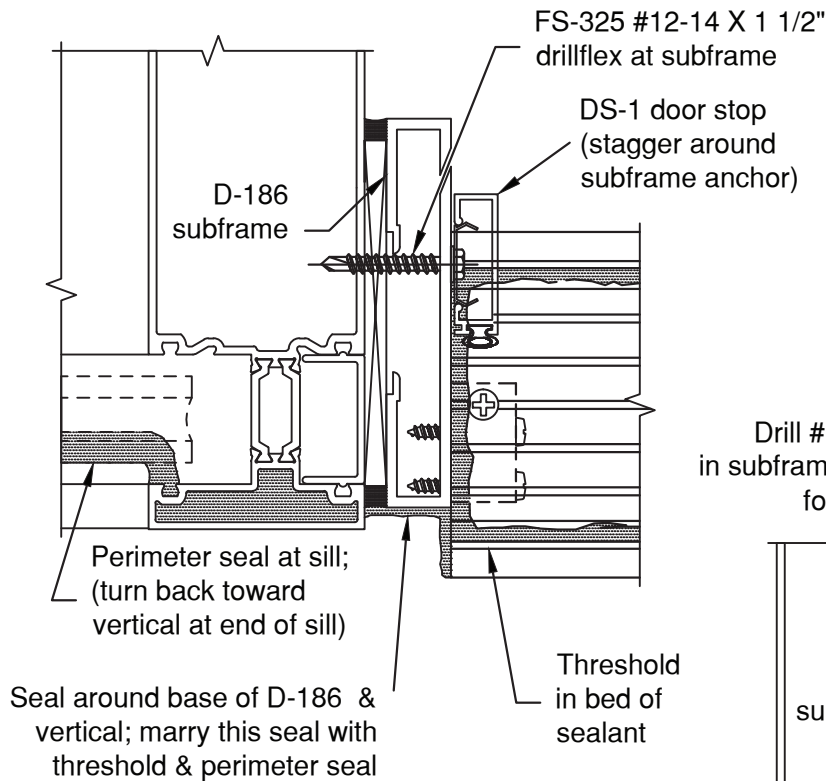


Figure 31
Sealing Verticals at
Entrance Doors

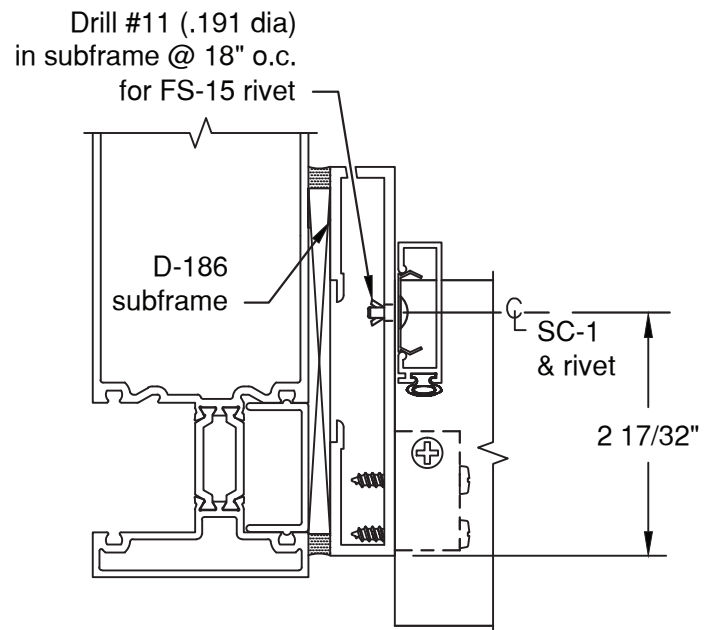


Figure 32
Door Stop Attachment

- C.2.4 Bed threshold in sealant, attaching to TH-44 clips with FS-42, #12 x 1/2" Phillips Flat Head screws. Marry threshold seal with subframe and main system seal. **SEE FIGURE 31.**
- C.2.5 Drill #11, .191 diameter holes in D-186 subframe for FS-15 rivets. Install door stops onto subframe with SC-1 clips at 18" O.C. Locate clips around the subframe anchor screws. **SEE FIGURE 32.** Vertical stops run through.
- C.2.6 Install door per DOOR AND FRAME INSTALLATION AND GLAZING MANUAL.

