

SERIES 5500

EXTERIOR GLAZED CURTAIN WALL

INSTALLATION INSTRUCTIONS



Part NO. Y550

November 2016

WHERE WINDOWS ARE JUST THE BEGINNING®



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S-5500 SCREW SPLINE CURTAIN WALL

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Note: Additional Information contained in the Advanced and Alternate Installation Instructions

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 and Guidelines

- 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 and GUIDELINES

- F. Follow EFCO framing installation and glazing instructions.
- G. Verify contents of all material shipments received upon their arrival. Verify quantity 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, gunnable 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.

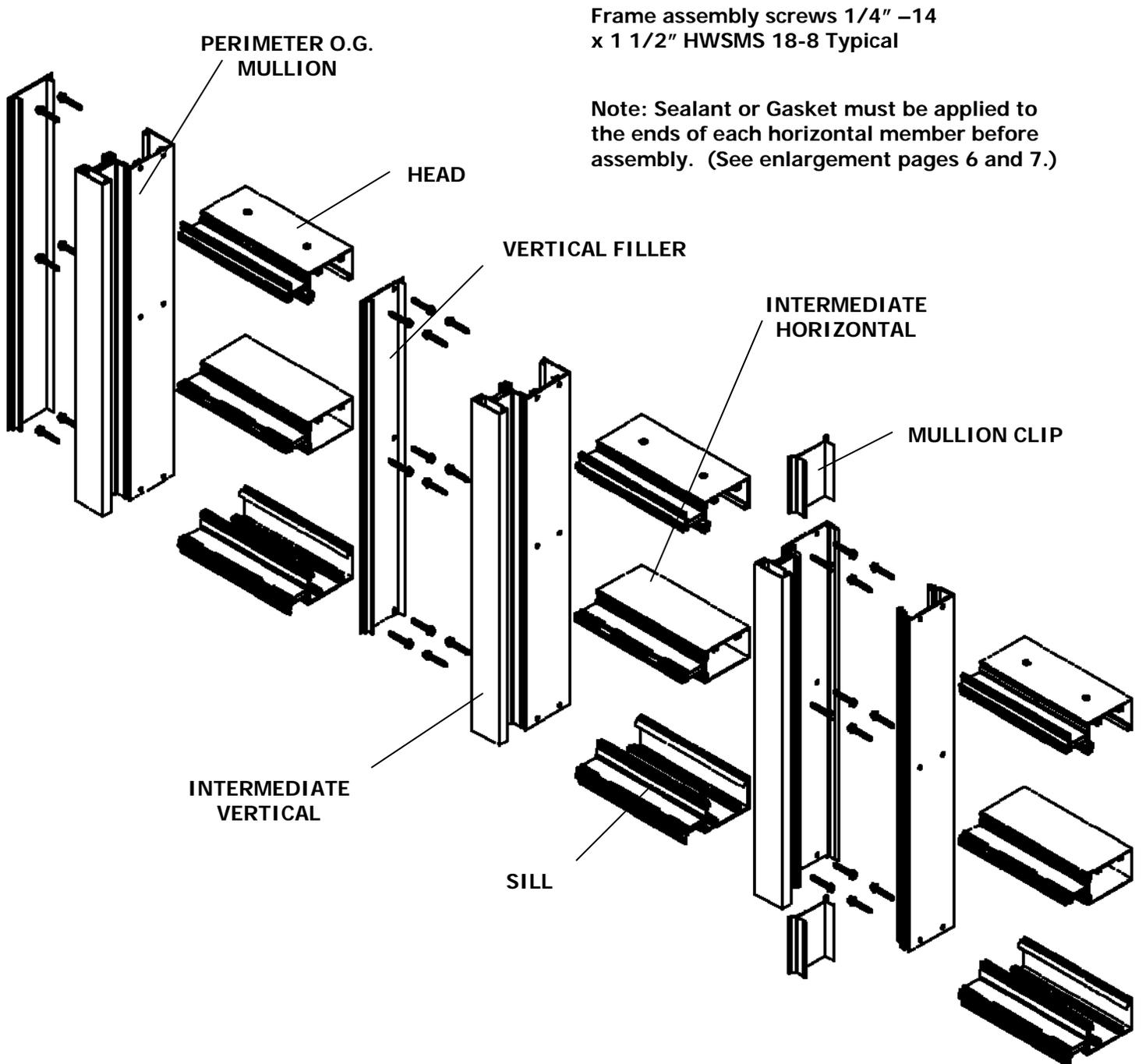
Regardless of the sealant used, the customer should contact the sealant manufacturer to determine compatibility and adhesion. Follow sealant manufacturer's proper application procedures and quality assurance programs for weather sealing.

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.

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

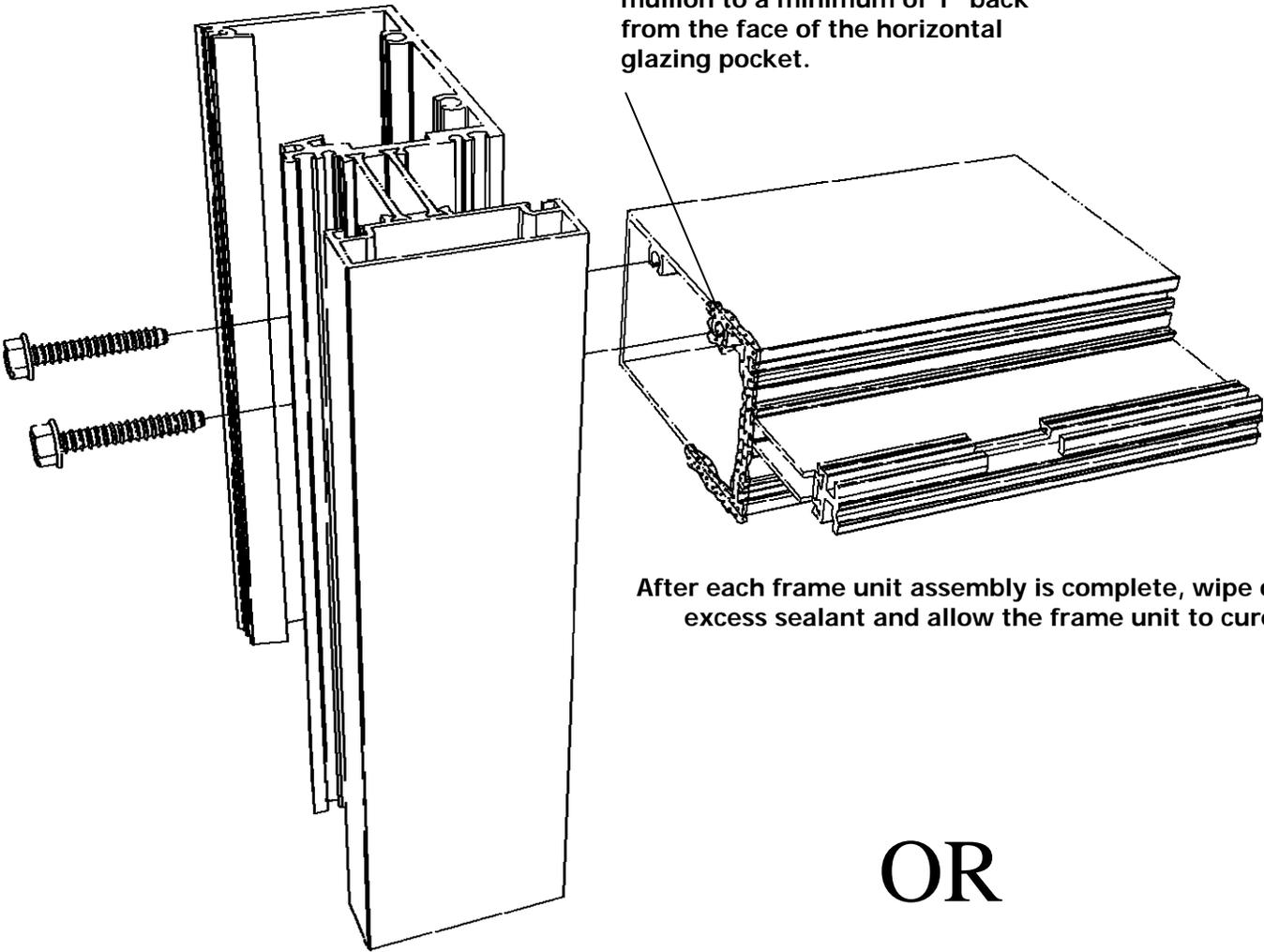
Section II: Frame Unit Assembly & Frame Sealing

STEP #1 ASSEMBLE OUTSIDE GLAZED FRAME MEMBERS



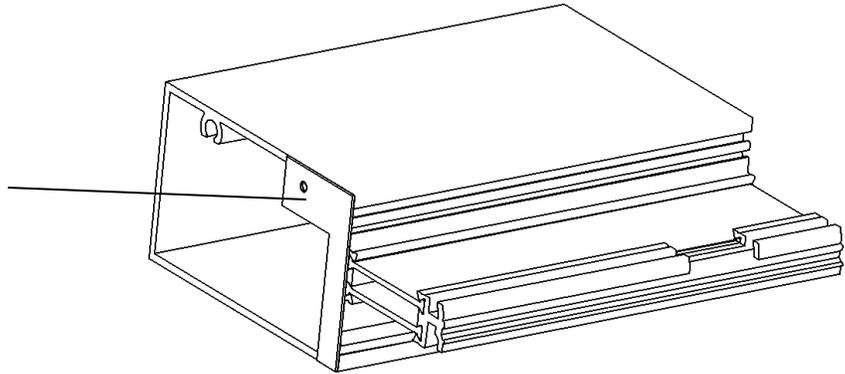
Section II: Frame Unit Assembly & Frame Sealing

Apply a generous bead of sealant to the ends of the horizontal mullion to a minimum of 1" back from the face of the horizontal glazing pocket.



OR

Optional Gasket seal
H10Z

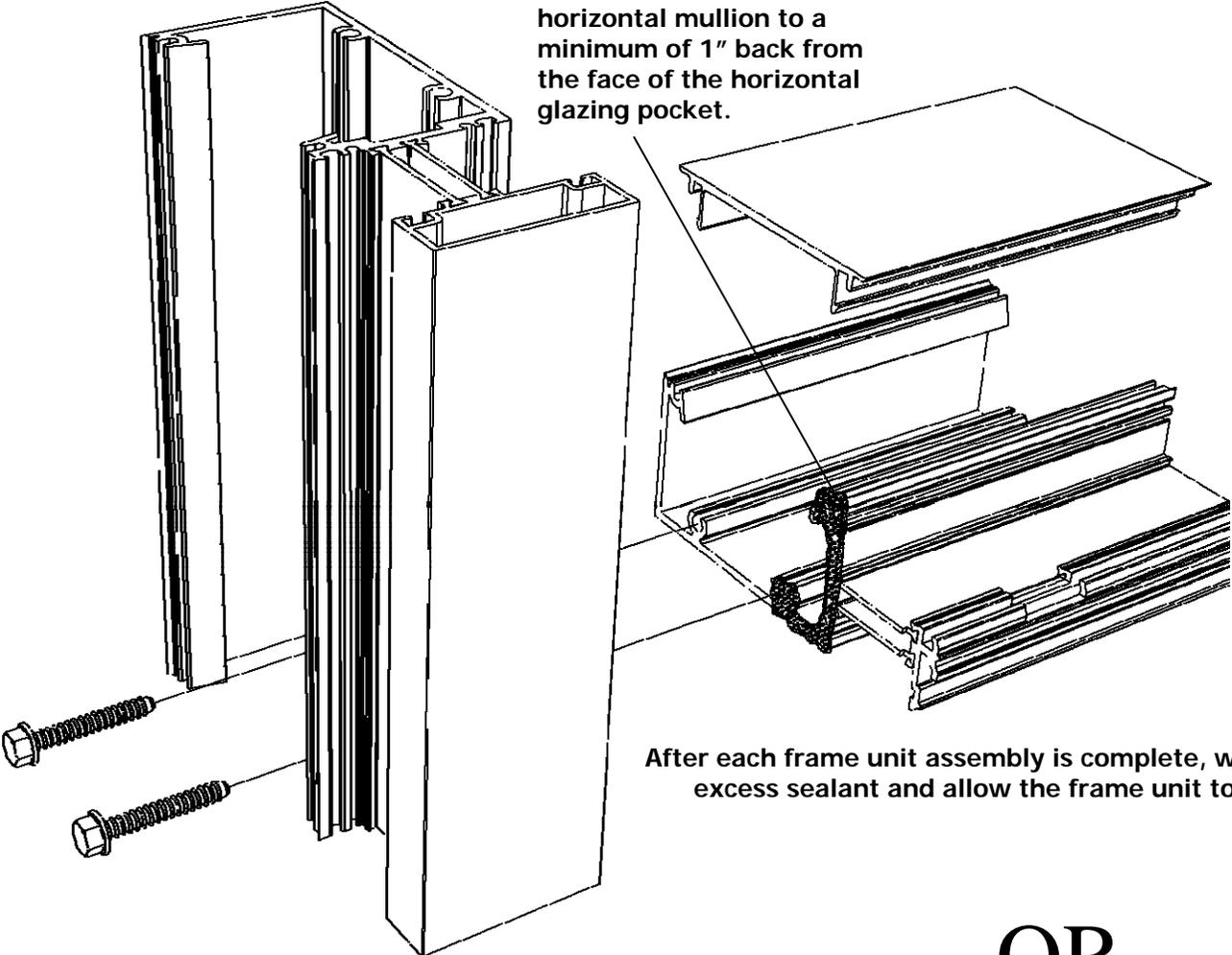


Install gasket to each end of horizontal before attaching to vertical. Trim excess gasket material after assembly.

INTERMEDIATE HORIZONTAL

Section II: Frame Unit Assembly & Frame Sealing

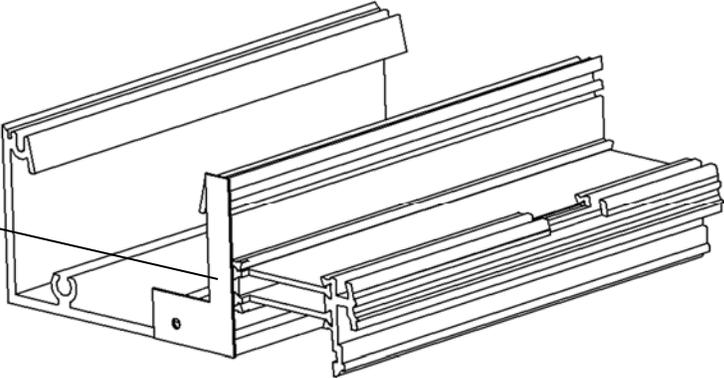
Apply a generous bead of sealant to the ends of the horizontal mullion to a minimum of 1" back from the face of the horizontal glazing pocket.



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

OR

Optional Gasket seal
H10Z



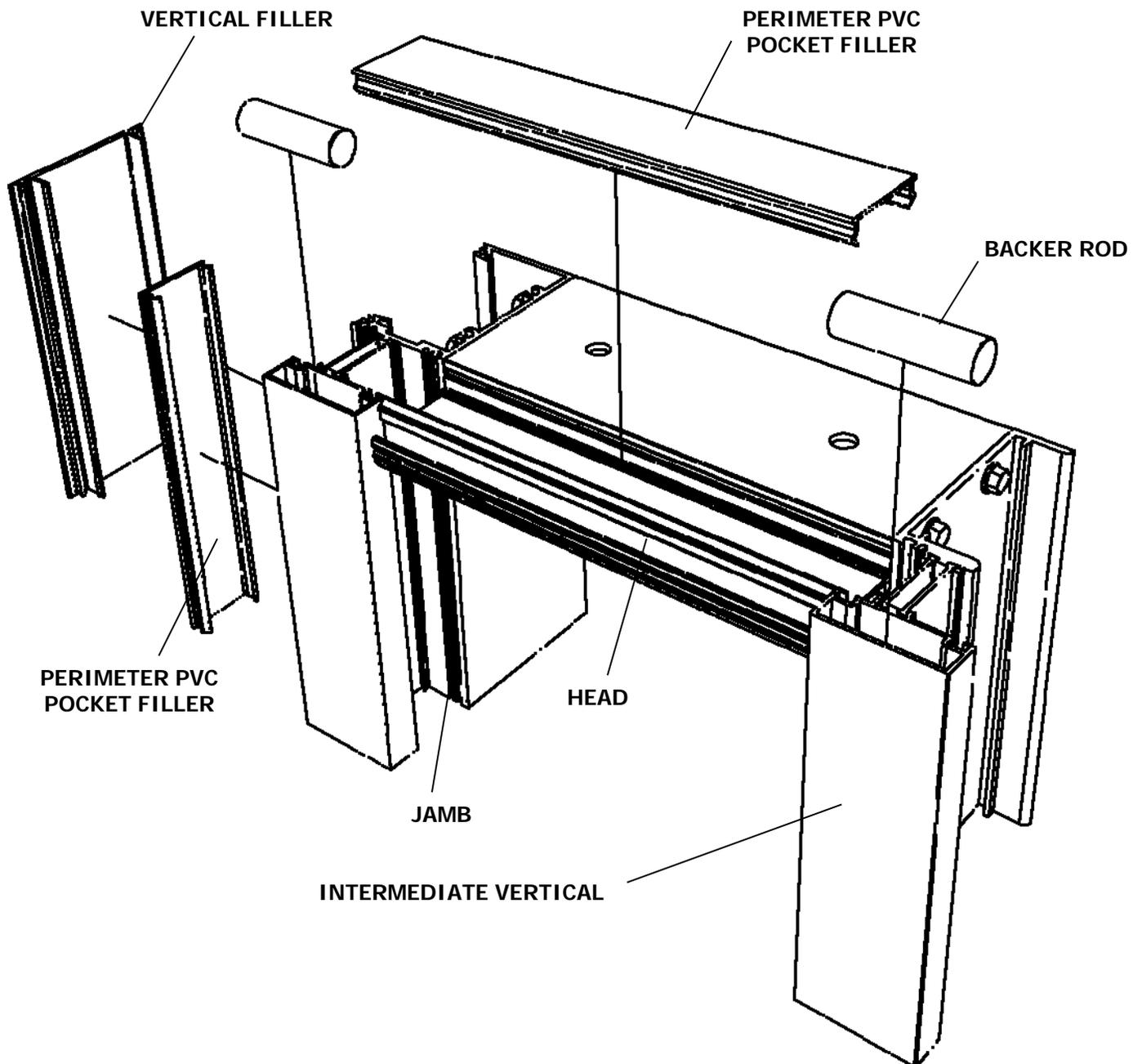
Install gasket to each end of horizontal before attaching to vertical. Trim excess gasket material after assembly.

SILL

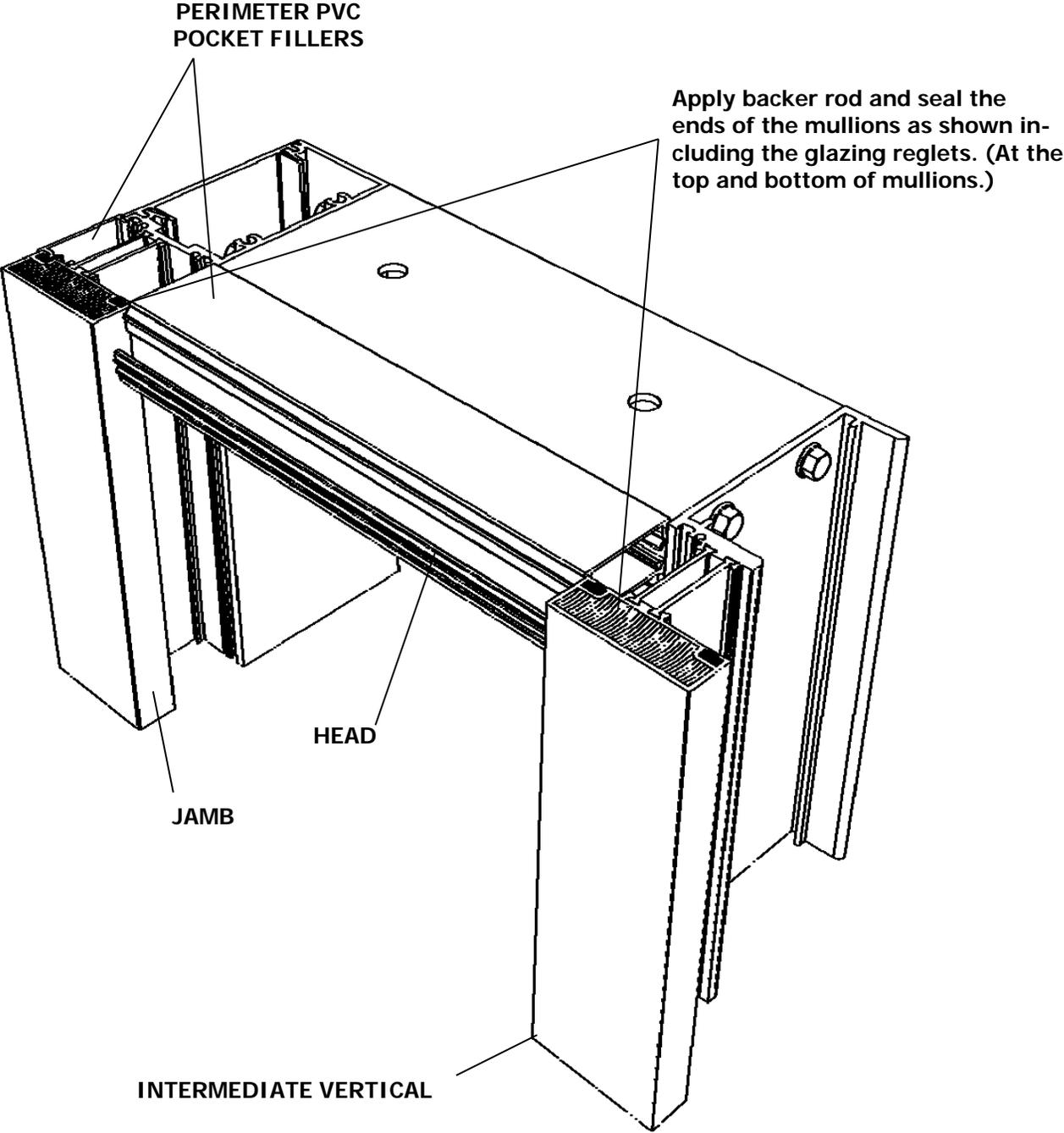
Section II: Frame Unit Assembly & Frame Sealing

STEP #2 INSTALL FRAME COMPONENTS

- A. Snap-in PVC pocket fillers into the perimeter framing members.
- B. Plug the ends of the exterior portion of the vertical mullions 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 mullions. Tool the sealant flush with the end of the mullion.



