



**Oldcastle** BuildingEnvelope™

# ***RELIANCE™-IG SS CURTAIN WALL INSTALLATION AND GLAZING MANUAL***

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### Quick Reference Guide

1. Torque pressure plate screws to 60 IN-LBS
2. Glass Sizing:
  - Field Glazing - 1/2" Glass Bite @ Captured Mullions
  - 1" Glass Bite @ SSG Verticals
  - 1/2" Glass Bite at Horizontals
3. Locate pressure plate screws @ 9" o.c. ( 1 1/2" from ends)

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## GENERAL INFORMATION

### PRODUCT USE

The Reliance™-IG SS 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™-IG SS curtain wall system is directly related to the completeness and integrity of the installation process of both the seal installed at the horizontal to vertical connections and the glazing gasket installed at the interior side of the glass. 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 interior 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.

Vertical movement of mullion at intermediate floors requires special expansion joints and glazing materials. See page 35 - 36 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 glass manufacturer for correct setting block location and length for glass sizes in excess of 40 sq.ft.

### 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."

## GENERAL INFORMATION

### 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™-IG SS 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.

### 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.

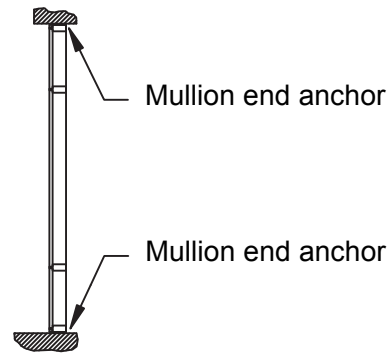
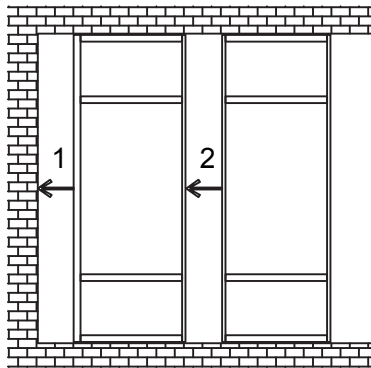
### SUGGESTIONS FOR IMPROVING SYSTEM THERMAL PERFORMANCE

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

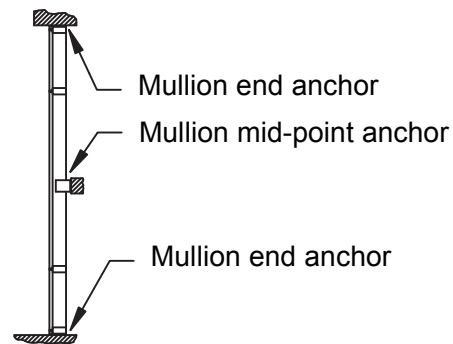
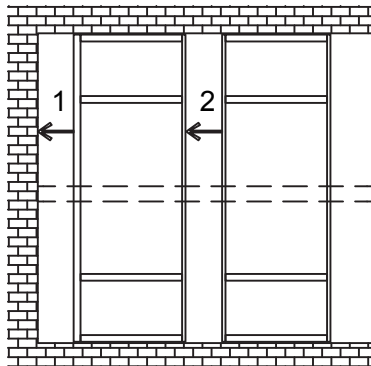
- A. Blinds or drapes prevent warm air from adequately flowing over the window surface.
- B. Warm air ventilators too far from the window will not adequately wash the window with air to prevent condensation.
- C. In extreme conditions the fan of the heating system should not cycle on and off, but should 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

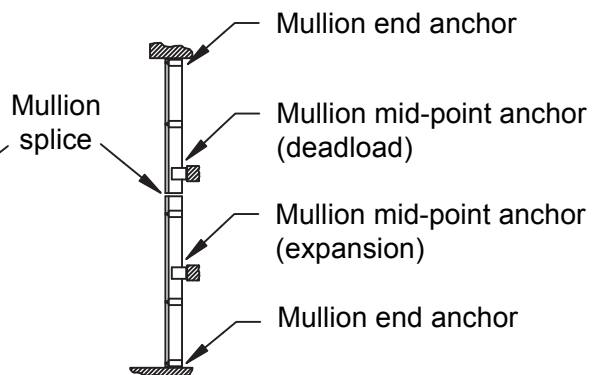
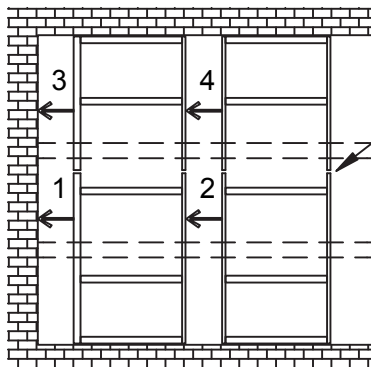
The following diagrams represent common types of installations for this product. Refer to approved shop drawings for specifics regarding splicing and anchoring of frame.



Single Span



Twin Span



Multi-Span

## FRAME FABRICATION

Unless otherwise noted, the details shown in these instructions reflect the 7 1/2" system. Part numbers and dimensions in parentheses ( ) refer to the 6 1/4" system, unless noted otherwise. Instructions for other backmember depths are similar. **NOTE:** Structural silicone glazed vertical mullion is referred to as "SSG Mullion"

- 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, page 5 for guide.

### Frame Members

Verticals	FRAME HEIGHT (ROUGH OPENING minus top & bottom joints)
Vertical Face Covers	FRAME HEIGHT (vertical covers run through)
Intermediate Horizontals	Daylight Opening (D.L.O.)
Head and Sill Members	D.L.O.
Horizontal Pressure Plates	D.L.O. minus 1/4"
Horizontal Face Covers	D.L.O. minus 1/16"
Head & Sill Interior Covers	D.L.O. minus 1/16"

### Accessories

#### Glazing Gaskets

Exterior Vertical	D.L.O. plus 1" plus allowance* (vertical gaskets run through)
Exterior Horizontal	D.L.O. plus allowance*
Exterior Pressure Plate	Pressure Plate length plus allowance*
Interior at Verticals	D.L.O. plus allowance* (vertical gaskets run through)
Interior at Horizontals	D.L.O. plus allowance*
Silicone Spacer Gaskets	D.L.O. plus 1" plus allowance*
Thermal Isolator @ exterior glazed	Horizontal length (crowd in place to avoid gaps at ends)

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

### Other Members (as required)

#### Glazing Adaptors

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

#### Door Subframe

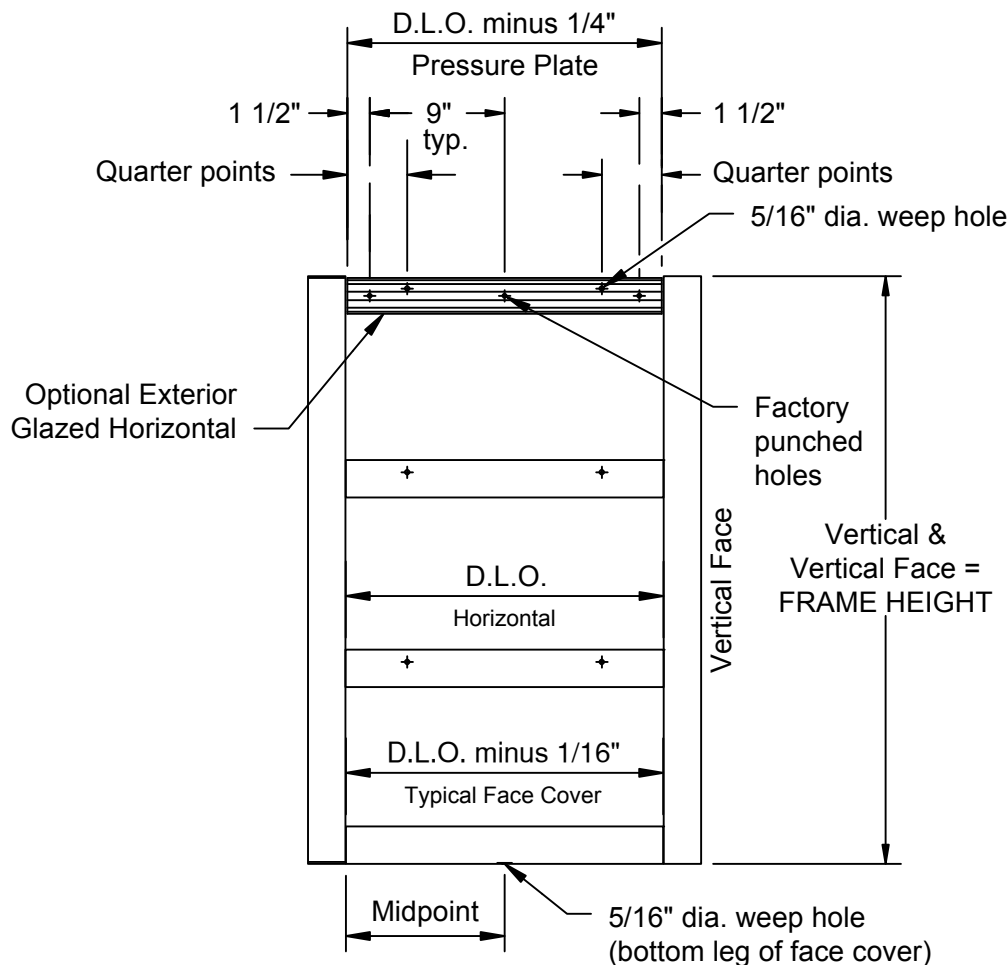
Jamb	DOOR OPENING plus 3/4"
Header	DOOR OPENING minus 1/32"

### Glass Sizing

#### Field Glazing

Captured Mullions	1/2" glass bite typical (D.L.O. plus 1")
SSG Verticals	1" glass bite at verticals (D.L.O. plus 2")
	1/2" glass bite at horizontals (D.L.O. plus 1")

## FRAME FABRICATION

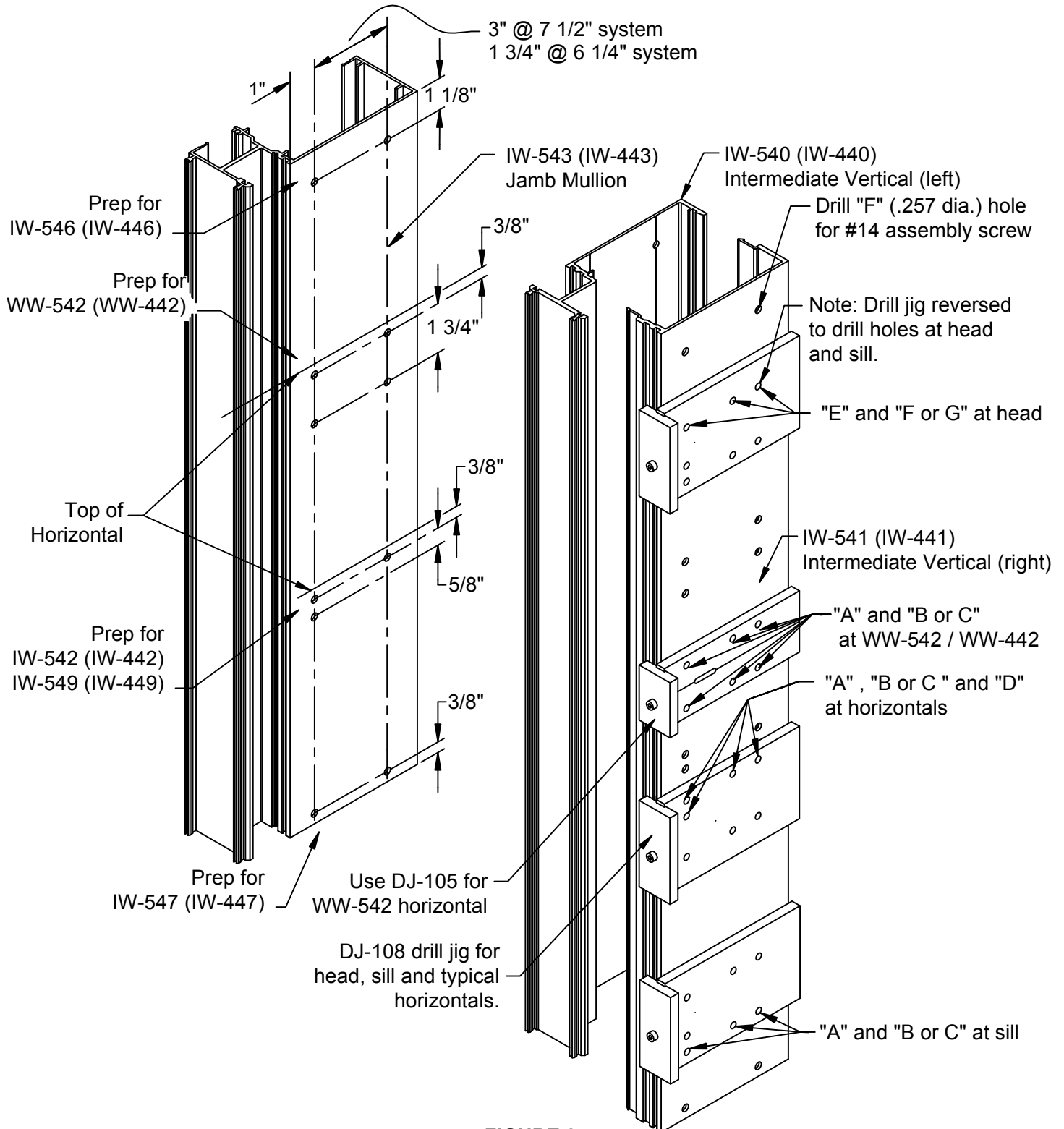


**FIGURE 1**  
Material Fabrication Guide

- 1.3 Fabricate vertical mullions for horizontal members with EZ Punch tooling or DJ-108 drill jig. See FIGURE 2, page 6 for hole locations. Use 'F' drill (.257 dia.) for assembly screws. Prep for head and sill will be drilled by aligning drill jig with ends of mullions. Prep at intermediate horizontals, mark line at top of horizontal and align drill jig with that line as shown in FIGURE 2, page 6. Use DJ-105 for fabrication of WW-542 exterior glazed horizontal, drill all four holes.
- 1.4 Drill 5/16" dia. weep holes at 1/4 points in horizontal and sill members as shown in FIGURE 3, page 7. Where incidental water control is required, drill one 5/16" diameter weep hole at mid-lite of head member. Locate HP-1004 baffle and snap SPW-295 baffle retainer behind weep hole. See FIGURE 3, page 7.
- 1.5 Drill (1) 5/16" dia. weep hole at the bottom of each horizontal face cover at the centerline of the D.L.O. SEE FIGURE 4, page 7. NOTE: For SSG applications, face covers typically run across SSG mullions, so there will be multiple holes in each horizontal face cover. Maximum length of horizontal face covers at SSG applications should be 20 feet.



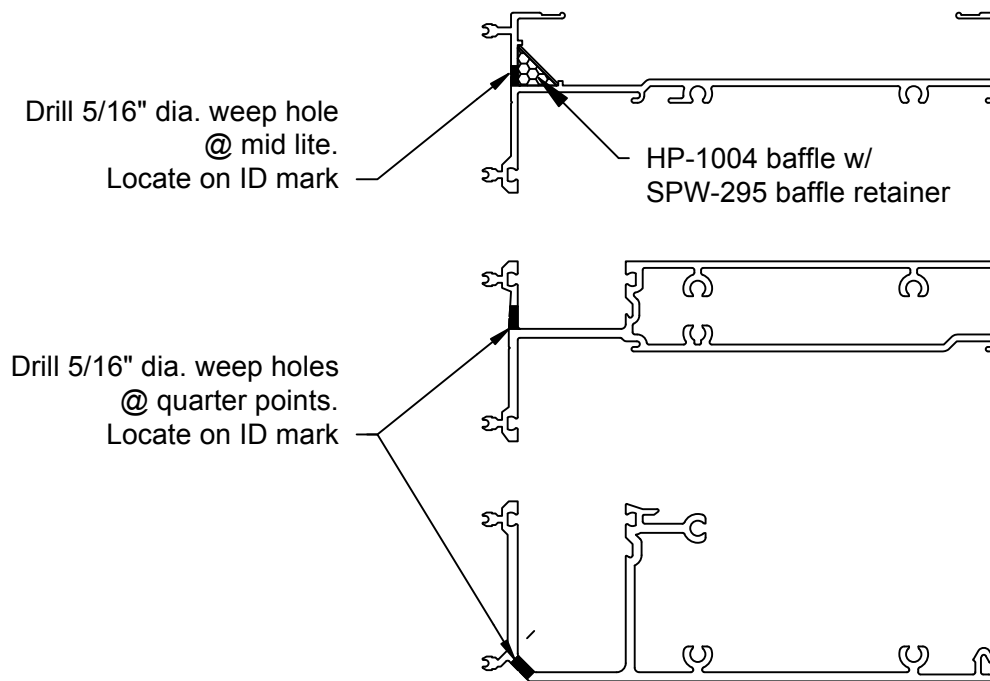
## FRAME FABRICATION



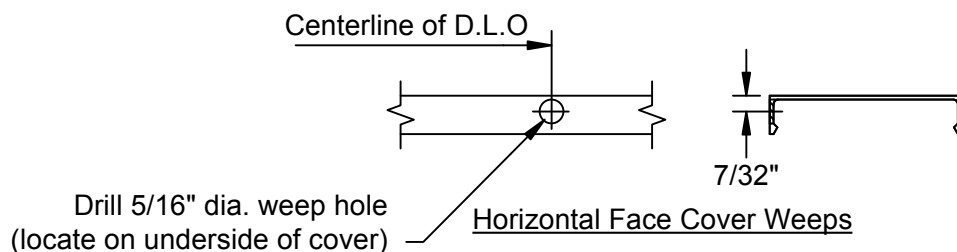
**FIGURE 2**  
Vertical Fabrication

## FRAME FABRICATION

- 1.6 In areas requiring exterior glazed horizontals. Drill 5/16" dia. weep holes at 1/4 points in the horizontal pressure plates. All pressure plates have factory punched holes for screws at 9" O.C. To ensure proper pressure on the glazing, 7/32" dia. holes may need to be drilled at the ends of each horizontal pressure plate as required. Locate holes at 1 1/2" maximum from the ends of the pressure plate. SEE FIGURE 5, page 8
- 1.7 If glazing SSG mullion using 1/4" glass, fabricate IW-131 glazing adaptor for #10 (.191Ø) holes at 12" o.c. SEE FIGURE 6, page 8.

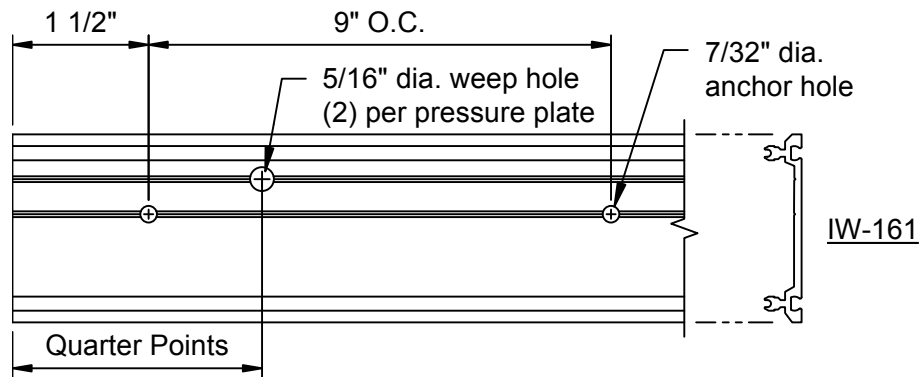
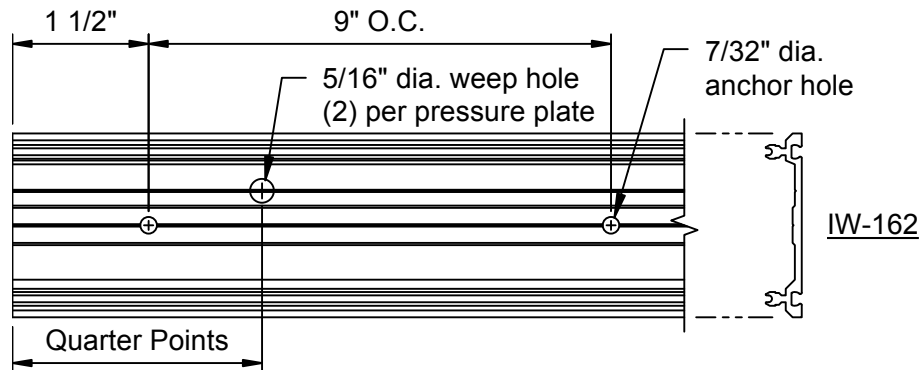


**FIGURE 3**  
Horizontal Weep Hole Fabrication

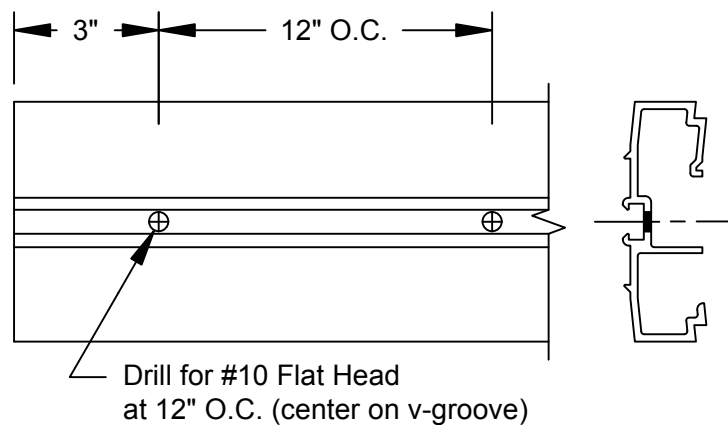


**FIGURE 4**  
Horizontal Weep Holes

FRAME FABRICATION



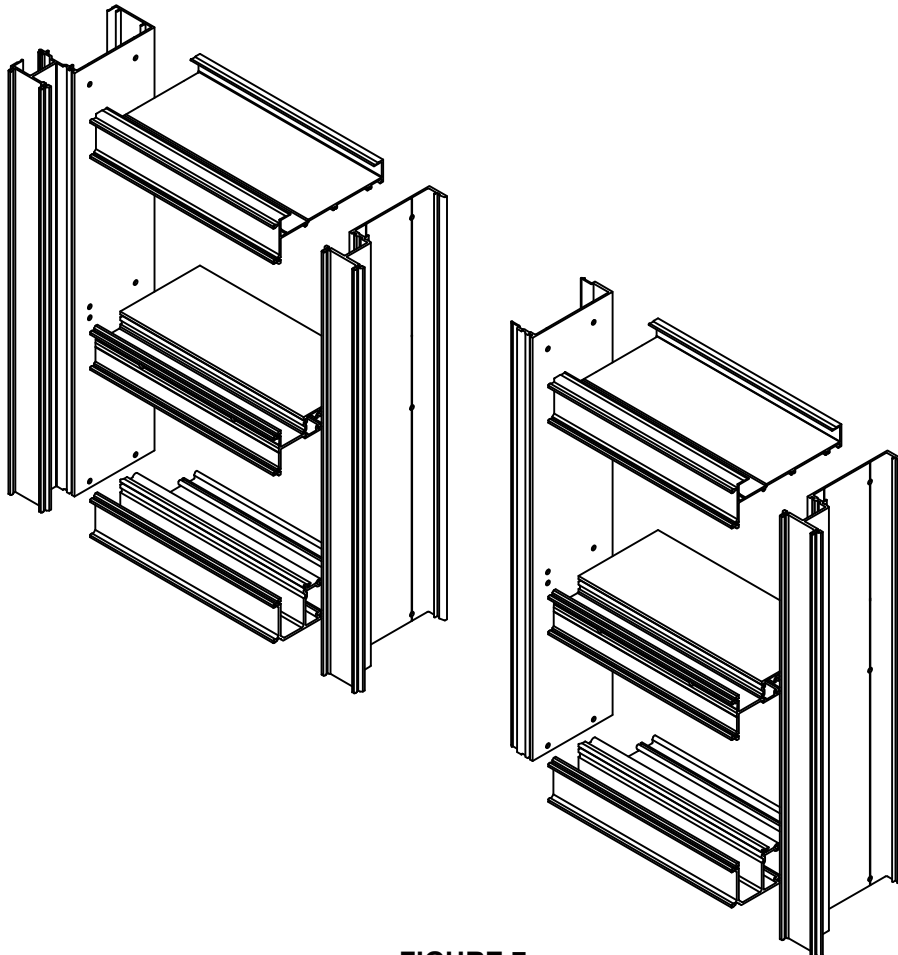
**FIGURE 5**  
Horizontal Pressure  
Plate Fabrication



**FIGURE 6**  
SSG Glazing Adaptors

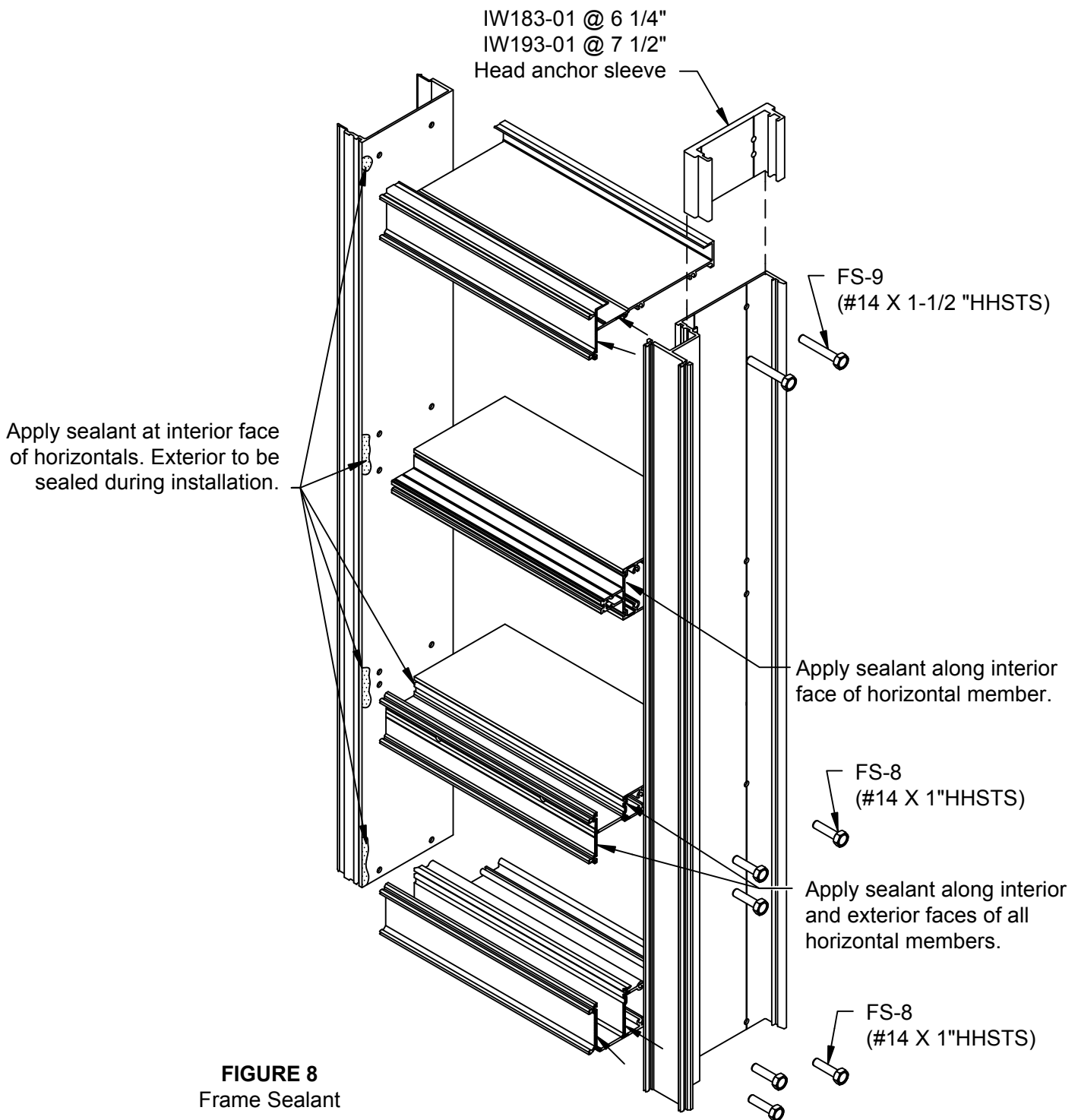
## FRAME ASSEMBLY

- 2.1 Starting with the left jamb of the opening, lay out verticals and horizontals for assembly of the bay. SEE FIGURE 7.
- 2.2 Apply sealant to ends of horizontals prior to attaching to verticals. SEE FIGURE 8, page 10.
- 2.3 If steel reinforcing is required, install now. SEE FIGURE 10, page 12
- 2.4 Install IW-193-01 (IW-183-01) head anchor sleeve into top of IW-540 (IW-440) or IW-544 (IW-444) mullion. Sleeve to be installed prior to attaching head member. Sleeve attached using FS-9 assemble screws fastened into head extrusion. SEE FIGURE 8, page 10
- 2.5 Attach head to vertical using two FS-9 fasteners. Attach intermediate horizontals and sill members using FS-8 fasteners. SEE FIGURE 8, page 10. Tool excess sealant at horizontal-to-vertical joints. Optional exterior glazed horizontal may require additional fasteners. SEE FIGURE 18, page 17 for optional horizontal information.
- 2.6 If mullions are spliced, slide splice sleeves into the bottom of the upper bay mullion. Secure with tape. Install one (1) FS-322 #14 x 1" TEK screw into the top of the lower bay mullion to act as a stop screw for the splices during frame installation. SEE FIGURE 41, page 35.



