Oldcastle BuildingEnvelope®

SOLAR ECLIPSE™
Sun Control System

INSTALLATION MANUAL

NOTE

THE INSTALLATION DETAILS FOUND IN THIS PACKAGE ARE GENERIC AND ARE FOR REPRESENTATION ONLY WITH THE INTENT OF GIVING THE INSTALLATION TEAM A VISUAL REPRESENTATION AS TO HOW THE ASSEMBLIES TYPICALLY INSTALL. THE SHOP SUBMISSION DRAWINGS AND DETAILS ARE THE GOVERNING DOCUMENTS AND AS SUCH THIS PACKAGE IS TO BE USED ONLY AS A RESOURCE.

FOLLOW SEALANT MANUFACTURERS' RECOMMENDATIONS FOR USE AND APPLICATION OF ALL STRUCTURAL SILICONE SEALANT AND WEATHER SEAL SILICONE SEALANT.

CUSTOMER / PROJECT QUALITY ASSURANCE PROCEDURES ARE SEPARATE DOCUMENTS AND ARE TO BE FOLLOWED IN CONJUNCTION WITH THIS MANUAL.

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Web Address: www.oldcastlebe.com

SOLAR ECLIPSE™ INSTALLATION MANUAL

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PRODUCT USE

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

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

The fabrication and installation of a structural silicone-glazed (SSG) or wet glazed system requires more technical knowledge and experience than is required for a conventional pressure-glazed or dry glazed system. The glazing contractor should take all steps as outlined and required by the structural silicone sealant manufacturer, glass fabricator, framing manufacturer, and the project professional engineer of record as well as follow local building code requirements and industry best practices to ensure the proper installation and safe performance of the SSG system.

The glazing contractor for each project needs to ensure compliance with each step, including, but not limited to, design reviews, formal adhesion testing, formal compatibility testing, project specification compliance, validating procedures, field testing, and quality control validation of installed product and surrounding conditions.

Testing of component materials for use in a SSG or wet glazed system is mandatory to fulfill project specifications and warranty requirements and must be submitted by the glazing contractor to the structural silicone manufacturer. All materials that comprise the structural silicone joint, such as the framing system (with the job-specific finish) and job-specific glass must be tested by the structural silicone manufacturer for compatibility and adhesion. All other accessory materials in contact with the structural silicone, such as setting blocks, spacers, gaskets, sweeps, air seals and expansion joints, must also be submitted to the silicone sealant manufacturer for compatibility testing.

To ensure that nothing has changed in formulation or chemistry since the initial tests, subsequent testing during periodic time frames of the project is to be conducted to confirm continued acceptance of the material for use on the project.

To ensure the structural performance and integrity of the insulating glass unit (IGU), the glazing contractor must submit the project shop drawings to the glass fabricator to obtain approval for use of their product(s) in any 2, 3 or 4-sided SSG applications.

Quality control procedures for field glazing are to be increased beyond those required for shop glazing. Job conditions will normally have dust, dirt, and other construction debris on the surfaces where structural silicone is to be applied. Great care should be exercised in cleaning and preparing these surfaces for silicone application. The recommendations of the silicone sealant manufacturer are to be strictly enforced and followed. The fabrication and installation of the SSG system and its components, whether shop or field glazed, should be governed by a quality control program, and all steps, procedures, and test reports should be documented throughout the project.

Prior to installation of any SSG system, refer to industry documents (e.g., AAMA Curtain Wall Design Guide Manual, ASTM C1401-14, and AAMA SSGDG-17) for detailed instructions and recommendations.

THE GLAZING CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR ENSURING COMPLIANCE WITH THE ABOVE AND ASSUMES FULL LIABILITY FOR ANY ISSUES ARISING FROM NONCOMPLIANCE.

GLAZING PRACTICES

The air and water performance of the **SOLAR ECLIPSE™** sun control system is directly related to the completeness and integrity of the installation process, including but not limited to the assembly seals of the framing joinery, the installed glazing gaskets, and the alignment of the framing joinery glazing plane. Before glazing, verify the glazing pocket width and glazing infill thickness, as both must be in tolerance to assure adequate edge pressure and to achieve the desired air and water performance levels. (In general, framing systems utilizing 1" insulating glass are designed to accommodate a thickness variance of +/- 1/32"). Note: Excessive pressure can cause glass breakage and/or IGU failure. Consult the glass manufacturer for their recommended edge pressure per lineal inch. To achieve the designed and tested air and water performance, best practices include:

1. Surfaces to be sealed should be cleaned with isopropyl alcohol or solvent and dried as recommended by sealant manufacturer to remove all dirt and cutting oils. Sealant at shear blocks should be a minimum 3/16" diameter nominal placed completely around the top, face and bottom of the shear block without gaps in the sealant. Exposed surfaces should be cleaned after installing the horizontal. Inspect joint for complete sealant contact, especially where the horizontal meets the face of the vertical member. Repair joint as required.
2. Glazing gaskets should be cut ¼" longer per foot, and lay flat, preferably for 24 hours.
3. Gaskets should be cut as single monolithic pieces and "crowded" during their installation to avoid corner gaps caused by post-installation relaxation.
4. The interior glazing gasket should be installed so as to avoid stretching, buckles, or tears.
5. Corners must be cut square, and at a slight angle when required to conform to the bevel on the intersecting gasket; sealed and butted together.
6. Gasket corner joinery must also be crowed, and sealant applied onto the gasket contact frame surface and into gasket reglet raceway where applicable.
7. Gasket corner seals are to be done just prior to installing glass, while the sealant is still wet and uncured, and ensure exterior gaskets are installed so as to place the glass into it's final in-service condition and allow the sealant to conform to optimum configuration. Note: If the sealant cures prior to glazing, the cured sealant could create excessive edge pressure onto the glass and has the potential to cause glass breakage.
8. The glass must be checked for squareness, size dimension, and thickness along the edges paying attention to any variances from center edge to corner edge.
9. Check the placement of the installed glass and verify there is proper edge bite into the pocket, and proper edge clearance from framing elements.
10. After sealant has set and a representative amount of the wall has been installed and glazed (250 square feet or more) run a water hose test in accordance with AAMA 501.2 specifications to check installation. On large projects the hose test should be repeated during the glazing operation. Consult and follow NGA's GANA Manual and FGMA Glazing Manual for proper glazing technique and procedure.

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

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

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

PROTECTION AND STORAGE

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

BUILDING CODES

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.

CHECK MATERIAL

Check glass dimensions for overall size as well as thickness. Oldcastle BuildingEnvelope cannot be held responsible for gaskets that are not watertight due to extreme glass tolerances. Check all material upon arrival at job site for quality and to determine any shipping damage.

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

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

FIELD CONDITIONS

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

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.

1.1 Fabrication

1) Locate the centerline of each sunshade anchor. A 1/4" wide x 6-1/2" long cutout must be milled into face of mullion tongue as shown in upper detail of FIGURE 1. The standard sunshade anchor (WW-107-01) for Reliance Curtain Wall will require (4) four 7/16" clear holes for attachment. See FIGURE 1 for hole locations. (Size, locations and quantity of bolts may vary based on project requirements, consult engineer for specific applications.)
2) Face caps must be notched to clear anchor. Face caps are cut at centerline of sunshade, notched on ends. Notch per FIGURE 2.

FIGURE 1

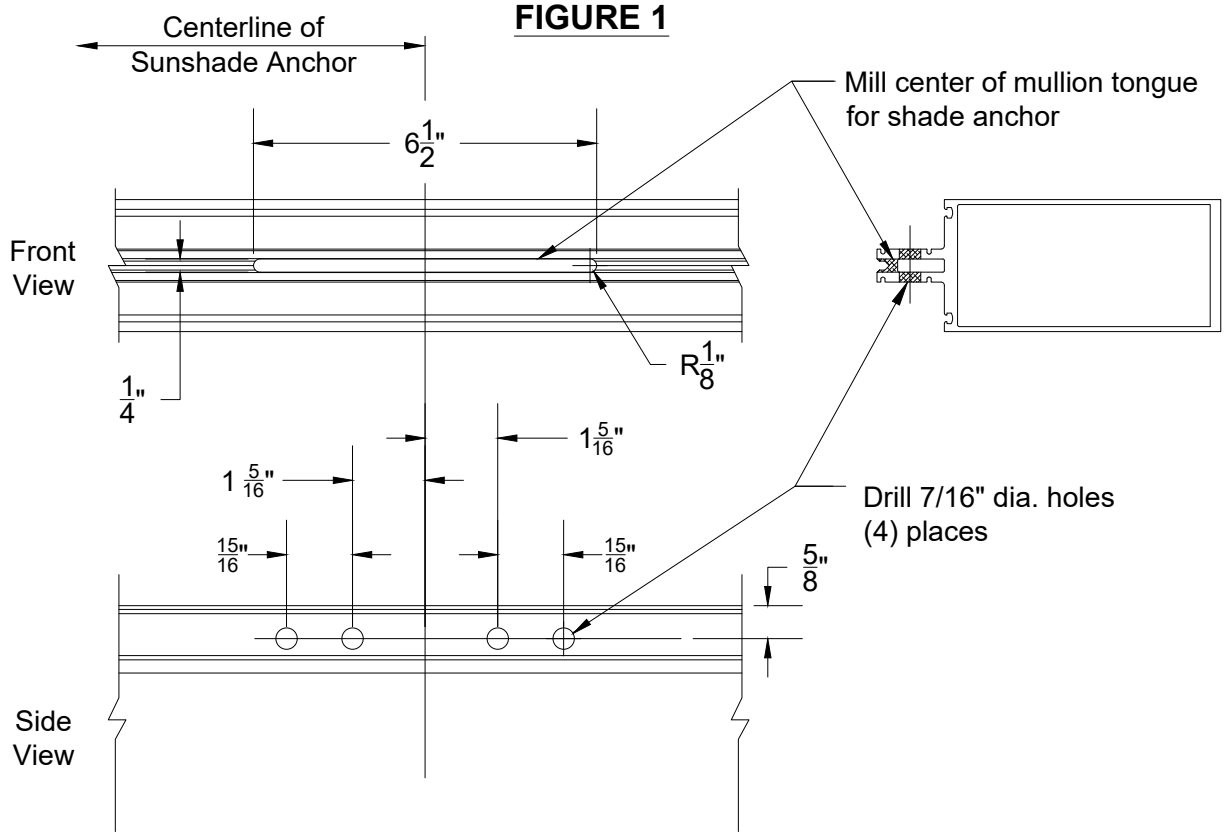
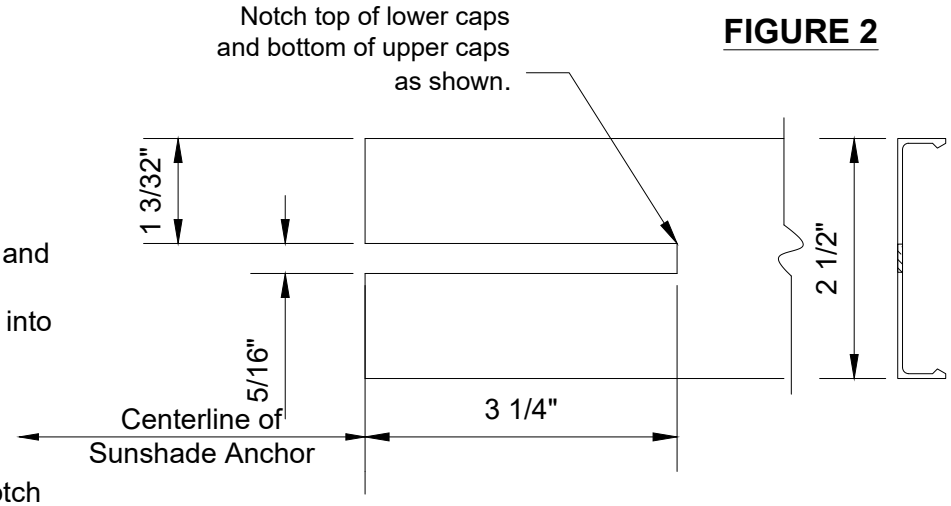


FIGURE 2



Installation Notes:
1) Face cap will be notched above and below anchor. See FIGURE 2.
2) Slide cap over anchor and snap into position.
3) Butt splice cap at centerline of anchor.

Note: WW-110 face cap shown, notch similar for custom applications.

1.2 Assembly

3) Hardware required for attachment of standard anchor (WW-107-01) will be contained in the hardware package, (part. no. 12854). This package contains (1) one WW-162-02 cover plate, (4) four 3/8"- 16 x 7/8" stainless steel button socket head bolts, nuts and washers and (4) four 3/8"-16 x1-1/4" stainless steel hex head bolts, nuts and washers. (Size and quantity of bolts may vary based on project requirements, consult engineer for specific job applications).

4) Attach anchor to mullion by first inserting anchor into cutout in face of mullion tongue. Attach anchor using the 3/8"-16 x 7/8" S.S. button socket head bolts, washers and securing using the 3/8"-16 S.S. jamb nuts. Repeat for each of the 4 bolts. See FIGURE 3 (Size and quantity of bolts may vary based on project requirements, consult engineer for specific job applications).

5) Once system is glazed. Install section of GP-103 gasket onto WW-162-02 cover plate and install plate over anchor attaching to mullion using (2) two FS-325 (#12-14 x 1-1/2" HWH Drill-Flex fasteners).

NOTE: Due to reduced clearance for attachment of anchors, special care must be taken when installing glass.

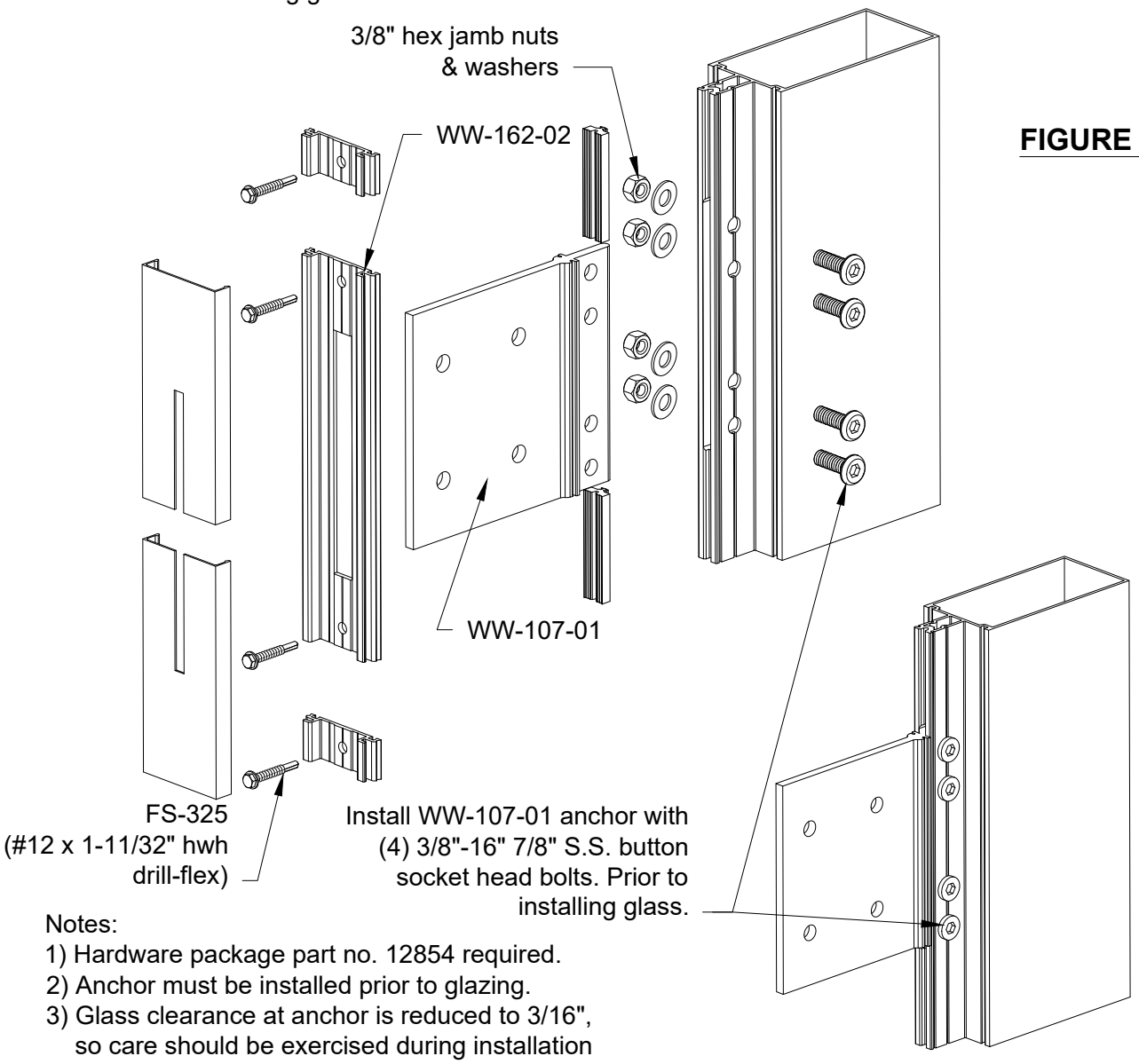


FIGURE 3

Notes:

1) Hardware package part no. 12854 required.
2) Anchor must be installed prior to glazing.
3) Glass clearance at anchor is reduced to 3/16", so care should be exercised during installation of glass.

1.3 Glazing

6) Clean all surfaces to be sealed using isopropyl alcohol. Then seal cover plate to anchor to prevent any water infiltration. See FIGURE 4.
7) Pressure plates should be located above and below the cover plate allowing 1/8" joint. This joint should be cleaned and sealed. See FIGURE 4.

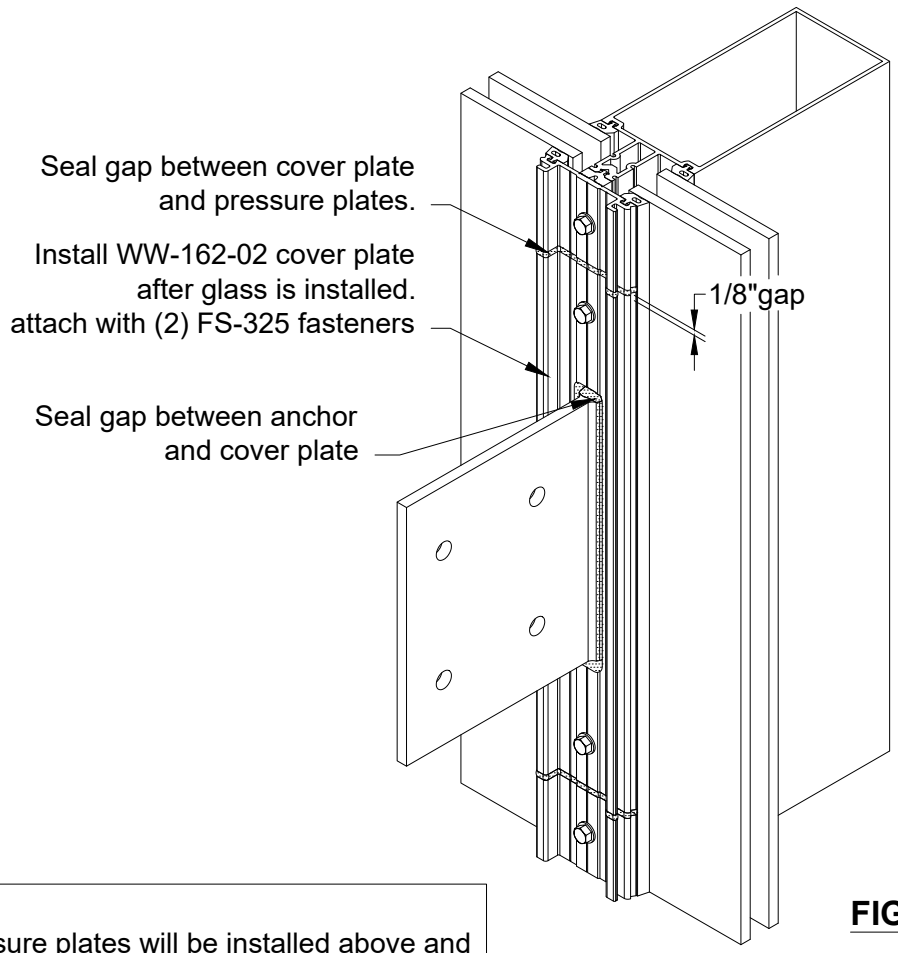


FIGURE 4

NOTE:
1) Typical pressure plates will be installed above and below cover plate.
2) See FIGURE 2 for face cap fabrication.

