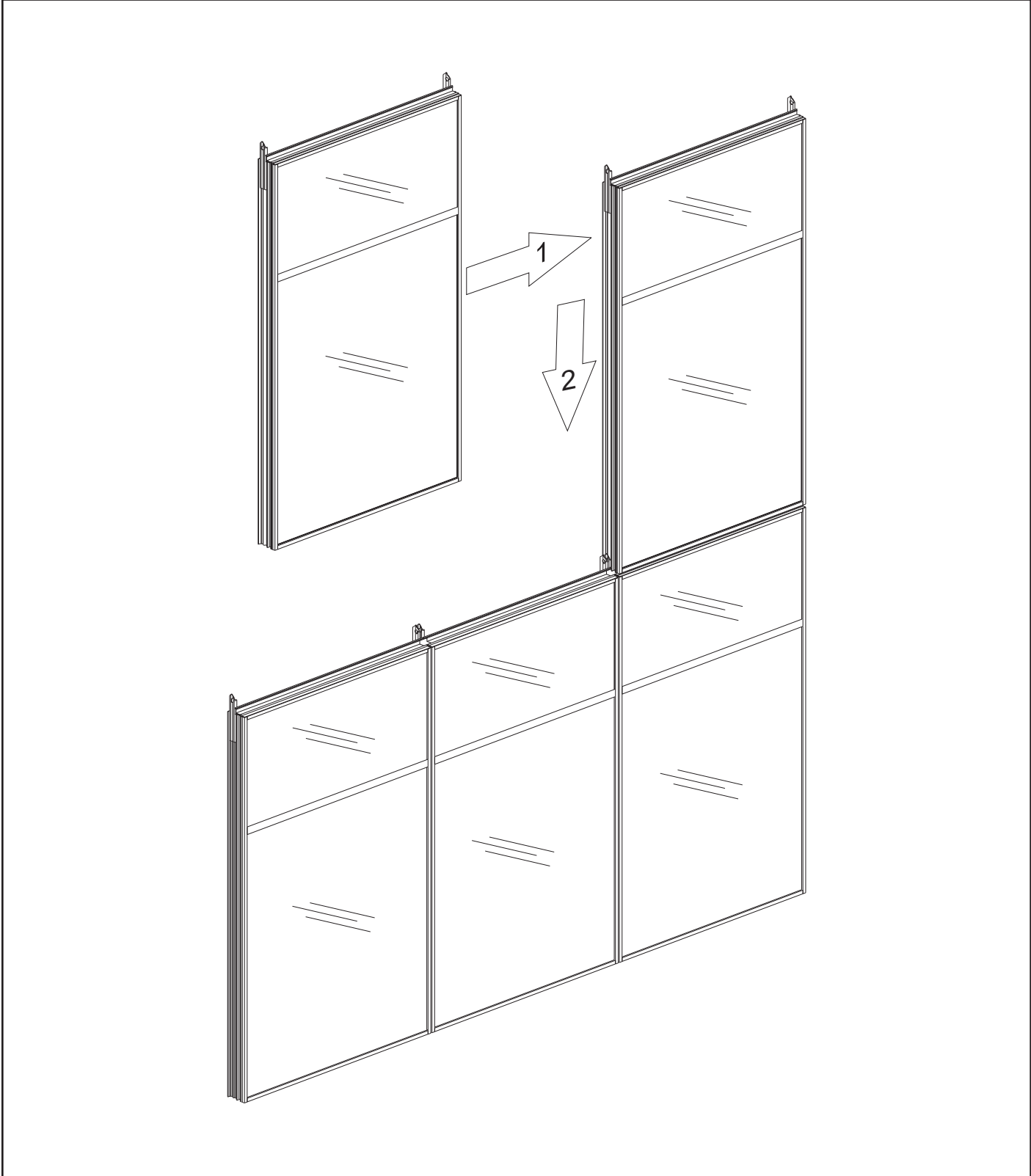


INSTALLATION INSTRUCTIONS



Installation Manual

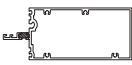

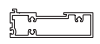
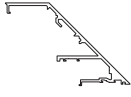
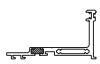

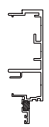

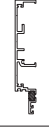

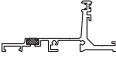









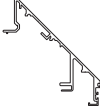

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Installation Notes

1. Do not drop, roll or drag boxes of aluminum framing. Move and stack boxes with proper support to prevent distortion. If fork lifts are used, be especially careful about striking the boxes when lifting or moving.
2. Store in a dry, out of the way area. If rain exposure, condensation or any water contact is likely, then all packaging material should be removed. Wet packaging materials will discolor and may stain aluminum finishes and paints.
3. All materials should be checked for quality and quantity upon receipt, YKK AP must be notified immediately of any discrepancies in shipment. Check to make sure that you have the required shims, sealants, supplies and tools necessary for the installation.
4. Carefully check the openings and surrounding conditions that will receive your material. Remember, if the construction is not per the construction documents, it is your responsibility to notify the general contractor in writing. Any discrepancies must be brought to the general contractor's attention before you proceed with the installation.
5. Gather your shop drawings, materials, packing list, and this installation manual. Carefully review parts location, the sequence it goes therein, when you glaze it and how you seal it. Installation instructions are of a general nature and may not cover every condition you will encounter. The shop drawings and/or installation manuals were prepared specifically for the product.
6. Any material substitutions must be of equal or greater quality.
7. Make certain that material samples have been sent for compatibility testing for all manufacturer's sealants involved. Make certain sealants have been installed in strict accordance with the manufacturer's recommendations and specifications. Cleaning before sealing should be done as directed by sealant manufacturer.
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. Please contact the YKK AP DirecTech application engineering department for any project specific condition not covered by these instructions.
11. Units must be installed in a specific sequence. Coordinate installation sequence with general contractor and other affected contractors.
12. YKK AP storefront and/or curtain wall framing is typically completed before drywall, flooring and other products which 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, for the latest installation manual update prior to commencing work.

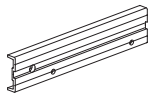

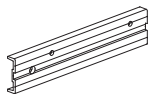

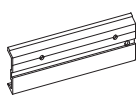

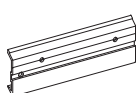


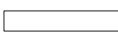



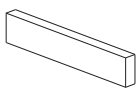










FRAMING MEMBERS

	Intermediate Horizontal	BE9-3806		Outside Corner Mullion Female	E9-3814
	Head	E9-3803		Inside Corner Mullion Male	E9-3817
	Stacking Tray	BE9-3804		Inside Corner Mullion Female	E9-3818
	Vertical Mullion Male	BE9-3801		Glass Stop	E9-3807
	Vertical Mullion Female	BE9-3802		Head Glass Stop	E9-3808
	Heavy Duty Sill Starter	BE9-3834		Horizontal Glass Stop	E9-3809
	Sill	BE9-3805		Male Mullion Adaptor	E9-3819
	Jamb	BE9-3810		Inside Corner Adaptor	BE9-3820
	Jamb Trim Use with BE9-3810	BE9-3811		Inside Corner Glazing Adaptor	E9-3821
	Jamb Interior Cover	E9-3812		Outside Corner Glass Stop	E9-3816
	Outside Corner Mullion Male	E9-3813		Outside Corner Adaptor	BE9-3815

