

INSTALLATION MANUAL

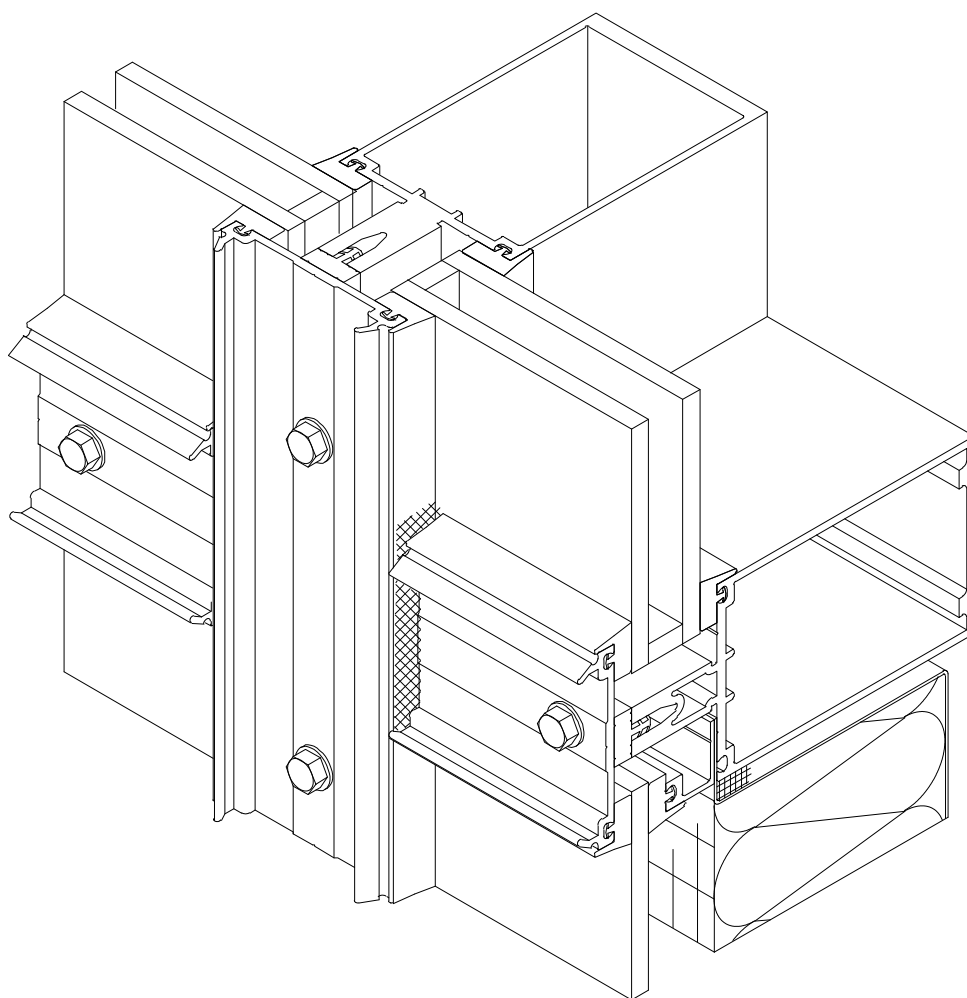


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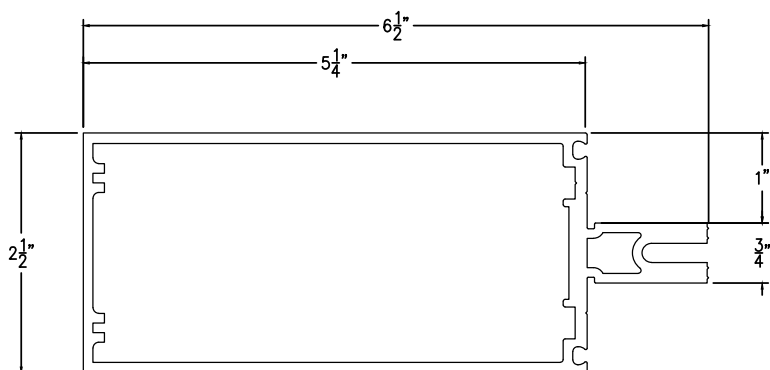
NOTE:

Drawings not shown to scale unless otherwise noted.

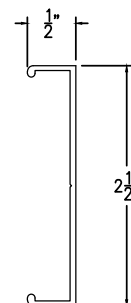
GENERAL NOTES

1. CW750 accepts 1", 1/2" & 1/4" infill.
2. Glass bite is 1/2" at verticals and horizontals. Glass sizes must be calculated from approved shop drawings.
3. Unless otherwise specified, it is recommended that silicone sealant be used for all internal seals.
4. 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.
5. Check openings
 - 5.1 Elevations and slabs must be within adjustment of anchoring system. Please see approved shop drawings for allowable adjustment.
 - 5.2 Anchoring surfaces of perimeter construction must be level and plumb within the adjustment limits of the head, sill and jamb.
6. Lay out anchor and mullion center lines
 - 6.1 Use wall lines established by the general contractor.
 - 6.2 On each floor lay out a reference line to establish in and out wall locations.
 - 6.3 Use column center lines established by the general contractor.
 - 6.4 On each floor lay out mullion and anchor center lines.
7. Install preset anchors if applicable per approved shop drawings.

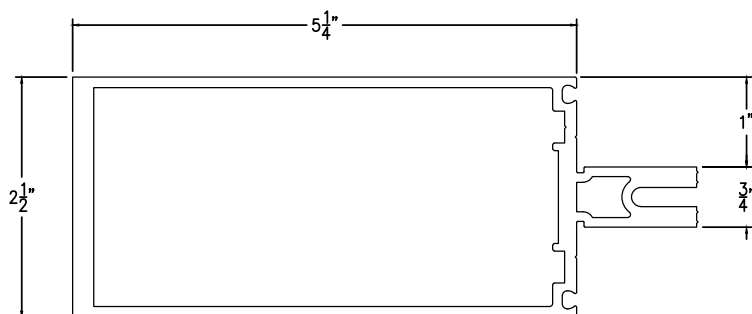
PARTS LIST



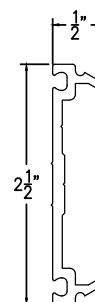
CW750-001
LIGHT MULLION



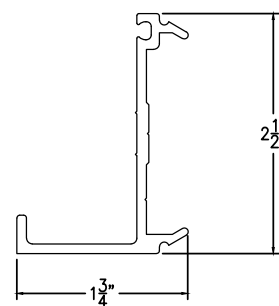
CW750-003
3/4" CAP



CW750-002
HEAVY MULLION

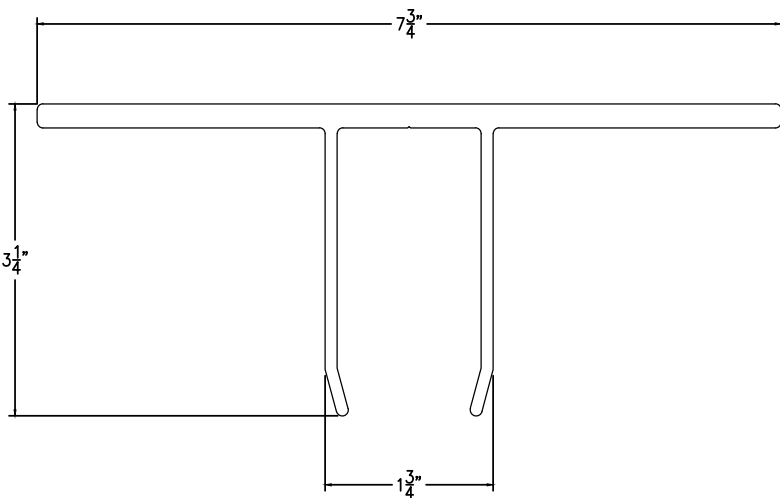


CW750-150
PRESSURE PLATE

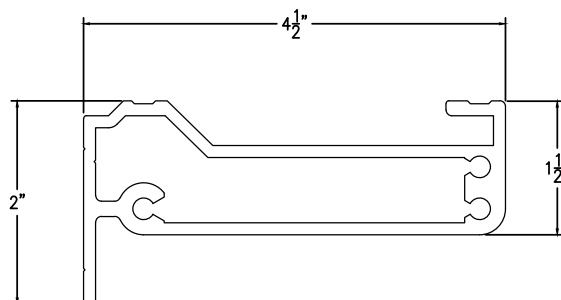


CW750-151
PERIMETER PRESSURE PLATE

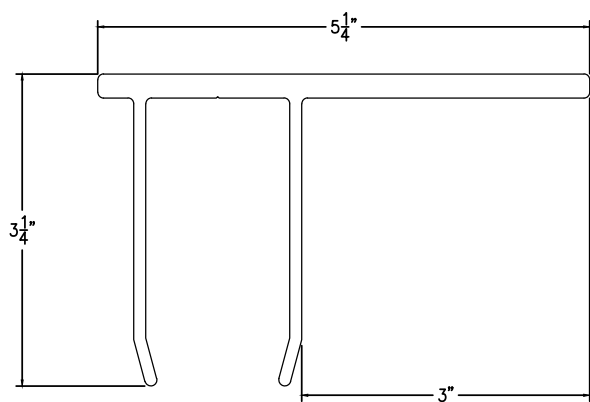
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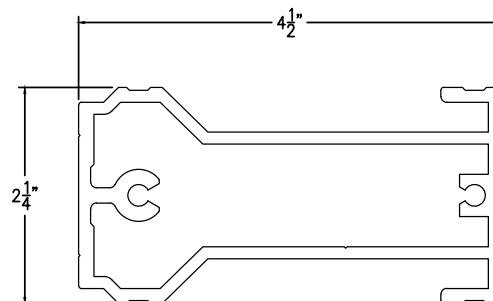
CW750-152
T-ANCHOR



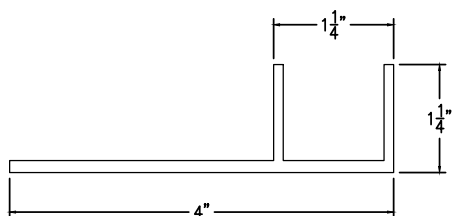
CW750-155
HEAD AND SILL SHEAR BLOCK



CW750-153
F-ANCHOR



CW750-154
SHEAR BLOCK

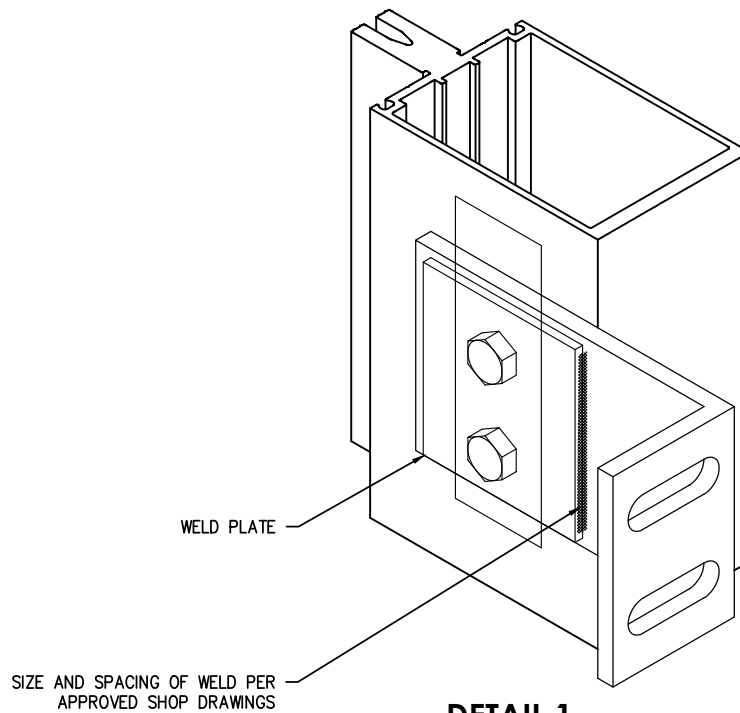


CW750-156
PERIMETER F-ANCHOR

STEP 1:

PROCEDURE:

- Attach anchors to mullions where applicable
- Anchor prep may be field or shop fabricated. Please see approved shop drawings for job specific method.
- Standard anchor prep is thru-bolted at intermediate verticals and tapping plates are used at jamb verticals. Please see approved shop drawings for correct method.
- When welding anchors, protect installed glass and metal from weld splatter.



DETAIL 1

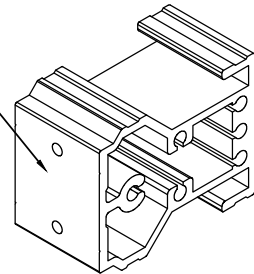
NOTE: Do not over tighten anchor connections. Tighten to a "snug tight" position with parts brought into good contact. Be sure any spring type lock washers are compressed and then tighten approximately 1/2" turn more.

STEP 2:

PROCEDURE:

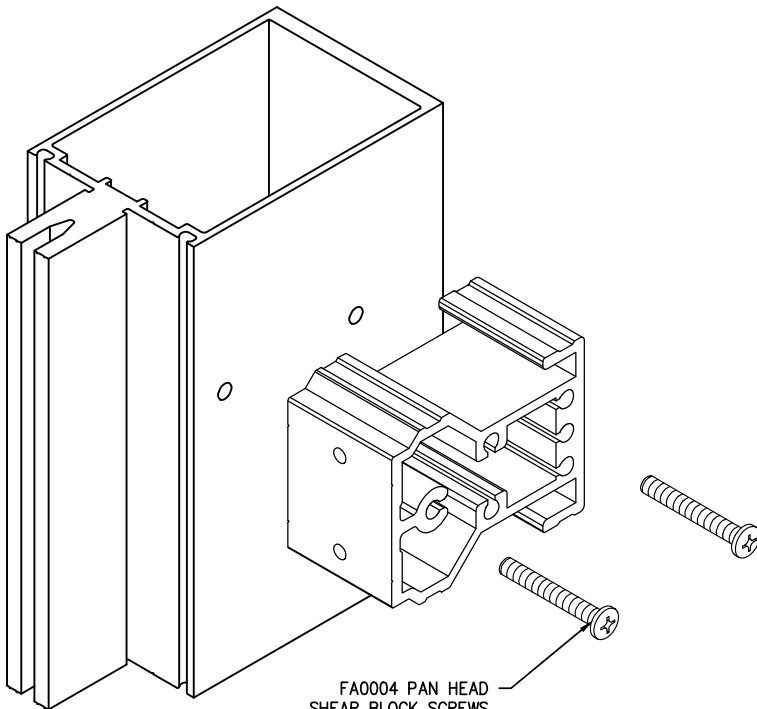
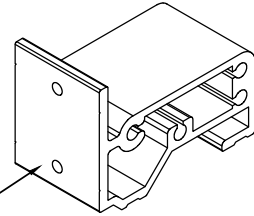
- Attach shear blocks.
- Anchor fastener locations per approved shop drawings.
- Structural integrity of anchor and fasteners must be checked by engineers.
- Head and sill shear blocks/anchors where applicable and as shown in detail 4

