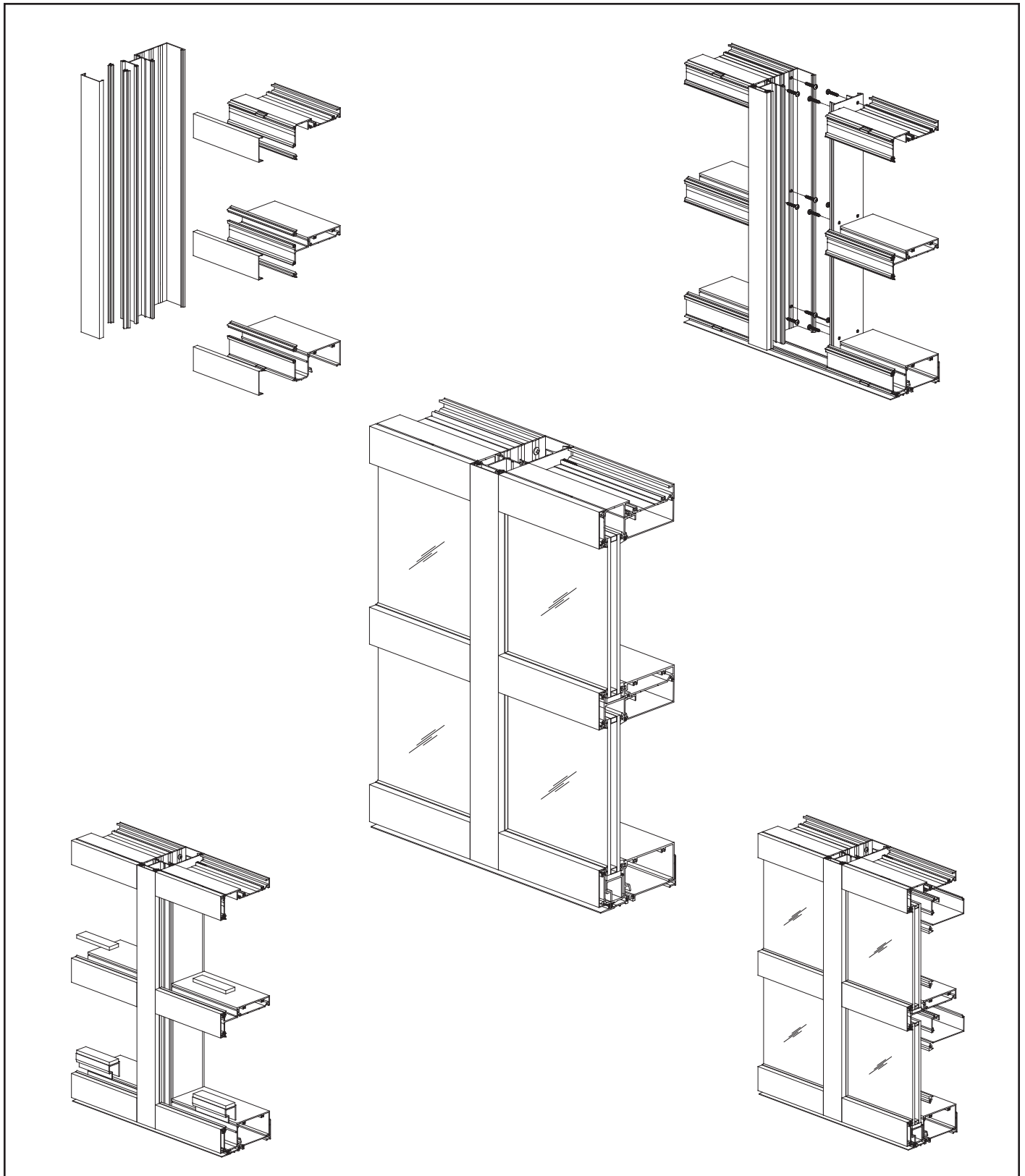


## YWE 60 T Window Wall System



## Installation Manual



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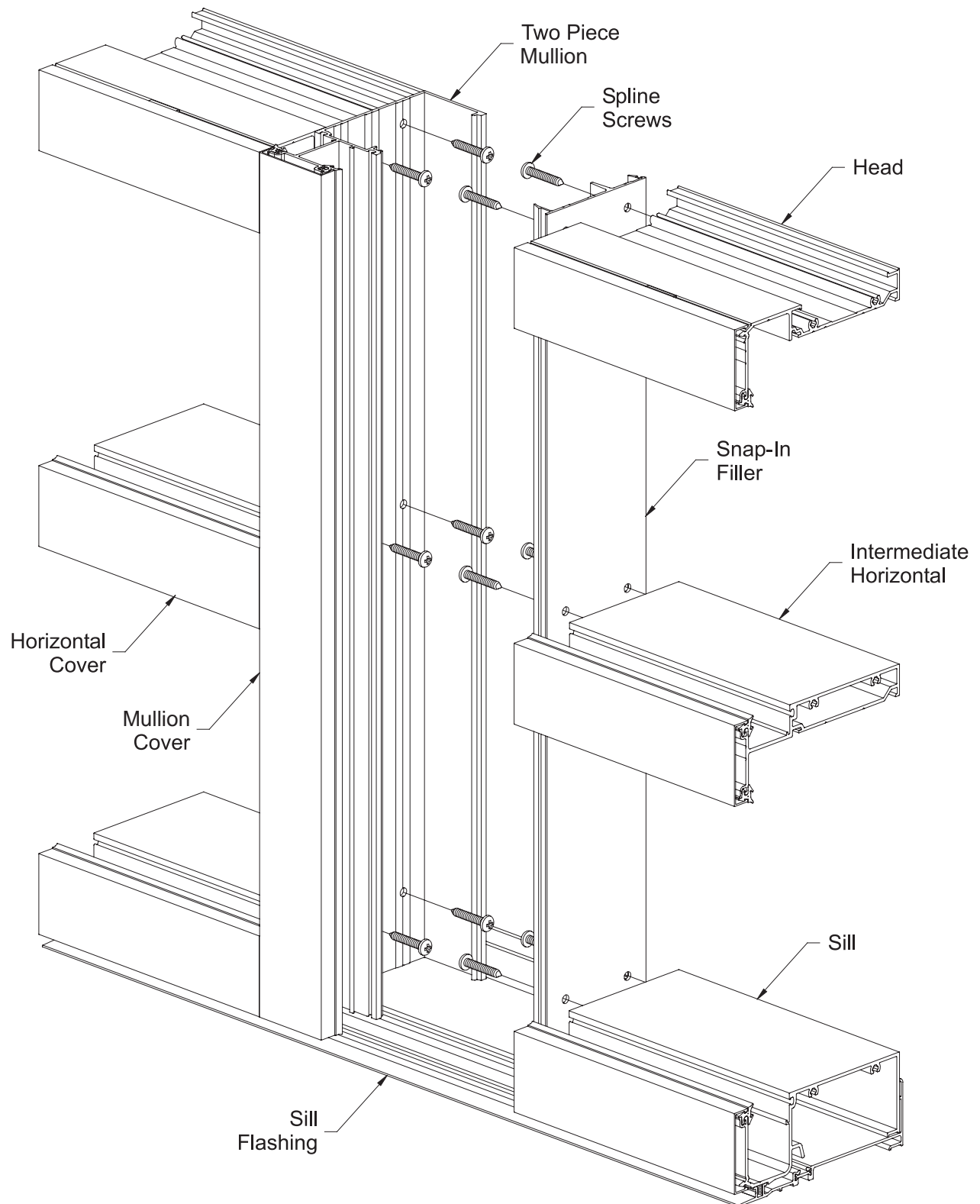
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## **Installation Notes**

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 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.

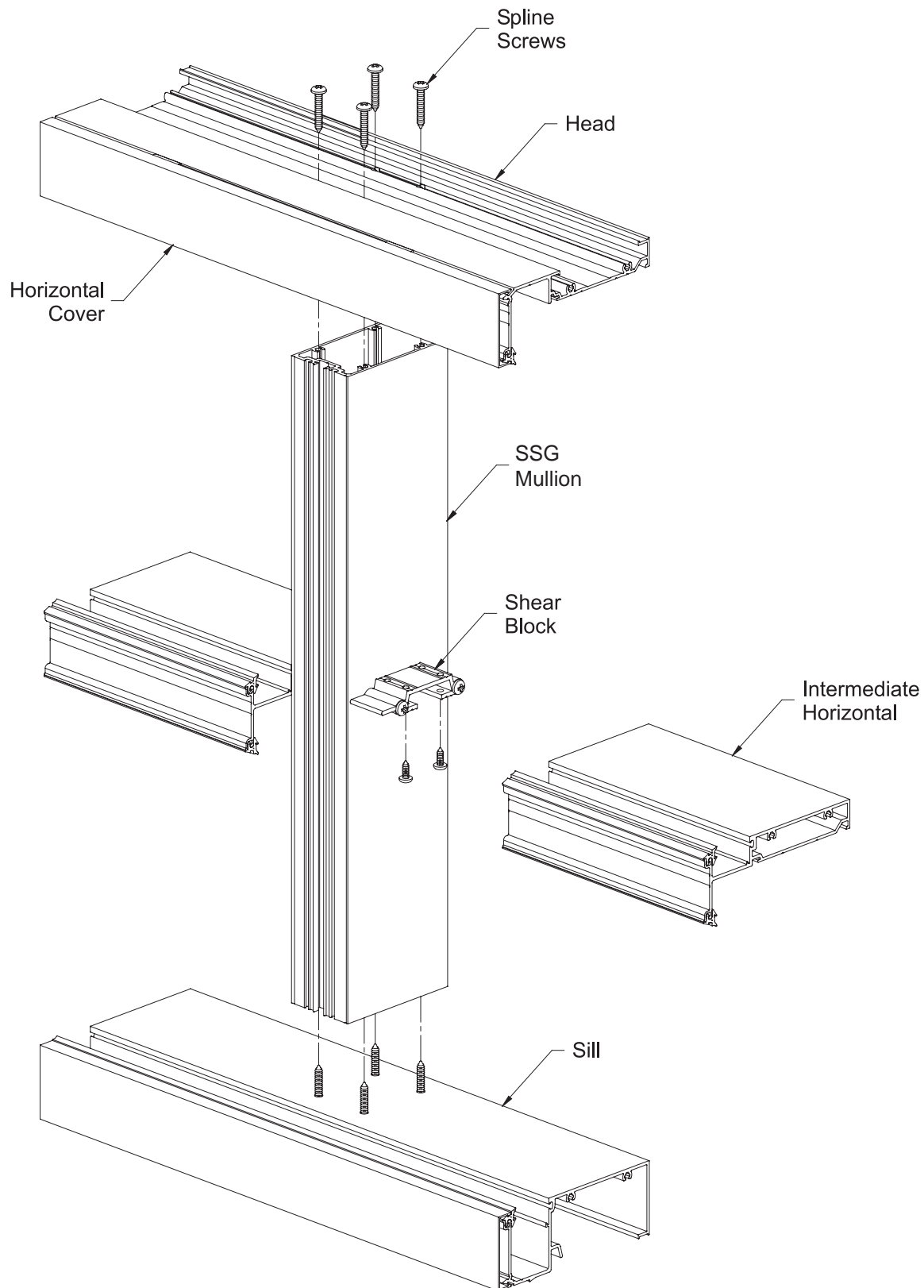
## FRAME TYPES

### Mullion Through Frame



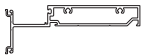



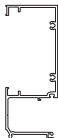



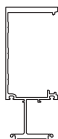













**FRAME TYPES**






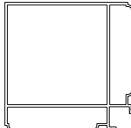






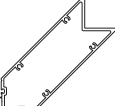




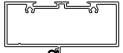
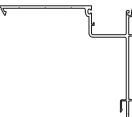

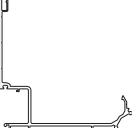

**Continuous Head and Sill Frame (Frames 24'-0" or Smaller)**



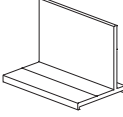
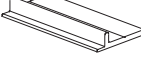
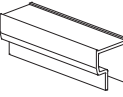
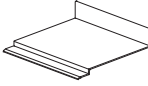
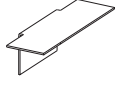

## FRAMING MEMBERS

	<b>Head</b> 2-1/4" x 6"	<b>E9-2301</b>		<b>1/4" Glazing Adaptor</b>	<b>E9-2340</b>
	<b>Horizontal</b> 2-1/4" x 6"	<b>E9-2302</b>		<b>1/4" SSG Glazing Adaptor</b> Use with E9-2309 & E9-2310	<b>E9-2346</b>
	<b>Sill</b> 2-1/4" x 6"	<b>E9-2303</b>		<b>Glass Stop</b> For 1" Glazing	<b>E9-2341</b>
	<b>Jamb</b> 2-1/4" x 6"	<b>E9-2304</b>		<b>Glass Stop</b> For 1/4" Glazing (Spandrel)	<b>E9-2342</b>
	<b>Two Piece Mullion</b> 2-1/4" x 6" Use with E9-2289	<b>E9-2305</b>		<b>Interior Trim Cover</b> For 1" Glazing Use with E9-2341	<b>E9-2343</b>
	<b>Two Piece Mullion Heavy Duty</b> 2-1/4" x 6" Use with E9-2289	<b>E9-2307</b>		<b>Expansion Mullion</b> (Female) Use with E9-2271 Weathering Gasket E2-0065 Not Included	<b>E9-2270</b>
	<b>Two Piece SSG Mullion</b> 2-1/4" x 6" Use with E9-2289	<b>E9-2309</b>		<b>Expansion Mullion</b> (Male) Use with E9-2270	<b>E9-2271</b>
	<b>Mullion Snap-In Filler</b> Use with E9-2305, E9-2307 & E9-2309	<b>E9-2289</b>		<b>SSG Expansion Mullion</b> (Female) Use with E9-2315 Weathering Gasket E2-0065 Not Included	<b>E9-2316</b>
	<b>Tubular Mullion</b> 2-1/4" x 6"	<b>E9-2306</b>		<b>SSG Expansion Mullion</b> (Male) Use with E9-2316	<b>E9-2315</b>
	<b>Tubular Mullion Heavy Duty</b> 2-1/4" x 6"	<b>E9-2308</b>		<b>Sill Flashing</b> (Economy) Not Thermally Broken	<b>E9-2262</b>
	<b>Tubular SSG Mullion</b> 2-1/4" x 6"	<b>E9-2310</b>		<b>Sill Flashing</b> MegaTherm® Thermally Broken	<b>BE9-2282</b>





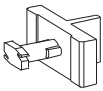













**FRAMING MEMBERS**

	<b>Face Cover</b> 2-1/4" x 1/2"	<b>E9-2286</b>		<b>90° Outside Corner Face Cover</b> Use with E9-2312 & E9-2313	<b>E9-2349</b>
	<b>Face Cover</b> 2-1/4" x 1"	<b>E9-2284</b>		<b>Corner Post Filler</b> Use with E9-2350, E9-2352 & E9-2354	<b>E9-2314</b>
	<b>Face Cover</b> 2-1/4" x 2"	<b>E9-2268</b>		<b>90° Inside Corner Post</b> Use with (2) E9-2314 & E9-2351	<b>E9-2350</b>
	<b>Face Cover Extension</b>	<b>E9-2285</b>		<b>90° Inside Corner Trim</b> Use with E9-2350 & E9-2314	<b>E9-2351</b>
	<b>Reglaze Adaptor</b> Use with E9-2301 & E9-2302	<b>E9-2264</b>		<b>135° Outside Corner Post</b> Use with (2) E9-2314 & (2) E9-2353	<b>E9-2352</b>
	<b>Glazing Pocket Filler</b>	<b>E9-2345</b>		<b>135° Outside Corner Face Cover</b> Use with E9-2352 & E9-2314	<b>E9-2353</b>
	<b>90° Outside SSG Corner Mullion</b>	<b>E9-2311</b>		<b>135° Inside Corner Post</b> Use with (2) E9-2314 & E9-2355	<b>E9-2354</b>
	<b>90° Outside SSG Corner Trim</b> For 1" Glazing Use with E9-2311	<b>E9-2348</b>		<b>135° Inside Corner Face Cover</b> Use with E9-2354 & E9-2314	<b>E9-2355</b>
	<b>90° Outside SSG Corner 1/4" Glazing Adaptor</b> Use with E9-2311	<b>E9-2347</b>		<b>Transom Bar Sub-Frame</b>	<b>AS-0402</b>
	<b>90° Outside Corner Post</b> Use with E9-2313	<b>E9-2312</b>		<b>Door Jamb Sub-Frame</b>	<b>E9-2344</b>
	<b>90° Outside Corner Post</b> Use with E9-2312	<b>E9-2313</b>		<b>Snap-In Door Stop</b> Elastomer Weathering E2-0051 Included	<b>AS-0417</b>

## ACCESSORIES

	<b>Shear Block</b> For Standard Horizontal Use with (2) PC-1228 & (2) PC-1208 Not Included	<b>E1-1076</b>		<b>Head Anchor</b> For Continuous Head & Sill Applications Only	<b>E1-1097</b>
	<b>Shear Clip</b> For Drop-Down Horizontal Use with (4) PC-1208 Not Included	<b>E1-1077</b>		<b>Sill Anchor</b> For Continuous Head & Sill Applications Only	<b>E1-1098</b>
	<b>Shear Clip (Right Hand)</b> For 90° SSG Corner Mullion Use with (4) PC-1208 Not Included	<b>E1-1078</b>		<b>Setting Block Chair</b> For Sill Use with E2-0178	<b>E1-1080</b>
	<b>Shear Clip (Left Hand)</b> For 90° SSG Corner Mullion Use with (4) PC-1208 Not Included	<b>E1-1079</b>		<b>Setting Block</b> For 1/4" Glazing	<b>E2-0192</b>
	<b>Sill Flashing Splice Sleeve</b>	<b>E1-1091</b>		<b>Setting Block</b> For 1" Glazing	<b>E2-0178</b>
	<b>Sill Flashing End Dam</b>	<b>E1-1092</b>		<b>Side Block</b> For Intermediate Mullion Shallow Glazing Pocket	<b>E2-0134</b>
	<b>Mullion End Cap</b>	<b>E1-1093</b>		<b>Anti-Walk Block</b> For Intermediate Mullion & Corner Mullion Deep Glazing Pocket	<b>E2-0519</b>
	<b>Horizontal Bridge</b> For Horizontals at SSG Verticals	<b>E1-1090</b>		<b>Anti-Walk Block</b> For Jamb Glazing Pocket	<b>E2-0520</b>
	<b>Horizontal Bridge (Right Hand)</b> For Horizontals at 90° SSG Corner	<b>E1-1095</b>		<b>Water Deflector</b>	<b>E2-0047</b>
	<b>Horizontal Bridge (Left Hand)</b> For Horizontals at 90° SSG Corner	<b>E1-1096</b>		<b>End Dam</b> For Head, Continuous Head & Sill Applications	<b>E2-0522</b>
	<b>Face Cover Splice Sleeve</b> For E9-2285 & E9-2286	<b>E3-0039</b>		<b>End Dam</b> For Sill, Continuous Head & Sill Applications	<b>E2-0523</b>

**ACCESSORIES**

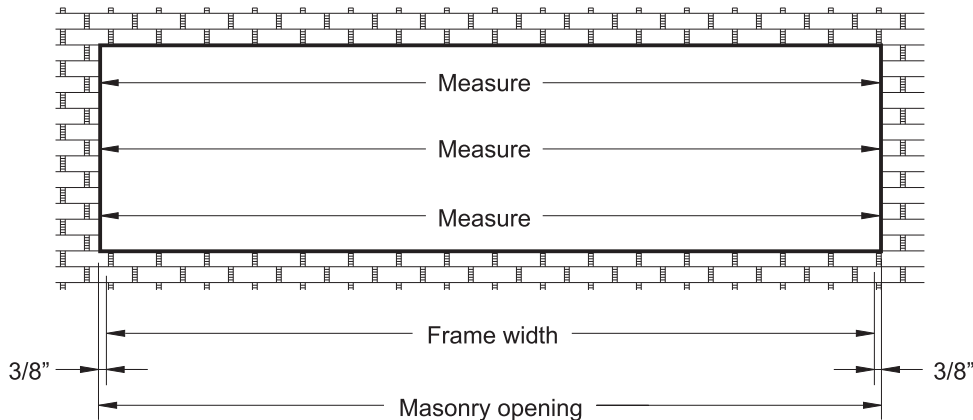
	<b>Weep Baffle</b> For Sill at Weep Holes, Continuous Head & Sill Applications Only	<b>E2-0099</b>		<b>#10 x 3/8" PHSMS</b> <b>Type AB</b> , Zinc Plated Steel For Attachment of Mullion End Cap	<b>PC-1006</b>
	<b>Thermal Isolator Clip</b> For Attachment of Perimeter Face Covers	<b>E3-0037</b>		<b>#10-24 x 3/8" PHMS</b> Stainless Steel For Attachment of Sill to Sill Flashing	<b>PM-1006</b> <b>-SS</b>
	<b>Temporary Glass Retainer</b> For 1" Structural Silicone Glazing	<b>E3-0001</b>		<b>#10 x 1/2" PHSMS</b> <b>Type AB</b> , Zinc Plated Steel For Attachment of E9-2314 to Corner Posts	<b>PC-1008</b>
	<b>Temporary Glass Retainer</b> For 1/4" Structural Silicone Glazing	<b>E3-0006</b>		<b>#12 x 1/2" FHMS</b> <b>Type AB</b> , Zinc Plated Steel For Attachment of Horizontal to E1-1076 at Door Jambs	<b>FC-1208</b>
	<b>Exterior Glazing Gasket</b>	<b>E2-0511</b>		<b>#12 x 1/2" PHSMS</b> <b>Type AB</b> , Zinc Plated Steel For Attachment of Shear Clip E1-1077 to Mullions	<b>PC-1208</b>
	<b>Interior Glazing Gasket</b>	<b>E2-0171</b>		<b>#12 x 1-1/4" PHSMS</b> <b>Type AB</b> , Zinc Plated Steel For Screw Spline Attachment	<b>PC-1220</b>
	<b>Exterior Glazing Gasket</b> Silicone Compatible For Frames with SSG Verticals	<b>E2-0516</b>		<b>#12 x 1-3/4" PHSMS</b> <b>Type AB</b> , Zinc Plated Steel For Attachment of Shear Block E1-1076 to Vertical	<b>PC-1228</b>
	<b>Interior Glazing Gasket</b> Silicone Compatible For Frames with SSG Verticals	<b>E2-0524</b>			
	<b>SSG Glazing Spacer</b> For Outside Glazing of SSG Verticals	<b>E2-0176</b>			
	<b>SSG Glazing Spacer</b> For Inside Glazing of SSG Verticals	<b>E2-0521</b>			
	<b>Weathering Gasket</b> Use with E9-2270 Expansion Mullion	<b>E2-0065</b>			

