YUW 750 XT Unitized Curtain Wall System 4 Side SSG

Installation Manual



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FRAME INSTALLATION

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Installation Notes

1. Do not drop, roll or drag boxes of aluminum framing. Move and stack boxes with proper support to prevent distortion. If fork lifts are used, be especially careful about striking the boxes when lifting or moving.

2. Store in a dry, out of the way area. If rain exposure, condensation or any water contact is likely, then all packaging material should be removed. Wet packaging materials will discolor and may stain aluminum finishes and paints.

3. All materials should be checked for quality and quantity upon receipt, YKK AP must be notified immediately of any discrepancies in shipment. Check to make sure that you have the required shims, sealants, supplies and tools necessary for the installation.

4. Carefully check the openings and surrounding conditions that will receive your material. Remember, if the construction is not per the construction documents, it is your responsibility to notify the general contractor in writing. Any discrepancies must be brought to the general contractor's attention before you proceed with the installation.

5. Gather your shop drawings, materials, packing list, and this installation manual. Carefully review parts location, the sequence it goes therein, when you glaze it and how you seal it. Installation instructions are of a general nature and may not cover every condition you will encounter. The shop drawings and/or installation manuals were prepared specifically for the product.

6. Any material substitutions must be of equal or greater quality.

7. Make certain that material samples have been sent for compatibility testing for all manufacturer's sealants involved. Make certain sealants have been installed in strict accordance with the manufacturer's recommendations and specifications.

8. Remember to isolate, in an approved manner, all aluminum from uncured masonry or other incompatible materials.

9. System-to-structure fasteners are not supplied by YKK AP. Fasteners called out on shop drawings are to indicate minimum sizes for design loading.

10. If any questions arise concerning YKK AP products or their installation, contact YKK AP for clarification before proceeding.

11. YKK AP storefront and/or curtain wall framing is typically completed before drywall, flooring and other products which may still be in process. Take the extra time to wrap and protect the work produced.

12. Cutting tolerances are plus zero, minus one thirty second unless otherwise noted.

13. Check our website, www.ykkap.com, for the latest installation manual update prior to commencing work.

Important Notice for SSG Curtain Wall Systems:

In order to properly perform and to maintain structural integrity, in addition to all other installation requirements, structurally glazed curtain wall systems rely specifically upon effective and appropriate structural sealant selection and installation.

It is the responsibility of the glazing contractor to take all steps to ensure the installed structural sealant is capable of meeting all applicable project requirements in accordance with industry standards. Such steps on each project may include, but are not limited to, design reviews, formal adhesion testing, project specification compliance, validating applications, field testing, auditing, sealant design strength analysis, and the quality control review of the installation and surrounding conditions.

Subject to project specific design pressures, requirements, and/or specifications, the structural sealant that is used between the glass and framing system must be capable of withstanding tensile and shear stresses imposed by the curtain wall without failing adhesively or cohesively.

The structural sealant's capability to withstand these stresses are dependent on several factors including, but not limited to, type of structural sealant, method of application (i.e. cleaning, primer), construction of glazing material (i.e. insulating glass unit (IGU), other infill, and finish of framing (i.e. anodizing, paint).

- Adhesive failure occurs when sealant pulls away from substrate cleanly, leaving no sealant material behind.

- Cohesive failure occurs when sealant breaks or tears within itself but does not separate from each substrate because sealant-to-substrate bond strength exceeds sealant's internal strength.

The IGU and/or other infill must be constructed for installation into structurally sealant glazed curtain walls. Notify the manufacturer or fabricator of the IGU and/or infill and advise of the product's application into 2 or 4-sided structurally sealant glazed curtain walls along with the project's design requirements so that appropriate fabrication steps are taken.

FRAMING MEMBERS

| | Stacking Tray For 7-1/2" System | E9-7027 | | Jamb Mullion For 7-1/2" System | E9-7098 |
|--|---|---------|--|---|---------|
| j , , , , , , , , , , , | Stacking Tray For 6" System | E9-7037 | | Jamb Mullion For 6" System | E9-7063 |
| | Intermediate Horizontal For 7-1/2" System | E9-7097 | the second second | 90° Outside Corner Male Mullion For 7-1/2" System | E9-7045 |
| to a | Intermediate Horizontal For 6" System | E9-7064 | Contraction of the second seco | 90° Outside Corner Male Mullion For 6" System | E9-7068 |
| Les e | Open Back Head/Sill For 7-1/2" System | E9-7099 | And the second s | 90° Outside Corner Female Mullion For 7-1/2" System | E9-7046 |
| | Open Back Head/Sill For 6" System | E9-7065 | and the second sec | 90° Outside Corner Female Mullion For 6" System | E9-7069 |
| | SSG Stacking Sill For 7-1/2" System | E9-7023 | The second second | 90° Inside Corner Male Mullion For 7-1/2" System | E9-7047 |
| 5- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- | SSG Stacking Sill For 6" System | E9-7078 | The second second | 90° Inside Corner Male Mullion For 6" System | E9-7070 |
| | Male Mullion For 7-1/2" System | E9-7095 | and the second s | 90° Inside Corner Female Mullion For 7-1/2" System | E9-7048 |
| | Male Mullion For 6" System | E9-7061 | and the second | 90° Inside Corner Female Mullion For 6" System | E9-7071 |
| | Female Mullion For 7-1/2" System | E9-7002 | | Starter Sill | E9-7094 |
| | Female Mullion For 6" System | E9-7062 | | SSG Jamb Spacer For 1-5/16" Glazing | E9-4597 |



