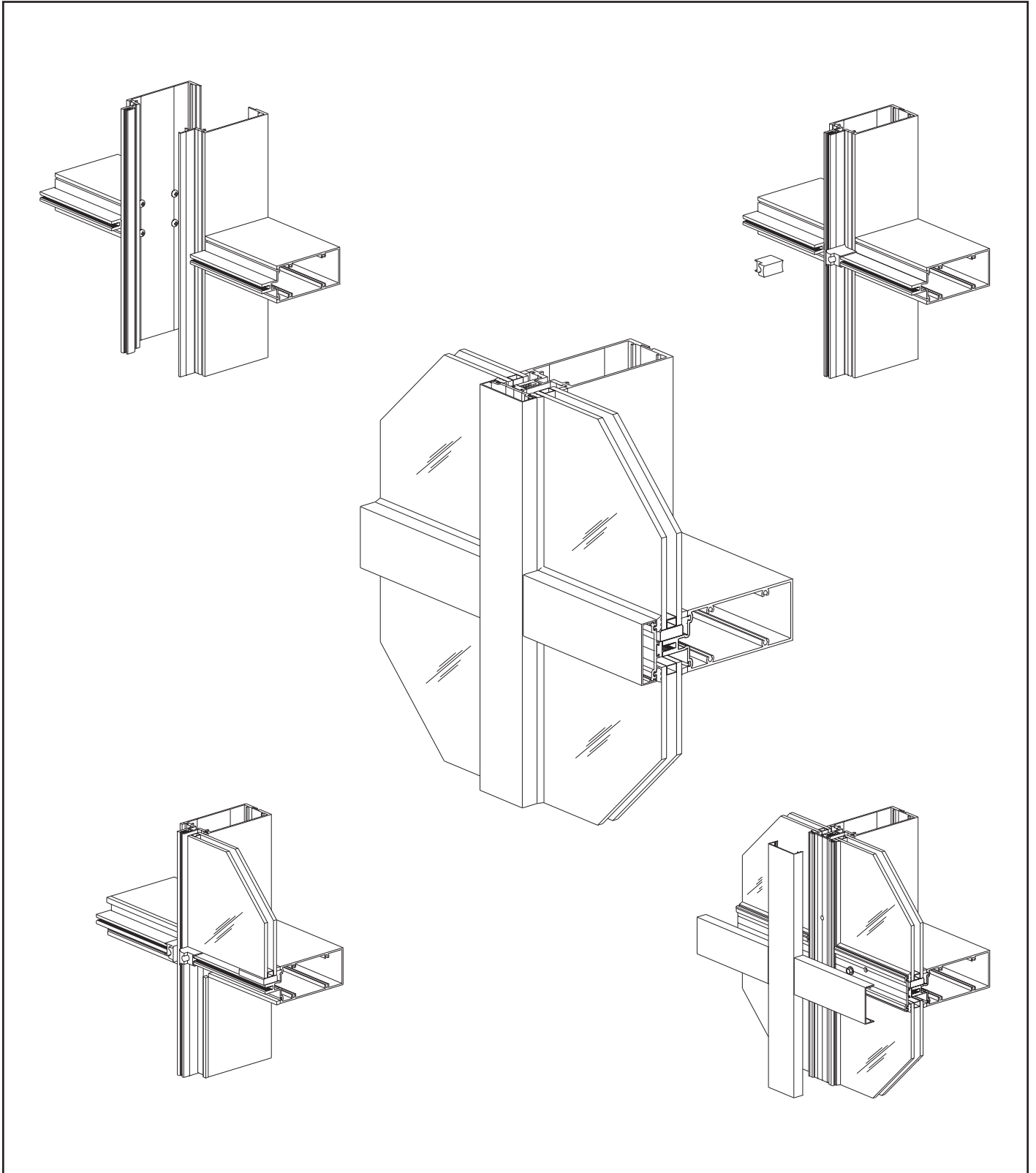


**YCW 750 SplineTech® Shop Glazed Curtain Wall System**



**Installation Manual**



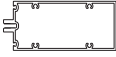
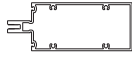

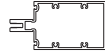












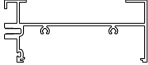
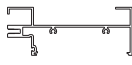
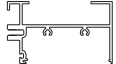
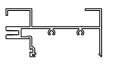




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



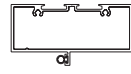






## Installation Notes

1. Do not drop, roll or drag boxes of aluminum framing. Move and stack boxes with proper support to prevent distortion. If fork lifts are used be especially careful about striking the boxes when lifting or moving.
2. Store in a dry, out of the way area. If rain exposure, condensation or any water contact is likely, then all packaging material should be removed. Wet packaging materials will discolor and may stain aluminum finishes and paints.
3. All materials should be checked for quality and quantity upon receipt, YKK AP must be notified immediately of any discrepancies in shipment. Check to make sure that you have the required shims, sealants, supplies and tools necessary for the installation.
4. Carefully check the openings and surrounding conditions that will receive your material. Remember, if the construction is not per the construction documents, it is your responsibility to notify the general contractor in writing. Any discrepancies must be brought to the general contractor's attention before you proceed with the installation.
5. Gather your shop drawings, materials, packing list, and this installation manual. Carefully review parts, location, the sequence it goes therein, when you glaze it and how you seal it. Installation instructions are of a general nature and may not cover every condition you will encounter. The shop drawings and/or installation manuals were prepared specifically for the product.
6. Any material substitutions must be of equal or greater quality.
7. Make certain that material samples have been sent for compatibility testing for all manufacturer's sealants involved. Make certain sealants have been installed in strict accordance with the manufacturer's recommendations and specifications.
8. Remember to isolate, in an approved manner, all aluminum from uncured masonry or other incompatible materials.
9. System-to-structure fasteners are not supplied by YKK AP. Fasteners called out on shop drawings are to indicate minimum sizes for design loading.
10. If any questions arise concerning YKK AP products or their installation, contact YKK AP for clarification before proceeding.
11. YKK AP storefront and/or curtain wall framing is typically completed before drywall, flooring and other products which may still be in process. Wrap and protect the material when stored at job site.
12. Cutting tolerances are plus zero, minus one thirty second unless otherwise noted.
13. Check our website, [www.ykkap.com](http://www.ykkap.com), for the latest installation manual update prior to commencing work.

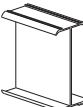
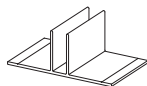

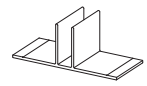

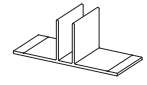
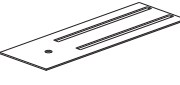
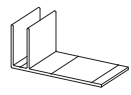
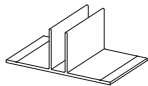
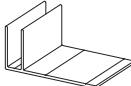
## FRAMING MEMBERS

	<b>Horizontal</b> 2-1/2" x 5-1/4" For 1/4" Glazing	<b>E9-3610</b>		<b>Horizontal</b> 2-1/2" x 5-1/4" For 1" Glazing	<b>E9-3605</b>
	<b>Horizontal</b> 2-1/2" x 3-3/4" For 1/4" Glazing	<b>E9-3630</b>		<b>Horizontal</b> 2-1/2" x 3-3/4" For 1" Glazing	<b>E9-3625</b>
	<b>Female Mullion Half</b> 2-1/2" x 5-1/4" For 1/4" Glazing	<b>E9-3607</b>		<b>Female Mullion Half</b> 2-1/2" x 5-1/4" For 1" Glazing	<b>E9-3602</b>
	<b>Male Mullion Half</b> 2-1/2" x 5-1/4" For 1/4" Glazing	<b>E9-3606</b>		<b>Male Mullion Half</b> 2-1/2" x 5-1/4" For 1" Glazing	<b>E9-3601</b>
	<b>Female Mullion Half</b> 2-1/2" x 3-3/4" For 1/4" Glazing	<b>E9-3627</b>		<b>Female Mullion Half</b> 2-1/2" x 3-3/4" For 1" Glazing	<b>E9-3622</b>
	<b>Male Mullion Half</b> 2-1/2" x 3-3/4" For 1/4" Glazing	<b>E9-3626</b>		<b>Male Mullion Half</b> 2-1/2" x 3-3/4" For 1" Glazing	<b>E9-3621</b>
	<b>Jamb</b> Open Back 2-1/2" x 5-1/4" For 1/4" Glazing	<b>E9-3588</b>		<b>Jamb</b> Open Back 2-1/2" x 5-1/4" For 1" Glazing	<b>E9-3580</b>
	<b>Jamb</b> Open Back 2-1/2" x 3-3/4" For 1/4" Glazing	<b>E9-3592</b>		<b>Jamb</b> Open Back 2-1/2" x 3-3/4" For 1" Glazing	<b>E9-3584</b>
	<b>Head/Sill</b> Open Back/Incidental Water 2-1/2" x 5-1/4" For 1/4" Glazing	<b>E9-3609</b>		<b>Head/Sill</b> Open Back/Incidental Water 2-1/2" x 5-1/4" For 1" Glazing	<b>E9-3604</b>
	<b>Head/Sill</b> Open Back/Incidental Water 2-1/2" x 3-3/4" For 1/4" Glazing	<b>E9-3629</b>		<b>Head/Sill</b> Open Back/Incidental Water 2-1/2" x 3-3/4" For 1" Glazing	<b>E9-3624</b>
	<b>Horizontal Flush Filler</b> 2-1/2" x 5-1/4" For 1/4" & 1" Glazing	<b>E9-3162</b>		<b>Standard Pressure Plate</b> E9-1216 with PVC Isolator Punched 9" O.C.	<b>AS-1216</b>
	<b>Horizontal Flush Filler</b> 2-1/2" x 3-3/4" For 1/4" & 1" Glazing	<b>E9-3595</b>	(Optional) 	<b>Pressure Plate</b> For Deep Covers E9-3574 with PVC Isolator Punched 9" O.C.	<b>AS-3574</b>

## FRAMING MEMBERS

	<b>Infill Adaptor</b> For 1/4" Glazing	<b>E9-3620</b>		<b>Face Cover</b> 2-1/2" x 1-1/2"	<b>E9-3521</b>
	<b>Standard Face Cover</b> 2-1/2" x 3/4"	<b>E9-1206</b>		<b>Bull Nose Face Cover</b> 2" x 2-1/2"	<b>E9-1293</b>
	<b>Face Cover</b> 2-1/2" x 1-3/4", Use with AS-3574 Pressure Plate	<b>E9-1229</b>		<b>Single Acting Transom Bar</b> Elastomer Weathering E2-0051 Included	<b>AS-0402</b>
	<b>Face Cover</b> 2-1/2" x 2-3/8", Use with AS-3574 Pressure Plate	<b>E9-1219</b>		<b>Door Jamb</b> For 1/4" Glazing Use with AS-0417	<b>E9-1224</b>
	<b>Horizontal Face Cover</b> 11/16" x 2-1/2"	<b>E9-1207</b>		<b>Door Jamb</b> For 1" Glazing Use with AS-0417	<b>E9-3513</b>
	<b>Face Cover</b> 2-1/2" x 1-1/8"	<b>E9-3504</b>		<b>Snap-In Door Stop</b> Elastomer Weathering E2-0051 Included Use with E9-1224	<b>AS-0417</b>

## ACCESSORIES

	<b>Mullion Clip</b> For 5-1/4" Depth Two Piece Vertical	<b>E1-3560</b>		<b>Intermediate Vertical "T" End Anchor*</b> For 5-1/4" Depth Members E9-3606 & E9-3607	<b>E1-1242</b>
	<b>Mullion Clip</b> For 3-3/4" Depth Two Piece Vertical	<b>E1-3562</b>		<b>Intermediate Vertical "T" End Anchor*</b> For 3-3/4" Depth Members E9-3621 & E9-3622	<b>E1-1229</b>
	<b>Standard Mullion End Cap</b> 2-1/2" x 2-1/4" x 0.050"	<b>E1-1286</b>		<b>Intermediate Vertical "T" End Anchor*</b> For 3-3/4" Depth Members E9-3626 & E9-3627	<b>E1-1226</b>
	<b>Mullion End Cap</b> For 5-1/4" Depth Optional Incidental Water Head	<b>E1-3526</b>		<b>Jamb "F" Anchor</b> For 3-3/4" Depth Members	<b>E1-1232</b>
	<b>Intermediate Vertical "T" End Anchor*</b> For 5-1/4" Depth Members E9-3601 & E9-3602	<b>E1-1222</b>		<b>Jamb "F" Anchor</b> For 5-1/4" Depth Members	<b>E1-1231</b>

\*Anchor attachment will vary depending on job conditions. Consult YKK AP or qualified engineer.

## ACCESSORIES

	<b>Setting Block</b> With Pressure Sensitive Adhesive For 1/4" Glazing	E2-0112		<b>Interior/Exterior Glazing Gasket</b>	E2-0120
	<b>Side Block</b> With Pressure Sensitive Adhesive For 1/4" Glazing	E2-0113		<b>Spacer Tape</b>	E2-0110
	<b>Setting Block</b> For 1" Glazing	E2-0104		<b>Steel Reinforcing</b> For 5-1/4" Back Depth Two Piece Mullion	E1-0183
	<b>Side Block</b> For 1" Glazing	E2-0105		<b>Steel Reinforcing</b> For 3-3/4" Back Depth Two Piece Mullion	E1-9988
	<b>Standard Joint Plug</b> For 1/4" Glazing	E2-0125		<b>Drill Fixture</b>	H-7211
	<b>Standard Joint Plug</b> For 1" Glazing	E2-0102			
	<b>Temporary Glass Retainer</b> 2" Long	E1-1294			
	<b>Nylon Slip Pad</b> For Wind Load and Dead Load Anchor	E3-0103			
	<b>Weep Baffle</b> Use with Incidental Water Head Members	E2-0099			
	<b>1-1/2" Incidental Water Plug</b> Use with Incidental Water Head Members	E3-1166			
	<b>1-1/8" Incidental Water Plug</b> Use with Incidental Water Head Members	E3-1167			
	<b>Door Jamb Anchor</b> Use With: E9-3621 & E9-3622 E9-3626 & E9-3627 E9-3631 & E9-3632	E1-3565		<b>Door Jamb Anchor</b> Use With: E9-3601 & E9-3602 E9-3606 & E9-3607 E9-3611 & E9-3612	E1-3564

\*Anchor attachment will vary depending on job conditions. Consult YKK AP or qualified engineer.

