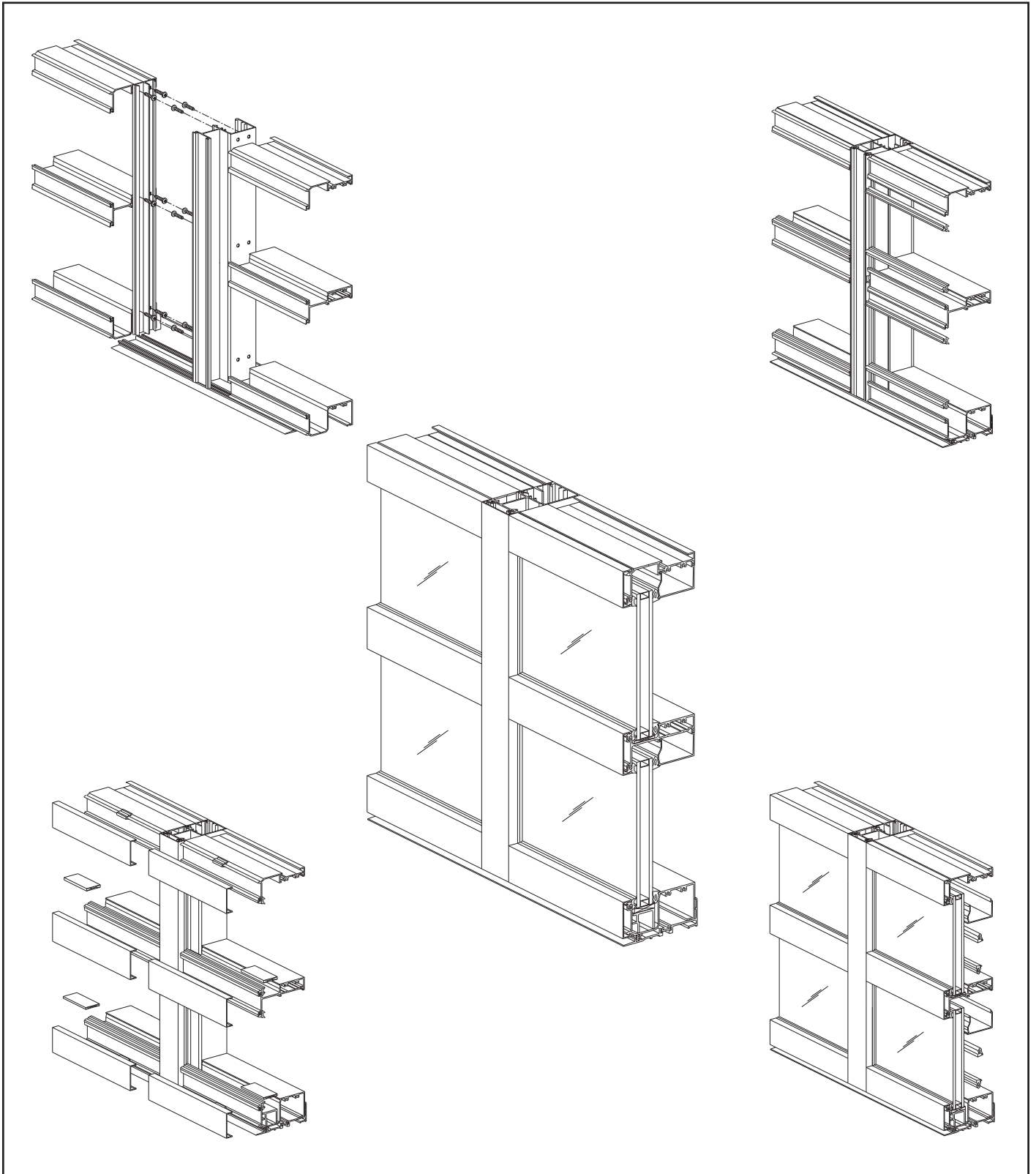


## YWE 40 T Window Wall System



## Installation Manual



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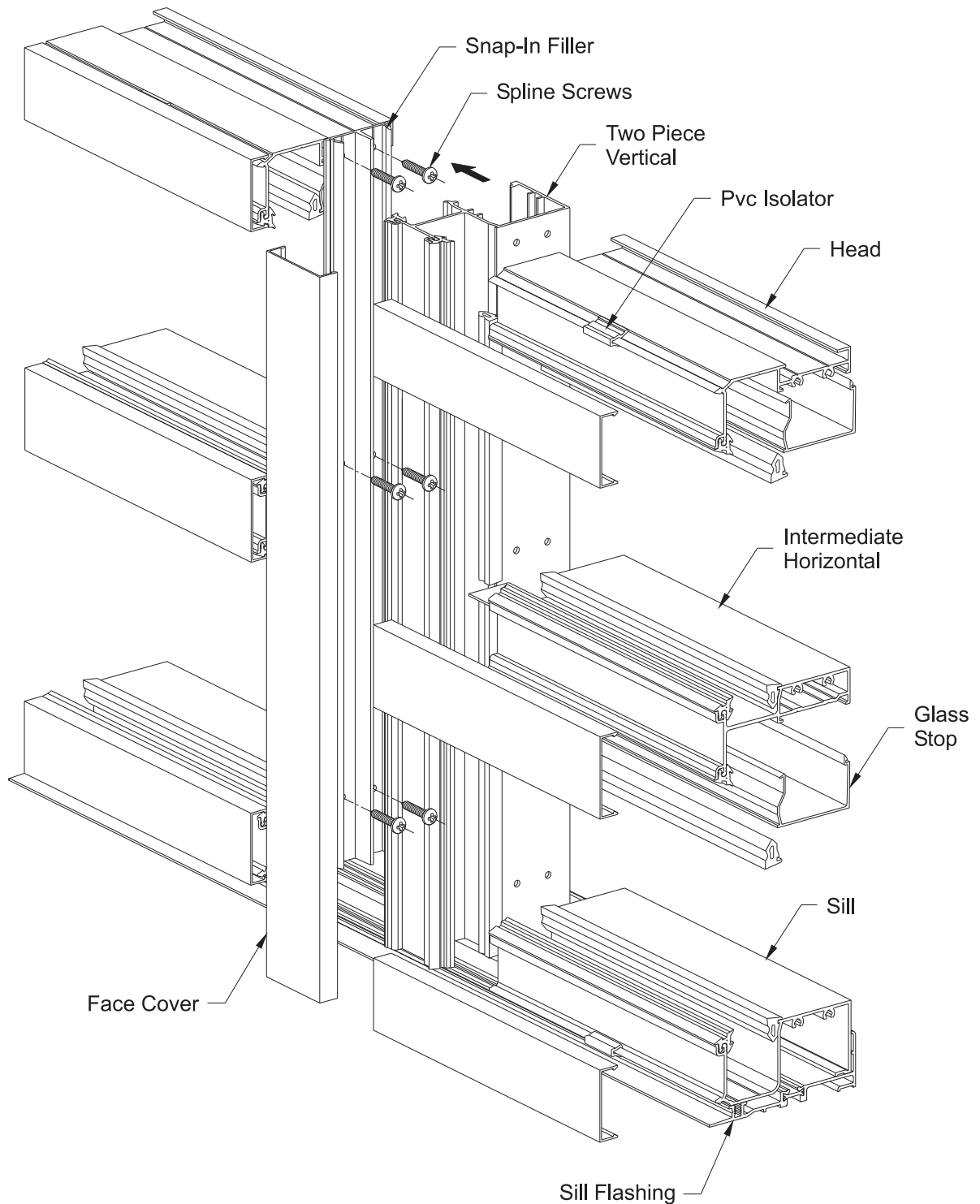
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## **Installation Notes**

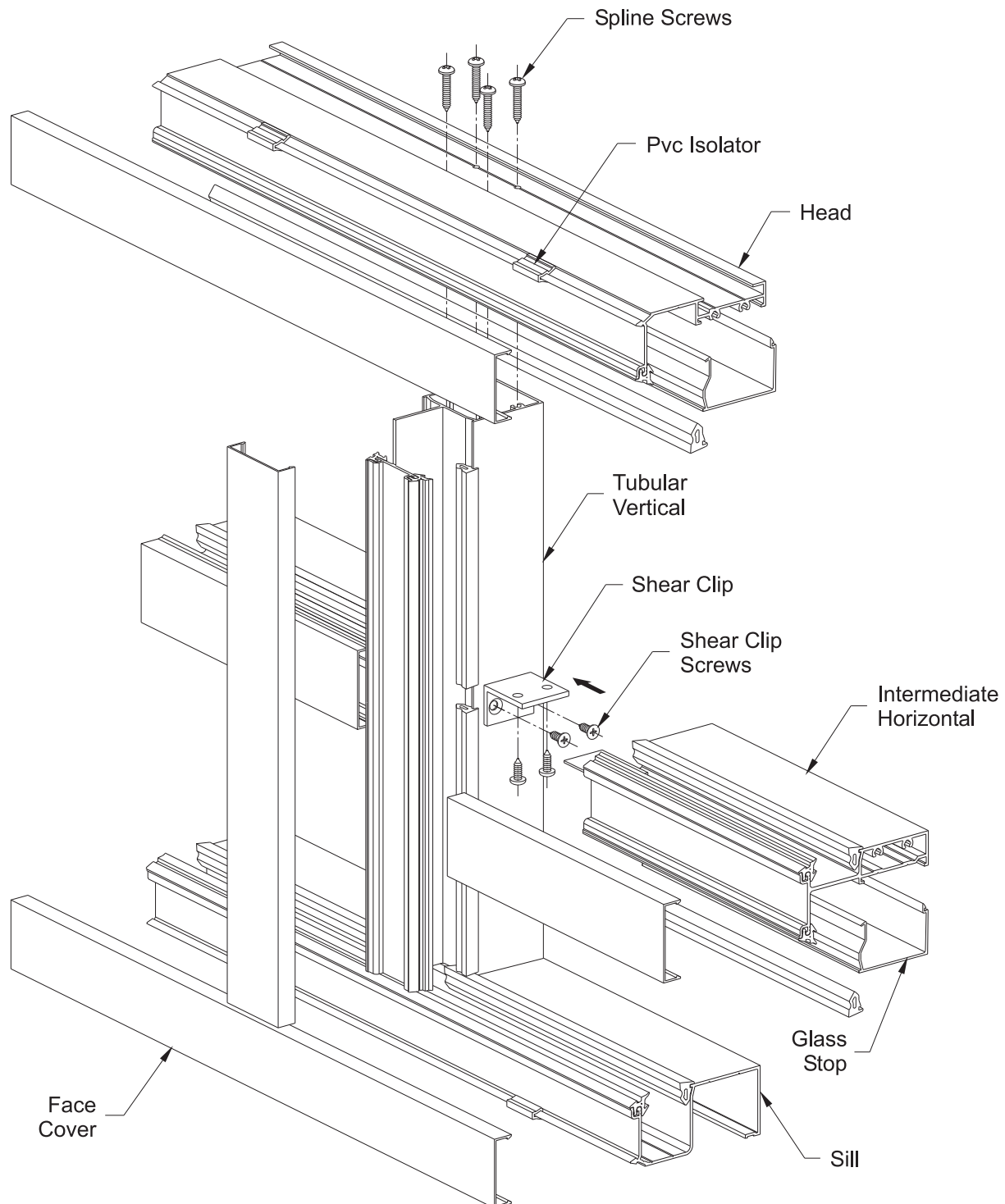
1. Do not drop, roll or drag boxes of aluminum framing. Move and stack boxes with proper support to prevent distortion. If fork lifts are used be especially careful about striking the boxes when lifting or moving.
2. Store in a dry, out of the way area. If rain exposure, condensation or any water contact 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 quantity and quality 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 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 that 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. Entrances are to be installed plumb, square, level and true.
11. If any questions arise concerning YKK AP products or their installation, contact YKK AP for clarification before proceeding.
12. YKK AP store front and/or curtain wall framing is typically completed before drywall, flooring and other products that may still be in process. Take the extra time to wrap and protect the work produced.
13. Cutting tolerances are plus zero, minus one thirty second unless otherwise noted.
14. Check our website, [www.ykkap.com](http://www.ykkap.com), for the latest installation manual update prior to commencing work.

