

SERIES 5500

SSG AND CAPTURED CORNER MULLION

INSTALLATION INSTRUCTIONS



Part NO. Y556

December 2016

WHERE WINDOWS ARE JUST THE BEGINNING®



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**S-5500 SSG and Captured Corner Mullion
Installation Instructions**

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Note: These installation instructions are a supplement to the approved final shop drawings and are to be used in conjunction with those drawings.

Minimizing Condensation

Note: Please reference EFCO's "Understanding Condensation" brochure which can be obtained through your EFCO representative.

Condensation will form on any surface when unfavorable conditions (interior temperature and relative humidity and exterior temperature) are present. When the formation of excessive condensation is a concern, it is highly recommended that a design professional is utilized to perform an analysis of the shop drawings to recommend the best possible installation methods. Please contact your EFCO representative for information on EFCO's Thermal Analysis Services.

Many current installation practices lead to an increase in the possibility of the formation of condensation. Though not all inclusive, the list of examples below illustrates conditions under which condensation is likely to occur:

1. Bridging system thermal break with non-thermally broken metal flashing or lintels that are exposed to the exterior
2. System exposure to cold air cavities
3. Interior relative humidity levels not maintained at recommended levels, see EFCO's "Understanding Condensation" brochure
4. Inadequate separation between system and surrounding condition at perimeter
5. Product combinations during the shop drawing stage that result in bridging thermal breaks of one or all products involved

Section I: General Notes

- I. **HANDLING / STORING / PROTECTING ALUMINUM** - The following precautions are recommended to assure early acceptance of your products and workmanship.
 - A. **HANDLE CAREFULLY** - Store with adequate separation between components so the material will not rub together. Store the material off the ground. Protect materials against weather elements and other construction trades.
 - B. **KEEP MATERIAL AWAY FROM WATER, MUD, AND SPRAY** - Prevent cement, plaster, and other materials from contacting with and damaging the finish. Do not allow moisture to be trapped between the finished surface and the wrapping material.
 - C. **PROTECT MATERIALS AFTER ERECTION** - Wrap or erect screens of plastic sheeting over material. Cement, plaster, terrazzo, and other alkaline materials are very harmful to the finish and are to be removed with soap and water before hardening. Under no circumstances should these materials be allowed to dry or permanent staining will occur.

- II. **GENERAL GUIDELINES** - The following practices are recommended for all installations:
 - A. **REVIEW APPROVED SHOP DRAWINGS** – Become thoroughly familiar with the project. Shop drawings govern when conflicting information exists in these installation instructions.
 - B. **INSTALL ALL FRAMING MATERIAL PLUMB, LEVEL, AND TRUE** – Proper alignment and relationships to benchmarks and column centerlines, as established by the architectural drawings and the general contractor, must be maintained.
 - C. The sequence of erection should be coordinated with the project superintendent to prevent delays and minimize the risk of material damage. **Note: If preset anchors are required, coordinate and supervise anchor placement with the general contractor.**
 - D. Verify that all job site conditions and accompanying substrates receiving the installation are in accordance with the contract documents. If deviations occur, notification must be given **IN WRITING** to the general contractor and differences resolved before proceeding further with the installation in the questionable area.
 - E. Prevent all aluminum from coming in direct contact with masonry or dissimilar materials by means of an appropriate primer.

Section I: General Notes

- F. Follow EFCO framing installation and glazing instructions.
- G. Verify contents of all material shipments received upon their arrival. Verify quantities and correct finishes. **NOTIFY EFCO IMMEDIATELY OF ANY DISCREPANCIES OR DAMAGE THAT MAY HAVE OCCURRED.**
- H. Throughout these instructions the term "**SEALANT**" will appear. For the purposes of these instructions, sealant is to be defined as the following:

SEALANT - A weather resistant, gunable liquid filler which when cured provides a resilient, flexible ($\pm 50\%$ movement capability) air and water seal between similar and dissimilar materials.

All sealant must meet **ASTM C 920, CLASS 50**.

BUTYL SEALANT- A non-skinning, non-hardening material (**NAAMM Reference Standard 5C-1**).

NOTE: All sealant must be compatible with all surfaces on which adhesion is required, including other sealant surfaces. All frame surfaces should be clean, dry, dust, and frost free. If a primer is required, it must be applied to clean surfaces. All perimeter substrates shall be clean and properly treated to receive sealant.

This system is designed and has been tested to utilize butyl or silicone sealants at all internal joineries, i.e., joint plugs, gasket intersections, etc.

Regardless of the sealant used, the customer should contact the sealant manufacturer to determine compatibility and adhesion. Follow sealant manufacturer's proper application procedures and quality assurance programs for weather sealing.

Maintain caulk joints as shown in the approved shop drawings. Unless specified otherwise, most sealant manufacturers recommend a 3/8" minimum perimeter caulk joint. A 3/4" minimum joint is recommended at the head condition to accommodate thermal expansion and contraction. A 3/4" minimum joint is required at the jamb conditions to accommodate installation.

Anchoring surfaces of perimeter construction must be level and plumb within the adjustable limits of the head, jamb, and sill framing.

Section II: Frame Unit Assembly & Frame Sealing Captured System

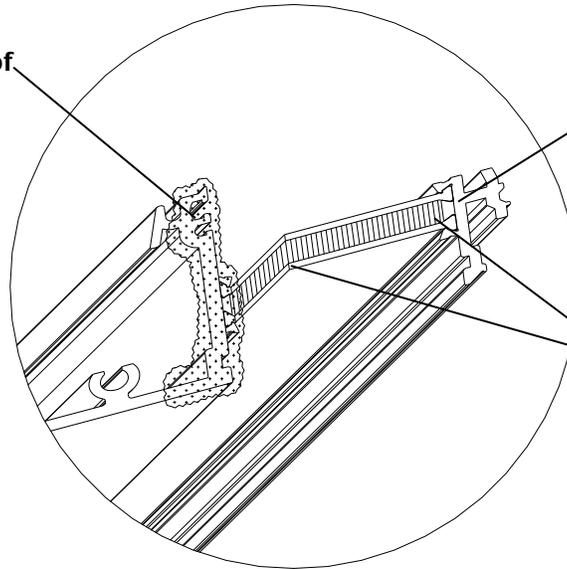
STEP #1 ASSEMBLE FRAMING MEMBERS

Apply sealant to the ends of the horizontals as shown.

Mitered end of sill

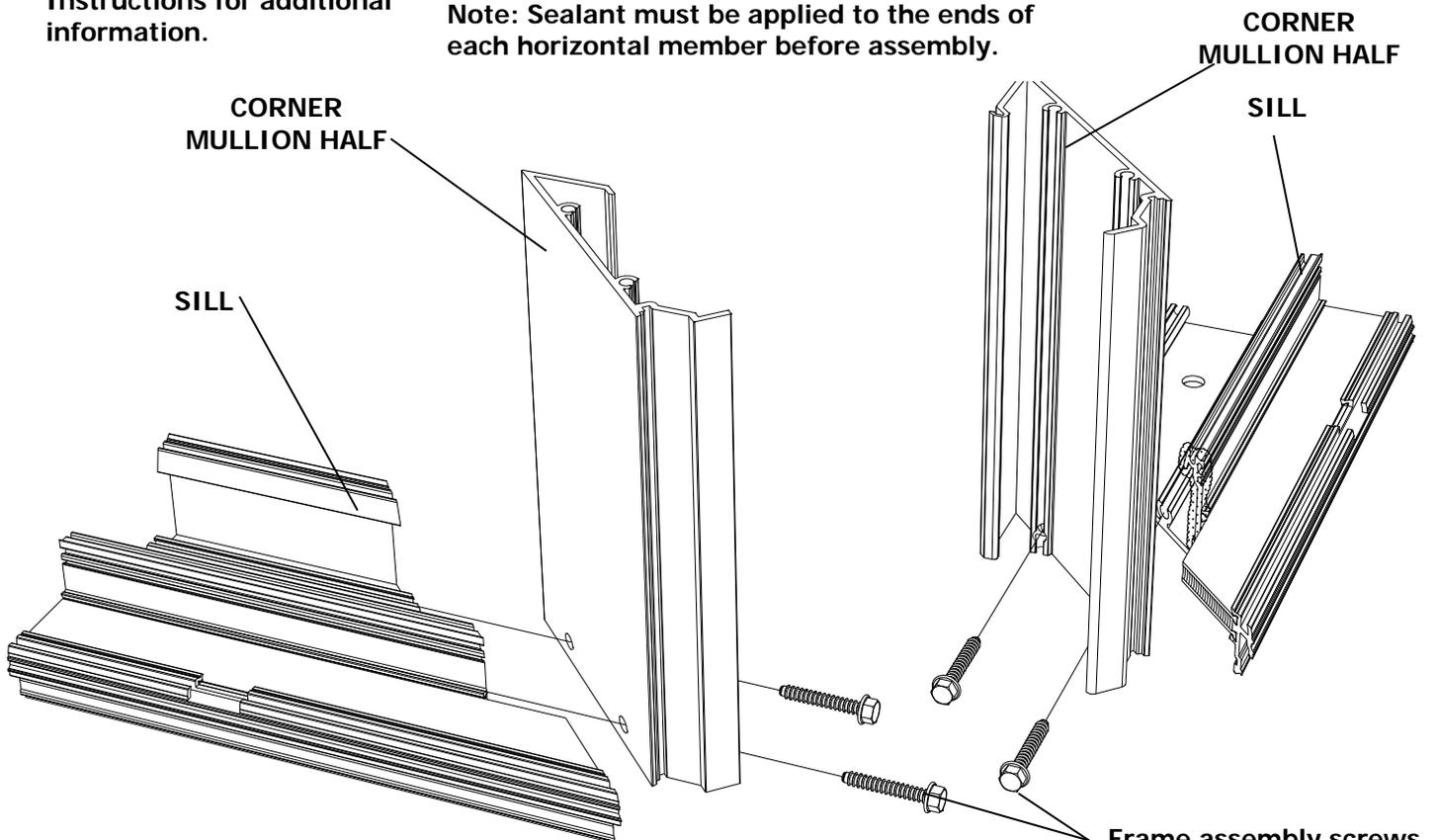
After each frame unit assembly is complete, wipe off all excess sealant and allow the frame unit to cure.

Refer to "Section II: Frame Unit Assembly & Frame Sealing" of the Series 5500 Outside Glazed or Inside Glazed Installation Instructions for additional information.



Apply sealant between the thermal struts as shown, and tool smooth.

Note: Sealant must be applied to the ends of each horizontal member before assembly.



**90 DEGREE CAPTURED
CORNER AT SILL**

Frame assembly screws
1/4" -14 x 1 1/2"
HWSMS 18-8 Typical

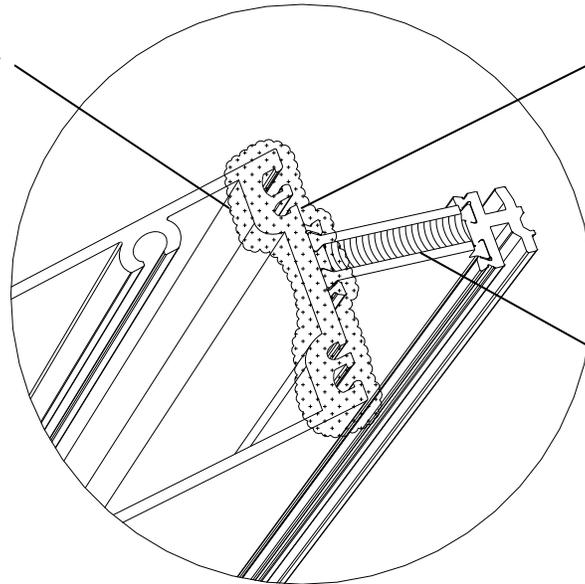
Section II: Frame Unit Assembly & Frame Sealing Captured System

Apply sealant to the ends of the horizontals as shown.

Mitered end of intermediate horizontal

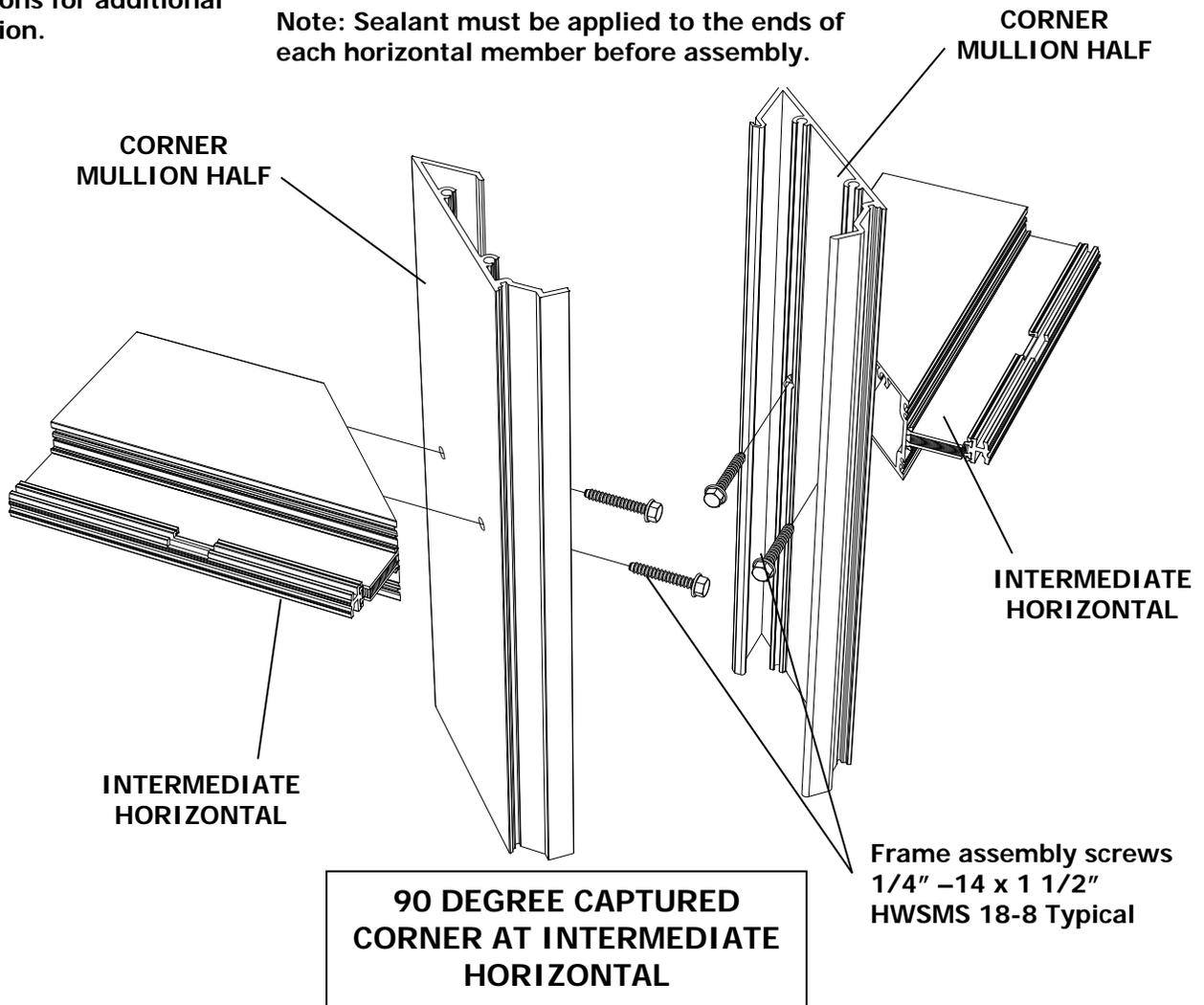
After each frame unit assembly is complete, wipe off all excess sealant and allow the frame unit to cure.

Refer to "Section II: Frame Unit Assembly & Frame Sealing" of the Series 5500 Outside Glazed or Inside Glazed Installation Instructions for additional information.



Apply sealant between the thermal struts as shown, and tool smooth.

Note: Sealant must be applied to the ends of each horizontal member before assembly.

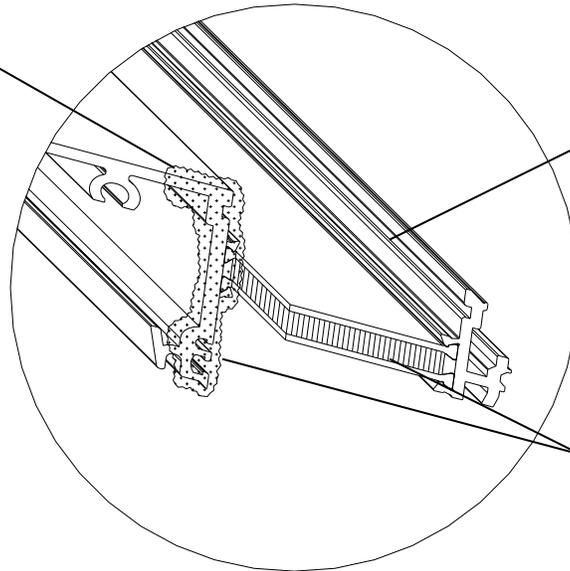


Section II: Frame Unit Assembly & Frame Sealing Captured System

Apply sealant to the ends of the horizontals as shown.

After each frame unit assembly is complete, wipe off all excess sealant and allow the frame unit to cure.

Refer to "Section II: Frame Unit Assembly & Frame Sealing" of the Series 5500 Outside Glazed or Inside Glazed Installation Instructions for additional information.

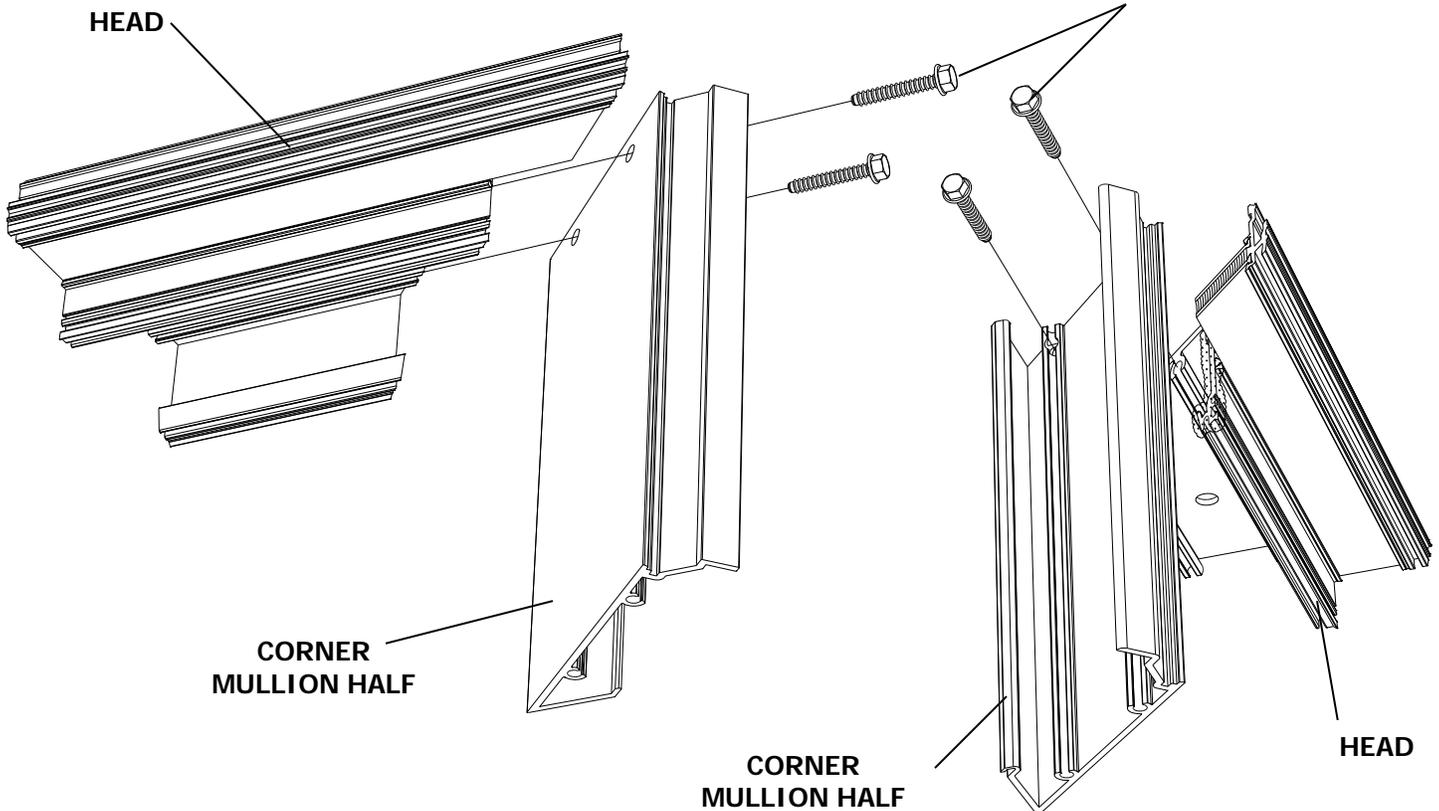


Mitered end of head

Apply sealant between the thermal struts as shown, and tool smooth.

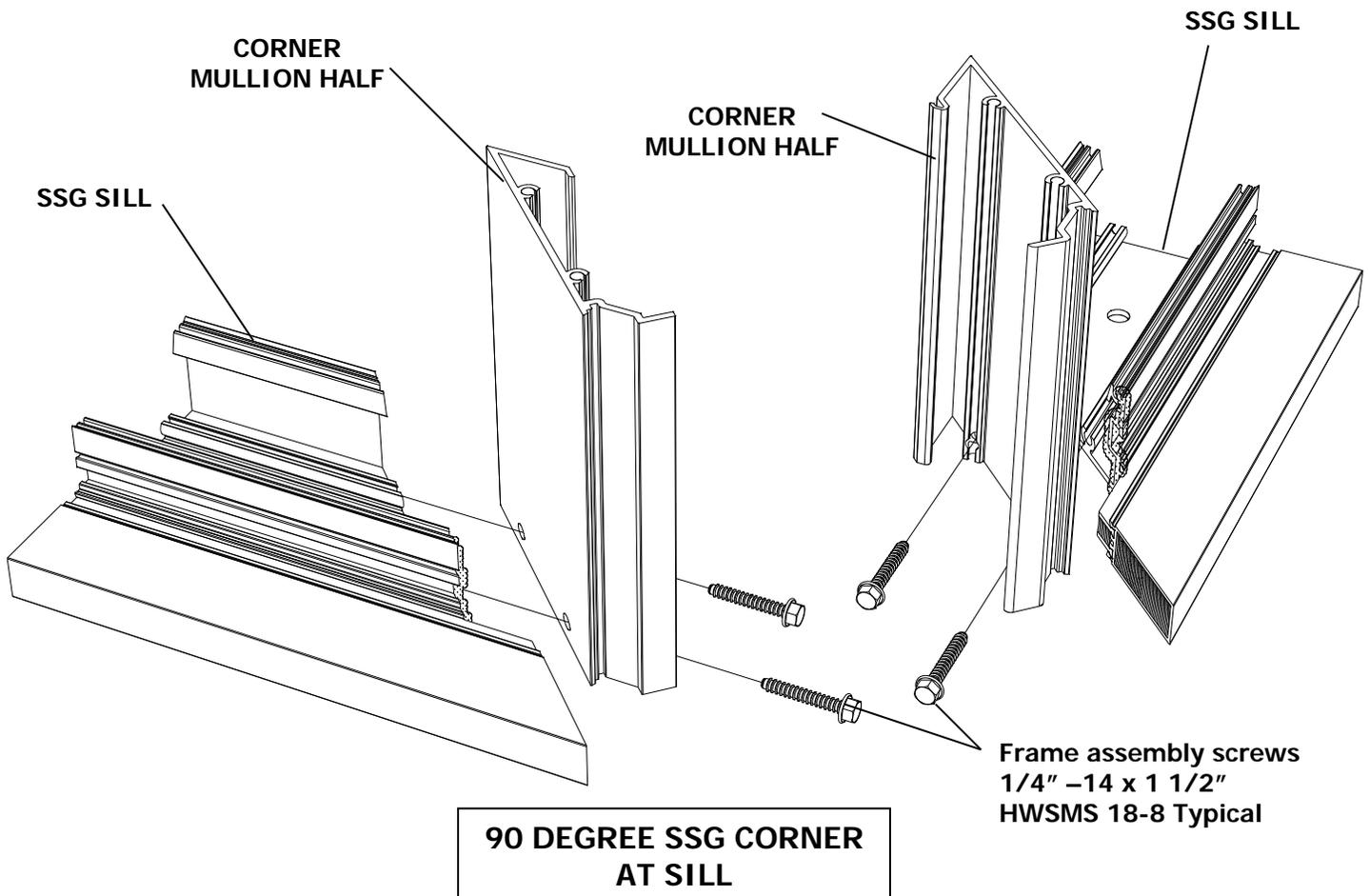
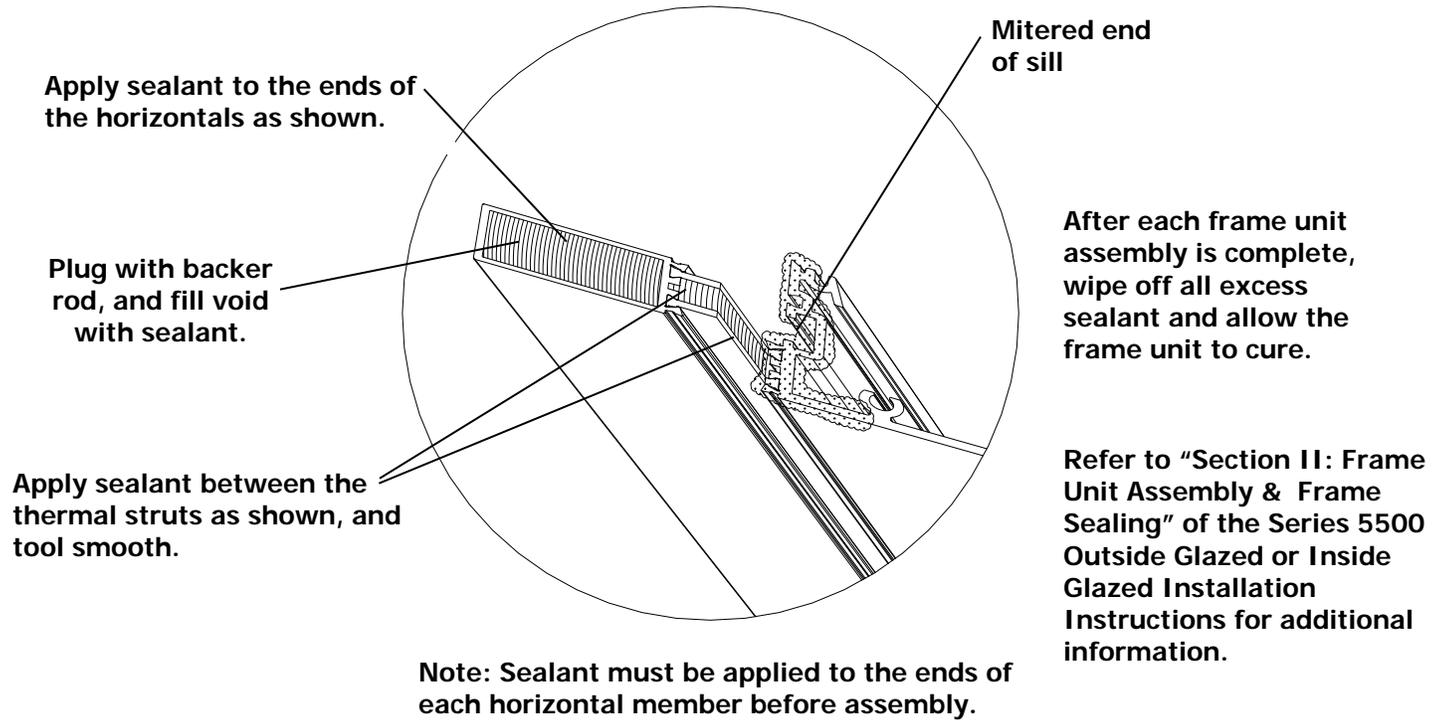
Note: Sealant must be applied to the ends of each horizontal member before assembly.

Frame assembly screws
1/4" -14 x 1 1/2"
HWSMS 18-8 Typical



**90 DEGREE CAPTURED
CORNER AT HEAD**

Section II: Frame Unit Assembly & Frame Sealing SSG System

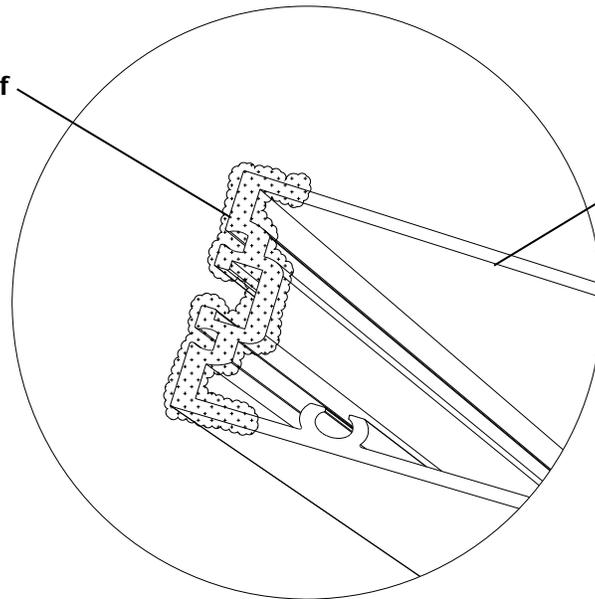


Section II: Frame Unit Assembly & Frame Sealing SSG System

Apply sealant to the ends of the horizontals as shown.

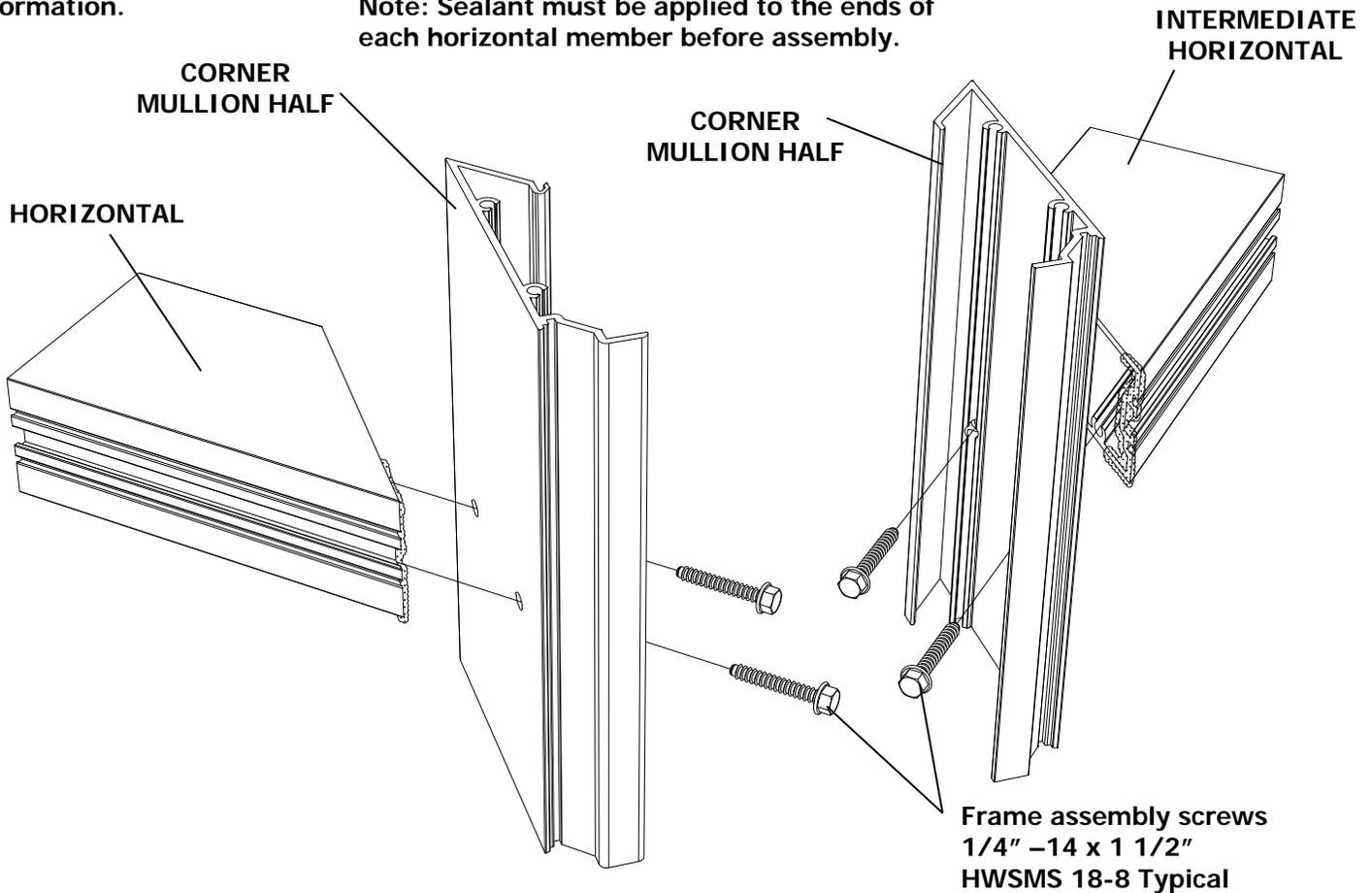
After each frame unit assembly is complete, wipe off all excess sealant and allow the frame unit to cure.

Refer to "Section II: Frame Unit Assembly & Frame Sealing" of the Series 5500 Outside Glazed or Inside Glazed Installation Instructions for additional information.



Mitered end of intermediate horizontal

Note: Sealant must be applied to the ends of each horizontal member before assembly.



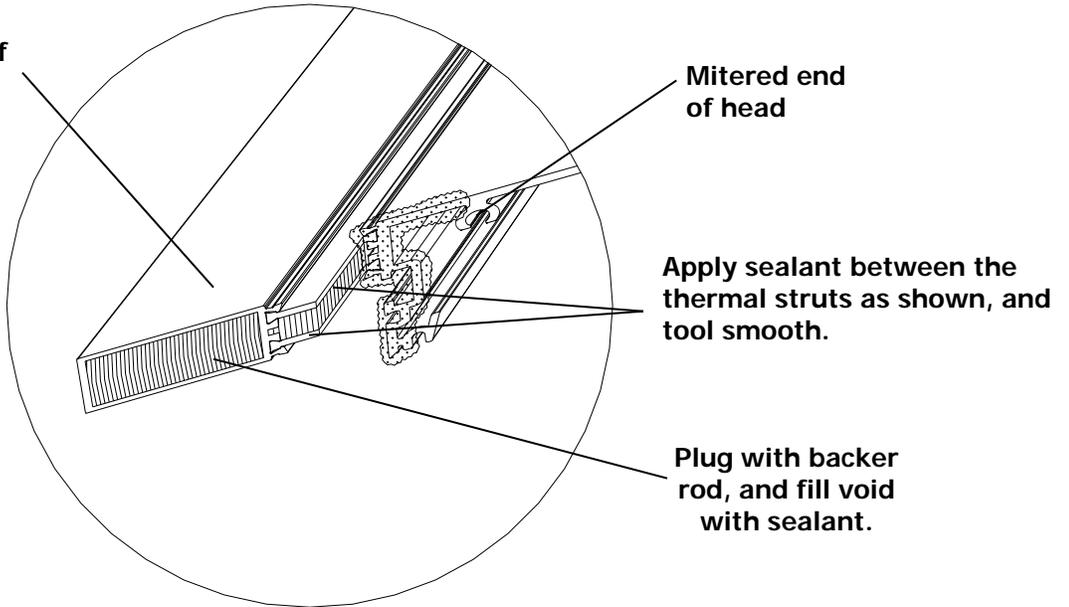
90 DEGREE SSG CORNER AT INTERMEDIATE HORIZONTAL

Section II: Frame Unit Assembly & Frame Sealing SSG System

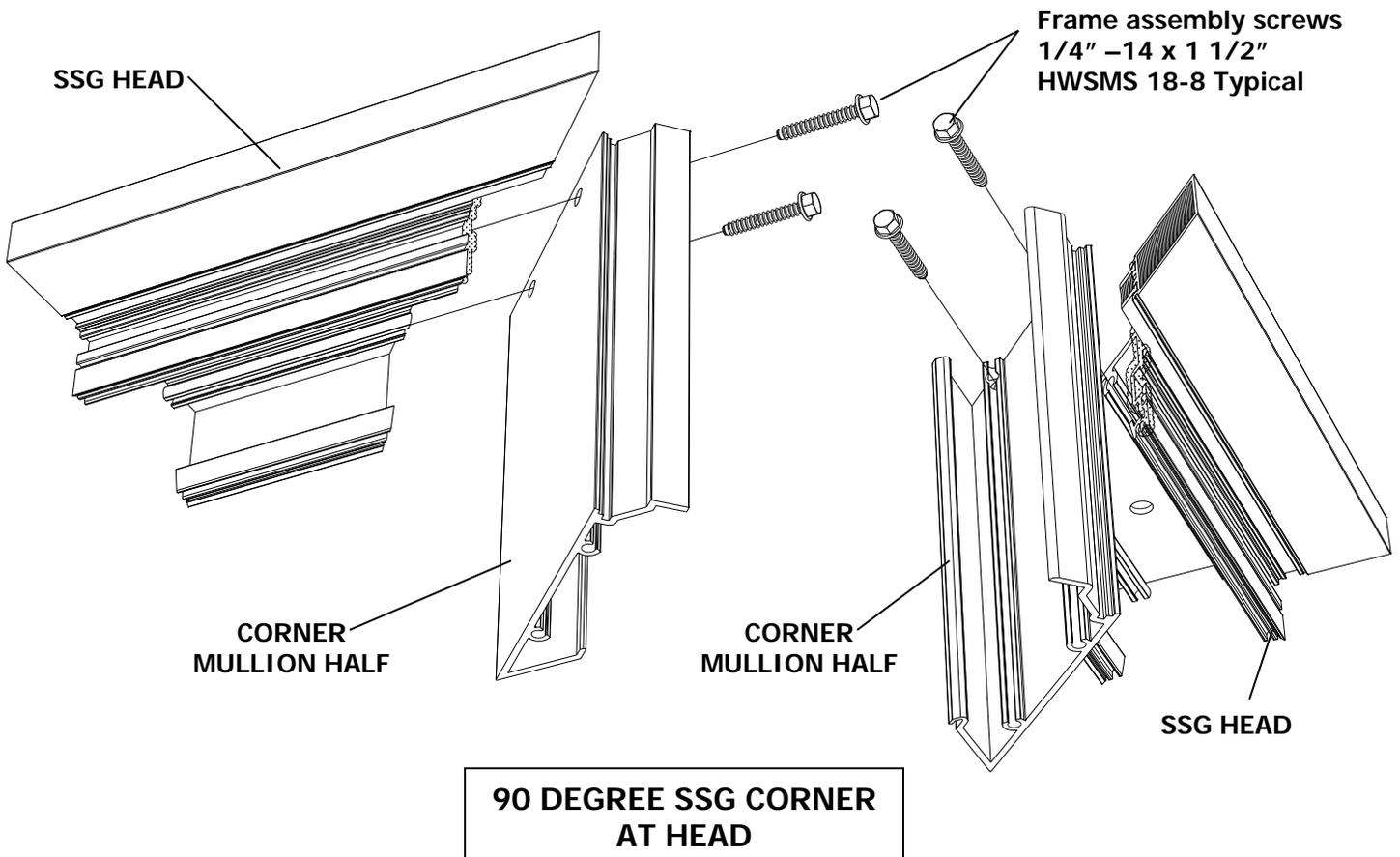
Apply sealant to the ends of the horizontals as shown.

After each frame unit assembly is complete, wipe off all excess sealant and allow the frame unit to cure.

Refer to "Section II: Frame Unit Assembly & Frame Sealing" of the Series 5500 Outside Glazed or Inside Glazed Installation Instructions for additional information.



Note: Sealant must be applied to the ends of each horizontal member before assembly.



**90 DEGREE SSG CORNER
AT HEAD**

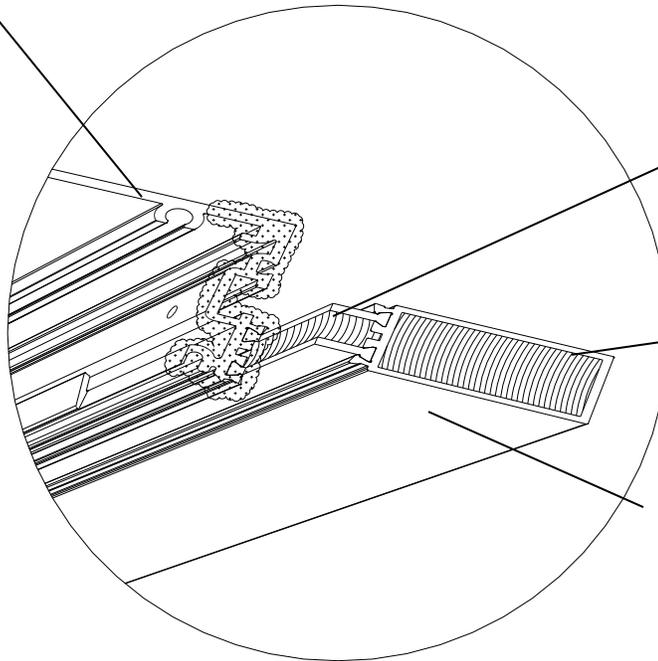
Section II: Frame Unit Assembly & Frame Sealing SSG System

Under certain circumstances, it may be necessary to use drop-on heads and sills with mullion 'M' and 'F' anchors. Refer to alternate anchorage methods section for more information.

Apply sealant to the ends of the horizontals as shown.

After each frame unit assembly is complete, wipe off all excess sealant and allow the frame unit to cure.

Refer to "Section II: Frame Unit Assembly & Frame Sealing" of the Series 5500 Outside Glazed or Inside Glazed Installation Instructions for additional information.