2.1 Fabrication

1) Fabrication for typical WW-285-01 SSG sunshade anchor shown below. The length and number of fasteners may vary based on project conditions. All sunshade anchors must be reviewed by an Engineer to determine proper size and attachment. See **FIGURE 5**.
2) FIGURE 6 shows the fabrication of the WW-286 SSG glazing adaptor and optional captured glazing adaptors; WW-287 and WW-289. Cut length of WW-286 adaptors will be cut to leave 1/8" joint above and below sunshade anchor. See **FIGURE 5**. WW-287 and WW-289 adaptor will run between SSG bridges.

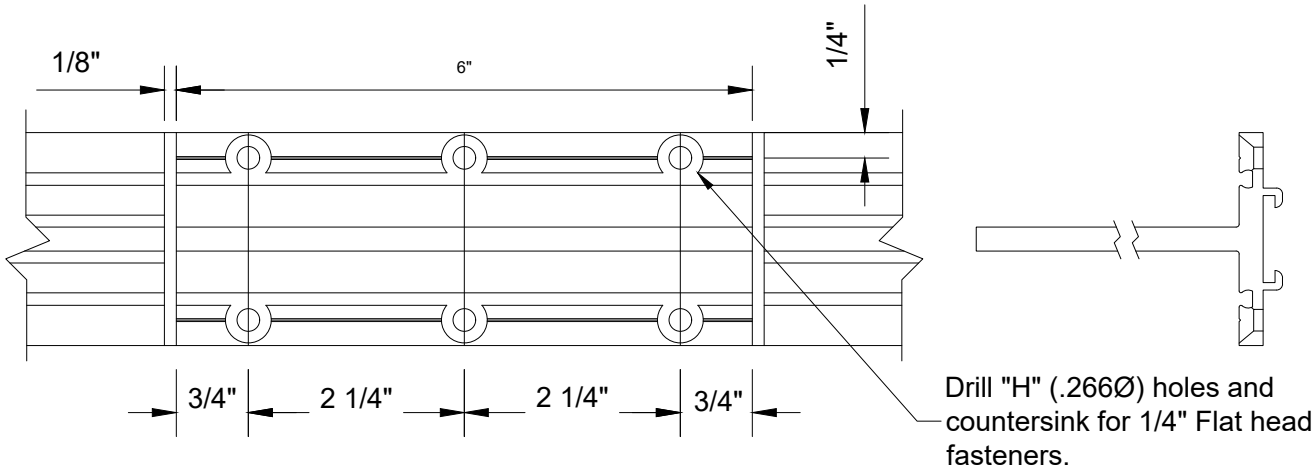
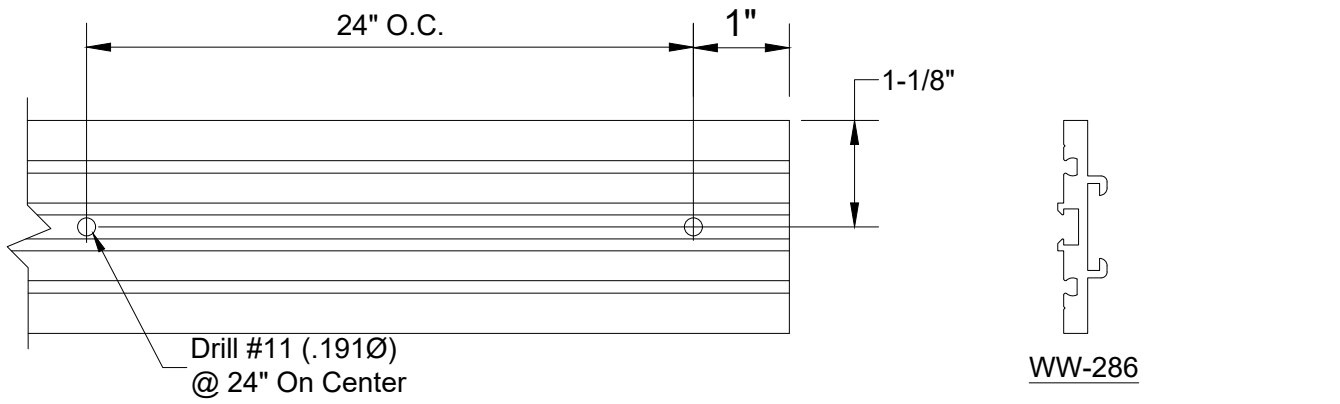


FIGURE 5



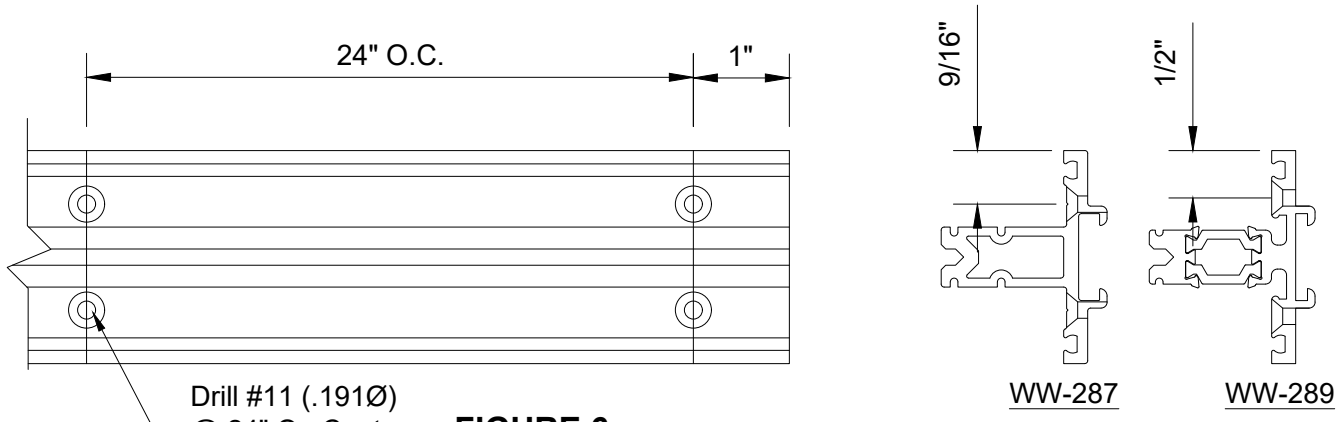


FIGURE 6

2.2 Assembly

3) Reliance-SSG will use the WW-563 (7-1/4") mullion for sunshade applications. Note that it is recommended to build the mullion assemblies in the shop by sliding each glazing adaptor and sunshade anchor into place, attaching and sealing.

4) After the WW-285 anchor is in its proper location, match drill mullion for anchor using a #11 (.191Ø) drill. Inject sealant into holes prior to installing fasteners. Attach with (6) FS-260 (1/4"-20 x 1" Flat Head Type F) fasteners. Cap seal all fasteners. See FIGURE 7 & 8.
(Length of anchor and number of fasteners may vary based on Engineer's review.)

5) The WW-286 SSG glazing adaptor will run continuous except where it crosses the sunshade anchor. Slide the WW-286 onto the mullion between the sunshade anchors. Cut the WW-286 so there is a 1/8" joint above and below sunshade anchors. Attach with FS-7 (#10 x 3/4" flat head) at 1" from each end and 24"on center or based on Engineer's review. Match drill mullion using #25 (.149"Ø) drill bit. Fill holes with sealant and install fasteners. Once fastener is installed cap seal. See FIGURE 8

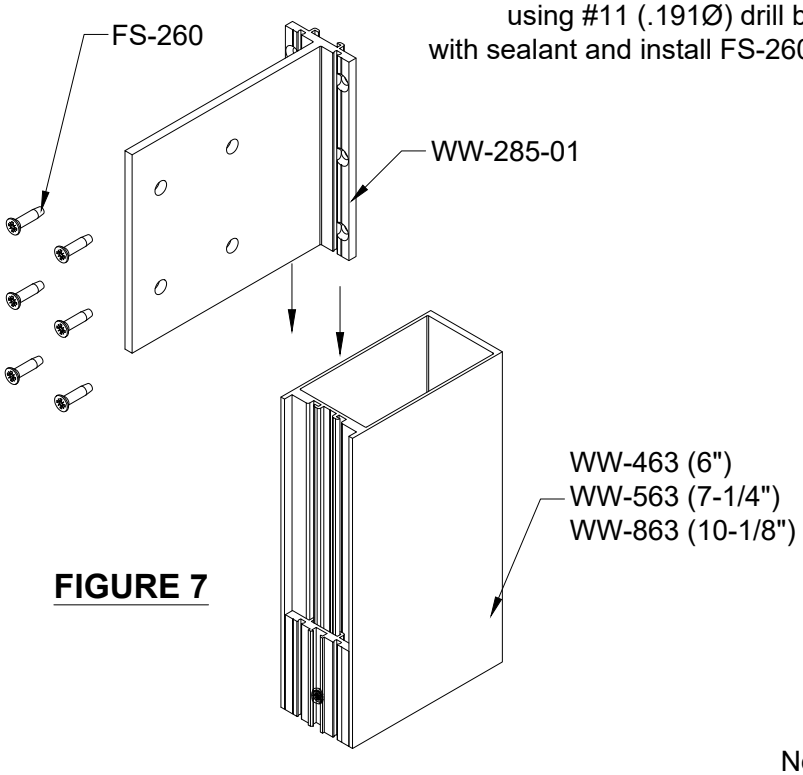


FIGURE 7

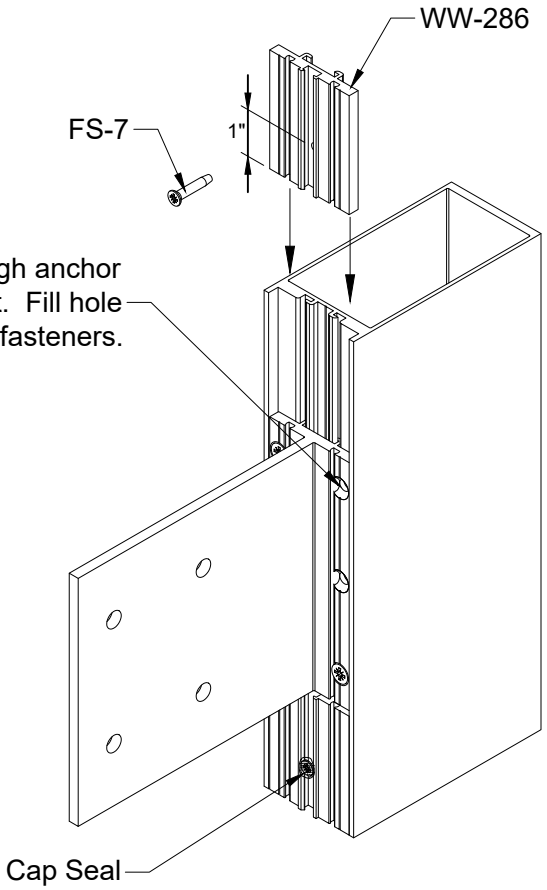


FIGURE 8

Notes:
1) Hardware Package # 36526 required
2) Anchor and glazing adaptors to be installed prior to installation of system.

2.3 Captured Adaptor Anchor Installation

6) Optional captured adaptors are also available. WW-287 will be the standard captured glazing adaptor and WW-289 may be used for thermal composite applications. Attach captured adaptors using the FS-7 fasteners at each side of adaptor at 24" on center and 1" from each end. See FIGURE 9 & 10. Figures below show installation of a captured glazing adaptor above and below a sunshade anchor. An 1/8" joint should be held above and below anchor. Slide adaptors onto mullion as required for project starting at bottom of mullion and working to top. Attach anchor as shown on page 8, FIGURE 7 & 8.

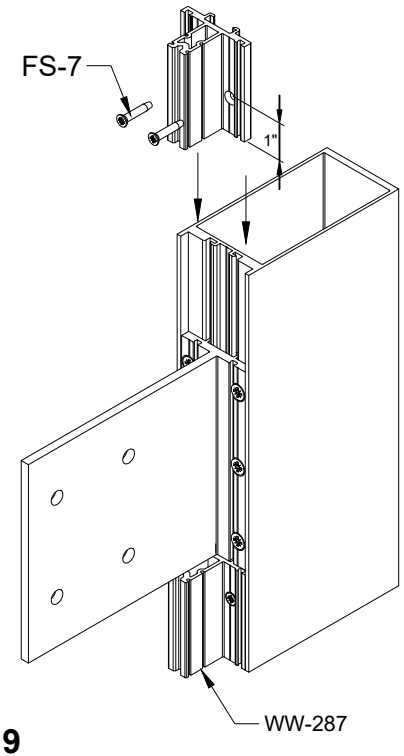


FIGURE 9

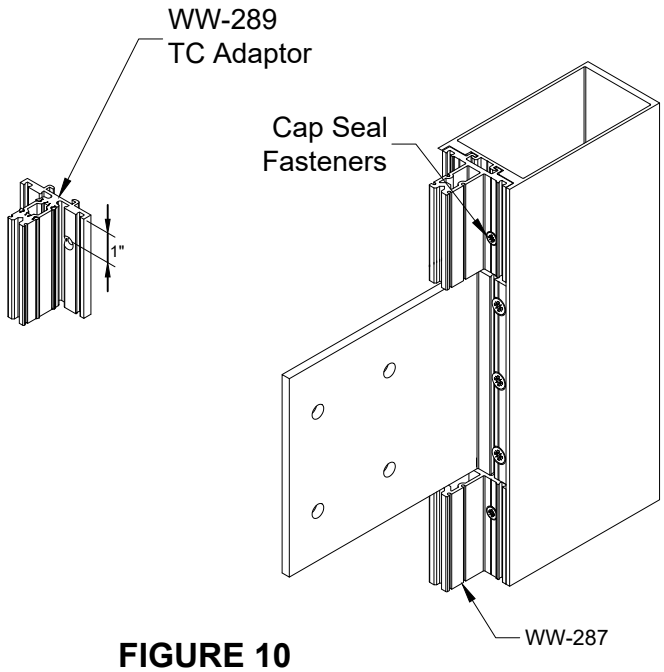


FIGURE 10

2.4 SSG to Captured Transition

7) The WW-563 mullion can be used for installation of captured to SSG transitions. Installation of typical SSG adaptors would apply where applicable as shown in previous pages. Transitions to captured are shown in figures below. Captured adaptor will be cut to run day light opening plus 5/8" at top and bottom of the WW-287 (WW-289). See FIGURE 11 & 12.

8) The WW-287 SSG adaptor will be cut day light opening plus1-3/4" so that it extends above and/or below the horizontal stem as needed. See FIGURE 11 & 12. This will allow the installation and sealing of the WW-300 zone bridge Top of SSG adaptor must be sealed and married to seals at bridge. See FIGURE 13.