## FRAME TYPES



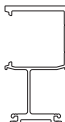


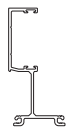
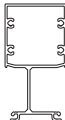


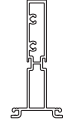
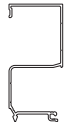
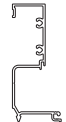
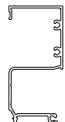



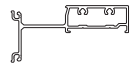



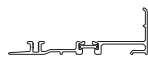

### Vertical Through Frame





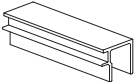

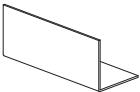

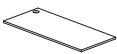

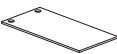

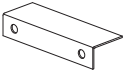

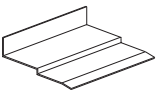










**FRAME TYPES**  
**Continuous Head and Sill Frame**  
**(Frames 24'-0" or Smaller)**



## FRAMING MEMBERS








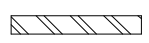

	<b>Two Piece Vertical</b> For Vertical Through Frames	<b>E9-2221</b>		<b>Face Cover</b> 1-3/4" x 1/2" For Perimeter Members	<b>E9-2231</b>
	<b>Heavy Duty Two Piece Vertical</b> For Vertical Through Frames	<b>E9-2240</b>		<b>Face Cover</b> 2" x 1/2" For Intermediate Members	<b>E9-2232</b>
	<b>Vertical Snap-In Filler</b> For Vertical Through Frames Use with E9-2221 & E9-2240	<b>E9-2222</b>		<b>Expansion Mullion</b> Female Use with E9-2230	<b>E9-2229</b>
	<b>Tubular Vertical</b> For Continuous Head & Sill	<b>E9-2223</b>		<b>Expansion Mullion</b> Male Use with E9-2229	<b>E9-2230</b>
	<b>SSG Vertical</b> For Structural Silicone Glazing of Intermediate Verticals	<b>E9-2239</b>		<b>Optional Vertical</b> For Continuous Head & Sill Without Interm. Horizontals	<b>E9-2235</b>
	<b>Jamb (Vertical Through)</b> <b>Head/Sill (Cont. Head &amp; Sill)</b>	<b>E9-2224</b>		<b>Optional Jamb</b> For Continuous Head & Sill Without Interm. Horizontals	<b>E9-2236</b>
	<b>Jamb (Cont. Head &amp; Sill)</b> <b>Sill (Vertical Through)</b>	<b>E9-2225</b>		<b>Glass Stop</b> Use with E9-2235 & E9-2236	<b>E9-2237</b>
	<b>Head</b>	<b>E9-2226</b>		<b>Glass Stop</b> With Blind Recess Use with E9-2235 & E9-2236	<b>E9-2238</b>
	<b>Intermediate Horizontal</b>	<b>E9-2227</b>		<b>90° Corner Mullion</b> Use with E9-2234	<b>E9-2233</b>
	<b>Glass Stop</b> Use with E9-2226 & E9-2227	<b>E9-2228</b>		<b>Jamb Attachment</b> Use with E9-2233	<b>E9-2234</b>
	<b>Sill Flashing</b>	<b>BE9-2205</b>		<b>Angle 1" x 1"</b> For 90° Corner	<b>E9-9302</b>

## ACCESSORIES

	<b>Shear Clip</b> For E9-2227 Horizontal Use (2) PC-1208 & (2) FC-1210 Not Included	<b>E1-1082</b>		<b>End Dam</b> For E9-2226 Head (Continuous Head & Sill)	<b>E2-0514</b>
	<b>Setting Block Chair</b> For Sill Use with E2-0134	<b>E1-1081</b>		<b>End Dam</b> For E9-2224/E9-2225 Sill (Continuous Head & Sill)	<b>E2-0515</b>
	<b>End Dam</b> For Sill Flashing BE9-2205	<b>E1-1083</b>		<b>Weep Baffle</b> (Continuous Head & Sill)	<b>E2-0099</b>
	<b>Mullion End Cap</b> For Jamb	<b>E1-1084</b>		<b>Thermal Isolator Clip</b>	<b>E3-0037</b>
	<b>Mullion End Cap</b> For Intermediate Vertical	<b>E1-1085</b>		<b>Temporary Glass Retainer</b> For Structural Silicone Glazing	<b>E3-0001</b>
	<b>Horizontal Bridge</b> For Horizontals at SSG Vertical	<b>E1-1087</b>		<b>Exterior Glazing Gasket</b>	<b>E2-0511</b>
	<b>Splice Sleeve</b> For BE9-2205 Sill Flashing	<b>E1-0174</b>		<b>Interior Wedge Glazing Gasket</b>	<b>E2-0512</b>
	<b>Water Deflector</b>	<b>E2-0047</b>		<b>Exterior Glazing Gasket</b> Silicone Compatible Use with SSG Frames	<b>E2-0516</b>
	<b>Setting Block</b> For E9-2227 Intermediate Horizontal	<b>E2-0177</b>		<b>Interior Wedge Glazing Gasket</b> Silicone Compatible Use with SSG Frames	<b>E2-0517</b>
	<b>Setting Block</b> For Sill, Use with E1-1081	<b>E2-0134</b>		<b>Weathering Gasket</b> Use with E9-2229 Expansion Mullion	<b>E2-0065</b>
	<b>Side Block</b> For Vertical Shallow Pocket			<b>SSG Glazing Spacer</b> Use with E9-2239 SSG Vertical	
	<b>Glazing Tape</b> For 90° Corner	<b>E2-0311</b>			<b>E2-0359</b>



## ACCESSORIES

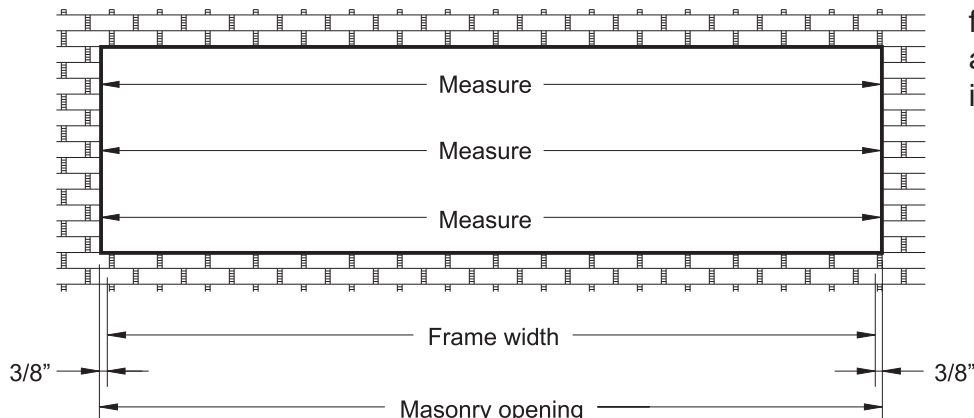
 <p><b>#12 x 5/8" FHSMS</b>  <b>Type AB</b>, Zinc Plated Steel  For Attachment of Shear Clip  E1-1082 to Vertical</p>	<b>FC-1210</b>	 <p><b>#10 x 1/2" FHSMS</b>  <b>Type AB</b>, Zinc Plated Steel  For Attachment of E9-9302  to 90° Corner Mullion</p>	<b>FC-1008</b>
 <p><b>#12 x 1/2" PHSMS</b>  <b>Type AB</b>, Zinc Plated Steel  For Attachment of Horizontal  to Shear Clip E1-1082</p>	<b>PC-1208</b>	 <p><b>#10 x 3/8" FHSMS</b>  <b>Type B</b>, Zinc Plated Steel  For Attachment E1-1087  Water Deflector</p>	<b>FB-1006</b>
 <p><b>#10 x 1-1/4" PHSMS</b>  <b>Type AB</b>, Zinc Plated Steel  For Attachment of E9-2226  Head to Vertical</p>	<b>PC-1020</b>	 <p><b>#10 x 3/8" FHSMS</b>  <b>Type AB</b>, Stainless Steel  For Attachment of Sill to  Sill Flashing</p>	<b>PM-1006</b> <b>-SS</b>
 <p><b>#10 x 1" PHSMS</b>  <b>Type AB</b>, Zinc Plated Steel  For Screw Spline Attachment</p>	<b>PC-1016</b>	 <p><b>Steel Reinforcing</b>  1/4" x 1-3/4" Steel Bar  Use with E9-2221</p>	<b>E1-0185</b>
 <p><b>#10 x 1/2" PHSMS</b>  <b>Type AB</b>, Zinc Plated Steel  For Attachment of E9-2234 to  90° E9-2233 Corner Mullion</p>	<b>PC-1008</b>		

## FRAME FABRICATION

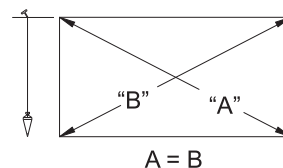
### STEP 1

### DETERMINE FRAME SIZE

#### Determine Frame Width:



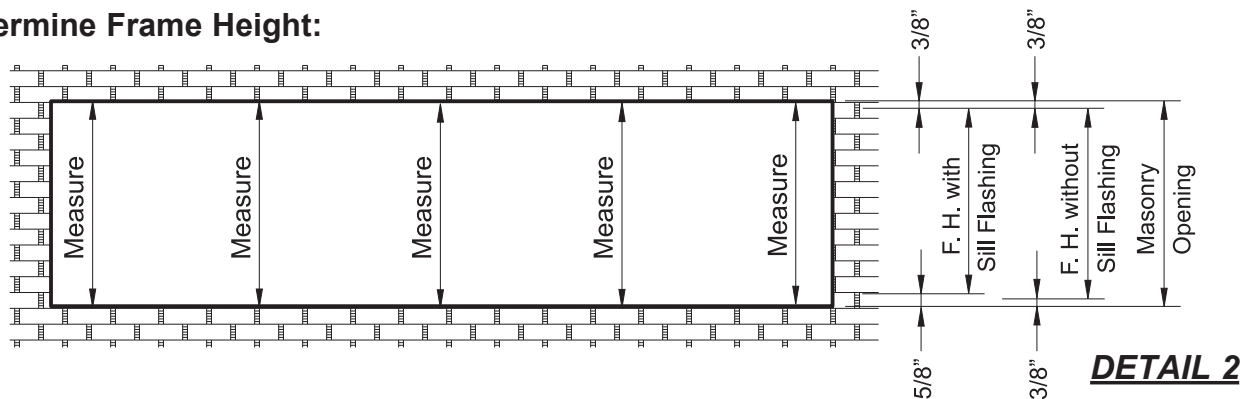
**Note:** Check the opening for squareness and plumb at both ends. Units must be installed in a true rectangle.



**DETAIL 1**

- Measure the width of the masonry opening at the top, middle, and bottom.
  - Select the smallest dimension measured and subtract 3/4" to determine the frame width.
- See **Detail 1**.

#### Determine Frame Height:



**DETAIL 2**

- Measure the height of the masonry opening several times along the entire length of opening and select the smallest dimension for the masonry opening height. See **Detail 2**.

#### To calculate frame height:

##### For Vertical Through Frames:

- Subtract 1" from the masonry opening height:
  - 3/8" caulk joint at head.
  - 3/8" sill flashing.
  - 1/4" caulk joint below flashing.

##### For Continuous Head & Sill Frames:

- Subtract 3/4" from the masonry opening height:
  - 3/8" caulk joint at head.
  - 3/8" caulk joint below sill member

**NOTE:** Vertical through frame widths over 24'-0" require expansion mullions every 12 to 15 feet. YWE 40 T must be installed with sill flashing, BE9-2205, for vertical through applications. Sill flashing is not required when head and sill members run continuous (frames 24'-0" or smaller).

## FRAME FABRICATION

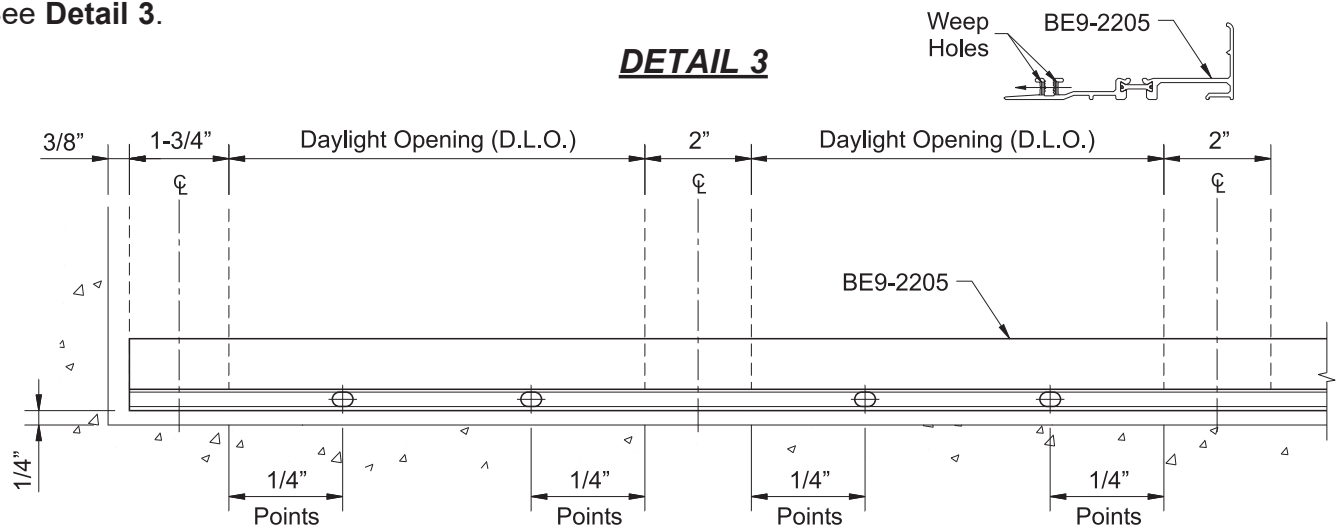
### STEP 2

#### FABRICATE SILL FLASHING

(Vertical Through Frames Only)

- Cut the sill flashing, BE9-2205, to the frame width determined in **Step 1**:  
Masonry opening width minus(-) 3/4" (3/8" at each jamb).
- Allow for a 3/8" splice joint between sill flashing members on longer runs.  
Locate splices away from vertical and weep hole locations.
- Mark the quarter points between vertical mullions on the sill flashing.
- Drill a 1/4" diameter weep hole in the face of the sill flashing at each quarter point.
- Using the drill, elongate each weep hole by 1/8" to create an oval.

See **Detail 3**.

