

HANDLING, STORING, AND PROTECTION OF ALUMINUM

The material must be protected against damage. The following precautions are recommended to assure early acceptance of your products and workmanship.

A. HANDLE CAREFULLY - Don't drop from the truck. Stack with adequate separation so material will not rub together. Store off the ground. Protect against elements and other construction trades. Wear hand protection to prevent injury due to sharp edges of cut extrusions.

B. KEEP MATERIAL AWAY FROM WATER, MUD AND SPRAY - Prevent cement, plaster, or other materials from damaging the finish.

C. PROTECT THE MATERIALS AFTER ERECTION - Protect by wrapping with Kraft paper or by erecting Visqueen or canvas splatter screen. Cement, plaster, terrazzo, other alkaline solutions and acid based materials used to clean masonry are very harmful to the finish and should be removed with water and mild soap IMMEDIATELY.

GENERAL INSTALLATION NOTES

The following practices are recommended for all installations:

A. CHECK SHOP DRAWINGS, INSTALLATION INSTRUCTIONS and GLAZING INSTRUCTIONS to become thoroughly familiar with the project. The SHOP DRAWINGS take precedence and include specific details for the project. The INSTALLATION INSTRUCTIONS are of a general nature and cover most common conditions.

B. All materials are to be INSTALLED PLUMB, LEVEL, AND TRUE.

C. All work should start from bench marks and/or column lines as established by the ARCHITECTURAL DRAWINGS and the GENERAL CONTRACTOR. Check mullion spacing from both ends of the masonry opening to prevent dimensional buildup of day light opening.

D. Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the GENERAL CONTRACTOR IN WRITING and resolve differences before proceeding with your work.

E. Isolate all aluminum to be placed directly in contact with uncured masonry or incompatible materials with a heavy coat of zinc chromate or bituminous paint.

F. Check all materials on arrival for quantity and be sure you have everything required to begin installation.

G. Sealants must be compatible with all materials with which they have contact, including other sealant surfaces. Consult with sealant manufacturer for recommendations relative to joint size, shelf life, compatibility, priming, tooling, adhesion, etc.

H. FASTENING - "Fastening" means any method of securing one part to another or to adjacent materials. These instructions specify only those fasteners used within the system. Due to varying perimeter conditions and job performance requirements, anchor fasteners are not specified in these instructions. For anchor fastening, refer to the Shop Drawings or consult the fastener supplier.

I. CHECK OPENINGS - Make certain that the opening which will receive your materials is in accordance with the contract documents. If not, notify the GENERAL CONTRACTOR IN WRITING and resolve differences before proceeding with your work.

J. BUILDING CODES - Glass and glazing codes governing the design and use of products vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility for these design considerations. It is the responsibility of the owner, specifier, architect, general contractor and the installer to make these selections in strict conformance with all applicable codes.

K. EXPANSION JOINTS - Expansion joints and perimeter seals shown in these instructions and in the shop drawings are shown at normal size. Actual dimensions may vary due to perimeter conditions and /or difference in metal temperature between the time of fabrication and time of installation. For example, a 12 foot unrestrained length of aluminum extrusion can expand or contract 3/32" over a 50° F temperature change. Any movement potential should be accounted for at the time of installation.

L. FIELD TESTING - It is recommended that a Water Hose Test be conducted once a sufficient portion of the framing is installed, glazed and caulked to ensure proper installation. The Water Hose Test shall be conducted in accordance with AAMA 501.2. In addition, larger projects should have periodic Water Hose Tests as additional precautionary measures.

1600 SS PRE-GLAZED NOTES

1600 SS PRE-GLAZED is available with 1" framing members which accept both 1" and 1/4" infill.

Glass bite is 1/2" at verticals and horizontals. Glass sizes must be calculated from approved shop drawings. Note special glass size formula at infill below an expansion horizontal.

Unless otherwise specified, it is recommended that silicone sealant be used for all internal seals.

Sealant must be applied per the sealant manufacturer's recommendations and pass all adhesion and compatibility testing. At all joint seals, sealant must adhere to metal, gaskets, thermal separator and joint plug materials.

Clean all surfaces prior to application of sealant and prime where necessary to achieve proper adhesion.

If units are to be installed below a head building condition, adequate space must be allowed for unit installation. Unit must be lifted over the lower unit expansion horizontal. Additional space may be required for the hoisting apparatus. Where head anchor clips are installed in the top of the mullions, top lites of glass may need to be field glazed to allow the units to be hoisted.

Perimeter joints at the elevation jambs must be a minimum of 3/4" to allow adequate space for the installation of the jamb patch at expansion horizontals.

CHECK OPENINGS

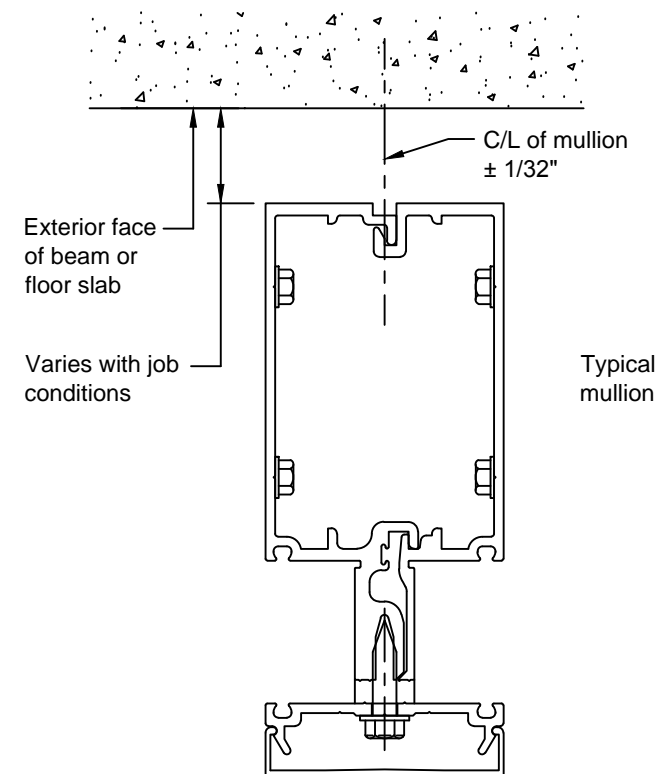
Elevations and slabs must be within adjustment of anchoring system. See approved shop drawings for allowable adjustment.

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.

LAYOUT ANCHOR AND MULLIONS 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 column center lines established by the general contractor. On each floor lay out mullion center lines and anchor center lines.



See approved shop drawings for anchor lay outs.

These instructions show the 6" system. The 7 1/2" system is similar.

169973 (SHT 1 OF 15)

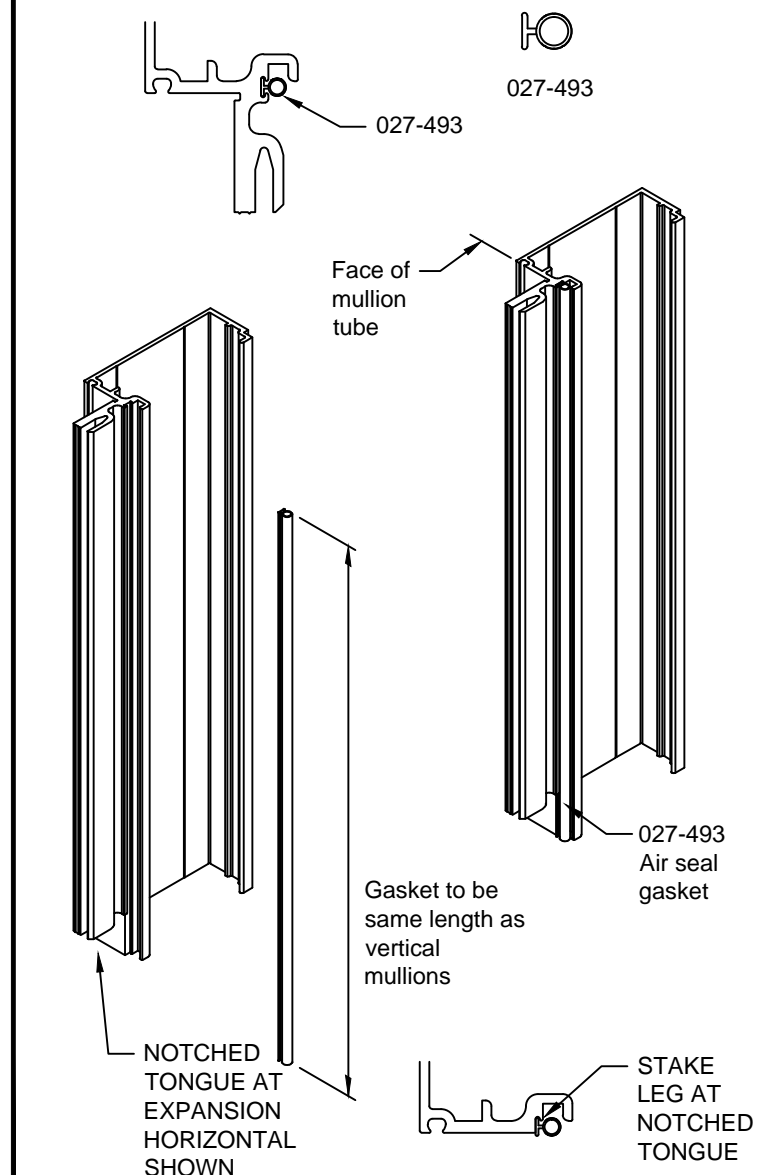
CONFIDENTIAL AND PROPRIETARY INFORMATION
KAWNEER COMPANY INC.

THESE DRAWINGS ARE THE SOLE AND EXCLUSIVE PROPERTY OF KAWNEER AND CONTAIN SENSITIVE, PRIVILEGED OR CONFIDENTIAL INFORMATION WHICH MAY BE USED ONLY FOR ITS BENEFIT. THE DISCLOSURE OF THESE DRAWINGS TO UNAUTHORIZED PERSONS IS STRICTLY PROHIBITED. THIS DOCUMENT AND ALL COPIES MUST BE RETURNED UPON DEMAND.
© COPYRIGHT KAWNEER COMPANY, INC., 2009

INSTALL 027-493 VERTICAL AIR SEAL

Install 027-493 air seal into reglet of mullion full length as shown. Stake into reglet at top and bottom for mullion after the gasket is centered in the correct position.

AIR SEAL GASKET IS ALWAYS REQUIRED WHEN USING EXPANSION HORIZONTALS.



KAWNEER

Product Engineering & Development

95505-09
03/27/09

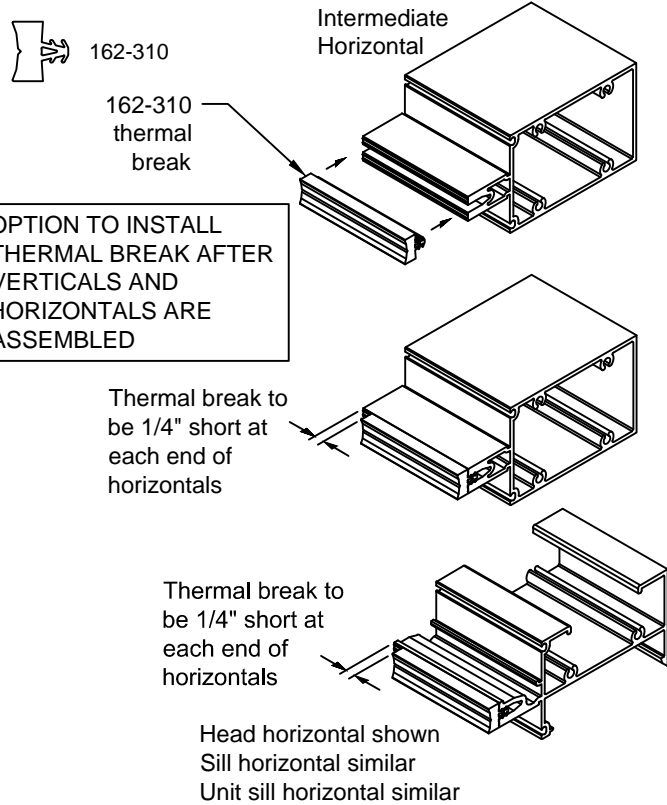
1600 SS
PRE-GLAZED
INSTALLATION
INSTRUCTIONS

169973 (SHT 1 OF 15)

INSTALL 162-310 THERMAL BREAK AT HORIZONTALS

DO NOT STRETCH WHEN REMOVING FROM COIL, CARTON AND DURING INSTALLATION

Do not install thermal break into verticals at this time.

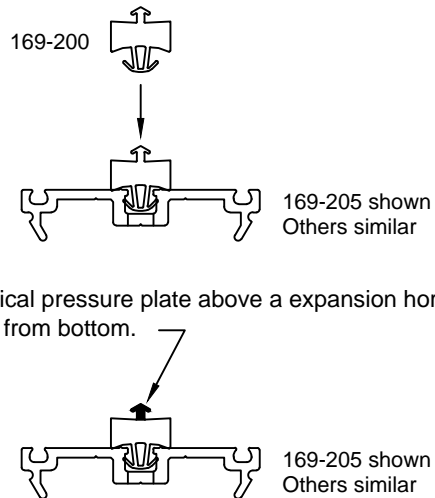


INSTALL OPTIONAL 169-200 REVERSED THERMAL BREAK AT RTS PRESSURE PLATES

"RTS" refers to the reversed thermal separator application. Typical throughout these instructions.

DO NOT STRETCH WHEN REMOVING FROM COIL, CARTON AND DURING INSTALLATION

The optional 169-200 can be pre-installed into the horizontal and vertical RTS pressure plates when specified. The thermal separator is to be the same length as horizontal and vertical RTS pressure plates. The 162-310 thermal separator may be required at special applications.



FRAME ASSEMBLY - Bottom Units

Insert unit hoisting clip in each end of unit head expansion horizontal. Holes in clip are to be towards the end of the horizontal. Install 169-222 cap sleeve into right side of all unit head horizontals. Also install a cap sleeve in the left side for a units beginning a run at each level. Tape sleeve in position.

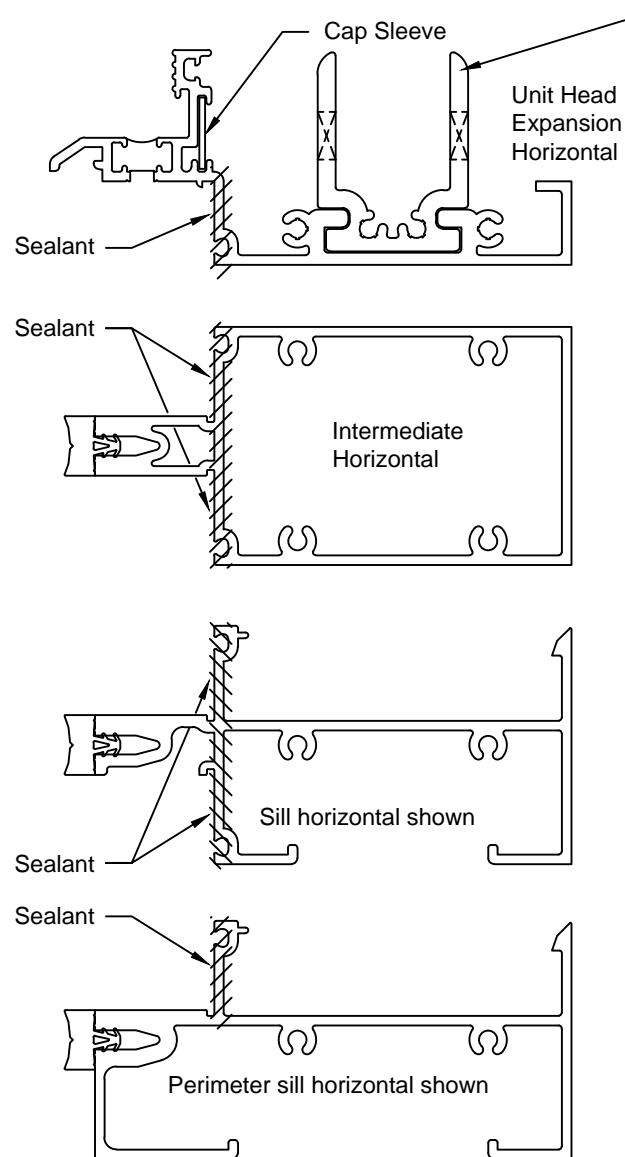
Install stop screws as noted.

Assemble verticals to horizontals using 128-509 #12 x 1" Hex Washer Head Type AB. Applying wax to the screw threads will help ease screw installation.

Frame is shown in the upright position, but may be assembled in any desirable position.

For both horizontal ends apply sealant as shown below and tool sealant after assembly.

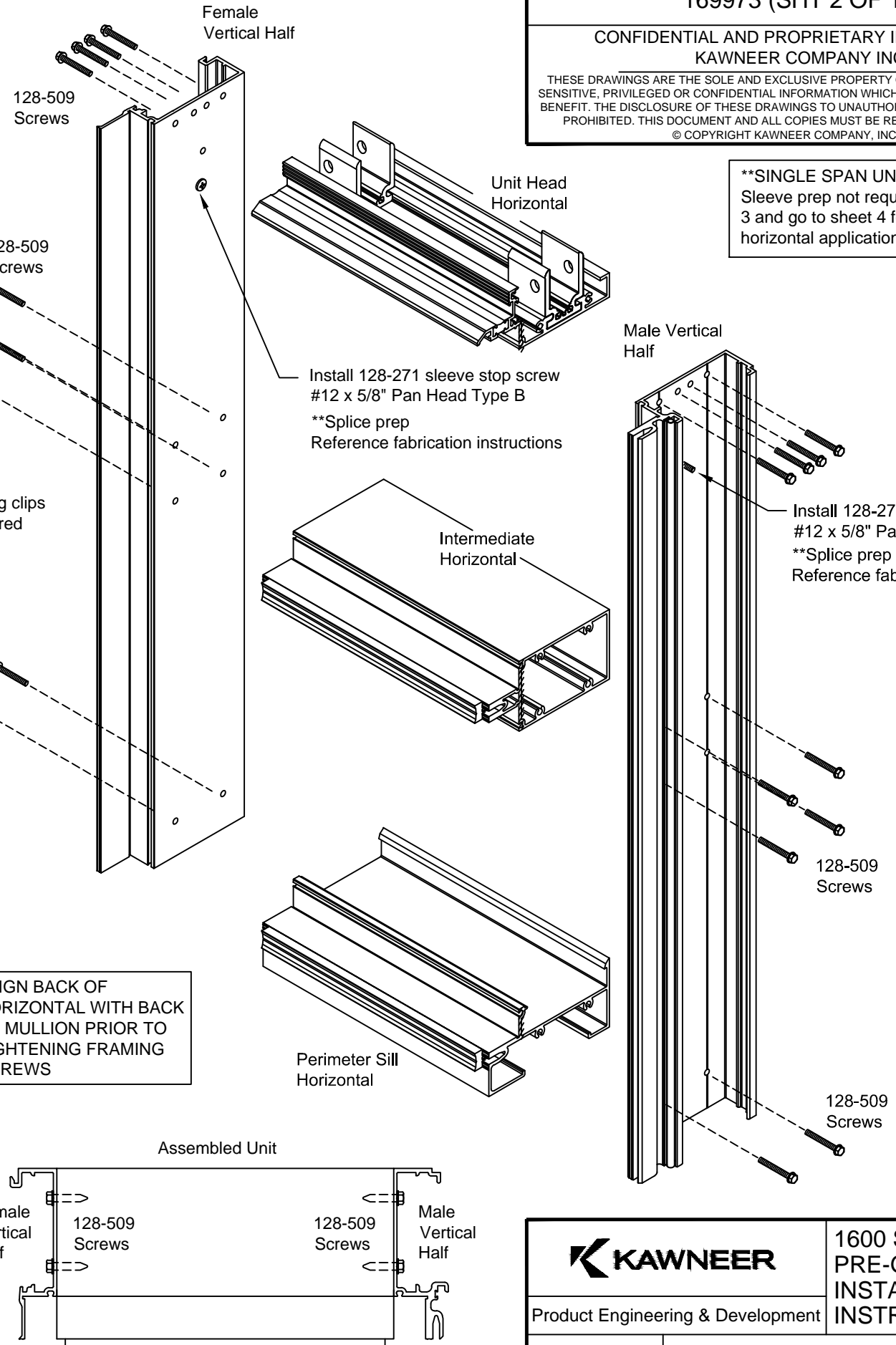
NOTE: Face sealing joints at all 4 corners may be done in lieu of sealing horizontal ends prior to installing glazing gaskets. Refer to page 5 of the installation instructions.



Hoisting clips 2 required

128-509 Screws

ALIGN BACK OF HORIZONTAL WITH BACK OF MULLION PRIOR TO TIGHTENING FRAMING SCREWS



****SINGLE SPAN UNIT NOTE:**
Sleeve prep not required. Skip sheet 3 and go to sheet 4 for head horizontal application.

CONFIDENTIAL AND PROPRIETARY INFORMATION
KAWNEER COMPANY INC.