**FIGURE 7**  
Frame Assembly

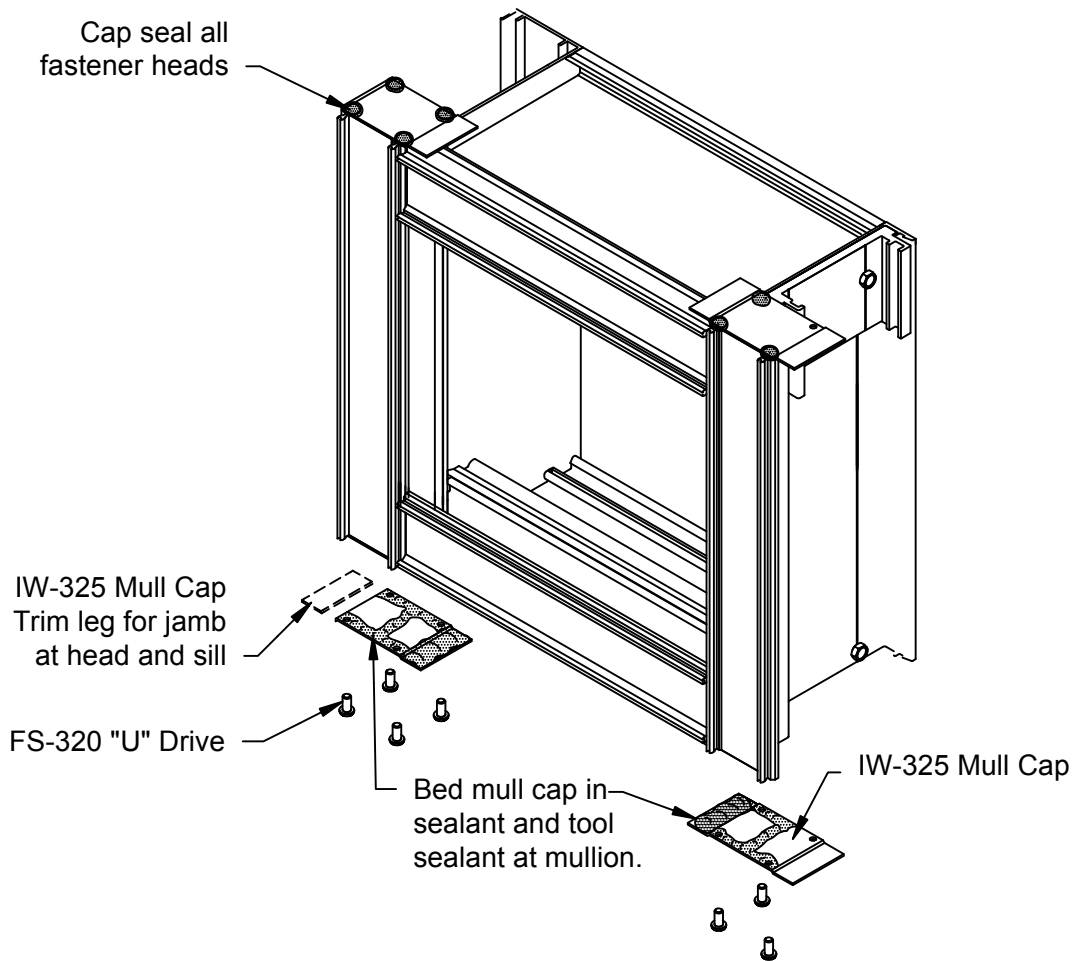
## FRAME ASSEMBLY



**FIGURE 8**  
Frame Sealant

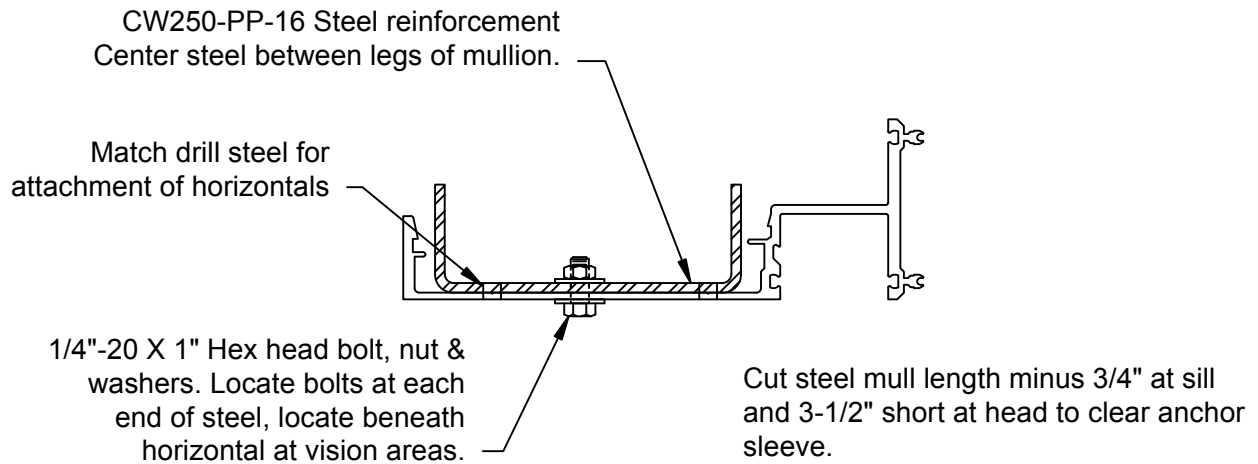
## FRAME ASSEMBLY

- 2.7 After units are assembled. Install mull caps to each end of vertical mullions and jambs. IW-325-01 mull cap will be bed in sealant and attached to mullion with FS-320 drive screws. Sealant must be tooled around inside of glazing pocket and on mating surfaces between mull cap, head/sill and verticals. SEE FIGURE 9 . Note: SSG mullions will not use mull caps. Bridges will be field installed at SSG verticals as noted on sheet 30.
- 2.8 Isolator clips for face cap installation may be installed in the shop or field. If installed in shop care must be taken in transporting units not to break or disengage clips from mullion. Clips are installed by starting one end and rotating into position. Clips will snap over clip stem. Clip tool, part # ICW-FP-74 may be used to speed up installation process. GP-141 baffle clips must be installed over weep holes at all intermediate horizontals. ICW-12 clips are to be installed at 12" on center and staggered to prevent bowing of face cap at clips. SEE FIGURE 10, page 12.

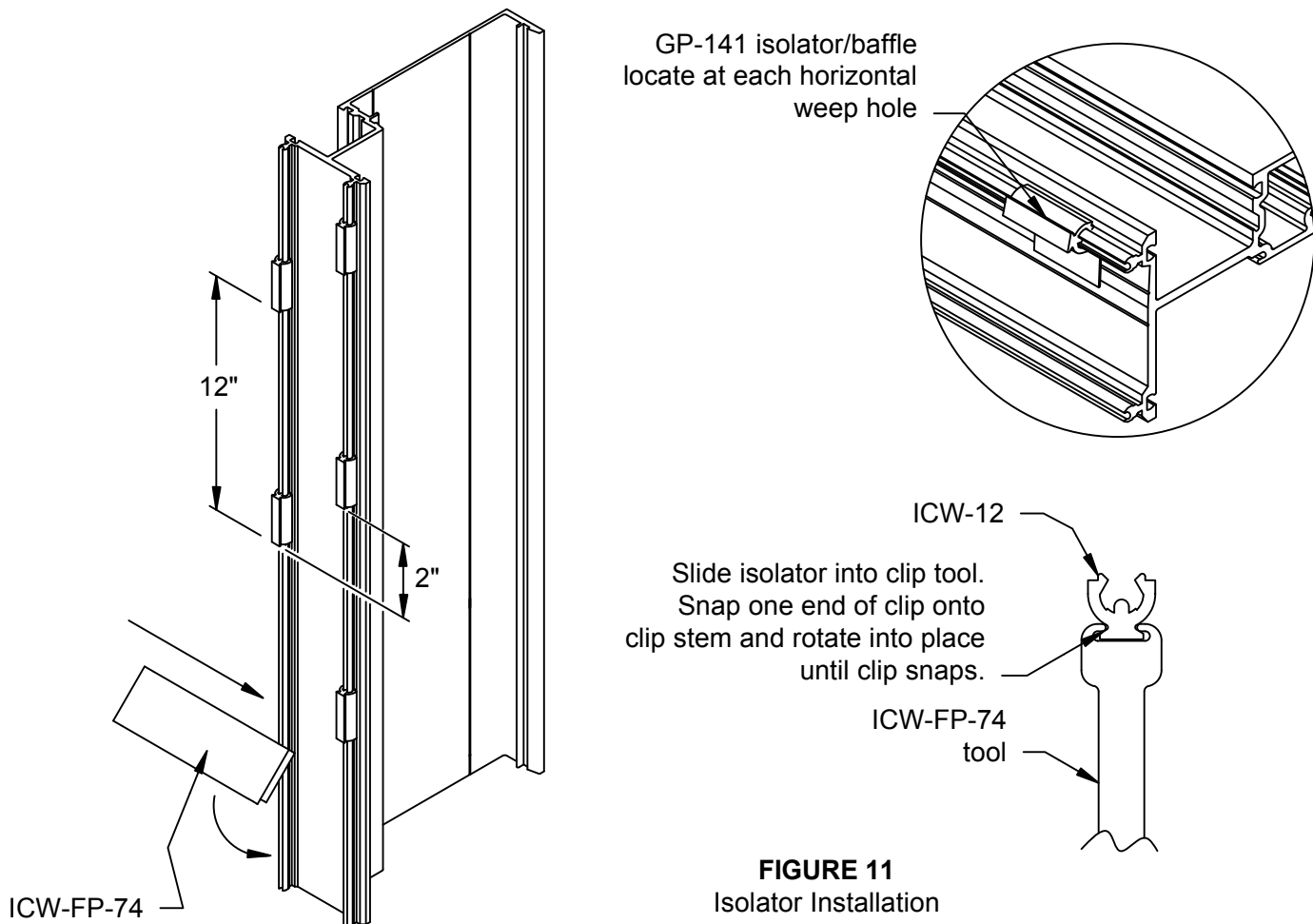


**FIGURE 9**  
Mull Cap Installation  
(SSG mullions do not use mull caps)

## FRAME ASSEMBLY



**FIGURE 10**  
STEEL INSTALLATION



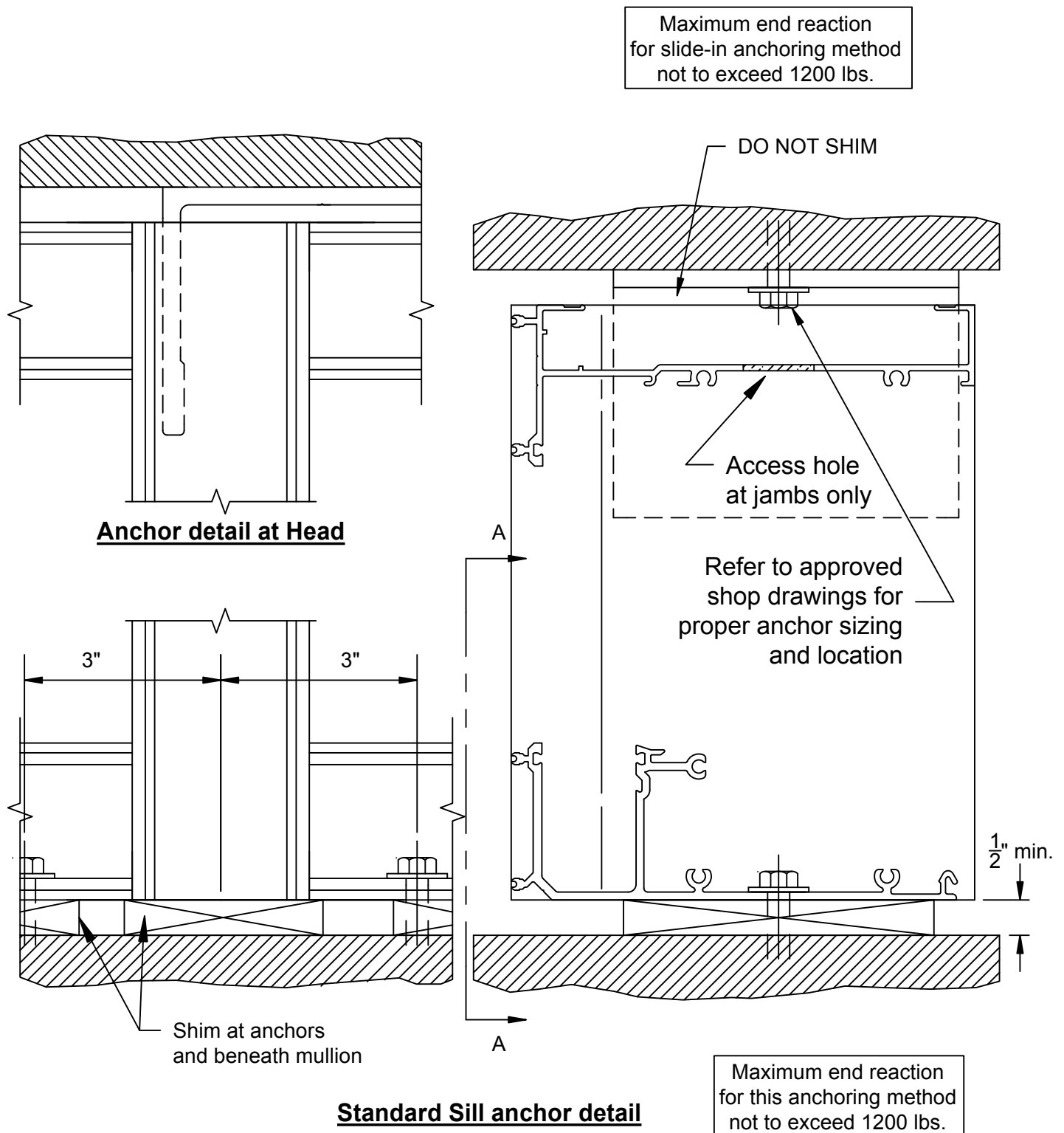
## FRAME INSTALLATION

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.

- 3.1 Reliance-IG SS sill member can be anchored to the building condition by either hard fastening directly through the sill member or slide-in mullion anchors that fit inside the vertical mullions. SEE FIGURE 12. If using the slide-in anchors, install into ends of mullions prior to erecting the frame.
- 3.2 Reliance-IG SS head member must be anchored to the building condition using the slide-in anchor that fits inside the vertical mullions. SEE FIGURE 12, page 14.
- 3.3 Starting with the first bay, install into opening plumb and level. Check perimeter to maintain proper caulk joint. Anchor to structure per approved shop drawings. SEE FIGURE 16, page 16.
- 3.4 Seal mull caps at head and sill. SEE FIGURE 15, page 16. This is a critical seal and care must be taken to insure that a proper seal is formed. Excess sealant should be tooled around glazing pocket and from the joint side of the connection to insure a full seal is made between the mull cap and horizontal member. SEE FIGURE 14, page 15.
- 3.5 Sealant must be applied to end of horizontal, head and sill or on intersecting surface prior to assembly of units. Once sealant is applied set next bay into opening by engaging mullion halves together. Ensure that bottom of mullion halves align. Anchor this bay to structure. SEE FIGURE 16, page 16.
- 3.6 Repeat steps 3.4 and 3.5 until all bays are installed. Check D.L.O. and diagonal dimensions every four bays to ensure correct spacing and frame squareness to prevent dimensional buildup.
- 3.7 If mullions are spliced, release splice sleeves from upper mullions and allow to fall onto the set screws at the lower mullions. Attach to lower mullions with (2) FS-322 #14 x 1" TEK screws. Refer to "VERTICAL SPLICING" section, page 35 & 36, for splice installation and sealing instructions.
- 3.8 Apply continuous bead of sealant between all intermediate vertical mullion halves and tool into space provided. SEE FIGURE 13, sheet 15.
- 3.9 At SSG mullions, apply sealant to all contact surfaces on vertical and horizontal mullions where zone bridges will be installed. Apply sealant to horizontal tongue receptor on zone bridge and install at the end of each horizontal, head and sill members. Tool any excess sealant around front end of zone bridge where the thermal isolator runs through. Tool sealant in the glazing pockets to ensure a watertight fit. See FIGURES 33 & 34, page 30.

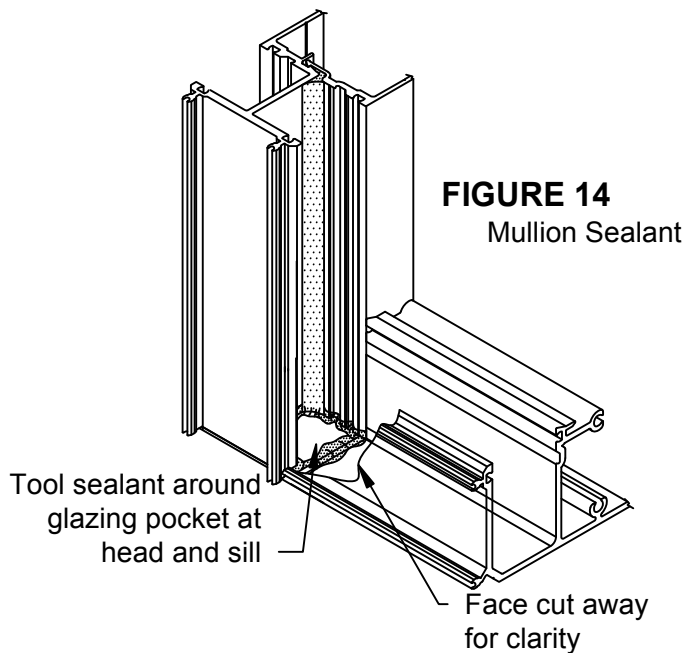
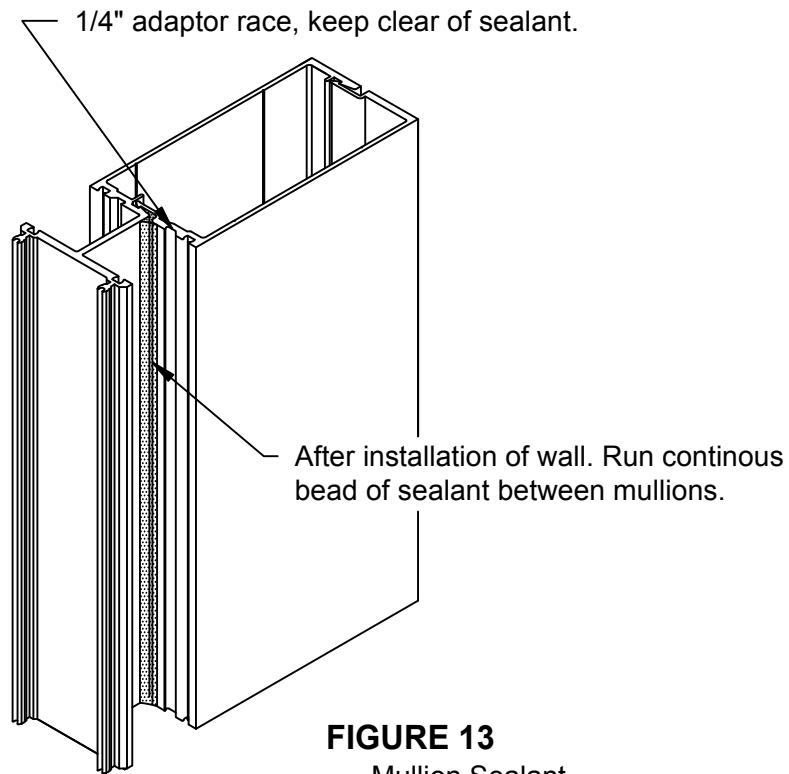


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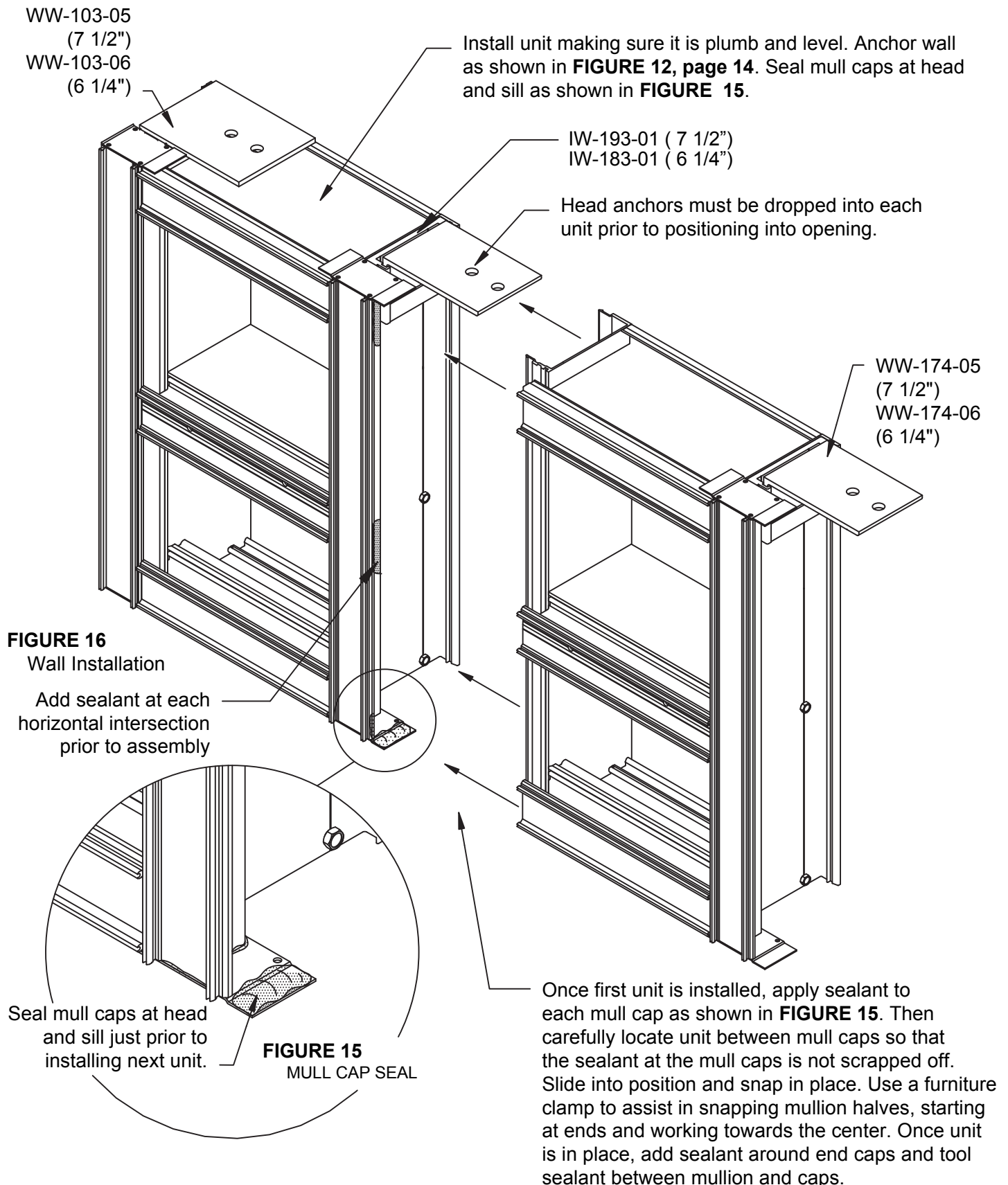


**FIGURE 12**  
Anchor Methods

## FRAME INSTALLATION



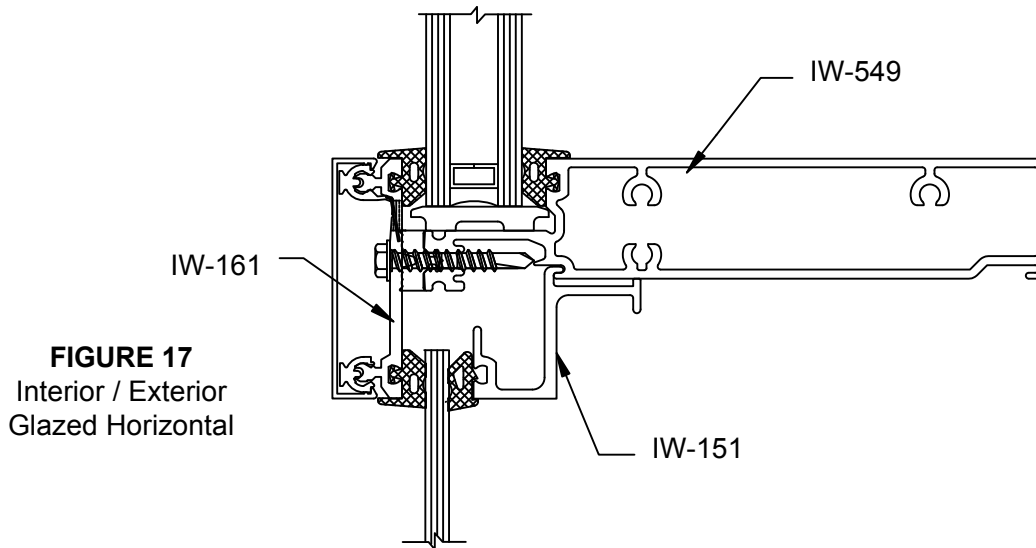
## FRAME INSTALLATION



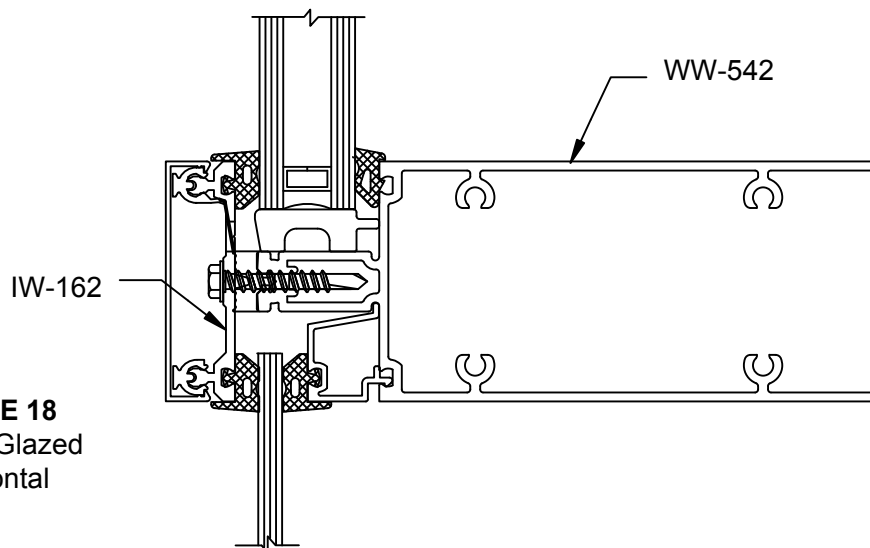
## SYSTEM ANCHORAGE AT MID SPAN

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.