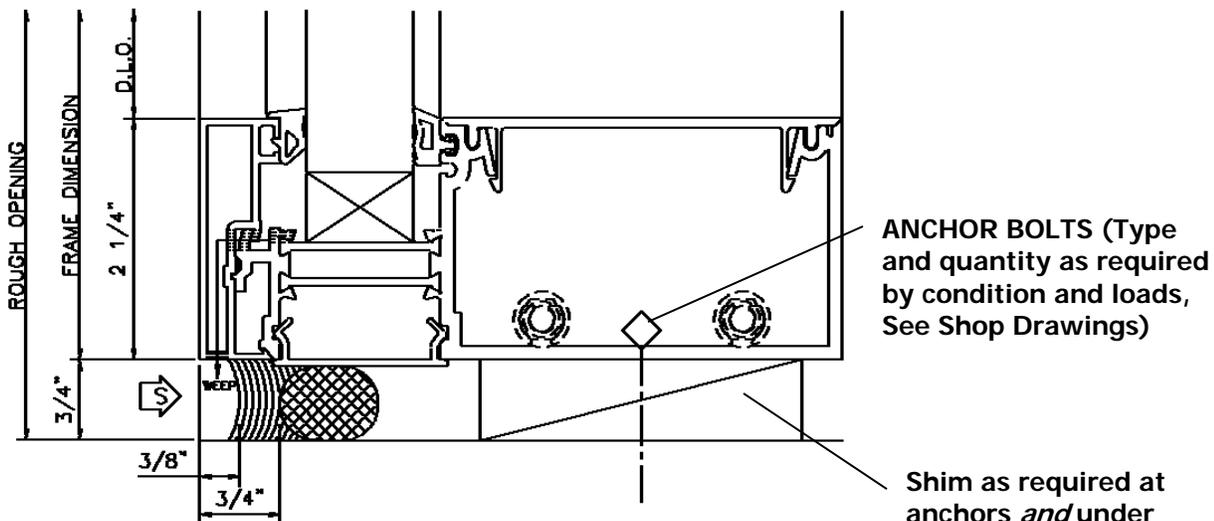
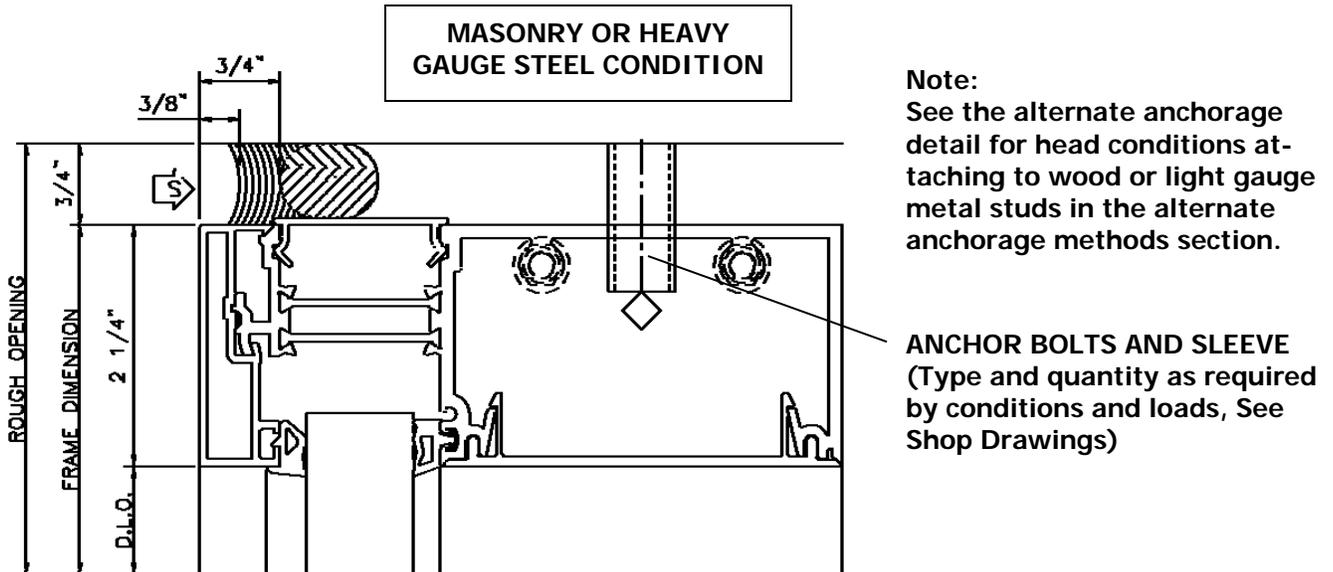
Section II: Frame Unit Assembly & Frame Sealing



Section III: Typical Anchorage Methods

STEP #1 INSTALL FRAME COMPONENTS

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.



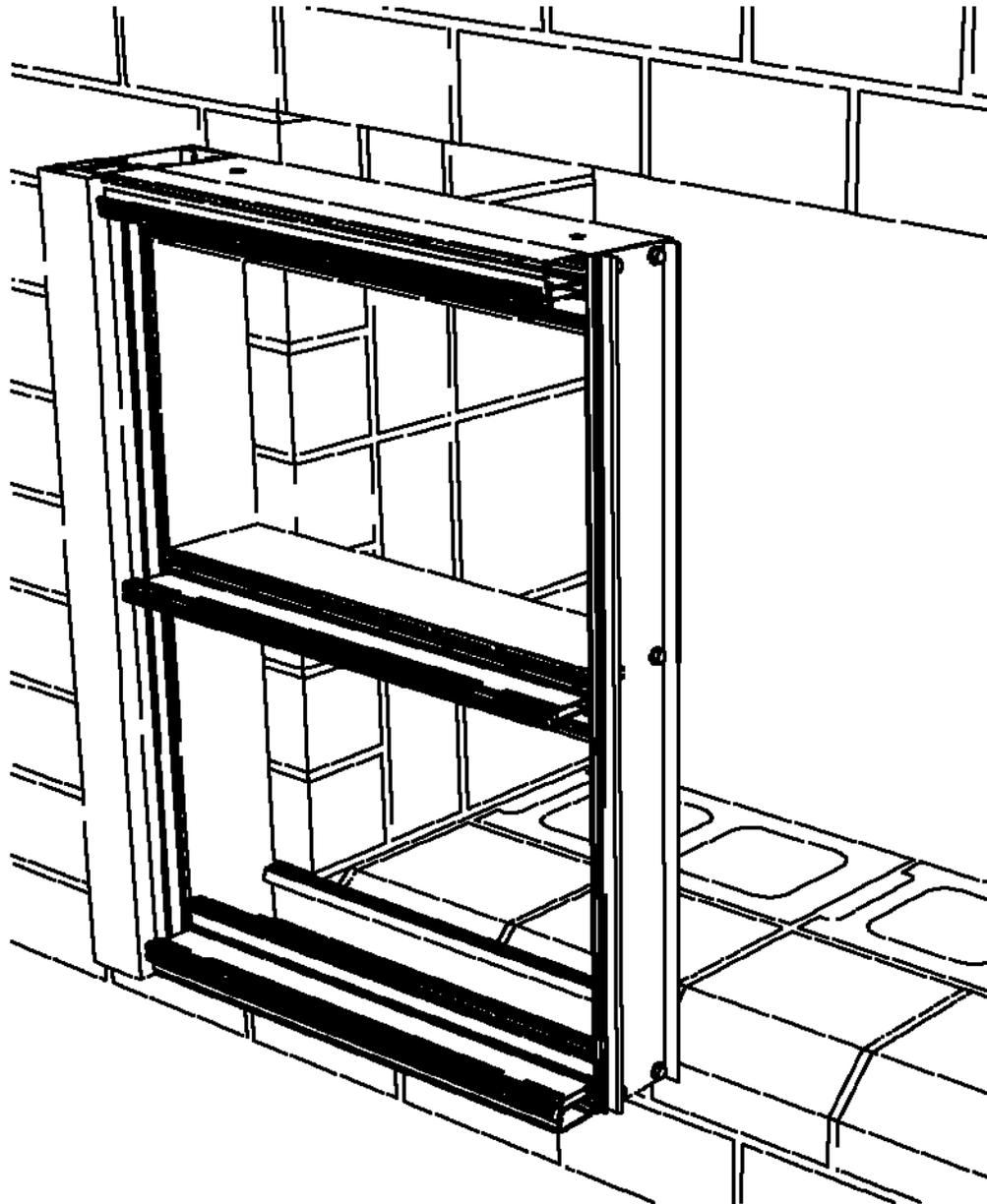
Note: It is up to the responsible engineer to determine the structural adequacy and type of anchorage method to be used for a given substrate, applied loads, and building movements. The S-5500 has different anchorage options available to meet these conditions.

STANDARD HEAD AND SILL ANCHORAGE

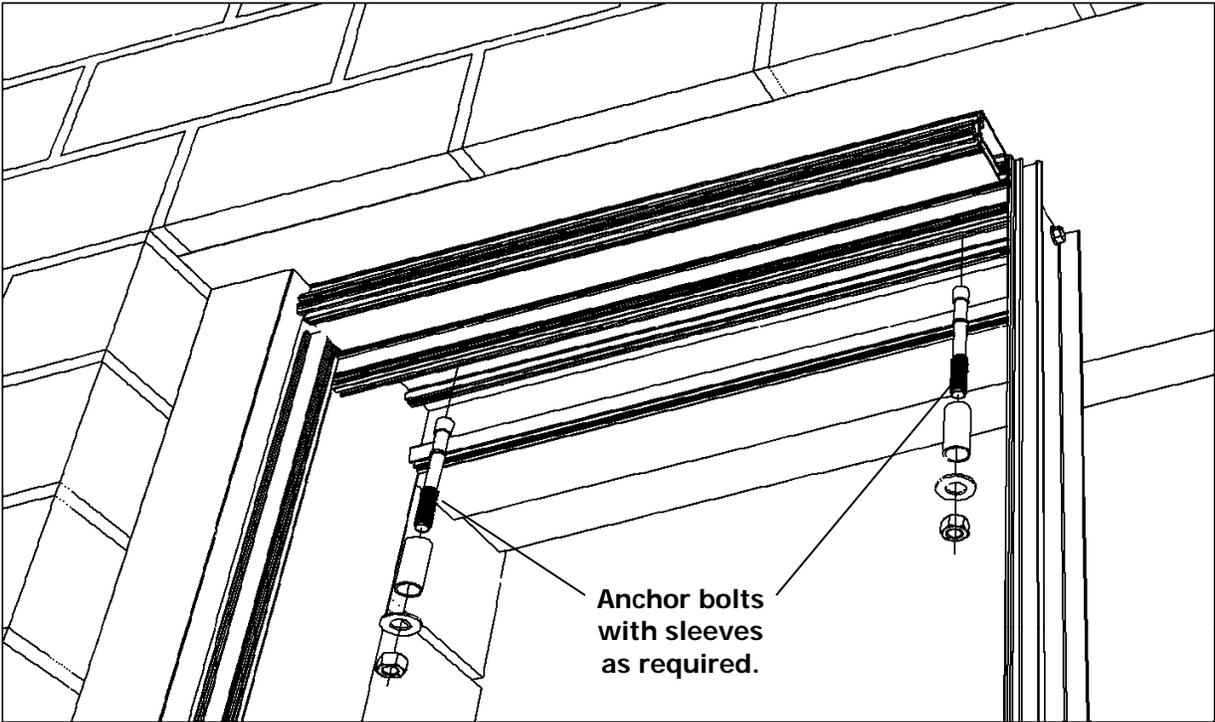
Section III: Typical Anchorage Methods

STEP #2 INSTALL FRAME COMPONENTS

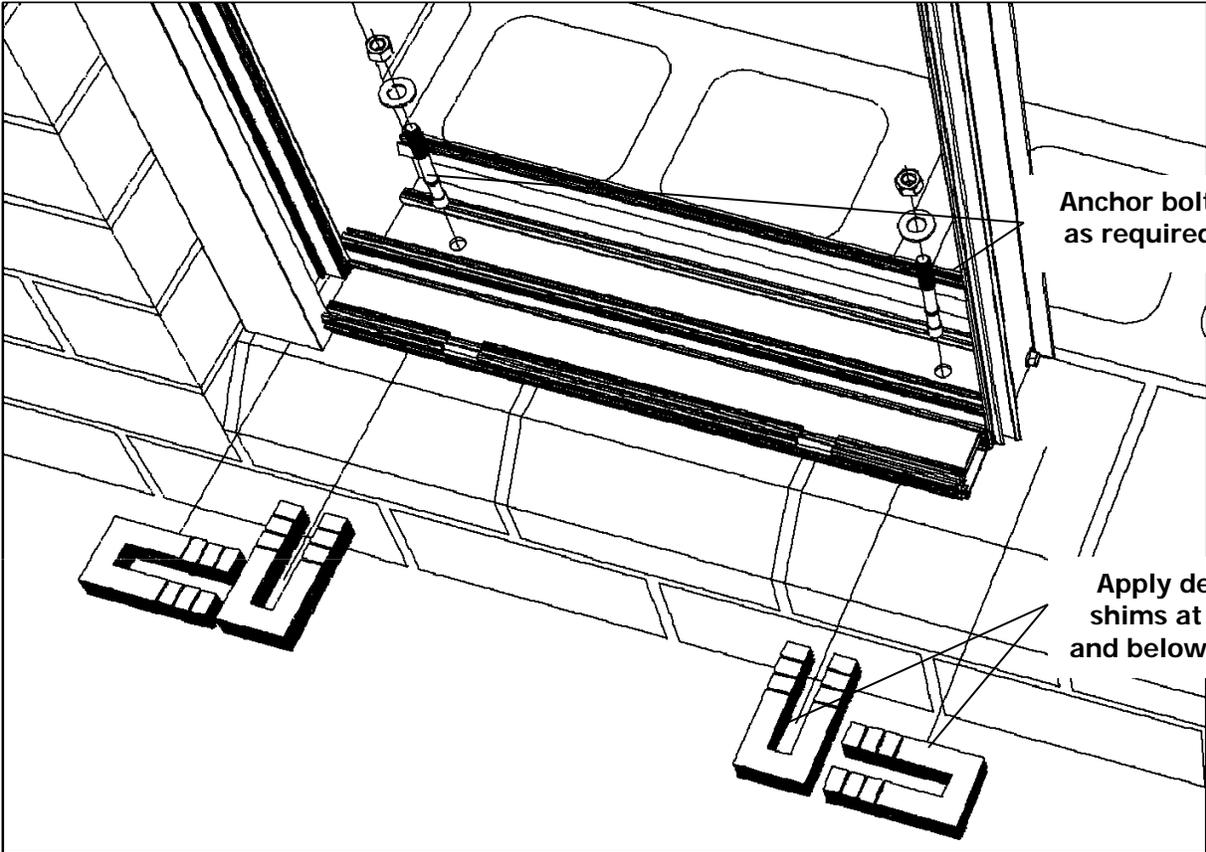
- A. Set the first frame into the opening using dead load shims to level the frame, and make all necessary adjustments to properly locate the frame to established benchmarks.
- B. After the frame is plumb and all adjustments have been made, match drill through the holes in the head and sill into the surrounding substrate, and apply the anchor bolts. Anchor bolt size, type, quantity, and location vary. Refer to the approved shop drawings for more information.



Section III: Typical Anchorage Methods



STANDARD HEAD ANCHORAGE

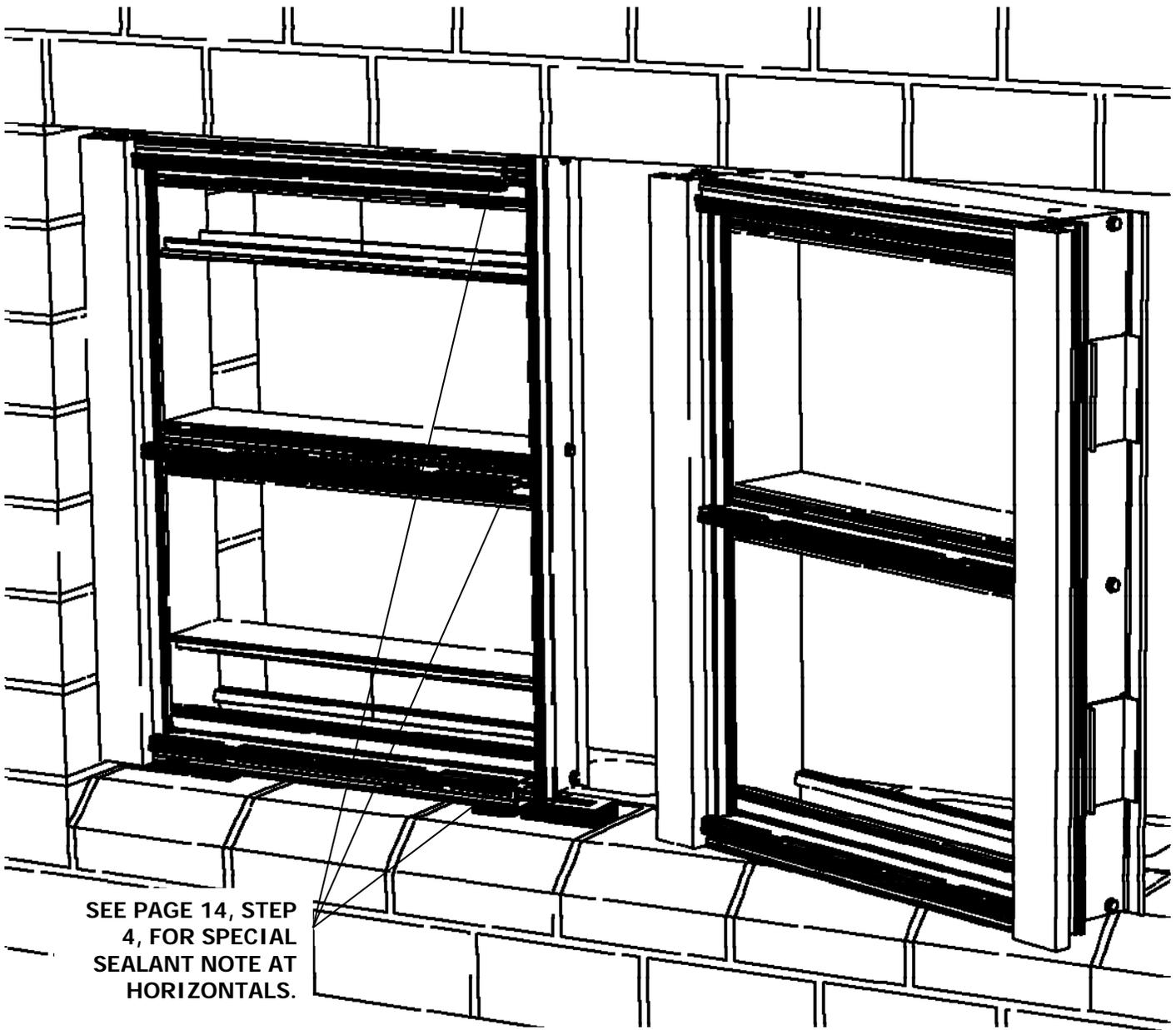


STANDARD SILL ANCHORAGE

Section III: Typical Anchorage Methods

STEP #3 INSTALL FRAME COMPONENTS

- A. Repeating step 2, page 11, set each successive frame into the opening, snapping the verticals and fillers at each frame, until all frames are installed up to the last frame at the opposite jamb.
- B. Check frequently to ensure the installed framing is in the proper position with regard to established benchmarks.
- C. After securing the anchor bolts, snap-in head and sill fillers.



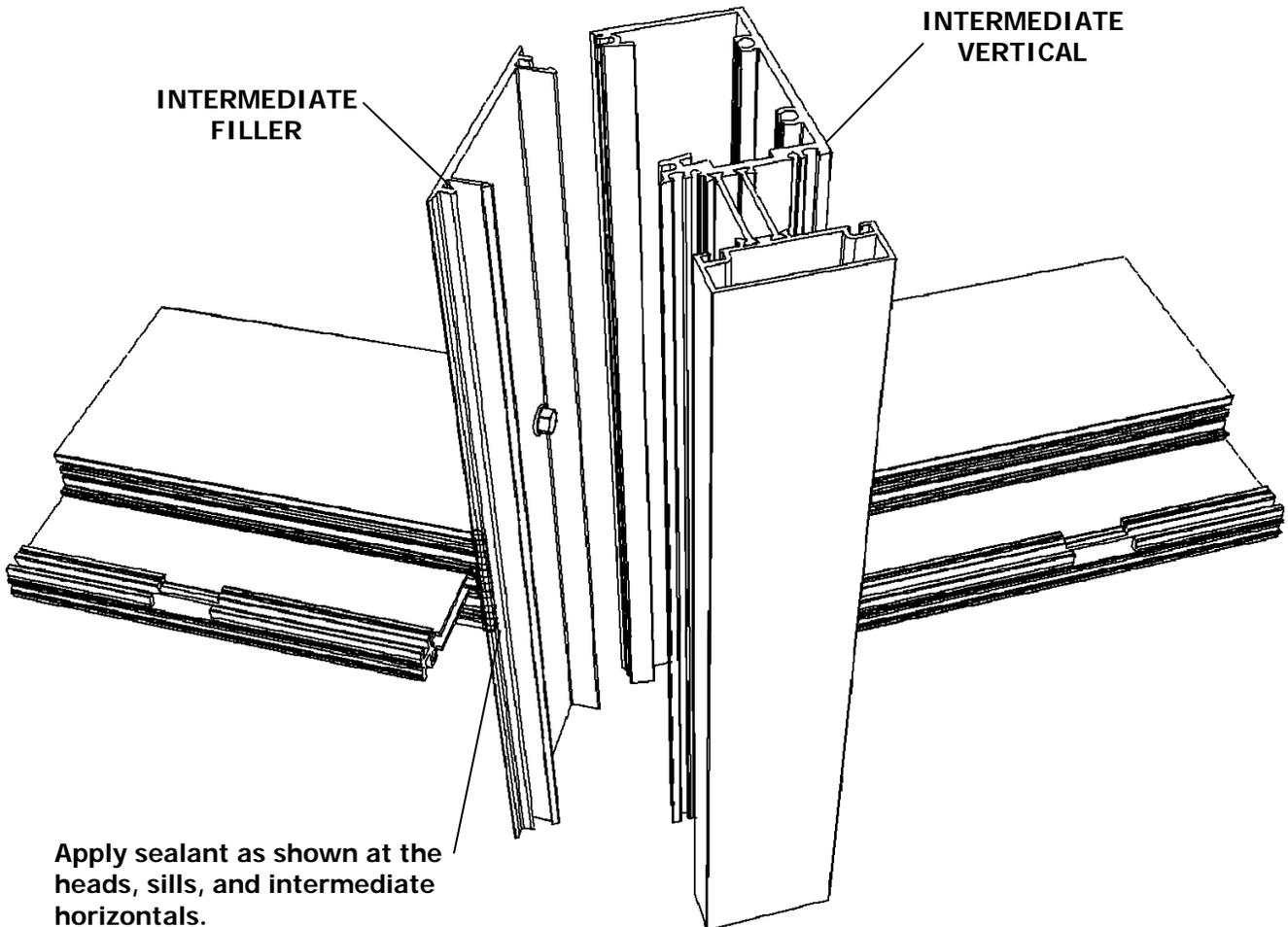
SEE PAGE 14, STEP
4, FOR SPECIAL
SEALANT NOTE AT
HORIZONTALS.

NOTE: On long runs, check overall frame dimensions at every fifth opening to avoid dimensional build-up. The commercial cut length tolerance is $\pm 1/16$ ". It is critical to check every fifth unit for location relative to established benchmarks.

Section III: Typical Anchorage Methods

STEP #4 SPECIAL SEALANT NOTE

- A. Seal the vertical fillers at the intersection of the heads, sills, and intermediate horizontals immediately before snapping the filler and the vertical mullions together.
- B. Tool the sealant smooth with the face of the glazing pocket and remove excess sealant from the glazing reglets.