## FASTENERS

	<p><b>#8 x 1/2" PHSMS</b>  <b>Type F</b>, Stainless Steel            For Attachment of Splice Sleeve Face Covers</p>	<p><b>PF-0808</b>  <b>-SS</b></p>		<p><b>1/2"–13 x 2" HWHMS</b>            Zinc Plated Steel, For Attachment of Windload/Deadload Anchor at Jamb</p>	<p><b>HM-5032</b></p>
	<p><b>#10 x 3/8" PHSMS</b>  <b>Type AB</b>, Zinc Plated Steel            For Attaching Mullion Halves Together at Side of Tongue</p>	<p><b>PC-1006</b></p>		<p><b>1/2"–13 x 4-1/2" HWHMS</b>            Zinc Plated Steel, For Attachment of Windload/Deadload Anchor at Mullion</p>	<p><b>HM-5072</b></p>
	<p><b>#12 x 1-1/4" PHSMS</b>  <b>Type AB</b>, Zinc Plated Steel, For Screw Spline Attachment</p>	<p><b>PC-1220</b></p>		<p><b>1/2"–13 Nut HHMS</b>            Zinc Plated Steel For Attachment of Mid-Anchors (Wind Load / Dead Load)</p>	<p><b>HM-5000</b></p>
	<p><b>1/4"–20 x 5/8" PHMS</b>            Zinc Plated Steel, For Temporary Engagement of Mullion Halves</p>	<p><b>PM-2510</b></p>		<p><b>1/2" Flat Washer</b>            Zinc Plated Steel, For Attachment of Mid-Anchors (Wind Load / Dead Load)</p>	<p><b>WW-5000</b></p>
	<p><b>#12 x 3/4" FHSMS</b>  <b>Type AB</b>, Zinc Plated Steel, For Attachment of Mullion End Cap</p>	<p><b>FC-1212</b></p>		<p><b>1/2" Lock Washer</b>            Zinc Plated Steel, For Attachment of Mid-Anchors (Wind Load / Dead Load)</p>	<p><b>WS-5000</b></p>
	<p><b>1/4"–20 x 1" HWHMS</b>            Stainless Steel, For Attachment of Pressure Plate to Mullion</p>	<p><b>HD-2516</b>  <b>-W3-SS</b></p>			



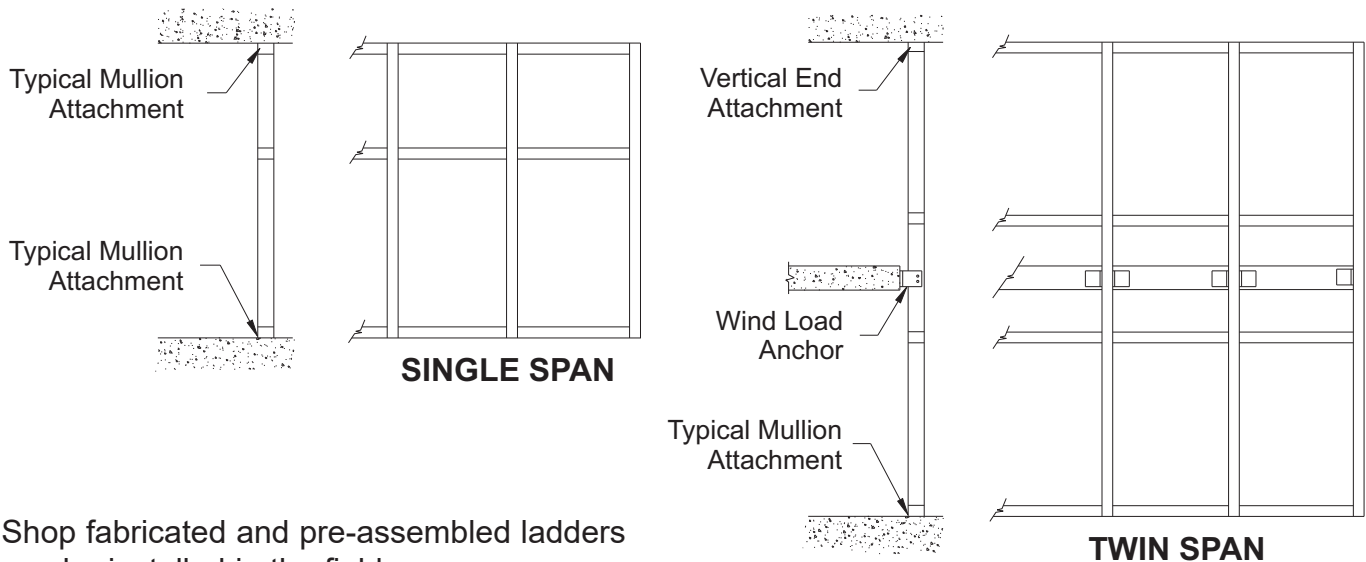
## FRAME FABRICATION

### GENERAL NOTES:

These drawings and instructions are written so that the glazier will be installing ladder assemblies from right to left. If the installer chooses to go from the left to the right, mullion halves should be reversed, or 'mirrored', as shown in these drawings.

### FRAME TYPES / ANCHORING METHODS

The following is a guideline for common types of frames.  
Refer to shop drawings for exact layout of frames.



Shop fabricated and pre-assembled ladders can be installed in the field.

**Note:** If YKK AP does not prepare the shop drawings for the project, a qualified engineer must approve all anchors, their arrangement, and mullion selection.

All anchors must be attached to structurally sound material that will accommodate the anchor reactions.

This system is for use in single span and twin span applications only. For multi-span applications requiring vertical mullion splices, other YKK AP Curtain Wall products should be used.

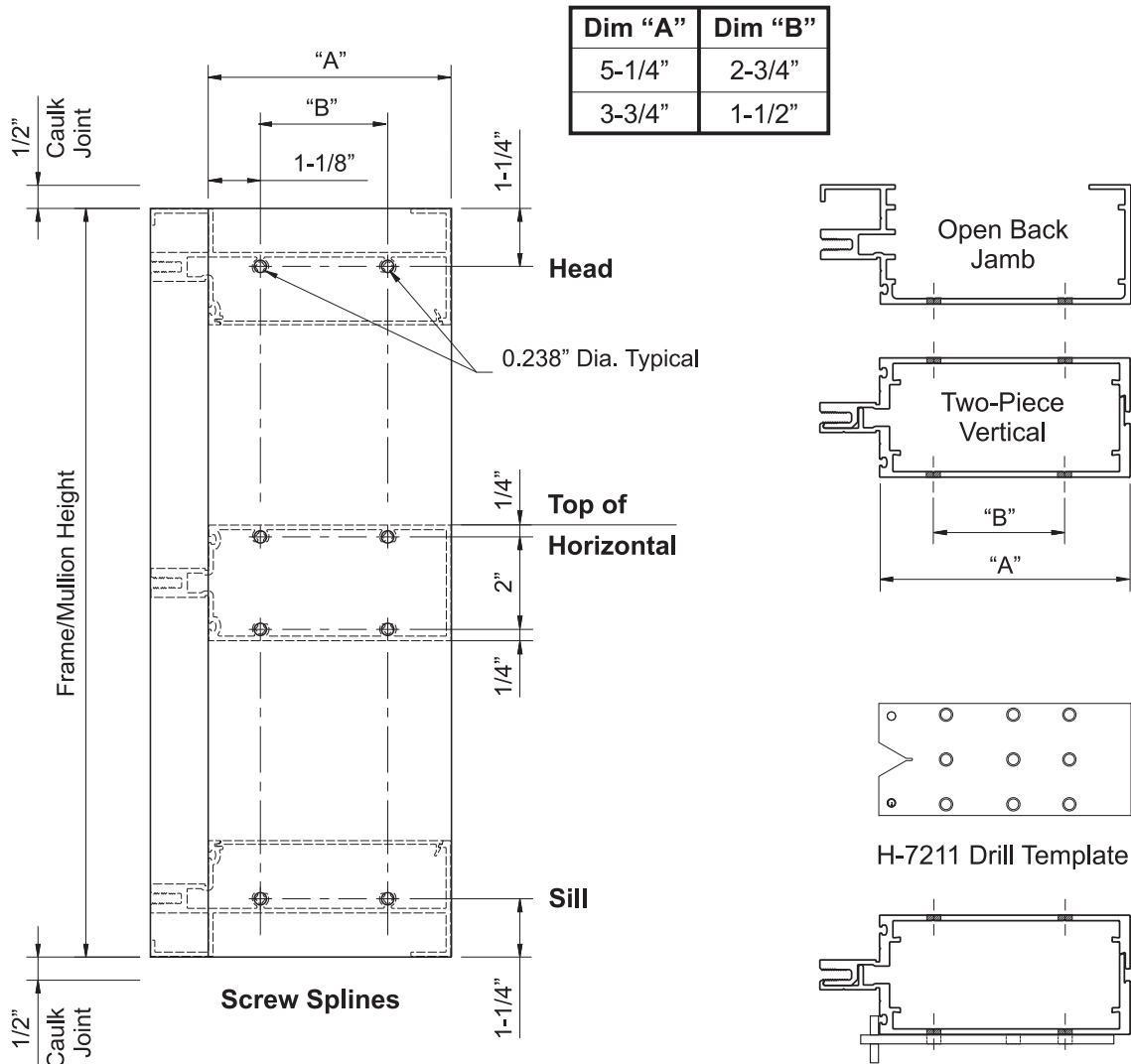
## FRAME FABRICATION

### STEP 1 VERTICAL MULLION FABRICATION OPTIONS

Fabrication of verticals may be:

- Hand fabrication, see dimensions below.
- Drill fixture fabrication, see Step 2.
- Punch dies, contact YKK AP sales representative.
- Mullion hole locations for horizontal members are shown below.
- Drill 0.238" dia. (# B drill bit) holes for screw splines at the locations indicated.

See **Detail 1**.



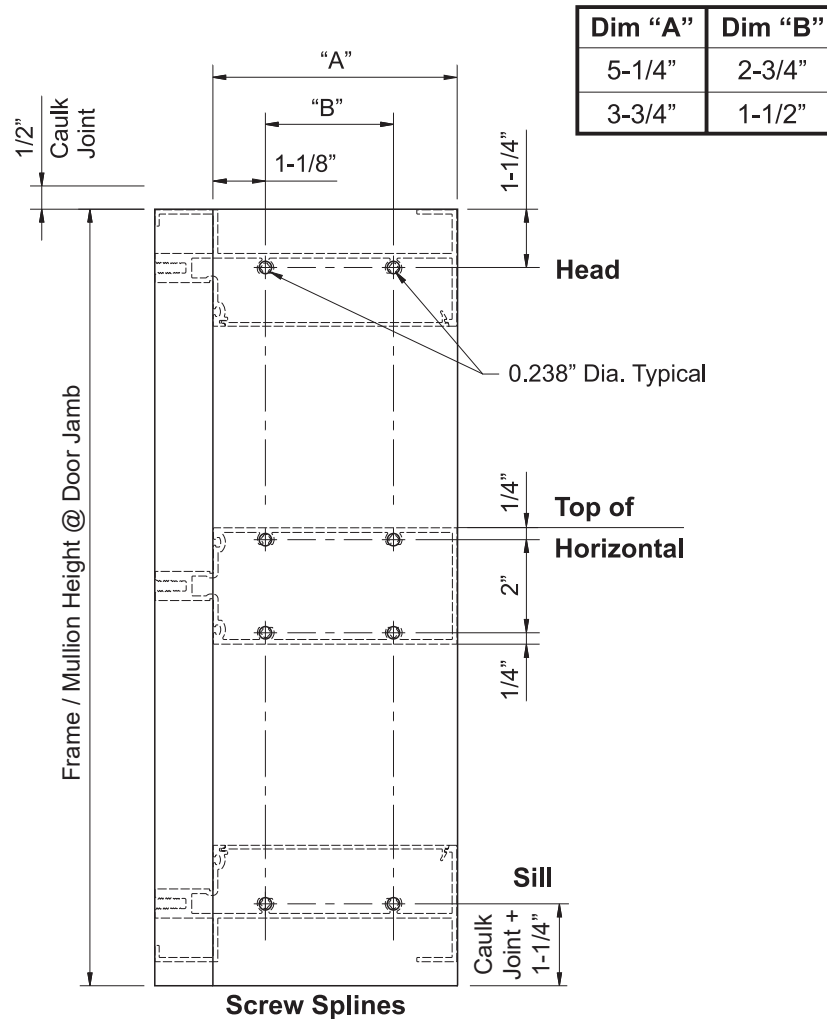
**Detail 1**

## FRAME FABRICATION

### STEP 1 (Continued) DOOR JAMB MULLION FABRICATION OPTIONS

Mullions at door jambs are sealed against the substrate at the sill without a shim space at that location.

See **Detail 2**.

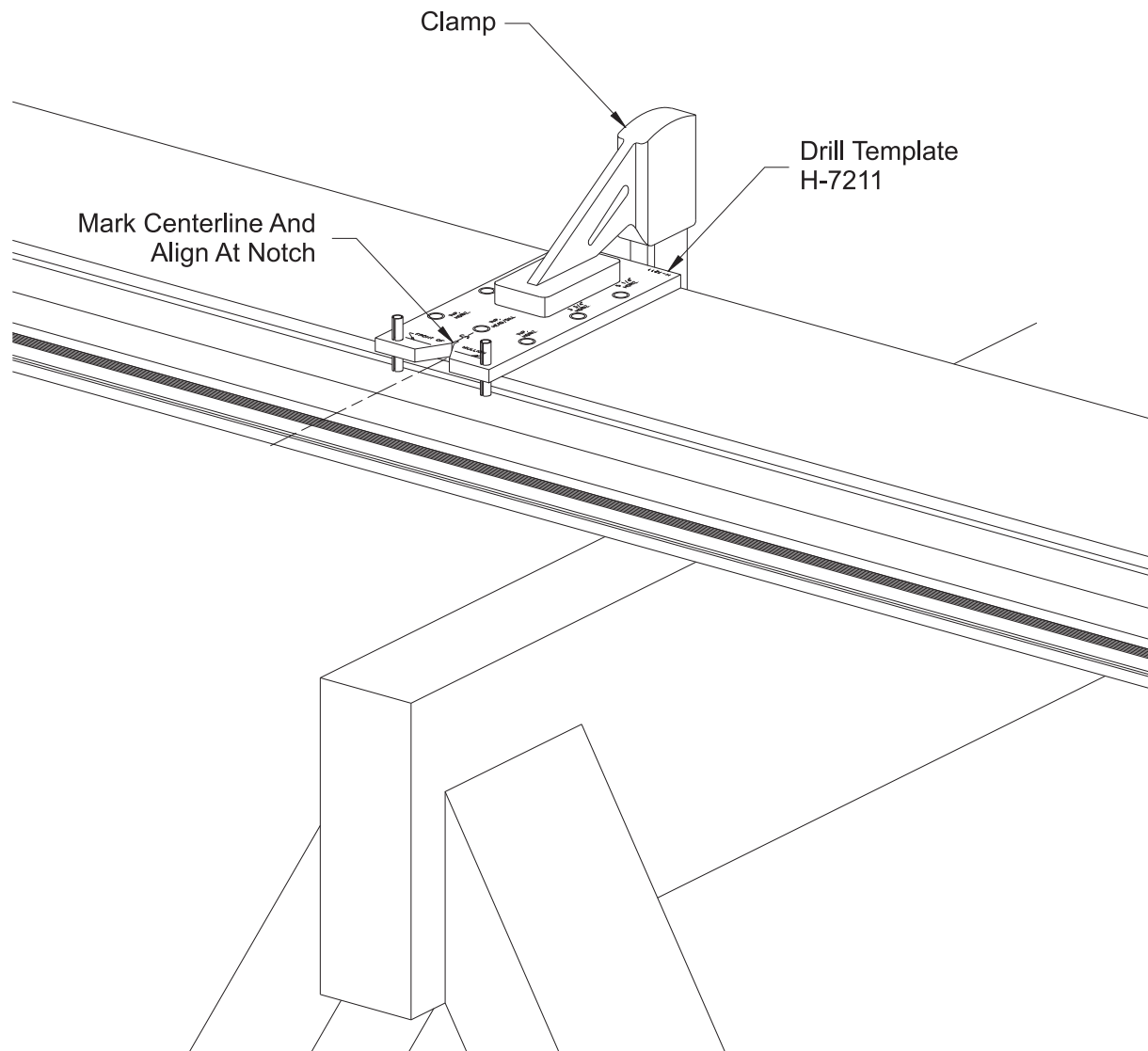


**Detail 2**

**FRAME FABRICATION****STEP 2****FABRICATE VERTICAL MULLIONS**

- Locate horizontal center lines on male and female mullion halves.
- Male and female mullion halves can be placed as shown for ease of clamping together.
- Clamp drill fixture H-7211 stationary with a squeeze clamp and drill 0.238 (#B drill bit) clear holes as required.

See **Detail 3**.



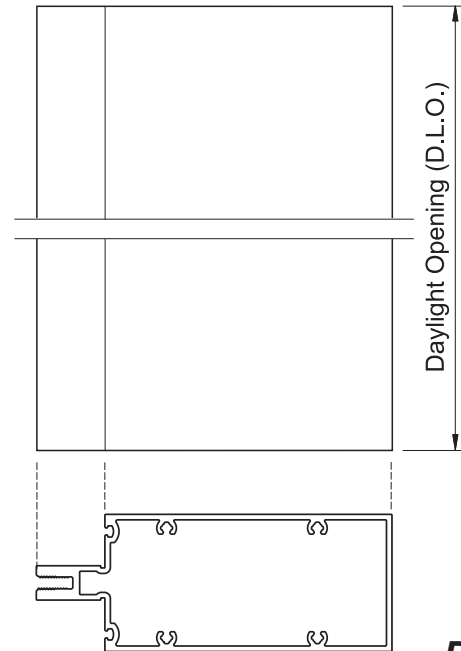
**Detail 3**

## FRAME FABRICATION

### STEP 3 FABRICATE HORIZONTAL MEMBERS

-Cut all horizontal members to the daylight opening as shown in shop drawings.

See **Detail 4**.

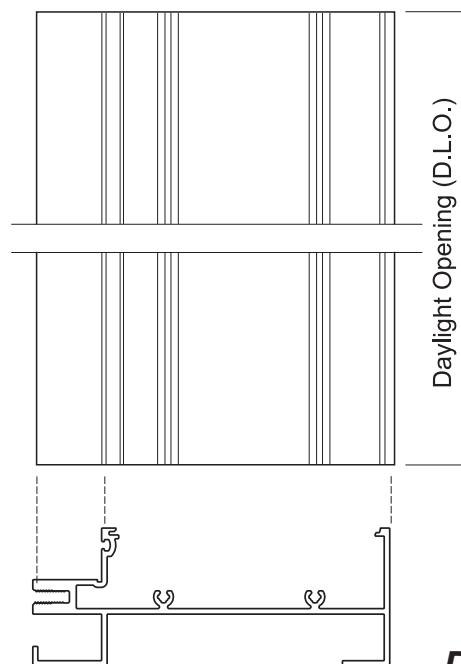


**Detail 4**

### Head and Sill Horizontals:

-Cut all head and sill horizontal members to the daylight opening as shown in shop drawings.  
-Cut all horizontal flush fillers to the daylight opening minus (-)1/32”.