THESE DRAWINGS ARE THE SOLE AND EXCLUSIVE PROPERTY OF KAWNEER AND CONTAIN SENSITIVE, PRIVILEGED OR CONFIDENTIAL INFORMATION WHICH MAY BE USED ONLY FOR ITS BENEFIT. THE DISCLOSURE OF THESE DRAWINGS TO UNAUTHORIZED PERSONS IS STRICTLY PROHIBITED. THIS DOCUMENT AND ALL COPIES MUST BE RETURNED UPON DEMAND.
© COPYRIGHT KAWNEER COMPANY, INC., 2009



1600 SS
PRE-GLAZED
INSTALLATION
INSTRUCTIONS

Product Engineering & Development

95505-17
05/18/12

FRAME ASSEMBLY - Intermediate Units

Insert unit hoisting clip in each end of unit head expansion horizontal. Holes in clip are to be towards the end of the horizontal. Install 169-222 cap sleeve into right side of all unit head horizontals. Also install a cap sleeve in the left side for a units beginning a run at each level. Tape sleeve in position.

Install stop screw at mullion top and splice sleeve at mullion bottom as noted.

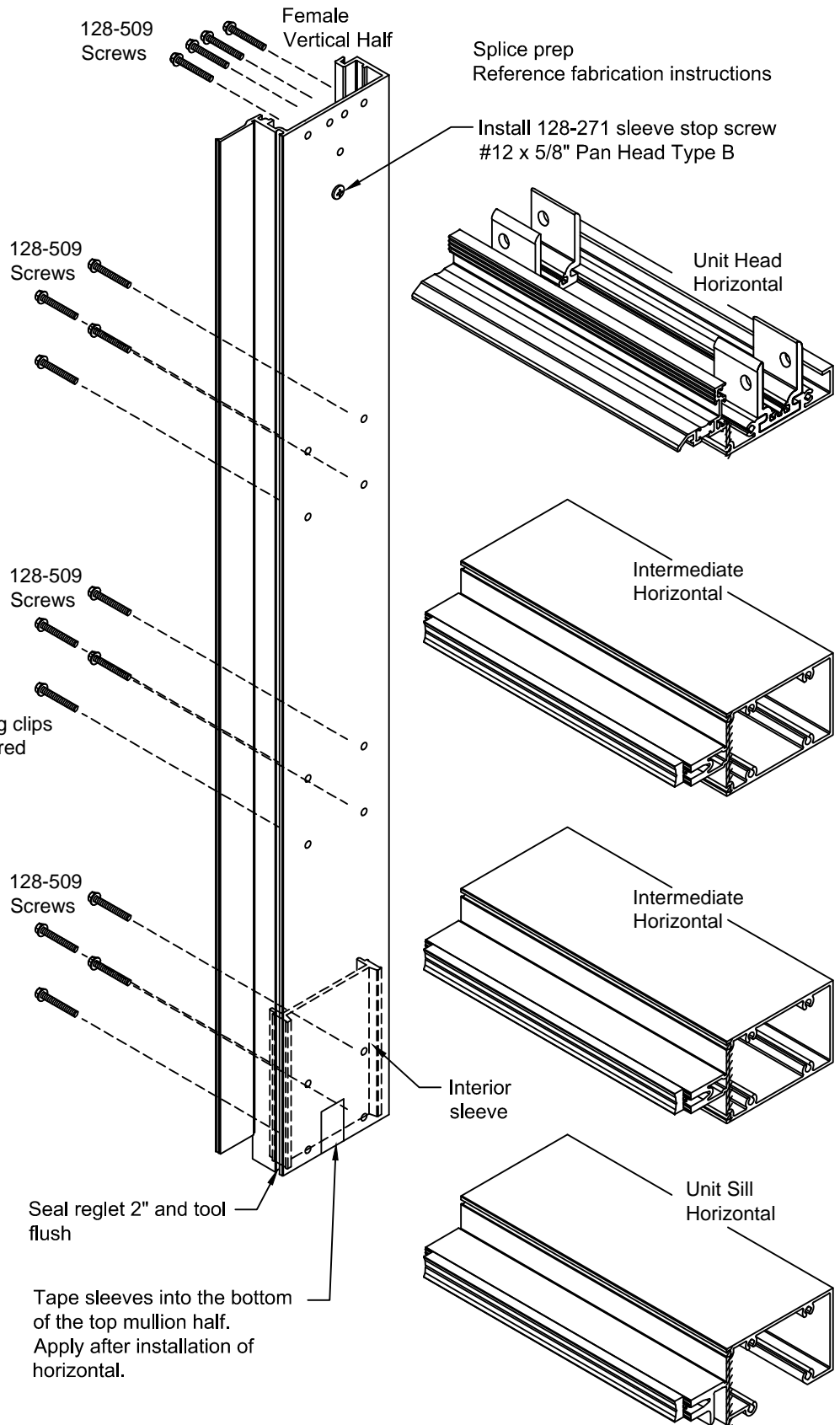
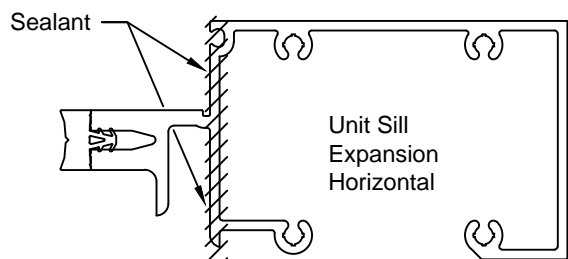
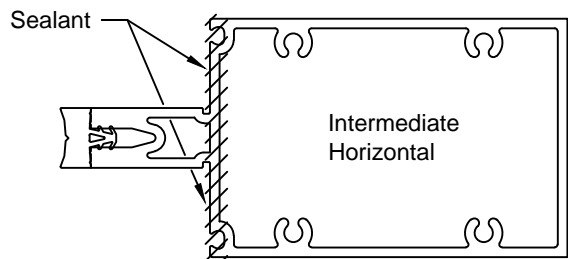
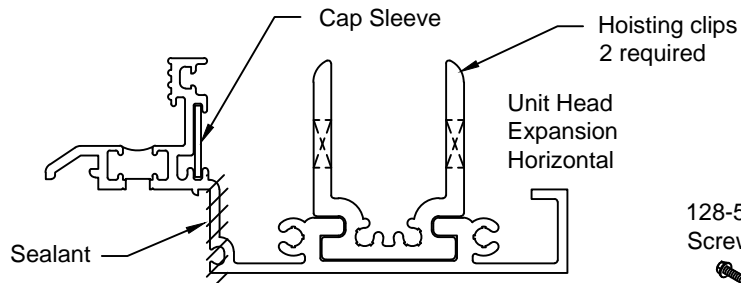
Assemble verticals to horizontals using 128-509 #12 x 1" Hex Washer Head Type AB. Applying wax to the screw threads will help ease screw installation.

Frame is shown in the upright position, but may be assembled in any desirable position.

For both horizontal ends apply sealant as shown below and tool sealant after assembly.

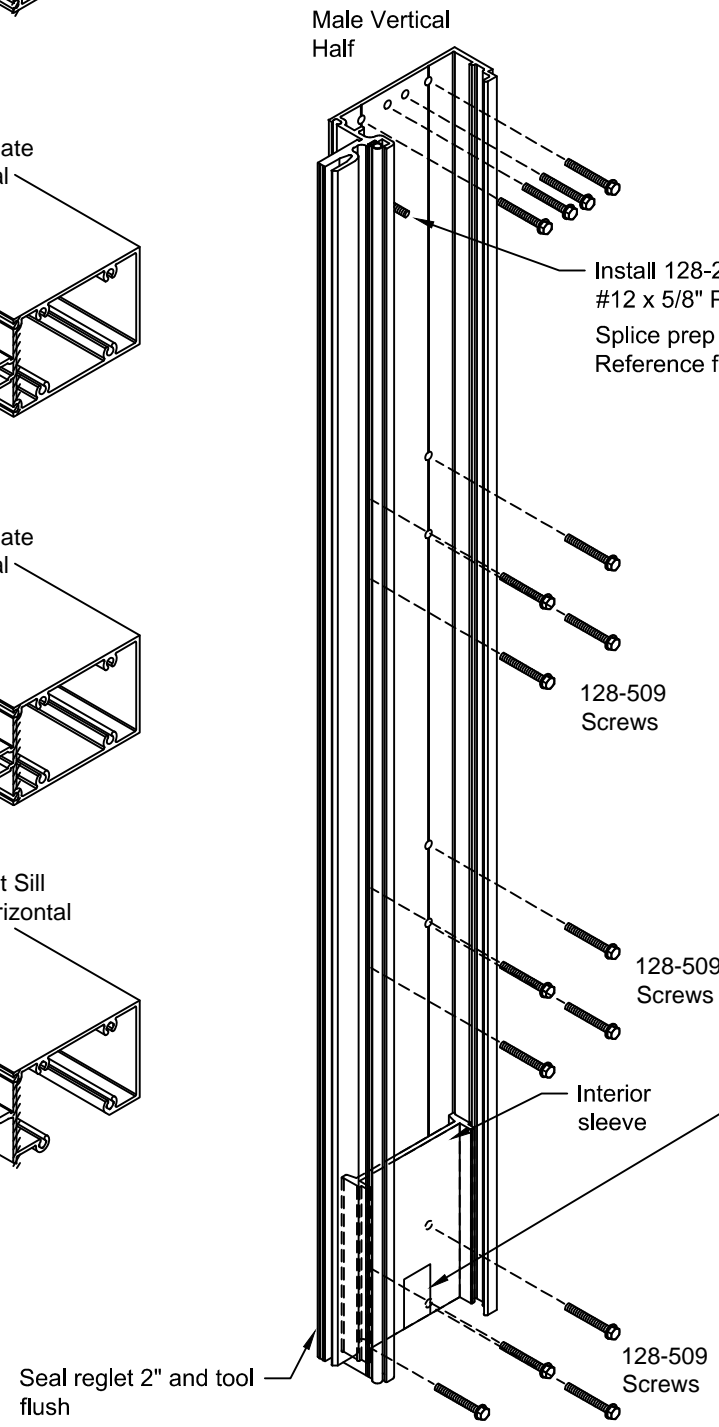
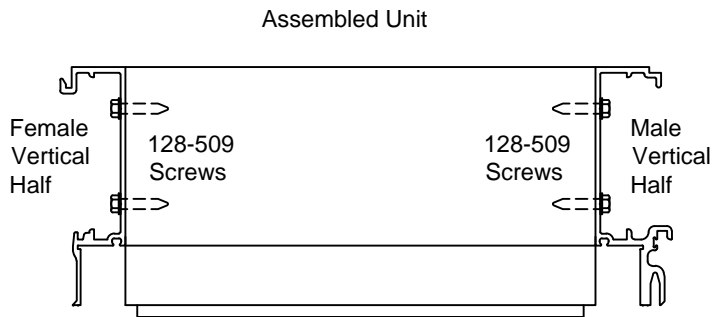
NOTE: Face sealing joints at all 4 corners may be done in lieu of sealing horizontal ends prior to installing glazing gaskets. Refer to page 5 of the installation instructions.

At bottom of mullions, fill gasket reglets from bottom of mullions up 2" and tool flat with face of mullion.



ALIGN BACK OF HORIZONTAL WITH BACK OF MULLION PRIOR TO TIGHTENING FRAMING SCREWS

169973 (SHT 3 OF 15)
 CONFIDENTIAL AND PROPRIETARY INFORMATION
 KAWNEER COMPANY INC.
 THESE DRAWINGS ARE THE SOLE AND EXCLUSIVE PROPERTY OF KAWNEER AND CONTAIN SENSITIVE, PRIVILEGED OR CONFIDENTIAL INFORMATION WHICH MAY BE USED ONLY FOR ITS BENEFIT. THE DISCLOSURE OF THESE DRAWINGS TO UNAUTHORIZED PERSONS IS STRICTLY PROHIBITED. THIS DOCUMENT AND ALL COPIES MUST BE RETURNED UPON DEMAND.
 © COPYRIGHT KAWNEER COMPANY, INC., 2009



Install 128-271 sleeve stop screw #12 x 5/8" Pan Head Type B
 Splice prep
 Reference fabrication instructions

Tape sleeves into the bottom of the top mullion half. Apply after installation of horizontal.

		1600 SS PRE-GLAZED INSTALLATION INSTRUCTIONS
Product Engineering & Development		
95505-17 05/18/12	169973 (SHT 3 OF 15)	

FRAME ASSEMBLY - Top Units

Assemble verticals to horizontals using 128-509 #12 x 1" Hex Washer Head Type AB. Applying wax to the screw threads will help ease screw installation.

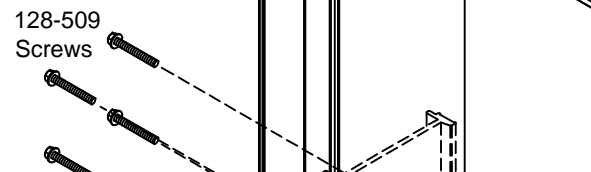
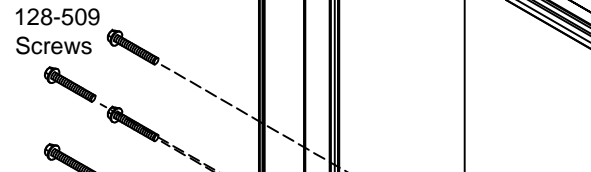
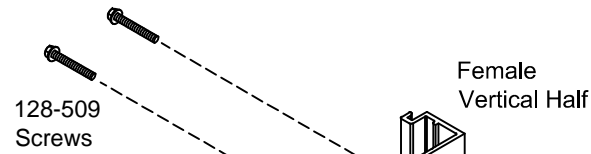
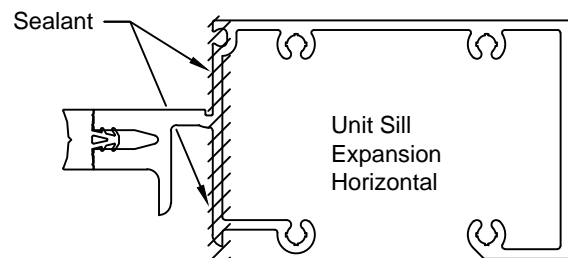
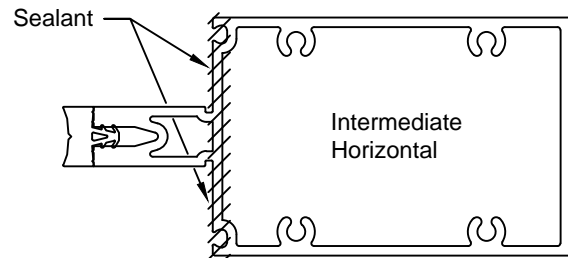
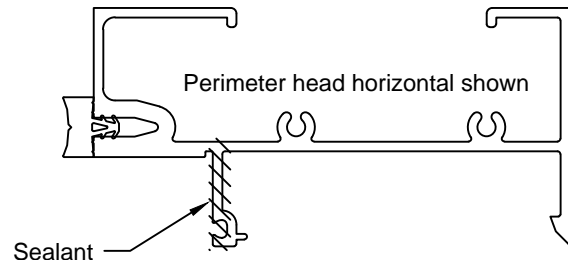
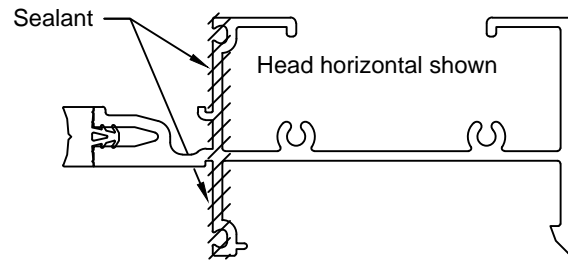
Frame is shown in the upright position, but may be assembled in any desirable position.

For both horizontal ends apply sealant as shown below and tool sealant after assembly.

NOTE: Face sealing joints at all 4 corners may be done in lieu of sealing horizontal ends prior to installing glazing gaskets. Refer to page 5 of the installation instructions.

Install splice sleeve at mullion bottom as noted.

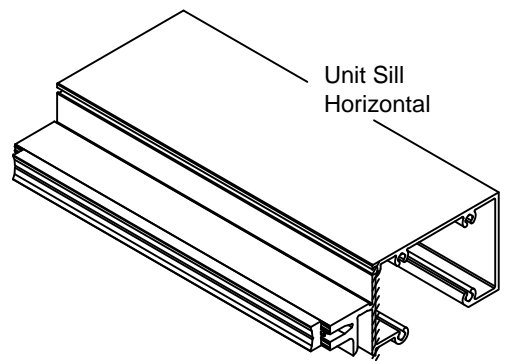
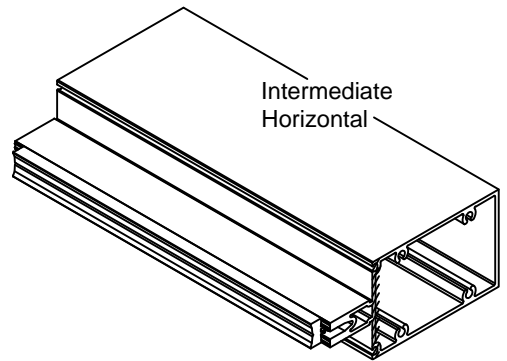
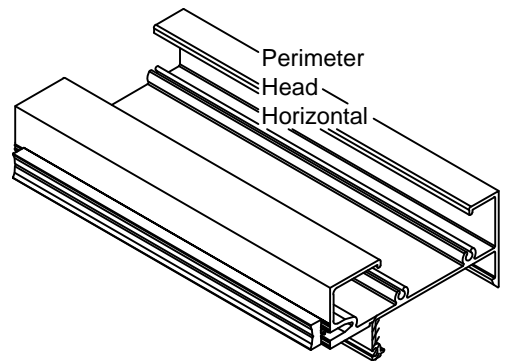
At bottom of mullions, fill gasket reglets from bottom of mullions up 2" and tool flat with face of mullion.



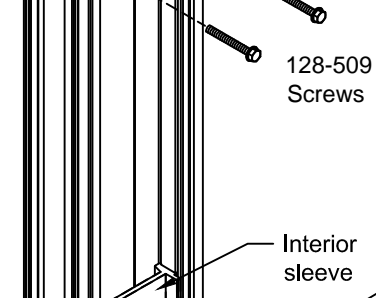
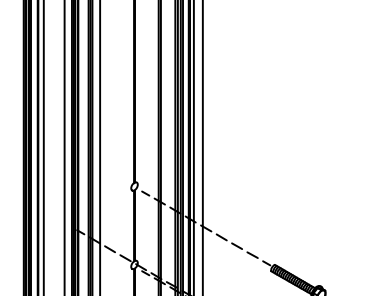
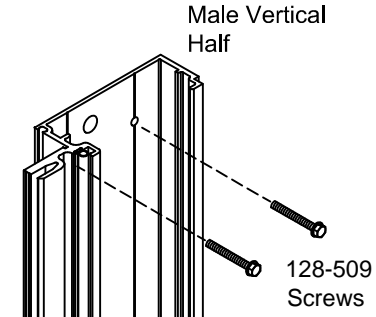
Seal reglet 2" and tool flush

Tape sleeves into the bottom of the top mullion half. Apply after installation of horizontal.

ALIGN BACK OF HORIZONTAL WITH BACK OF MULLION PRIOR TO TIGHTENING FRAMING SCREWS



Interior sleeve



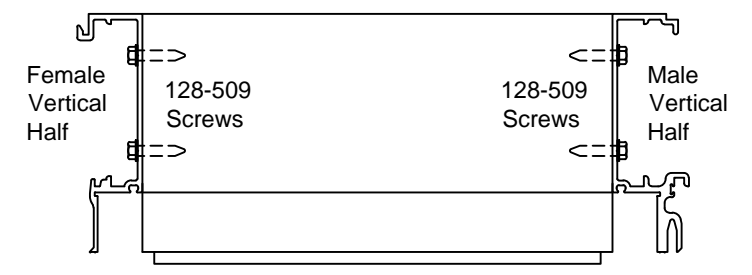
Seal reglet 2" and tool flush

Interior sleeve

CONFIDENTIAL AND PROPRIETARY INFORMATION
KAWNEER COMPANY INC.