## FRAME FABRICATION

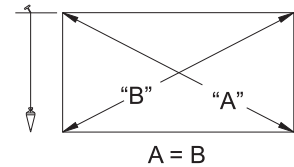
### STEP 1

#### DETERMINE FRAME SIZE

##### Determine Frame Width:



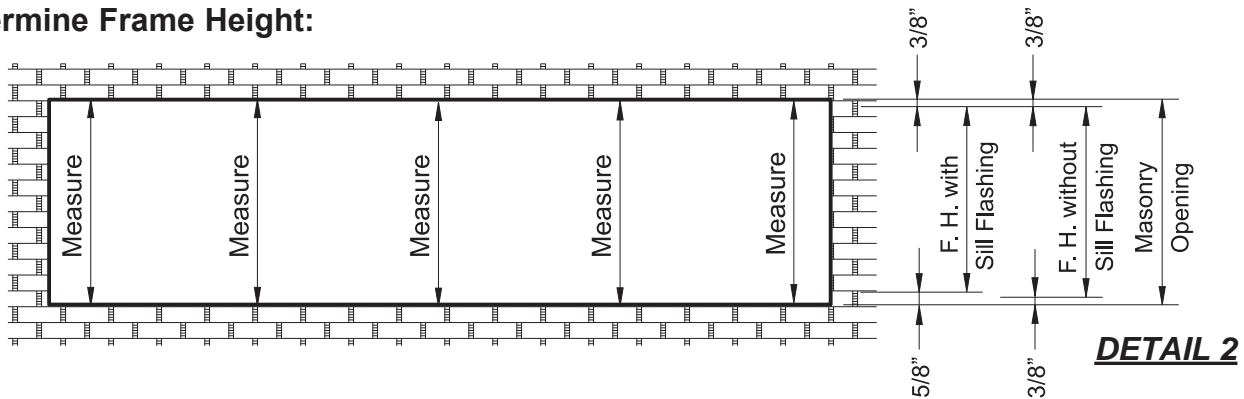
**Note:** Check the opening for squareness and plumb at both ends. Units must be installed in a true rectangle.



**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 Mullion 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 (best location at vertical next to door jamb.)  
 YWE 60 T must be installed with sill flashing, E9-2262 or BE9-2282, for vertical through applications. Sill flashing is not required when head and sill members run continuous (frames 24'-0" or smaller).

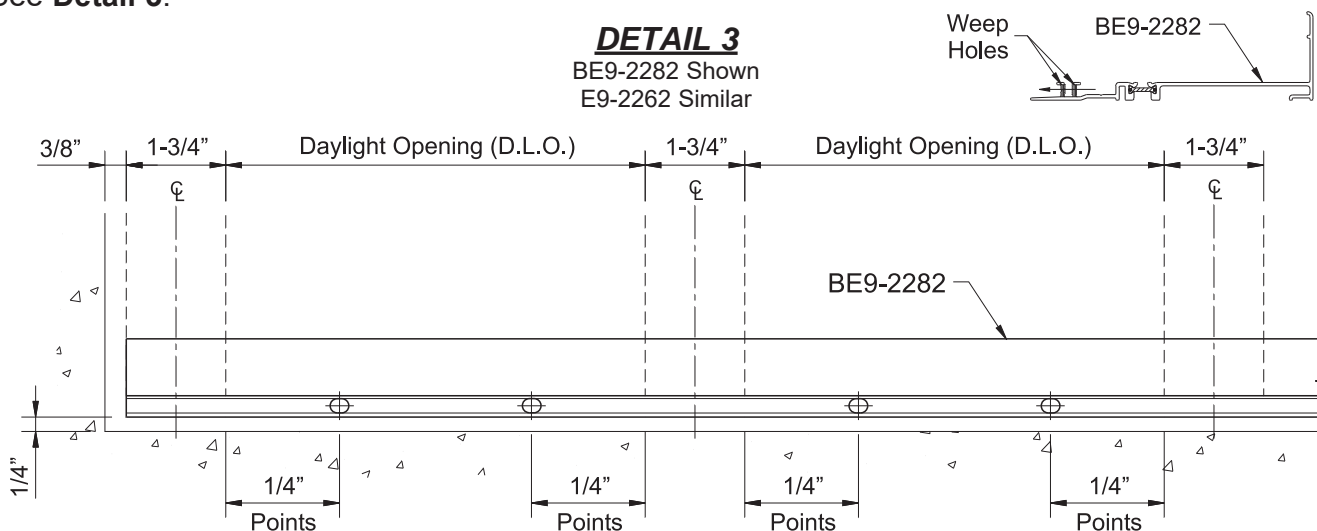
## FRAME FABRICATION

### STEP 2

#### FABRICATE SILL FLASHING

(Mullion Through Frames Only)

- Cut the sill flashing, BE9-2282 or E9-2262, 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.
  - Mark the quarter points between 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, slightly elongate each hole to create an oval. 
- See **Detail 3**.

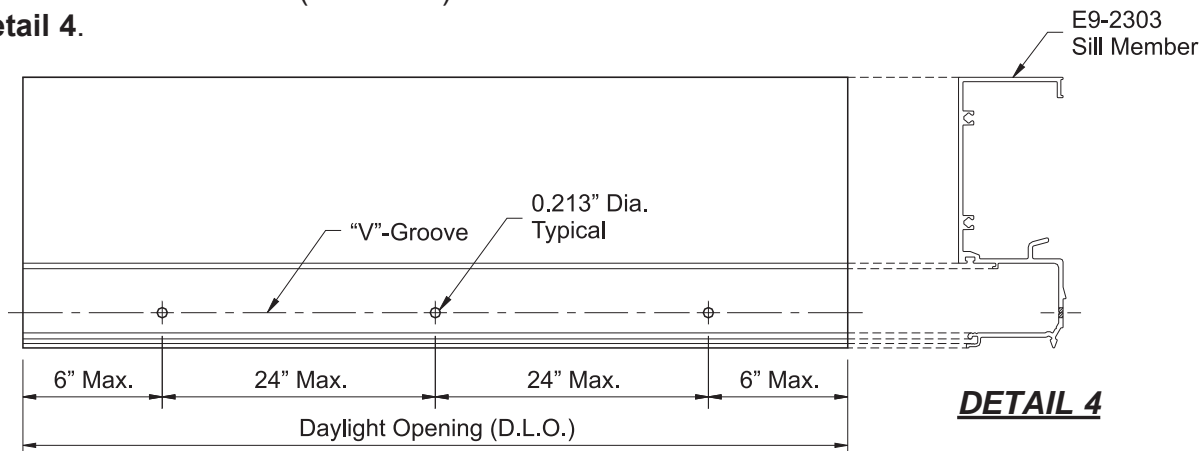


### STEP 3A

#### FABRICATE HEAD & SILL MEMBERS FOR MULLION 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**.

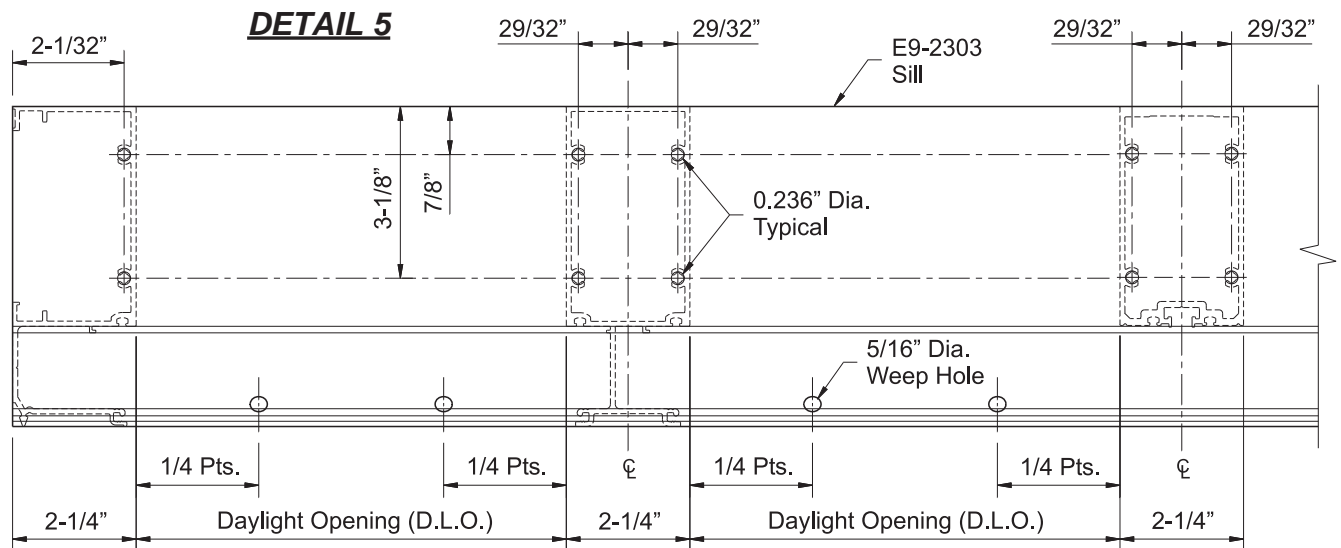


## FRAME FABRICATION

### STEP 3B

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

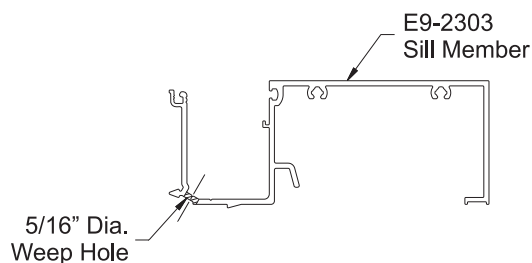
- Cut head and sill members to the frame width determined in **Step 1**.
- Mark hole locations on the head and sill members for screw spline attachment of mullions using one of the methods below:
  - Using short pieces of mullions as a template, line up the glazing pockets and mark hole locations through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



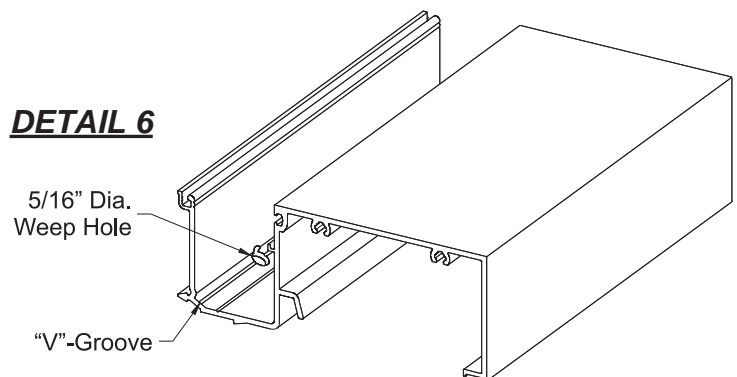
Continuous head and sill frames require weep holes at the sill:

- Mark the sill members, E9-2303, at 1/4 points of daylight opening between mullions along the "V"-Groove on the underside 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 HORIZONTALS

-Cut intermediate horizontals to the daylight opening between mullions.

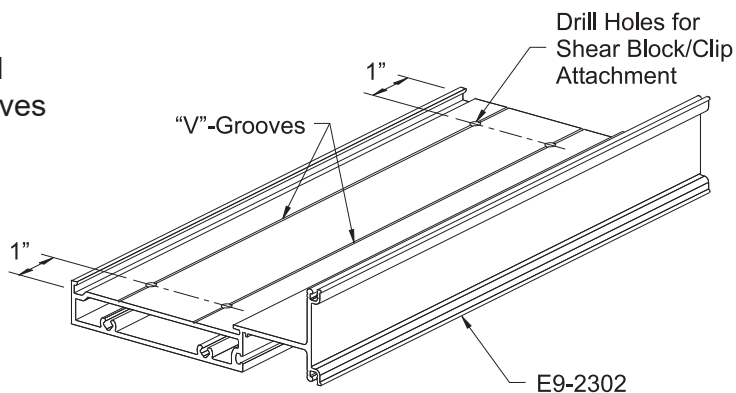
Horizontals that will be attached to tubular mullions require additional fabrication for the shear block or clip:

-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.

-For shear block **E1-1076** drill a **0.236" (#B)** diameter hole at each location marked.

-For shear clip **E1-1077** drill a **0.189" (#12)** diameter hole at each location marked.

**Note:** E1-1077 is required for the end bay when using stick built construction.



**DETAIL 7**

See **Detail 7**.

### STEP 5

#### FABRICATE TWO PIECE MULLIONS FOR MULLION THROUGH FRAMES

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

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

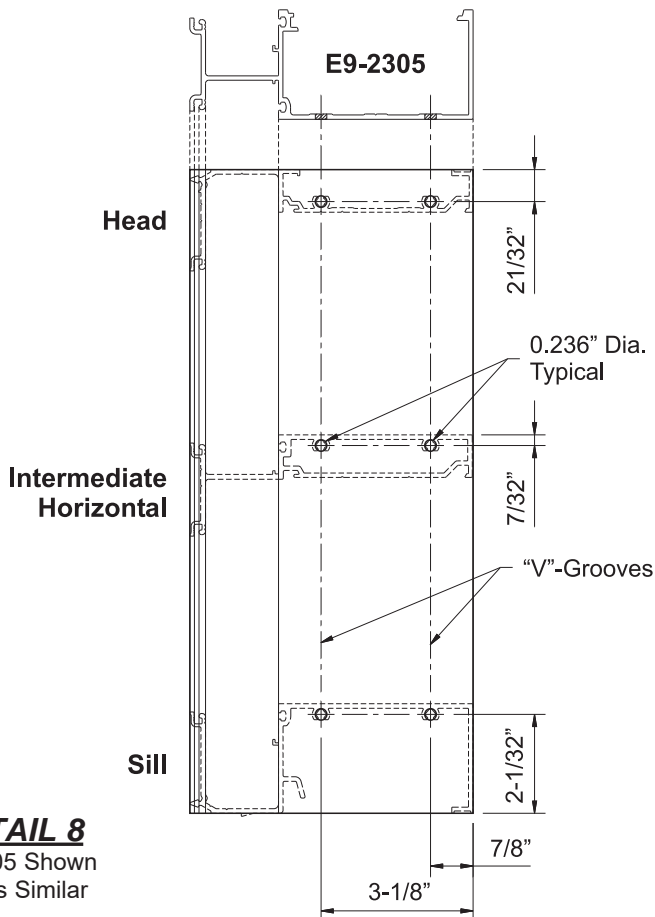
-Using short pieces of horizontals as a template, line up the glazing pockets and mark hole locations through the screw splines of the templates.

**OR**

-Layout hole locations on mullions as shown in **Detail 8**.

-Drill 0.236" diameter (#B drill bit) holes at each location marked.

See **Detail 8**.



**DETAIL 8**

E9-2305 Shown  
Others Similar

## FRAME FABRICATION

### STEP 5A

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

-Cut the intermediate and jamb mullions to the frame height determined in **Step1** minus(–) 3-1/8”.

When using continuous head and sill frames, the intermediate and jamb mullions must be notched to fit up into the head member.

- Measure down 1-3/8” from the top of the mullion and draw a line across the face of the mullion.
- Notch the mullions down to this line and 5/16” back.

Fabricate verticals for intermediate horizontal attachment by shear block or clip:

- Draw a line across the side of the mullion where the top of the intermediate horizontal will be.
- Draw a second line below the first one: 9/16” for E1-1076 or 1-9/16” for E1-1077
- Mark hole locations along this line at 7/8” and 3-1/8” from the back of the mullion.
- Drill 0.189” diameter (#12 drill bit) holes at each location marked.
- Attach shear blocks, E1-1076, with two PC-1228 fasteners.
- Attach shear clips, E1-1077, with two PC-1208 fasteners.

See **Details 9 & 10**.

### STEP 5B

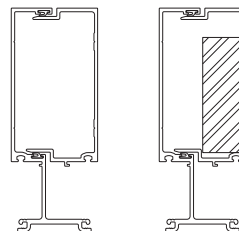
#### EXPANSION MULLIONS

-An Expansion Mullion is to be used every fifteen to twenty feet in large openings.

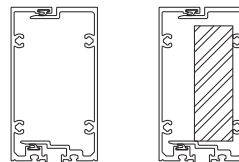
-The dimension of the assembly should be adjusted based on the temperature at the time of assembly and expected high and low service temperatures, use 2-1/4” as a reference dimension. For example, the sightline will be reduced slightly when installed in hot weather and increased slightly if installed in cold weather.

**Note:** Horizontals may also be attached by screw spline attachment at jambs.

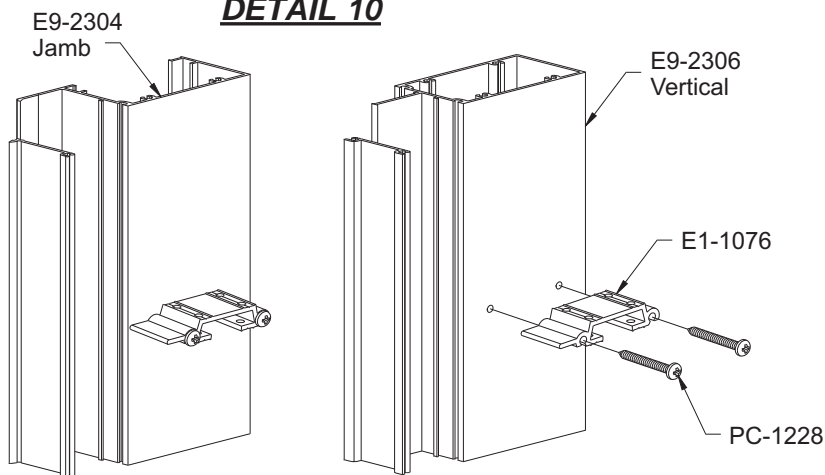
#### STANDARD EXPANSION MULLION



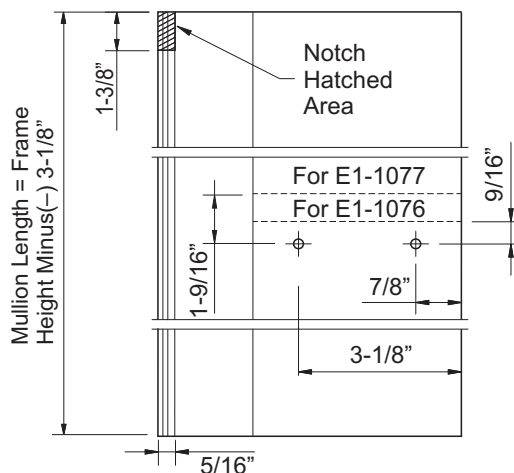
#### SSG EXPANSION MULLION



#### DETAIL 10



#### DETAIL 9



## FRAME FABRICATION

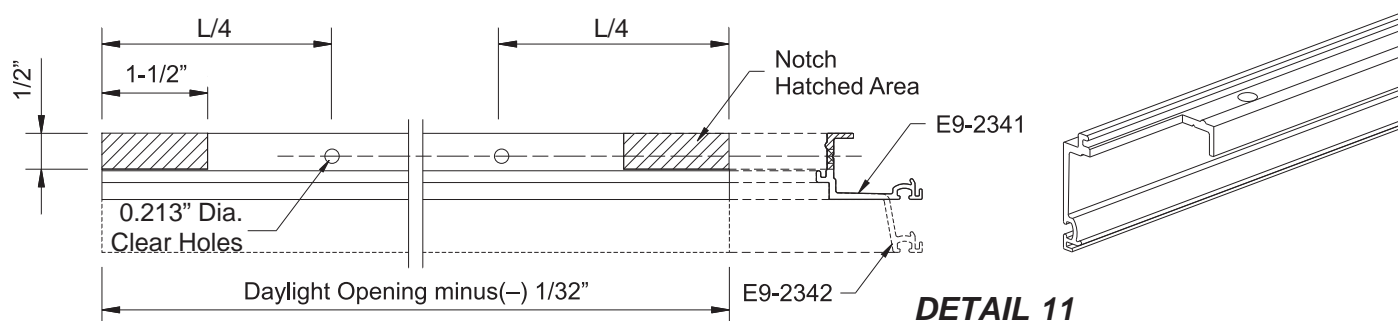
### STEP 6

#### FABRICATE GLASS STOPS & INTERIOR TRIM COVERS

- Cut glass stops, E9-2341 for 1" glazing and E9-2342 for 1/4" glazing:  
Cut Length = Daylight Opening minus(-) 1/32".