TYPICAL INTERMEDIATE SHEAR BLOCK
CW750-154

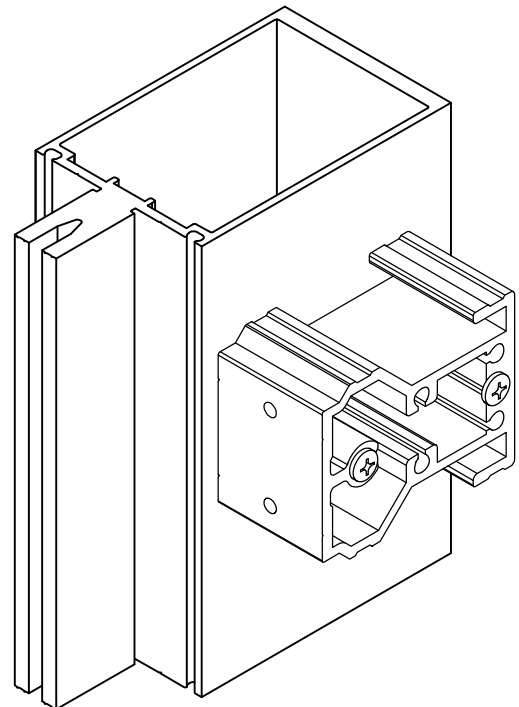


HEAD AND SILL SHEAR BLOCK
CW750-155

DETAIL 2



DETAIL 3



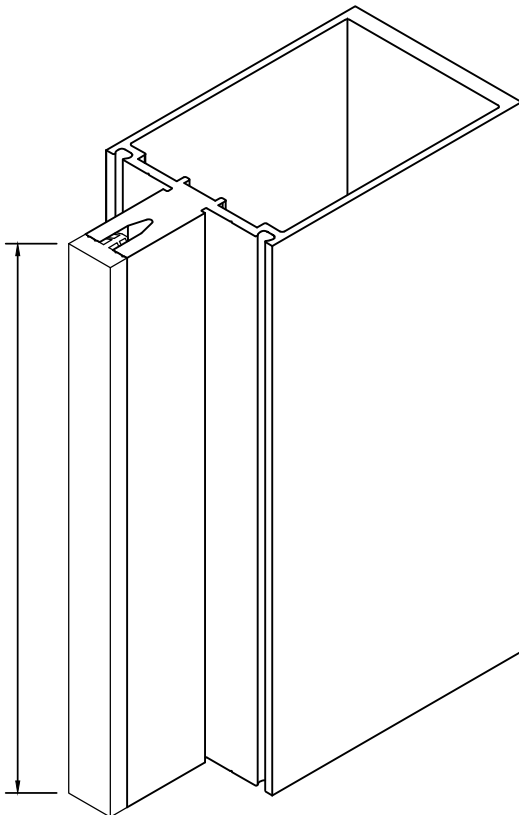
DETAIL 4

STEP 3:

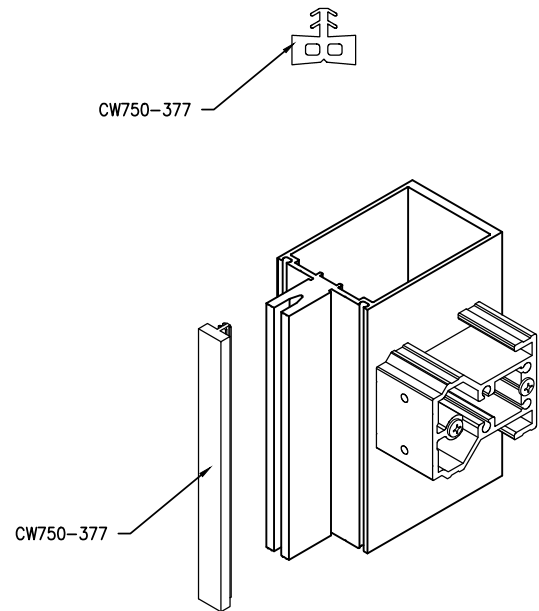
PROCEDURE:

- Install thermal break CW750-377
- Thermal break to be same length as vertical mullions as shown in detail 6.
- Thermal break to be 1/4" short at each of of horizontal mullions as shown in detail 7
- OPTION: To install thermal break after verticals and horizontals are installed

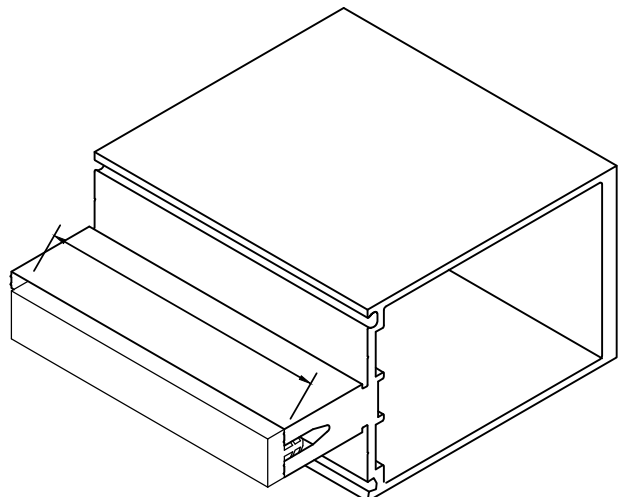
DETAIL 6



DETAIL 5



DETAIL 7

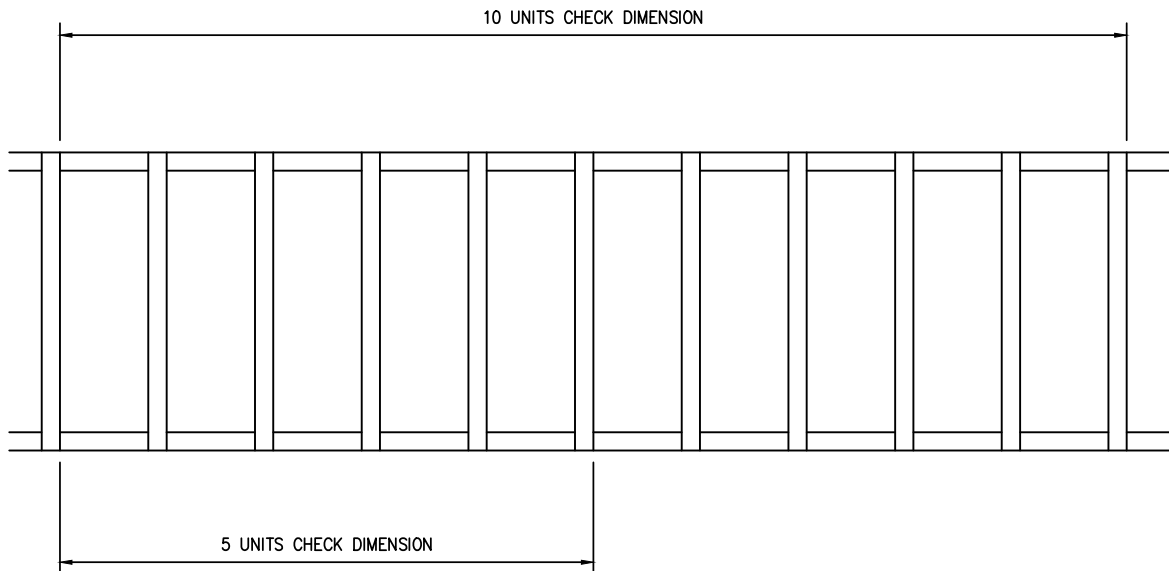


STEP 4:

PROCEDURE:

- Install vertical mullions
- Check overall frame dimensions about every 5 mullions on long runs to avoid dimension build-up

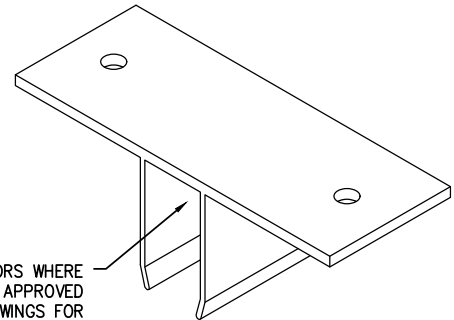
DETAIL 8



STEP 5:

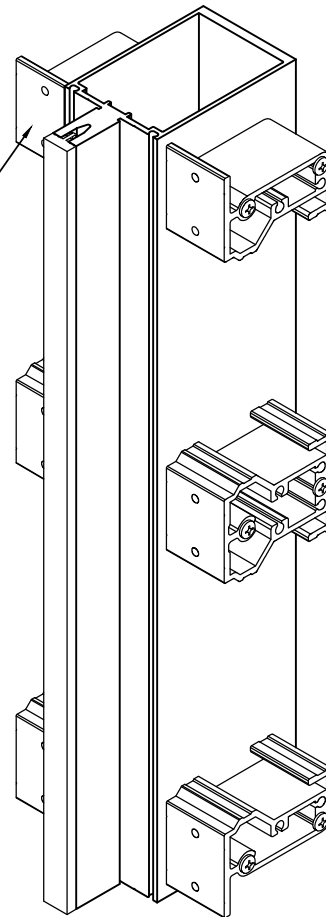
PROCEDURE:

- "F" and "T" anchors where applicable.
- Anchor locations as per approved shop drawings.
- At mullion jamb apply (2) screws as per approved shop drawings.

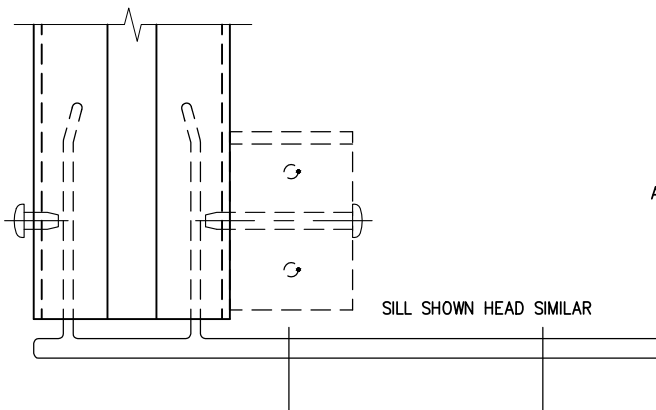
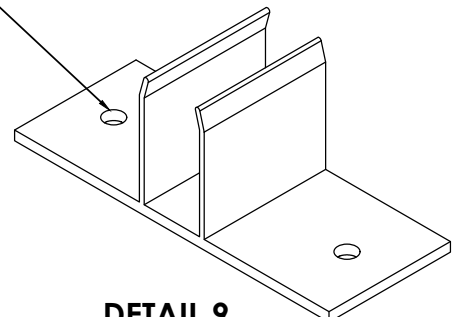


"F" OR "T" ANCHORS WHERE APPLICABLE. SEE APPROVED SHOP DRAWINGS FOR LOCATIONS

THESE SHEAR BLOCKS MAY NEED TO BE REMOVED TO INSTALL AN ANCHOR FASTENER THAT MIGHT BE LOCATED CLOSE TO THE MULLION



"F" AND "T" ANCHOR FASTENER LOCATIONS PER APPROVED SHOP DRAWINGS



DETAIL 10

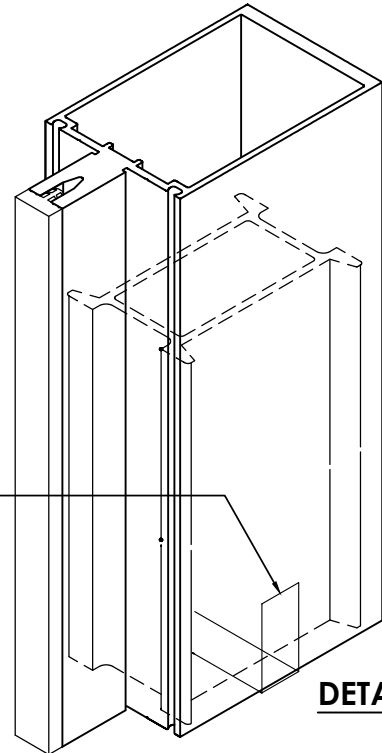
DETAIL 9

STEP 6:

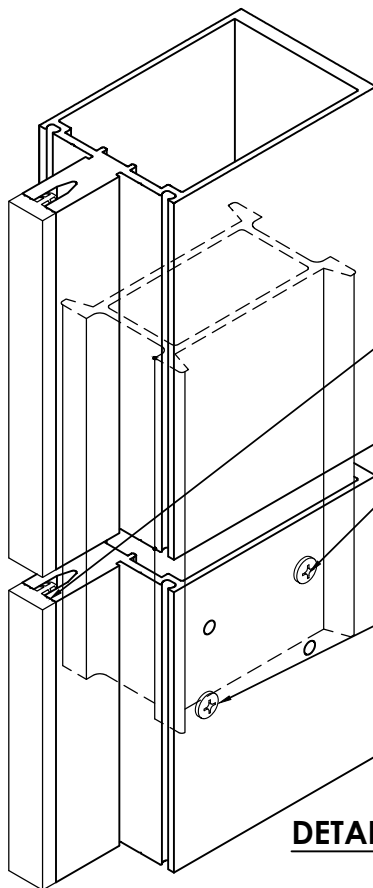
PROCEDURE:

- Vertical splice joints where applicable.
- Remove the tape and let the sleeve slide down to the factory applied stop screw

SLEEVE IS FACTORY TAPPED INTO THE BOTTOM OF THE TOP VERTICAL



DETAIL 11

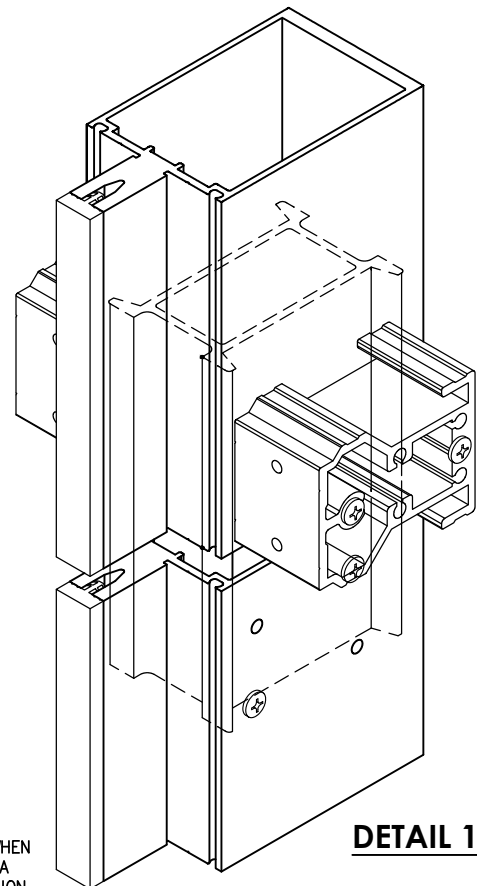


DETAIL 12

USE TEMPORARY SPACERS FOR JOINT DIMENSION

FIELD APPLIED FIXING SCREW #10 x 1 1/4" FLAT HEAD SELF DRILLING.

FIELD APPLIED FIXING SCREW #10 x 1 1/4" FLAT HEAD SELF DRILLING.