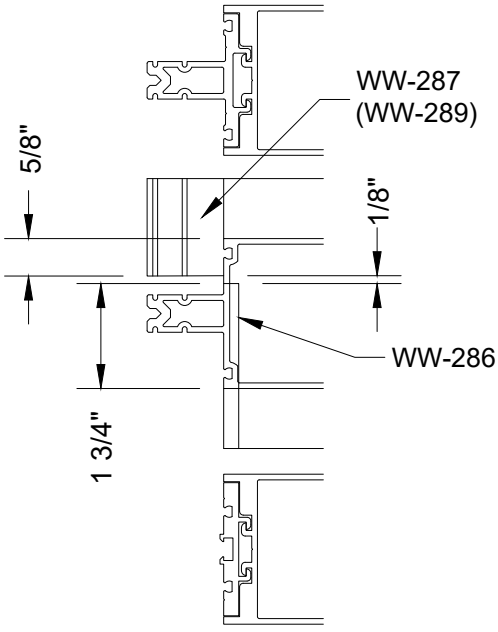


FIGURE 11

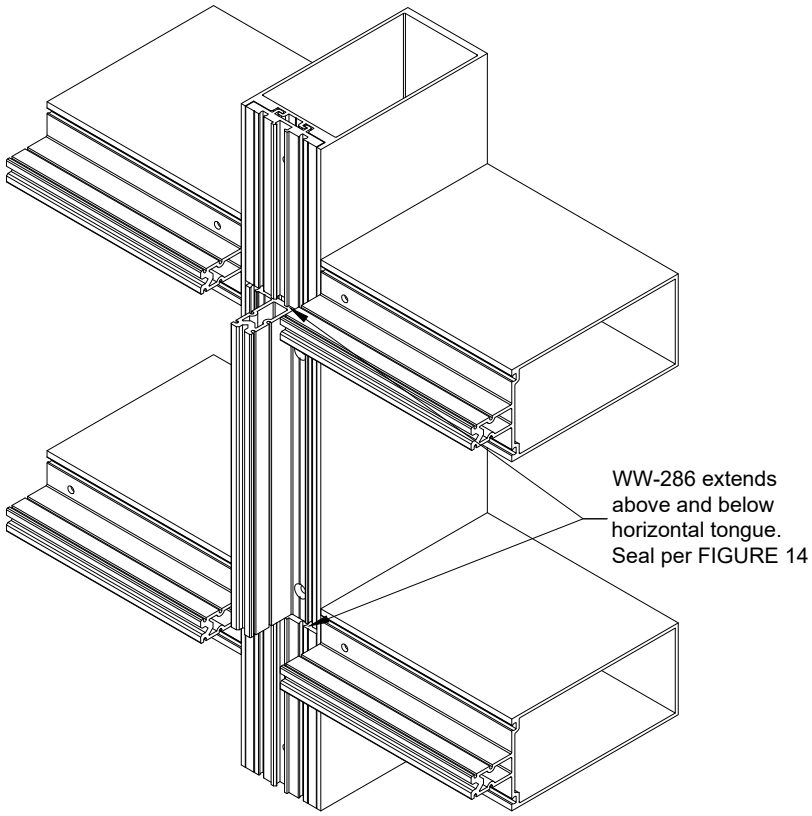


FIGURE 12

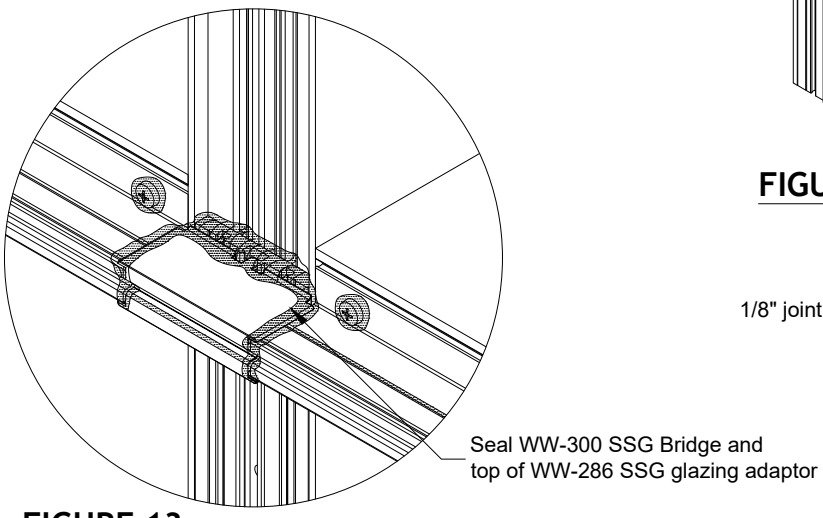


FIGURE 13

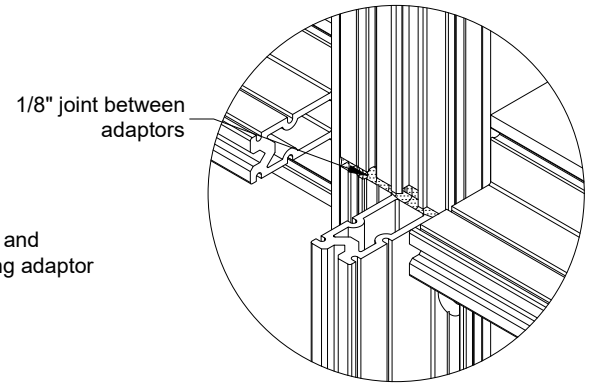


FIGURE 14

2.5 Glazing

6) Use GP-105 spacer gasket at SSG verticals and sunshade anchor. See FIGURE 15. Gasket will run continuous across anchor. Ear of spacer gasket must be trimmed to clear flat head fasteners used to attach sunshade anchor to mullion. See FIGURE 16.
7) WW-287 and WW-289 captured adaptors will use either GP-1050 gasket on interior or GP-106 spacer gasket with cap bead of silicone. Both will use the GP-103 gasket on WW-162 pressure plate. See FIGURE 17.
8) Clean all surfaces to be sealed using isopropyl alcohol. Seal around sunshade anchor marrying seal with glass seal above and below. Note: glass spacer must be 3/4" when sunshade anchors are used with SSG mullions to provide 1/4" sealant joint on either side of anchor. See FIGURE 15 & 17.
9) Glass bite varies based on glazing configuration. Typical SSG installation will have 1/2" sealant joint with 1" glass bite. SSG where a sunshade anchor is required will have a 3/4" sealant joint with 7/8" glass bite. When captured glazing adaptors are used glass bite will be 1/2" per standard Reliance glazing. See FIGURE 17.

NOTE: Due to reduced glazing clearance at sunshade anchors. Special care must be taken when installing glass.

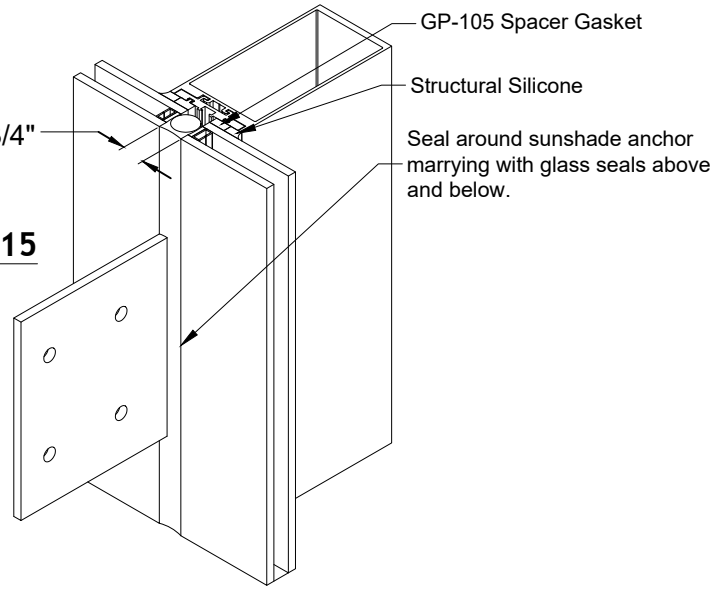


FIGURE 15

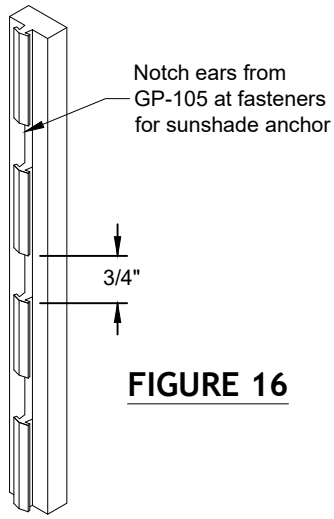


FIGURE 16

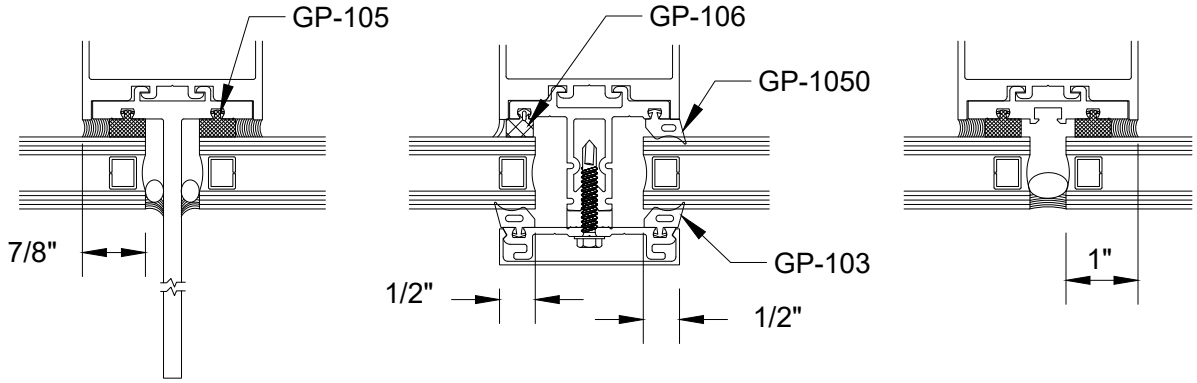


FIGURE 17

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3.1 Fabrication

1) Locate the centerline of each sunshade anchor. A 1/4" wide x 6-1/2" long cutout must be milled into face of mullion tongue as shown in upper detail of FIGURE 19.The standard sunshade anchor (RL-107-01) for Reliance-LT Curtain Wall will require (4) four 7/16" clear holes for attachment. See FIGURE 19 for hole locations. (Size, locations and quantity of bolts may vary based on project requirements, consult engineer for specific applications.)
2) Face caps must be notched to clear anchor. Face caps are cut at centerline of sunshade, notched on ends. Notch per FIGURE 20.

FIGURE 19

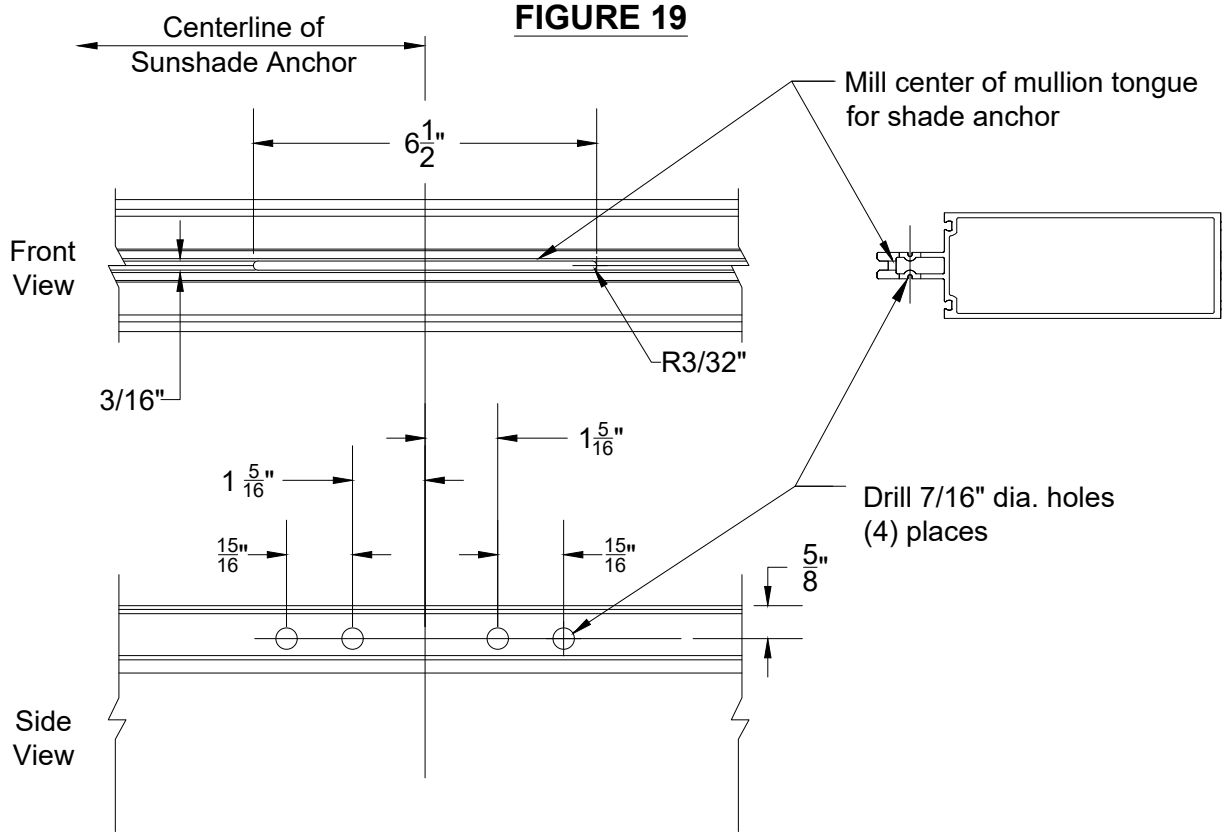
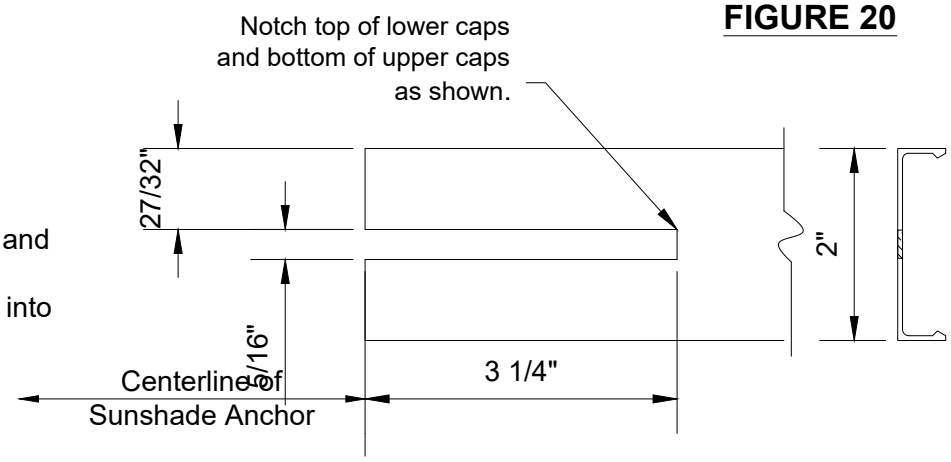


FIGURE 20



Installation Notes:

1) Face cap will be notched above and below anchor. See FIGURE 20.
2) Slide cap over anchor and snap into position.
3) Butt splice cap at centerline of anchor.

Note: RL-110 face cap shown, notch similar for custom applications.

3.2 Assembly

3) Hardware required for attachment of standard anchor (RL-107-01) will be contained in the hardware package (part no. 36525). This package contains (1) one RL-162-02 cover plate, (4) four FS-86 (3/8"-16 x 1/2" set screws w/ Loctite patch), and (4) four 3/8"-16 x 1-1/4" stainless steel hex head bolts, nuts & washers. (Size and quantity of bolts may vary based on project requirement; consult engineer for specific job applications.)
4) Attach anchor to mullion by first inserting anchor into cutout in face of mullion tongue. Attach anchor using the FS-86 (3/8"-16 x 1/2" set screws). Repeat for each of the 4 screws. See FIGURE 21 (Size and quantity of screws may vary based on project requirement; consult engineer for specific job applications.)
5) Once system is glazed, install sections of GP-103 gasket onto RL-162-02 cover plate and install plate over anchor attaching to mullion using (2) two FS-325 (#12-24 x 1-11/32" HWH Drill Flex fasteners).

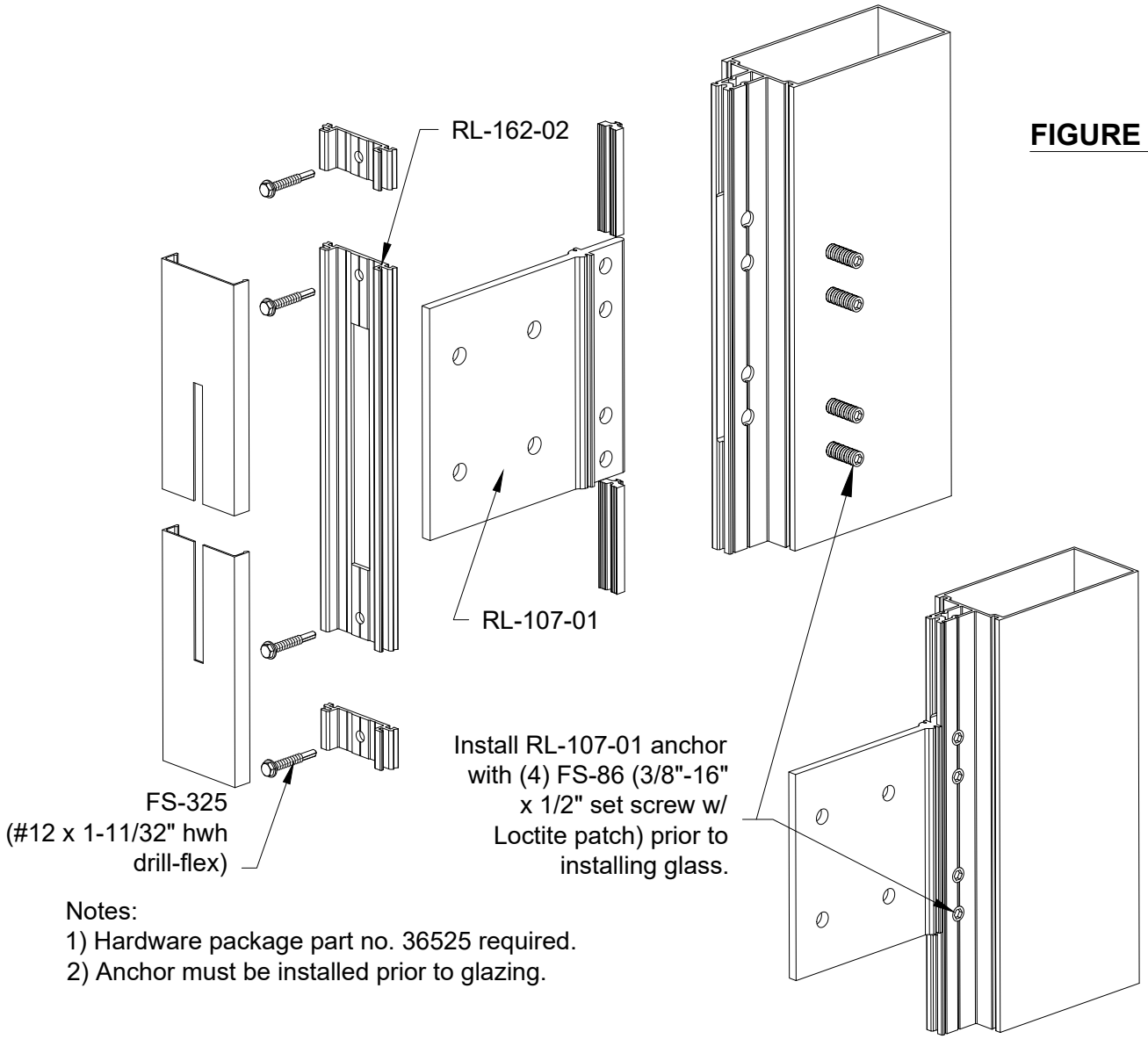


FIGURE 21

Notes:
1) Hardware package part no. 36525 required.
2) Anchor must be installed prior to glazing.

3.3 Glazing

6) Clean all surfaces to be sealed using isopropyl alcohol. Then seal cover plate to anchor to prevent any water infiltration. See FIGURE 22
7) Pressure plates should be located above and below the cover plate allowing 1/8" joint. This joint should be cleaned and sealed. See FIGURE 22

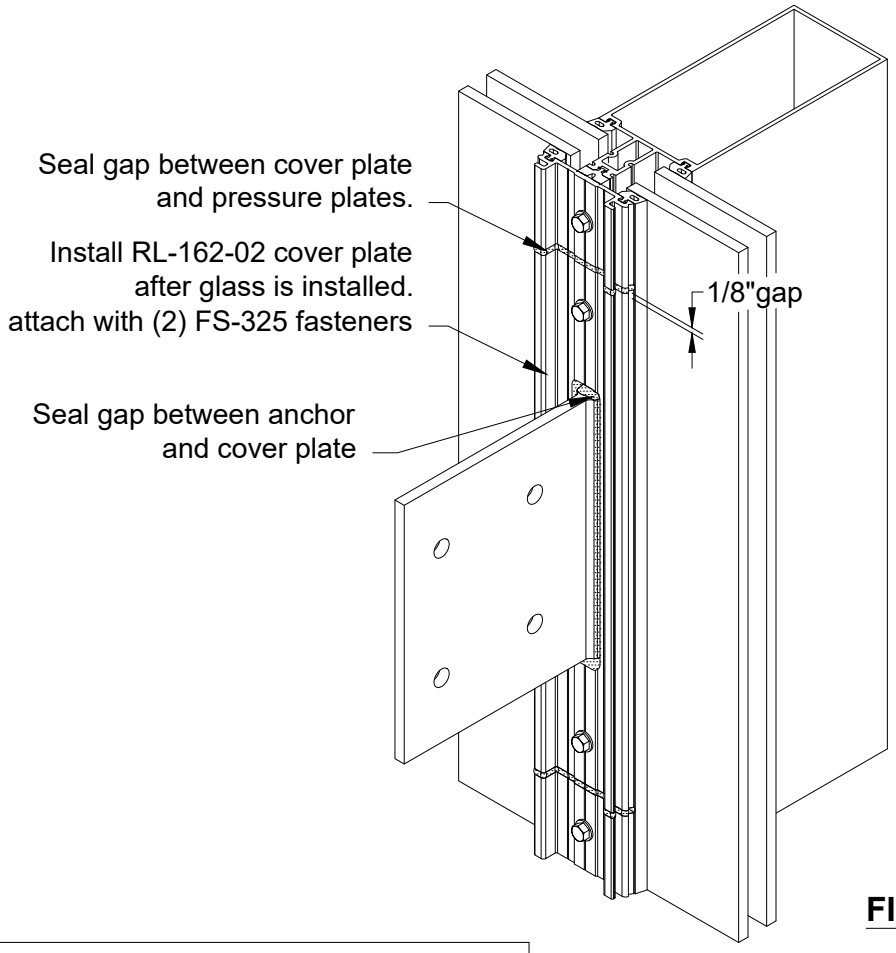


FIGURE 22

Note:
1) Typical pressure plates will be installed above and below cover plate.
2) See FIGURE 20 for face cap fabrication.