- 3.10 Mid span anchors will be located based on engineer's calculations. Typical anchors are shown in FIGURE 19. Size and design of anchor, as well as, bolt size and quantity to be based on project requirements and engineer's calculations.
- 3.11 When glazing areas of wall requiring mid span anchors it will be necessary to exterior glaze. Reliance-IG SS offers two exterior glazed horizontals for this purpose. The horizontal shown in FIGURE 17 is for areas where interior and exterior glazing may be required such as at the upper horizontal of an area with mid span anchors or may be used for easy reglazing. The horizontal in FIGURE 18 is for exterior glazed areas only and may also be used at the upper horizontal of areas with mid span anchors.

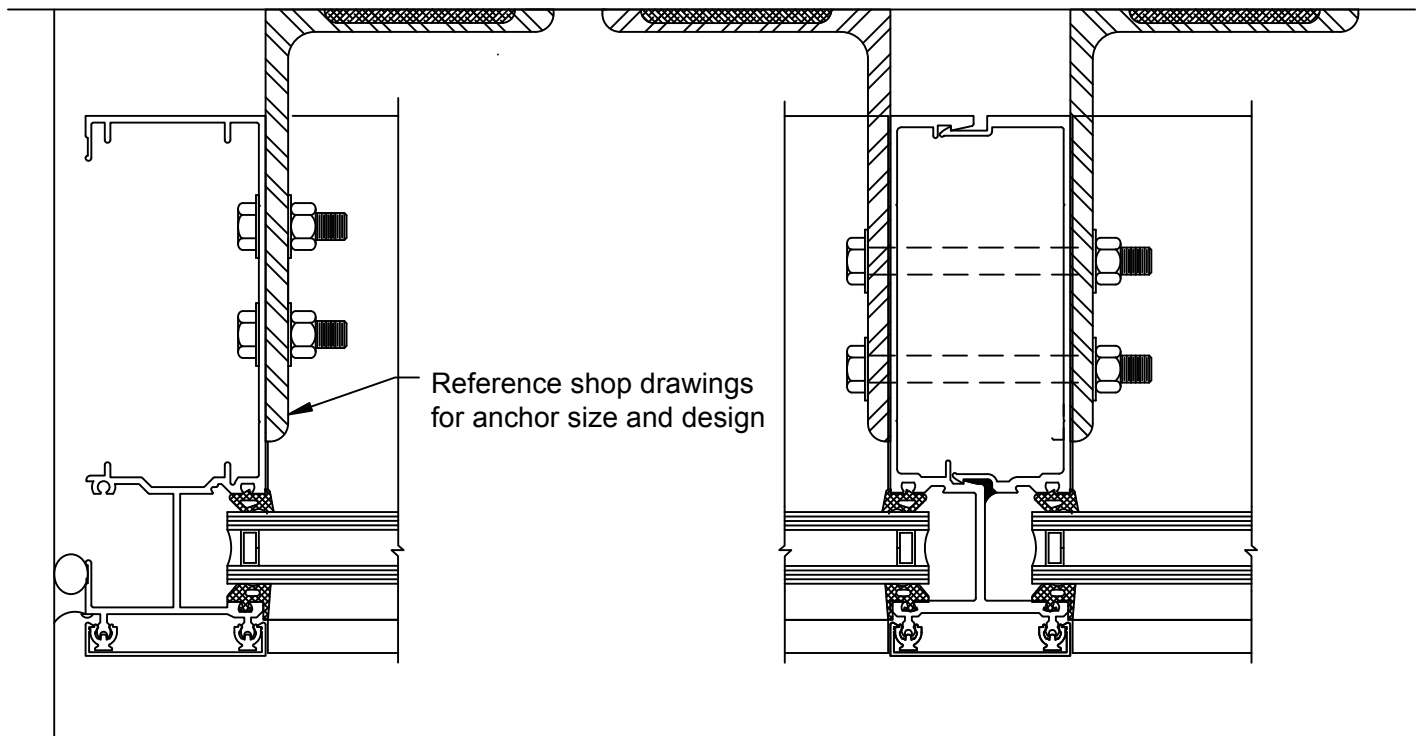
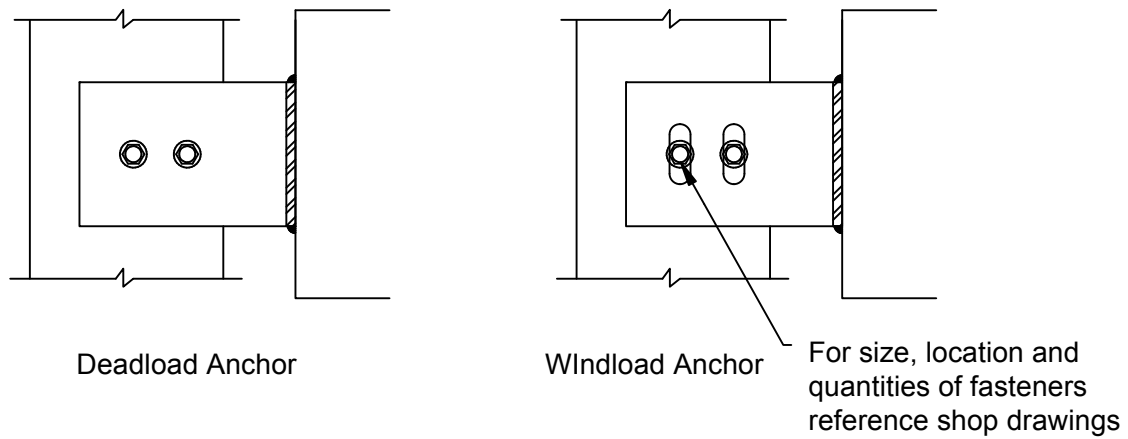


**FIGURE 17**  
Interior / Exterior  
Glazed Horizontal



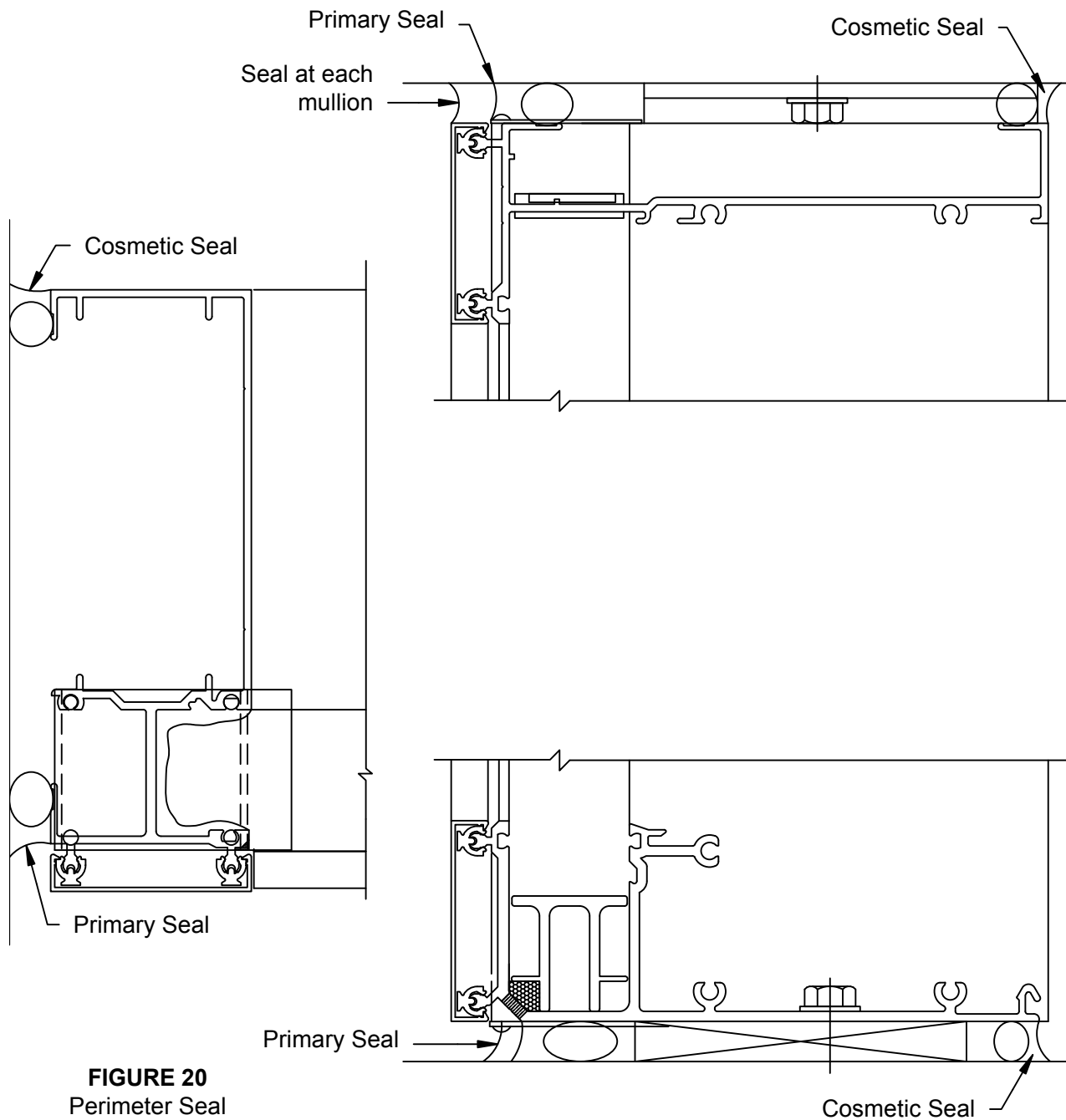
**FIGURE 18**  
Exterior Glazed  
Horizontal

## SYSTEM ANCHORAGE AT MID SPAN



**FIGURE 19**  
Mid Span Anchors

FRAME INSTALLATION

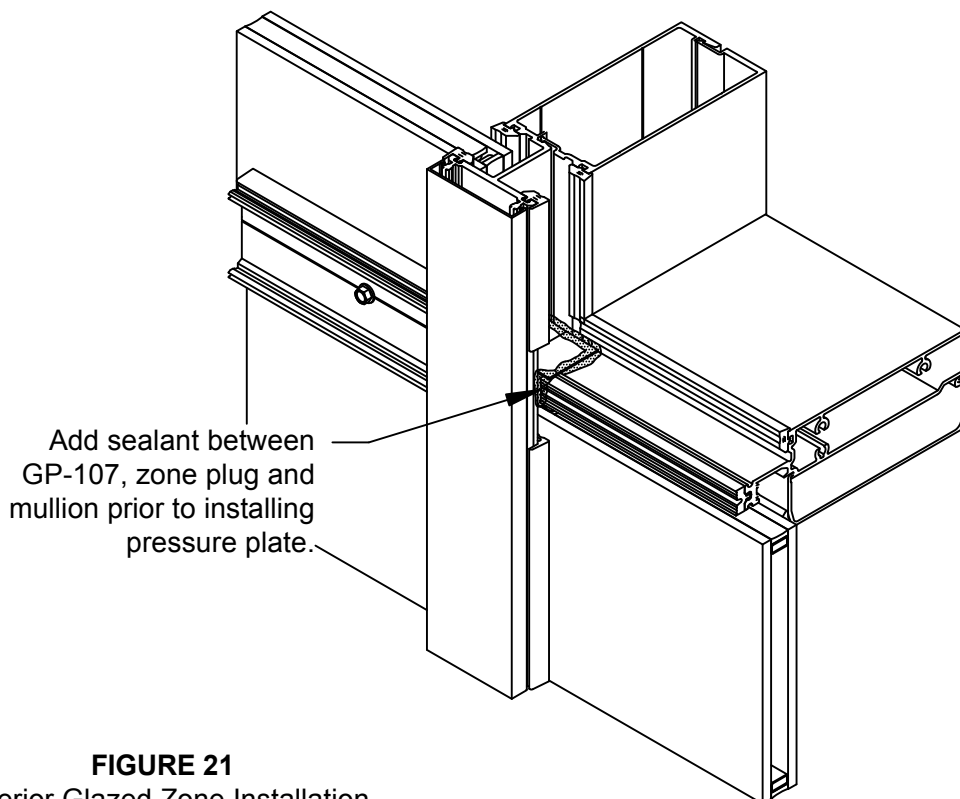


**FIGURE 20**  
Perimeter Seal

- 3.12 When all framing members are installed, apply perimeter seal. **SEE FIGURE 20.**  
The interior perimeter seal is not required for system performance, but can be installed for cosmetic purposes.

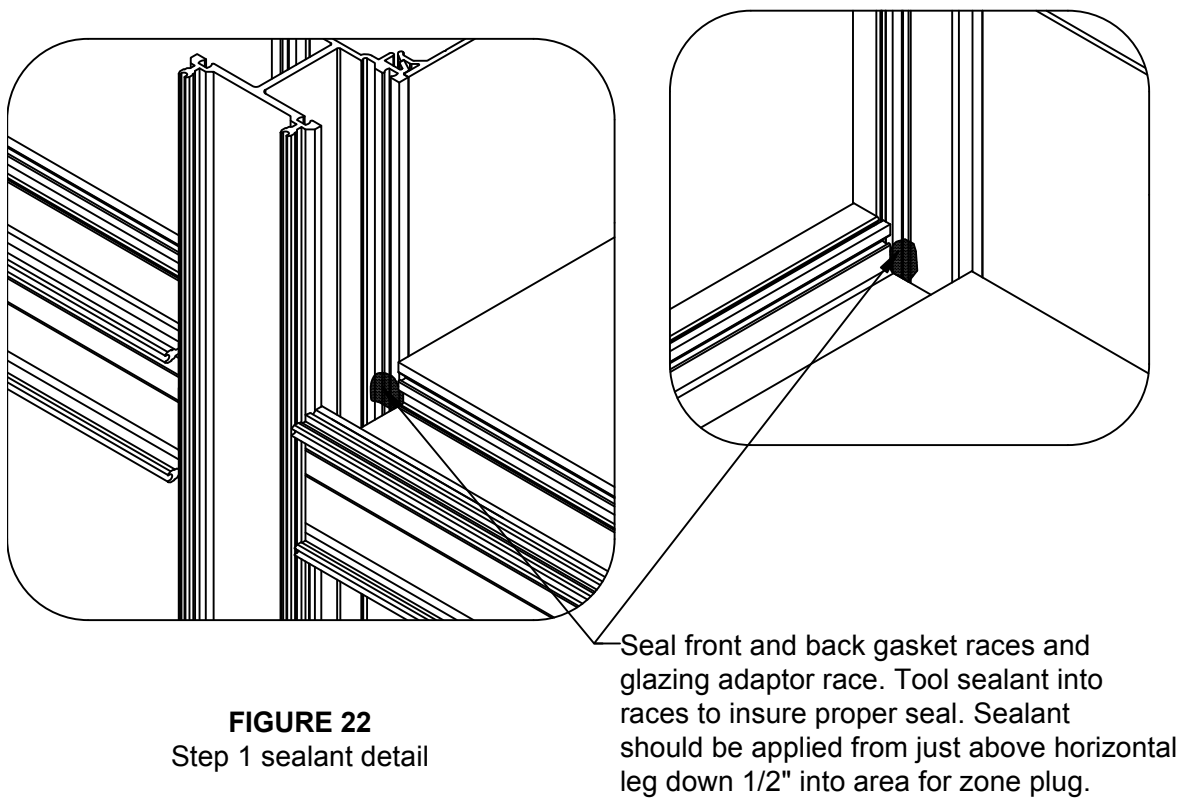
## ZONE PLUG INSTALLATION

- 3.13 Step 1. Seal gasket races and adaptor tracks. Proper sealant of these tracks is critical to insure water does not drain through the tracks into glazing pocket below or penetrate interior of building at glass stops. SEE FIGURE 22, page 21.
- 3.14 Step 2. Place bead of sealant around glazing pocket at location where zone plug will be located prior to inserted into pocket. Also lay bead of sealant across top of stem of horizontal. Place ICR-107-01 zone plug into pocket so that it may rotate over stem and snap into position. SEE FIGURE 23, page 22.
- 3.15 Apply additional sealant around top of zone plug at mullion and horizontal. Marry sealant with sealant previously applied into gasket races and tracks.
- 3.16 Step 3. Tool sealant between zone plug, mullion and horizontal to insure a proper seal. SEE FIGURE 24, page 22.
- 3.17 Once sealant is cured. It is recommended that weep holes in horizontal be plugged and each horizontal pocket filled with water. If water leaks through at any connection, drain pocket, dry and reseal. Then repeat until leaks have been resolved.
- 3.18 Exterior glazed horizontal will require sealant be applied along face of zone plug and horizontal stem prior to installing pressure plate. Since water testing of these area is not possible, special care need to be taken to seal the zone plug to prevent leaks. See FIGURE 21



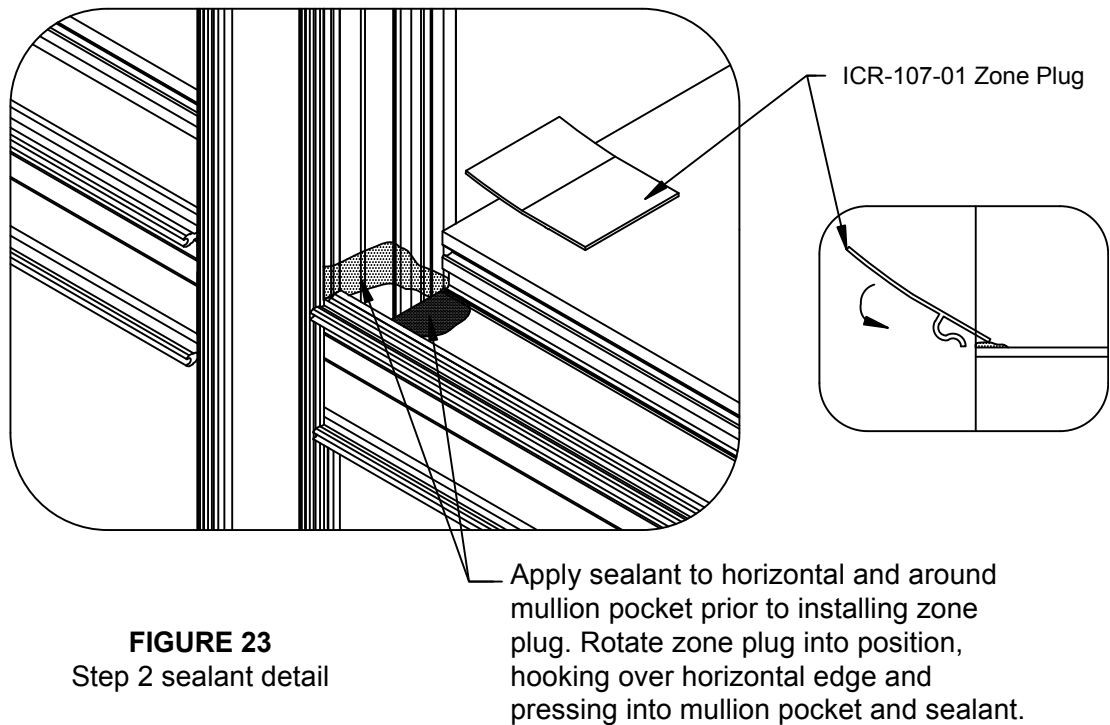
**FIGURE 21**  
Exterior Glazed Zone Installation

## ZONE PLUG INSTALLATION

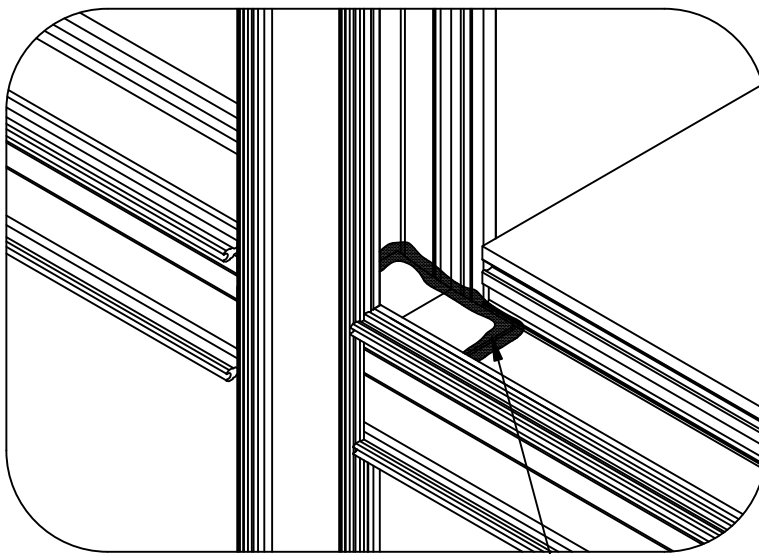




## ZONE PLUG INSTALLATION



**FIGURE 23**  
Step 2 sealant detail

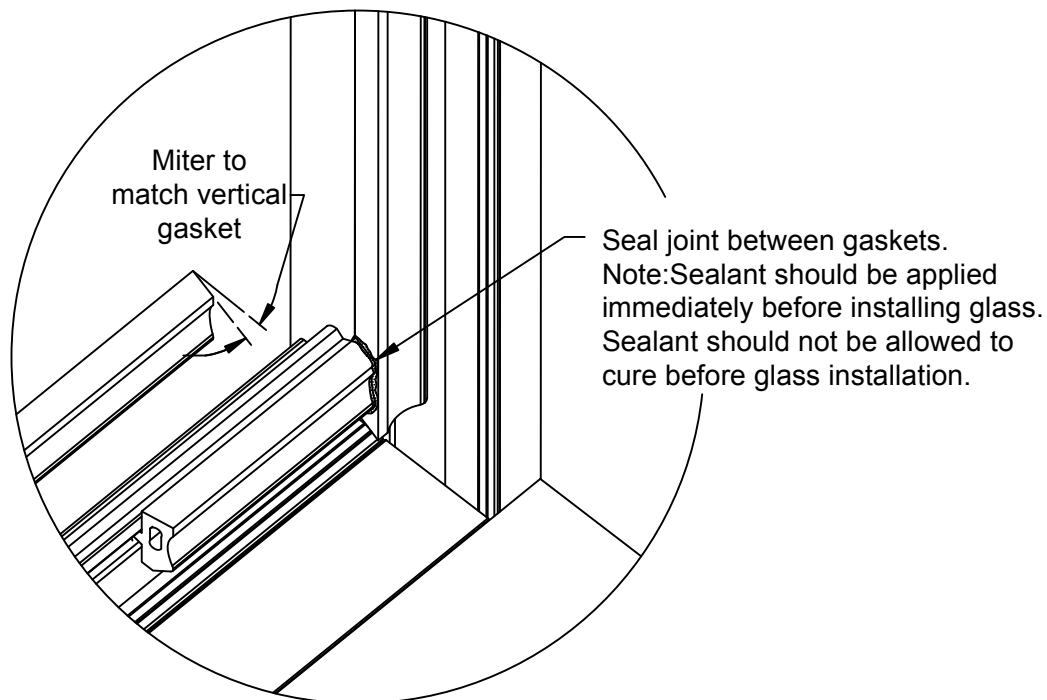


Apply additional sealant to zone plug at mullion and horizontal. Marry seal with sealant applied into mullion races and tool all edges between mullion, horizontal and zone plug.