REGLAZING PROCEDURES

- D.1 WHEN REGLAZING FROM THE INTERIOR. Remove interior wedge, remove old glass and clean glazing pocket of any debris or glass and reglaze per glazing instruction on pages 20 thru 22.
- D.2 WHEN REGLAZING FROM THE EXTERIOR. Carefully remove horizontal face covers surrounding the lite of glass to be deglazed. **SEE FIGURES 33**
- D.3 Remove lower section of upper horizontal as shown in **FIGURES 34**.
- D.4 Remove lite of glass and existing interior gaskets from the opening. Clean debris and sealant from the framing members.
- D.5 Install GP-100 gaskets into framing. Set new lite of glass, centered in opening.
- D.6 Install TCR-130 reglaze leg. Set in continuous bead of sealant and attach with FS-55 fastener @ 12" o.c., cap seal all fasteners. **SEE FIGURES 35 & 36**

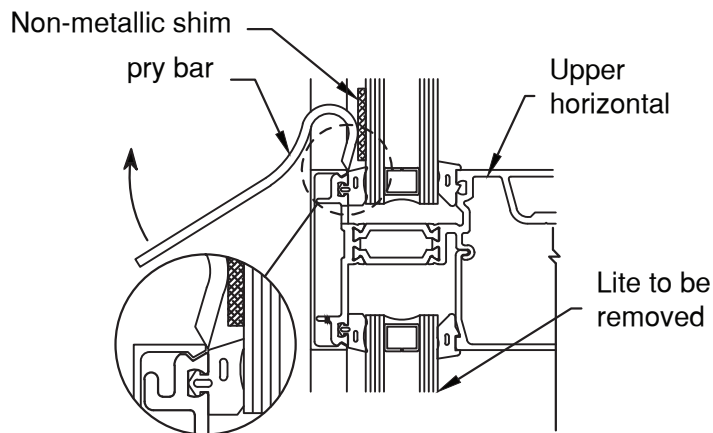


Figure 33
Cap Removal

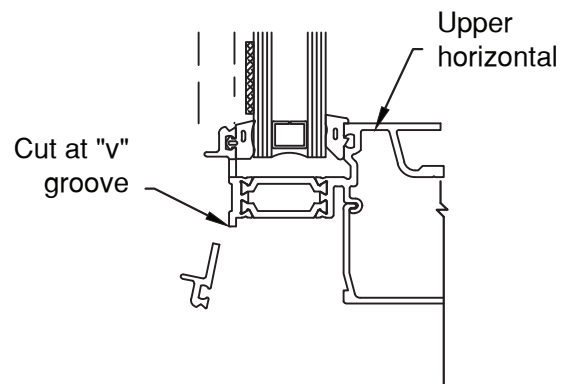


Figure 34
Deglazing

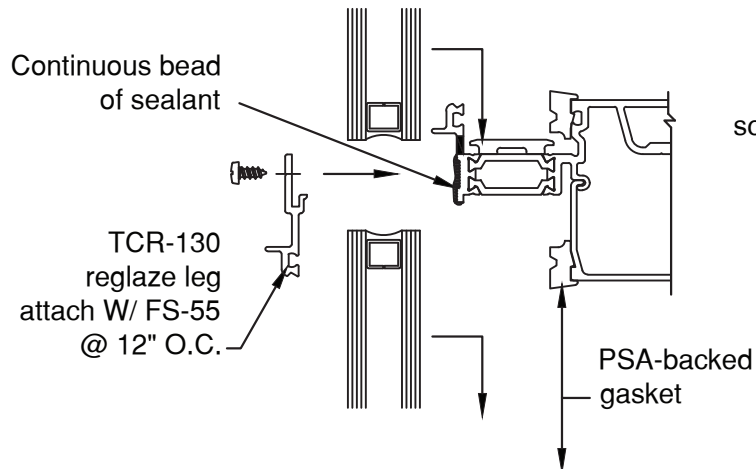


Figure 35
Reglazing

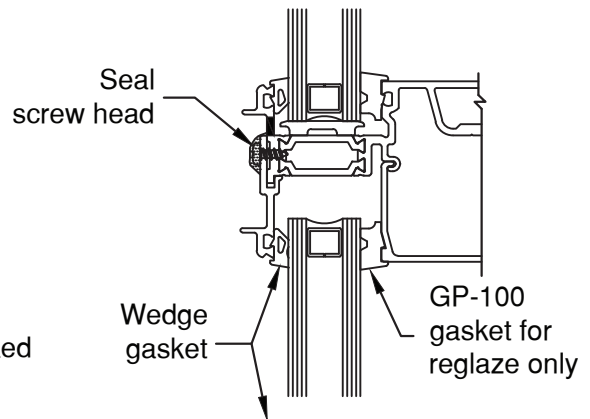


Figure 36
Reglazing

REGLAZING PROCEDURES FOR EXTERIOR GLAZED SSG SYSTEM

- D.1 WHEN REGLAZING FROM THE INTERIOR. Remove interior wedge, remove old glass and clean glazing pocket of any debris or glass and reglaze per glazing instruction on page 13.