See **Detail 5**.



**Detail 4**

## FRAME FABRICATION

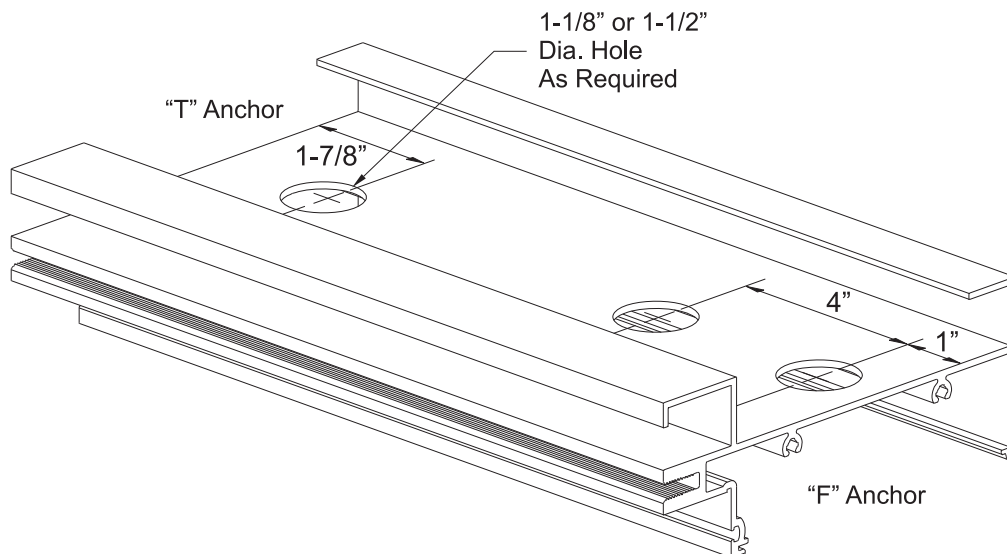
### STEP 3 (Cont'd) FABRICATE HORIZONTAL MEMBER

#### Head and Sill Horizontals:

Head and sill horizontal members require drilling clear holes to permit access to the “F” and “T” anchors that will secure the frame to the structure.

- Drill clear holes for “F” or “T” anchors as shown.
- Drill 1-1/8” holes for 3/8” anchors.
- Drill 1-1/2” holes for 1/2” anchors.

See **Detail 6**.



**Detail 6**

## FRAME FABRICATION

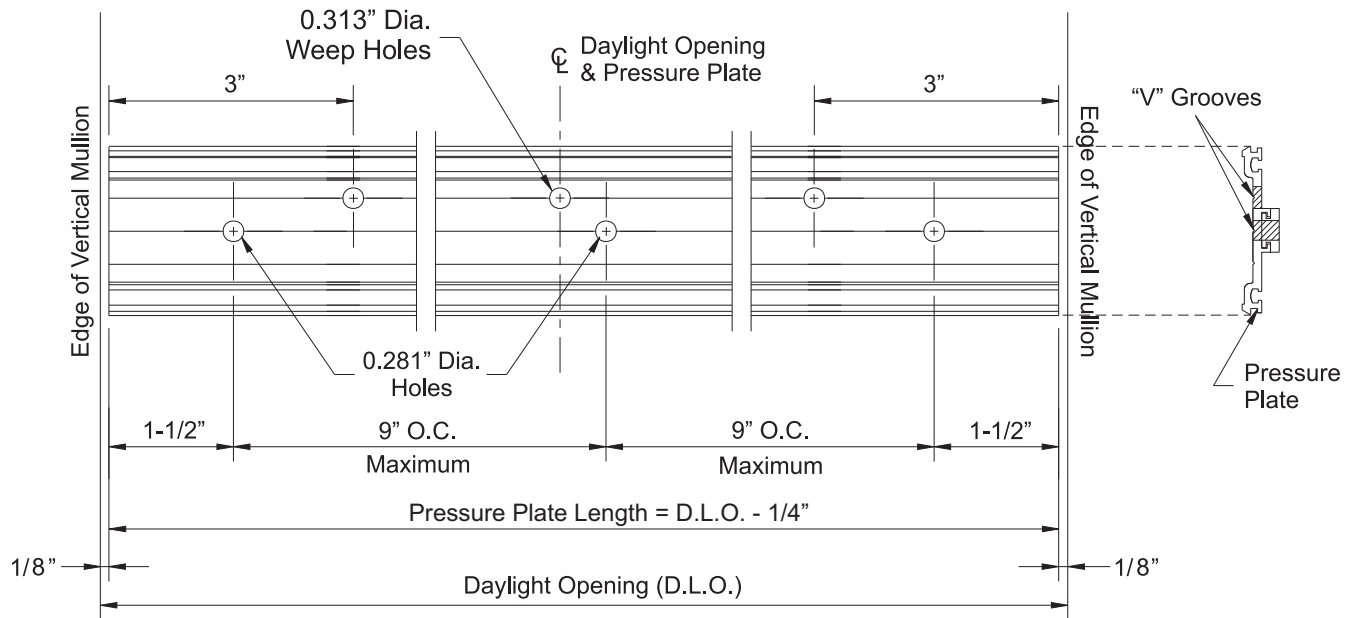
### STEP 4 FABRICATE PRESSURE PLATES

#### Horizontal Pressure Plates:

- Cut horizontal pressure plates to the daylight opening between verticals minus(-) 1/4".
- Pressure plate stock lengths have 0.281" dia. holes factory drilled every 9" on center. After cutting, drill additional holes if required to ensure that end holes are 1-1/2" from the ends.
- Drill two 0.313" (5/16") diameter weep holes 3" from each end and one at the centerline of the pressure plate.

See **Detail 7**.

**Note:** If the space between the weep holes exceeds 3', additional weep holes should be drilled to ensure that there is no more than 3' between the weep holes.



**Detail 7**

#### Vertical Pressure Plates:

- Cut vertical and jamb pressure plates to the same length as the vertical mullions.
- Drill additional attachment holes if required to ensure that end holes are 1-1/2" from the ends.

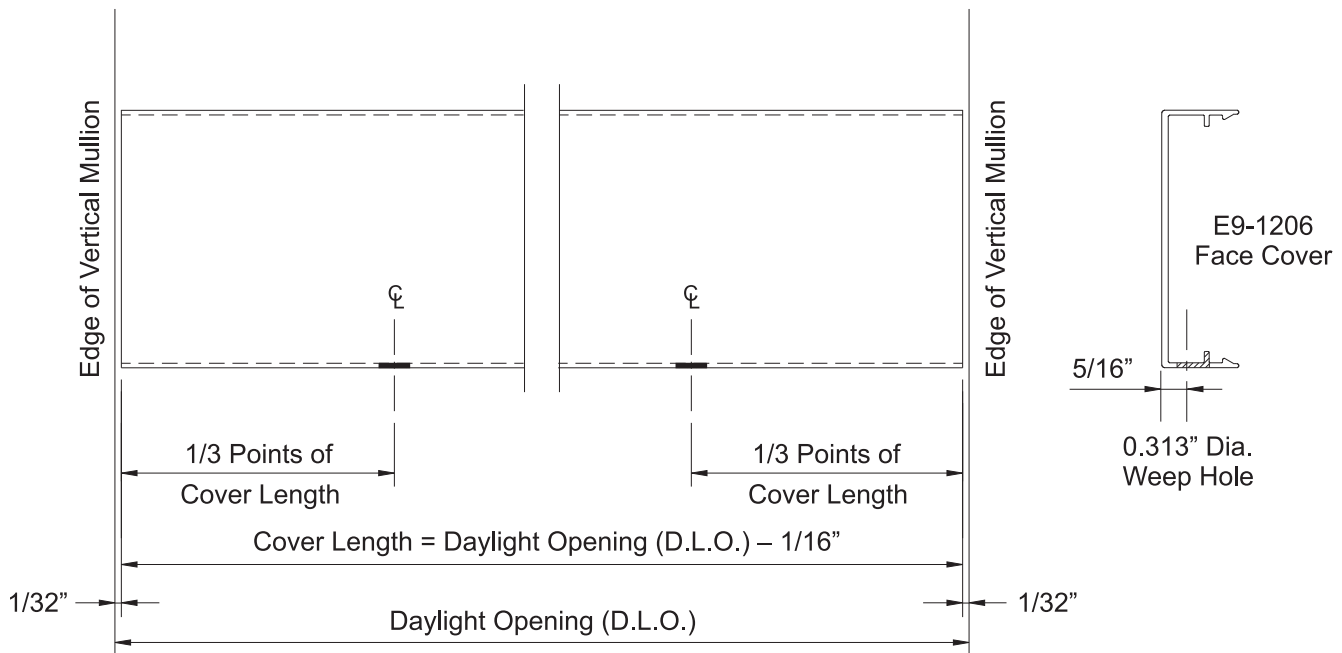
## FRAME FABRICATION

### STEP 5 FABRICATE FACE COVERS

#### Horizontal Face Covers:

- Cut horizontal face covers to the daylight opening between verticals minus(-) 1/16".
- Drill two 0.313" diameter weep holes at 1/3 points of cover as shown below.

See **Detail 8**.



**Detail 8**

#### Vertical Face Covers:

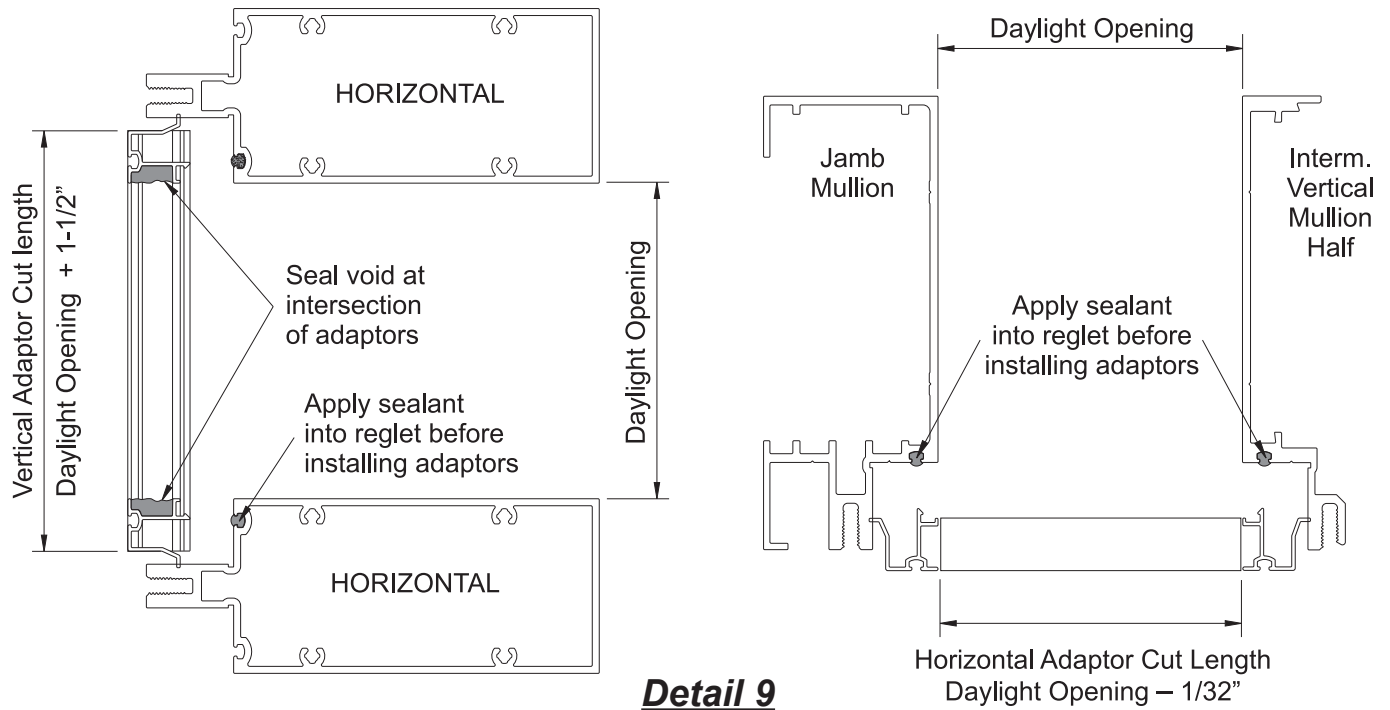
- Cut vertical face covers to the same length as the vertical mullions.



## FRAME ASSEMBLY

### STEP 6 INSTALL GLAZING ADAPTORS (When Required)

**Note:** 1/4" glazing adaptor, E9-3620 shown.



**Detail 9**

-Cut glazing adaptors to size:

Vertical Cut Length = Daylight Opening plus(+) 1-1/2".

Horizontal Cut Length = Daylight Opening minus(-) 1/32".

-Vertical adaptors must be installed before horizontal adaptors.

-Clean the area around the mullion glazing reglet and the glazing adaptor with a cleaner approved by the sealant manufacturer.

-Apply sealant into the glazing reglet of the mullion .

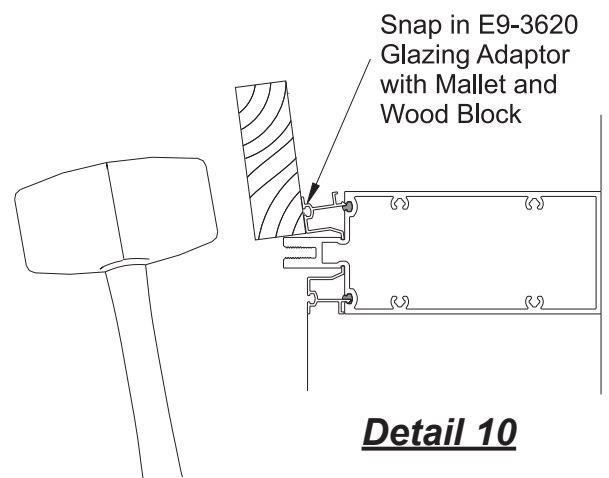
-Install the vertical adaptors first, centered along the daylight opening.

-Fill void at all adaptor intersections with sealant, tool as needed.

See **Detail 9**.

-Snap adaptors in place using a mallet and wood block, to prevent damage.

See **Detail 10**.



**Detail 10**

## FRAME ASSEMBLY

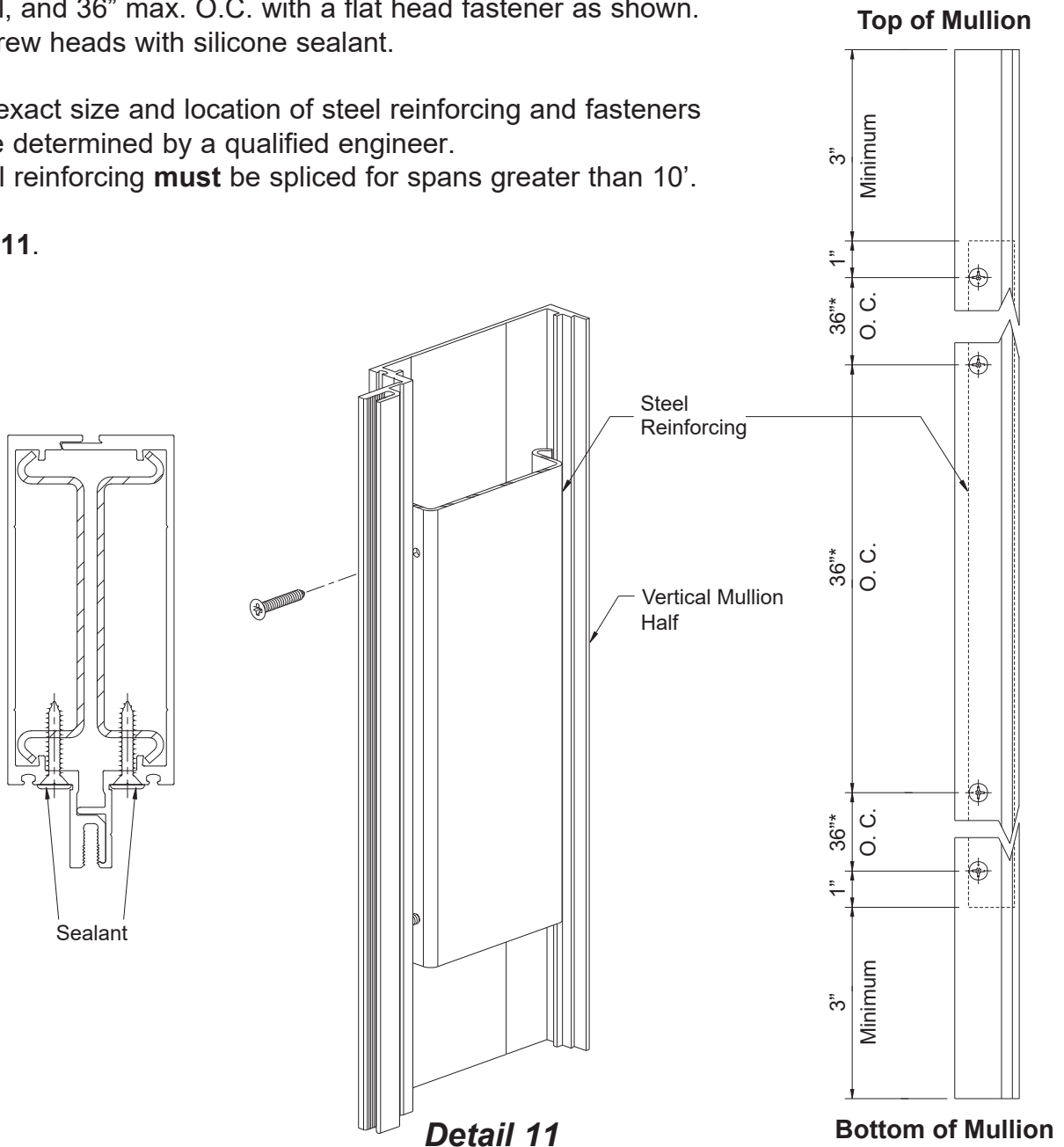
### STEP 7 USING ALTERNATE REINFORCING

When engineering calculations require the vertical mullions to be reinforced with steel, secure the reinforcing to the vertical using the appropriate fasteners.