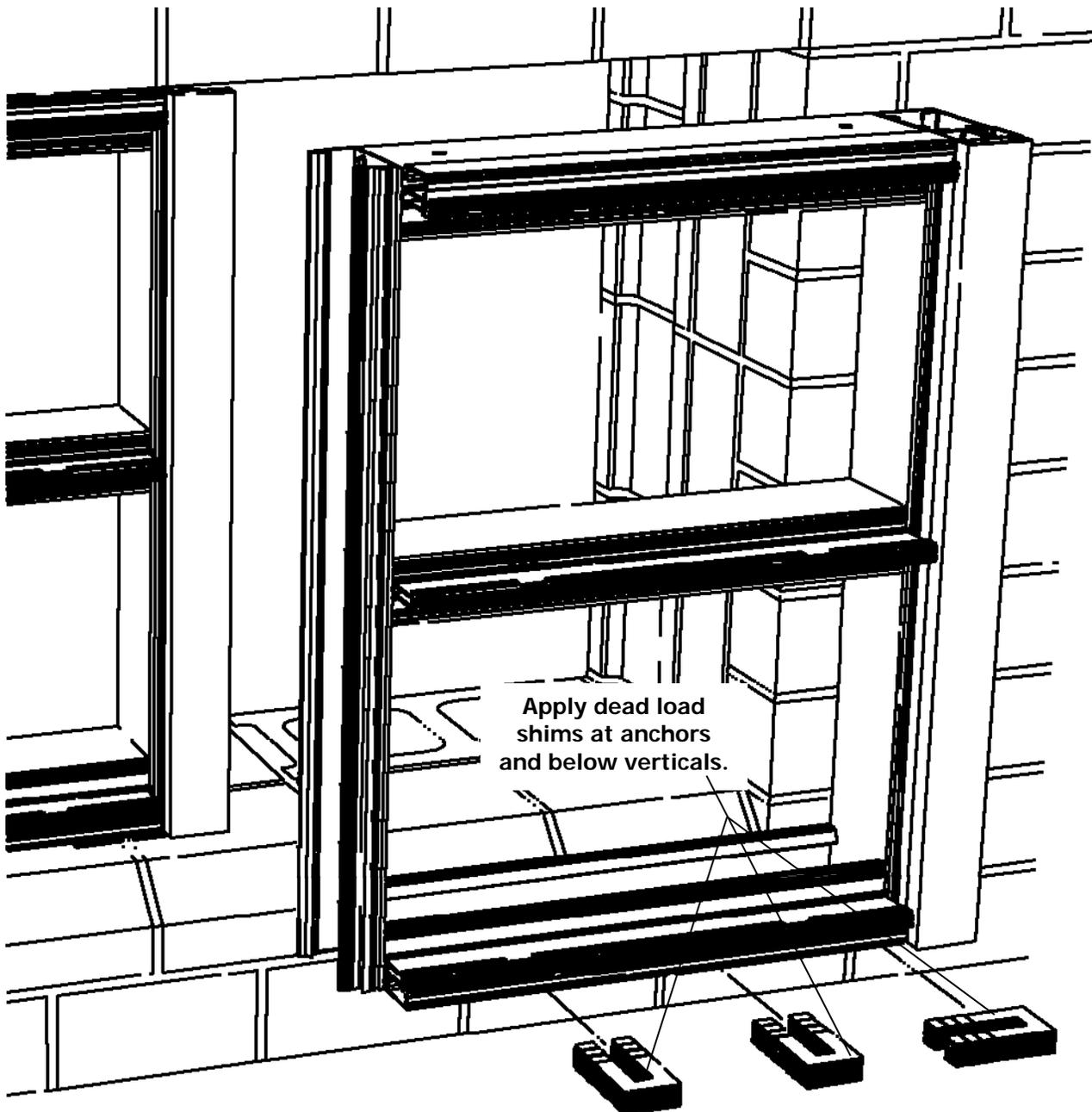


Note: Care should be taken when handling the frames to avoid damaging the edges of the fillers. A block of wood and "C" clamps should be used to aid in snapping the filler to the mullions.

Section III: Typical Anchorage Methods

STEP #5 INSTALL FRAME COMPONENTS

- A. Set the last frame in the run into the opening mating the filler with the intermediate vertical until the filler and vertical snap together.
- B. When the frame is set level and plumb, apply the dead load shims below the verticals, and apply anchors as shown on pages 11 and 12, step 2 (B).
- C. Snap-in head and sill fillers.
- D. Refer to Sections IV and V for Glazing Preparation and Glazing Installation.



IMPORTANT NOTE:

It is critical to allow at least a 3/4" space between the perimeter of the jamb mullion and the condition for setting space for the last frame unit to be installed.

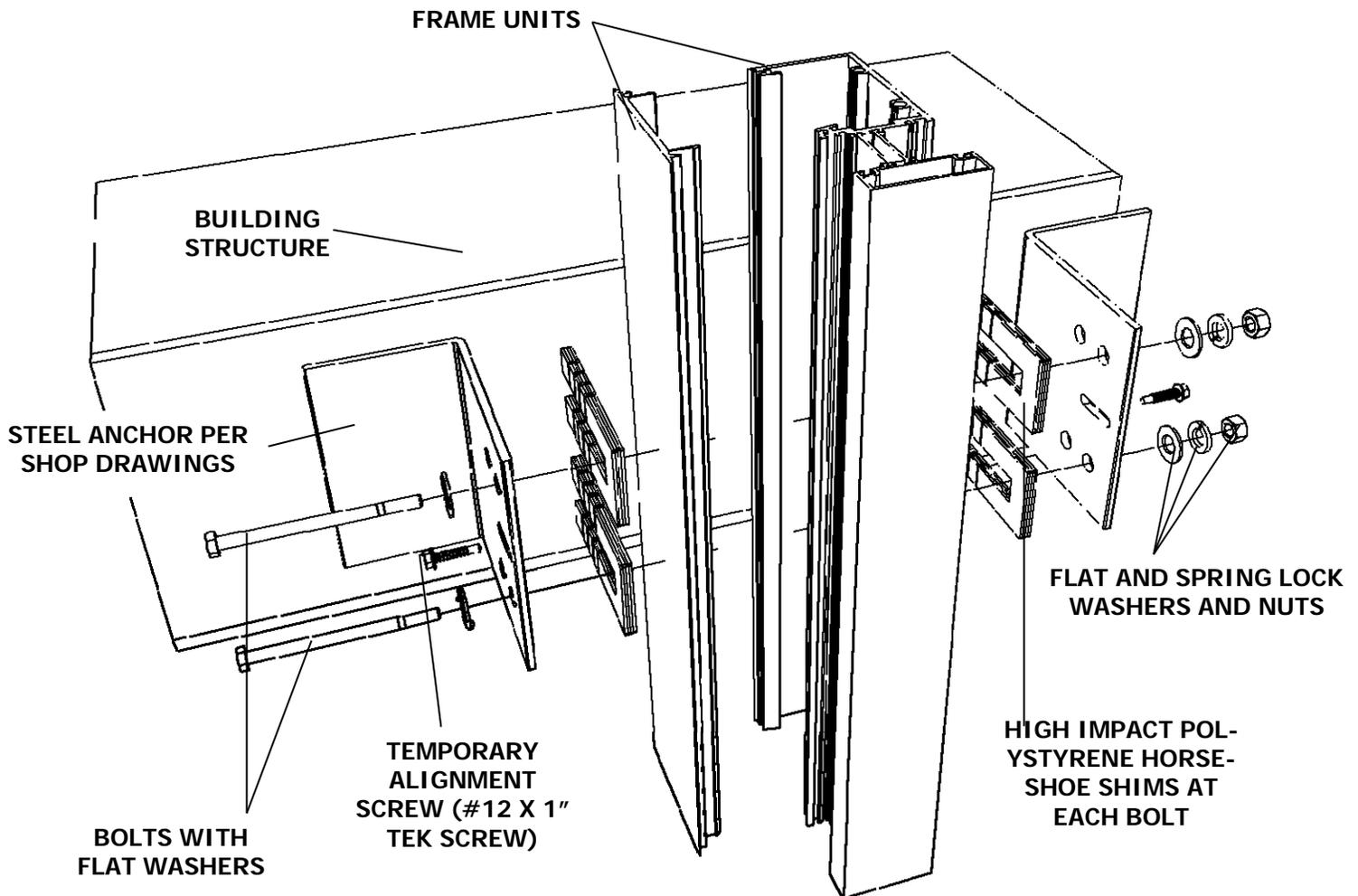
Section III: Typical Anchorage Methods

STEP #6 INSTALL FRAME COMPONENTS – WELDED DEAD LOAD ANCHORS

For installations with multi-spans, set the frame into the opening as instructed in previous steps, and apply the dead load anchors to the jambs with temporary screws at the proper location at the floor slab. Refer to the approved shop drawings for more information. When the frame is properly aligned, and is level and plumb, weld the anchors to the building structure. Match drill the mullion through a set of 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 at each bolt as indicated. The nut must be tightened sufficiently to completely compress the spring lock washer, but not to deform the mullion. The threads of the bolts must be staked or Loctite must be used to prevent the nut from loosening from the bolt. Refer to the approved shop drawings for anchor locations, bolt sizes, welding requirements, and other job specific information.

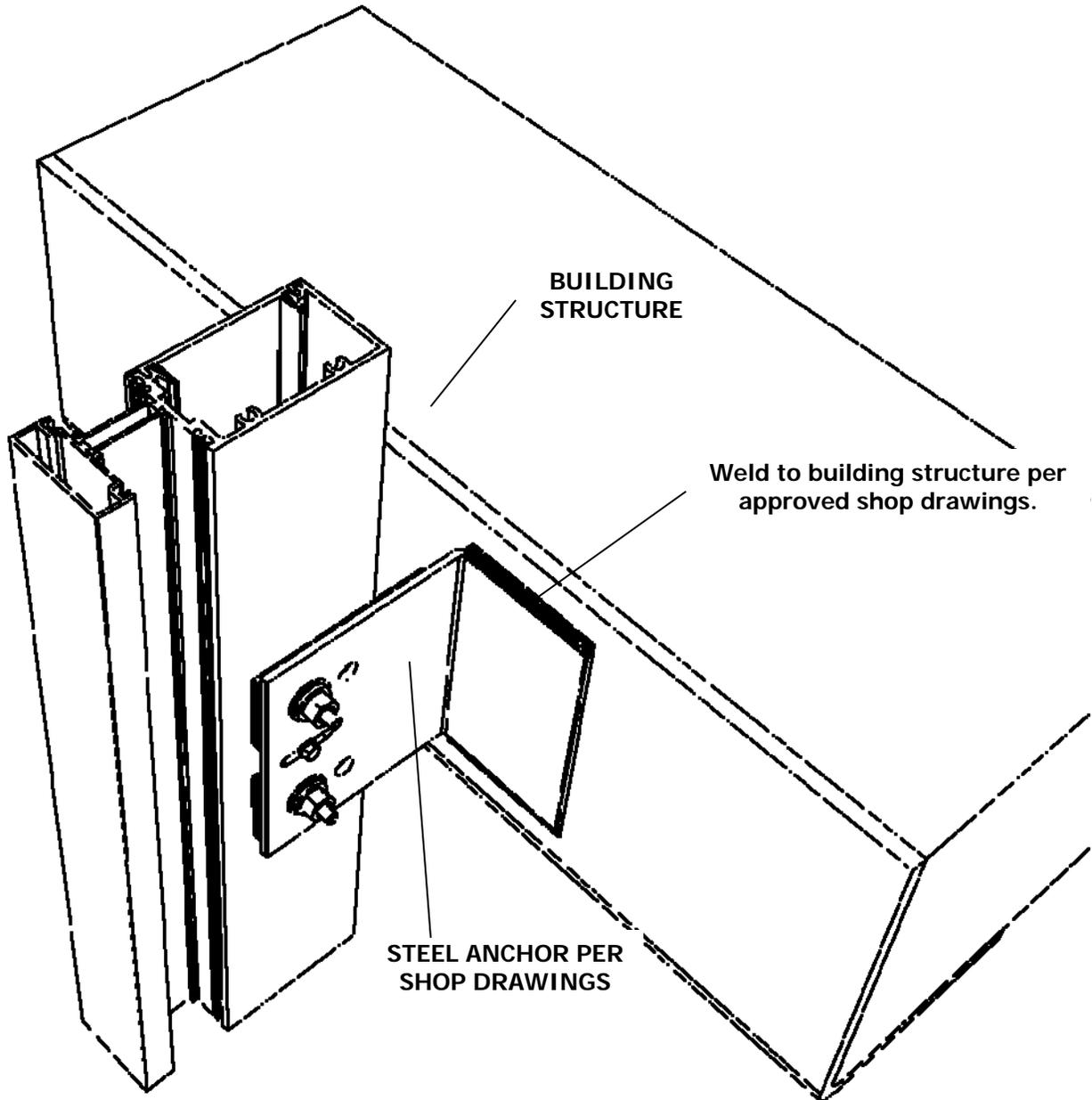
NOTE: For special instructions regarding wind load anchors see page 18, step 7.



WELDED DEAD LOAD ANCHOR

Section III: Typical Anchorage Methods

NOTE: When welding, protect installed metal and glass from weld splatter.



NOTE: The elevation of the structure must be within the adjustment limits of the anchoring system. See approved shop drawings for limitations.

WELDED DEAD LOAD ANCHORS

Section III: Typical Anchorage Methods

STEP #7 INSTALL FRAME COMPONENTS – WELDED WIND LOAD ANCHORS

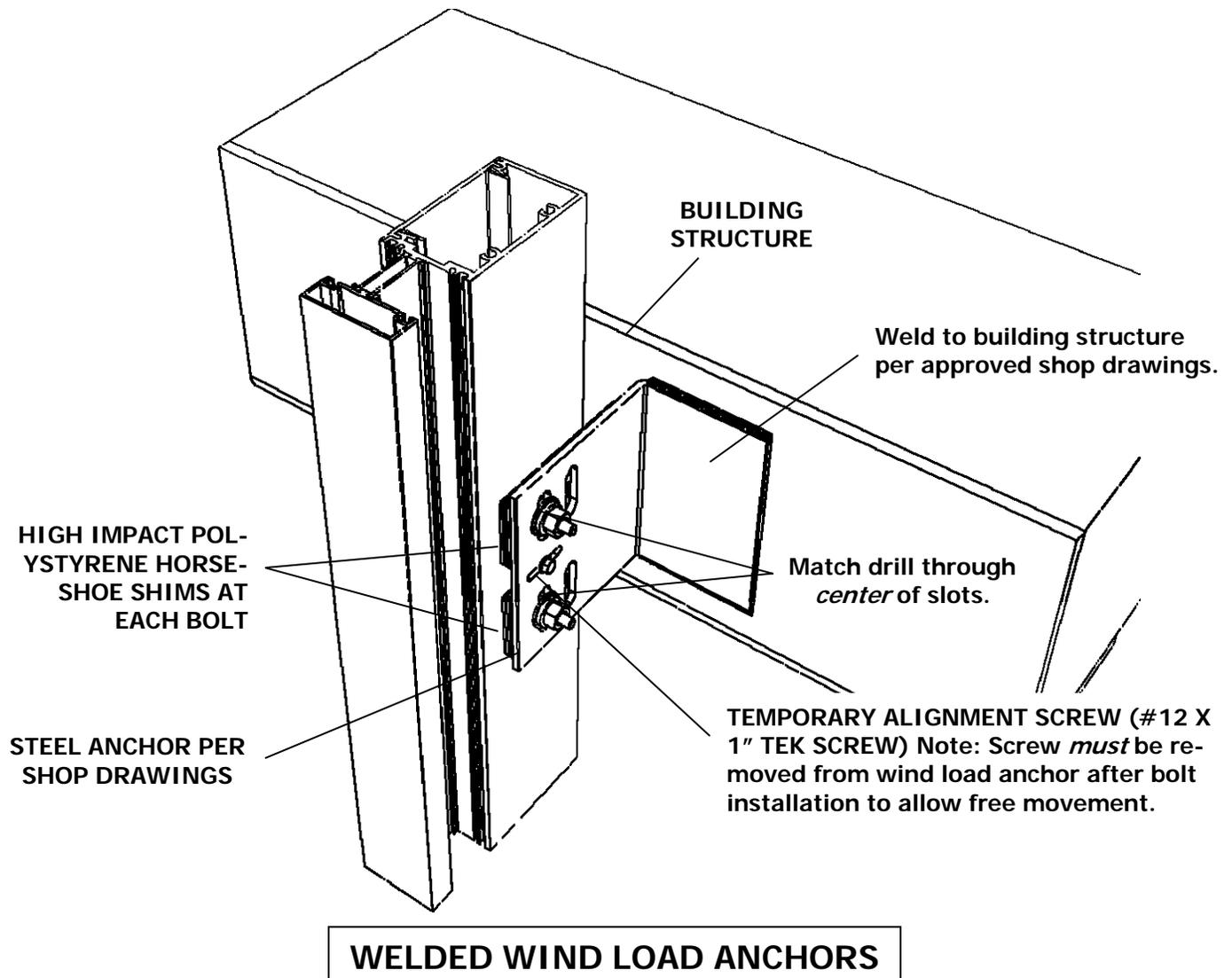
For installations with multi-spans, follow applicable notes from step 6. Match drill the mullion through the *CENTER* of the set of slots in the anchor.

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 each bolt as shown.

Important: The nut must be tightened sufficiently to completely compress the spring lock washer. 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,

NOTE: When welding, protect installed metal and glass from weld splatter.



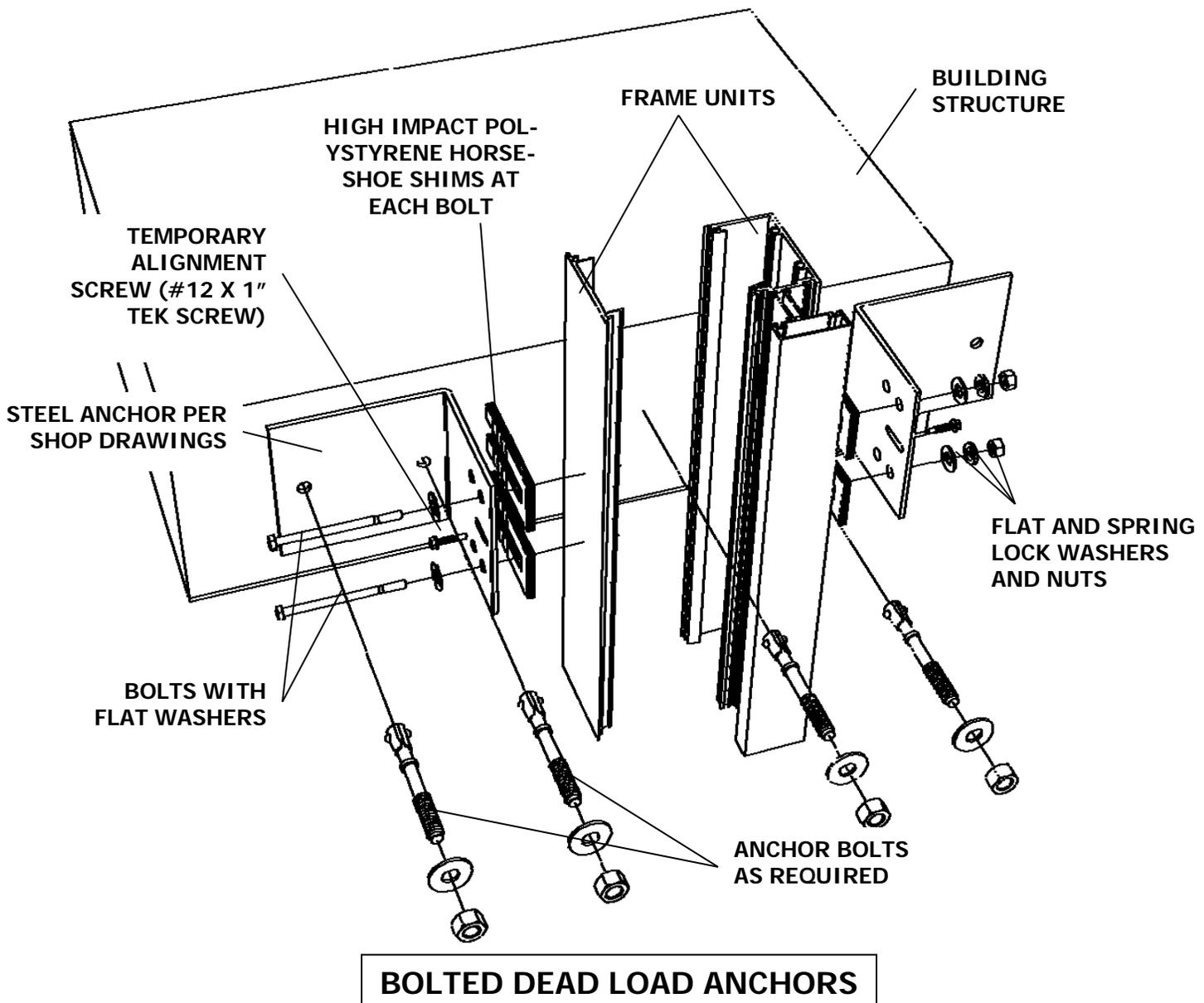
Section III: Typical Anchorage Methods

STEP #8 INSTALL FRAME COMPONENTS – BOLTED DEAD LOAD ANCHORS

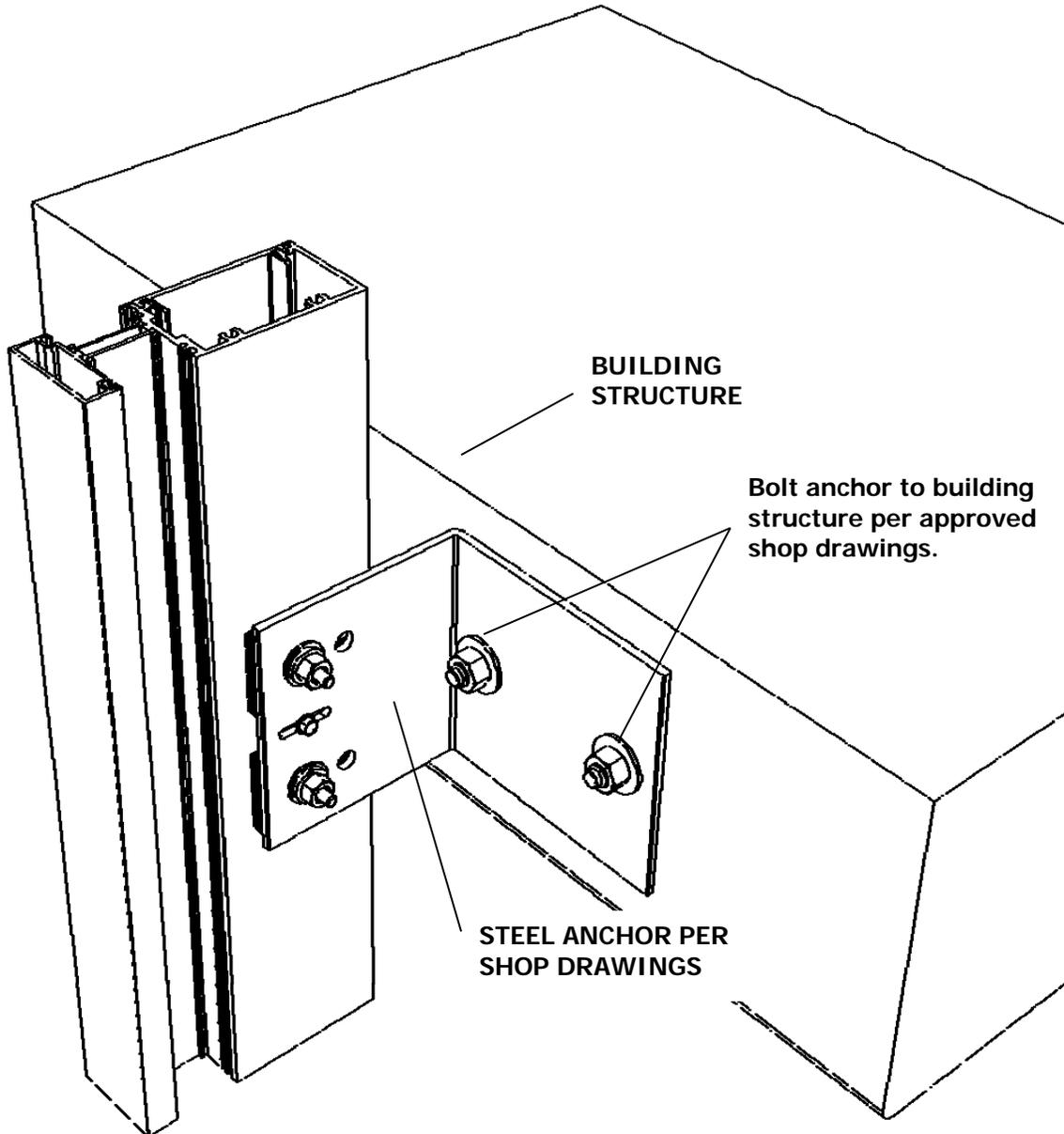
For installations with multi-spans, follow applicable notes from step 9. When the frame is properly aligned, and is level and plumb, match drill the slab through the anchor and install anchor bolts securing the anchor to the building structure. Match drill the mullion through the set of holes in the 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.