When using shear clips, E1-1077, the glass stops must be notched to clear the shear clips.  
-Notch the back leg of the glass stop at each end: 1-1/2" from the ends and 1/2" back.

See **Detail 11**.



- Interior trim covers, E9-2343, are used at head and intermediate horizontals for vision areas only.
- Cut interior trim covers: Cut Length = Daylight Opening minus(-) 1/32".
  - Drill (2) 0.213" dia clear holes at 1/4 points as shown.

### STEP 7

#### FABRICATE FACE COVERS

##### For Mullion Through Frames:

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

**Note:** If using SSG mullions, 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 mullion.  
See approved shop drawings for all horizontal face cover dimensions if using SSG mullions.

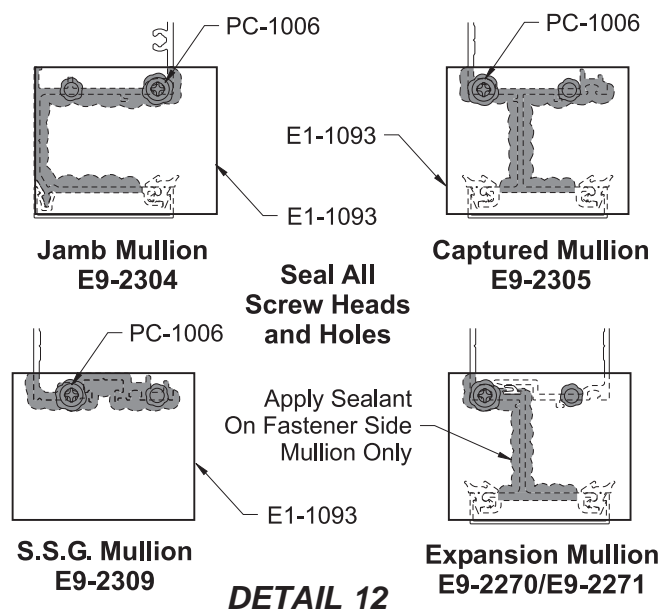
## FRAME ASSEMBLY

### STEP 8

#### ATTACH MULLION END CAPS

(For Mullion Through Frames Only)

- Mullion end caps are only required at the top end of jamb and mullions of vertical through frames.
- Clean the 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 mullions prior to installing mullion end caps, E1-1093.
- Attach the mullion end caps to the mullions with (1) PC-1006 fastener.
- Tool the excess sealant along the inside of the glazing pocket between the mullion end cap and the mullion.
- Seal all screw heads.



See **Detail 12**.

### STEP 9

#### INSTALL END DAMS

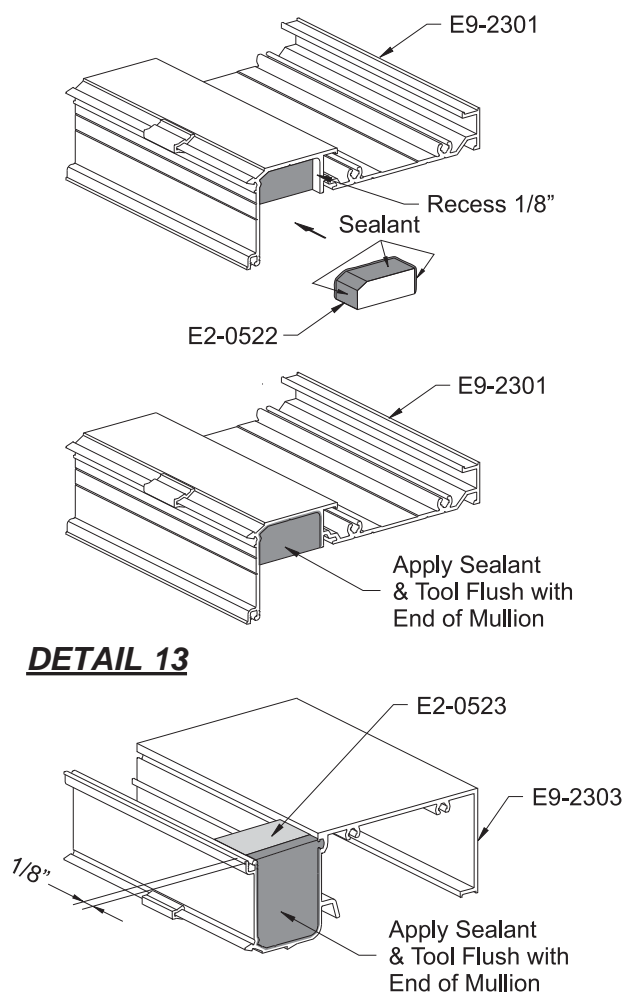
(For Continuous Head & Sill Frames Only)

The ends of head and sill members of continuous head & sill frames must be plugged using end dams, E2-0522 at the head and E2-0523 at the sill.

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 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 dams and tool the sealant flush with the ends of the mullion.

See **Detail 13**.



## FRAME ASSEMBLY

### STEP 10

### ATTACH FACE COVERS

#### For Mullion Through Frames:

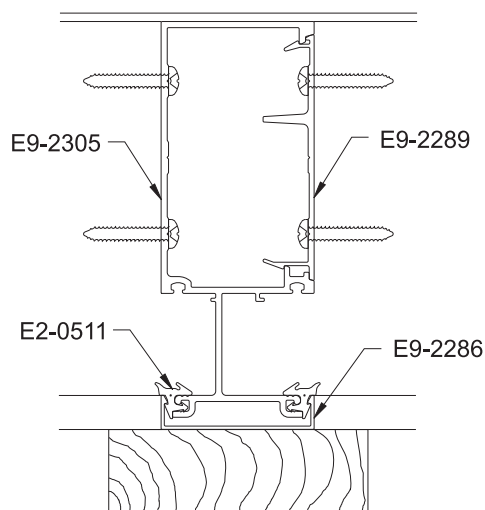
- Attach only the mullion and jamb covers at this time:
- Cut exterior glazing gaskets for vertical and jamb members to the mullion length plus(+) 3/16" per foot of mullion height.

#### For Continuous Head & Sill Frames:

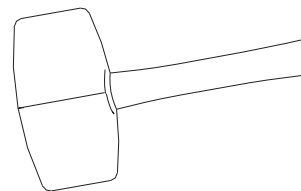
- Attach only the head and sill covers at this time:
- Cut exterior glazing gaskets for continuous head and sill members to the mullion length plus(+) 3/16" per foot of mullion length.

**Note:** When SSG mullions are used, E2-0516 silicone compatible glazing gasket must be used instead of E2-0511 for the exterior. For the interior, use E2-0524 instead of E2-0171.

- 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**



#### To Install Intermediate Face Covers:

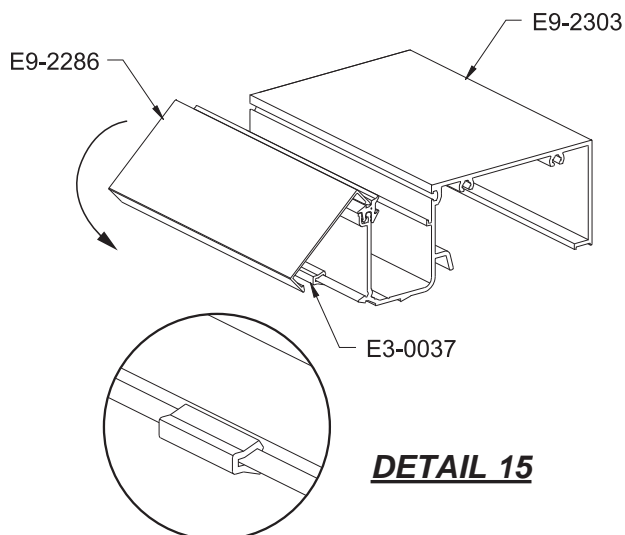
- Using a rubber mallet and a clean piece of lumber, carefully snap on the face covers starting at one end and work towards the other end.

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**

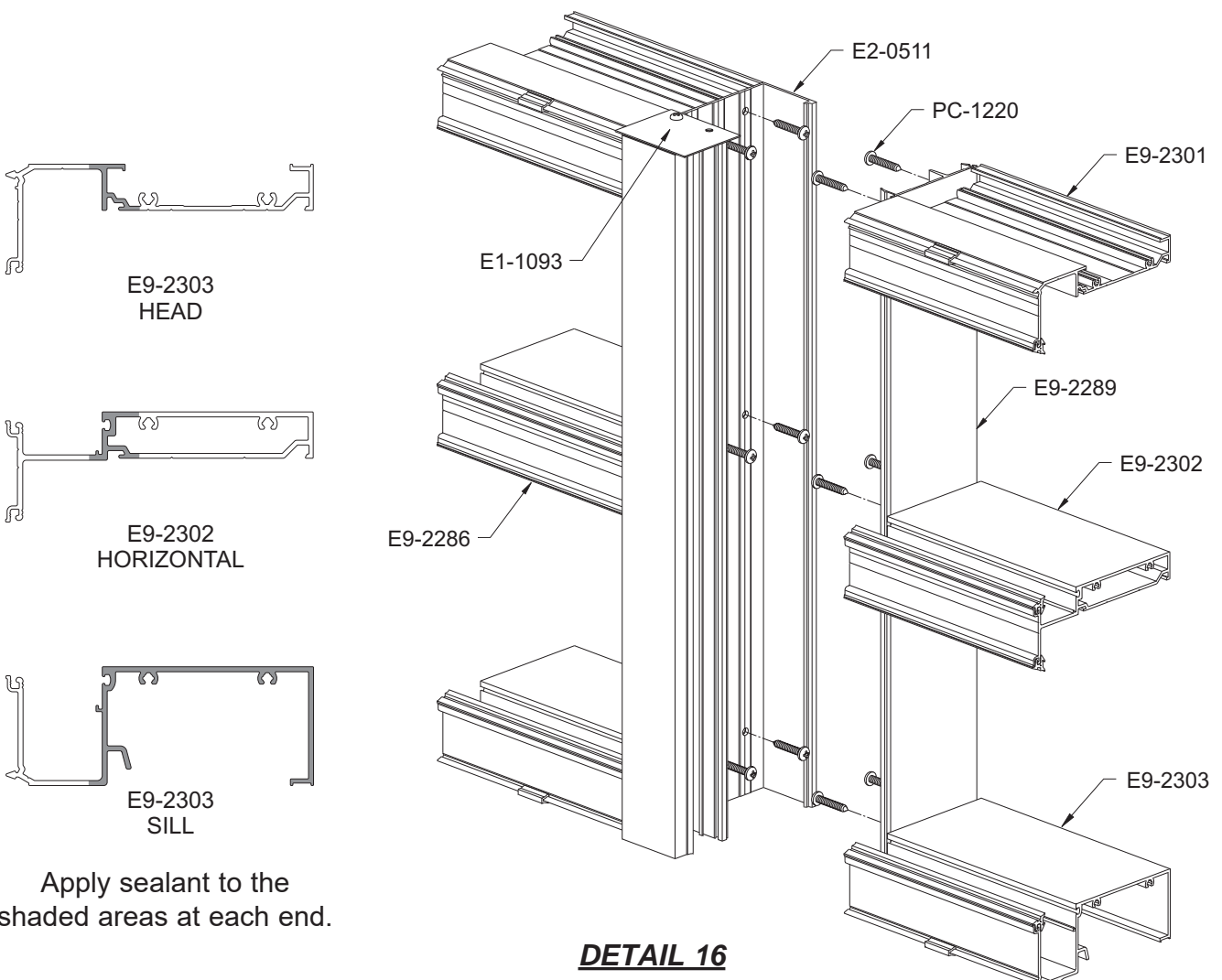
## FRAME ASSEMBLY

### STEP 11A ASSEMBLE FRAMES

#### Mullion Through Frames:

- Clean the ends of horizontals and attachment areas of mullions using a cleaner and method approved by sealant manufacturer.
- Apply (butter) sealant to both ends of head, horizontal, and sill just prior to assembly.
- Attach heads, horizontals, and sills to the two piece mullions with two (2) PC-1220 fasteners at each end.
- Using a clean cloth, wipe off the excess sealant while pushing it into the joints.

See **Detail 16**.



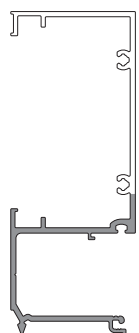
## FRAME ASSEMBLY

### STEP 11B ASSEMBLE FRAMES

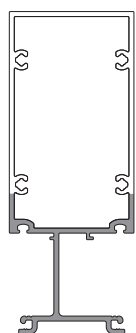
#### Continuous Head & Sill Frames:

- Clean the ends of mullions 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 mullions just prior to assembly.
- Attach jambs and mullions to the head and sill members using (2) PC-1220 fasteners per jamb and (4) PC-1220 fasteners per intermediate mullion.
- Apply (butter) sealant to both ends of the intermediate horizontal members and to the front top portion of the shear block just prior to assembly.
- Attach intermediate horizontals to the shear blocks using (2) PC-1208 fasteners at each end.
- Using a clean cloth, wipe off the excess sealant while pushing it into the joints.

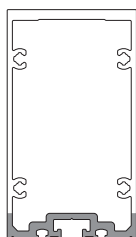
See **Detail 17**.



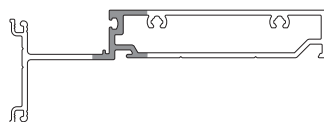
E9-2304  
JAMB  
MULLION



E9-2304  
MULLION

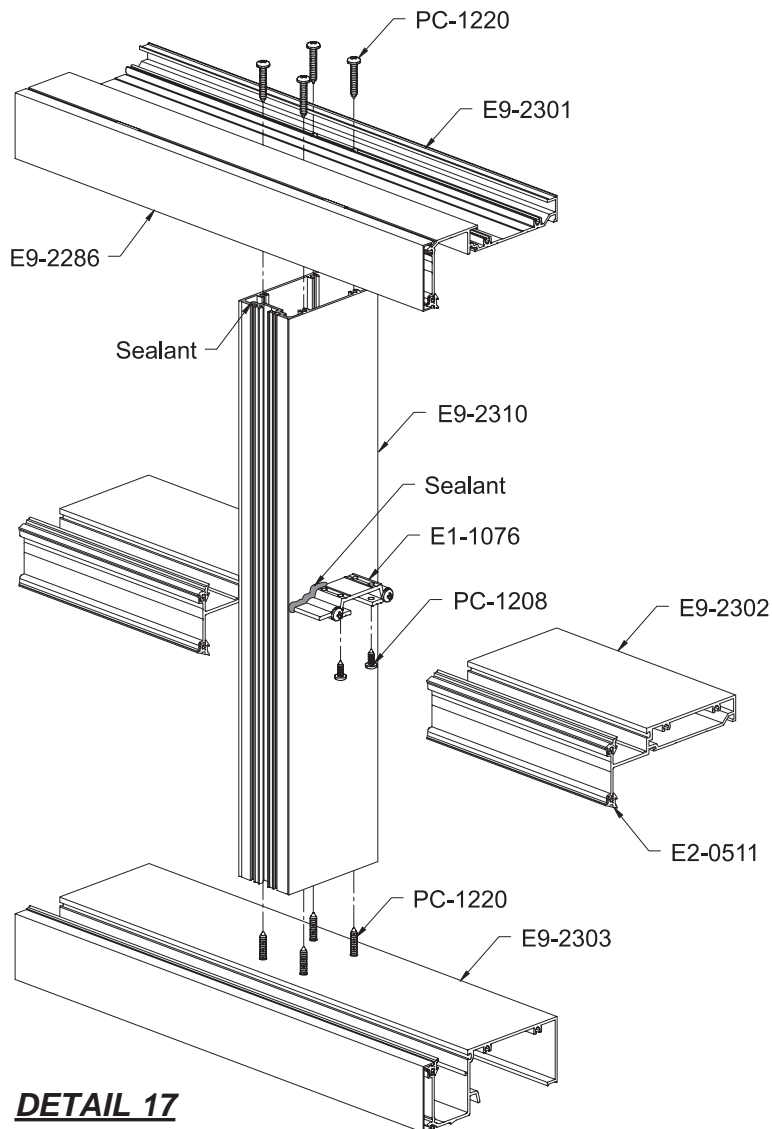


E9-2310  
SSG MULLION



E9-2302  
HORIZONTAL

Apply sealant to the shaded areas at each end.



**DETAIL 17**

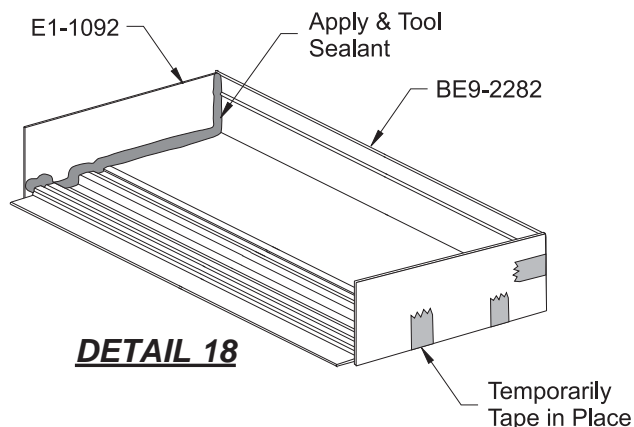
## FRAME INSTALLATION

### STEP 12

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

- Clean the ends of the sill flashing and end dams using a cleaner approved by sealant manufacturer.
- Install brake metal end dam, E1-1092, at each end of sill flashing, BE9-2282 or E9-2262.
- Apply and tool sealant along the joint between the end dam and the sill flashing. End dams may be taped in place until the sealant cures.

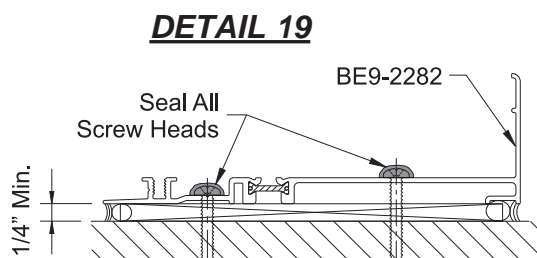
See **Detail 18**.



**DETAIL 18**

- Strike a line along the frame opening that will be the inside face of the sill flashing.
- Check the vertical masonry opening along the entire frame width and locate the smallest opening height.
- Starting at the smallest opening height, install the sill flashing with 1/4" minimum shim underneath. Sill flashing must be installed level.
- Anchor the sill flashing to the structure a maximum of 6" from each end and then 18" to 24" on center alternating anchors from front to back.
- Apply sealant to the heads of all fasteners.

See **Detail 19**.

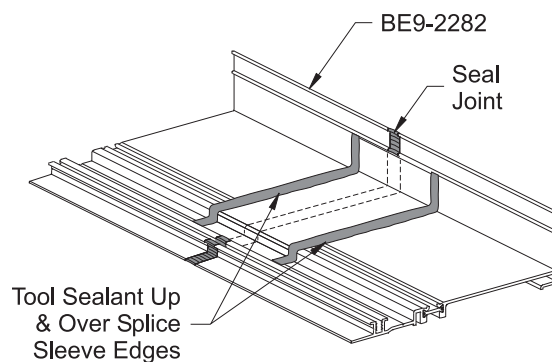
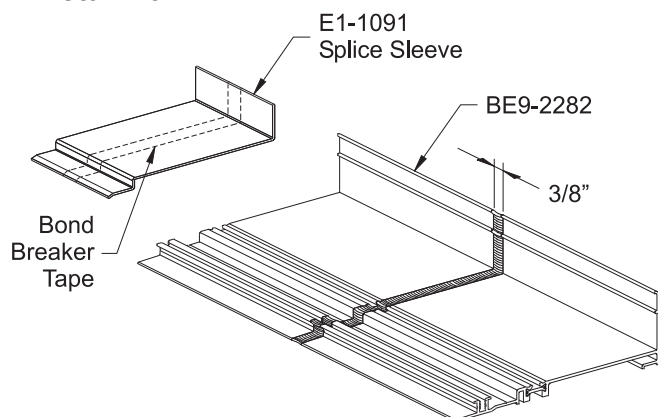


**DETAIL 19**

The sill flashing must be spliced every twelve to fifteen feet using splice sleeve, E1-1091:

- Apply bond breaker tape to center of the splice sleeve on the underside.
- Clean the splice area of the sill flashing using a cleaner approved by sealant manufacturer.
- Apply a generous amount of sealant to both sides of the sill flashing splice.
- 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 to splice joint at the front and back of the splice sleeve.
- Seal joint at the back leg of the sill flashing.