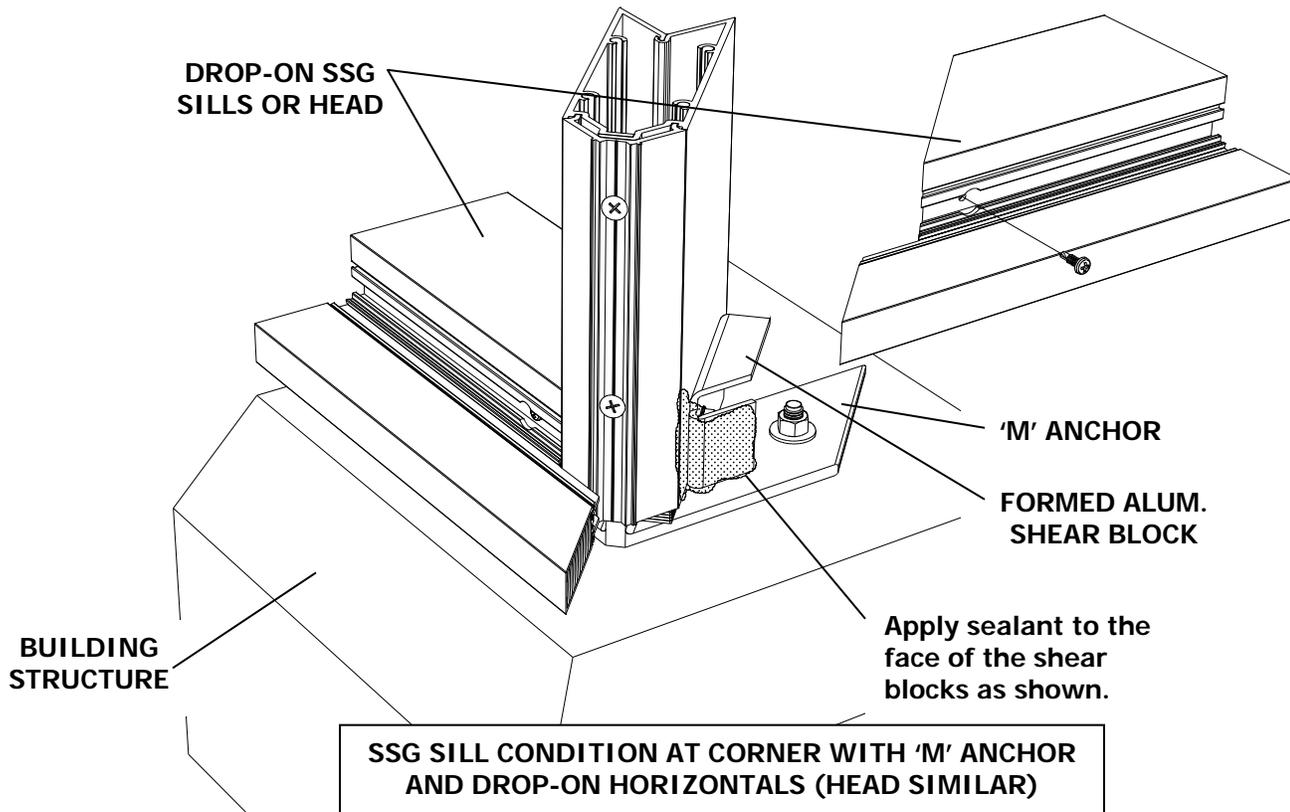
Apply sealant between the thermal struts as shown, and tool smooth.

Plug with backer rod, and fill void with sealant.

Mitered end of head or sill

SSG SYSTEM SHOWN - CAPTURED SYSTEM SIMILAR

Note: Sealant must be applied to the ends of each horizontal member before assembly.

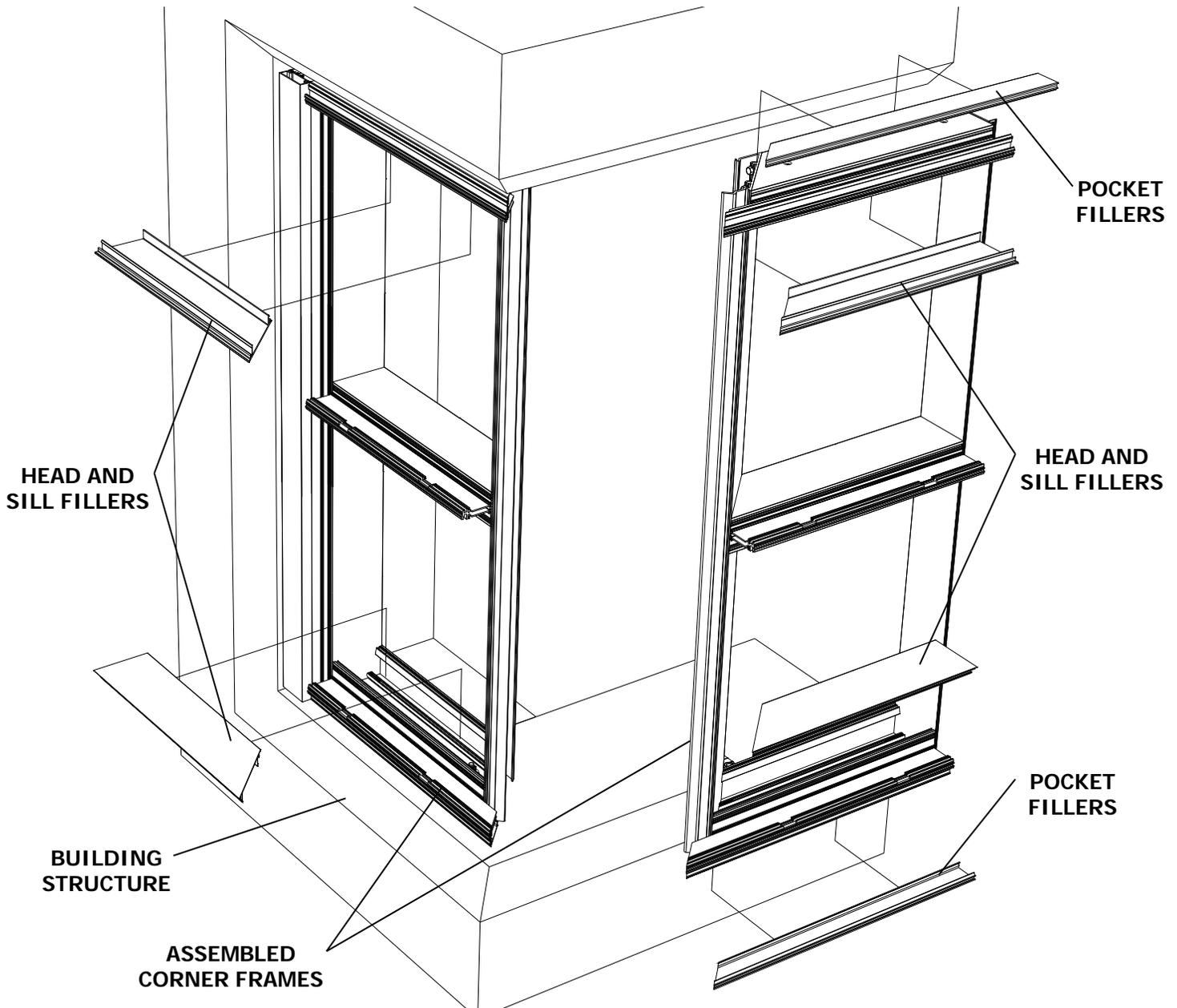


SSG SILL CONDITION AT CORNER WITH 'M' ANCHOR AND DROP-ON HORIZONTALS (HEAD SIMILAR)

Section III: Typical Anchorage Methods

STEP #1 INSTALL FRAME COMPONENTS

- A. Refer to the approved shop drawings for job specific conditions, anchor type, anchor bolt sizes, and locations. Install assemblies according to approved shop drawings. The anchor type used must be selected based on the structural requirements and the substrate.
- B. Refer to "Section III: Typical Anchorage Methods" of the Series 5500 Outside Glazed or Inside Glazed Installation Instructions for additional information.
- C. Set the frame into the opening using dead load shims to level the frame, and make all necessary adjustments to properly locate the frame to established benchmarks.
- D. After the frame is plumb and all adjustments have been made, match drill through the holes in the head and sill into the surrounding substrate, and apply the anchor bolts. Anchor bolt size, type, quantity, and location vary. Refer to the approved shop drawings for more information.

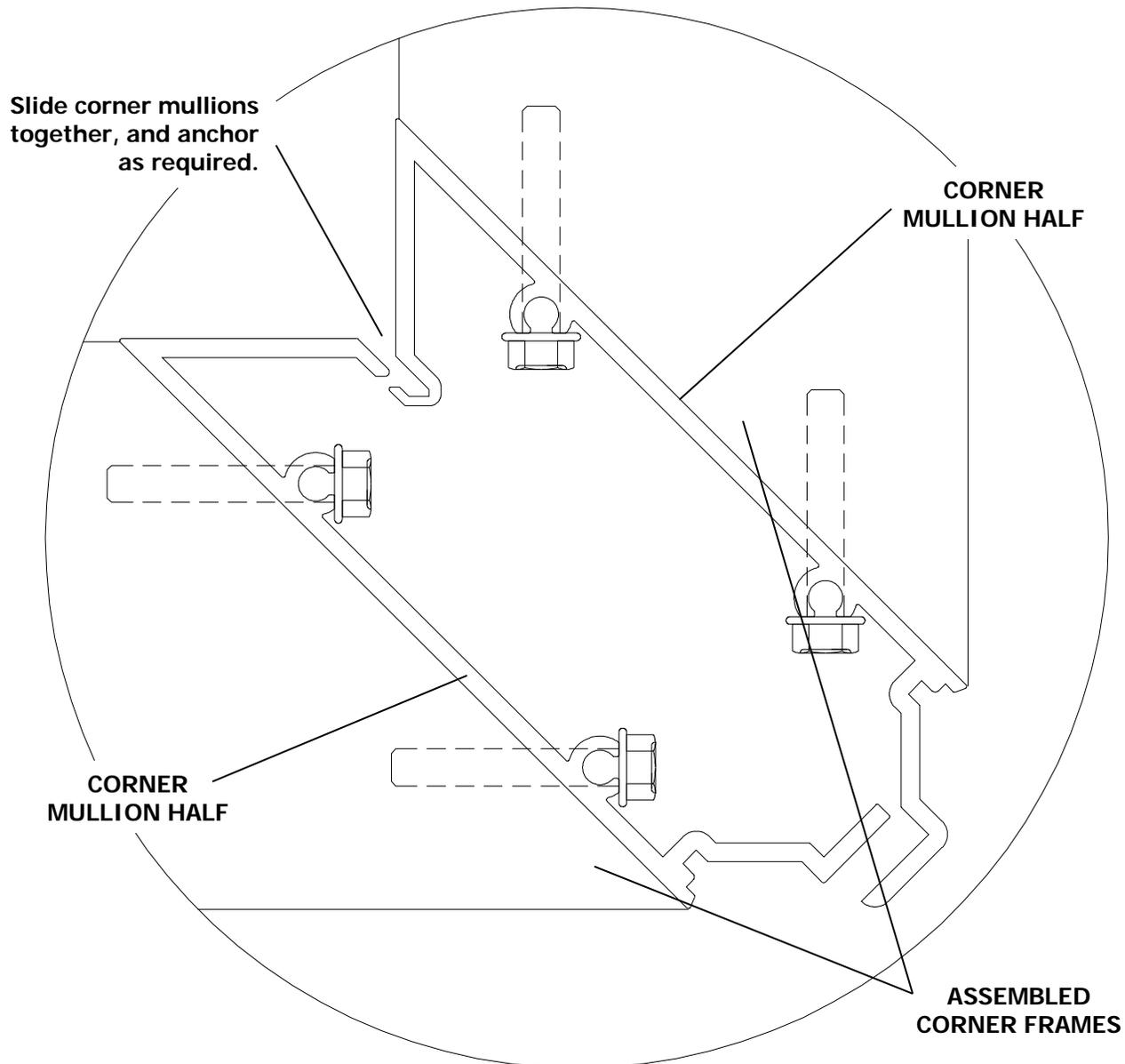


**CAPTURED CORNER
(SSG SIMILAR)**

Section III: Typical Anchorage Methods

STEP #2 INSTALL FRAME COMPONENTS

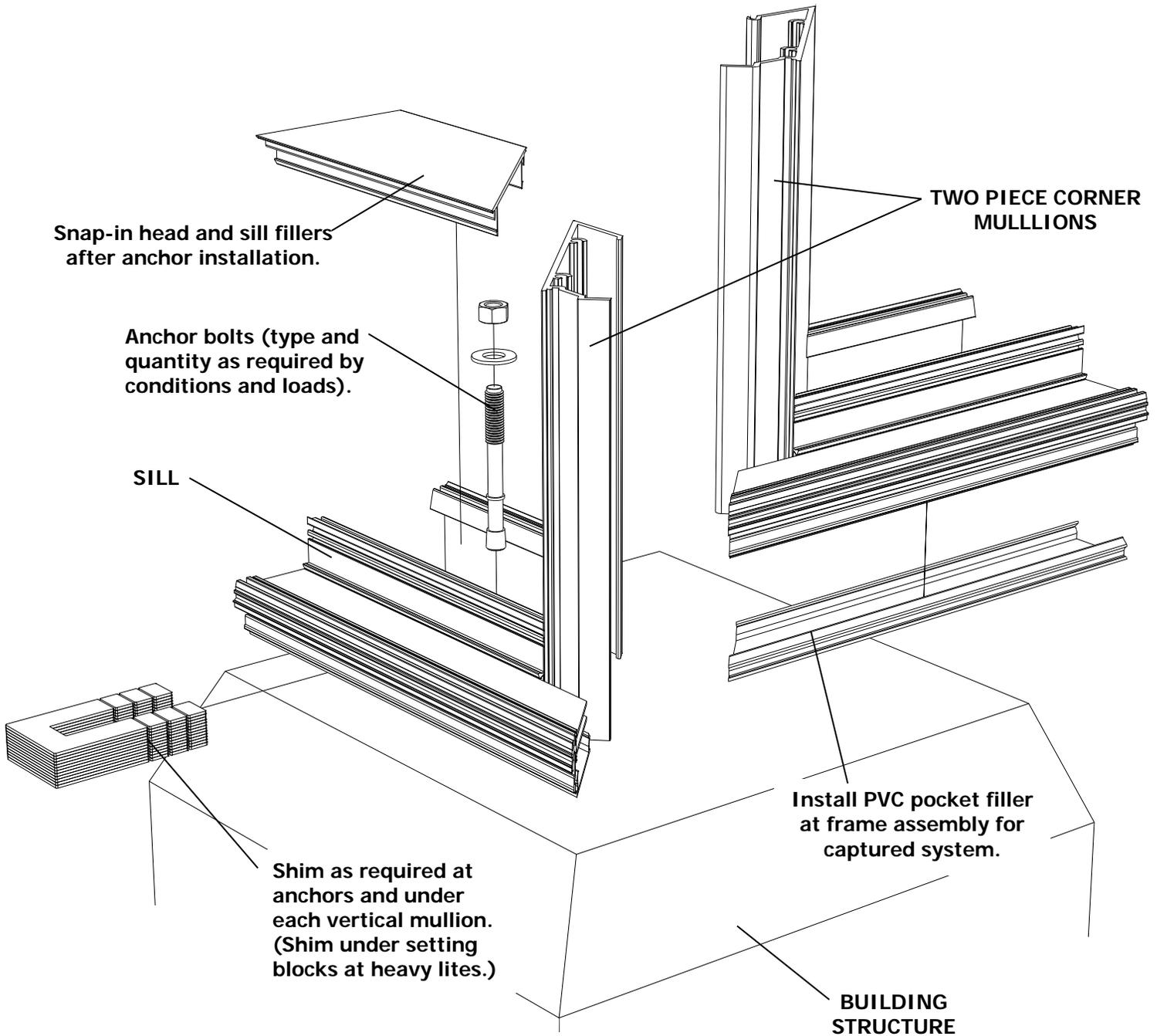
- A. After the first corner frame is set into the opening plumb and in the proper position with regard to established benchmarks, anchor the frame at the head, sill and intermediate floor slab if required.
- B. Stack the next corner frame into the opening, and mate the corner mullions together as shown in the illustration below.
- C. Anchor the second corner frame into the opening, as required, after it is level and plumb.



STACK CORNER MULLIONS

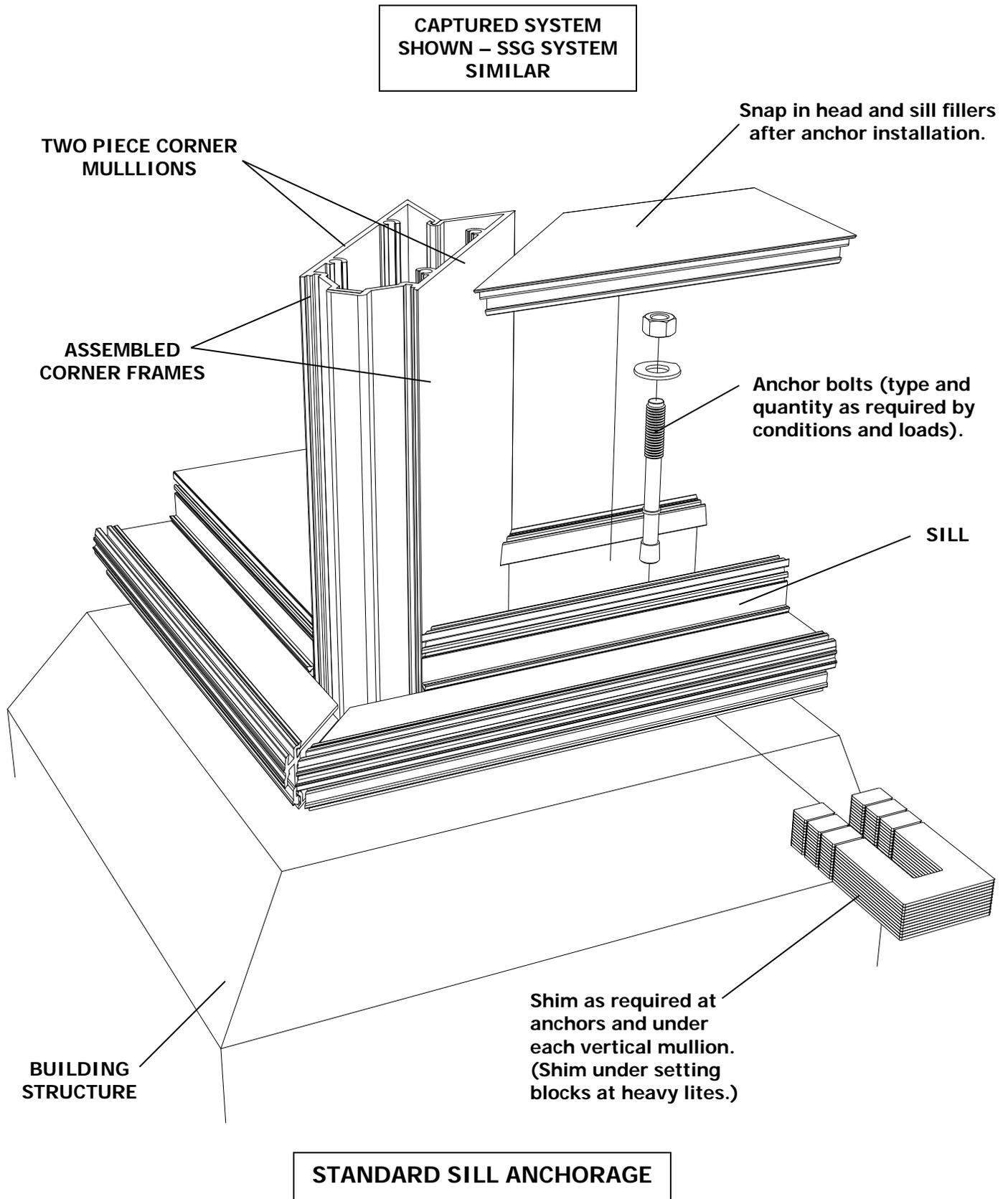
Section III: Typical Anchorage Methods

CAPTURED SYSTEM
SHOWN – SSG SYSTEM
SIMILAR

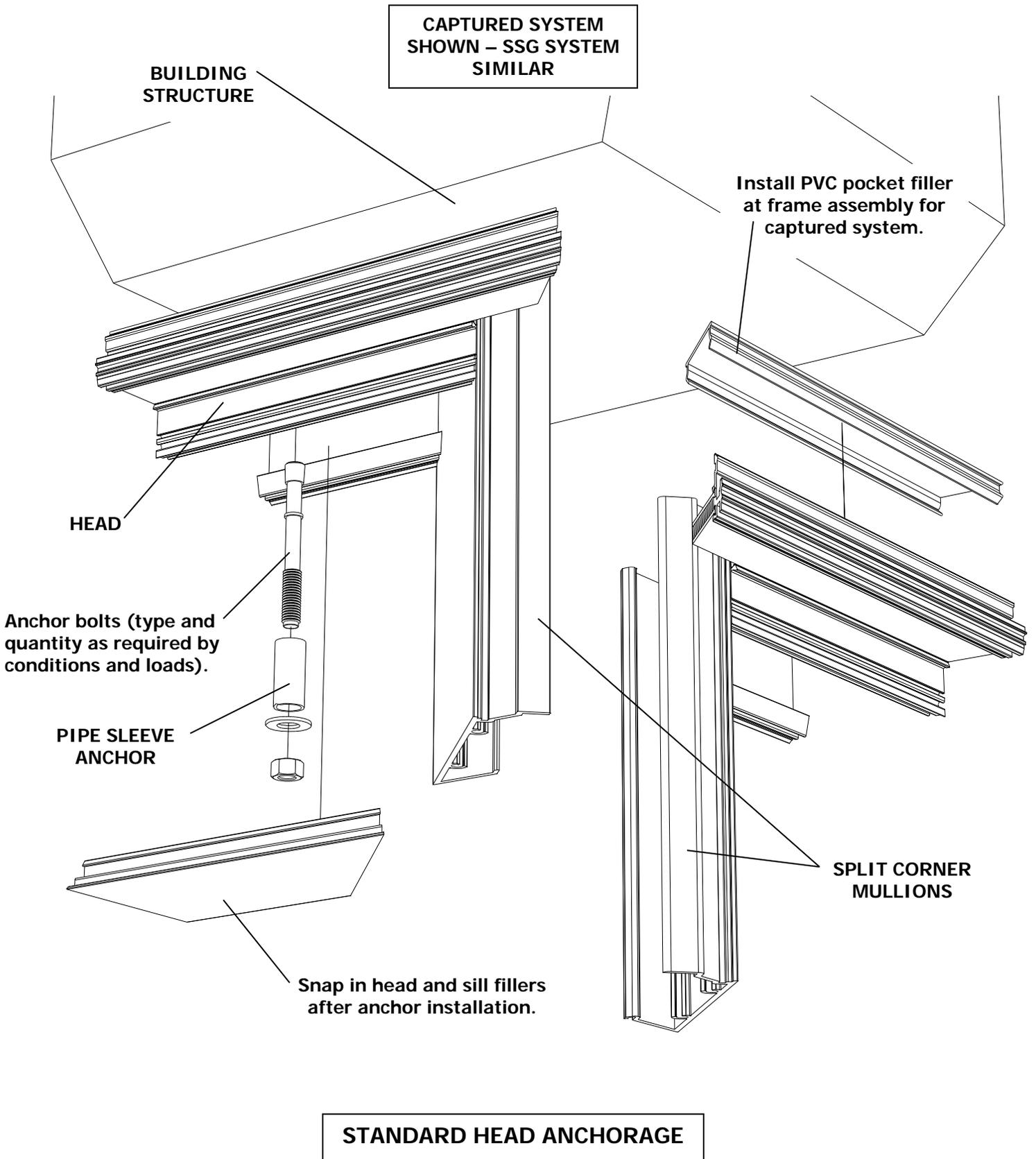


STANDARD SILL ANCHORAGE

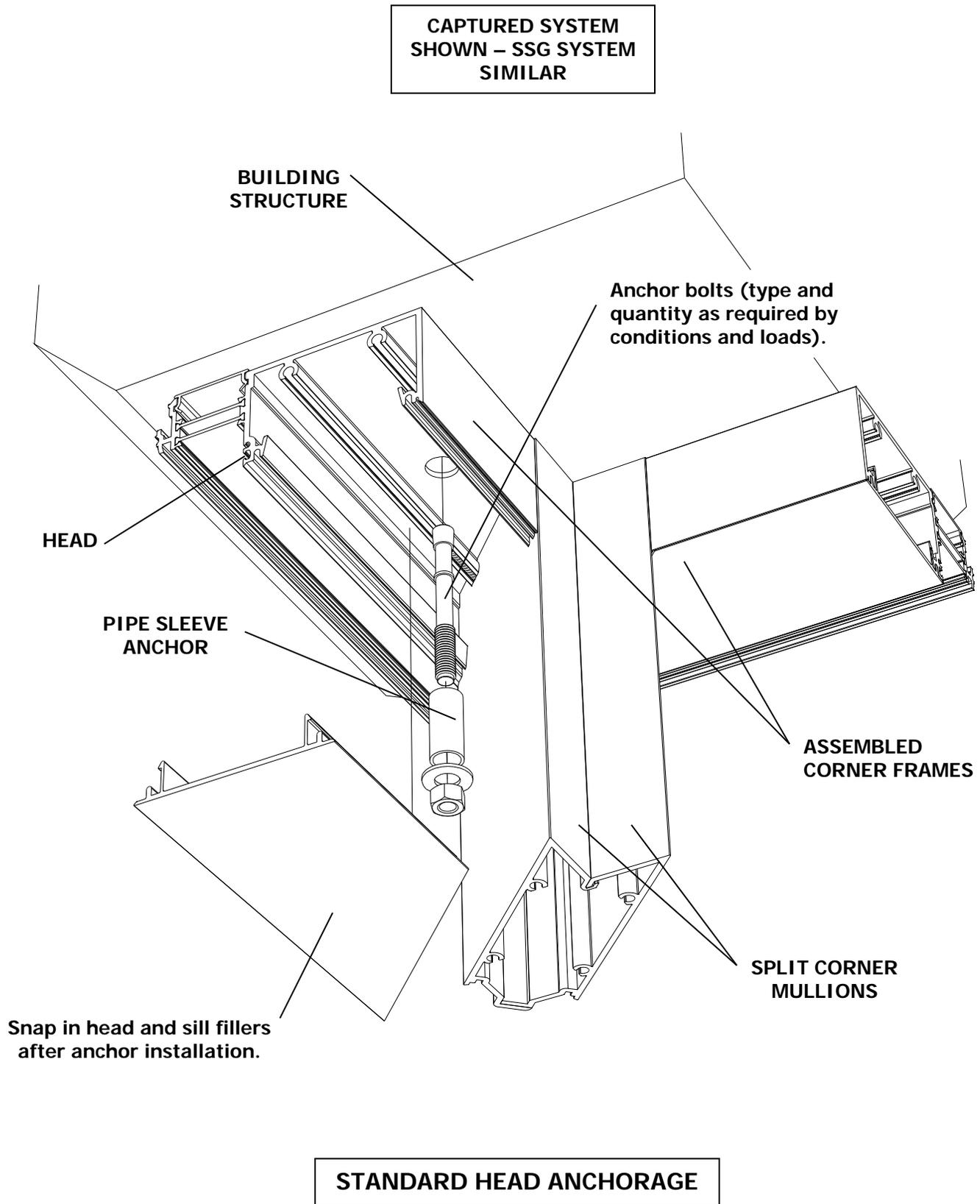
Section III: Typical Anchorage Methods



Section III: Typical Anchorage Methods



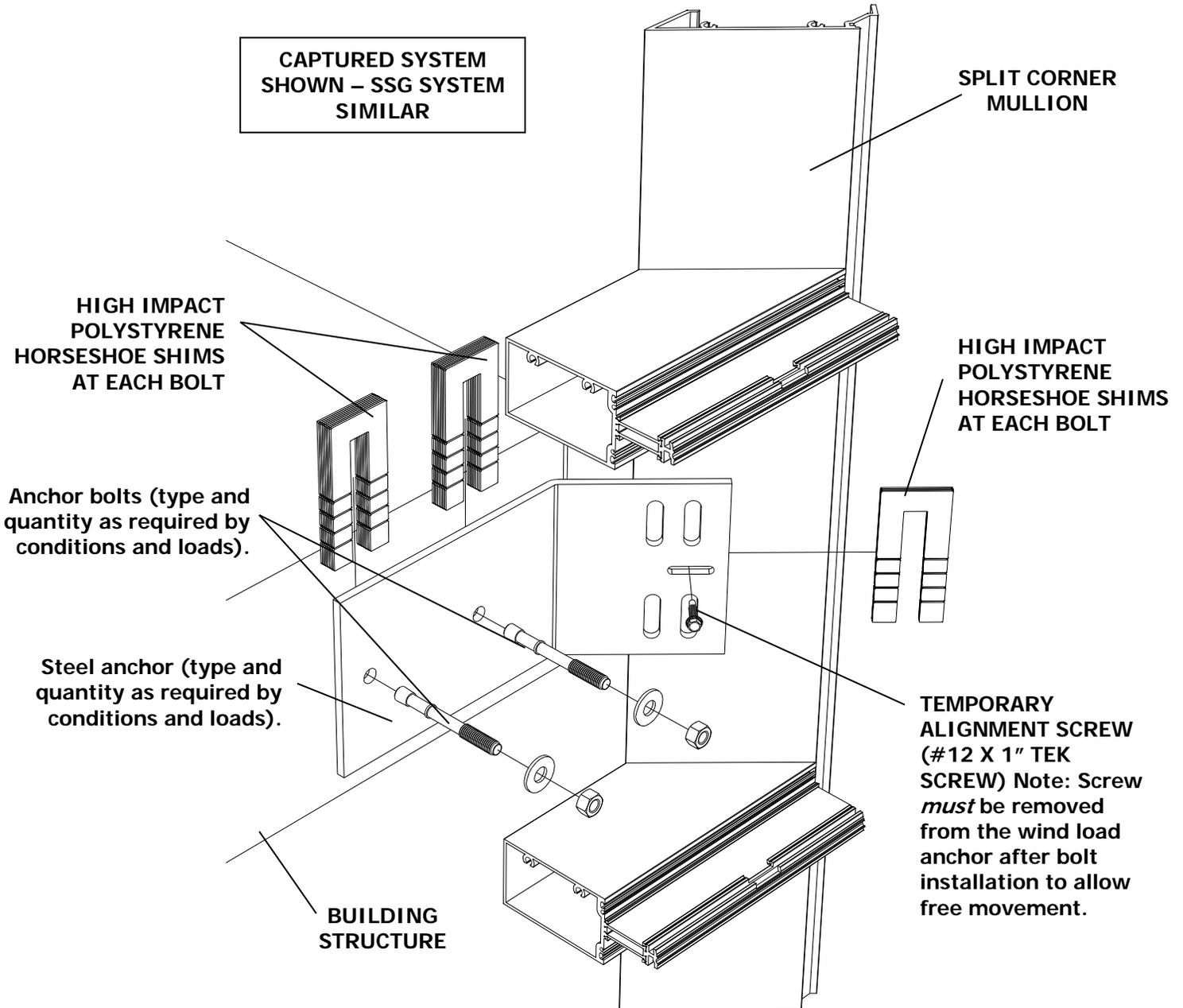
Section III: Typical Anchorage Methods



Section III: Typical Anchorage Methods

STEP #3 INSTALL FRAME COMPONENTS – BOLTED WIND LOAD ANCHORS (Dead load anchors similar)

When the frame is properly aligned, level and plumb, match drill the slab through the anchor, and install anchor bolts securing the anchor to the building structure. Use the temporary alignment screw to hold the mullion in position until the adjacent corner frame can be installed and anchored. Note: When a steel edge angle, steel tube, or similar condition exists for attachment of the intermediate anchor, a welded connection will be used. Refer to "Section III: Typical Anchorage Methods" of the Series 5500 Outside Glazed or Inside Glazed Installation Instructions for additional information.

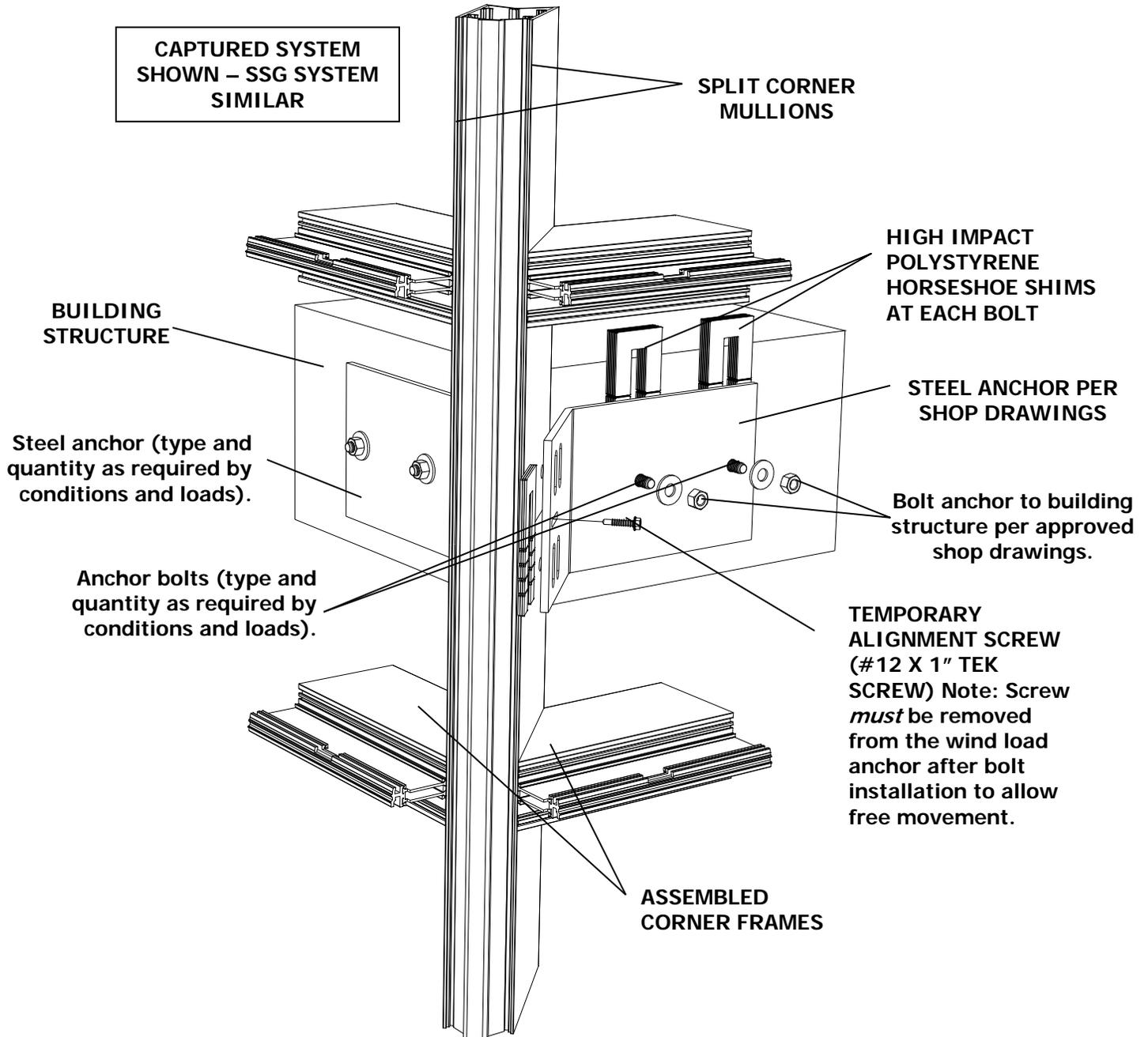


BOLTED WIND LOAD ANCHORS (DEAD LOAD SIMILAR)

Section III: Typical Anchorage Methods

STEP #4 INSTALL FRAME COMPONENTS – BOLTED WIND LOAD ANCHORS (Dead load anchors similar)

Stack the adjacent corner frame into the opening, and mate the two-piece mullions together. When the frame is properly aligned and level and plumb, match drill the slab through the anchor, and install anchor bolts securing the anchor to the building structure. Use the temporary alignment screw to hold the mullion in position until the mullions can be match drilled though the holes or slots in the anchors. Note: It is critical that the anchors be set to the exact same elevation, and that the fronts of the anchors are aligned so that the through bolt will be centered in the adjacent holes or slots in the anchors.

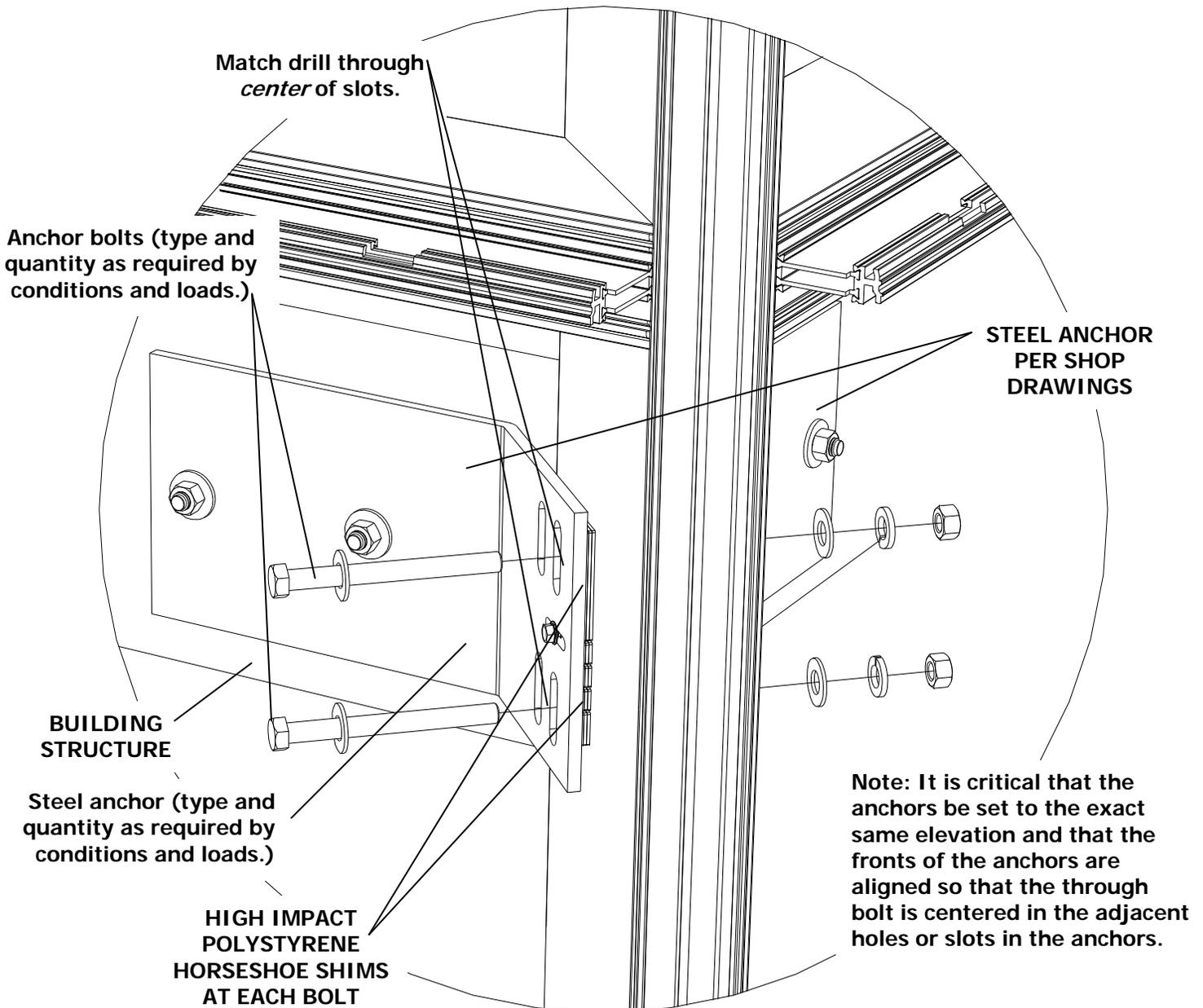


BOLTED WIND LOAD ANCHORS (DEAD LOAD SIMILAR)

Section III: Typical Anchorage Methods

STEP #5 INSTALL FRAME COMPONENTS – BOLTED WIND LOAD ANCHORS

When the frames are properly aligned and level and plumb, match drill the mullion through the *CENTER* of the set of slots or holes in the anchor. **NOTE:** The holes must be a minimum of 1 1/2" from the back of the mullion in order to clear the back flange of any steel reinforcement located inside the system, as may be required on a job specific basis. Use a bolt with a flat washer at the bolt head end. At the nut end of the bolt, use a flat washer, then a spring lock washer next to the nut as shown. Shim the anchor at each bolt as shown. **Important:** The nut must be tightened sufficiently to completely compress the spring lock washer. At wind load connections only, back the nut off a quarter to half turn to allow free movement of the connection. The threads of the bolts must be staked, or Loctite must be used to prevent the nut from loosening from the bolt. Remove the temporary alignment screws. Refer to the approved shop drawings for anchor locations, bolt sizes, welding requirements, and other job specific information.