THESE DRAWINGS ARE THE SOLE AND EXCLUSIVE PROPERTY OF KAWNEER AND CONTAIN SENSITIVE, PRIVILEGED OR CONFIDENTIAL INFORMATION WHICH MAY BE USED ONLY FOR ITS BENEFIT. THE DISCLOSURE OF THESE DRAWINGS TO UNAUTHORIZED PERSONS IS STRICTLY PROHIBITED. THIS DOCUMENT AND ALL COPIES MUST BE RETURNED UPON DEMAND.
© COPYRIGHT KAWNEER COMPANY, INC., 2009

Assembled Unit



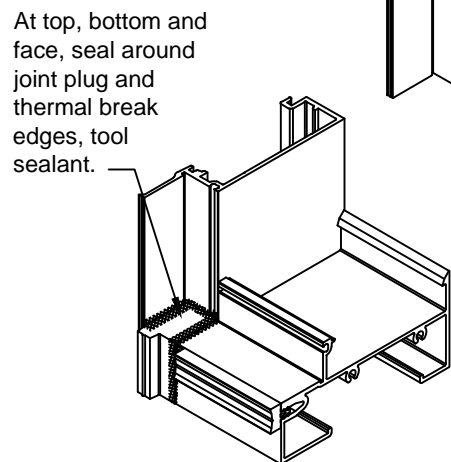
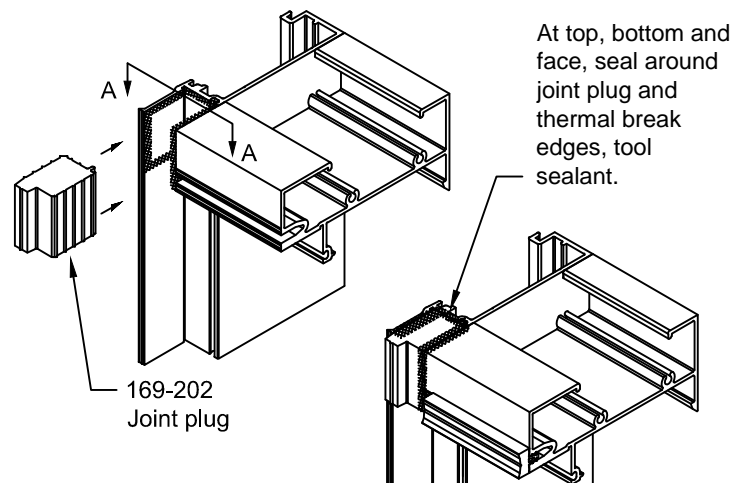
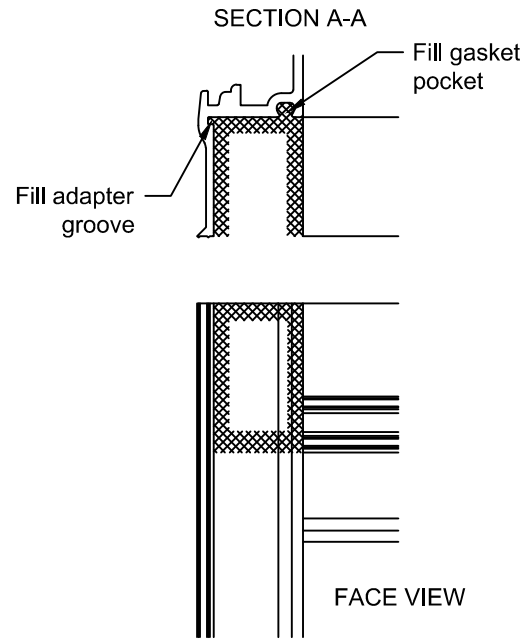
Tape sleeves into the bottom of the top mullion half. Apply after installation of horizontal.

		1600 SS PRE-GLAZED INSTALLATION INSTRUCTIONS
Product Engineering & Development		
95505-17 05/18/12	169973 (SHT 4 OF 15)	

INSTALL "PERIMETER TYPE" HORIZONTAL HEAD AND SILL JOINT PLUGS

All surfaces and grooves must be cleaned per the sealant manufacturer's recommendations.

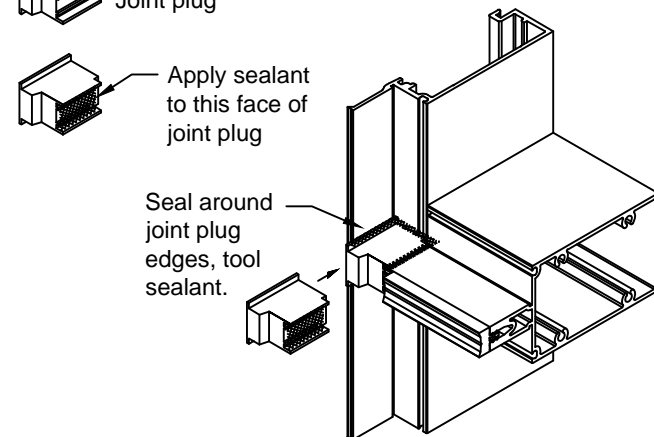
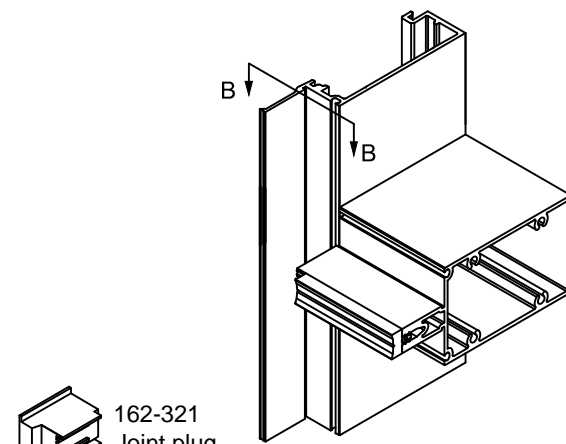
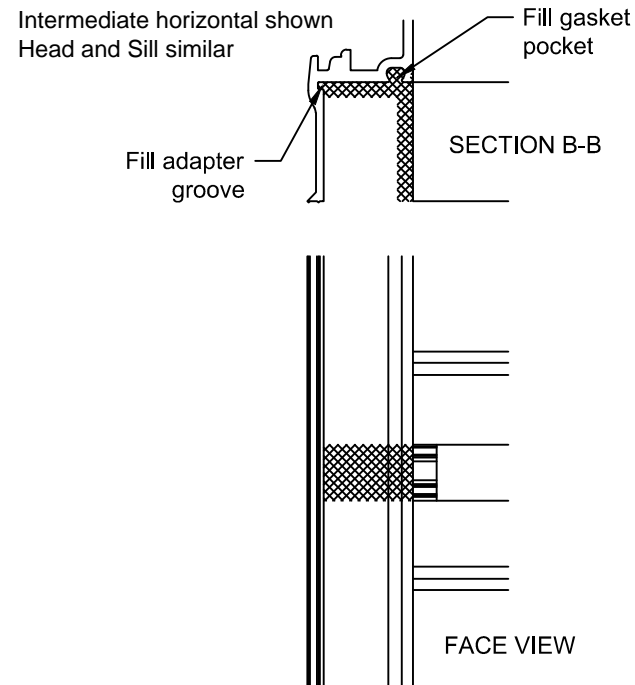
Just before installing joint plugs apply sealant as shown filling gasket pocket and adapter groove.



INSTALL HEAD, SILL AND INTERMEDIATE JOINT PLUGS

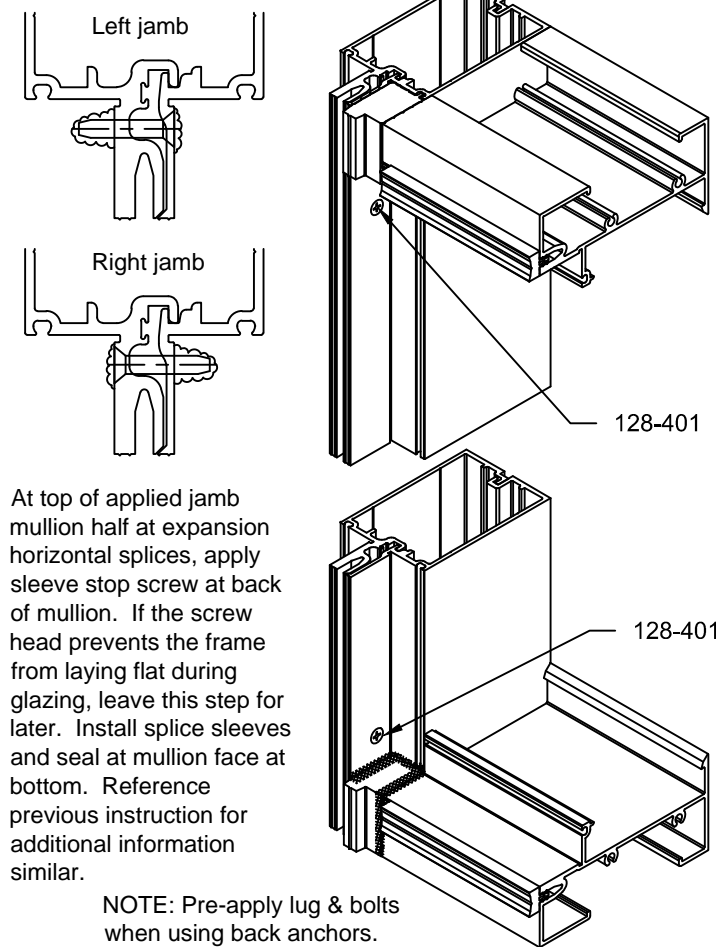
All surfaces and grooves must be cleaned per the sealant manufacturer's recommendations. Joint plugs at expansion horizontals are field installed.

Just before installing joint plugs apply sealant as shown filling gasket pocket and adapter groove.



JAMB UNITS

At jamb units, mate male and female mullions together. Match drill .154 dia. holes (#23 drill) and fix with 128-401 # 10 x 1" flat head fasteners. Fastener locations are 4" from each end and 48" on center. Seal over fastener head and fastener shaft on both sides of the tongue. Tool sealant.

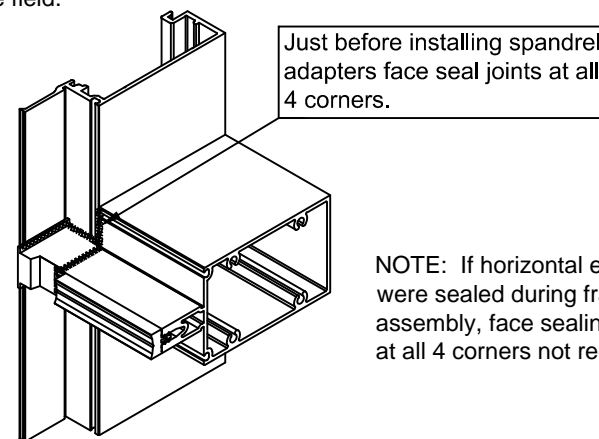


NOTE: Pre-apply lug & bolts when using back anchors. See anchoring section in this set.

INSTALL SPANDREL ADAPTERS WHERE APPLICABLE

All surfaces and grooves must be cleaned per the sealant manufacturer's recommendations.

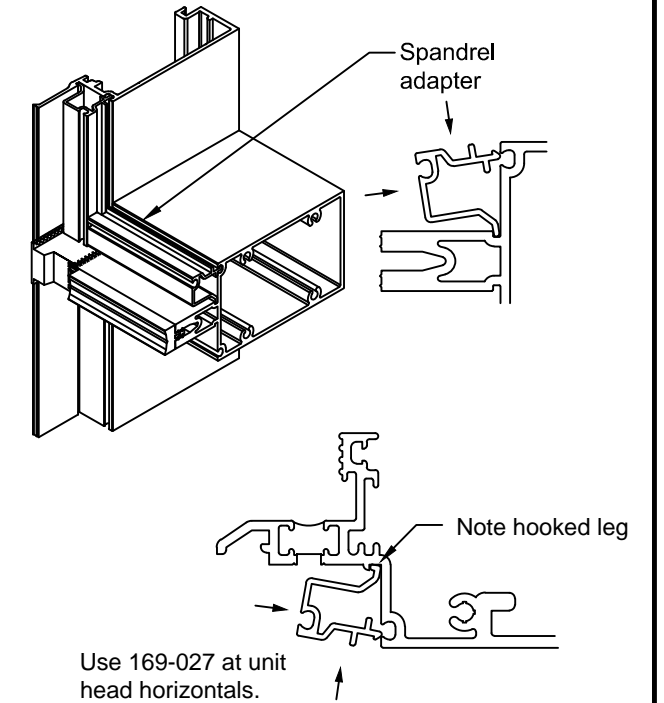
NOTE: Adapters are typically centered on DLO. Vertical adapter above a expansion horizontal extends only 7/16" into glazing pocket to clear expansion joint plug application that is installed in the field.



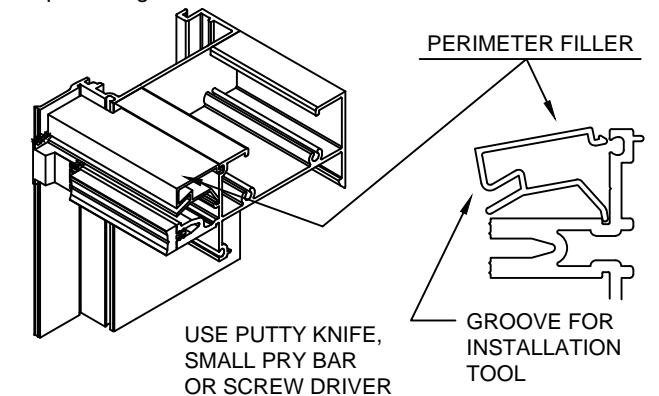
CONFIDENTIAL AND PROPRIETARY INFORMATION
KAWNEER COMPANY INC.

THESE DRAWINGS ARE THE SOLE AND EXCLUSIVE PROPERTY OF KAWNEER AND CONTAIN SENSITIVE, PRIVILEGED OR CONFIDENTIAL INFORMATION WHICH MAY BE USED ONLY FOR ITS BENEFIT. THE DISCLOSURE OF THESE DRAWINGS TO UNAUTHORIZED PERSONS IS STRICTLY PROHIBITED. THIS DOCUMENT AND ALL COPIES MUST BE RETURNED UPON DEMAND.
© COPYRIGHT KAWNEER COMPANY, INC., 2009

INSTALL SPANDREL ADAPTERS WHERE APPLICABLE



NOTE: Do not install perimeter fillers at this time if perimeter seal in located at the face of the mullion tube. Reference approved shop drawings.



Product Engineering & Development

95505-17
05/18/12

1600 SS
PRE-GLAZED
INSTALLATION
INSTRUCTIONS

INSTALL INTERIOR GLAZING GASKETS

Prior to installing gaskets, make sure all gasket grooves and pockets should be clean.

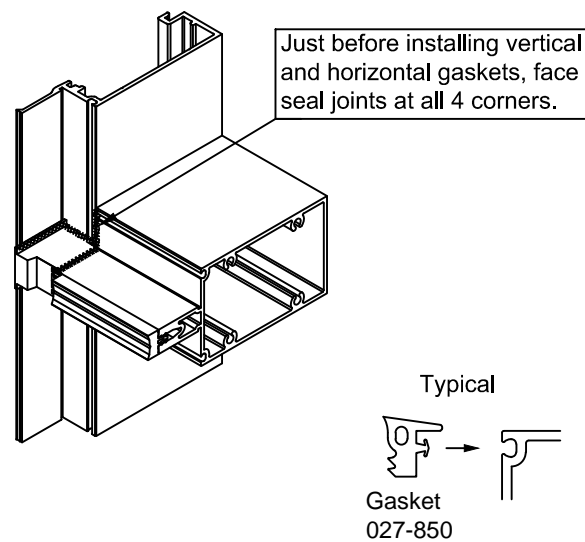
Gaskets can become deformed during storage in cartons. They should be removed from cartons several hours prior to installation and laid flat or hung to allow recovery of correct shape. Temperatures should be at least 50° F to allow this.

Gasket installed length to be daylight opening. Gaskets to be cut long for some "crowd in". Gaskets should never be "stretched to fit".

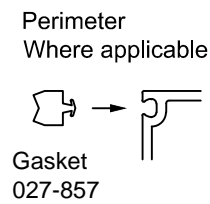
"Crowd in" to be 1/8" per foot up to 5'-0", 3/16" per foot up to 8'-0", 1/4" per foot over 8'-0".

NOTE: In temperatures colder than 50° F, gaskets should be warmed and installed just prior to glazing. This will prevent excessive glazing pressure on the glass due to cold, stiff rubber gaskets.

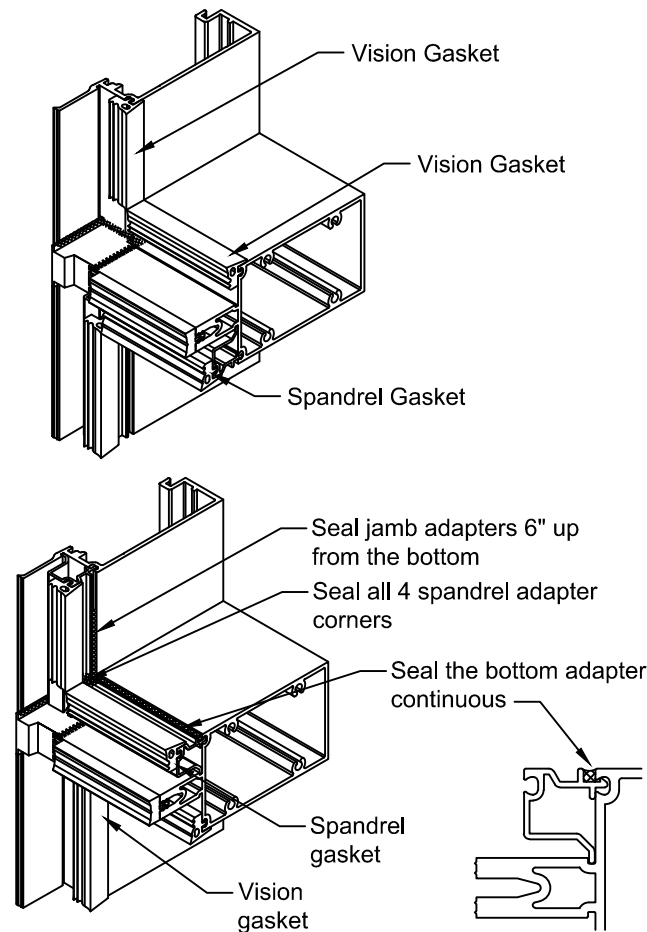
NOTE: If horizontal ends were sealed during frame assembly, face sealing joints at all 4 corners not required.



Install perimeter gasket where applicable. Reference shop drawings. At jambs at expansion horizontals, stop gasket short 2" at bottom of unit. Top of gasket is flush with top of mullion and flush with bottom of mullion at the elevation sill.

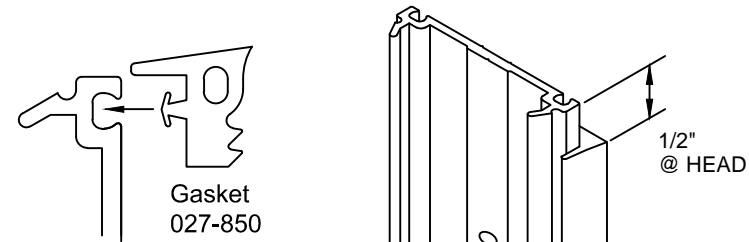


INSTALL INTERIOR GLAZING GASKETS

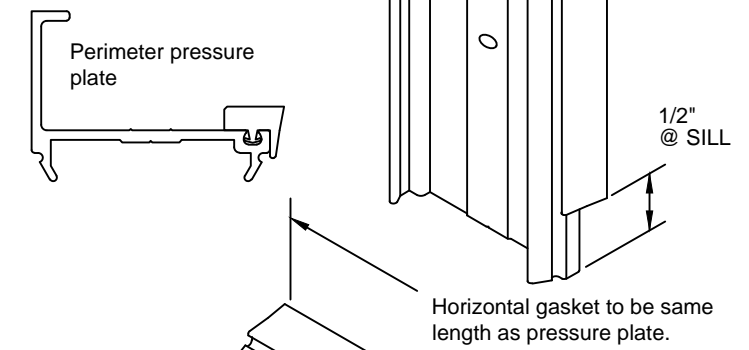


INSTALL EXTERIOR GASKETS INTO PRESSURE PLATES

Reference previous gasket notes, same notes apply



VERTICAL GASKETS ARE TO RUN CONTINUOUS AT PRESSURE PLATE LENGTH EXCEPT AT ELEVATION HEAD AND SILL CONDITIONS. THE GASKET IS TO BE CUT 1/2" SHORT. THIS IS FOR THE SEAL AT SECTION D-D SHEET # 13.



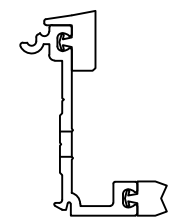
PERIMETER WHERE APPLICABLE

Gasket 027-857 at one side. Do not cut short.



EXPANSION HORIZONTAL PRESSURE PLATE

Use 027-850 at top and 027-857 at bottom.

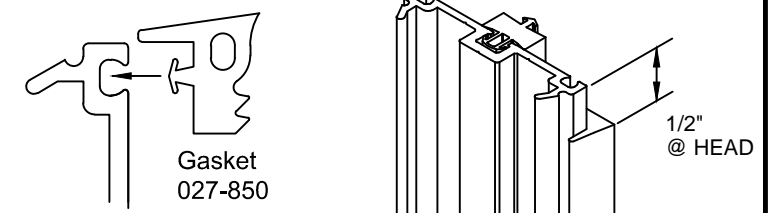


CONFIDENTIAL AND PROPRIETARY INFORMATION
KAWNEER COMPANY INC.