**FIGURE 24**  
Step 3 sealant detail

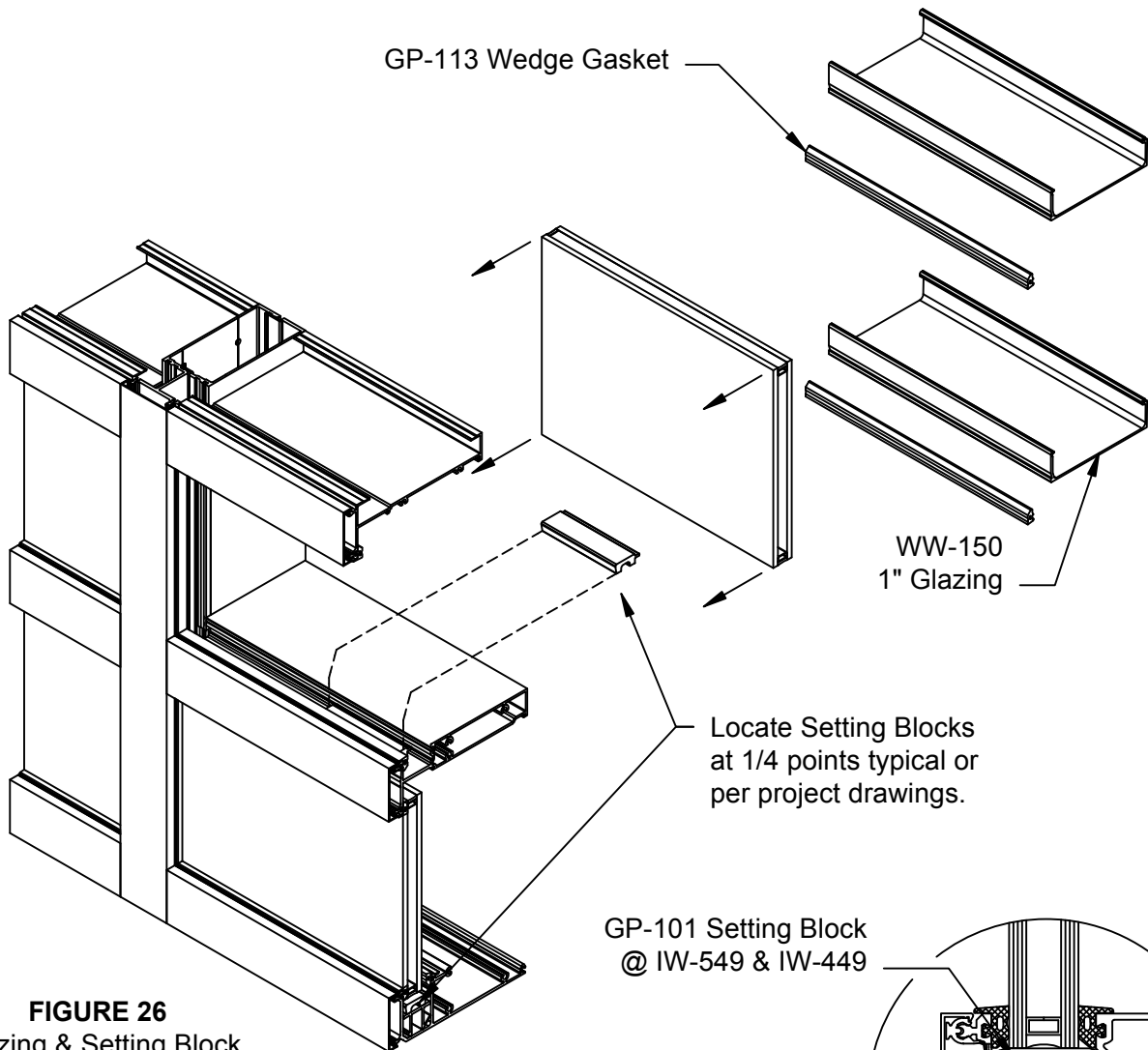
## GLAZING INSTRUCTIONS

- 4.1 **Note:** To avoid silicone curing before glass is set in place and contamination from job-site debris, glazing prep must be performed as each opening is glazed. Gasket should be cut 1/4" per foot longer than openings to allow for relaxation prior to installing. 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. SEE FIGURE 25
- 4.2 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. SEE FIGURE 26, page 24.
- 4.3 Set glass in opening from the interior. System should be glazed from 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. SEE FIGURE 26, page 24.  
**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.



**FIGURE 25**  
Seal @ Gasket Corners

## GLAZING INSTRUCTIONS

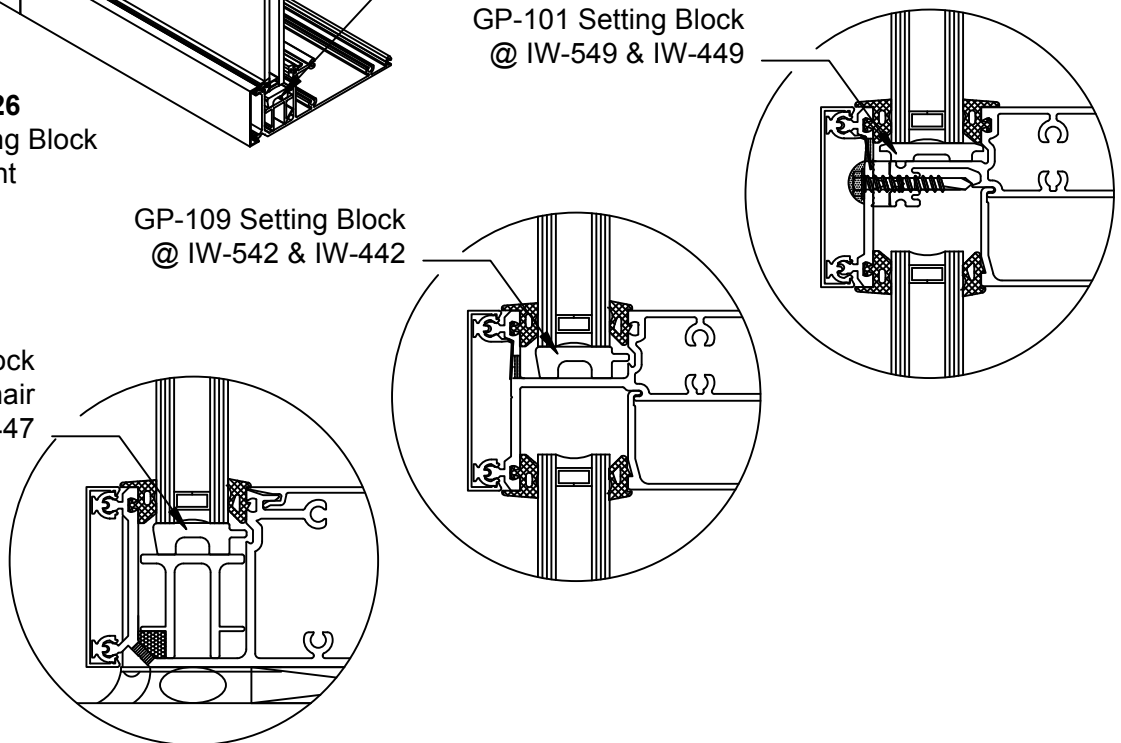


**FIGURE 26**  
Glazing & Setting Block Placement

GP-101 Setting Block  
@ IW-549 & IW-449

GP-109 Setting Block  
@ IW-542 & IW-442

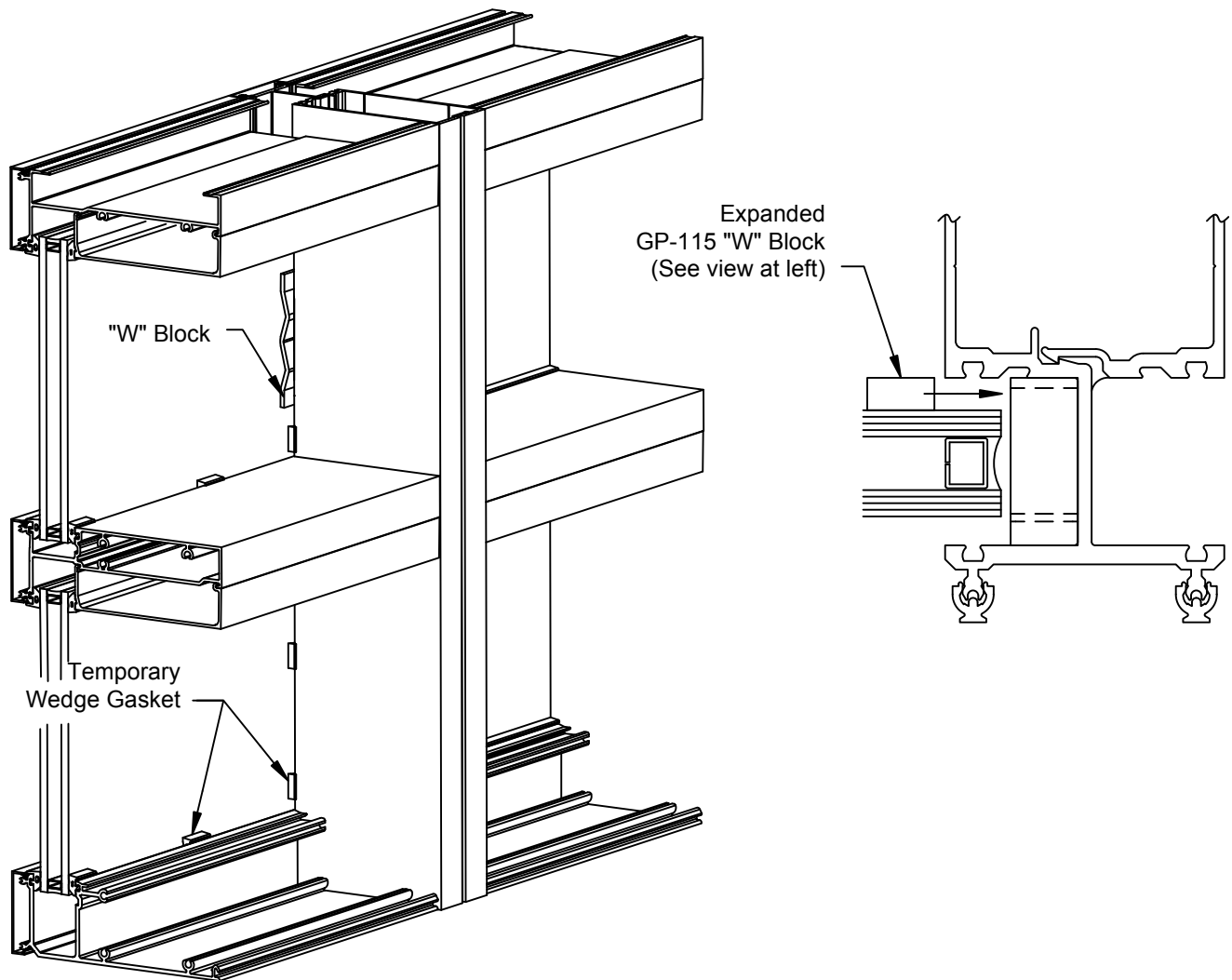
GP-109 Setting Block  
w/ GP-121 Setting Chair  
@ IW-547 & IW-447



## GLAZING INSTRUCTIONS

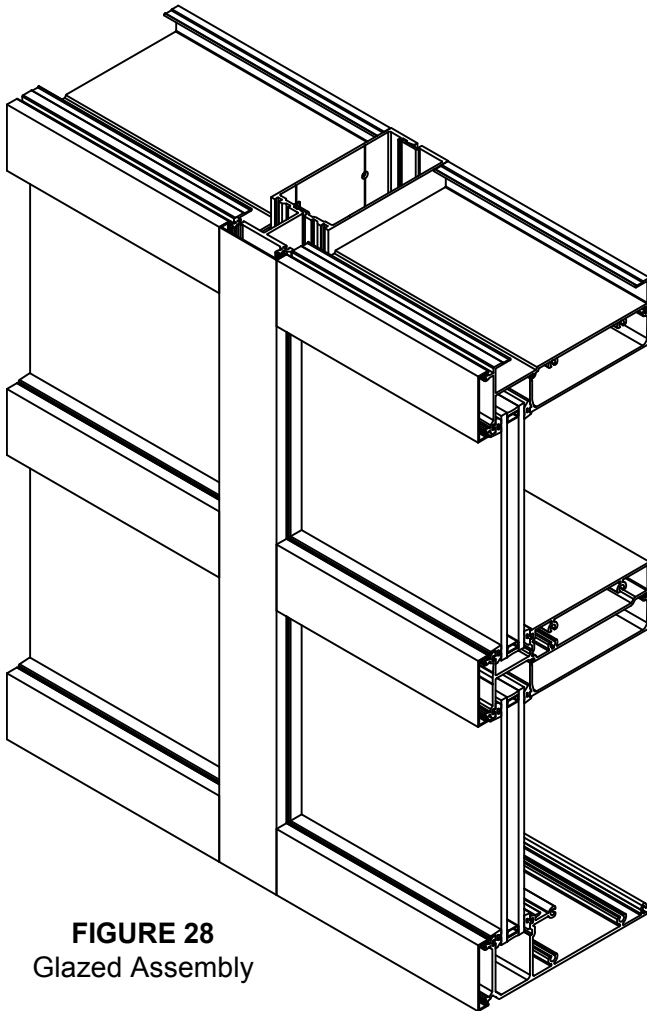
- 4.4 Temporarily hold glass in place at each corner with 4" long interior wedge gaskets. Locate at the corners for proper sealing of gasket joint. Temporary pieces of wedge may also be required at the center of each horizontal if glass edges are greater than 4' in length.
- 4.5 Install GP-115 "W" blocks at centerline of each lite along vertical edges. For framing that may be subject to seismic events, consult glass manufacturer for preferred location.
- 4.6 Repeat steps 4.1 through 4.5 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 35 & 36**, before continuing the installation.

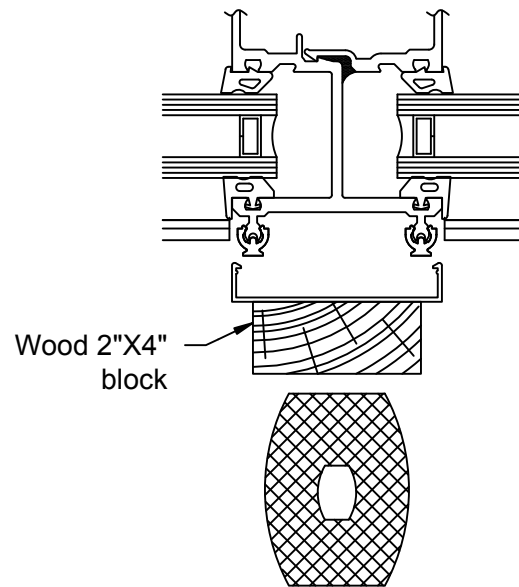


**Figure 27**  
Glazing Retainers

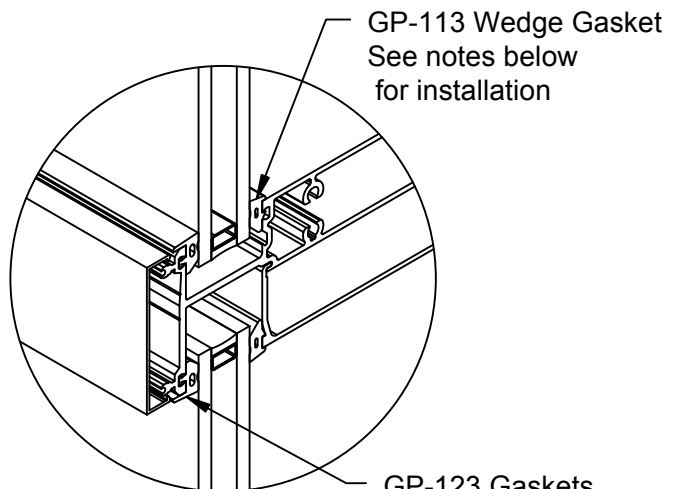
## GLAZING INSTRUCTIONS



**FIGURE 28**  
Glazed Assembly



Detail A



### Glazing Notes:

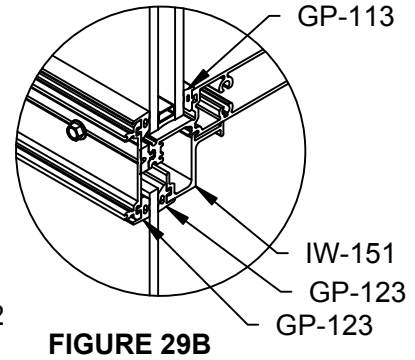
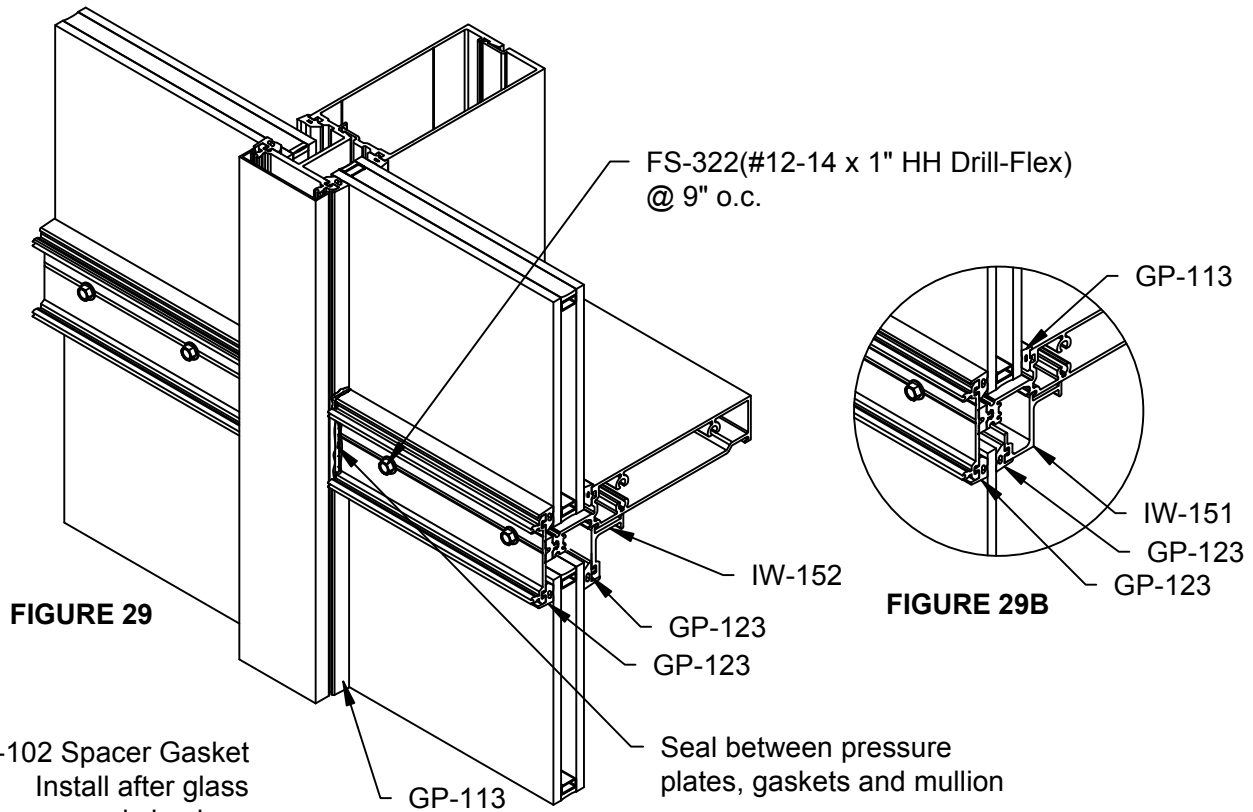
- 1) Interior Gaskets: GP-113 Wedge Gasket  
Exterior Gaskets: GP-123 Push-In Gasket
- 2) Remove gaskets from reels and allow to relax overnight before installing.
- 3) Cut gaskets 1/4" longer per foot of aluminum extrusion to allow for relaxation.

4.7 Install vertical face covers, then horizontal face covers leaving equal gap at the ends. Make sure weep hole is on bottom. To prevent damaging snap-on face caps during installation, hold a short piece of 2 x 4 wood block over the cap and strike with a Stanley 3 lbs Compo-cast dead blow soft face hammer. Strike cap at clip locations. Do not hit the face cap directly with a mallet. See Details "A".

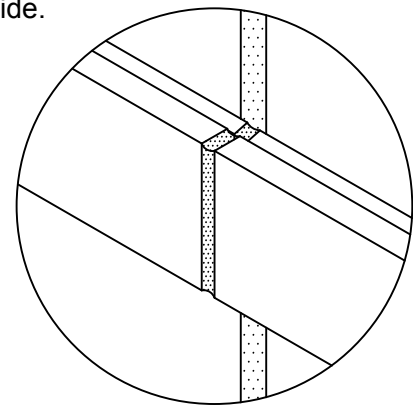
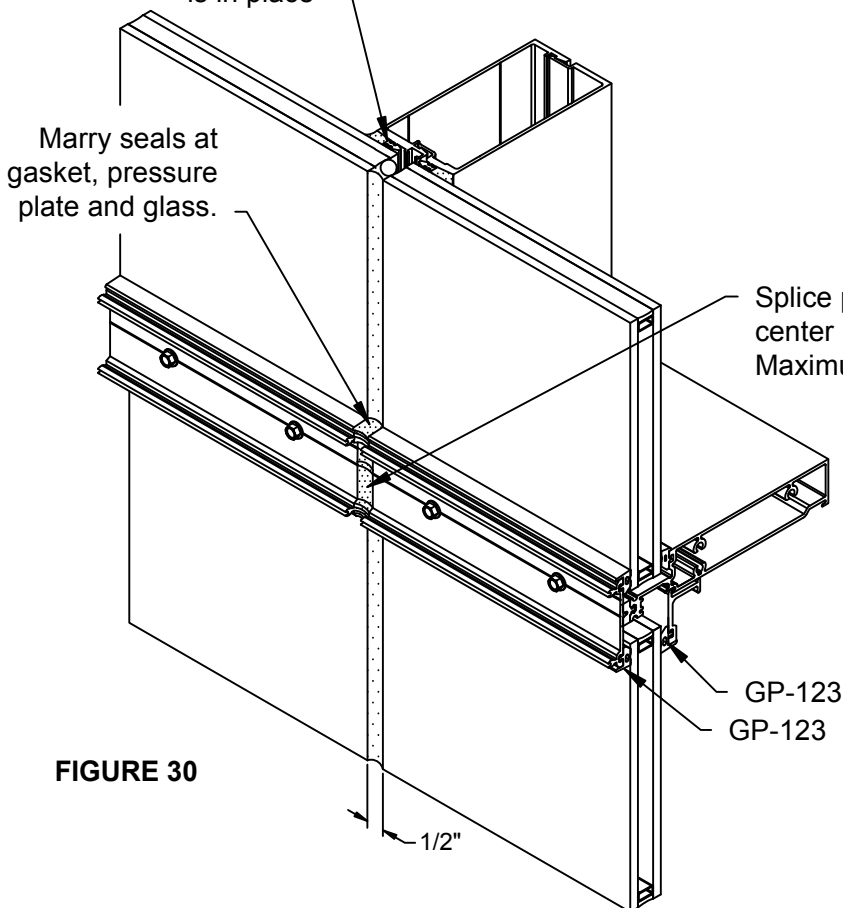
## EXTERIOR GLAZING INSTRUCTIONS

- 4.8 Exterior glazing will be necessary on lites located adjacent to mid-span anchors and may also be required at building floors. Horizontals with a removable pressure plate must be used at top and bottom of lite to allow for exterior glazing. See FIGURE 17 & 18, page 17. If exterior glazing SSG system, WW-300 bridges will be installed at each horizontal. See FIGURES 33,34 & 35, pages 30 & 31.
- 4.9 Position setting blocks at correct location (two per lite). Refer to approved shop drawings or dead load 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.
- 4.10 Glazing captured system: Install interior 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 25, page 23. Crowd gasket using the formula of 1/4" per foot of aluminum extrusion. Note: Interior gaskets will be installed prior to setting glass at exterior glazed areas.
- 4.11 Glazing SSG system: Install horizontal gaskets continuous across opening at upper and lower horizontal. Crowd gasket using formula of 1/4" per foot of aluminum extrusion.
- 4.12 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. GP-113 wedge should be installed at exterior of captured verticals, cutting length 1" longer than day light opening.
- 4.13 Install pressure plate on horizontal at top and bottom 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 torque to 60 in/lbs.
- 4.14 Seal ends of pressure plate to sides of vertical mullions and seal ends of horizontal gaskets to vertical gaskets. SEE FIGURE 29, page 28.
- 4.15 After installation of glass is complete for SSG system install GP-102 spacer along each side of vertical mullion at interior, pushing spacer behind glass to create a sealant joint of minimum 3/8" depth. SEE FIGURE 30, page 28. 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 be cleaned using isopropyl alcohol and sealed using a structural silicone. When using pressure plates for SSG system, cut a maximum length of three bays or not greater than 24 feet, then seal between pressure plates as shown in FIGURE 30, page 28.
- 4.16 When exterior glazing a spandrel area you may use the IW-151, 1/4" glass stop or IW-152, 1" spandrel glass stop. Using the appropriate spandrel glass stop, the GP-123 gasket will be pre-installed on the interior of each lite in place of wedge gasket. Once glass is installed, GP-113 wedge will be used on the exterior of vertical mullions. The pressure plate will be installed with GP-123 gasket pre-installed. SEE FIGURE 29 B, page 28.
- 4.17 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.
- 4.18 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 1/4" joint between each cap. This joint should be sealed by installing backer rod and sealant between caps. SEE FIGURE 31, page 28.