YUW 750 XT Unitized Curtain Wall System

4 Side SSG

FRAMING MEMBERS

| | SSG Jamb Adaptor Base | E9-7052 | | Mullion Interlocking Clip For 6" System | E9-7072 |
|---------------------------------------|---|---------|-------------|--|---------|
| | SSG Jamb Adaptor | E9-7053 | ស៊ា | 1/4" Adaptor For 1-5/16" Glazing | E9-7749 |
| · · · · · · · · · · · · · · · · · · · | Flush Filler Use with E9-7043 | E9-7044 | | Face Cover (Optional) | E9-1206 |
| | Flush Filler Use with E9-7065 | E9-7066 | 52 <u>_</u> | Pressure Plate (Optional) For 1" Glazing | AS-7054 |
| | Mullion Interlocking Clip For 7-1/2" System | E9-7003 | 25-July | Pressure Plate (Optional) For 1-5/16" Glazing | AS-7057 |

| | Stack Joint Plate | E1-7001 | | Mullion Sleeve Right Hand For 7-1/2" System | E1-7021 |
|-----|--|---------|----|---|---------|
| • • | End Dam | E1-7002 | °. | Mullion Sleeve Left Hand For 7-1/2" System | E1-7022 |
| | Mullion Clip Use with E9-7002 | E1-7003 | | Mullion Sleeve Right Hand For 6" System | E1-7075 |
| | Mullion Clip Use with E9-7062 | E1-7072 | ŀ | Mullion Sleeve Left Hand For 6" System | E1-7076 |
| | Mullion Anchor Sleeve | E1-7006 | | Mullion Reinforcement Clip For 6" System | E1-7046 |
| | Mullion Reinforcement Clip For 7-1/2" System | E1-7007 | | Corner Mullion Sleeve Right Hand For 7-1/2" System | E1-7048 |



| | Corner Mullion Sleeve Left Hand For 7-1/2" System | E1-7049 | 90° I.S. Corner Leveling Anchor (LH) | E1-7033 |
|---|--|---------|--|---------|
| | Corner Mullion Clip Use with E9-7046 & E9-7069 | E1-7050 | 90° O.S. Corner Level- ing Anchor | E1-7032 |
| ľ | Corner Mullion Sleeve Right Hand For 6" System | E1-7079 | 90° I.S. Corner Leveling Anchor (RH) | E1-7034 |
| F | Corner Mullion Sleeve Left Hand For 6" System | E1-7080 | Bracket Sleeve | E1-7092 |
| | Corner Mullion Rein- forcement Clip | E1-7051 | Bracket Sleeve | E1-3906 |
| | Mullion Anchor For 6" System | E1-7004 | L Anchor | E1-3907 |
| | Jamb Anchor For 6" System | E1-7005 | Lock Washer | E1-3908 |
| | Mullion Anchor For 7-1/2" System | E1-7024 | 90° L Anchor For 90° Outside Corner | E1-3917 |
| | Jamb Anchor For 7-1/2" System | E1-7025 | SSG Setting Block Chair For 1" Glass | E1-7067 |
| | 90° I.S. Corner Anchor | E1-7028 | SSG Setting Block Chair For 1-5/16" Glass | E1-7011 |
| | 90° O.S. Corner Anchor | E1-7029 | 90° Corner Starter Sill Splice | E1-7027 |
| | Leveling Anchor Right Hand | E1-7014 | Jamb Stack Block | E1-7081 |
| | Leveling Anchor Left Hand | E1-7015 | Silicone Splice Sleeve | E2-0070 |



YUW 750 XT Unitized Curtain Wall System

4 Side SSG

| | 3/4" Spacer Sponge | E2-0725 | r S | Sill Horizontal Weather Seal | E2-7016 |
|-------|---|---------|--------|--|---------|
| | Stacking Tray Spacer | E2-3906 | | SSG Thermal Barrier For 1" Glazing | E3-7013 |
| 5205 | Interior Gasket | E2-7001 | | SSG Thermal Barrier For 1-5/16" Glazing | E3-7011 |
| | Glazing Spacer Tape | E2-0110 | Ţ. | SSG Corner Thermal Barrier For 1-5/16" Glazing | E3-7020 |
| 77 | SSG Corner Spacer | E2-7014 | | I.G.U. Cap For 1" Glazing | E3-7002 |
| Ŵ | Air Water Seal Gasket | E2-7002 | | I.G.U. Cap For 1-5/16" Glazing | E3-7018 |
| Â | Stacking Tray Gasket | E2-7004 | | Sill Track Adaptor | E3-7023 |
| | Exterior Gasket | E2-7005 | | Pocket Filler For 1" Glazing | E3-7008 |
| J III | SSG Wiper Gasket | E2-7009 | | Pocket Filler For 1-5/16" Glazing | E3-7015 |
| | SSG Corner Wiper Gasket | E2-7015 | | Thermal Barrier | E3-7017 |
| | Captured Setting Block For 1" Glazing | E2-7011 | | Thermal Shield For 1" Glazing | E3-7003 |
| | Captured Setting Block For 1-5/16" Glazing | E2-7018 | il î. | Thermal Shield For 1-5/16" Glazing | E3-7016 |
| Z | Weather Seal Gasket | E2-7010 | | End Cap | E3-7024 |