Refer to the approved shop drawings for anchor bolt size, type, spacing, and embedment as well as anchor dimensions.



Section III: Typical Anchorage Methods



NOTE: The elevation of the structure must be within the adjustment limits of the anchoring system. See approved shop drawings for limitations.

BOLTED DEAD LOAD ANCHORS

Section III: Typical Anchorage Methods

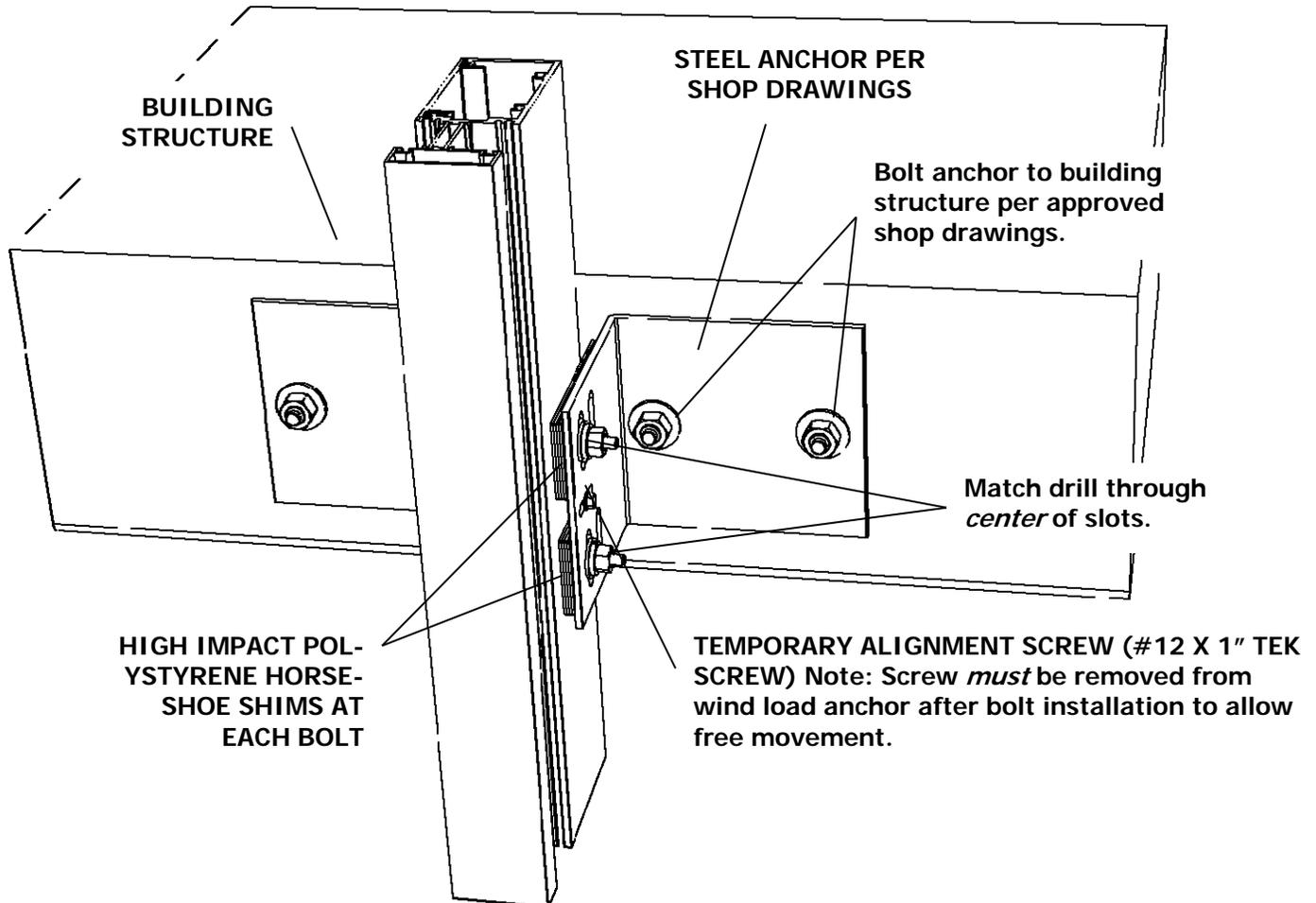
STEP #9 INSTALL FRAME COMPONENTS – BOLTED WIND LOAD ANCHORS

For installations with multi-spans, follow applicable notes from step 8. Match drill the mullion through the *CENTER* of the set of slots in the anchor.

NOTE: The holes must be a minimum of 1" from the back of the mullion in order to clear any steel reinforcement located inside of 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 spring lock washer next to the nut as shown. Shim each bolt as shown.

Important: The nut must be tightened sufficiently to completely compress the spring lock washer. 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.

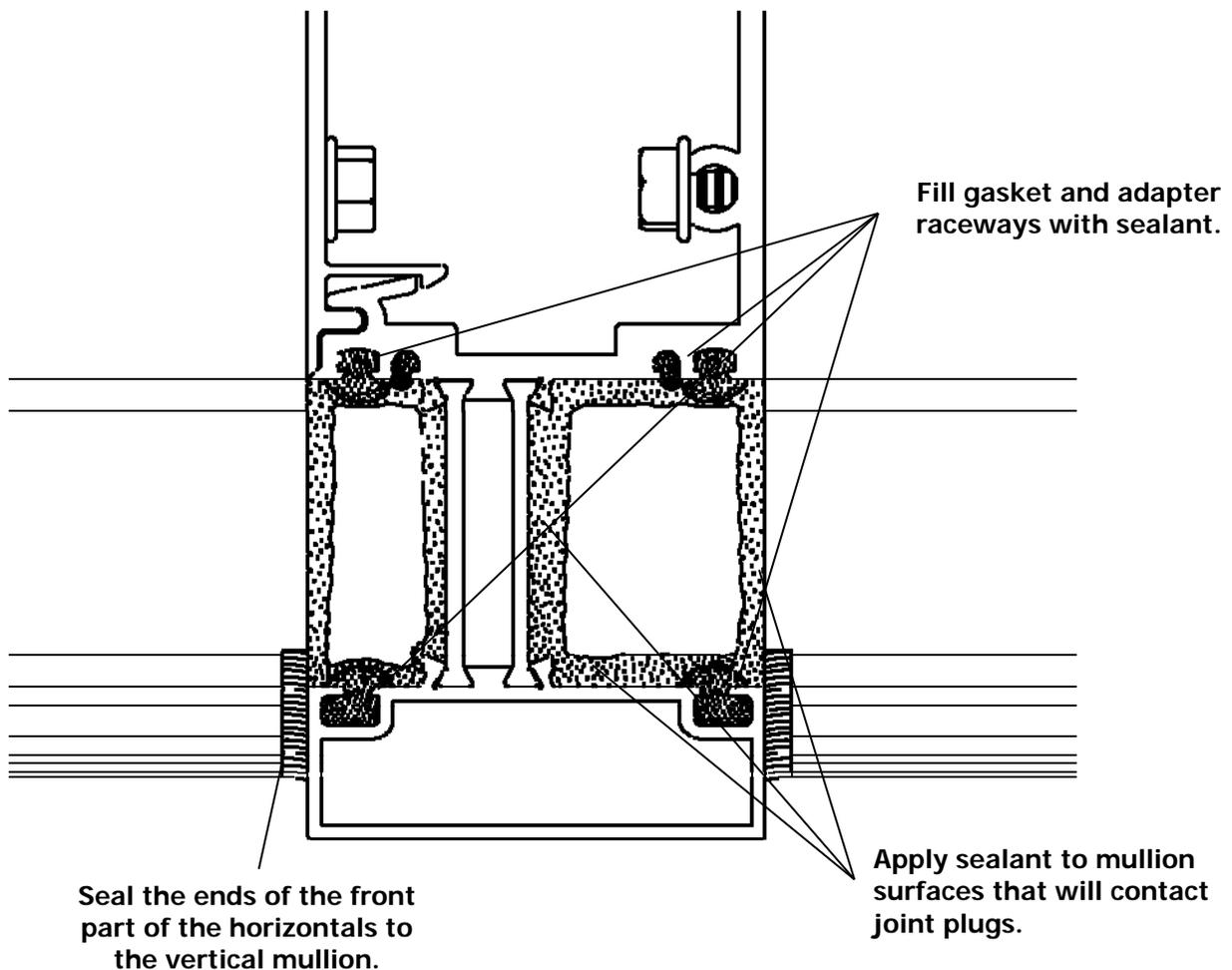


BOLTED WIND LOAD ANCHORS

Section IV: Glazing Preparation

STEP #1 PREPARE FRAME FOR JOINT PLUGS

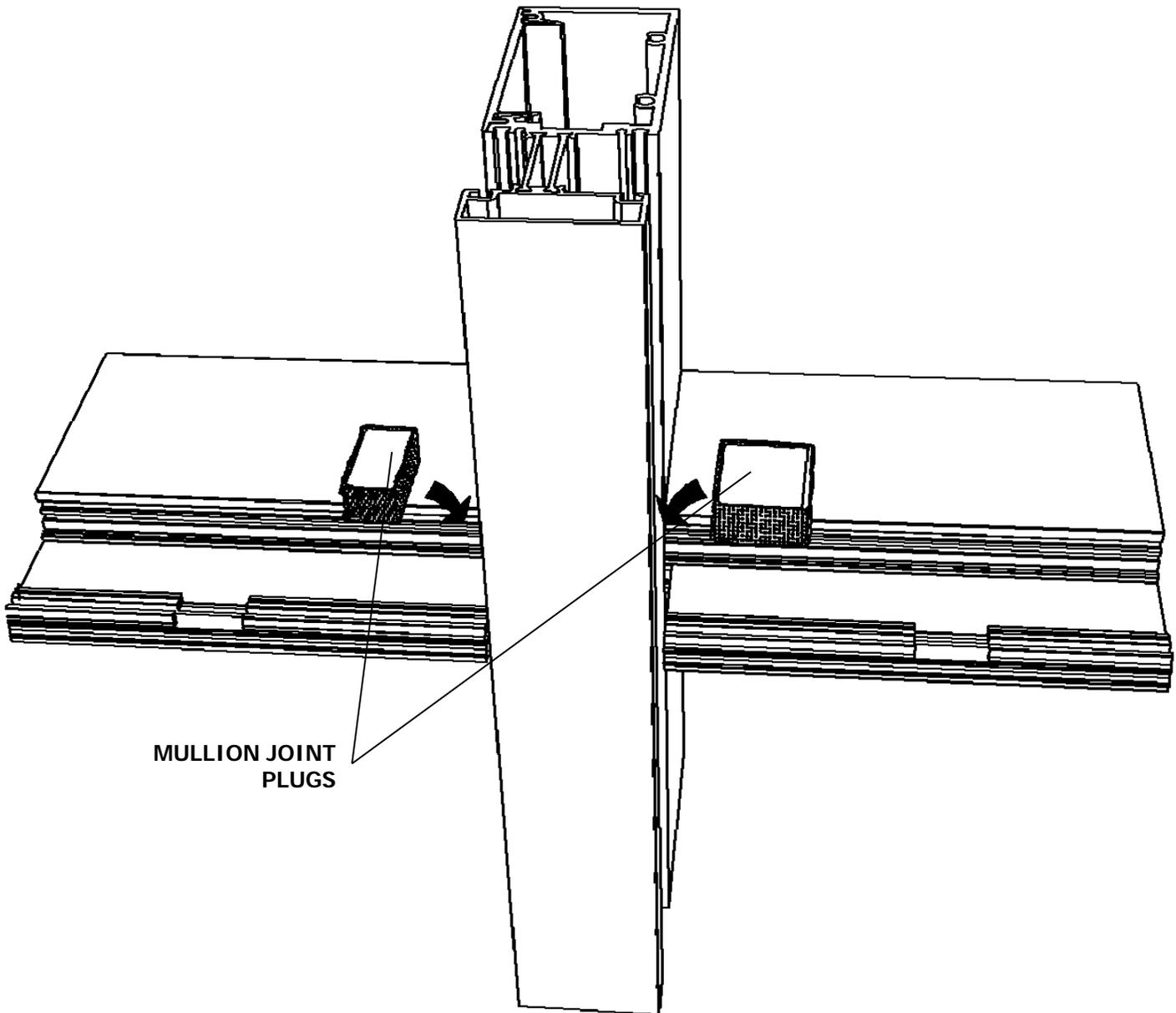
- A. Fill the gasket and adapter raceways with sealant to close off the void at the joint plug locations. The sealant height should be a minimum of 1" long.
- B. Seal all connecting surfaces of the horizontal and vertical mullions with sealant for the attachment of the mullion joint plugs. Tool sealant into the joints at the thermal strut.



Section IV: Glazing Preparation

STEP #2 INSTALL JOINT PLUGS

- A. Apply sealant to the contact surfaces of the joint plug as shown.
- B. Install the mullion joint plugs at the horizontal to vertical intersections as indicated.
- C. Tool the sealant that was pre-applied to the mullion in step 1, over the joint plugs and into the joints.



Section IV: Glazing Preparation

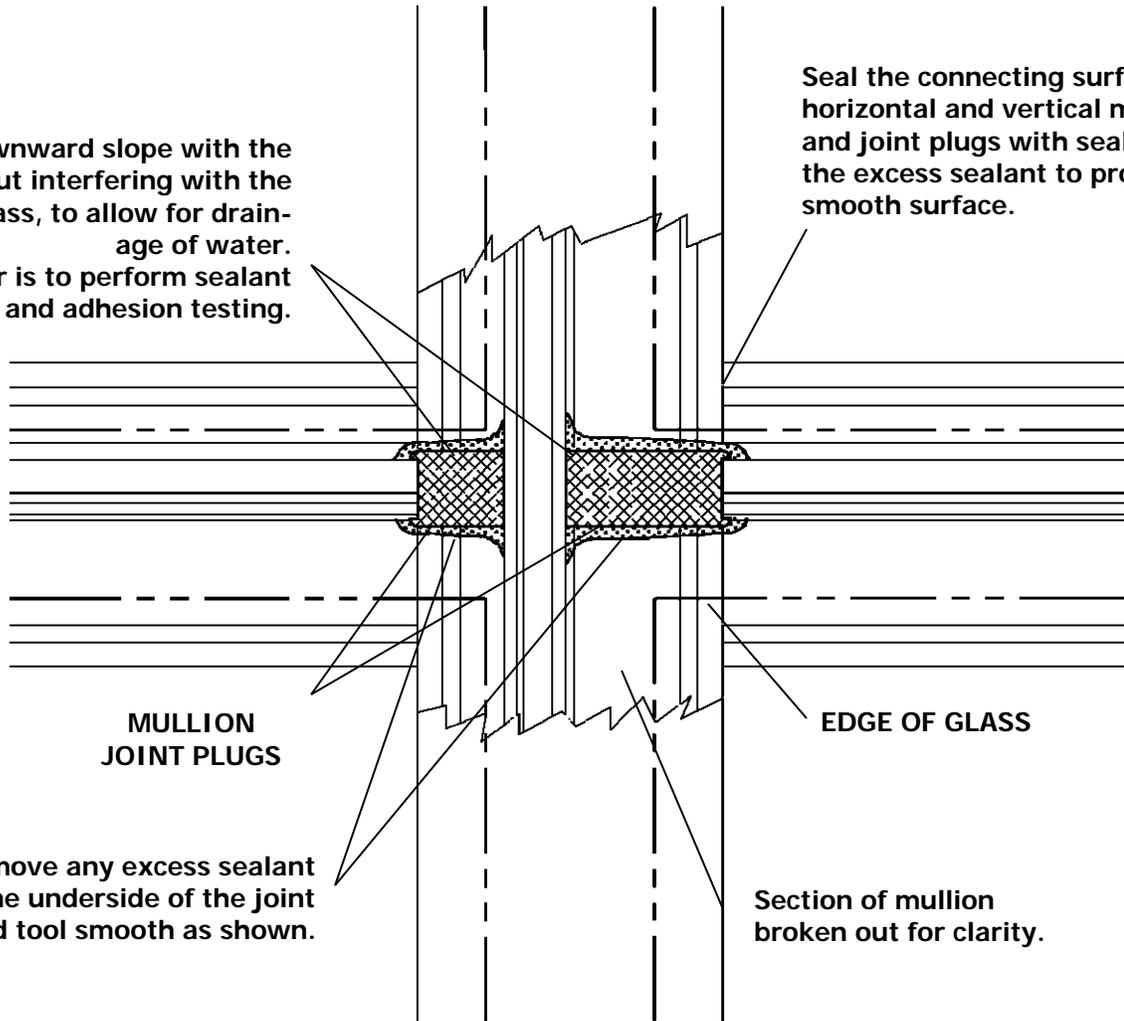
STEP #3 INSTALL JOINT PLUGS

- A. After installation of the joint plugs, reseal the joint connecting the surfaces of the horizontal and vertical mullions with sealant over the joint plug as shown below.
- B. Provide a downward slope with the sealant, without interfering with the edge of the glass once the glass is set, to allow for drainage of water.

Provide a downward slope with the sealant, without interfering with the edge of the glass, to allow for drainage of water.

The erector is to perform sealant compatibility and adhesion testing.

Seal the connecting surfaces of the horizontal and vertical mullions and joint plugs with sealant. Tool the excess sealant to provide a smooth surface.



Note: Remove any excess sealant from the underside of the joint plugs and tool smooth as shown.

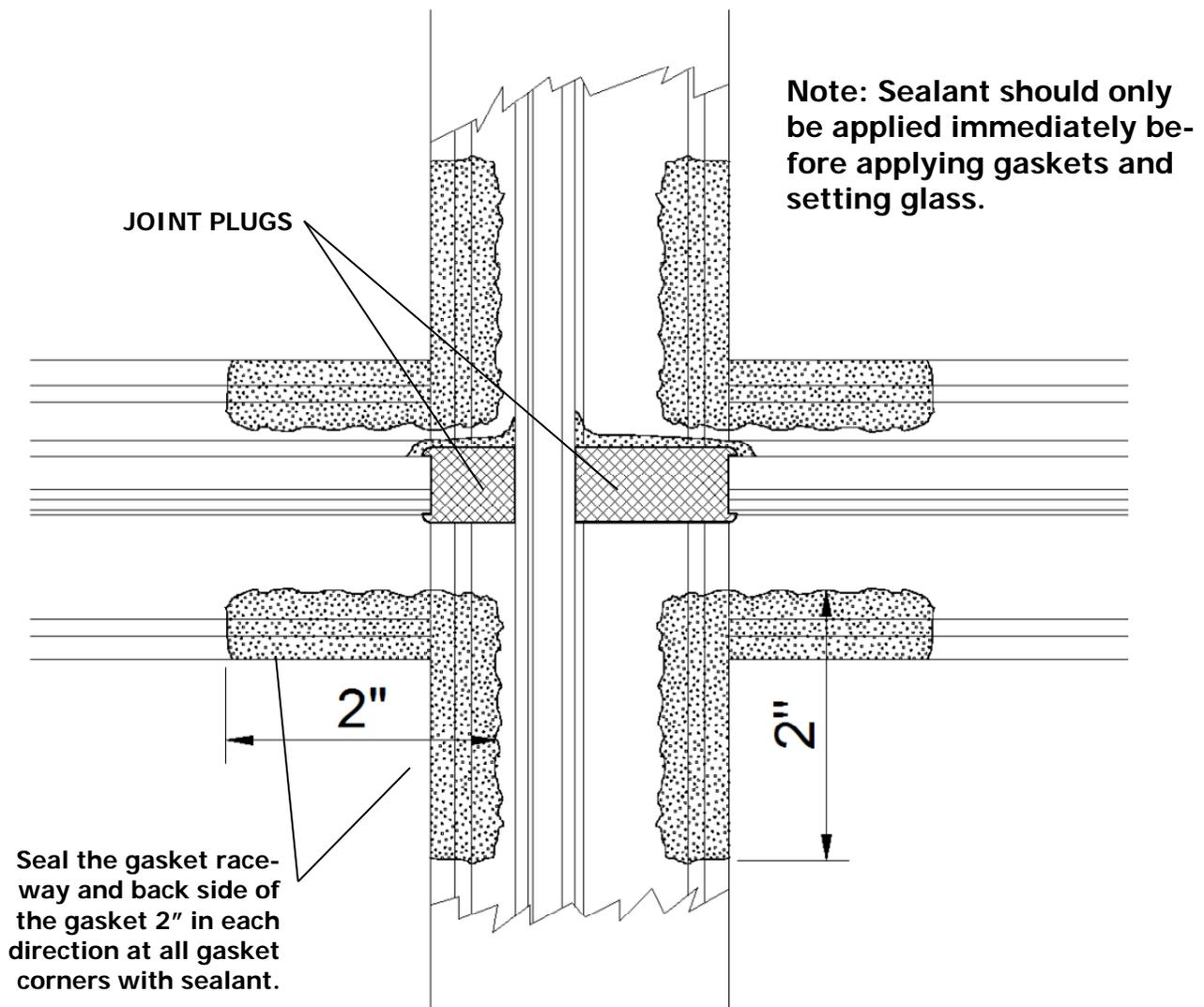
Section of mullion broken out for clarity.