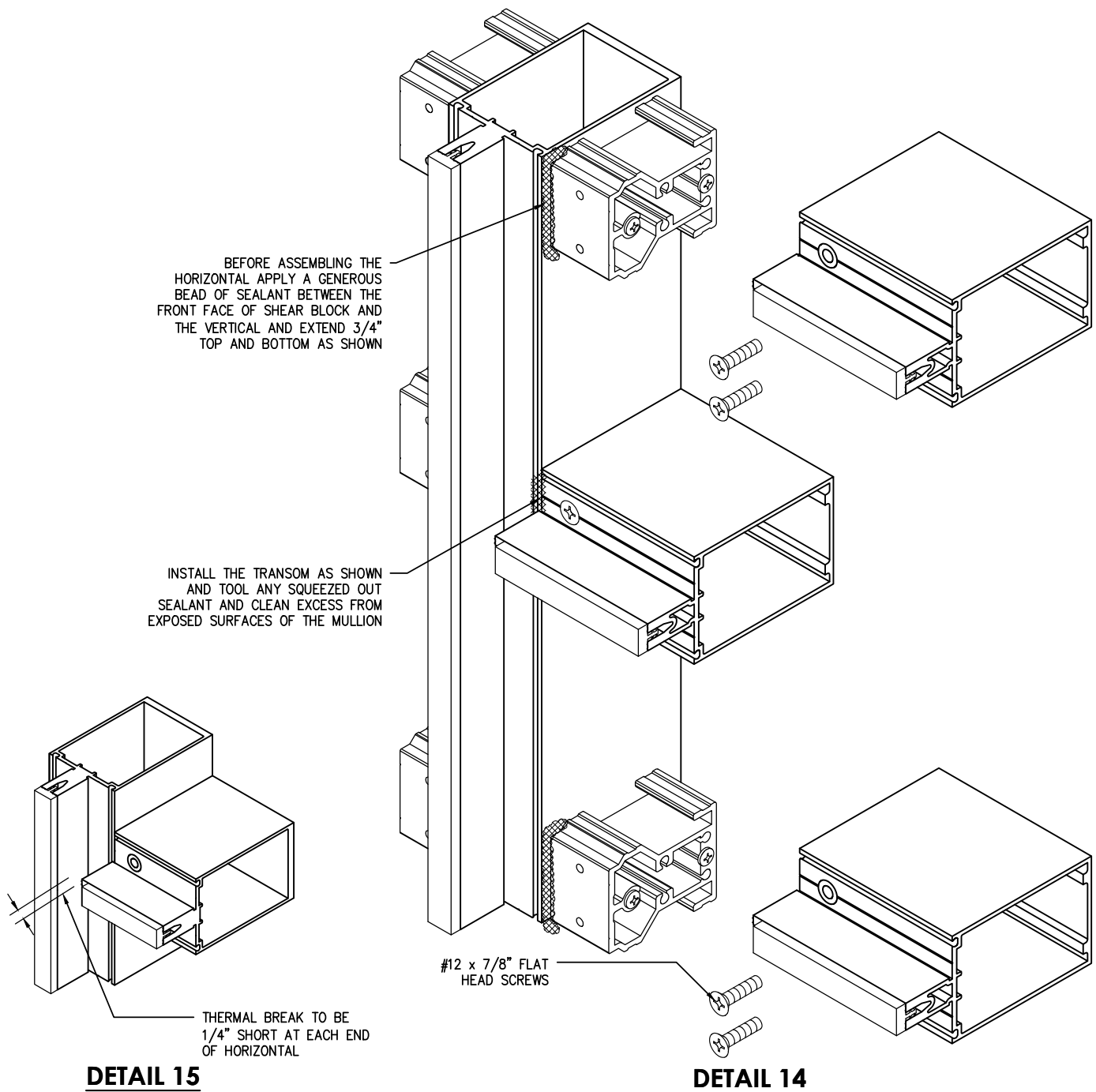
DETAIL 13

SPLICE JOINT WHEN IT OCCURS AT A HORIZONTAL MULLION

STEP 7:

PROCEDURE:

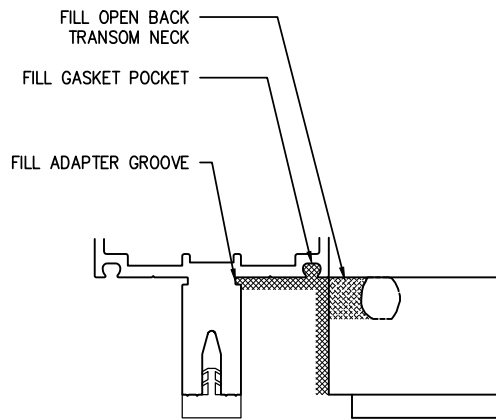
- Install head/sill and intermediate horizontals



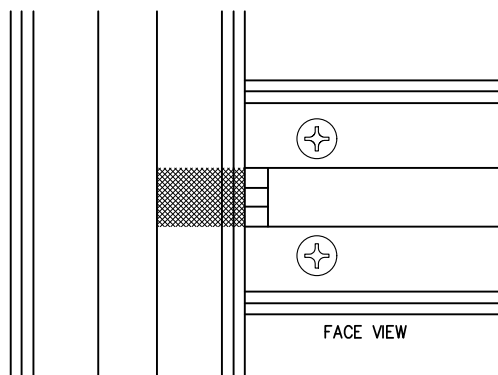
STEP 8:

PROCEDURE:

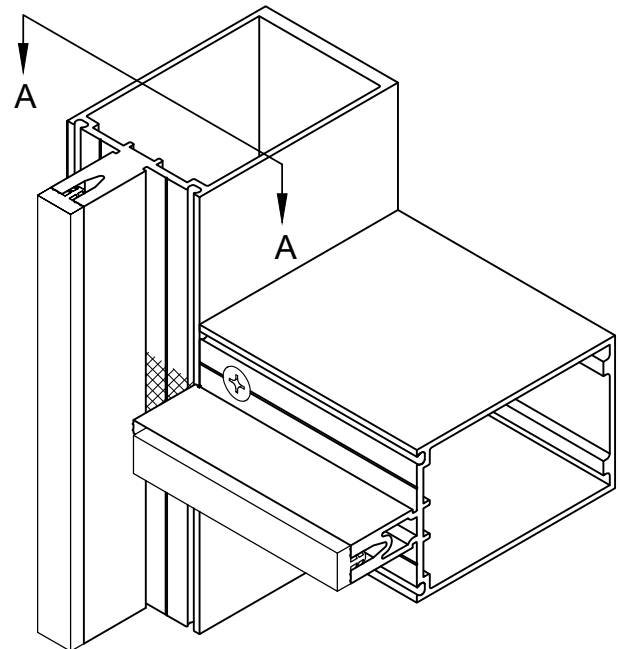
- Install joint plugs.
- All surfaces and grooves must be cleaned per the sealant manufacturer's recommendations.
- Just before installing joint plugs apply sealant as shown filling gasket pocket and adapter groove.



DETAIL 17



DETAIL 18

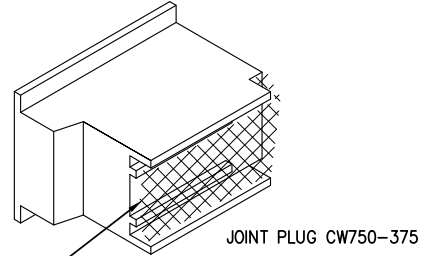


DETAIL 16

STEP 8 (cont.):

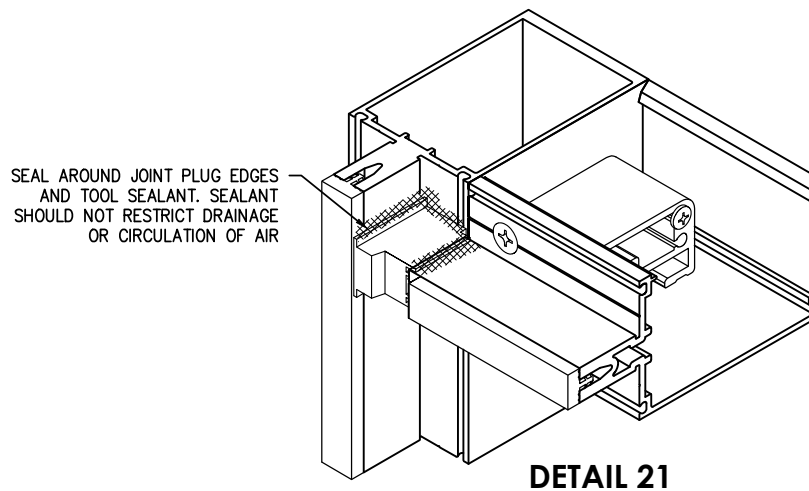
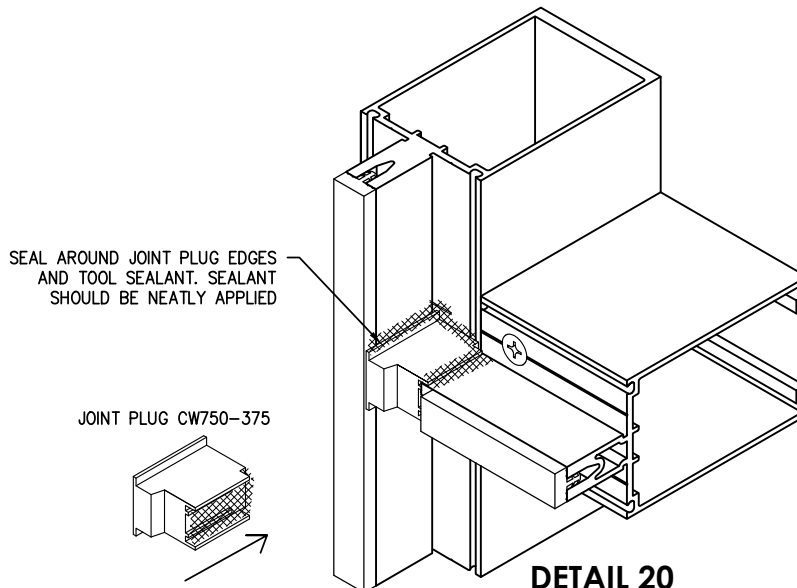
PROCEDURE:

- Install joint plugs continued.



DETAIL 19

SOLVENT WIPE JOINT PLUG AND
APPLY SEALANT TO THIS FACE OF
JOINT PLUG

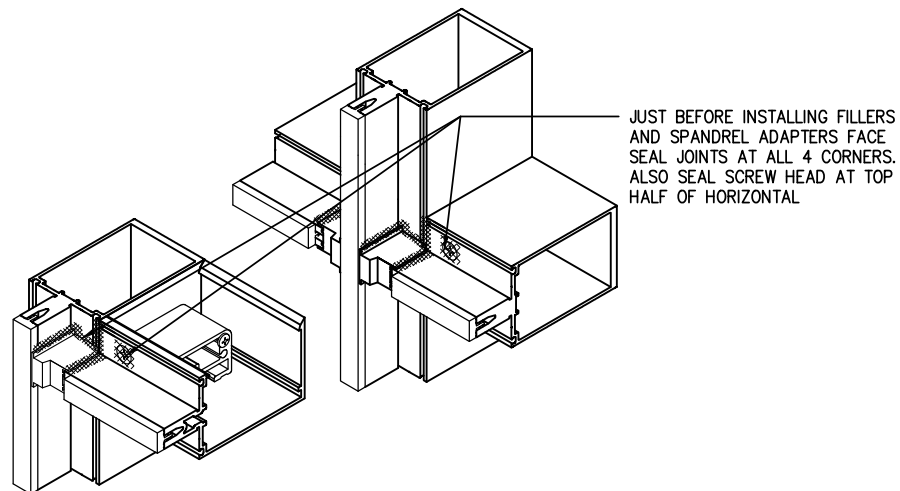


STEP 9:

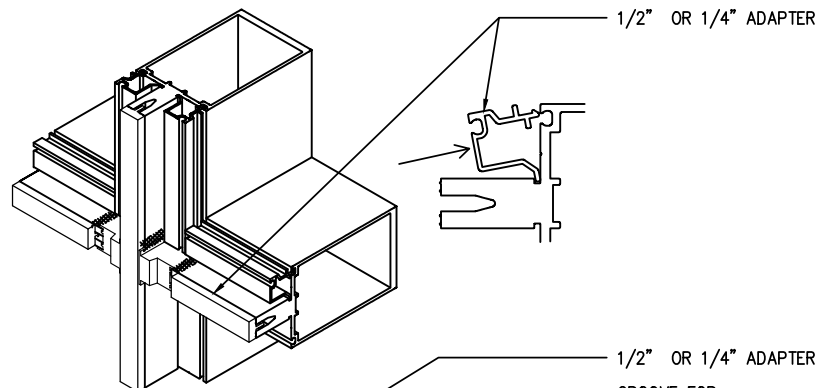
PROCEDURE:

- Install perimeter fillers and spandrel adapters where applicable
- All surfaces and grooves must be cleaned per the sealant manufacturer's recommendations.
- Use putty knife, small pry bar or screw driver

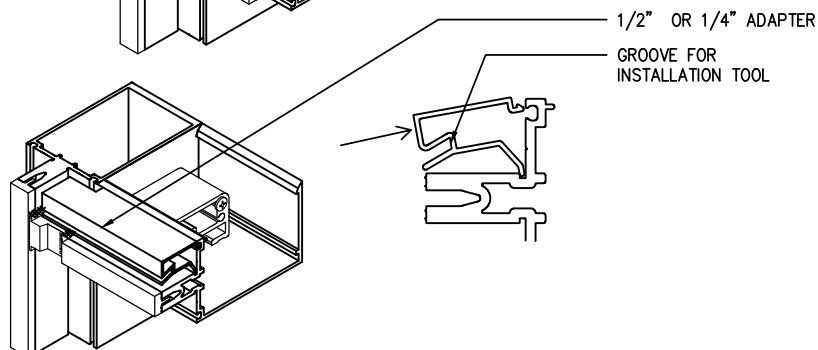
DETAIL 22



DETAIL 23



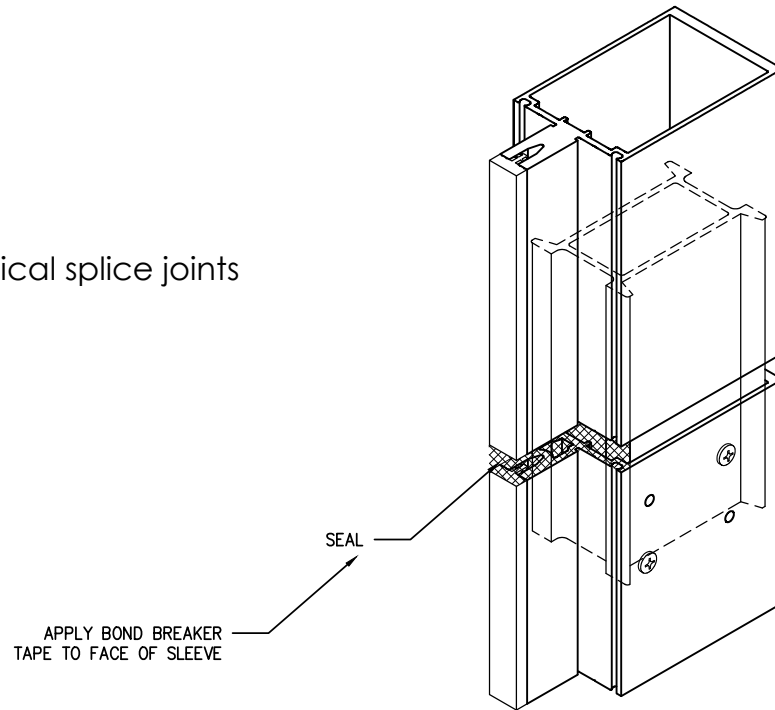
DETAIL 24



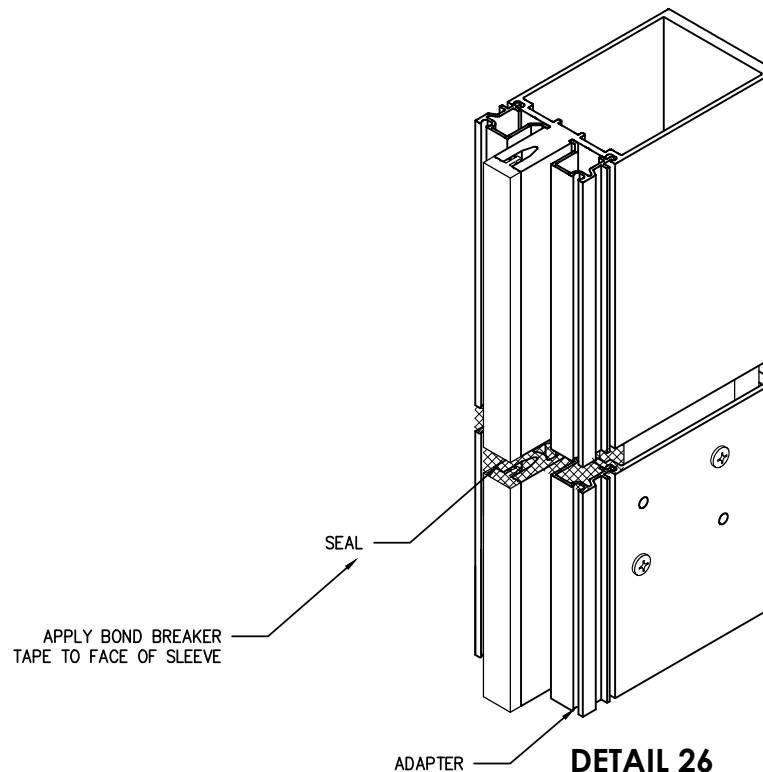
STEP 10:

PROCEDURE:

- Seal interior of vertical splice joints



DETAIL 25

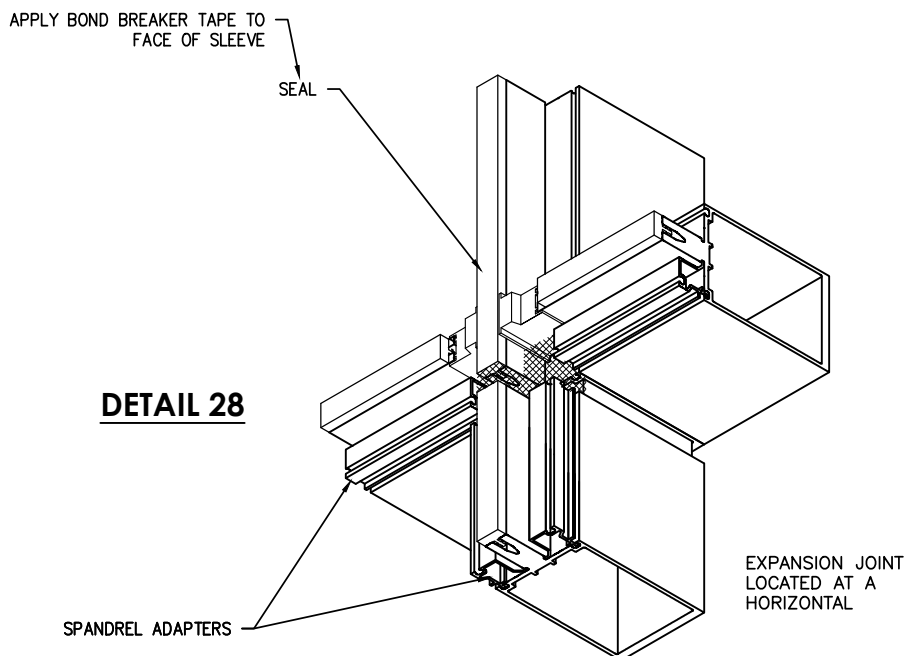
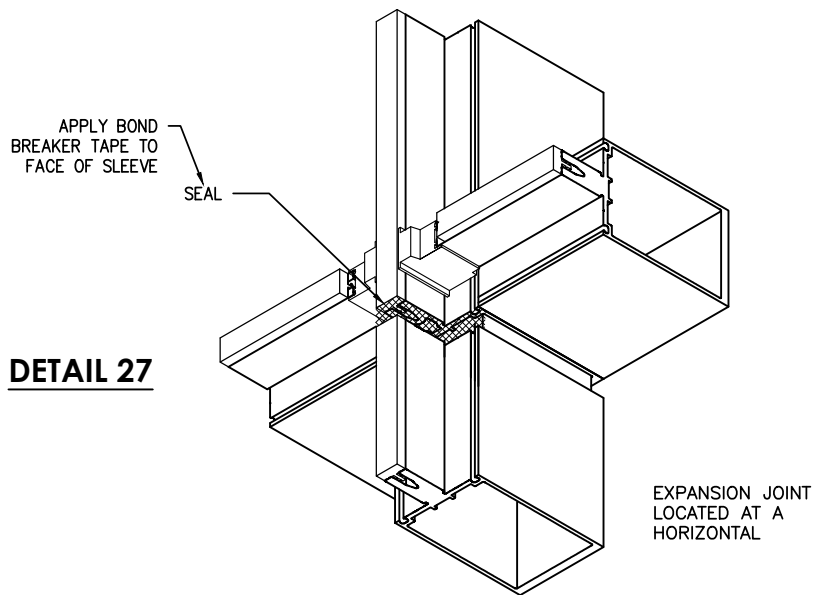


DETAIL 26

STEP 11:

PROCEDURE:

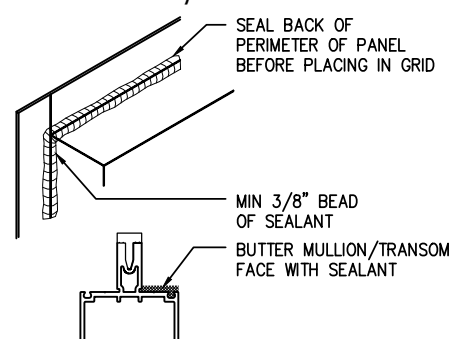
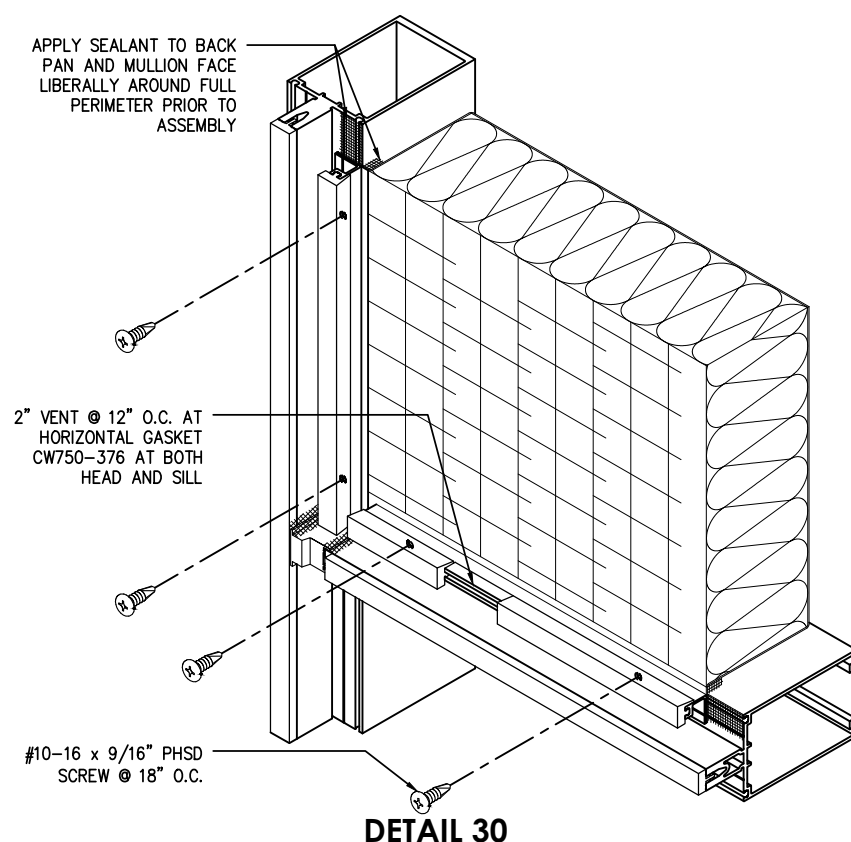
- Seal interior of vertical splice joints continued.
- All surfaces and grooves must be cleaned per the sealant manufacturer's recommendations



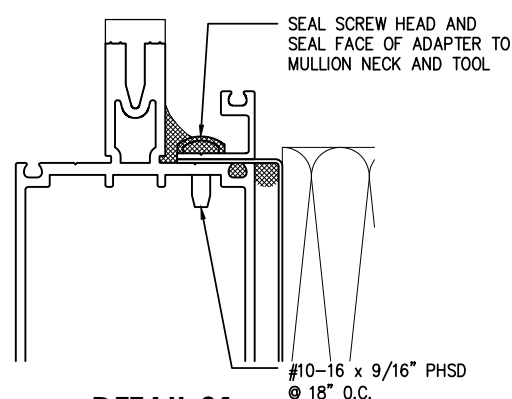
STEP 12:

PROCEDURE:

- Install back pan and interior gasket for spandrel
- All surfaces to be sealed must be cleaned and prepared in accordance with sealant manufacturer's instructions.
- Apply a generous bead of sealant (min 3/8") to inside corner of back pan flange. Butter mullion/transom face with sealant as shown.
- Insert back pan into opening, maintaining equal space all around. Align holes in vertical and horizontal adapters with holes in back pan and fasten with #10-16 X 9/16" PHSD @ 18" O.C. If mullions are to be reinforced with steel then #10 PHSD screws will interfere. At mullions only drill #29 tap holes through adapter, back pan and into mullion. Install #10- 3/8" PHTF screws.
- Insert vertical interior gasket into vertical adapter (length = DLO + 1-3/8"). Insert horizontal gasket into horizontal adapter with 2" long vents at 12" O.C. (length = DLO -1"). Vents occur at both head and sill adapter.
- Seal over all screw heads and apply generous fillet bead of sealant between face of adapter and mullion neck around perimeter (see detail 31).



DETAIL 29

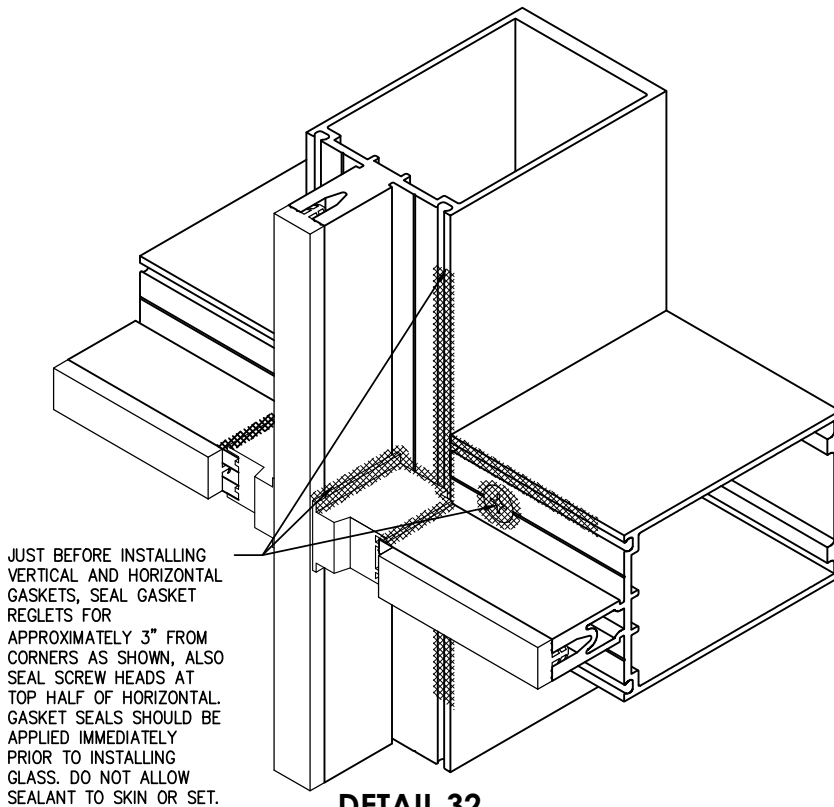


DETAIL 31

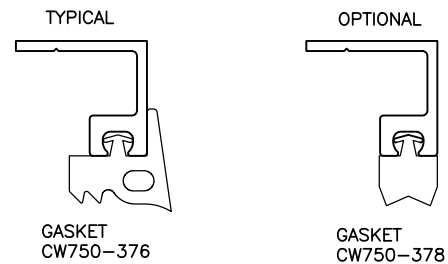
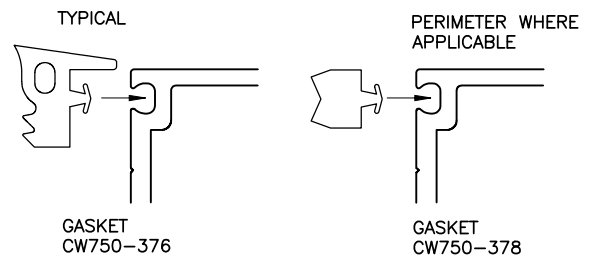
STEP 13:

PROCEDURE:

- Install interior glazing gaskets for vision
- Gasket should be installed just prior to glass to avoid contamination by job site debris. Gasket grooves and pockets should be clean.
In temperatures colder than 50° F arrangements should be made to warm gaskets before installation. this will prevent excessive glazing pressure on the glass due to cold, stiff rubber gaskets.
- Gaskets can become deformed during storage in cartons. They should be removed from cartons several hours prior to glazing and laid flat or hung to allow recovery of correct shape. Temperatures should be at least 50° F to allow this.
- Vertical gasket installed length should be day light opening.
- Horizontal gasket to be cut day light opening.
- Gasket should be cut long for some "crowd-in." "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"
Gasket should never be "stretched to fit"



DETAIL 32



AT SPANDREL ADAPTER, THE TYPICAL GLAZING GASKET CW750-376 MAY BE SUBSTITUTED WITH PERIMETER GASKET CW750-378

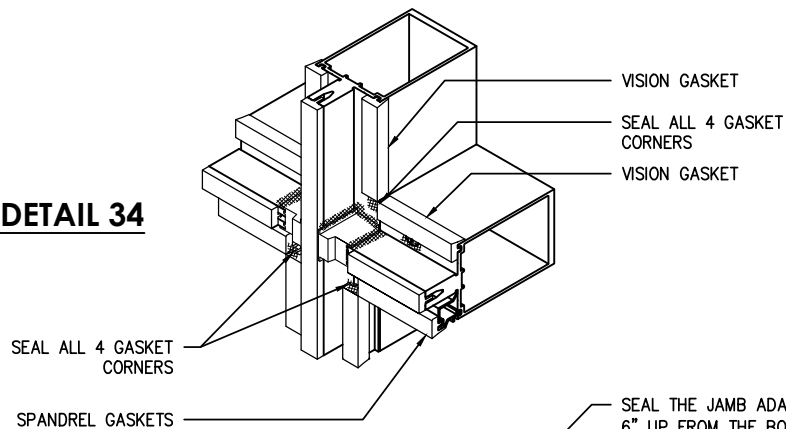
DETAIL 33

STEP 14:

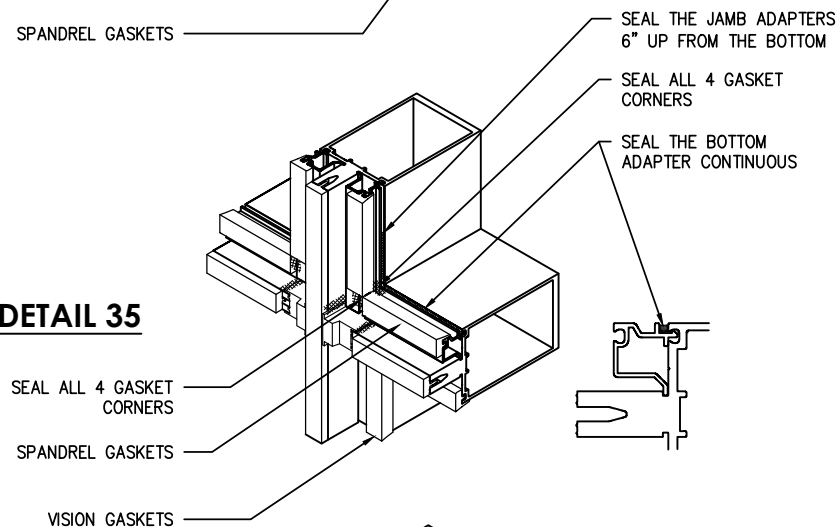
PROCEDURE:

- Install interior glazing gaskets

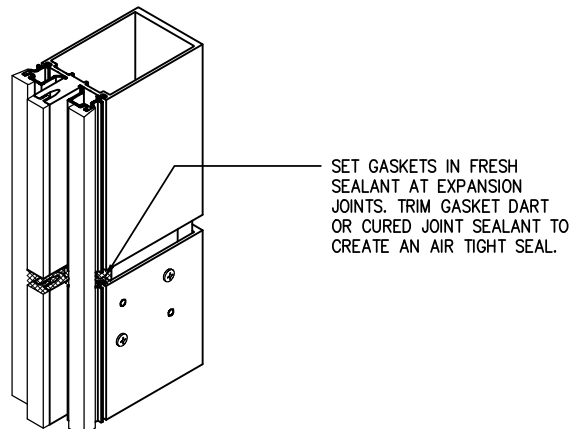
DETAIL 34



DETAIL 35



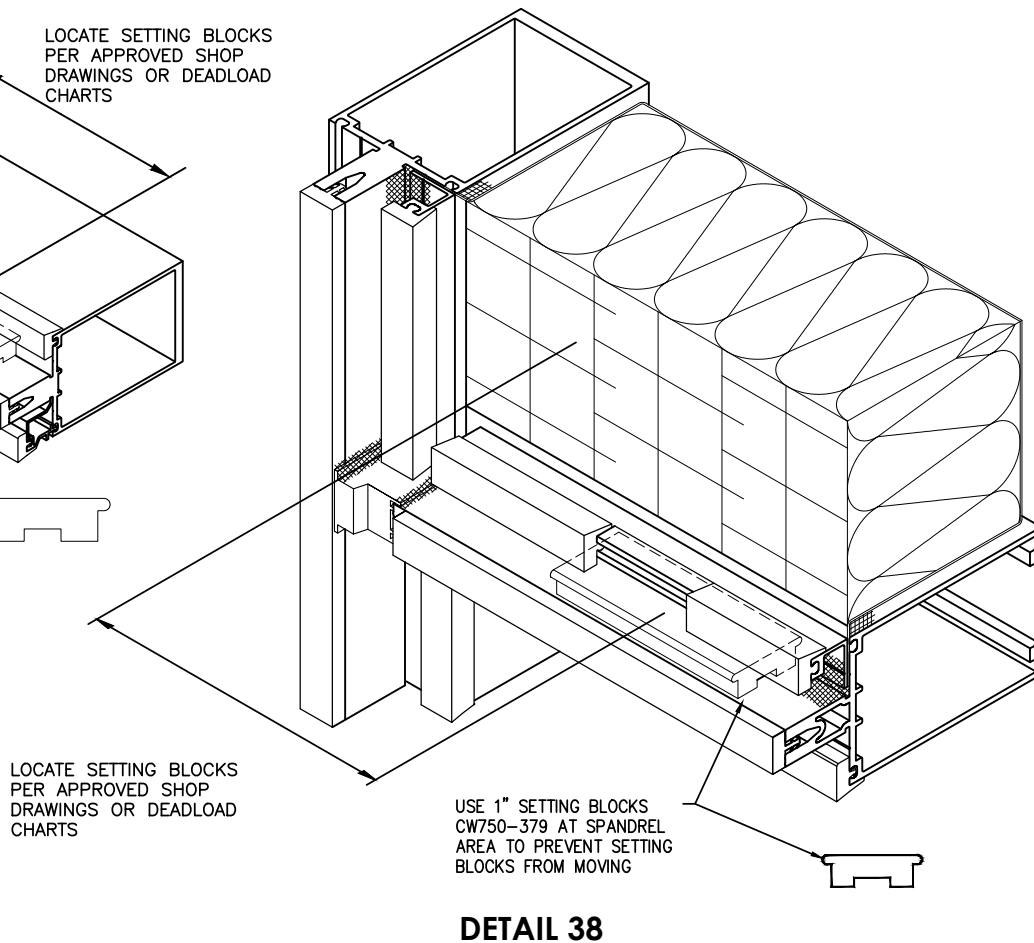
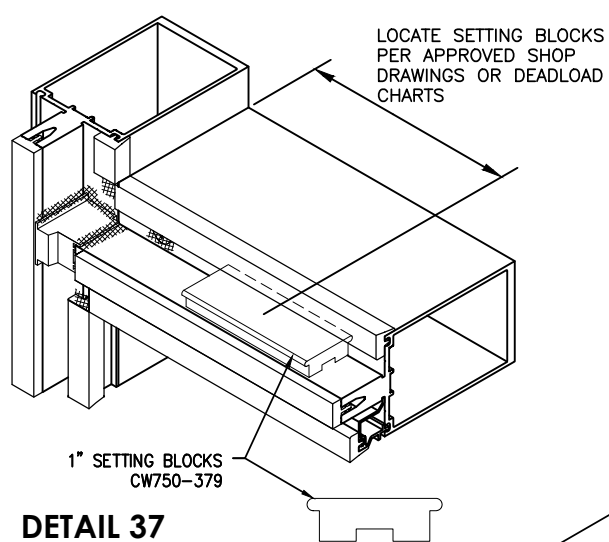
DETAIL 36



STEP 15:

PROCEDURE:

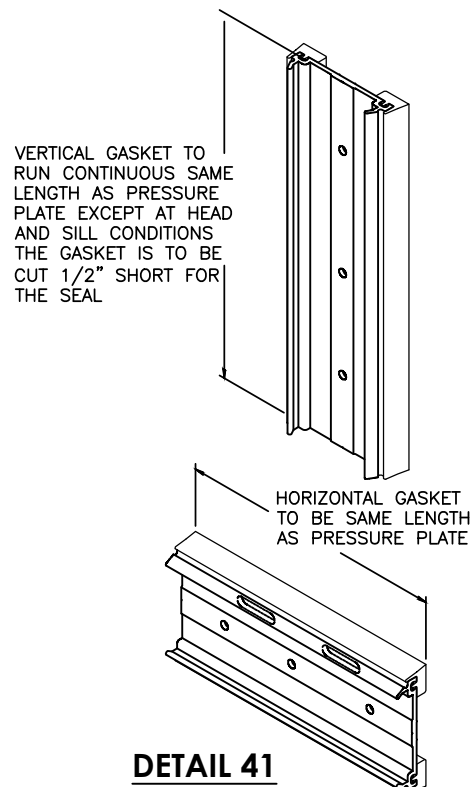
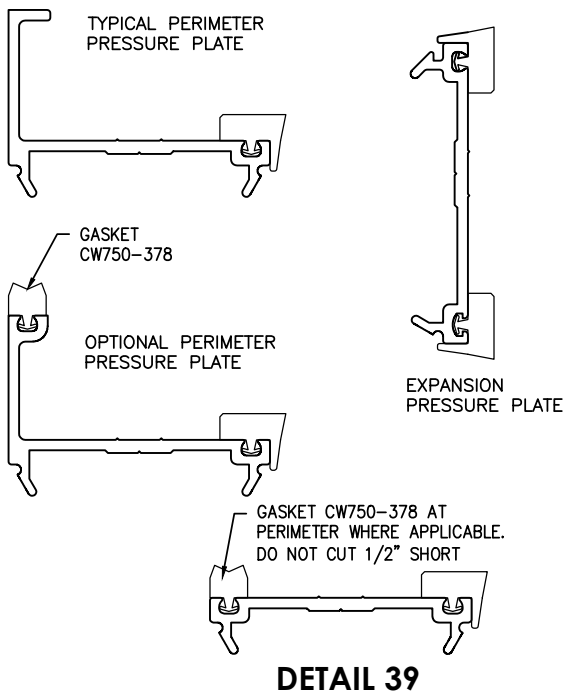
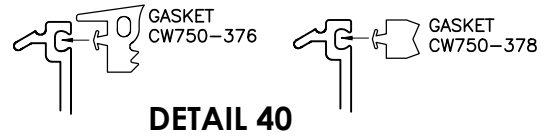
- Install setting blocks
- Install (2) setting blocks per unit prior to installing glass. Locate setting blocks per approved shop drawings or deadload charts.
- CW750-379 setting block should be used at both 1" glazing vision areas and spandrel areas for better support and to prevent setting blocks from moving.



STEP 16:

PROCEDURE:

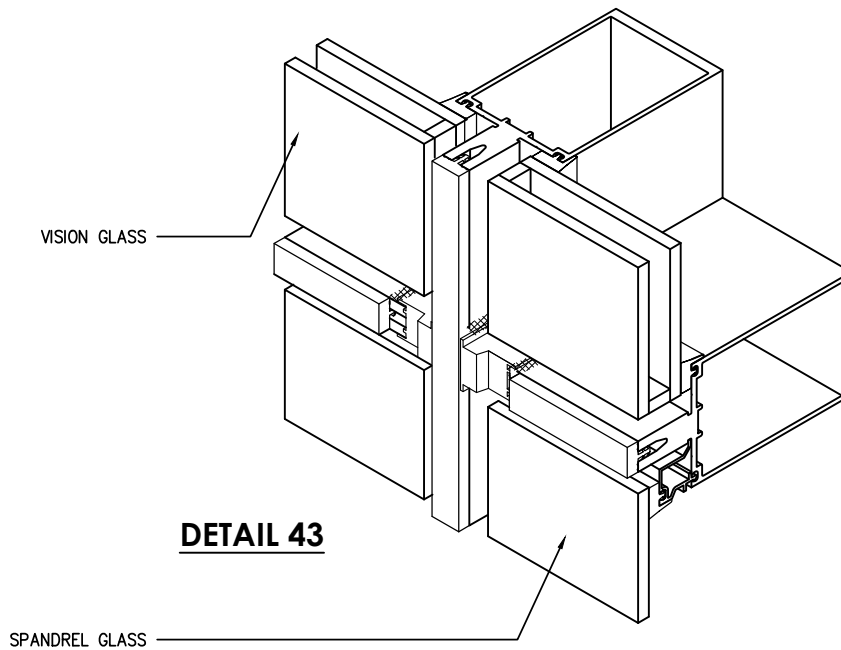
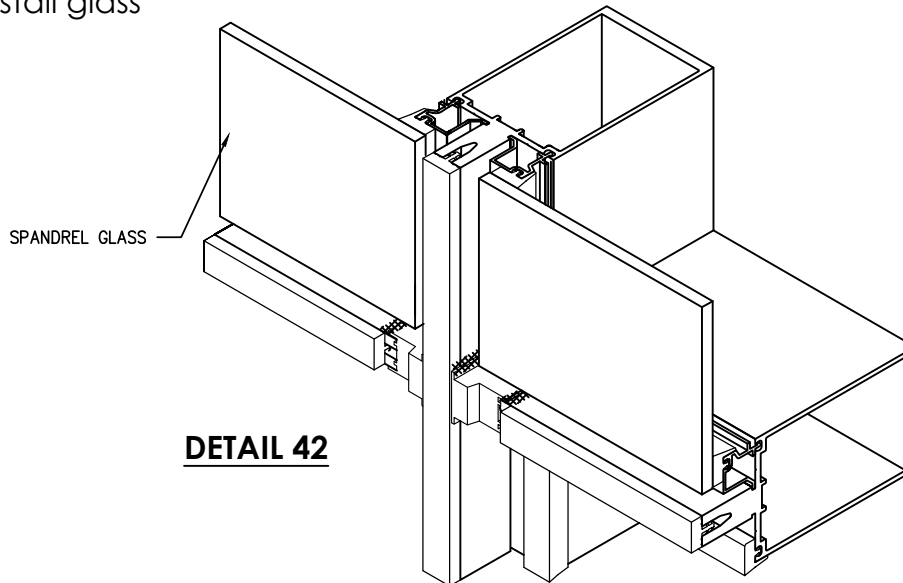
- Install exterior gaskets into pressure plates. Gaskets should be installed just prior to glass to avoid contamination by job site debris. Gasket grooves and pockets should be clean.
- In temperatures colder than 50° F arrangements should be made to warm gaskets before installation. This will prevent excessive glazing pressure on the glass due to cold, stiff rubbers gaskets.
- Gaskets can become deformed during storage in cartons. They should be removed from cartons several hours prior to glazing and laid flat or hung to allow recovery of correct shape. Temperatures should be at least 50° F to allow this.
- Vertical gasket should run continuous and to be same length as vertical pressure plate.
- Horizontal gasket to be cut same length as horizontal pressure plate.
- Gasket should be cut long form some "crowd-in". "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"
 Gasket should never be "stretched to fit".