| | #10 x 5/8" FHSMS Type AB, Zinc Plated Steel | FC-1010 | Samaanaa | #10 x 5/8" PHSMS Type AB, Stainless Steel For Attachment of End Dam to Sill Starter | PC-1010- SS |
|-------------|---|----------------|----------|---|----------------|
| | 1/4"–20 x 1-1/4" HWHS Type CA, Zinc Plated Steel | HD- 2520-W3 | | 1/2"-13 x 1/2" Set Screw Zinc Plated Steel For Leveling Bracket | YM-5008 |
| | #12 x 1-1/4" HWHS Stainless Steel For Screw Spline Attachment | HC-1220- SS | | #10-24 x 1/2" FHUCMS Stainless Steel, For Attachment of End Cap to Vertical Mullion | UF-1008- SS |
| []uuuuuuuuu | #12 x 1-3/4" HWHSMS Stainless Steel For Screw Spline Attachment at Corner | HC-1228- SS | Summe | #10 x 1/2" PHSMS Type AB, Stainless Steel For Attachment of Angle to Jamb | PC-1008- SS |
| | 1/4"-20x2" HHMS Stainless Steel For Pressure Plate Attachment | HM-2532- SS | | | |



UNIT INSTALLATION

STEP 1 CHECK OPENINGS

Elevations and slabs must be within adjustment of anchoring system. See approved shop drawings for allowable adjustment.

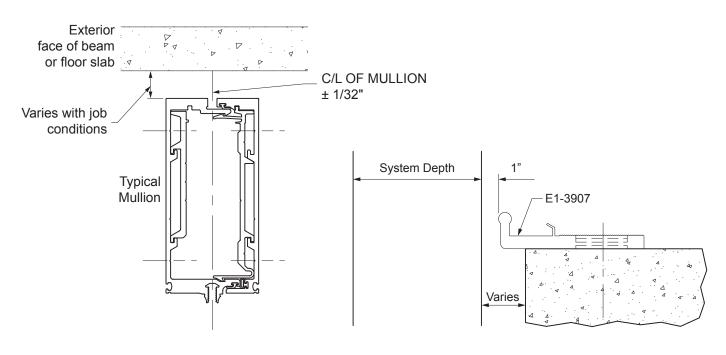
Anchoring surfaces of perimeter construction must be level and plumb within the adjustment limits of the head, sill and jamb. See approved shop drawings for allowable adjustment.

STEP 2 LAY OUT ANCHOR AND MULLION CENTERLINES

-Use wall lines established by the general contractor. On each floor, lay out a reference line to establish in and out wall locations.

-Use columns center lines established by the general contractor. On each floor, lay out mullion center lines and anchor center lines.

See Detail 1.





UNIT INSTALLATION

STEP 3 INSTALL STARTER SILL

Starter sill pieces can be up to 20'-0" long. Prior to anchoring the starter sill, the stacking tray gasket (E2-7004) and the stacking tray spacer (E2-3906) should be installed to the starter sill pieces.

-Cut the stacking tray spacer to the length of starter sill. For starter sill jamb pieces, cut the air water seal gasket to starter sill length plus (+) 1/8". For intermediate starter sill pieces, cut the air water seal gasket to starter sill length (+) 1/4".

Note: To ensure proper gasket length at corner starter sill pieces, the length of the starter sill should be measured at the reglets.

-Install the gaskets into the starter sill as shown in **Detail 2**.

-Apply bond breaker tape to the front of the stack joint plate.

-Slide stack joint plate into starter sill and secure the plate with tape.

-Apply sealant to the starter sill at the jamb where the end dam will be placed.

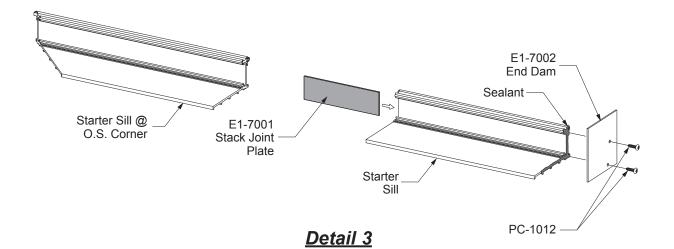
-Attach end dams at jamb location with (2) PC-1012 screws.

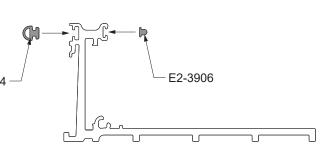
-Locate the back of the curtain wall system (back of the vertical mullions) and mark locations.

Note: the back of the E9-7011 starter sill is to be flush with the back of the mullions for 7-1/2" system. -Locate the centerline of the vertical mullions from established column lines and mark the locations.

See Detail 3.

Note: Neither outside nor inside corners can utilize the stack joint plate.













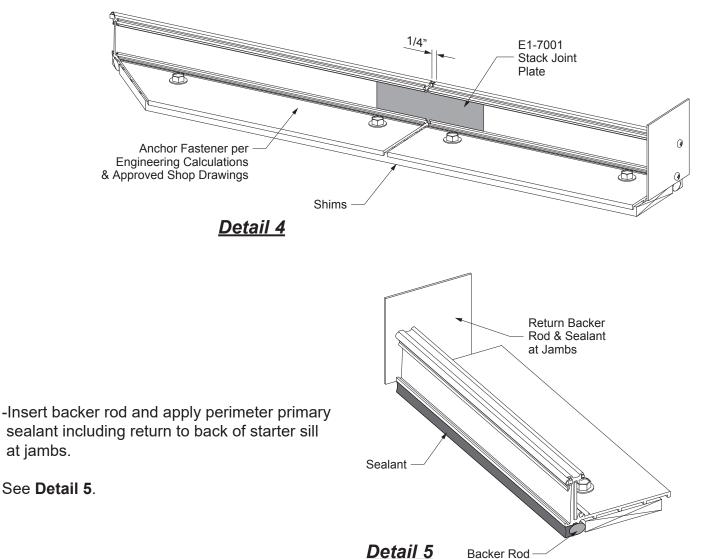
UNIT INSTALLATION

STEP 3 (Continued) INSTALL STARTER SILL

-Position sill track and shim as necessary to place it at the proper height. (measured from established benchmark) the shim stack and perimeter anchors to be located per approved shop drawings. The sill track must be level and straight. Leave 1/4" space between starter sill ends at the splice. -Field match and drill building condition for the sill track's perimeter fasteners. Locate fasteners from interfering with the unit's sill horizontal, when unit is installed. Apply fasteners.