4.1 Fabrication

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 23
2) Drill face of mullion with 7/16" Ø holes for 3/8" anchor bolts. SEE FIGURE 23
3) Deburr bolt holes on exterior and interior face of mullion to insure proper fit of anchor and bolts.

4.2 Installation

4) A bead of sealant must be applied around each hole in face of mullion prior to attaching anchor. SEE FIGURE 45
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 24, page 16.
6) ICW-111 face cap required for projects with sunshade installation. Face cap will be notched at each anchor. SEE FIGURE 23

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

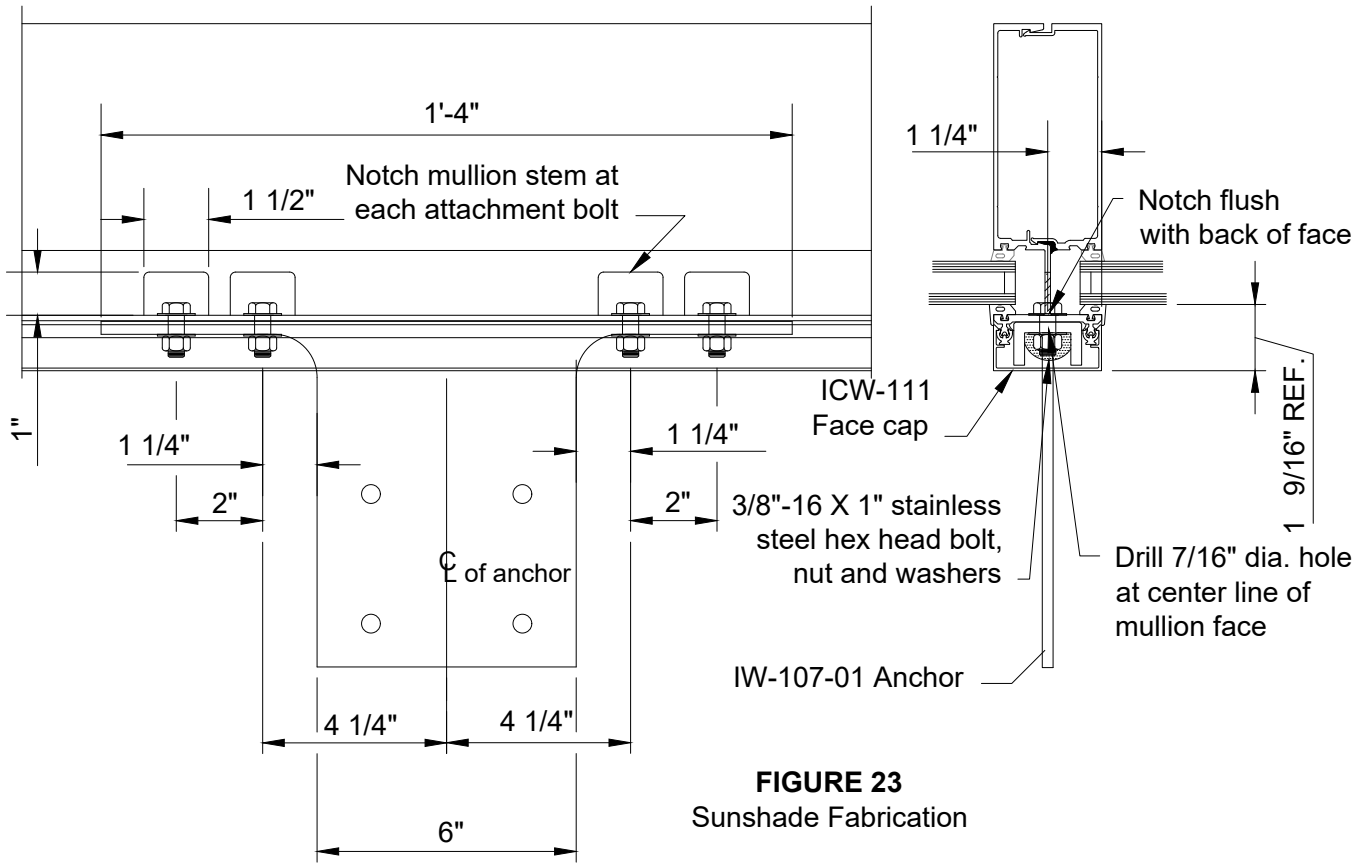
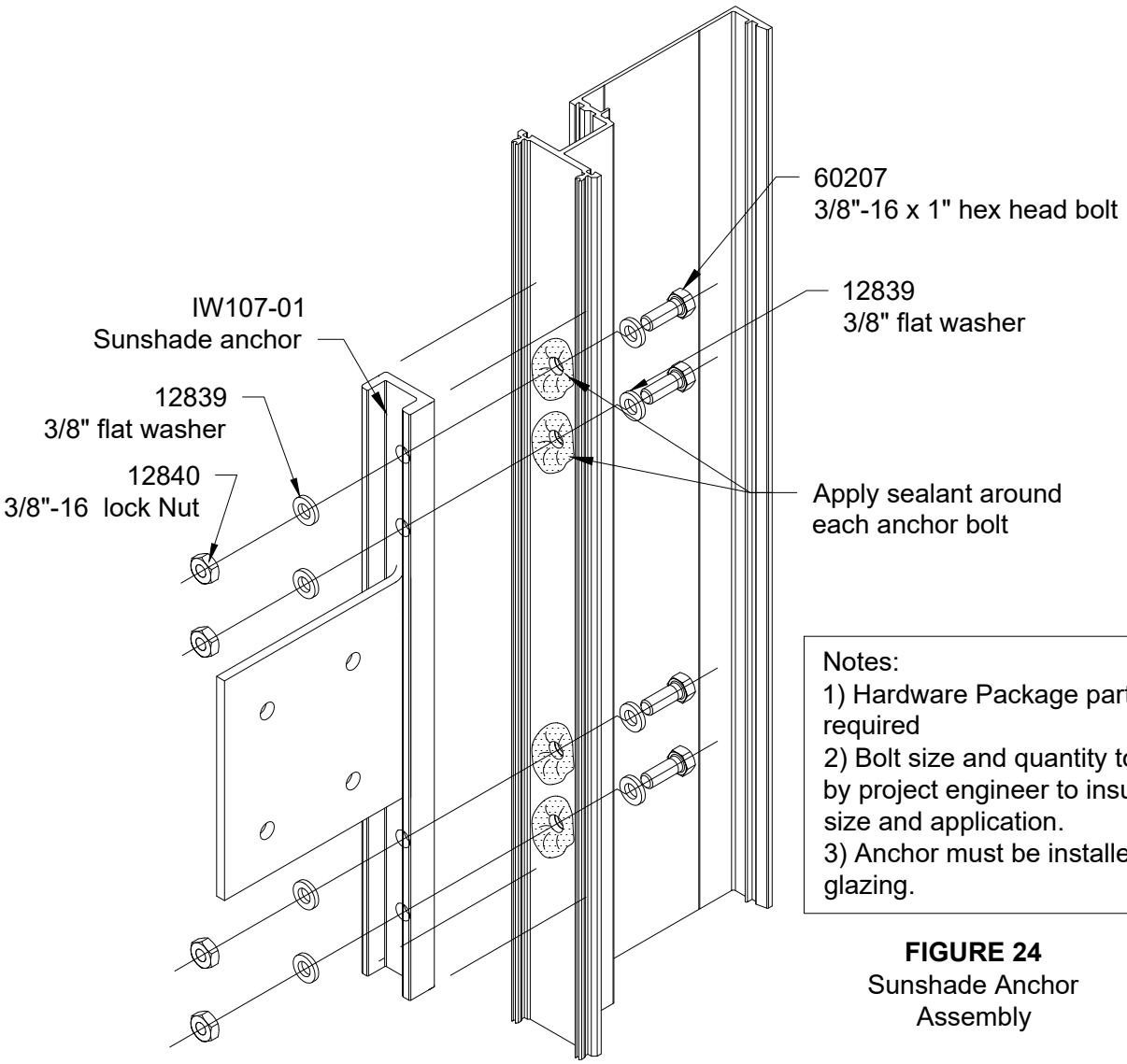
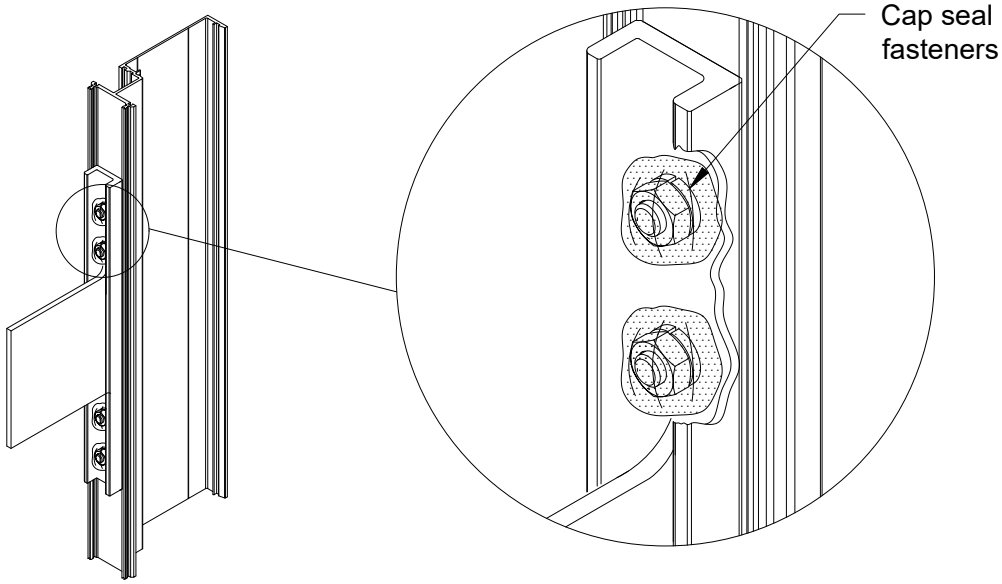


FIGURE 23
Sunshade Fabrication



Notes:
1) Hardware Package part # 36527 required
2) Bolt size and quantity to be reviewed by project engineer to insure proper size and application.
3) Anchor must be installed prior to glazing.

FIGURE 24
Sunshade Anchor Assembly



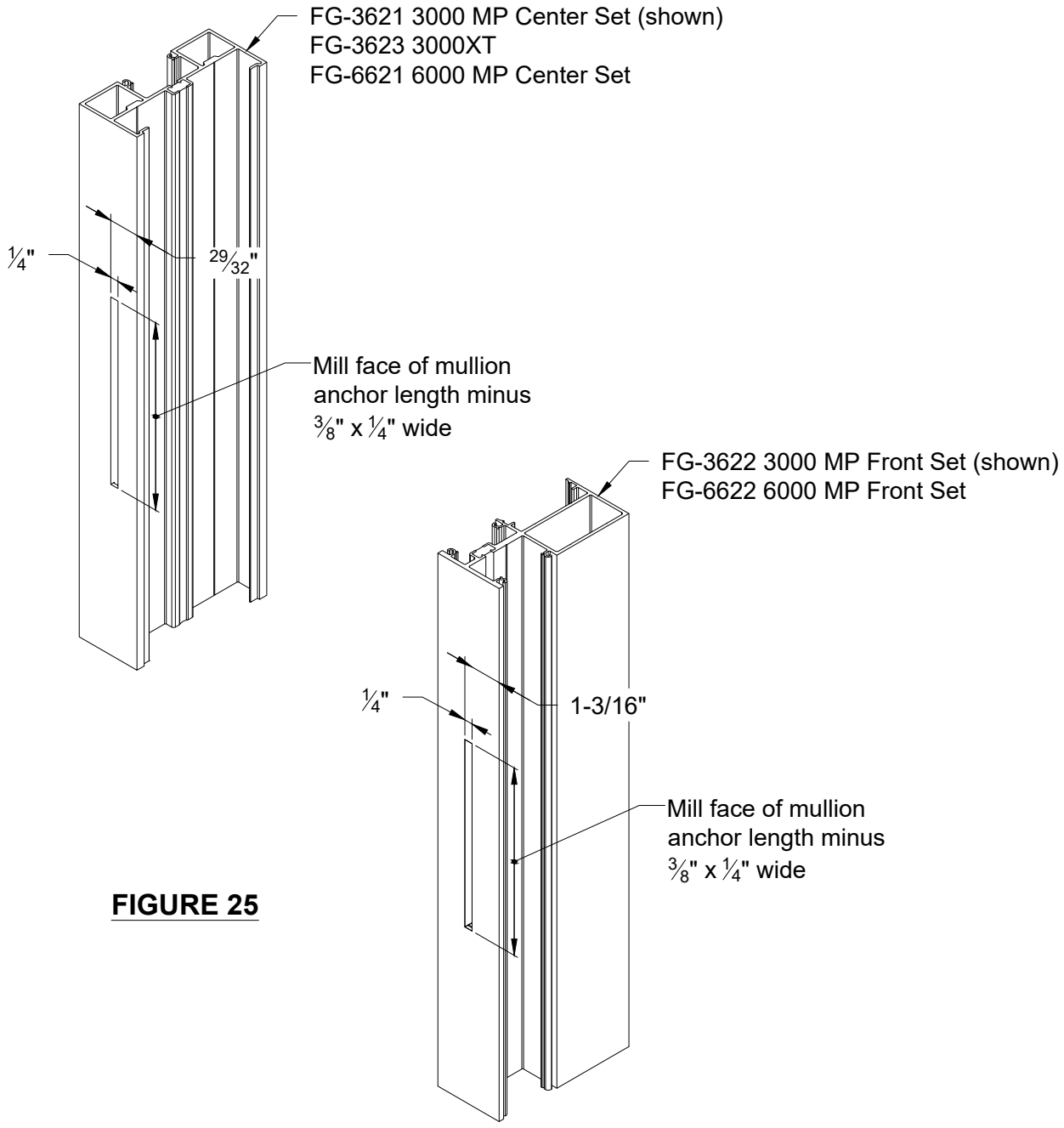


FIGURE 25

5.1) Storefront Sunshade Anchor Fabrication

1) Mill face of mullion to clear SS-200 (Center Set) or SS-201 (Front Set) sunshade anchor. Mill cut will be anchor length minus 3/8" x 1/4" wide. See parts list for available standard anchors. All anchors should be sized based on Engineer's review for project loads.

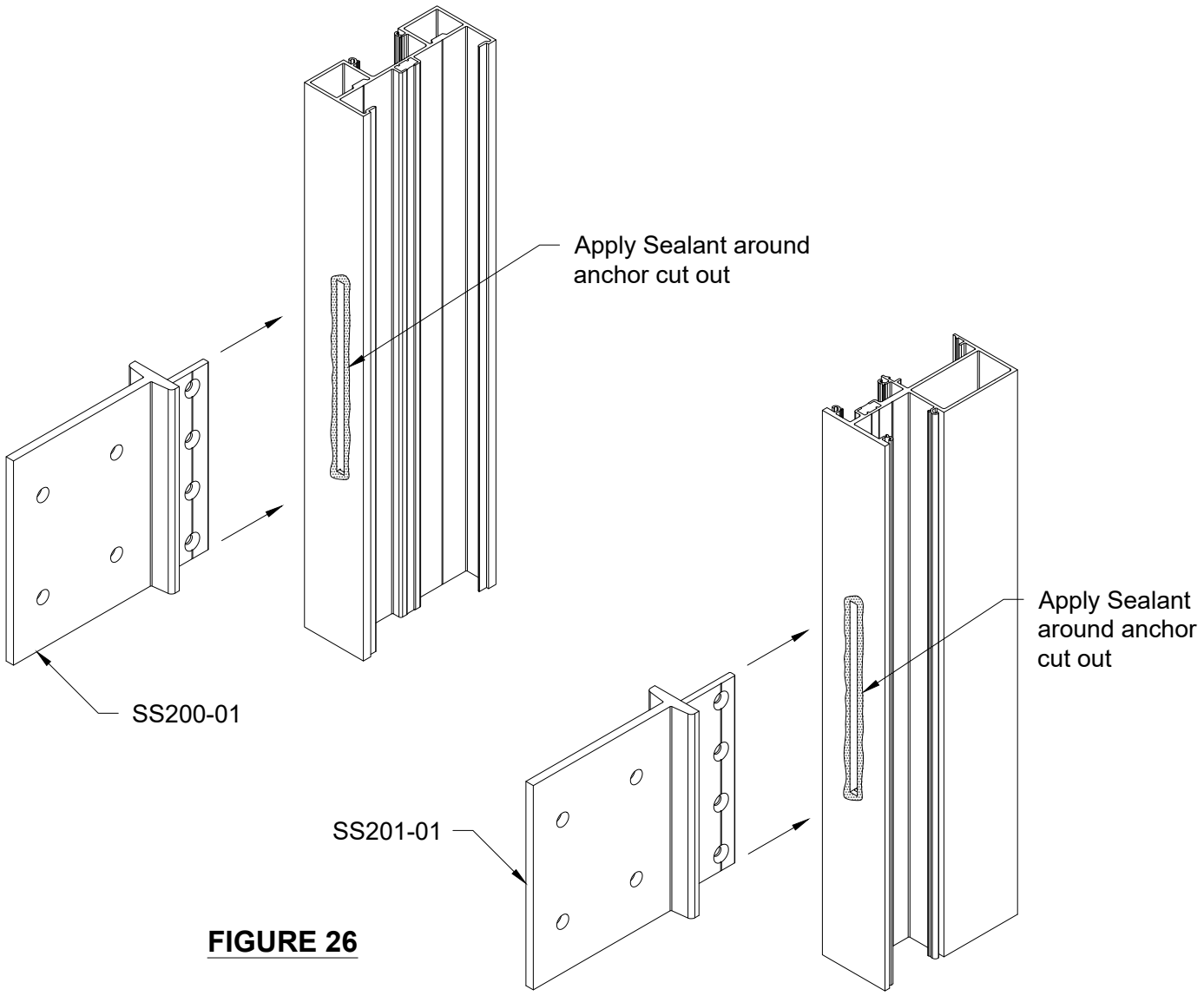
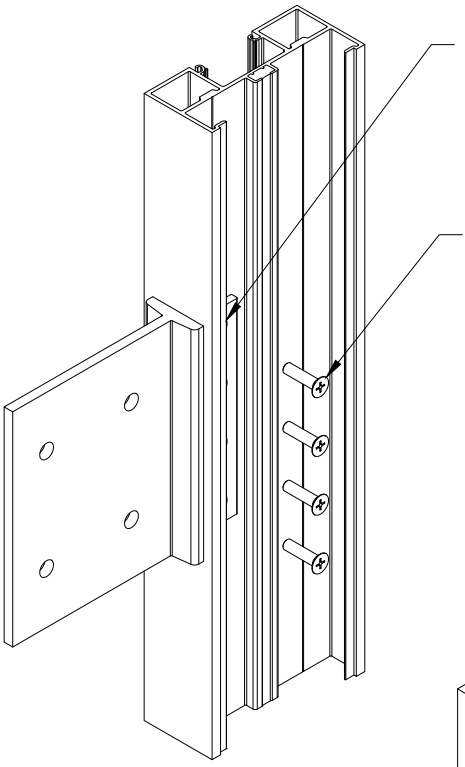


FIGURE 26

5.2) Storefront Sunshade Anchor Installation

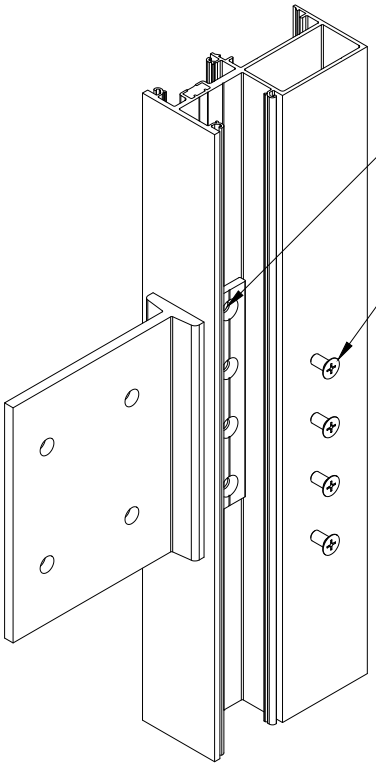
2) Run bead of sealant around slot in face of mullion.