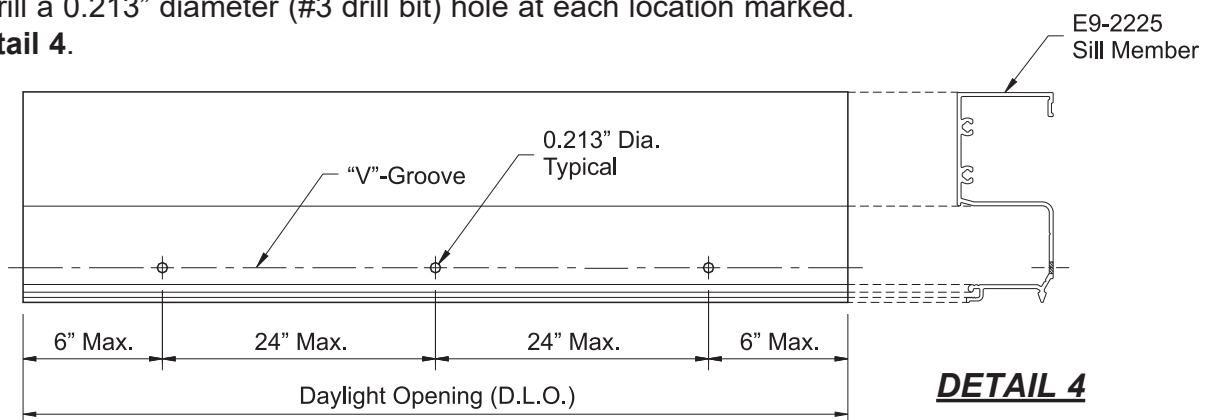


### STEP 3

#### FABRICATE HEAD & SILL MEMBERS FOR VERTICAL THROUGH FRAMES

- Cut head and sill members to the daylight opening dimension between verticals.
- Fabricate sill members for anchoring to sill flashing:
  - Measure in 6" from each end of the sill member and mark hole locations along the glazing pocket "V"-groove.
  - Mark additional hole locations a maximum of 24" on center (O.C.).
  - Drill a 0.213" diameter (#3 drill bit) hole at each location marked.

See **Detail 4**.

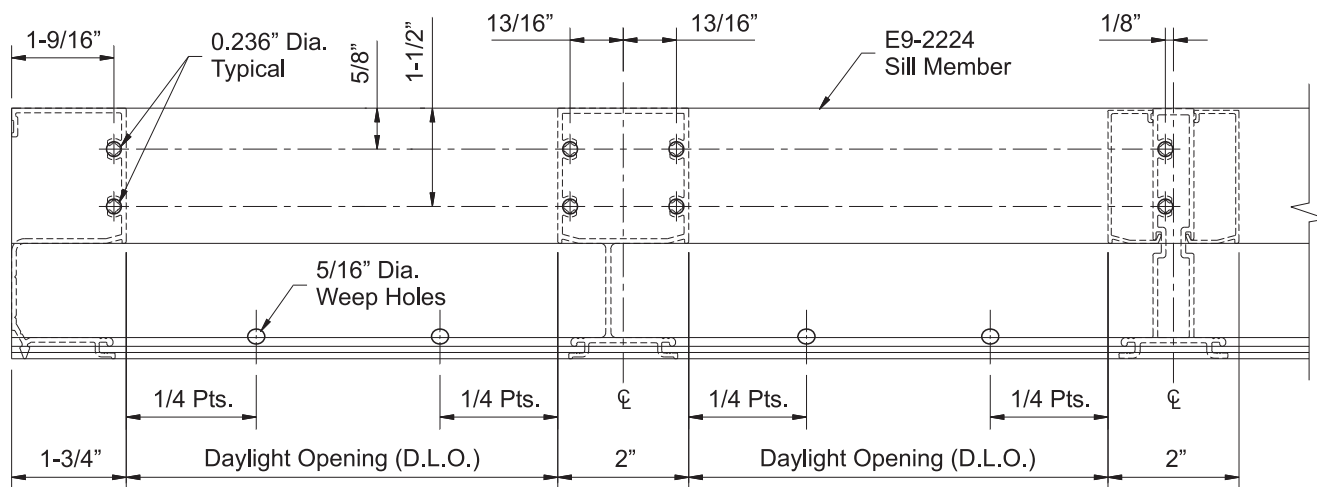


## FRAME FABRICATION

### STEP 3

#### FABRICATE HEAD & SILL MEMBERS FOR CONTINUOUS HEAD & SILL FRAMES

- Cut head and sill members to the frame width determined in **Step 1**.
- Mark hole locations on the head and sill members for screw spline attachment of vertical members using one of the methods below:
  - Using short pieces of vertical members as a template, line up the glazing pockets and mark hole locations through the screw splines.
- OR**
- Layout hole locations on head and sill members as shown in **Detail 5**.
- Drill 0.236" diameter (#B drill bit) clearance holes at each location marked.

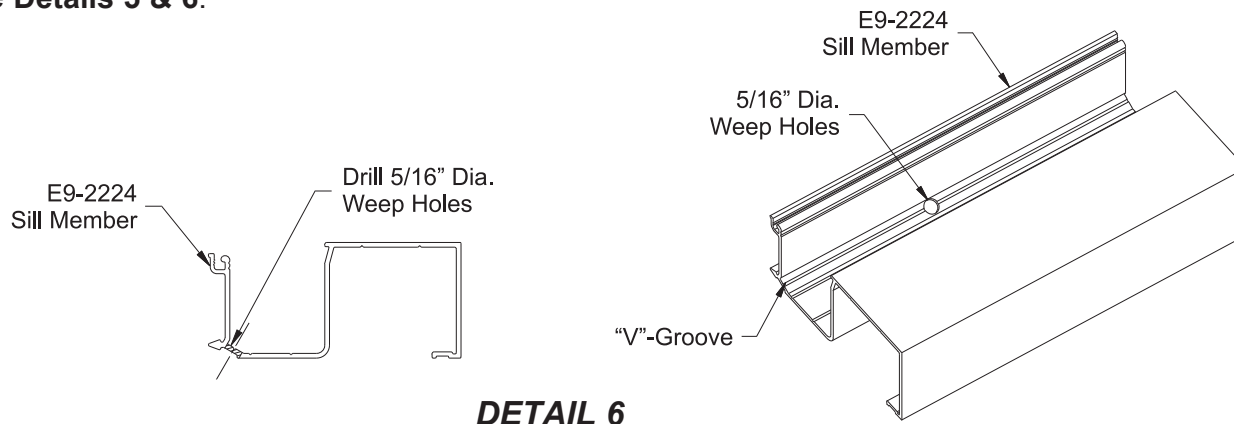


**DETAIL 5**

Continuous head and sill frames require weep holes at the sill:

- Mark the sill members, E9-2224, at 1/4 points of daylight opening between vertical members along the front "V"-Groove in the glazing pocket of the sill member as shown.
- Drill 5/16" diameter weep holes at each location marked.

See **Details 5 & 6**.



**DETAIL 6**

## FRAME FABRICATION

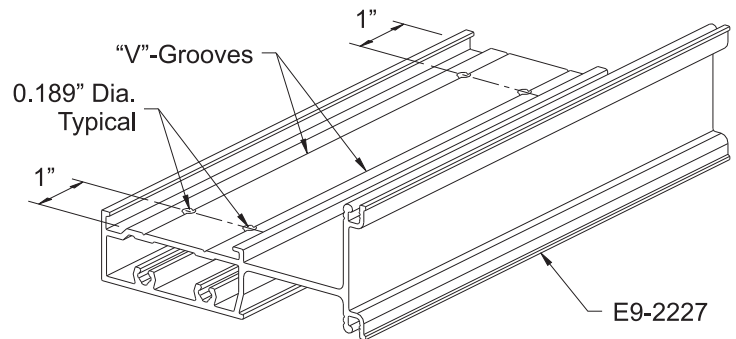
### STEP 4

#### FABRICATE INTERMEDIATE HORIZONTAL MEMBERS

-Cut intermediate horizontals, E9-2227, to the daylight opening between verticals.

Horizontal members that will be attached to tubular verticals require additional fabrication for the shear clip:

- Measure in 1" from each end of the horizontal and mark the location on each of the "V"-grooves on the bottom side of the horizontal.
- Drill a 0.189" (#12 drill bit) diameter hole at each location marked.



See **Detail 7**.

#### **DETAIL 7**

**Caution:** It is not possible to attach E9-2227 to optional vertical, E9-2235.

### STEP 5

#### FABRICATE TWO PIECE VERTICALS FOR VERTICAL THROUGH FRAMES

-Cut all jamb and two piece vertical members to the frame height determined in **Step 1**.

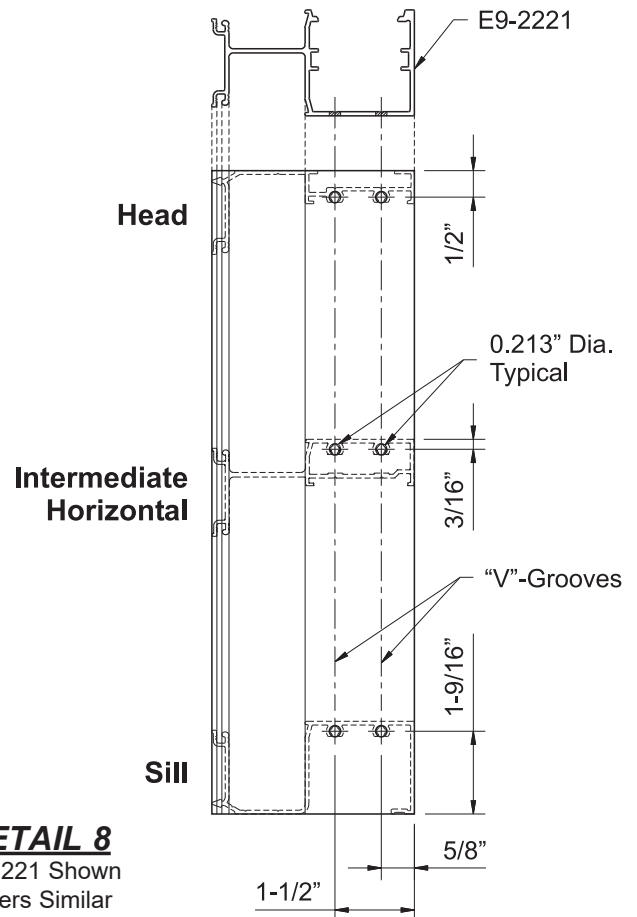
Fabricate holes in the vertical members for screw spline attachment using one of the methods below:

- Using short pieces of horizontal members as a template, line up the glazing pockets and mark hole locations through the screw splines of the templates.

**OR**

- Layout hole locations on vertical members as shown in **Detail 8**.
- Drill 0.213" diameter (#3 drill bit) holes at each location marked.

See **Detail 8**.



#### **DETAIL 8**

E9-2221 Shown  
Others Similar

## FRAME FABRICATION

### STEP 5

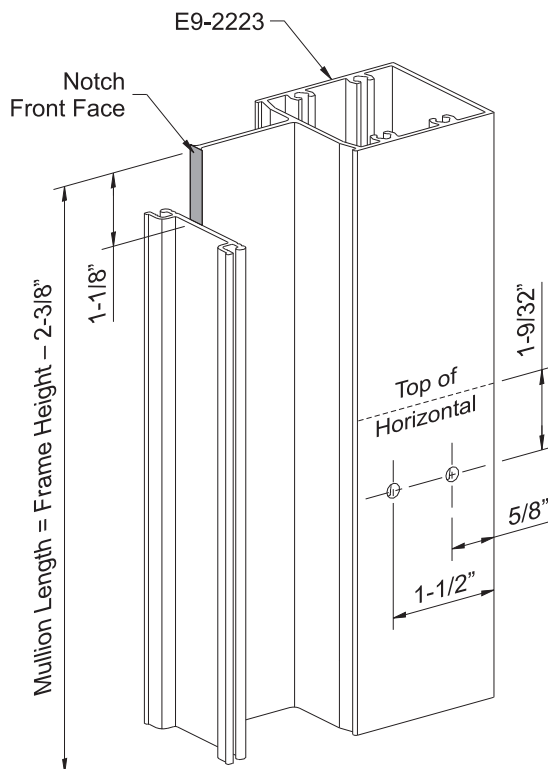
### FABRICATE VERTICALS

### FOR CONTINUOUS HEAD & SILL FRAMES

#### For Frames With Intermediate Horizontals:

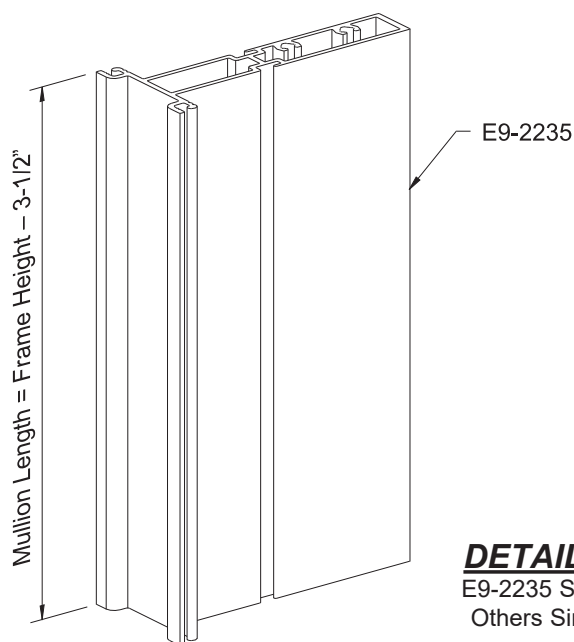
- Cut SSG vertical, E9-2239 to the frame height determined in **Step 1** minus(-) 3-1/2".
- Cut E9-2223 (vertical) and E9-2225 (jamb) mullions to the frame height determined in **Step 1** minus(-) 2-3/8".
- E9-2225 and E9-2223 are attached to head member, E9-2226, and must be notched to fit into the head.
  - Measure down from the top of the vertical and jamb mullions 1-1/8" and draw a line across the front face.
  - Notch the mullions down to this line and back to the mullion web as shown in **Detail 9**.
- Fabricate verticals for intermediate horizontal attachment by shear clip:
  - Draw a line across the side of the vertical where the top of the intermediate horizontal will be.
  - Draw a second line 1-9/32" below the first one.
  - Mark hole locations along this line at 5/8" and 1-1/2" from the back of the mullion.
  - Drill 0.189" diameter (#12 drill bit) holes at each location marked and attach shear clips, E1-1082, with two FC-1210 fasteners.