- D.2 WHEN REGLAZING FROM THE EXTERIOR. Carefully remove horizontal face covers and pressure plates surrounding the lite of glass to be deglazed.
- D.3 Remove pressure plate from top of damaged lite and remove horizontal bridge from vertical intersection. Clean excess sealant from horizontal and face of mullion..
- D.4 Remove lite of glass and existing interior gaskets from the opening. Clean debris and sealant from the framing members and horizontal pressure plates.
- D.5 Install GP-100 gaskets into framing. Set new lite of glass, centered in opening.
- D.6 Install WW-300 horizontal bridge at vertical intersection where original bridge was removed. Seal bridge as shown in **Figures 37 & 38**.
- D.7 Install GP-108 gasket across face of horizontal and bridge.
- D.8 Reattach pressure plate using FS-322 fasteners. Torque fastener to 90 in/lbs. Seal ends of pressure plates to vertical face or joints as shown on page 14. Reinstall face cap allowing equal gap at each end.

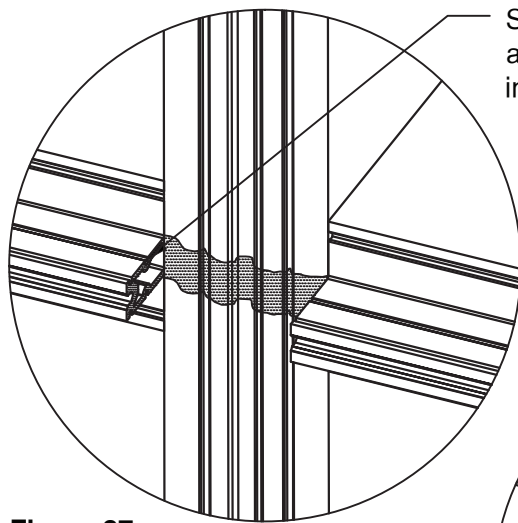


Figure 37

Tool sealant along top and sides of zone bridge to form a water tight seal.

WW-300 zone bridge

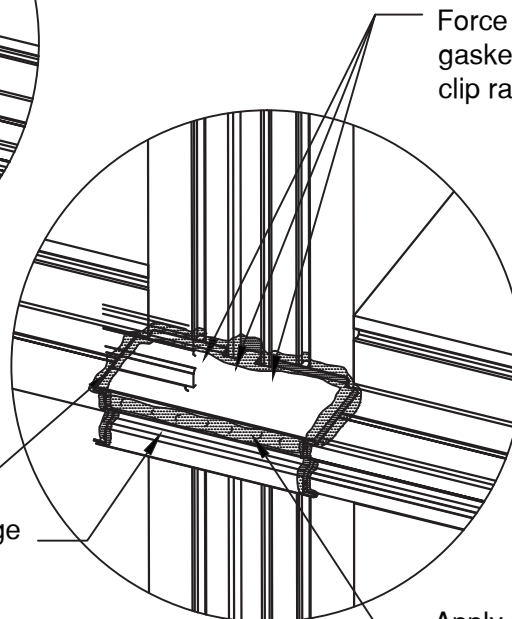












Figure 38

Force sealant into gasket and temporary clip races.