ELEVATION OF JOINERY AT HORIZONTALS PRIOR TO SETTING THE GLASS

Section IV: Glazing Preparation

STEP #4 INSTALL INTERIOR GASKETS IN MULLIONS

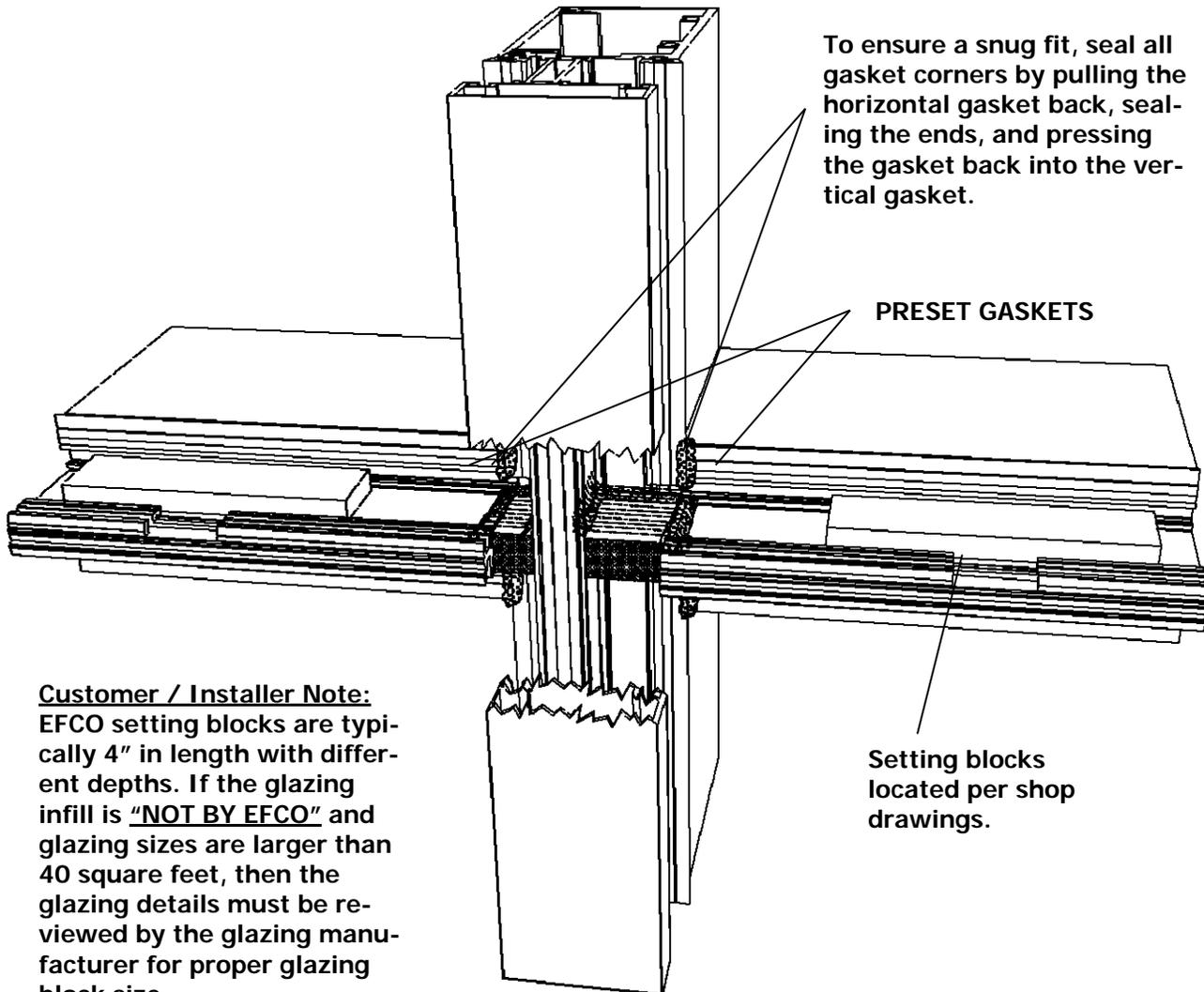
- A. Remove the glazing gaskets from the reel, and allow them to relax and shrink.
- B. Apply sealant into the raceways a minimum of 2" in each direction from the corners of the D.L.O. (Refer to the illustration below.)
- C. Once the gaskets have relaxed, cut them and install the gaskets into position. The interior vertical gaskets must be cut vertical D.L.O. plus 1 3/4". Place the gasket in place starting at the center of the D.L.O. Crowd in the excess at the ends. The vertical gaskets should run through and extend past the horizontal gaskets.
- D. Cut the horizontal gaskets D.L.O. plus 1/2" and insert the gasket in place, starting at the center of the D.L.O. Crowd in the excess at the ends.
- E. Seal all gasket corners, and butt the joints as indicated in the illustration on page 26.



Section IV: Glazing Preparation

STEP #4 (Continued) INSTALL INTERIOR GASKETS IN MULLIONS

Important note: The glazing must be set immediately after this step before the sealant begins to cure. If the sealant hardens before the glazing has been set, proper gasket compression at the corners will be impeded, and may result in leakage.



STEP #6 INSTALL SETTING BLOCKS

Position and install the setting blocks as directed on the approved shop drawings. Note: Do not set setting blocks in a bed of sealant. This can cause interference when the glass and horizontal covers are applied.

Section V: Glazing Installation

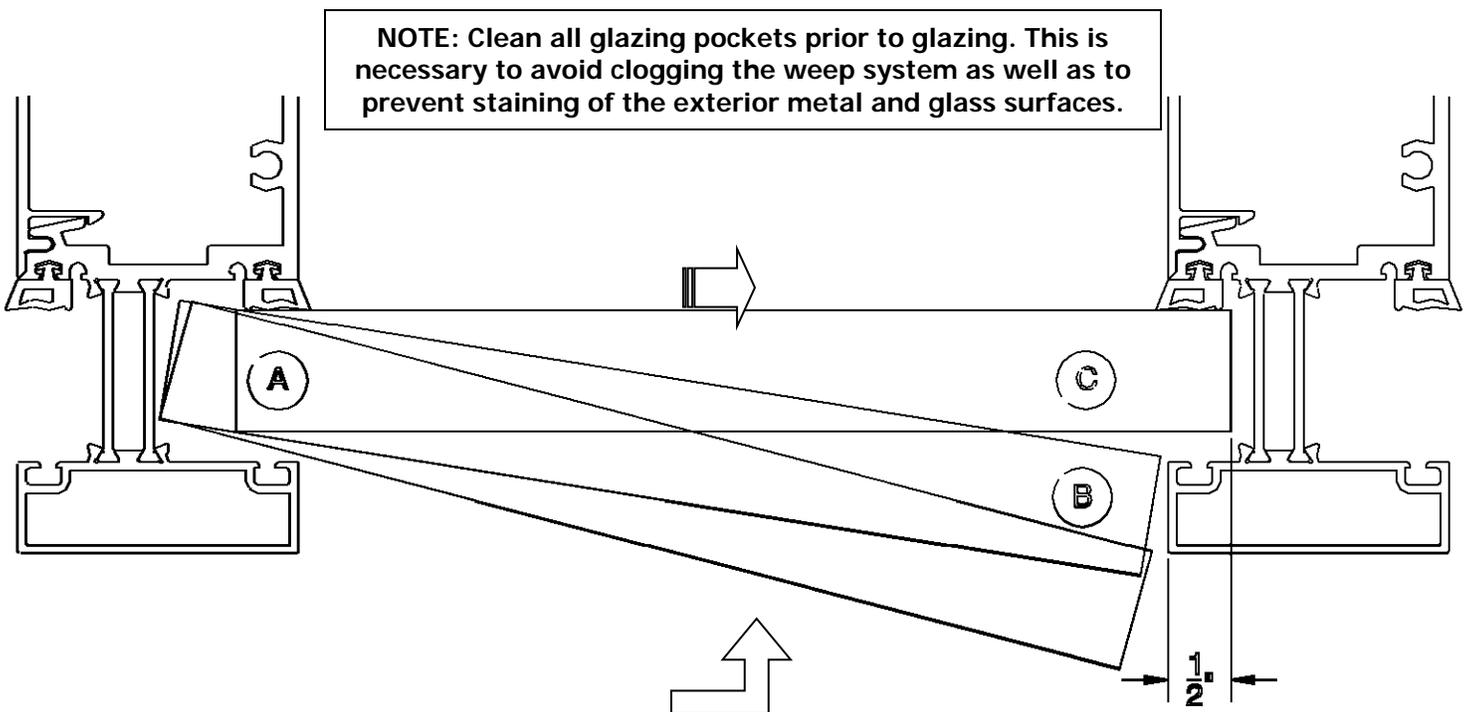
IMPORTANT NOTE: EFCO recommends using conventional tubular spacers only for insulated glass units with the S-5500. This is due to the possible collapse of the spacer when used with drive-in wedge glazing gaskets.

STEP #1 INSTALL GLAZING MATERIALS

- A. Using suction cups, gently insert a glass edge (or other glazing infill) into the deep pocket of the vertical mullion.
- B. Swing the opposite edge of the glazing in plane with the shallow pocket of the adjacent vertical mullion, and lower the glazing onto the setting blocks.
- C. Position the glazing in the center of the opening maintaining a $\frac{1}{2}$ " glass bite around the entire perimeter.
- D. Lift the infill slightly off the setting blocks, and press the glass firmly against the interior glazing gaskets at the sill horizontal.

STEP #2 INSTALL TEMPORARY RETAINER GASKETS

- A. Use 2" long pieces of the exterior wedge gasket to temporarily compress and hold the glass in the glazing pocket of the verticals. The gaskets should be placed at the corners of the glazing and then periodically up the vertical. Remove any excess sealant at the corners of the glazing on the interior side that may ooze out where the gaskets were butt sealed.

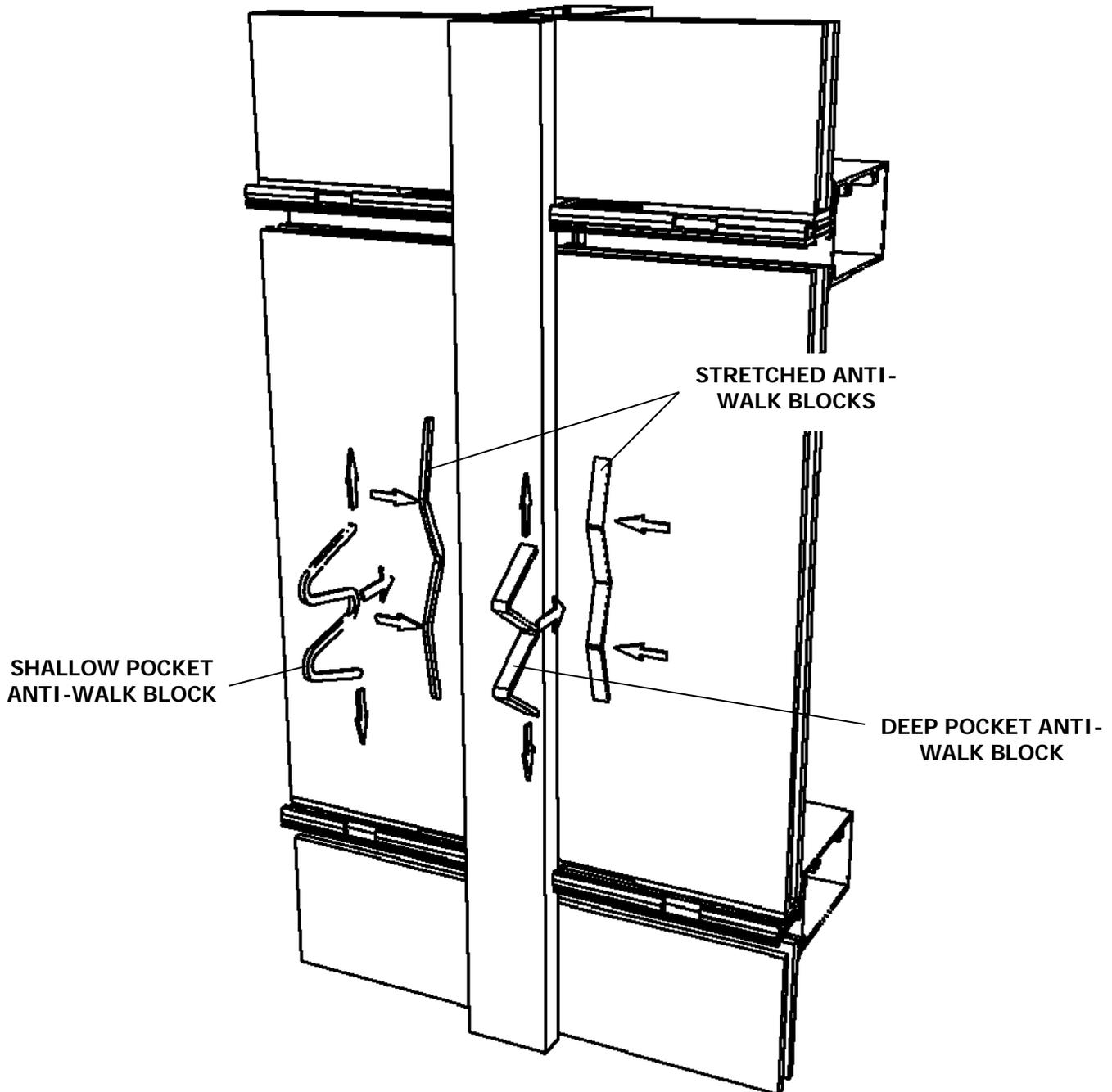


NOTE: The typical glass bite for the captured system is $\frac{1}{2}$ ".
Glass sizes are based on D.L.O. plus 1".

Section V: Glazing Installation

STEP #3 INSTALL ANTI-WALK BLOCKS

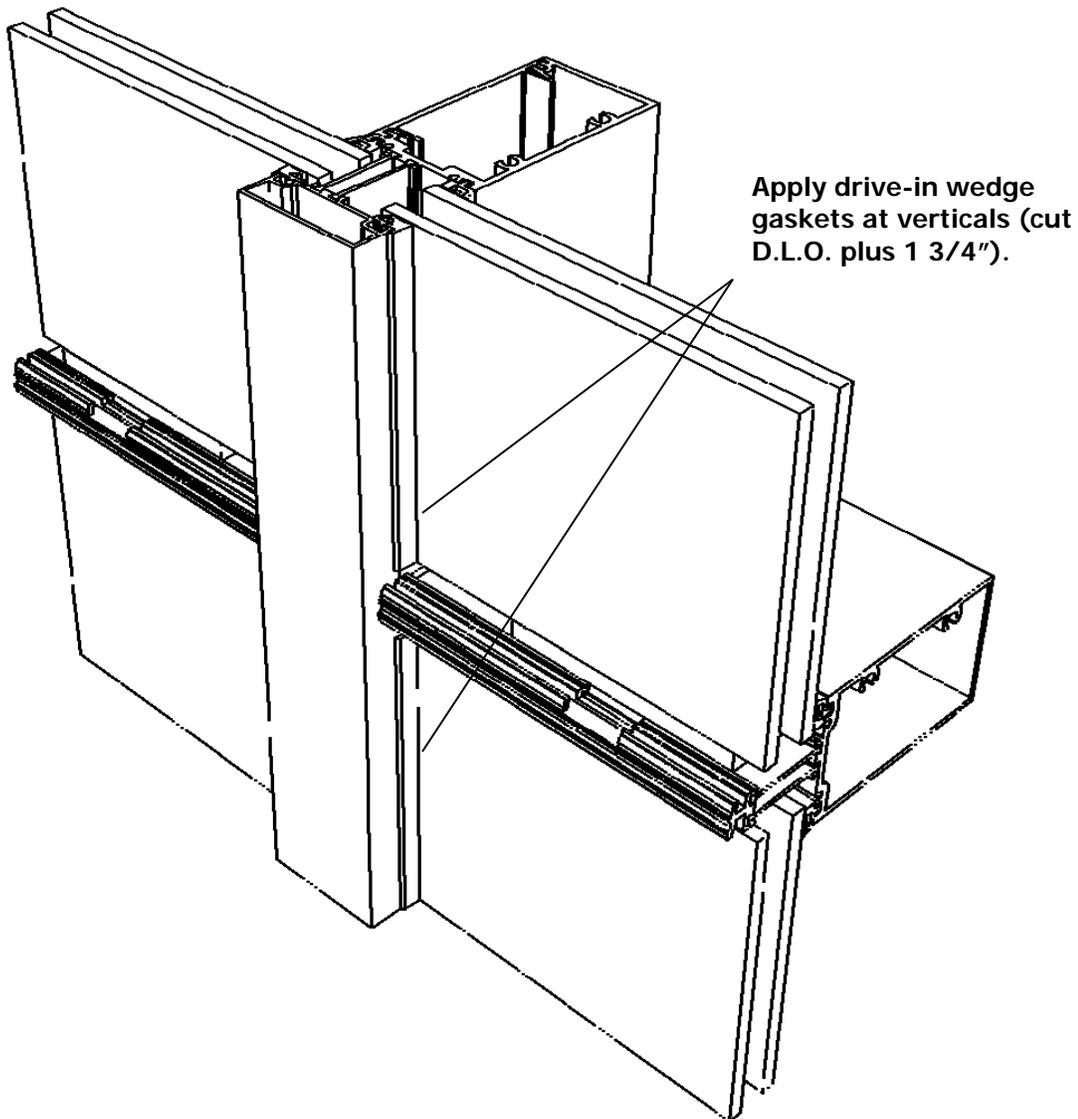
- A. Stretch the anti-walk blocks until they are elongated enough to fit between the glass face and the front face of the glazing pocket.
- B. Install and position anti-walk blocks in the verticals at the center of each D.L.O. A tool such as a standard screwdriver may be used to drive the spacer into the glazing pocket far enough to clear the glass edge, so that it snaps back into shape once it is in the pocket.



Section VI: Exterior Cover & Drive-In Gasket Installation

STEP #1 INSTALL DRIVE-IN GASKETS IN VERTICAL MULLIONS

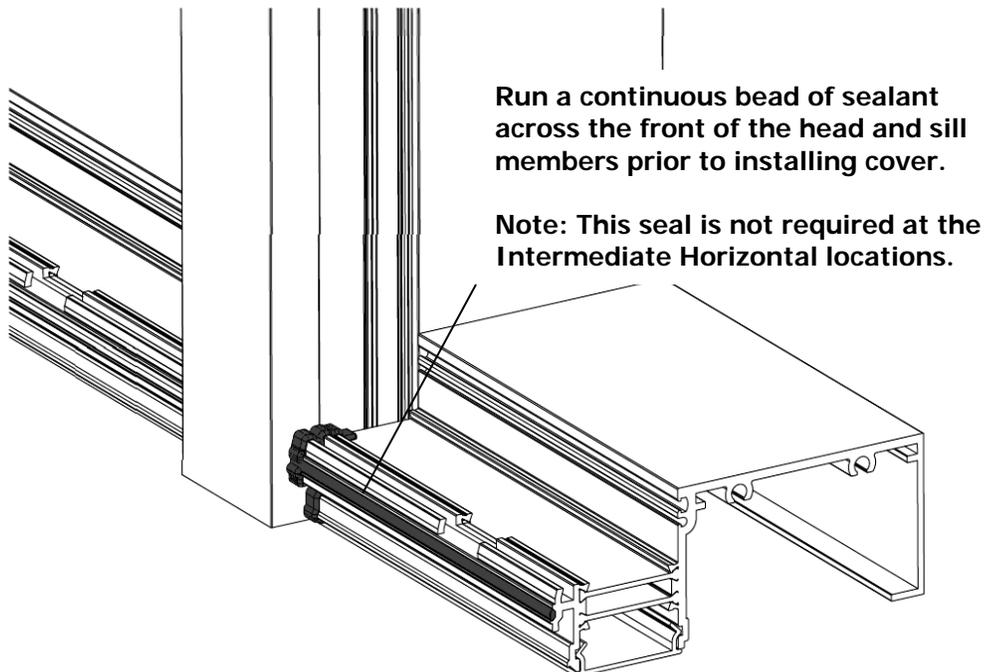
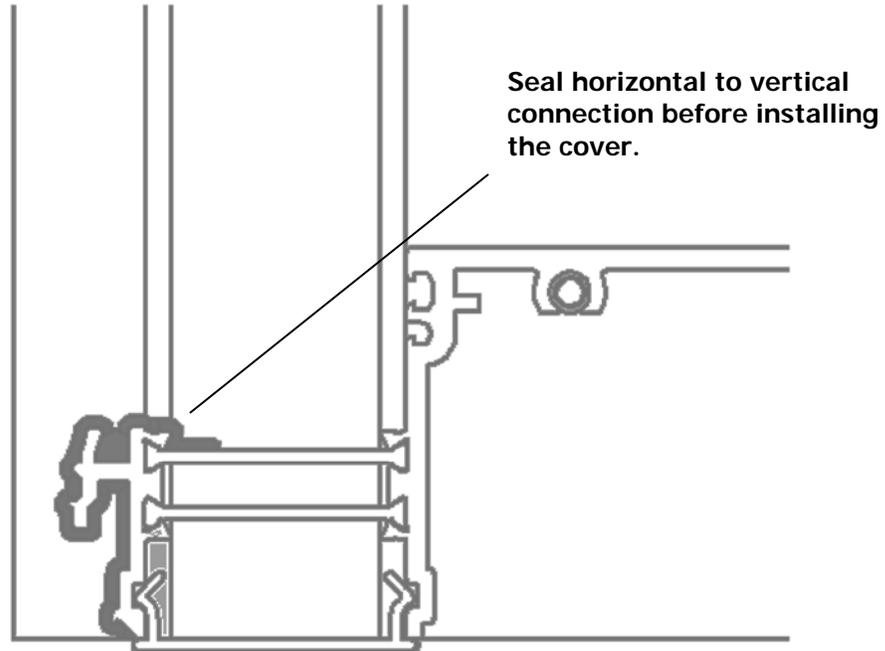
- A. Remove the exterior drive-in wedge gasket material from the reel, and allow the gasket to relax and shrink.
- B. Remove any temporary retainer gaskets previously applied, from the opening at hand.
- C. The exterior vertical gaskets must be cut vertical D.L.O. plus 1 3/4". Apply the drive-in gaskets at the vertical mullions by driving in the wedge gasket, starting at the center of the D.L.O. Crowd in the excess at the ends. Care should be taken not to stretch the gasket when installing. The vertical gaskets should run through and extend past the horizontal gaskets, once the horizontal gaskets are in place.