3) Insert sunshade anchor through slot in face of mullion. Clean any excess sealant from around anchor once installation is complete. SS200-01 (6") and SS201-01 (6") anchors shown. SS-200-02 (9"), SS-200-03 (12"), SS-200-04 (9" Opp. Hand of SS-200-02), SS-201-02 (9"), SS-201-03 (12"), and SS-201-04 (9" Opp. Hand of SS-201-02) are also available. Size of anchor will be determined by Engineer's review.



Match Drill holes in mullion with 7/32" (.218Ø) drill.

FS-147 (1/4"-20 x 3/4" PFH Type F TCS St. Steel)



Match Drill holes in mullion with 7/32" (.218Ø) drill. The holes for Front Set mullion must be tapped for ¼"-20 fasteners.

FS-146 (1/4" -20 x 1/2" PFH MS St. Steel)

FIGURE 27

Notes:
1) Hardware Package part # 36530 for Center Set & XT
2) Hardware Package part# 36531 for Front Set
3) Anchors must be installed prior to glazing

4) Match drill mullion for 1/4"-20 fasteners using 7/32" (.218 Ø) drill. Center set storefront will use a 1/4"-20 x 3/4" Phillips Flat Head Type F fastener. Front Set uses a 1/4"-20 x 1/2" Phillips flat head machine screw, so will require holes to be tapped for the 1/4"-20 after match drill. Number of fasteners must be reviewed by Engineer per project requirements.

6.1 Assembly

1) Sunshades on the Reliance TC Type I system requires the use of the WW-566 mullion. This mullion is designed with heavy wall at base of stem to accept the Bi-Flex fastener.

2) The SS-203-01 sunshade anchor will be attached using the FS-306 (1/4"-20 x 3" HWH #5 pt Bi-Flex) fasteners. Final sunshade anchor and attachment must be determined by Engineer's review.

3) Use sunshade anchor to mark face of mullion to locate holes in face. Drill pressure plate of the WW-566 mullion using 13/32" drill bit. Insert 3/8" o.d. x 1" long pipe sleeve inside of thermal struts. The Bi-Flex fastener will be used to drill into the tubular section of the mullion.

4) Bed anchor in sealant.

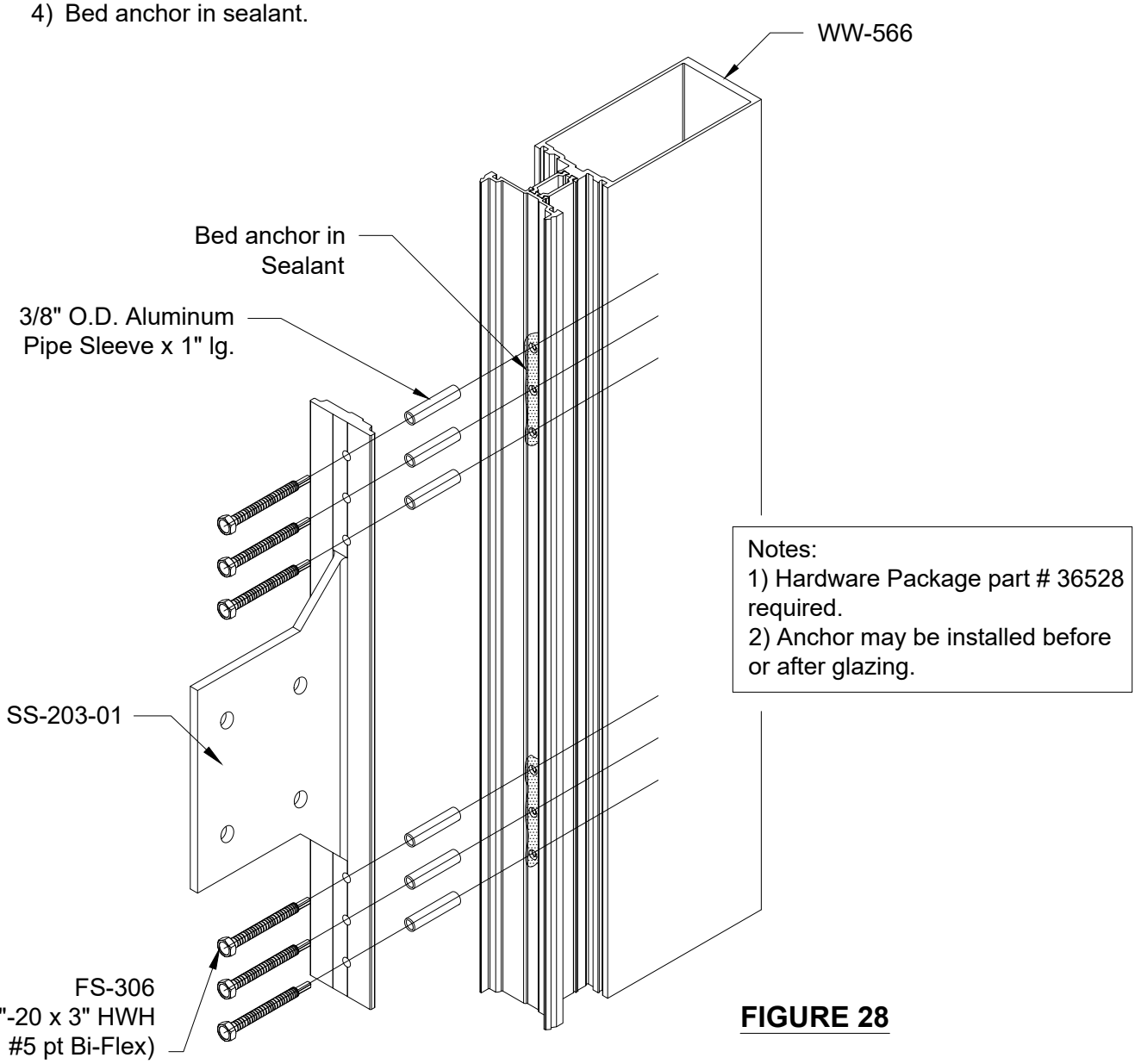


FIGURE 28

6.2 Assembly

1) Cap seal the fasteners at sunshade anchor. See **FIGURE 29**

2) The face cap will be notched at sunshade anchor to fit over sunshade anchor blade, See **FIGURE 30**. Face cap may also be notched at each end and spliced at centerline of anchor. WW-110 face cap shown. Install caps per OBE standards as shown in Reliance installation manual.

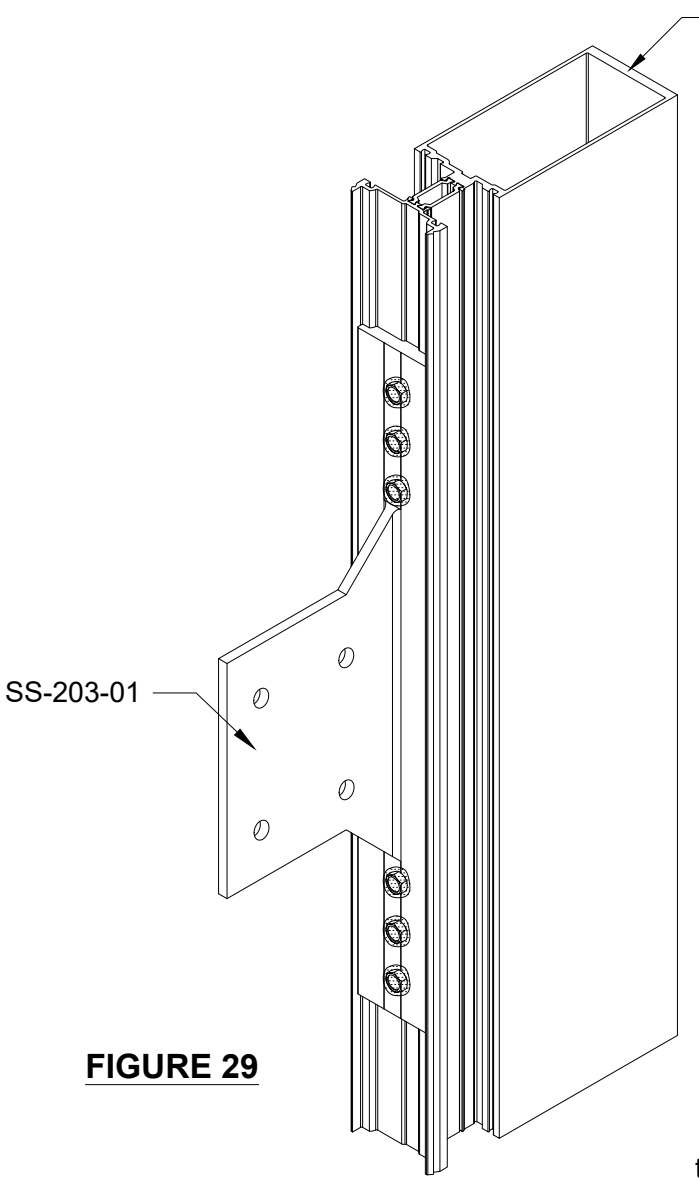


FIGURE 29

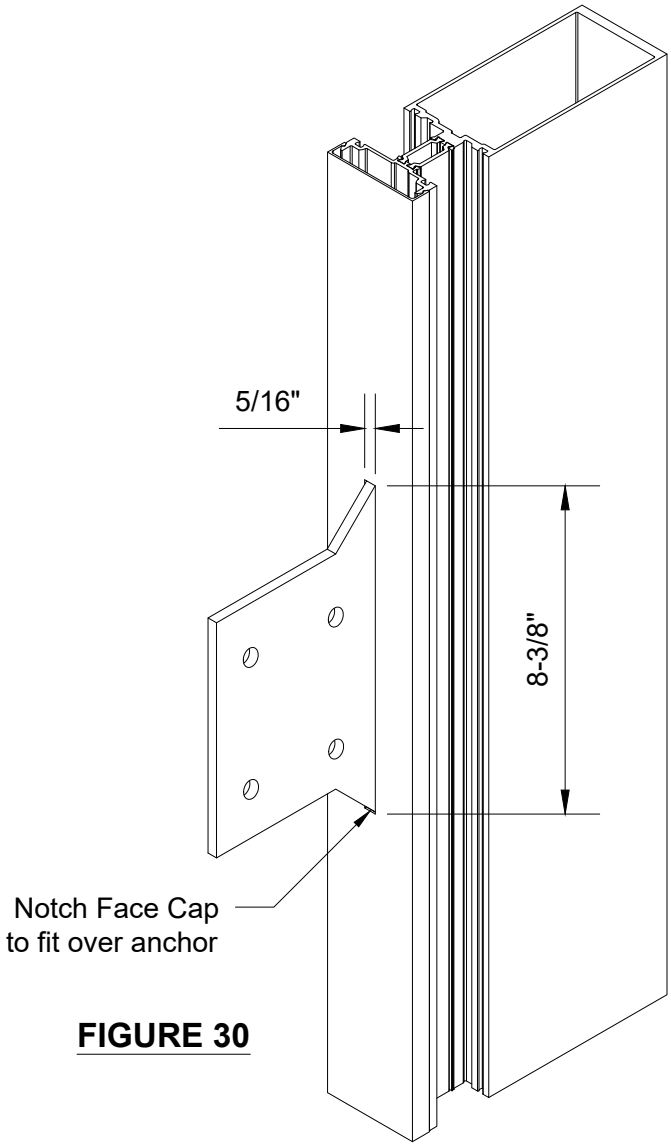


FIGURE 30

6.3 Assembly

1) Sunshades on the Reliance TC Type II system requires the use of the AW-530 mullion. This mullion is designed with heavy wall at base of stem to accept the Bi Flex fastener.

2) The SS-202-01 sunshade anchor will be attached using the FS-306 ($\frac{1}{4}$"-20 x 3" HWH #5 pt Bi Flex) fastener. Final sunshade anchor and attachment must be determined by Engineer's review.

3) Use the sunshade anchor to mark the pressure plate. Match drill the WW-162 pressure plate using "H" (.266") drill bit. Drill the tongue of the mullion using a 13/32" drill bit and insert a 3/8" x 1" long pipe sleeve inside of the thermal struts. The Bi Flex fastener will be used to drill into the tubular section of the mullion.

4) Bed anchor in sealant.

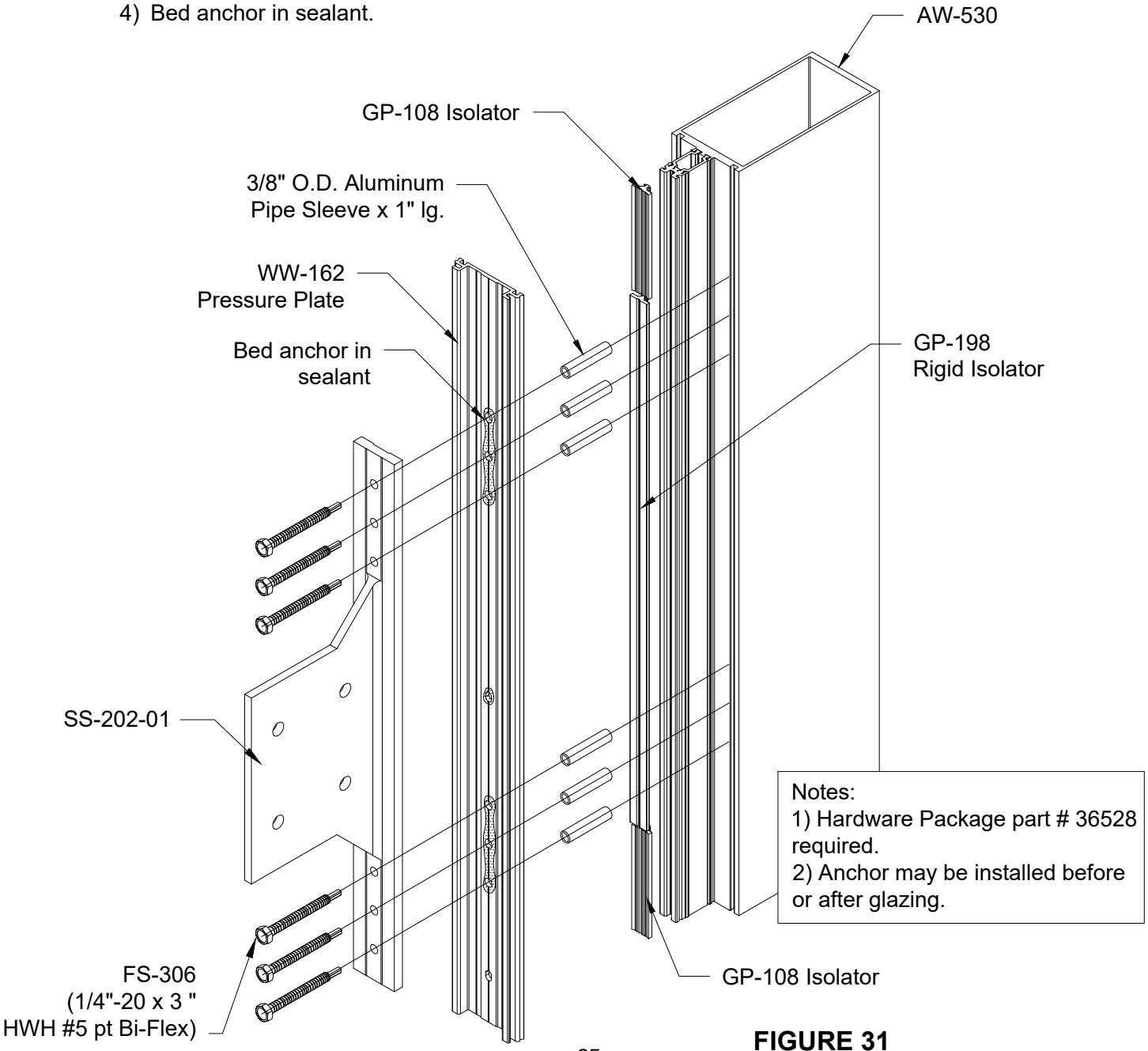


FIGURE 31

6.4 Assembly

1) Cap seal fasteners at sunshade anchor. See **FIGURE 32**.

2) The face cap will be notched at sunshade anchor to fit over the sunshade anchor blade. See **FIGURE 33**. Face cap may also be notched at each end and spliced at center of anchor. WW-216 face cap shown, minimum $\frac{3}{4}$" deep cap required for Reliance-TC Type II. Install caps per OBE standards as shown in Reliance installation manual.