See **Detail 9**.



#### **DETAIL 9**

E9-2223 Shown  
E9-2225 Similar



#### **DETAIL 10**

E9-2235 Shown  
Others Similar

#### For Frames Without Intermediate Horizontals:

- Cut E9-2235 (vertical) and E9-2236 (jamb) mullions to the frame height determined in **Step 1** minus(-) 3-1/2".

See **Detail 10**.

**Note:** Notching of E9-2235 and E9-2236 is not required as they must be attached to head member, E9-2224.

Intermediate horizontals **cannot be** attached to E9-2235 and E9-2236.

## FRAME FABRICATION

### STEP 6

#### FABRICATE INTERIOR GLASS STOPS

- Cut horizontal interior glass stops, E9-2228, to the same dimension their respective horizontals minus(-) 1/32".
- Cut vertical interior glass stops, E9-2237 and E9-2238, to the same dimension their respective verticals minus(-) 1/32".

### STEP 7

#### FABRICATE FACE COVERS

##### For Vertical Through Frames:

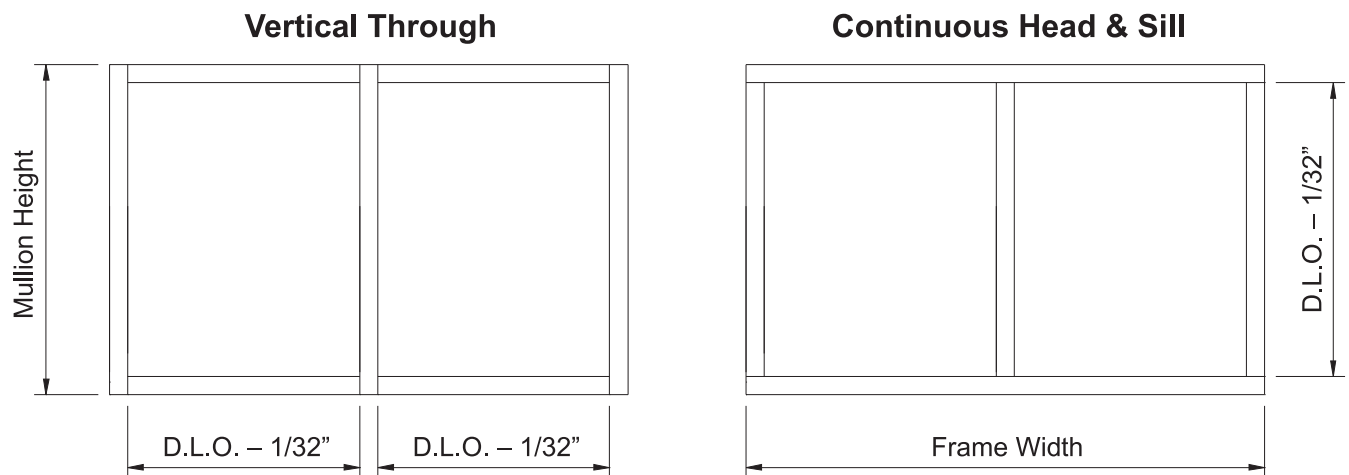
- Cut vertical face covers to the same dimension as their respective vertical mullions.
- Cut horizontal face covers to the daylight opening between verticals minus(-) 1/32."

##### For Continuous Head & Sill Frames:

- Cut vertical face covers to the daylight opening height minus(-) 1/32."
- Cut head and sill face covers to the frame width determined in **Step 1**.
- Cut intermediate horizontal face covers to the daylight opening minus(-) 1/32" for captured mullions.

See **Detail 11**.

**Note:** If using SSG verticals, horizontal face covers may run continuous across SSG verticals. An expansion joint, 1/2" wide, is required every 12 to 15 feet; this joint should occur at the centerline of a SSG vertical. See approved shop drawings for all horizontal face cover dimensions if using SSG verticals.



**DETAIL 11**

## FRAME ASSEMBLY

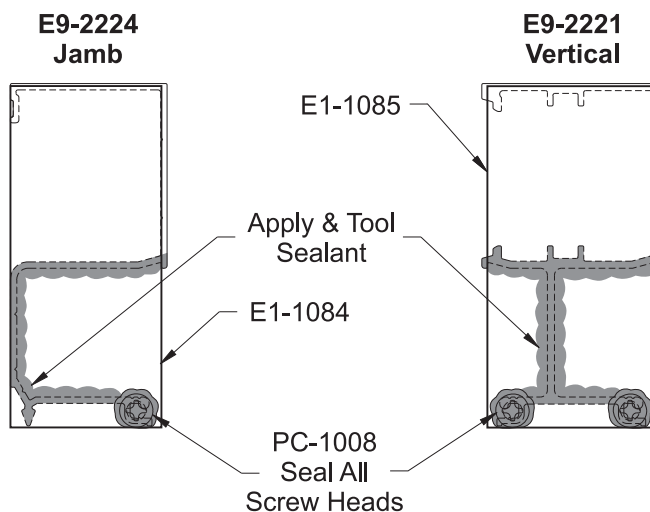
### STEP 8

#### ATTACH MULLION END CAPS

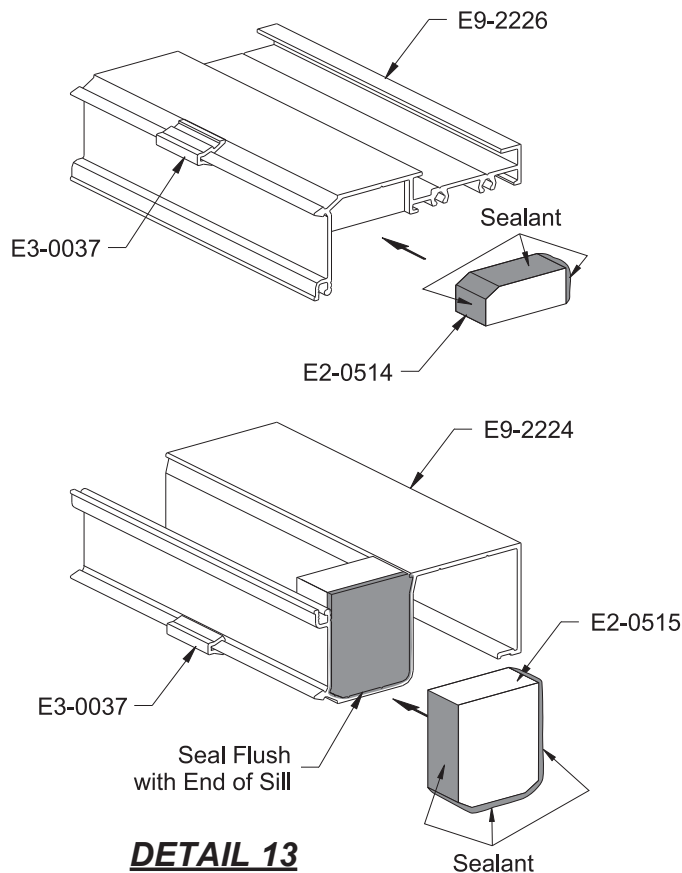
(For Vertical Through Frames Only)

- Mullion end caps are only required at the top end of jamb and vertical mullions.
- Clean the vertical mullion end and mullion end cap with a cleaner and method approved by the sealant manufacturer.
- Apply sealant to the gasket reglet and along the front of the vertical members prior to installing mullion end caps.
- Attach mullion end cap, E1-1084, to the jamb mullion with (1) PC-1008 fastener.
- Attach mullion end cap, E1-1085, to the vertical mullion with (2) PC-1008 fasteners.
- Tool the excess sealant along the inside of the glazing pocket between the mullion end cap and the mullions.
- Seal all exposed screw heads.

See **Detail 12**.



**DETAIL 12**



**DETAIL 13**

### STEP 9

#### INSTALL END DAMS

(For Continuous Head & Sill Frames Only)

The ends of each head and sill member for continuous head & sill frames must be plugged using end dams, E2-0514 and E2-0515.

Use the following technique to install end dams at the head and sill:

- Clean the ends of the head and sill members with a cleaner and method approved by sealant manufacturer.
- Apply sealant to all three contact sides of the end dam.
- Insert the end dam into each end, leaving it 1/8" recessed from the edge of the mullion.
- Apply sealant to the end dam ends and tool the sealant flush with the ends of the mullion.

See **Detail 13**.



## FRAME ASSEMBLY

### STEP 10

### ATTACH FACE COVERS

#### For Vertical Through Frames:

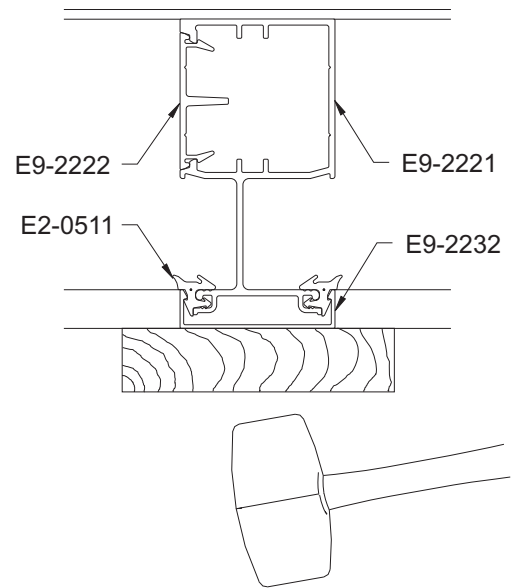
- Attach only the vertical and jamb covers at this time:
  - Cut exterior glazing gaskets for vertical and jamb members to the mullion length plus(+) 3/16" per foot of mullion height.

#### For Continuous Head & Sill Frames:

- Attach only the head and sill covers at this time:
  - Cut exterior glazing gaskets for continuous head and sill members to the mullion length plus(+) 3/16" per foot of mullion width.

**Note:** When SSG verticals are used, E2-0516 silicone compatible glazing gasket must be used instead of E2-0511.

- Insert each end of the glazing gasket into the gasket reglet first and then insert the gasket at the midpoint of the mullion.
- Roll in the gasket working from the midpoint towards each end.



#### **DETAIL 14**

Int. Vertical Shown,  
Cont. Head & Sill Similar

#### To Install Intermediate Face Covers:

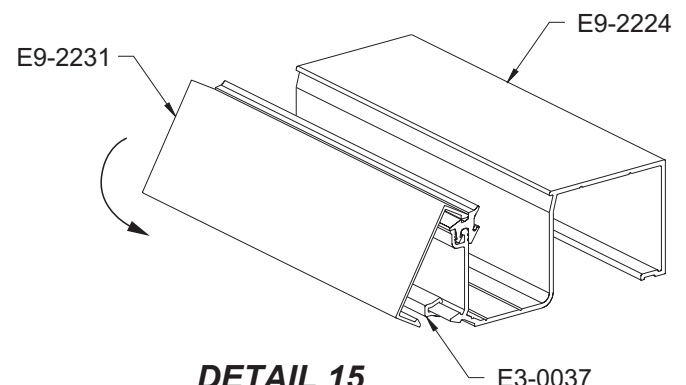
- Using a rubber mallet and a clean scrap piece of lumber, carefully snap on the face covers starting at one end and work towards the other end.

See **Detail 14**.

#### To Install Perimeter Face Covers:

- Snap on thermal isolator clips, E3-0037, on perimeter members 3" from each end and no more than 12" on center.
- Set the face cover on the glazing gasket first and roll the cover towards the isolator clips to snap in place.

See **Detail 15**.