STEP 17:

PROCEDURE:

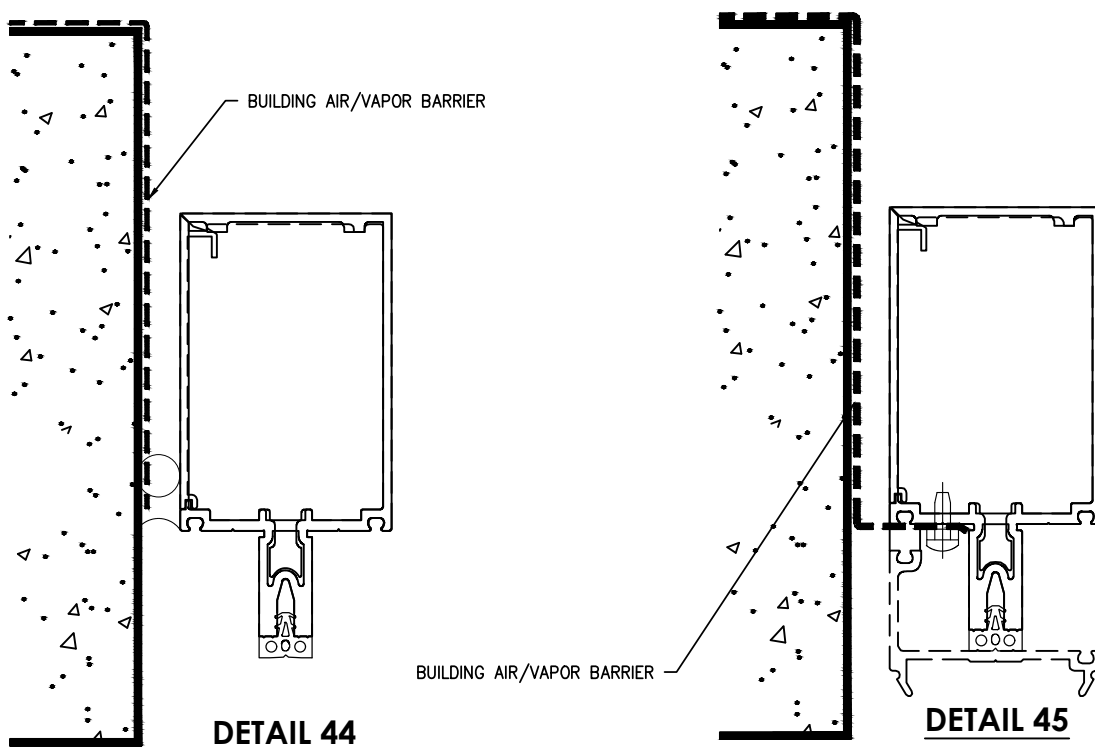
- Install glass



STEP 18:

PROCEDURE:

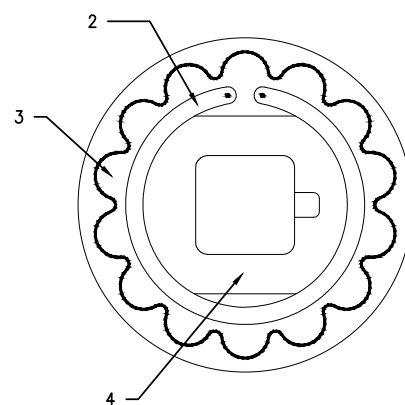
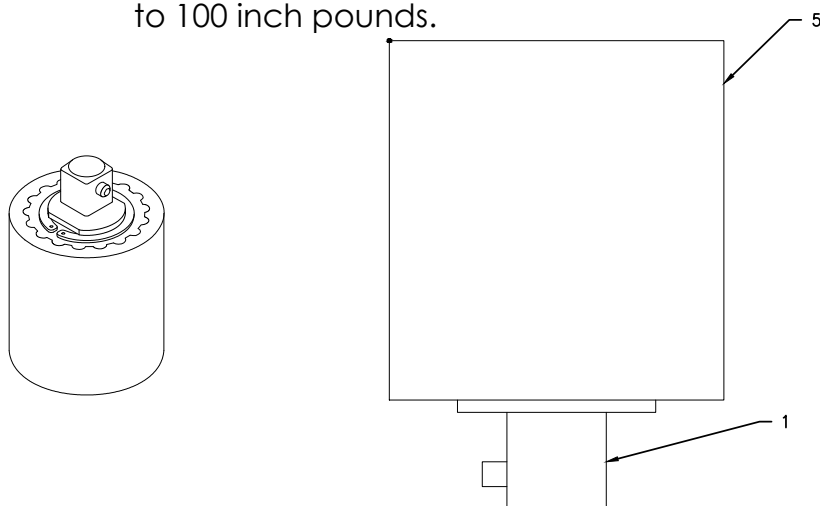
- Install perimeter seals
- Ensure that building air/vapor barrier is positioned correctly to seal to leading edge of mullion body (shoulder) see detail 44.
- Install suitably sized backer rod, and apply generous, continuous bead of sealant see detail 44.
- Apply a thin, continuous bead of sealant to the mullion/transom at the pressure bar location see detail 45
- Apply building air/vapor barrier to mullion/transom and trim excess from the barrier.
- Apply a thin, continuous bead of sealant to the back of the pressure bar CW750-151 see detail 45.
- All mullions must have the neck notched to allow continuous application of the mechanical air seal see detail 45.
- Keep sealant and pressure bar neat to mullion/transom neck to avoid interference with perimeter pressure plate CW750-151 and gasket CW750-376 see detail 45.
- Apply pressure bar and fasten tightly with self drilling screws at 6" O.C.
- Seal between building air/vapor barrier and curtain wall frame must be continuous around full perimeter.



STEP 19:

PROCEDURE:

- Install exterior pressure plates
- Recommended using torque limit tool
- How to set torque limit:
 - Attach any calibrated torque indicator to output stub (1) and determine present torque setting while holding the body (5) or vice- versa
 - Remove snap ring (2) and locking plate (3)
 - Adjust nut (4) with open-end wrench: clockwise to increase torque, counter-clockwise to decrease torque.
 - Obtain new torque reading with the calibrated torque indicator. Repeat preceding step if more adjustment is necessary to reach desired limit.
 - 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 1/4-14 X 1" hex washer head.
 - Screws are to be located 9" O.C. Always locate a screw as close as possible to a horizontal joint. This will provide maximum pressure for the critical joint seals.
 - 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.



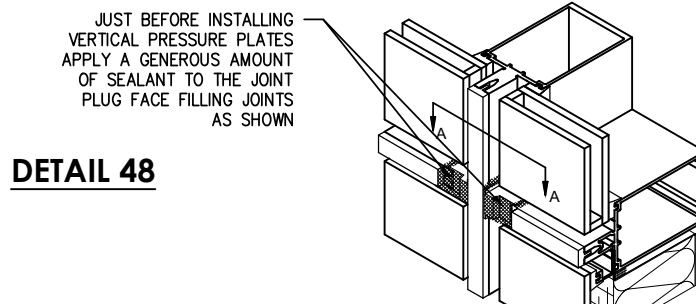
DETAIL 46

DETAIL 47

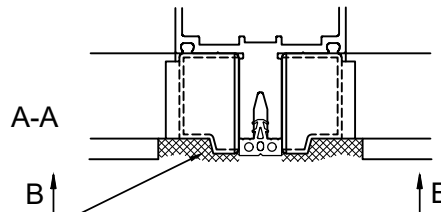
STEP 20:

PROCEDURE:

- Install vertical pressure plates.
- 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.

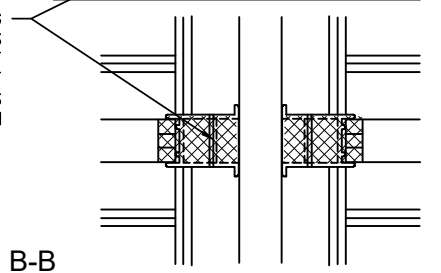


DETAIL 49

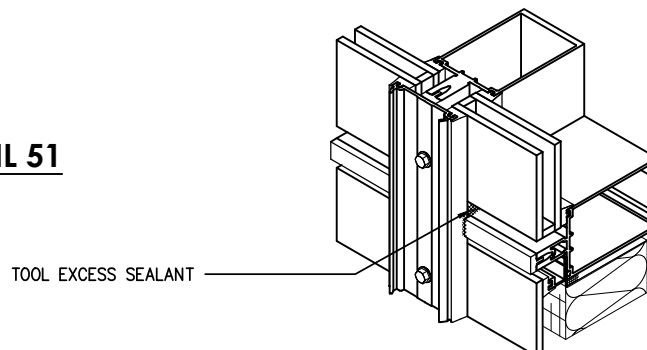


DETAIL 50

JUST BEFORE INSTALLING
VERTICAL PRESSURE PLATES
APPLY A GENEROUS AMOUNT
OF SEALANT TO THE JOINT
PLUG FACE FILLING JOINTS
AS SHOWN



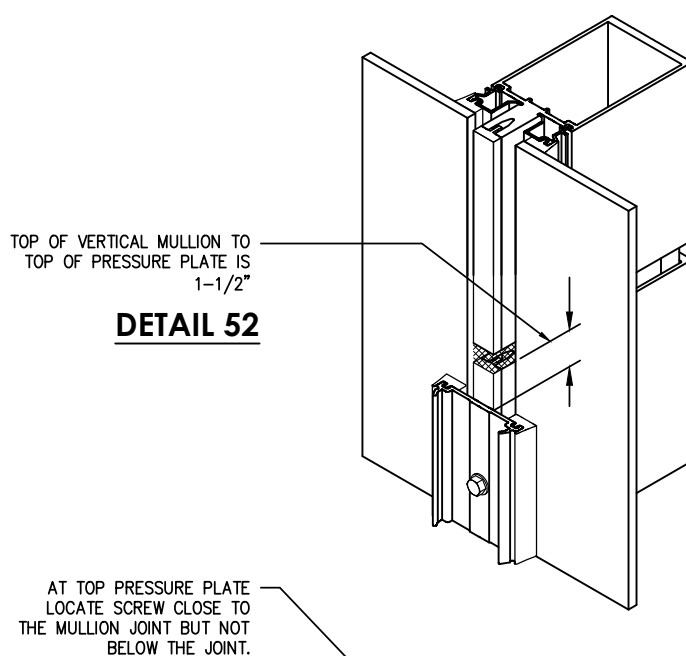
DETAIL 51



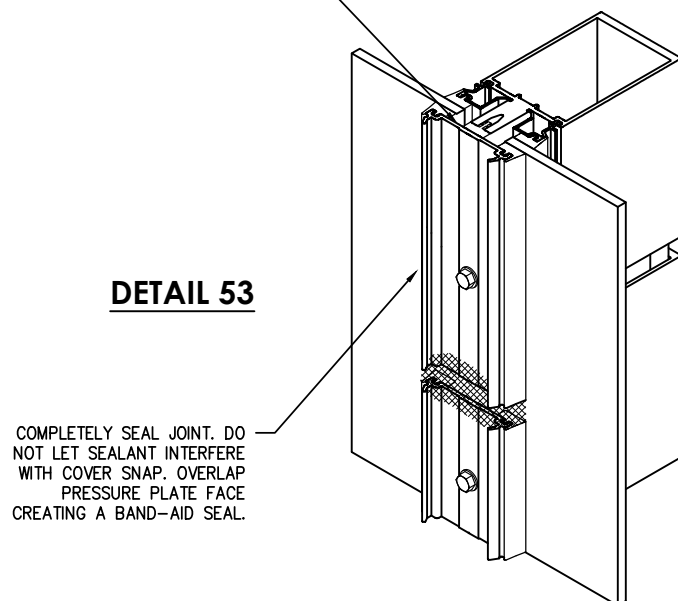
STEP 21:

PROCEDURE:

- Install vertical pressure plates at vertical expansion joints.
- Clean joint per sealant manufacturer's recommendations.



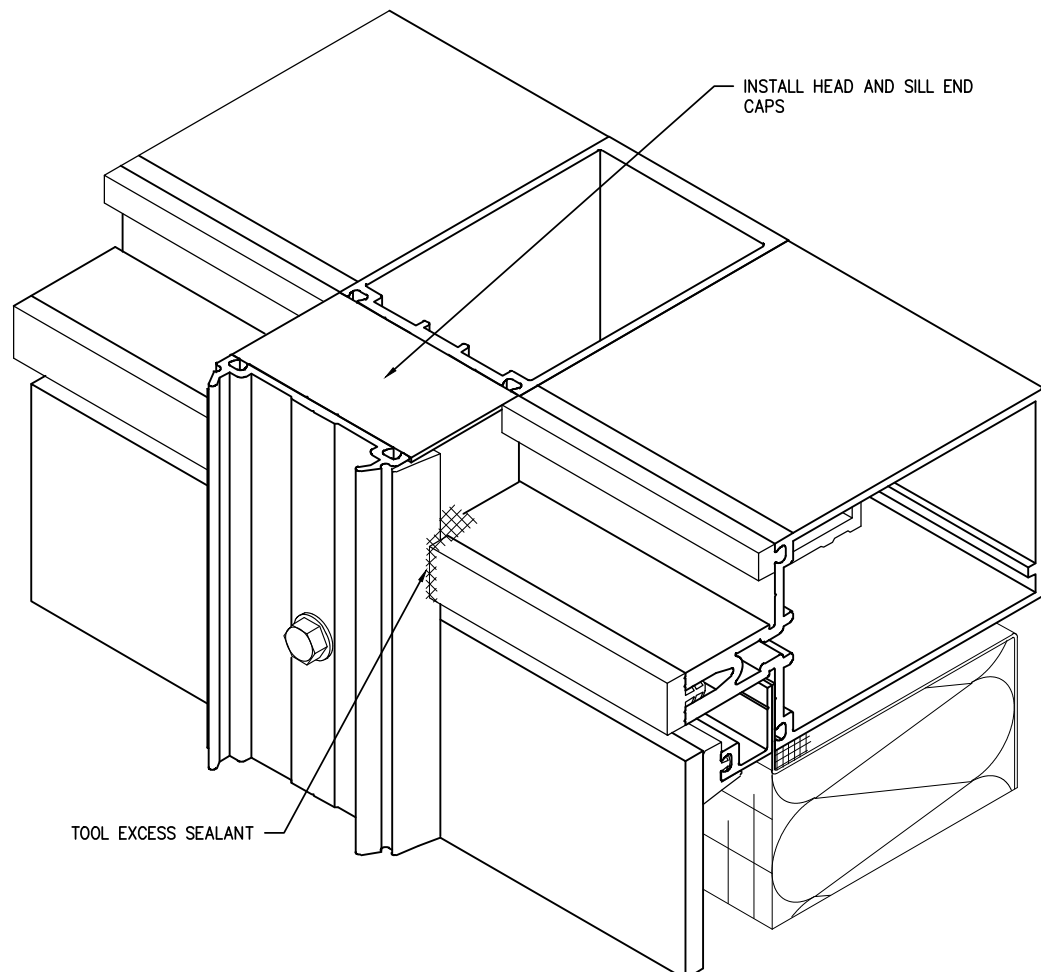
AT TOP PRESSURE PLATE
LOCATE SCREW CLOSE TO
THE MULLION JOINT BUT NOT
BELOW THE JOINT.



STEP 22:

PROCEDURE:

- Install head and sill end caps. Sealant may be used to hold end cap in place until backer rod is inserted
- End caps are used for support of weather seal back rod only.
- If optional "mechanical" air seal is to be used at curtain wall perimeter, then ensure that end caps do not damage or interfere with air seal membrane.



DETAIL 54

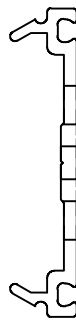
STEP 23:

PROCEDURE:

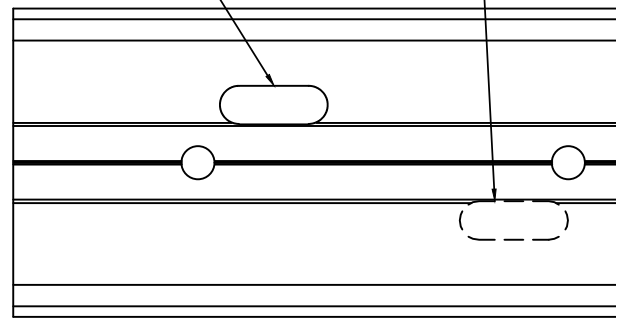
- Install horizontal pressure plates.
- Center horizontal pressure plates so end gaps are equal.
- Clean joint per sealant manufacturer's recommendations.

ENSURE THAT PRESSURE PLATES ARE ORIENTED WITH DRAIN SLOTS UP.