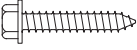

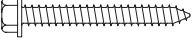






ACCESSORIES

	Mullion Clip	E1-3901		Jamb End Dam	E1-3913
	Setting Block Chair	E1-3902		Mullion Splice Sleeve For Left Outside Corner Mullion	E1-3914
	Mullion Splice Sleeve Left	E1-3903		Mullion Splice Sleeve For Right Outside Corner Mullion	E1-3915
	Mullion Splice Sleeve Right	E1-3904		Outside Corner Leveling Bracket	E1-3916
	Leveling Bracket	E1-3905		L Anchor For Outside Corner	E1-3917
	Bracket Sleeve	E1-3906		Mullion End Cap For Outside Corner	E1-3918
	L Anchor	E1-3907		Inside Corner Leveling Bracket	E1-3919
	Lock Washer	E1-3908		Reinforcement Adaptor	E1-3920
	Stopper	E1-3909		Reinforcement Adaptor For Outside Corner	E1-3921
	Mullion End Cap	E1-3910		Slab Edge Anchor	E1-3922
	Mullion End Cap For Inside Corner	E1-3911		Slab Edge Anchor Spacer	E1-3923
	Mullion End Cap For Jamb	E1-3912		Heavy Duty Sill Starter Reinforcement Clip	E1-3924

ACCESSORIES

	Top Unit Lift Bracket For Left Mullion	E1-3925		Side Block EPDM	E2-3903
	Top Unit Lift Bracket For Right Mullion	E1-3926		Side Block Silicone	E2-3913
	Top Unit Lift Bracket For Left Outside Corner Mullion	E1-3927		Side Block EPDM	E2-3914
	Top Unit Lift Bracket For Right Outside Corner Mullion	E1-3928		Side Block Silicone	E2-3915
	Vertical Air Tight Gasket	E2-3901		Setting Block EPDM	E2-3907
	Vertical Thermal Gasket	E2-3902		Setting Block Silicone	E2-3917
	Exterior Gasket	E2-3904		Side Block for 1/4" Glass at Inside Corner	E2-9907
	Stacking Tray Gasket	E2-3905		Silicone Splice Sleeve	E2-0070
	Stacking Tray Spacer	E2-3906		#12 x 1" FHSMS Stainless Steel, For Attachment of Stacking Tray to Head E9-3803	FS-1216 -SS
	Interior Gasket for Inside Corner Mullion	E2-3910		3/8" x 2 1/4" HWHMS Zinc Plt. Stl., For Attach. of Mullion Splice Sleeve and Leveling Bracket to Vertical	HM-3836
	Horizontal Thermal Gasket	E2-3911		#10 x 5/8" PHSMS Stainless Steel For End Cap Attachment	PC-1010 -SS
	Interior Gasket	E2-3912		#10 x 3/4" TEKPHS Stainless Steel, For Attachment of Corner Adaptor Assembly	PS-1012 -SS

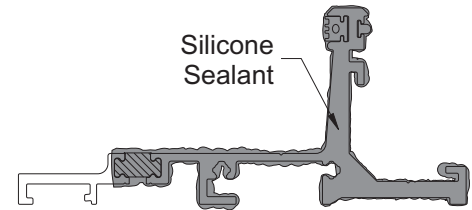
ACCESSORIES

	<p>#12 x 1 1/4" HWHS Stainless Steel For Frame Assembly</p>	<p>HC-1220 -SS</p>	 <p>3/8" Lock Washer Zinc Plt. Stl., For Attach. of Mullion Splice Sleeve and Leveling Bracket to Vertical</p>	<p>WS-3800</p>
	<p>#12 x 1 3/4" HWHS Stainless Steel For Corner Mullion Assembly</p>	<p>HC-1228 -SS</p>	 <p>3/8" - 13 Nut HHMS Zinc Plated Steel For Anchor Attachment</p>	<p>HM-5000</p>
	<p>3/8" - 16 Nut HHMS Zinc Plt. Stl., For Attach. of Mullion Splice Sleeve and Leveling Bracket to Vertical</p>	<p>HM-3800</p>	 <p>1/2" x 2 1/2" HWHMS Zinc Plated Steel For Anchor Attachment</p>	<p>HM-5040</p>
	<p>1/2"-13 x 1/2" Set Screw Zinc Plated Steel For Leveling Bracket</p>	<p>YM-5008</p>	 <p>1/2" Lock Washer Zinc Plated Steel For Anchor Attachment</p>	<p>WS-5000</p>
	<p>#10 x 1" TEKPHS Stainless Steel For Inside Corner Adaptor Assembly</p>	<p>PS-1216 -SS</p>		

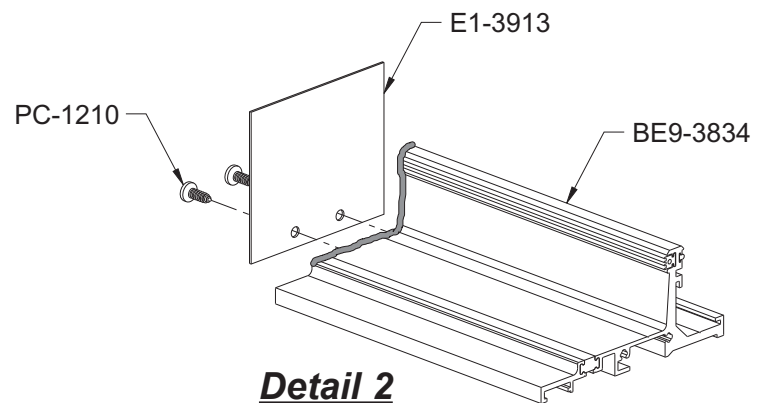
UNIT INSTALLATION

STEP 1 INSTALL END DAMS

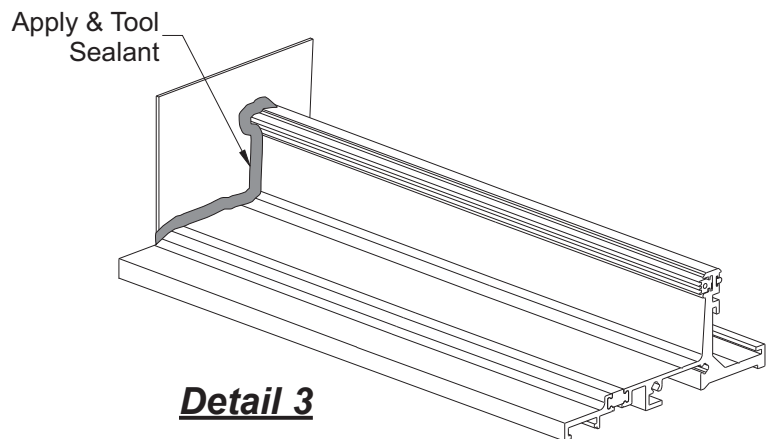
- Clean all joint surfaces using an approved cleaner.
- Apply silicone sealant to the BE9-3834 sill starter as shown in **Detail 1**.
- Fasten the E1-3913 jamb end dam to the sill starter with two PC-1210 screws, starting at the back, followed by the front as shown in **Detail 2**.
- Tool sealant along the joint between the jamb end dam and the sill starter as shown in **Detail 3**.
- Seal over exposed end dam attachment screw heads.