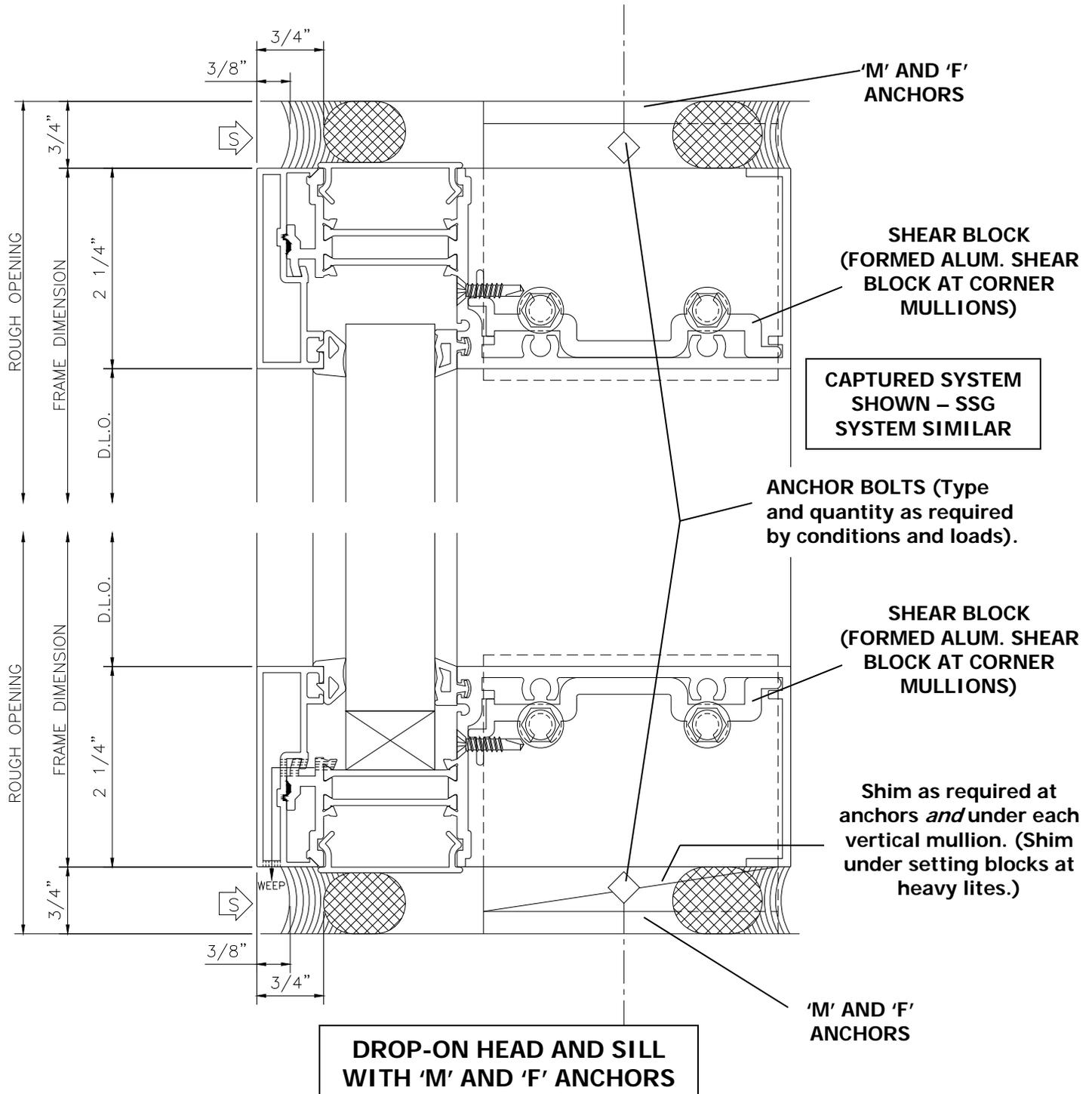


BOLTED WIND LOAD ANCHORS (DEAD LOAD SIMILAR)

Section IV: Alternate Anchorage Method (Heavy-Duty Anchor Connections)

THIS ANCHOR METHOD MUST BE USED WHEN REACTIONS EXCEED 1600 LBS AT INTERMEDIATE VERTICALS AND 800 LBS AT THE JAMBS.

Note: The responsible engineer must determine the structural adequacy and type of anchorage method to be used for a given substrate, applied loads, and building movements. The S-5500 has different anchorage options available to meet these conditions.

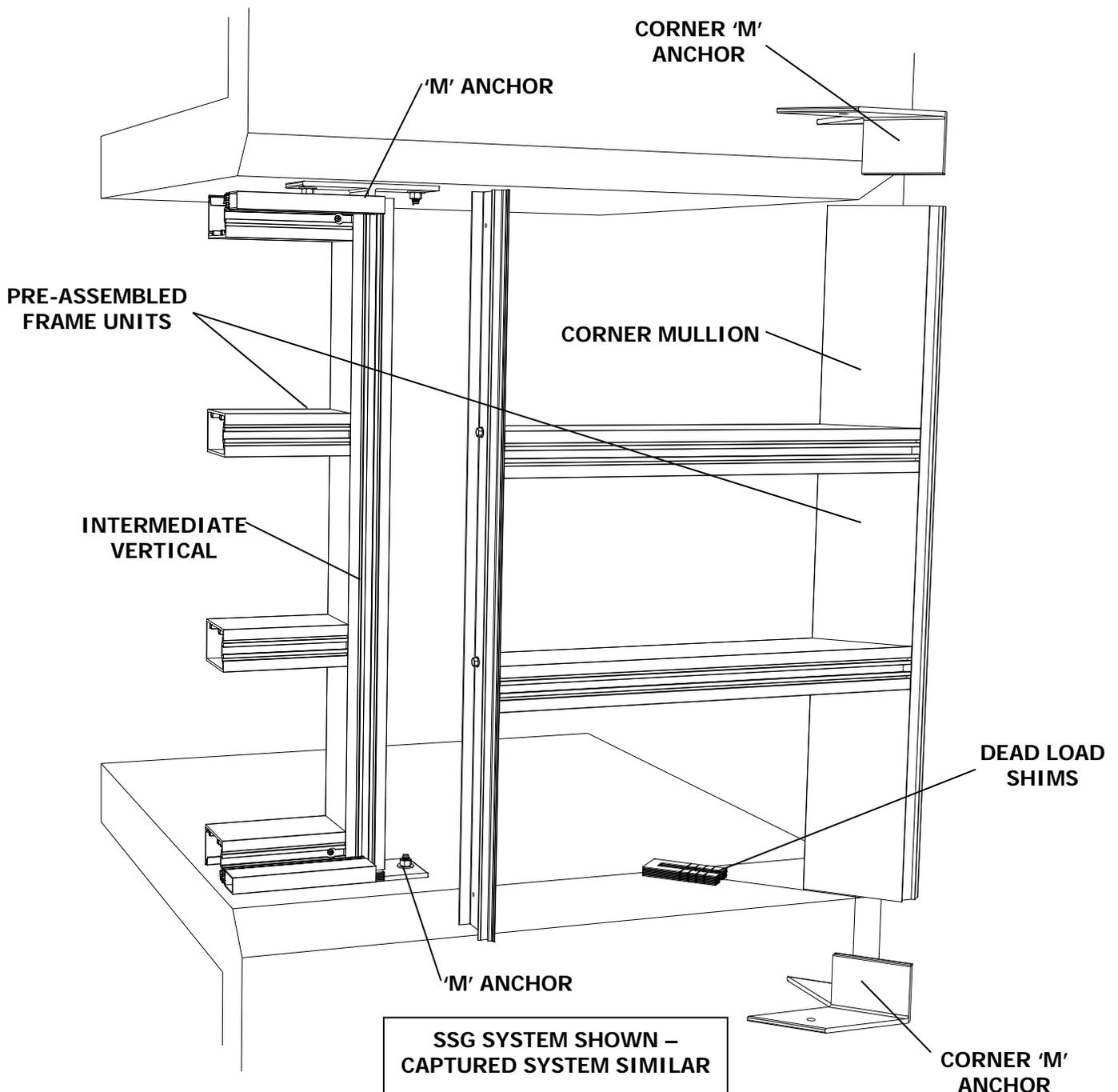


Section IV: Alternate Anchorage Method

STEP #1 INSTALL FRAME COMPONENTS

This method of anchorage is available for conditions where the standard head and sill anchors or alternate head anchors are not adequate for the given design criteria. Please consult with the structural engineer responsible for the shop drawings for your project.

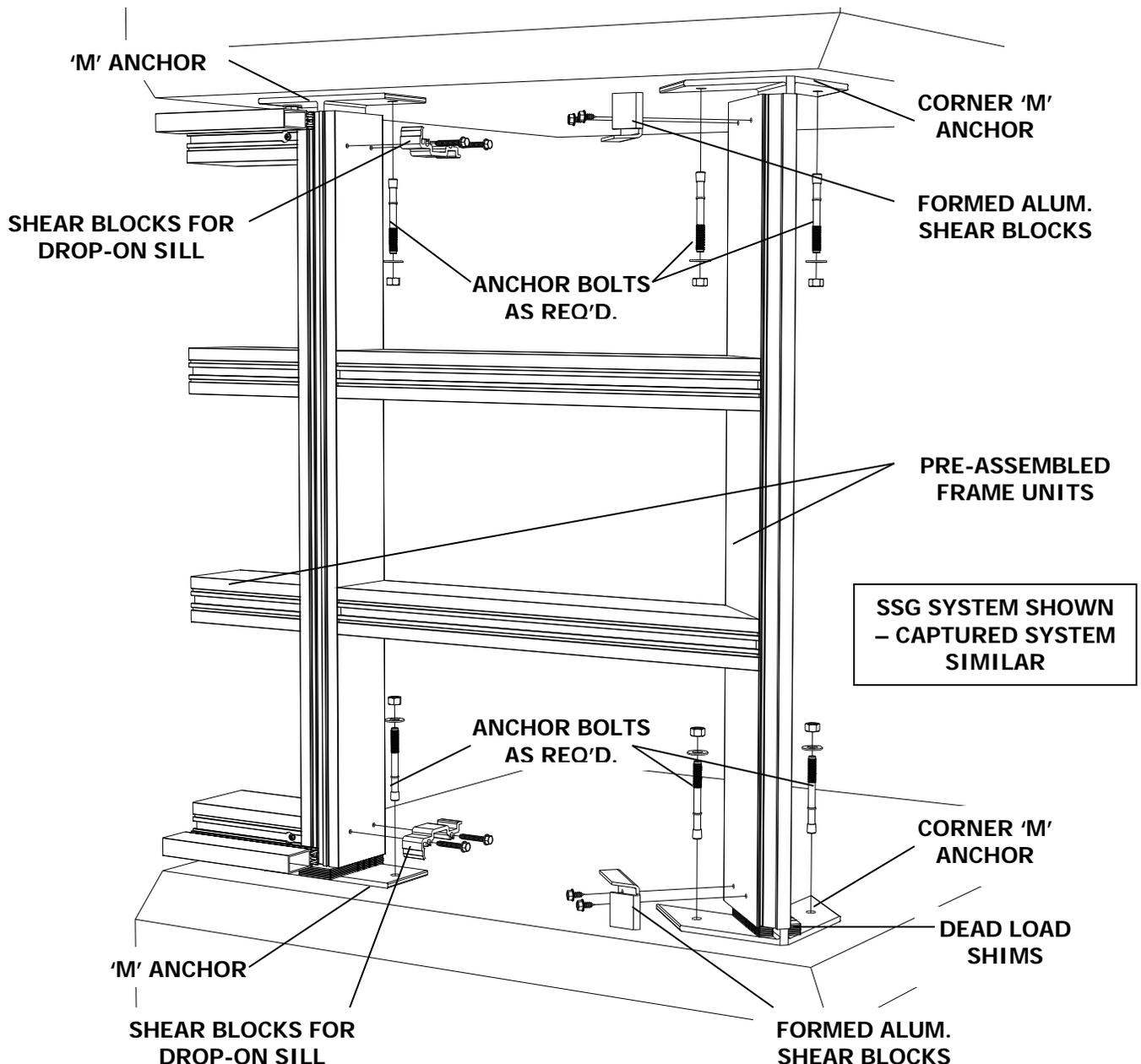
- A. Assemble verticals and intermediate horizontals following the frame assembly and sealing instructions in Section II. Shear blocks should be installed after the frames are set and anchored to avoid interference with the anchor bolts.
- B. Insert 'M' anchors into each end of the intermediate verticals and corner mullion.
- C. This section covers the installation for corner conditions. Refer to "Section V: Alternate Anchorage Method" of the Series 5500 Outside Glazed or Inside Glazed Installation Instructions for additional information.



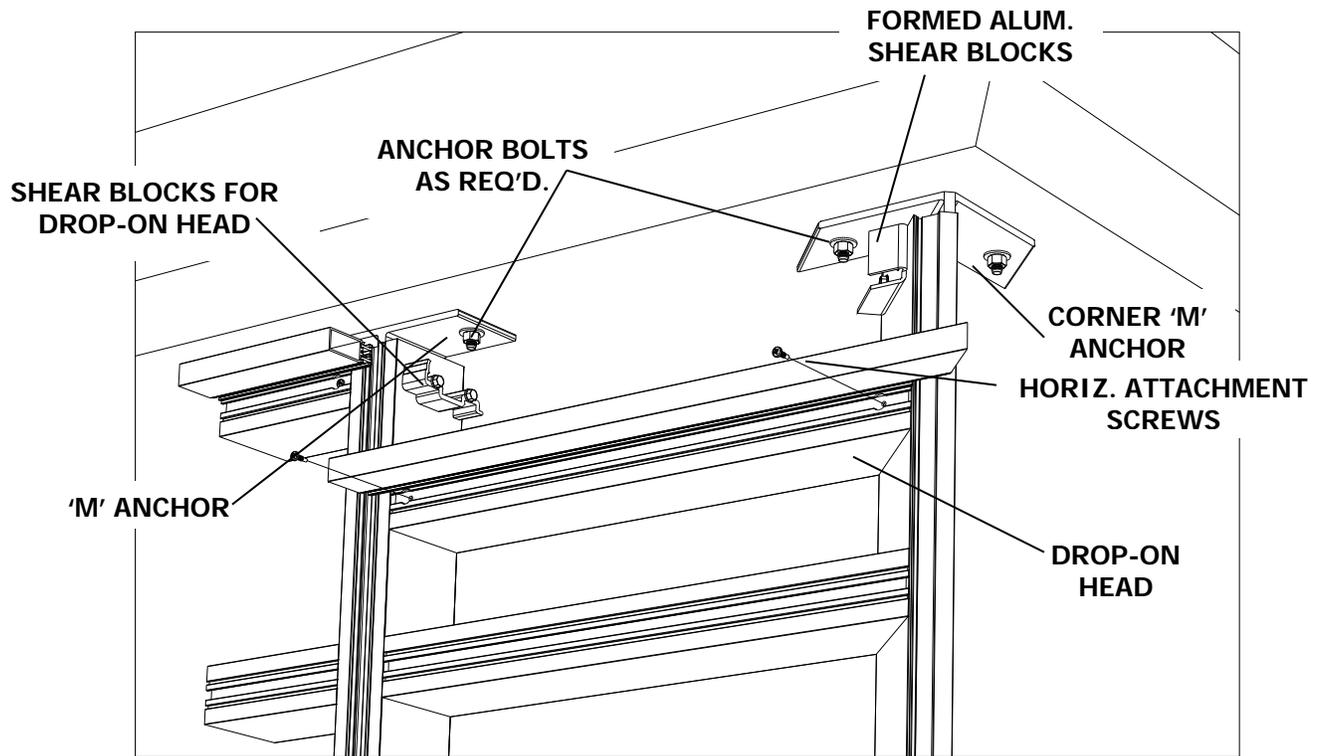
Section IV: Alternate Anchorage Method

STEP #2 INSTALL FRAME COMPONENTS

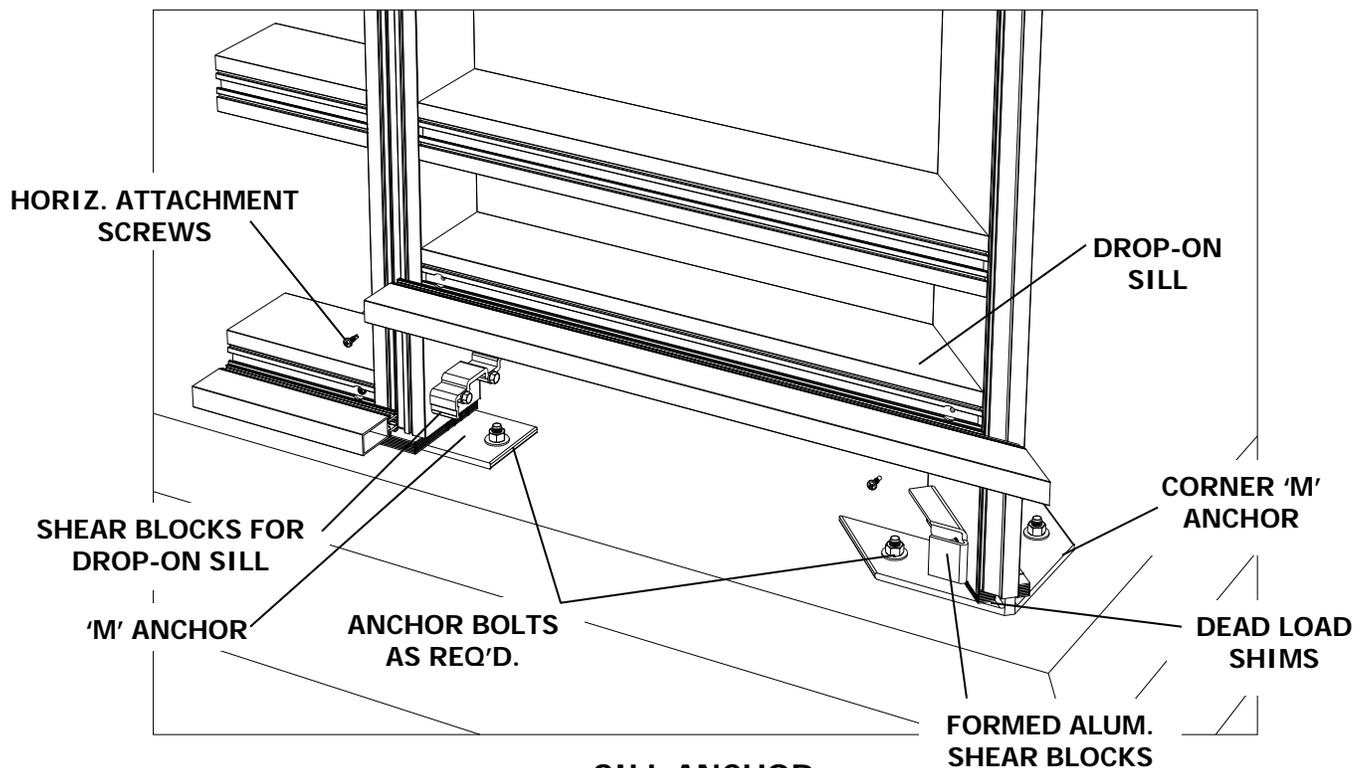
- A. Set the frame with 'F' and 'M' anchors into the opening. Adjust the frame and place it in the proper position with regard to established benchmarks.
- B. Using dead load shims under each vertical mullion, level the frame, and set it to the appropriate elevation as indicated in the approved shop drawings.
- C. After the frame is plumb and all adjustments have been made, match drill through the holes in the 'F' and 'M' anchors into the surrounding substrate, and apply the appropriate anchor bolts. Anchor bolt size, type, quantity, and location vary. Refer to the approved shop drawings for more information. Anchor bolts should be installed per the recommendations of the bolt manufacturer.
- D. Apply the shear blocks to the top and bottom of the mullions as shown in the approved shop drawings.
- E. Drop-on the head and sill onto the shear blocks, and attach to the shear blocks with the attachment screws. See Section II page 11 for special sealant notes.



Section IV: Alternate Anchorage Method



HEAD ANCHOR

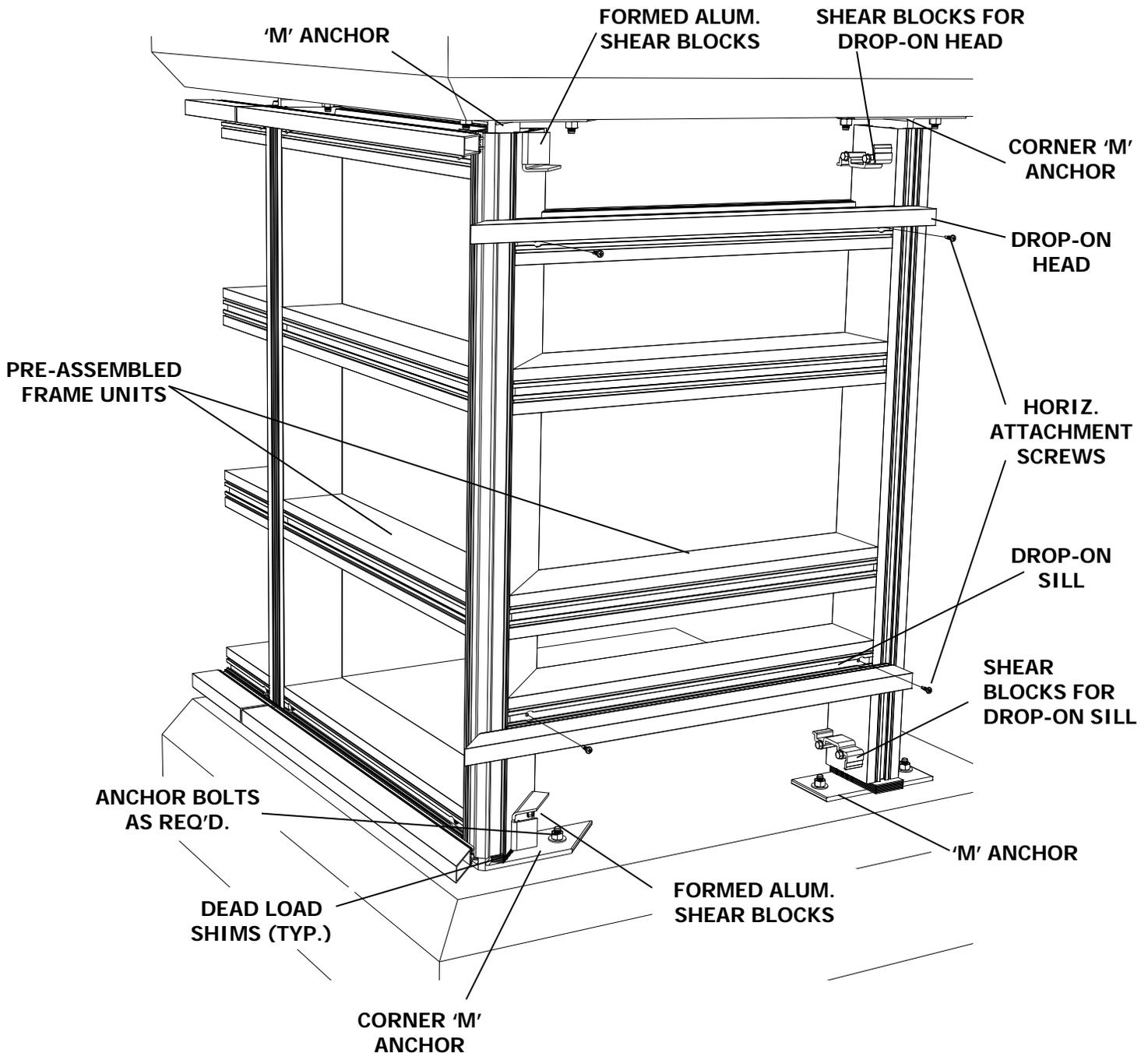


SILL ANCHOR

Section IV: Alternate Anchorage Method

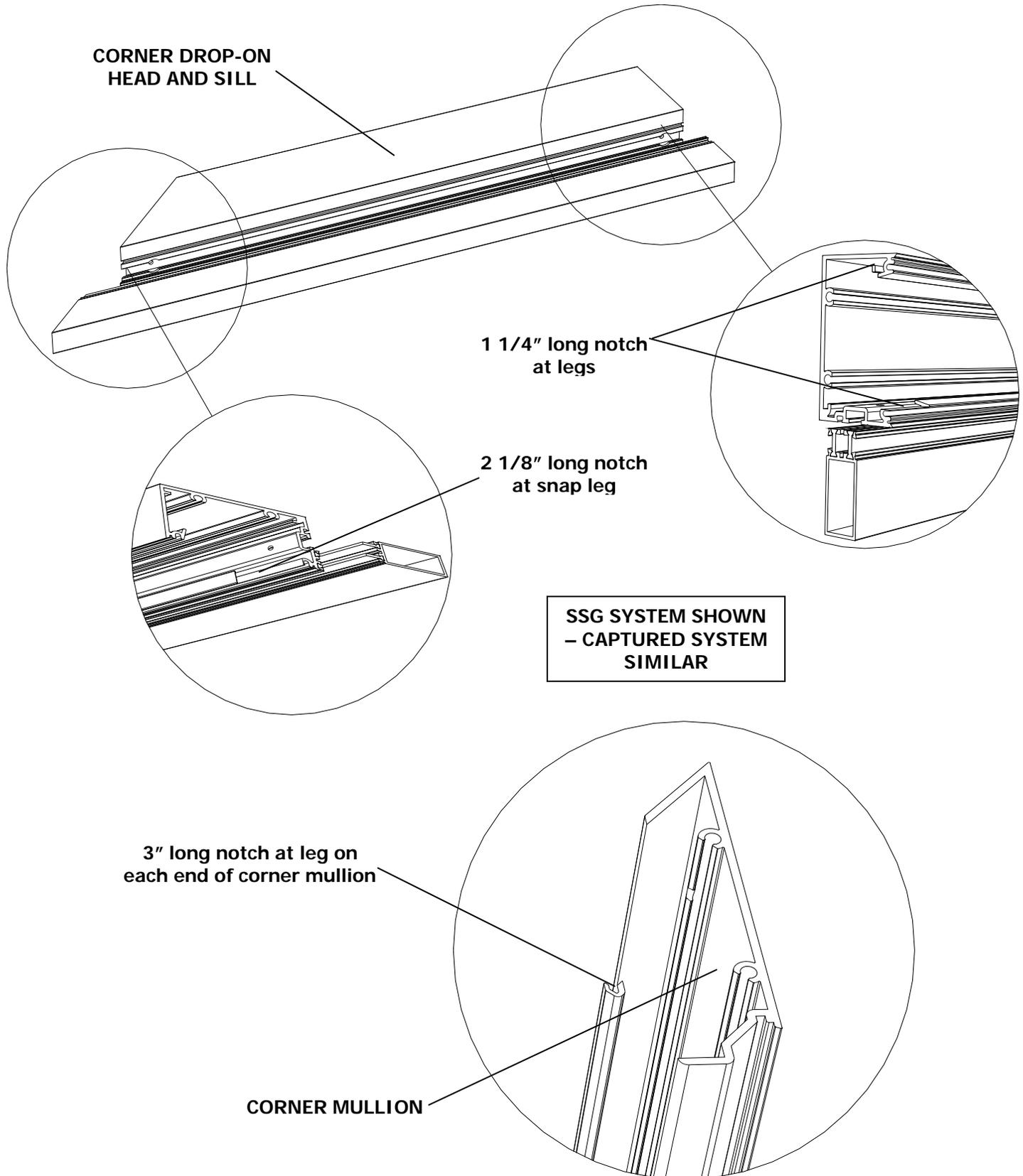
STEP #3 INSTALL FRAME COMPONENTS

- A. Stack the corner mullions together as shown in Step 2 of Section III. Note: Notching of the second corner mullion to clear the mullion anchors and notching of the heads and sills are required for drop-on application with mullion anchors. (See details on page 26.)
- B. Repeat step 2 for the adjacent corner frame unit.
- C. Install the remaining frame units as instructed in "Section V: Alternate Anchorage Method" of the Series 5500 Outside Glazed or Inside Glazed Installation Instructions.
- D. Refer to Section V and VI for Glazing Preparation and Glazing Installation.



Section IV: Alternate Anchorage Method

The corner heads and sills must be notched as shown below to drop straight onto the shear blocks due to the miter. The corner mullion must be notched on each end as shown below to clear the mullion anchor when the corner mullions are stacked.



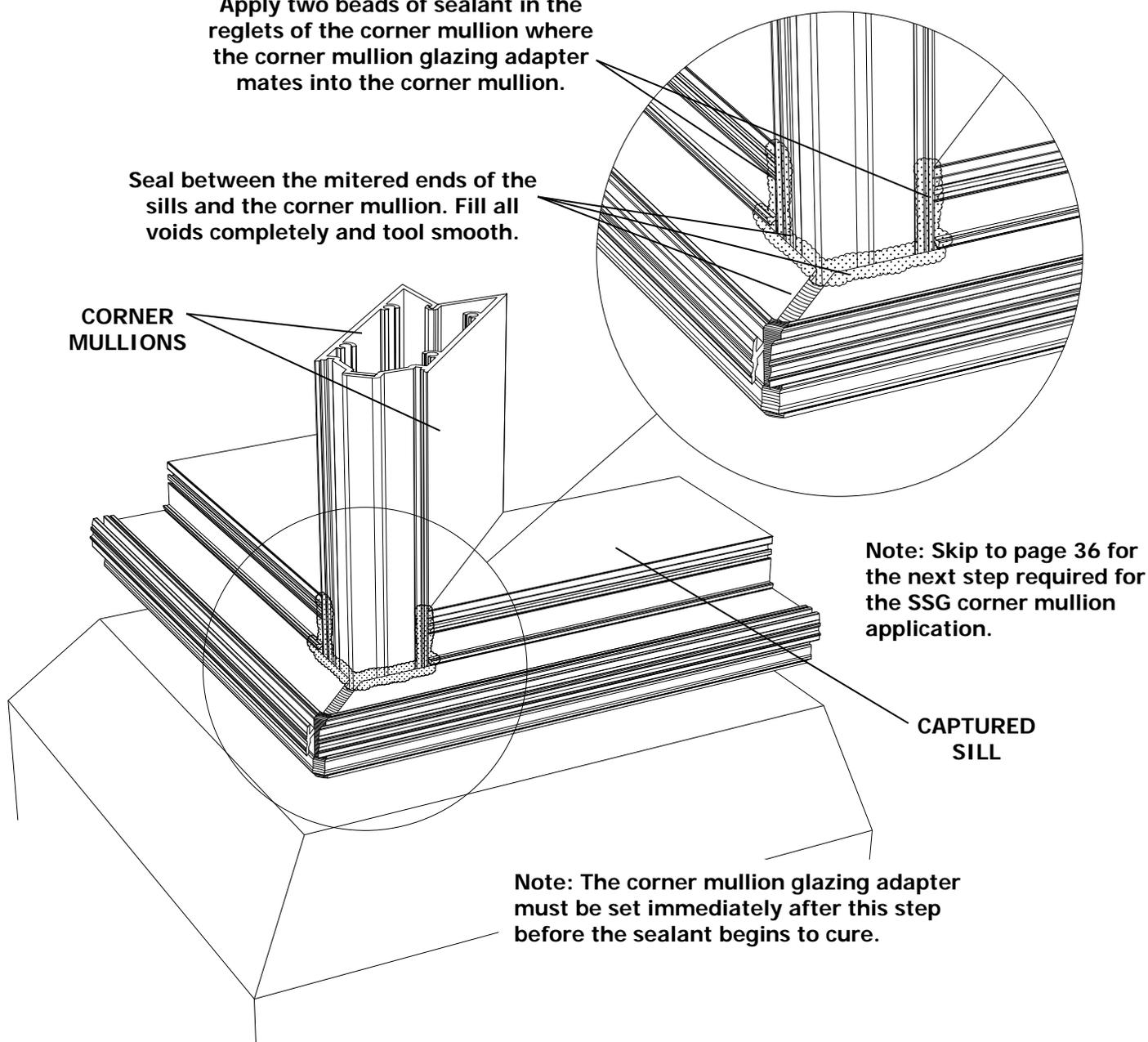
Section V: Glazing Preparation (Captured)

STEP #1 SEAL JOINTS AT CORNER HEAD AND SILL AND AT CORNER MULLION

- A. Seal between the mitered ends for the heads, sills, and the corner mullion to form a water-tight joint as shown in the detail below. The sealant must not obstruct or interfere with the areas of the head or sill where the cover will engage. Note that this is a critical primary seal.
- B. Before applying the corner mullion glazing adapter, apply two beads of sealant to the corner mullion as shown below at each intersection of head, sill, and intermediate horizontal. The corner mullion glazing adapter must be set immediately after this step before the sealant begins to cure.

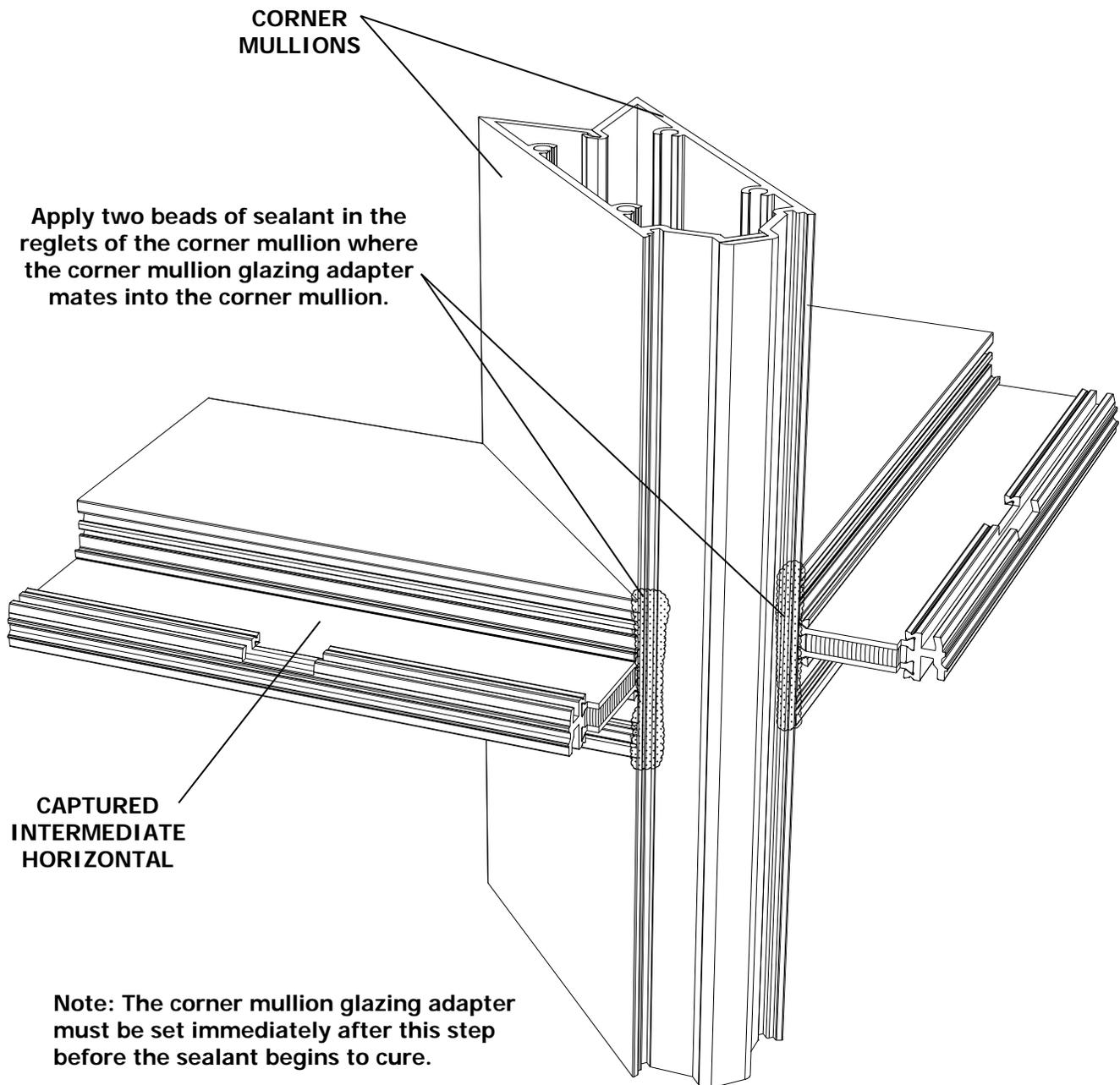
Apply two beads of sealant in the reglets of the corner mullion where the corner mullion glazing adapter mates into the corner mullion.

Seal between the mitered ends of the sills and the corner mullion. Fill all voids completely and tool smooth.



SILL AT CAPTURED CORNER

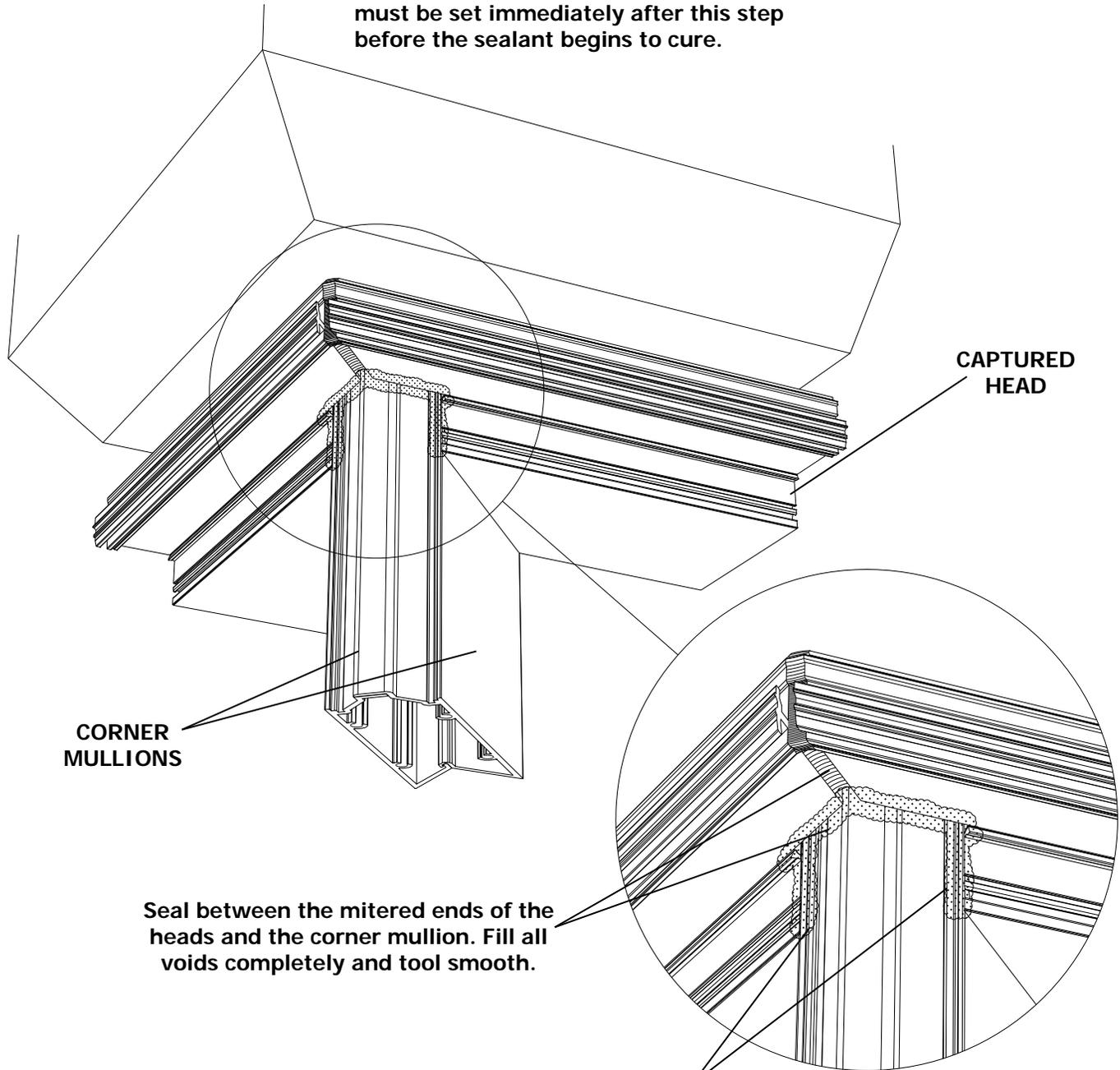
Section V: Glazing Preparation (Captured)



**INTERMEDIATE HORIZONTAL
AT CAPTURED CORNER**

Section V: Glazing Preparation (Captured)

Note: The corner mullion glazing adapter must be set immediately after this step before the sealant begins to cure.



CORNER MULLIONS

CAPTURED HEAD

Seal between the mitered ends of the heads and the corner mullion. Fill all voids completely and tool smooth.

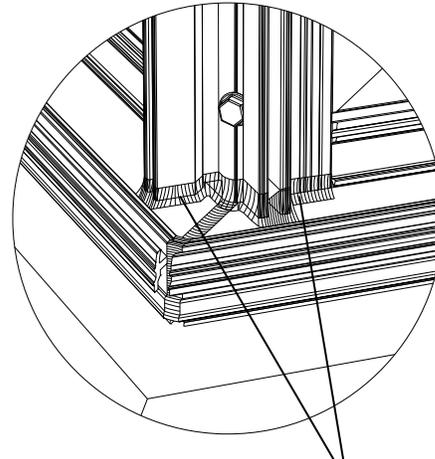
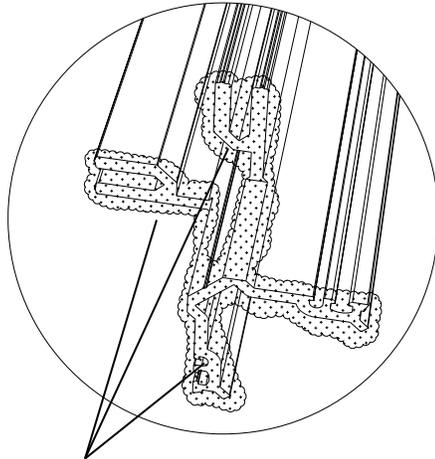
Apply two beads of sealant in the reglets of the corner mullion where the corner mullion glazing adapter mates into the corner mullion.

HEAD AT CAPTURED CORNER

Section V: Glazing Preparation (Captured)

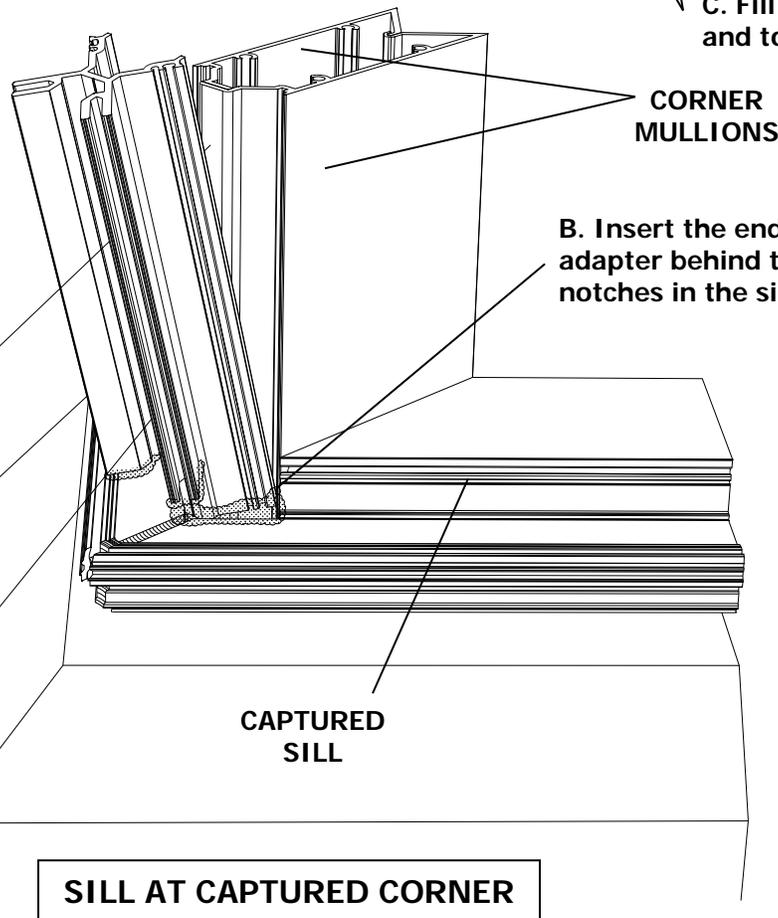
STEP #2 SET AND ATTACH CORNER MULLION GLAZING ADAPTER

- A. Apply sealant to the bottom end of the corner mullion glazing adapter as shown in the inset detail A.
- B. Insert the end of the corner mullion glazing adapter as shown in the main detail below.
- C. Fill all voids completely and tool the sealant smooth on the bottom end of the corner mullion glazing adapter.
- D. Attach the glazing adapter to the corner mullion with the required fasteners.
- E. Cap seal the fastener heads at all fastener penetrations.