MAKE SURE VENT HOLES OCCUR ONLY AT HEAD OF BACKPAN SPANDREL

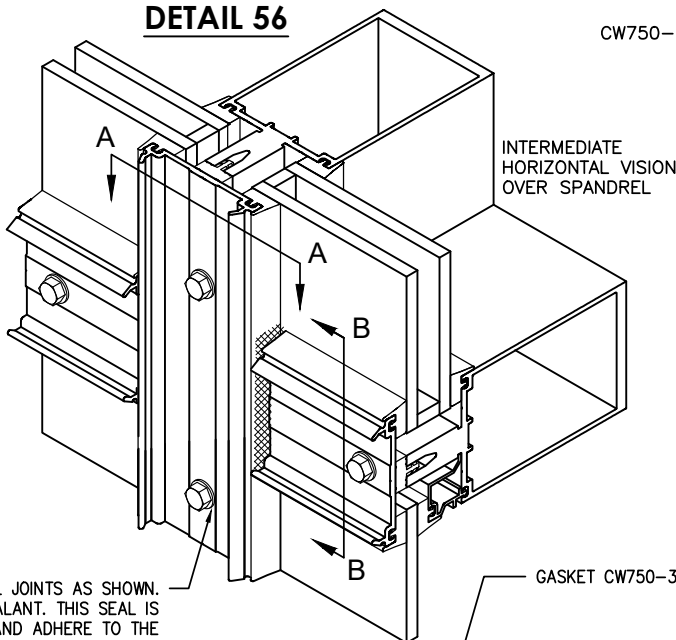


CW750-150



DETAIL 55

DETAIL 56

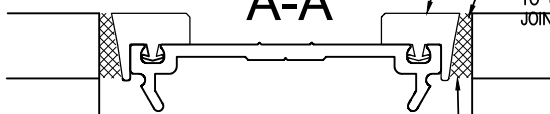


SEAL JOINTS AS SHOWN. TOOL SEALANT. THIS SEAL IS TO JOIN AND ADHERE TO THE JOINT PLUG SEALS.

GASKET CW750-376

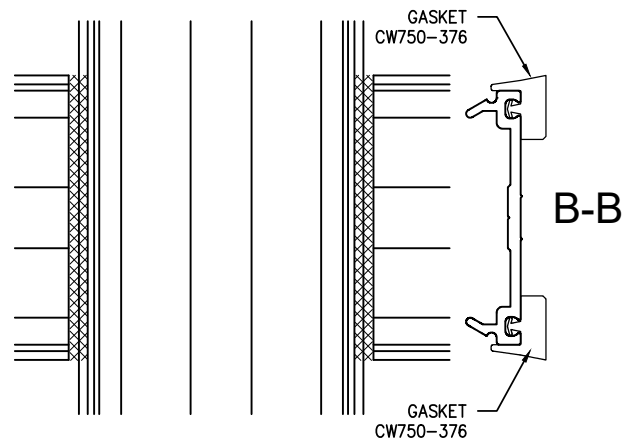
SEAL JOINTS AS SHOWN. TOOL SEALANT. THIS SEAL IS TO JOIN AND ADHERE TO THE JOINT PLUG SEALS.

A-A



DETAIL 57

DO NOT LET THE SEAL INTERFERE WITH THE COVER SNAP.



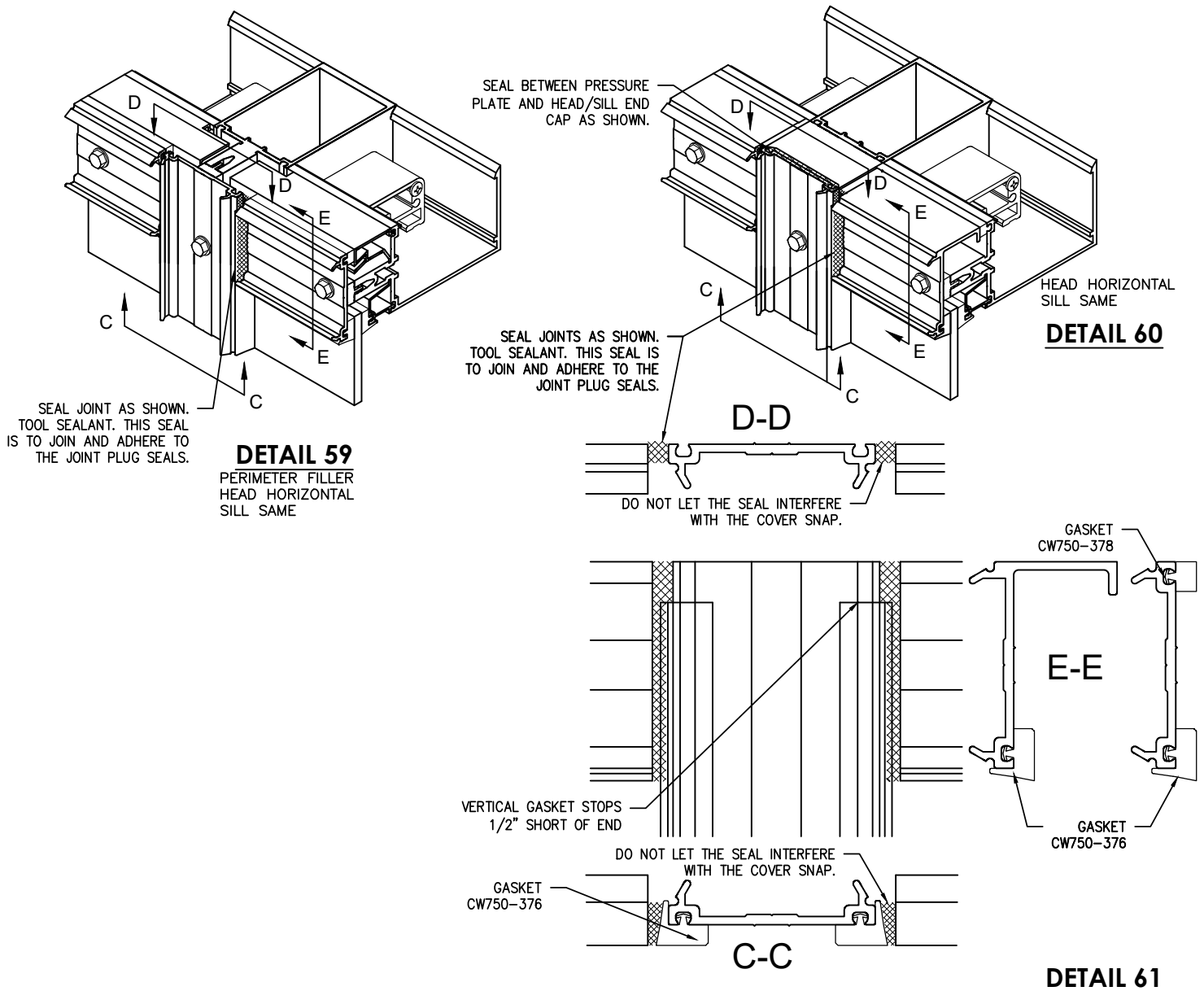
B-B

DETAIL 58

STEP 24:

PROCEDURE:

- Install horizontal pressure plates continued.

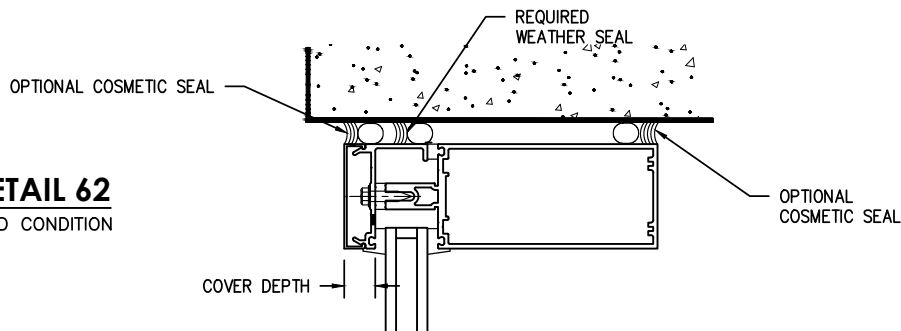


STEP 26:

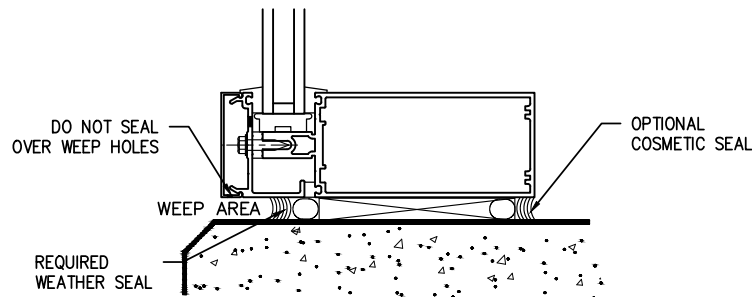
PROCEDURE:

- Install perimeter weather seals.
- Perimeter weather seals are installed at the pressure plate location as detailed below. (This seal should be installed before covers are applied when covers deeper than 3/4" are used.)
- Exterior cosmetic seals at the cover may be applied at the head, jamb and sill.
- Cosmetic seal at sill covers must allow water drainage to the exterior.

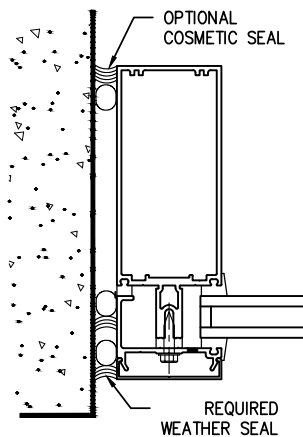
DETAIL 62
HEAD CONDITION



DETAIL 63
SILL CONDITION



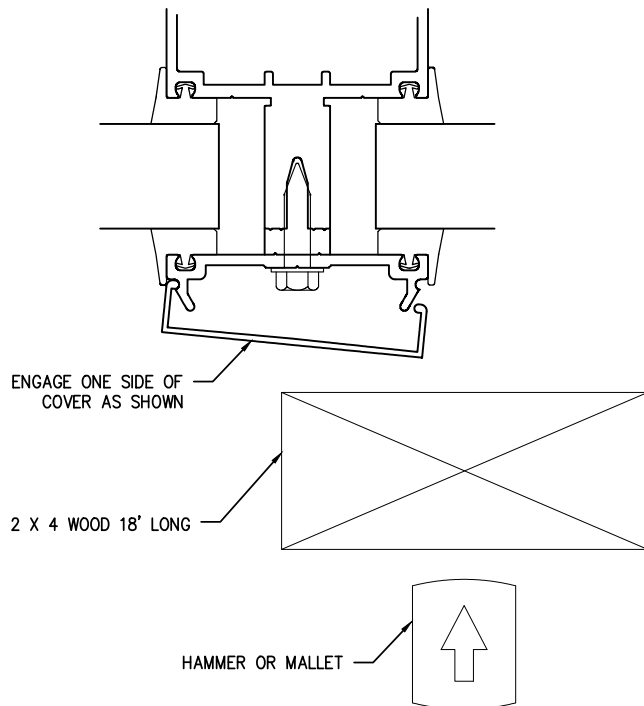
DETAIL 64
JAMB CONDITION



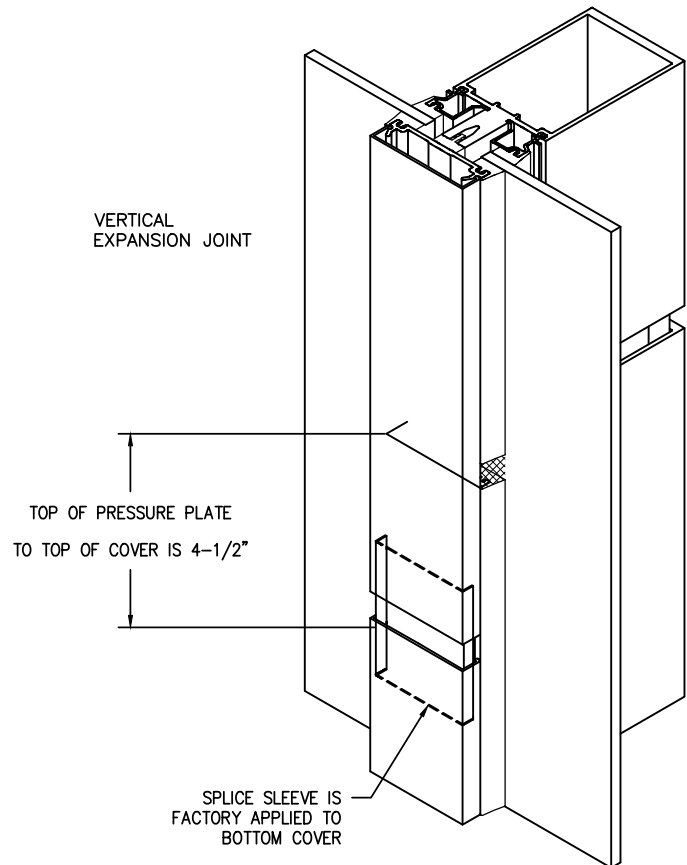
STEP 27:

PROCEDURE:

- 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.



DETAIL 65



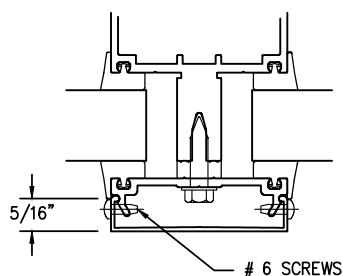
DETAIL 66

STEP 28:

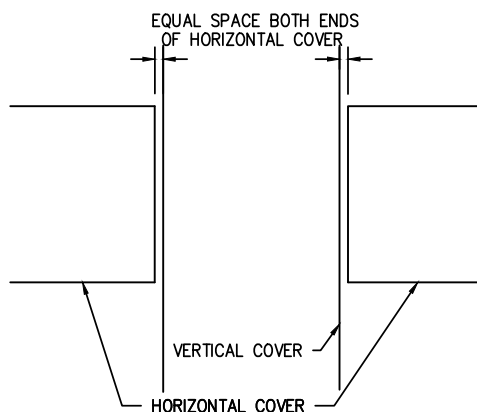
PROCEDURE:

- Install exterior covers continued.
- Pinning of all vertical covers is required for both sides. Drill a .106 dia. hole and install #6 X 3/8" pan head type B screws. Locate pinning at a horizontal closest to the cover height center.
- 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.