- Allow 3" at top and bottom of vertical mullion for "F" and "T" anchors.
- Fasten steel reinforcement E1-0183, 1" from the top and bottom end of the steel, and 36" max. O.C. with a flat head fastener as shown.
- Seal all screw heads with silicone sealant.

**Note:** The exact size and location of steel reinforcing and fasteners to be determined by a qualified engineer.  
Steel reinforcing **must** be spliced for spans greater than 10'.

See **Detail 11**.



\*NOTE: Measurement intended as guideline only.

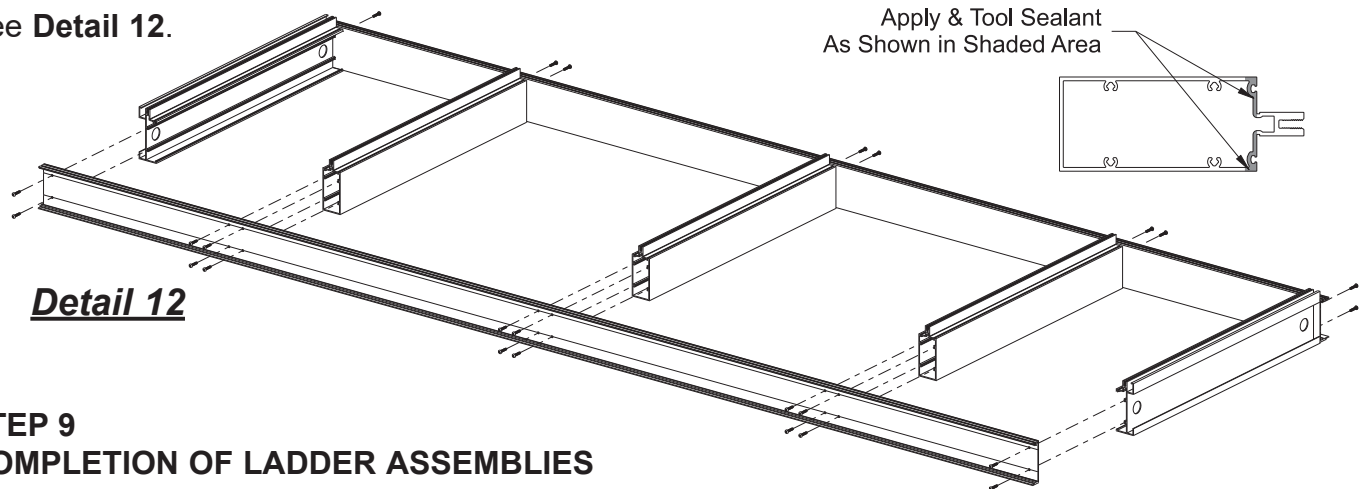
## FRAME ASSEMBLY

### STEP 8 ASSEMBLING LADDERS IN THE SHOP

- Place vertical mullion halves in proper position on sawhorses.
- Mark as left or right half, head and sill respectively.
- Apply sealant to both ends of all horizontal members immediately prior to assembly to provide additional water tightness. Tool and clean off any excess sealant.
- Assemble vertical mullion halves to head, sill, and intermediate horizontals with #12 x 1-1/4" PHSMS Type AB (PC-1220) Spline Screws.
  - 4 each per head/sill
  - 8 each per intermediate horizontal

Fabrication Tip: Do not tighten screws completely until all members are in place.

See **Detail 12**.



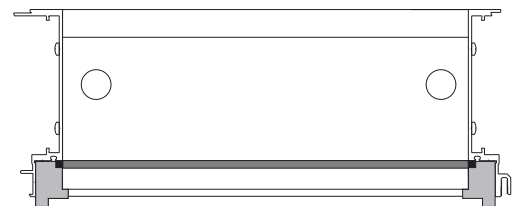
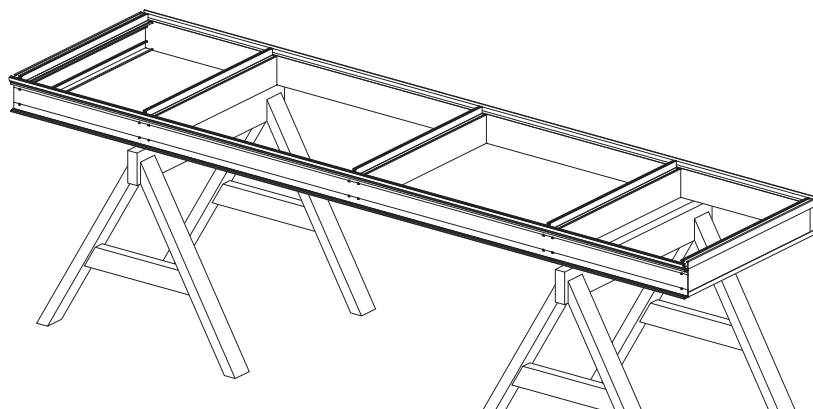
**Detail 12**

### STEP 9 COMPLETION OF LADDER ASSEMBLIES

-After ladders are assembled, glazing tape, joint seals, joint plugs and interior gaskets may be installed in house prior to shipping ladders to the job site.

**Note:** Assemblies must be kept clean and away from objects that may pull or distort the gaskets, critical seals or finish.

See **Detail 13**.

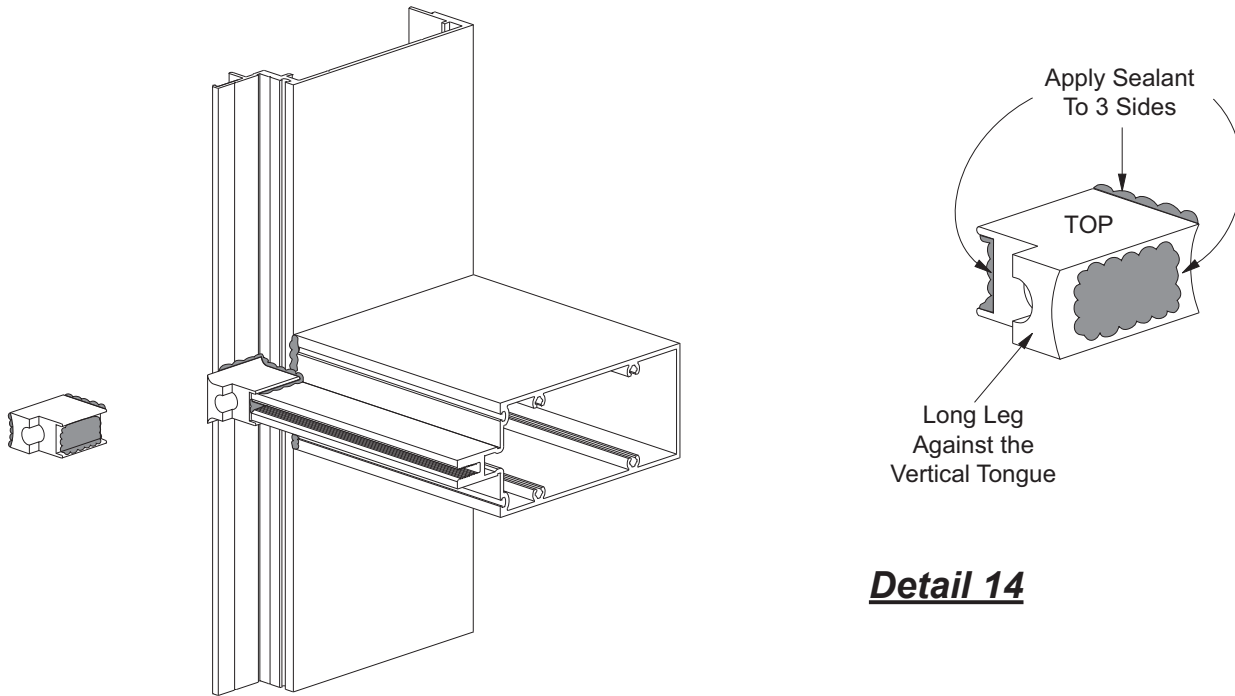


Ladder Assembly

**Detail 13**

## FRAME ASSEMBLY

### STEP 10 INSTALL JOINT PLUGS



**Detail 14**

The tongue of each horizontal must be sealed to the tongue of the vertical mullions. The space between the two tongues is closed by using joint plugs, E2-0102 for 1" glazing or E2-0125 for 1/4" glazing.

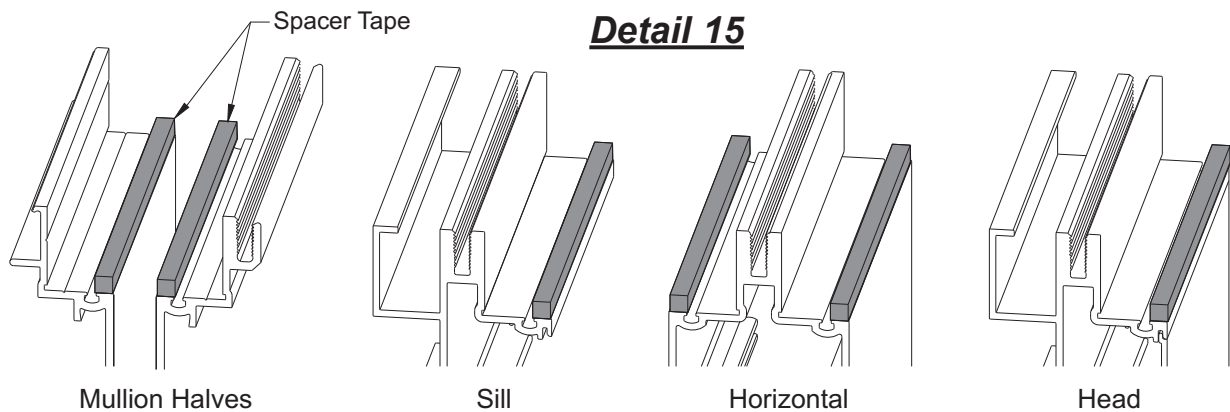
- Clean the area around the tongue intersection with an approved cleaner.
- Apply and tool sealant to the intersection of the horizontal and vertical.
- Apply sealant to the three contact sides of the joint plug and at the intersection of the vertical and horizontal glazing pocket.
- Install joint plug as shown with the long leg of plug against the vertical tongue.
- Press joint plugs firmly against face of mullion.
- Tool the sealant to ensure a watertight seal.
- Seal all exposed screw heads on the face of the mullion.

See **Detail 14**.

## PREGLAZING

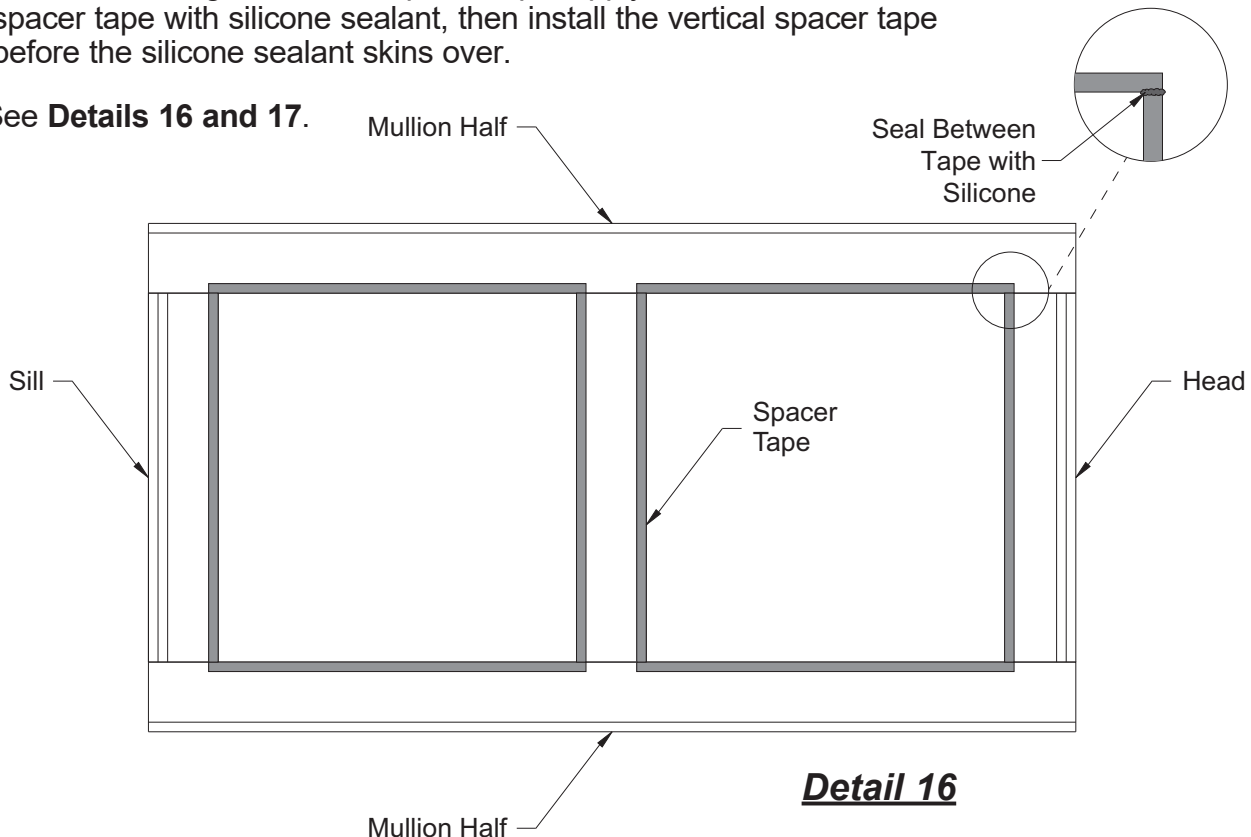
### STEP 11 PREGLAZING THE GLASS UNITS

- Glazing tape must be installed before the silicone seal at the vertical and horizontal joint skins over.
- Clean surfaces of the extrusion that will come into contact with the spacer tape with isopropyl alcohol.
- To apply the E2-0110 spacer tape, refer to the drawing in **Detail 15**.
- Tape locations are as shown. Align edge of the glazing tape with the edge of the mullion and apply pressure to bond the tape to the mullion. Do not allow the tape to twist or catch debris.