A. Apply sealant to the bottom end of the corner mullion glazing adapter as shown.

C. Fill all voids completely, and tool smooth.



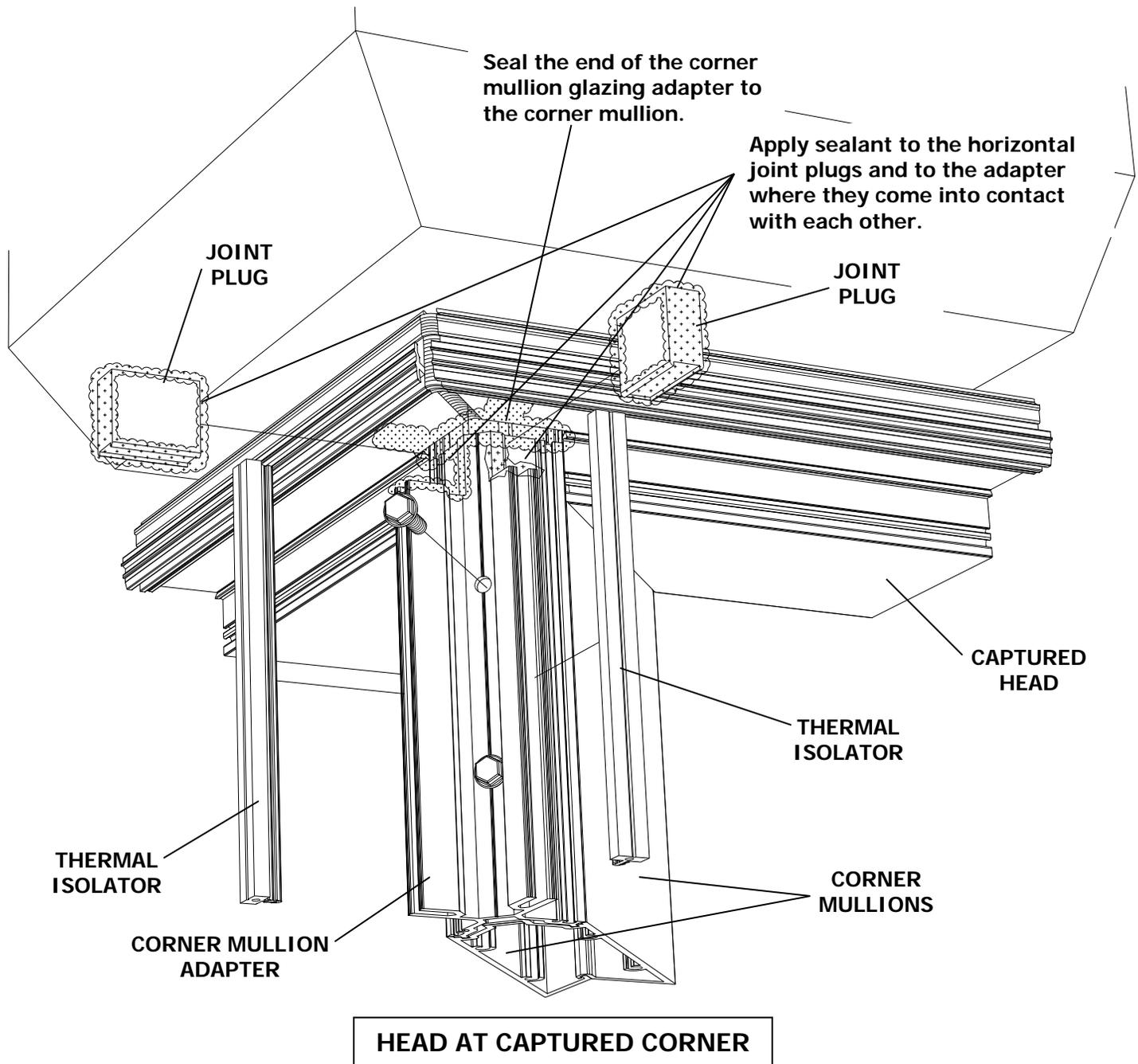
B. Insert the end of the adapter behind the notches in the sills.

D. Attach the glazing adapter to the corner mullion with the required fasteners. Cap seal the fastener heads with sealant. Fasteners should not exceed 2" from the ends of the adapters and be spaced at a maximum of 12" o/c.

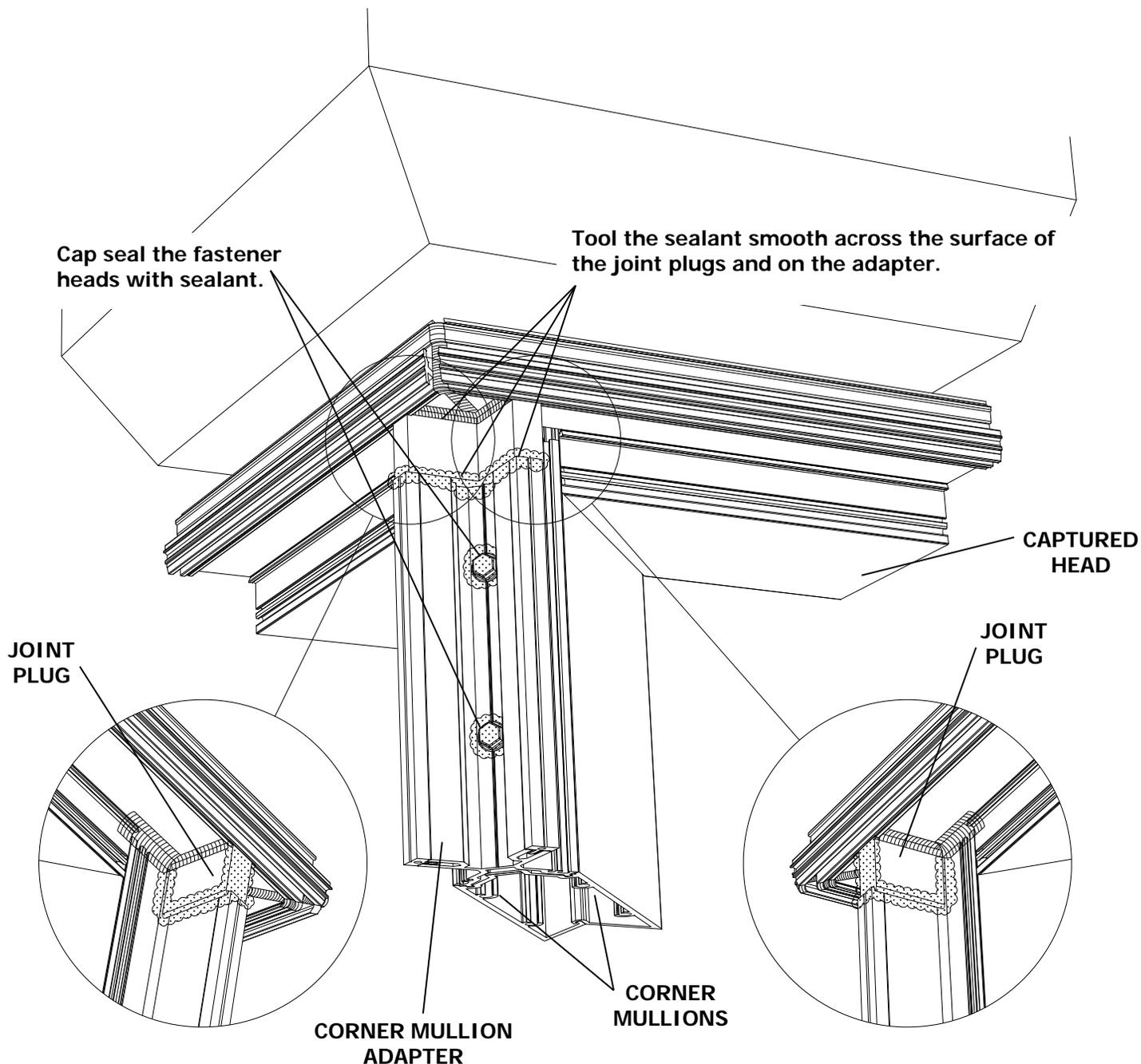
Section V: Glazing Preparation (Captured)

STEP #3 APPLY THERMAL ISOLATORS AND JOINT PLUGS

- A. Apply thermal isolators in the tongues of the corner mullion glazing adapter. The isolator should run the full length of the adapter.
- B. Seal the top end of the corner mullion glazing adapter to the mullion.
- C. Apply sealant to the horizontal joint plugs and to the adapter where they come into contact with each other as shown in the illustration below.
- D. Set the joint plugs into the space between the tongue of the adapter and the head as shown.
- E. Tool the sealant smooth across the surface of the joint plug and on to the adapter as shown on page 32.

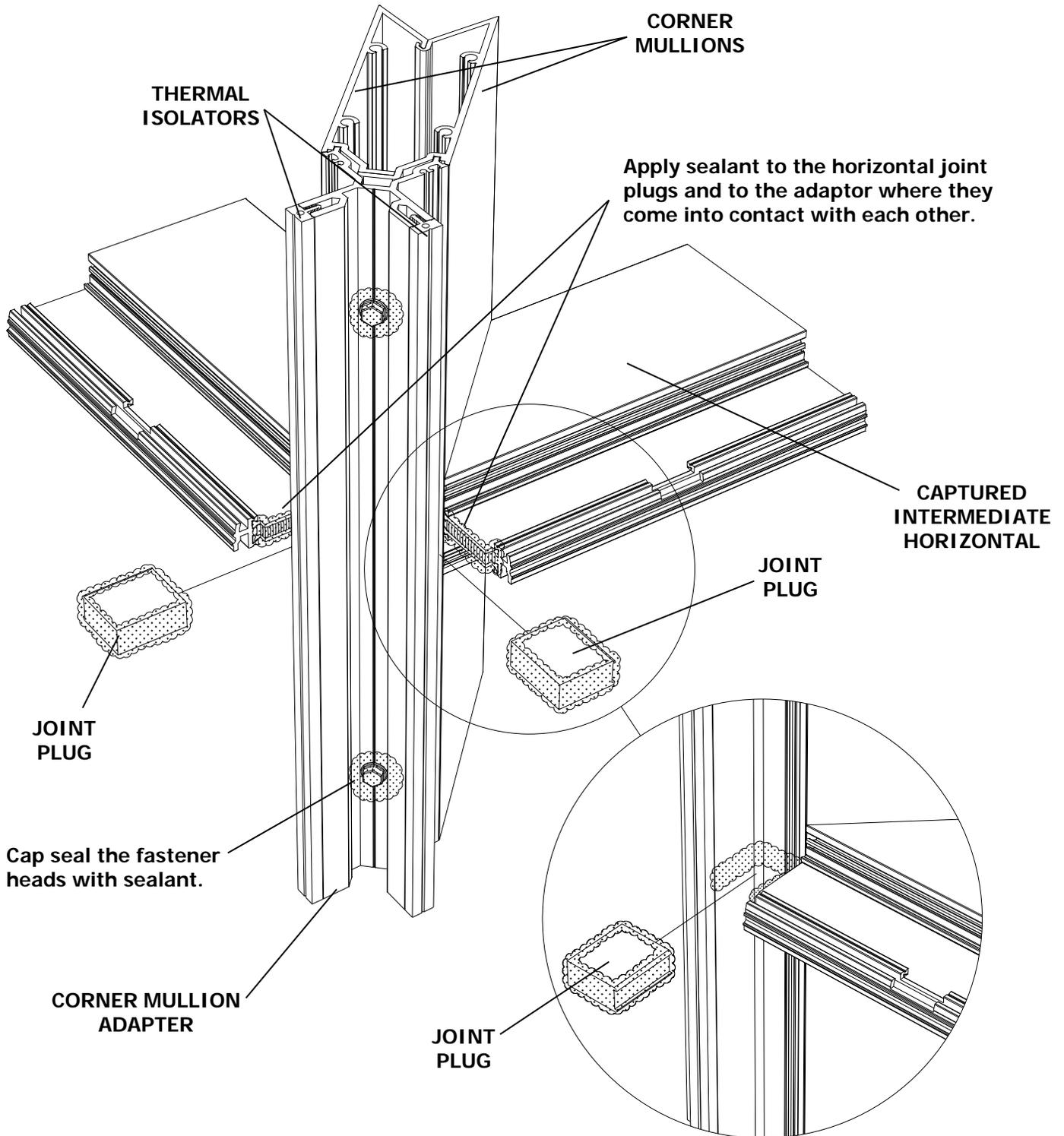


Section V: Glazing Preparation (Captured)



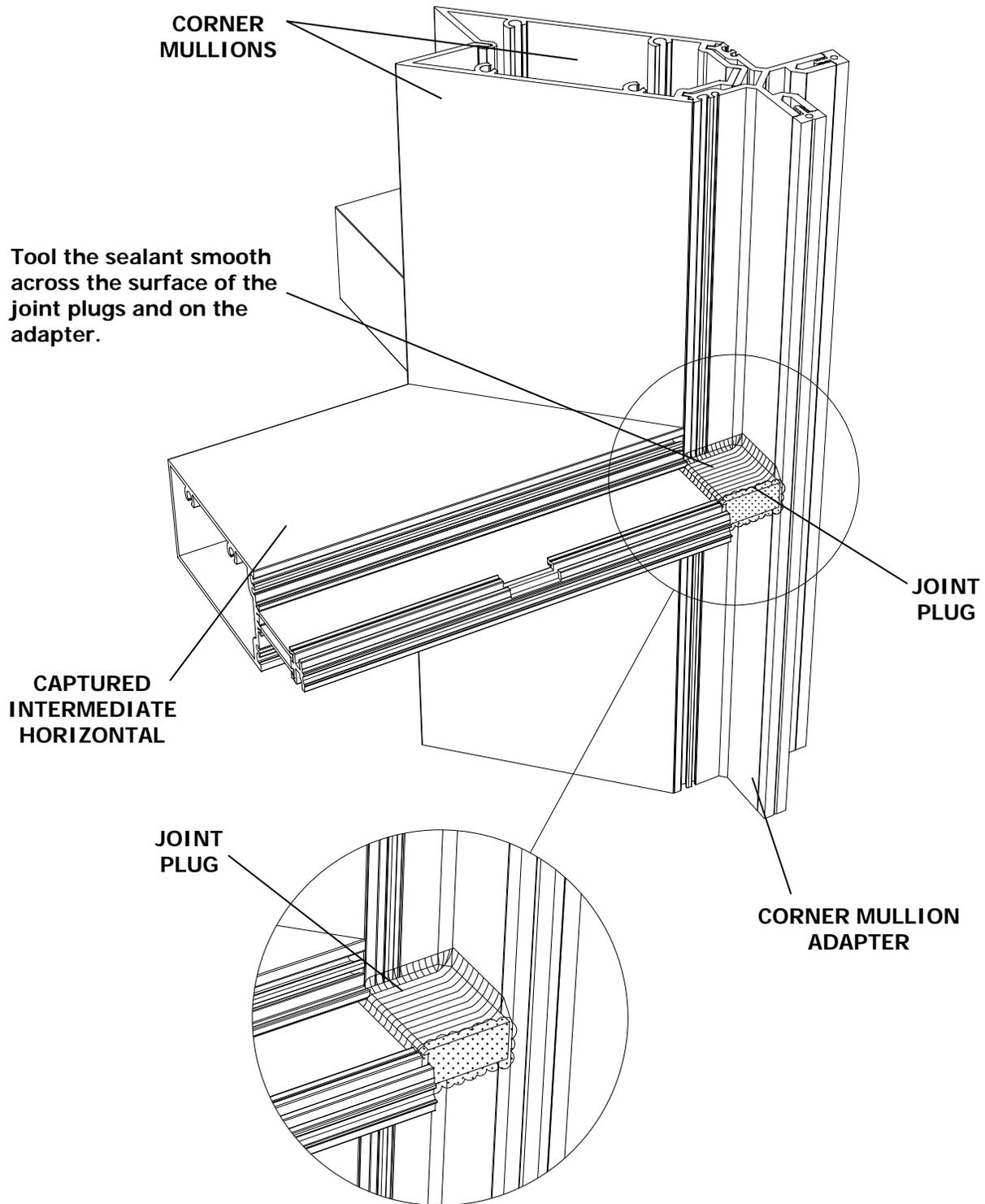
HEAD AT CAPTURED CORNER

Section V: Glazing Preparation (Captured)



INTERMEDIATE HORIZONTAL AT CAPTURED CORNER

Section V: Glazing Preparation (Captured)



INTERMEDIATE HORIZONTAL AT CAPTURED CORNER

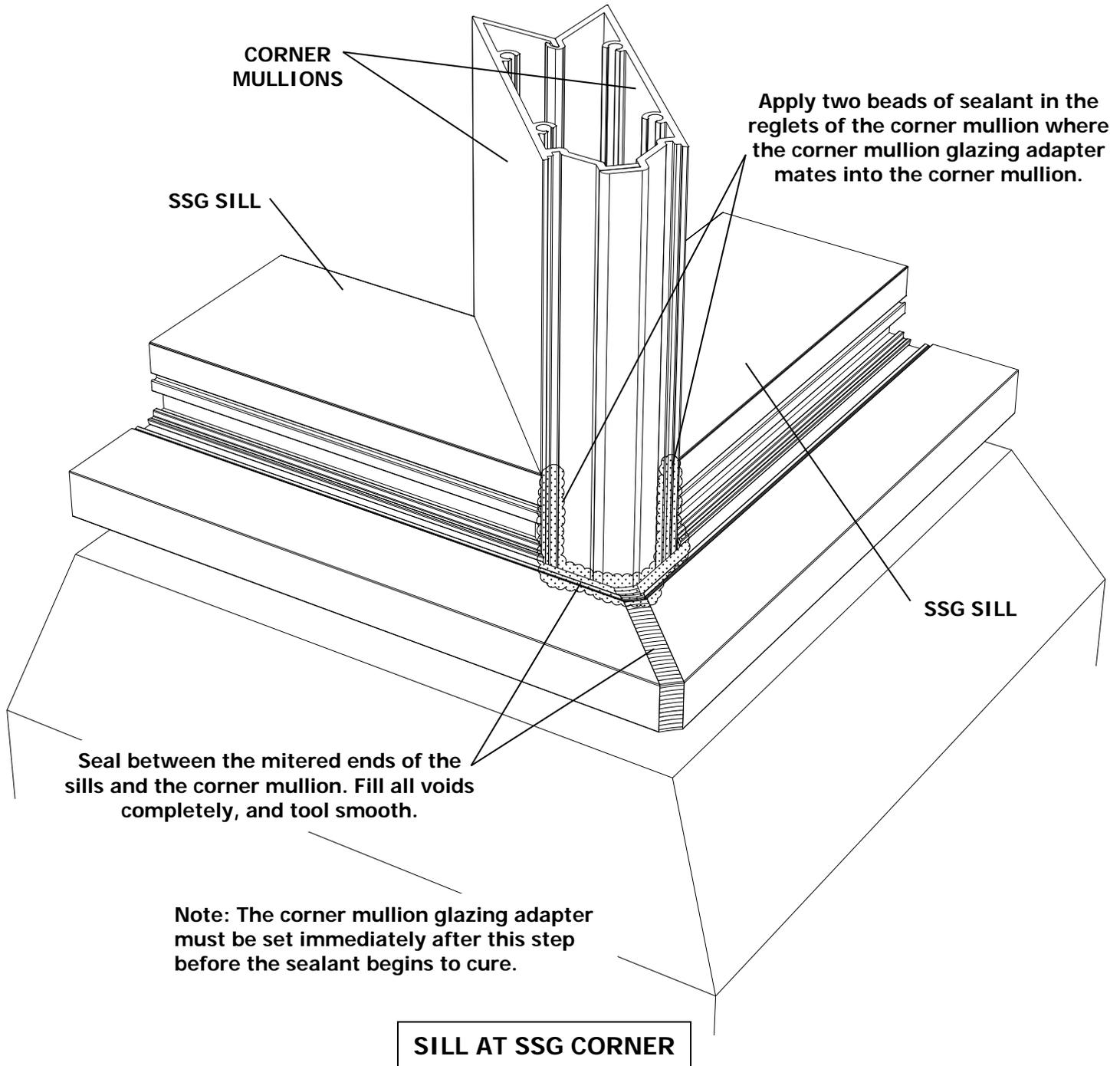
STEP #4 INSTALL ADAPTERS AND PRESET GASKETS

Install the glazing adapters and preset gaskets as required for the outside glazed or inside glazed system. Install glazing as required. Refer to "Section VIII: Glazing Preparation" and "Section IX Glazing Installation" beginning on page 44 of the Series 5500 Outside Glazed Installation Instructions, or page 49 of the Series 5500 Inside Glazed Installation Instructions.

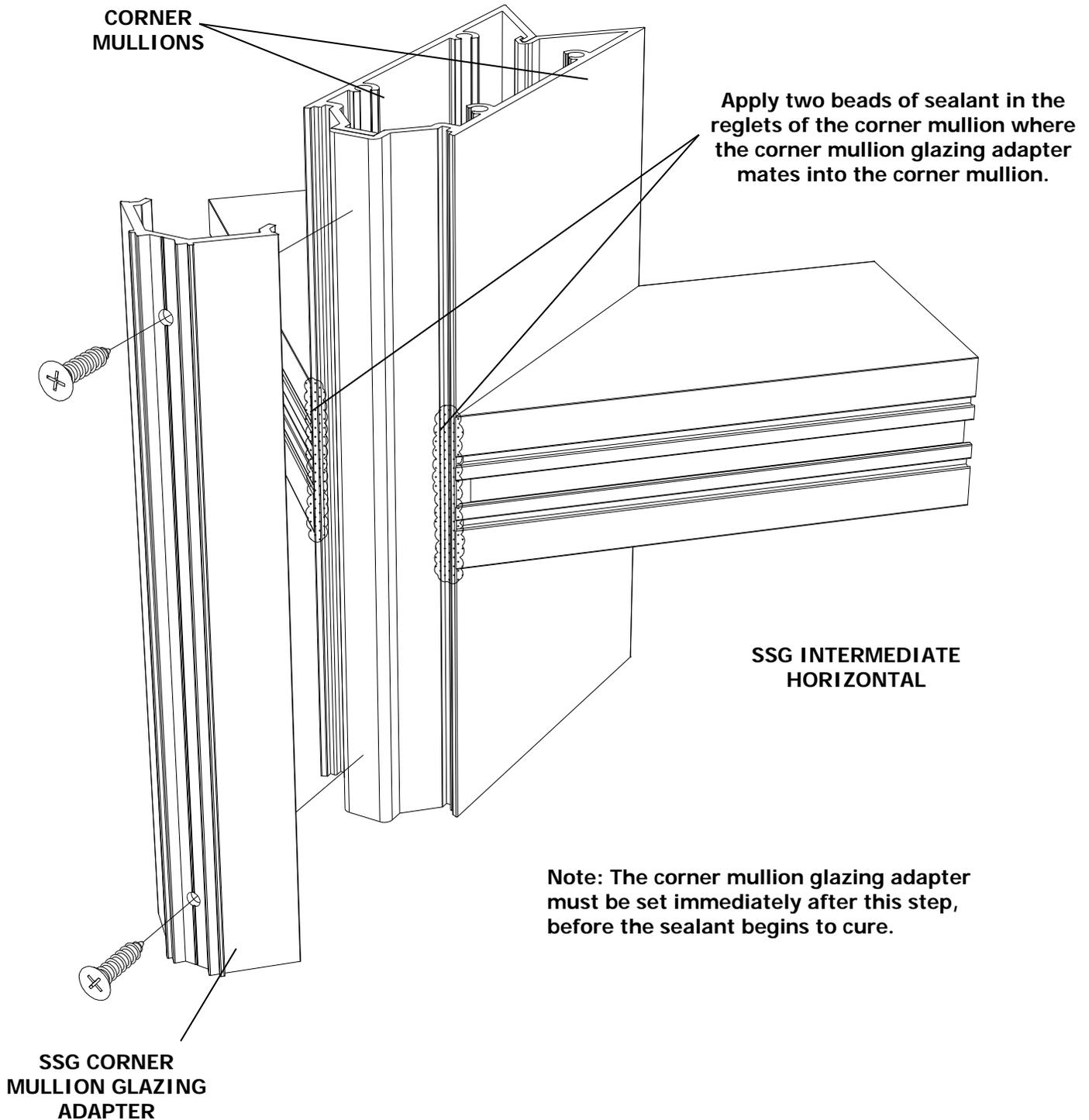
Section VI: Glazing Preparation (SSG)

STEP #1 SEAL JOINTS AT CORNER HEAD AND SILL AND AT CORNER MULLION

- A. Seal between the mitered ends of the heads, sills, and the corner mullion to form a water-tight joint as shown in the detail below. The sealant must not obstruct or interfere with the areas of the head or sill where the cover will engage. Note that this is a critical primary seal.
- B. Before applying the corner mullion glazing adapter, apply two beads of sealant to the corner mullion as shown below at each intersection of the head, sill, and intermediate horizontal. The corner mullion glazing adapter must be set immediately after this step before the sealant begins to cure.



Section VI: Glazing Preparation (SSG)

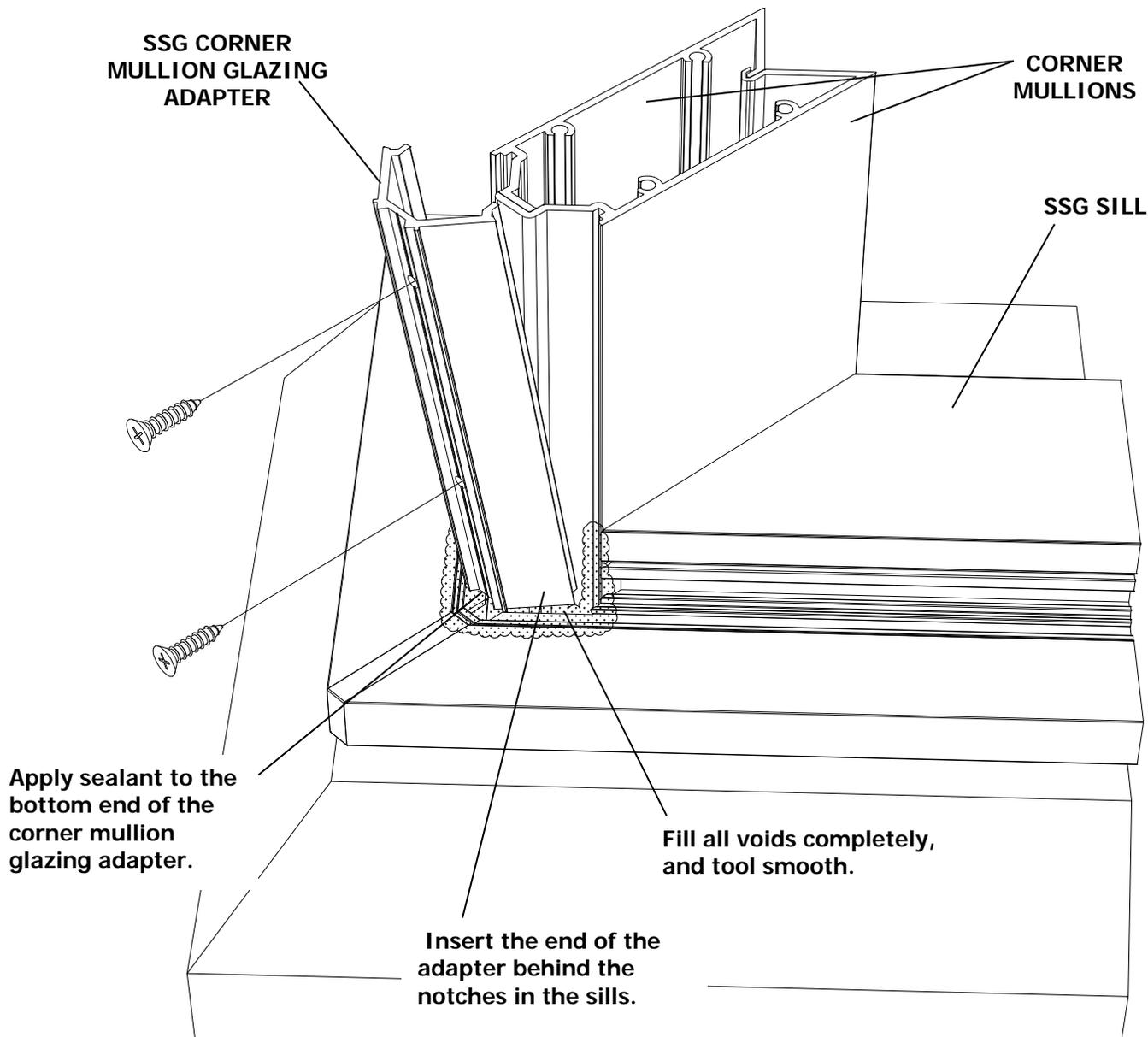


INTERMEDIATE HORIZONTAL AT SSG CORNER

Section VI: Glazing Preparation (SSG)

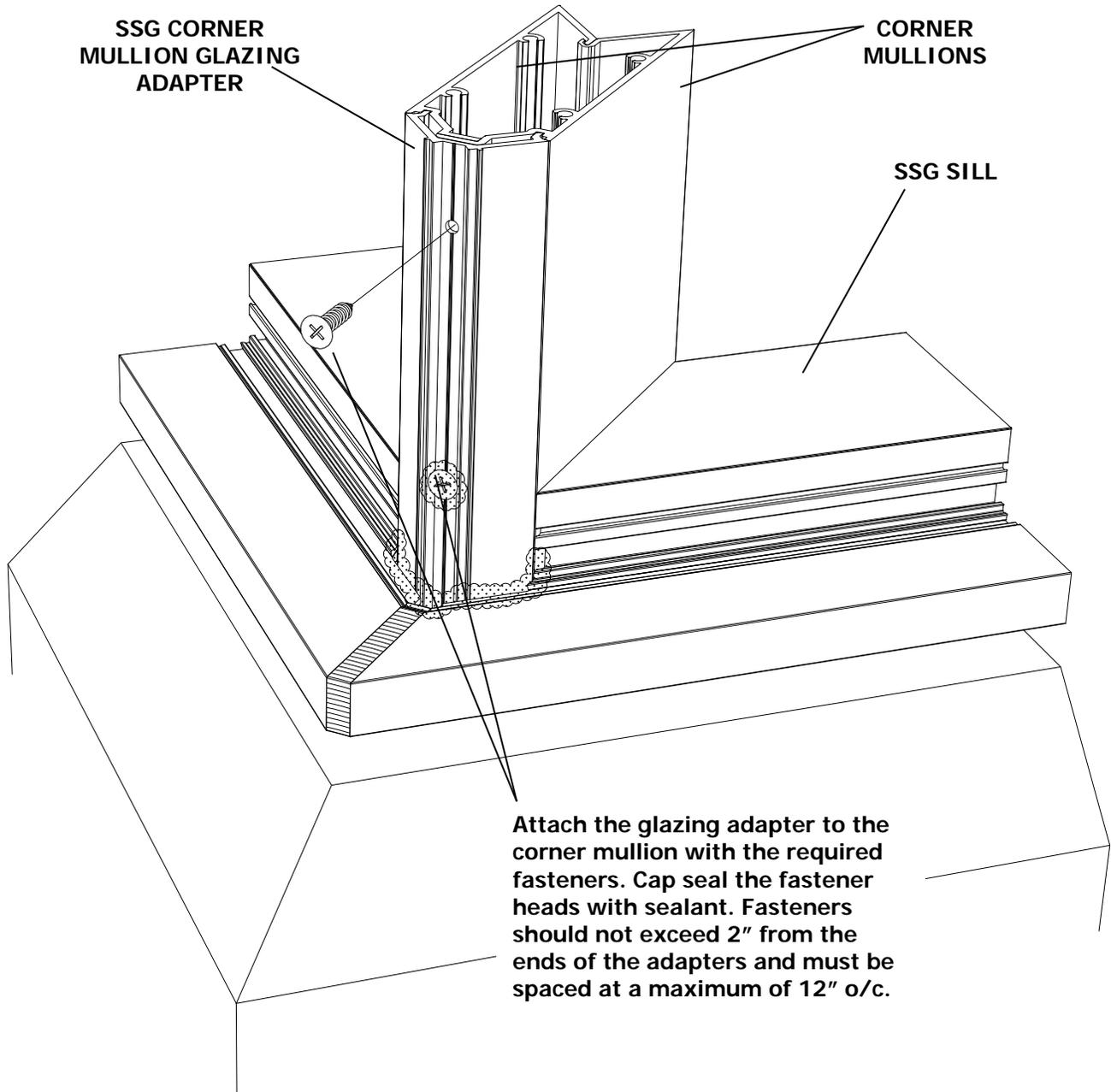
STEP #2 SET AND ATTACH CORNER MULLION GLAZING ADAPTER

- A. Apply sealant to the bottom end of the corner mullion glazing adapter.
- B. Insert the end of the corner mullion glazing adapter as shown in the detail below.
- C. Fill all voids completely, and tool the sealant smooth on the bottom end of the corner mullion glazing adapter.
- D. Attach the glazing adapter to the corner mullion with the required fasteners.
- E. Cap seal the fastener heads at all fastener penetrations.



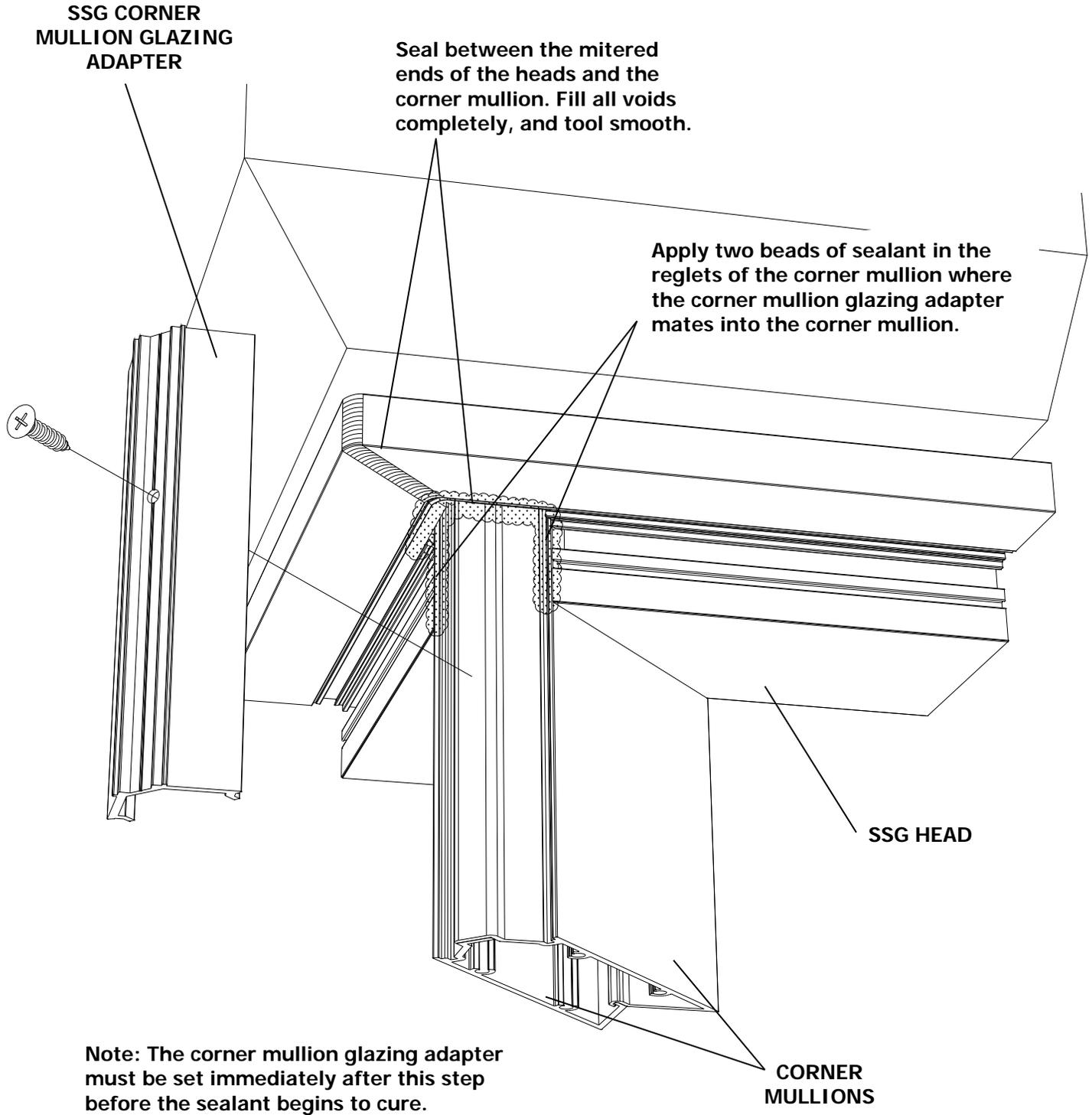
SILL AT SSG CORNER

Section VI: Glazing Preparation (SSG)



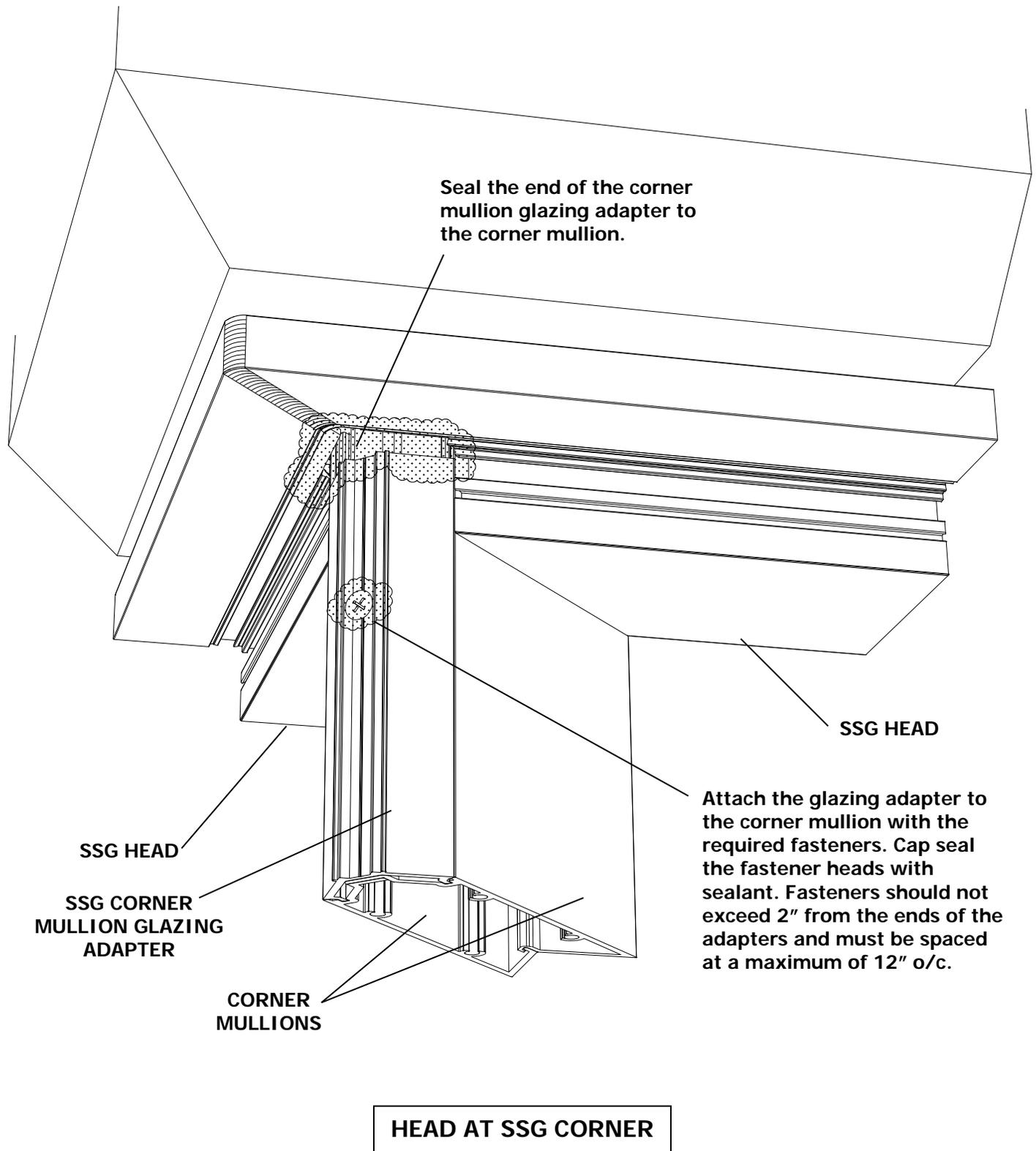
SILL AT SSG CORNER

Section VI: Glazing Preparation (SSG)



HEAD AT SSG CORNER

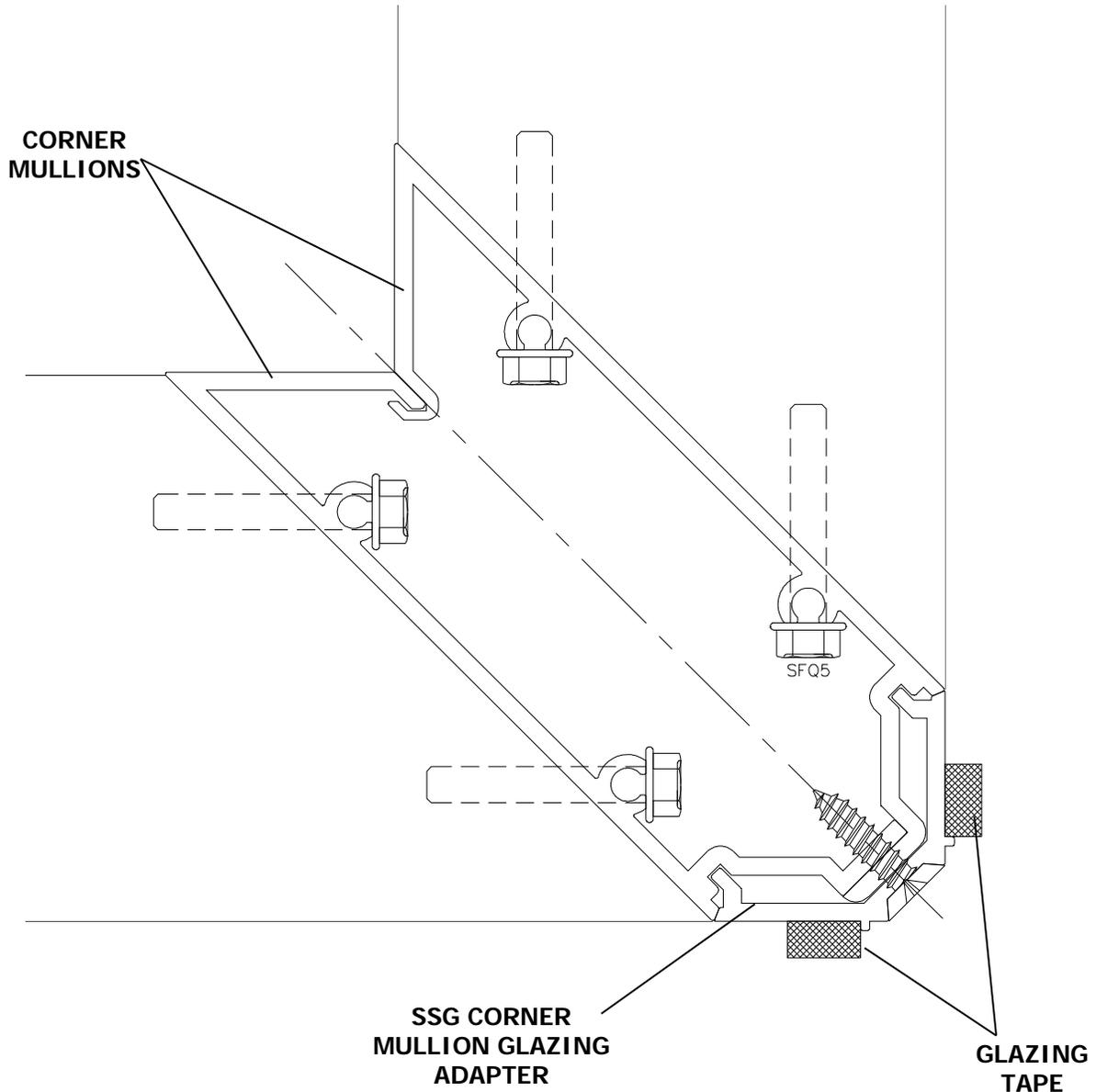
Section VI: Glazing Preparation (SSG)



Section VI: Glazing Preparation (SSG)

STEP #3 APPLY GLAZING TAPE TO CORNER MULLION

- A. Clean all surfaces (and apply primer if necessary) of the glazing adapter that will contact sealant per the sealant manufacturer's application instructions.
- B. Apply the glazing tape as shown below. Refer to the approved shop drawings for part numbers and other job specific information.