## EXTERIOR GLAZING INSTRUCTIONS



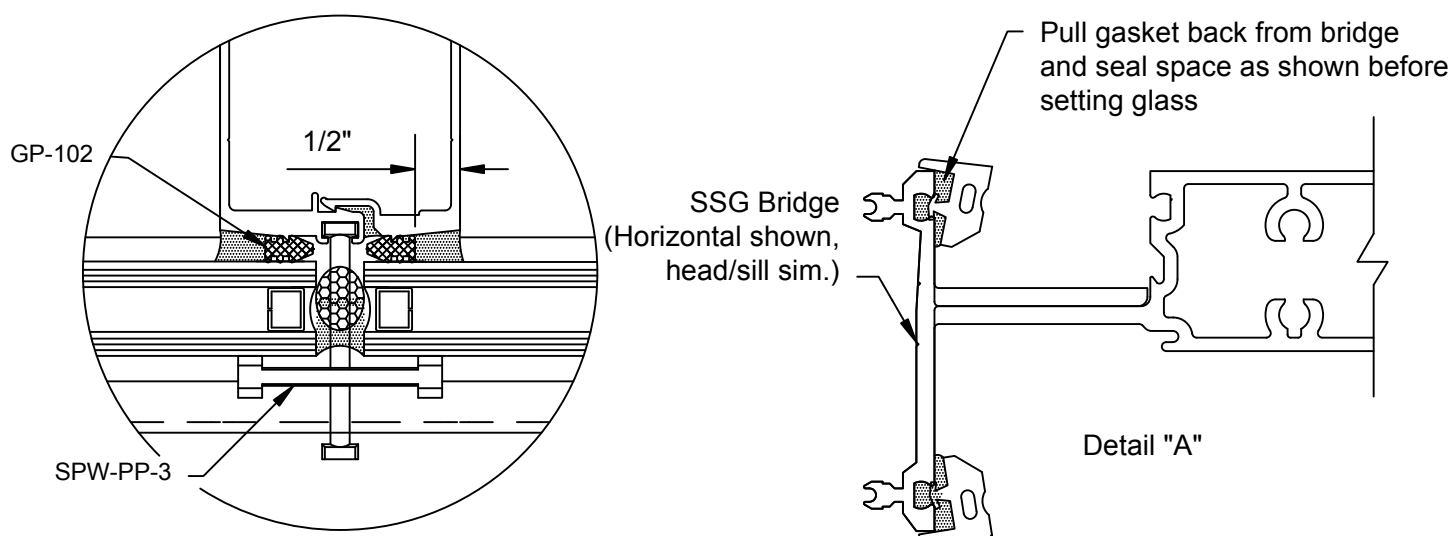
GP-102 Spacer Gasket  
Install after glass  
is in place





## SSG INSTALLATION

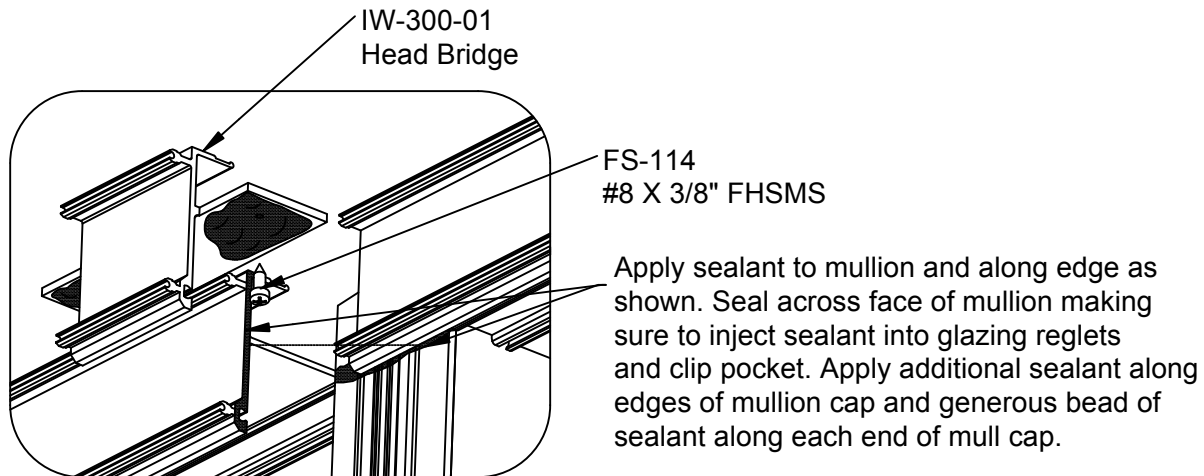
- 4.18 Glazing using the SSG mullions typically will be accomplished by setting glass from the interior of the building. If special conditions exist which mandate setting glass from exterior, see page 17.
- 4.19 Prior to installing glass, horizontal bridges must be installed and sealed. Head and sill bridges will be installed as shown in FIGURES 33 & 34. Intermediate horizontals will use two different bridges based on interior or exterior glazing. SEE FIGURES 33, 34 & 35, page 30 & 31.
- 4.20 Horizontal face caps should be installed before glass. The face caps should be spliced every three bays and have a minimum 1/4" joint between each cap. This joint should be sealed by installing backer rod between caps and then applying sealant. SEE FIGURE 31, page 28.
- 4.21 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.
- 4.22 Install horizontal exterior gaskets running the gasket continuous 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" below. 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.
- 4.23 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.
- 4.24 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 be cleaned using isopropyl alcohol and sealed using an approved structural silicone. SEE FIGURE 32
- 4.25 The exterior joint between the glass should be sealed by installing backer rod and sealant into the joint.



**FIGURE 32**

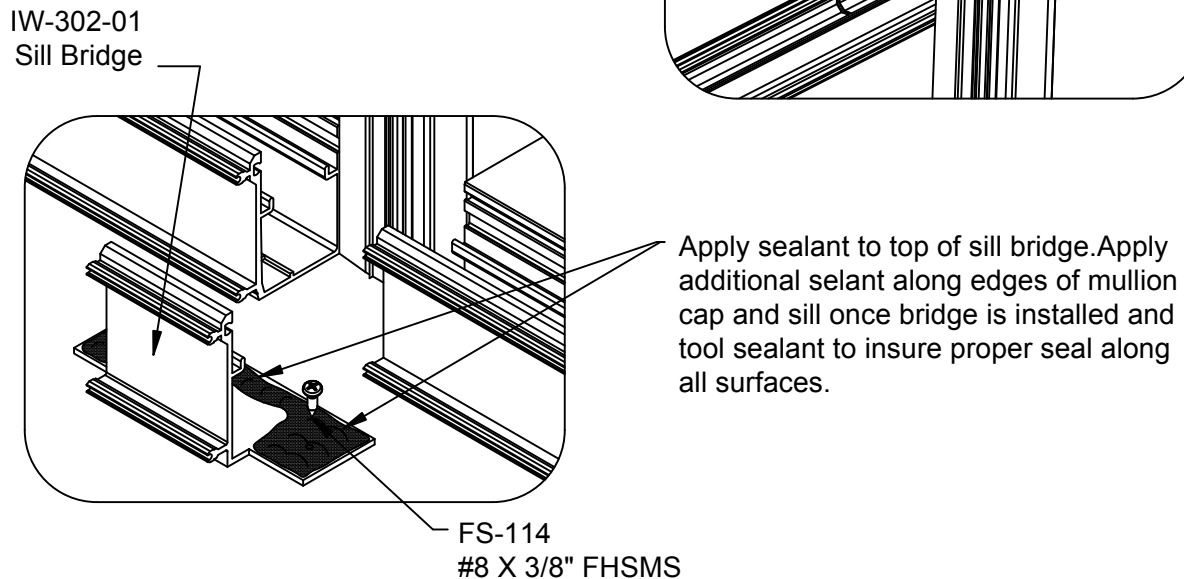


## SSG BRIDGE INSTALLATION



Critical to seal between edges of horizontal face and bridge. Tool sealant at interior and exterior surfaces.

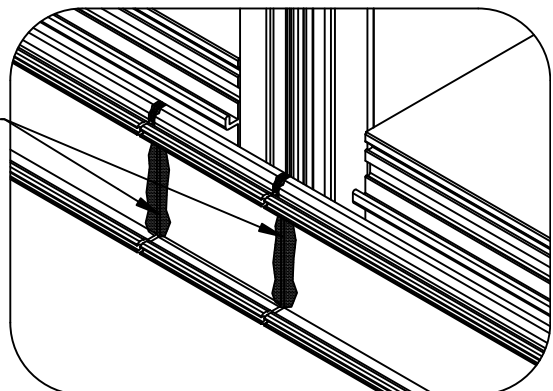
**FIGURE 33**  
Head Bridge Installation



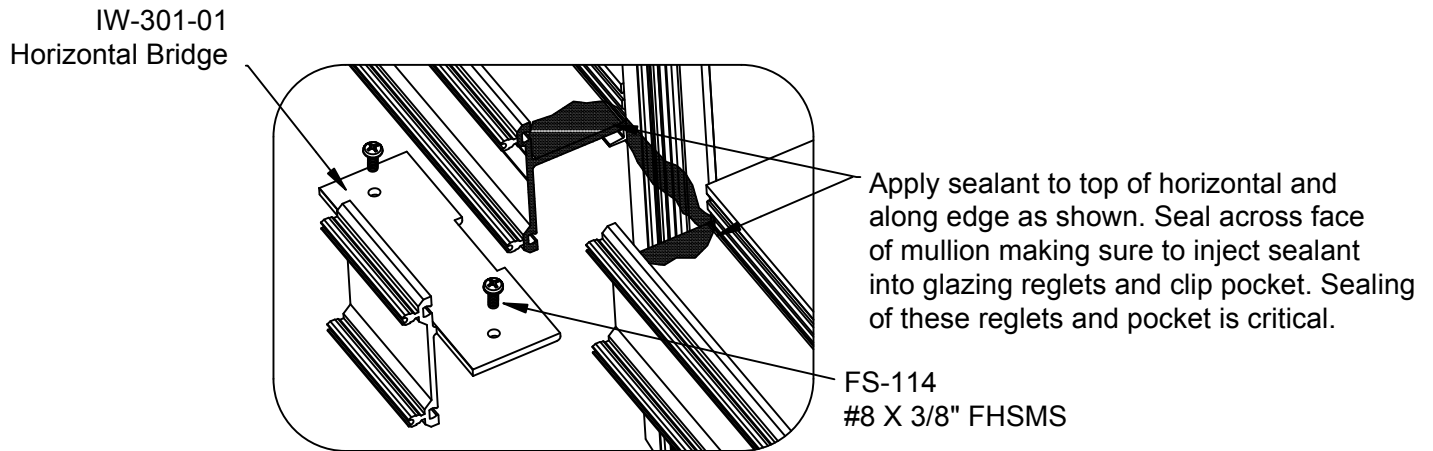
Critical seal between edges of horizontal face and bridge. Tool sealant at interior and exterior surfaces.

**FIGURE 34**  
Sill Bridge Installation

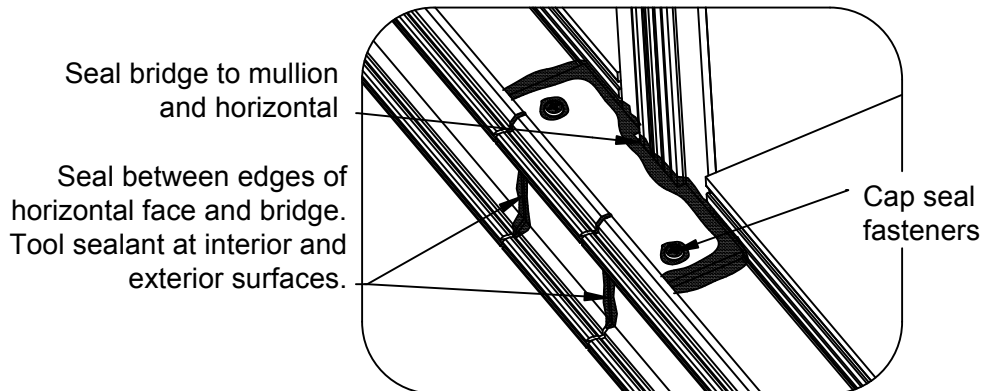
NOTE: Cap seal all fasteners after installation of bridges.



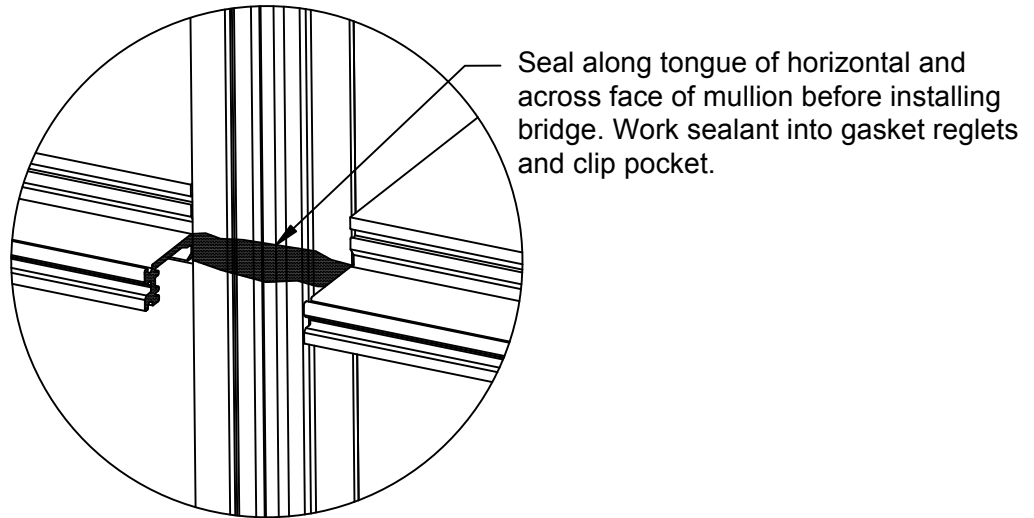
SSG BRIDGE INSTALLATION



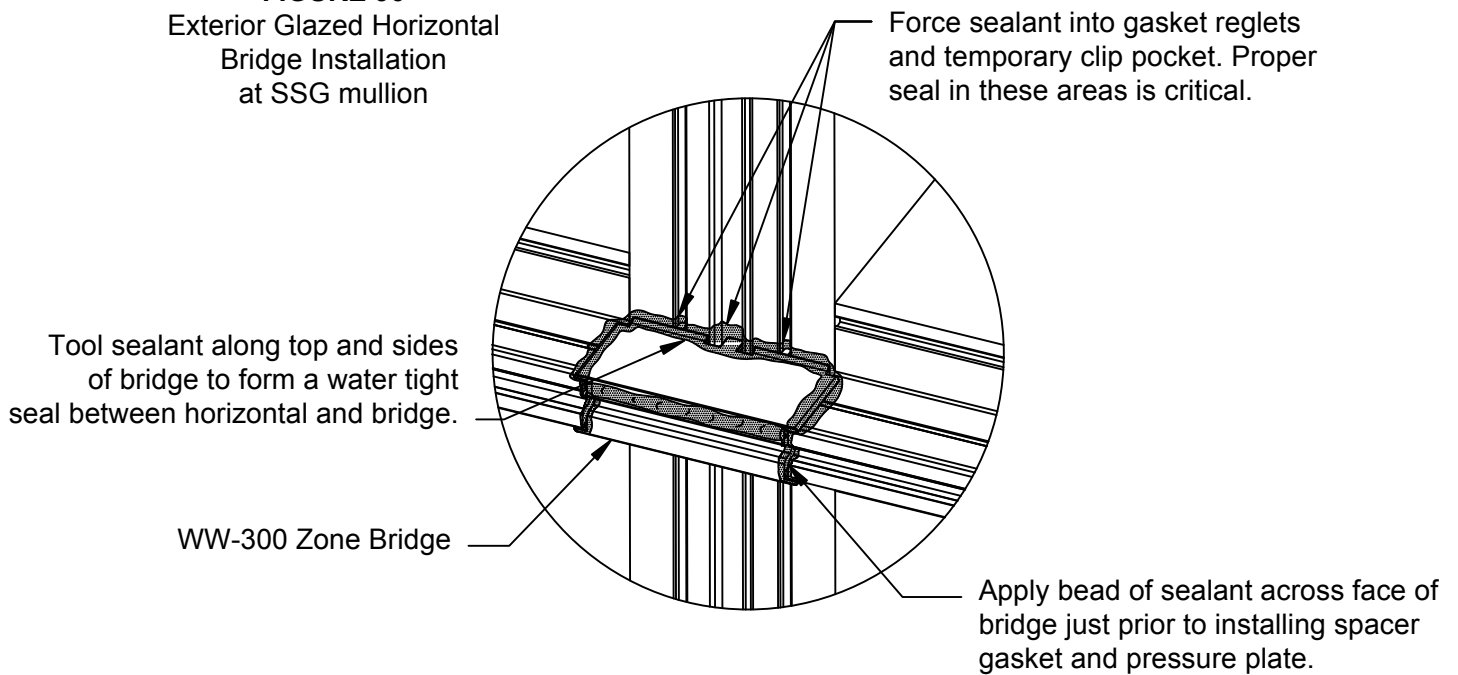
**FIGURE 35**  
Interior Glazed Horizontal  
Bridge Installation  
at SSG mullion



SSG BRIDGE INSTALLATION



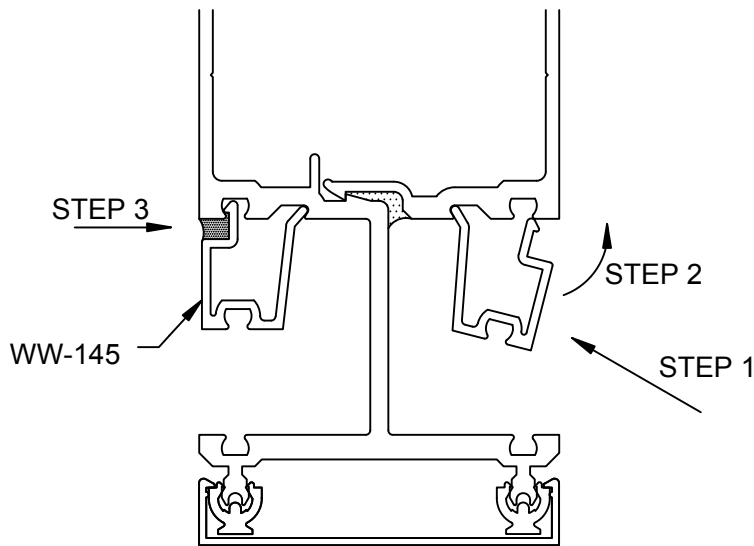
**FIGURE 36**  
Exterior Glazed Horizontal  
Bridge Installation  
at SSG mullion



## GLAZING ADAPTOR INSTALLATION

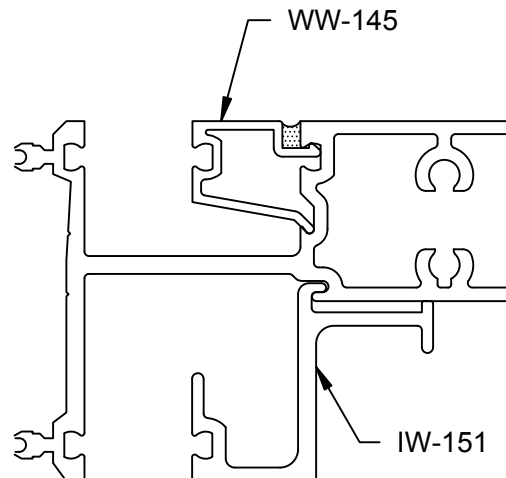
Note: Glazing adaptors to be installed after wall has been erected and zone plugs have been installed and sealed in place. Water testing of glazing pockets is recommended prior to installing the adaptors.

- T.1 Glazing adaptors at captured vertical mullions and jambs and horizontals require the WW-145 adaptor to be hooked into the notch (Step 1) at the mullion stem and then rotated and snapped into place (step 2). SEE FIGURE 37
- T.2 Glazing adaptor at SSG vertical mullions will be attached using FS-201 (#10 x 1 1/2" pfh) fasteners at 12" on center. Mullion will be match drilled using #11 (.191Ø) drill bit. Holes in mullion must have sealant injected into the tap holes just prior to attaching the adaptor to the mullion. SEE FIGURE 39
- T.3 All adaptors must have bead of sealant (Step 3) around the interior perimeter SEE FIGURES 37, 38, 39 & 40, sealant tooled and corner of adaptors sealed.
- T.4 Exterior glazed horizontal WW-442 and WW-542 require glazing adaptor WW-175 for 1/4" glazing. SEE FIGURE 40

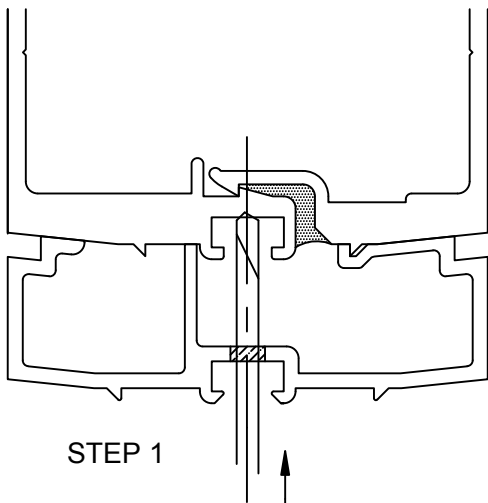


**FIGURE 37**  
Adaptor at Typical  
Vertical Mullion

**FIGURE 38**  
Adaptor at  
Typical Horizontals

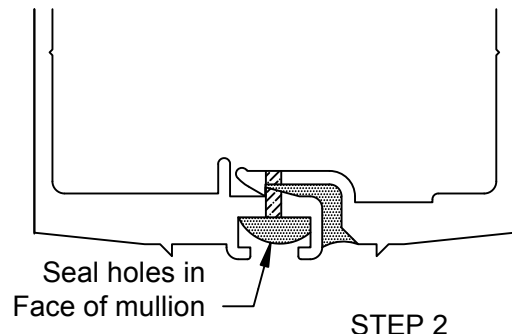


## GLAZING ADAPTOR INSTALLATION



STEP 1

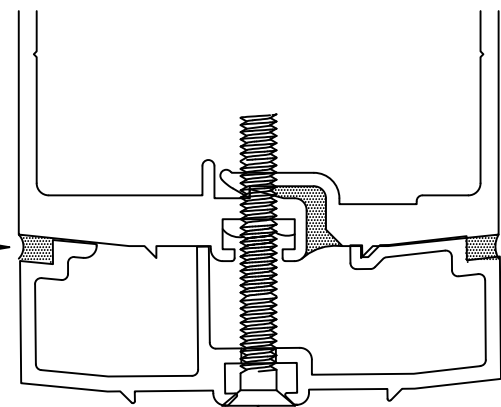
Match drill mullion  
w/ #25 Drill



Seal holes in  
Face of mullion

STEP 2

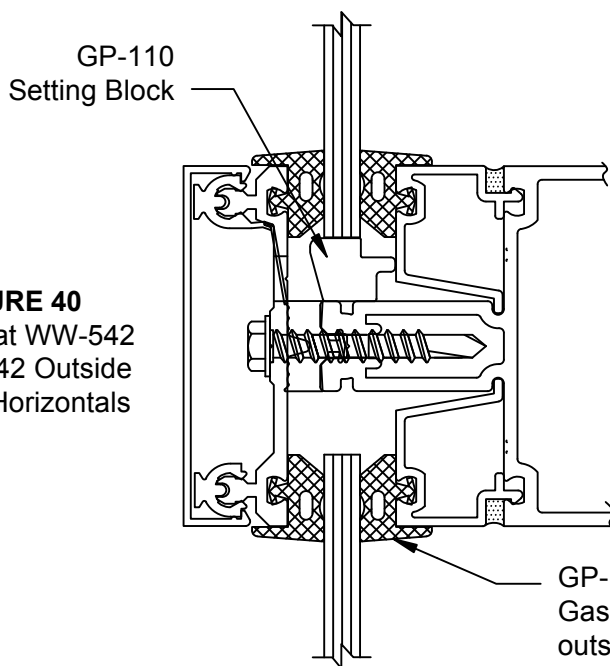
**FIGURE 39**  
IW-131 SSG Adaptor



STEP 3

Seal sides of adaptor

Attach w/ FS-201 (#10 X 1 1/2" PFH)  
@ 12" O.C.