-Slide stack joint plate to center across splice joint and align bond breaker tape with 1/4" space.

See Detail 4.



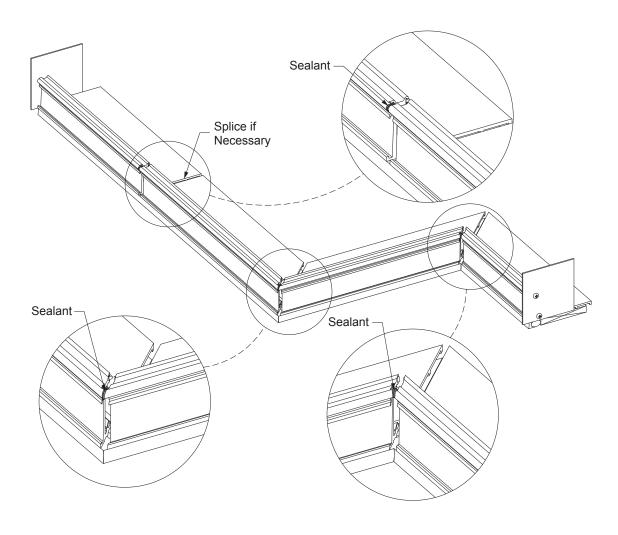


UNIT INSTALLATION

STEP 3 (Continued) INSTALL STARTER SILL

-Seal between gasket ends of the air water seal gasket, crowding them together where splices occur. Miter cut at corners. Tool silicone smooth.

See Detail 6.



<u>Detail 6</u>



UNIT INSTALLATION

STEP 3 (Continued) INSTALL STARTER SILL

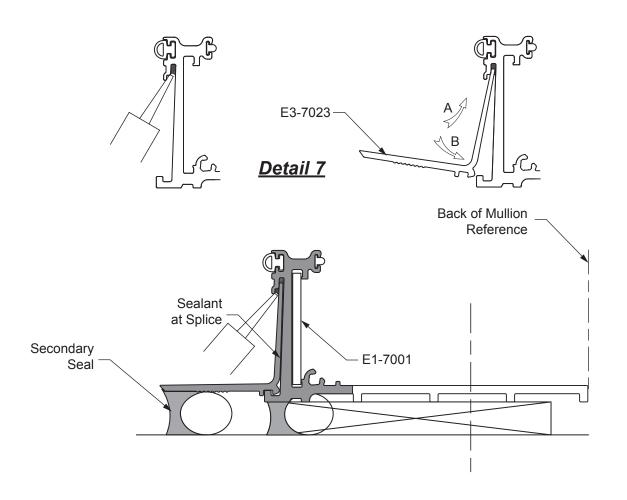
-Cut the E3-7023 PVC adaptor to fit up to the splice location. Adaptors can be spliced between starter splices if needed, leaving a 1/4" gap and joined with a E2-0070 silicone sheet. -Before installing the PVC sill track adaptor, apply a bead of silicone sealanti nto the upper cavity of

the starter sill.

-While the silicone is still wet, insert the PVC sill track adaptor into the cavity starter sill. With the top leg in place, engage the bottom of the adaptor into the starter sill as shown.

-See splice detail for sealant of the splice, then apply backer rod and apply the secondary seal. -Seal the top lip continuously as shown.

See Detail 7.

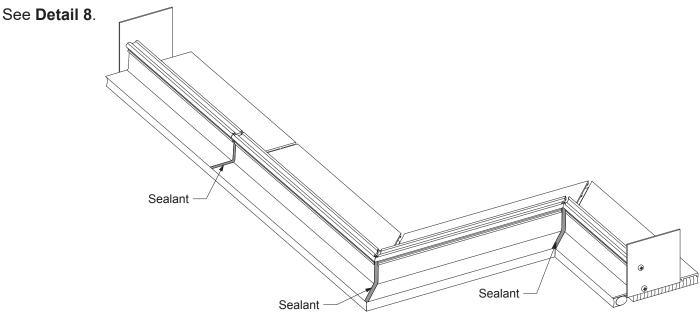




UNIT INSTALLATION

STEP 3 (Continued) INSTALL STARTER SILL

-Apply and tool sealant at the gaps between the starter sill members at the PVC adaptors.

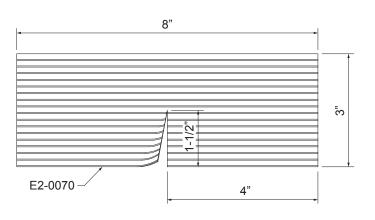


Detail 8

Prepare the Splices at Corner

-Cut the E2-0070 splices in the middle as shown in **Detail 9**.

-Do not cut the splices for non-corner joints.