See **Detail 20**.



**DETAIL 20**

## FRAME INSTALLATION

### STEP 13

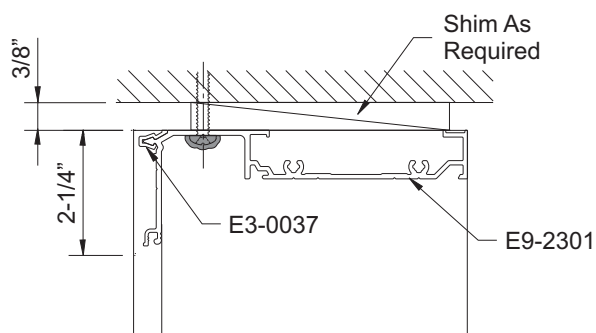
#### INSTALL MULLION THROUGH FRAMES

- 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 mullions 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.

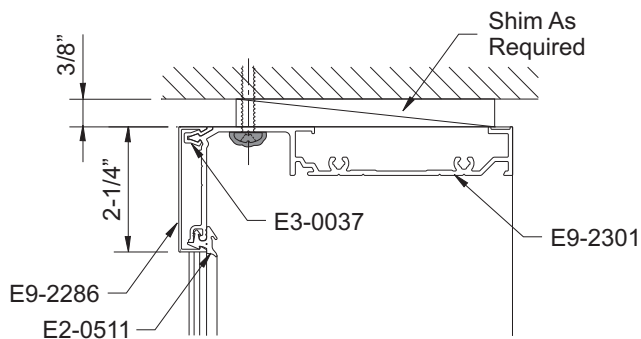
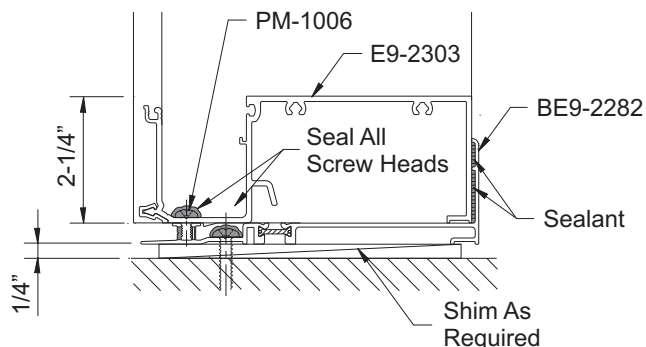
**Note:** Shims must be installed at all anchor points.

- Sill members, E9-2303, 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.

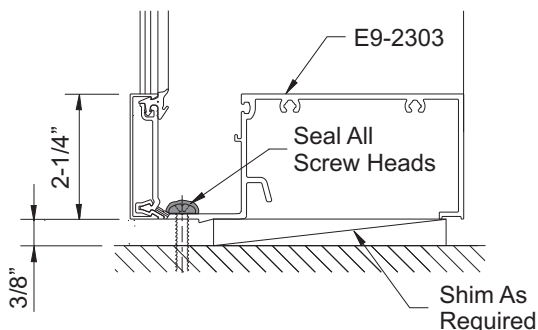
See **Detail 21**.



**DETAIL 21**



**DETAIL 22**



#### 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 mullion 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 22**.

## FRAME INSTALLATION

### STEP 14 INSTALL CONTINUOUS HEAD & SILL FRAMES USING OPTIONAL HEAD & SILL ANCHORS

#### Locate Sill Anchor Placement

- At the sill condition, locate and mark each vertical mullion center line.
- Determine the inset to the external face of the system in relation to the surrounding condition. Consult shop drawings for this dimension.
- Add 3-3/8" to the inset dimension and mark at each end of the opening. Complete by snapping a chalk line from both locations.

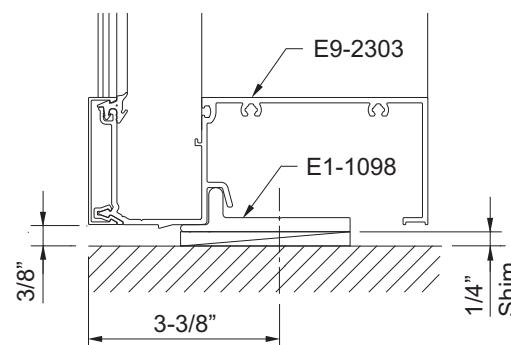
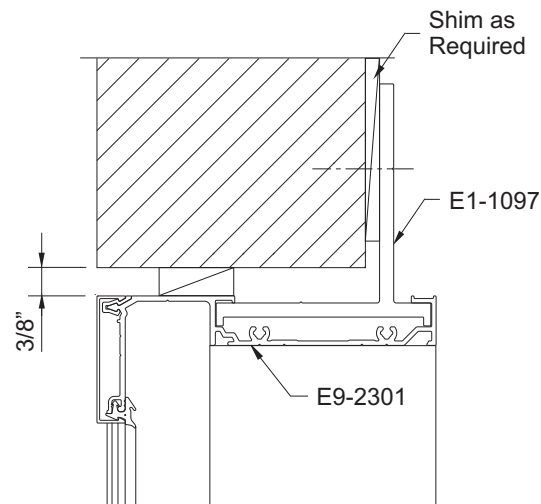
#### Install Optional Sill Anchor, E1-1098

- Jamb anchors are to be located flush to the ends of the system. The E1-1098 Sill Anchor is 6" long.
- Intermediate mullion anchors will center over the previously marked mullion center lines.
- Match drill the structure for each sill anchor.

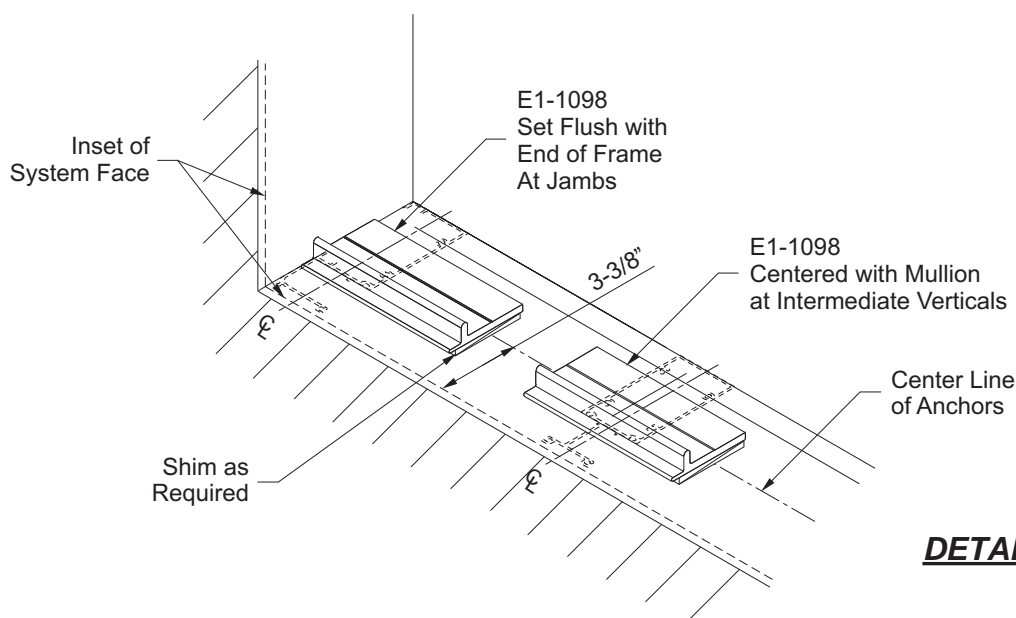
**Note:** Anchor fastener size, location, and quantity may vary as required by engineering calculations.

- Install sill anchors with 1/4" minimum shim underneath to ensure that the system will be installed level.

See **Detail 23 & 24**.



**DETAIL 23**



**DETAIL 24**

## FRAME INSTALLATION

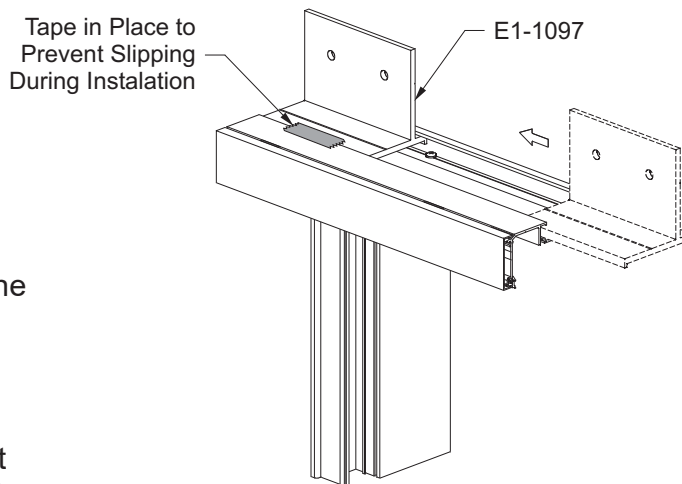
### STEP 14 (Continued)

### INSTALL CONTINUOUS HEAD & SILL FRAMES USING OPTIONAL HEAD & SILL ANCHORS

#### Install Optional Head Anchor, E1-1097

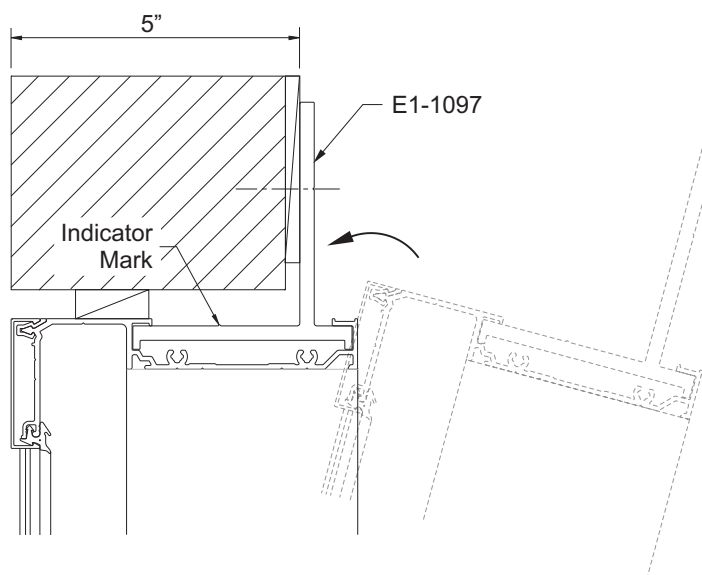
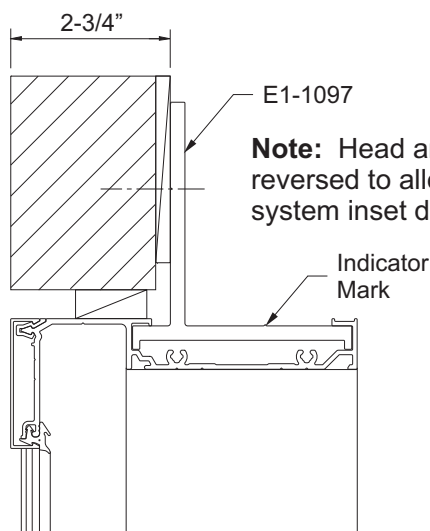
- Predrill head anchors, E1-1097, for appropriate anchor fasteners\*.
- Slide the head anchors from the ends of the head member and locate anchors flush with the ends of the frame at jambs and centered over the center line of intermediate verticals.
- Temporarily tape the anchors in place to prevent slipping during installation.

**Note:** \*Refer to approved shop drawings or contact YKK AP for anchor size, quantity, and location.



**DETAIL 25**

See **Detail 25**.

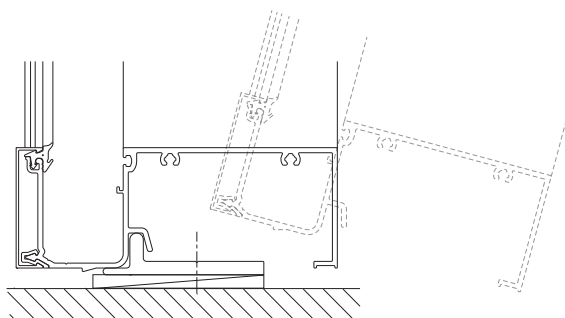


#### Install Frame Into Opening

- Carefully rotate the assembled frame into the opening, engage the sill member with the sill anchor, and continue rotating the frame into place.
- Shim the jambs and head anchors to ensure that the frame is installed plumb and true.
- Secure head anchors to the structure with anchor fasteners as called out in approved shop drawings.

See **Detail 26**.

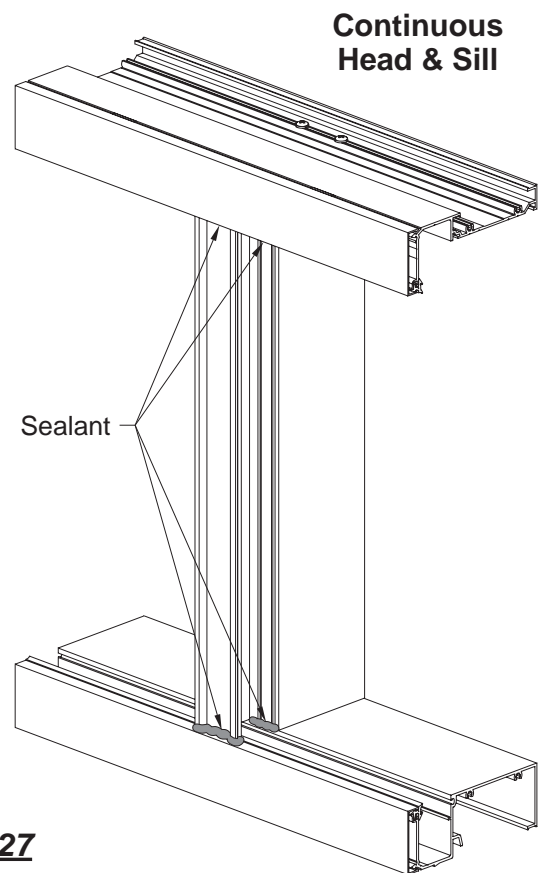
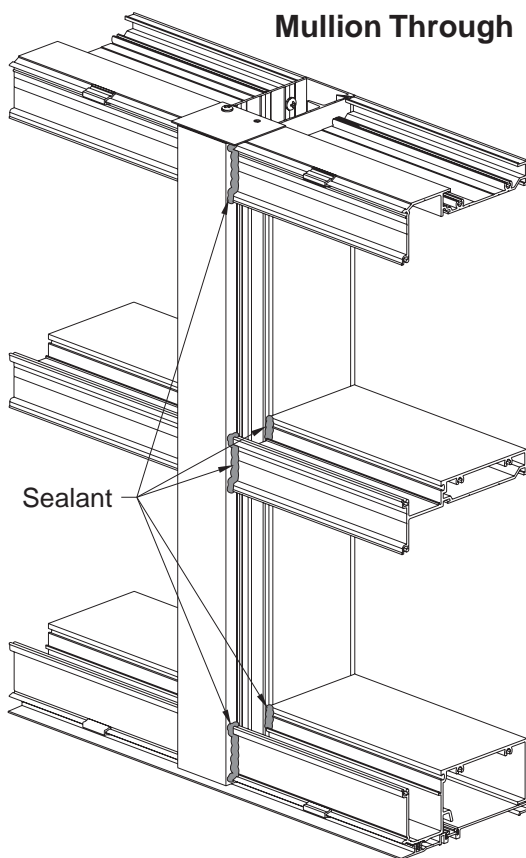
**DETAIL 26**



## FRAME INSTALLATION

### STEP 15 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 27**.



**DETAIL 27**

- 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 17**.
- 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 mullion through frames prior to installing the intermediate horizontal face covers.

## FRAME INSTALLATION

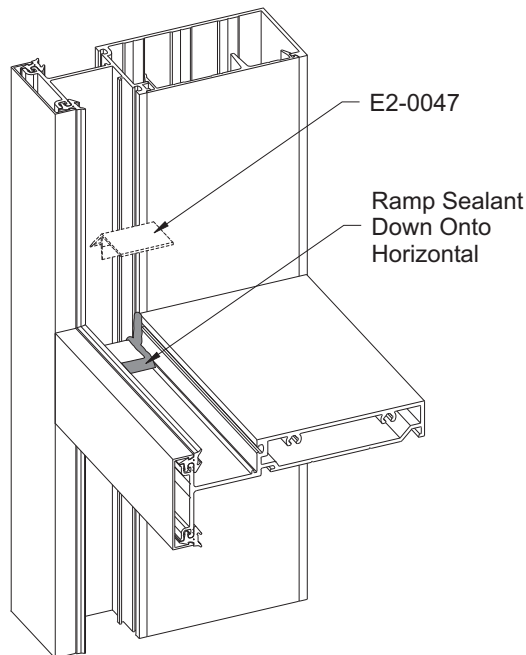
### STEP 16

#### INSTALL WATER DEFLECTORS

The installation of a 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 28**.



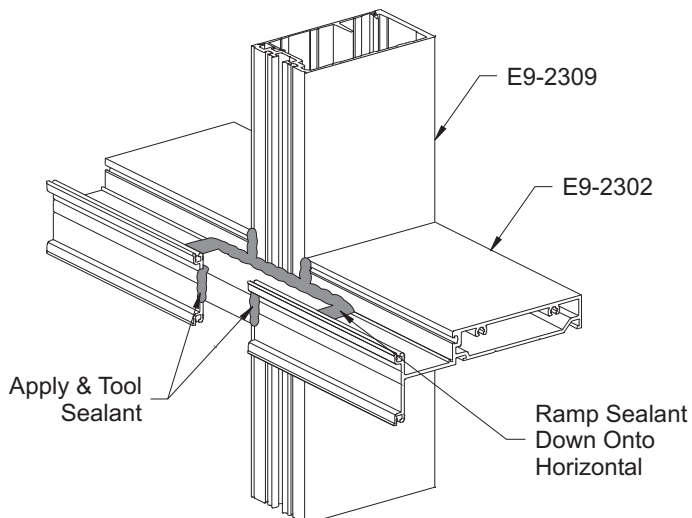
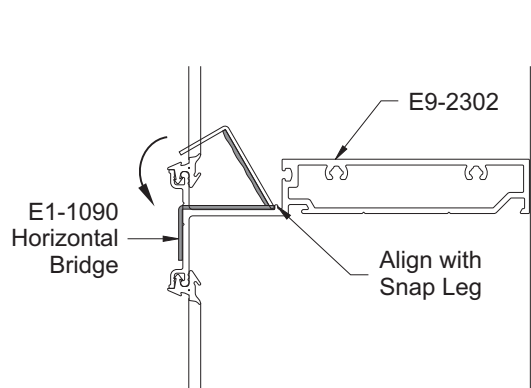
**DETAIL 28**

### STEP 17

#### INSTALL HORIZONTAL BRIDGE (For SSG Mullions Only)

YWE 60 T requires the installation of horizontal bridge, E1-1090, to bridge the gap between intermediate horizontals at the SSG mullion.

- Clean and dry off the glazing pocket of each horizontal at the ends.
  - Peel away the protective paper on the underside of the bridge.
  - Rotate the bridge into place, aligning the back edge of the bridge with the snap leg.
  - Apply and tool sealant at all bridge to horizontal and vertical joints to ensure a watertight seal.
- See **Detail 29**.



**DETAIL 29**

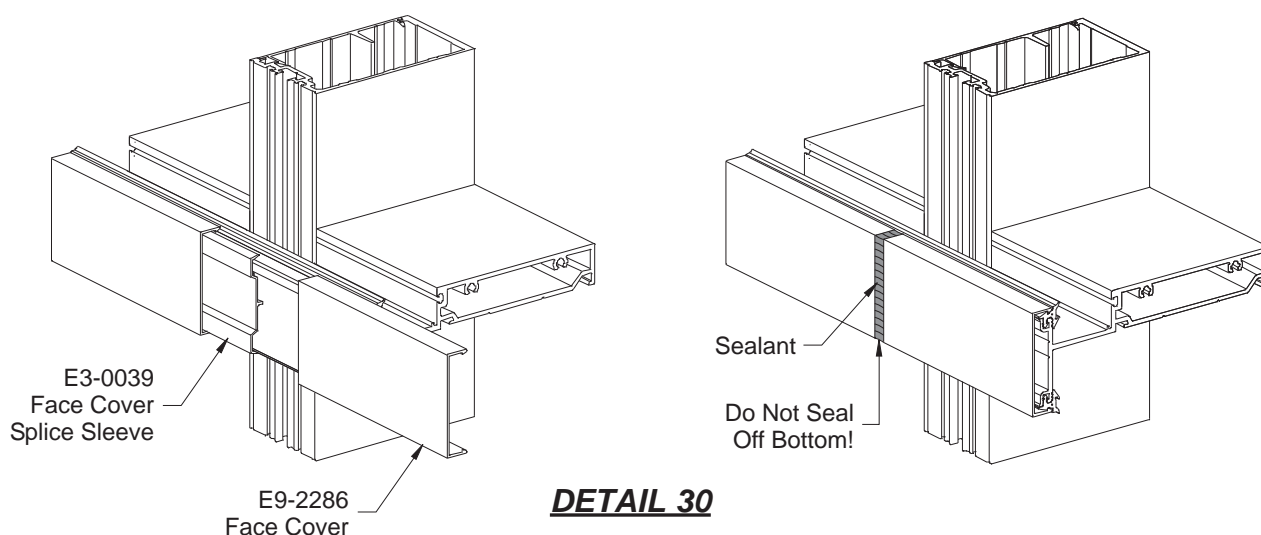
## FRAME INSTALLATION

### STEP 18 INSTALL HORIZONTAL FACE COVERS FOR SSG MULLION APPLICATIONS

- Snap on horizontal face covers as shown previously in **Step 10**.
- At face cover expansion joints, slide the face cover splice sleeve, E3-0039, into the first face cover prior to snapping on the next one.
- Center the 1/2" expansion joint about the SSG mullion.
- Apply and tool sealant to the expansion joint at the top and face only.