Detail 1

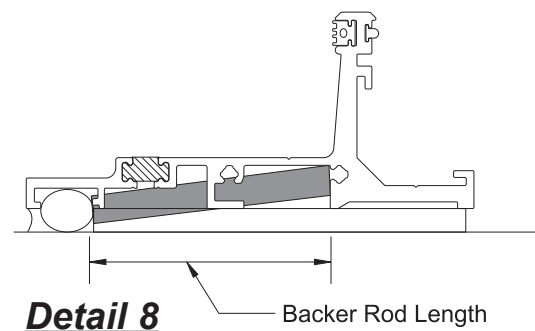
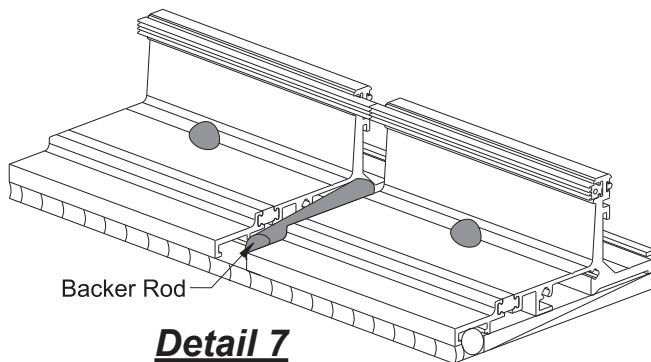
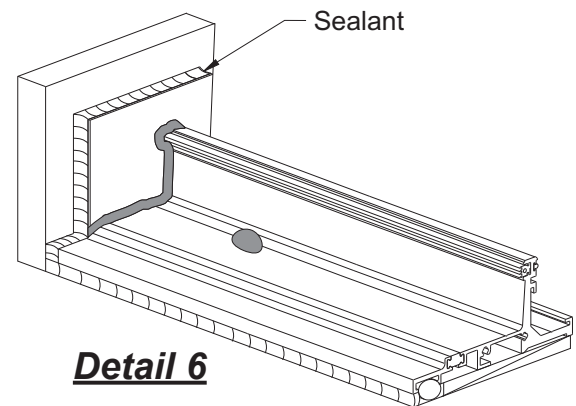
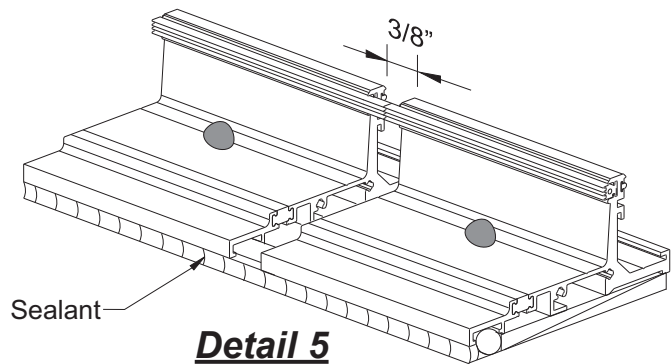
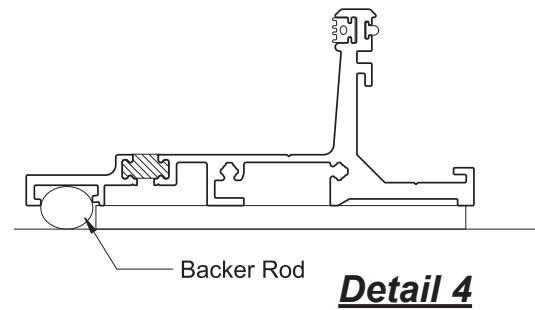
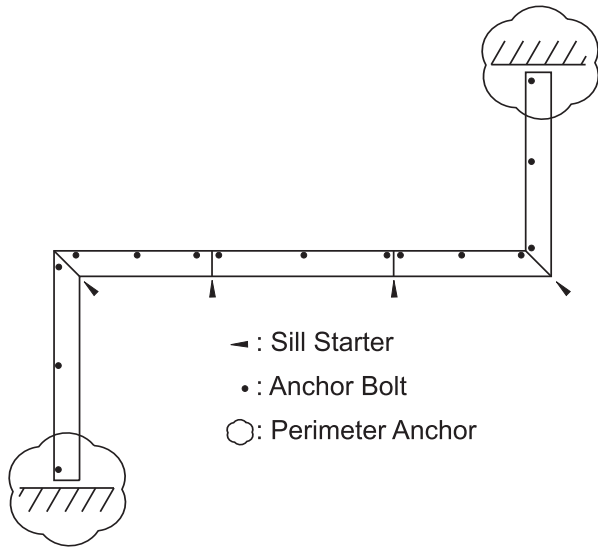


Detail 2



Detail 3

UNIT INSTALLATION



**STEP 2
INSTALL SILL STARTER**

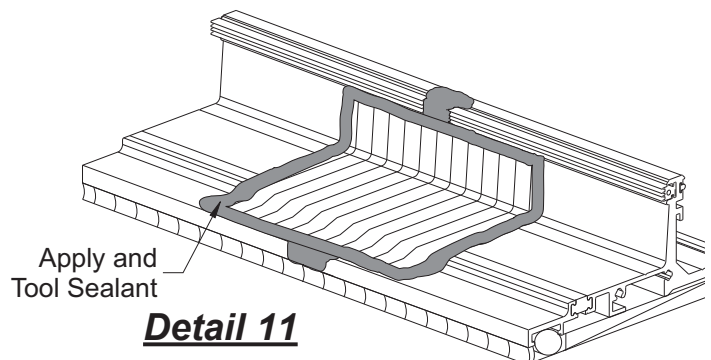
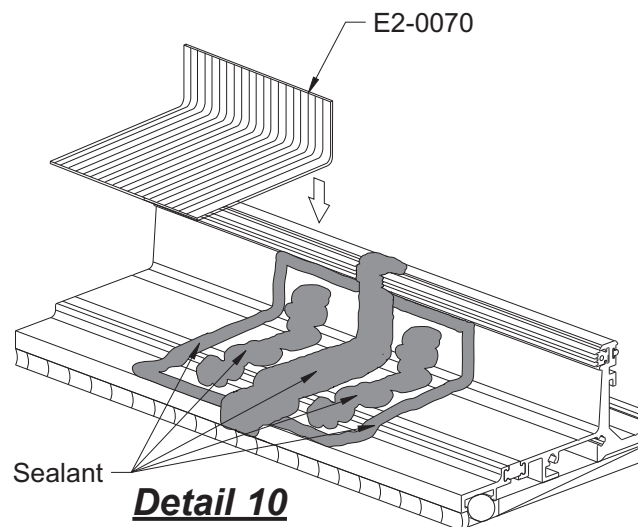
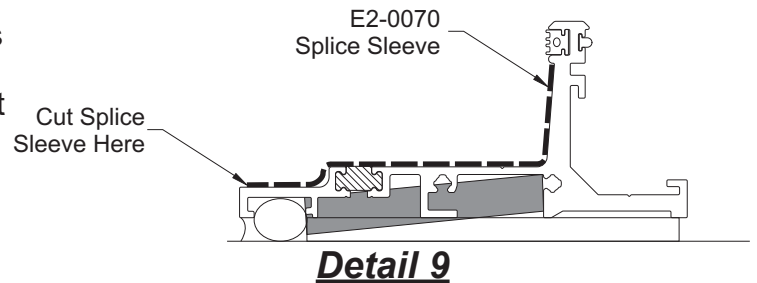
- Referring to approved shop drawings, locate the BE9-3834 sill starter and install with fasteners approved with engineering calculations.
- Seal over all fasteners.
- After the sill starter has been shimmed, leveled, and installed to the building structure, apply a backer rod under the front of the sill flashing as shown in **Detail 4**.
- Apply perimeter sealant to the joint between the frame and the structure as shown in **Detail 5**.
- Apply sealant to jamb end dams as shown in **Detail 6**.
- Install a small backer rod at the splice location as shown in **Details 7 & 8**.

UNIT INSTALLATION

STEP 3 INSTALL SILL FLASHING SPLICE SLEEVE

- Position the E2-0070 Silicone Splice Sleeve against the back wall directly below the lip as shown in **Detail 9**.
- Bend the Silicone Splice Sleeve into the front of the channel as shown in **Detail 9**. Mark, and cut the sleeve at this position.
- Clean Sill Flashing and Silicone Splice Sleeve with an approved cleaner at the splice location.
- Apply silicone sealant to the areas indicated in **Detail 10**.
- Set the E2-0070 Silicone Splice Sleeve into the silicone sealant.
- Apply silicone sealant to the perimeter edge of the Silicone Splice Sleeve.
- Tool the silicone sealant smooth.