Apply bead of sealant across face of bridge just prior to installing spacer gasket and pressure plate.

PARTS LIST










COMMON EXTRUSIONS 6" SYSTEM

	Typical Vertical & Jamb
WW-420	
	Heavy Vertical & Jamb
WW-430	
	SSG Vertical
WW-404	
	Head
WW-414	
	Intermediate Horizontal
WW-416	
	Sill
WW-418	
	Optional Horizontal for Exterior Glazing
WW-425	
	Glass Stop 1" Infill
WW-148	
	Glass Stop 1/4" Infill
WW-149	
	Sill Filler
WW-126	




COMMON EXTRUSIONS 7 1/4" SYSTEM

	Typical Vertical & Jamb
WW-520	
	Heavy Vertical & Jamb
WW-530	
	SSG Vertical
WW-504	
	Head
WW-514	
	Intermediate Horizontal
WW-516	
	Sill
WW-518	
	Optional Horizontal for Exterior Glazing
WW-525	
	Glass Stop 1" Infill
WW-150	
	Glass Stop 1/4" Infill
WW-151	
	Sill Filler
WW-127	

CORNER EXTRUSIONS 6" & 7 1/4" SYSTEM









	O.S. 90 Corner Mullion 6" & 7 1/4" Systems
WW-243	
	O.S. 135 Corner Mullion 6" System
WW-233	
	O.S. 135 Corner Mullion 7 1/4" System
WW-234	
	O.S. 90 Corner Pressure Plate
WW-170	
	O.S. 135 Corner Pressure Plate
WW-171	
	O.S. 90 Corner Face Cap
WW-153	
	O.S. 135 Corner Face Cap
WW-154	
	Interior Cover O.S. 90 6" System
WW-227	
	Interior Cover O.S. 90 7 1/4" System
WW-228	

COMMON EXTRUSIONS All System Depths







	Intermediate Horizontal Face Cover
WW-110	
	Head/Sill Face Cover
WW-108	
	Pressure Plate @ Exterior Glazed Horizontal
WW-1089	

PARTS LIST









COMMON EXTRUSIONS Mull Splices

	CW-66	Splice Sleeve Use with WW-520
	CW-90	Splice Sleeve Use with WW-420
	CW-542	Splice Sleeve Use with WW-430
	CW-1496	Splice Sleeve Use with WW-530
	WW-203-01	Face Splice Sleeve For WW-520, WW-530, WW-420 & WW-430
	WW-213-01	Splice Sleeve Use with WW-233
	WW-214-01	Splice Sleeve Use with WW-234
	WW-215-01	Splice Sleeve Use with WW-243







COMMON ACCESSORIES Entrances

	D-186	Door Subframe
	CH-93	Door Header Channel
	DS-104	Door Stop Use with SC-1 Clip
	DS-1	Door Stop Use with SC-1 Clip
	SC-1	Spring Clip for Door Stops
	FS-15	3/16" x 7/16" Drive Rivet Fastens SC-1 Clip




COMMON EXTRUSIONS "T" Anchors & "F" Anchors

	WW-102-08	"T" Anchor Use with WW-520
	WW-102-09	"T" Anchor Use with WW-420
	WW-102-10	"T" Anchor Use with WW-530
	WW-102-11	"T" Anchor Use with WW-430
	WW-103-05	Jamb "F" Anchor Use with WW-520
	WW-103-06	Jamb "F" Anchor Use with WW-420
	WW-103-07	Jamb "F" Anchor Use with WW-530
	WW-103-08	Jamb "F" Anchor Use with WW-430






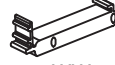
COMMON ACCESSORIES All System Depths and Infills