**Note:** Leave the bottom of the face cover open to allow the frame to weep properly.

See **Detail 30**.

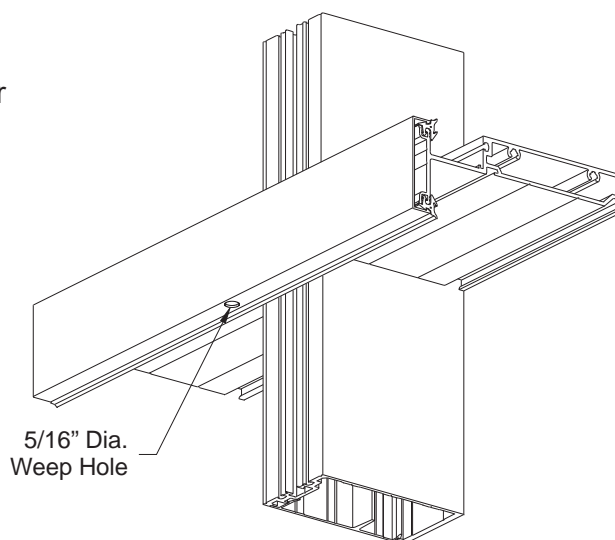


Head and intermediate horizontal face covers that run across SSG mullions without being spliced must have weep holes drilled on the underside of the cover to allow the frame to weep properly.

- Drill a 5/16" diameter weep hole on the underside of the cover centered with the SSG mullion.

See **Detail 31**.

**DETAIL 31**  
Intermediate  
Horizontal Shown  
Head Similar



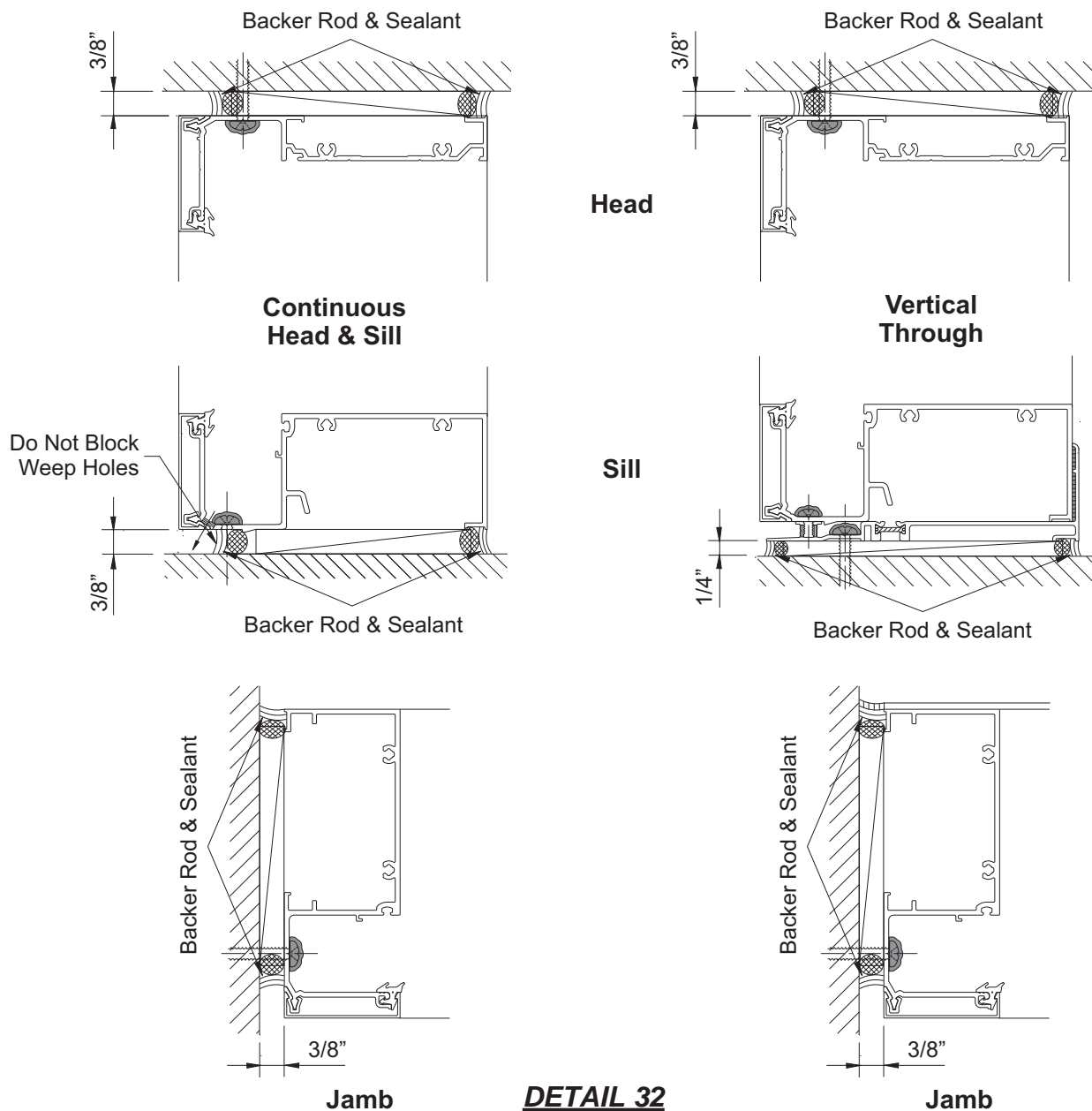
## FRAME INSTALLATION

### STEP 19

#### APPLY PERIMETER SEALANT

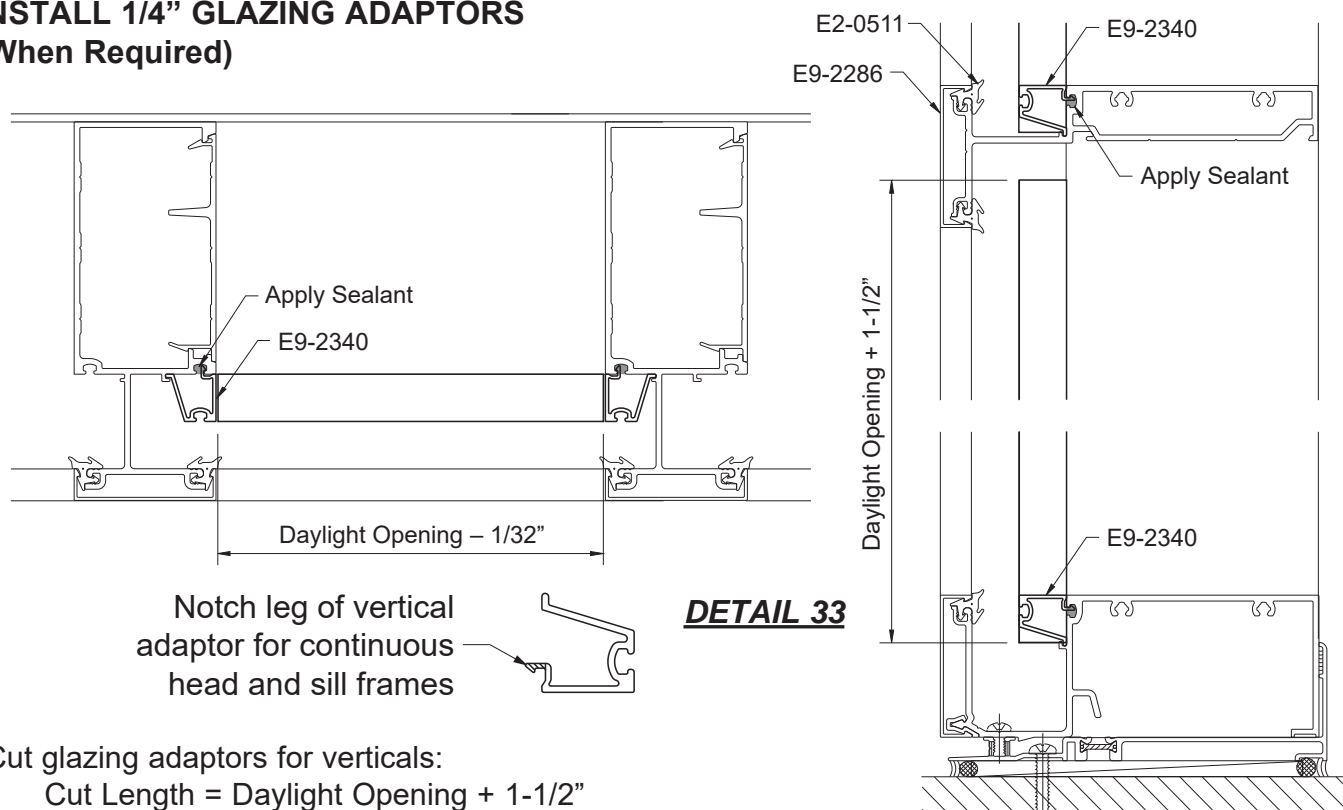
- Install backer rod around the perimeter of the frame between the frame and the structure.
  - Apply perimeter sealant and tool the sealant to ensure a watertight joint.
- See **Detail 32**.

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



## FRAME INSTALLATION

### STEP 20 INSTALL 1/4" GLAZING ADAPTORS (When Required)



- Cut glazing adaptors for verticals:  
Cut Length = Daylight Opening + 1-1/2"
- Cut glazing adaptors for horizontals:  
Cut Length = Daylight Opening - 1/32"
- Run a bead of sealant along the gasket reglets.

**Note:** For continuous head and sill frames, notch the leg of the vertical adaptor 3/4" at both ends.

Attach the vertical glazing adaptors first:

- Center the vertical adaptors in the opening.
- Insert the ball end leg of the adaptor into the recess at the back of mullion tongue and rotate the snap leg into the reglet.

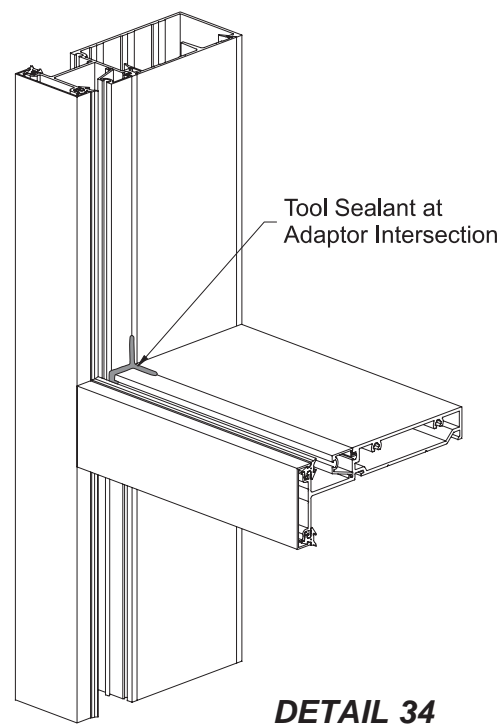
Attach the horizontal glazing adaptors last:

- Apply sealant to the ends of the horizontal glazing adaptors.
- Install the horizontal adaptors.

See **Detail 33**.

- Tool the excess sealant at the intersections of the adaptors to completely seal the joint.

See **Detail 34**.



**DETAIL 34**

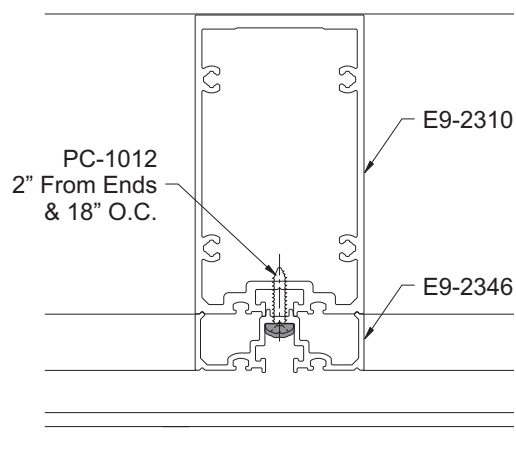
## FRAME INSTALLATION

### STEP 20 (Continued) INSTALL 1/4" GLAZING ADAPTORS FOR SSG MULLIONS (When Required)

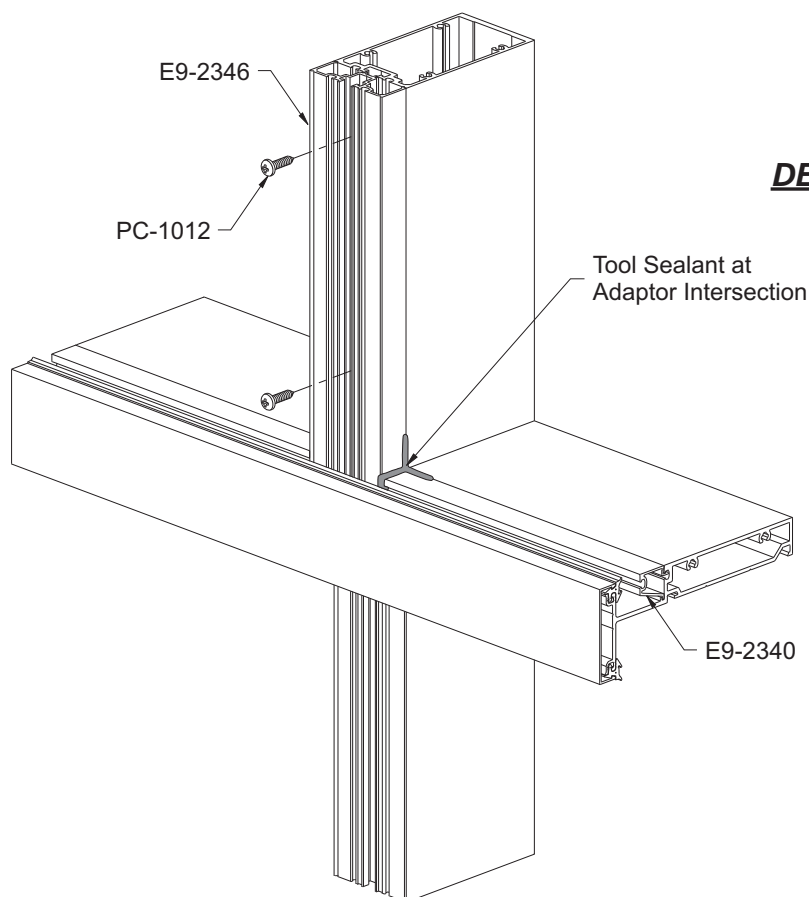
- Cut SSG 1/4" glazing adaptor, E9-2346, to the daylight opening plus(+) 1-1/2".
- Position the adaptor in place against the face of the SSG vertical and install with PC-1012 fasteners 2" from each end and then 18" on center.
- Seal all screw heads.

- Install the horizontal 1/4" glazing adaptors as shown on the previous page.
- Seal the ends of the horizontal adaptors to the vertical adaptors with sealant.

See **Detail 35**.



### **DETAIL 35**



## GLAZING

### STEP 21

### INSTALL GLASS FOR STANDARD GLAZING

Determine the glass size:

	Width	Height
Standard Glazing	<b>D.L.O. + 1"</b>	<b>D.L.O. + 1"</b>

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

At intermediate horizontals: E2-0178.

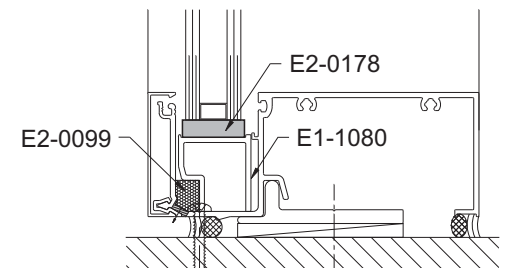
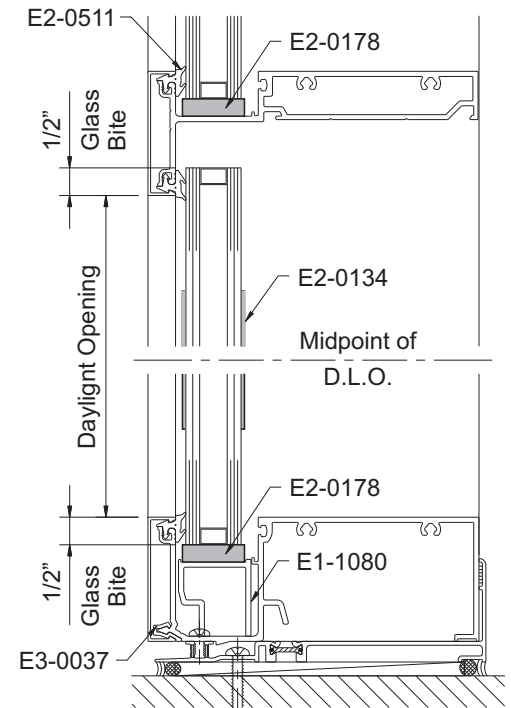
At sills: E2-0178 with setting block chair E1-1080.

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

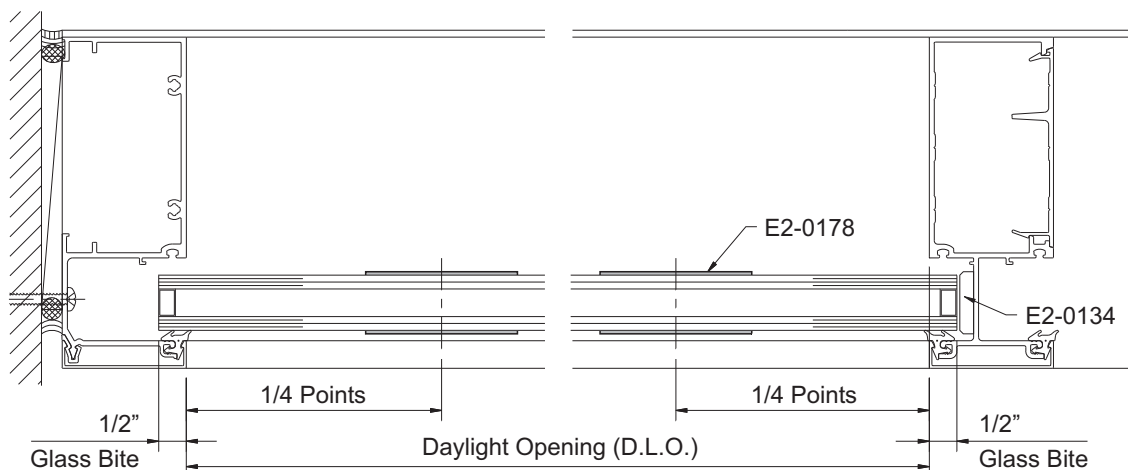
-Install side blocks, E2-0134, in the shallow glazing pocket of each vertical at the midpoint of the vertical daylight opening.

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

See **Detail 36**.