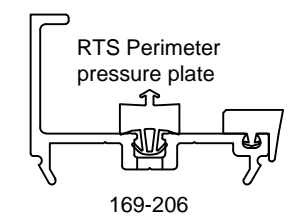
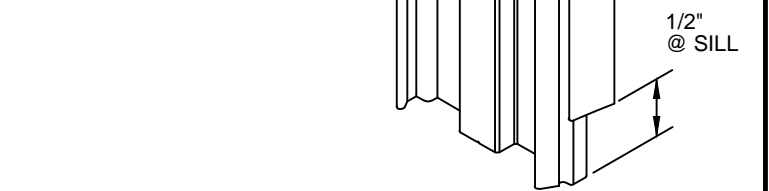
THESE DRAWINGS ARE THE SOLE AND EXCLUSIVE PROPERTY OF KAWNEER AND CONTAIN SENSITIVE, PRIVILEGED OR CONFIDENTIAL INFORMATION WHICH MAY BE USED ONLY FOR ITS BENEFIT. THE DISCLOSURE OF THESE DRAWINGS TO UNAUTHORIZED PERSONS IS STRICTLY PROHIBITED. THIS DOCUMENT AND ALL COPIES MUST BE RETURNED UPON DEMAND.
© COPYRIGHT KAWNEER COMPANY, INC., 2009

INSTALL EXTERIOR GASKETS INTO RTS PRESSURE PLATES

Reference previous gasket notes, same notes apply



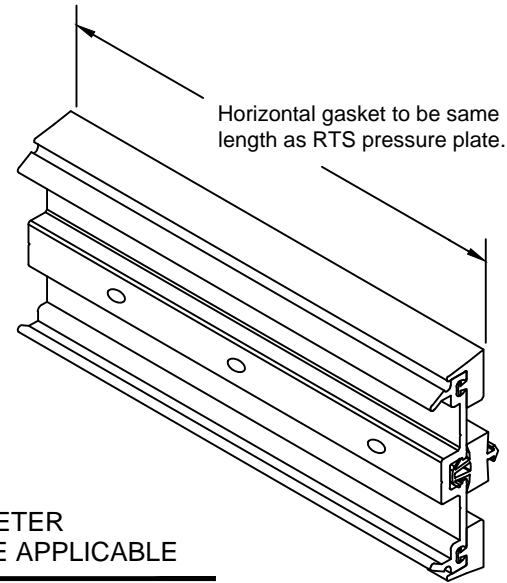
VERTICAL GASKETS ARE TO RUN CONTINUOUS AT PRESSURE PLATE LENGTH EXCEPT AT ELEVATION HEAD AND SILL CONDITIONS. THE GASKET IS TO BE CUT 1/2" SHORT. THIS IS FOR THE SEAL AT SECTION D-D SHEET # 13.



	1600 SS PRE-GLAZED INSTALLATION INSTRUCTIONS
	Product Engineering & Development

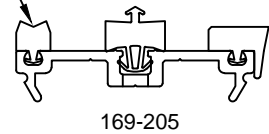
INSTALL EXTERIOR GASKETS INTO RTS PRESSURE PLATES

Reference previous gasket notes, same notes apply

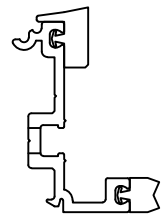


PERIMETER WHERE APPLICABLE

Gasket 027-857 at one side. Do not cut short.



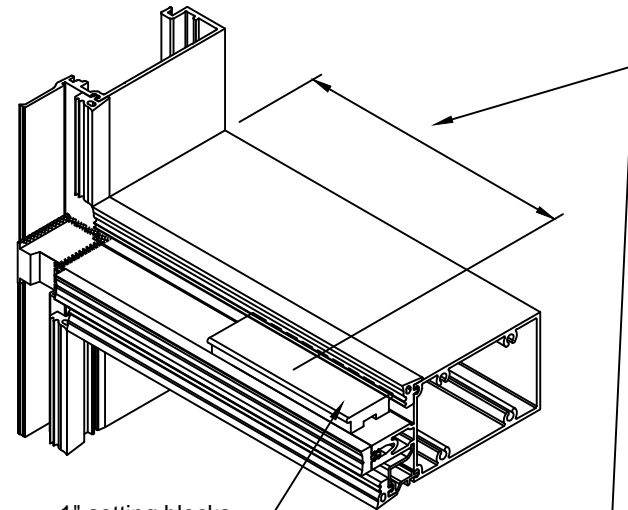
169-205



EXPANSION HORIZONTAL RTS PRESSURE PLATE

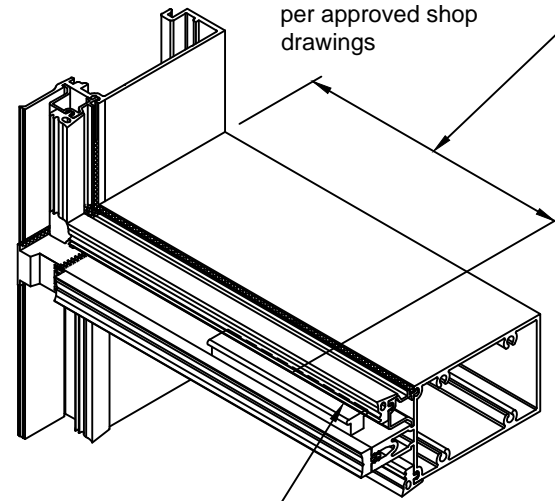
Use 027-850 at top and 027-857 at bottom.

INSTALL SETTING BLOCKS



1" setting blocks
027-853

Locate setting blocks per approved shop drawings



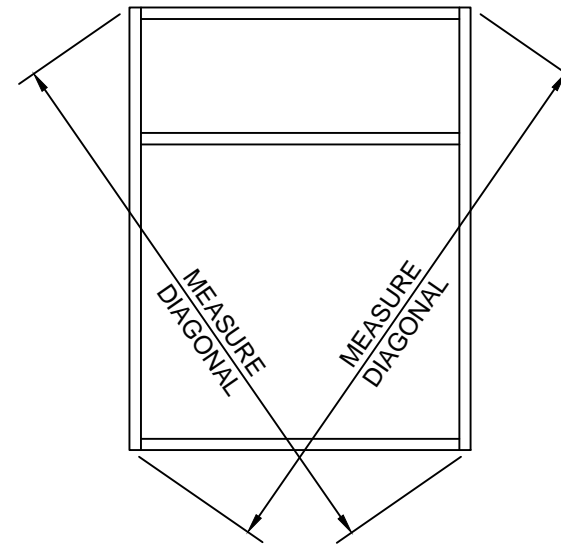
1/4" setting blocks
027-854

INSTALL GLASS

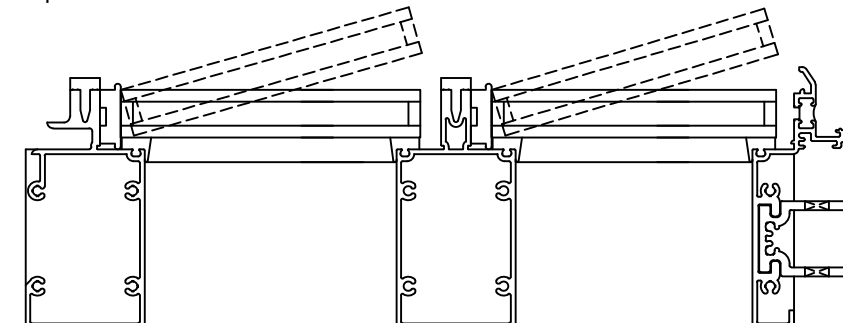
LAY THE UNIT ON A FLAT SURFACE WITH THE EXTERIOR FACING UP. TABLE MUST BE FLAT AND MUST SUPPORT FRAME AT ALL LOCATIONS.

SECURE FRAME. CHECK SQUARENESS OF FRAME BY MEASURING DIAGONALS. THE MAXIMUM DIFFERENCE BETWEEN DIAGONALS IS 1/16". SIGHT DOWN MULLIONS TO MAKE SURE UNIT IS NOT BOWED OR DEFLECTED.

A UNIT GLAZED IN A "OUT OF SQUARE", DEFLECTED OR BOWED POSITION WILL CAUSE INSTALLATION PROBLEMS.



Install glass by pushing bottom edge against both setting blocks and lower into place.



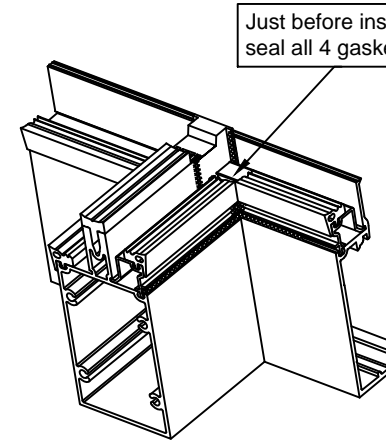
SILL

HEAD

169973 (SHT 7 OF 15)

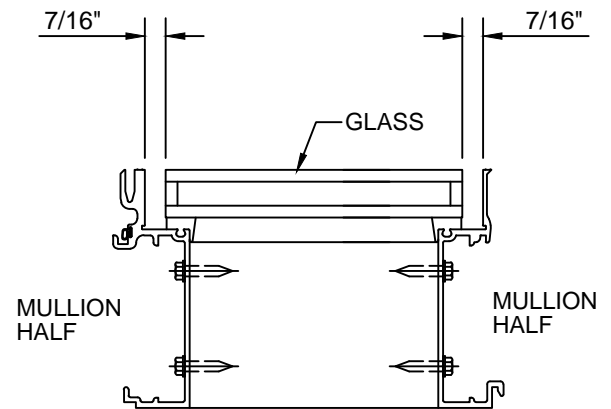
CONFIDENTIAL AND PROPRIETARY INFORMATION
KAWNEER COMPANY INC.

THESE DRAWINGS ARE THE SOLE AND EXCLUSIVE PROPERTY OF KAWNEER AND CONTAIN SENSITIVE, PRIVILEGED OR CONFIDENTIAL INFORMATION WHICH MAY BE USED ONLY FOR ITS BENEFIT. THE DISCLOSURE OF THESE DRAWINGS TO UNAUTHORIZED PERSONS IS STRICTLY PROHIBITED. THIS DOCUMENT AND ALL COPIES MUST BE RETURNED UPON DEMAND.
© COPYRIGHT KAWNEER COMPANY, INC., 2009



NOTE: After glass is set, tool sealant around glass edge at expansion joint plug locations. Sealant may interfere with plug installation in field.

Line up glass as shown below. Locate glass widthwise.



Reference shop details and glazing details for non-typical conditions.



1600 SS
PRE-GLAZED
INSTALLATION
INSTRUCTIONS

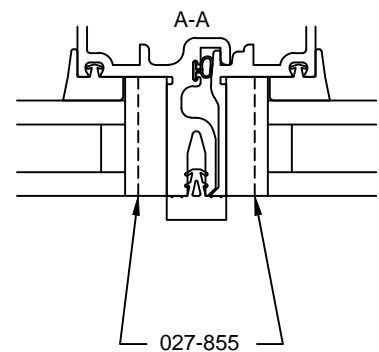
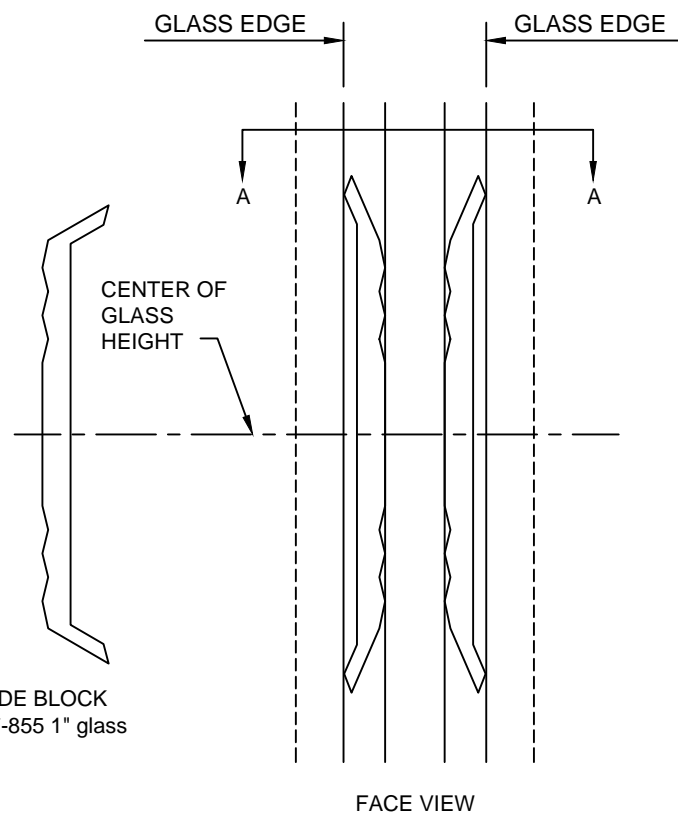
Product Engineering & Development

95505-17
05/18/12

169973 (SHT 7 OF 15)

INSTALL GLASS SIDE BLOCKS AT 1" INFILL ONLY

Apply a small amount of sealant to side of block to secure part in place during shipping and installation. Install side blocks by compressing as shown between glass and mullion tongue.



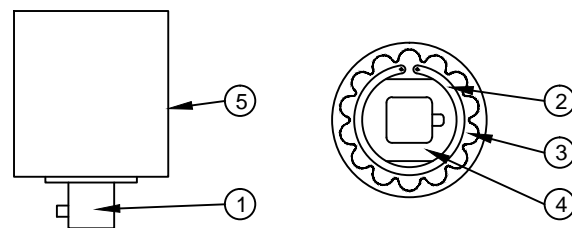
INSTALL HORIZONTAL EXTERIOR PRESSURE PLATES

Recommend using torque limit tool 162-399 see note.

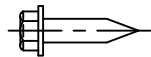


HOW TO SET TORQUE LIMIT

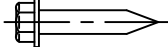
1. Attach any calibrated torque indicator to output stub (1) and determine present torque setting while holding the body (5), or vice-versa.
2. Remove snap ring (2) and locking plate (3).
3. Adjust nut (4) with open-end wrench : clockwise to increase torque, counter-clockwise to decrease torque.
4. Obtain new torque reading with the calibrated torque indicator. repeat preceding step if more adjustment is necessary to reach desired limit.
5. Replace locking plate into notches and install snap ring. If locking plate does not "seat", move the adjusting nut slightly until it drops in place. the direction is best determined by whether a minimum torque application or a maximum one is desired.



Install pressure plates using screws 128-406 1/4-14 x 1" hex washer head type AB.



Note: Install 128-249 1/4 x 1 1/4" hex washer head thread forming type AB screws at pressure plates with pre-installed thermal separator.



Screws are to be located 9" on center. Always locate a screw as close as possible to a horizontal joint. This will provide maximum pressure for the critical joint seals.

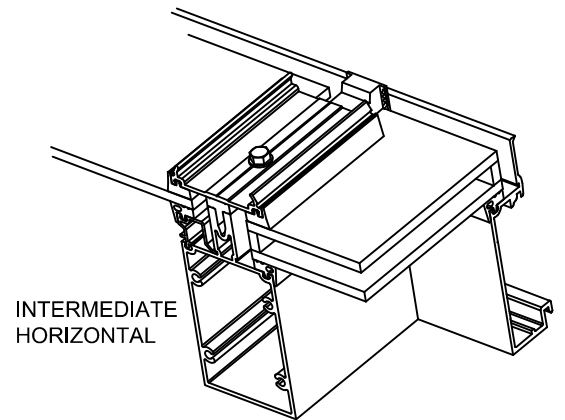
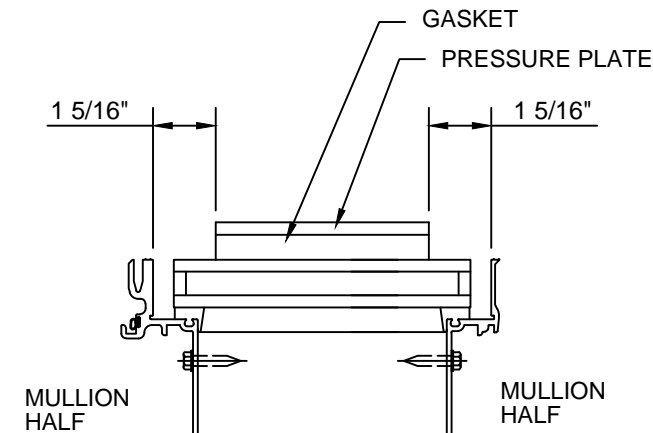
Install horizontal pressure plates with the weep holes towards the top of the horizontal.

At each horizontal and vertical pressure plate install two screws part way, then install the third screw all the way and then tighten the first two screws. This eliminates lateral walking of the pressure plate position.

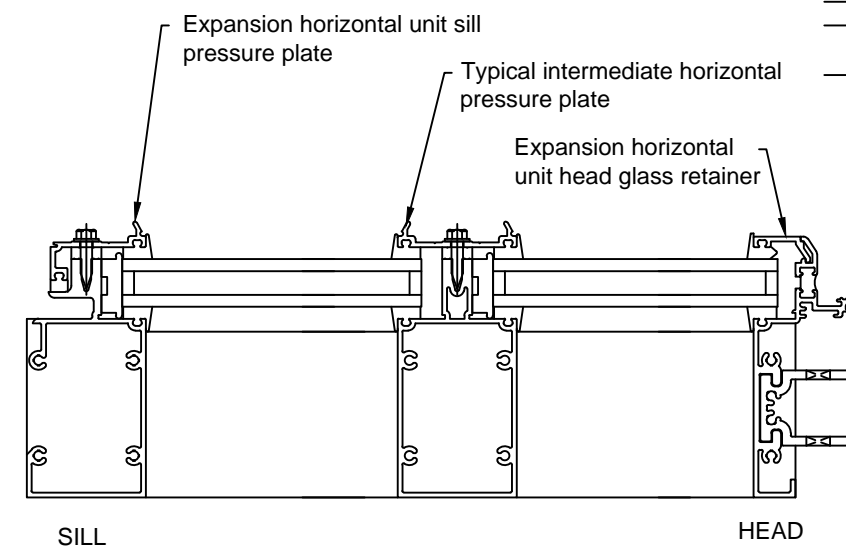
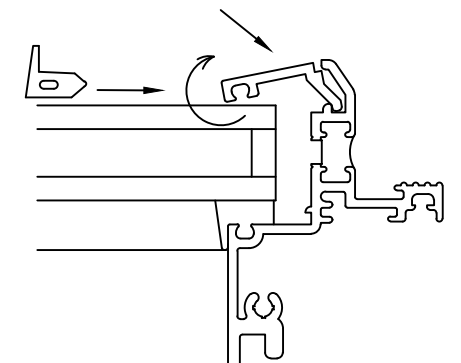
Torque all screws to 95 to 100 inch pounds. During cold weather torque screws to 50 inch pounds until all 4 sides have been clamped. Then torque screws to 95 to 100 inch pounds.

INSTALL HORIZONTAL EXTERIOR PRESSURE PLATES

Note - The torque limit tool was designed to be used with a hand driven device. The tool can be adapted to a drill motor if used at a maximum speed of approx. 300 rpm. Higher speeds can cause overheating and affect the accuracy. After approx. 1 hour of tool usage check torque settings with a torque wrench.



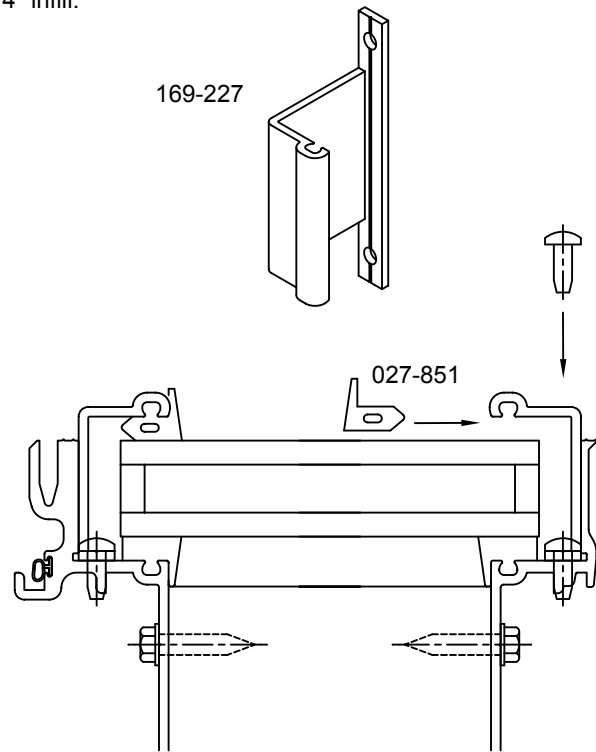
Install pressure plates first to secure glass position. At the unit head horizontal, insert leg of glass retainer into horizontal. Rotate glass retainer into place. Center part on glass. Apply a few 1" long pieces of 027-851 wedge gasket between glass and retainer to temp part in place. Apply 027-851 wedge gasket full length of glass retainer.