INTERMEDIATE SHOWN, HEAD AND SILL SIMILAR

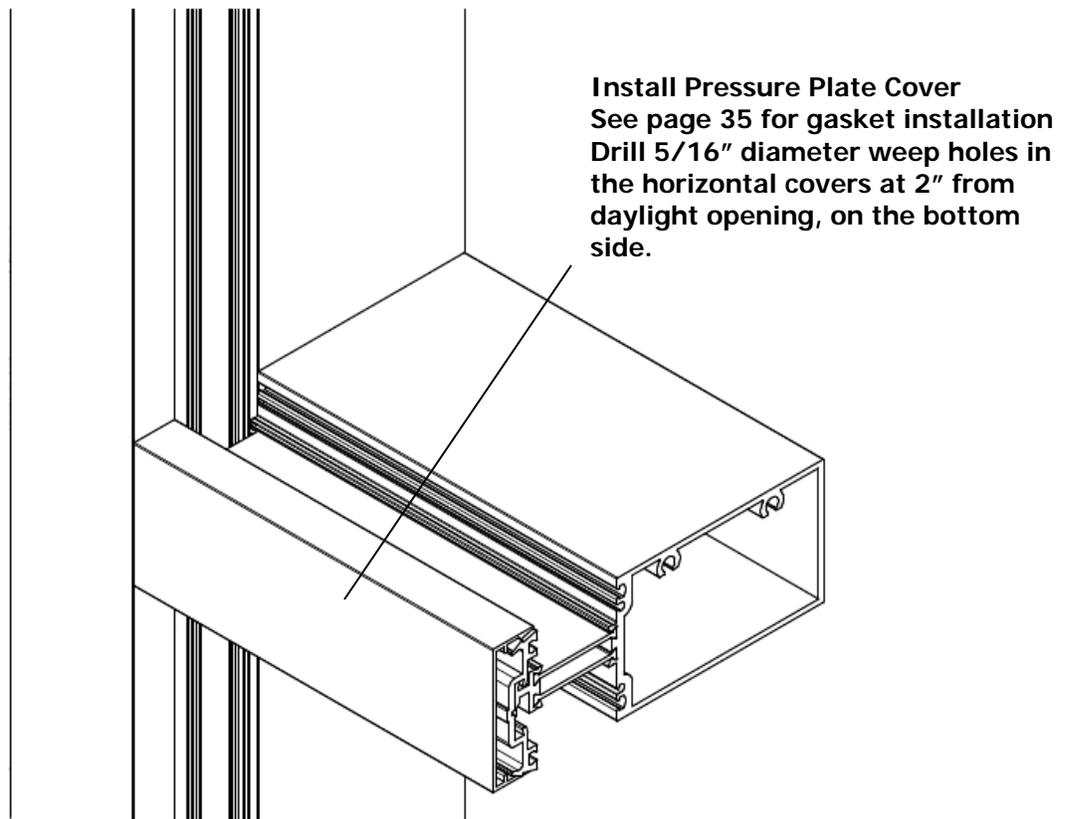
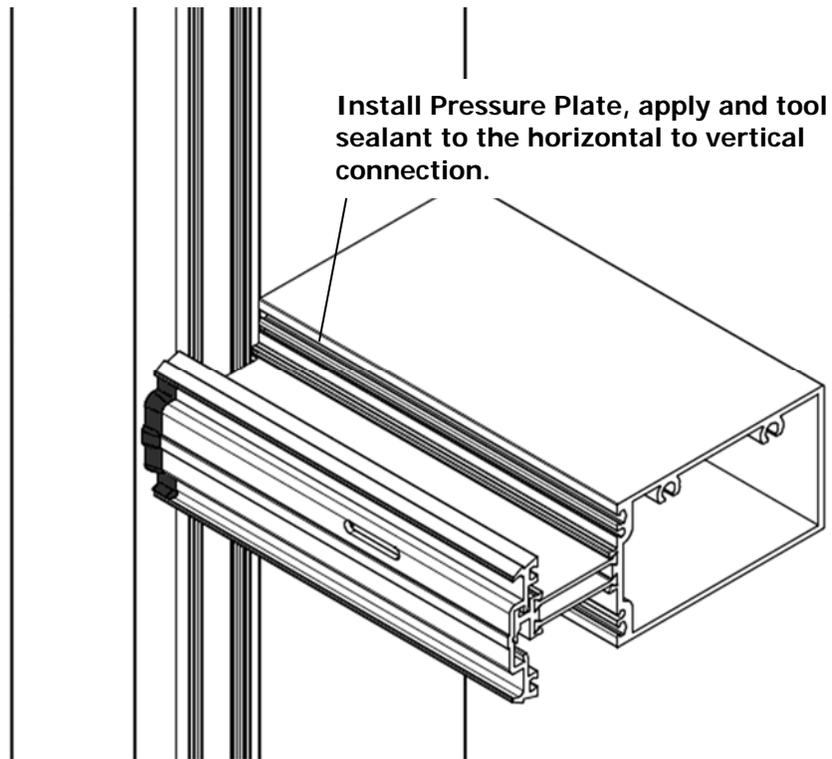
Section VI: Exterior Cover & Drive-In Gasket Installation

STEP #2 (Option A) APPLY HORIZONTAL 2 PIECE PRESSURE PLATE AND COVERS



Section VI: Exterior Cover & Drive-In Gasket Installation

STEP #2 (Option A) APPLY HORIZONTAL 2 PIECE PRESSURE PLATE AND COVERS

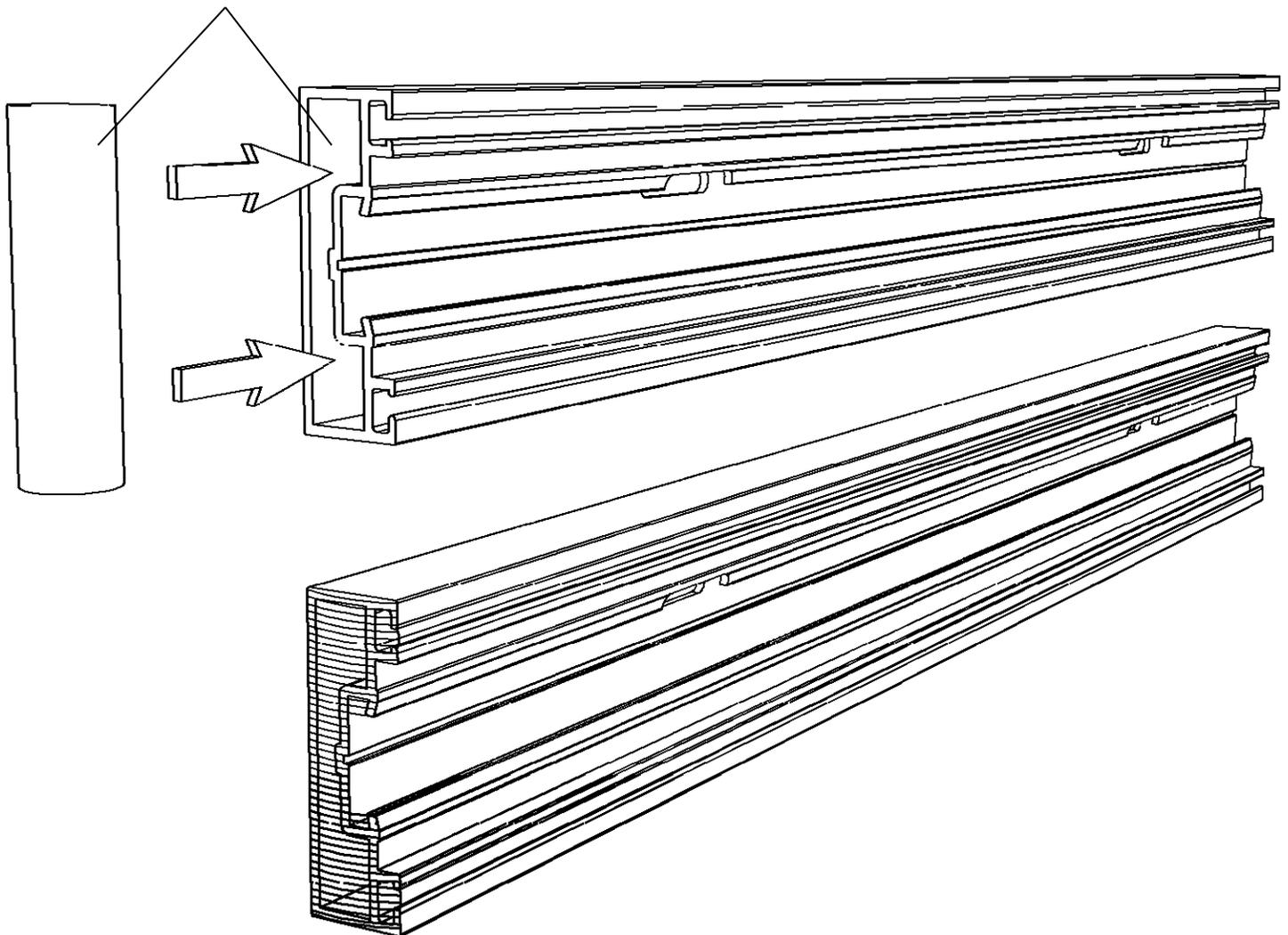


Section VI: Exterior Cover & Drive-In Gasket Installation

STEP #2 (Option B) APPLY ONE PIECE HORIZONTAL PRESSURE COVERS

- 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.

Apply backer rods at each end of cover.

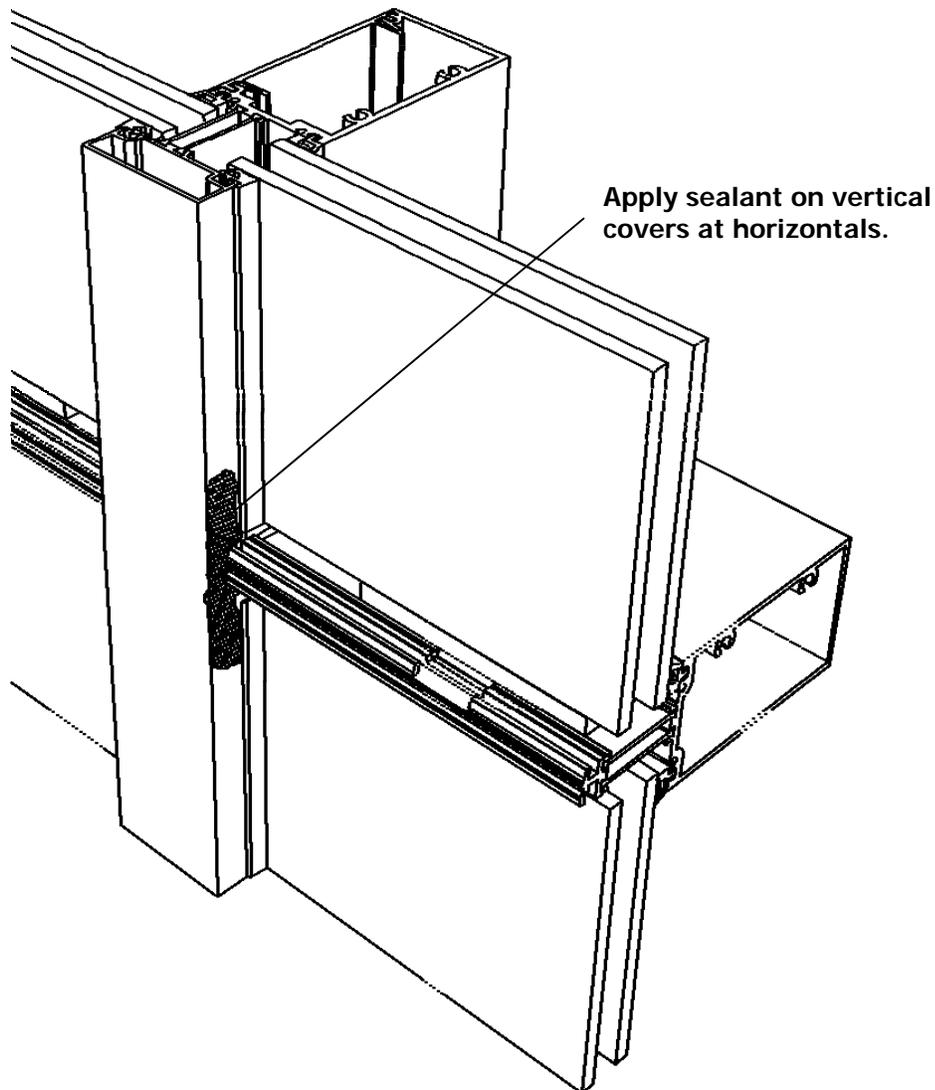


NOTE: Exterior pressure covers to be cut D.L.O. minus 1/8" at typical lites and D.L.O. minus 3/16" for lites on the deep pocket side of the expansion mullions.

Section VI: Exterior Cover & Drive-In Gasket Installation

STEP #2 (Option B) APPLY ONE PIECE HORIZONTAL PRESSURE COVERS

- C. Apply a bed of sealant to the side of the vertical cover adjacent to where the ends of the horizontal pressure covers will be after installation. The sealant bed should be approximately 2 1/4" high x 1/16" thick and the depth of the vertical cover. Center the sealant bed on the intermediate horizontals, sills, and head horizontals. Immediately apply horizontal pressure covers before the sealant has a chance to begin to cure or skin over.

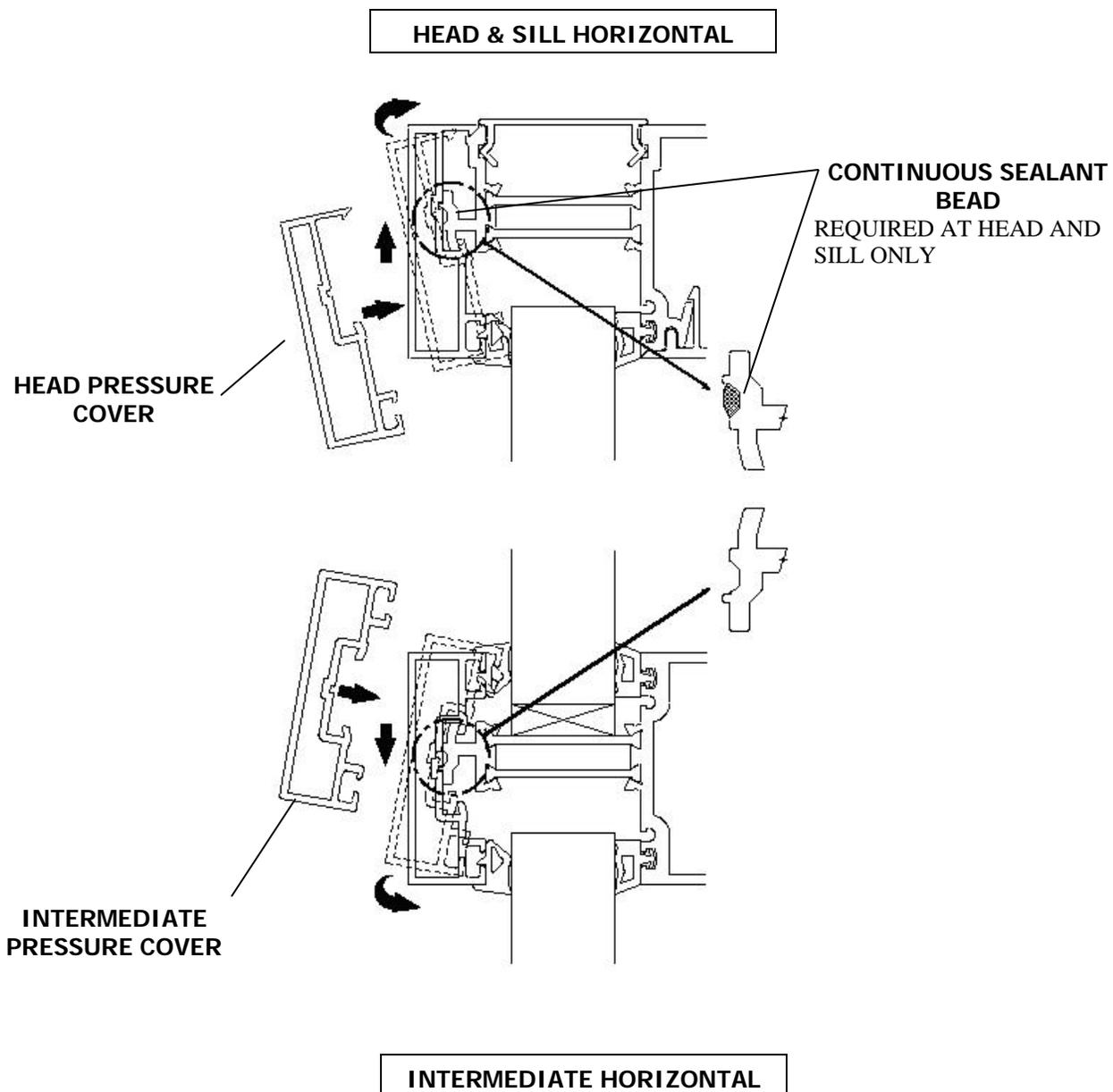


INTERMEDIATE SHOWN, HEAD SIMILAR

Section VI: Exterior Cover & Drive-In Gasket Installation

STEP #2 (Option B) APPLY ONE PIECE HORIZONTAL PRESSURE COVERS

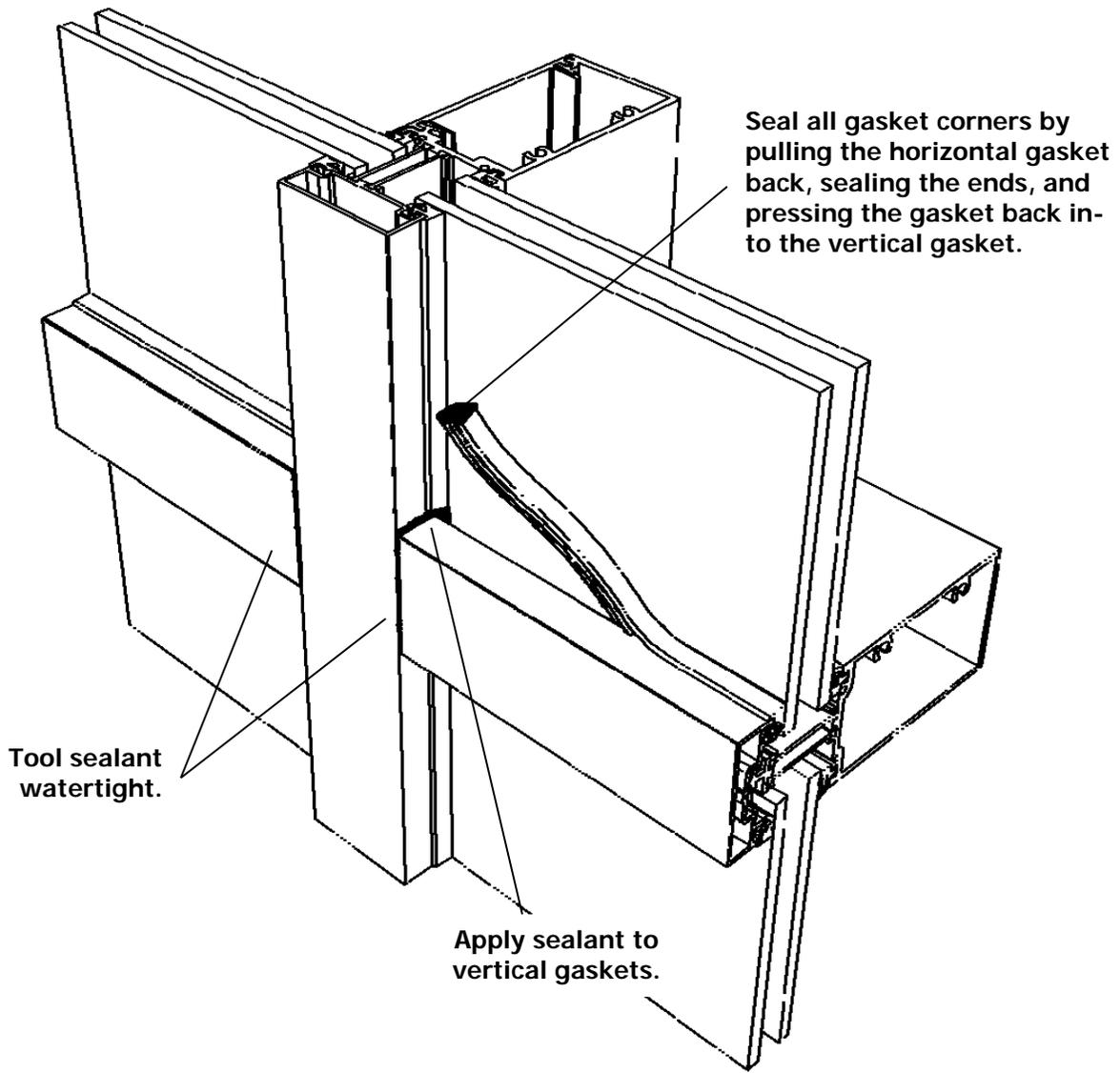
- D. Run a continuous bead of sealant in the reglet of the Head and Sill immediately before applying the exterior pressure cover as shown below. Do not block weeps with sealant. (See inset below).
- E. Slide on and rotate the pressure covers as shown to engage the horizontal cam. Be sure the weep holes in the cover are facing downward. The head horizontal has a continuous snap engagement to retain the cover. Use a block of wood and mallet or hammer to make the snap, if necessary. Care should be taken to avoid damaging the pressure cover. Since the covers are cut D.L.O. minus 1/8", make sure the gap at each end of the cover is equal.
- F. Tool the sealant smooth on each end of the covers. After the sealant partially cures, use a blade to cut the excess sealant flush with the surfaces of the covers.



Section VI: Exterior Cover & Drive-In Gasket Installation

STEP #3 INSTALL DRIVE-IN GASKETS IN HORIZONTAL MULLIONS

- A. Apply sealant to the vertical gaskets where they will contact the horizontal gaskets on each end behind the pressure covers as shown below.
- B. Cut the horizontal gaskets D.L.O. plus 1/2", and insert the gasket in place starting at the center of the D.L.O. Crowd in the excess at the ends. Install the gasket on the topside of the intermediate horizontal first to prevent the exterior cover from shifting.
- C. Seal all gasket corners, and butt the joints as indicated below. Remove any excess sealant that remains.
- D. For one piece covers — Tool the sealant that was previously applied to the ends and sides of the covers in step 2 option B (pages 34-36) and seal watertight. Remove any excess sealant that remains.