**DETAIL 36**



## GLAZING

### STEP 21 (Continued)

### INSTALL GLASS FOR STANDARD GLAZING

#### Install Anti-Walk Blocks:

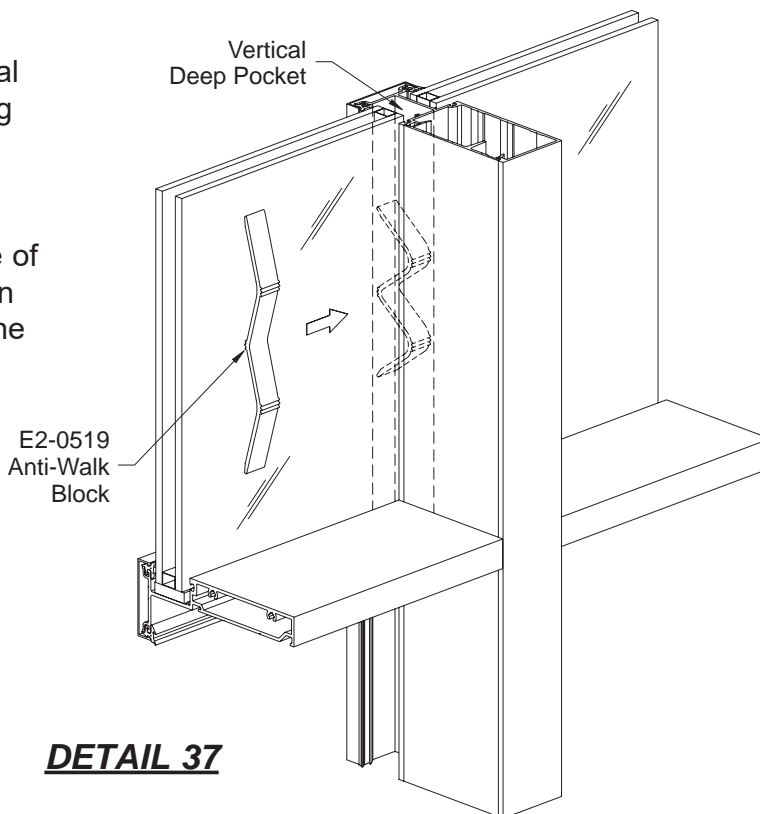
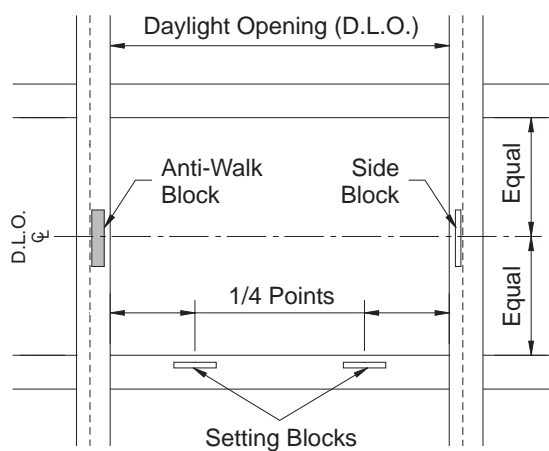
Anti-walk blocks must be installed in the vertical deep glazing pocket of each lite centered along the daylight opening:

E2-0520 for the jambs.

E2-0519 for intermediate verticals.

-Flatten the anti-walk block against the surface of the glass and push it into the opening between glass and the mullion until it is released into the glazing pocket.

See **Detail 37**.



#### Install Glass Stops:

-Apply 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.

-Using PC-1008 fasteners, screw the glass stop to the frame at 1/4 points.

See **Detail 38**.

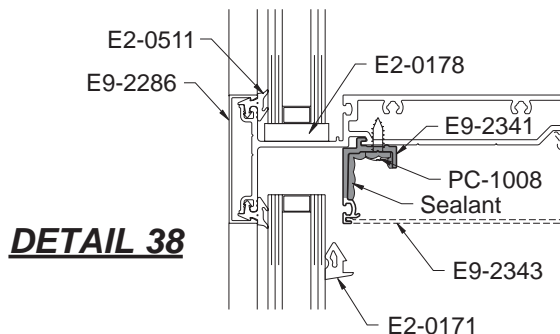
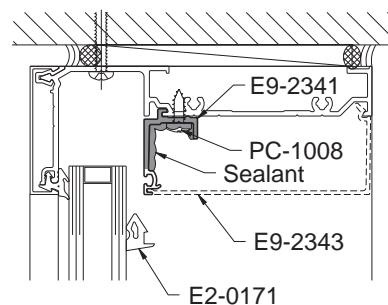
#### Install Interior Glazing Gaskets:

-Cut vertical & horizontal glazing gaskets to D.L.O. plus(+) 3/16" 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.

-Install interior trim covers, E9-2343, in vision areas only.



## GLAZING

### STEP 22

### INSTALL GLASS FOR STRUCTURAL SILICONE GLAZING

Determine the glass size:

	Width	Height
Jamb to SSG	<b>D.L.O. + 1-3/8"</b>	<b>D.L.O. + 1"</b>
SSG to SSG	<b>D.L.O. + 1-3/4"</b>	<b>D.L.O. + 1"</b>

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

At intermediate horizontals: E2-0178.

At sills: E2-0178 with setting block chair E1-1080.

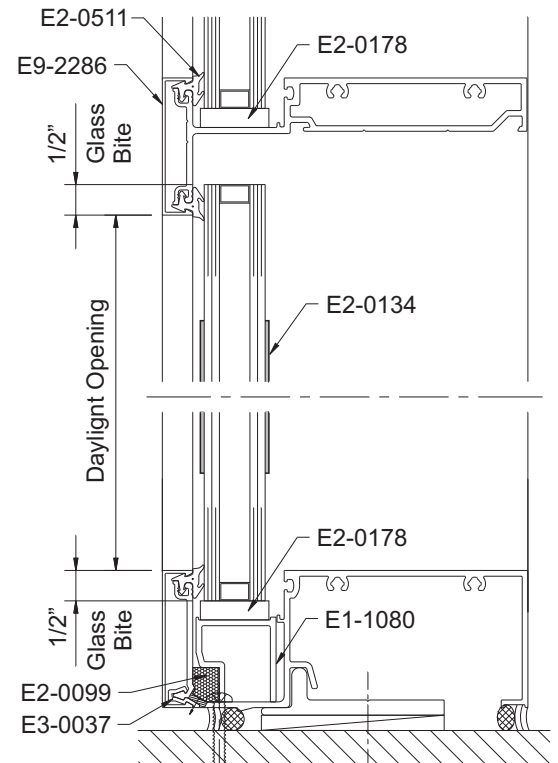
**Note:** Continuous sills also require that weep baffles, E2-0099, be installed at each setting block chair and over the weep holes.

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

-Slide the glass into the glazing pocket of the jamb until it clears the SSG mullion; slide the glass back 7/8" over in front of the first SSG mullion.

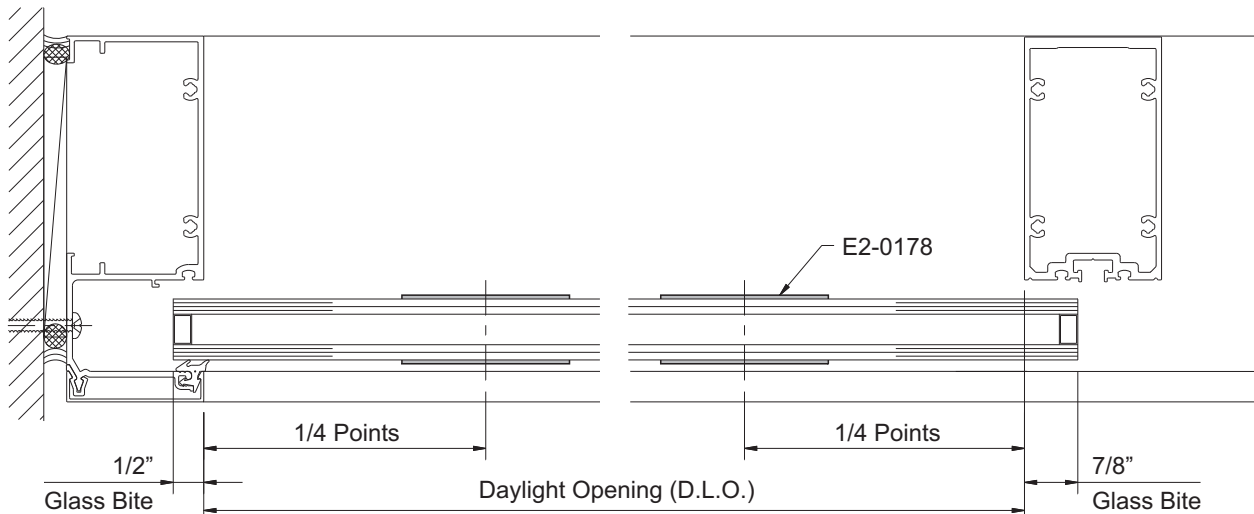
-Make sure that the glass is properly aligned with all setting blocks.

-YKK AP recommends the installation of anti-walk block, E2-0520, at the midpoint of each jamb glazing pocket.



See **Detail 39**.

### **DETAIL 39**



## GLAZING

### STEP 22 (Continued)

### INSTALL GLASS FOR STRUCTURAL SILICONE GLAZING

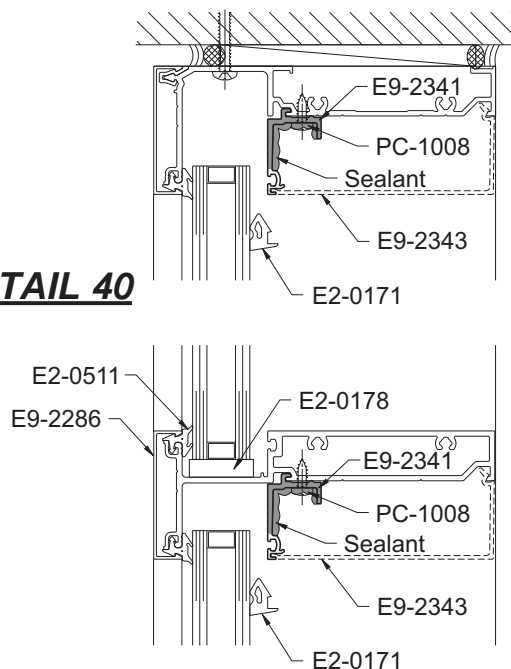
#### Install Glass Stops:

- Apply sealant to each end of the glass stops and snap them into position. Fasten with (2) PC-1008 screws.
  - Apply and tool sealant behind the glass stop at the verticals to ensure a watertight seal.
- See **Detail 40**.

#### Install Interior Glazing Gaskets & Spacers:

- Cut vertical glazing spacers to the glass height plus(+) 3/16" for each foot of height.
- Cut vertical & horizontal glazing gaskets to D.L.O. plus(+) 3/16" for each foot of length.
- Using a putty knife, carefully install the silicone spacer, E2-0521, 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.
- Install interior trim covers, E9-2343, in vision areas only.

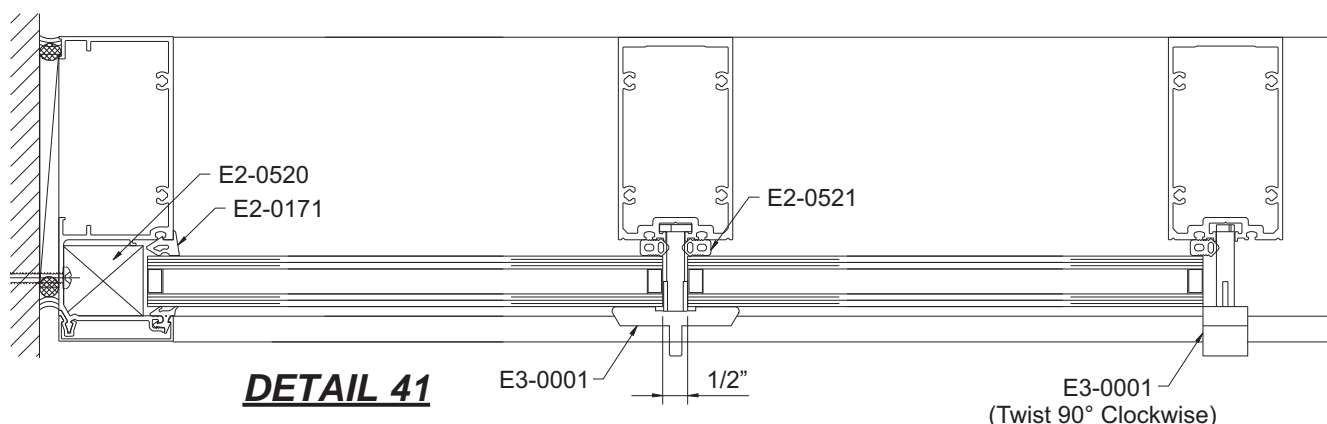
#### DETAIL 40



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

#### Install Temporary Glass Retainers:

- From the open side reach around the vertical, insert the temporary glass retainers, E3-0001 for 1" glazing or E3-0006 for 1/4" glazing, and twist them 90° clockwise to engage. Locate temporary glass retainers 18" to 24" on center. See **Detail 41**.
- Install the next lite of glass and center it to maintain a 1/2" joint between lites.
- 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 41

## GLAZING

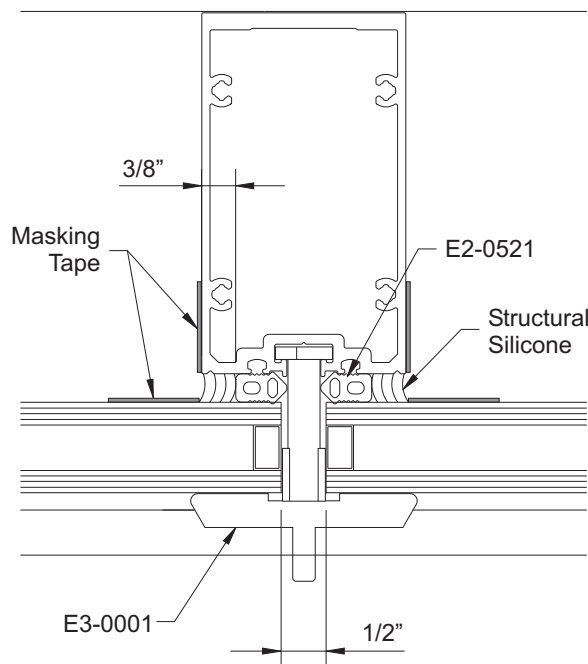
### STEP 23

#### 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 mullion in order to obtain the proper structural joint size.

See **Detail 42**.

**DETAIL 42**



- Prior to applying the structural silicone, clean all contact surfaces using an approved cleaner.
- Apply structural silicone from the bottom to the top of the joint.  
Use positive pressure to completely fill the cavity between the glass and 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

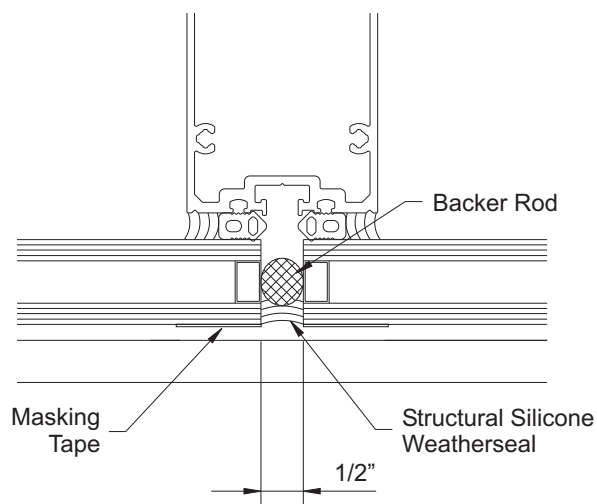
### STEP 24

#### 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 a 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, apply structural silicone into the joint between the lites of glass. Apply moderate pressure so that the void is completely filled.



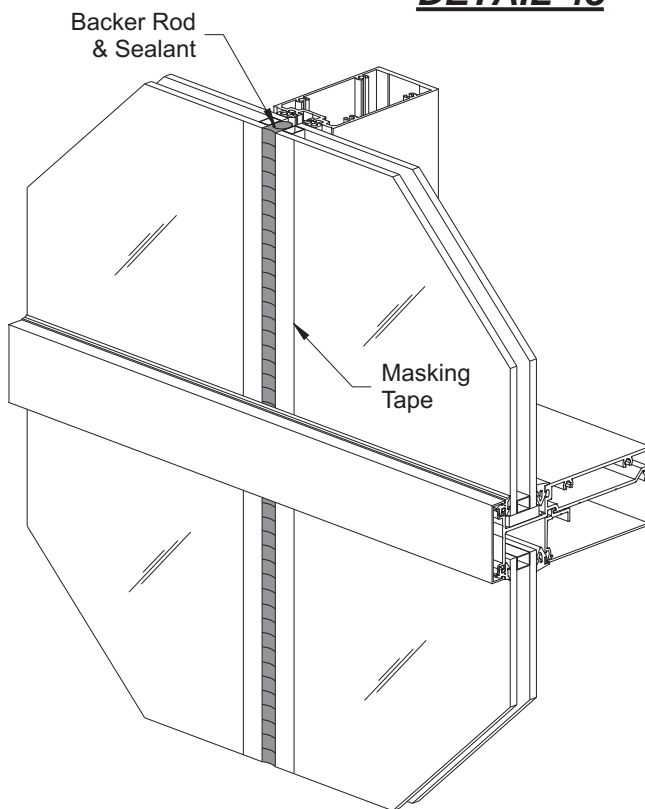
#### **DETAIL 43**

**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 43**.



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

## GLAZING

### STEP 25 (When Required) REGLAZING INSTRUCTIONS

#### Reglaze from the Interior

- Remove the interior cover by pushing it forward and down to unsnap it.
- Remove the glass stop and glazing gaskets.
- Replace the broken glass with a new lite of same size.
- Reglaze the lite following the directions previously shown in **Step 21** or **Step 22**.

#### Reglaze from the Exterior

- Remove all broken glass, exterior and interior glazing gaskets, and interior glass stop.
- Carefully pry off the horizontal face cover above the damaged lite.
- The bottom exterior leg of the horizontal or head member must be cut off along the bottom "V-Groove" on the face of the mullion.

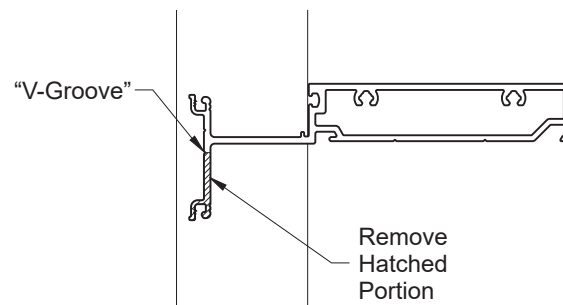
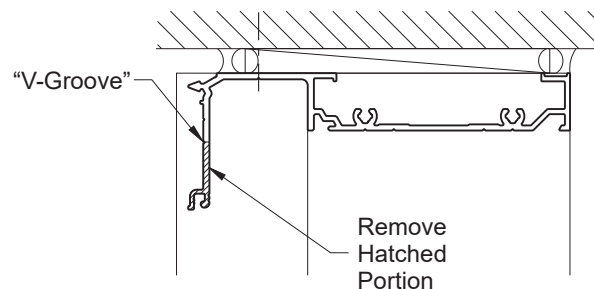
See **Detail 44**.

**Warning:** Be careful not to scar the vertical face cover when making this cut.

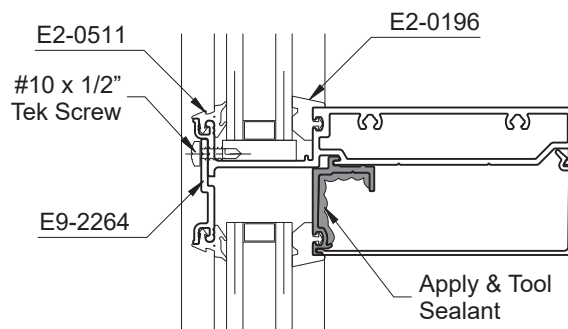
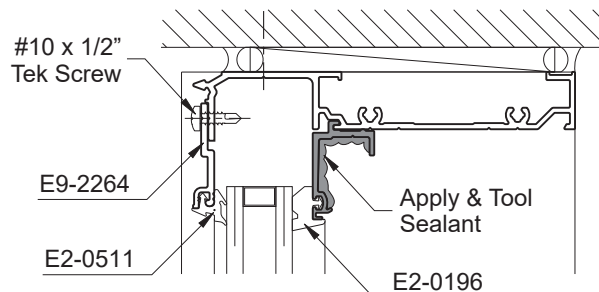
- Drill 0.161" diameter holes in the reglaze adaptor, E9-2264, along the "V"-Groove 3" from each end and at the midpoint.
  - Apply sealant to the ends of the interior glass stops and attach them to the horizontal members.
  - Seal the area behind the interior glass stop.
  - Install new push-in glazing gasket, E2-0196, instead of roll-in gasket E2-0171 in the interior reglets.
  - Install setting & side blocks, glass, and anti-walk blocks as previously shown in **Steps 21** or **22**; however, the glass is now installed from the outside.
  - Position the reglaze adaptor into place as shown and attach it to the head or horizontal member with #10 x 5/8" TEK screws through the pre-drilled holes.
- See **Detail 45**.

**Warning:** Reglaze adaptors must be properly aligned with the head/horizontal members in order for the face covers to snap in properly.

- Install new exterior glazing gasket, E2-0511, and face covers as previously shown in **Step 10**.