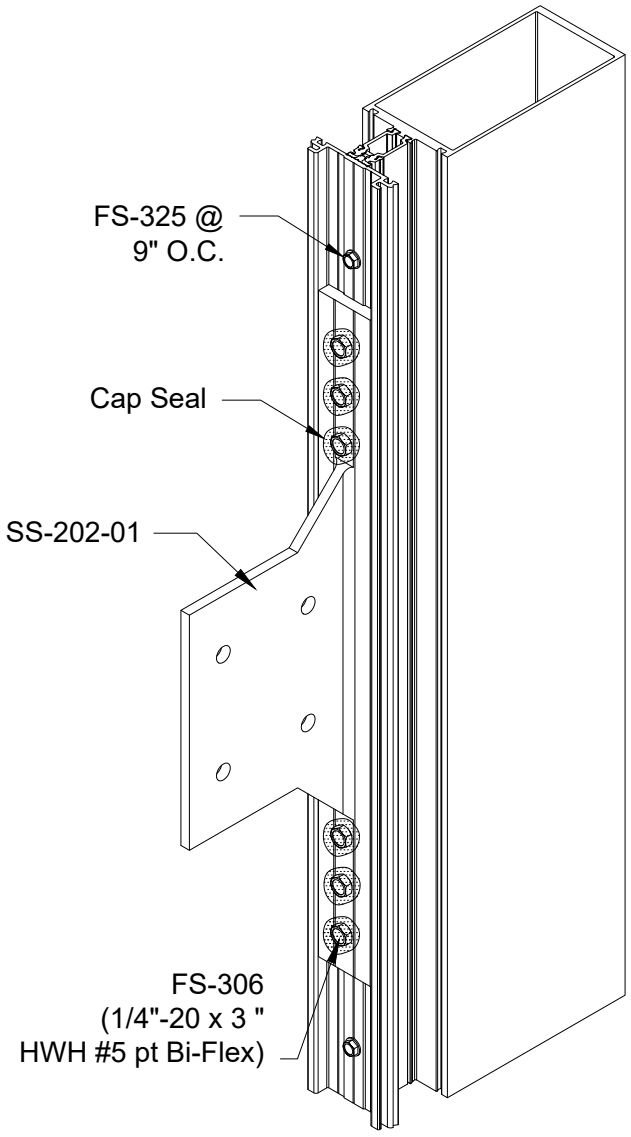


FIGURE 32

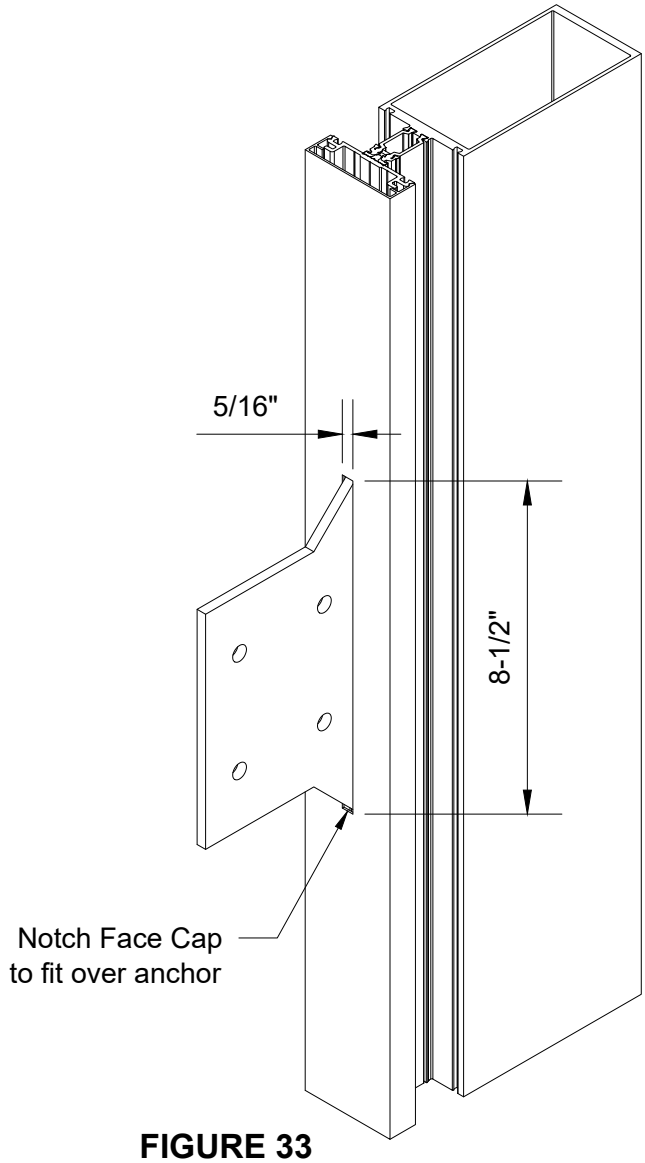


FIGURE 33

SOLAR ECLIPSE™ Outrigger Assembly

7.1 Fabrication

1) All standard sunshade outriggers are factory drilled for attachment to shade louvers

2) Cut louvers to fit between outriggers per formulas shown on FIGURE 34.

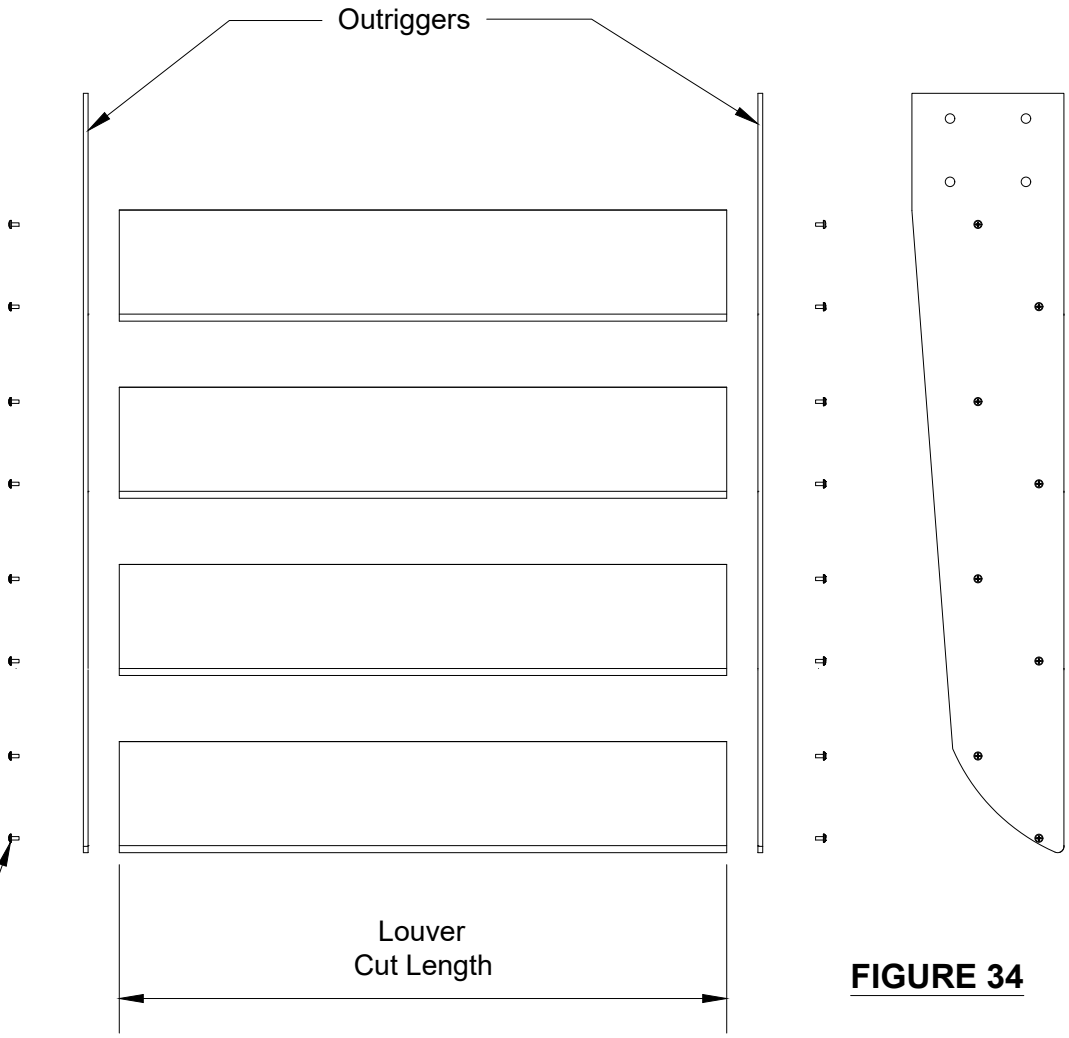


FIGURE 34

FS-20 (#10 X 3/4" S.S. button socket head B pt) fastener. (4) required typical per louver. Custom designs may vary.

NOTE:
FS-21 #10 x 1" S.S. flat head screw can be substituted for a flat head appearance. Countersink holes as required.

Fabrication Notes:

1) Louver Cut Length = Mull centerline minus 11/16" or mull centerline minus anchor (1/4" std.) minus 3/8" (thickness of two standard outriggers) minus 1/16" clearance.
2) Each louver attached to outriggers with (4) FS-20 fasteners. Custom louvers may require additional fasteners.
3) Note: Number of louvers will vary based on sunshade depth and project requirements.

SOLAR ECLIPSE™ Outrigger Assembly

7.2 Assembly

3) Attach outriggers to louvers using FS-20 (#10 x 3/4" stainless steel button socket head). Quantity of fasteners will vary based on sunshade depth. See FIGURE 35.

4) Attach sunshades to anchors using (4) four 3/8"-16 x 1" stainless steel hex head head bolts. See FIGURE 36. (Size and quantity of bolts may vary based on project requirements, consult engineer for specific job applications.)

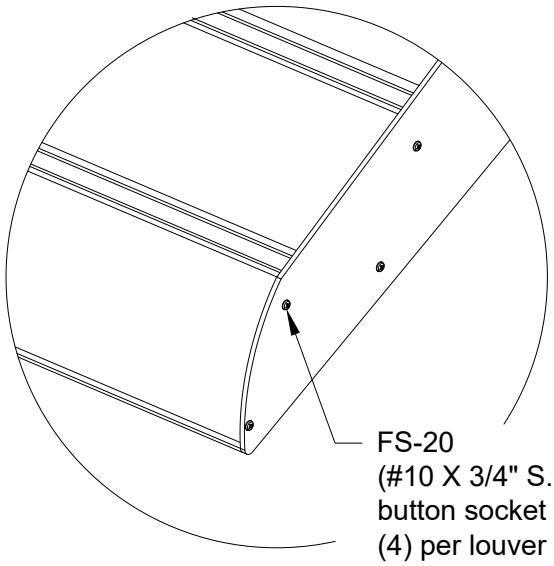


FIGURE 35

NOTE:
FS-21 #10 x 1" S.S. flat head screw can be substituted for a flat head appearance. Countersink holes as required.

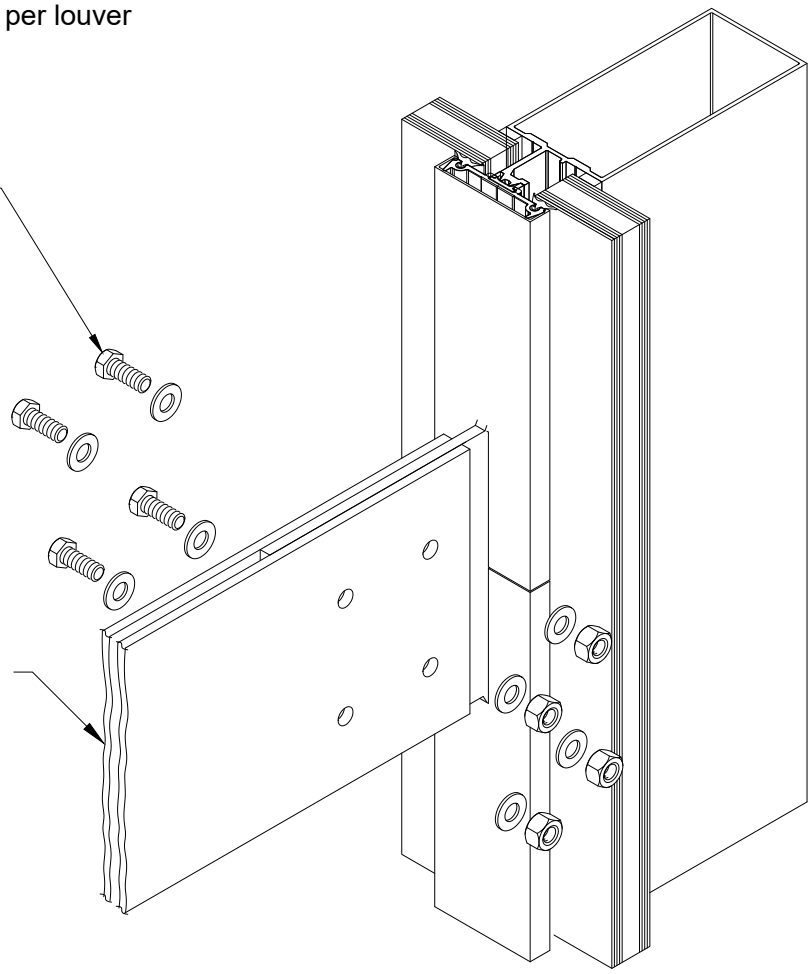


FIGURE 36

Note: See system installation pages or parts list for hardware packages used for each product.

8.1 Fabrication

1) Locate the centerline of each sunshade anchor on each mullion. Set the anchor in the appropriate position and match drill the 6 clear holes of the anchor into the front aluminum tongue of the mullion with 0.265" diameter clear holes. The standard sunshade anchor (RL-108-01) for Reliance-TCLT Curtain Wall will require (6) 3/8" diameter pipe sleeves. Drill the previously matched drill holes to 0.390" x 1-1/4" deep. Do not drill into the tube of mullion. SEE FIGURE 36. (Size, locations and quantity of bolts may vary based on project requirements. Consult engineer for specific applications).
2) Face caps must be notched to clear the sunshade anchor. Face caps are cut at centerline of sunshade with a notch on each end. Notch per FIGURE 37.
3) Notch the center of the pressure plate 17.5" x 0.8235" centered for each anchor. Drill extra pressure plate holes 1-1/2" beyond the notch. SEE FIGURE 38.

FIGURE 36

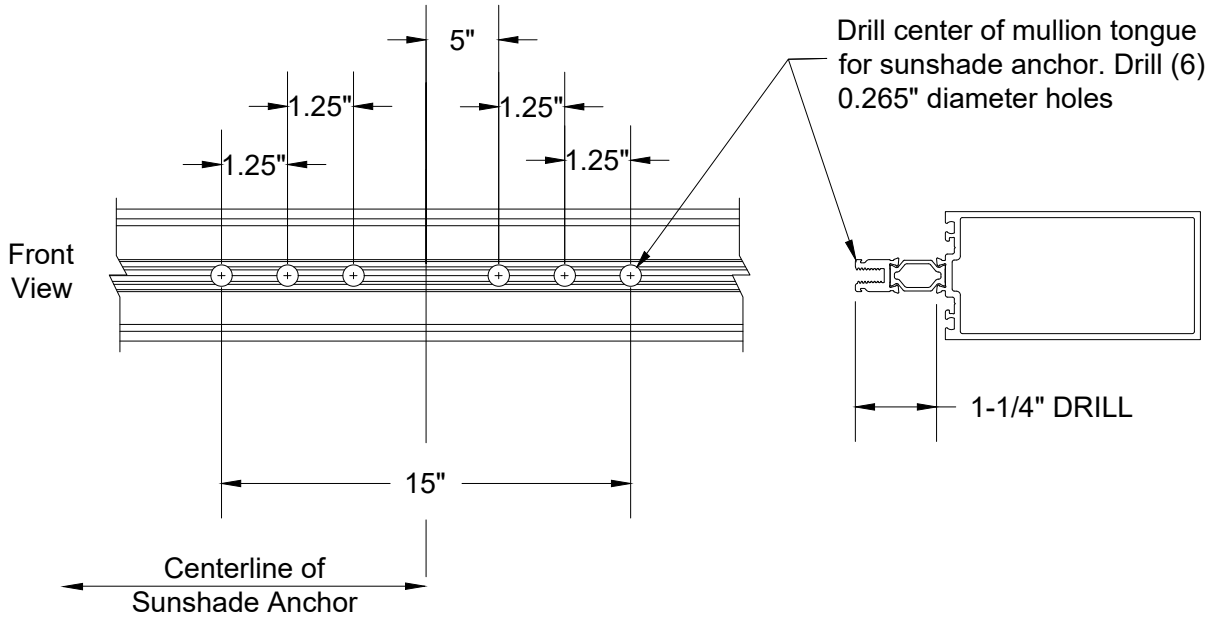
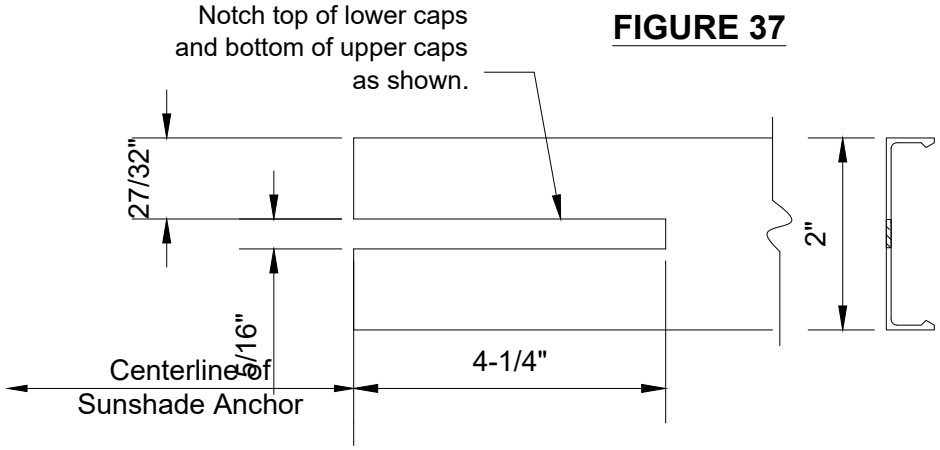


FIGURE 37



Installation Notes:

1) Face cap will be notched above and below anchor. See FIGURE 37.

8.2 Assembly

1) Adhere CW-552S side block on both sides of mullion tongue at the c/l of the anchor prior to installing glass. SEE FIGURE 38. Glaze as shown in Reliance-TC LT Install manual, centering slotted pressure plates at sunshade anchors. Do not install covers.
2) Once system is glazed, attach anchor in the appropriate position with (6) six FS-306 (1/4"-20 X 3" HWH) fasteners into the front aluminum tongue of the mullion SEE FIGURE 38. Torque anchors until the anchor is flush with the mullion tongue. (Size, locations and quantity of bolts may vary based on project requirements. Consult engineer for specific applications).
3) After pressure plate is in place and torqued properly, seal around the sunshade anchor with silicone sealant.
4) Slide face cap over anchor and snap into position.
5) Butt splice cover at centerline of anchor.

NOTE: RL-216 face cap shown, notch similar for custom applications.