		1600 SS PRE-GLAZED INSTALLATION INSTRUCTIONS
Product Engineering & Development		
95505-17 05/18/12	169973 (SHT 8 OF 15)	

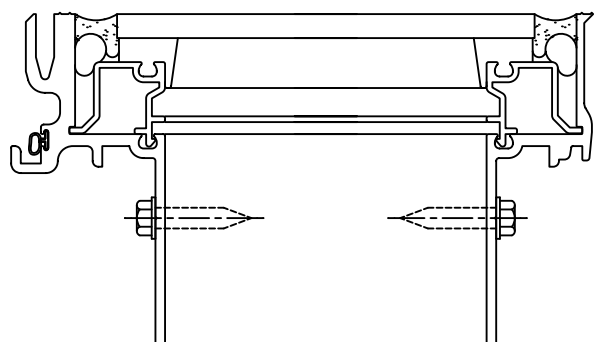
INSTALL GLASS TEMPORARIES

Apply 169-227 glazing temporary to mullion and match drill .159" dia. [19 drill] holes. Apply temporary with two 977-108 PH fasteners. Glazing temporaries will only be used at 1" infill areas only. Use a 3" long piece of 027-851 wedge gasket and apply between temporary and glass. See below for temporary application at 1/4" infill.



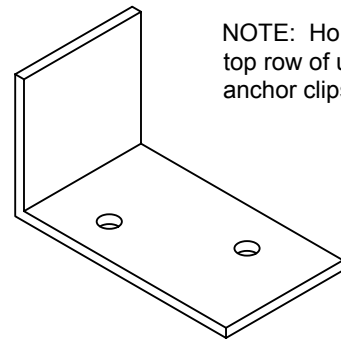
MAXIMUM TEMPORARY SPACING IS 24". AFTER UNIT INSTALLATION, IF WINDS GREATER THAN 50 MPH (80KPH) ARE EXPECTED, ADDITIONAL TEMPORARIES MAY BE REQUIRED. CONSULT YOUR SEALANT AND/OR INFILL SUPPLIER FOR SPACING RECOMMENDATIONS. INSTALL PRESSURE PLATES WHERE POSSIBLE.

At 1/4" infill areas, clean edge of glass and side of mullion tongue per sealant manufacturer's recommendations. Apply backer rod between glass and mullion tongue so it is completely behind edge of glass. Apply high tensile strength structural silicone continuously along edge of glass. Tool sealant and clean off excess sealant at face of glass and tongue. Allow structural silicone to cure per sealant manufacturer's recommendations.



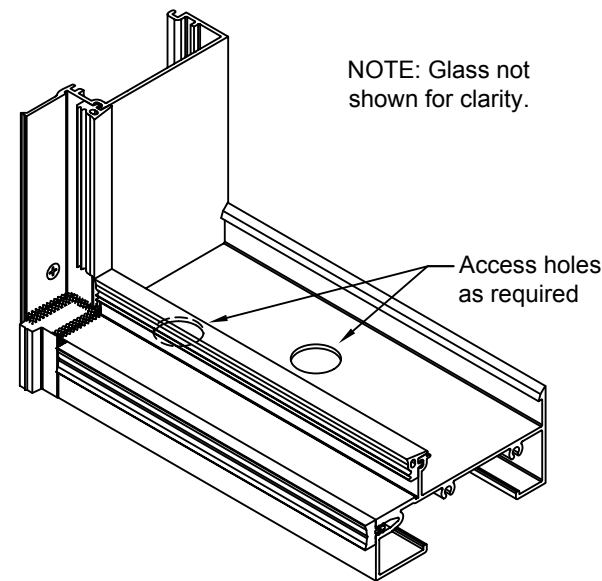
ANCHORING OPTIONS

Where aluminum angle head and sill anchors are required, prep for perimeter fasteners per approved shop drawings.



NOTE: Hoisting hole in top of mullion at top row of units can not be used with anchor clips in place.

NOTE: Head and sill horizontals will require access holes to install perimeter fasteners.



NOTE: Glass not shown for clarity.

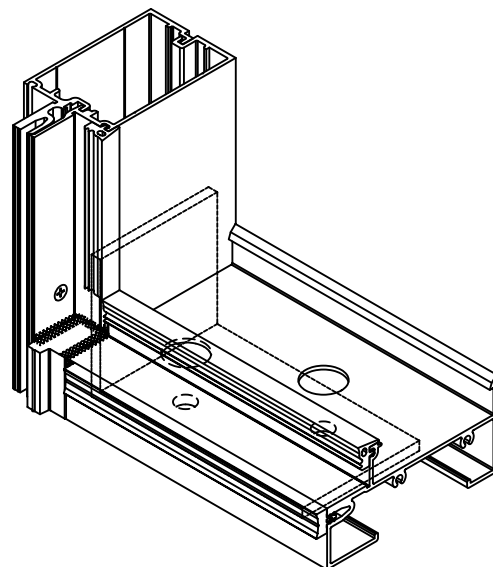
Access holes as required

INSTALL UNITS AT 1ST LEVEL

Install assembled frames according to erection drawings.

Install anchors into top and bottom of mullions as shown below.

Bring first unit into place and measure opening to make sure you will have a minimum of 1/2" shim space at terminating jamb before anchoring.



INSTALL UNITS AT 1ST LEVEL

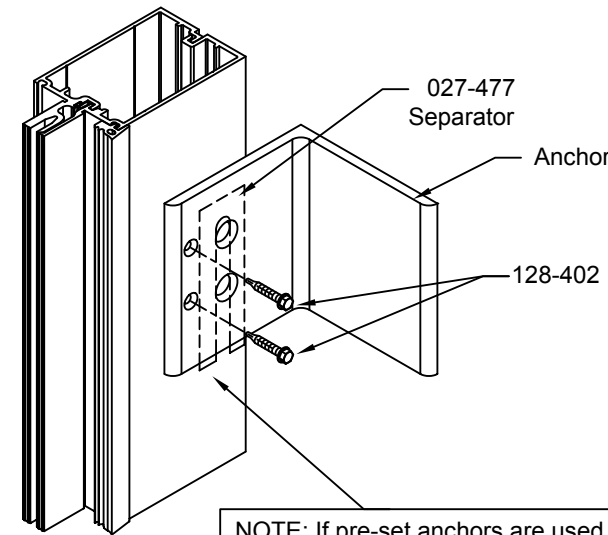
Reference approved shop drawings for anchoring.

All steel anchors must be separated from aluminum mullions. Use 027-477 separators.

Units must be installed level, plumb and square. Use hole in hoist clip that is closest to the glass for lifting units.

Shim unit at sill, secure frame with clamps and apply two 128-402 1/4-14 x 1" HWHSD to temporarily fix frame in place. Install next frame prior to match drilling mullion and applying thru bolts.

Note: Temporary fasteners must be removed after thru bolting mullions at all wind load anchors.

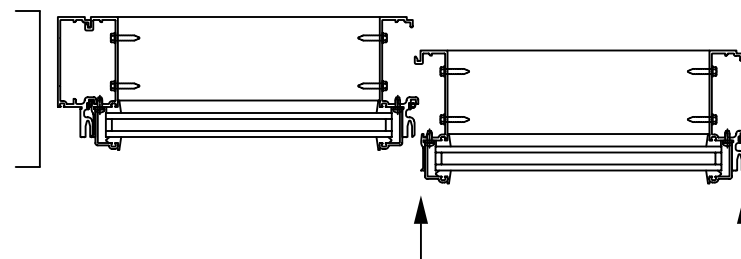


NOTE: Glass not shown for clarity.

NOTE: If pre-set anchors are used, allow for an additional 1/8" between anchors at this side for unit frame installation. Shim as required.

Install the next unit into place per approved shop drawings. Straps applied to units for hoisting should not interfere with mullion engagement.

NOTE: Check overall frame dimensions about every five units on long runs to avoid dimensional build-up.



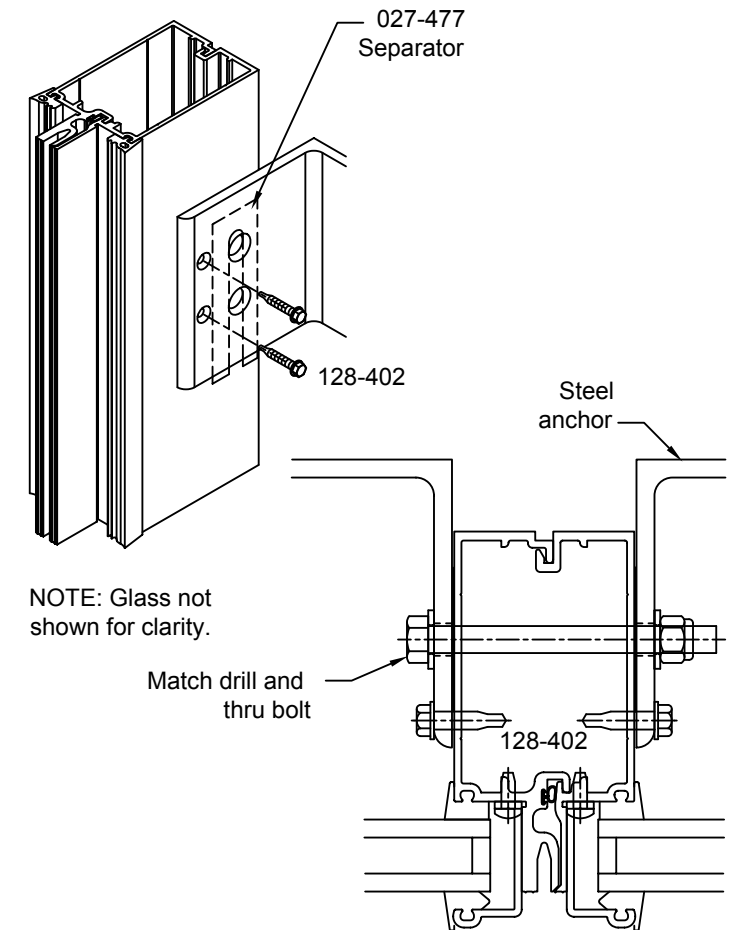
CONFIDENTIAL AND PROPRIETARY INFORMATION
KAWNEER COMPANY INC.

THESE DRAWINGS ARE THE SOLE AND EXCLUSIVE PROPERTY OF KAWNEER AND CONTAIN SENSITIVE, PRIVILEGED OR CONFIDENTIAL INFORMATION WHICH MAY BE USED ONLY FOR ITS BENEFIT. THE DISCLOSURE OF THESE DRAWINGS TO UNAUTHORIZED PERSONS IS STRICTLY PROHIBITED. THIS DOCUMENT AND ALL COPIES MUST BE RETURNED UPON DEMAND.
© COPYRIGHT KAWNEER COMPANY, INC., 2009

INSTALL UNITS AT 1ST LEVEL

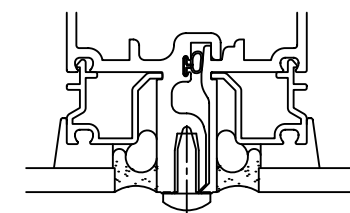
Shim next unit at sill and clamp units together at top at tongue and back of mullion. Apply 128-402 1/4-14 x 1" HWHSD to temporarily fix frame in place. Install next unit prior to match drilling mullion and applying thru bolts.

Note: Temporary fasteners must be removed after thru bolting mullions at all wind load anchors.



NOTE: Glass not shown for clarity.

Match drill and thru bolt



If necessary, apply a 1/4-20 x 5/8" PHTCMS Type D or F (by others) or standard 162-353 glazing temporaries to secure units together. Remove prior to installing thermal separator.



Product Engineering & Development

95505-18
09/21/12

1600 SS
PRE-GLAZED
INSTALLATION
INSTRUCTIONS

INSTALL UNITS USING BACK ANCHORS

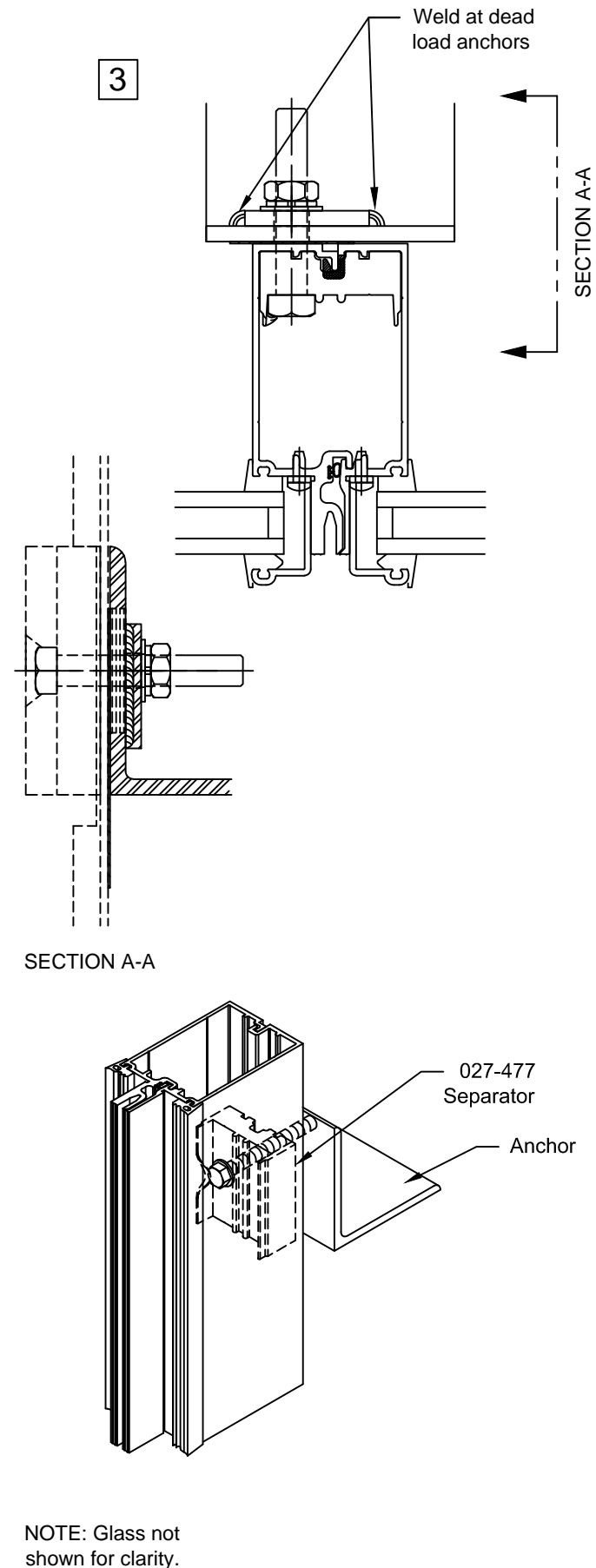
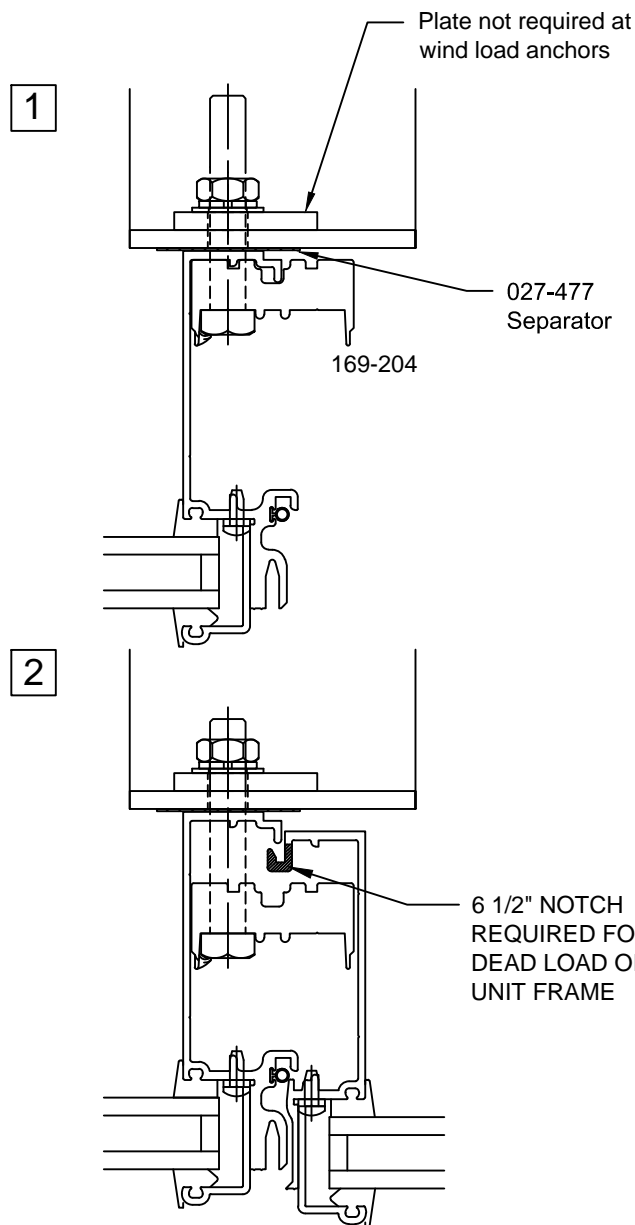
Reference approved shop drawings for anchoring.

All steel anchors must be separated from aluminum mullions. Use 027-477 separators.

Units must be installed level, plumb and square.

Apply 128-935 1/2-13 x 3" Grade 5 HHMS to 169-204 back anchor lug and crimp into place.

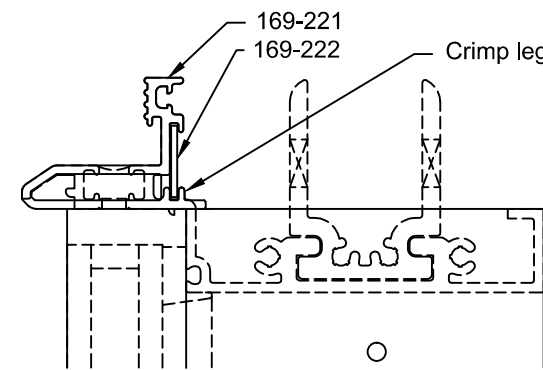
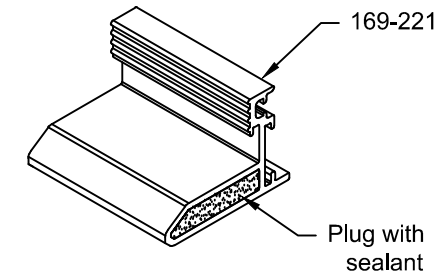
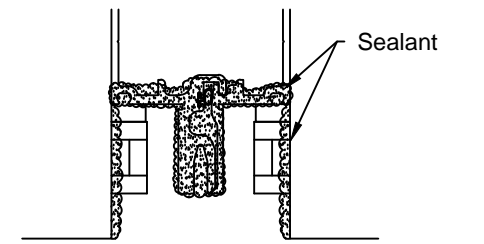
1. Install unit into place. Apply 169-204 back anchor lug inside mullion half and fasten back to anchor per approved shop drawings.
2. When next unit is being installed, secure installed unit and loosen back anchor lug enough to engage next unit as shown. Notch in next unit should align with back anchor lug.
3. Tighten back anchor lug securing both units in place.



INSTALL UNIT HEAD CAP

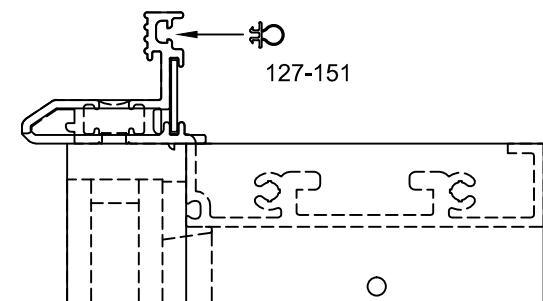
Prior to installing next level of units, install mullion cap, sleeve and air seal gasket at top of units.

Apply sealant across top front face of mullion tube and top of mullion tongue. Completely seal around the ends of the horizontals at the same location. Plug 169-221 cap hollow ends with sealant. Apply 169-221 cap into sealant and slide 169-222 cap sleeve over to engage cap and horizontal on opposite side. Crimp cap sleeve in place at end of sleeve. Tool sealant across face of cap and around all joints. Remove excess sealant at push-in air seal gasket reglet and at splice sleeve engagement at inside face of mullion.



INSTALL AIR SEAL GASKET

Push-in 127-151 air seal gasket continuously across elevation. If a splice is required, seal ends of spliced gasket. Check gasket to make sure both snap legs are engaged in place.



CONFIDENTIAL AND PROPRIETARY INFORMATION
KAWNEER COMPANY INC.