**Detail 44**



**Detail 45**

## CORNER INSTALLATION

### STEP 1C

#### INSTALL STANDARD CORNER MULLIONS

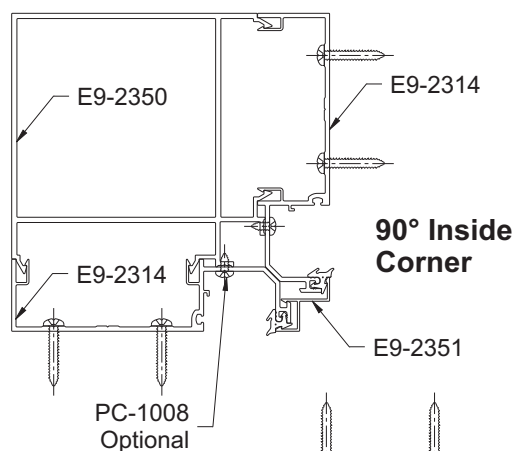
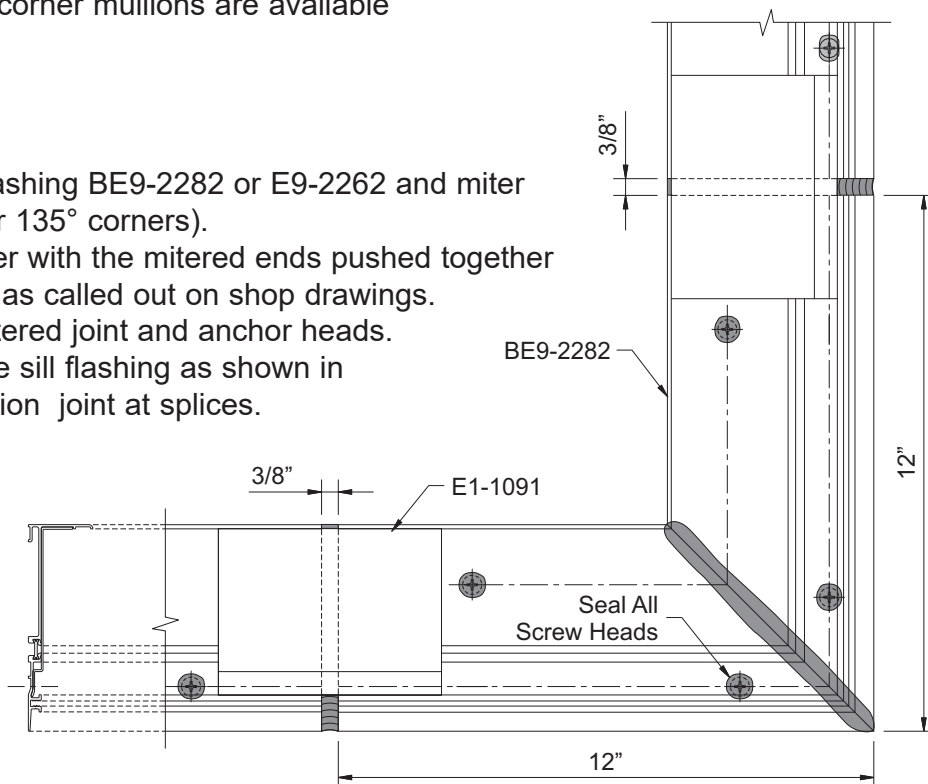
90° and 135° outside and inside corner mullions are available for vertical through frames.

#### Install sill flashing at corners:

- Cut two 12" long pieces of sill flashing BE9-2282 or E9-2262 and miter (45° for 90° corners and 67.5° for 135° corners).
- Align the two pieces at the corner with the mitered ends pushed together tight and anchor the sill flashing as called out on shop drawings.
- Apply and tool sealant to the mitered joint and anchor heads.
- Continue installing the rest of the sill flashing as shown in **Step 12** providing a 3/8" expansion joint at splices.

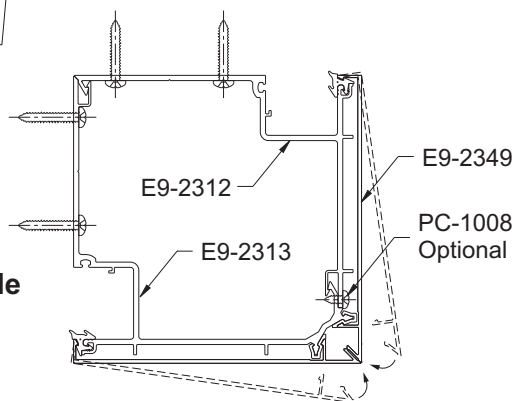
See **Detail 1C**.

**DETAIL 1C**



**DETAIL 2C**

**90° Outside Corner**



#### Install Corner Mullions:

- Attach horizontal members to standard verticals as shown before in **Step 11**. Attach the other end of the horizontals to the corner mullions or corner fillers, E9-2314, for 90° inside and both 135° corners using the same technique.
- Snap the corner framing members together to form the corner assemblies.

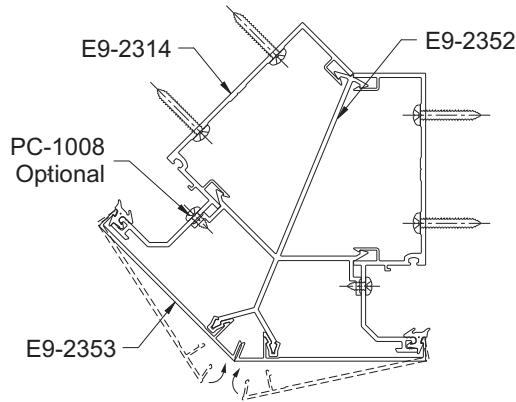
**Note:** Corner framing members may be attached with PC-1008 fasteners as shown.

- Carefully move the corner assembly into place and snap it into the rest of the frame one side at a time.

See **Details 2C & 3C**.

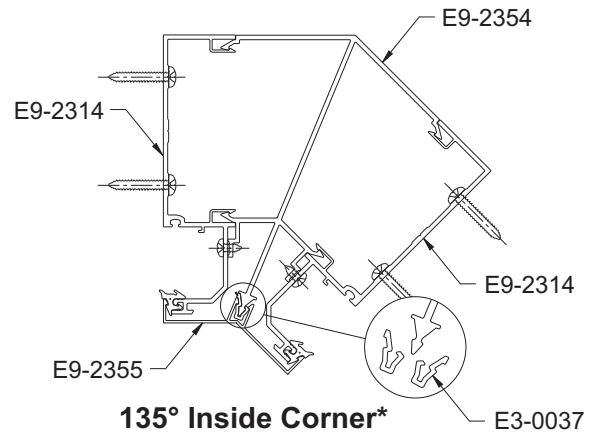
## CORNER INSTALLATION

### STEP 1C (Continued) INSTALL STANDARD CORNER MULLIONS



135° Outside Corner

**DETAIL 3C**



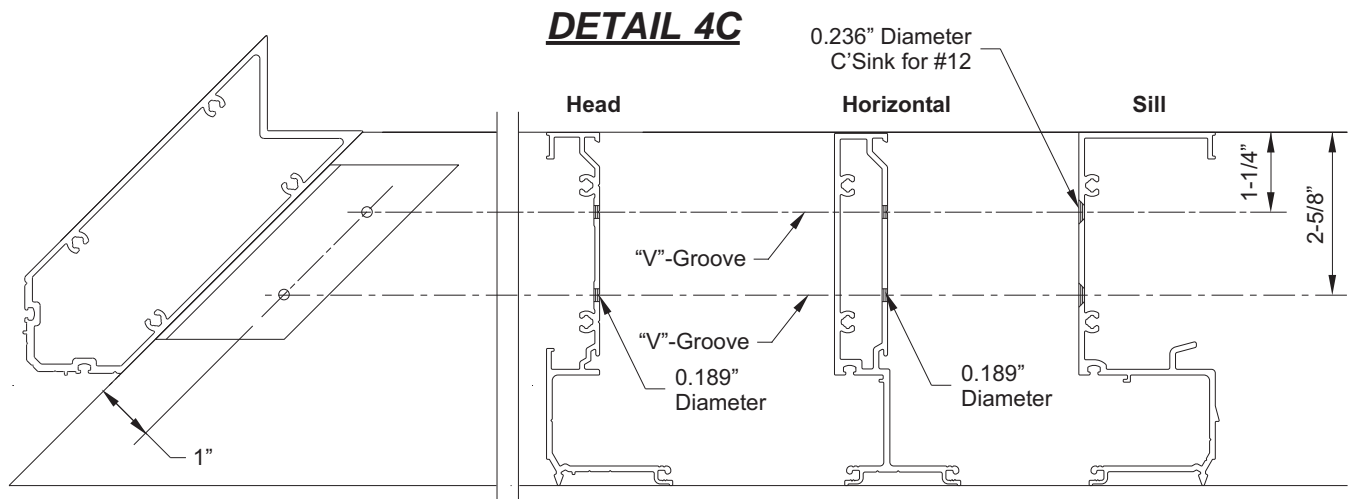
135° Inside Corner\*

### STEP 2C INSTALL 90° SSG CORNER MULLIONS

#### Fabricate Horizontal Members:

- Miter the head, horizontal, and sill members for the corners at a 45° angle.  
See shop drawings for cut lengths.
- Layout hole locations for attachment of horizontal members to corner mullion shear clips.
- Drill 0.189" diameter (#12 drill bit) holes at each location marked on the head and horizontal.
- Drill 0.236" diameter (#B drill bit) holes at each location marked on the sill.  
Sill holes must be countersunk for #12 fasteners.

See **Detail 4C**.

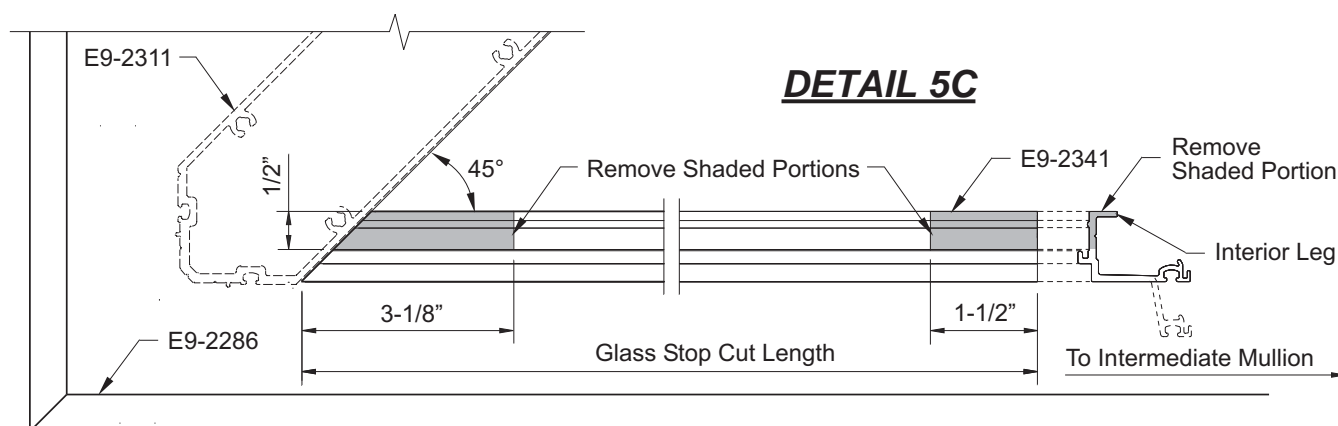


## CORNER INSTALLATION

### STEP 2C (Continued) INSTALL 90° SSG CORNER MULLIONS

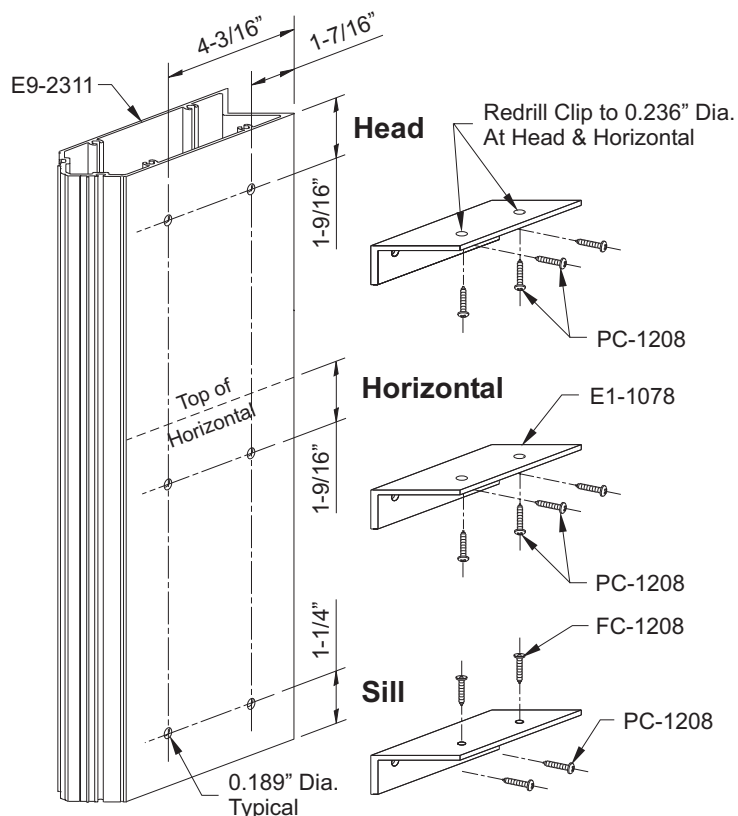
#### Fabricate Horizontal Face Covers & Glass Stops:

- Miter horizontal face covers and glass stops for the corners at a 45° angle. See shop drawings for cut lengths.
- Glass stops must be notched to clear the shear clips. Notch the glass stops 3-1/8" from the miter and 1-1/2" from the intermediate mullion end. Cut both notches 1/2" deep from the interior edge of the glass stop. See **Detail 5C**.



#### Fabricate & Install 90° SSG Corner Mullion:

- Cut 90° outside SSG vertical, E9-2311, to the frame height determined in **Step 1**.
  - Layout hole locations as shown below for attachment of shear clips, E1-1078 & E1-1079.
  - Head and horizontal attachment holes on the shear clips must be redrilled to 0.236" dia. clear holes for PC-1208 fasteners.
  - Attach the shear clips to the mullion with (2) PC-1208 fasteners per clip.
  - Position the corner mullion into place and attach the horizontals to the shear clips.
- Note:** Sill members are attached by countersunk FC-1208 fasteners.



See **Detail 6C**.

#### **DETAIL 6C**

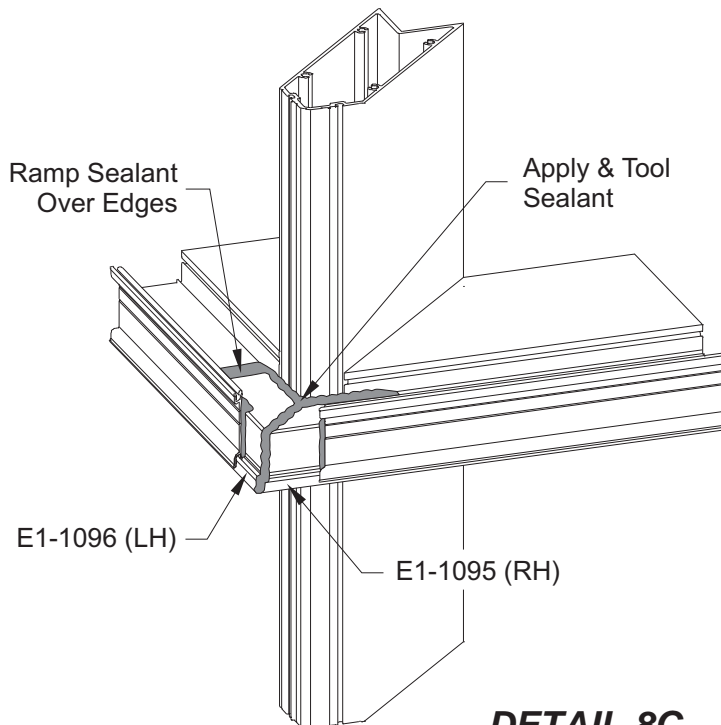
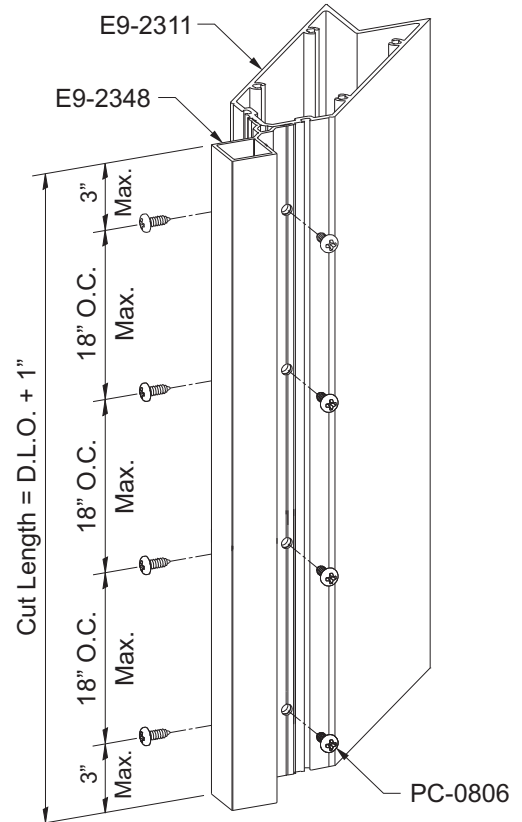
## CORNER INSTALLATION

### STEP 3C INSTALL CORNER TRIM AT 90° OUTSIDE SSG CORNER

- Cut the E9-2348 90° Outside Trim Cover to Daylight Opening (D.L.O.) plus (+) 1".
- Mark hole locations on the trim cover no more than 3" from each end and then 18" on center maximum on both sides along the "V"-groove. Drill 0.189" diameter holes at each hole location.
- Position the trim cover onto the corner mullion centered along the vertical daylight opening and match drill 0.141" diameter holes into the mullion.
- Attach the trim cover to the corner mullion with PC-0806 fasteners.
- Apply and tool sealant to all screw heads.

See **Detail 7C**.

#### **DETAIL 7C**



#### **DETAIL 8C**

### STEP 4C INSTALL HORIZONTAL BRIDGES AT 90° OUTSIDE SSG CORNER

- Horizontal bridges, E1-1095 (RH) and E1-1096 (LH), must be installed to close the gap between horizontals at 90° SSG corners.
- Peel away the protective paper underneath the bridges and position them in place.
  - Apply and tool sealant to the joint between the bridges and all bridge to horizontal and vertical joints to ensure a watertight seal.
  - Ramp the sealant over the edges of the bridges at the glazing pocket.

See **Detail 8C**.

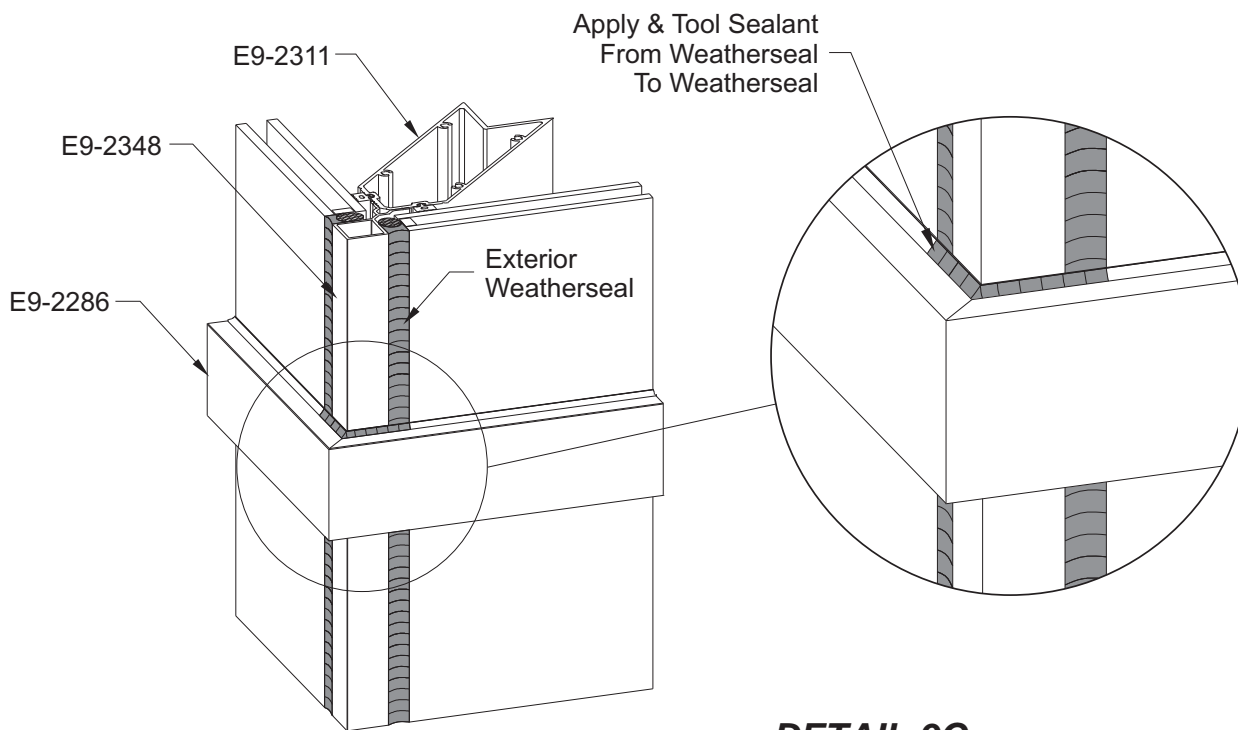
## CORNER INSTALLATION

### STEP 5C

#### APPLY FACE COVER SEAL AT 90° OUTSIDE SSG CORNERS

- Install exterior glazing gaskets and snap on face covers to the horizontal members at the SSG corner as previously shown in this manual.
- Refer to **Steps 22 to 24** for proper SSG glass lite installation.
- After glass is installed and exterior weatherseal is applied, apply a bead of sealant at the intermediate horizontal and sill along the top of the face cover gasket from weatherseal to weatherseal at the corner mullion.
- Tool the sealant to form a complete seal at the SSG corners.