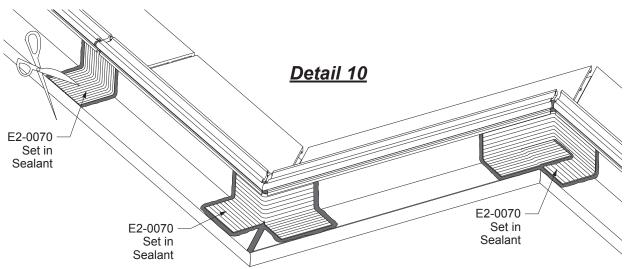




UNIT INSTALLATION

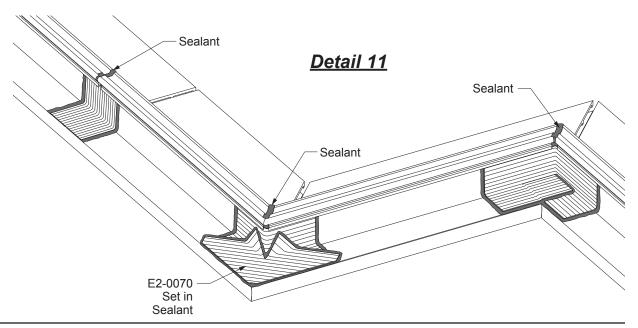
STEP 3 (Continued) INSTALL STARTER SILL

-Apply the E2-0070 as shown in **Detail 10**. Trim off any overhanging portion of the splice at the front on intermediate mullion locations. Completely seal and adhere the splices to the PVC adaptor with sealant.



-Apply an additional E2-0070 splice to the outside corner as shown in **Detail 11**. Trim off any overhanging portion of the splice, and adhere with sealant.

-Fill the gaps at the very top of the starter sill with sealant.





UNIT INSTALLATION

STEP 4 INSTALL ANCHORS

-See approved shop drawings for anchor types and locations. -Locate the centerline of the vertical mullions from established column lines and mark the locations.

Note: Aluminum anchors must be separated from concrete and steel building substrates with a material to prevent galvanic reaction.

-Locate centerline of aluminum anchor and mark for centerline of mullion. Also locate anchor at in/ out position. Apply aluminum washer and attach to building substrate. Final in/out adjustment can be made prior to tightening in place.

-Tighten bolts down after final adjustment.

Note:

Anchors and fasteners to be sized per engineering calculations and approved shop drawings.

See Detail 12 on Page 14.

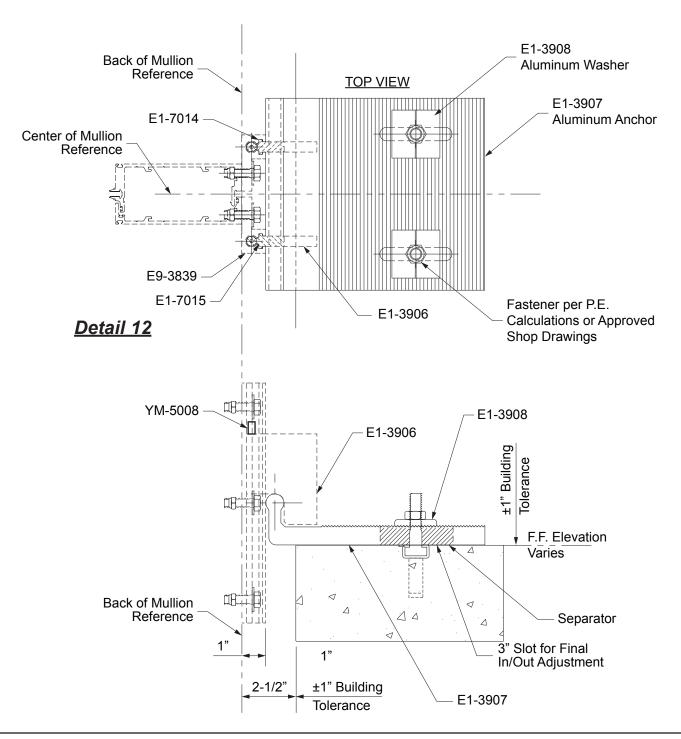


UNIT INSTALLATION

STEP 4 (Continued) INSTALL ANCHORS

* Note:

Anchor assembly allows ±1" construction tolerance in all three directions. -Provide anchor fasteners as per approved shop drawings or engineering calculations.





UNIT INSTALLATION

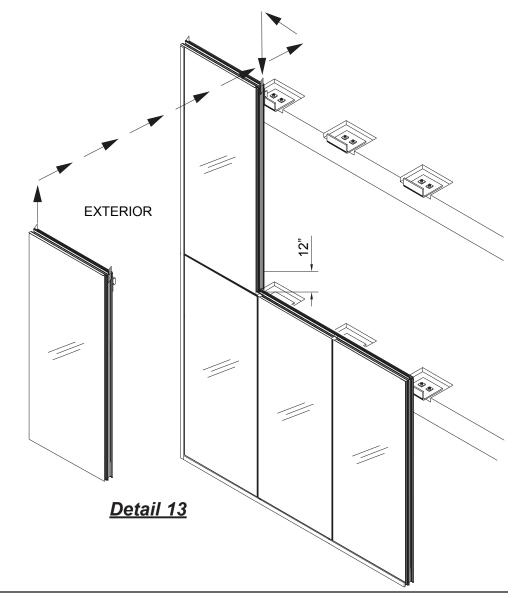
STEP 5 CURTAIN WALL UNIT INSTALLATION

Note: All curtain wall installation, per YKK AP fabrication instructions, is shown with the installation starting from left, and any deviation from left to right may require shop / fabrication drawing modification. Reference the key plans shown in approved shop drawings for starting locations.