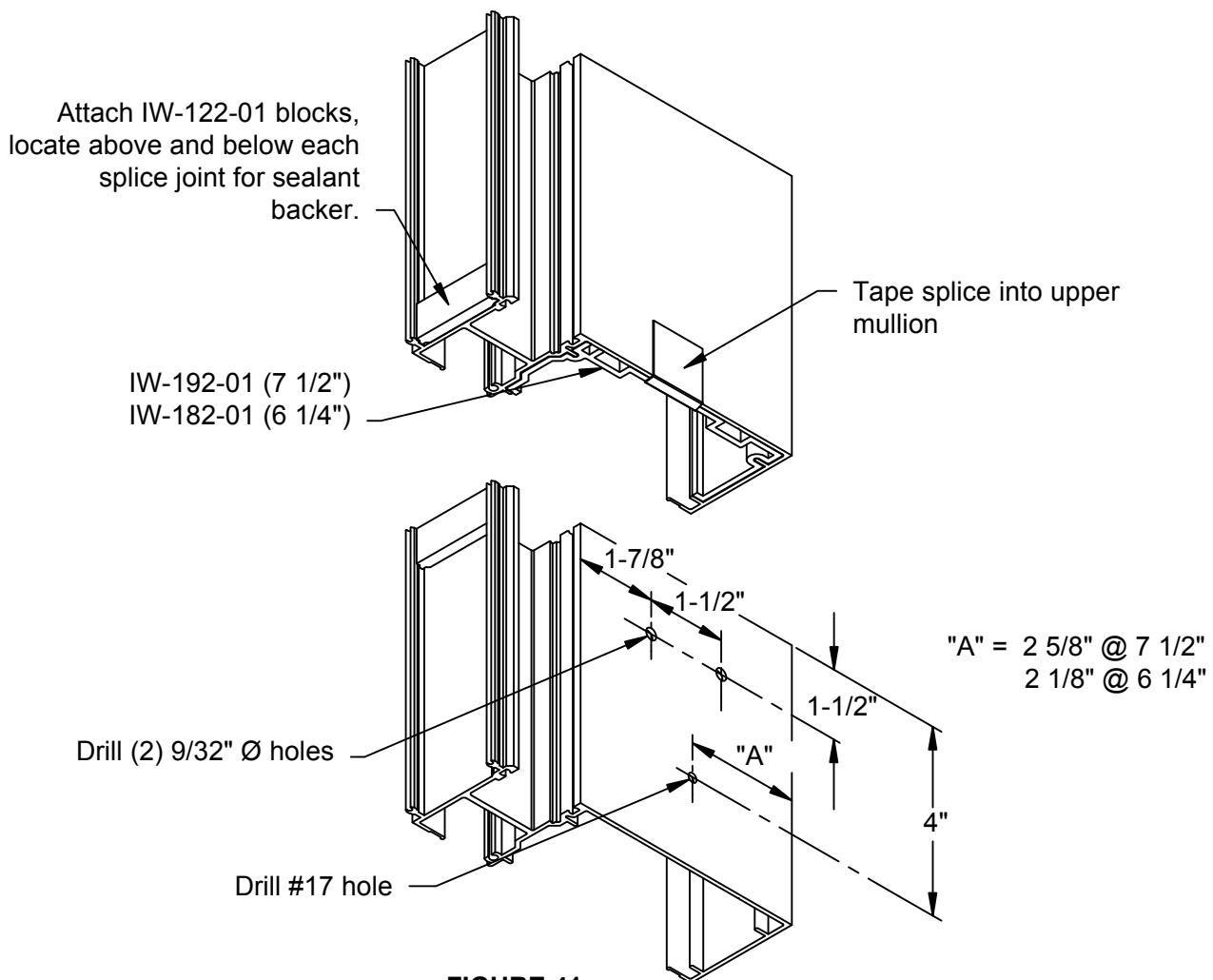


**FIGURE 40**  
Adaptor at WW-542  
& WW-442 Outside  
Glazed Horizontals

GP-123  
Gasket at  
outside glazed  
only

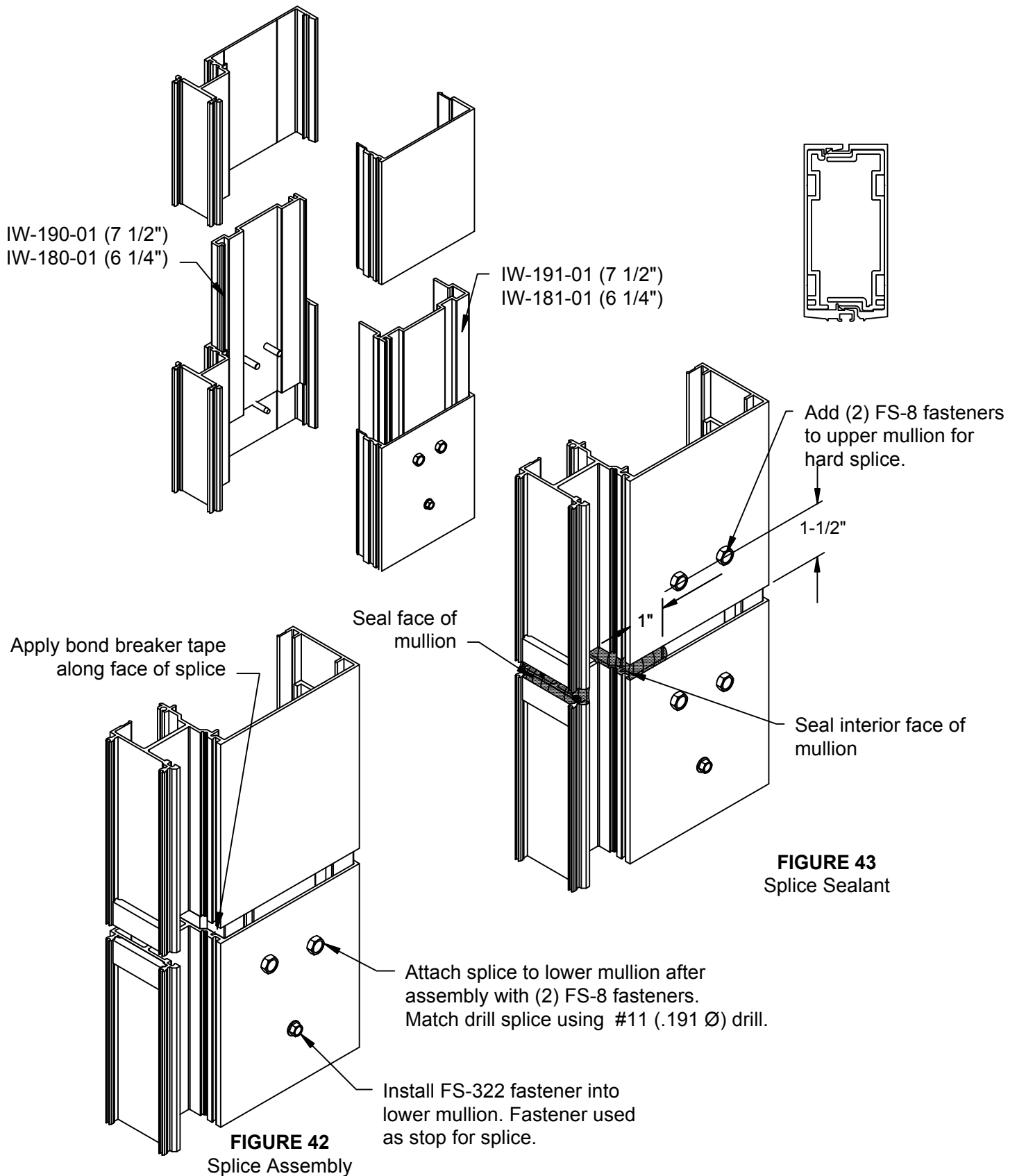
## VERTICAL SPLICE ASSEMBLY

- SP.1 Tape splice sleeve into upper section of vertical mullion. Weld or seal IW-122-01 caulk stop blocks to both sides of splice joint to provide adequate sealant backer at face of mullion. SEE FIGURE 41.
- SP.2 Drill (2) 9/32" dia. holes in lower mullion for splice attachment and one 7/32" hole in lower mullion stop screw. SEE FIGURE 41. Install (1) FS-322 drill flex fastener into lower mullion for splice stop. SEE FIGURE 42, page 36.
- SP.3 When erecting wall, lower splice sleeve into lower mullion until it contacts stop screw. Attach splice to mullion with (2) FS-8 fasteners. SEE FIGURE 42, page 36. Add (2) FS-8 fasteners to upper mullion for hard splice conditions. SEE FIGURE 43, page 36.
- SP.4 Apply bond breaker tape to face of splice on interior face of mullion. SEE FIGURE 42, page 36.
- SP.5 Seal splice joint along interior face of mullion back 1" on each side and seal exterior face of mullion between ends of mullion and caulk blocks. SEE FIGURE 43, page 36.



**FIGURE 41**  
Splice Fabrication

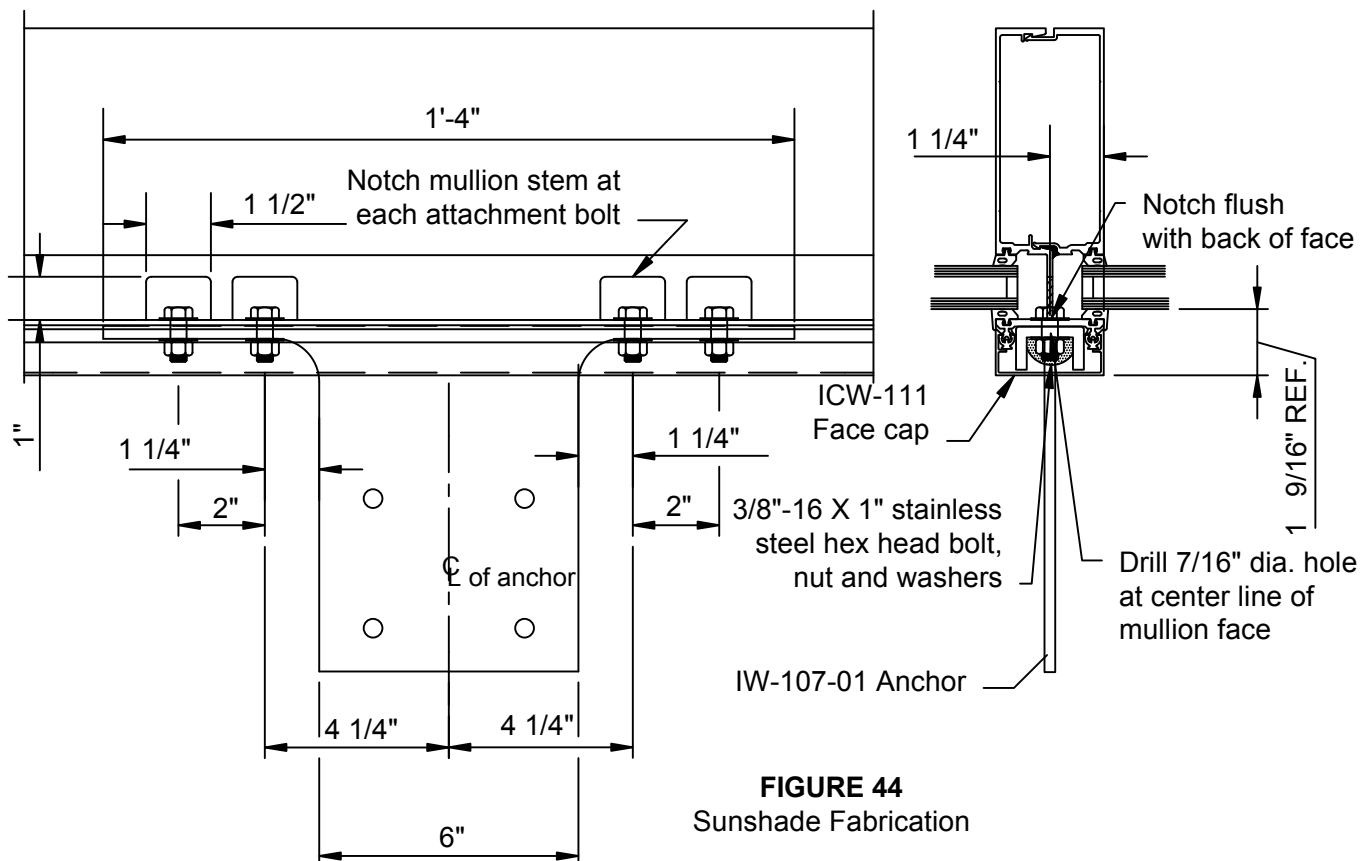
## VERTICAL SPLICE ASSEMBLY



## SUNSHADE ANCHOR INSTALLATION AND FABRICATION

- S.1 Mill cutouts from stem of mullion at location of each anchor bolt, 4 bolts shown are for standard application and your project may require additional fasteners based on engineers review. Cutouts will be 1-1/2" wide by 1" deep and must be flush with back of mullion face. Location will vary depending on project requirements, pattern shown is for standard anchor only. SEE FIGURE 44
- S.2 Drill face of mullion with 7/16" Ø holes for 3/8" anchor bolts. SEE FIGURE 44
- S.3 Debur bolt holes on exterior and interior face of mullion to insure proper fit of anchor and bolts.
- S.4 A bead of sealant must be applied around each hole in face of mullion prior to attaching anchor. SEE FIGURE 45
- S.5 Attach anchor to face of mullion with 3/8"-16 x 1" hex head bolt, nut, flat and lock washers. Cap seal bolts once installed. SEE FIGURE 45, page 38.
- S.6 ICW-111 face cap required for projects with sunshade installation. Face cap will be notched at each anchor. SEE FIGURE 44

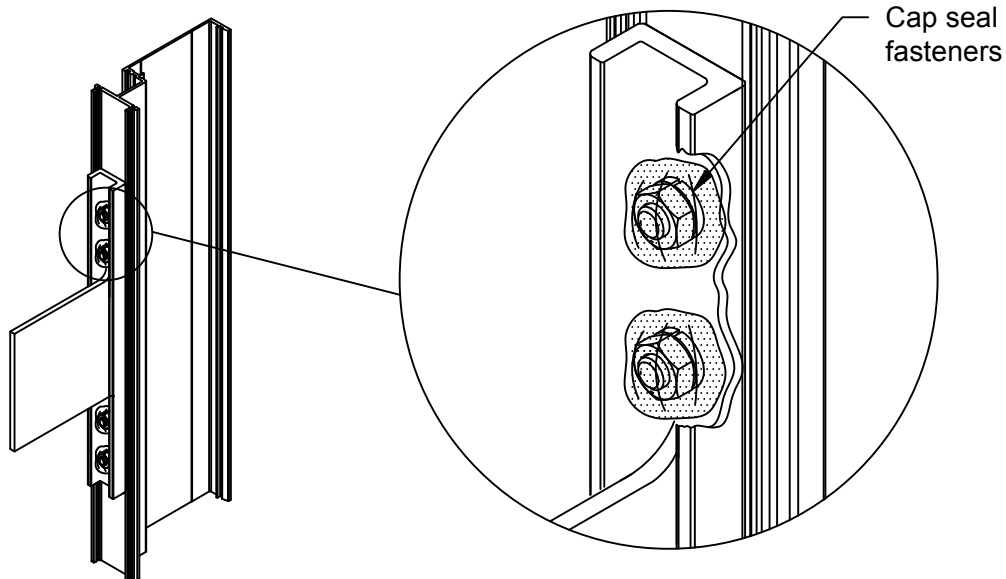
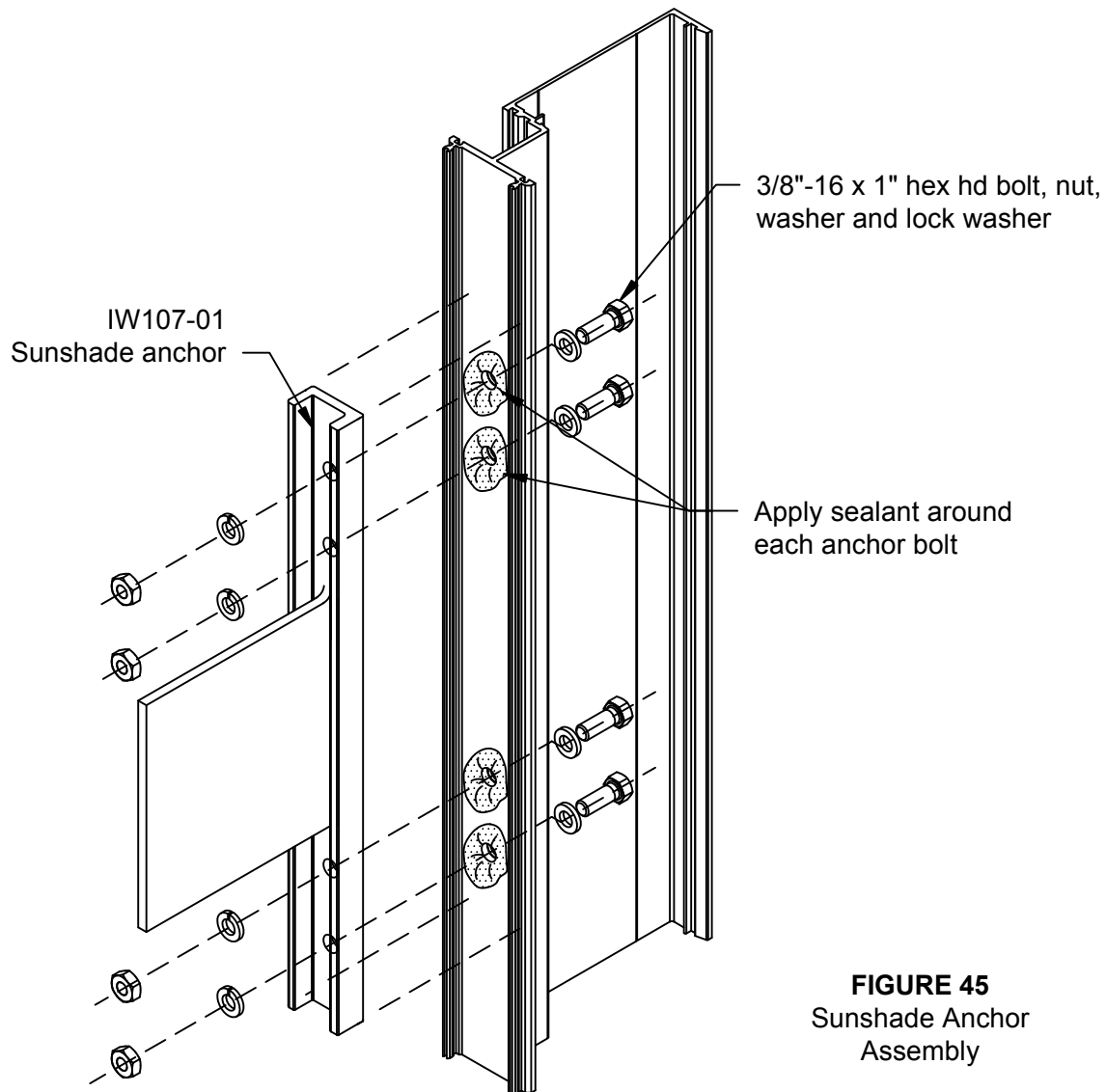
NOTE: All sunshade installations must be reviewed by a structural engineer for anchor design and attachment.



**FIGURE 44**  
Sunshade Fabrication



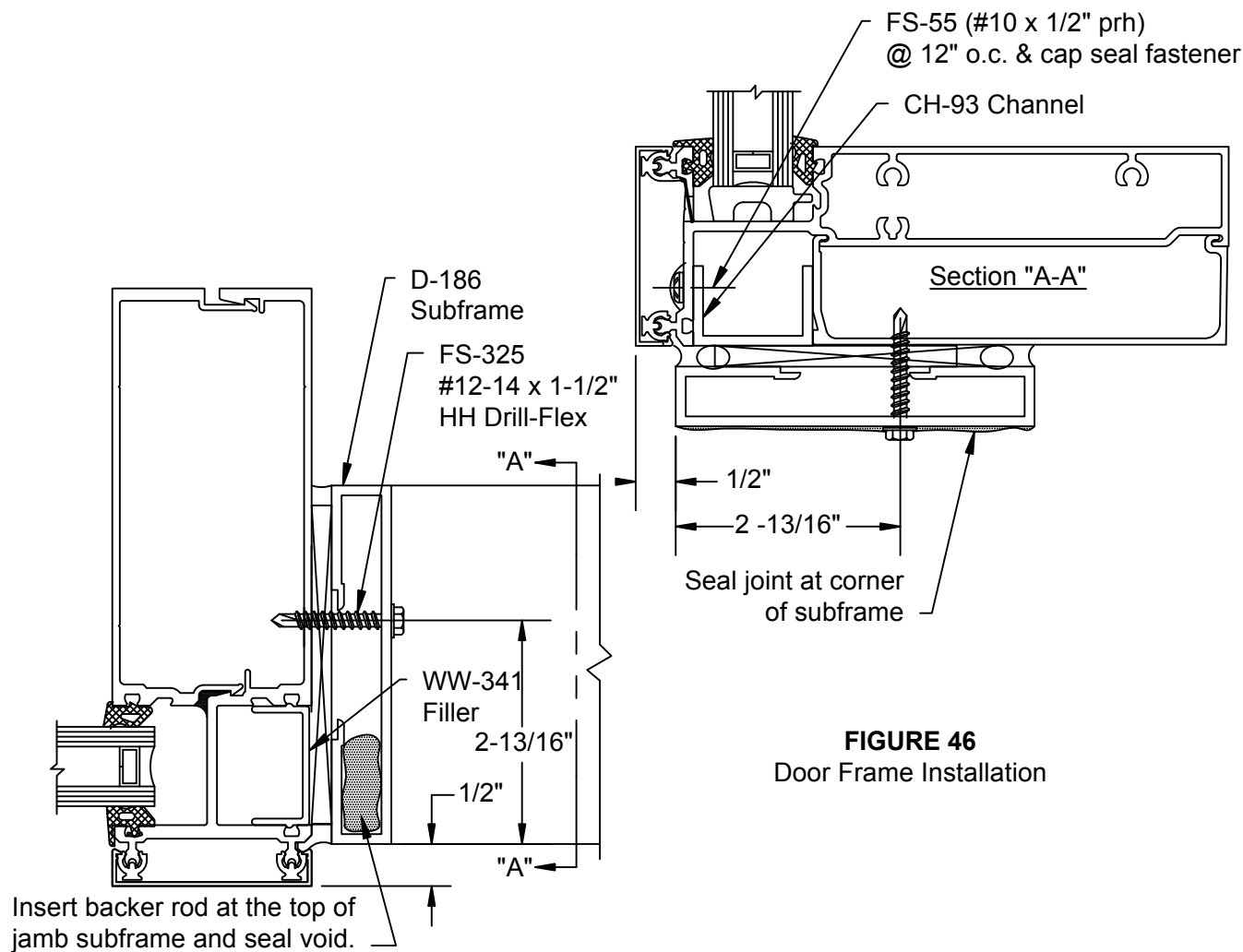
SUNSHADE ANCHOR INSTALLATION AND FABRICATION



## DOOR INSTALLATION

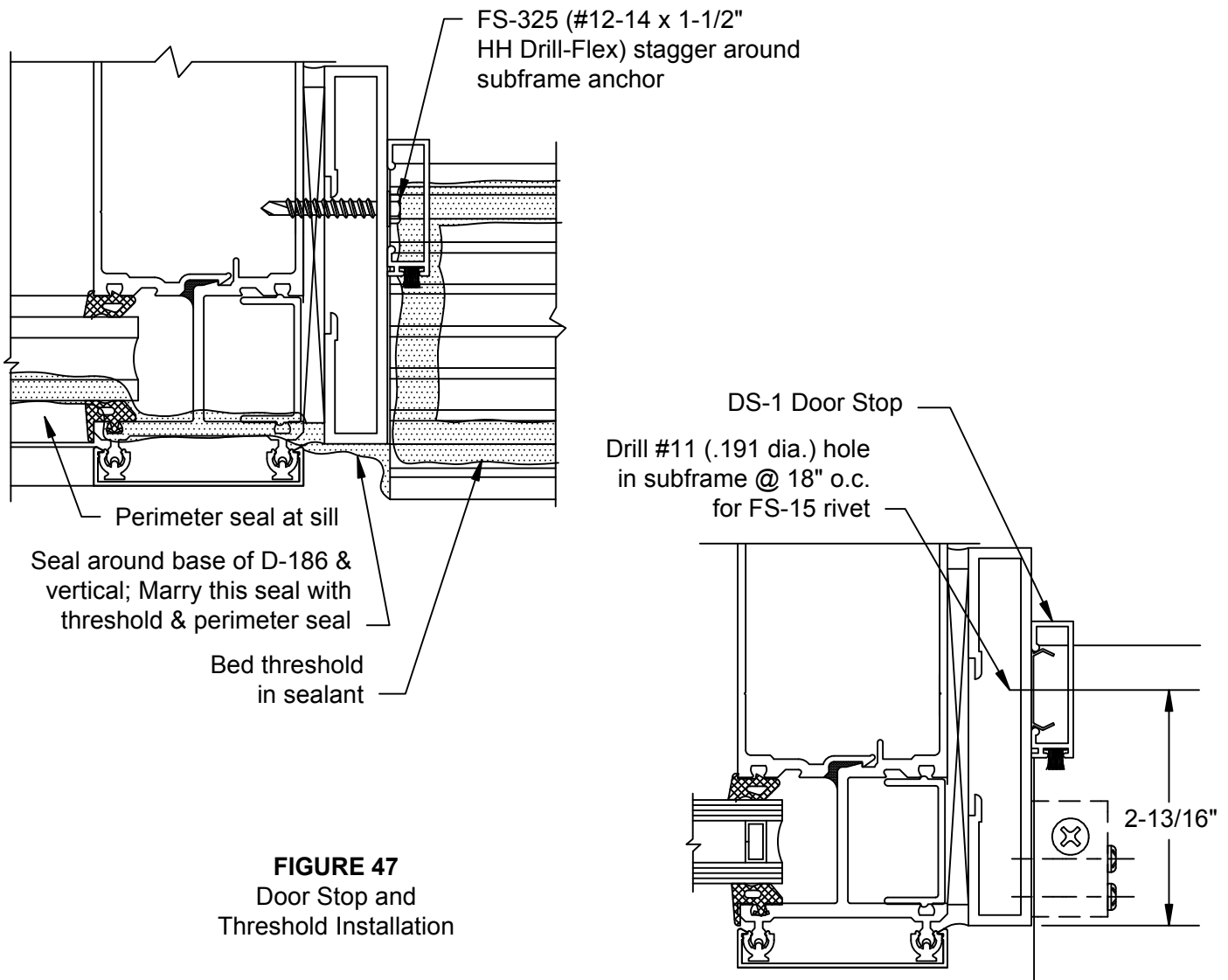
All door framing components are shipped fabricated from the factory. The main curtain wall framing can be erected prior to installing the doors.

- D.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.
- D.2 SUBFRAME INSTALLATION:
  - D.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.
  - D.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.
  - D.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 46.



**FIGURE 46**  
Door Frame Installation

DOOR INSTALLATION



**FIGURE 47**  
Door Stop and  
Threshold Installation

- D.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 47.
- D.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 47. Vertical stops run through.
- D.2.6 Install door per DOOR AND FRAME INSTALLATION AND GLAZING MANUAL.

## REGLAZE PROCEDURES

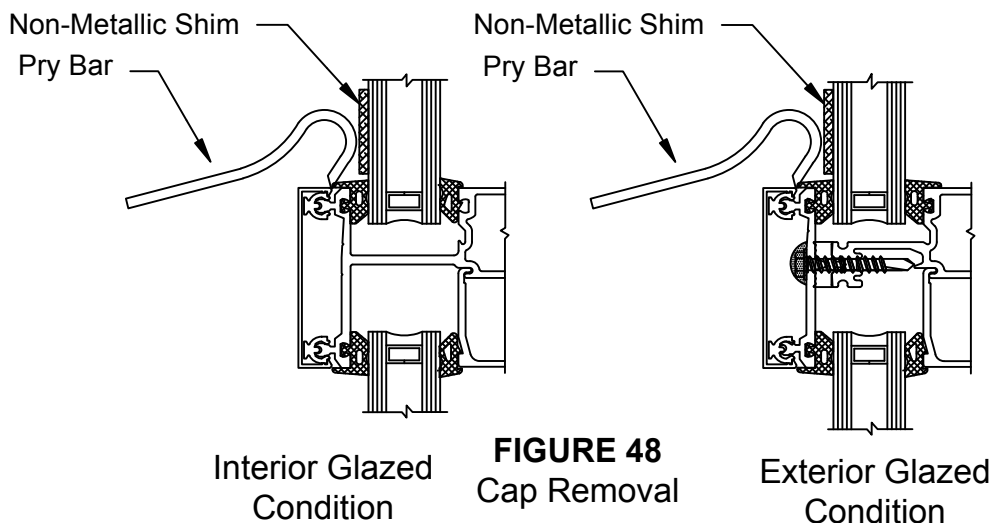
WHEN REGLAZING FROM THE INTERIOR. Remove interior wedge, remove old glass and clean glazing pocket of any debris or glass and reglaze per glazing instruction on pages 13 thru 16.