#### **DETAIL 15**

Sill Shown,  
Head & Jamb Similar

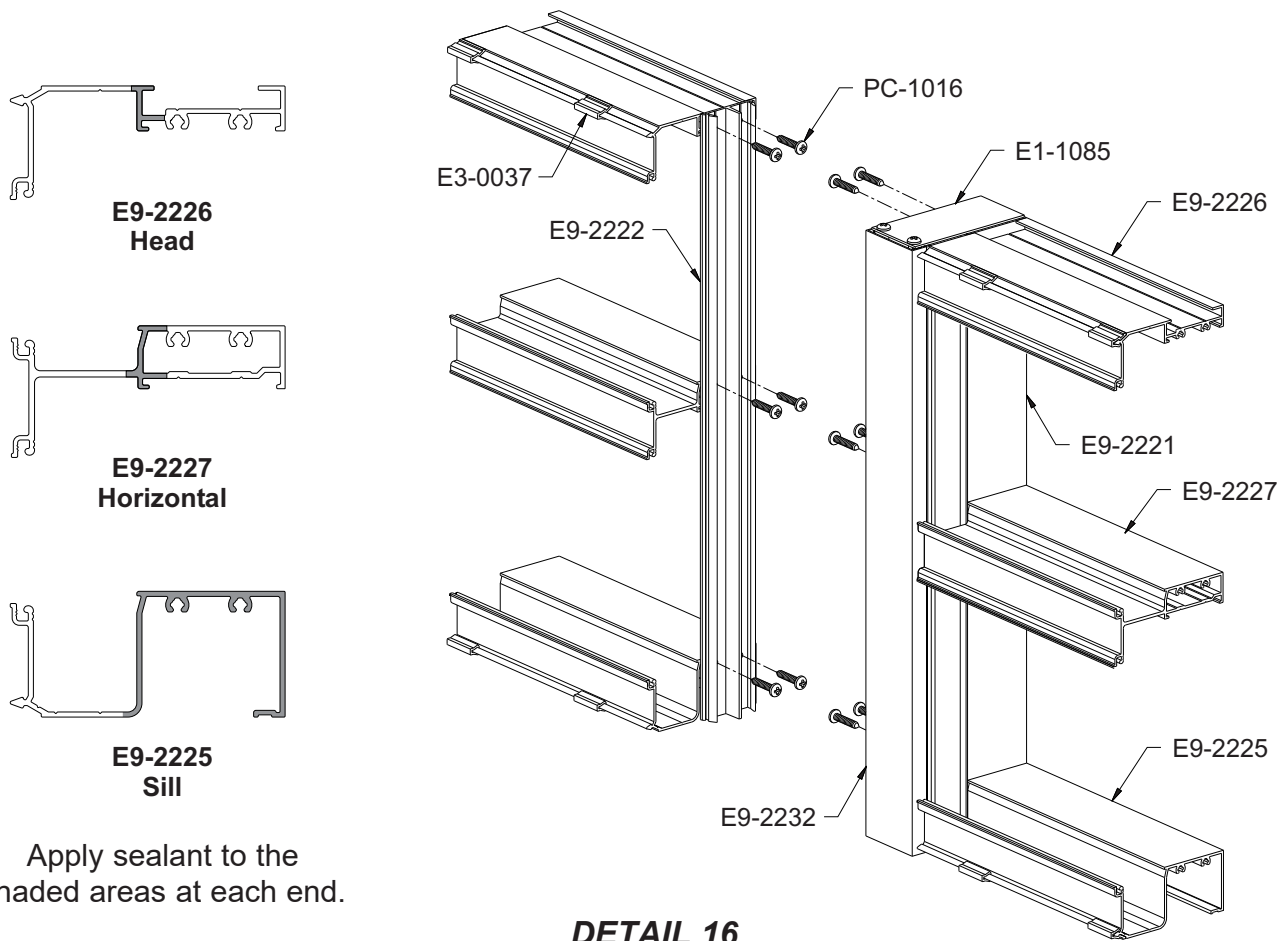
## FRAME ASSEMBLY

### STEP 11 ASSEMBLE FRAMES

#### Vertical Through Frames:

- Clean the ends of horizontal members and attachment areas of vertical members using a cleaner and method approved by sealant manufacturer.
- Apply (butter) sealant to both ends of head, horizontal, and sill members just prior to assembly.
- Attach head, horizontal and sill members to the two piece vertical members with (2) PC-1016 fasteners at each end.
- Using a clean cloth, wipe off the excess sealant while pushing it into the joints.

See **Detail 16**.



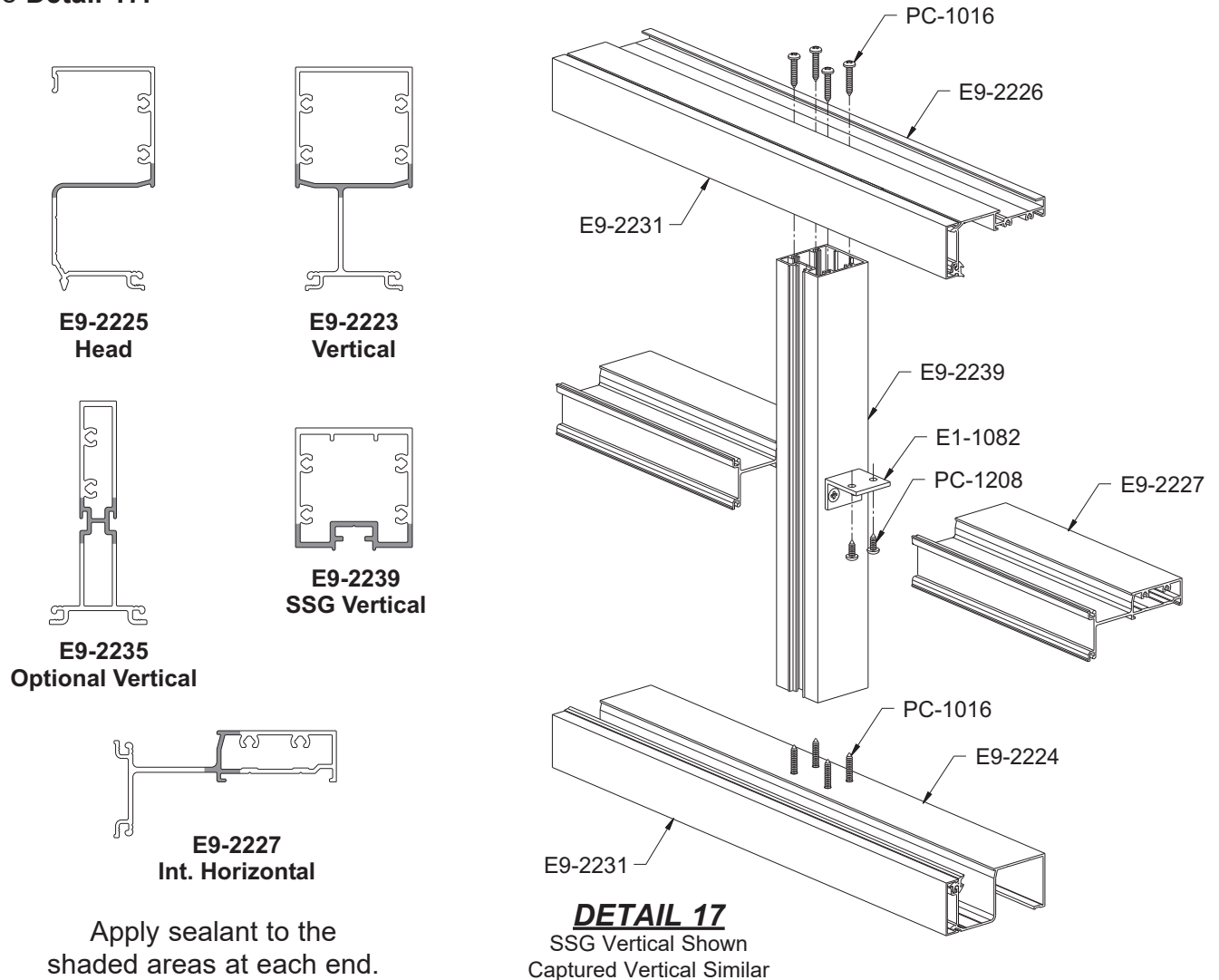
## FRAME ASSEMBLY

### STEP 11 ASSEMBLE FRAMES

#### Continuous Head & Sill Frames:

- Clean the ends of vertical members and attachment areas of head and sill members using a cleaner and method approved by sealant manufacturer.
- Apply (butter) sealant to both ends of jamb and vertical members just prior to assembly.
- Attach jamb and vertical mullions to the head and sill members using (2) PC-1016 fasteners per jamb and (4) PC-1016 fasteners per intermediate vertical. Substitute PC-1020 fasteners when using E9-2226 continuous head member.
- Apply (butter) sealant to both ends of the intermediate horizontal members just prior to assembly.
- Attach intermediate horizontals to the shear clips using (2) PC-1208 fasteners at each end.
- Using a clean cloth, wipe off the excess sealant while pushing it into the joints.

See **Detail 17**.



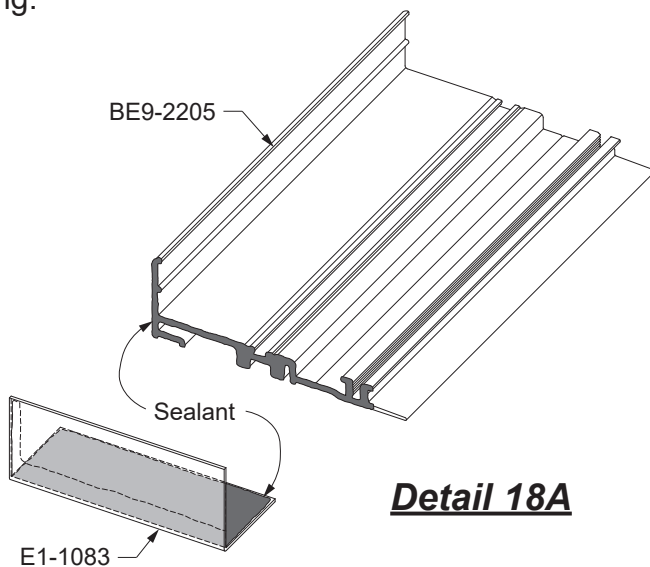
## FRAME INSTALLATION

### STEP 12

#### INSTALL SILL FLASHING (For Vertical Through Frames Only)

- Clean all joint surfaces using cleaner approved by sealant manufacturer.
- Apply sealant to each end of the sill flashing.
- Apply sealant to the contact surfaces of the E1-1083 end dam and adhere it to each end of the sill flashing.

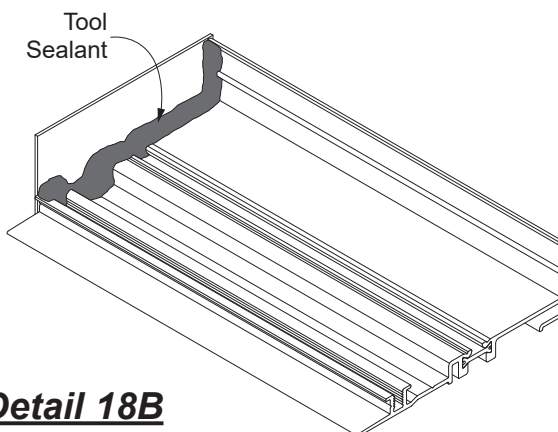
See **Detail 18A**.



**Detail 18A**

- Apply and tool sealant along the joint between the end dam and the sill flashing. Tape down the back corners to hold the end dam in place until the sealant cures.

See **Detail 18B**.



**Detail 18B**

## FRAME INSTALLATION

### STEP 12 (Continued)

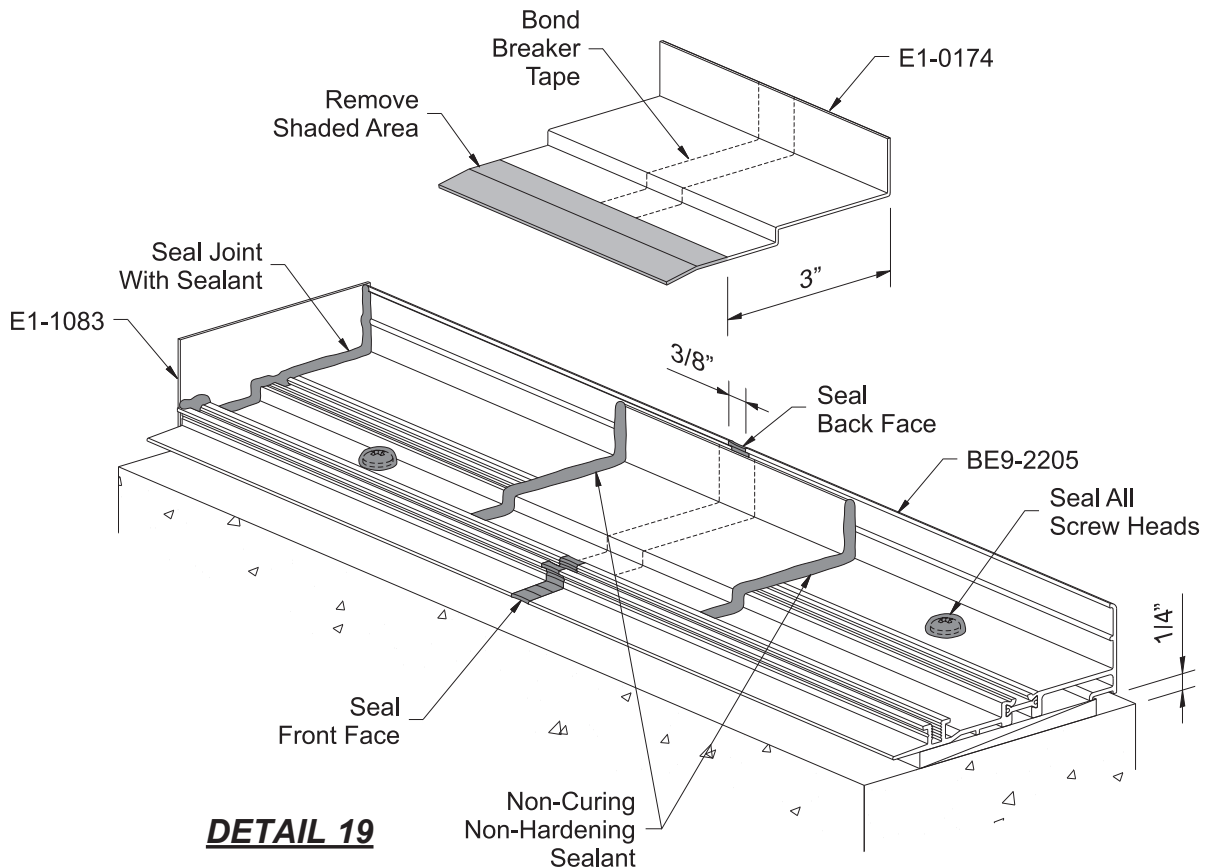
#### INSTALL SILL FLASHING (For Vertical Through Frames Only)

- Starting at the smallest opening height, install the sill flashing with a minimum of 1/4" shim underneath. Sill flashing must be installed level.
- Anchor the sill flashing to the structure within 6" of each vertical centerline and then no more than 18" to 24" on center. Alternate the anchors from front to back.
- Apply and tool sealant to the heads of all fasteners.