Clean and prepare all surfaces for sealant application per sealant manufacturer's recommendations.

Inspect frames prior to hoisting. The hoist spreader beam chains should be spaced apart the length of the distance between mullion sleeves. The movement of the frame must be controlled as it is being hoisted. It must not be allowed to swing or spin. Check maximum unit weight to ensure hoisting requirements.

See Detail 13.





UNIT INSTALLATION

STEP 5 (Continued) CURTAIN WALL UNIT INSTALLATION

-Prior to setting the curtain wall units, install E2-0725 spacer sponge. Coat the sponge with a non-hardening silicone and place on top of the stack joint as shown in **Detail 14**.

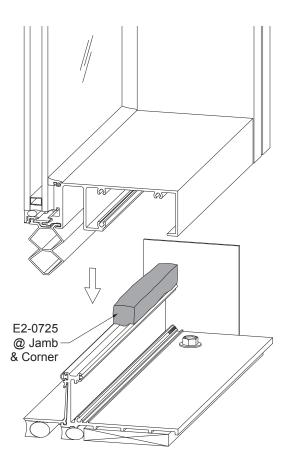
-Install the first unit (from left to right) by lifting it over the starter sill of the unit below and engage bottom of unit until it is resting on temporary shims at head of unit below.

Note: While setting the unit, take care not to allow the sill horizontal weather seal to get caught on the starter sill weather seal below. Engage anchor bolts at head of unit with anchor pre-installed on site conditions.

-Remove temporary shims at expansion horizontal as well as 4" long reinforcing angle from the right side of the head horizontal used for hoisting.

-Using an allen wrench, adjust set screws in leveling bracket to ensure the unit is level and the unit is supported by the aluminum anchor.

See Detail 14.



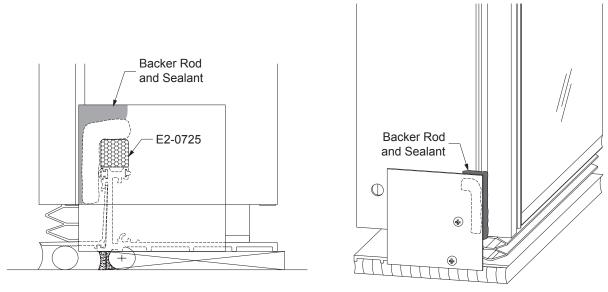


UNIT INSTALLATION

STEP 5 (Continued) CURTAIN WALL UNIT INSTALLATION

-Block the jamb unit to prevent lateral movement when the adjacent unit is set.

-At the jamb, insert a backer rod at the end dam and apply and tool sealant as shown in **Detail 15**.



Detail 15



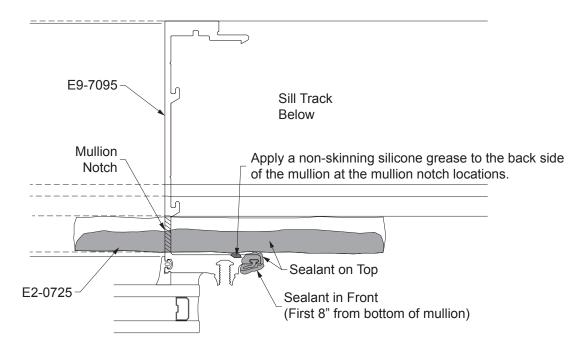
UNIT INSTALLATION

STEP 5 (Continued) CURTAIN WALL UNIT INSTALLATION

-Just prior to installing next unit, apply sealant to the E9-7095 mullion from bottom of mullion to 8" above horizontal air/water seal gasket. Add sealant to the top of the E9-7095 mullion as shown.

-Install the E2-0725 spacer sponge, thoroughly coated with a non-hardening silicone selant centered, on top of the stack joint tray (typical at all mullion locations).

See Detail 16.



Detail 16

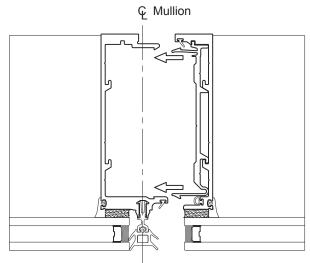
UNIT INSTALLATION

STEP 5 (Continued) CURTAIN WALL UNIT INSTALLATION

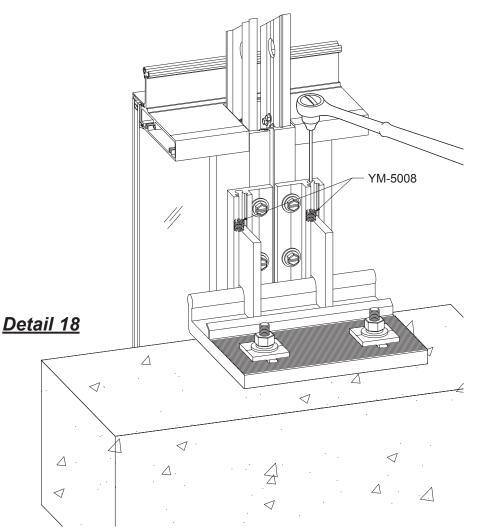
-Install the next unit by lifting unit up to clear the leg at the sill and move to the left to engage the units together as shown in **Detail 17**. Squeeze the mullion halves together until the clips engage.

Slide unit down to engage unit at the sill track. Check to make sure that the E2-7010 air seal vertical gaskets have not slid down from the mullion reglets. When stacking units, align mullions with unit below. Use temporary shims at sill track to level unit at nominal position (Approximately 1").