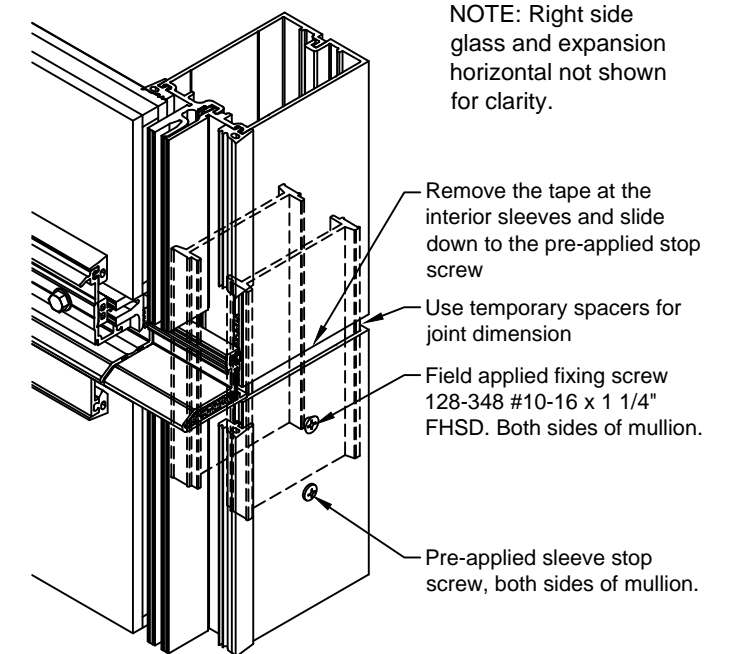
THESE DRAWINGS ARE THE SOLE AND EXCLUSIVE PROPERTY OF KAWNEER AND CONTAIN SENSITIVE, PRIVILEGED OR CONFIDENTIAL INFORMATION WHICH MAY BE USED ONLY FOR ITS BENEFIT. THE DISCLOSURE OF THESE DRAWINGS TO UNAUTHORIZED PERSONS IS STRICTLY PROHIBITED. THIS DOCUMENT AND ALL COPIES MUST BE RETURNED UPON DEMAND.
© COPYRIGHT KAWNEER COMPANY, INC., 2009

INSTALL UNITS AT NEXT LEVEL

Before proceeding to the next floor, inspect all horizontal joints to ensure they are watertight. Reference previous steps similar and next sheet for additional information. For top row of units, use holes in top of mullion halves for hoisting units where applicable. Shim unit at expansion horizontal between mullions and clamp units together at top at tongue and back of mullion. Apply 128-402 #12 x 1" HHSD to temporarily fix frame in place at anchors. Install next unit prior to match drilling mullion and applying thru bolts.

NOTE: Temporary fasteners must be removed after thru bolting mullions at all wind load anchors.

AT MULLION SPLICE LOCATIONS



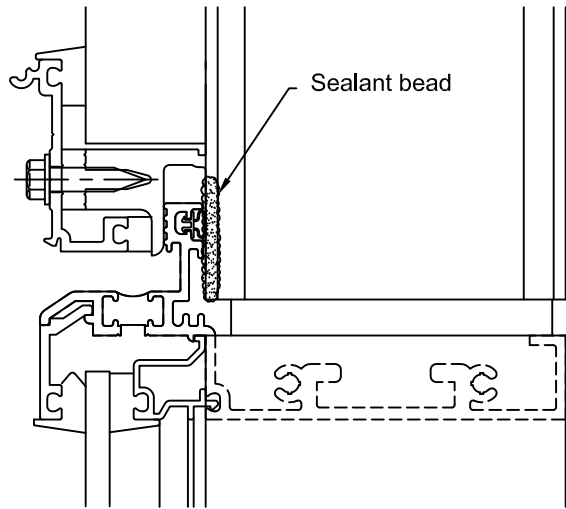
1600 SS
PRE-GLAZED
INSTALLATION
INSTRUCTIONS

Product Engineering & Development

95505-10
06/04/10

INSTALL SEAL AT UNIT INTERSECTION

Just prior to the installation of the next unit, at a 4-way intersection, run a 1" long bead of sealant along the vertical gasket at the bottom of the unit previously installed.



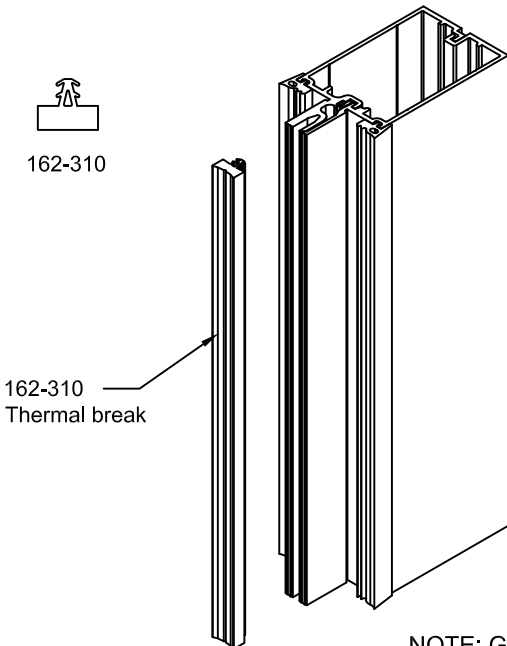
INSTALL 162-310 THERMAL BREAK AT VERTICALS

Do not stretch when removing from coil, carton and during installation.

Insert thermal break (162-310) along the full length of the vertical mullion tongue and trim flush at top and bottom of part except at bottom of typical units at expansion horizontals. Extend the thermal separator 1" beyond the notched tongue at this area and remove 1" of the dart at the bottom.

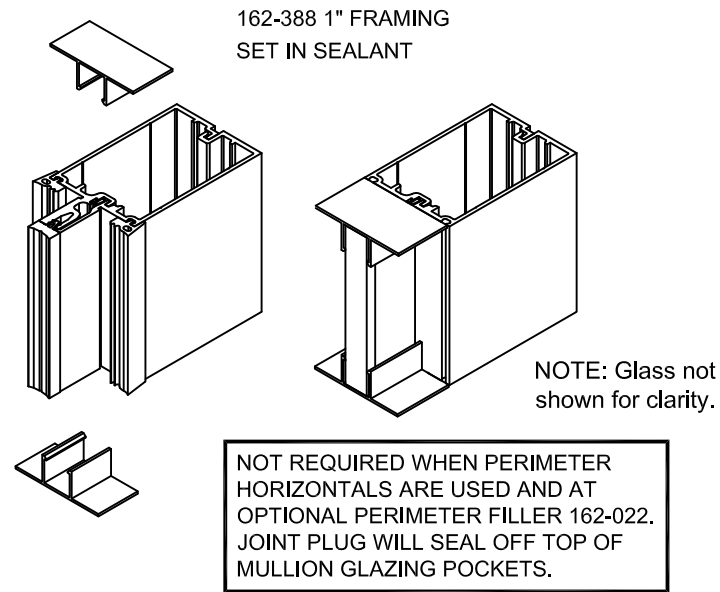
At top of unit under mullion cap, pull back thermal separator and apply sealant inside tongue race and push thermal separator into place. Seal all around top of thermal separator to mullion cap.

The 162-310 thermal separator is not required at mullions where the 169-200 thermal separator has been applied to the corresponding vertical pressure plate as noted on sheet 2.



NOTE: Glass not shown for clarity.

INSTALL HEAD AND SILL END CAPS WHERE APPLICABLE

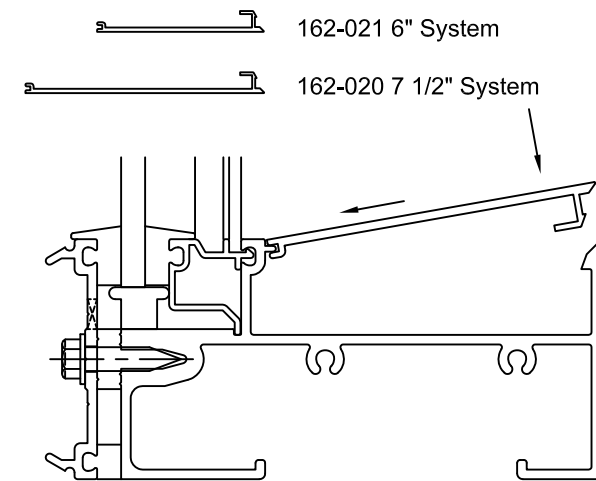


INSTALL INTERIOR FILLERS WHERE APPLICABLE

Fillers used at exposed head and sill areas only.

Sill shown, head opposite.

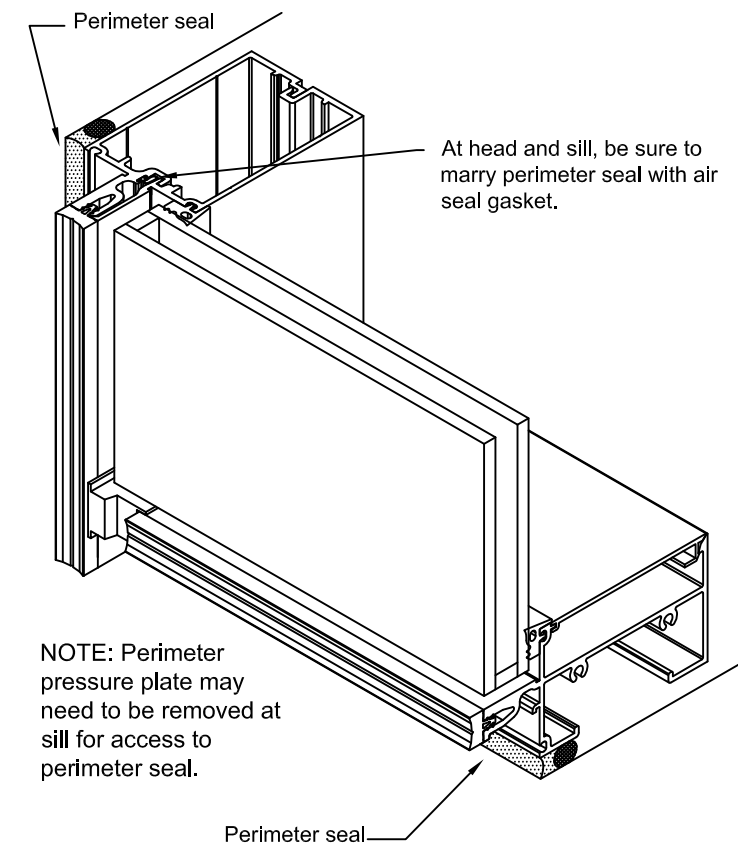
Perimeter horizontal shown, other similar.



**PERIMETER SEAL AT FACE OF MULLION TUBES
OPTIONAL**

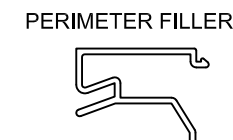
Apply backer rod and primary perimeter seal as shown where specified. Please note this seal must be stopped and started 3" above and below the expansion horizontal. Area will be completed after the jamb patch is applied. All surfaces and grooves must be cleaned and sealant applied per the sealant manufacturer's recommendations. Tool sealant.

Perimeter seals required at pressure plates will be completed on a later step.



PERIMETER FILLERS

NOTE: Install perimeter fillers after perimeter seal at the face of the mullion tube has been applied. Reference sheet 5 and approved shop drawings.

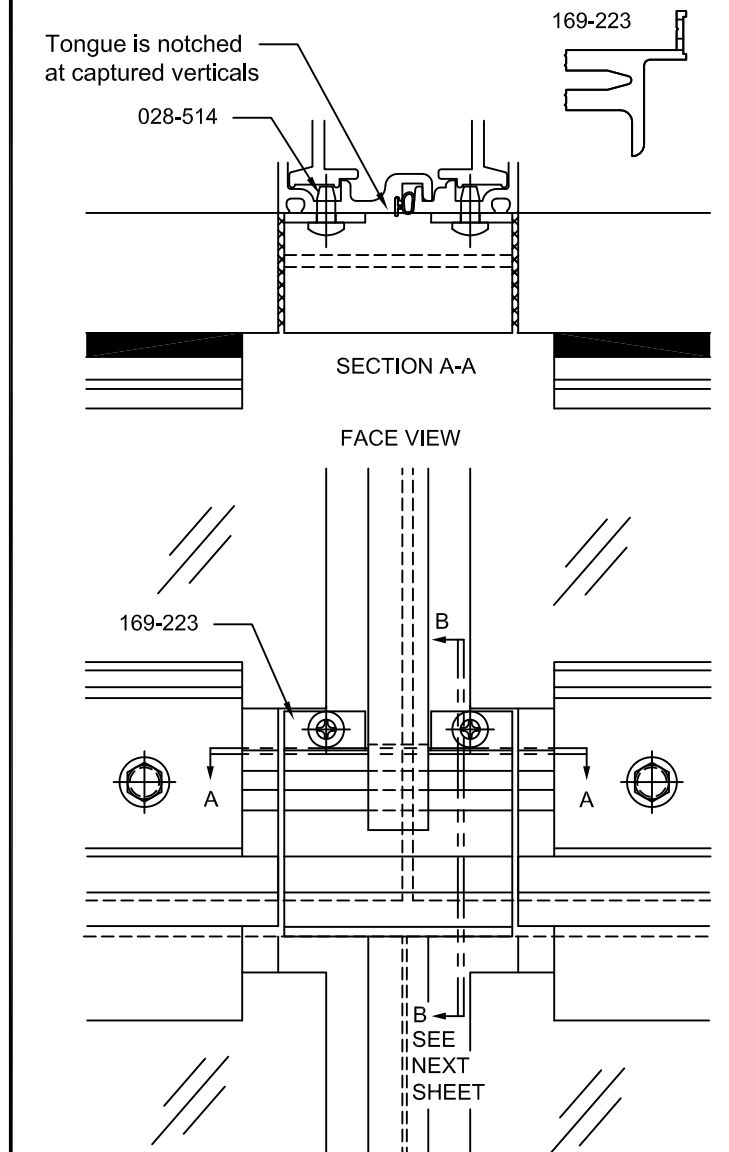


CONFIDENTIAL AND PROPRIETARY INFORMATION
KAWNEER COMPANY INC.

THESE DRAWINGS ARE THE SOLE AND EXCLUSIVE PROPERTY OF KAWNEER AND CONTAIN SENSITIVE, PRIVILEGED OR CONFIDENTIAL INFORMATION WHICH MAY BE USED ONLY FOR ITS BENEFIT. THE DISCLOSURE OF THESE DRAWINGS TO UNAUTHORIZED PERSONS IS STRICTLY PROHIBITED. THIS DOCUMENT AND ALL COPIES MUST BE RETURNED UPON DEMAND.
© COPYRIGHT KAWNEER COMPANY, INC., 2009

INSTALL 169-223 JOINT PLUGS AT EXPANSION HORIZONTALS

Apply sealant at face of mullion along vertical air seal gasket below notched tongue and tool flat. Apply sealant across back of screw hole legs, on both side of joint plug completely and seal bottom of mullion tongue from front to back and along vertical air seal gasket. Install joint plug with two 028-514 screws into face of mullion. Tool sealant all around across joints and over screw heads.



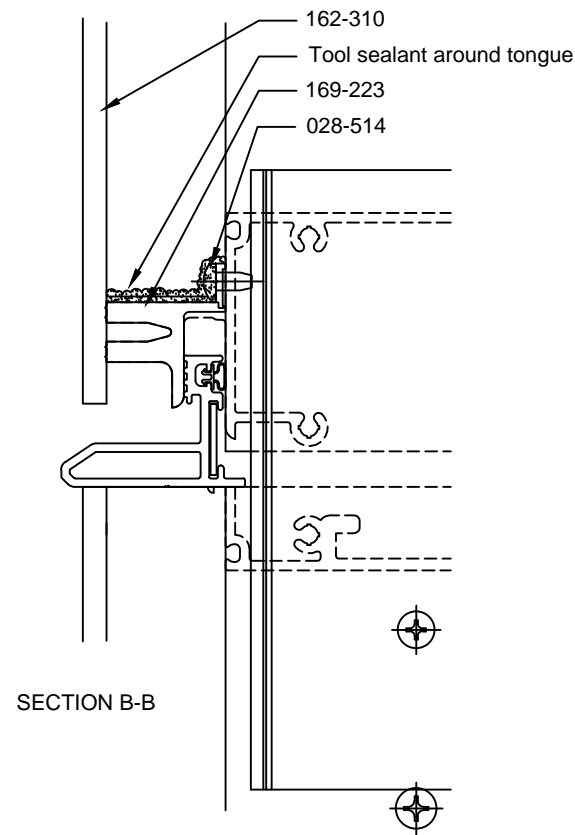
1600 SS
PRE-GLAZED
INSTALLATION
INSTRUCTIONS

Product Engineering & Development

95505-019
04/26/13

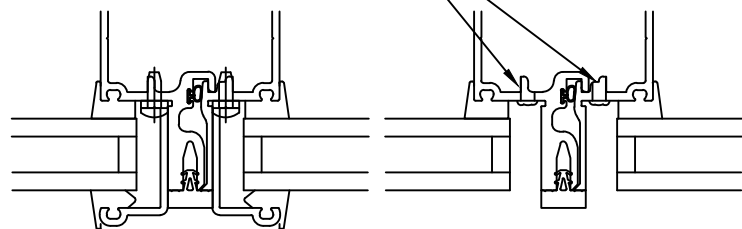
INSTALL 169-223 JOINT PLUGS AT EXPANSION HORIZONTALS

Reference note on previous page.



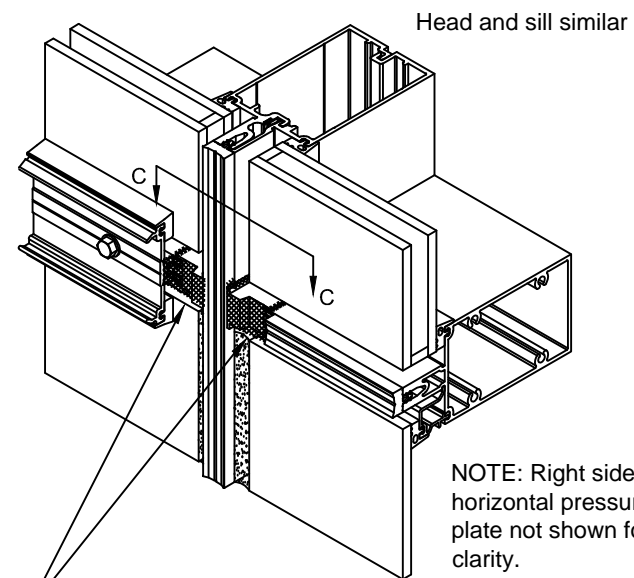
REMOVE GLAZING TEMPS

Remove 169-232 glazing temps at 1" infill areas. Seal and tool over holes in glazing pocket.



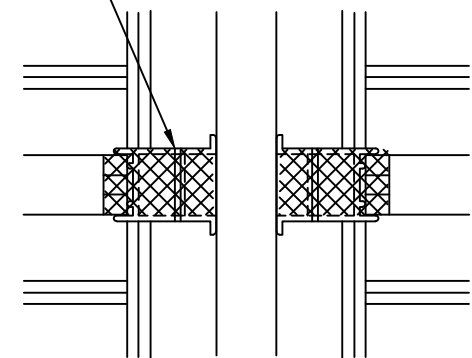
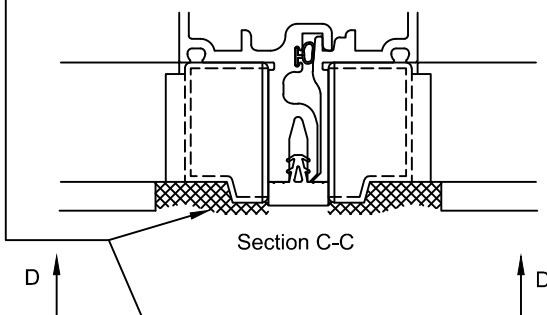
INSTALL VERTICAL EXTERIOR PRESSURE PLATES

Intermediate joint plugs



Just before installing vertical pressure plates apply a generous amount of sealant to the joint plug face filling joints as shown.