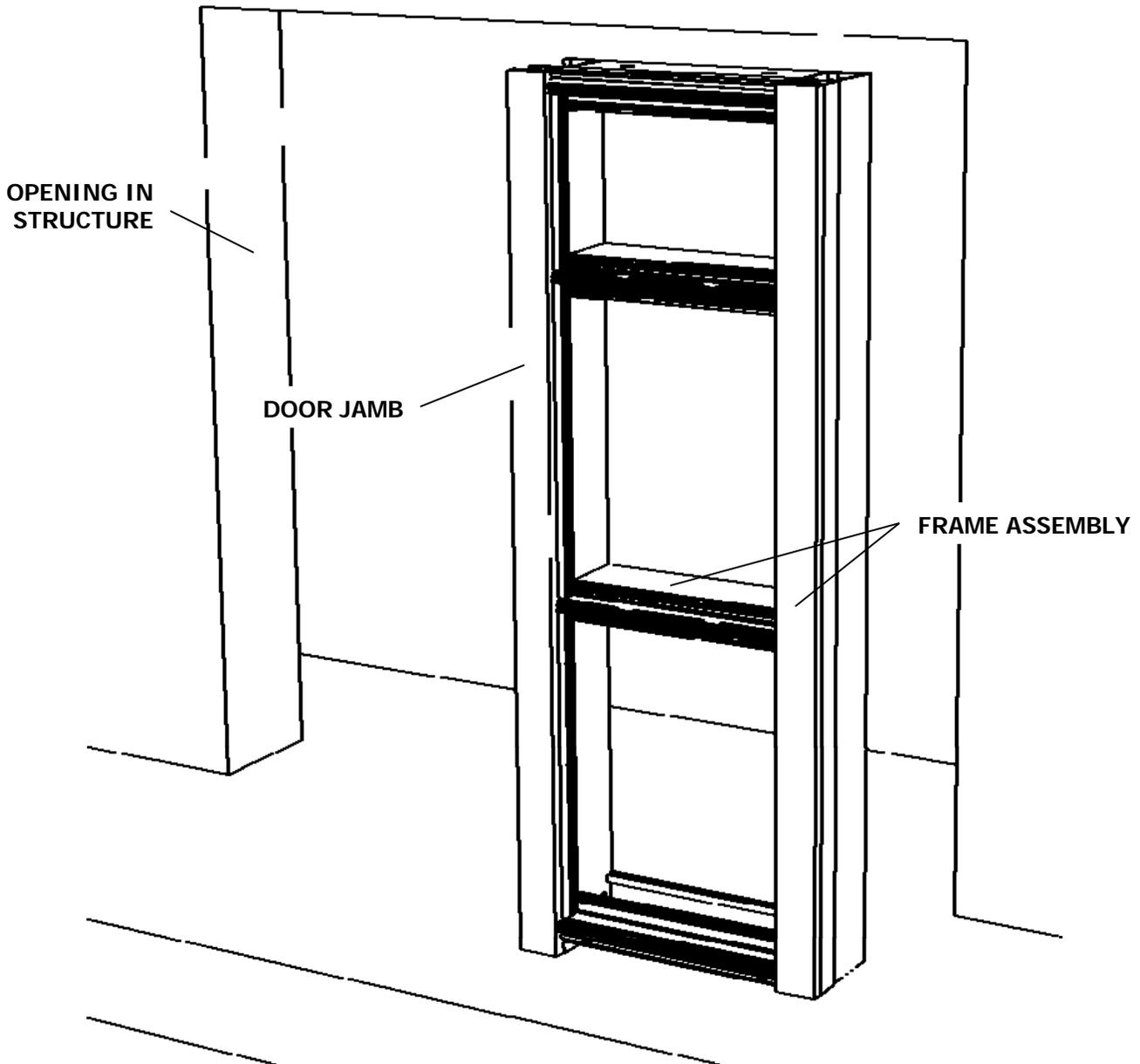
INTERMEDIATE SHOWN, HEAD AND SILL SIMILAR

Section VII: Door Framing Installation & Anchorage

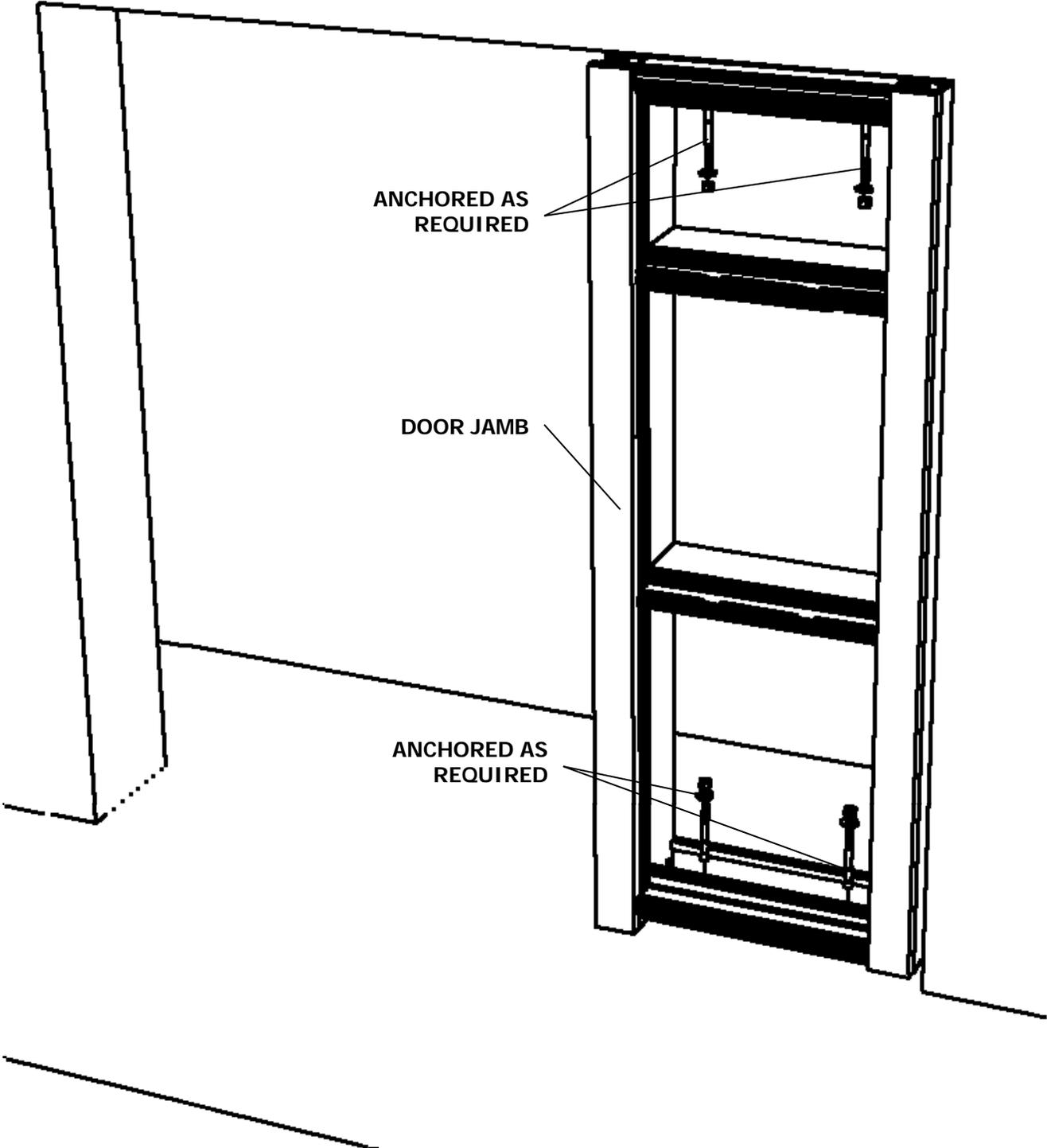
STEP #1 INSTALL ADJACENT FRAME

The following example depicts a typical S-5500 elevation with door framing. The following illustrations show the anchoring of the frame assemblies utilizing the standard method for anchoring of the S-5500. It is up to the responsible engineer to 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. Refer to previous sections for more information. Assemble and seal the frames as shown in Section II.

- A. Install all successive frames up to the door opening as noted in Section III, or as appropriate. Right to left installation as viewed from the exterior is recommended.
- B. Anchor the frame as required.



Section VII: Door Framing Installation & Anchorage

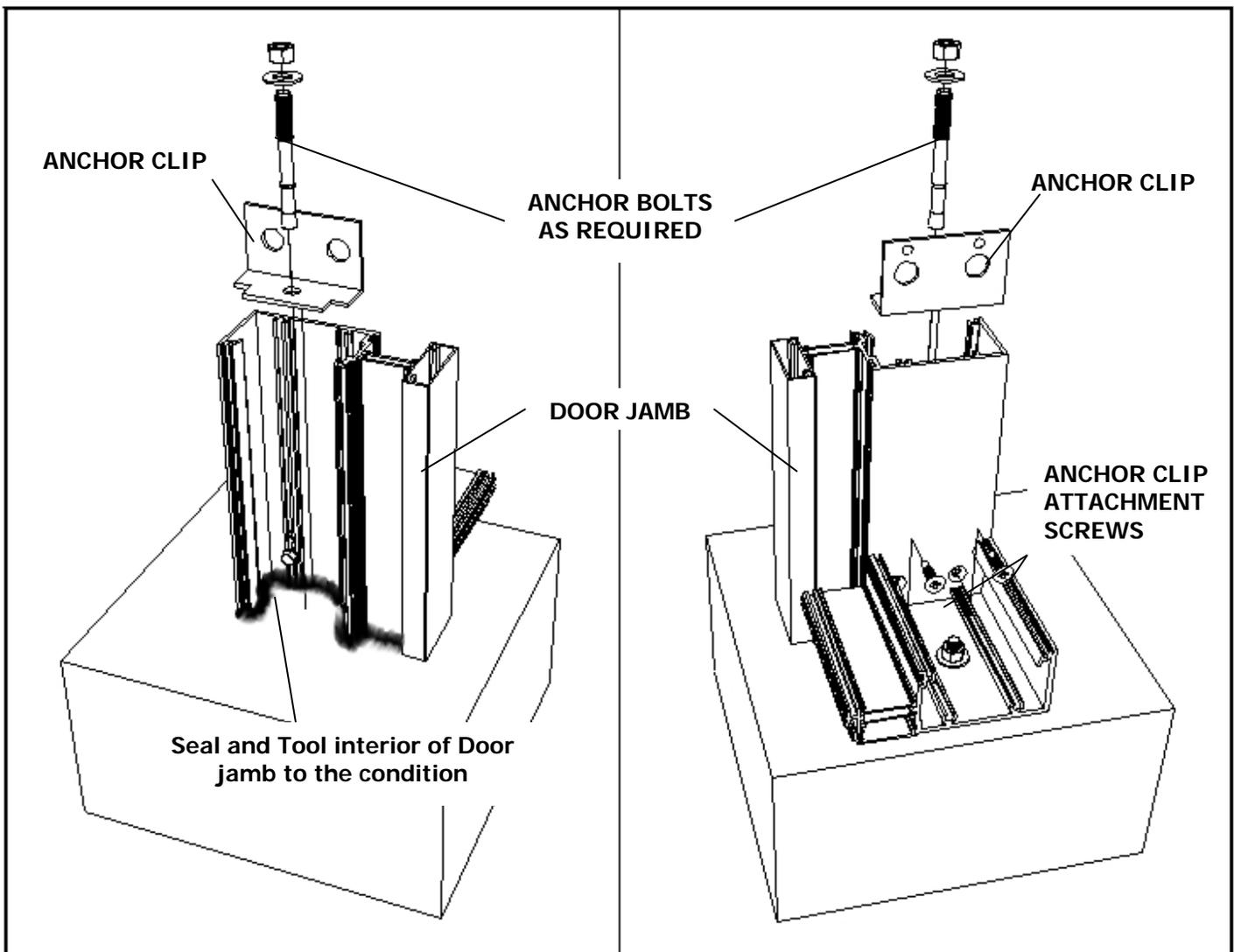


Section VII: Door Framing Installation & Anchorage

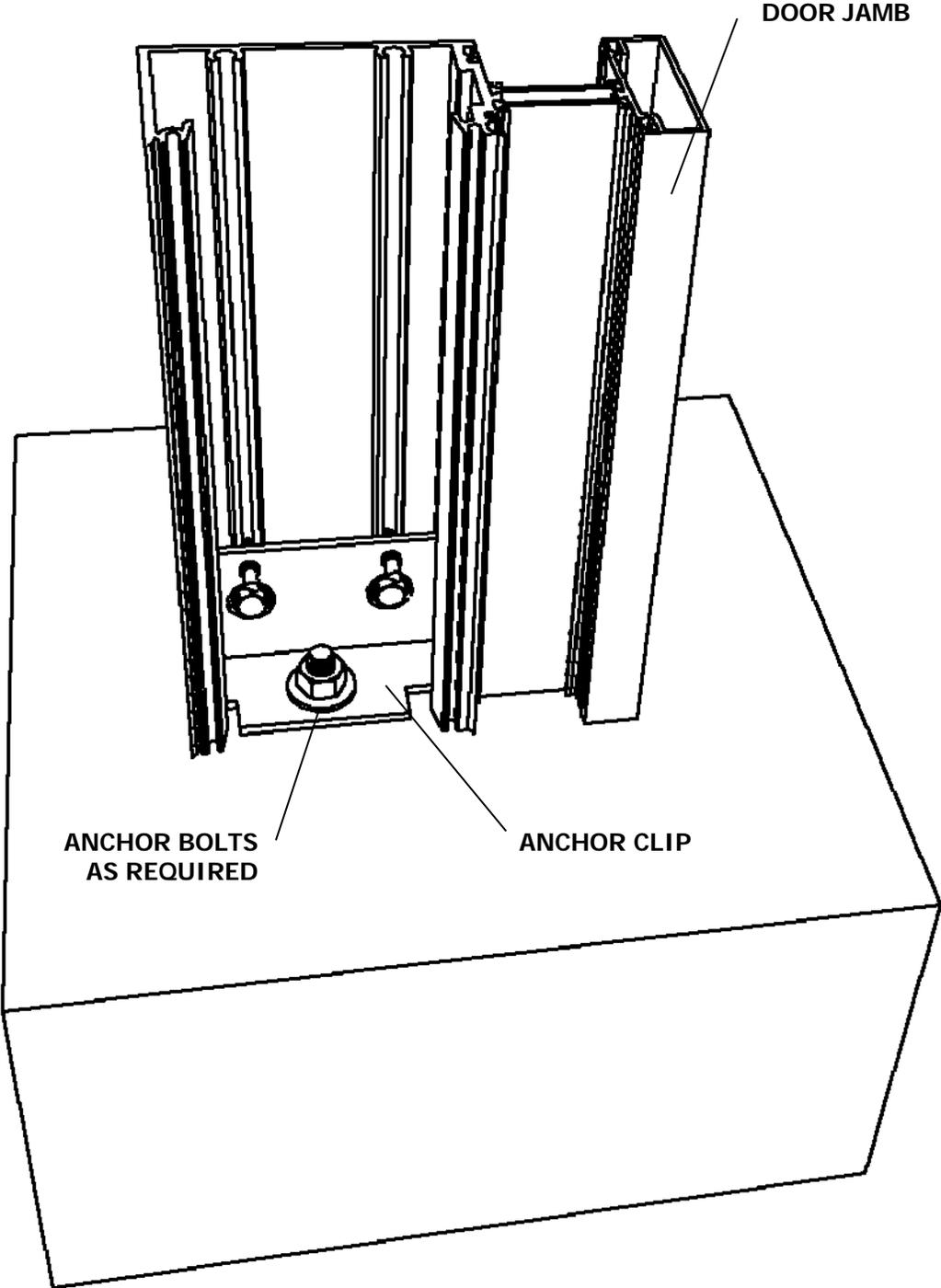
STEP #2 ANCHOR FIRST DOOR JAMB

The frame directly adjacent to the door opening will have the first door jamb. This jamb is 3/4" longer than the typical mullions and extends below the sill down to the top of the floor slab. To maintain Exterior sealant line, apply silicone to the interior surfaces of the door jamb and tool to the condition. The door frame mullions and anchor clips are shown with the minimum amount of anchor bolts required, for the purposes of the illustrations. The size, type, spacing, and quantities should be determined on a job-by-job basis by the responsible engineer.

- A. Note: The anchor clip must be slid into the door jamb *before* the frame is secured into the opening. Ensure the clip is flush with the bottom of the mullion and the top of the condition. Attach the anchor clip to the door jamb with screws as shown.
- B. Drill anchor bolt holes through the clip and into the substrate as required. Bolt the anchor clip to the condition.



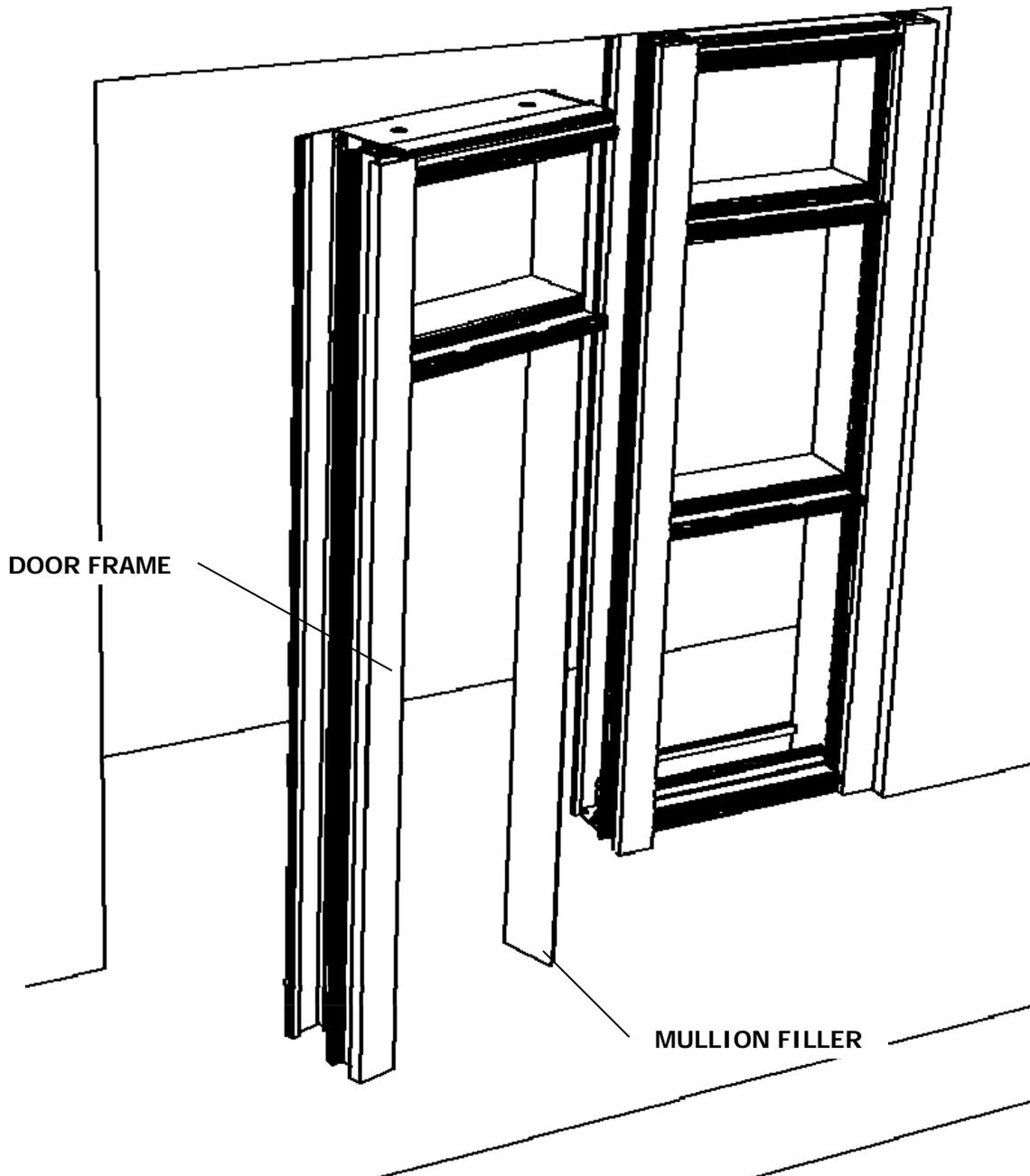
Section VII: Door Framing Installation & Anchorage



Section VII: Door Framing Installation & Anchorage

STEP #3 SET DOOR FRAME

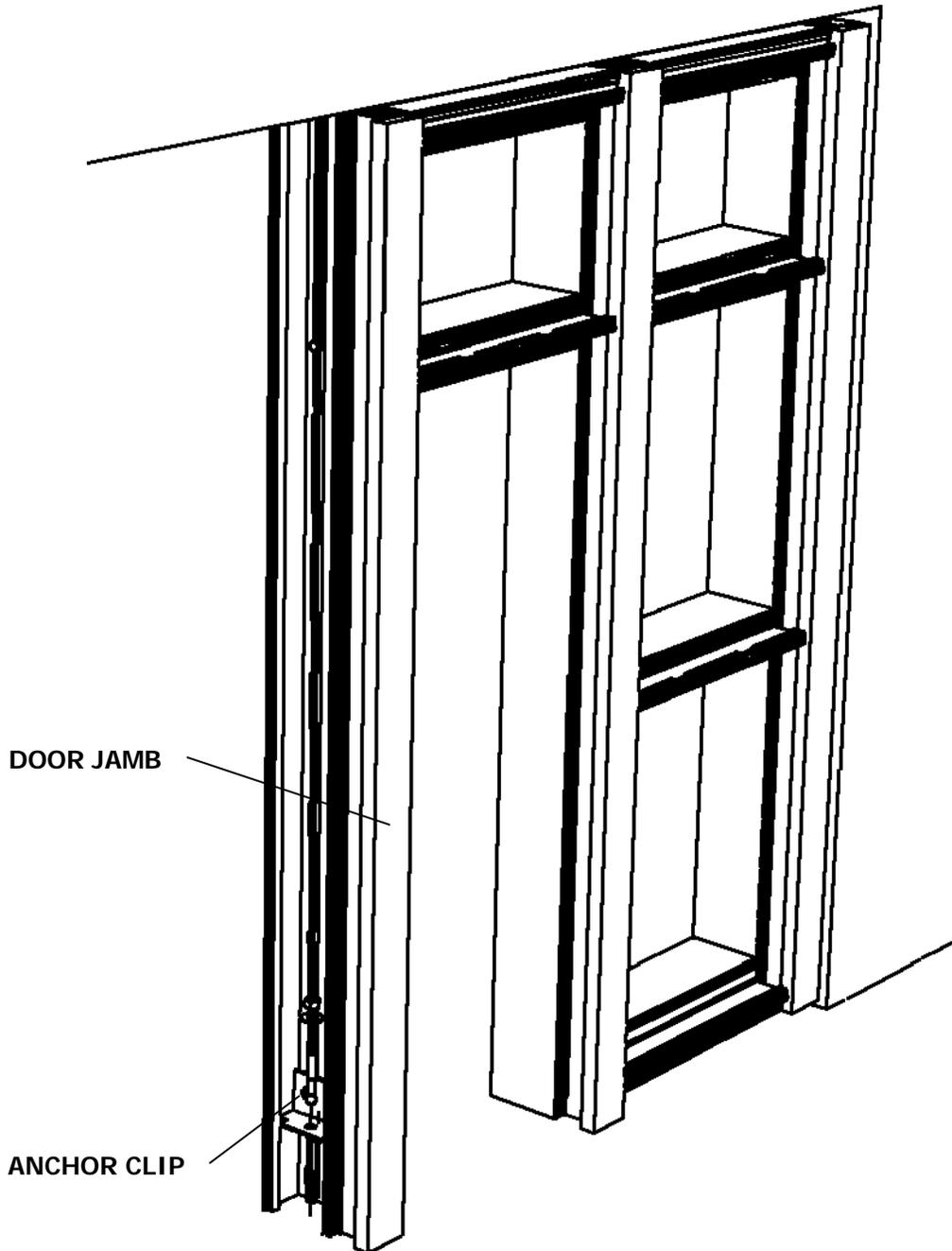
- A. Carefully position the door frame into opening. Extreme care should be taken to protect the filler part of the frame during shipment and handling. Damage to the edges of the filler will be noticeable after it is snapped into the door jamb.
- B. Using blocks of wood and 'C' clamps, carefully snap the filler into the door jamb working from one end to the other.



Section VII: Door Framing Installation & Anchorage

STEP #4 ANCHOR DOOR FRAME

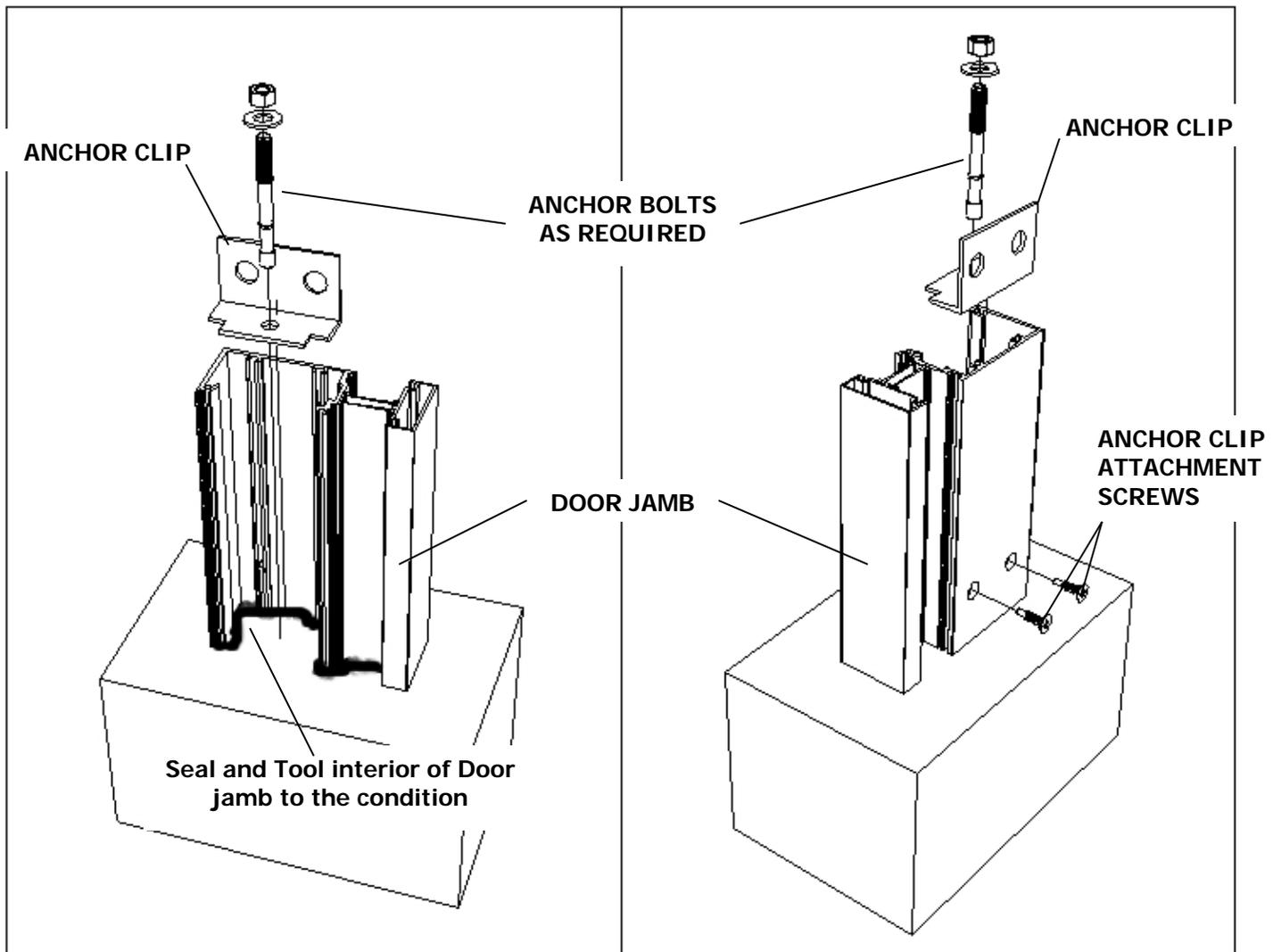
- A. After the frame is set level and plumb, anchor the head of the elevation as required. Refer to previous sections for more information.