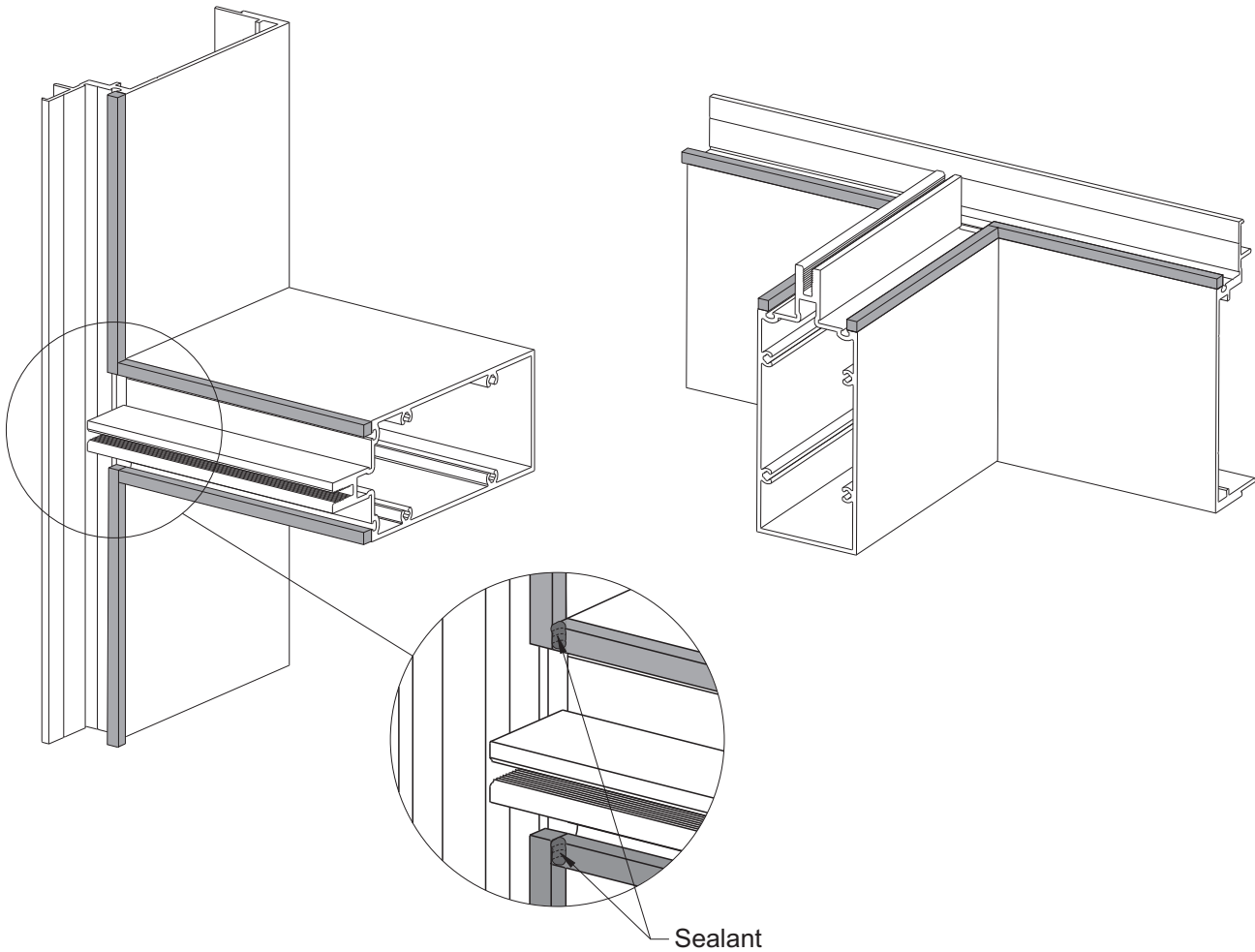


- Cut the horizontal spacer tape to the required DLO. Tape length = DLO.
- Cut the vertical spacer tape to the required DLO (+) plus 1/2".
- Apply to the edge of the mullions corner, leaving the blue protective tape on at this time.
- Prior to installing the vertical spacer tape, apply sealant to the ends of the horizontal spacer tape with silicone sealant, then install the vertical spacer tape before the silicone sealant skins over.

See **Details 16 and 17**.



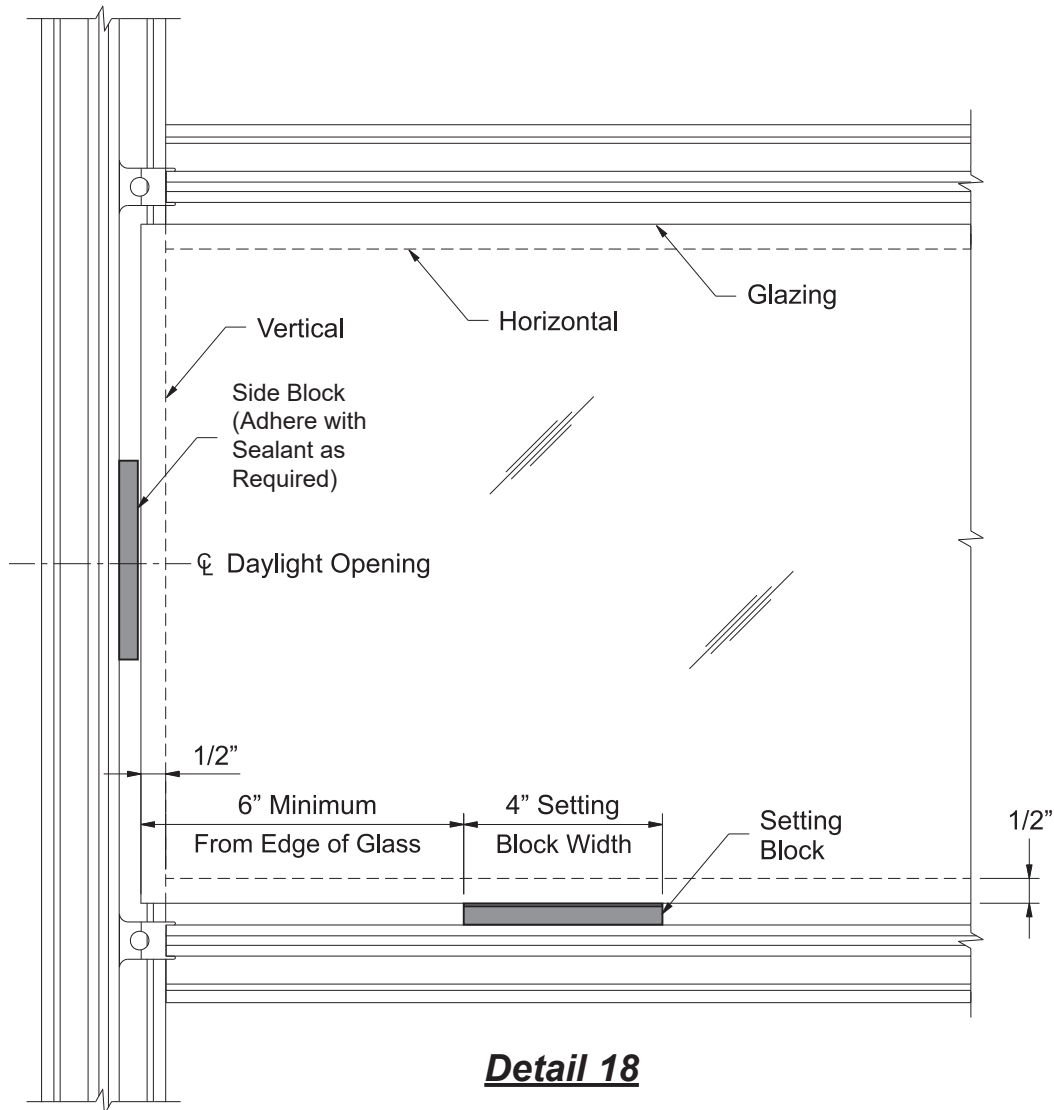
**PREGLAZING**



**Detail 17**

## PREGLAZING

### STEP 12 INSTALL SETTING & SIDE BLOCKS



- Install setting blocks, E2-0104 for 1" glazing or E2-0112 for 1/4" glazing, at 1/4 points of D.L.O. or 1/8 points of D.L.O. or minimum of 6" from edge of glass, whichever is greater. Consult YKK AP for setting block requirements on units that exceed 60" x 96" or 40 sq. ft.
- Install side blocks, E2-0105 (adhere with sealant) for 1" glazing or E2-0113 for 1/4" glazing, centered along the daylight opening on both sides of glazing material.

See **Detail 18**.

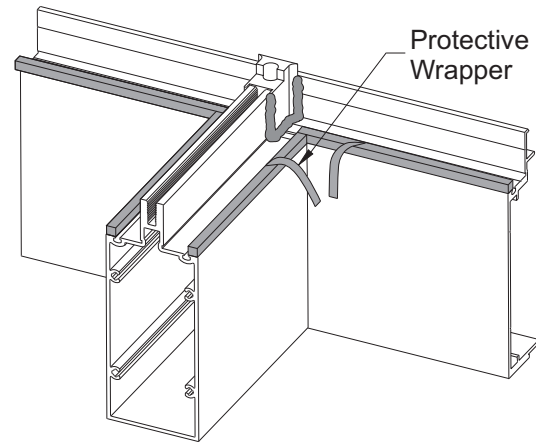
## GLAZING

### STEP 13 INSTALL GLASS

**Glass Size = Daylight Opening + 1”  
horizontally and vertically.**

- Prior to glass installation, check that the unit is square.
- Peel back the spacer tape’s protective wrapper 3-4” from the ends exposing the sticky side of the spacer tape.
- Bend and lower the wrapper end until it falls into the DLO opening.

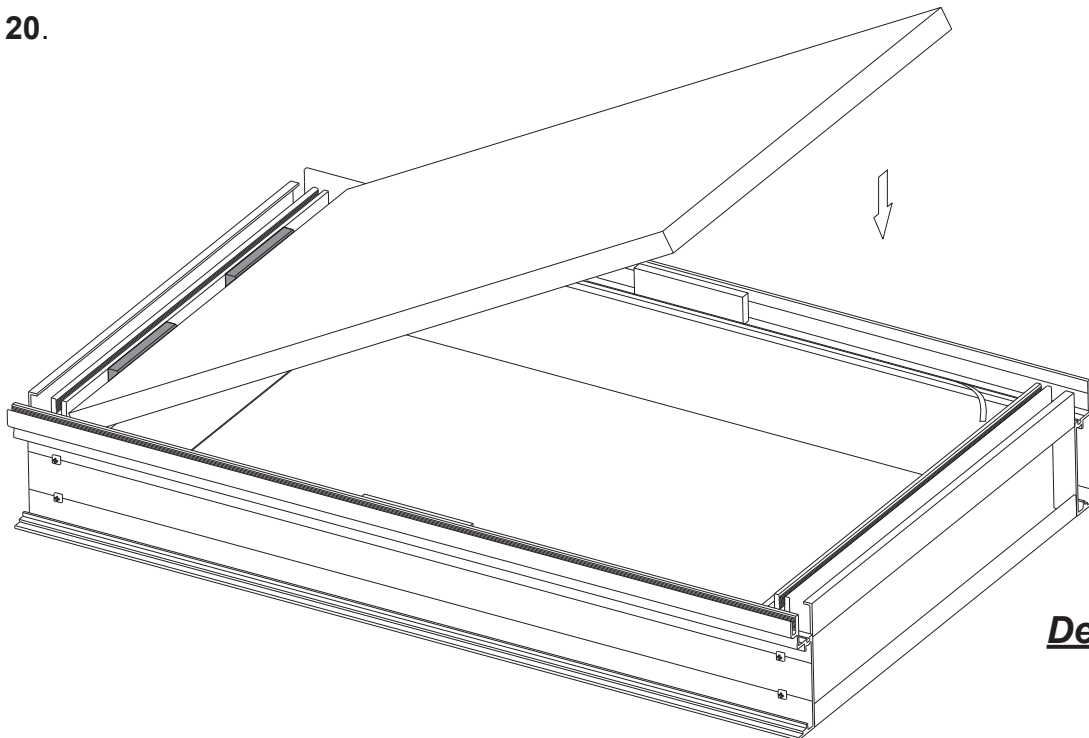
See **Detail 19**.



**Detail 19**

- After cleaning the edge of the glass with isopropyl alcohol, the glass can be set into the opening by pressing the bottom of the glass onto the setting blocks and slowly lowering the glass onto the spacer tape. In many cases, the glass can also be lowered flat into the opening and pulled onto the setting blocks.

See **Detail 20**.



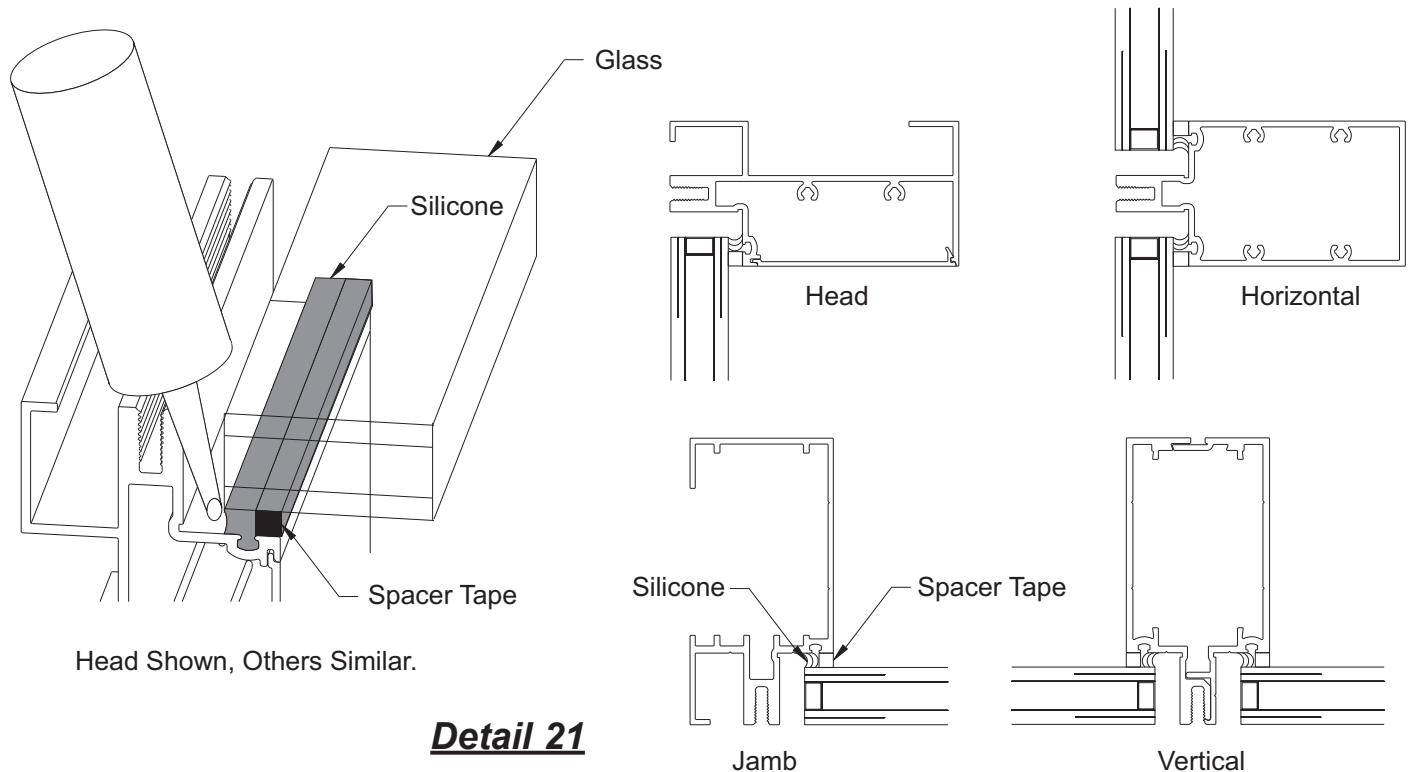
**Detail 20**



## GLAZING

### STEP 13 Continued INSTALL GLASS

- Confirm that glass is properly positioned.
- To peel back the remainder of the spacer tape's blue protective wrapper, lift the glass slightly and pull the wrapper from the bottom.
- Temporarily remove setting blocks and side blocks.
- Apply an approved silicone sealant into the area as shown in **Detail 21**.
- Tool silicone sealant flush with glass.