WHEN REGLAZING FROM THE EXTERIOR FOLLOW STEPS R.1 THRU R.5

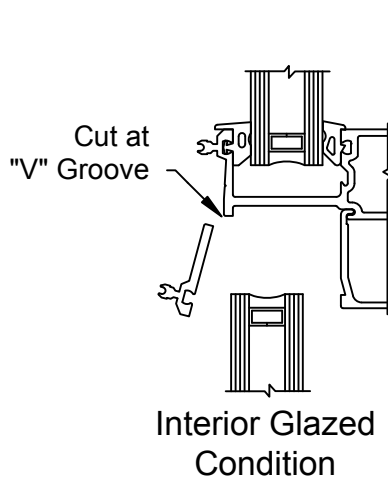
- R.1 Carefully remove horizontal face covers surrounding the lite of glass to be deglazed. SEE FIGURE 48
- R.2 Remove lower section of upper horizontal as shown in FIGURE 49, page 42.
- R.3 Remove lite of glass and existing interior gaskets from the opening. Clean debris and sealant from the framing members.
- R.4 Install GP-101 gaskets into framing. Set new lite of glass, centered in opening.
- R.5 Install IW-131 or IW-132 reglaze leg. Set in continuous bead of sealant and attach with FS-55 fastener @ 12" o.c., cap seal all fasteners. See FIGURE 50, page 42.

WHEN REGLAZING SSG FROM EXTERIOR FOLLOW STEPS R.6 THRU R.12

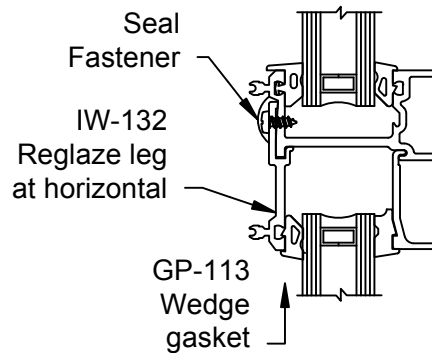
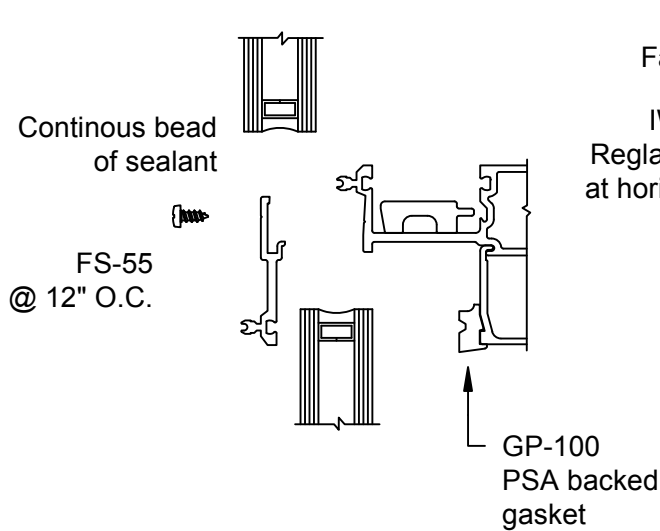
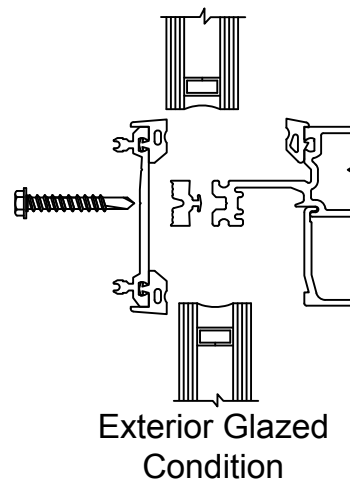
- R.6 Carefully remove horizontal face caps surrounding the lite of glass to be deglazed. SEE FIGURE 48.
- R.7 Remove pressure plate and isolator gasket from top of damaged lite at exterior glazed . AT interior glazed; remove lower section of upper horizontal. SEE FIGURE 49, page 42.
- R.8 Vertical structural silicone joints must be cut to remove broken lite of glass. SEE FIGURE 51,page 42.
- R.9 Remove lite of glass and existing interior gaskets from the opening. Clean debris and sealant from the framing members and horizontal pressure plates.
- R.10 Install GP-101 gaskets into framing. Set new lite of glass, centered in opening. SEE FIGURE 52, page 42.
- R.11 Re-install new GP-108 isolator gasket across face of horizontal and bridge. Seal per instructions page 28.
- R.12 Reattach pressure plate using FS-322 fasteners. Torque fastener to 60 in/lbs. Seal ends of pressure plates to vertical face or joints as shown on page 15. Reinstall face cap allowing equal gap at each end.



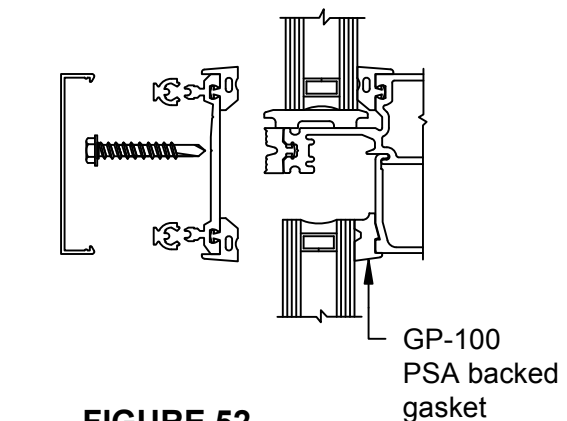
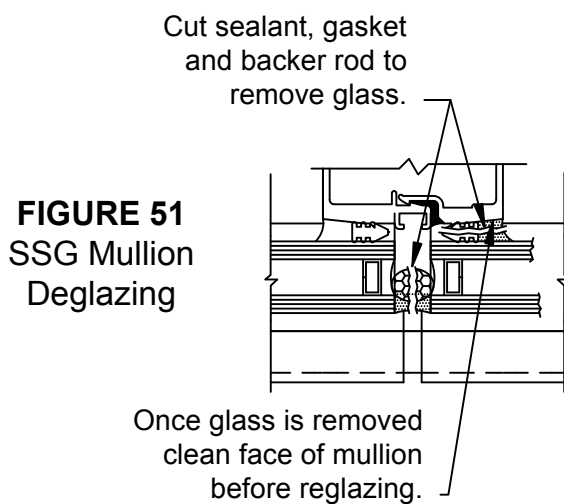
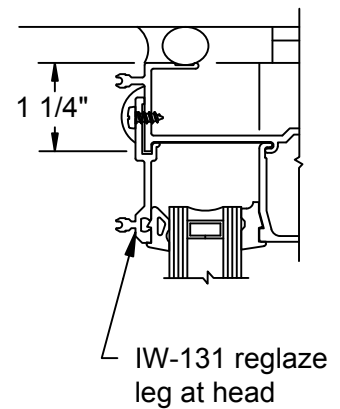
## REGLAZE PROCEDURES



**FIGURE 49**  
Deglazing



**FIGURE 50**  
Reglazing

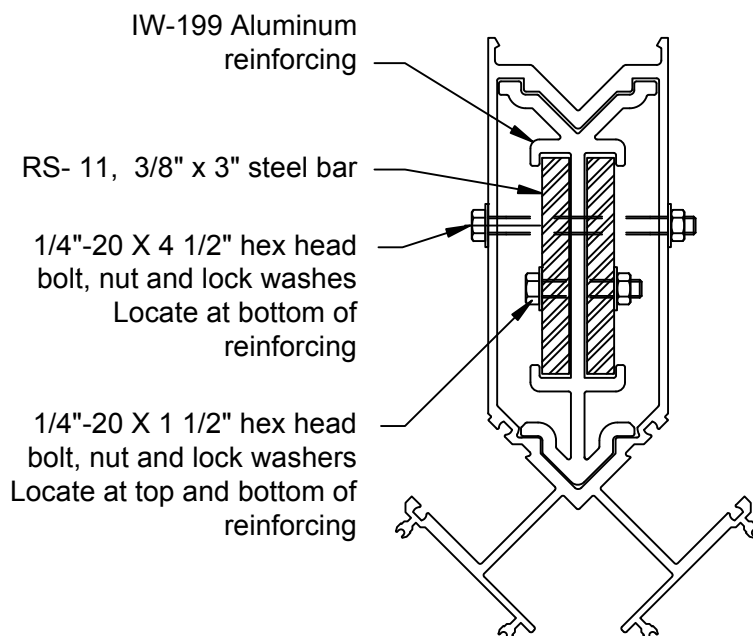
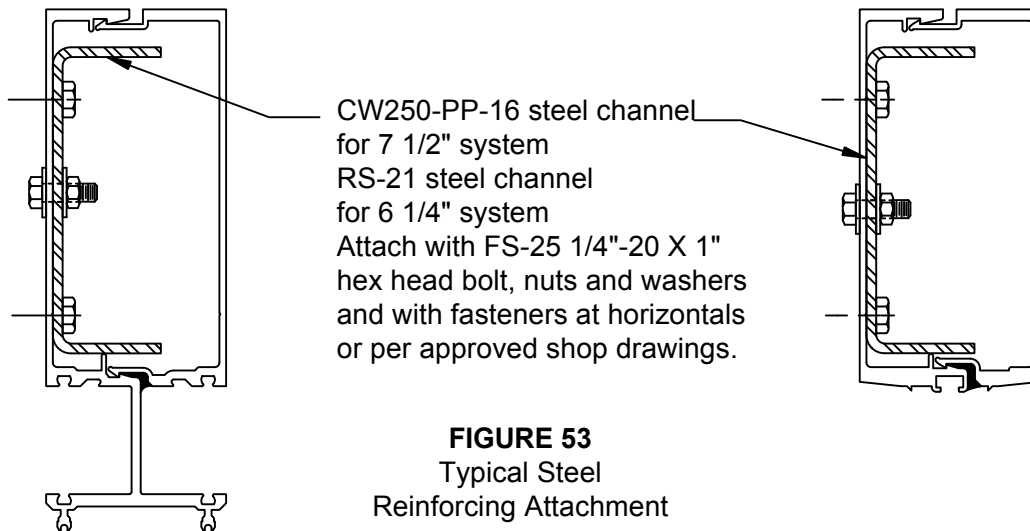


**FIGURE 52**  
Outside Glazed Horizontal Reglazing

## MULLION REINFORCEMENT & CORNER INSTALLATION

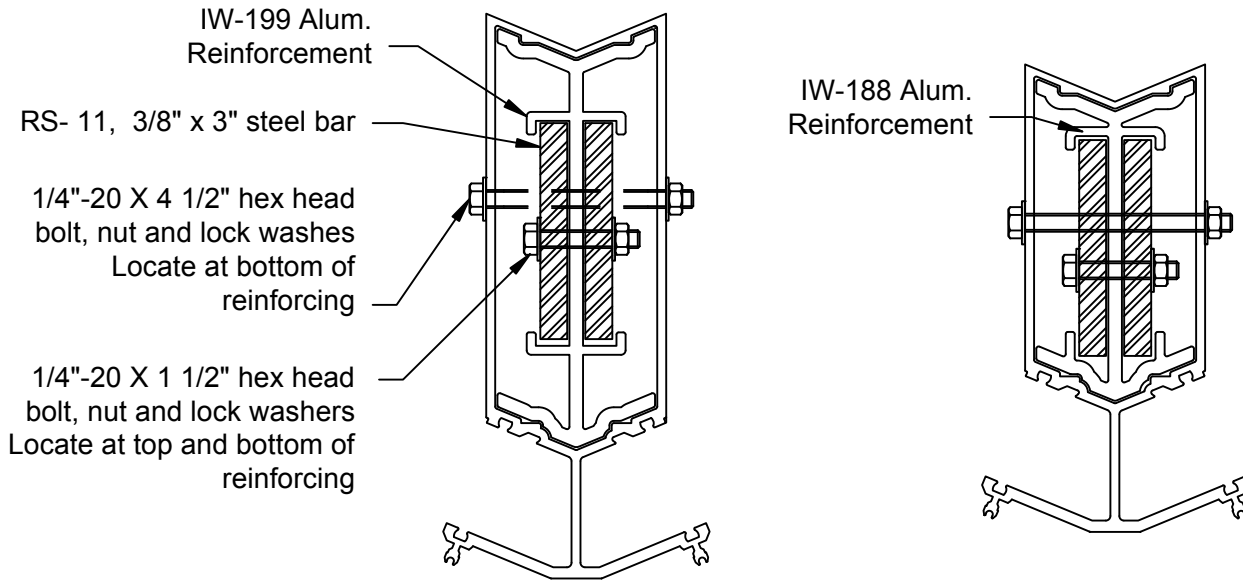
FIGURE 53 through FIGURE 55 show the typical attachment method for reinforcing in the vertical mullion. Refer to approved shop drawings for placement, size and quantity of reinforcing required.

Refer to wind load charts on [www.oldcastlebe.com](http://www.oldcastlebe.com) for single span and equal twin span conditions. (unbraced lengths less than 8.11 feet). For all other conditions such as unequal twin spans, knee brace and multi-span conditions, contact your local Oldcastle BuildingEnvelope facility for reinforcing requirements.



**Figure 54**  
Outside 90 Corner  
Mullion Reinforcing

## MULLION REINFORCEMENT & CORNER INSTALLATION



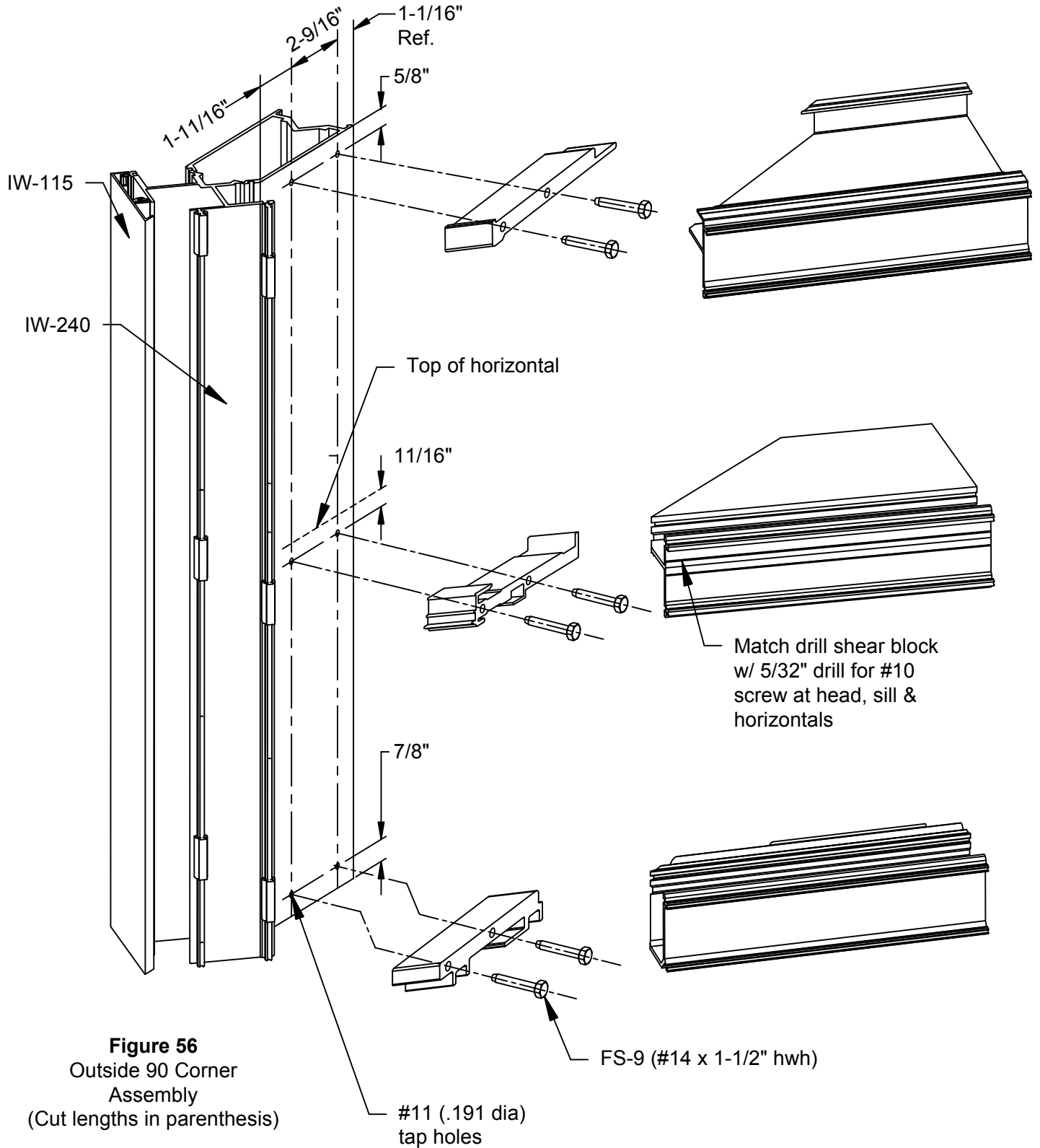
**Figure 55**  
Outside 135° Corner  
Mullion Reinforcing

## CORNER MULLIONS

FIGURE 56 through FIGURE 59 show the basic layout of the standard corner mullion assemblies. The outside corners will be an one-piece configuration, while inside corners will be two mullion corners utilizing corner closures to connect the opposing mullions. 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. When installing any of the outside corners it will be required to add an additional fillet bead of sealant at the interior of the vertical leg of the glazing pocket adjacent to the corner mullion. This sealant will assist in preventing any water infiltration since this leg is not attached to the corner mullion.

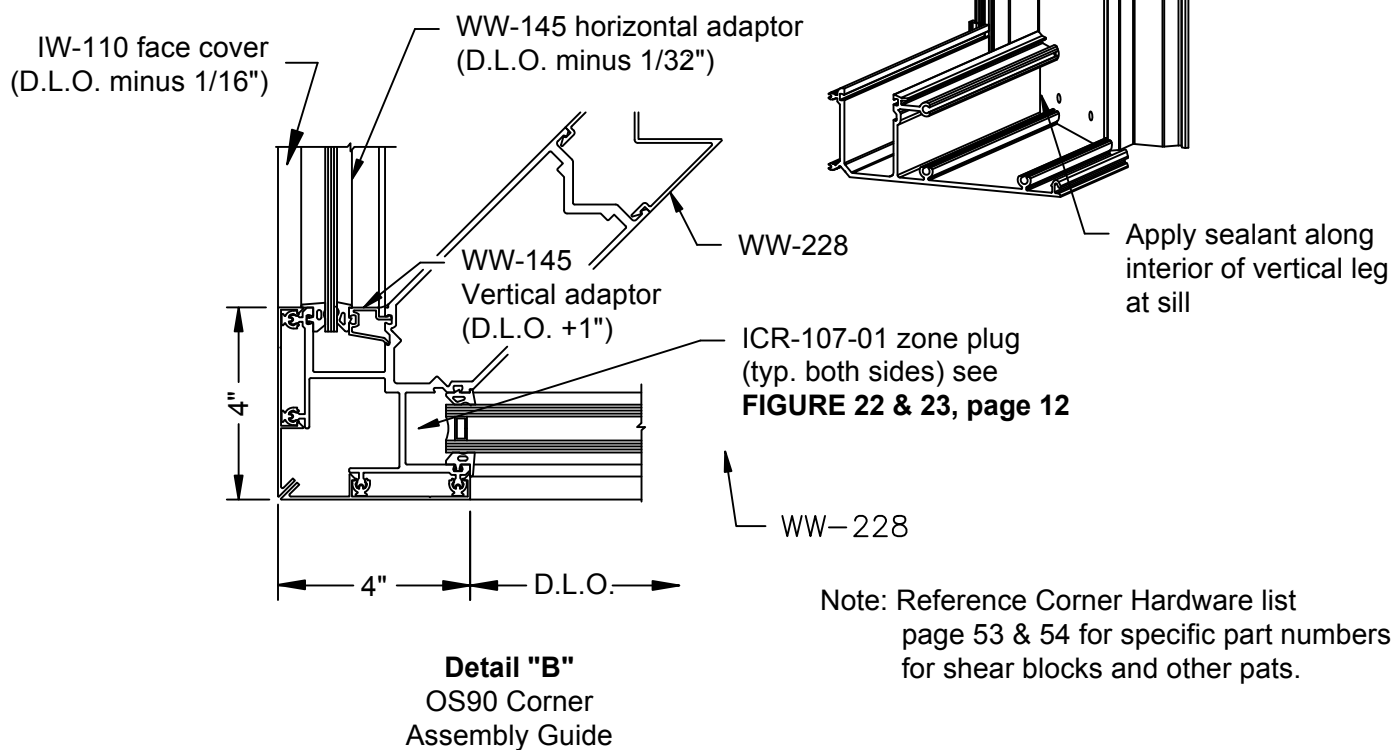
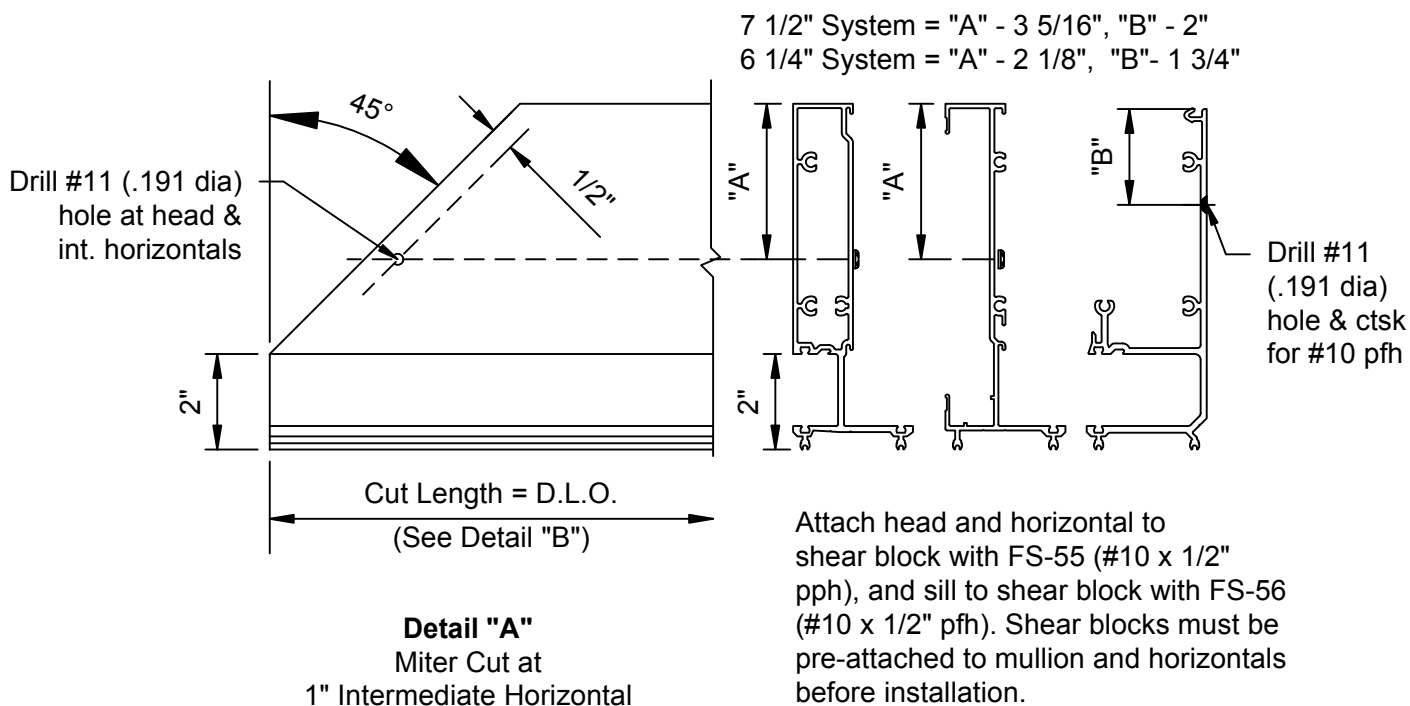
Using a one-piece corner mullion in the Reliance™-IG SS system requires the pre-assembly of corner sections. For the first bay on either side of the corner mullions, attach the standard screw spline horizontal members to a 90° corner mullion with the special shear blocks shown in FIGURE 56. Similar assembly is required at the one-piece 135° corners as noted in FIGURE 57. The other half of the horizontal members can be attached to the intermediate mullion halves using the screw splines.