	DJ-102	Drill Jig Vertical Mullions
	HP-1004	Optional Weep Baffle
	WW-341	PVC Pocket Filler for WW-520, WW-530, WW-420 & WW-430 Verticals
	GP-103	Standard EPDM Dense Gasket (Exterior)
	GP-104	Optional EPDM Sponge Gasket (Exterior)
	GP-113	Standard Wedge Gasket (Interior)





CORNER EXTRUSIONS "T" Anchors

	WW-102-12	"T" Anchor Use with WW-243 90 Outside Corner 6" & 7-1/4" System
	WW-102-13	"T" Anchor Use with WW-234 135 Outside Corner 7-1/4" System
	WW-102-14	"T" Anchor Use with WW-233 135 Outside Corner 6" System

CORNER ACCESSORIES Shear Blocks

	WW-176-01	O.S. 90 Horizontal Shear Block 6" System (Left & Right)
	WW-176-02	
	WW-179-01	O.S. 90 Head & Sill Shear Block 7 1/4" System (Left & Right)
	WW-179-02	
	WW-178-01	O.S. 90 Horizontal Shear Block 7 1/4" System (Left & Right)
	WW-178-02	















CORNER ACCESSORIES Mull Caps & Zone Plugs

	WW-323	Mullion Cap 90° Outside Corner
	WW-321	Mullion Cap 135° Outside Corner
	WW-346	Foam Zone Plug 90° Outside Corner
	WW-346	Foam Zone Plug 135° Outside Corner

PARTS LIST















COMMON ACCESSORIES

All System Depths

	GP-102	Spacer Gasket SSG Verticals
	GP-108	Thermal Isolator @ Exterior Glazing
	SPW-PP-3	Temporary Glazing Retainer for SSG Verticals
	WW-131	SSG Glazing Adaptor 1/4" Infill
	WW-145	Transition Glazing Adaptor 1" to 1/4" Infill
	HP-17 (mod.)	EPDM Setting Block at 1/4" Infill
	GP-101	EPDM Setting Block at 1" Infill
	GP-121-01	PVC Setting Chair at Sill
	GP-115	EPDM "W" Side Block Deep Pocket
	WW-364	PVC Zone Plug Deep Pocket
	WW-365	PVC Zone Plug Shallow Pocket
	WW-343	Aluminum Mullion Cap WW-420, WW-520, WW-430 & WW-530
	TCR-300	PVC Bridge at Horizontals (SSG Verticals)
	WW-351	PVC Bridge at Head & Sill (SSG Verticals)









COMMON ACCESSORIES

Shear Blocks

	WW-185-01	Head & Sill Shear Block (6" System)
	WW-186-01	Horizontal Shear Block (6" System)
	WW-187-01	Head & Sill Shear Block (7 1/4" System)
	WW-188-01	Horizontal Shear Block (7 1/4" System)
	WW-177-03	O.S. 135 Head & Sill Shear Block 6" System (Left & Right)
	WW-177-04	
	WW-176-03	O.S. 135 Horizontal Shear Block 6" System (Left & Right)
	WW-176-04	
	WW-179-03	O.S. 135 Head & Sill Shear Block 7 1/4" System (Left & Right)
	WW-179-04	
	WW-178-03	O.S. 135 Horizontal Shear Block 7 1/4" System (Left & Right)
	WW-178-04	
	WW-177-01	O.S. 90 Head & Sill Shear Block 6" System (Left & Right)
	WW-177-02	

COMMON ACCESSORIES

Fasteners

	FS-6	#10 x 3/4" Phillips Pan Head
	FS-8	#14 x 1" Phillips Hex Head Fastens Splice Sleeves
	FS-9	#14 x 1 1/2" Hex Head Shear Block to Vertical
	FS-43	#12 x 3/4" Phillips Pan Head Fastens Horizontal to Shear Block
	FS-318	#12 x 1 3/4" Phillips Flat Head Fastens WW-131
	FS-320	#10 x 1/2" U-Drive Fastens Mull Caps
	FS-322	#12-14 x 1" Hex Washer Head Drillflex @ Press. Plate to Outside Glazed Horizontal
	FS-325	#12-14 x 1 1/2" HWH Drillflex @ Press. Plate to OS 90 / OS 135 Corners & Door Sub-Frame