STEP #4 INSTALL ADAPTERS AND PRESET GASKETS

Install the glazing adapters and preset gaskets as required. Install glazing as required. Refer to "Section VIII: Glazing Preparation" and "Section IX Glazing Installation" beginning on page 49 of the Series 5500 Silicone Structural Glazed Curtain Wall Installation Instructions.

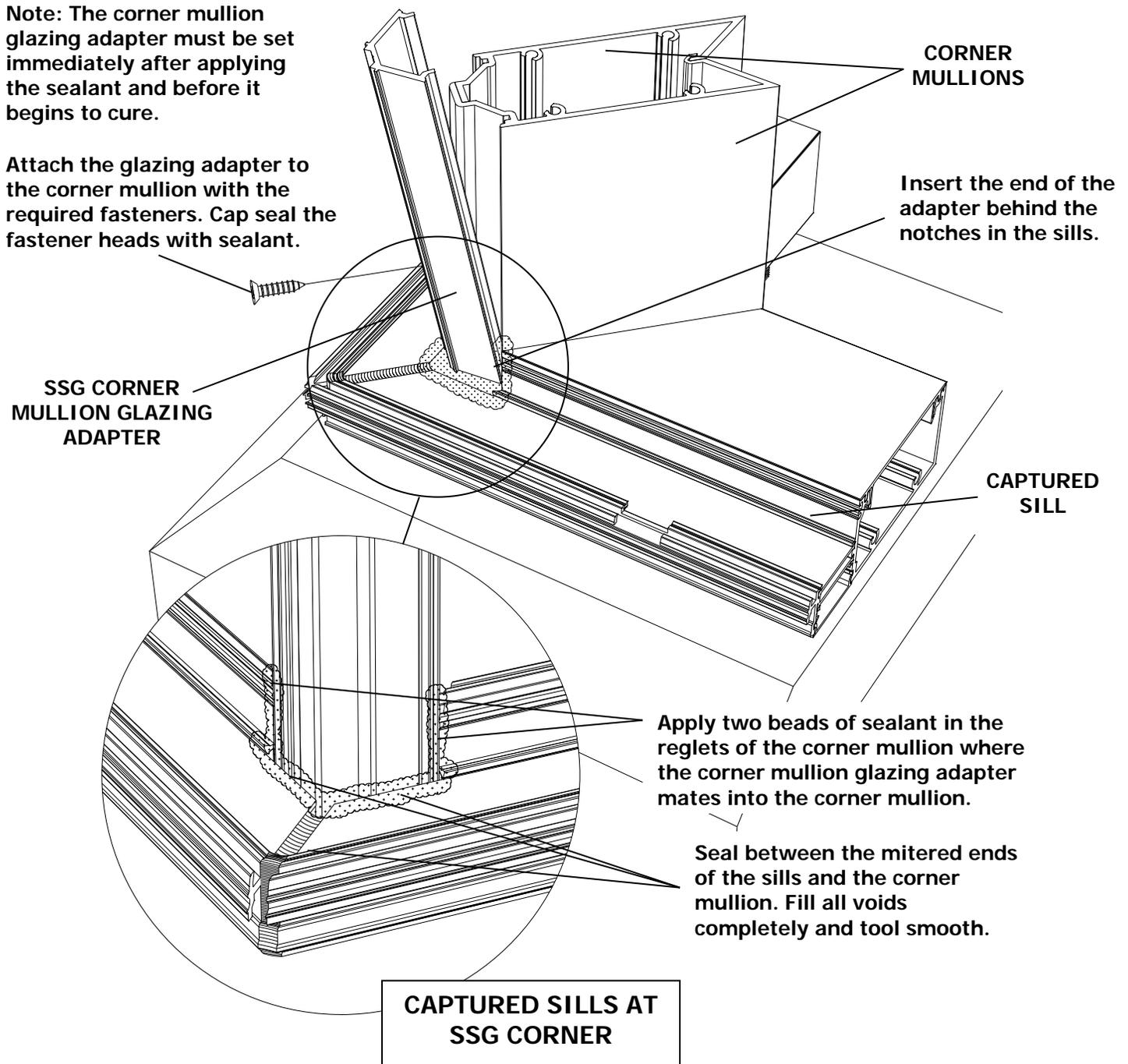
Section VII: Glazing Preparation (Vertical SSG and Captured Horizontal)

STEP #1 SEAL JOINTS AT CORNER HEAD AND SILL AND AT CORNER MULLION

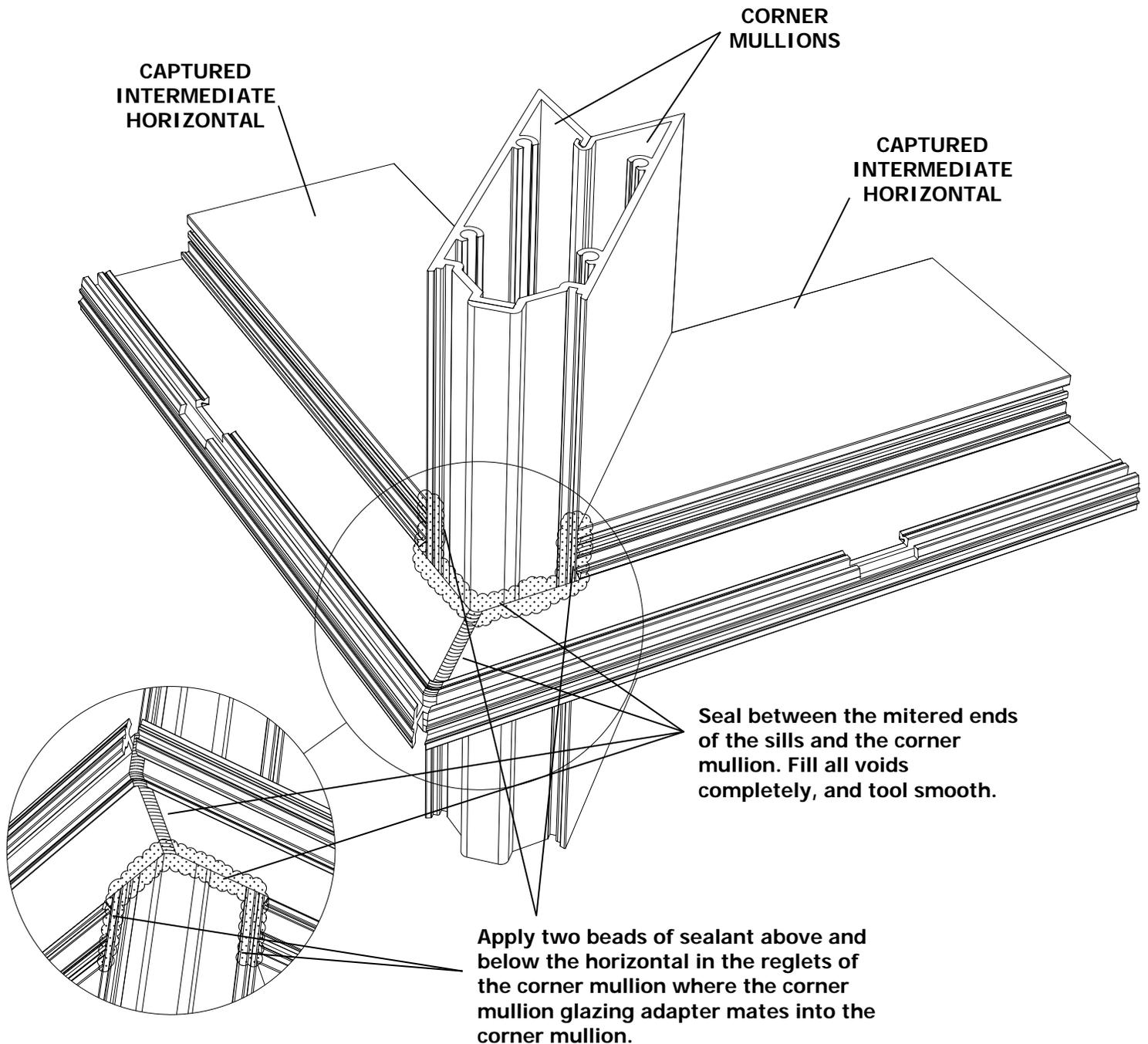
- B. Seal between the mitered ends of the heads, sills, and the corner mullion to form a water-tight joint as shown in the detail below. The sealant must not obstruct or interfere with the areas of the head or sill where the cover will engage. Note that this is a critical primary seal.
- C. Before applying the corner mullion glazing adapter, apply two beads of sealant to the corner mullion as shown below at each intersection of the head, sill, and intermediate horizontal. The corner mullion glazing adapter must be set immediately after this step before the sealant begins to cure.

Note: The corner mullion glazing adapter must be set immediately after applying the sealant and before it begins to cure.

Attach the glazing adapter to the corner mullion with the required fasteners. Cap seal the fastener heads with sealant.



Section VII: Glazing Preparation (Vertical SSG and Captured Horizontal)

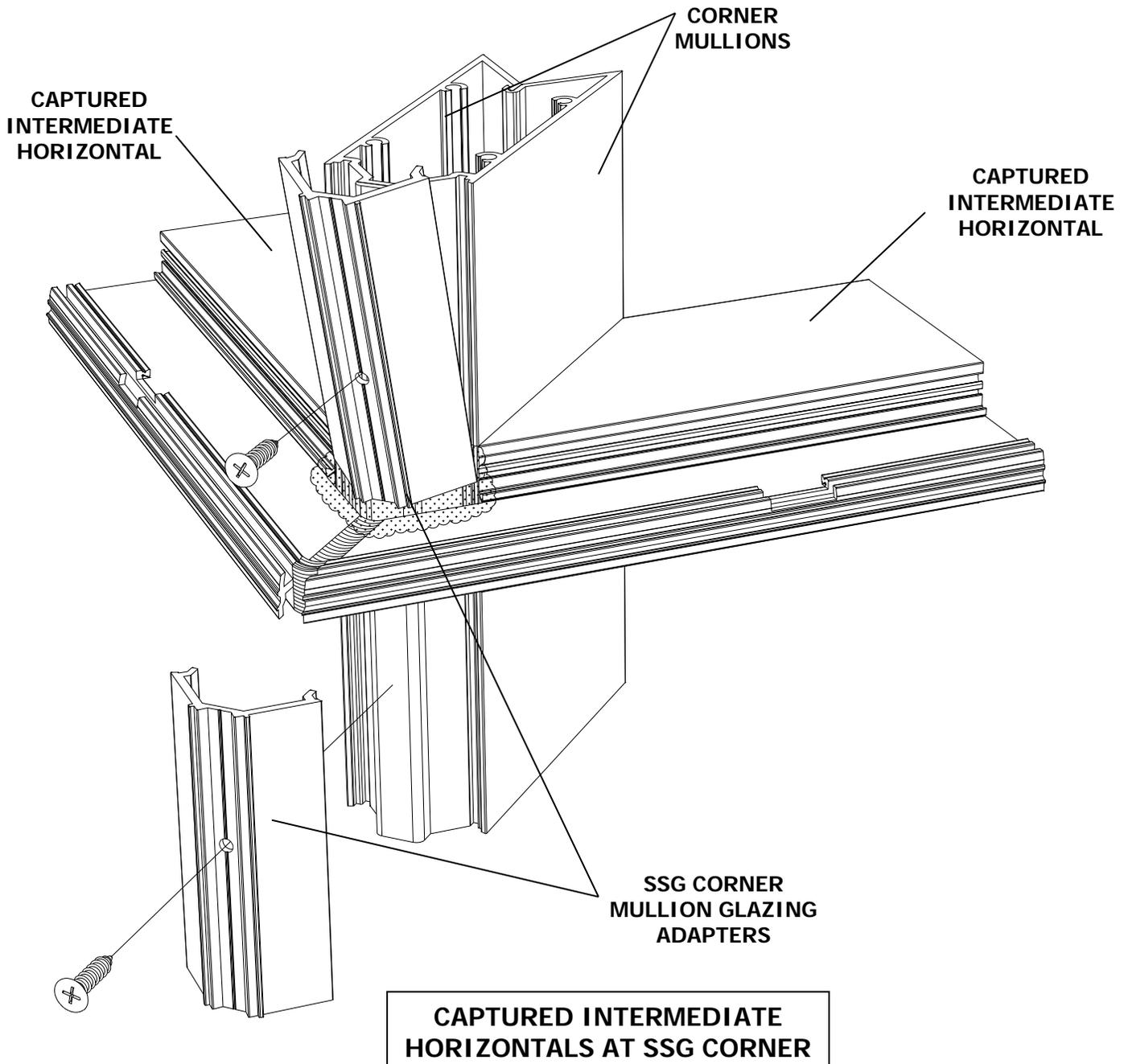


**CAPTURED INTERMEDIATE
HORIZONTALS AT SSG CORNER**

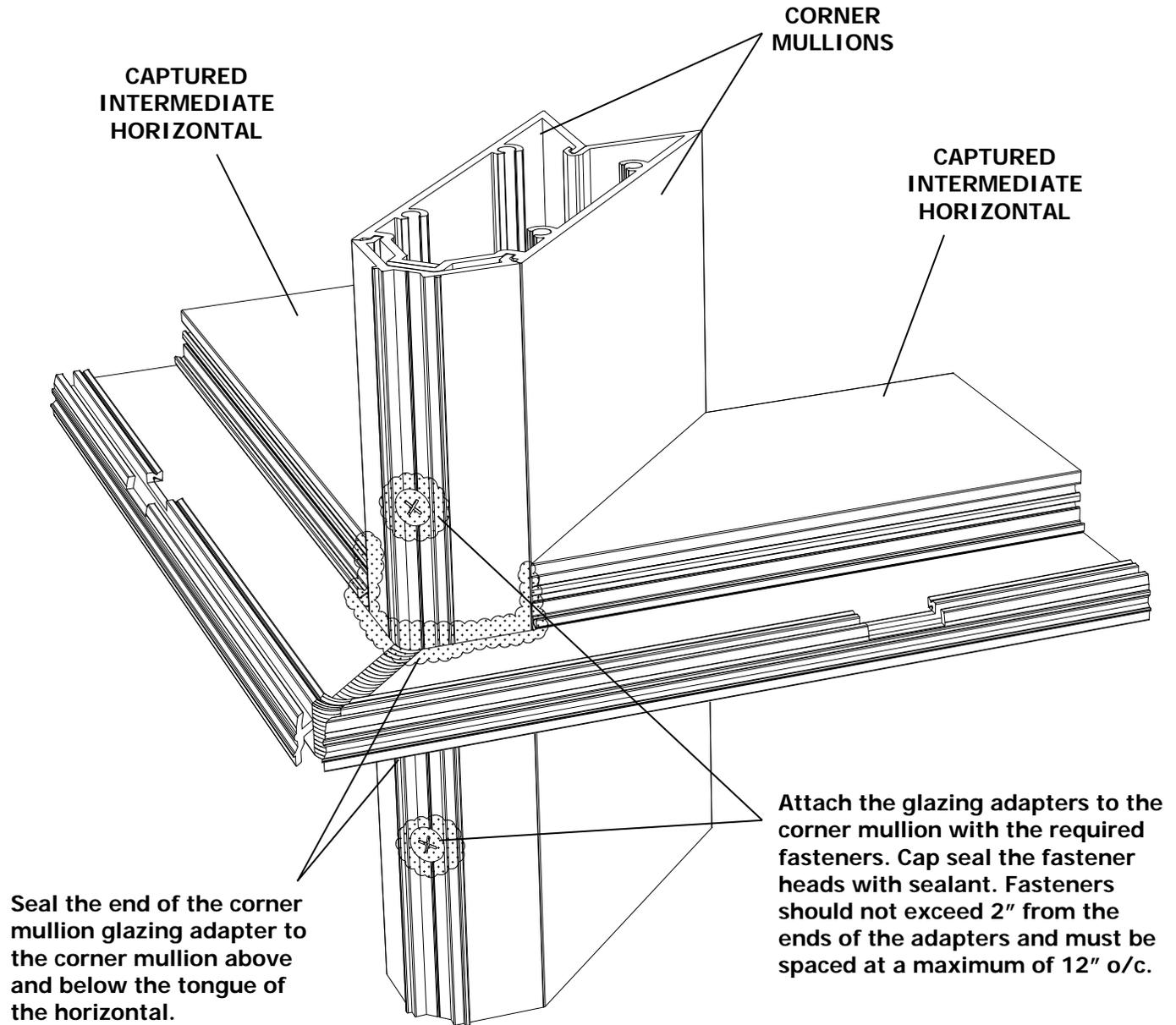
Section VII: Glazing Preparation (Vertical SSG and Captured Horizontal)

STEP #2 SET AND ATTACH CORNER MULLION GLAZING ADAPTER

- A. Apply sealant to the bottom end of the corner mullion glazing adapter.
- B. Insert the end of the corner mullion glazing adapter as shown in the detail below.
- C. Fill all voids completely, and tool the sealant smooth on the bottom end of the corner mullion glazing adapter.
- D. Attach the glazing adapter to the corner mullion with the required fasteners.
- E. Cap seal the fastener heads at all fastener penetrations.

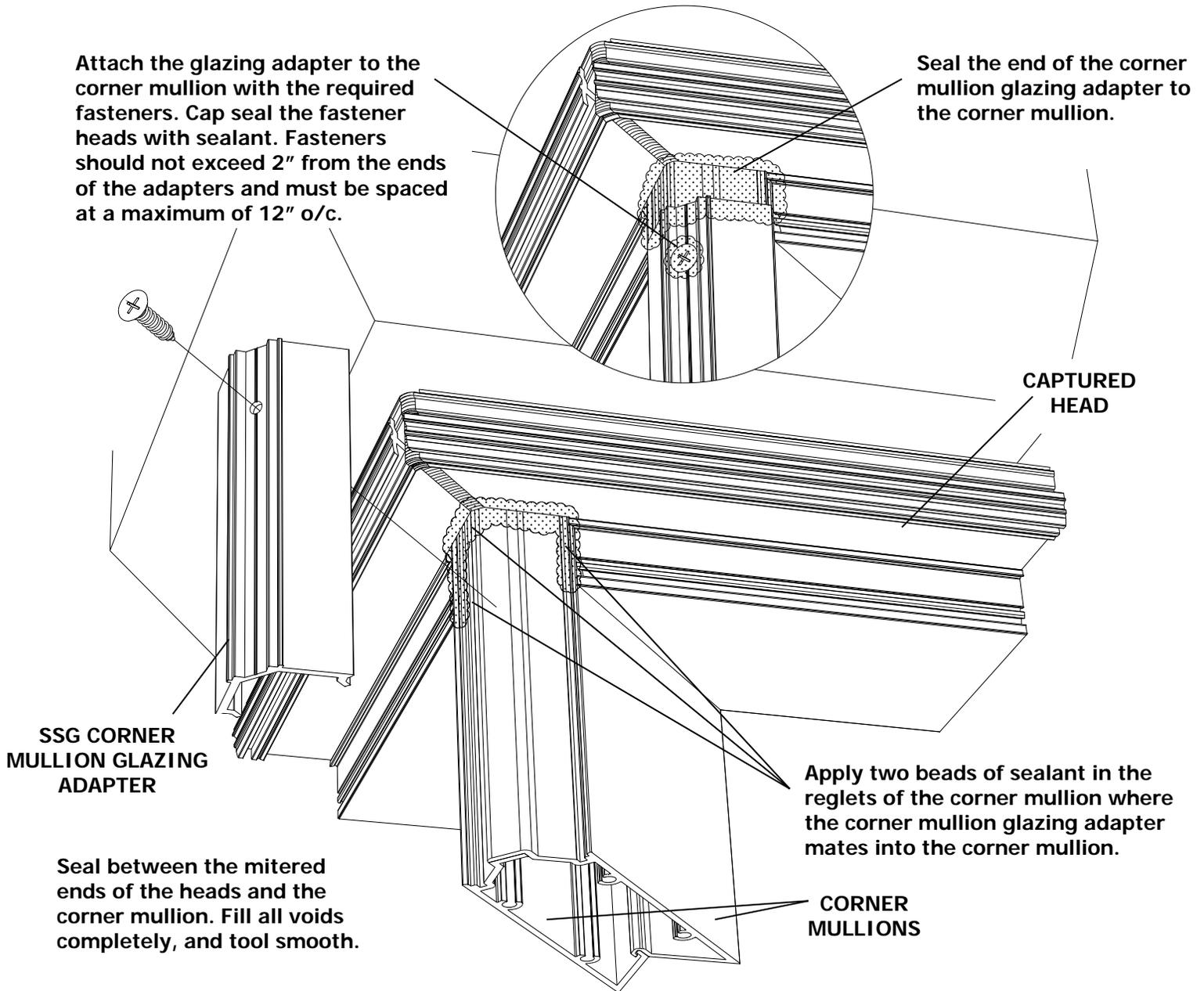


Section VII: Glazing Preparation (Vertical SSG and Captured Horizontal)



**CAPTURED INTERMEDIATE
HORIZONTALS AT SSG CORNER**

Section VII: Glazing Preparation (Vertical SSG and Captured Horizontal)



CAPTURED HEAD AT SSG CORNER

STEP #3 GLAZE SSG CORNER

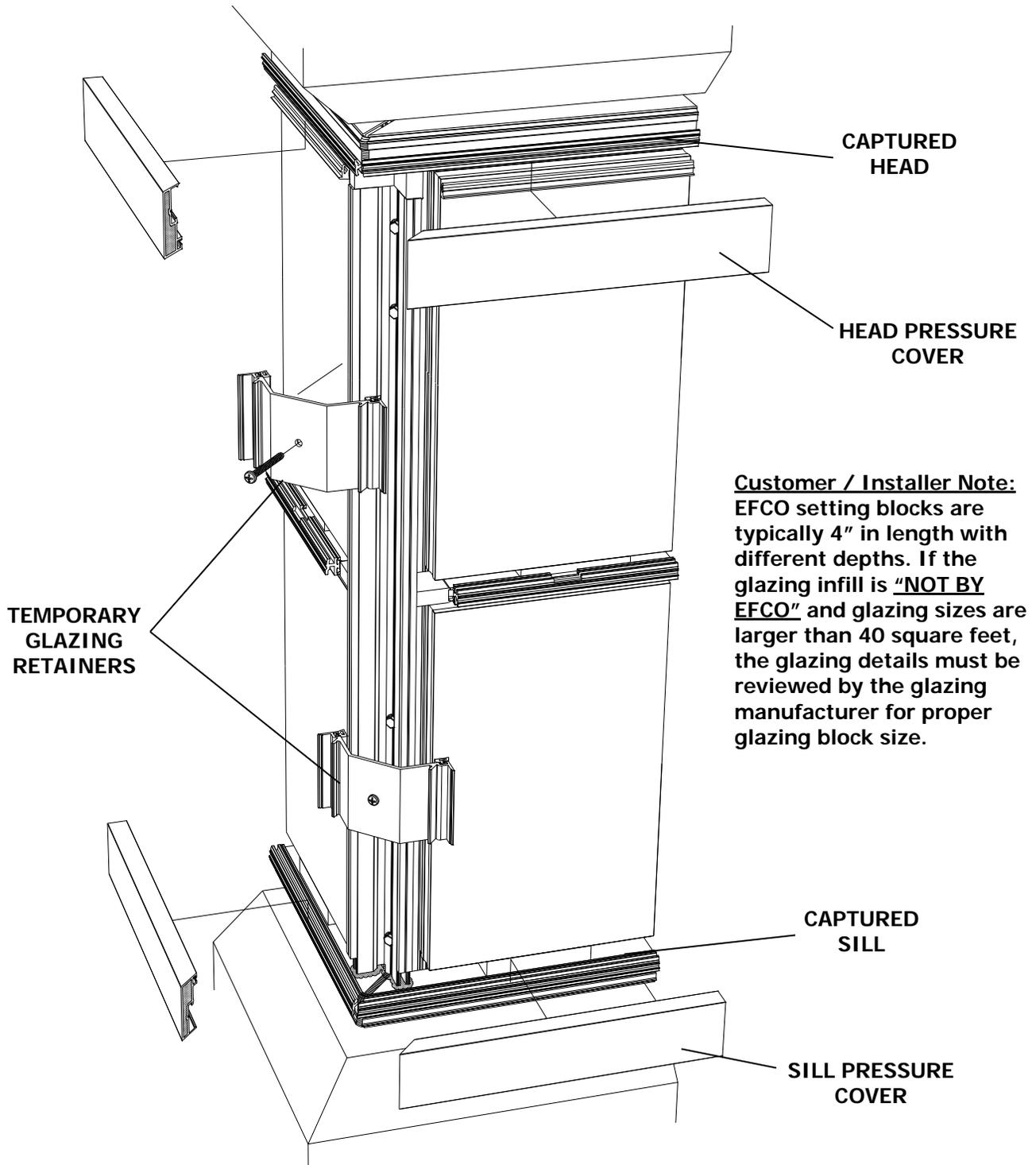
Refer to Section XI "Glaze SSG corners on page 73.

Section VIII: Exterior Cover & Drive-In Gasket Installation for Captured System

STEP #1 APPLY TEMPORARY GLAZING RETAINERS AT CORNERS

- A. Position the temporary glazing retainers at quarter points along the height of the D.L.O. at the corner. The maximum spacing for the retainers should not exceed 30" center to center.
- B. Match drill the corner mullion through the hole in the retainer, and apply the temporary glazing retainers as shown below. Seal the holes in the mullion when the retainers are removed.

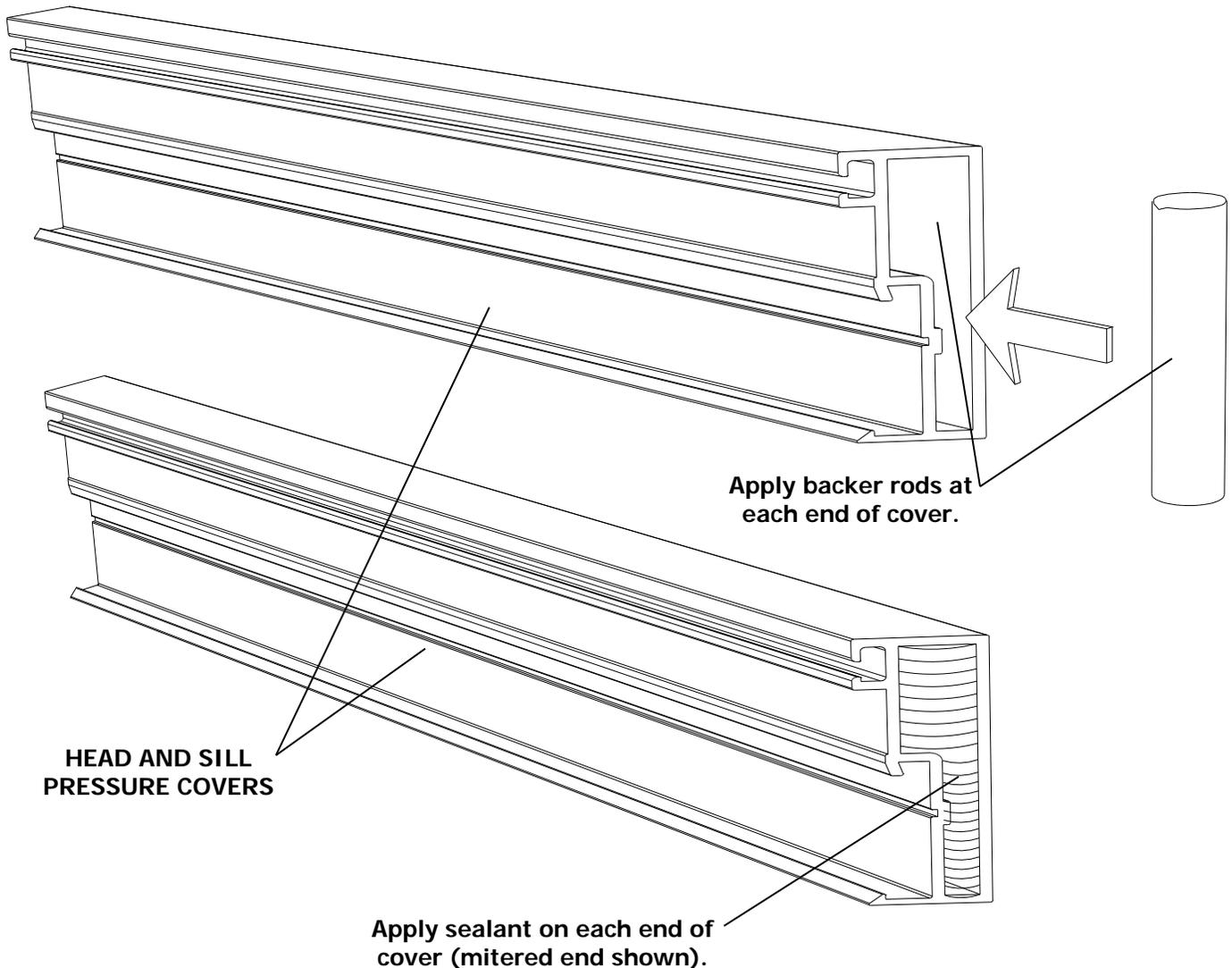
Glazing retainers are intended for short term temporary applications only and are not to be left unattended or overnight. Temporary retainers do not meet structural requirements and can fail under structural loads.



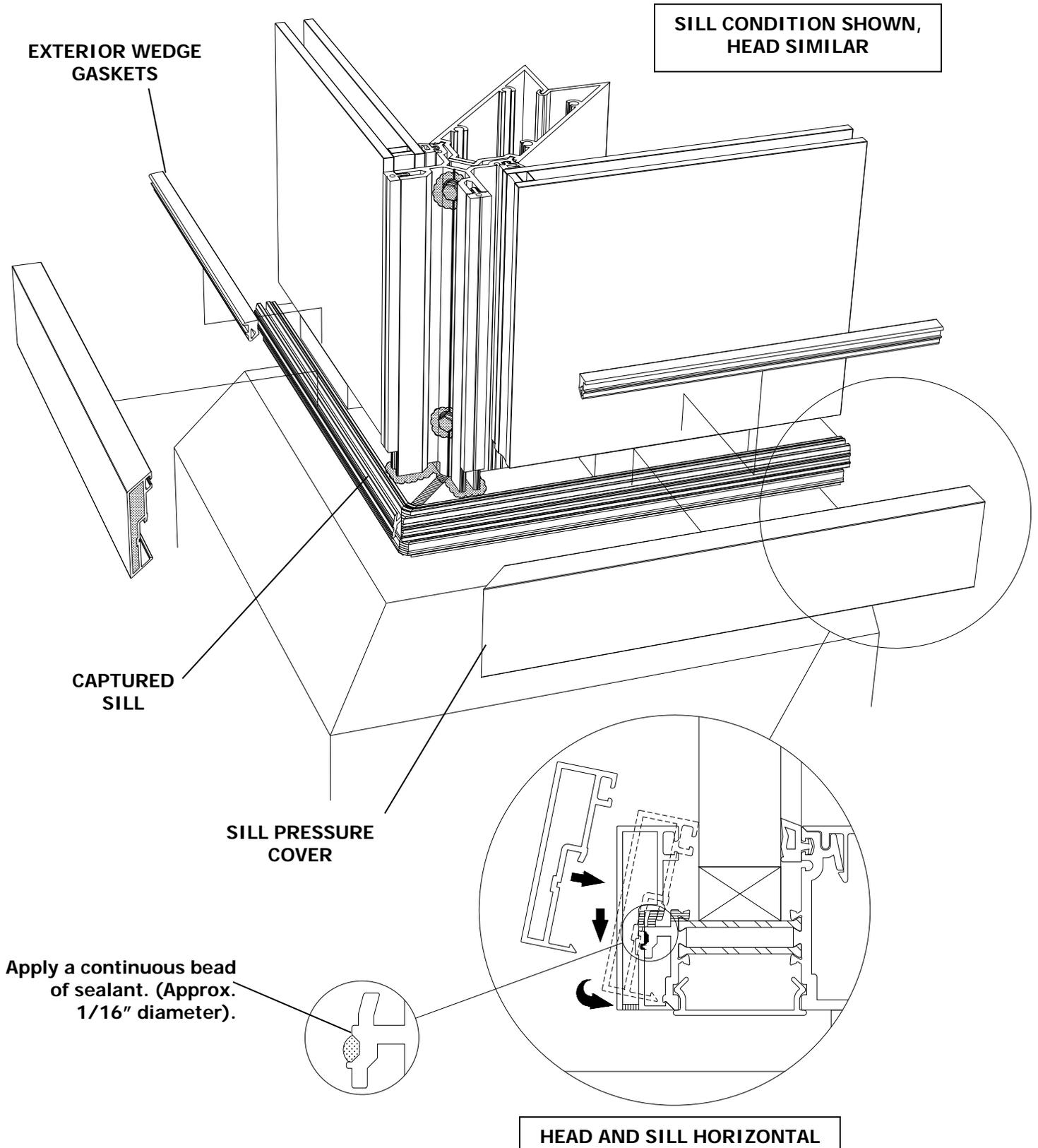
Section VIII: Exterior Cover & Drive-In Gasket Installation for Captured System

STEP #2 APPLY HORIZONTAL PRESSURE COVERS AT HEAD AND SILL

- A. Plug the ends of the horizontal pressure covers including heads, intermediates, and sills with backer rod. Recess the backer rod at least 1/4" from each end and apply a generous amount of sealant to cover the ends of the covers.
- B. Tool the sealant smooth, but allow it to slightly extend past the ends of the cover as shown.
- C. Run a continuous bead of sealant in the reglet of the horizontals immediately before applying the exterior pressure cover as shown on sheet 49. Do not block weeps with sealant.
- D. Slide on and rotate the pressure covers as shown to engage the horizontal cam. Be sure the weep holes in the sill pressure cover are facing downward. See inset illustration on page 49. Apply the drive-in wedge gaskets.
- E. Refer to "Section X: Exterior Cover & Drive-In Gasket Installation" beginning on page 49 of the Series 5500 Outside Glazed Installation Instructions for more information.



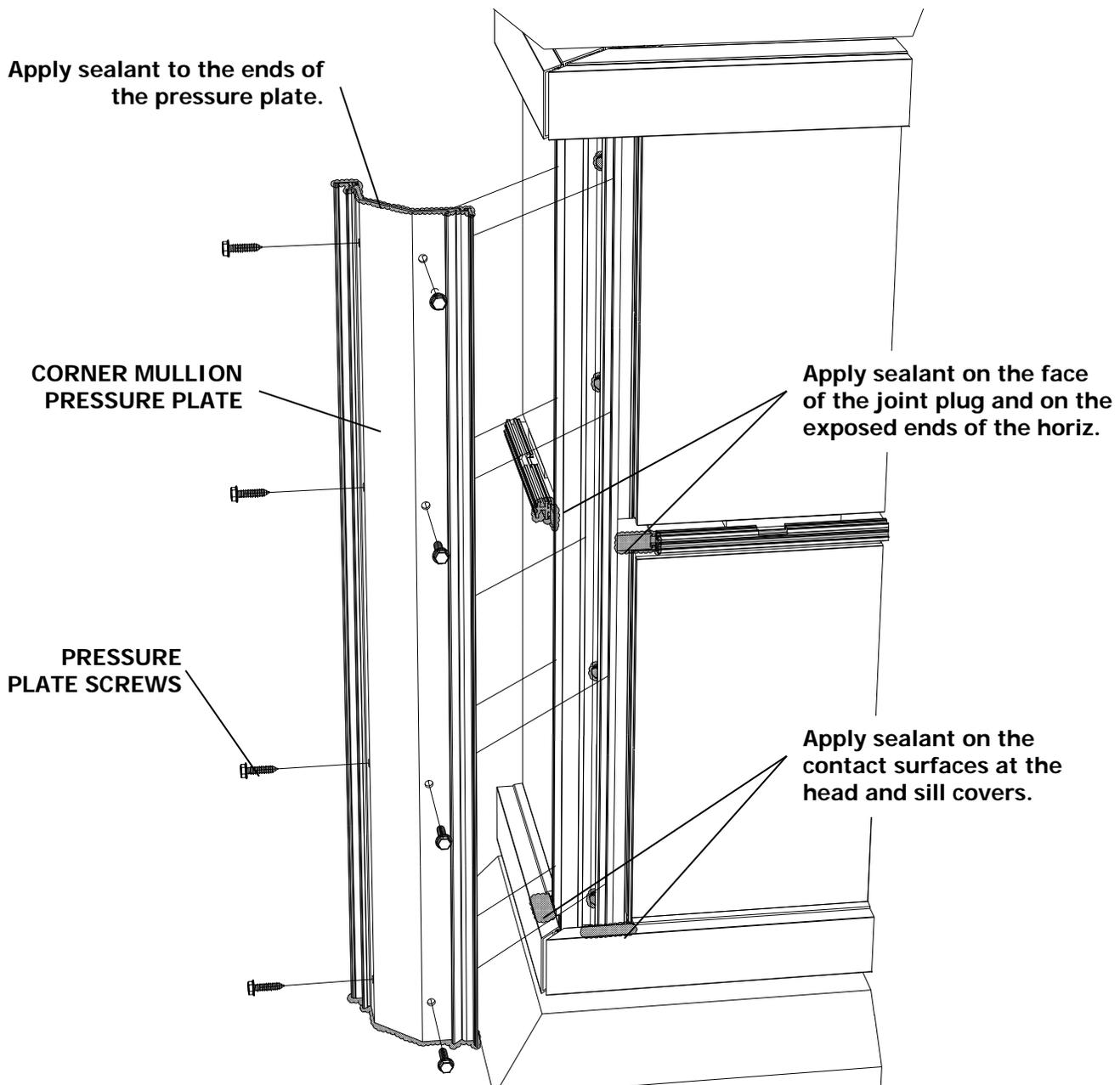
Section VIII: Exterior Cover & Drive-In Gasket Installation for Captured System



Section VIII: Exterior Cover & Drive-In Gasket Installation for Captured System

STEP #3 APPLY CORNER MULLION PRESSURE PLATE

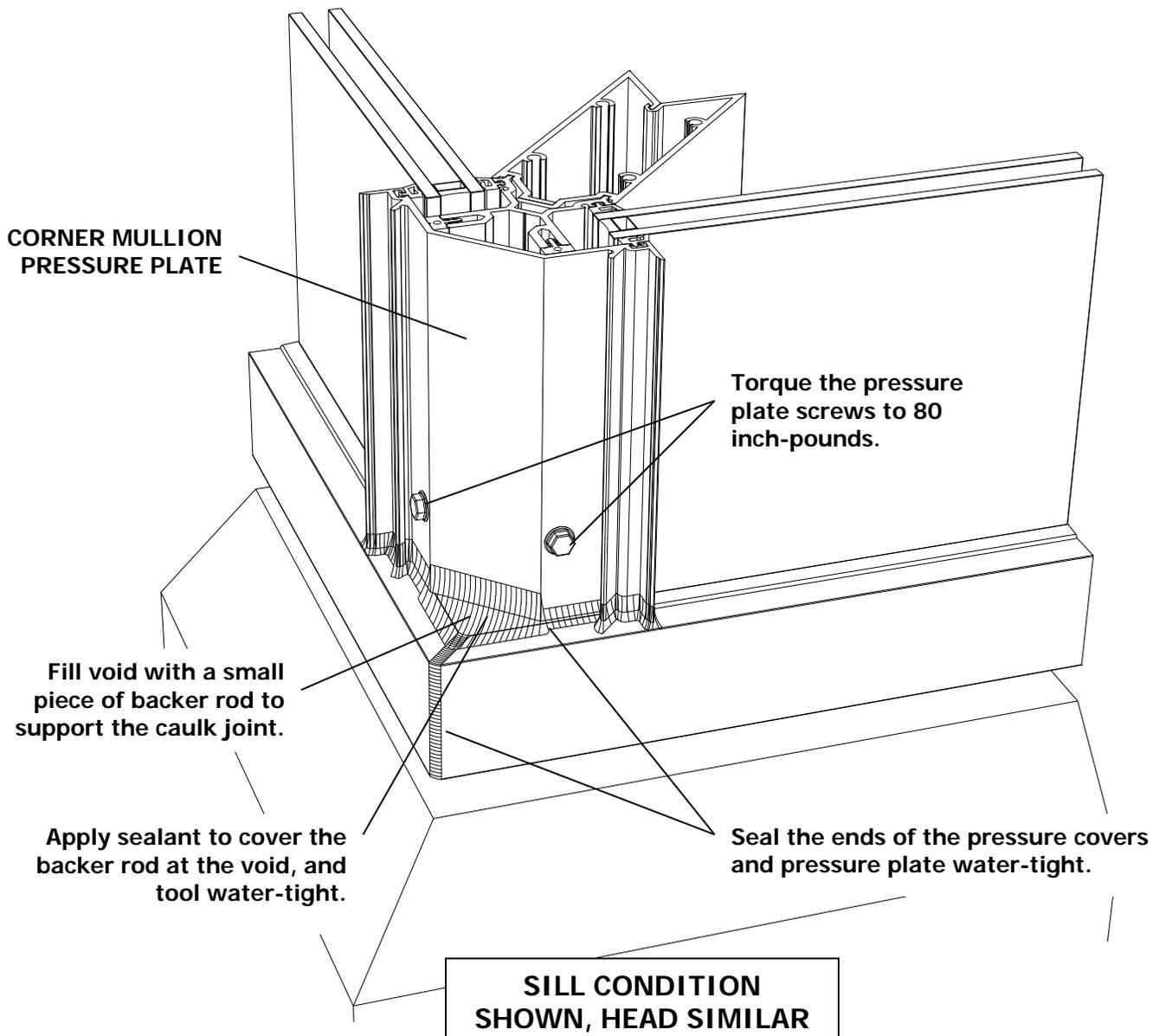
- A. Remove any temporary glazing retainers that were installed at the corner mullion during previous steps.
- B. Seal all holes in the corner mullion where the temporary glazing retainers were installed with sealant.
- C. Apply the preset gaskets to the corner mullion pressure plate. The gaskets should run continuously, the full length of the pressure plate.
- D. Apply sealant to the face of the joint plug and the exposed ends of the horizontals at the intermediate horizontals.
- E. Apply sealant to the ends of the pressure plate and to the surfaces of the head and seal pressure covers where they will contact the pressure plate.