The sill flashing must be spliced every twelve to fifteen feet using splice sleeve, E1-0174:

- Cut off the front portion of the sleeve as shown below so that it measures 3" front to back.
- Apply bond breaker tape along the center of the splice sleeve on the underside.
- Apply a generous amount of non-hardening, non-curing sealant to both sides of the splice area.
- Center the splice sleeve over the 3/8" splice joint.
- Tool the sealant up and over the edges of the splice sleeve to completely seal the joint.
- Apply and tool sealant at the front and back faces of the splice joint.

See **Detail 19**.



## FRAME INSTALLATION

### STEP 13

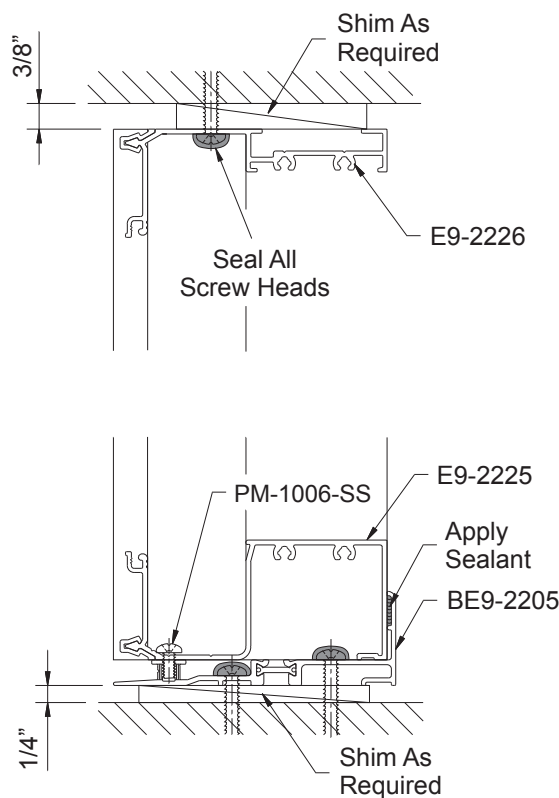
#### INSTALL VERTICAL THROUGH FRAMES

- Immediately before installing the frames, apply a continuous bead of sealant to the back leg of the sill flashing. Make sure all surfaces are clean.
- Snap frame assemblies together and set onto the sill flashing.
- Shim the head and jamb members to ensure that the frame is installed plumb, square, and true.
- Anchor the head members at 6" on each side of every vertical centerline and then no more than 24" on center.
- Anchor jamb members 6" from each end and then no more than 24" on center.

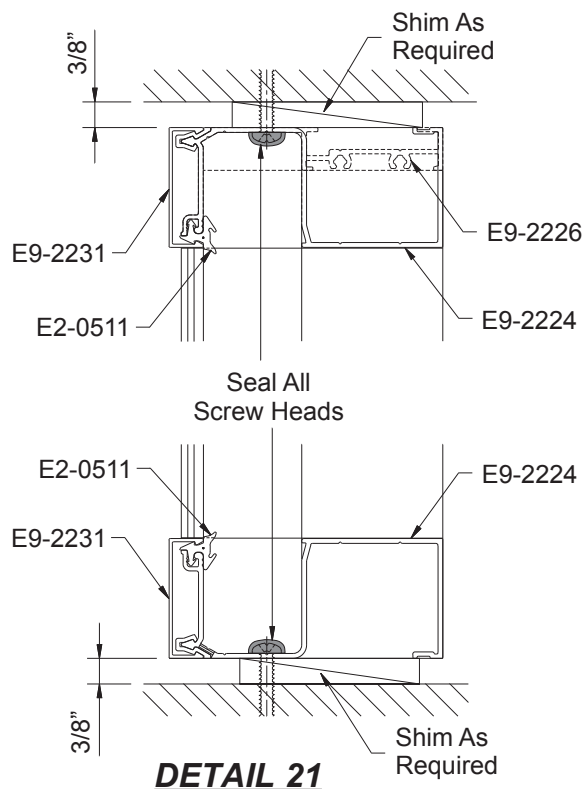
**Note:** Shims must be installed at all anchor points.

- Sill members, E9-2225, must be attached to the sill flashing with a PM-1006-SS fastener at each hole previously drilled during sill fabrication.
- Seal all anchor heads.

See **Detail 20**.



**DETAIL 20**



**DETAIL 21**

#### INSTALL CONTINUOUS HEAD & SILL FRAMES

- Strike a line along the structure at the sill condition that will be the exterior face of the frame.
- Set the assembled frame into the opening and align it with the line representing the exterior face.
- Start installing the frame at the smallest opening height with a 3/8" minimum shim at the sill.
- Shim the frame as required to ensure that it is installed level, square, and true.
- Anchor the head and sill members at 6" on each side of every vertical centerline and then no more than 24" on center.
- Anchor jamb members 6" from each end and then no more than 24" on center.

**Note:** Shims must be installed at all anchor points.

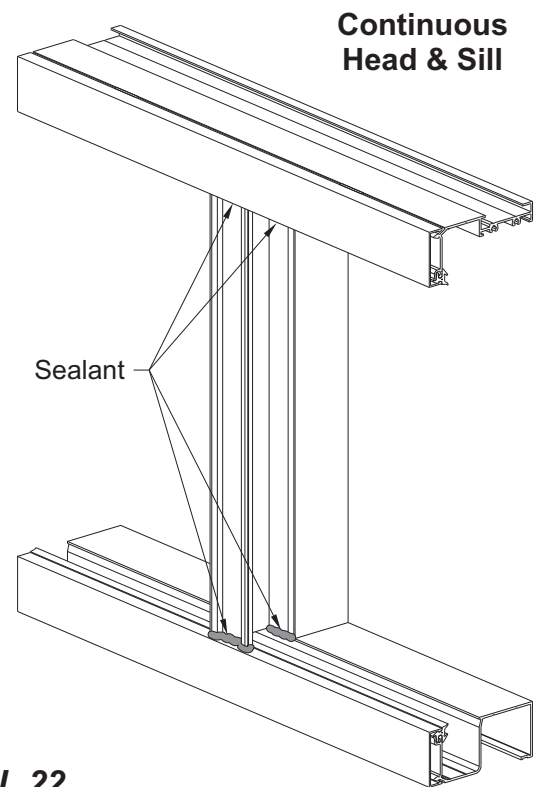
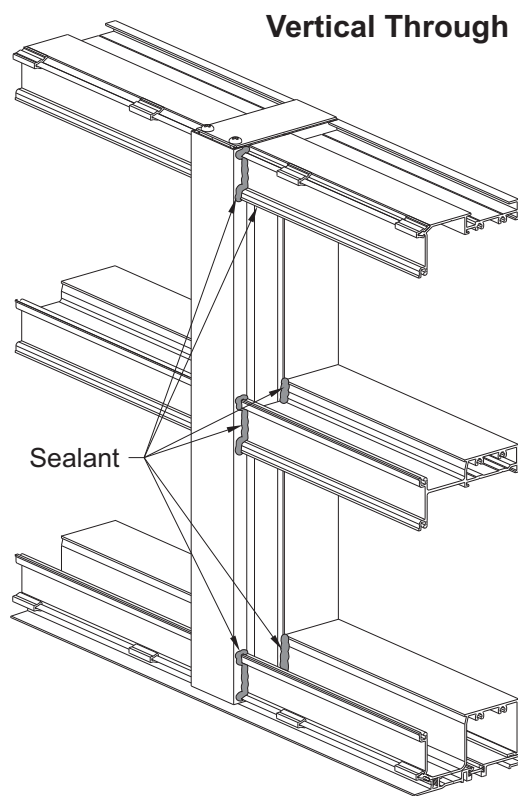
- Seal all anchor heads.

See **Detail 21**.

## FRAME INSTALLATION

### STEP 14 SEAL THE FRAMES

- Apply sealant to all vertical/horizontal joints at the glazing pockets and also where the face of the mullions meet the face covers.
  - Tool the sealant to ensure a watertight joint.
- See **Detail 22**.



**DETAIL 22**

- Attach the remainder of the face covers, except for intermediate horizontal covers for SSG frames, using the same techniques shown in **Step 10**.
- For continuous head and sill SSG frames with intermediate horizontals, go to **Step 16** on the next page.
- For continuous head and sill captured frames with intermediate horizontals, install the vertical covers first. Then seal the intermediate horizontal to the vertical cover as shown above for vertical through frames prior to installing the intermediate horizontal face covers.

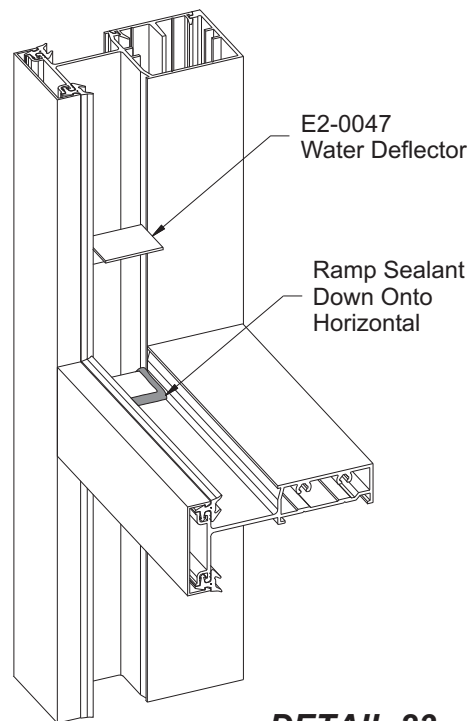
## FRAME INSTALLATION

### STEP 15 INSTALL WATER DEFLECTORS

The installation of water deflector, E2-0047, at the ends of every intermediate horizontal is required to divert water away from the insulated units.

- Clean and dry off the glazing pocket of each horizontal at the ends.
- Peel off the protective paper and install the water deflector at the end of the horizontal.
- Position the vertical leg of the deflector against the end of the horizontal.
- Apply and tool sealant along the edges of the water deflector down onto the horizontal.

See **Detail 23**.



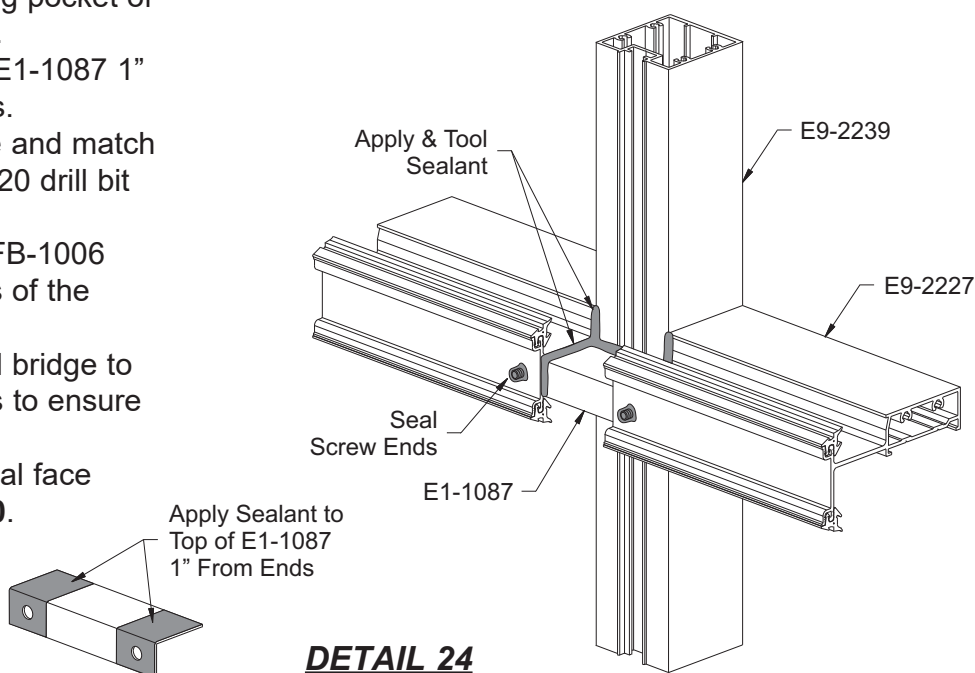
**DETAIL 23**

### STEP 16 INSTALL HORIZONTAL BRIDGE (For SSG Verticals Only)

YWE 40 T requires the installation of horizontal bridge, E1-1087, to bridge the gap between the intermediate horizontals at the SSG vertical.

- Clean and dry off the glazing pocket of each horizontal at the ends.
- Apply sealant to the top of E1-1087 1" from the ends on both sides.
- Rotate the bridge into place and match drill the horizontals with a #20 drill bit (0.161" diameter).
- Attach the bridge with two FB-1006 fasteners and seal the ends of the fasteners on the front face.
- Apply and tool sealant at all bridge to horizontal and vertical joints to ensure a watertight seal.
- Install intermediate horizontal face covers as shown in **Step-10**.

See **Detail 24**.