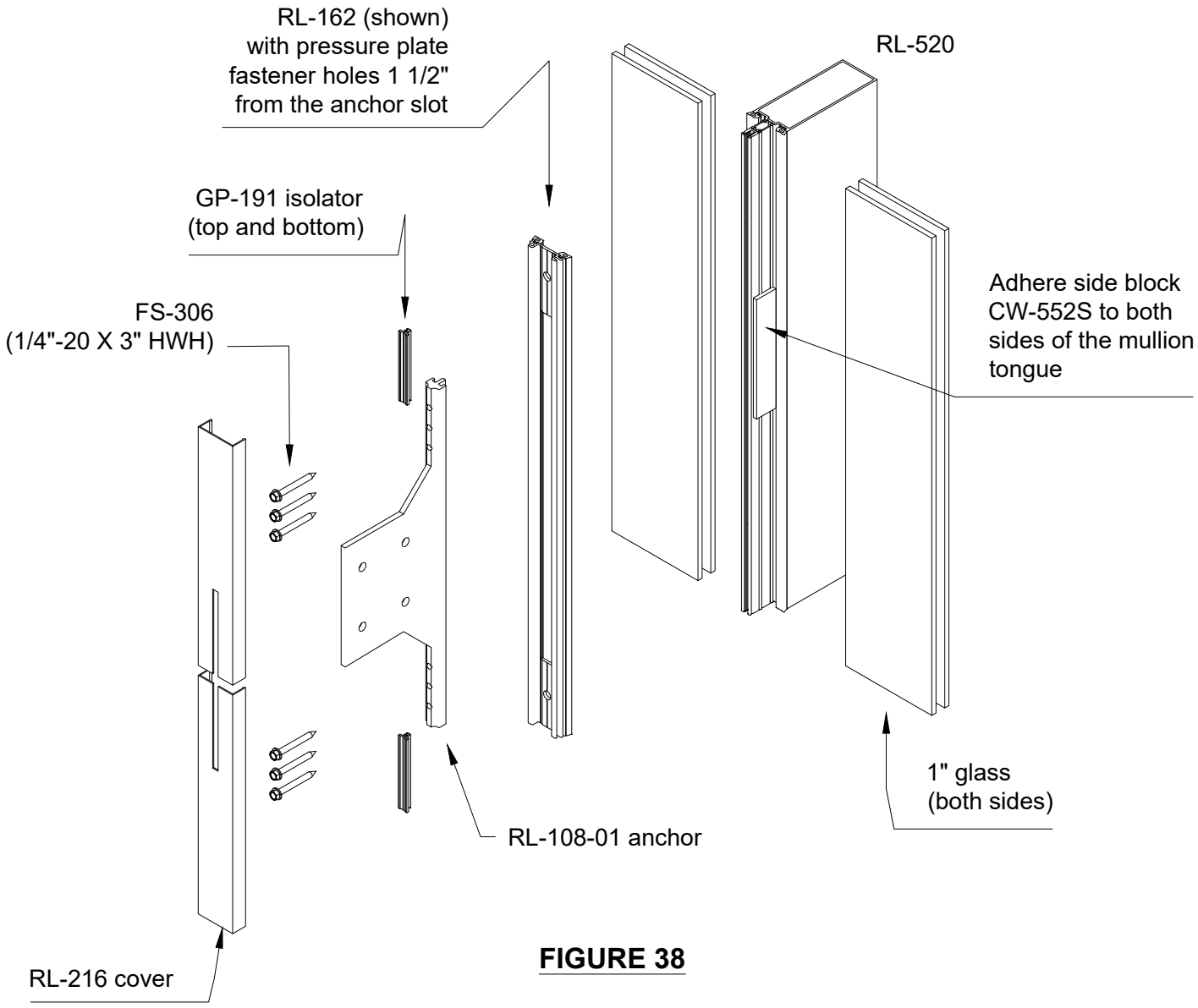


FIGURE 38

8.3 Assembly

1) Clean all surfaces to be sealed using isopropyl alcohol. Then seal cover plate to anchor to prevent any water infiltration SEE FIGURES 39 and 40.

FIGURE 39

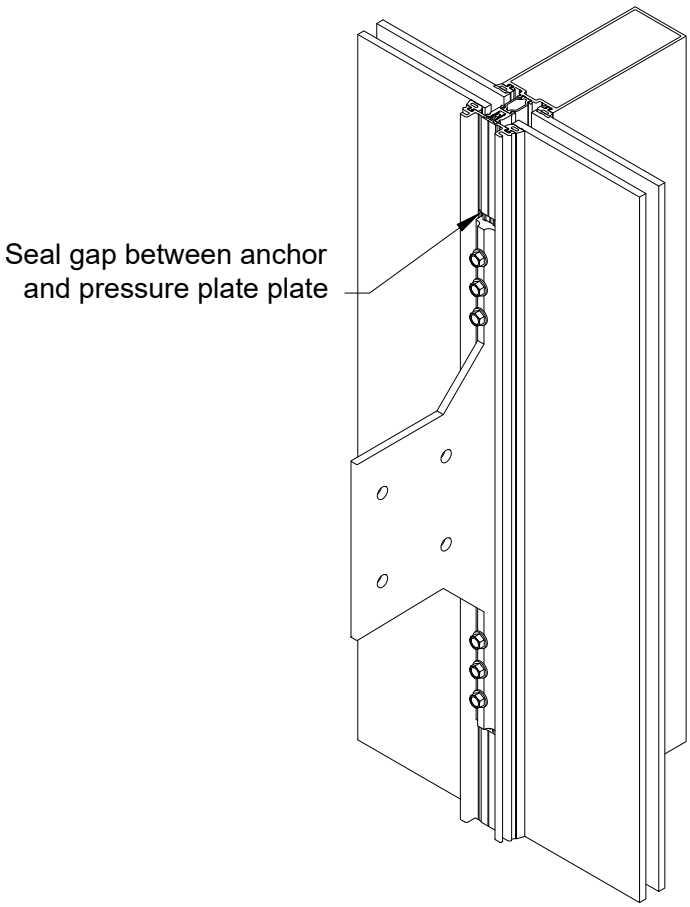
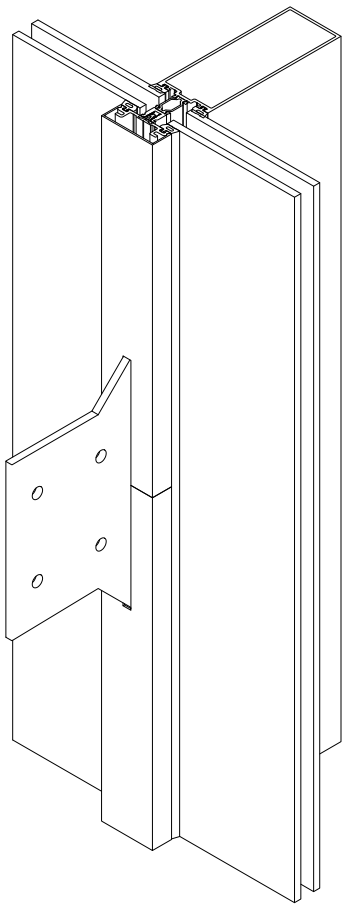


FIGURE 40



9.1 Fabrication

1) Locate the centerline of each sunshade anchor on each mullion. Set the anchor in the appropriate position and match drill the 6 clear holes of the anchor into the front aluminum tongue of the mullion with 0.265" diameter clear holes. The standard sunshade anchor (SS-202-01) for Reliance-TCSS Curtain Wall will require (6) 3/8" diameter pipe sleeves. Drill the previously matched drill holes to 0.390" x 1-5/16" deep. See FIGURE 41 & 42. (Size, locations and quantity of bolts may vary based on project requirements. Consult engineer for specific applications).
2) Face caps must be notched to clear the sunshade anchor. Face caps are cut at centerline of sunshade with a notch on each end. Notch per FIGURE 43.

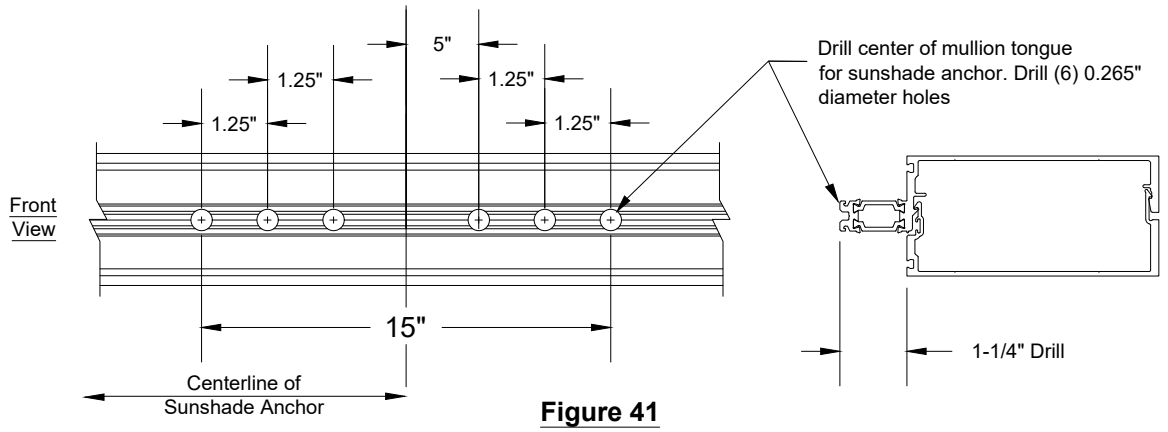


Figure 41
Mullion Tongue Fabrication

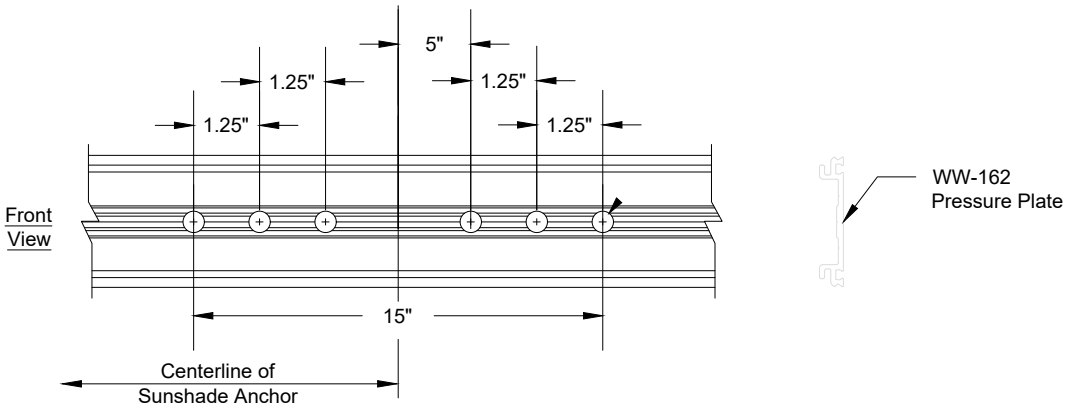


Figure 42
Pressure Plate Fabrication

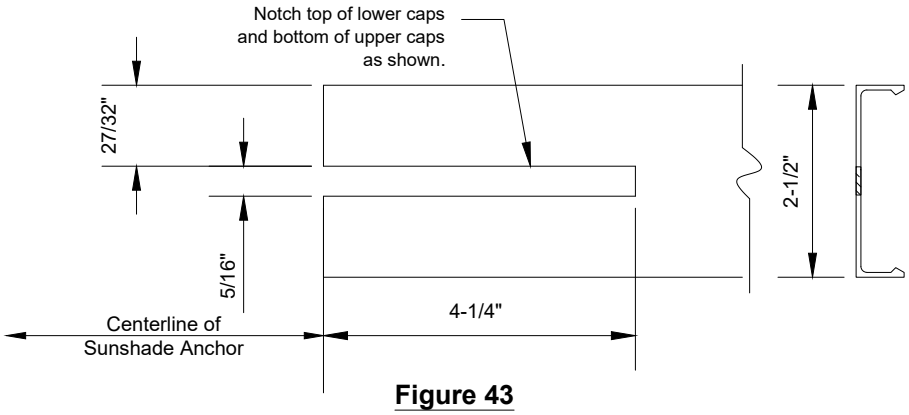


Figure 43
Face Cover Fabrication

9.2 Assembly

3) The SS-202-01 sunshade anchor will be attached using the FS-306 ($\frac{1}{4}$"-20 x 3" HWH) fastener. Final sunshade anchor and attachment must be determined by Engineer's review.
4) Use the sunshade anchor to mark the pressure plate. Match drill the WW-162 pressure plate using "H" (.266") drill bit. Drill the tongue of the mullion using a 13/32" drill bit and insert a 3/8" x 1" long pipe sleeve inside of the thermal struts. The Bi Flex fastener will be used to drill into the tubular section of the mullion. See FIGURE 44.
5) Bed anchor in sealant.

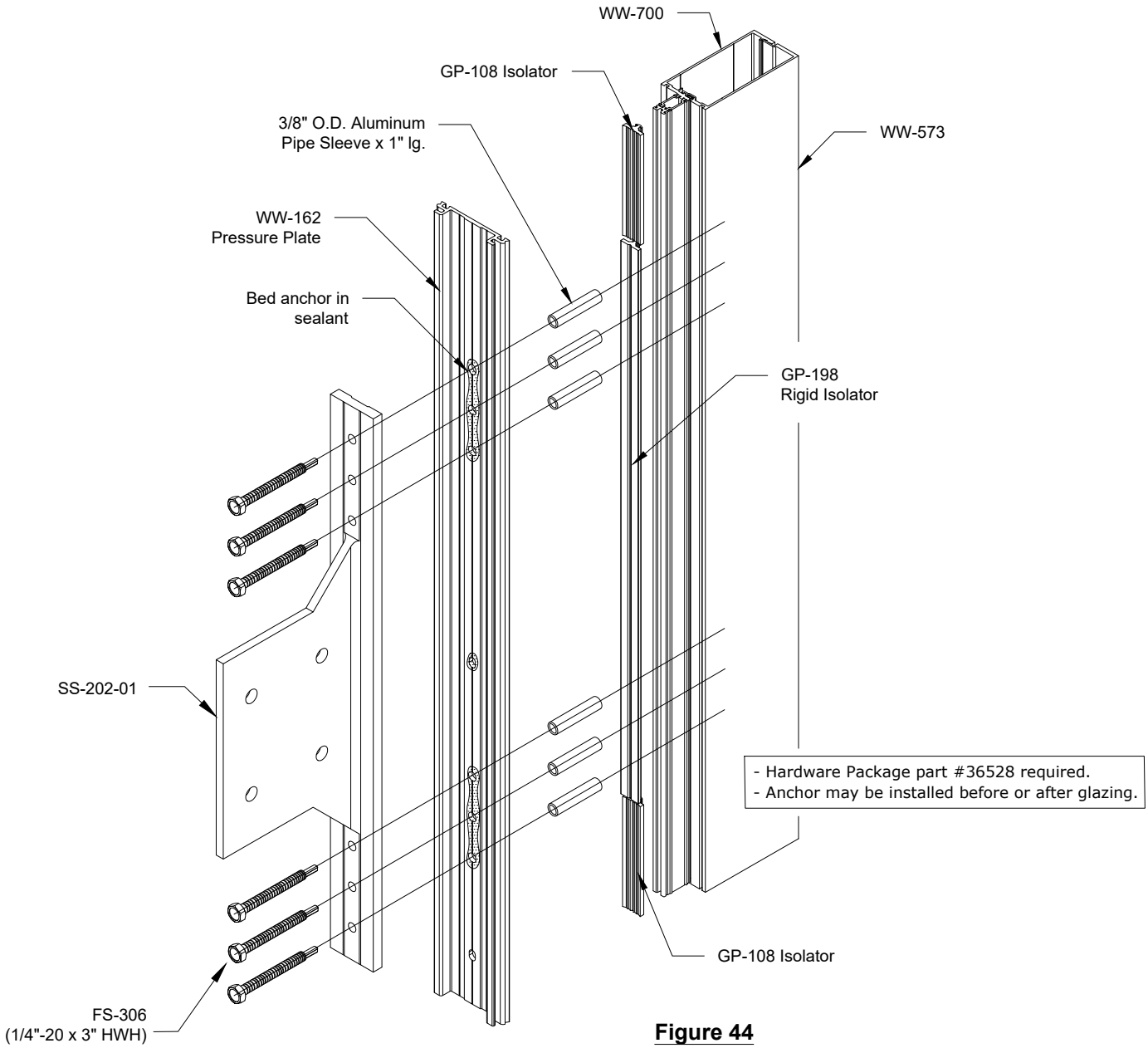


Figure 44
Sunshade Anchor Attachment

9.3 Assembly

6) Cap seal fasteners at sunshade anchor. See FIGURE 45.
7) The face cap will be notched at sunshade anchor to fit over the sunshade anchor blade. See FIGURE 46. Face cap may also be notched at each end and spliced at center of anchor. WW-216 face cap shown, minimum 3/4" deep cap required for Reliance-TC SS. Install caps per OBE standards as shown in Reliance installation manual.

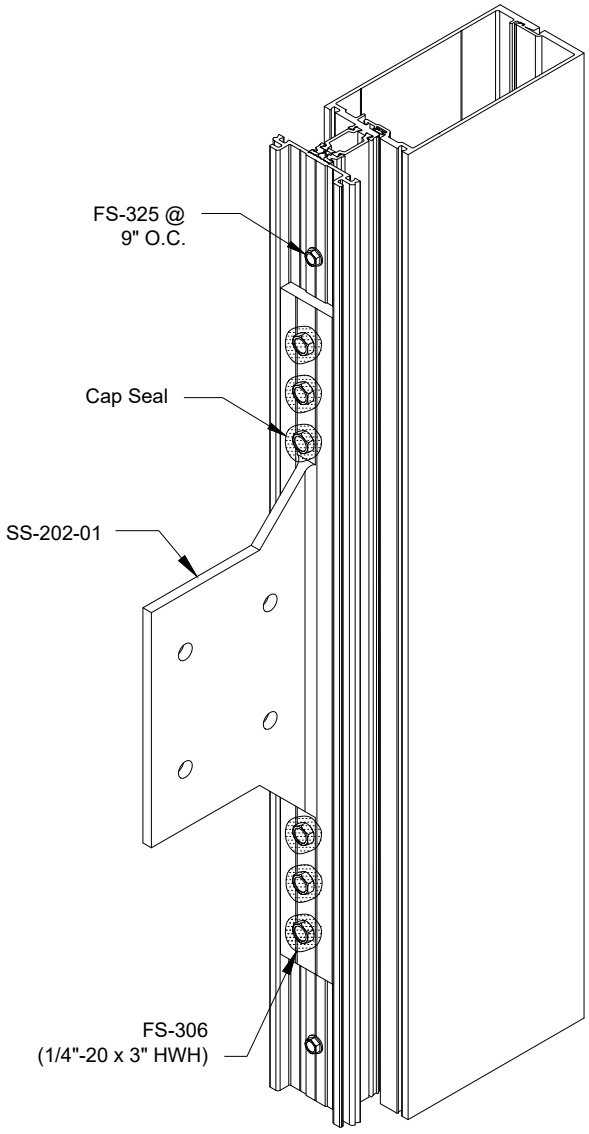


Figure 45
Cap Seal Fasteners

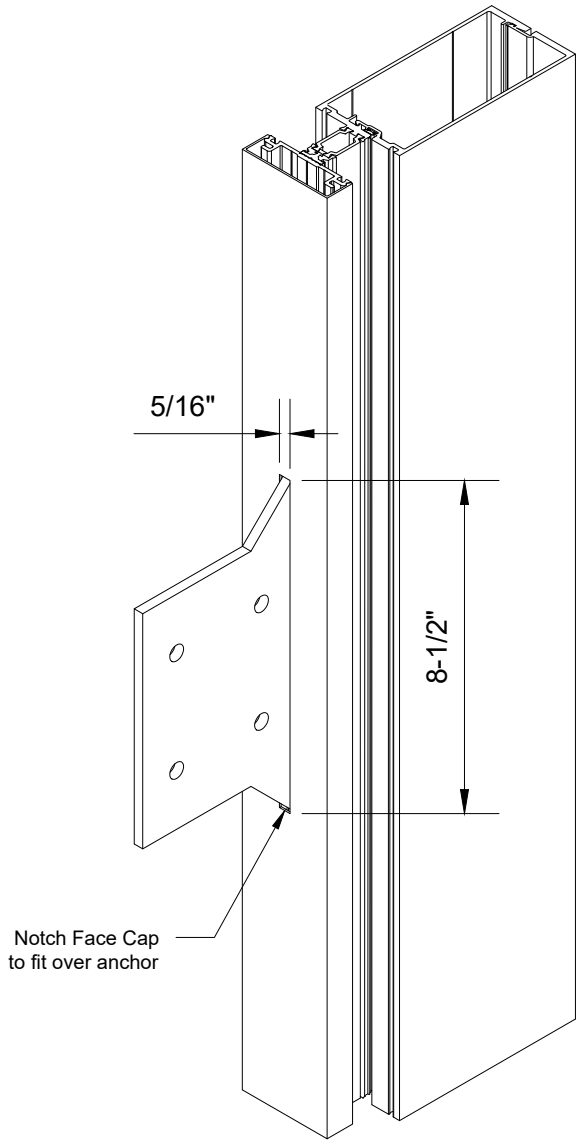


Figure 46
Installing Covers

9.4 Fabrication

1) Locate the centerline of each sunshade anchor on each mullion. Set the anchor in the appropriate position and match drill the 6 clear holes of the anchor into the front aluminum tongue of the mullion with 0.265" diameter clear holes. The standard sunshade anchor (SS-202-02) for Reliance-TCSS Curtain Wall Inside Glazed will require (6) 3/8" diameter pipe sleeves. Drill the previously matched drill holes to 0.390" x 1-9/16" deep. See FIGURE 47. (Size, locations and quantity of bolts may vary based on project requirements. Consult engineer for specific applications).
2) Face caps must be notched to clear the sunshade anchor. Face caps are cut at centerline of sunshade with a notch on each end. Notch per FIGURE 48.