Section VIII: Exterior Cover & Drive-In Gasket Installation for Captured System

STEP #4 APPLY CORNER MULLION PRESSURE PLATE

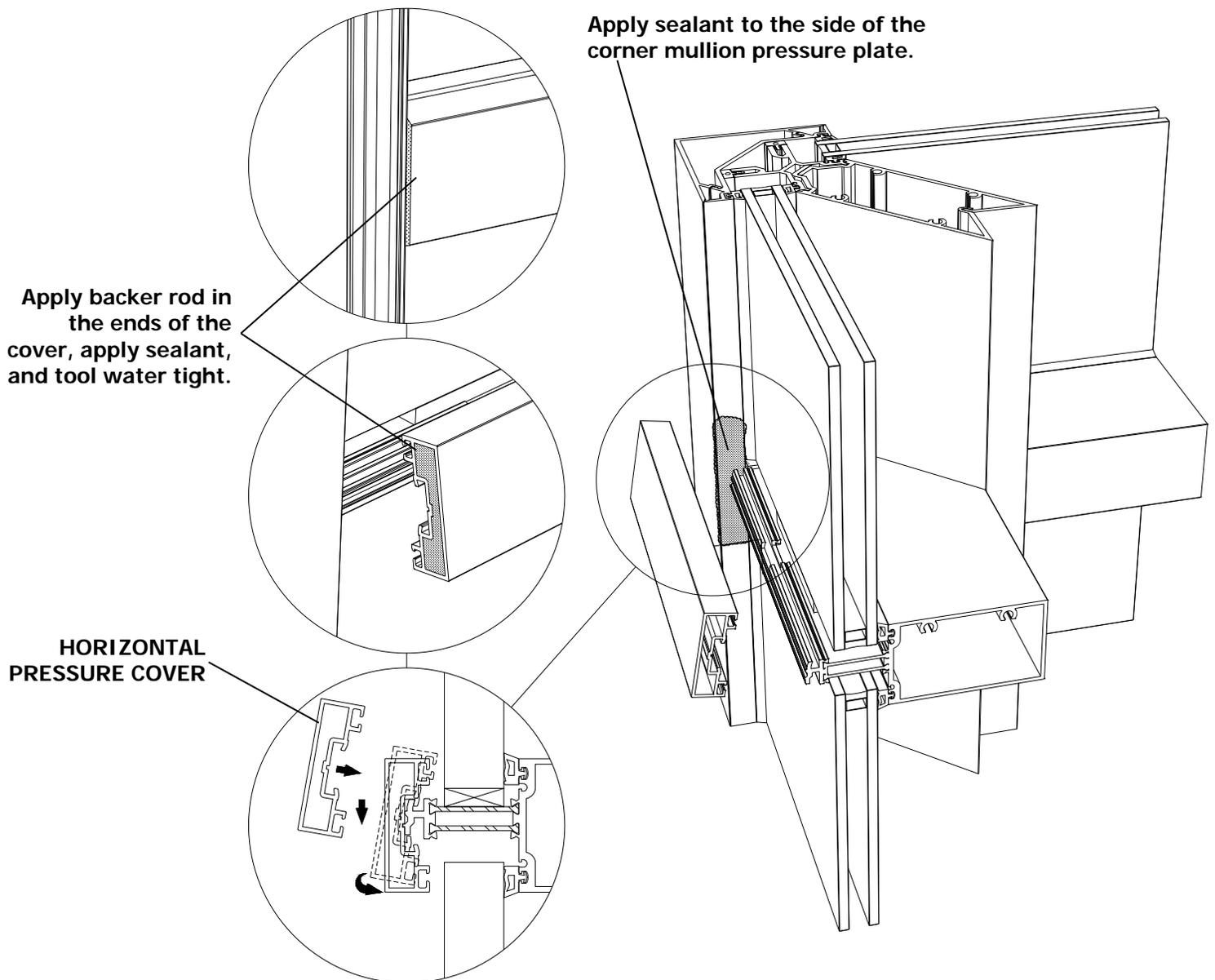
- A. Position the pressure plate so there is an equal space on each end of the pressure plate at the head and sill covers.
- B. Screw down the corner mullion pressure plate with the required fasteners at 6" center to center. Torque all fasteners to 80 inch-pounds. The fasteners should be applied starting at the bottom of the pressure plate working upward to the end. It is not necessary to cap seal the heads of the pressure plate screws.
- C. Seal the mitered ends of the pressure covers at the head and sill of the corner mullion. Fill the void between the covers, and tool the sealant smooth. Remove any excess sealant.
- D. Fill the void with backer rod that is between the ends of the corner mullion pressure plate and where the pressure covers at the head and sill intersect.
- E. Apply sealant to cover the backer rod, and seal the pressure covers and pressure plate water-tight as shown below for both the head and sill.



Section VIII: Exterior Cover & Drive-In Gasket Installation for Captured System

STEP #5 INSTALL INTERMEDIATE PRESSURE COVERS

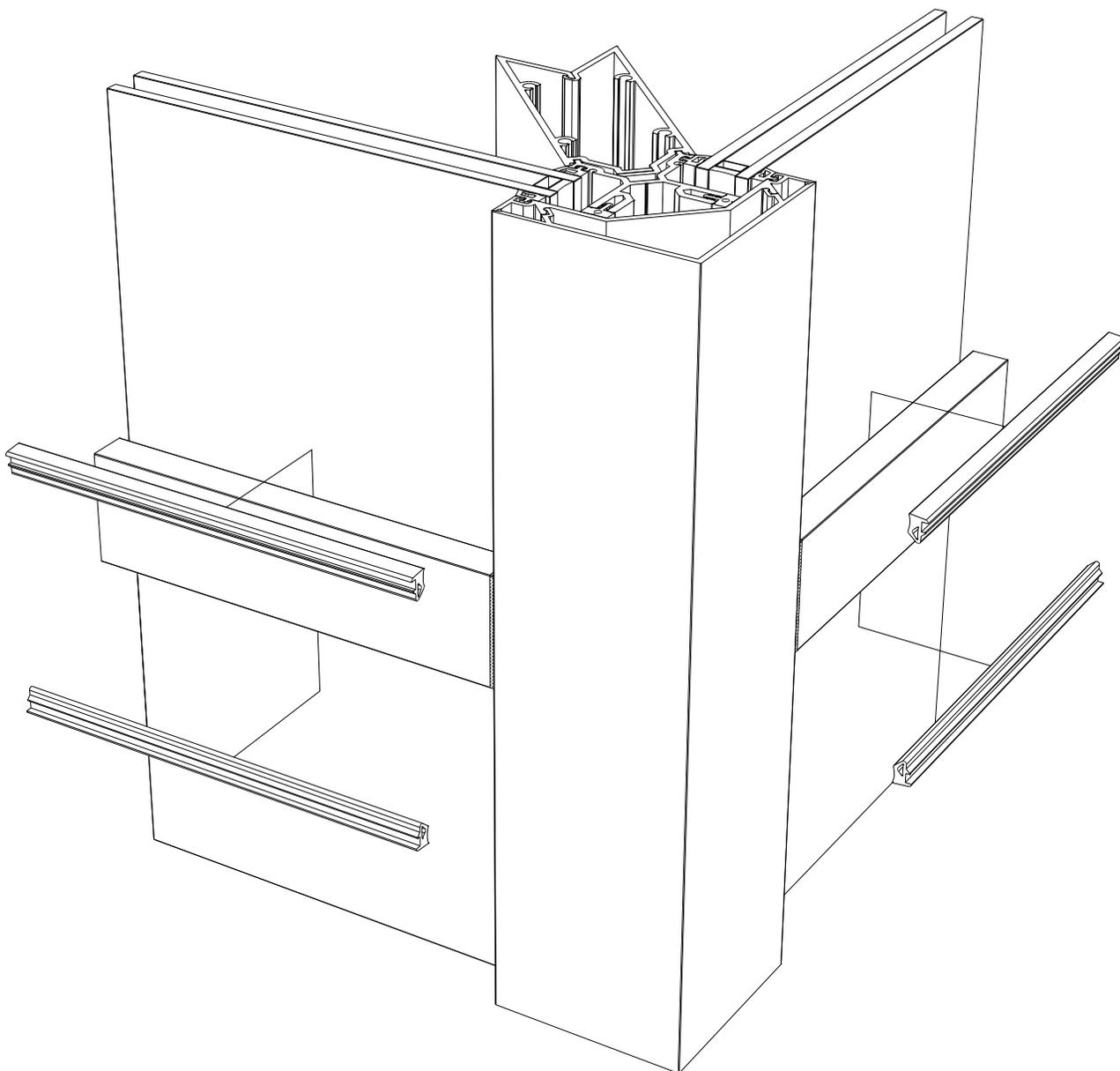
- A. Insert backer rod into the ends of the horizontal. Recess the backer rod at least 1/4" into the inside area of the cover.
- B. Apply sealant to the ends of the cover, filling the voids at the end.
- C. Apply a layer of sealant to the sides of the vertical pressure plate at the corner and to the covers at the adjacent mullions, where these areas will contact the horizontal cover.
- D. Roll-on the horizontal pressure cover to the intermediate horizontal as shown in the inset detail below.
- E. Tool the sealant into the joint and smooth down flush with the joint. Remove all excess sealant as required.



Section VIII: Exterior Cover & Drive-In Gasket Installation for Captured System

STEP #6 APPLY WEDGE GASKETS

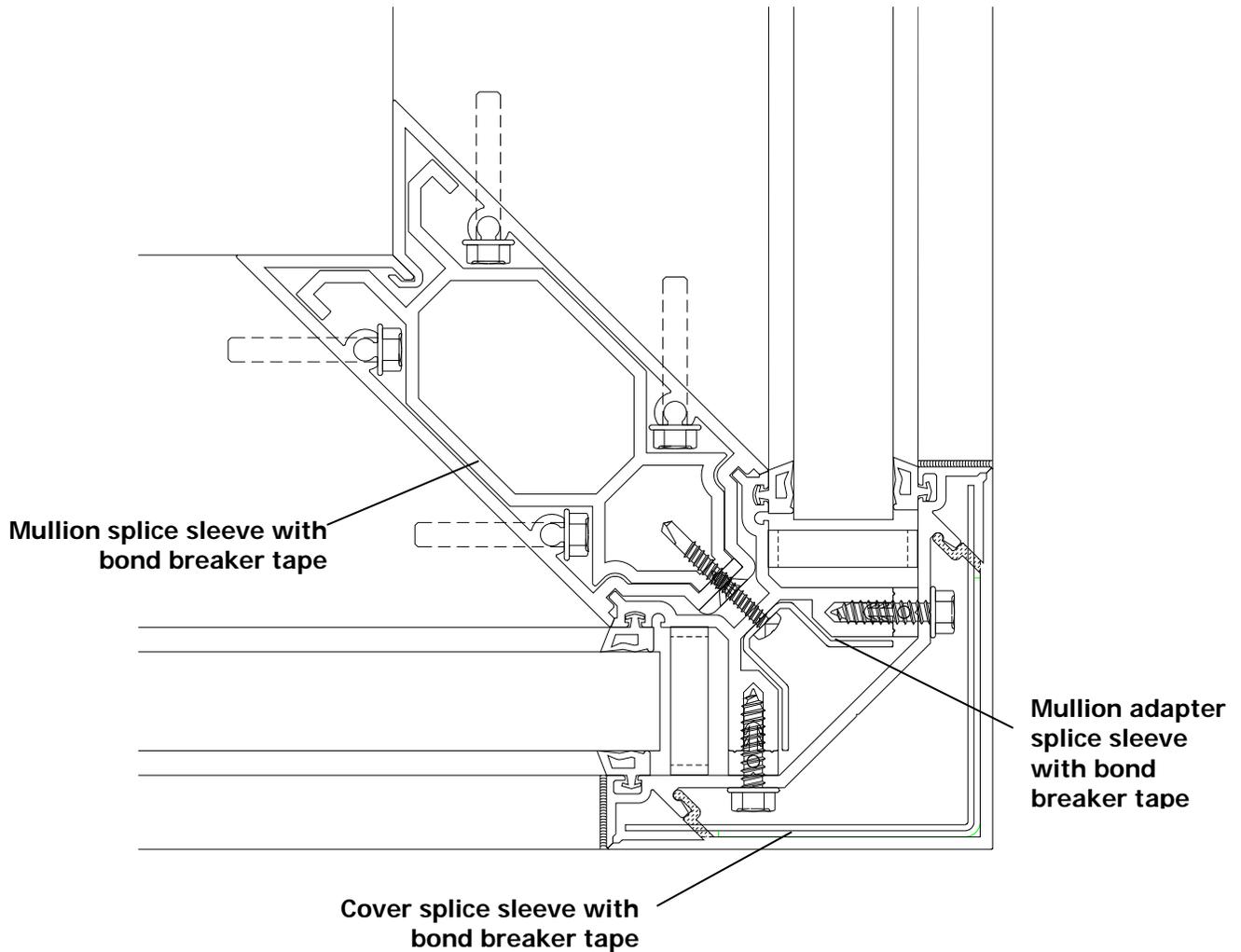
- A. Apply the exterior wedge gaskets at the intermediate horizontals. Apply the gasket to the top of the horizontal first, then to the underside. Refer to "Section X: Exterior Cover & Drive-In Gasket Installation" beginning on page 49 of the Series 5500 Outside Glazed Installation Instructions for more information.



Section IX: Vertical Splice Joints Installation for Captured System

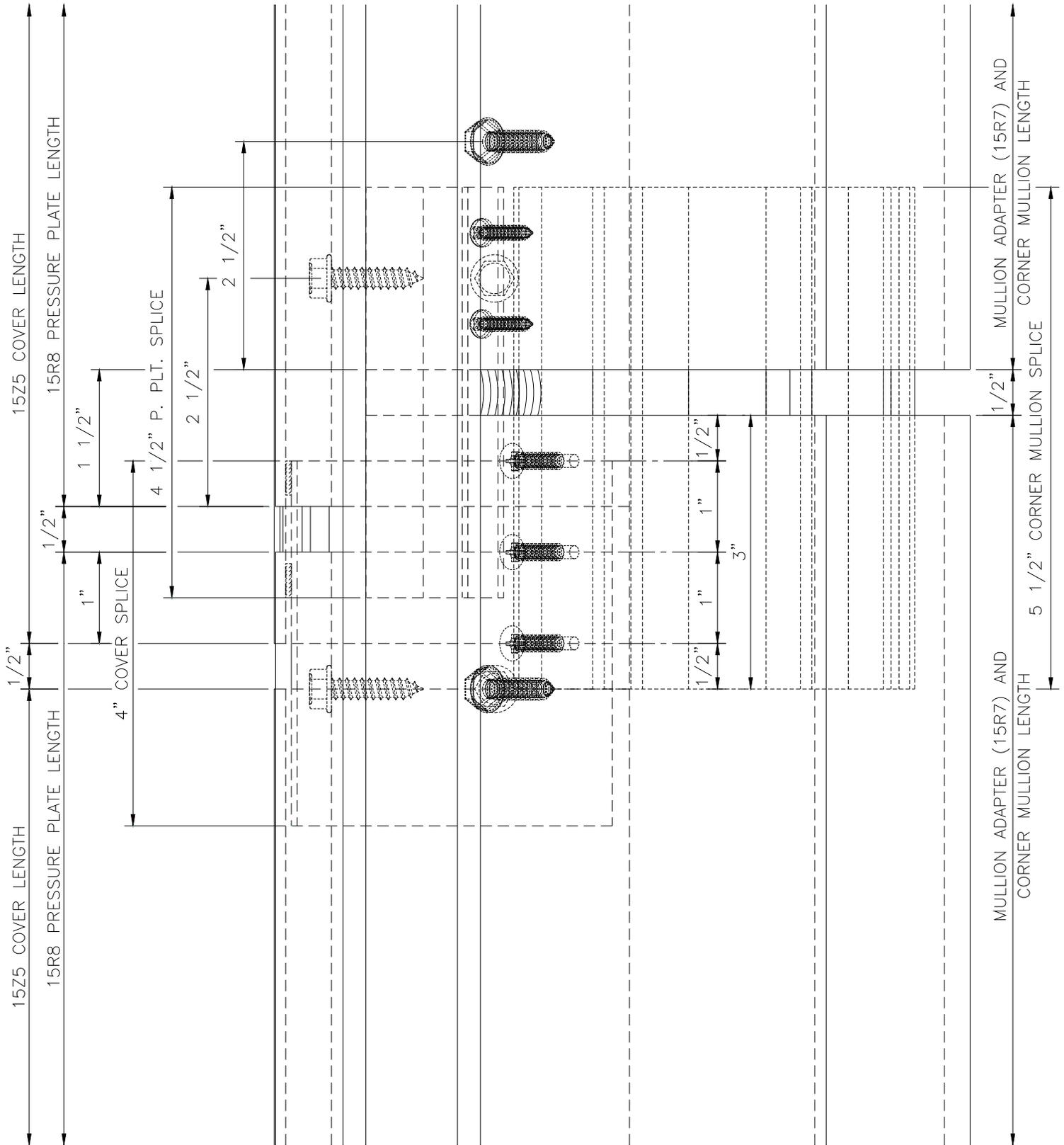
STEP #1 LOCATE SPLICE JOINTS

- A. Splice joints should occur at spandrel areas (if possible). Refer to the approved shop drawings for actual locations.
- B. The mullion splice must be field assembled in the top of the lower mullion after the corner frames have been set into the opening and anchored at the sill.
- C. **GENERAL NOTE:** The following pages depict a splice joint of 1/2". This will allow plus or minus 1/4" of movement for each splice location. Thermal expansion and live deflection requirements should be considered when determining the location and quantities of splice joints. If the total amount of movement cannot be accommodated by locating splices at every other floor, or alternately, at each floor, expansion horizontals or some alternative method should be used. Contact EFCO for further evaluation.
- D. Refer to this section for pressure plate and cover splice locations, mullion splice locations, and sealing instructions.
- E. Once a final check of the expansion joint placement and mullion position is made, final match drilling of the mullion through the anchor holes may be completed.



PLAN VIEW

Section IX: Vertical Splice Joints Installation for Captured System

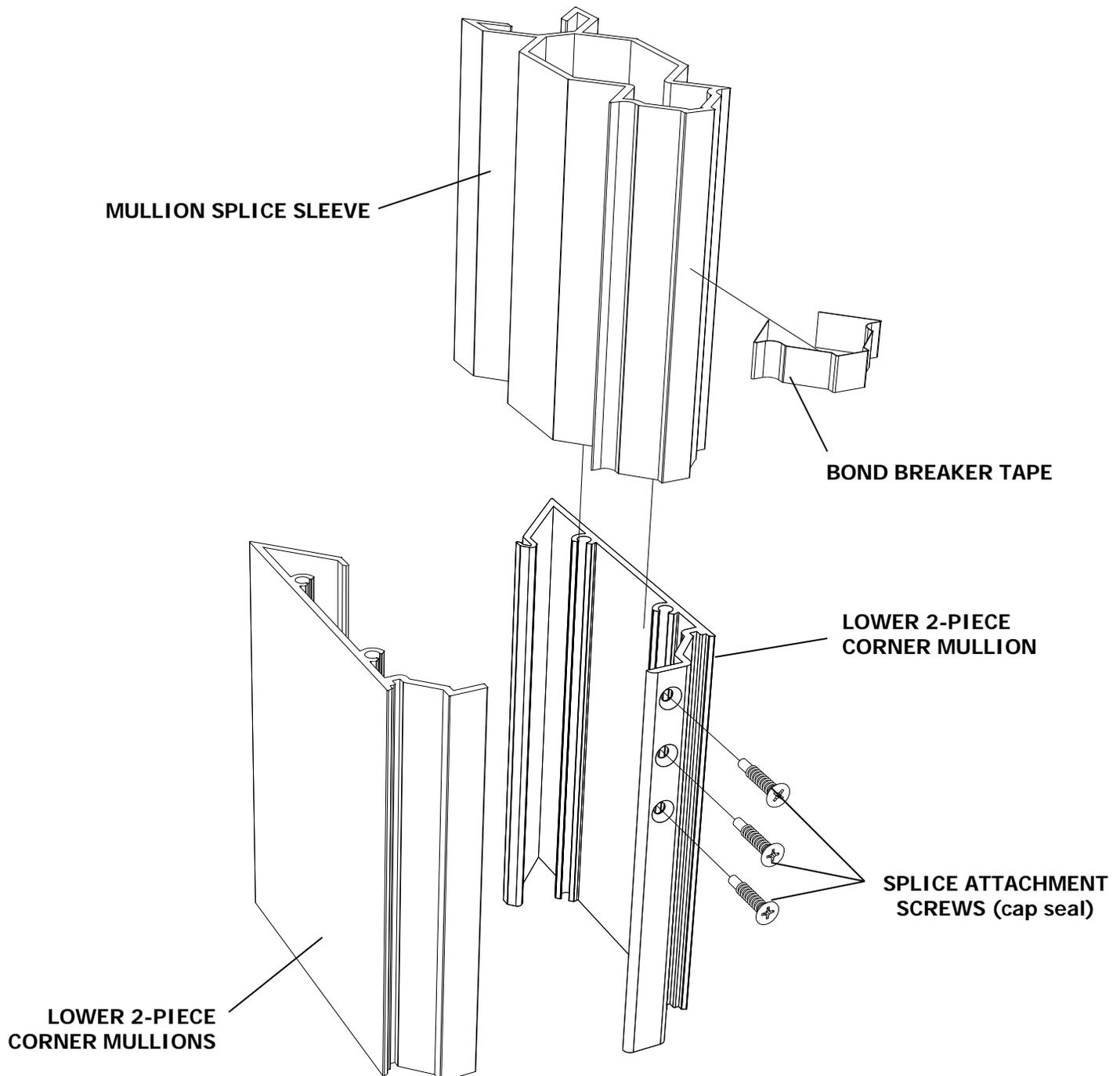


NOTE: All anchors must be fixed before glazing begins.

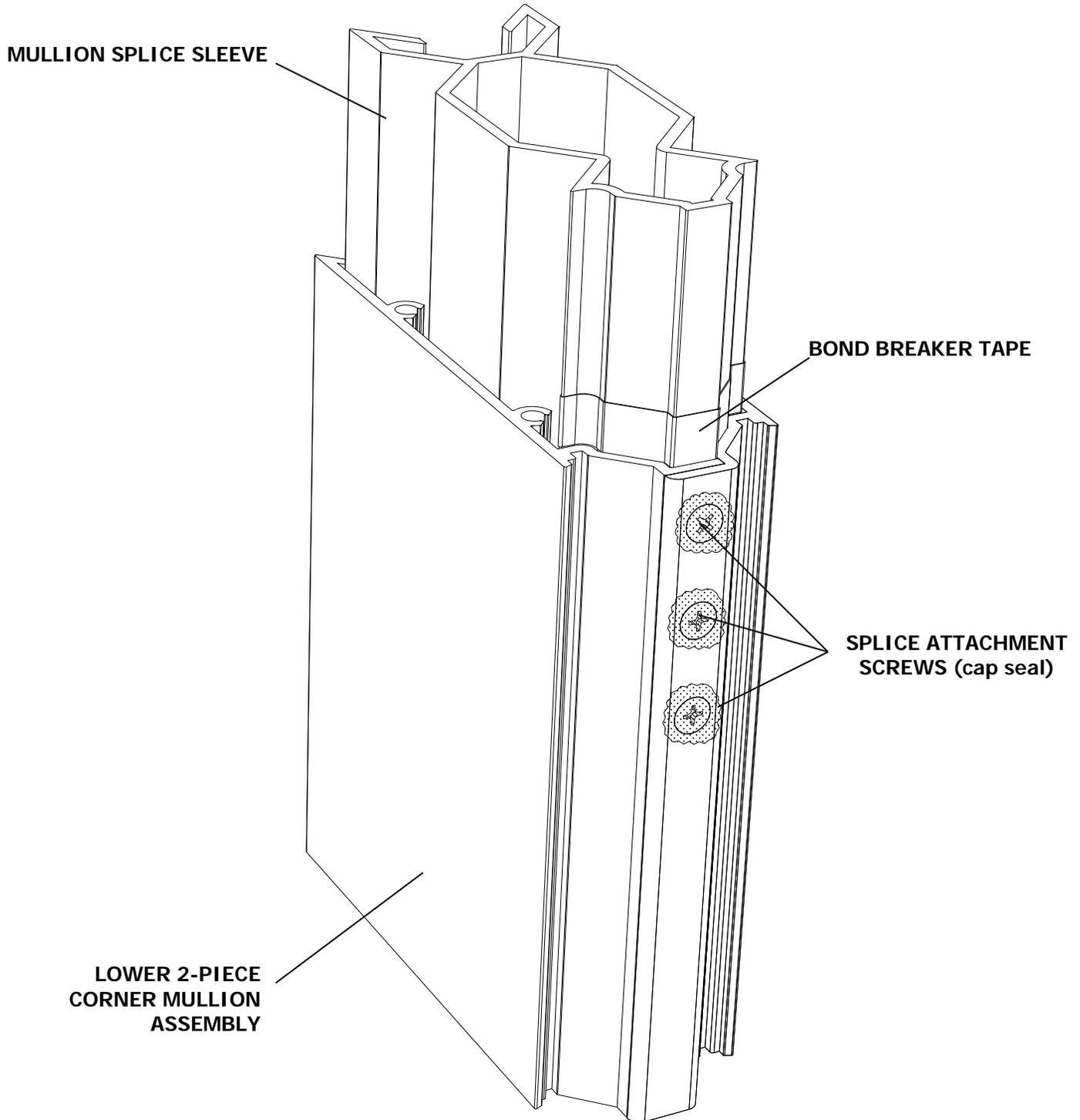
Section IX: Vertical Splice Joints Installation for Captured System

STEP #2 ATTACH MULLION SPLICE SLEEVES

- A. Clean all surfaces that will contact sealant per the sealant manufacturer's instructions making sure to remove all oils and debris from contact surfaces.
- B. Apply bond breaker tape to the corner mullion splice sleeve.
- C. Install the lower section of the corner frames as instructed in previous sections.
- D. For standard installation, attach the mullion splice sleeve to the top of the lower mullion with splice sleeve attachment screws. Cap seal the fastener heads.



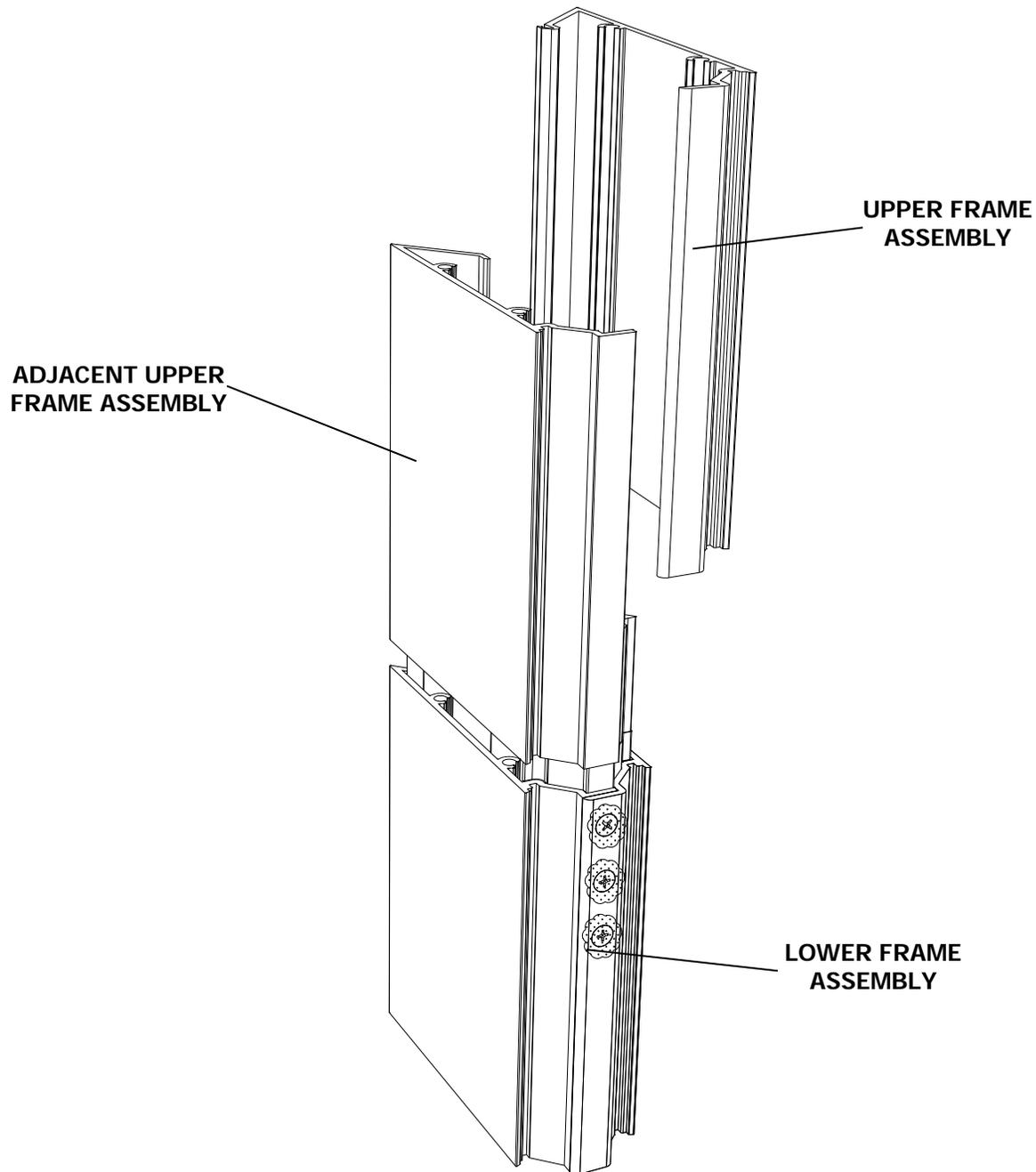
Section IX: Vertical Splice Joints Installation for Captured System



Section IX: Vertical Splice Joints Installation for Captured System

STEP #3 ALIGN AND STACK ASSEMBLED FRAMES

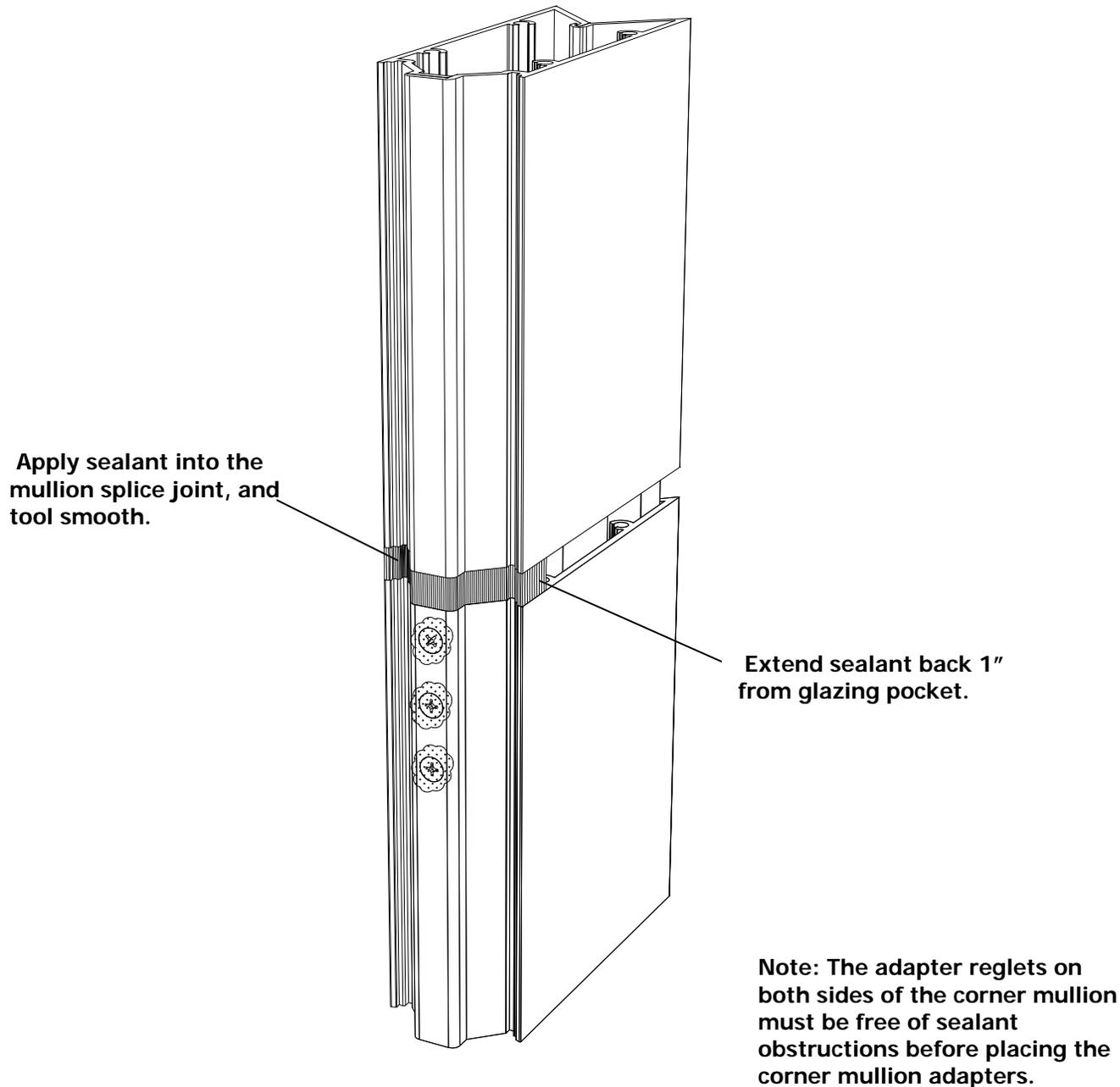
- A. Align the pre-assembled frames, and stack together at the splice joints.
- B. Position the mullions to the appropriate elevation with regard to established benchmarks, and shim or fix the mullions at their respective dead load anchor points.
- C. Install both of the upper adjacent frames before sealing the mullion splice joints.
- D. Clean the splice sealant-contact areas per sealant manufacturer's recommendations.



Section IX: Vertical Splice Joints Installation for Captured System

STEP #4 SEAL MULLION SPLICE SLEEVE

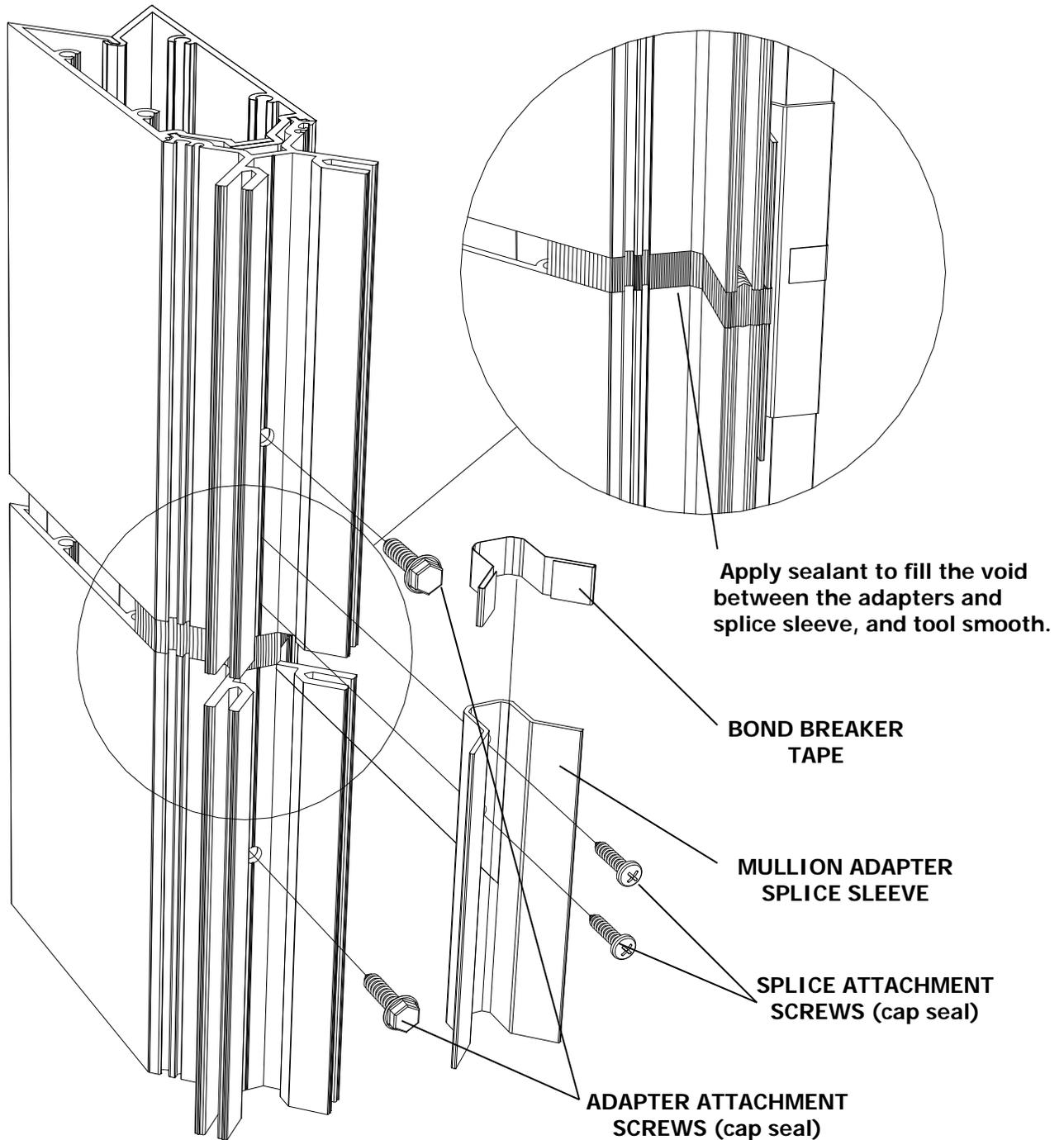
- A. Apply sealant into the mullion splice joint, and tool the joint. Do not obstruct the corner mullion adapter reglets. The sealant must extend back 1" along the side of the mullion from the glazing pocket.