**DETAIL 24**

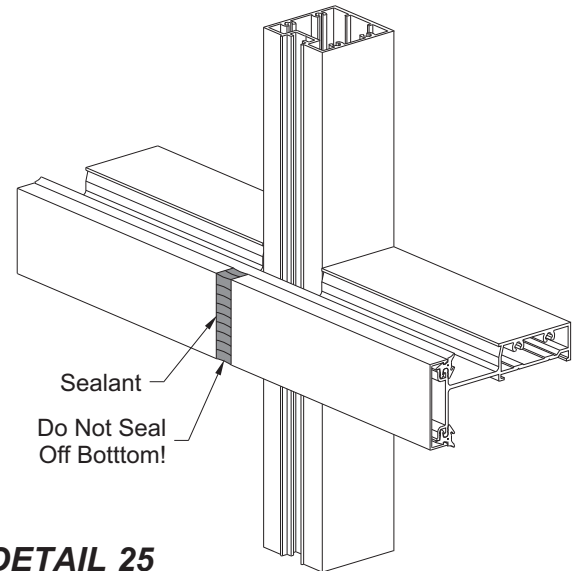


## FRAME INSTALLATION

### STEP 17

#### INSTALL INTERMEDIATE HORIZONTAL FACE COVERS FOR SSG FRAMES (When Required)

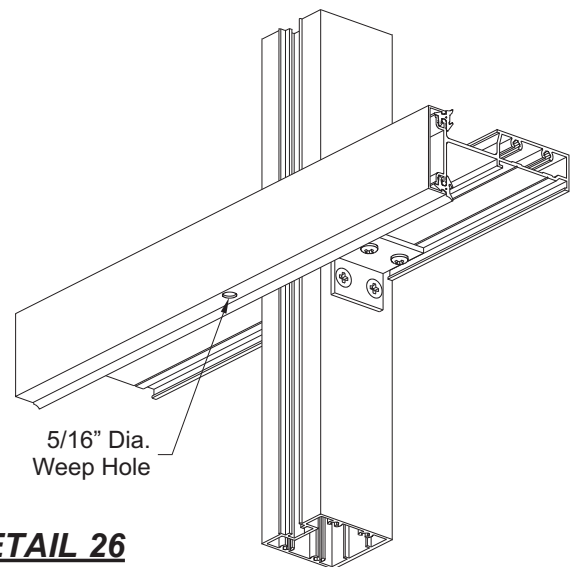
- Snap on intermediate horizontal face covers as previously shown in **Step 10**.
  - At face cover expansion joints, center the 1/2" joint along the SSG vertical mullion.
  - Clean the expansion joint area with a cleaner and method approved by the sealant manufacturer.
  - Apply and tool sealant to the expansion joint at the top and face only.
- See **Detail 25**.



**DETAIL 25**

Head and intermediate horizontal face covers that run across SSG verticals without being spliced must have weep holes drilled on the underside of the cover to allow the frame to weep properly.

- Drill a 5/16" diameter weep hole on the underside of the cover centered along the SSG vertical.
- See **Detail 26**.



**DETAIL 26**  
Intermediate  
Horizontal Shown  
Head Similar

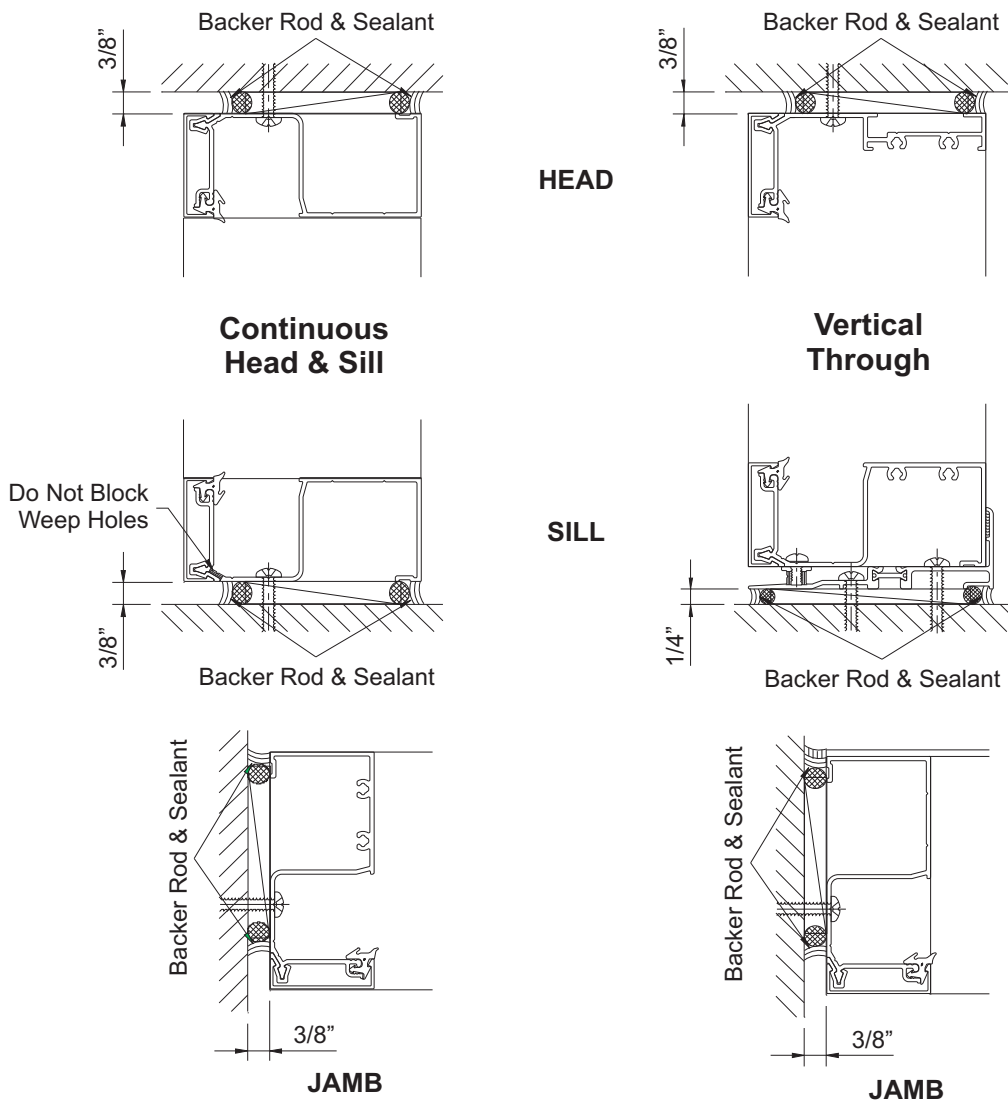
## FRAME INSTALLATION

### STEP 18

#### APPLY PERIMETER SEALANT

- Clean the perimeter of the frame using an approved cleaner.
  - Install backer rod around the perimeter of the frame between the frame and structure.
  - Apply perimeter sealant and tool the sealant to ensure a watertight joint.
- See **Detail 27**.

**Note:** Interior perimeter seal must be applied to ensure YKK AP tested water infiltration performance.



**DETAIL 27**

## GLAZING

### STEP 19

### INSTALL GLASS FOR STANDARD GLAZING

Determine the glass size:

	Width	Height
Standard Glazing	D.L.O. + 7/8"	D.L.O. + 7/8"

-Install setting blocks at 1/4 points or according to engineering calculations.

At intermediate horizontals: E2-0177.

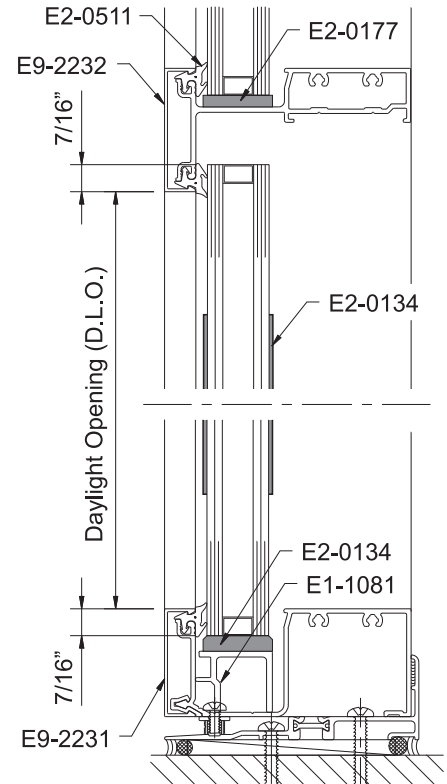
At sills: E2-0134 with setting block chair E1-1081.

**Note:** Continuous sills also required that weep baffle, E2-0099, be installed at each setting block chair and over the weep holes.

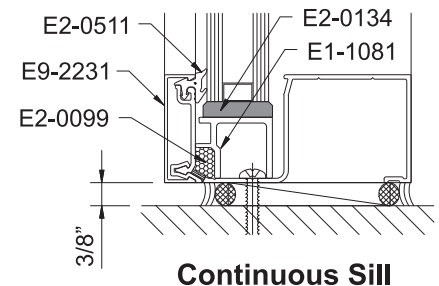
-Install side blocks, E2-0134, in the shallow glazing pocket of each vertical at the midpoint of the vertical daylight opening.

-Carefully install glass into the frame making sure that it is properly aligned with the setting and side blocks.

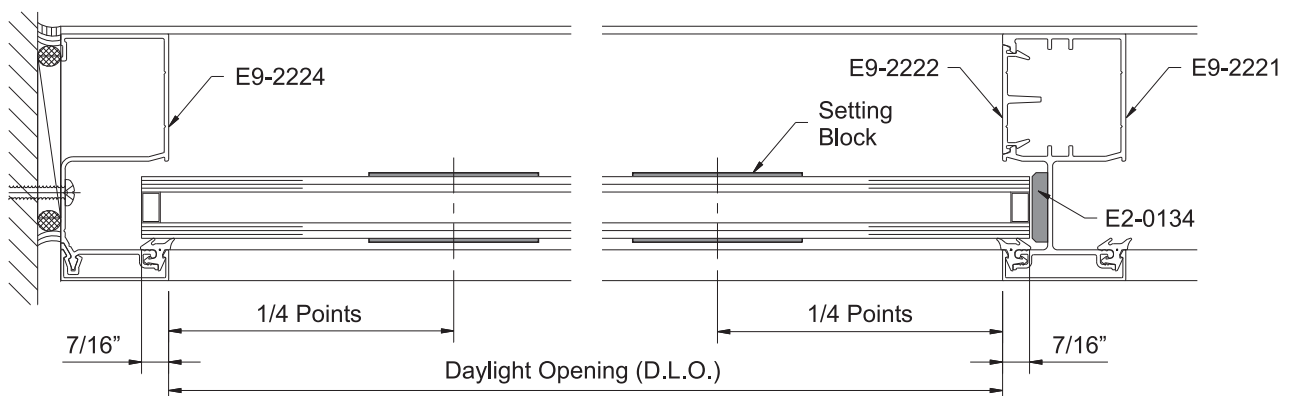
See **Detail 28**.



**DETAIL 28**



**Continuous Sill**



## GLAZING

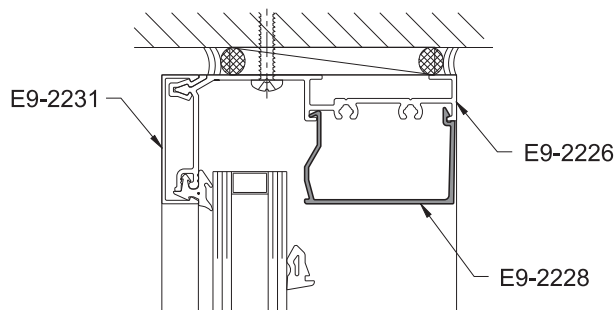
### STEP 19 (Continued)

### INSTALL GLASS FOR STANDARD GLAZING

#### Install Glass Stops:

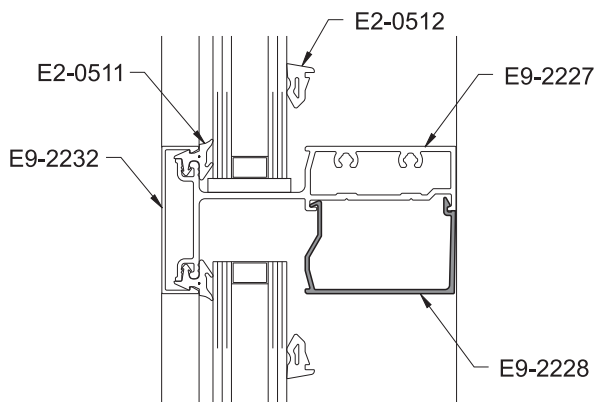
- Apply non-hardening sealant to each end of the glass stops and snap them into position.
- Apply and tool sealant behind the glass stop at the verticals to ensure a watertight seal.

See **Detail 29 & 30**.

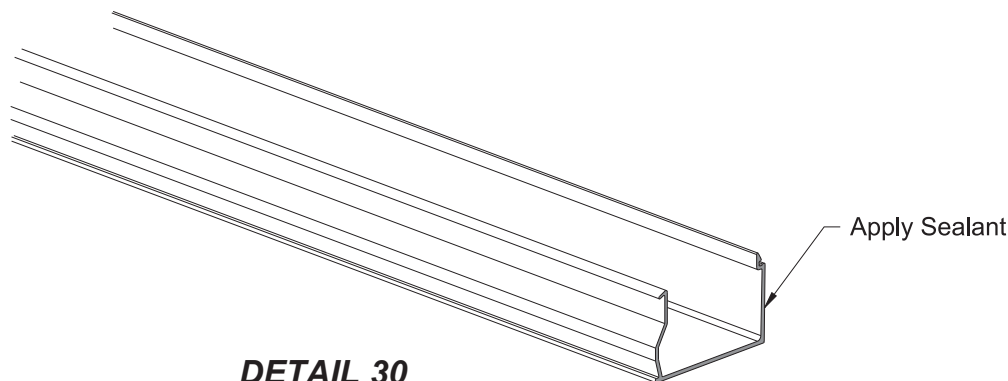


#### Install Interior Glazing Gaskets:

- Cut vertical & horizontal glazing gaskets to D.L.O. plus(+) 1/4" for each foot of length.
- Install vertical glazing gaskets first.
  - Insert the ends and the middle of the gasket.
  - Insert the rest of the gasket starting from the middle and work towards the ends.
- Install horizontal gaskets using the same technique.