See **Detail 11**.

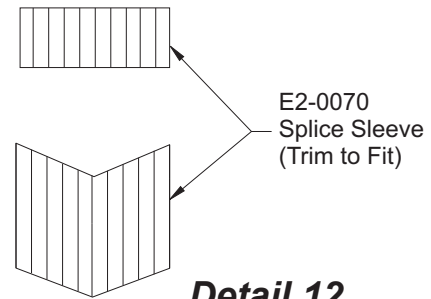


UNIT INSTALLATION

**STEP 3 Continued
INSTALL SILICONE SPLICE SLEEVE**

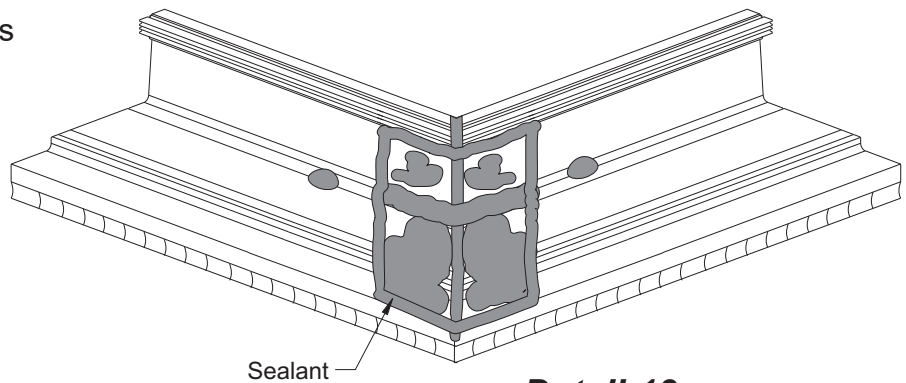
- Sill Starter for outside corner conditions are cut to be flush fit.
- Trim two pieces the E2-0070 Silicone Splice Sleeve to fit.

See **Detail 12**.



Detail 12

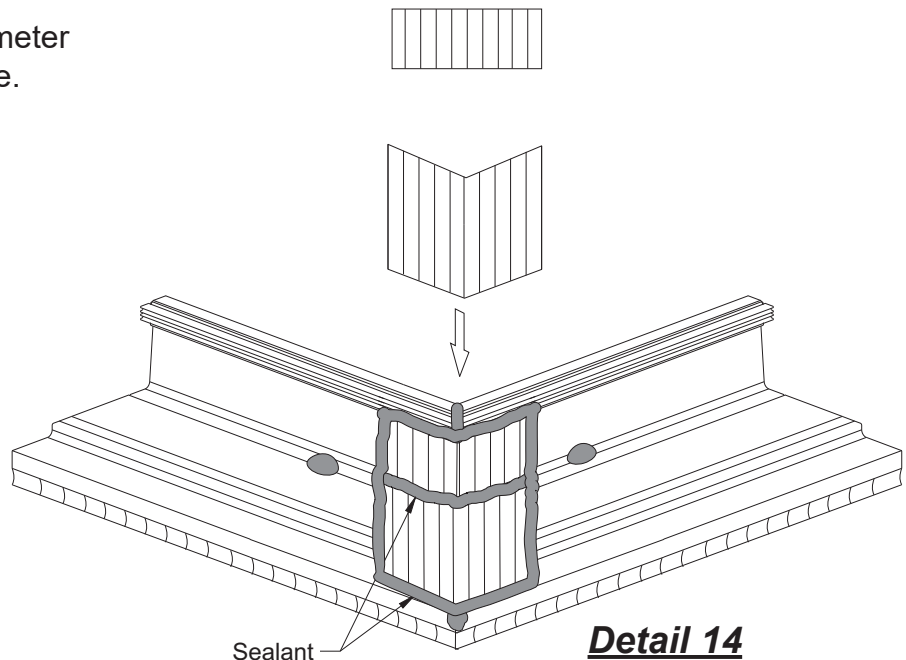
- Apply silicone sealant to the areas indicated in **Detail 13**.



Detail 13

- Set the E2-0070 silicone splice sleeve into the silicone sealant.
- Apply silicone sealant to the perimeter edge of the Silicone Splice Sleeve.
- Tool the silicone sealant smooth.

See **Detail 14**.

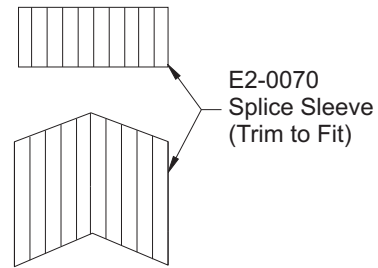


Detail 14

UNIT INSTALLATION

STEP 3 Continued INSTALL SILICONE SPLICE SLEEVE

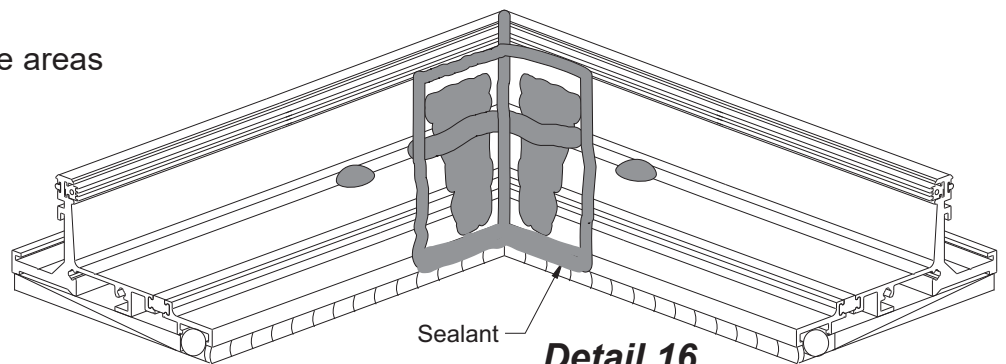
- Sill Starter for inside corner conditions are cut to be flush fit.
- Trim the E2-0070 splice sleeve to fit.



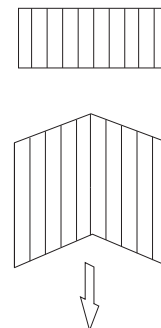
See **Detail 15**.

Detail 15

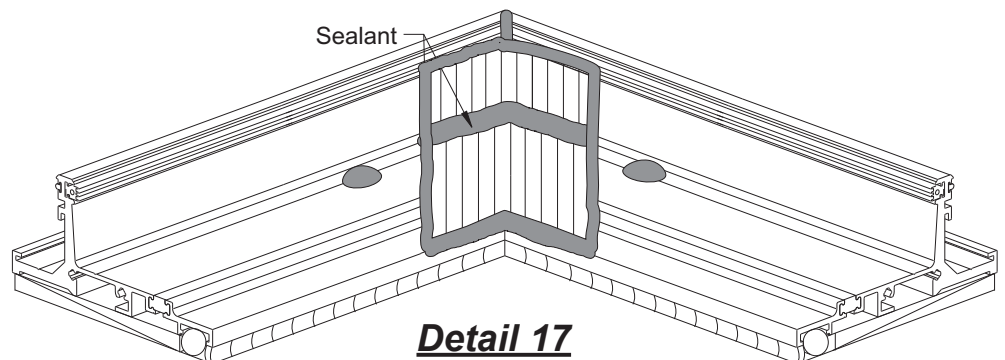
- Apply silicone sealant to the areas indicated in **Detail 16**.



- Set the E2-0070 Silicone Splice Sleeve into the silicone sealant.
- Apply silicone sealant to the perimeter edge of the silicone splice sleeve.
- Tool the silicone sealant smooth.