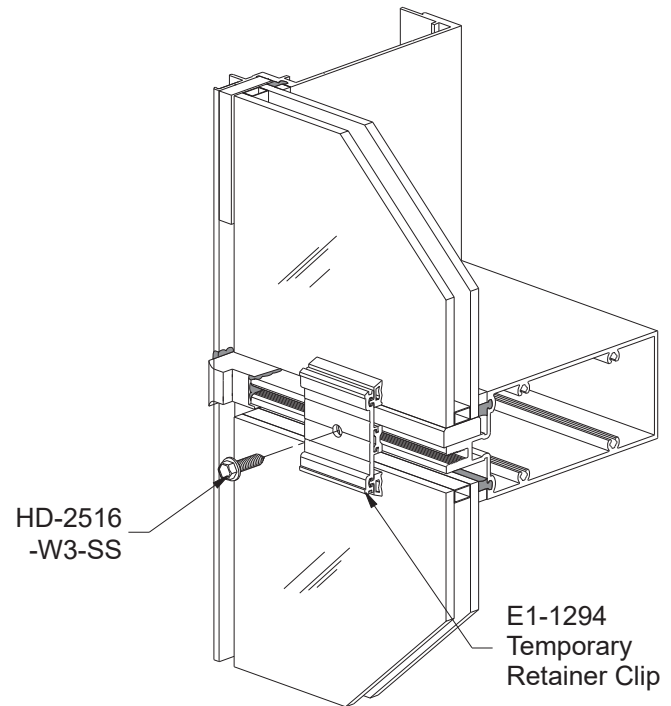


- Reinstall setting blocks and side blocks.
- Follow the sealant manufacturer's guidelines and allow the silicone to fully cure before moving units.**

**GLAZING****STEP 14****ATTACH TEMPORARY RETAINING CLIPS**

-Attach a temporary retaining clip, E1-1294, in the middle of each horizontal and 4" from glass edge at each end using HD-2516-W3-SS fasteners.

See **Detail 22**.

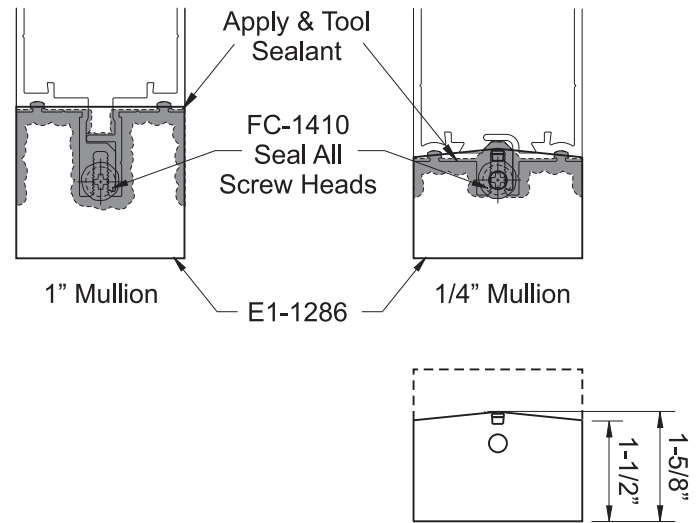


**Detail 22**

## FRAME INSTALLATION

### STEP 15 JAMB/VERTICAL INSTALLATION WITH MULLION END ANCHORS

- Prior to erecting ladders, install mullion end caps, E1-1286, at the top and bottom of the mullions with FC-1410 fasteners.
- Clean all contact surfaces as recommended by sealant manufacturer.
- Apply sealant to ends of verticals prior to installing end cap E1-1286.
- Apply sealant into the screw raceway and along the front edge of the mullion at each end.
- Seal all screw heads with sealant.

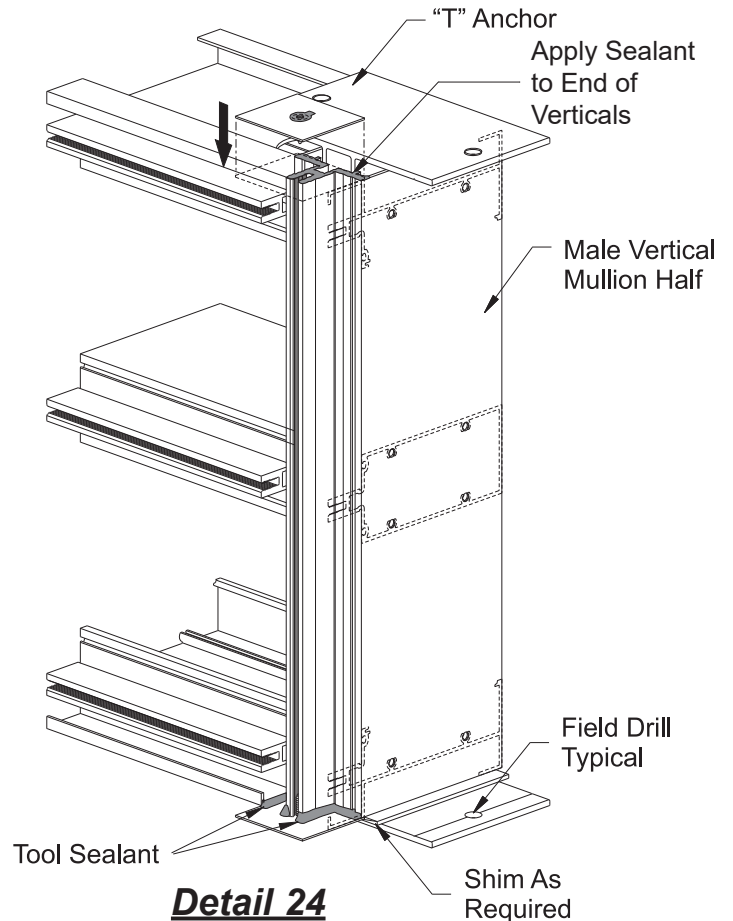


Trim As Shown

### **Detail 23**

See **Detail 23**.

- Tape mullion “T” and “F” anchors into the top and bottom of the mullions before erecting them into the opening. “T” anchors can also be added after unit half is erected.
- Erect and locate the first ladder assembly and temporarily attach it to the structure. All mullions must be installed plumb and true.
- Field drill holes in “F” and “T” anchors for the appropriate anchor fasteners according to shop drawings or engineering calculations. Consult YKK AP if load requirements are in question.



### **Detail 24**

See **Detail 24**.

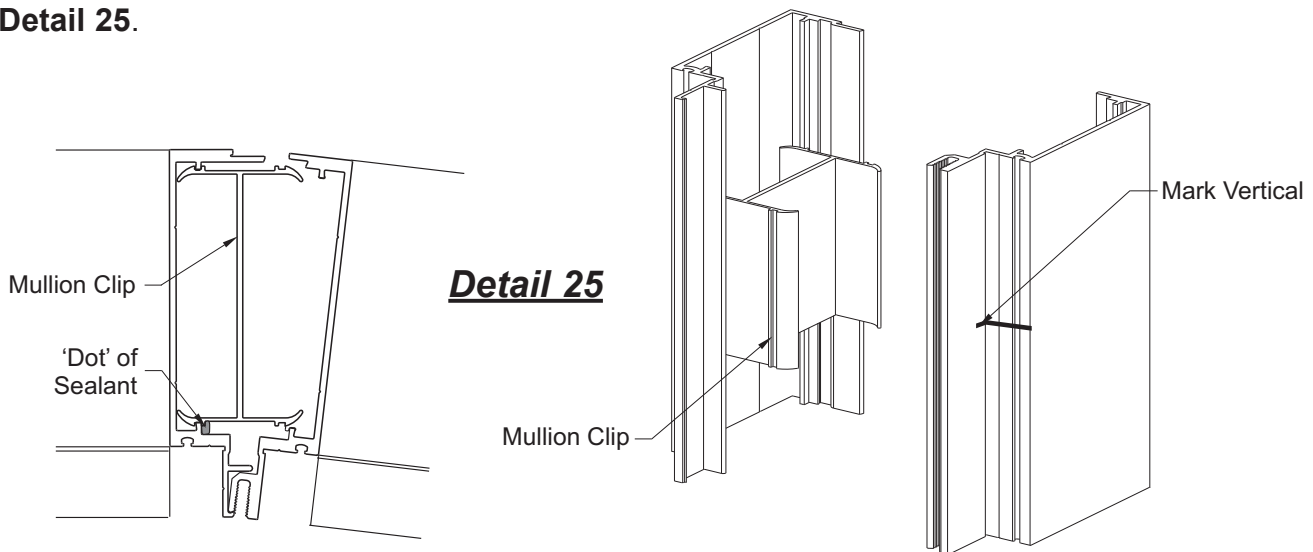
## FRAME INSTALLATION

### STEP 16 INSTALL VERTICAL MULLION CLIPS

Mullion clips are required to prevent the back side of the mullion from separating under high load conditions. Clips are not required where an intermediate horizontal is located. Refer to approved shop drawings for mullion clip locations.

-Mark both halves of vertical as shown below in order to locate mullion clip should removal be necessary. A small dot of silicone sealant placed at the front center of the clip prior to installation will prevent the clip from sliding down inside the mullion under extreme load conditions.

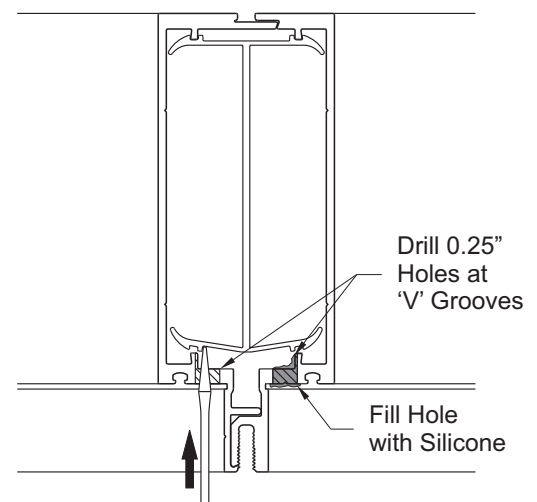
See **Detail 25**.



### REMOVAL OF VERTICAL MULLION CLIPS

In the event a ladder assembly should need to be separated, the mullion clips will need to be removed, discarded and replaced. Under no circumstances should mullion clips be re-used.

- Locate mullion clips at marks as indicated above.
- Drill 0.25" holes at 'V' groove on both halves of vertical mullion.
- Insert screwdriver blade into holes and tap end of screwdriver with mallet until mullion clip bends and slides down in mullion.
- Seal holes with silicone when finished.



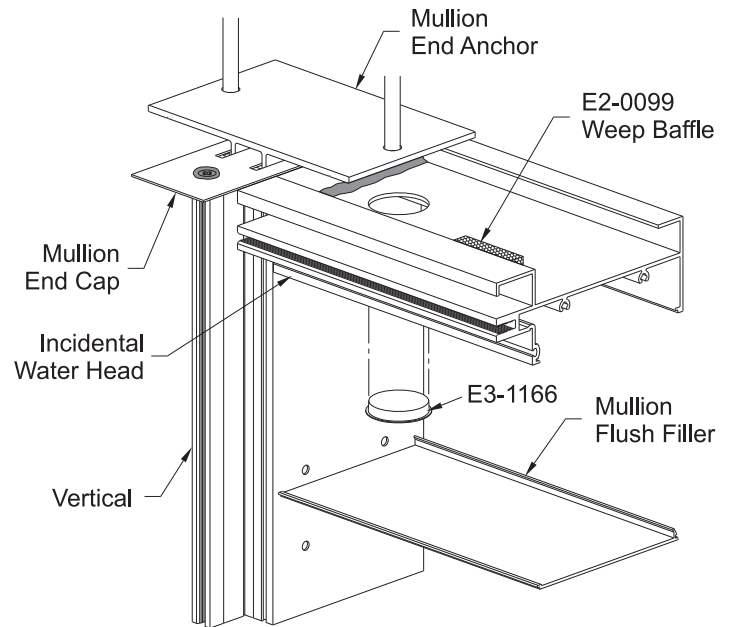
**Detail 26**

## FRAME INSTALLATION

### STEP 17 INSTALLATION OF OPTIONAL INCIDENTAL WATER HEAD

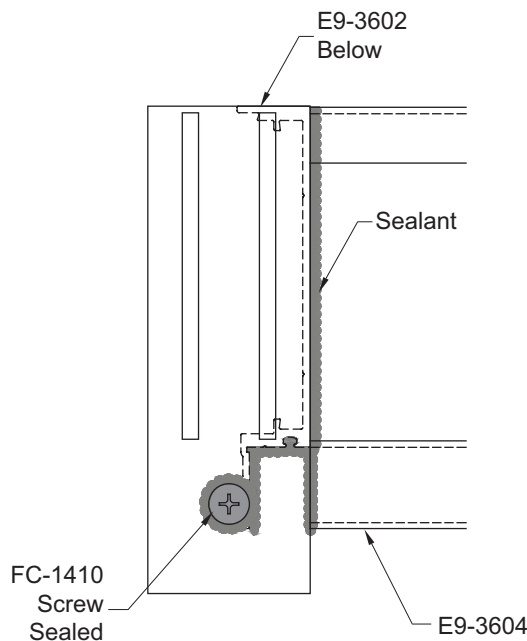
- Prior to ladder assembly installation, seal horizontal to vertical as shown in **Detail 28**.
- Locate 0.313" weep holes at 1/3 points of incidental water head member.
- Install a weep baffle, E2-0099, directly behind each weep hole. Dab a small amount of sealant on the bottom of the weep baffle to secure it.
- Install mullion end cap E1-3526 onto female mullion half.
- Slide anchor into mullion half, then install ladder assembly as described previously.
- Just prior to installing the the incidental water head members, apply sealant on the underside surface around the perimeter of the clear hole prior to installing E3-1166 plug.
- Apply and tool sealant completely over and around the plug after inserting and seating it in place.
- Snap on the mullion flush filler.

### INCIDENTAL WATER HEAD

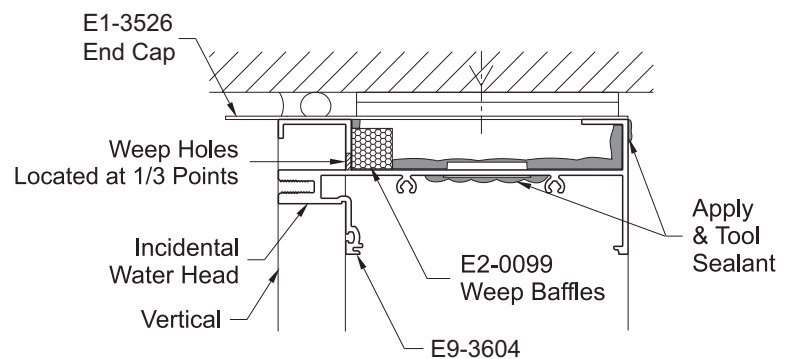


See **Details 27(A) & 28**.

### Detail 27



### Detail 27A



### Detail 28

## FRAME INSTALLATION

### GENERAL NOTES:

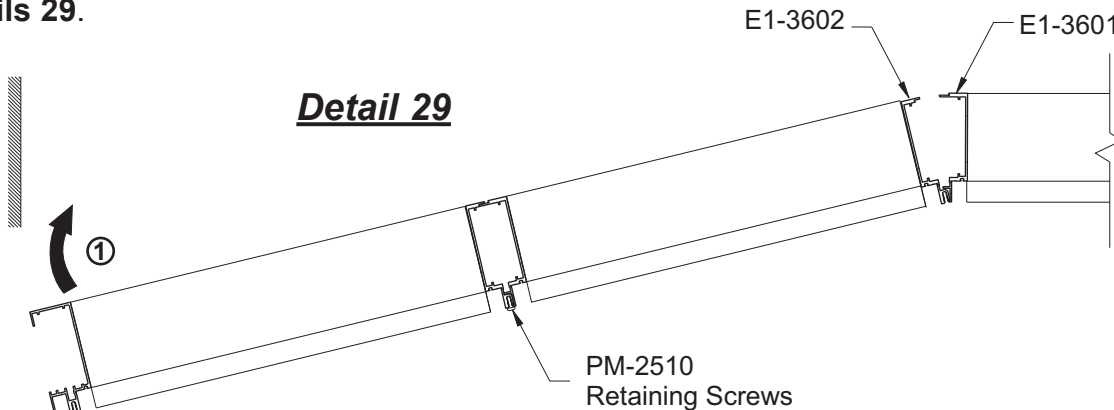
#### Typical Ladder Installation

Ladder assemblies, or units, are typically rotated into place, starting right to left with the engagement at the front tongue. Holding the front of the mullion halves together at the tongue, rotate the new ladder assembly into the receiving unit until the mullion halves engage. On shorter installations, the units may be installed from the side, eliminating the need for rotation. On odd shape elevations, such as spokes, splays, etc., YKK AP's shear block version, YCW 750 OG may be required. YCW 750 OG may be easily integrated into the YCW 750 SplineTech Screw Spline mullion assembly.