**DETAIL 29**



**DETAIL 30**

## GLAZING

### STEP 20

### INSTALL GLASS FOR STRUCTURAL SILICONE GLAZING

Determine the glass size:

	Width	Height
Jamb to SSG	D.L.O. + 1-3/16"	D.L.O. + 7/8"
SSG to SSG	D.L.O. + 1-1/2"	D.L.O. + 7/8"

-Install setting blocks at 1/4 points or according to engineering calculations.

At intermediate horizontals: E2-0177.

At sills: E2-0134 with setting block chair E1-1081.

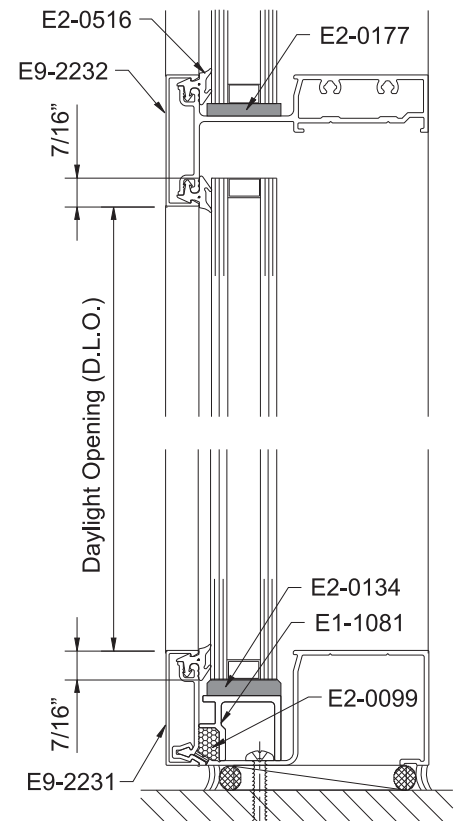
**Note:** Continuous sills also required that weep baffle, E2-0099, be installed at each setting block chair and over the weep holes.

-Carefully install the first lite of glass starting at one of the jambs.

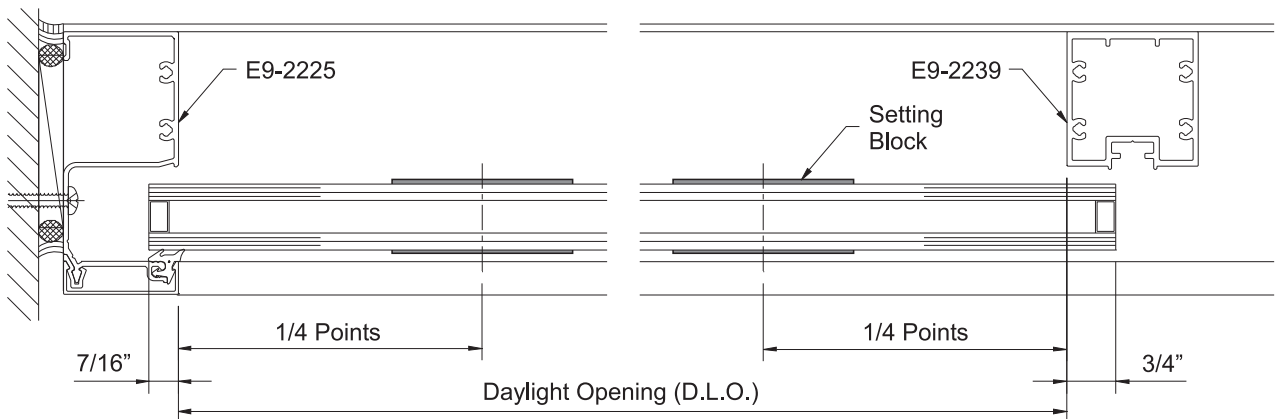
-Slide the glass into the glazing pocket of the jamb until it clears the SSG vertical; slide the glass back 3/4" over in front of the first SSG vertical.

-Make sure that the glass is properly aligned with all setting blocks.

See **Detail 31**.



### **DETAIL 31**



## GLAZING

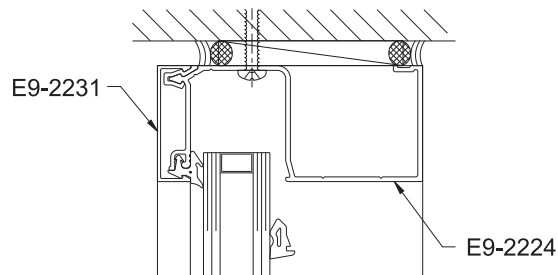
### STEP 20 (Continued)

### INSTALL GLASS FOR STRUCTURAL SILICONE GLAZING

#### Install Glass Stops:

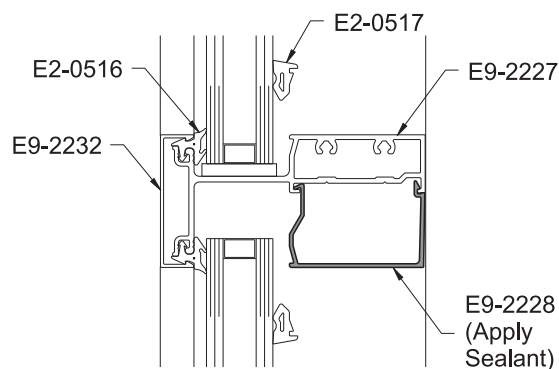
- Apply non-hardening sealant to each end of the glass stops and snap them into position.
- Tool sealant into the glass stop and vertical joints to ensure a watertight seal.

See **Detail 32**.



#### Install Interior Glazing Gaskets & Spacers:

- Cut vertical glazing spacers to the glass height plus(+) 1/4" for each foot of length.
- Cut vertical & horizontal glazing gaskets to D.L.O. plus(+) 1/4" for each foot of length.
- Using a putty knife, carefully install the silicone spacer, E2-0359, behind the first lite installed. Start at the bottom and work your way up.
- Install jamb glazing gaskets next. Insert the ends and the middle of the gasket. Insert the rest of the gasket starting from the middle and work towards the ends.
- Install horizontal gaskets using the same technique.

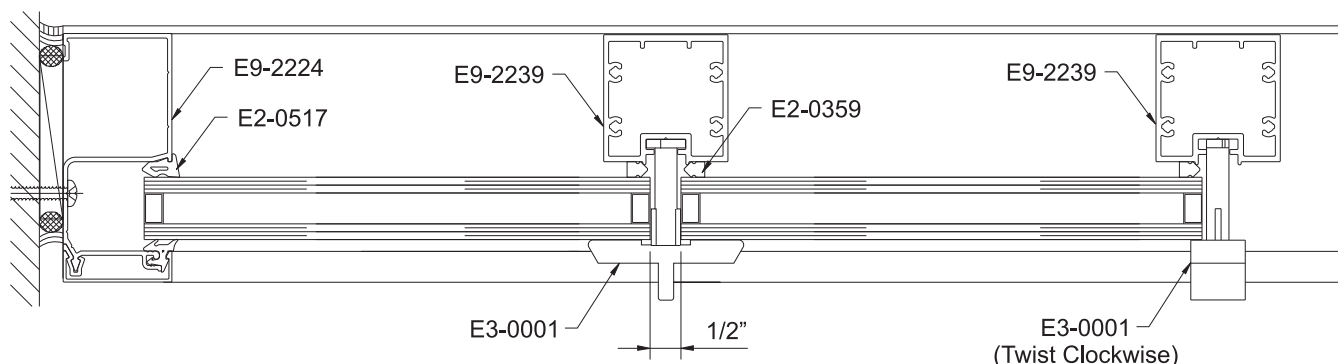


### **DETAIL 32**

**Note:** Silicone compatible gaskets must be used when using SSG verticals.

#### Install Temporary Glass Retainers:

- Insert the temporary glass retainers, E3-0001, and twist them 90° clockwise to engage. Locate temporary glass retainers 18" to 24" on center.
  - Install the next lite of glass and center it to maintain a 1/2" joint between lites.
- See **Detail 33**.
- Install the glazing spacers, glazing gaskets, and temporary glass retainers as instructed above.
  - Repeat this step until all lites of glass have been installed.



### **DETAIL 33**

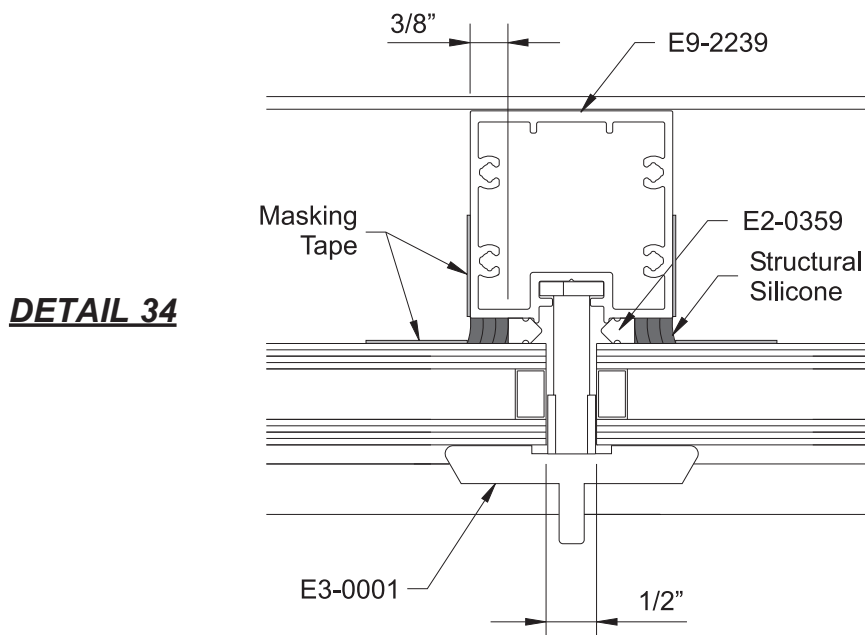
## GLAZING

### STEP 21

### APPLY INTERIOR STRUCTURAL SILICONE

- Run a piece of masking tape vertically on the glass with one edge in line with the side of the mullion.
- Run another piece of masking tape vertically along the edge of the vertical nearest to the glass.
- Check to make sure that the structural silicone spacers are 3/8" from the edge of the vertical in order to obtain the proper structural joint size.

See **Detail 34**.



- Prior to applying the structural silicone, clean all contact surfaces using an approved cleaner.
- Apply an approved structural silicone from the bottom to the top of the joint. Use positive pressure to completely fill the cavity between the glass and vertical mullion.
- Using a nylon spatula or other non-scratching implement, tool the silicone immediately after running the vertical joint. Exert positive pressure while tooling to ensure that the silicone completely fills the cavity.
- Be careful not to remove too much silicone. The silicone should make complete contact with the glass and aluminum surfaces. The finished joint should be flush with the edge of the vertical.

**Caution:** Do not permit the silicone to skin over before it is tooled. Immediately remove masking tape after tooling the silicone.

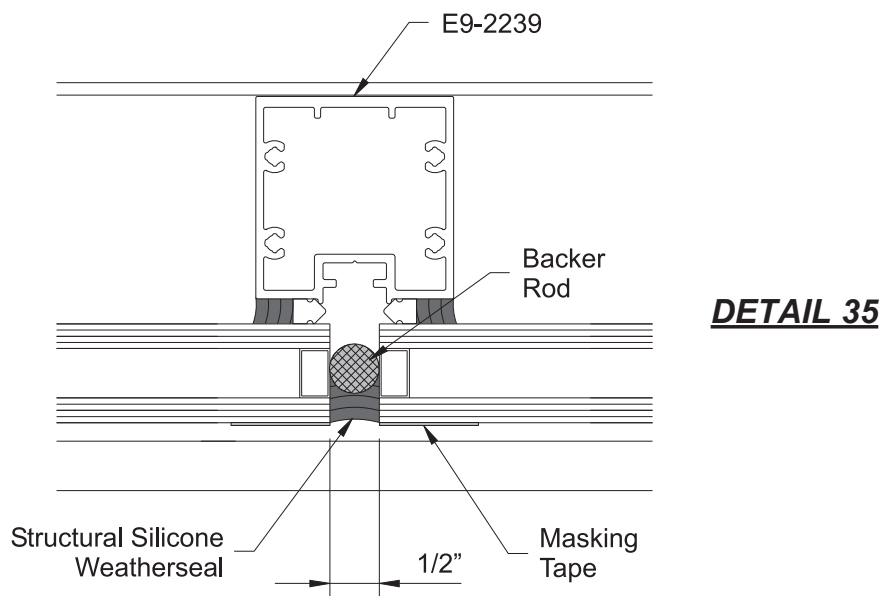
## GLAZING

### STEP 22

#### APPLY EXTERIOR WEATHERSEAL

Once the interior structural silicone has cured\*, it is necessary to seal the 1/2" wide exterior joint between the lites of glass.

**Note:** \*Please consult sealant manufacturer for recommended cure time.



-Remove the temporary glass retainers and insert an approved, open cell polyurethane backer rod between the lites of glass.

-Clean all contact surfaces with an approved cleaner and apply masking tape to both vertical edges of the glass.

-Starting at the bottom of the lite, pump an approved structural silicone into the joint between the lites of glass. Apply moderate pressure so that the void is completely filled.

**Caution:** Be careful not to puncture the backer rod or push it out of the way.

-Using a nylon spatula or other non-scratching implement, tool the silicone immediately after running the vertical joint. Exert positive pressure while tooling to ensure that the silicone completely fills the cavity.

-Be careful not to remove too much silicone.

The silicone should make complete contact with the glass and aluminum surfaces.

The finished joint should be flush with the edge of the vertical.

See **Detail 35**.

**Caution:** Do not permit the silicone to skin over before it is tooled.  
Immediately remove masking tape after tooling the silicone.







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