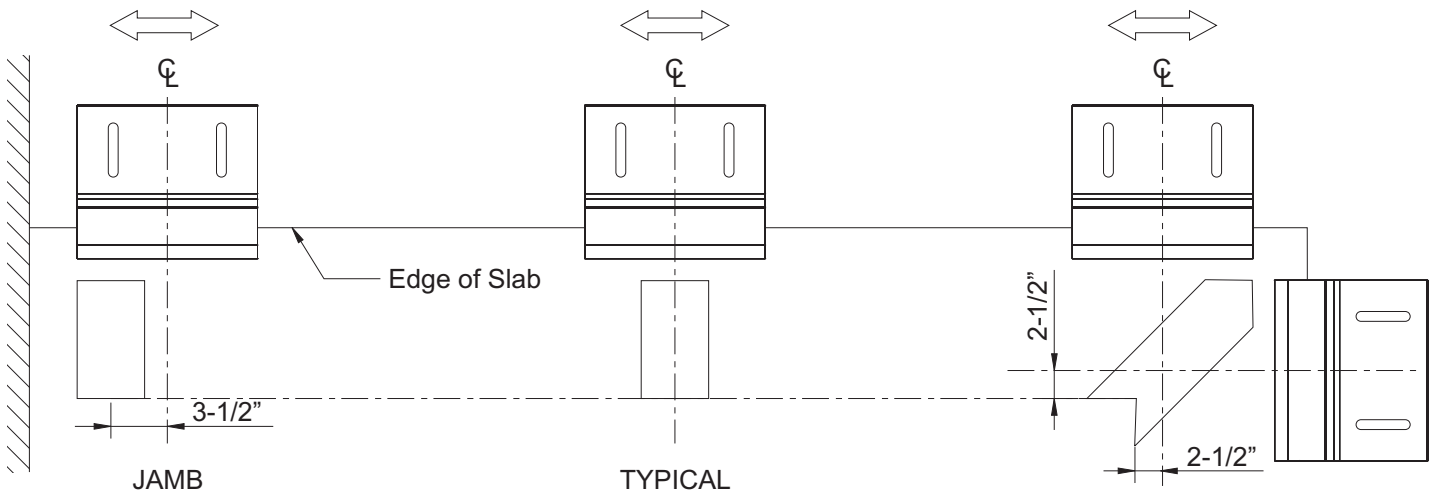


See **Detail 17**.



Detail 17

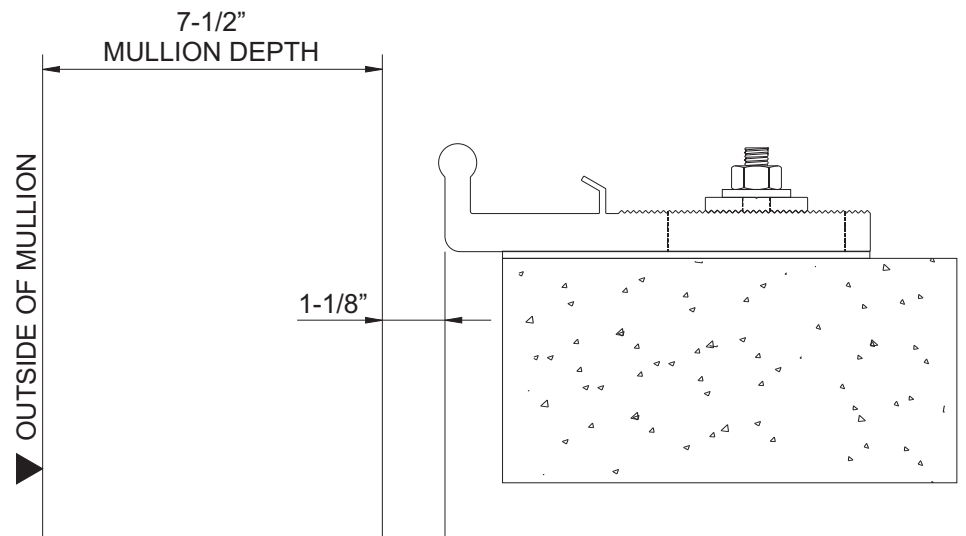
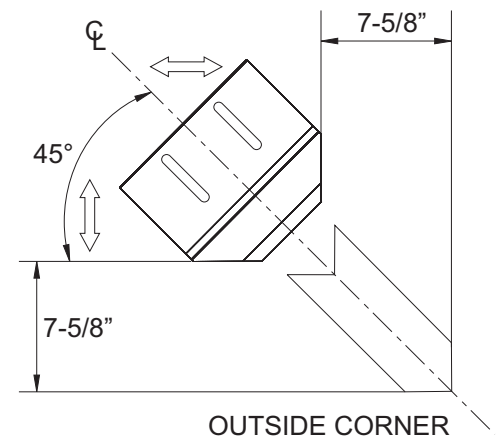
UNIT INSTALLATION



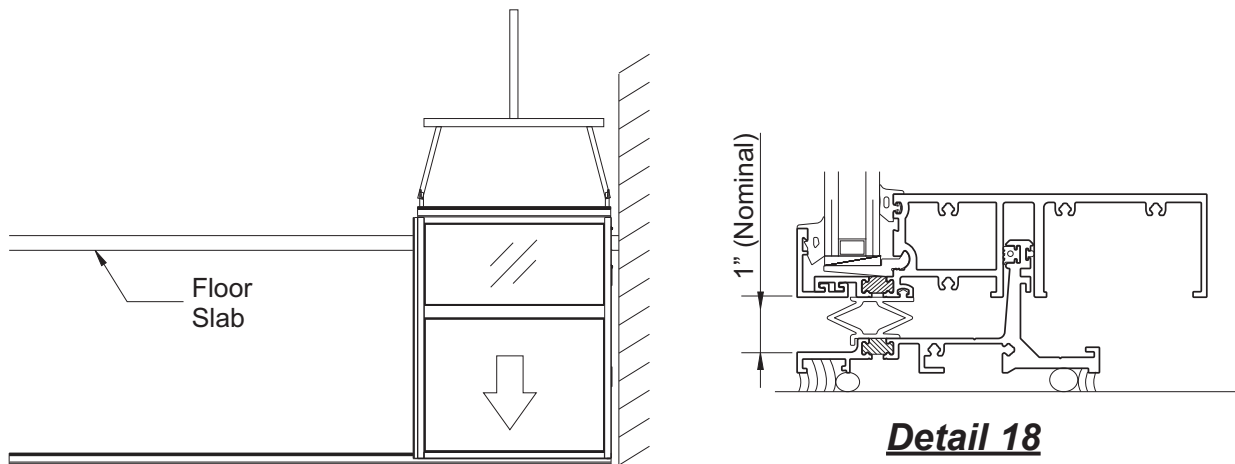
STEP 4 INSTALL L ANCHOR

Note: All aluminum anchors and aluminum components of the Curtainwall system must be separated from the structural steel and concrete with a nylon* separator (*or material of similar compatibility.)

- Mark the mullion's centerline on the aluminum anchor and locate onto the slab/building substrate.
- Anchor per approved shop drawings, including the E1-3908 lock washer. These anchors will allow movement inward and outward as well as left and right, after the units have been placed.
- Snug the bolts after adjusting is complete.