See **Detail 9C**.



**DETAIL 9C**

## DOOR INSTALLATION

### STEP 1D

#### FABRICATE ONE PIECE VERTICAL (FOR SIDE LITE APPLICATIONS)

Door jambs are intended to run from the finished floor to the top of the frame head.

-Cut the frame members to Masonry Opening minus(-) 3/8."

**Note:** Use E9-2304 at masonry jambs and E9-2306 or E9-2308 at side lites. **DO NOT USE TWO-PIECE MULLIONS FOR DOOR JAMBS.**

-Measuring from the top down, locate each horizontal location as shown on shop drawings. Ensure that the top of the intermediate horizontals and sill are marked.

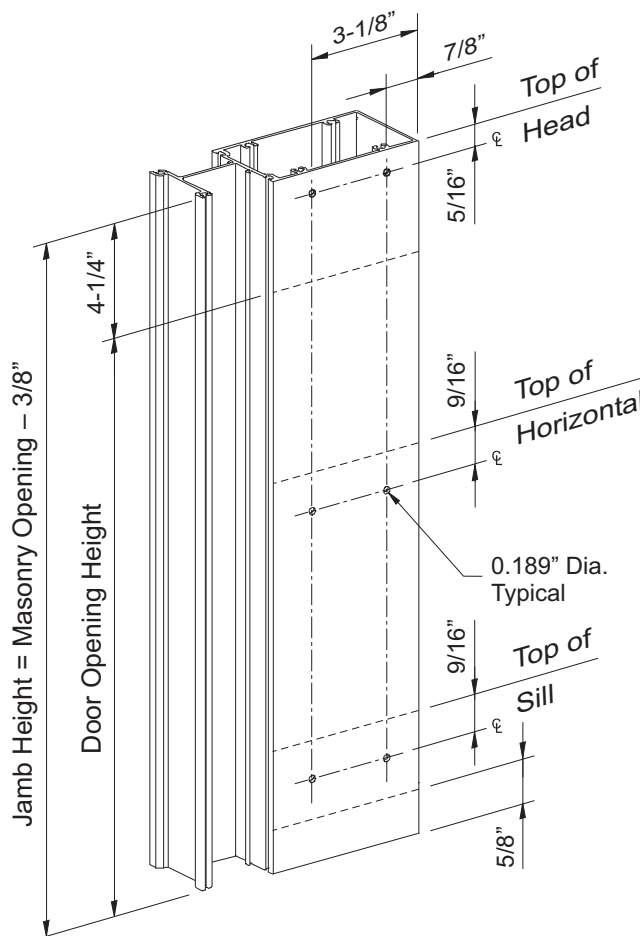
-Measure down from the top of the jamb 5/16" and mark the centerline for the head shear block mounting holes.

-Measure down from the top of each intermediate horizontal and sill location 9/16" and mark the centerline for the shear blocks.

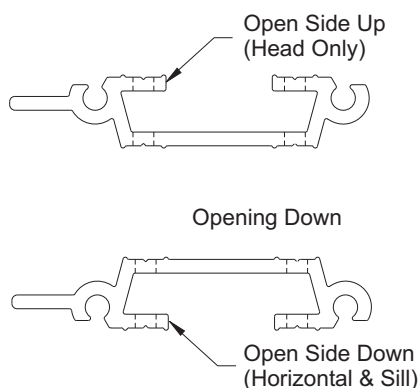
-Measure in from the back edge of the jamb 7/8" and mark the location for the rear fastener on the previously marked centerlines.

-Measure in from the back edge of the jamb 3-1/8" and mark the location for the front fastener on the same centerlines.

-Drill a 0.189" (#12) dia. hole at each location marked. See **Detail 1D**.



**DETAIL 1D**



**DETAIL 2D**

### STEP 2D

#### ATTACH SHEAR BLOCKS

Shear blocks are installed in one of two ways:\_\_\_\_  
Head shear block - Open portion of shear block UP.

Horizontal/Sill shear block- Open portion of shear block DOWN.

See **Detail 2D**.

-Attach each shear block with two PC-1228 screws.

## DOOR INSTALLATION

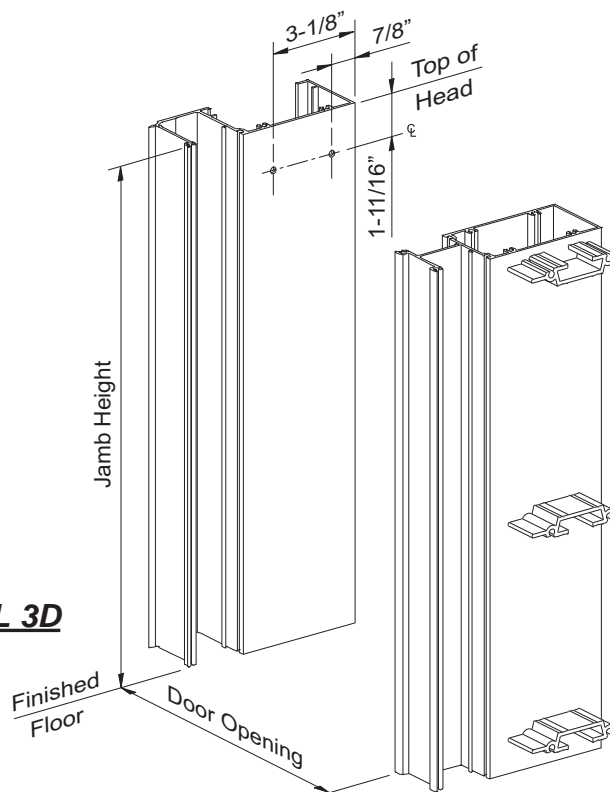
### STEP 3D

#### FABRICATE DOOR JAMBS WITHOUT TRANSOMS

- Measure from the top of each jamb down  $1-11/16"$  and mark the centerline for the head shear block mounting holes.
- Measure in from the back edge of each jamb  $7/8"$  and mark the location for the rear fastener on the previously marked centerline.
- Measure in from the back edge of each jamb  $3-1/8"$  and mark the location for the front fastener on the same centerline.
- Drill a  $0.189"$  (#12) dia. hole at each hole location.
- Attach a shear block to each door jamb with (2) PC-1228 fasteners.

See **Detail 3D**.

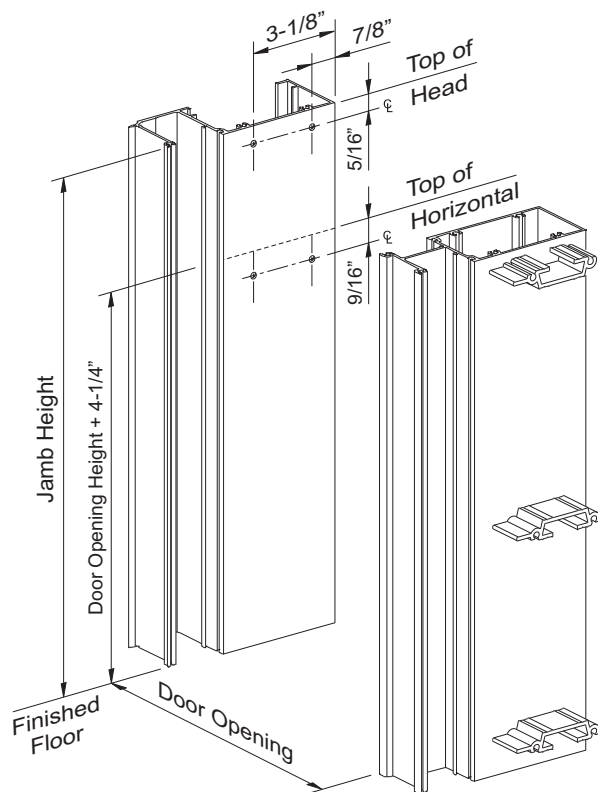
**DETAIL 3D**



#### FABRICATE DOOR JAMBS WITH TRANSOMS

- Measure from the top of each jamb down  $5/16"$  and mark the centerline for the head shear block mounting holes.
- Measure from the bottom of each jamb up the door opening height plus(+)  $4-1/4"$  to mark the top of the horizontal, above the door header.
- Measure down  $9/16"$  from the previous mark to locate the centerline of the shear block.
- Measure in from the back edge of each jamb  $7/8"$  and mark the location for the rear fastener on the previously marked centerline.
- Measure in from the back edge of each jamb  $3-1/8"$  and mark the location for the front fastener on the same centerline.
- Drill a  $0.189"$  (#12) dia. hole at each hole location.
- Attach a shear block to each door jamb with (2) PC-1228 fasteners.

See **Detail 4D**.



**DETAIL 4D**

## DOOR INSTALLATION

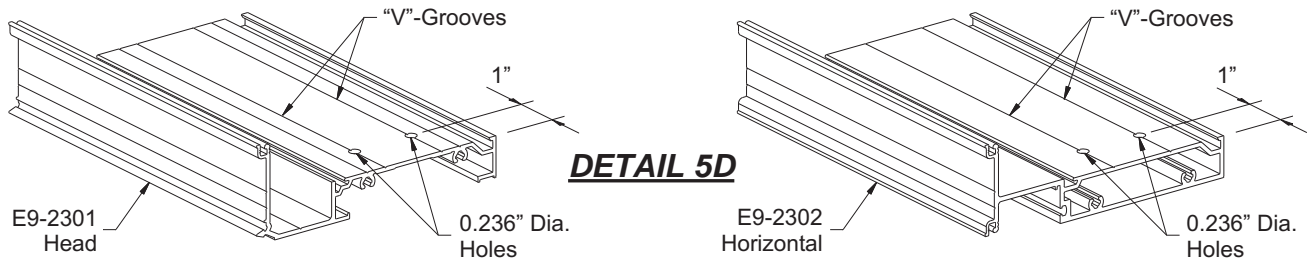
### STEP 4D

#### FABRICATE DOOR FRAME SIDE LITE MEMBERS

Horizontal members that will be attached to the door jambs require additional fabrication to attach to the shear blocks. For jamb side follow the instructions below; for intermediate vertical side follow appropriate frame fabrication in **Steps 3 & 4**.

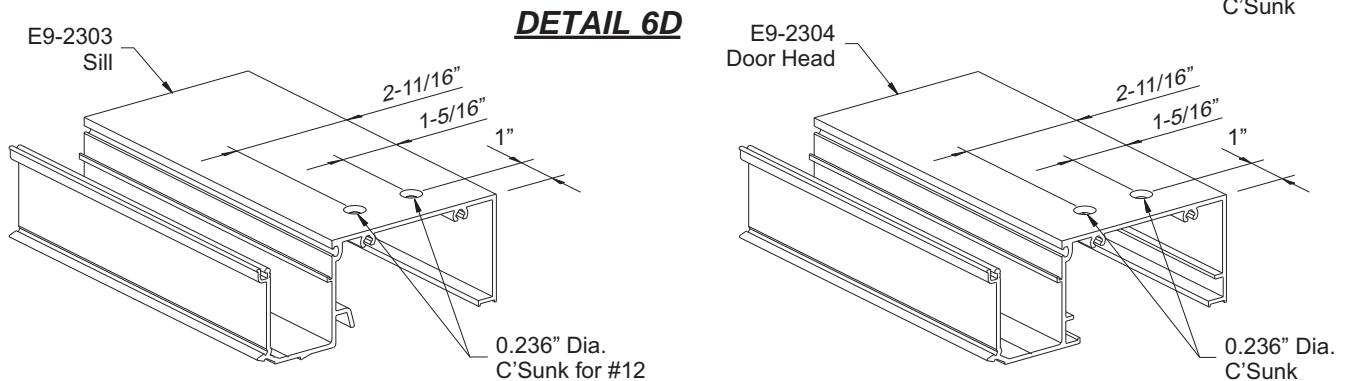
#### Head and Intermediate Horizontal:

- Measure in 1" from the door jamb end of the horizontal member and mark the hole locations on each of the interior set of "V"-grooves.
  - Drill a 0.236" diameter (#B drill bit) hole at each location marked.
- See **Detail 5D**.



#### Sill, Door Head, and Transom Horizontal:

- Measure in 1" from the door jamb end of the horizontal member and mark the centerline for the shear block fastener hole locations.
  - Measure in from the back edge of the horizontal member 1-5/16" and mark a hole location along the centerline.
  - Mark a second hole location along the centerline 2-11/16" from the back edge of the horizontal.
  - Drill a 0.236" diameter (#B drill bit) hole at each location marked and countersink for a #12 fastener.
- See **Detail 6D**.



## DOOR INSTALLATION

### STEP 5D

#### INSTALL DOOR JAMBS & SIDE LITES

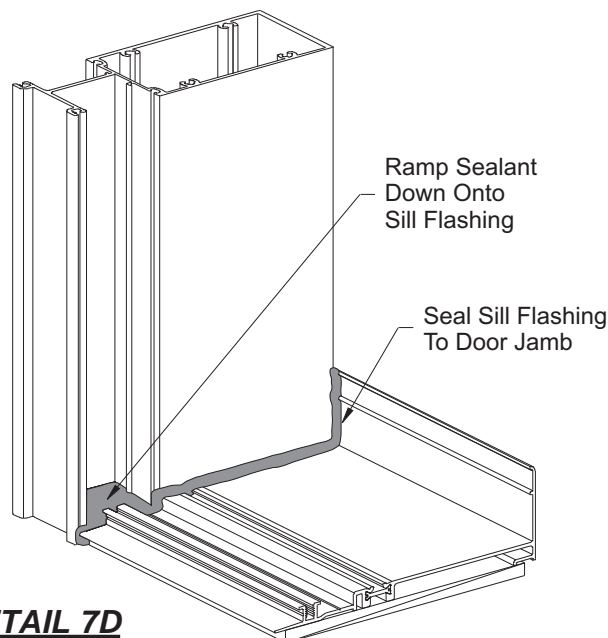
-Bring the door jamb into position, butted against the sill flashing.

Prior to attaching the side lites, the end of the sill flashing must be sealed to the door jamb.

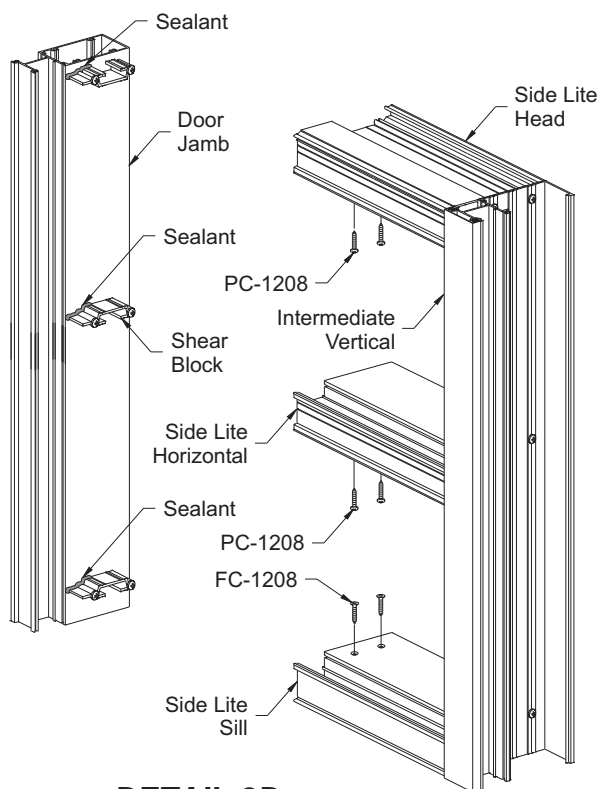
-Apply and tool sealant to all sill flashing to door jamb joints.

-Apply a liberal amount of sealant to completely fill the glazing pocket and ramp the sealant down onto the sill flashing.

See **Detail 7D**.



**DETAIL 7D**



**DETAIL 8D**

- Attach the side lite members to the intermediate vertical as previously shown in **Step 11**.
- Prior to attaching the horizontal members to the door jambs, apply sealant to the front top portion of the shear blocks and to the ends of the horizontal members as shown in **Step 11**.
- Attach the head and intermediate horizontal to the shear blocks with (2) PC-1208 fasteners and attach the sill with (2) FC-1208 fasteners.
- Seal all joints and install water deflectors at all intermediate horizontals as shown in **Steps 15 & 16**.

**Note:** Side lite members must be shear blocked to door jambs regardless of frame type.  
All jambs must be installed square and plumb.

See **Detail 8D**.

## DOOR INSTALLATION

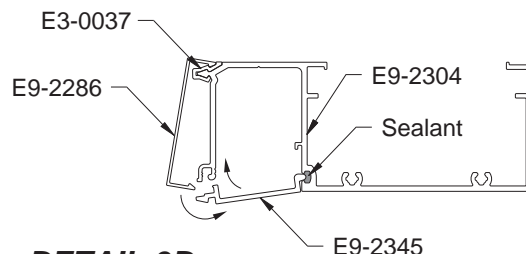
### STEP 6D INSTALL DOOR SUB-FRAME

Doors are shipped assembled, and door sub-frames will be fabricated and shipped knocked down. Please refer to the Entrances Installation Manual for door installation and follow the instructions below to install the door sub-frame.

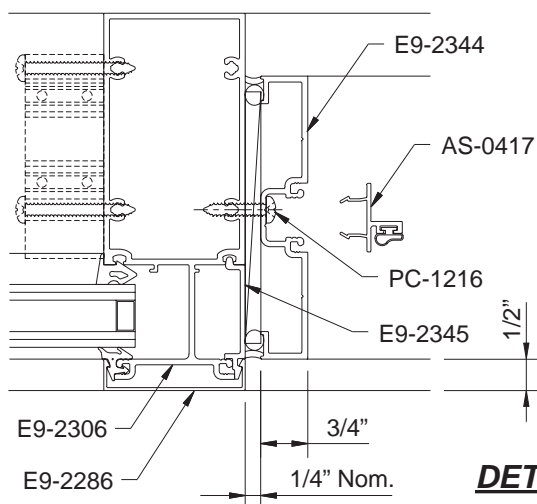
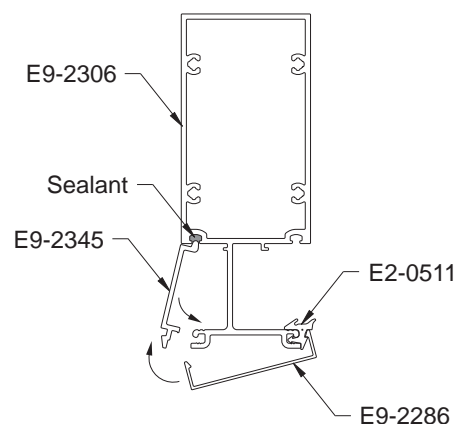
- Cut pocket filler, E9-2345, to the Door Opening Height minus(-) 1/16" for each jamb.
- Cut pocket filler, E9-2345, to the Door Opening Width minus(-) 1/32" for the horizontal above the door frame.
- Install isolator clips, E3-0037, 3" from each end and 12" on center for E9-2304 or E2-0511 glazing gasket for E9-2306.
- Apply sealant into the interior gasket reglets and rotate the pocket filler into place.
- Install face covers, E9-2286, by engaging them with the isolator clips or gasket and rotating them over to snap onto the pocket fillers.

See **Detail 9D**.

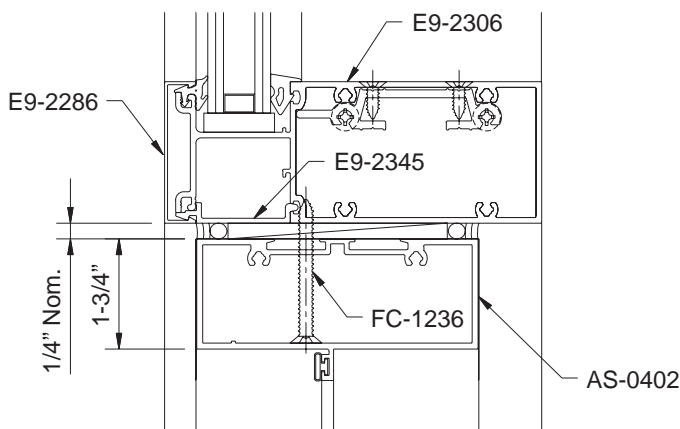
- Position the door sub-frame into place.
  - Fasten the jamb, E9-2344, to the vertical using PC-1216 fasteners, 3" from each end and 12" on center. Fasten the transom bar, AS-0402, to the horizontal using FC-1236 fasteners, 3" from each end and 12" on center. Shim between the sub-frame and YWE 60 T frame as needed.
  - Install door stop, AS-0417, into the door jambs.
  - Apply and tool sealant between the sub-frame and YWE 60 T frame on the interior and exterior.
- See **Detail 10D**.



**DETAIL 9D**



**DETAIL 10D**





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