-Adjust unit height to make sure that it is level, plumb and at the correct height. Once unit is level, tighten anchors to secure frame and remove temporary shims at sill. See **Detail 18**.









UNIT INSTALLATION

STEP 5 (Continued) CURTAIN WALL UNIT INSTALLATION

-Slide the E1-7001 stainless steel bar w/ bond breaker tape at the left side to engage the adjoining unit and center it on the mullion centerline. Apply a bead of sealant at both sides of intermediate stainless steel bars to prevent the bars from walking.

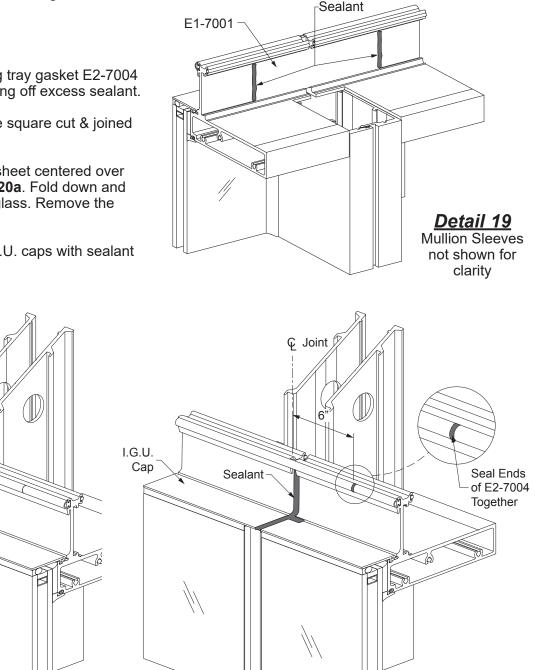
See Detail 19.

-Join the ends of the stacking tray gasket E2-7004 together with sealant, trimming off excess sealant.

Note: Gasket ends should be square cut & joined tight.

-Place the E2-0070 silicone sheet centered over the joint as shown in **Detail 20a**. Fold down and cut the sheet at the face of glass. Remove the silicone sheet for now.

-Fill the joint between the I.G.U. caps with sealant as shown in **Detail 20b**.



Detail 20a

F2-0070

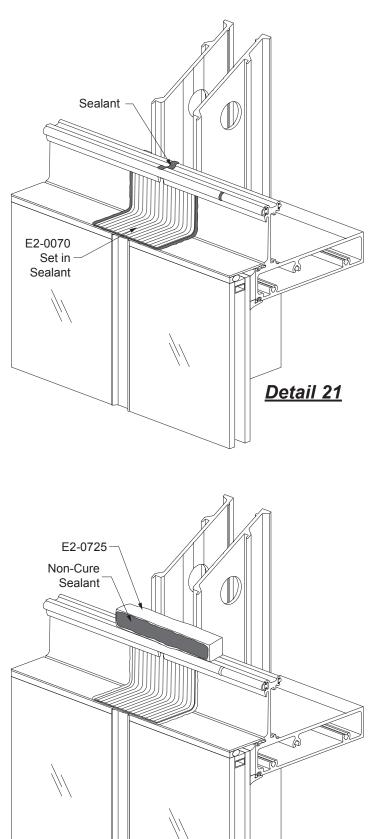
Detail 20b

UNIT INSTALLATION

STEP 5 (Continued) CURTAIN WALL UNIT INSTALLATION

- -Seal the area where the sheet will be located. Set the silicone sheet back into place as shown in **Detail 21**, tucking it into the slot above. Tool sealant smooth.
- -Fill the gap at the top of the stacking tray with sealant.
- -Inspect the splice joint for any gap where air or water may penetrate. Seal completely watertight.
- -Continue across elevation in a similar manner. Check unit spacing to eliminate dimensional build-up of the width of the elevation. If necessary, block and clamp mullion halves together to keep units in alignment during installation of the next unit.
- -Before proceeding to the next floor, inspect all horizontal joints. All splice sealant must be cured to avoid sealant tearing.
- -Continue to the next floor. Install units using steps as previously stated.
- -Add E2-0725 spacer sponges, coated with noncuring silicone sealant, above every joint as shown in **Detail 22**.

Applying a liberal amount of non-curing silicone sealant at the front of the sponge ensures a watertight seal against the interior face of the mullions.



Detail 22

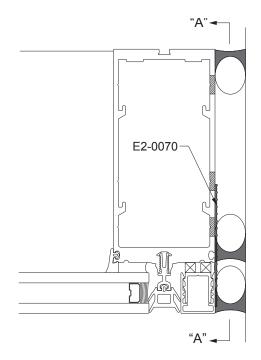


UNIT INSTALLATION

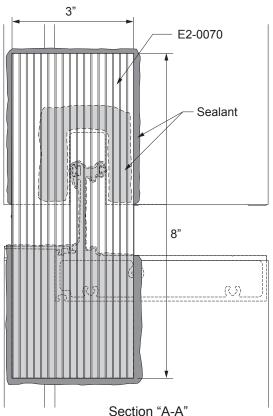
STEP 6 APPLY PERIMETER SEALANT

-At stack joint jambs, apply an E2-0070 silicone sheet across end of stack joint as shown. Set silicone sheet in sealant and seal over edges. Tool to maintain a low profile and minimize excessive sealant build up.

See Detail 23.