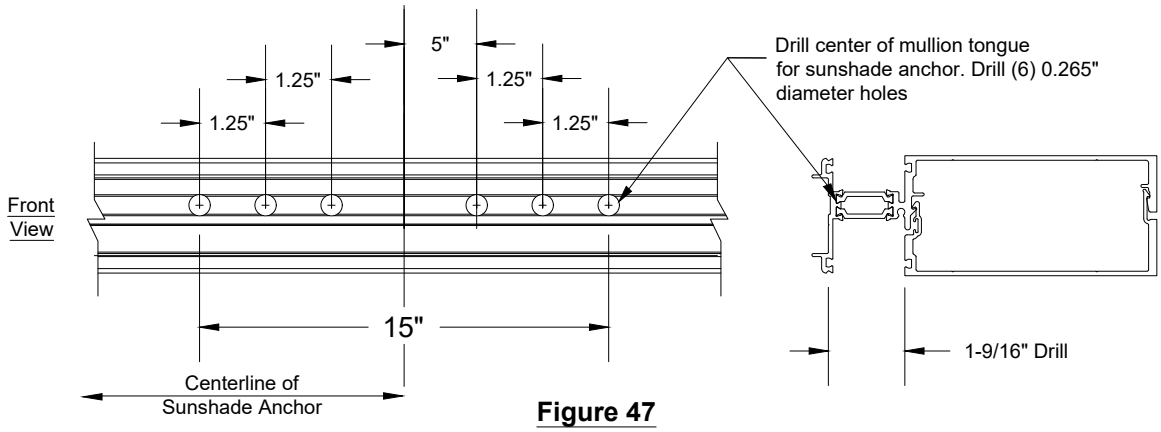


Figure 47
Mullion Tongue Fabrication

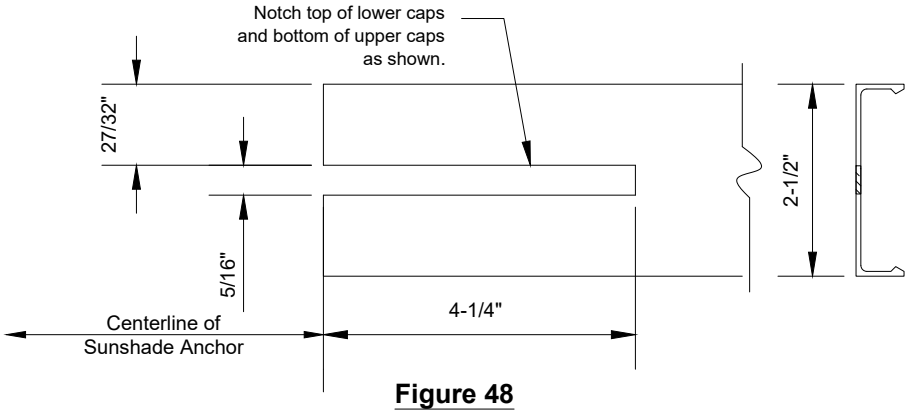


Figure 48
Face Cover Fabrication

9.5 Assembly

3) The SS-202-02 sunshade anchor will be attached using the FS-306 ($\frac{1}{4}$"-20 x 3" HWH) fastener. Final sunshade anchor and attachment must be determined by Engineer's review.
4) Use the sunshade anchor to mark the mullion tongue (WW-706). Drill the tongue of the mullion using a 13/32" drill bit and insert a 3/8" x 1" long pipe sleeve inside of the thermal struts. The Bi Flex fastener will be used to drill into the tubular section of the mullion. See FIGURE 49.
5) Bed anchor in sealant.

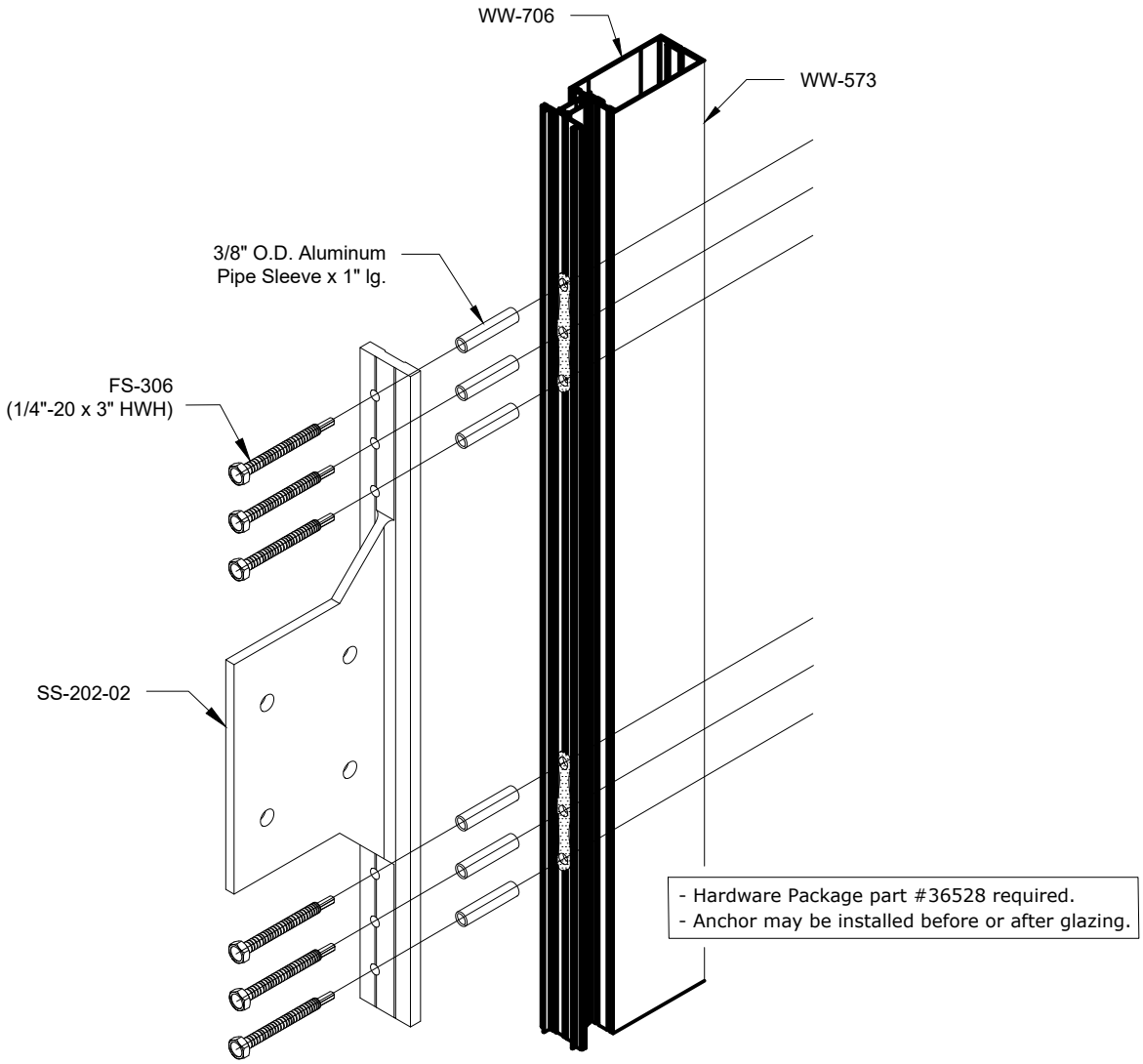


Figure 49
Sunshade Anchor Attachment

9.6 Assembly

6) Cap seal fasteners at sunshade anchor. See FIGURE 50.
7) The face cap will be notched at sunshade anchor to fit over the sunshade anchor blade. See FIGURE 51. Face cap may also be notched at each end and spliced at center of anchor. WW-216 face cap shown, minimum 3/4" deep cap required for Reliance-TC SS. Install caps per OBE standards as shown in Reliance installation manual.

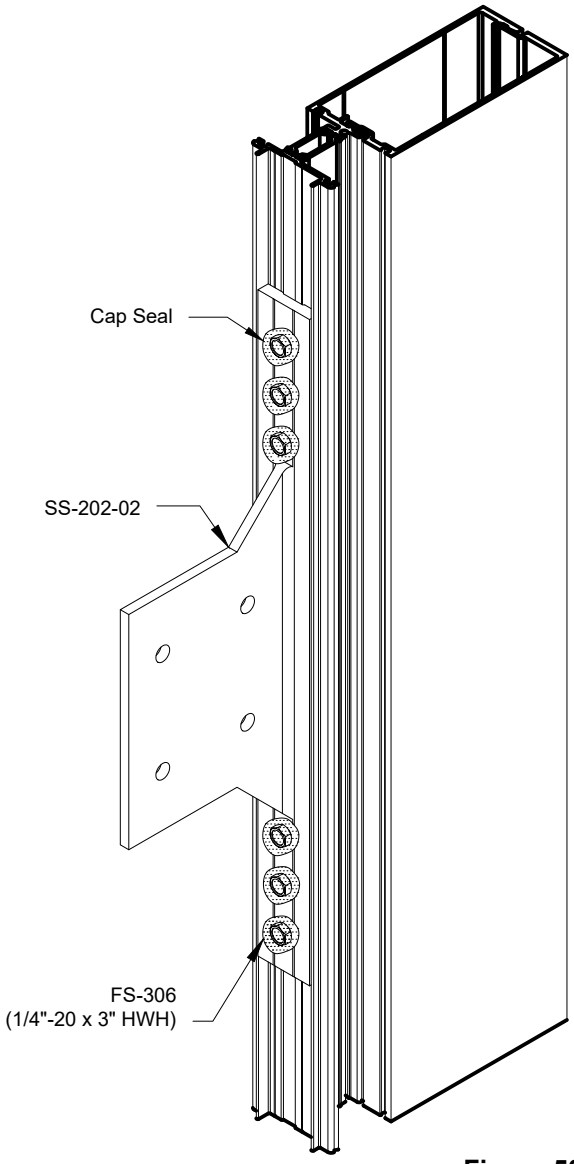


Figure 50
Cap Seal Fasteners

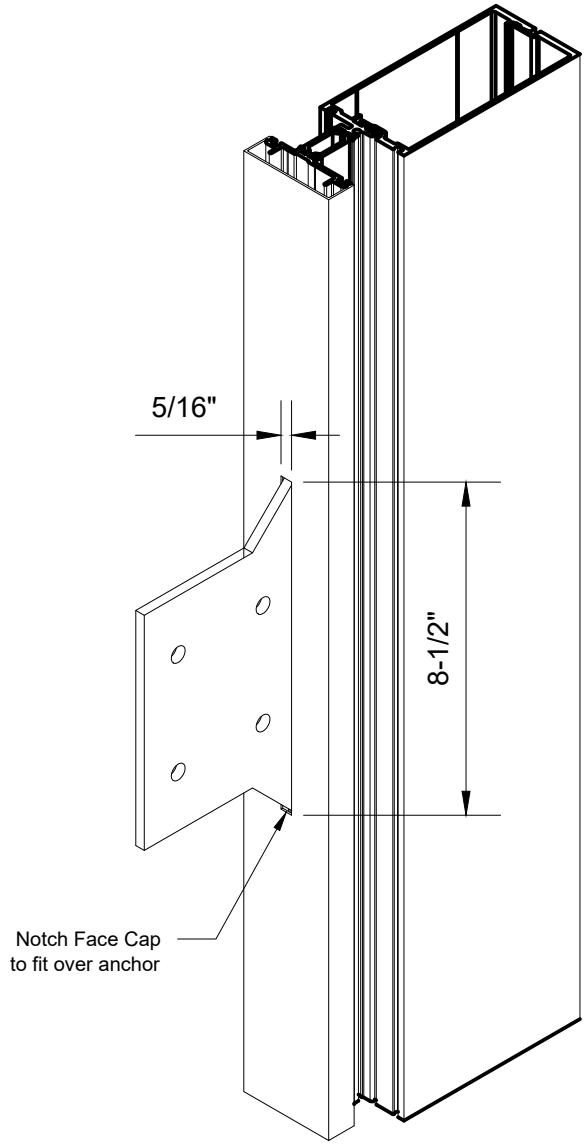
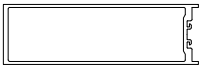
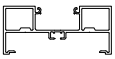
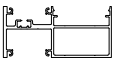
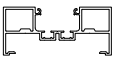
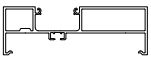
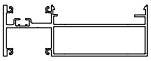
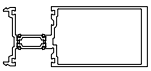
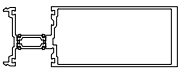
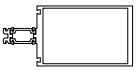


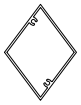
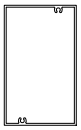
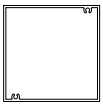
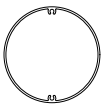
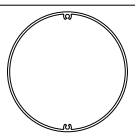
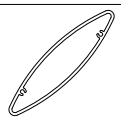
Figure 51
Installing Covers

Parts List

Sunshade Extrusions

ITEM	DESCRIPTION
 WW-463	Reliance SSG 6" Depth
 WW-563	Reliance SSG 7-1/4" Depth
 WW-863	Reliance SSG 10-1/8" Depth
 FG-3621	Series 3000 Multiplane Center Set
 FG-3622	Series 3000 Multiplane Front Set
 FG-3624	Series 3000XT
 FG-6621	Series 6000 Multiplane Center Set
 FG-6622	Series 6000 Multiplane Front Set
 WW-466	Reliance-TC Type I / TC IG Mullion 6" Depth
 WW-566	Reliance-TC Type I / TC IG Mullion 7-1/4" Depth
 AW-430	Reliance-TC Type II Mullion 6" Depth
 AW-530	Reliance-TC Type II Mullion 7-1/4" Depth

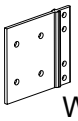
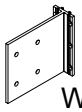
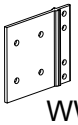
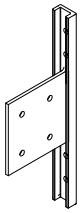
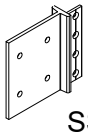
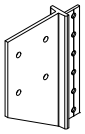
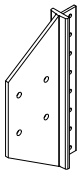
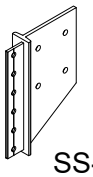
Sunshade Extrusions

ITEM	DESCRIPTION
 SS-100	4" Diamond
 SS-101	5" Rectangle
 SS-102	4" Square
 SS-103	5" Zee
 SS-104	4" Round
 SS-105	5" Round
 SS-106	5" Bullnose
 SS-107	6" Half Airfoil
 SS-108	6" Airfoil
 SS-109	4" Airfoil
 FG-3634-01	Center Set Storefront I.S. 90 Corner Anchor Reinforcement

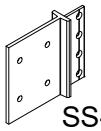
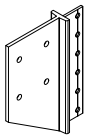
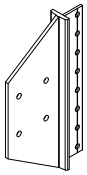
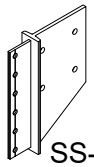
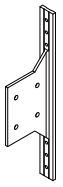
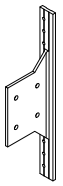
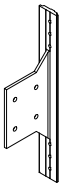
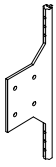
Reliance, Reliance-IGSS and Reliance-LT use standard system mullions based on project load requirements. Mullions shown above are specific to sunshade applications for systems shown.

Parts List

Sunshade Anchors

ITEM	DESCRIPTION
 WW-107-01	Reliance Anchor
 WW-285-01	Reliance SSG Anchor
 WW-2266-01	Reliance Cassette Anchor
 IW-107-01	Reliance-IGSS Anchor
 SS-200-01	Series 3000 / 6000 Multiplane Center Set / 3000XT Anchor Opt 1
 SS-200-02	Series 3000 / 6000 Multiplane Center Set / 3000XT Anchor Opt 2
 SS-200-03	Series 3000 / 6000 Multiplane Center Set / 3000XT Anchor Opt 3
 SS-200-04	Series 3000 / 6000 Multiplane Center Set / 3000XT Opposite Hand Version of Opt 2

Sunshade blades shown above are standard profiles. Custom shapes and sizes may be created to fit your design and application. Outriggers are custom ordered for each project and not shown above. Please contact your nearest OBE facility for additional information.

ITEM	DESCRIPTION
 SS-201-01	Series 3000 / 6000 Multiplane Front Set Anchor Opt 1
 SS-201-02	Series 3000 / 6000 Multiplane Front Set Anchor Opt 2
 SS-201-03	Series 3000 / 6000 Multiplane Front Set Anchor Opt 3
 SS-201-04	Series 3000 / 6000 Multiplane Front Set Opposite Hand Version of Opt 2
 SS-202-01	Reliance-TC Type II / Reliance TC SS Outside Glazed Anchor
 SS-202-02	Reliance-TC SS Inside Glazed Anchor
 SS-203-01	Reliance-TC Type I / TC IG Anchor
 RL-108-01	Reliance-TCLT Sunshade Anchor

Parts List

Fasteners

ITEM	DESCRIPTION
 FS-7	#10 X 3/4" Phillips Flat Head
FS-20	#10 X 3/4" S.S. Button Socket Head
 FS-21	FS-21 #10 x 1" S.S.
 FS-260	1/4"-20 x 1" Phillips Flat Head Type F Thread Cutting Screw
 FS-146	1/4"-20 x 1/2" Phillips Flat Head Stainless Machine Screw
 FS-147	1/4"-20 x 3/4" PFH Type F TCS SS
 FS-325	#12-24 x 1-11/32" H.W.H. Self Drilling Fastener
 FS-306	1/4"-20 x 3" H.W.H. Bi-Flex Self Drilling Fastener
 60657-01	3/8" O.D. x 1" Lg Pipesleeve
 FS-86	3/8"-16 X 1/2" Set screw w/ Loctite Patch

Hardware Packages:	
System	Part No.
Reliance	12854
Reliance SSG	36526
Reliance-LT	36525
Reliance Cassette	36529
Reliance-IGSS	36527
Reliance-TC Type I & II	36528
Reliance-TCIG	36528
3000XT	36530
3000 & 6000 Multiplane Center Set	36530
3000 & 6000 Multiplane Front Set	36531

ITEM	DESCRIPTION
WW-102-25	"T" Anchor for WW-463
WW-102-26	"T" Anchor for WW-563
WW-102-27	"T" Anchor for WW-863
WW-103-25	"F" Anchor for WW-463
WW-103-26	"F" Anchor for WW-563
WW-103-27	"F" Anchor for WW-863