UNIT INSTALLATION



STEP 5 INSTALL UNIT

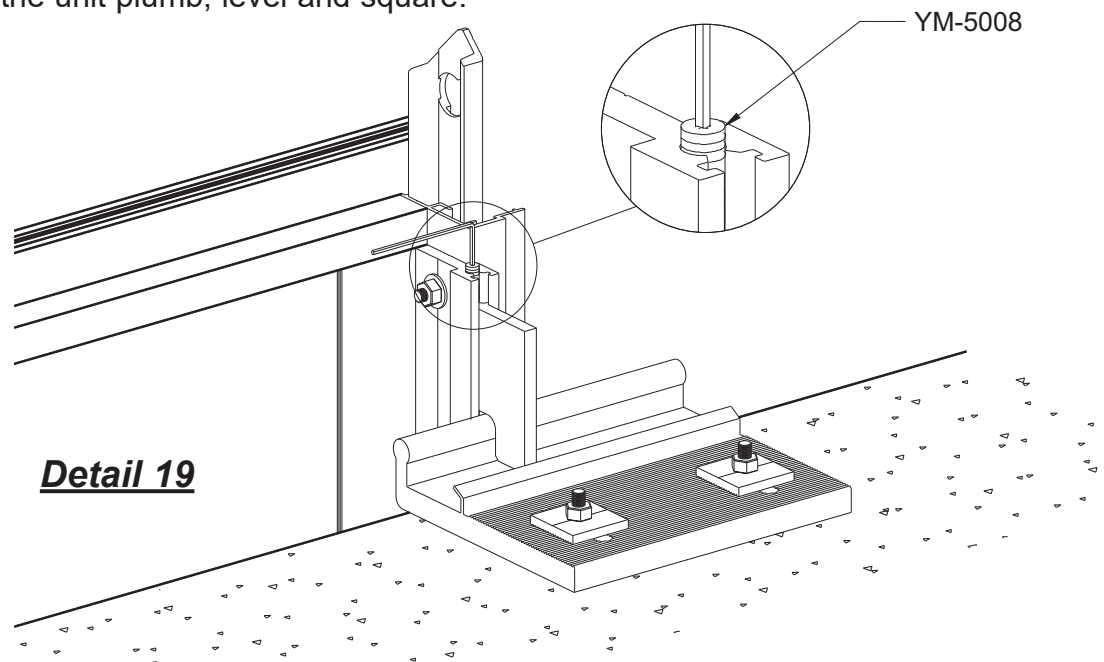
- Before lifting, check weight of the glazed units to insure the weight does not exceed the capacity of the lifting device.
- As units are being erected, care must be taken to prevent lifted units from twisting or spinning into previously installed curtain wall units
- Install the first unit by hoisting it over the sill starter, lowering it down to engage the horizontal into the sill starter.

See **Detail 18**.

- Adjust the unit height using the YM-5008 adjustment bolts using a 1/4" hex head allen wrench at anchor lugs to align the unit plumb, level and square.

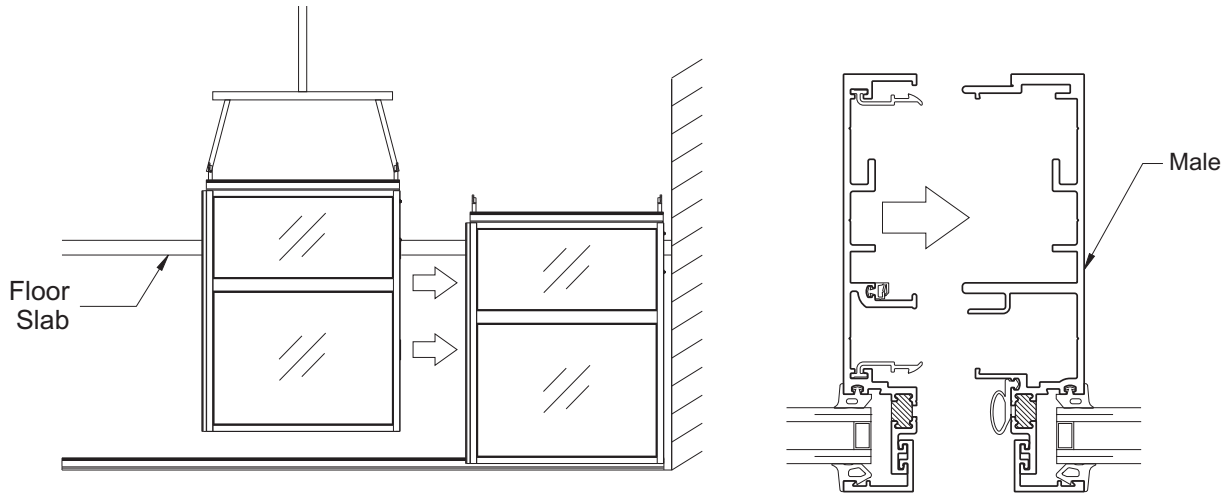
See **Detail 19**.

- Refer to approved shop drawings for exact unit locations.



Detail 19

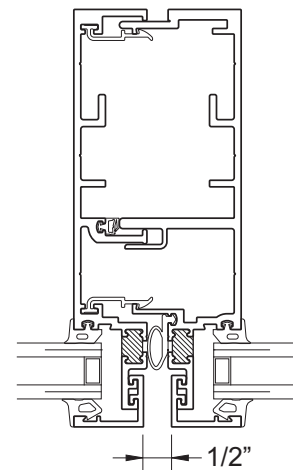
UNIT INSTALLATION



Detail 20

**STEP 5 Continued
INSTALL UNIT**

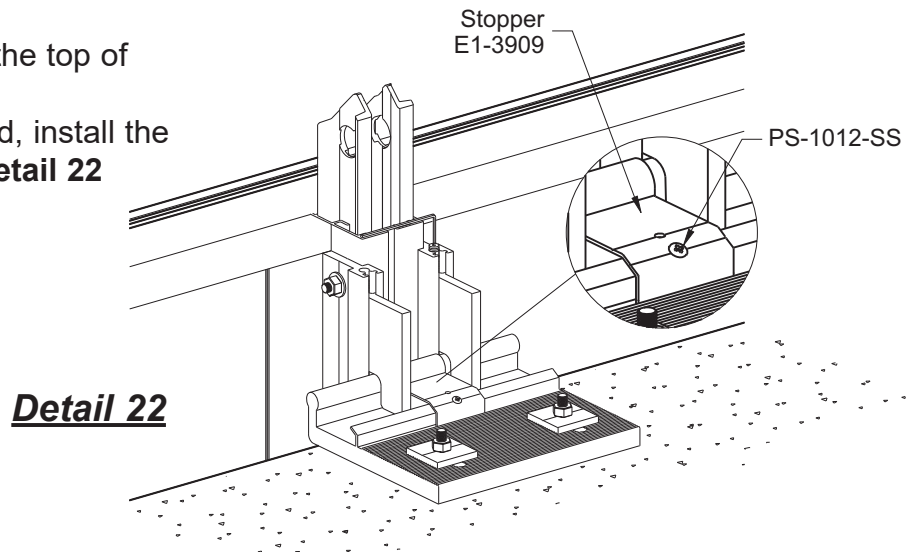
- Unit installation sequence requires the male mullion half be installed first.
- Install the next unit. Hoist the unit over the sill starter, lower it down to engage the horizontal to the sill starter.
- To engage the units, assure that the vertical gaskets are in place before marrying the two halves of the vertical mullions together before dropping the unit into the sill track. When stacking units, align mullions with unit below. See **Details 20 & 21**.
- Adjust the unit height using the YM-5008 adjustment bolts at anchor lugs to align the unit plumb, level and true.



Detail 21

See **Detail 22**.

- At this time, all vertical parts at the top of the mullion should be flush.
- After alignment has been verified, install the E1-3909 stopper as shown in **Detail 22** with one PS-1012-SS screw.