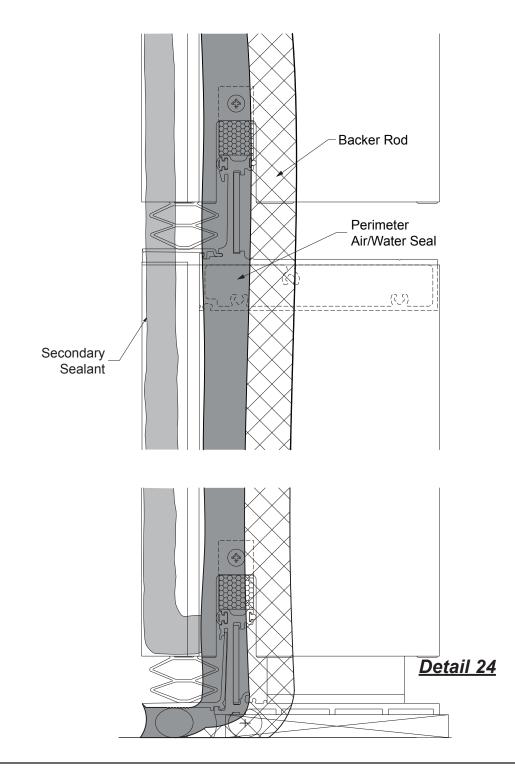




UNIT INSTALLATION

STEP 6 (Continued) APPLY PERIMETER SEALANT

-Apply backer rod and perimeter seals. See Detail 24.



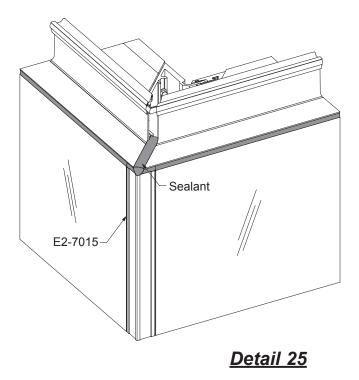
YKK



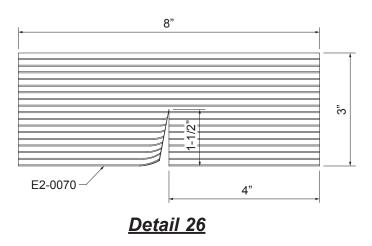
UNIT INSTALLATION

STEP 7 CURTAIN WALL UNIT INSTALLATION @ 90° Outside Corner

Apply sealant to fill the joint between the mitered track adaptors. See **Detail 25.**



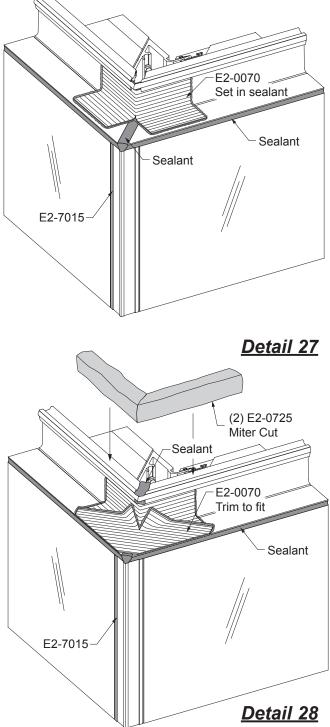
Cut two silicone splice sleeves (E2-0070) in the center. See **Detail 26.**



UNIT INSTALLATION

STEP 7 (Continued) CURTAIN WALL UNIT INSTALLATION @ 90° Outside Corner

Apply the first silicone splice sleeve as shown in **Detail 27.** Set in sealant to adhere to the corner.



Apply the second silicone splice sleeve as shown in **Detail 28.** Set in sealant to adhere to the corner. Trim off any overhanging silicone splice. Fill gap in the top of the head with sealant.

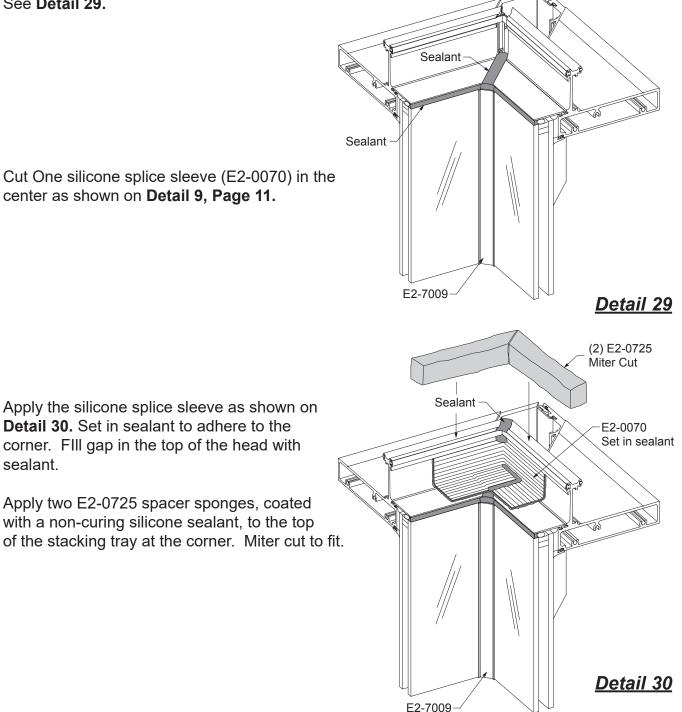
Apply two E2-0725 spacer sponges, coated with a non-curing silicone sealant, to the top of the stacking tray at the corner. Miter cut to fit.



UNIT INSTALLATION

STEP 7A (Continued) CURTAIN WALL UNIT INSTALLATION @ 90° Intside Corner

Apply sealant to fill the joint between the mitered track adaptors. See **Detail 29.**



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