Clean joint per sealant manufacturer's recommendations

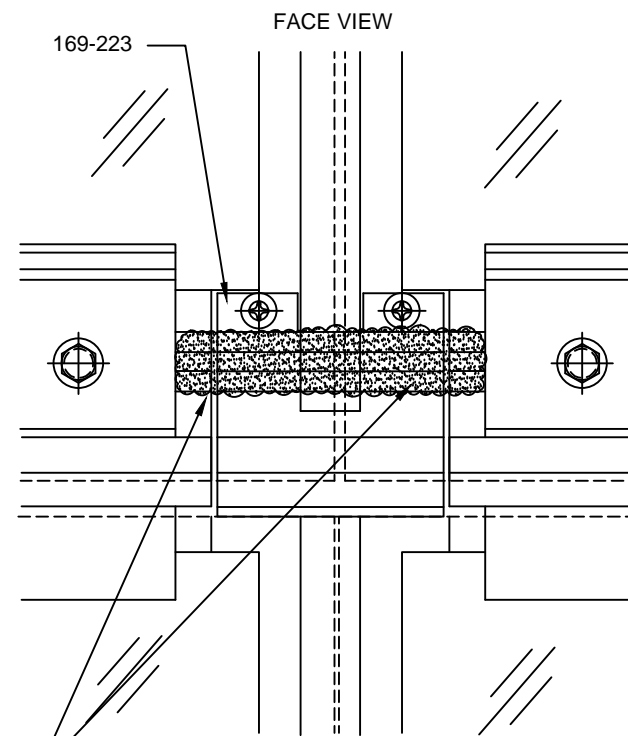


Section D-D

INSTALL VERTICAL EXTERIOR PRESSURE PLATES

Expansion horizontal joint plugs

Clean joint per sealant manufacturer's recommendations



Just before installing vertical pressure plates apply a generous amount of sealant to the joint plug tongue face, filling screw race and joints as shown. Pull up thermal separator and seal behind.

CONFIDENTIAL AND PROPRIETARY INFORMATION
KAWNEER COMPANY INC.

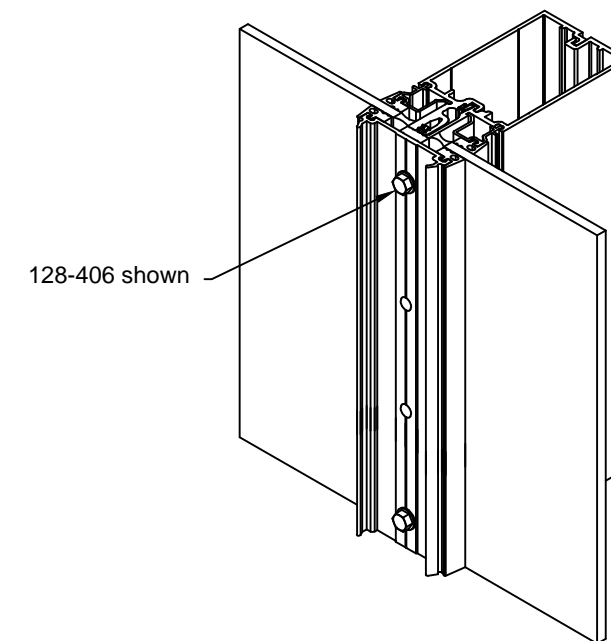
THESE DRAWINGS ARE THE SOLE AND EXCLUSIVE PROPERTY OF KAWNEER AND CONTAIN SENSITIVE, PRIVILEGED OR CONFIDENTIAL INFORMATION WHICH MAY BE USED ONLY FOR ITS BENEFIT. THE DISCLOSURE OF THESE DRAWINGS TO UNAUTHORIZED PERSONS IS STRICTLY PROHIBITED. THIS DOCUMENT AND ALL COPIES MUST BE RETURNED UPON DEMAND.
© COPYRIGHT KAWNEER COMPANY, INC., 2009

INSTALL VERTICAL EXTERIOR PRESSURE PLATES

Install vertical pressure plates. Reference sheet 8 for additional information for the installation of pressure plate screws at 9" on center.

Align bottom of pressure with elevation sill and top of pressure plate with elevation head. See next sheet for vertical pressure plates at expansion joints.

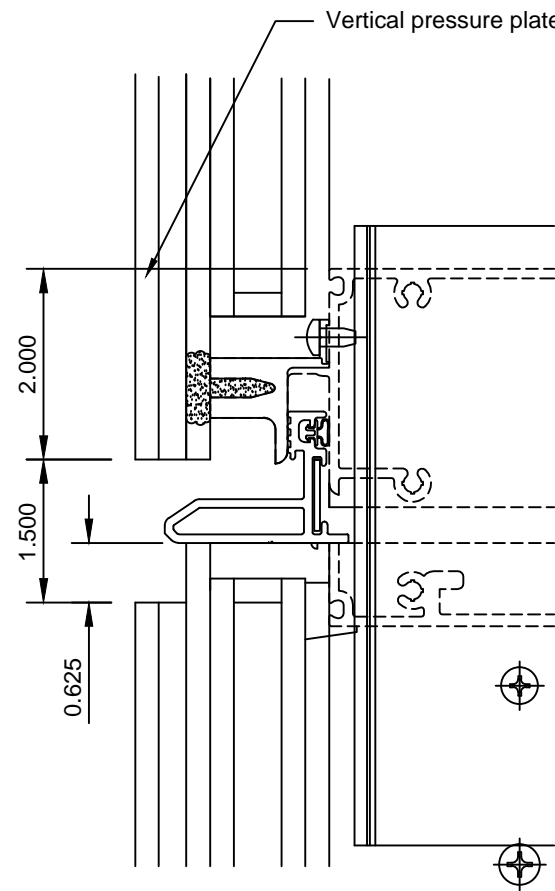
Note - The torque limit tool was designed to be used with a hand driven device. The tool can be adapted to a drill motor if used at a maximum speed of approx. 300 rpm. Higher speeds can cause overheating and affect the accuracy. After approx. 1 hour of tool usage check torque settings with a torque wrench.



INSTALL VERTICAL EXTERIOR PRESSURE PLATES

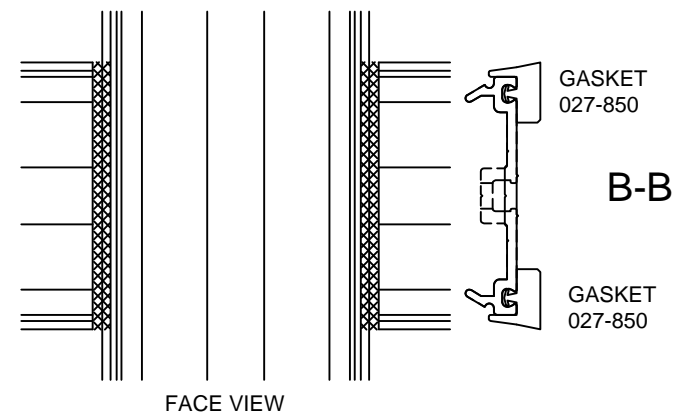
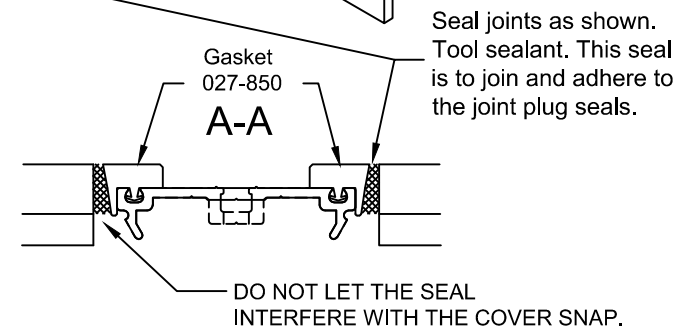
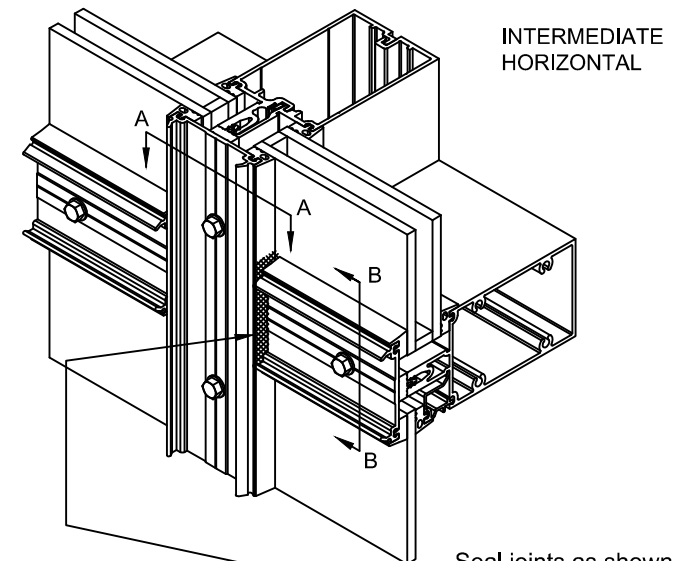
Install vertical pressure plates between expansion horizontals. Reference sheet 8 for additional information for the installation of pressure plate screws at 9" on center.

Bottom of pressure is to be located 2" below the top of the unit sill horizontal. The top of the pressure plate is located 5/8" below the cap or top of mullion at the unit head.



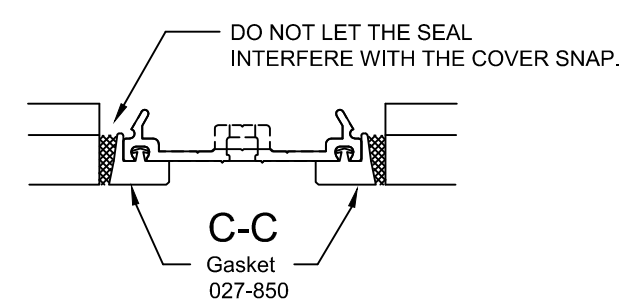
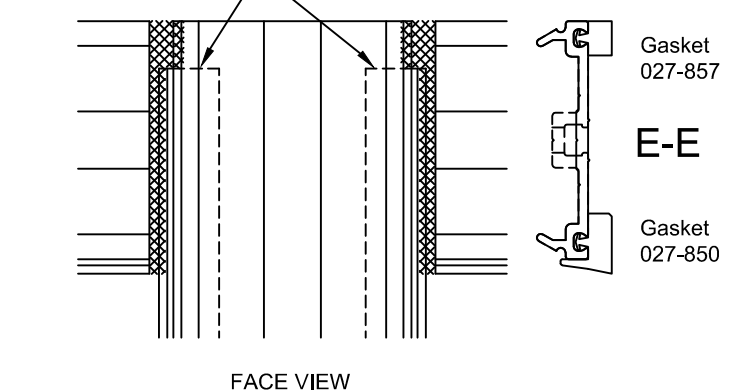
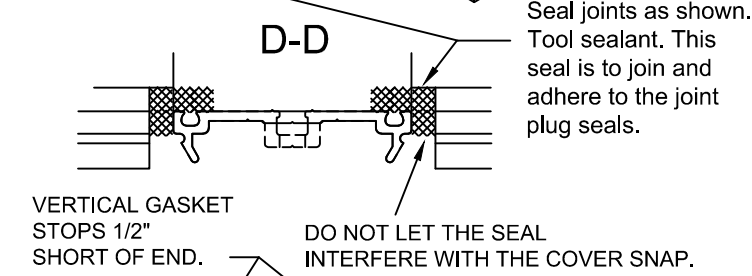
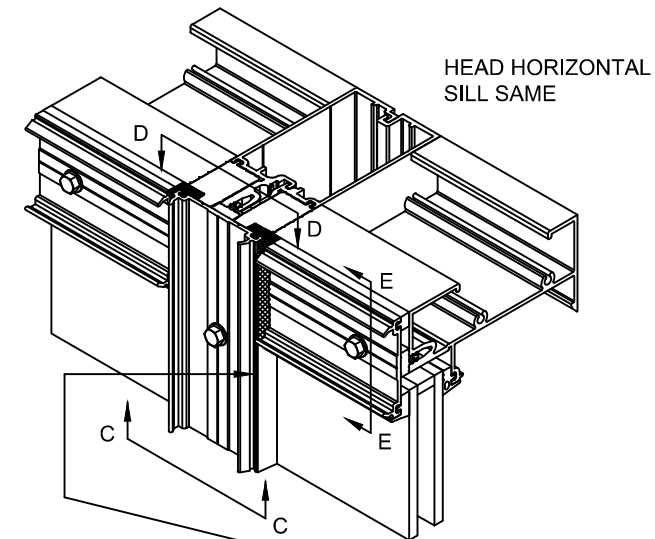
INSTALL EXTERIOR PRESSURE PLATES

Clean joint per sealant manufacturer's recommendations



INSTALL EXTERIOR PRESSURE PLATES

Clean joint per sealant manufacturer's recommendations

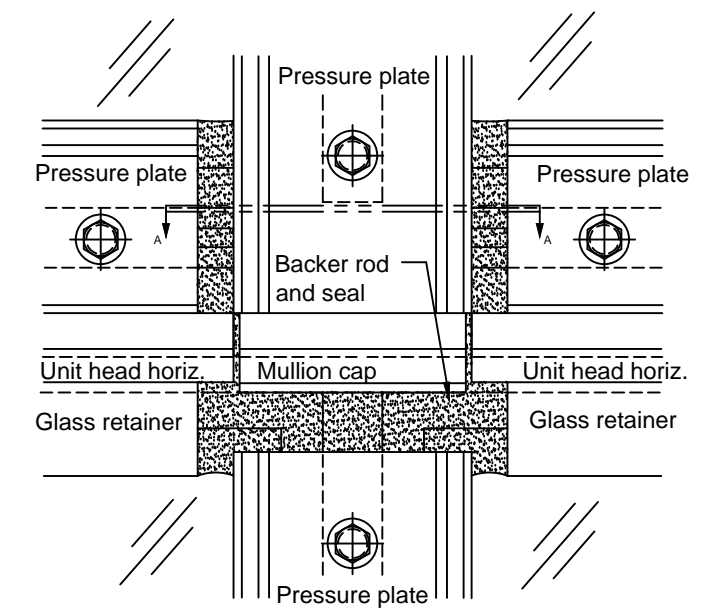
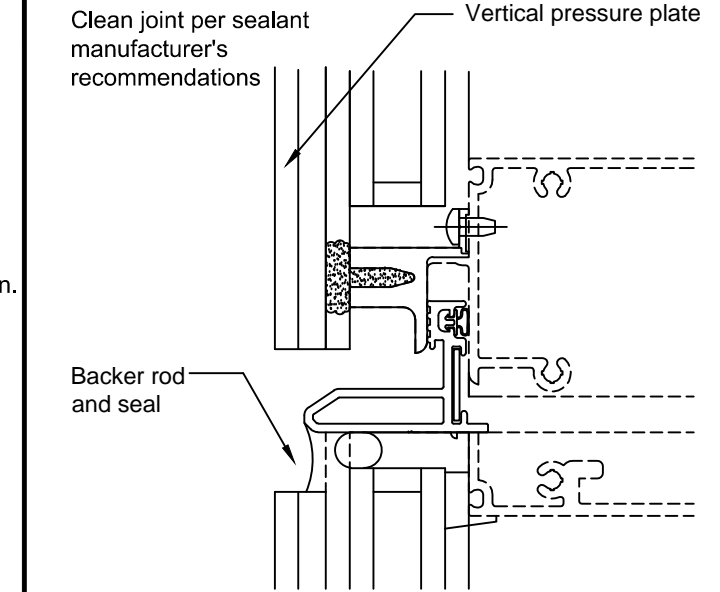


CONFIDENTIAL AND PROPRIETARY INFORMATION
KAWNEER COMPANY INC.

THESE DRAWINGS ARE THE SOLE AND EXCLUSIVE PROPERTY OF KAWNEER AND CONTAIN SENSITIVE, PRIVILEGED OR CONFIDENTIAL INFORMATION WHICH MAY BE USED ONLY FOR ITS BENEFIT. THE DISCLOSURE OF THESE DRAWINGS TO UNAUTHORIZED PERSONS IS STRICTLY PROHIBITED. THIS DOCUMENT AND ALL COPIES MUST BE RETURNED UPON DEMAND.
© COPYRIGHT KAWNEER COMPANY, INC., 2009

INSTALL EXTERIOR PRESSURE PLATES

At the top of the pressure plate at expansion horizontals, apply 1/2" backer rod between pressure plate and cap. Seal cap to pressure plate and tie seal to ends of glass retainer and vertical pressure plate. Do not let the seal interfere with the cover snap. At RTS application, apply sealant into vertical tongue and plug top of tongue prior to sealing pressure plate to cap. Tool sealant.



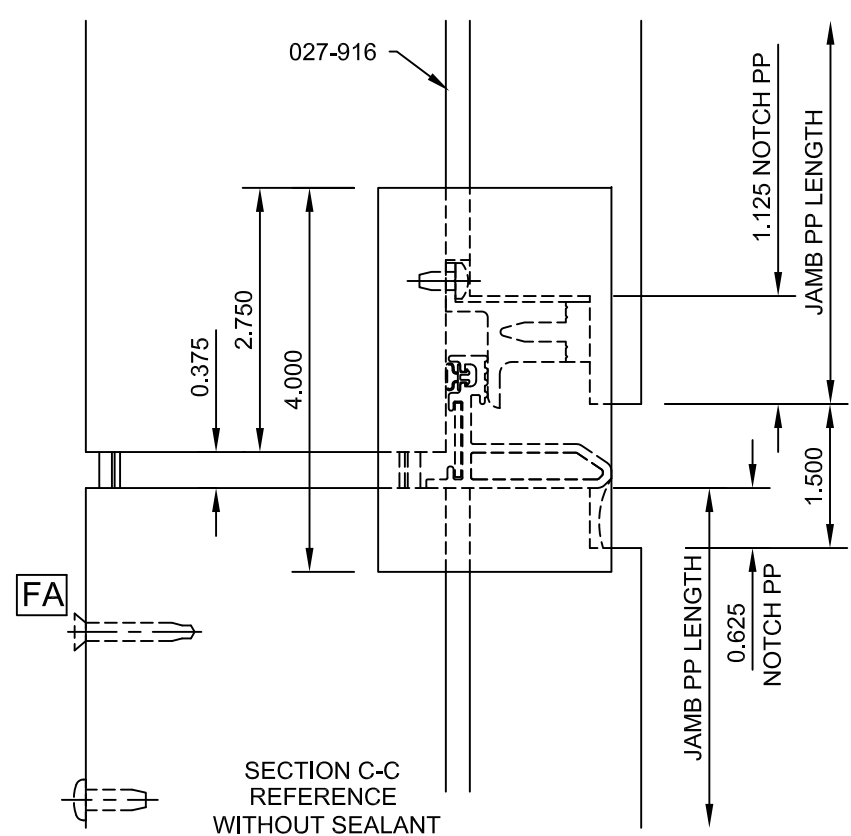
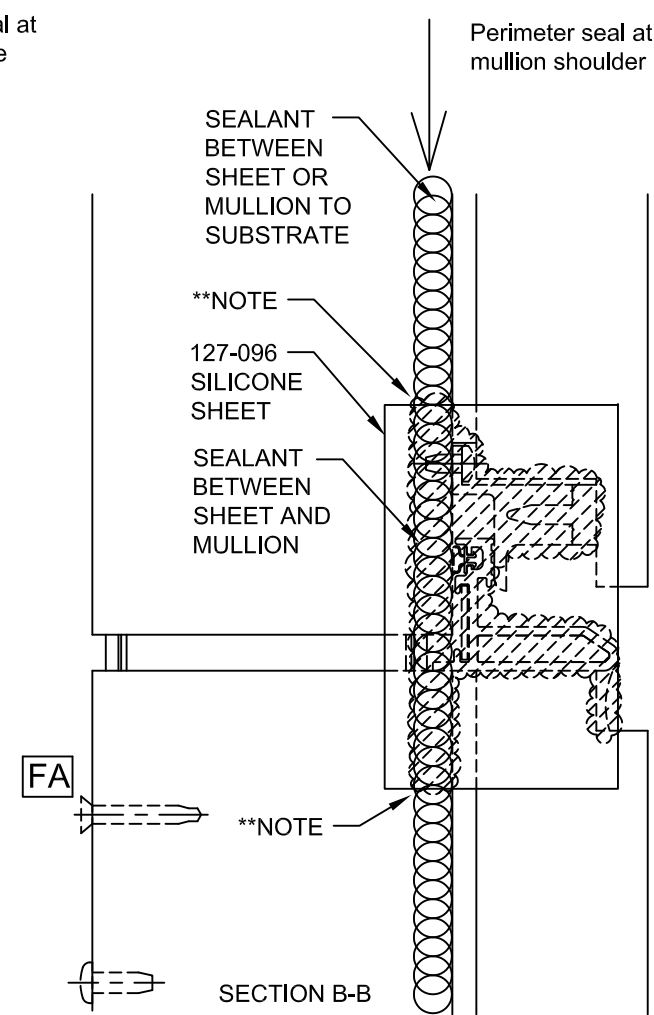
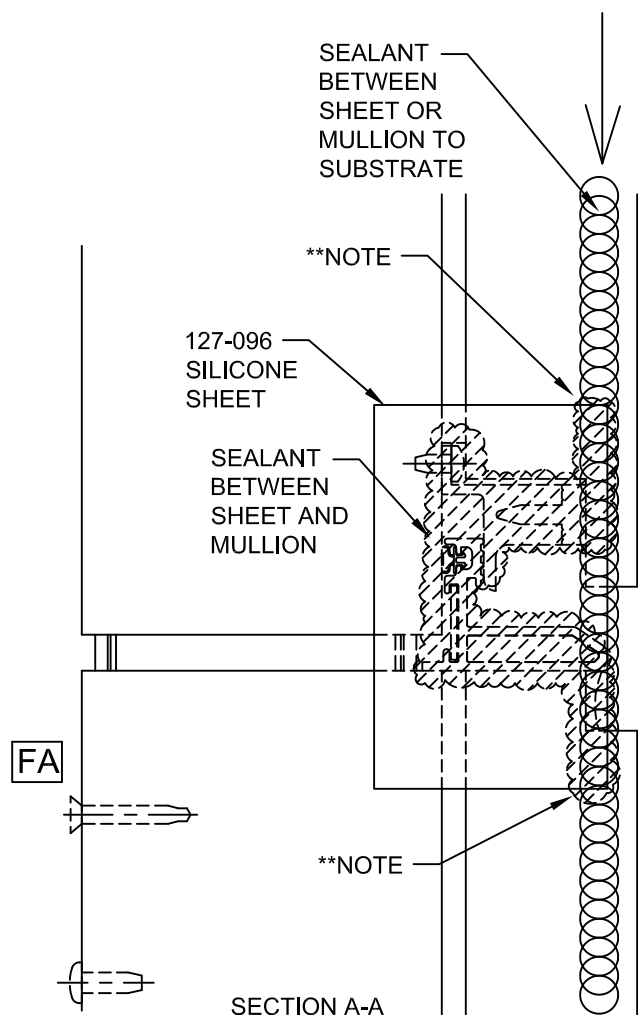
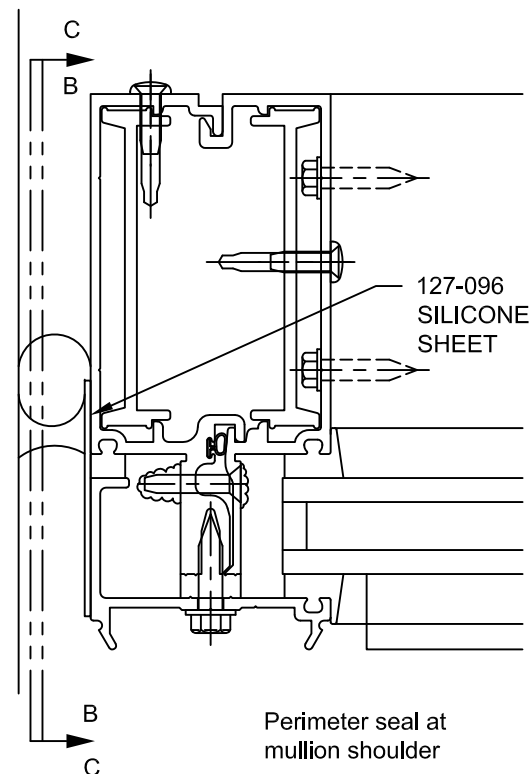
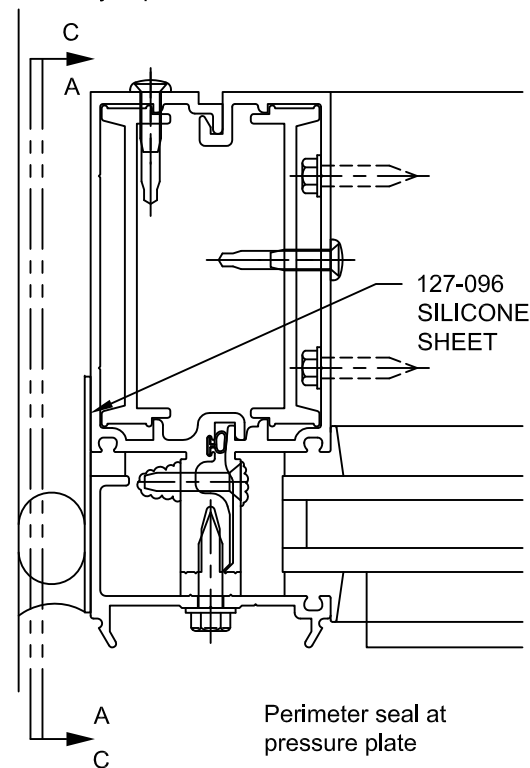
1600 SS
PRE-GLAZED
INSTALLATION
INSTRUCTIONS