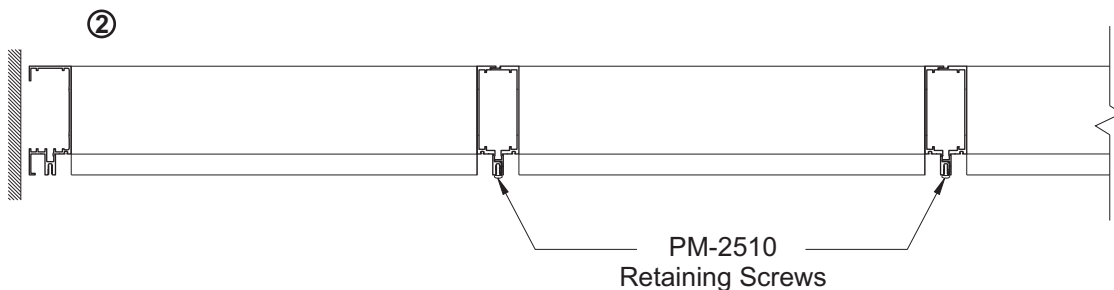
#### Installation of Final Ladder Assembly

When installing the final ladder assembly, rotate the final unit as described above. Units with a daylight opening of 42" or less may not rotate into an opening with a 1/2" or less perimeter caulk joint. In order to install such an assembly, the configuration illustrated below is recommended. Attach the final two ladders together and work the assembly into the opening as one final unit. Rotating a larger assembly will allow the back of the jamb mullion to clear the masonry opening.

See **Details 29**.



#### OPTIONAL ROTATION OF TWO FINAL LADDER ASSEMBLIES



#### COMPLETED INSTALLATION

## FRAME INSTALLATION

### STEP 18 LADDER ANCHORING METHOD

#### Using Mullion End Anchors:

YCW 750 SplineTech<sup>™</sup> has two possible end anchoring conditions: “T”, and “F”.

-“T” anchors are used with intermediate verticals at the head and sill.

-“F” anchors are used with jamb mullions at the head and sill.

Ladders should be pre-assembled with end anchors, and steel or aluminum reinforcing if necessary.

To install units into place, pre-attach the “F” anchor and the “T” anchor into the left jamb ladder assembly by temporarily taping them to the ladder assembly.

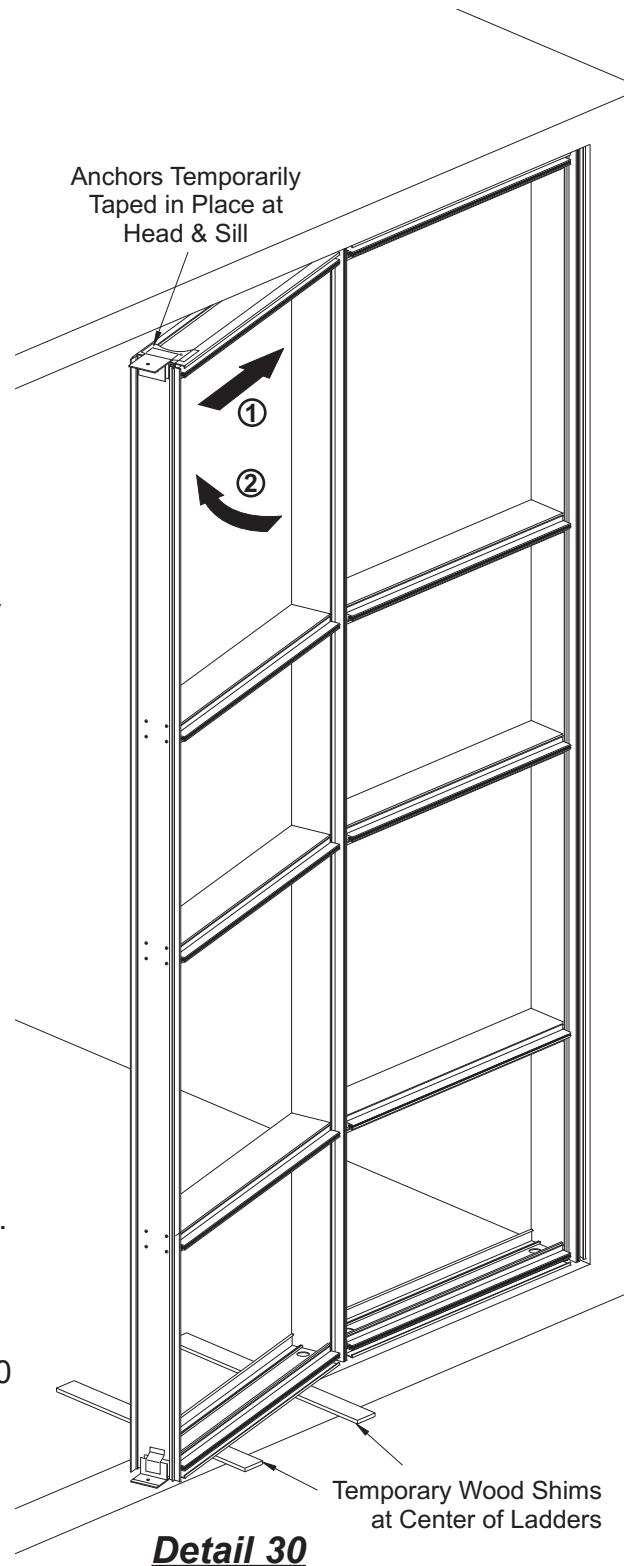
Temporary wood planks at the center may be used to shim the unit to approximate height until final shims are placed under the vertical mullion. Place fixed hard shims under vertical mullion halves after ladder assemblies are located.

See **Detail 30**.

End anchors should be pre-drilled for anchor bolts according to approved shop drawings or engineering calculations.

**Note:** When installing ladders, check overall frame width every fifth mullion as the wall is installed. A buildup of cumulative tolerance errors may occur, resulting in excessive DLO spacing.

As ladder assemblies are rotated into place, PM-2510 retaining screws can be fastened into the mullion tongue to hold the assemblies together.



## FRAME INSTALLATION

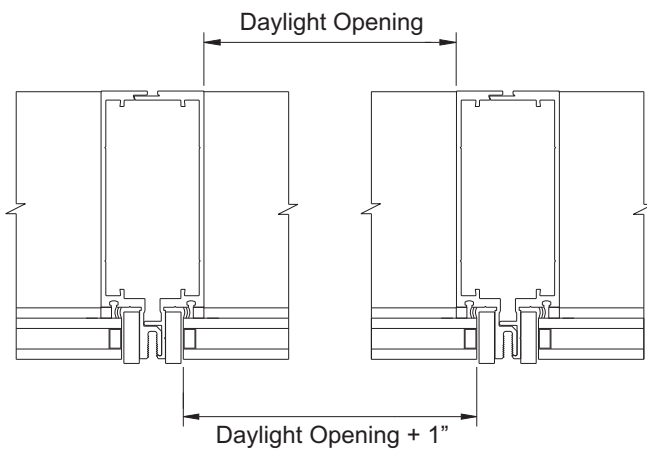
### STEP 19

### INSTALL EXTERIOR GLAZING GASKETS

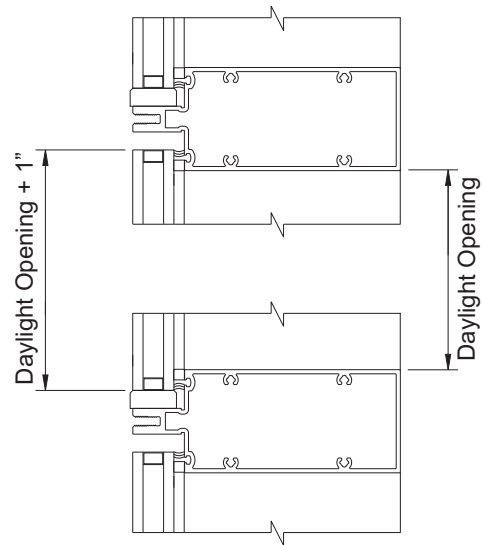
- Cut exterior vertical glazing gaskets to the same length as the vertical pressure plates.
- Cut exterior horizontal glazing gaskets to daylight opening plus 1/4" per foot of opening width.
- Install vertical glazing gaskets onto the vertical pressure plates.
- Install horizontal gaskets by pushing each end into the reglet of the pressure plate. Next press center of gasket into reglet; then push gasket into reglet working from center towards the ends.

See **Detail 31**.

**Caution:** Do not stretch the gaskets.



**Detail 31**

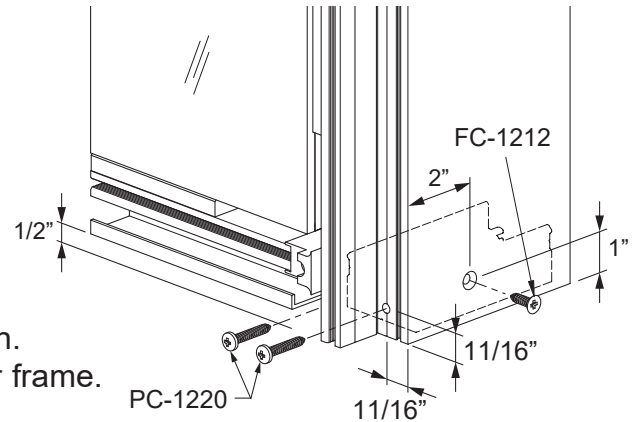




## FRAME INSTALLATION

### STEP 20 INSTALL DOOR FRAME ANCHOR

- Place ladder assembly in proper location
- Position door jamb anchor E1-3564 or E1-3565 on floor with suitable anchors.
- Drill 0.238" clear holes as shown to accommodate two PC-1220 fasteners to left and right of tongue.
- Drill and countersink 0.238" hole in location shown to accommodate FC-1212 fastener.
- Rotate next assembly into position & fasten as shown.
- Seal around base of of mullion prior to installing door frame.



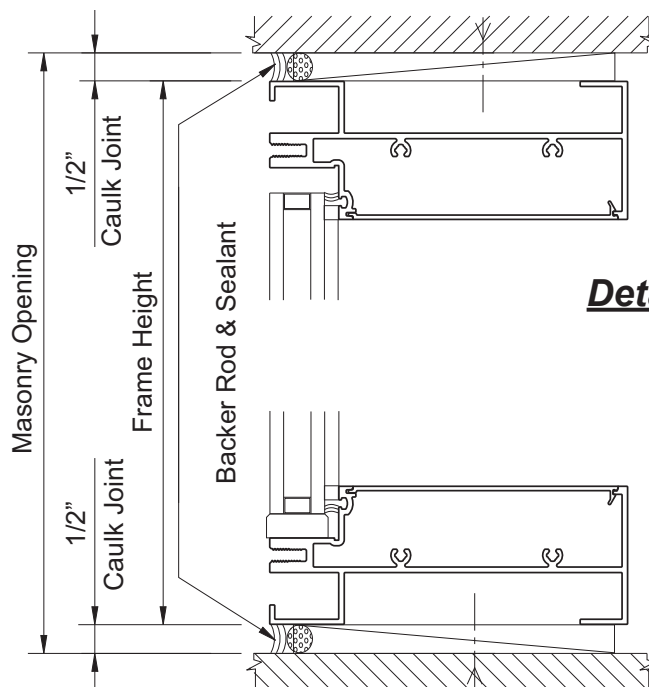
See **Detail 32**.

### Detail 32

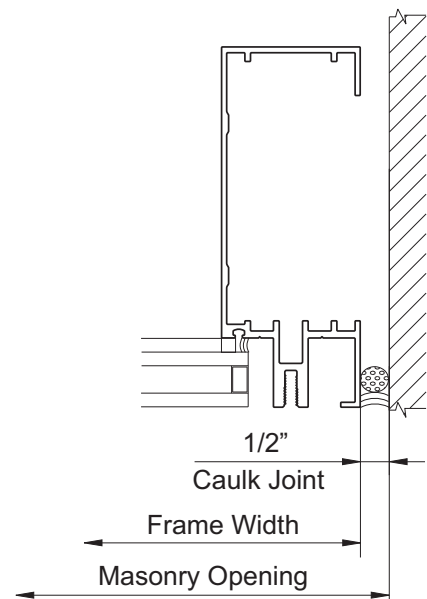
### STEP 21 APPLY PERIMETER SEALANT

- Clean the area around the perimeter of the frame with cleaner and method approved by sealant manufacturer.
- Push in backer rod between the perimeter of the frame and the substrate about 1/4".
- Apply sealant to the perimeter of the frame.
- Tool the sealant making sure that sealant provides a watertight joint.

See **Detail 33**.



### Detail 33



## FRAME INSTALLATION

### STEP 22 INSTALL DOOR SUBFRAMES

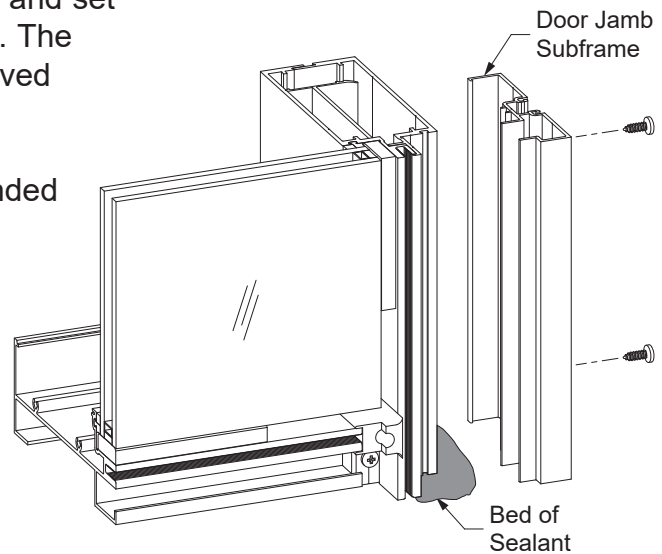
Refer to the **Entrances Installation Manual** for assembly of the door subframes. These subframes are typically glazed into the curtain wall framing at the jambs, and set directly upon the sill substrate without any shims. The subframe members are determined by the approved shop drawings.

-Clean all sealant contact surfaces as recommended by the sealant manufacturer.

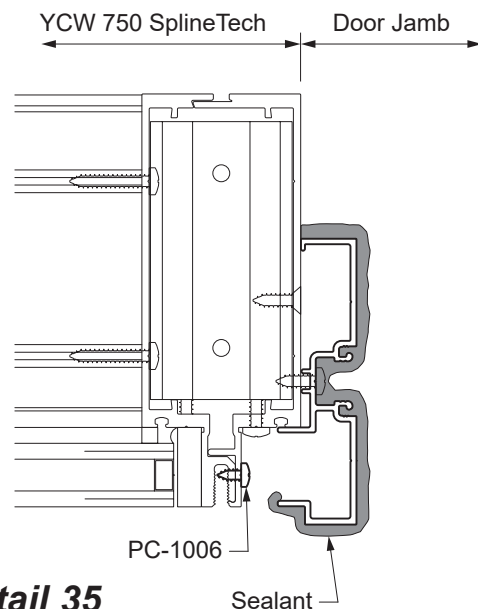
-Fasten the mullion halves together with PC-1006 screws at 3" from each end of the mullion and at 24" maximum on center. See **Detail 35**.

-Install the jamb subframe onto the mullion with fasteners according to the approved shop drawings, setting the subframe jambs in beds of sealant as shown in **Detail 34**.

-Apply and tool sealant to the bottom of the jamb subframe as shown in **Detail 35**.