Detail 22

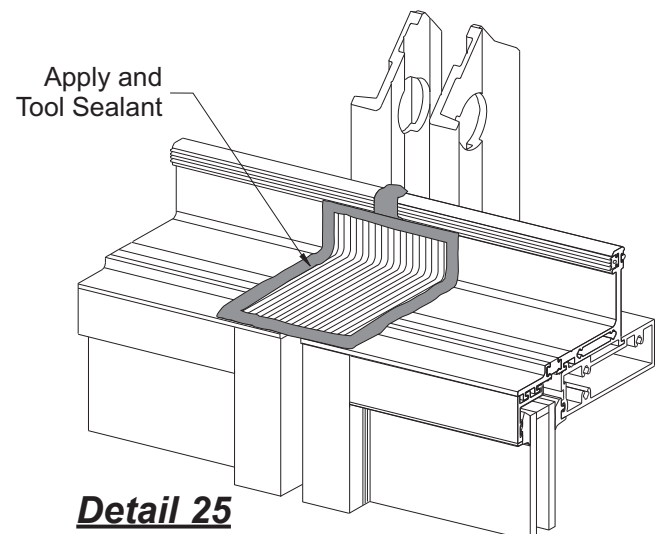
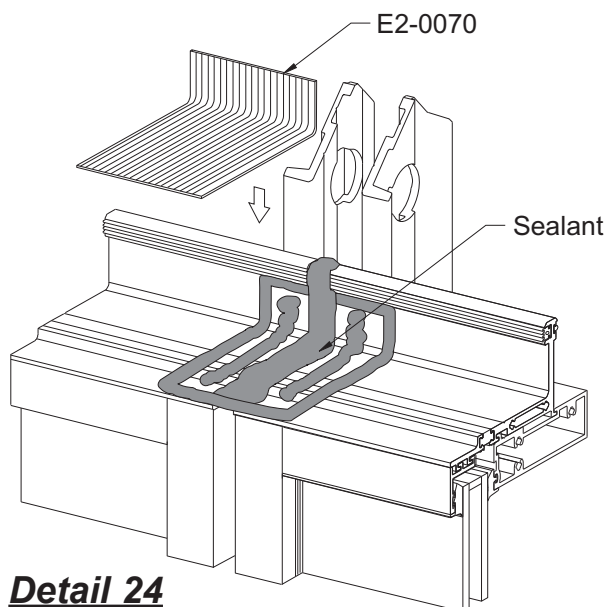
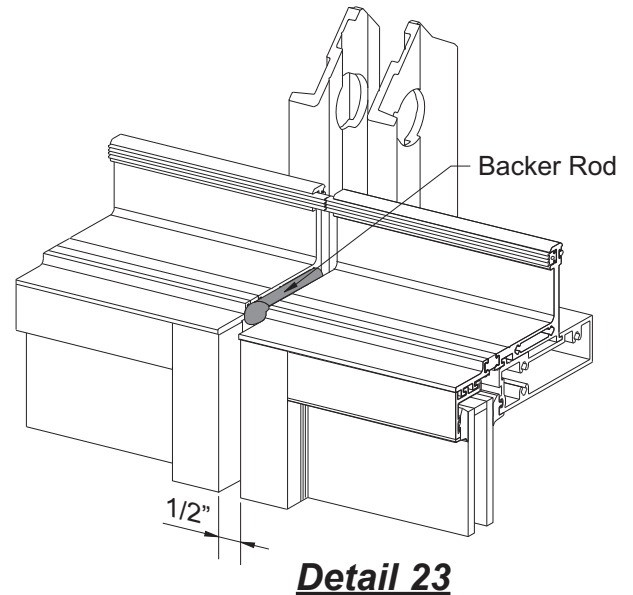
UNIT INSTALLATION

STEP 6 INSTALL SILICONE SPLICE SLEEVE TO HEAD

- Apply a backer rod between the two units at the splice location as shown in **Detail 23**.
- At mullion centerline locations, prepare the top surface of the adjacent stacking tray by cleaning per sealant manufacturer's instructions.
- Apply sealant completely around the entire front face of stacking tray as shown for application of the E2-0070 silicone sheet. Also apply sealant between cap and stacking tray at upturned leg.

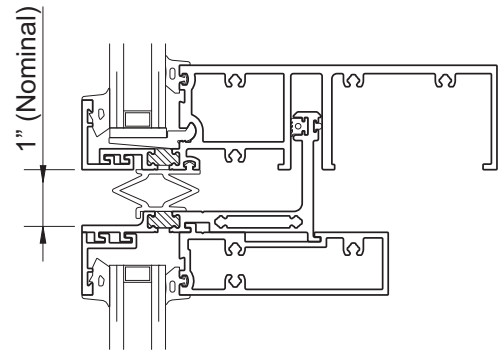
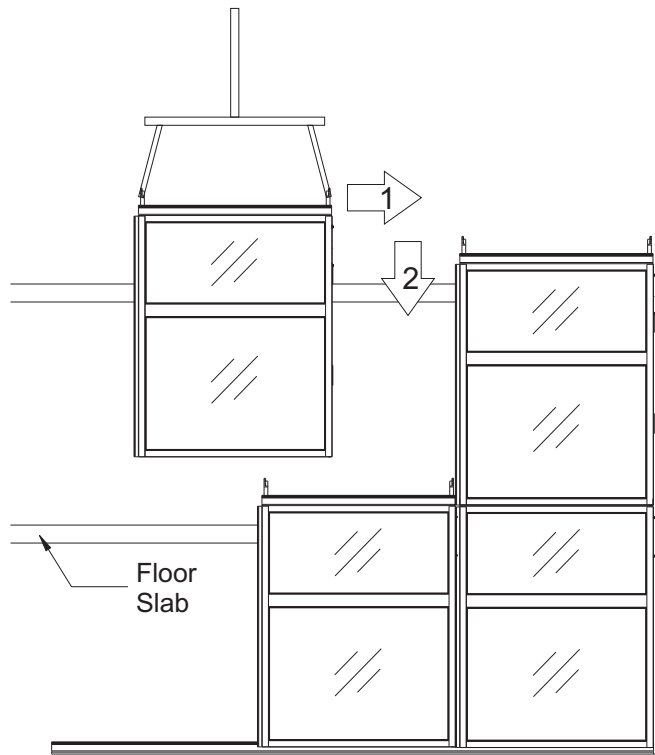
See **Detail 24**.

- Clean (with an approved cleaner) and place the E2-0070 silicone splice sleeve in a continuous bed of silicone sealant.
- Center the sheet over the center of the vertical splice, overlapping the splice joint.
- Tool silicone around edges as required, without excessive buildup that may result in damming of water as shown in **Detail 25**.
- Visually inspect the silicone splice joint for gaps that may result in air or water penetration.
- Silicone splice sleeve is not required at jambs.

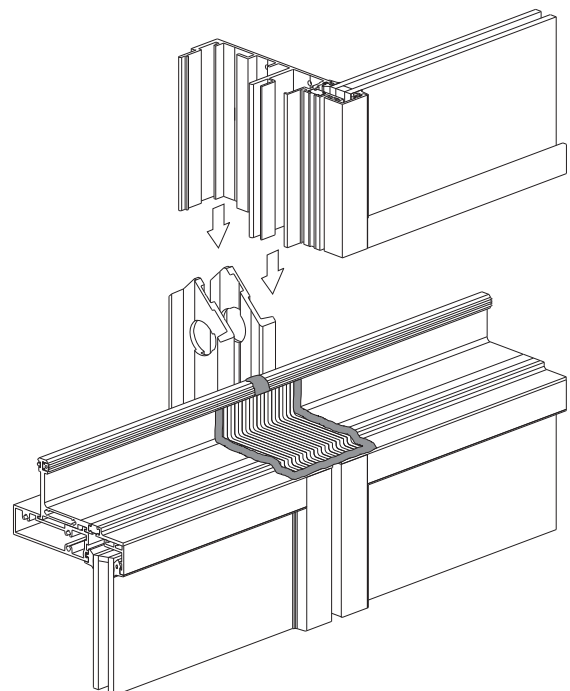


UNIT INSTALLATION

**STEP 7
INSTALL REMAINING UNITS**



-Install the remainder of the units in the same fashion. Check spacing of the units every 4 or 5 units to eliminate any dimensional build-up. Proceed to the next floor, install the units as mentioned previously.