Product Engineering & Development

95505-17
05/18/12

APPLY 127-096 SILICONE SHEET PATCH AT JAMBS AT EXPANSION HORIZONTALS

At jambs at expansion horizontals, clean area per manufacturer's recommendations. Apply sealant with a spatula to jamb side of mullion at joint per application required. Apply a piece of 127-096 (4" wide x 2 1/2" long) silicone sheet across end of expansion joint and press firmly in place.

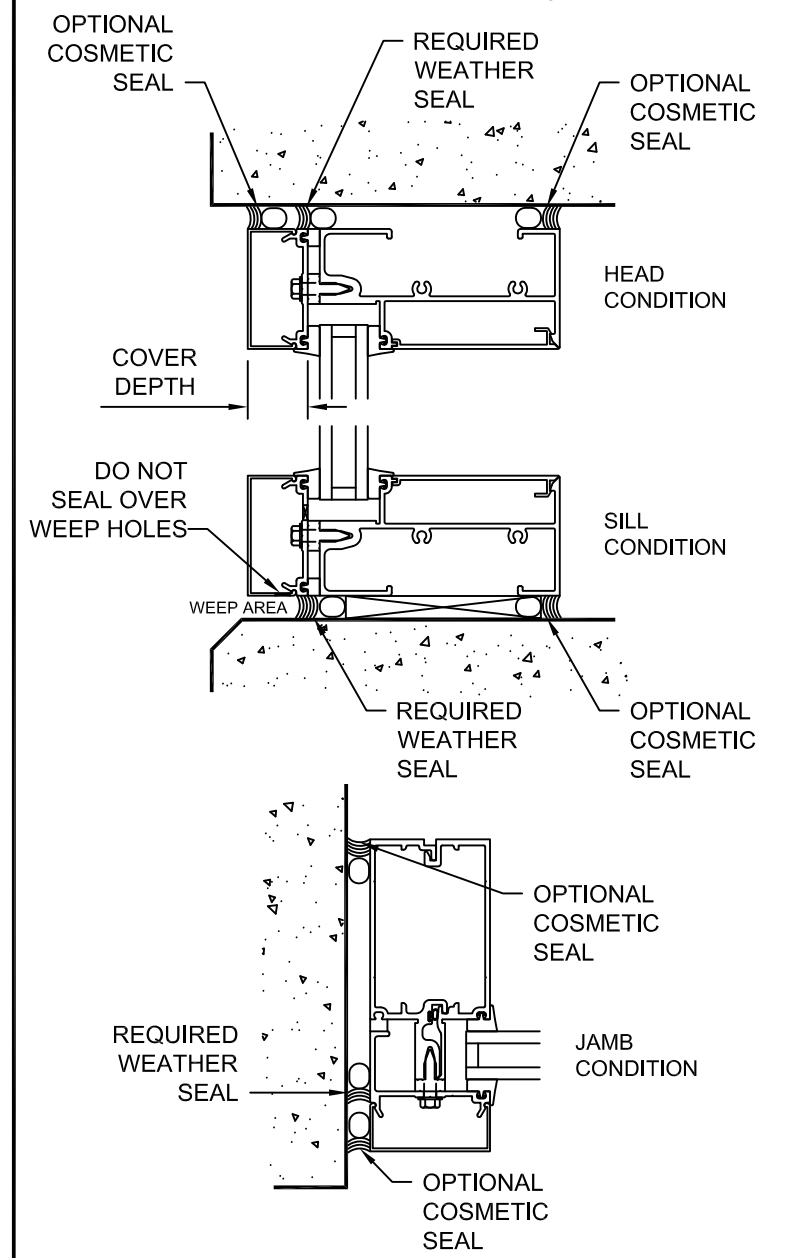


CONFIDENTIAL AND PROPRIETARY INFORMATION
KAWNEER COMPANY INC.

THESE DRAWINGS ARE THE SOLE AND EXCLUSIVE PROPERTY OF KAWNEER AND CONTAIN SENSITIVE, PRIVILEGED OR CONFIDENTIAL INFORMATION WHICH MAY BE USED ONLY FOR ITS BENEFIT. THE DISCLOSURE OF THESE DRAWINGS TO UNAUTHORIZED PERSONS IS STRICTLY PROHIBITED. THIS DOCUMENT AND ALL COPIES MUST BE RETURNED UPON DEMAND.
© COPYRIGHT KAWNEER COMPANY, INC., 2009

INSTALL PERIMETER SEALS AT PRESSURE PLATE

Perimeter weather seals are installed at the pressure plate location as detailed below. (This seal should be installed before covers deeper than 3/4" are used) Exterior cosmetic seals at the cover may be applied at the head and jambs only. Sill covers must remain open to allow water drainage to the exterior.



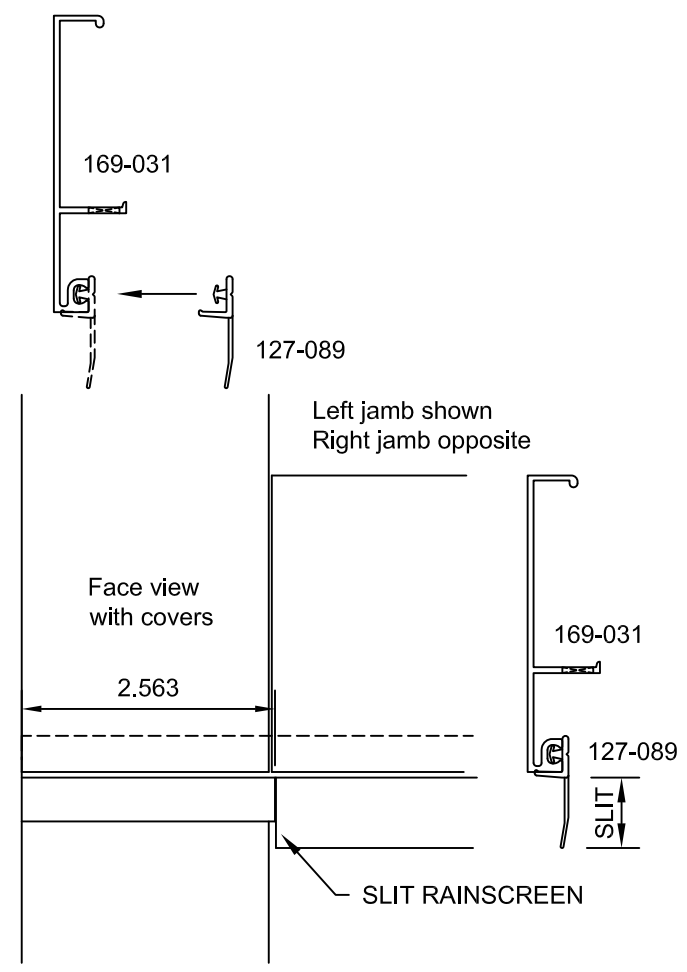
1600 SS
PRE-GLAZED
INSTALLATION
INSTRUCTIONS

Product Engineering & Development

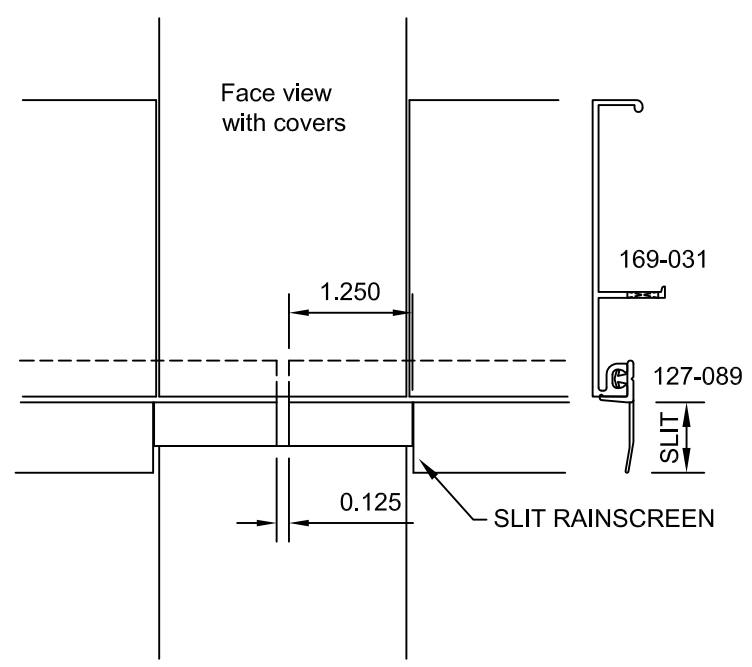
95505-019
04/26/13

APPLY 127-089 RAINSCREEN GASKET TO 169-031 HORIZONTAL COVERS

At left jamb units, gasket length is DLO + 3 11/16". Slit flap 2 9/16" from the left end and slit flap 1 1/4" from the right end for expansion joint movement. Right jamb units are opposite.

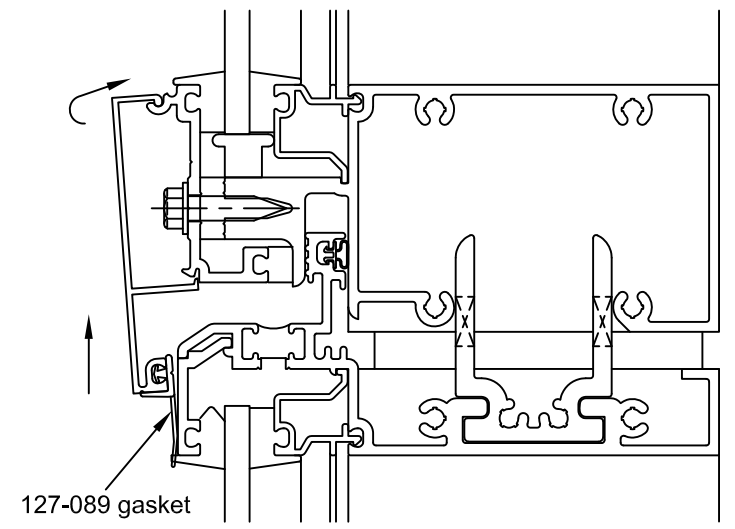


At intermediate units, gasket length is DLO + 2 3/8". Slit flap at both ends 1 1/4".

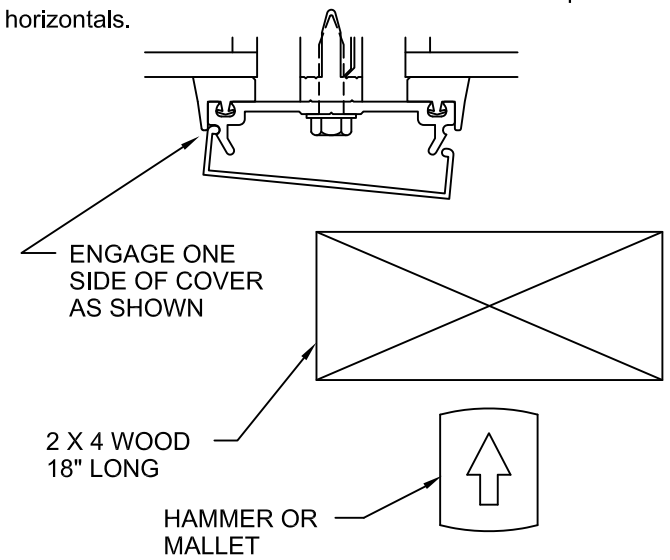


INSTALL EXTERIOR COVERS

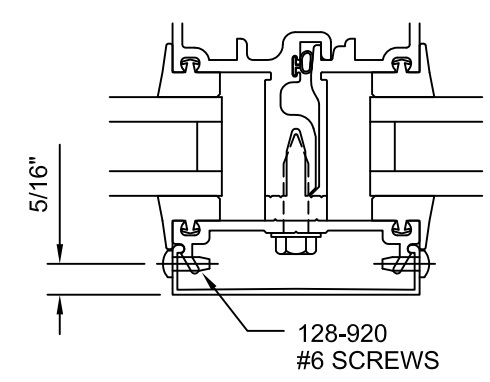
Care must be taken to avoid damage to covers during installation. Use a 18" long piece of 2 x 4 wood along with a hammer or mallet to seat the cover. Install expansion horizontal covers first due to 127-089 extensions at verticals. When applying cover, locate snap at top in lower engagement area and rotate lower half of the cover against glass. Slide cover up keeping hook leg in towards the bottom of the pressure plate. Rotate top over pressure plate engagement leg and snap into place.



Apply vertical covers. The 127-089 gasket extension is to be on the interior side of the bottom of the vertical cover at expansion horizontals.



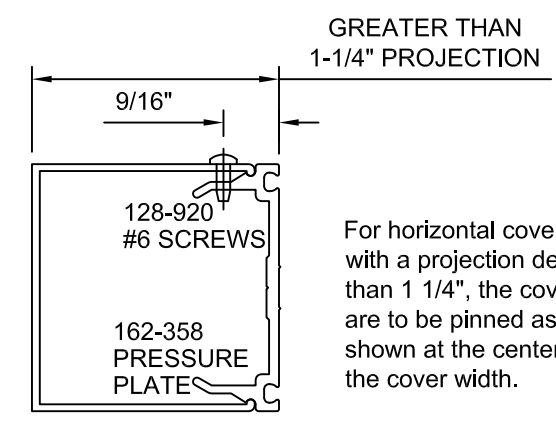
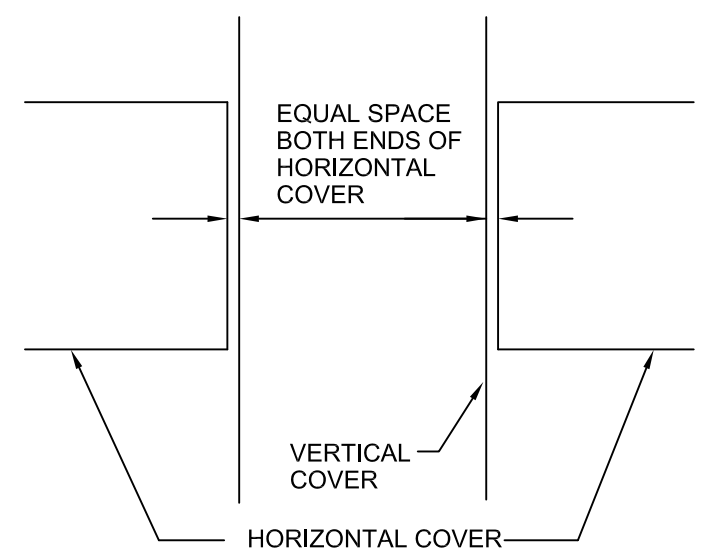
Pinning of all vertical covers is required for both sides. Drill a .106 dia. hole (#36 drill) and install 128-920 screws #6 x 3/8" pan head type b locate pinning at a horizontal closest to the cover height center. (ONE SIDE ONLY AT JAMBS)



INSTALL EXTERIOR COVERS

Apply horizontal covers.

INSTALL HORIZONTAL COVERS WITH THE WEEP HOLES DOWN



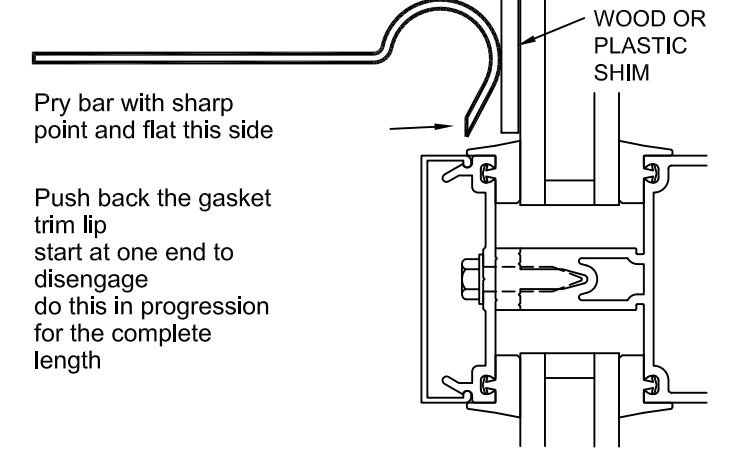
For horizontal covers with a projection deeper than 1 1/4", the covers are to be pinned as shown at the center of the cover width.

CONFIDENTIAL AND PROPRIETARY INFORMATION
KAWNEER COMPANY INC.

THESE DRAWINGS ARE THE SOLE AND EXCLUSIVE PROPERTY OF KAWNEER AND CONTAIN SENSITIVE, PRIVILEGED OR CONFIDENTIAL INFORMATION WHICH MAY BE USED ONLY FOR ITS BENEFIT. THE DISCLOSURE OF THESE DRAWINGS TO UNAUTHORIZED PERSONS IS STRICTLY PROHIBITED. THIS DOCUMENT AND ALL COPIES MUST BE RETURNED UPON DEMAND.
© COPYRIGHT KAWNEER COMPANY, INC., 2009

REMOVING COVERS

Covers can be saved if tolerances are not too tight and the cover is removed with extreme care



1600 SS
PRE-GLAZED
INSTALLATION
INSTRUCTIONS

Product Engineering & Development

95505-17
05/18/12