Section VIII: Door Framing Installation & Anchorage

STEP #5 ANCHOR DOOR JAMB

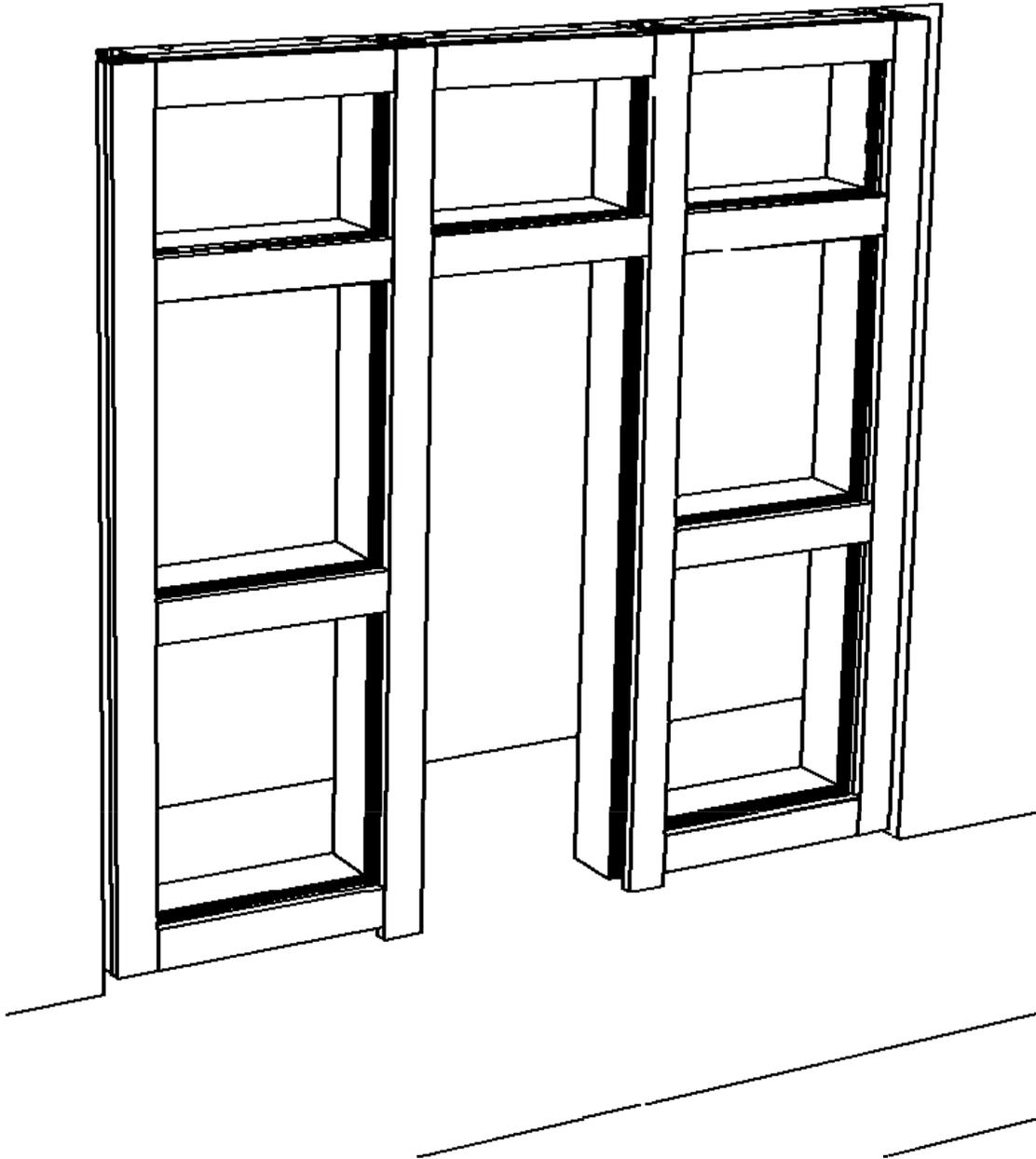
- A. To maintain Exterior sealant line, apply silicone to the interior surfaces of the door jamb and tool to the condition.
- B. Ensure the clip is flush with the bottom of the mullion and the top of the condition. Attach the anchor clip to the door jamb with screws as shown.
- C. Drill anchor bolt holes through the clip and into the substrate as required.
- D. Bolt the anchor clip to the condition. (See page 39.)



Section VII: Door Framing Installation & Anchorage

STEP #6 INSTALL REMAINING FRAMES AND GLAZE CURTAIN WALL

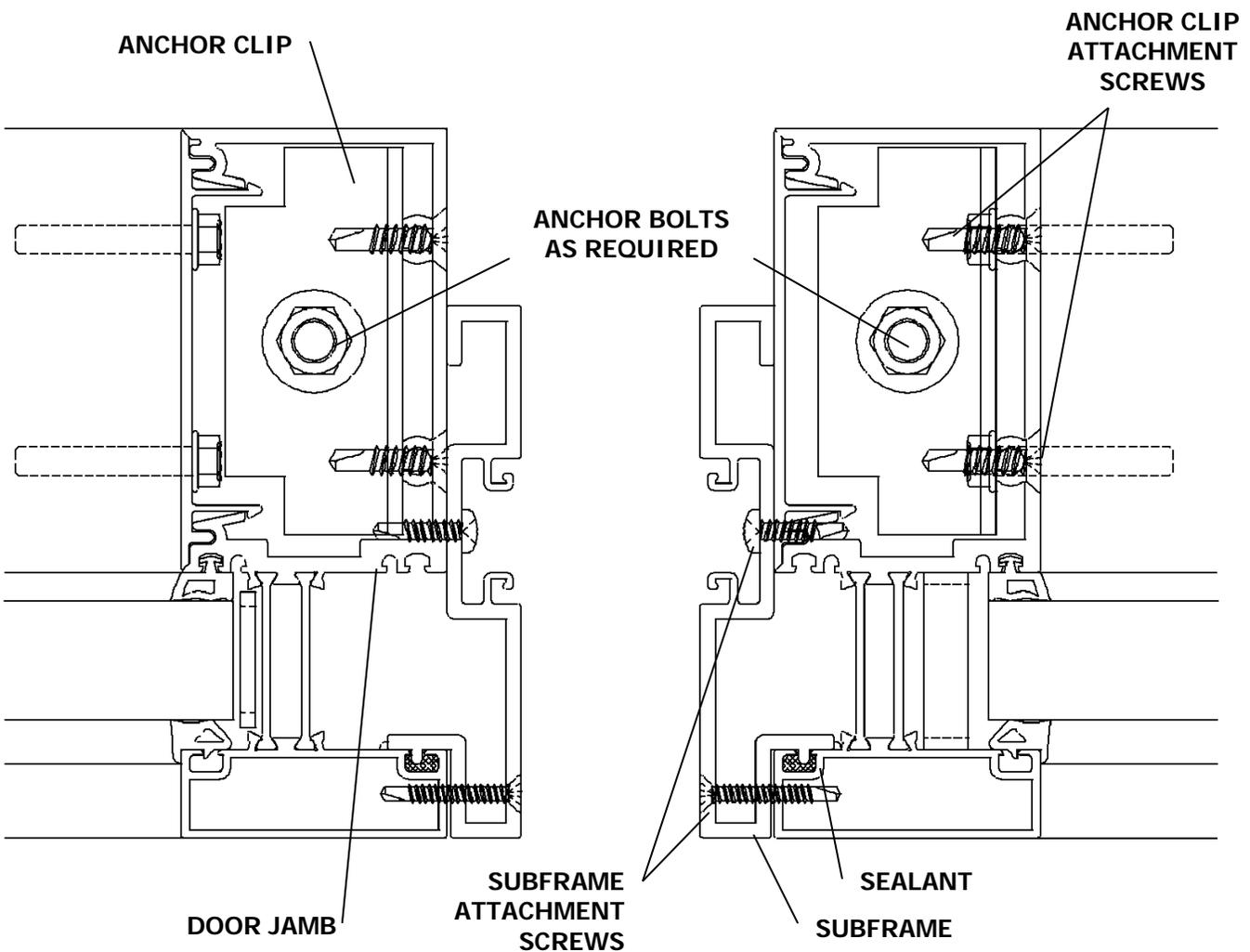
- A. Set and install the remaining frames as required and instructed in previous sections.
- B. Prepare and glaze the elevation as shown in Section IV, Section V, and Section VI.



Section VII: Door Framing Installation & Anchorage

STEP #7 INSTALL VERTICAL SUBFRAMES

- A. Apply sealant into the glazing gasket reglets of the exterior covers of the door jambs and door header as shown.
- B. The vertical subframes are cut to run from the condition at the sill through to the bottom of the door header with the head subframe running in between. Apply sealant to each end of the subframe. Set the vertical subframes into the opening on the sides of the door jambs, making sure the legs of the subframes are in the glazing pocket. Pull the subframes toward the face of the door jamb, making sure it is flush with the exterior.
- C. Match drill the door jamb and fasten the subframe as shown in the detail below with a fastener spacing maximum of 12" on center. Refer to the approved shop drawings for fastener types.
- D. Tool the sealant at each end of the subframe, and remove any excess sealant that remains.

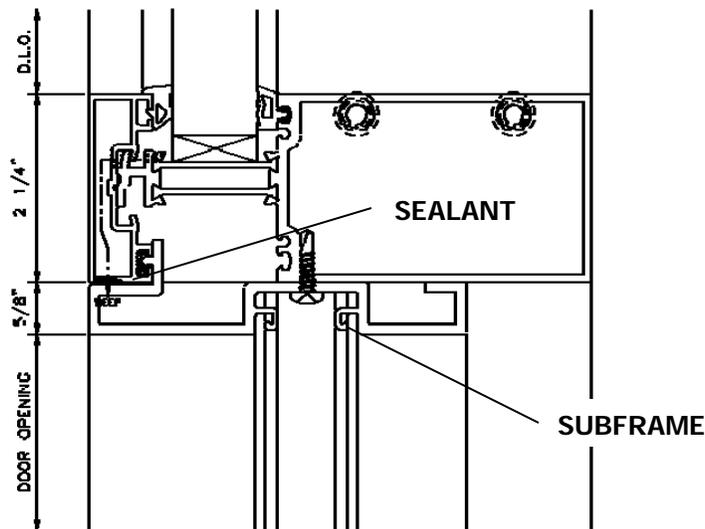


Section VII: Door Framing Installation & Anchorage

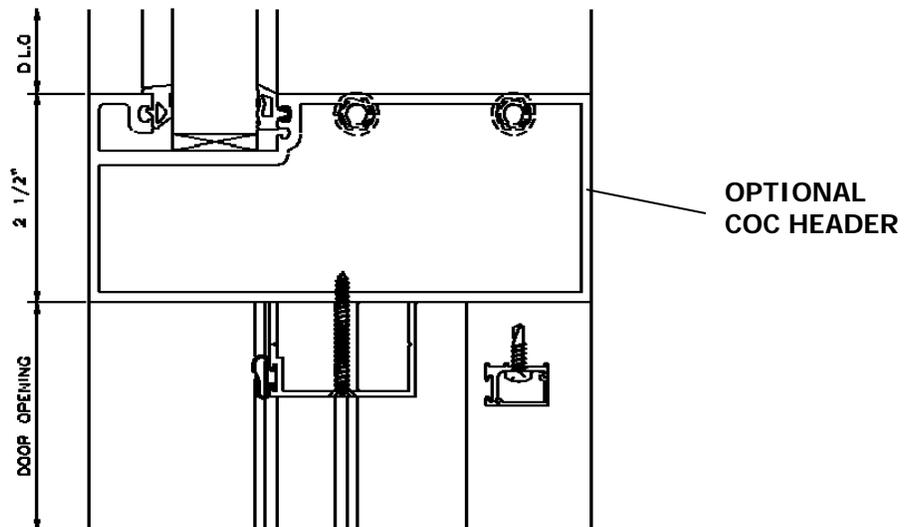
STEP #8 INSTALL DOOR HEAD SUBFRAME

Unless a concealed overhead closer is used, a subframe will be required at the door head. See the detail below for the optional door header for concealed overhead closer applications.

- A. The subframe at the door head is cut to run between the vertical subframes. Apply sealant to each end of the subframe. Set the subframe into the opening at the door head, making sure the leg of the subframe is in the glazing pocket. Pull the subframe toward the face of the door head, making sure it is flush with the exterior.
- B. Match drill the door head, and fasten the subframe as shown in the detail below with a fastener spacing maximum of 12" on center. Refer to the approved shop drawings for fastener types.
- C. Tool the sealant at each end of the subframe, and remove any excess sealant that remains.



STANDARD DOOR HEAD DETAIL



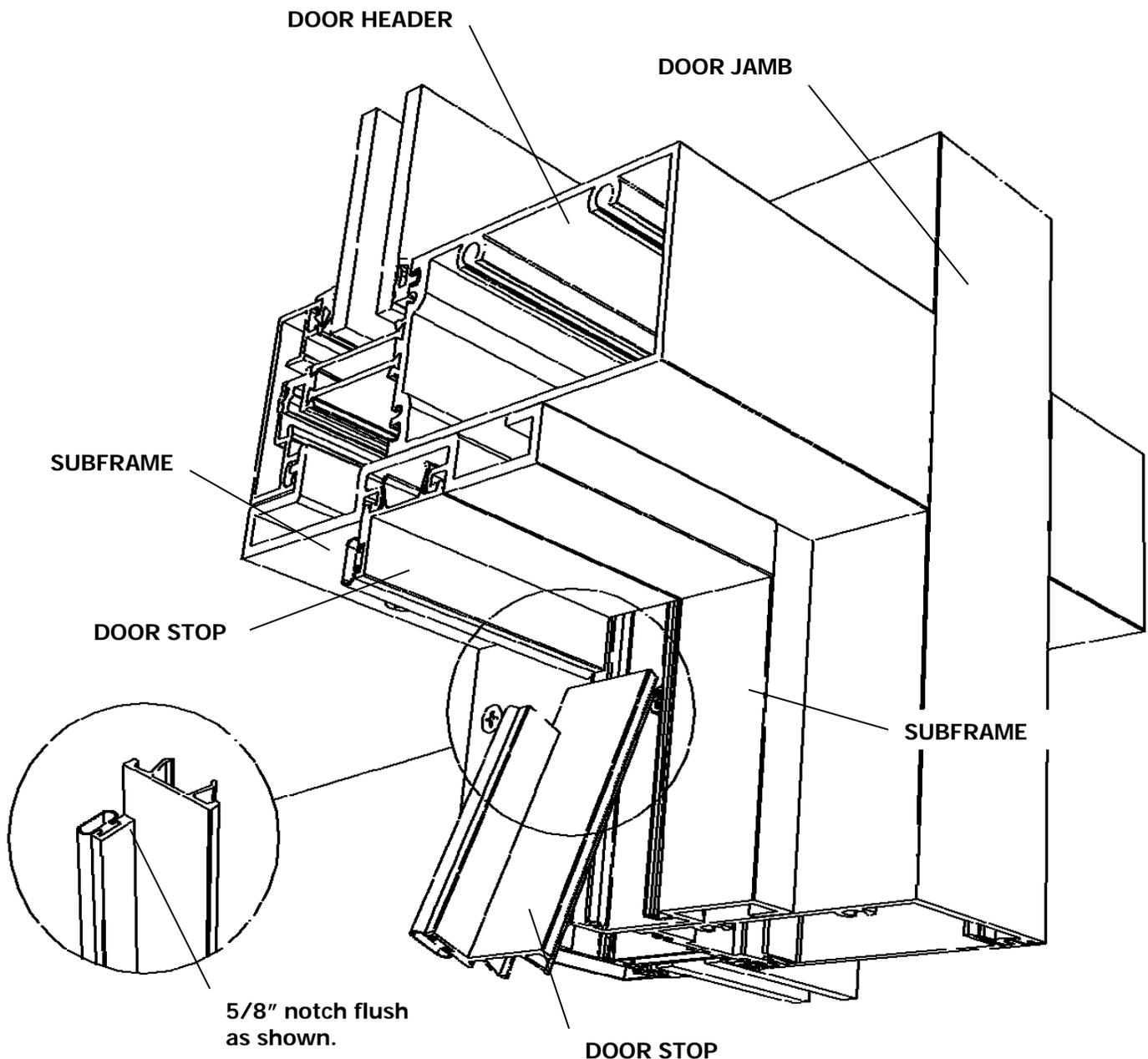
DOOR HEAD W/ CONCEALED OVERHEAD CLOSER DETAIL

Note: An inside glazed horizontal must be used at the next horizontal immediately above a concealed overhead closer horizontal. The glazing cannot be outside set in this detail.

Section VII: Door Framing Installation & Anchorage

STEP #9 INSTALL DOOR STOPS

- A. First, install the door stop at the head. This stop is cut the same length as the door head subframe.
- B. The vertical door stops are cut to run from the condition at the sill, to the bottom of the door head subframe. The tops of the stops are notched as shown in the drawing inset. Insert the flat part of the stop that remains at the top of the door stop under the door stop at the head as shown.
- C. Snap the stop into the pocket of the subframe.
- D. Install any required hardware and hang the doors per the approved shop drawings.

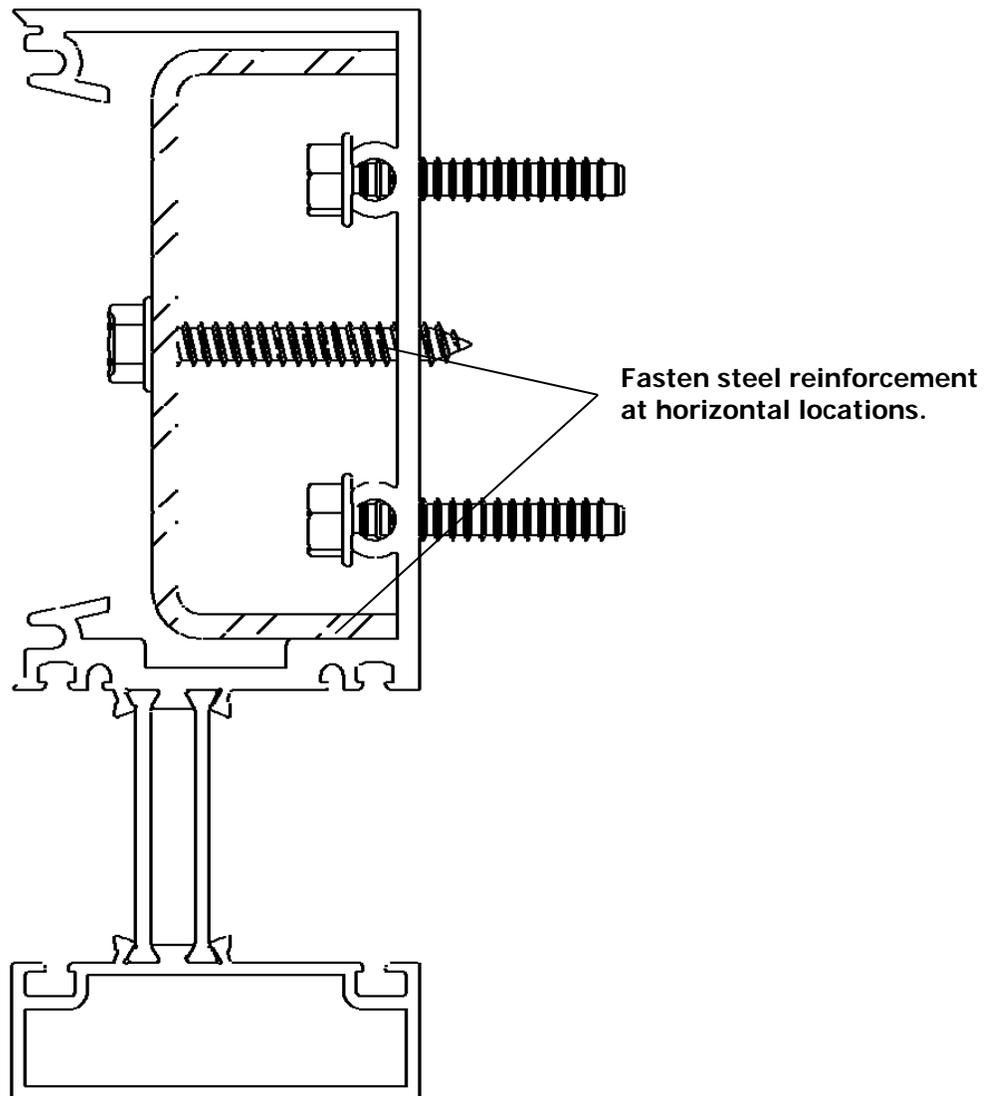


Section VIII: Reinforcing

STEP #1 INSTALL STEEL REINFORCEMENT

At large span or high wind load areas, steel reinforcement may be necessary. Reinforcement requirements will vary from project to project. Refer to the approved shop drawings for reinforcement requirements.

- A. Slide steel reinforcement in from the end of the mullion. Steel reinforcement is to be attached in at least three locations on the vertical mullion at horizontal locations to conceal the attachment fasteners.
- B. Locate steel and provide its length so that the steel reinforcement begins and ends 3" from each end of the vertical mullion.



When steel reinforcement is factory installed into the mullions, fasteners will be used to prevent damage or slippage of the steel during shipment. This practice is also recommended for the customer on stock length orders.

Section IX: Perimeter Caulking

STEP #1 PREPARE JOINT FOR CAULK APPLICATION

- A. Perimeter caulk joint application should not begin until the curtain wall elevation has been completely erected and glazed.
- B. Clean and prime the perimeter caulk joint opening as recommended by the sealant manufacturer's installation instructions.
- C. Use the appropriate sized backer rod for the desired caulk joint. The minimum caulk joint size for the S-5500 is 3/4". Recess the backer rod as shown in the installation instructions and shop drawing details.
- D. Apply the sealant and tool into the joint, recessing the sealant as noted.

IMPORTANT NOTE: DO NOT BLOCK THE SYSTEM WEEP HOLES LOCATED 2" FROM EACH END OF THE SILL PRESSURE COVERS WITH SEALANT.

EFCO recommends taping over the weep holes at the sills to avoid sealing these openings closed. Remove the tape after the perimeter seal is tooled.

Prepare and apply the interior caulk joint per the sealant manufacturer's instructions and the approved shop drawings, if required.