Section IX: Vertical Splice Joints Installation for Captured System

STEP #5 ATTACH MULLION ADAPTER AND ADAPTER SPLICE SLEEVE

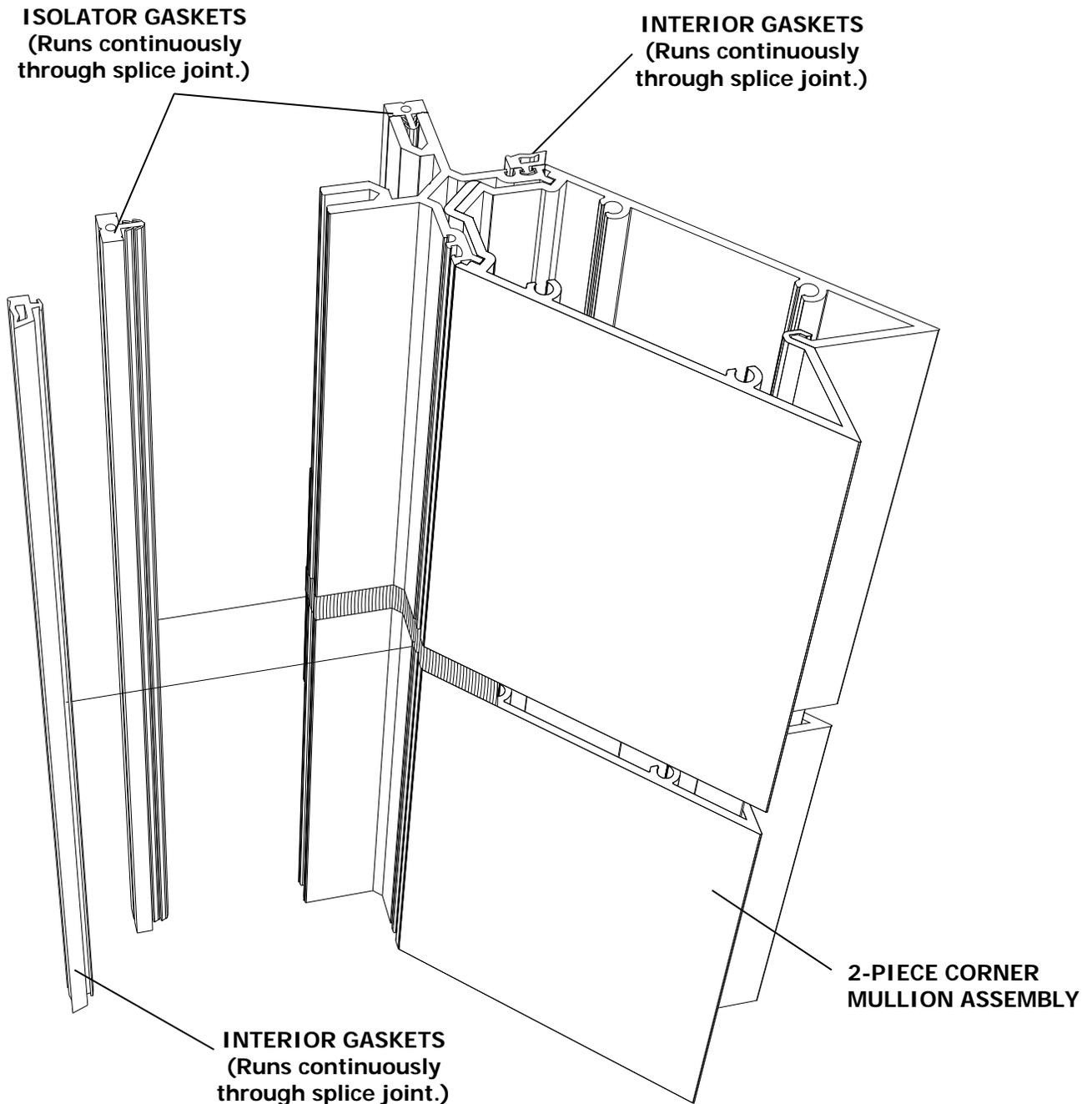
- A. Install the corner mullion adapter as shown in "Section V Glazing Preparation (Captured)" of this manual. The adapter should be cut to mullion length, starting and stopping at the mullion splice joint.
- B. Apply bond breaker tape to the mullion adapter splice sleeve.
- C. Attach the mullion adapter splice sleeve to the upper corner mullion adapter.
- D. Apply sealant to fill the void between the corner mullion adapters and the splice sleeve.
- E. Tool the joint smooth as shown in the inset detail. The gasket reglets must be free of sealant.



Section IX: Vertical Splice Joints Installation for Captured System

STEP #6 APPLY PRESET ISOLATORS AND INTERIOR GASKETS

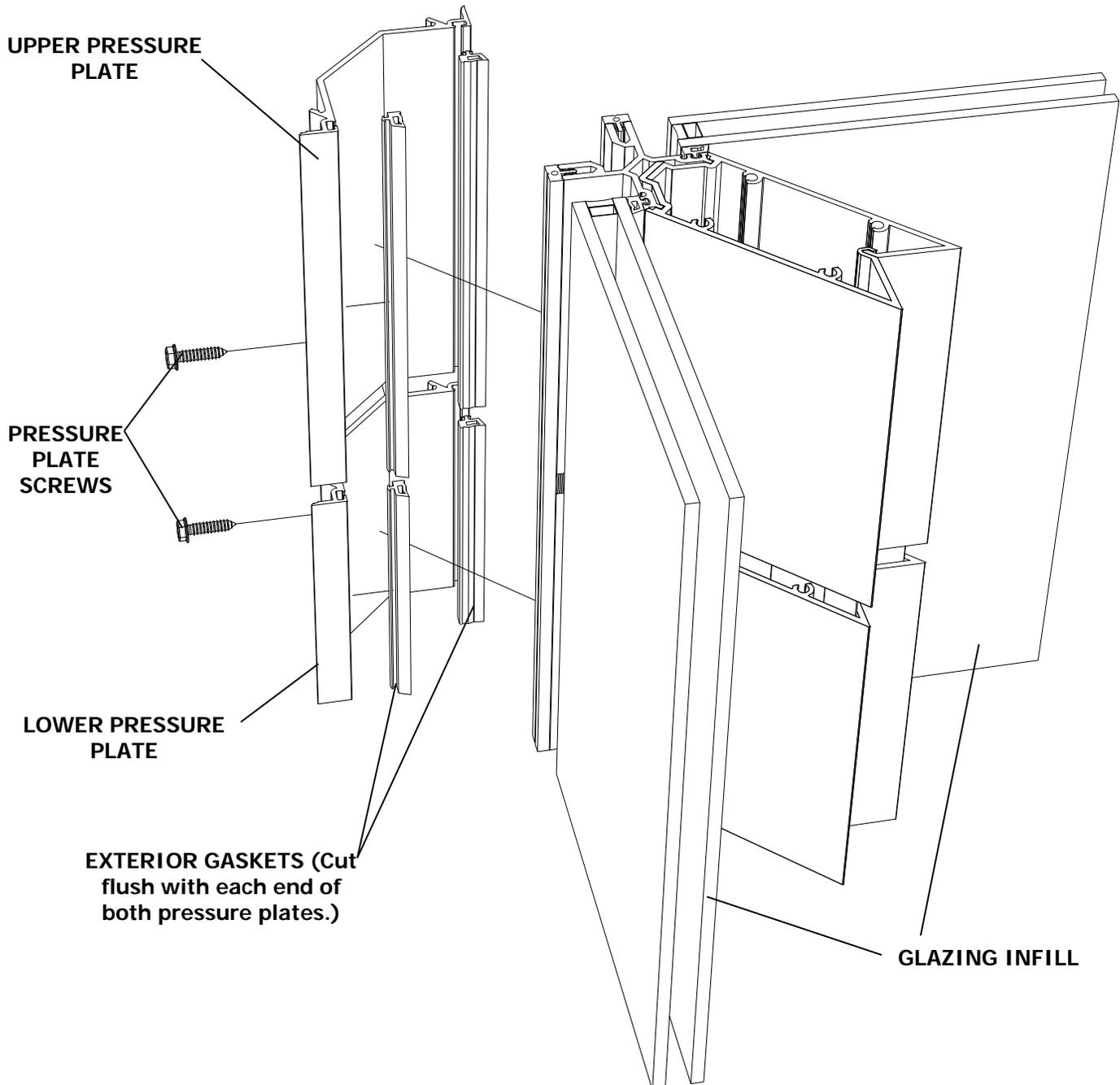
- A.
- B. Apply the interior preset gaskets and isolator gaskets per "Section V Glazing Preparation (Captured)" of this manual. The gaskets will run continuously spanning the splice joint. The gaskets should be set immediately after applying sealant to the splice joint to avoid interference with cured sealant.
- C. Ensure all voids where the sealant and gaskets make contact are filled.
- D. Install glazing infill per "Section IX: Glazing Installation" of the Series 5500 Outside Glazed Installation Instructions.



Section IX: Vertical Splice Joints Installation for Captured System

STEP #7 APPLY PRESSURE PLATES

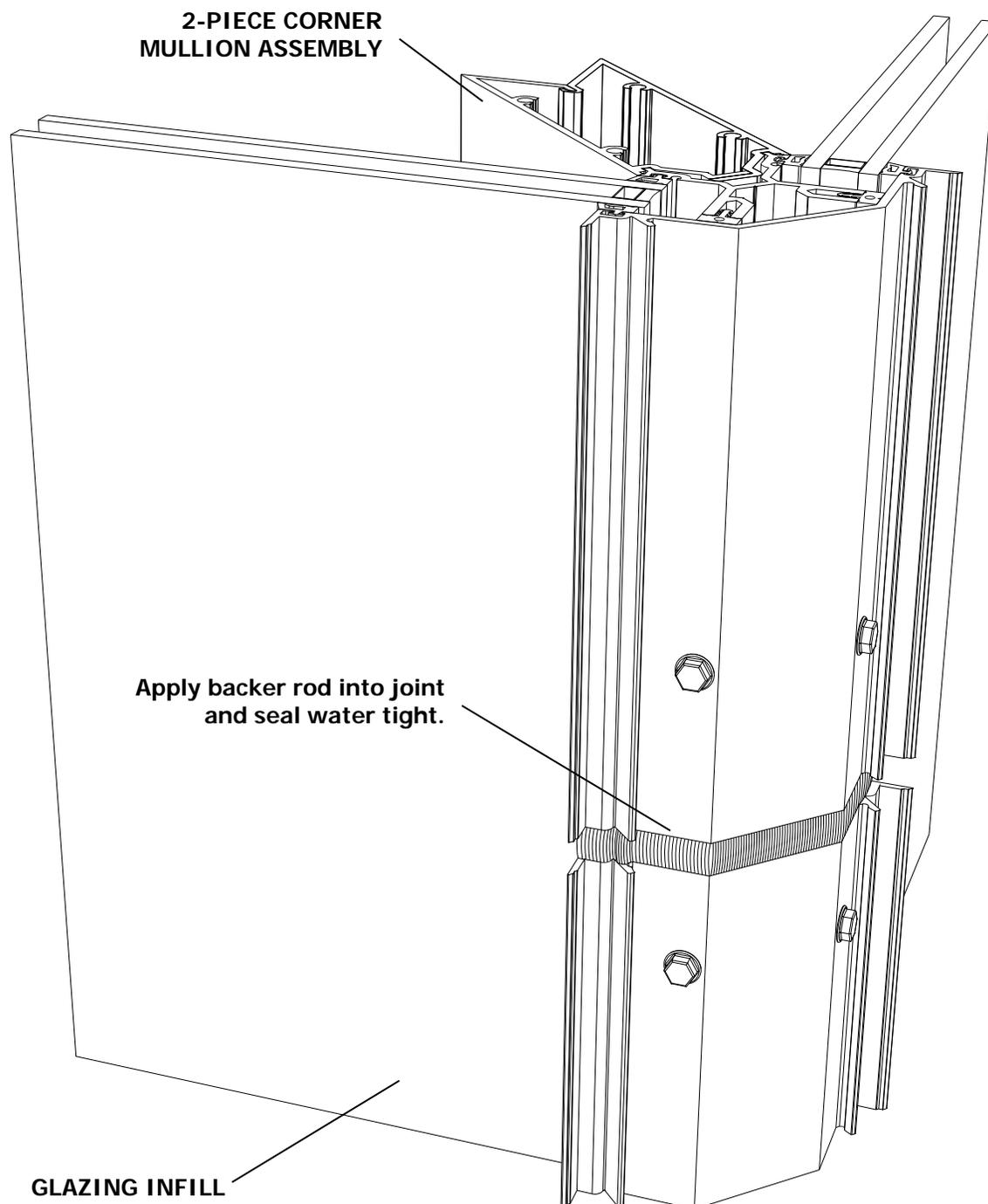
- A. Apply the preset gaskets to the pressure plates. Cut the gaskets flush with both ends of the pressure plates.
- B. Install the lower pressure plate starting at the sill with pressure plate screws. Locate the screws 6" o.c. and at a maximum of 3" from the ends of the pressure plate. Torque the screws to 80 inch-pounds (6.6 foot-pounds).
- C. Apply the upper pressure plate, which overlaps the splice joint by 1 1/2". Ensure the first screw at the bottom of the upper pressure plate attaches to the upper mullion only. It is not necessary to cap seal the pressure plate screws or the extra holes in the pressure plates. Torque the screws to 80 inch-pounds (6.6 foot-pounds).



Section IX: Vertical Splice Joints Installation for Captured System

STEP #8 SEAL PRESSURE PLATES

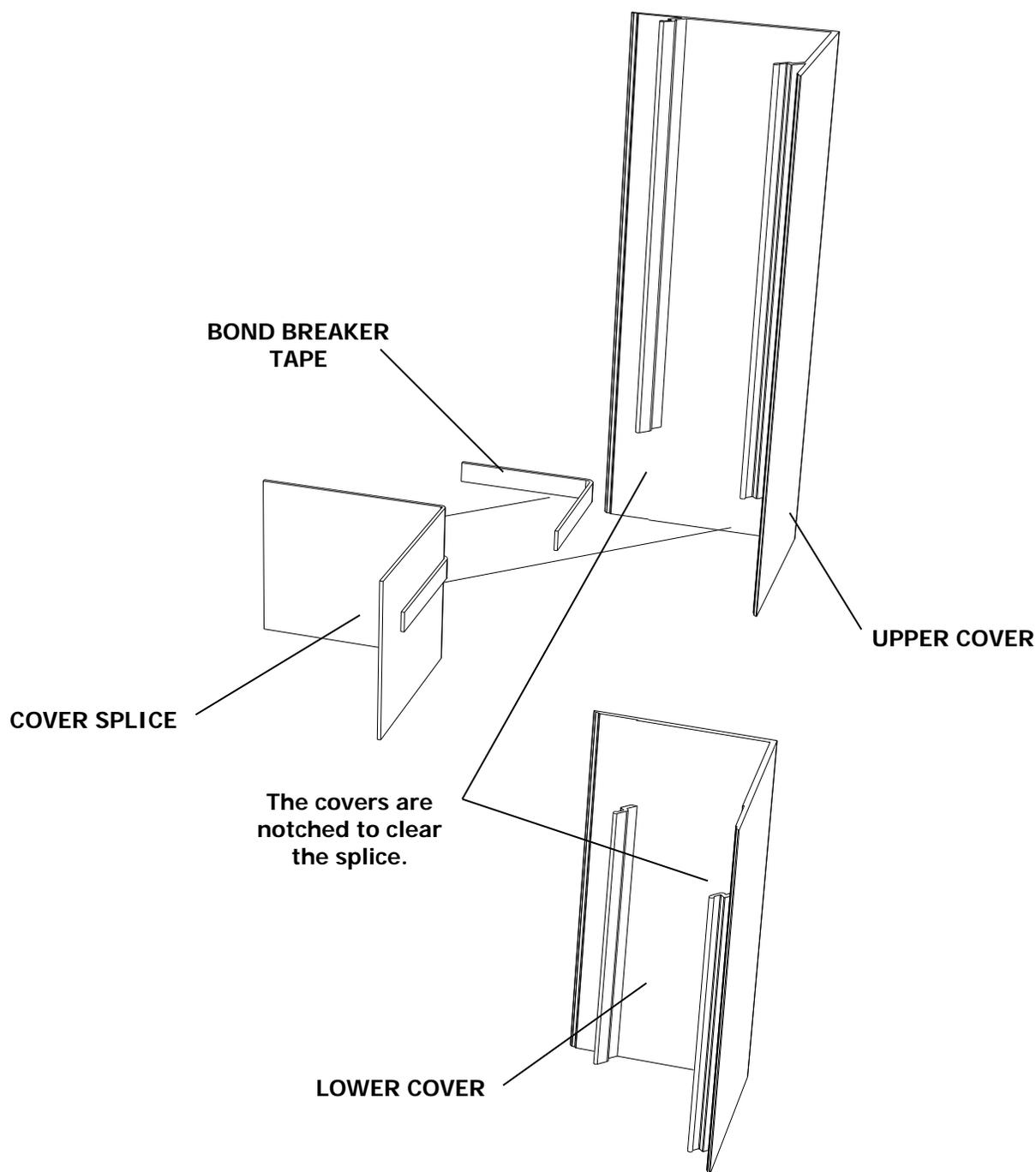
- A. Apply backer rod into the joint between the ends of the pressure plates at the splice joint to backup the sealant applied in step 8-B.
- B. Apply sealant into the joint ensuring to thoroughly wet the ends of the pressure plates. Apply enough sealant to provide a minimum of 1/4" sealant contact surface on the ends of the pressure plates.



Section IX: Vertical Splice Joints Installation for Captured System

STEP #9 APPLY EXTERIOR CORNER COVER SPLICE

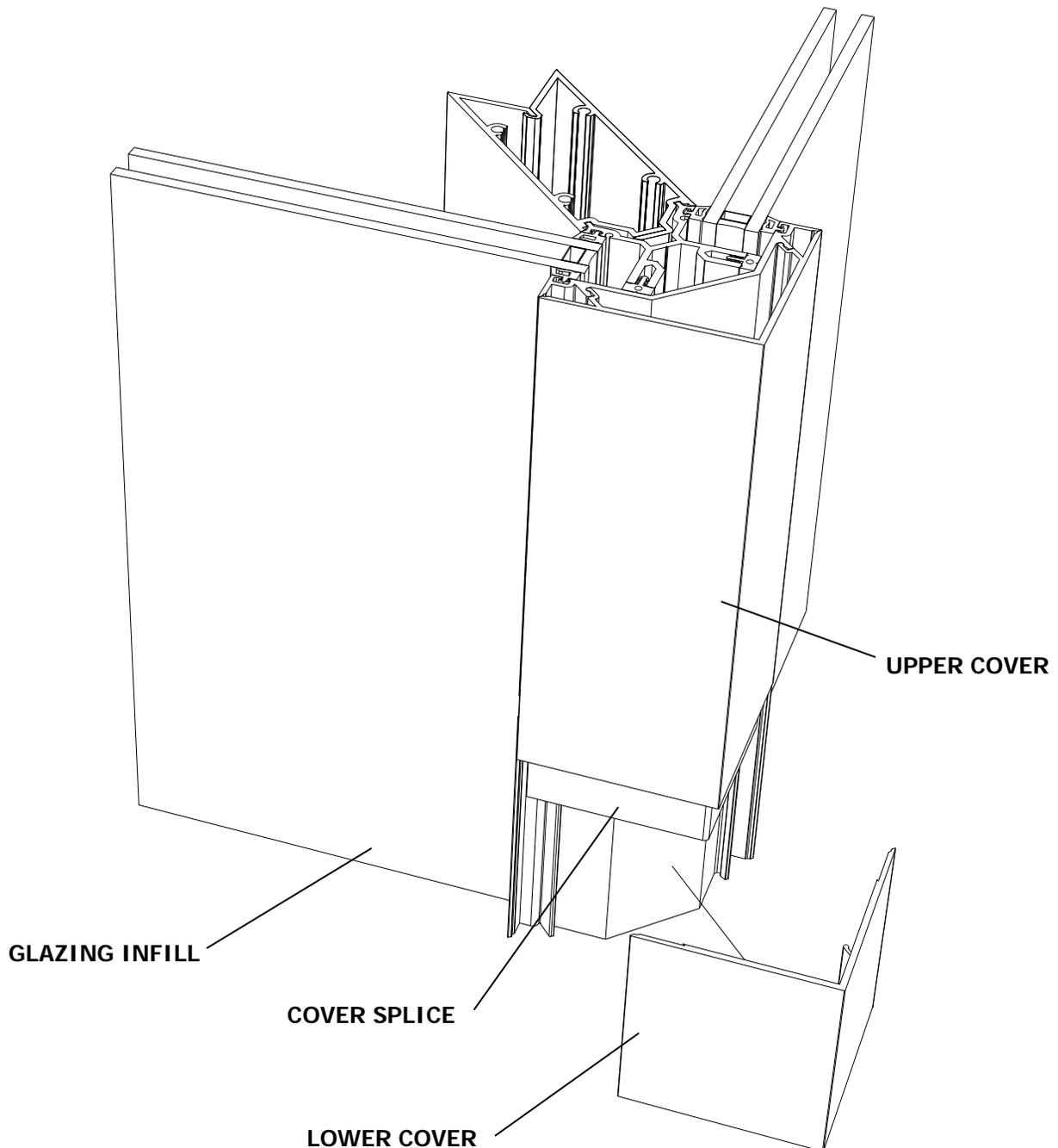
- A. Apply .062 x .375 foam tape with pressure sensitive adhesive on both sides to the cover splice as shown below.
- B. Apply bond breaker tape to the splice (optional) if the joints of the covers are to be sealed.
- C. Apply sealant to the splice between the rows of tape to permanently adhere the splice to the cover.
- D. Press the splice firmly to apply it to the bottom of the upper cover.



Section IX: Vertical Splice Joints Installation for Captured System

STEP #10 APPLY EXTERIOR CORNER COVERS

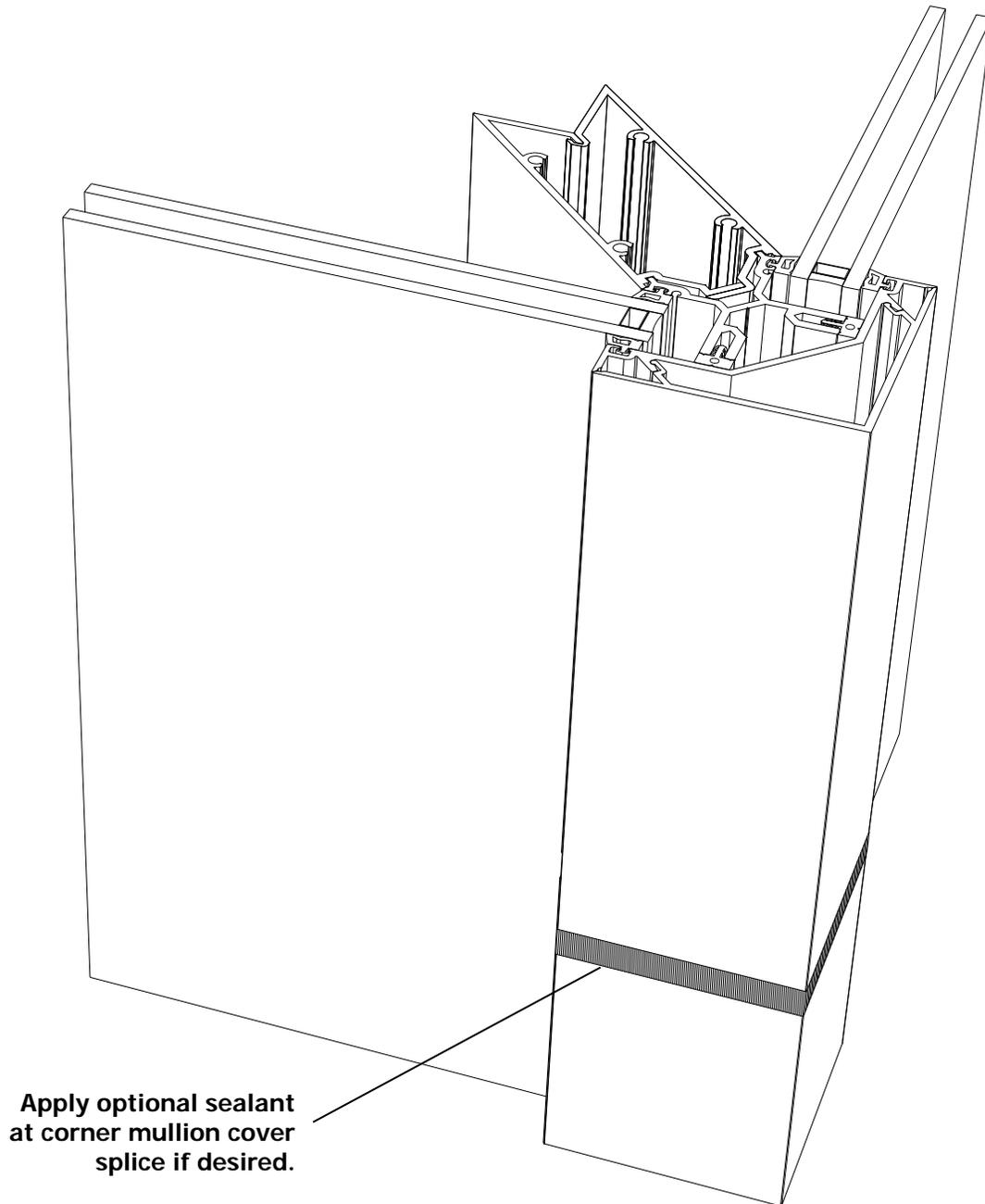
- A. Snap-on the upper corner snap cover first, aligning it with the top of the corner mullion. If the cover slides downward, apply a small amount of sealant in the snap areas, and temporarily tape the cover in position.
- B. Snap-on the lower cover next, allowing for the proper splice joint spacing. The lower cover should align with the bottom of the mullion unless there are multiple splices required at the corner. In this case, repeat the steps above until all covers are installed.



Section IX: Vertical Splice Joints Installation for Captured System

STEP #11 APPLY CAULKING TO EXTERIOR CORNER COVER JOINT (OPTIONAL)

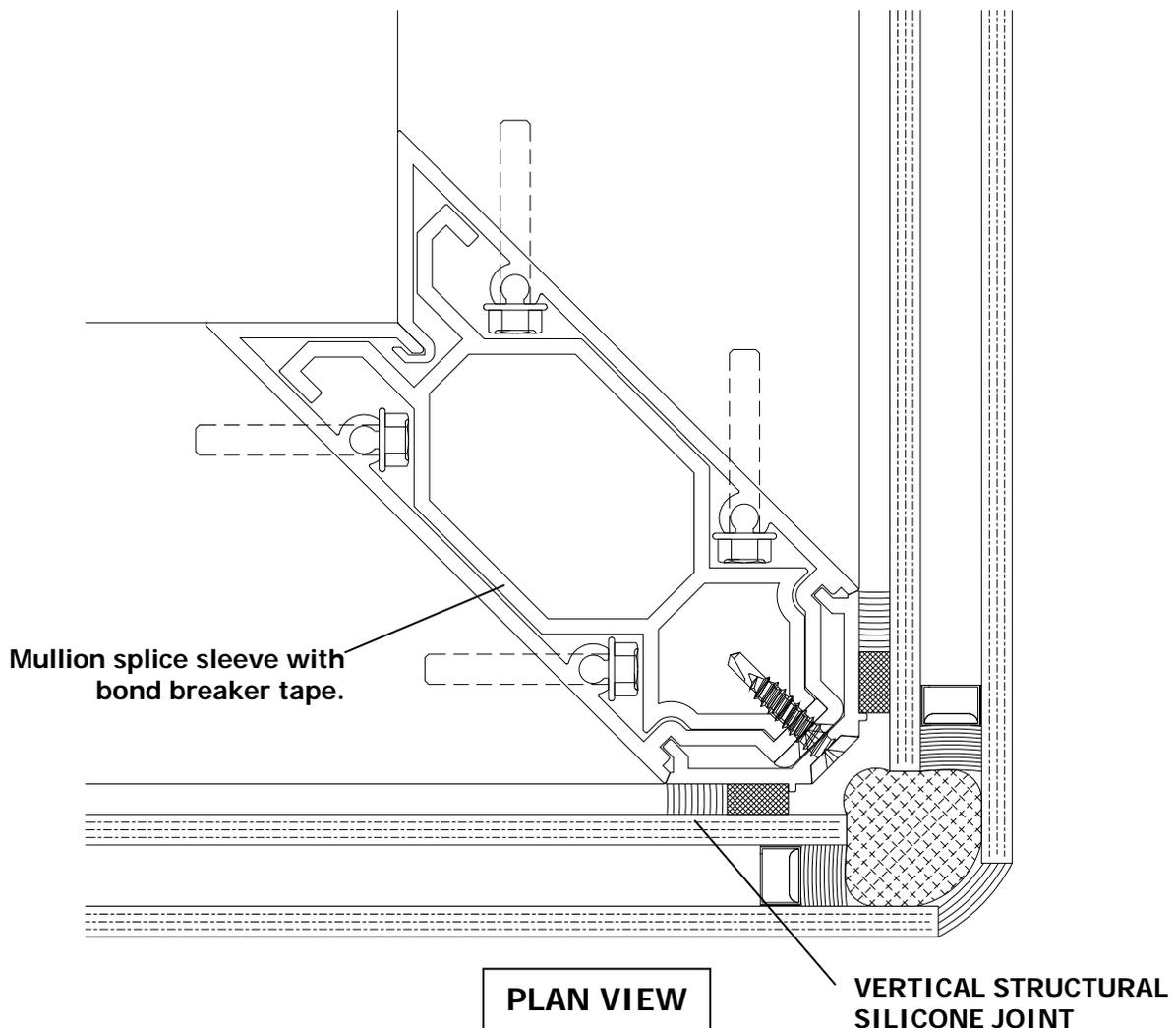
- A. The corner cover splice will be supplied with a finish to match the exterior finish of the curtain wall. A caulk joint is not required at the cover splice joint. As an option, the erector may choose to apply sealant to the corner cover splice joint. If caulking is used, ensure bond breaker tape is applied to the splice at the sealant joint to prevent three-sided adhesion of the sealant. Apply backer rod, where required, to support the joint as needed.



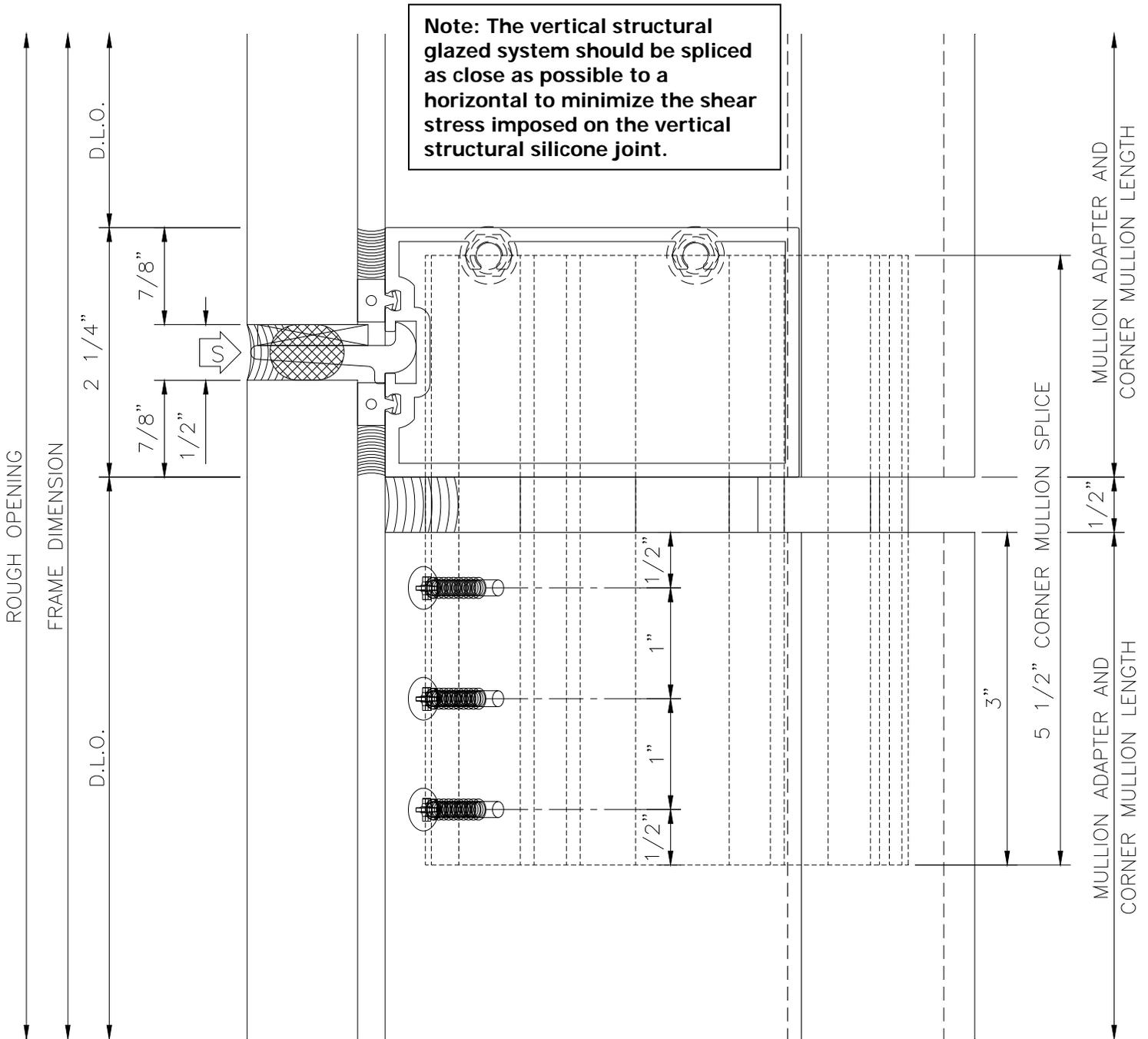
Section X: Vertical Splice Joints Installation for SSG System

STEP #1 LOCATE SPLICE JOINTS

- A. Splice joints should occur at spandrel areas (if possible). Refer to the approved shop drawings for actual locations. The vertical structural glazed system should be spliced as close as possible to a horizontal to minimize the shear stress imposed on the vertical structural silicone joint.
- B. The mullion splice must be field assembled in the top of the lower mullion after the corner frames have been set into the opening and anchored at the sill.
- C. **GENERAL NOTE:** The following pages depict a splice joint of 1/2". This will allow plus or minus 1/4" of movement for each splice location. Thermal expansion and live deflection requirements should be considered when determining the location and quantities of splice joints. If the total amount of movement cannot be accommodated locating splices at every other floor, or alternately at each floor, expansion horizontals or some alternative method should be used. Contact EFCO for further evaluation.
- D. Refer to this section for pressure plate and cover splice locations, mullion splice locations, and sealing instructions.
- E. Once a final check of the expansion joint placement and mullion position is made, final match drilling of the mullion through the anchor holes may be completed.



Section X: Vertical Splice Joints Installation for SSG System

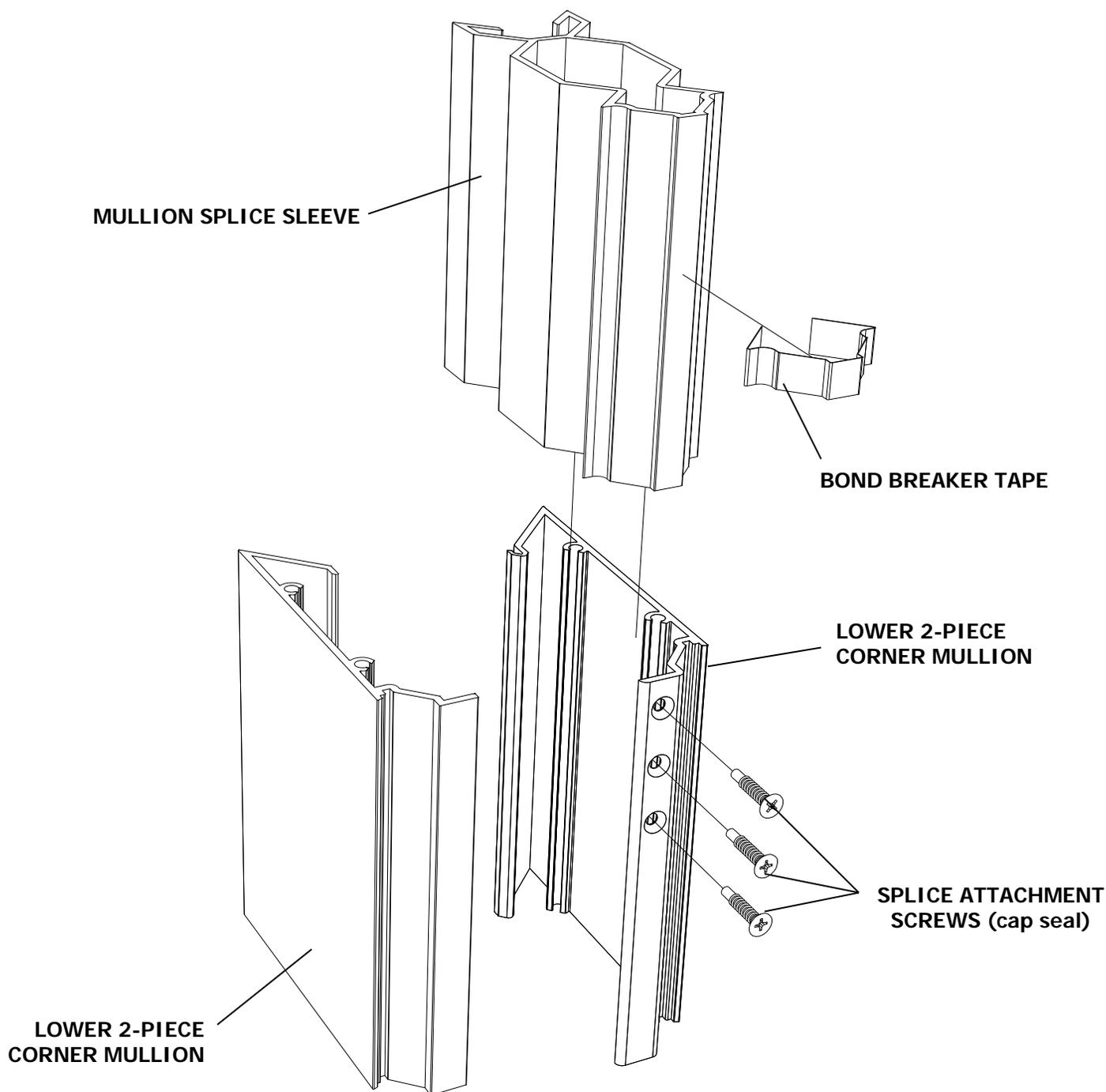


NOTE: All anchors must be fixed before glazing begins.

Section X: Vertical Splice Joints Installation for SSG System

STEP #2 ATTACH MULLION SPLICE SLEEVES

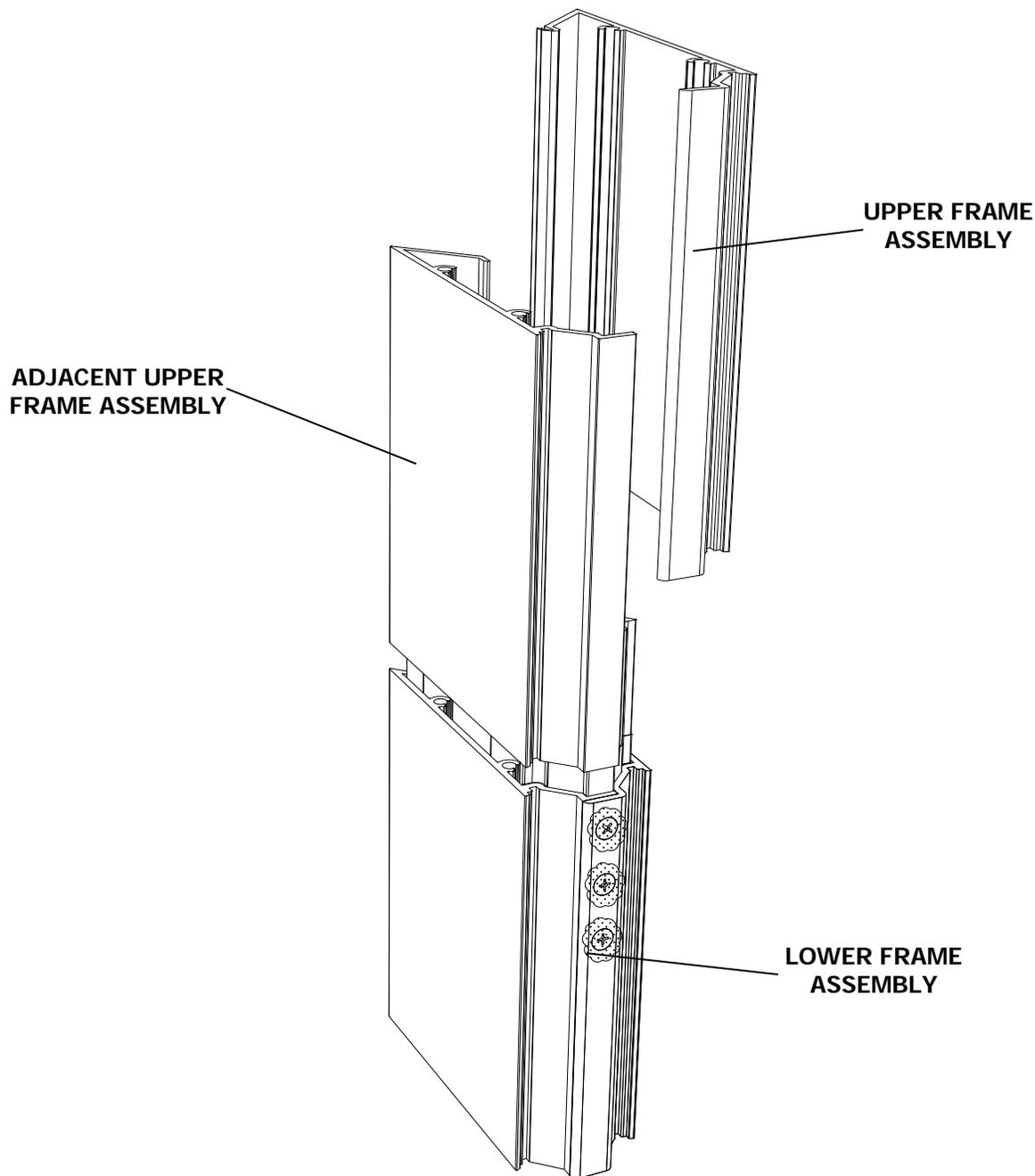
- A. Clean all surfaces that will contact sealant per the sealant manufacturer's instructions making sure to remove all oils and debris from contact surfaces.
- B. Apply bond breaker tape to the corner mullion splice sleeve.
- C. Install the lower section of the corner frames as instructed in previous sections.
- D. For standard installation, attach the mullion splice sleeve to the top of the lower mullion with splice sleeve attachment screws. Cap seal the fastener heads.