UNIT INSTALLATION

STEP 8

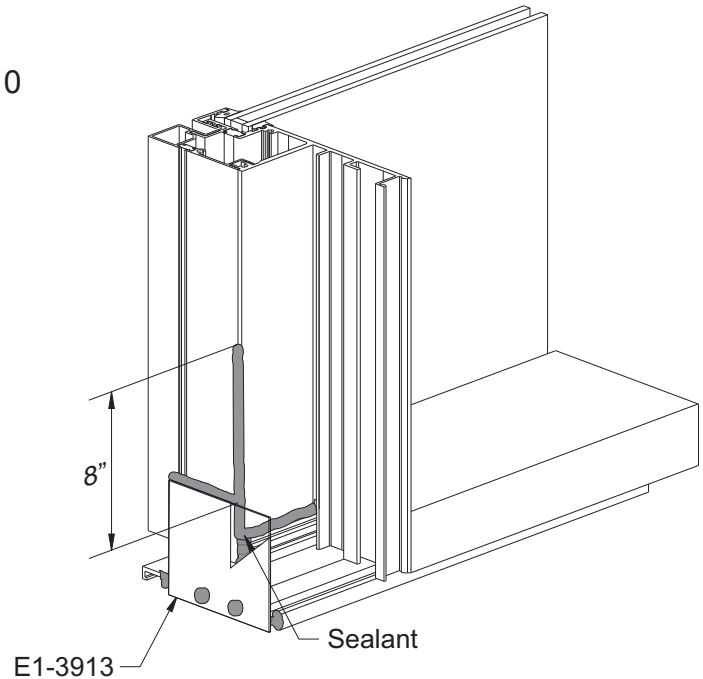
APPLY SEALANT BETWEEN END DAM AND JAMBS

-Apply sealant between E1-3913 Jamb End Dam, BE9-3804 Stacking Tray, and BE9-3810 Jamb.

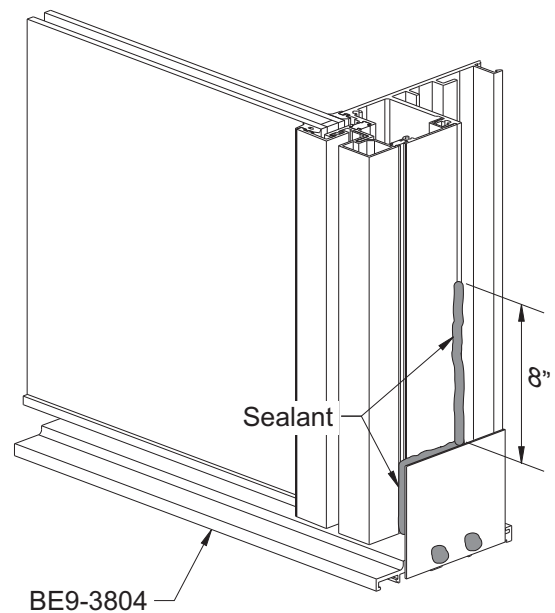
See **Detail 26**.

Apply sealant to end dam and jamb.

See **Detail 27**.

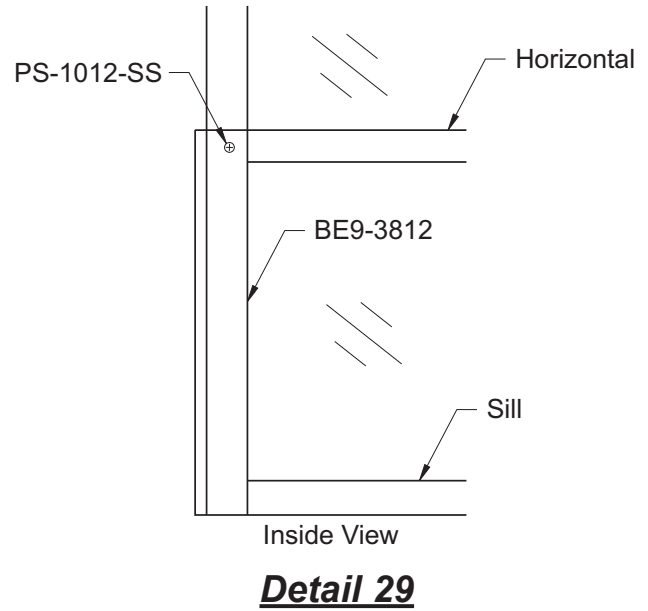
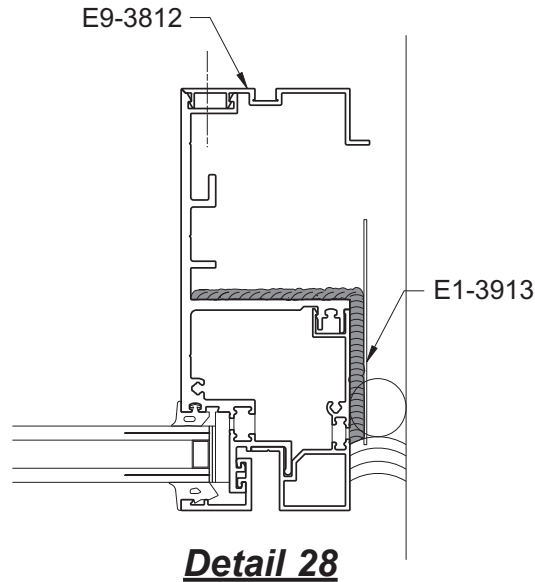


Detail 26 (Interior View)



Detail 27 (Exterior View)

UNIT INSTALLATION



**STEP 8 Continued
APPLY SEALANT BETWEEN END DAM
AND JAMBS**

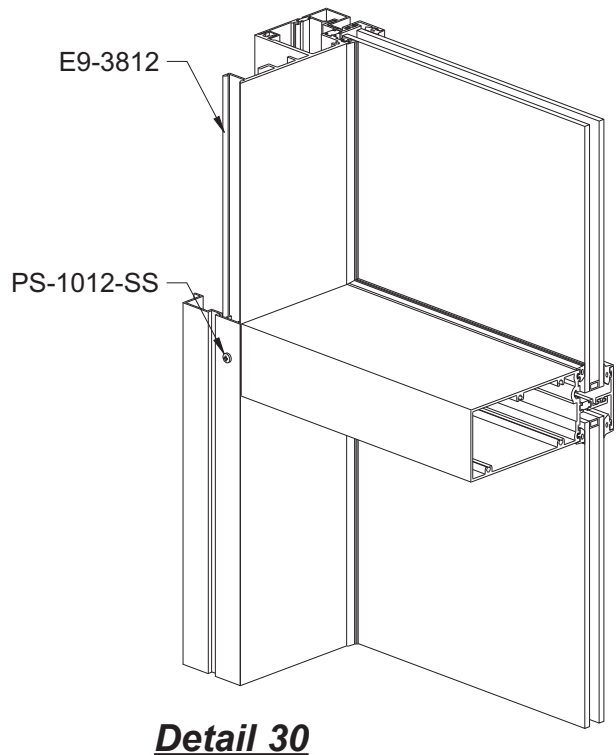
-E1-3913 Jamb End Dam must be covered by perimeter sealant.

See **Details 28 & 29**.

**STEP 9
INSTALL JAMB INTERIOR COVER**

-After sealant applications, install the E9-3812 Jamb Interior Cover with one PS-1012-SS screw.

See **Detail 30**.





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