**Detail 34**



**Detail 35**

## FRAME INSTALLATION

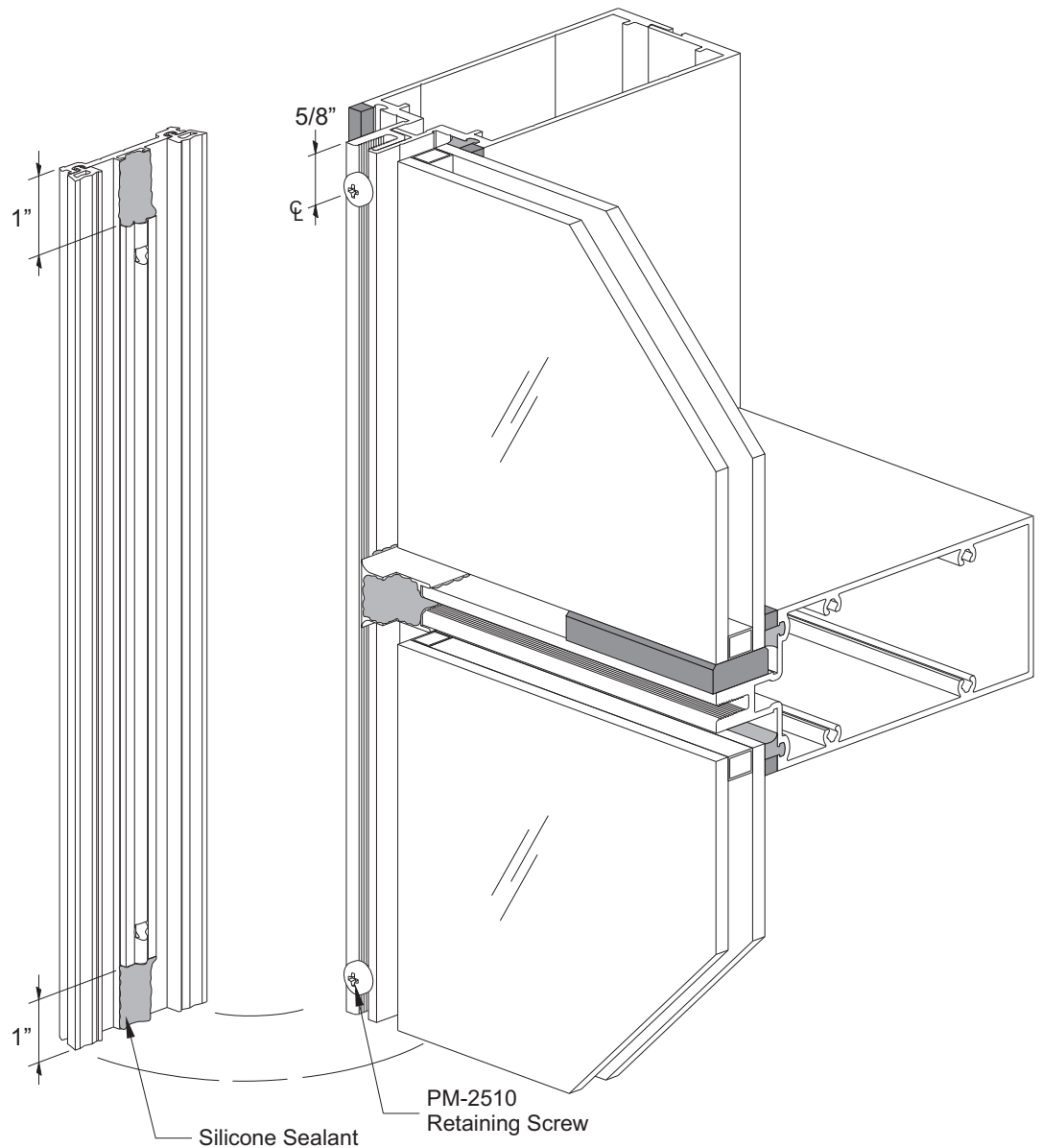
### STEP 23 INSTALL VERTICAL PRESSURE PLATE

To accommodate PM-2510 retaining screws used at top and bottom of vertical mullion halves during ladder assembly, vertical pressure plates must be altered as follows;

- Trim thermal isolator 1" from top and bottom.
- Apply sealant as shown immediately before installing.

See **Detail 36**.

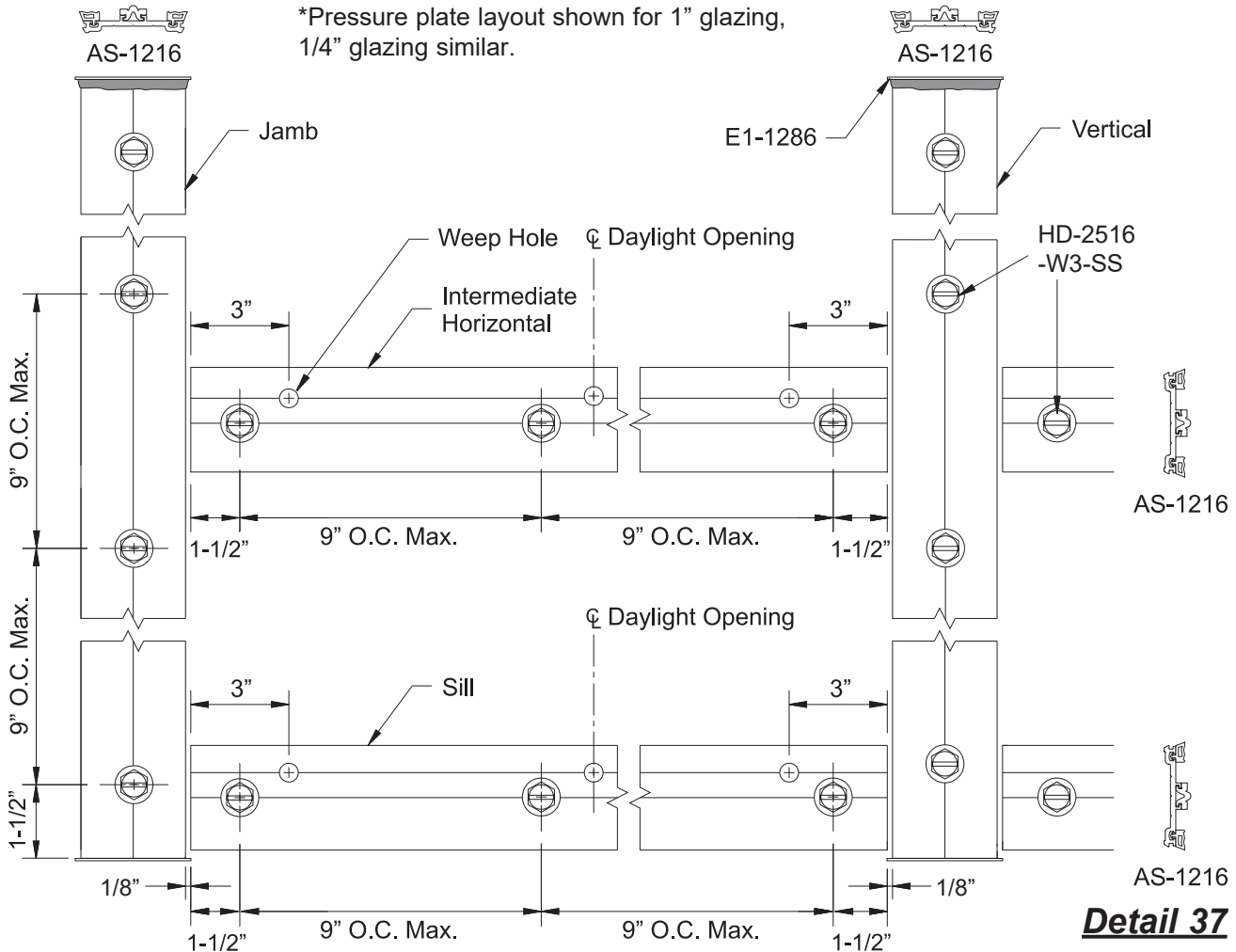
**Installation Tip:**  
Additional PM-2510 retaining screws may be used as the installer deems necessary, but they must be removed prior to vertical pressure plate installation.



**Detail 36**

## FRAME INSTALLATION

### STEP 24 PRESSURE PLATE LAYOUT AND ASSEMBLY



- Pressure plate stock lengths are factory punched with 0.281" diameter holes at 9" o.c. maximum. After cutting, additional holes may be required to have screws 1-1/2" from each end.
- At the top of the pressure plate, start an HD-2516-W3-SS screw through the pressure plate and slightly through the thermal separator.
- Hold vertical pressure plate to the extreme top of the mullion against the end cap and start the screw into the mullion tongue, applying pressure to keep the thermal separator up against the mullion tongue.
- Torque screws to 50 inch-pounds with a speed wrench or torque limiting screw gun.
- Work from the top down.
- Install vertical face cover E9-1206 using a mallet and a clean piece of lumber. Start at the top of the cover and work block and mallet down the vertical.
- Center and install horizontal pressure plates in opening, leaving a 1/8" gap at the ends.
- Starting at the center of each pressure plate, tighten each retainer screw to 50 inch-pounds.

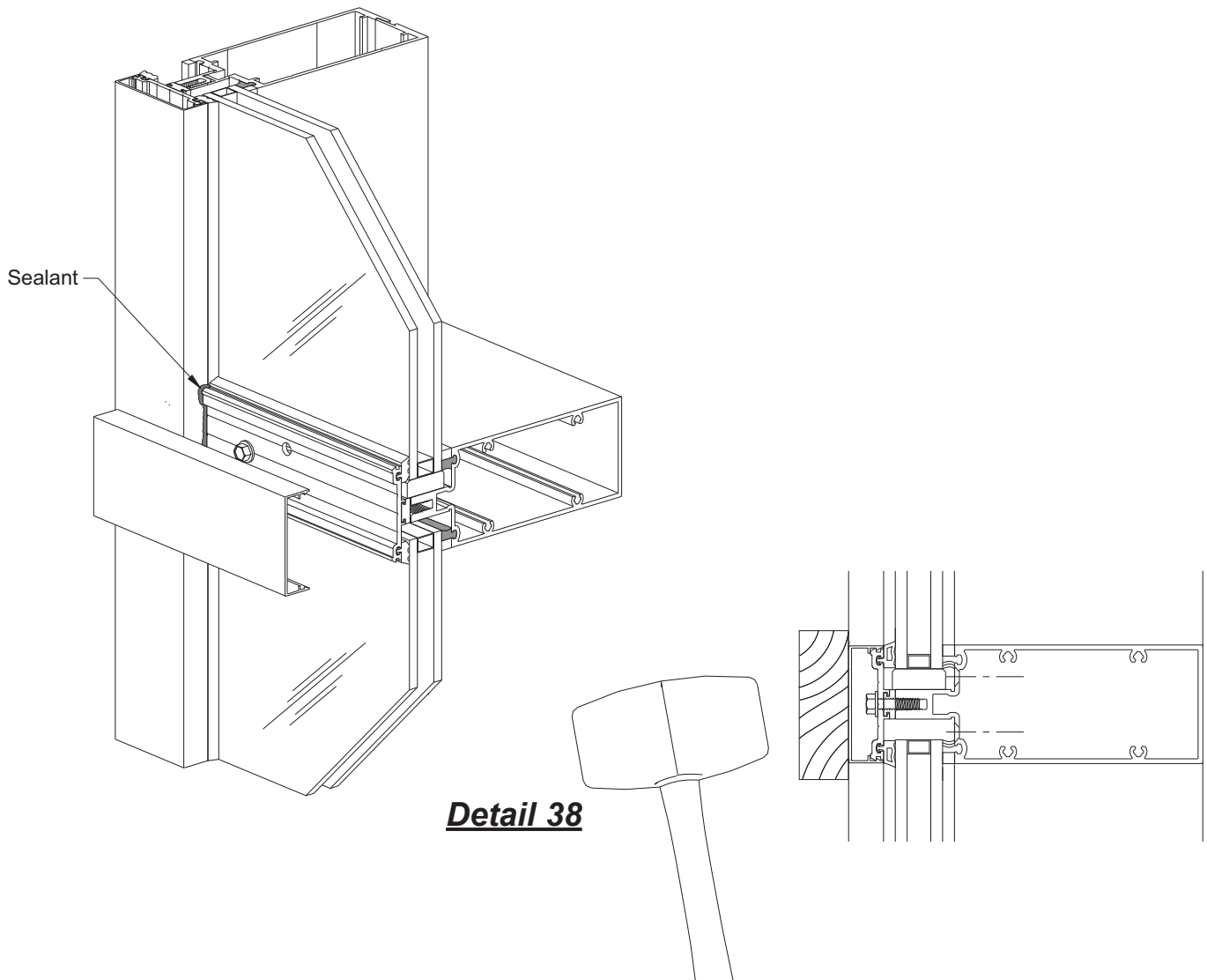
See **Detail 37**.

## FRAME INSTALLATION

### STEP 25 INSTALL EXTERIOR FACE COVERS

- Apply and tool sealant to the gap between horizontal pressure plate and the vertical face cover.
- Install horizontal face cover E9-1206. Start at one end and work block and mallet across the horizontal.

See **Detail 38**.



### STEP 26 INSTALL HEAD AND SILL COVERS

- Snap in Horizontal Flush Filler E9-3162, or E9-3595 at head and sill as required.

## GLAZING

### STEP 26A INSTALL OPTIONAL DEEP FACE COVERS

Installation of a deep vertical cover is similar to that of the standard face cover, except a fastener is required to keep the cover from possibly sliding down over time. Typically, the face cover is fastened with one PC-0808-SS screw at a horizontal to be concealed by the horizontal face cover, unless otherwise specified on the approved shop drawings.

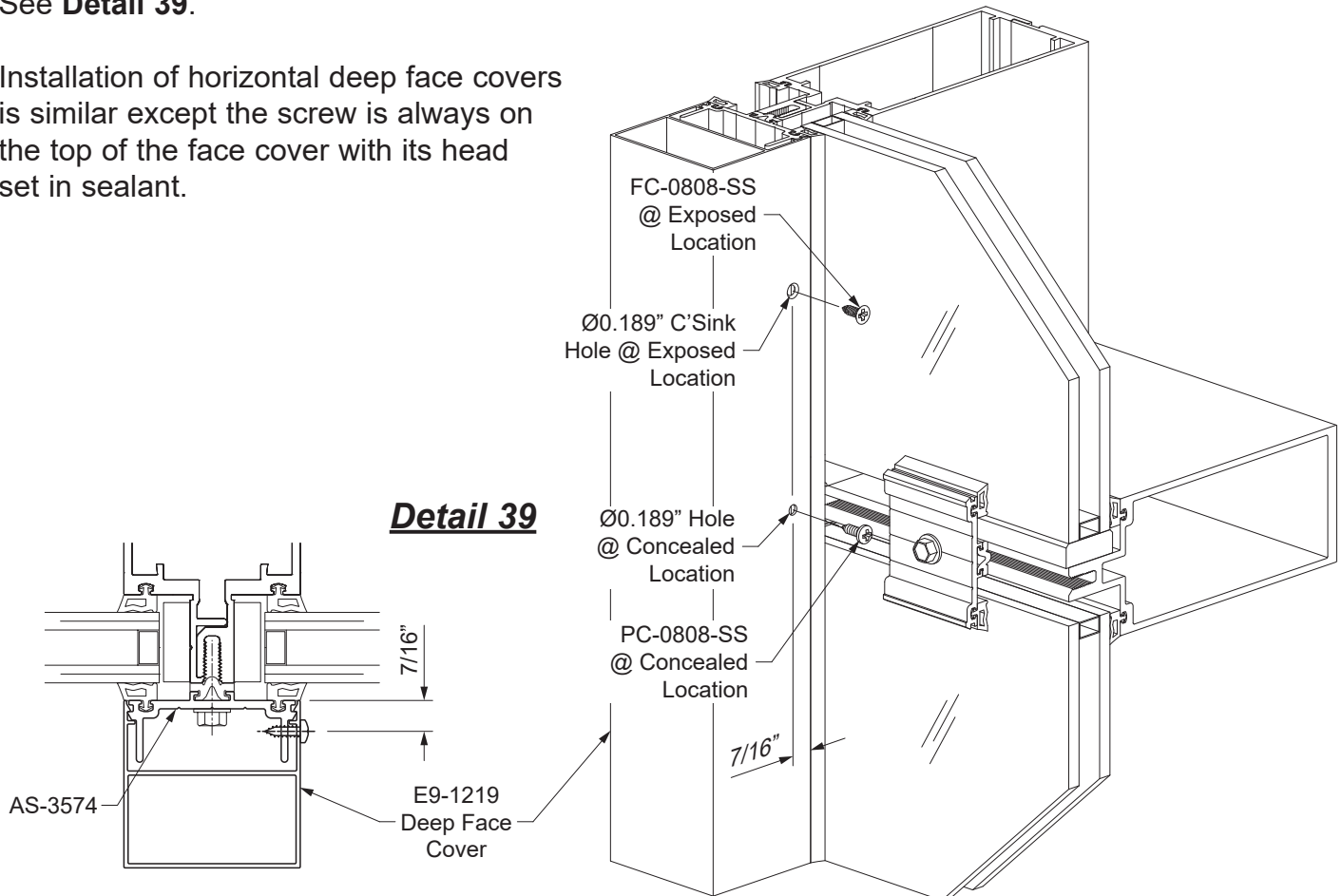
-For concealed fastener locations, drill a 0.189" diameter hole into the side of the face cover, 7/16" from the snap interface of the cover. Snap on the deep cover at its intended location. Using the clear hole as a pilot hole, drill a 0.141" diameter tap hole into the leg on the deep pressure plate. Secure the face cover in place with a PC-0808-SS.

-If the face cover requires it to be fastened at an exposed location, drill a 0.189" diameter countersunk hole into the side of the cover. Snap on the deep cover at its intended location. Using the clear hole as a pilot hole, drill a 0.141" diameter tap hole into the leg on the deep pressure plate. Secure the face cover in place with an FC-0808-SS screw.

-Continue to install the horizontal pressure plate and face cover as specified on **Pages 32 & 33**.

See **Detail 39**.

Installation of horizontal deep face covers is similar except the screw is always on the top of the face cover with its head set in sealant.







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