## OUTSIDE 90 CORNER INSTALLATION

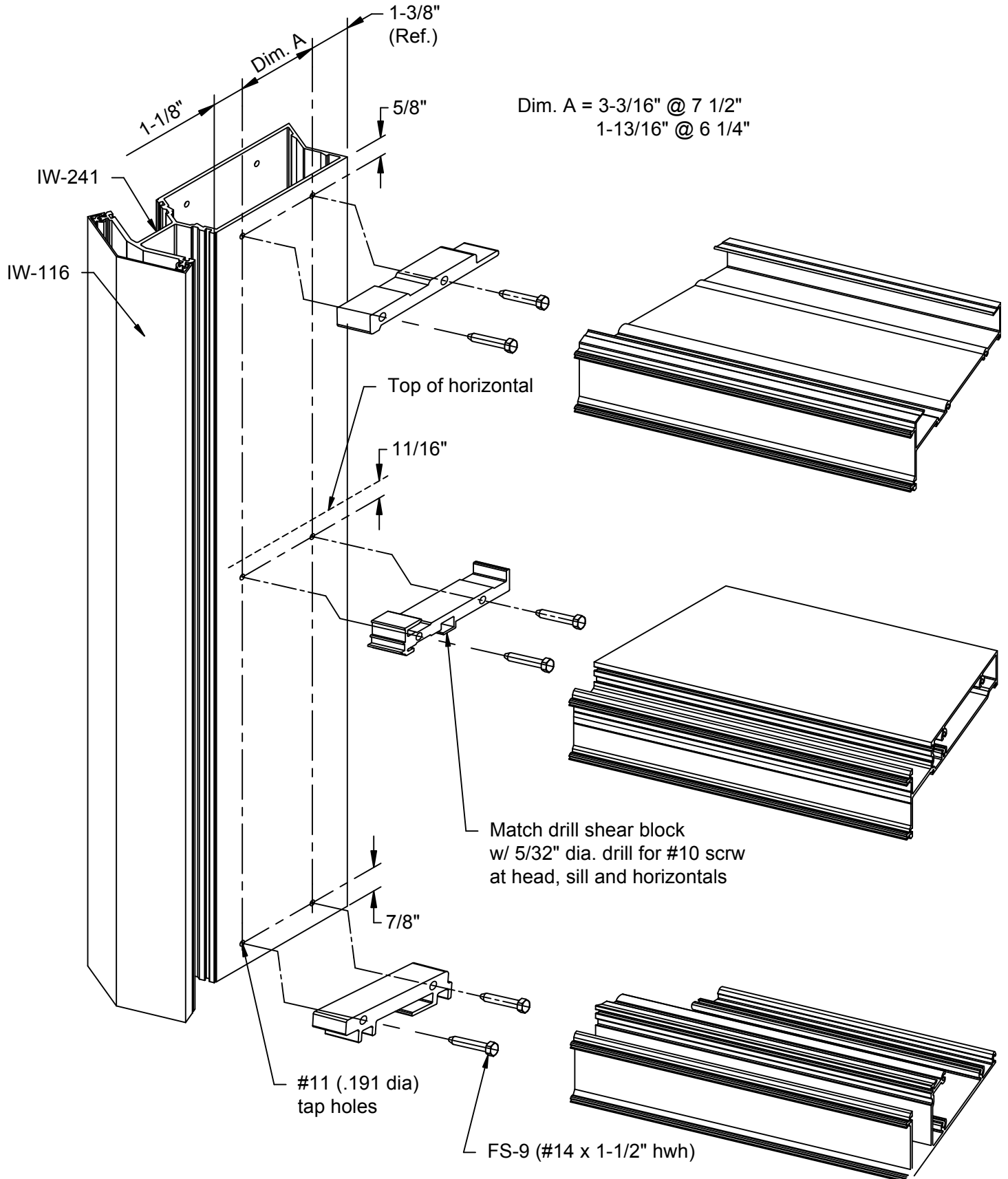




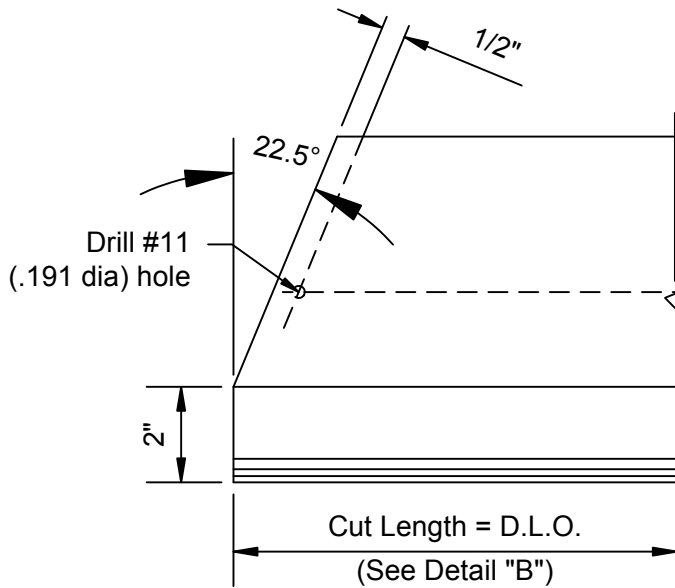
## OUTSIDE 90 CORNER INSTALLATION



## OUTSIDE 135 CORNER INSTALLATION

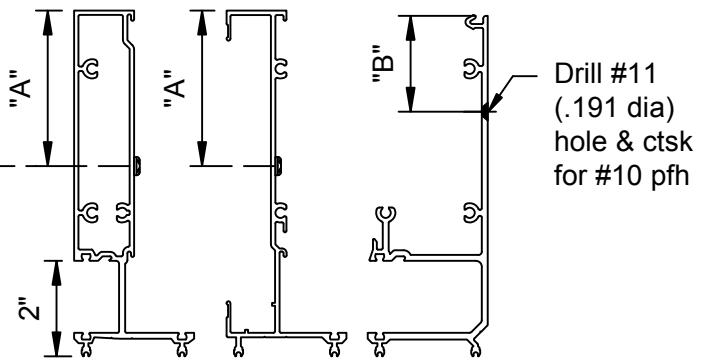


## OUTSIDE 135 CORNER INSTALLATION

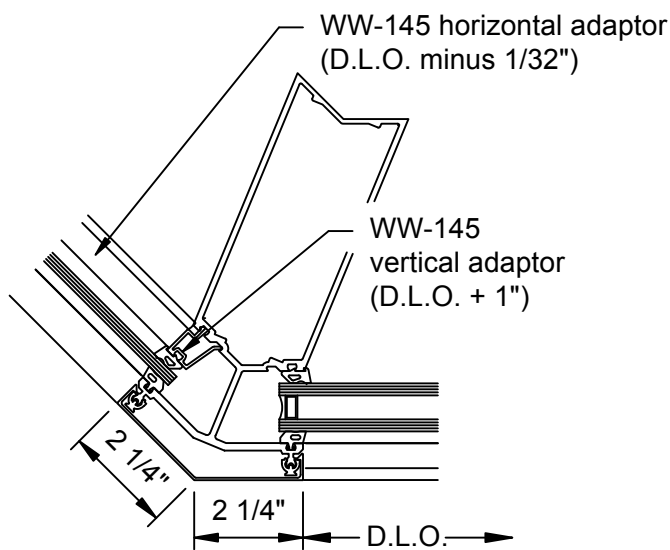


**Detail "A"**  
Miter Cut at  
1" Intermediate Horizontal

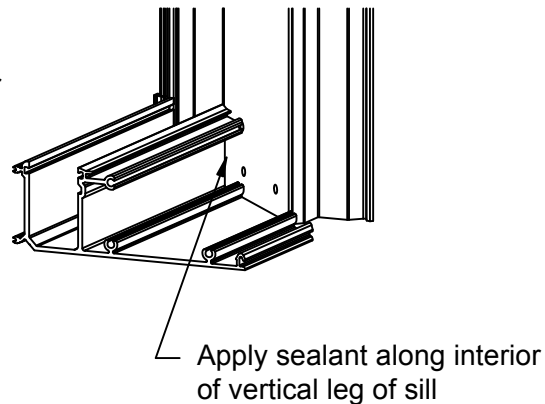
7 1/2" System = "A" - 3 5/16", "B" - 2"  
6 1/4" System = "A" - 2 1/8", "B" - 1 3/4"



Attach head and horizontal to shear block with FS-55 (#10 x 1/2" pph), and sill to shear block with FS-56 (#10 x 1/2" pph). Shear blocks must be pre-attached to mullion and horizontals before installation.

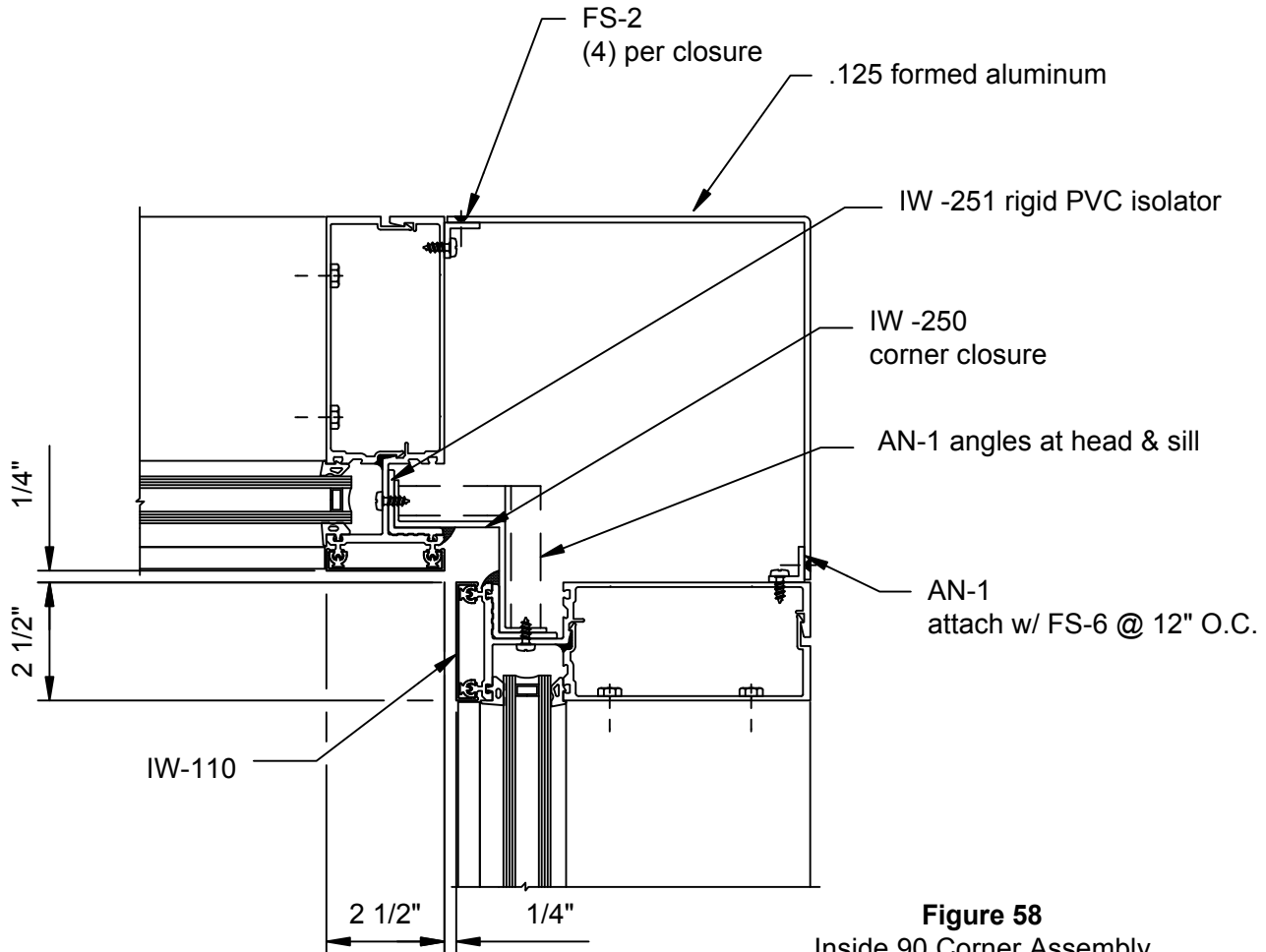


**Detail "B"**  
OS90 Corner  
Assembly Guide



Note: Reference Corner Hardware list page 53 & 54 for specific part numbers for shear blocks and other parts.

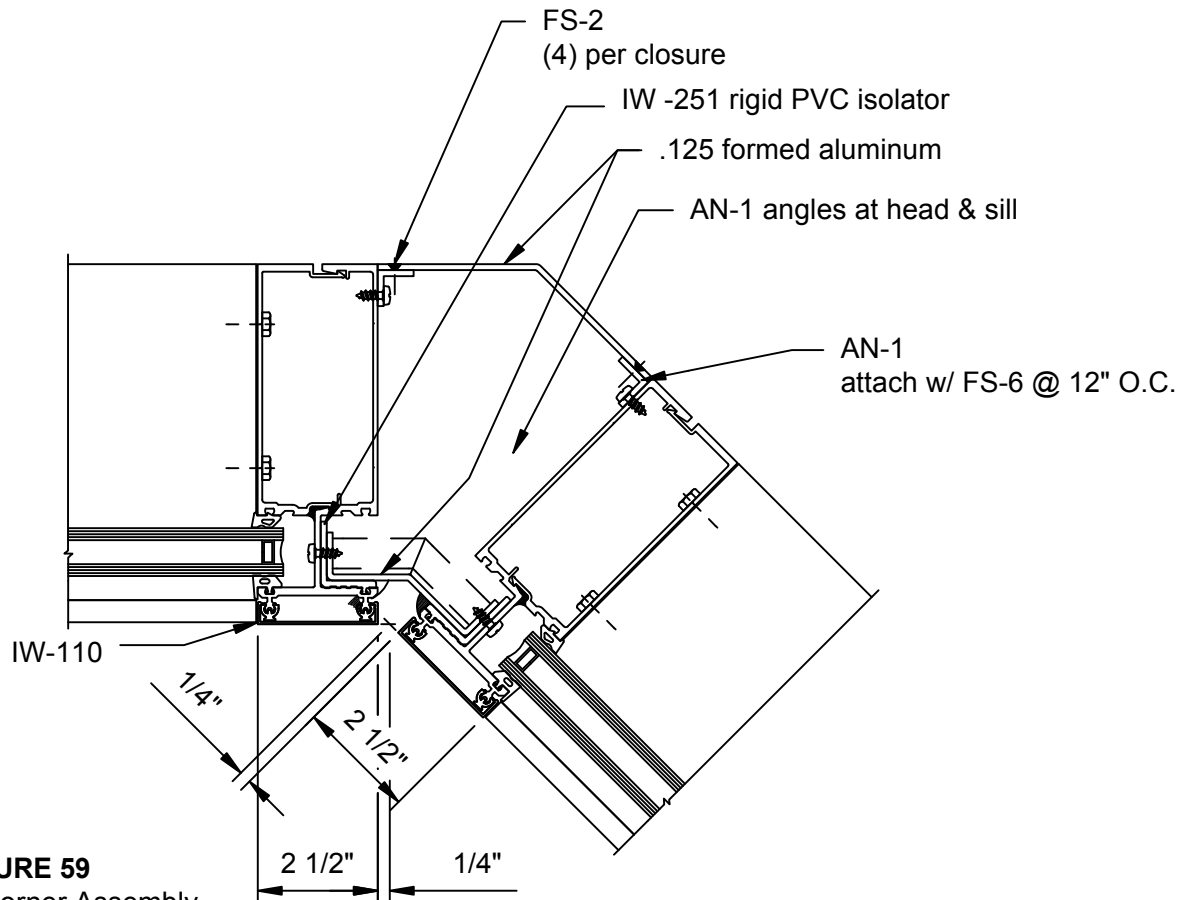
## INSIDE CORNER INSTALLATION



**Figure 58**  
Inside 90 Corner Assembly

- C.1 Inside 90 degree corners will utilize the IW-250 corner closure attached to vertical mullions using FS-55 #10 x 1/2" p.p.h. fasteners at 12" O.C. Closure will be isolated from mullion using the IW-251 rigid PVC isolator.
- C.2 Typical vertical mullions will be used on either side of corner assembly.
- C.3 Aluminum angles should be attached at head and sill of corner closure to provide proper backing for perimeter sealants.
- C.4 Corner closures, angles and all fasteners should be properly sealed to prevent water infiltration.
- C.5 Interior corner closure to be made from .125 formed aluminum when required and attached to mullions using continuous AN-1, 3/4" x 3/4" x 1/8" aluminum angle. Angles attached to mullions using FS-7 #10 x 3/4" p.p.h. fasteners at 18" O.C. and closure attached to angle with minimum of (2) FS-2 #8 x 1/2" p.f.h. per side.

## INSIDE CORNER INSTALLATION



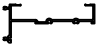










**FIGURE 59**

Inside 135 Corner Assembly

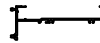
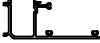

- C.6 Inside 135 degree or similar angled corners will utilize a .125 formed alum. corner closure attached to vertical mullions using FS-55 #10 x 1/2" p.p.h. fasteners at 12" O.C. Closure will be isolated from mullion using the IW-251 rigid PVC isolator.
- C.7 Typical vertical mullions will be used on either side of corner assembly.
- C.8 Aluminum angles should be attached at head and sill of corner closure to provide proper backing for perimeter sealants.
- C.9 Corner closures, angles and all fasteners should be properly sealed to prevent water infiltration
- C.10 Interior corner closure to be made from .125 formed aluminum when required and attached to mullions using continuous AN-1, 3/4" x 3/4"x1/8" aluminum angle. Angles attached to mullions using FS-7 #10 x 3/4" p.p.h. fasteners at 18" O.C. and closure attached to angle with minimum of (2) FS-2 #8 x 1/2" p.f.h. per side.

## PARTS LIST









### 4" BACKMEMBERS 6 1/4" SYSTEM DEPTH

	Head
IW-446	
	Sill
IW-447	
	Sill Cover
WW-448	
	Jamb
IW-443	
	Captured Vertical - Left
IW-440	
	Captured Vertical - Right
IW-441	
	SSG Vertical - Left
IW-444	
	SSG Vertical - Right
IW-445	
	Horizontal
IW-442	
	Outside/Inside Glazed Horizontal
IW-449	
	Outside Glazed Horizontal
WW-442	







### 5 1/4" BACKMEMBERS 7 1/2" SYSTEM DEPTH

	Head
IW-546	
	Sill
IW-547	
	Sill Cover
WW-548	












### 5 1/4" BACKMEMBERS - cont'd 7 1/2" SYSTEM DEPTH

	Jamb
IW-543	
	Captured Vertical - Left
IW-540	
	Captured Vertical - Right
IW-541	
	SSG Vertical - Left
IW-544	
	SSG Vertical - Right
IW-545	
	Horizontal
IW-542	
	Outside/Inside Glazed Horizontal
IW-549	
	Outside Glazed Horizontal
WW-542	




### COMMON EXTRUSIONS All System Depths and Infills

	Typical Face Cap
IW-110	
	Face Cap at Sunshades
ICW-111	
	Pressure Plate for Outside/Inside Glaze Horizontals
IW-161	
	Pressure Plate for Outside Glaze Horizontals
IW-162	
	Pocket Filler
WW-341	
	Pocket Filler (Lower pocket Horizontal)
CH-93	

### COMMON EXTRUSIONS All System Depths and Infills
















	Glazing Adaptor 1/4" Infill - Captured Verticals
WW-145	
	Glazing Adaptor 1/4" Infill - SSG Verticals
IW-131	
	1/4" Glazing Adaptor WW-542 & WW-442
WW-175	
	Reglaze Leg IW-546 & IW-446
IW-132	
	Reglaze Leg IW-542 & IW-442
IW-133	
	1" Glass Stop IW-542 & IW-549
WW-150	
	1/4" Glass Stop IW-542 & IW-549
WW-151	
	1" Glass Stop IW-442 & IW-449
WW-148	
	1/4" Glass Stop IW-442 & IW-449
WW-149	
	1/4" Spandrel Glass Stop
IW-151	
	1" Spandrel Glass Stop
IW-152	

### STANDARD ACCESSORIES All System Depths and Infills







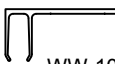








	Typical EPDM Dense Exterior & Interior Gasket 1/4" F.C.
GP-123	
	Wedge Gasket 1/4" F.C.
GP-113	
	Optional EPDM Gasket 3/16" F.C.
GP-127	

## PARTS LIST

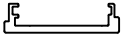

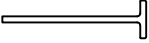

### STANDARD ACCESSORIES All System Depths and Infills

 GP-100	Reglaze Gasket 1/4" F.C.
 GP-101	1" Setting Block (2 Per Lite) Outside Glazed Horizontal
 GP-102	SSG Spacer Gasket Corner Mullions 1/4" F.C.
 GP-107	Thermal Isolator
 GP-109	1" Setting Block (2 Per Lite)
 GP-110	1/4" Setting Block (2 Per Lite)
 IW-121	Setting Chair for Sill
 HP-1004	Weep Baffle Sill Member
 IW-325	Captured & SSG Mullion Cap (Intermediates Only)
 IW-326	Captured & SSG Jamb Mullion Cap
 ICW-12	Isolator Clips @ 12" O.C,
 GP-141	Baffle Clips @ Weep Holes Horizontals
 ICR-107-01	Zone Plug Typical Mullion & 90° O.S. Captured
 WW-300	SSG Mull Bridge for Outside Glazed Horizontals
 IW-300-01	SSG Mull Bridge for Head











### STANDARD ACCESSORIES All System Depths and Infills

 IW-301-01	SSG Mull Bridge for Horizontal
 IW-302-01	SSG Mull Bridge for Sill
 WW-333-01	Temporary Glazing Retainer for Captured Mullions
 SPW-PP-3	Temporary Glazing Retainer for SSG Verticals
 WW-174-05	"T" Anchor for IW-540 & IW-544
 WW-174-06	"T" Anchor for IW-440 & IW-444
 WW-103-05	"F" Anchor for IW-543 Jamb Mullion
 WW-103-06	"F" Anchor for IW-443 Jamb Mullion
 IW-180-01	Vertical Mullion Splice for IW-440 & IW-444
 IW-181-01	Vertical Mullion Splice for IW-441 & IW-445
 IW-182-01	Jamb Mullion Splice for IW-443
 IW-183-01	Head Anchor Sleeve IW-440 & IW-444
 IW-190-01	Vertical Mullion Splice for IW-540 & IW-544
 IW-191-01	Vertical Mullion Splice for IW-541 & IW-545
 IW-192-01	Jamb Mullion Splice for IW-543

### STANDARD ACCESSORIES All System Depths and Infills


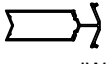
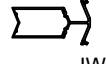





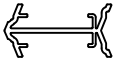
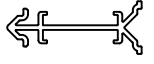
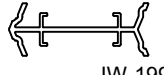


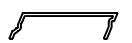
 IW-193-01	Head Anchor Sleeve IW-540 & IW-544
 IW-122-01	Sealant block for all typ. mullions
 IW-107-01	Standard SunShade Anchor
 ICW-FP-74	Isolator Clip Installation Tool

### STANDARD FASTENERS









 FS-8	#14 x 1" Phillips Hex Head Horizontals to Verticals & Splice Sleeves to Mullions
 FS-9	#14 x 1-1/2" Phillips Hex Head - Horizontals to Verticals at Head Anchors
 FS-55	#10 x 1/2" Phillips Round Head Attach Reglaze Legs
 FS-119	#10 x 1 3/8" Phillips Flat Head SSG Mullion Adaptor
 FS-320	#10 x 1/2" U-Drive Fastens Mull Caps
 FS-322	#12-14 x 1" Hex Washer Head Drillflex Fastens Pressure Plate to Mullion (WW-442 & WW-542) & Attach Splices
 FS-325	#12-14 x 1 1/2" Hex Washer Head Drillflex Fastens Pressure Plate to Mullion (WW-442 & WW-542)
 FS-325	1/4"-20 x 1" Hex Head Bolt for Steel Reinforcement Attachment
 FSN-37	1/4"-20 Hex Nut
 FSW-65	1/4" Lock Washer

## PARTS LIST













### CORNER MULLIONS & ACCESSORIES

 IW-240	90° Corner Mullion 7 1/2" & 6 1/4"
 IW-241	135° Corner Mullion 7 1/2"
 IW-243	135° Corner Mullion 6 1/4"
 IW-115	90° Outside Corner Face Cap 7 1/4" & 6" (2 Per Corner)
 IW-116	135° Outside Corner Face Cap 7 1/4" & 6" (2 Per Corner)
 WW-145	1/4" Adaptor 90° and 135° corners 7 1/4" & 6"
 WW-227	O.S. 90° Corner Mullion Snap-In Back Trim 6 1/4"
 WW-228	O.S. 90° Corner Mullion Snap-In Back Trim 7 1/2"
 IW-189	Outside 135 6 1/4" Corner Mull Reinforcement
 IW-198	Outside 90 Corner Mull Reinforcement
 IW-199	Outside 135 7 1/2" Corner Mull Reinforcement
 IW-194-01	Splice Sleeve for WW-240
 IW-195-01	Splice Sleeve for WW-241
 IW-185-01	Splice Sleeve for WW-243

### CORNER MULLIONS & ACCESSORIES - cont'd

 WW-105-03	"T" Anchor for IW-240
 WW-105-04	"T" Anchor for IW-241
 WW-105-05	"T" Anchor for IW-243
 IW-320	90° Outside Mullion Cap
 IW-321	135° Outside Mullion Cap
 IW-322	Zone Plug 135° Captured O.S.
 IW-250	IS90 Corner Closure
 IW-251	Inside Corner Closure Isolator













### CORNER MULLIONS & ACCESSORIES - cont'd

 IW-242-01	OS90° Right Hand Shear Block for IW-542
 IW-242-02	OS90° Left Hand Shear Block for IW-542
 IW-244-01	OS90° Right Hand Shear Block for IW-442
 IW-244-02	OS90° Left Hand Shear Block for IW-442
 IW-245-01	OS90° Right Hand Shear Block for IW-546 & IW-550
 IW-245-02	OS90° Left Hand Shear Block for IW-546 & IW-550
 IW-246-01	OS90° Right Hand Shear Block for IW-446 & IW-450
 IW-246-02	OS90° Left Hand Shear Block for IW-446 & IW-450
 IW-247-01	OS90° Right Hand Shear Block for IW-547
 IW-247-02	OS90° Left Hand Shear Block for IW-547
 IW-248-01	OS90° Right Hand Shear Block for IW-448
 IW-248-02	OS90° Left Hand Shear Block for IW-448








## Parts List

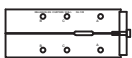
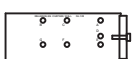
### CORNER MULLIONS & ACCESSORIES - cont'd

 IW-242-03	OS135° Right Hand Shear Block for IW-542
 IW-242-04	OS135° Left Hand Shear Block for IW-542
 IW-244-03	OS135° Right Hand Shear Block for IW-442
 IW-244-04	OS135° Left Hand Shear Block for IW-442
 IW-245-03	OS135° Right Hand Shear Block for IW-546 & IW-550
 IW-245-04	OS135° Left Hand Shear Block for IW-546 & IW-550
 IW-246-03	OS135° Right Hand Shear Block for IW-446 & IW-450
 IW-246-04	OS135° Left Hand Shear Block for IW-446 & IW-450
 IW-247-03	OS135° Right Hand Shear Block for IW-547
 IW-247-04	OS135° Left Hand Shear Block for IW-547
 IW-248-03	OS135° Right Hand Shear Block for IW-448
 IW-248-04	OS135° Left Hand Shear Block for IW-448




### DOOR EXTRUSIONS

 D-186	Door Subframe (3/4" Sightline)
 F-16	Door Header OHCC (2" Sightline)
 DS-1	Flush Door Frame & Optional D-186 Door Stop (Use with SC-1 Clip)
 SC-1	Spring Clip for DS-1 Door Stop
 FS-15	$\frac{3}{16}$ " x $\frac{7}{16}$ " Drive Rivet Fastens SC-1 Clip

### DRILL FIXTURES

 DJ-105	Drill Jig for WW-542 horizontal prep for mullions
 DJ-108	Typical Drill Jig for Mullions (Non Corners)

### STEEL REINFORCEMENT

 CW250-PP-16	Steel Channel for IW-540 & IW-544, (20'-1")
 RS-21	Steel Channel for IW-440 & IW-444, (20'-1")
 RS-11	3/8" X 3" Steel Bar for Corner Reinforcement (20'-1")



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