Section X: Vertical Splice Joints Installation for SSG System

STEP #3 ALIGN AND STACK ASSEMBLED FRAMES

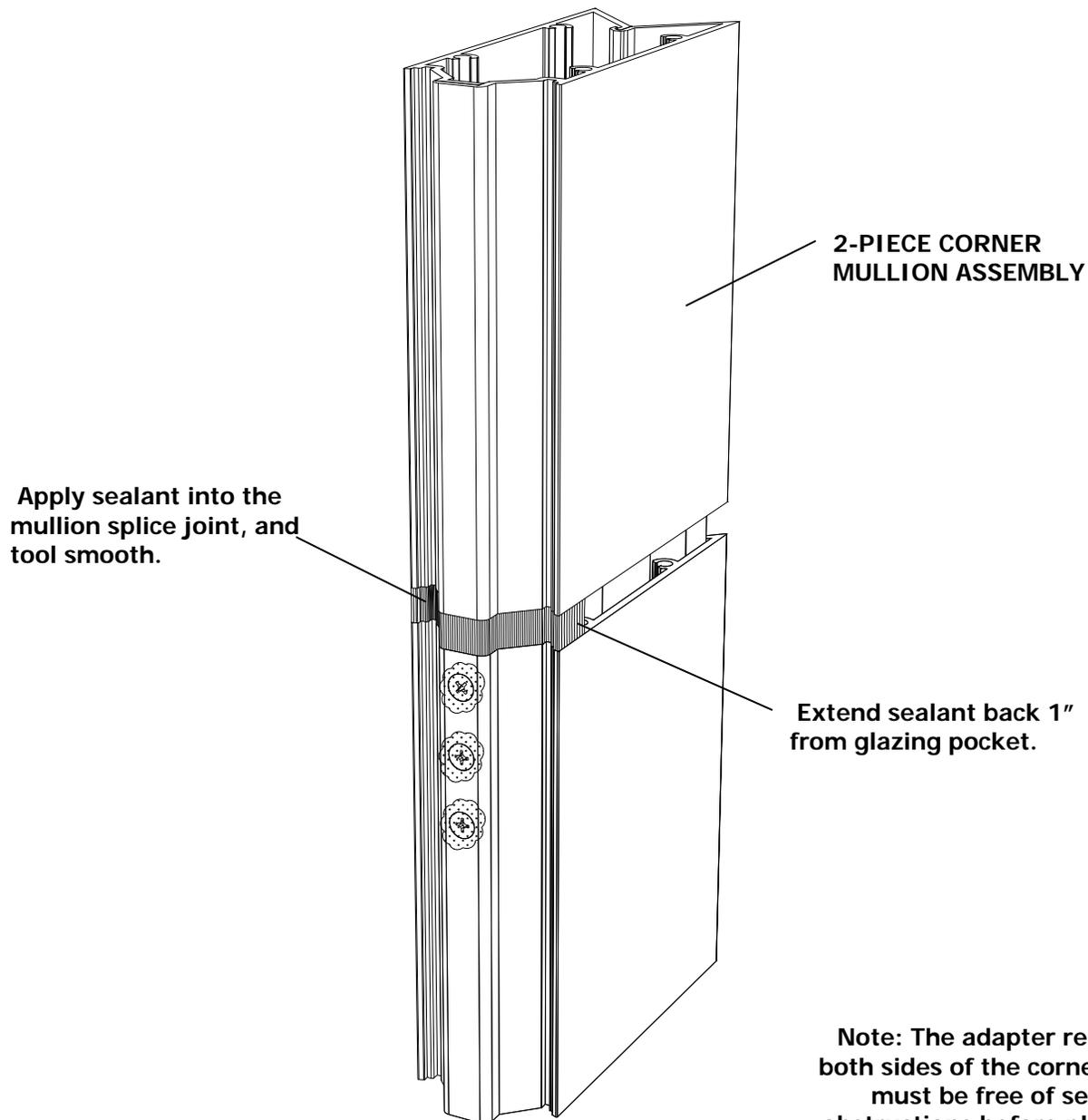
- A. Align the pre-assembled frames, and stack together at the splice joints.
- B. Position the mullions to the appropriate elevation with regard to established benchmarks, and shim or fix the mullions at their respective dead load anchor points.
- C. Install both of the upper adjacent frames before sealing the mullion splice joints.
- D. Clean the splice sealant-contact areas per sealant manufacturer's recommendations.



Section X: Vertical Splice Joints Installation for SSG System

STEP #4 SEAL MULLION SPLICE

- B. Apply sealant into the mullion splice joint, and tool the joint. Do not obstruct the corner mullion adapter reglets. The sealant must extend back 1" along the side of the mullion from the glazing pocket.

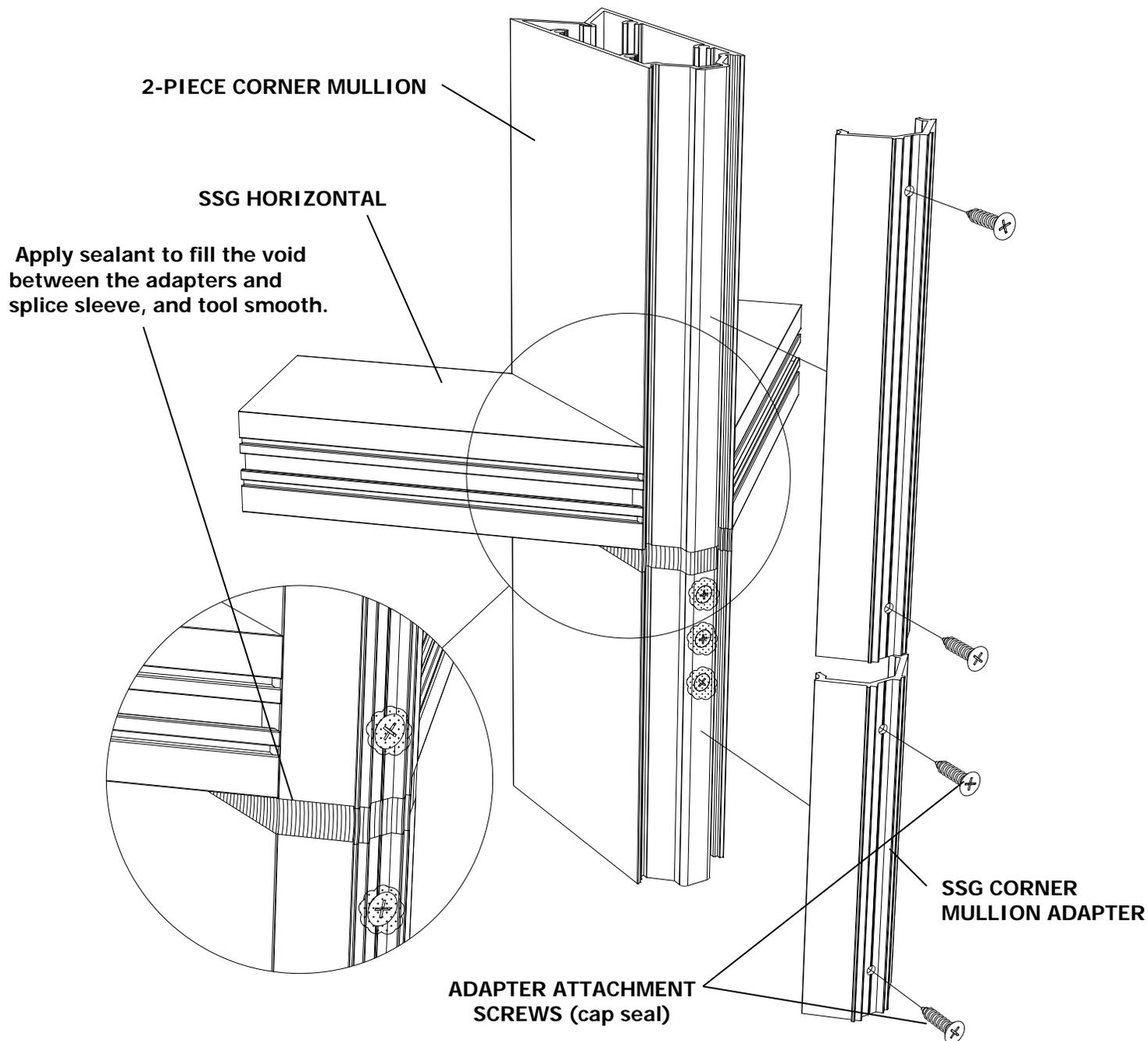


Note: The adapter reglets on both sides of the corner mullion must be free of sealant obstructions before placing the corner mullion adapters.

Section X: Vertical Splice Joints Installation for SSG System

STEP #5 ATTACH MULLION ADAPTER

- Install the SSG corner mullion adapters as shown in "Section VI Glazing Preparation (SSG)" of this manual. The adapters should be cut to mullion length, starting and stopping at the mullion splice joint.
- Apply sealant to fill the void between the SSG corner mullion adapters.
- Tool the joint smooth as shown in the inset detail. The gasket reglets must be free of sealant.



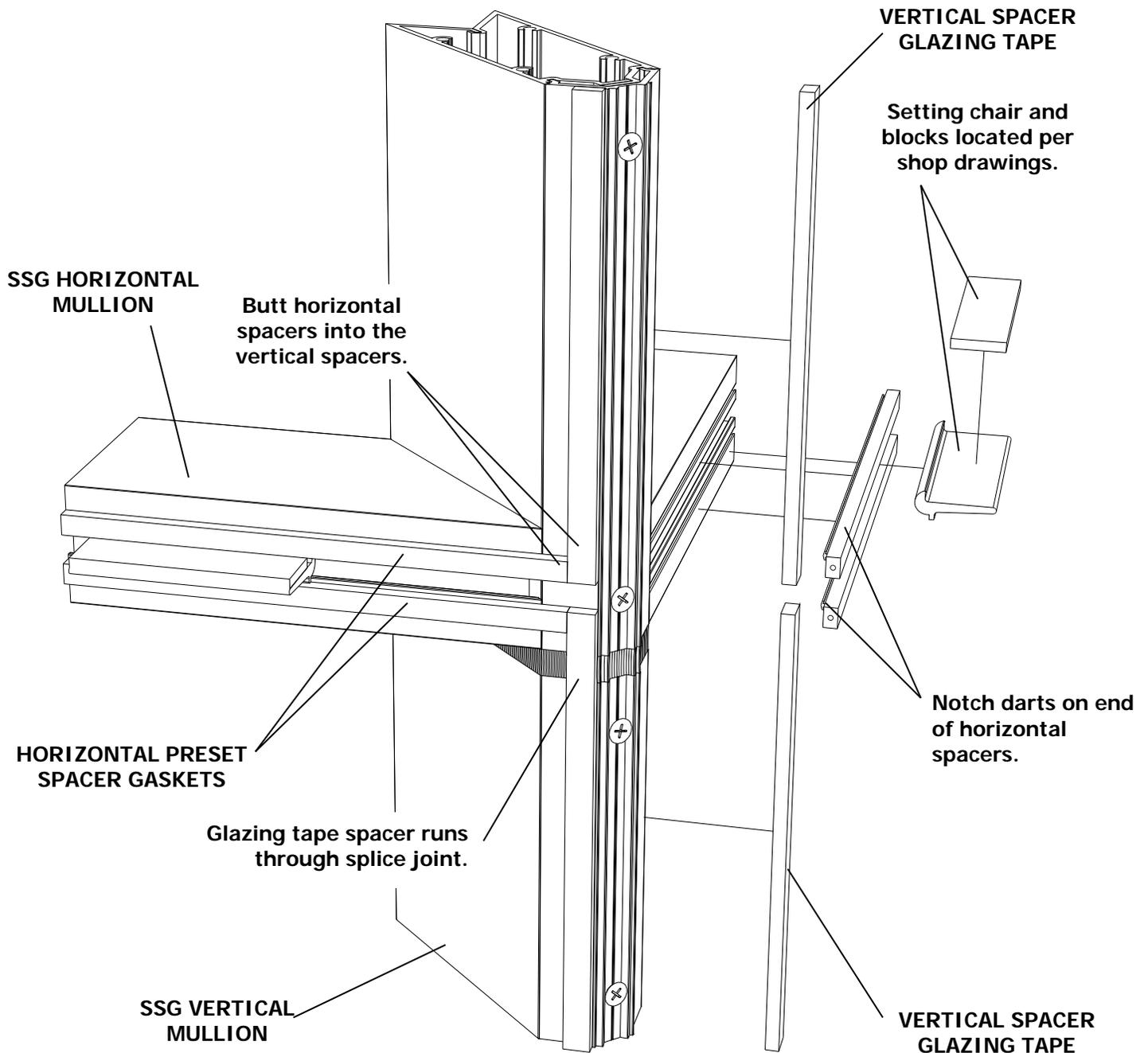
STEP #6 GLAZED SSG CORNER

Refer to Section XI "Glazed SSG corners on page 73.

Section XI: Glazed SSG Corners

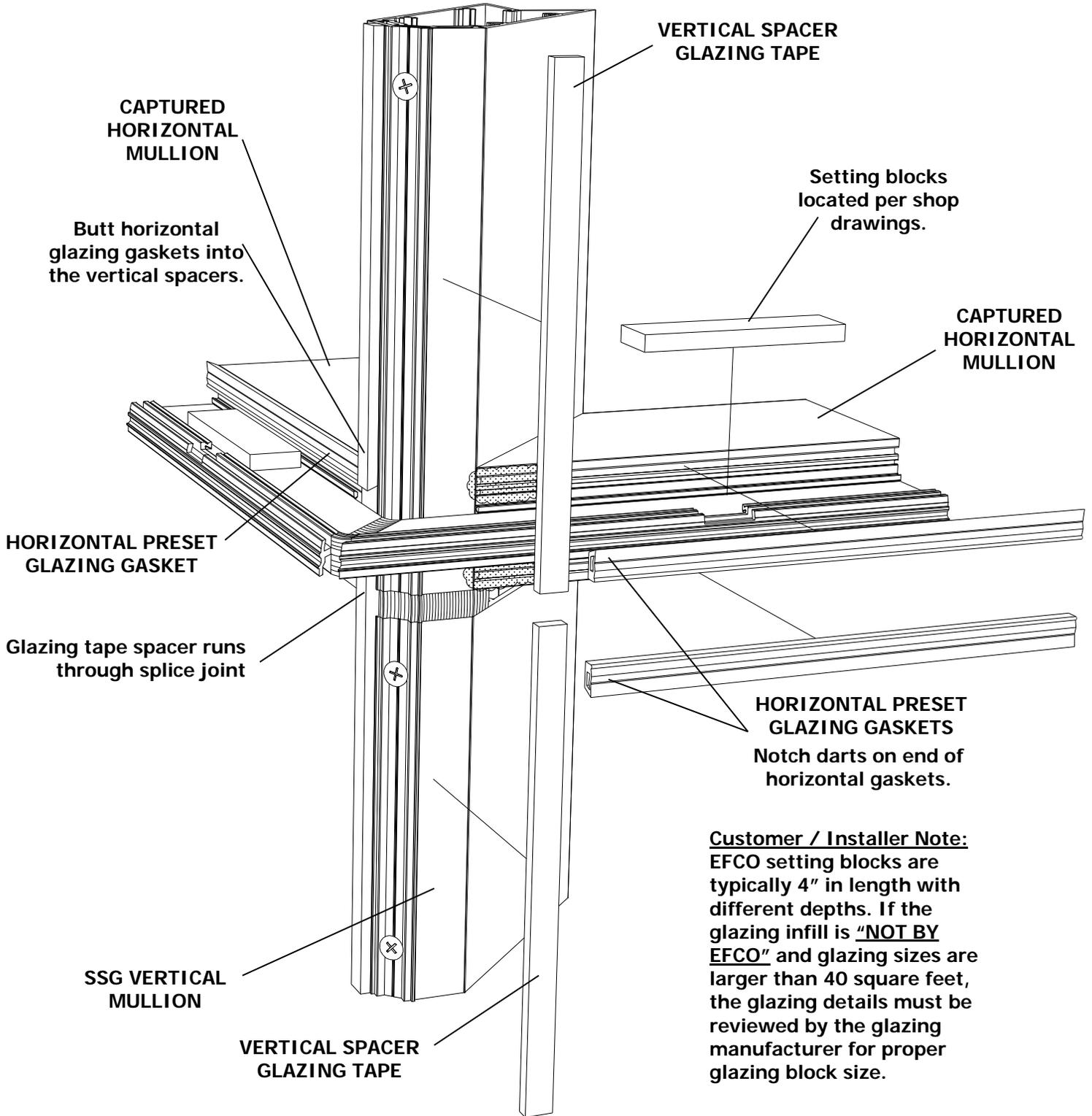
STEP #1 APPLY SPACERS, SETTING CHAIRS, AND SETTING BLOCKS

- A. Install the setting chairs and blocks as required. Refer to the approved shop drawings for locations.
- B. Apply the glazing tape as shown on page 41 in Section VI of this manual. Refer to the approved shop drawings for part numbers and other job specific information.



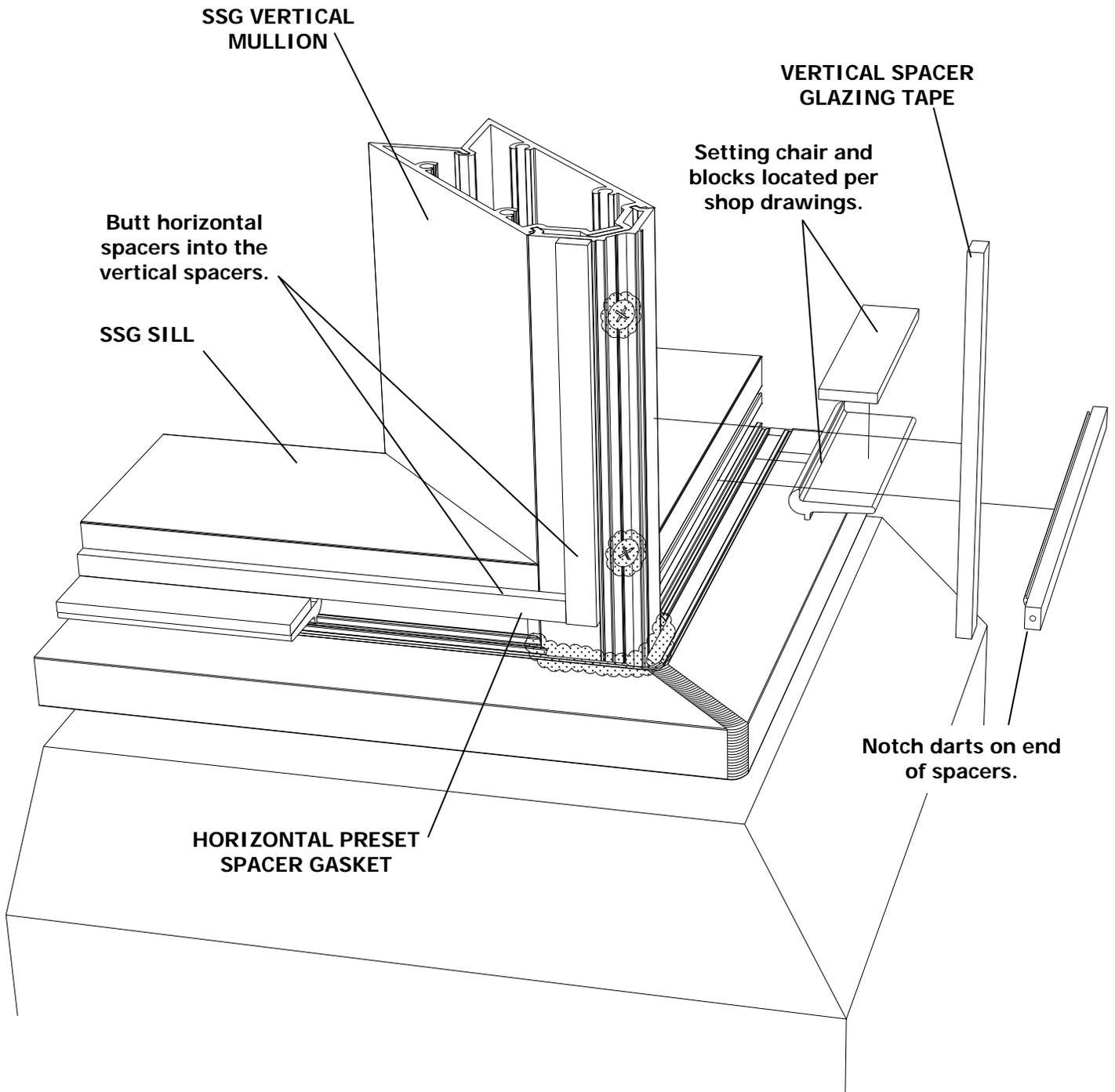
**4-SIDED SSG AT MULLION SPLICE
(WITHOUT MULLION SPLICE SIMILAR)**

Section XI: Glazed SSG Corners



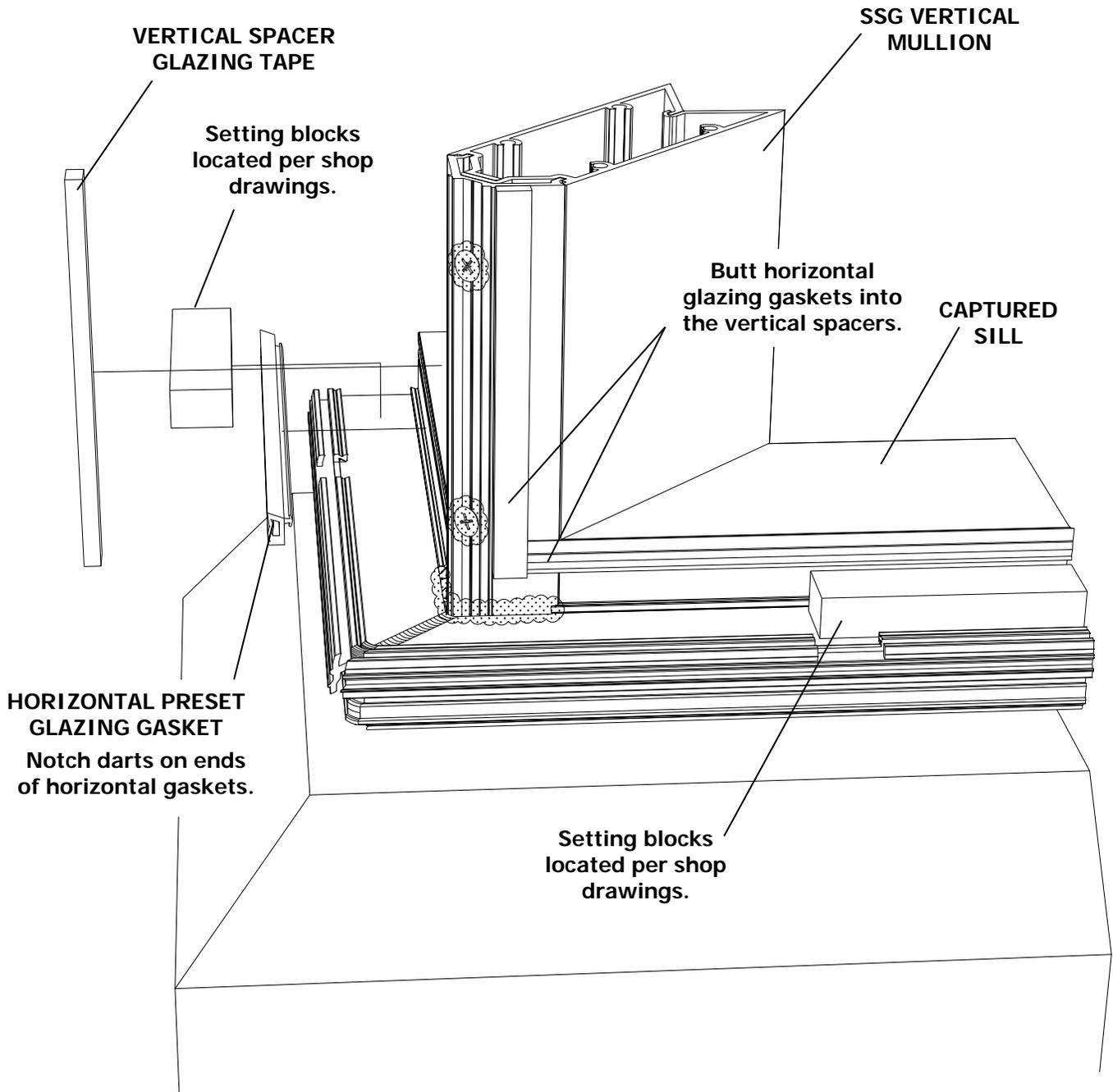
**VERTICAL SSG AND HORIZONTALLY CAPTURED AT MULLION SPLICE
(WITHOUT MULLION SPLICE SIMILAR)**

Section XI: Glazed SSG Corners



**4-SIDED SSG SILL
(HEAD SIMILAR)**

Section XI: Glazed SSG Corners



**VERTICAL SSG AND CAPTURED SILL
(HEAD SIMILAR)**

Section XI: Glazed SSG Corners

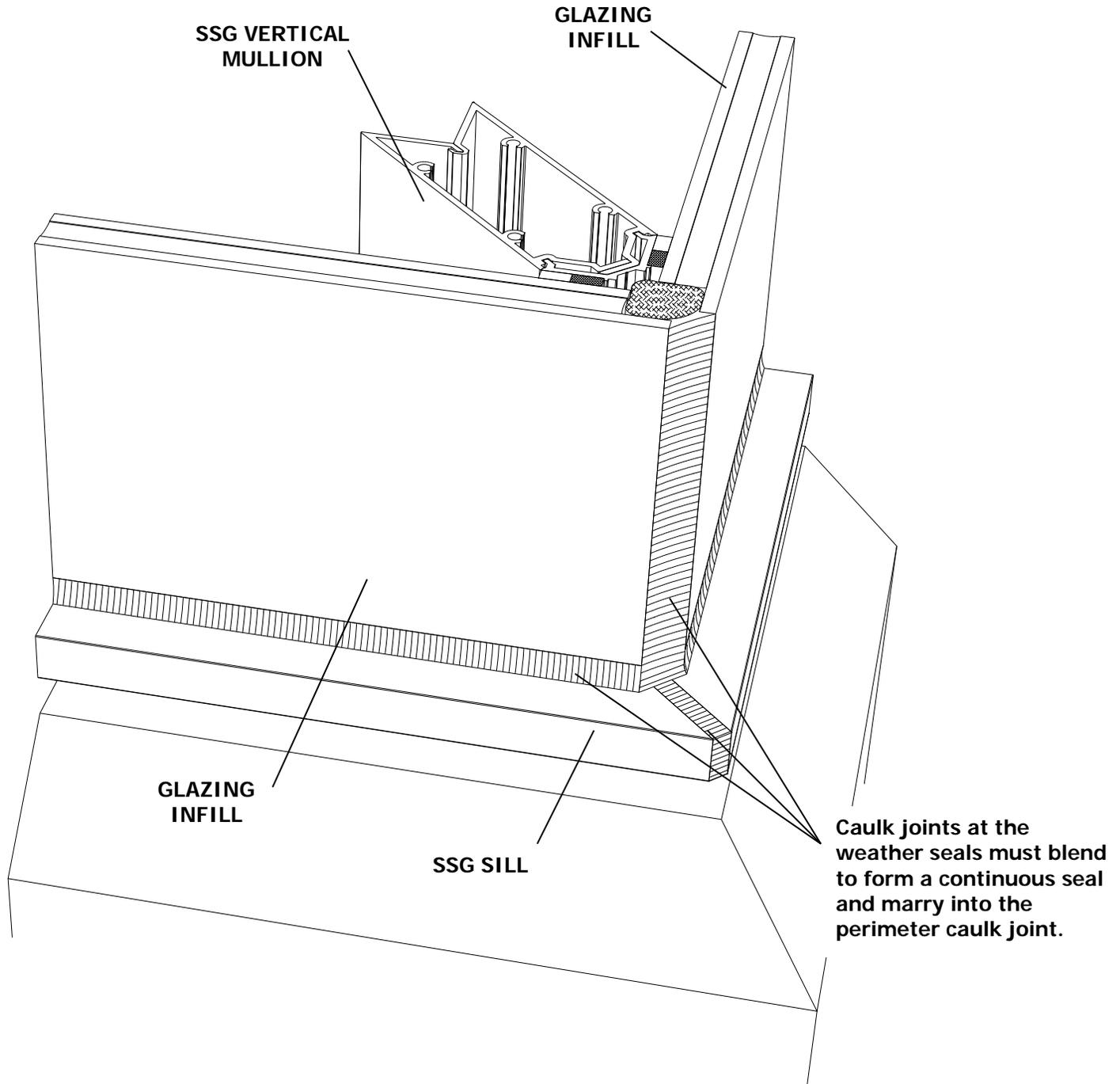
STEP #2 SET GLAZING INFILL, APPLY EXTERIOR GASKETS WHERE REQUIRED, TEMPORARY GLAZING RETAINERS, APPLY SSG JOINTS

- A. Set glazing infill. Refer to Section IX "Glazing Installation" of the Series 5500 Silicone Structural Glazed Curtain Wall Installation Instructions for detailed information for cleaning and priming of glazing materials, substrate, and glazing installation.
- B. Apply wedge gaskets as required at all captured horizontals where applicable.
- C. Apply temporary glazing retainers at each vertical and horizontal SSG location. Refer to page 47 of this manual and to step 6, Section IX "Glazing Installation" of the Series 5500 Silicone Structural Glazed Curtain Wall Installation Instructions for more information.
- D. Apply masking tape and silicone sealant into the SSG joints. See steps 7 and 8, Section IX "Glazing Installation" of the Series 5500 Silicone Structural Glazed Curtain Wall Installation Instructions for more information.

STEP #3 PREPARE AND APPLY WEATHER SEAL JOINTS

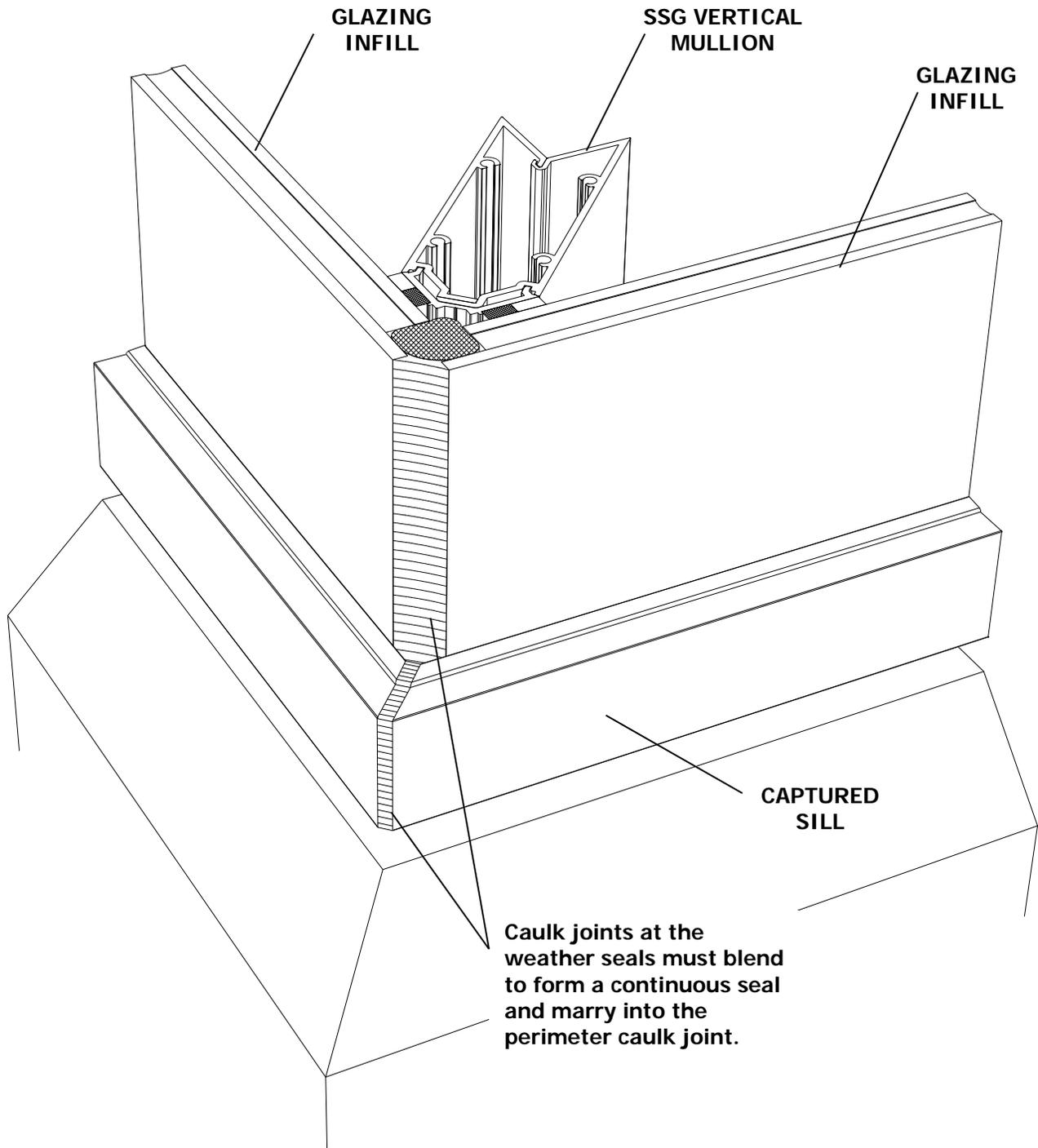
- A. Clean and prepare the glass surfaces at the weather seal joint locations per the sealant and glazing manufacturer's recommendations.
- B. Clean and prime the metal surfaces at the ends of the captured horizontals (where used) per the sealant manufacturer's recommendations.
- C. Install the backer rod, maintaining the proper width to depth ratio in the joint between the glazing infill panels, and apply sealant to the joint per the sealant manufacturer's recommendations. Tool the sealant as required, and remove all excess sealant to provide an attractive clean sealant joint. If masking tape is used, remove it before the sealant skins over or cures.
- D. Apply sealant between the mitered ends of captured horizontals (if used) taking care to fill the joint completely and marrying the sealant into the adjacent vertical weather seals. Tool and smooth the seals water-tight to provide a clean and attractive joint.
- E. Do not remove the temporary glazing retainers until the silicone structural seal has fully cured. Consult with the sealant manufacturer for the required sealant cure time.
- F. After the SSG joints have cured, remove the temporary glazing retainers, and seal and tool the remaining gaps.

Section XI: Glazed SSG Corners



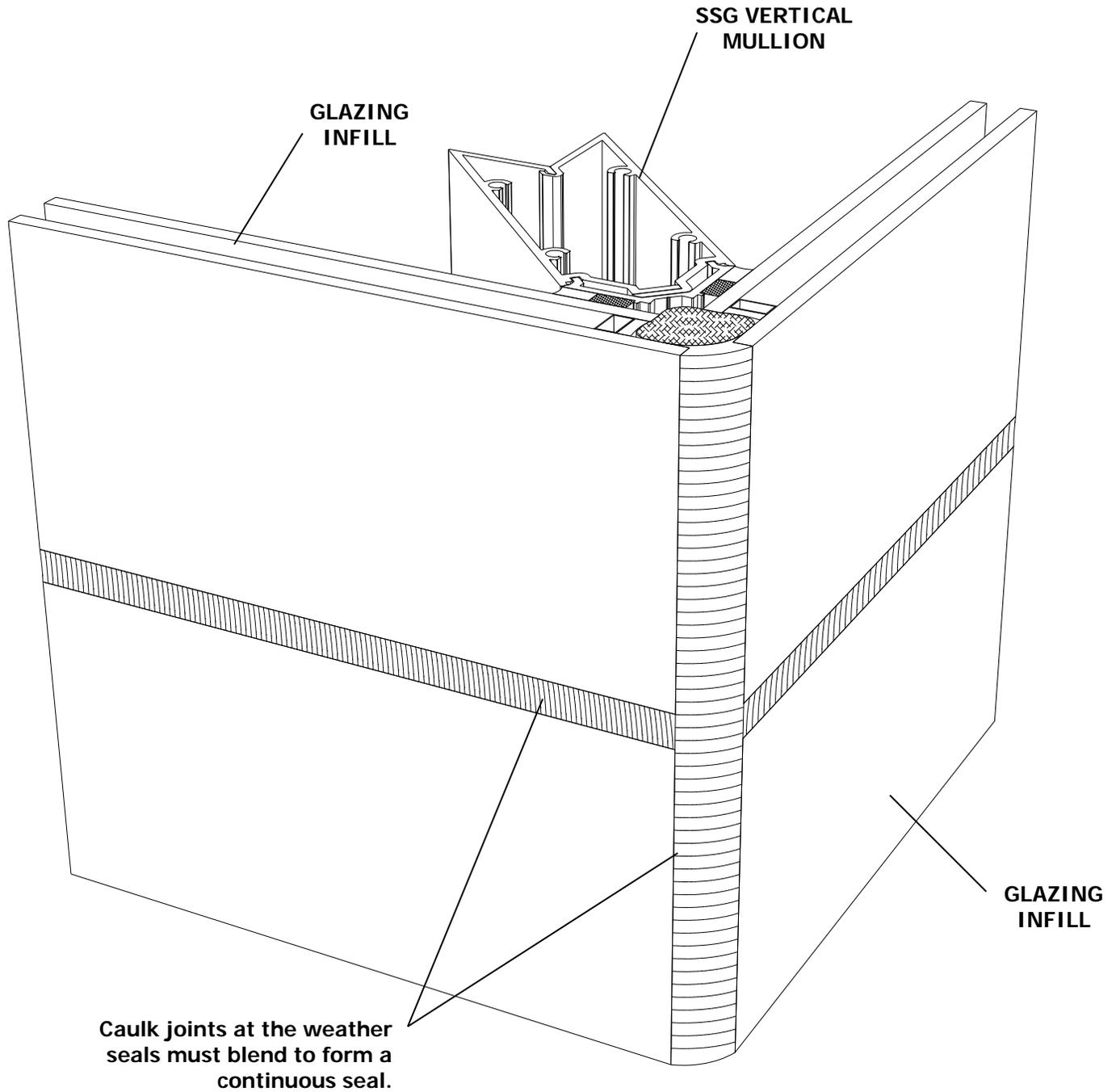
**4-SIDED SSG SILL
(HEAD SIMILAR)**

Section XI: Glazed SSG Corners



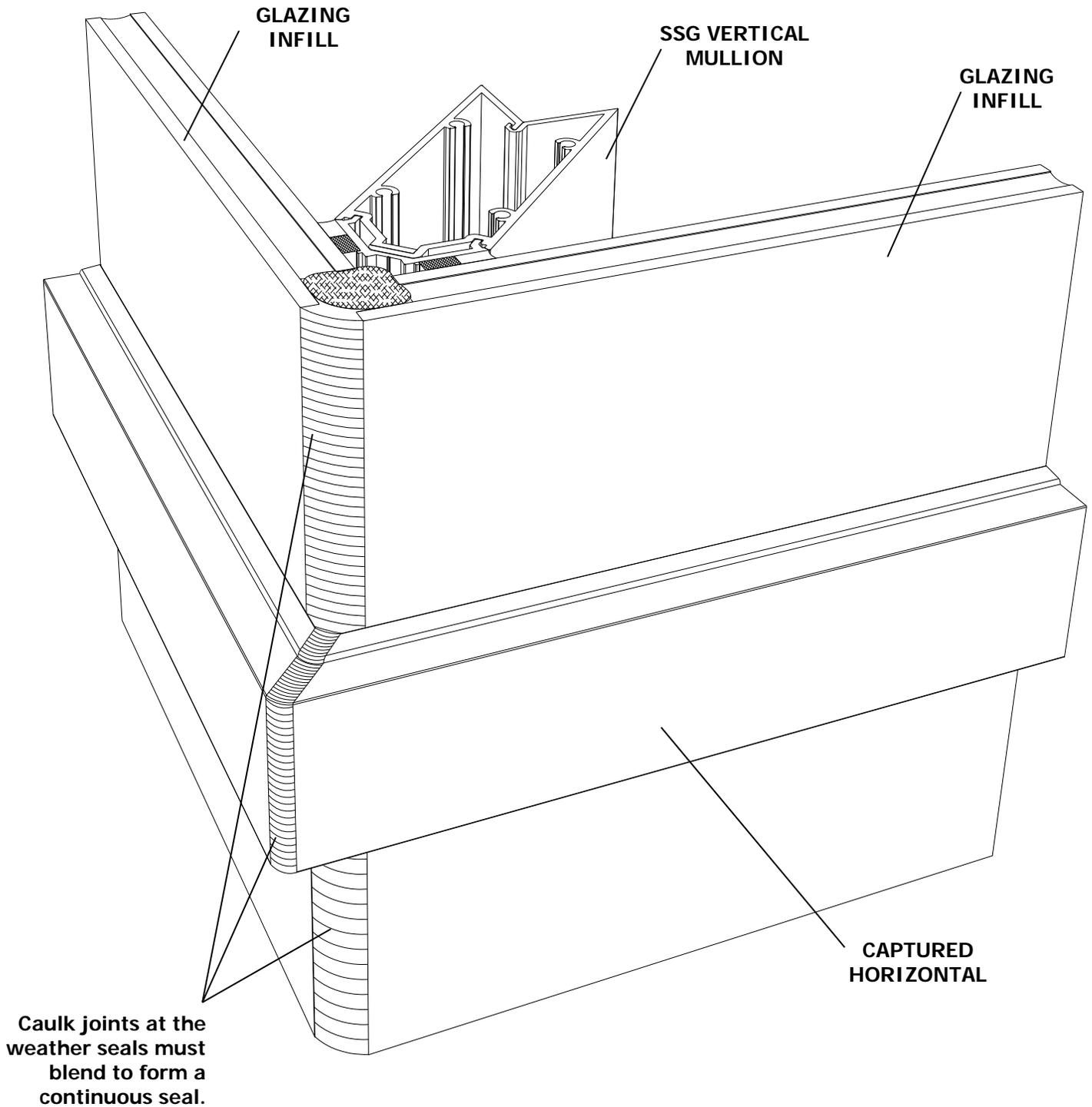
**VERTICAL SSG AND CAPTURED SILL
(HEAD SIMILAR)**

Section XI: Glazed SSG Corners



4-SIDED SSG

Section XI: Glazed SSG Corners



CAPTURED INTERMEDIATE HORIZONTALS AT SSG CORNER