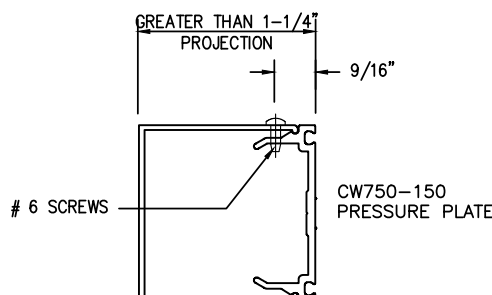
DETAIL 67



DETAIL 68



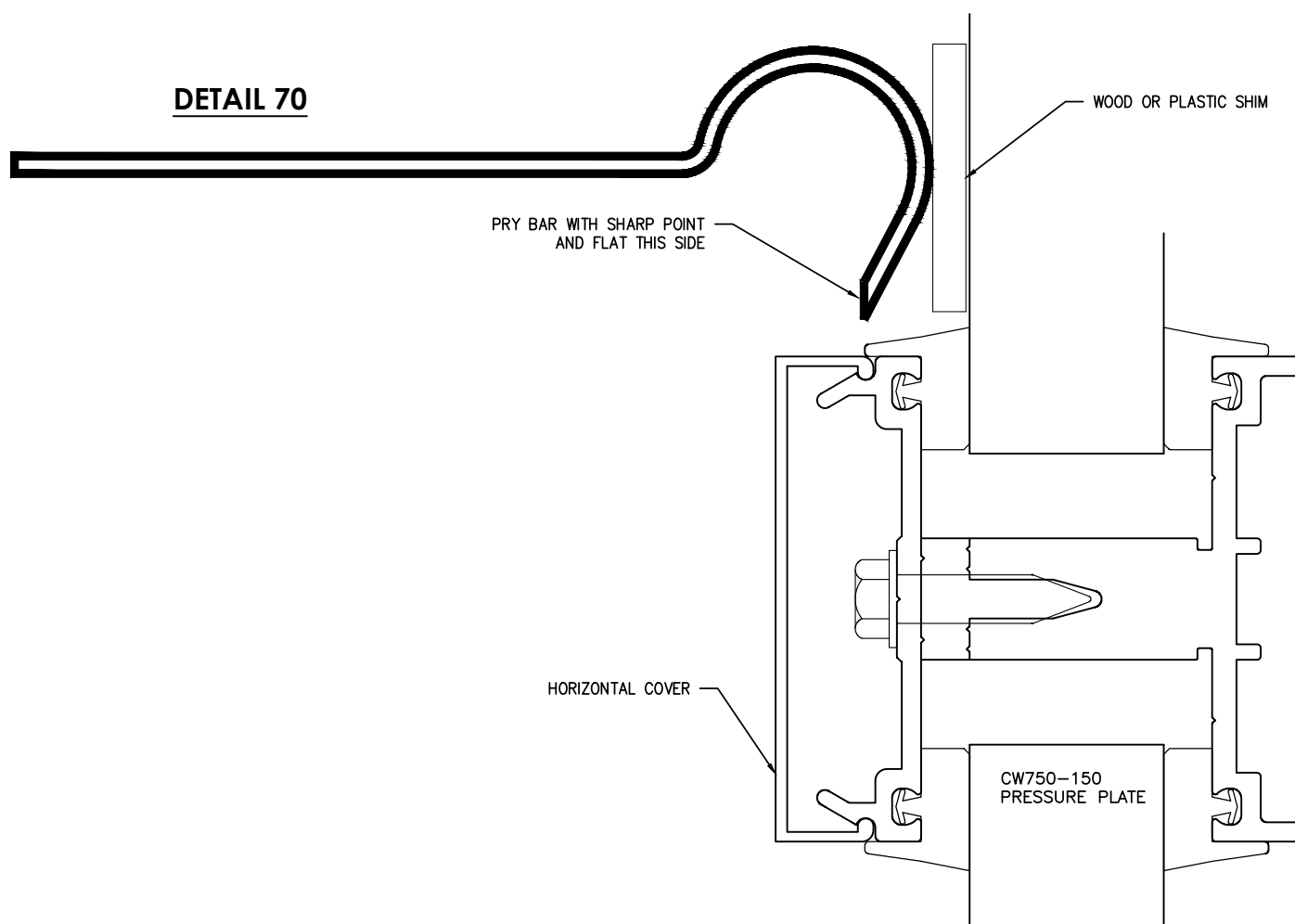
DETAIL 69



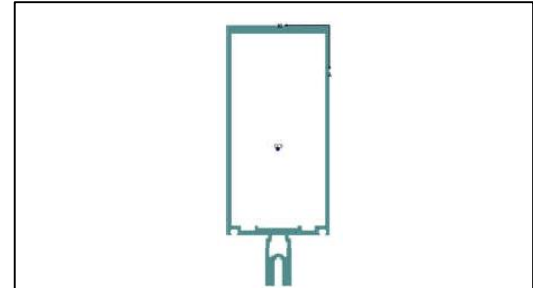
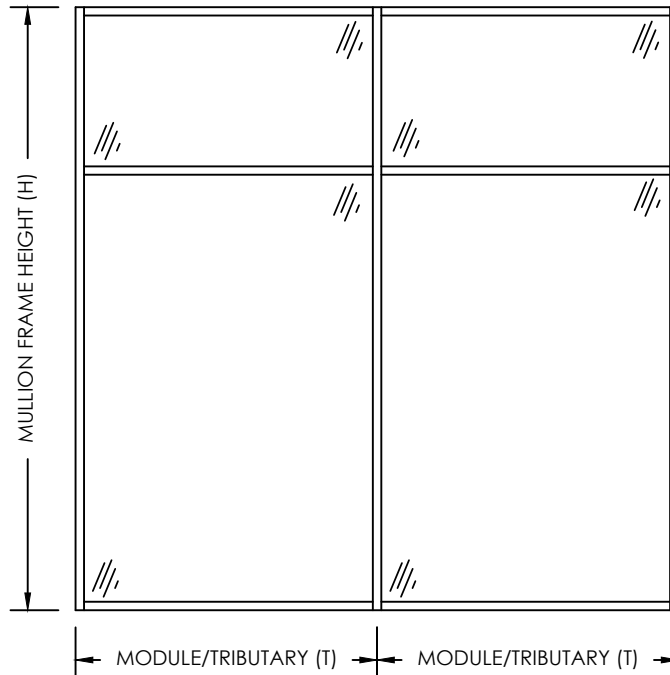
STEP 29:

PROCEDURE:

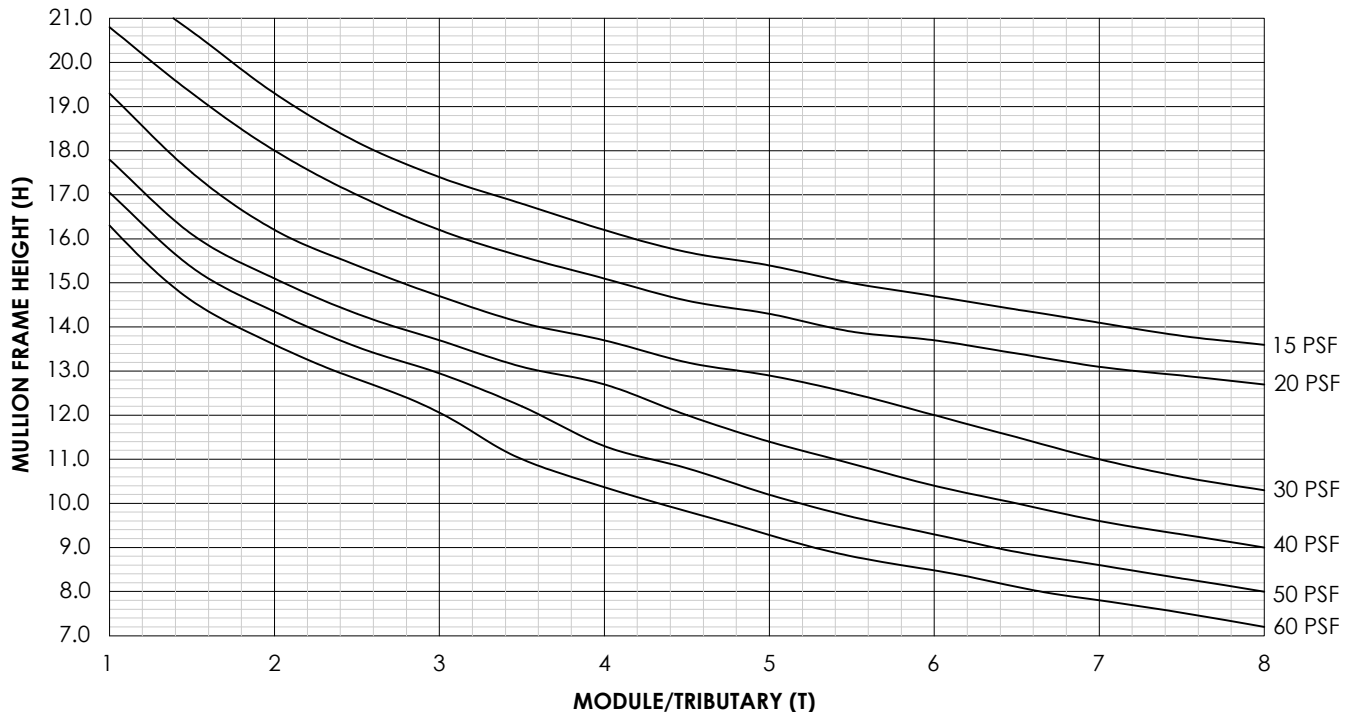
- Removing covers.
- Covers can be saved if tolerances are not too tight and the cover is removed with extreme care.
- Push back the gasket trim lip start at one end to disengage, do this in progression for the complete length.



WIND PRESSURE CHART FOR CW750 (WITH HORIZONTALS)

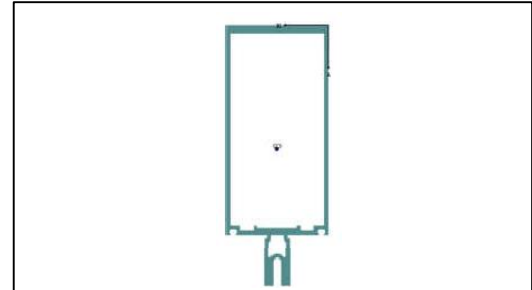
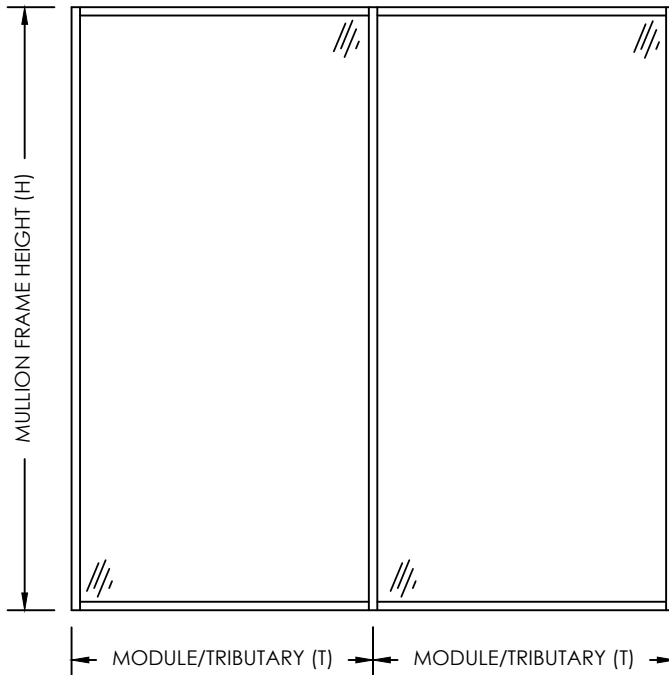


Properties	Aluminum	Steel	UOM
Area	2.477	--	in ²
I _y	2.03	--	in ⁴
I _x	12.66	--	in ⁴
Y _c	3.097	--	in ¹
X _c	1.25	--	in ¹
S _y	1.624	--	in ³
S _x	4.0878	--	in ³
Alloy/Grade	T5-6063	--	--

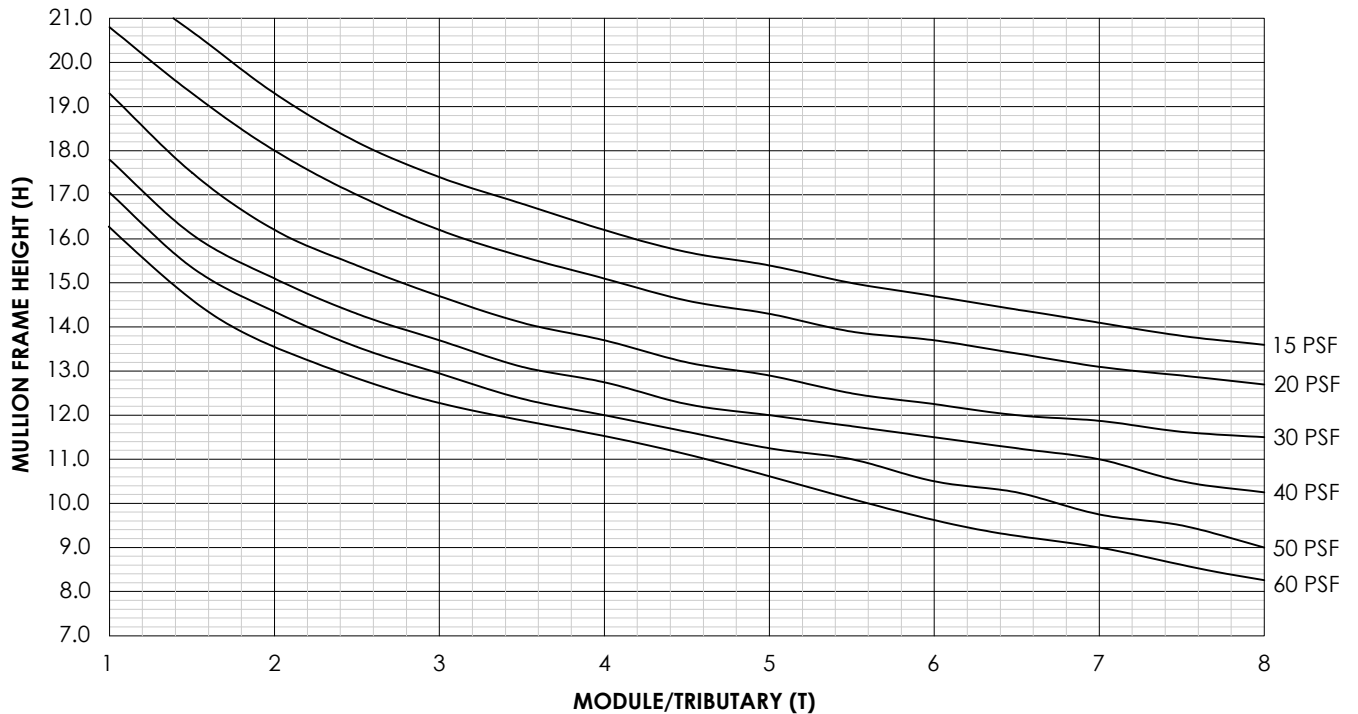


Above curve is designed for stress limitations in accordance with Aluminum design manual 2010 and deflection limitations of $H/175$ up to 13'-6" and $H/240 + 1/4"$ above 13'-6". Wind load pressures contained herein are based upon wind load utilized in allowable stress design per ASCE7.

WIND PRESSURE CHART FOR CW750 (WITHOUT HORIZONTALS)



Properties	Aluminum	Steel	UOM
Area	2.477	--	in ²
I _y	2.03	--	in ⁴
I _x	12.66	--	in ⁴
Y _c	3.097	--	in ¹
X _c	1.25	--	in ¹
S _y	1.624	--	in ³
S _x	4.0878	--	in ³
Alloy/Grade	T5-6063	--	--



Above curve is designed for stress limitations in accordance with Aluminum design manual 2010 and deflection limitations of H/175 up to 13'-6" and H/240 +1/4" above 13'-6". Wind load pressures contained herein are based upon wind load utilized in allowable stress design per ASCE7.

TESTING LAB:

INTERTEK, York, 17406

TEST REPORT FOR AMERICAN PRODUCTS, INC.

Report No.: K7918.01-116-45 R0

Date: 03/16/20

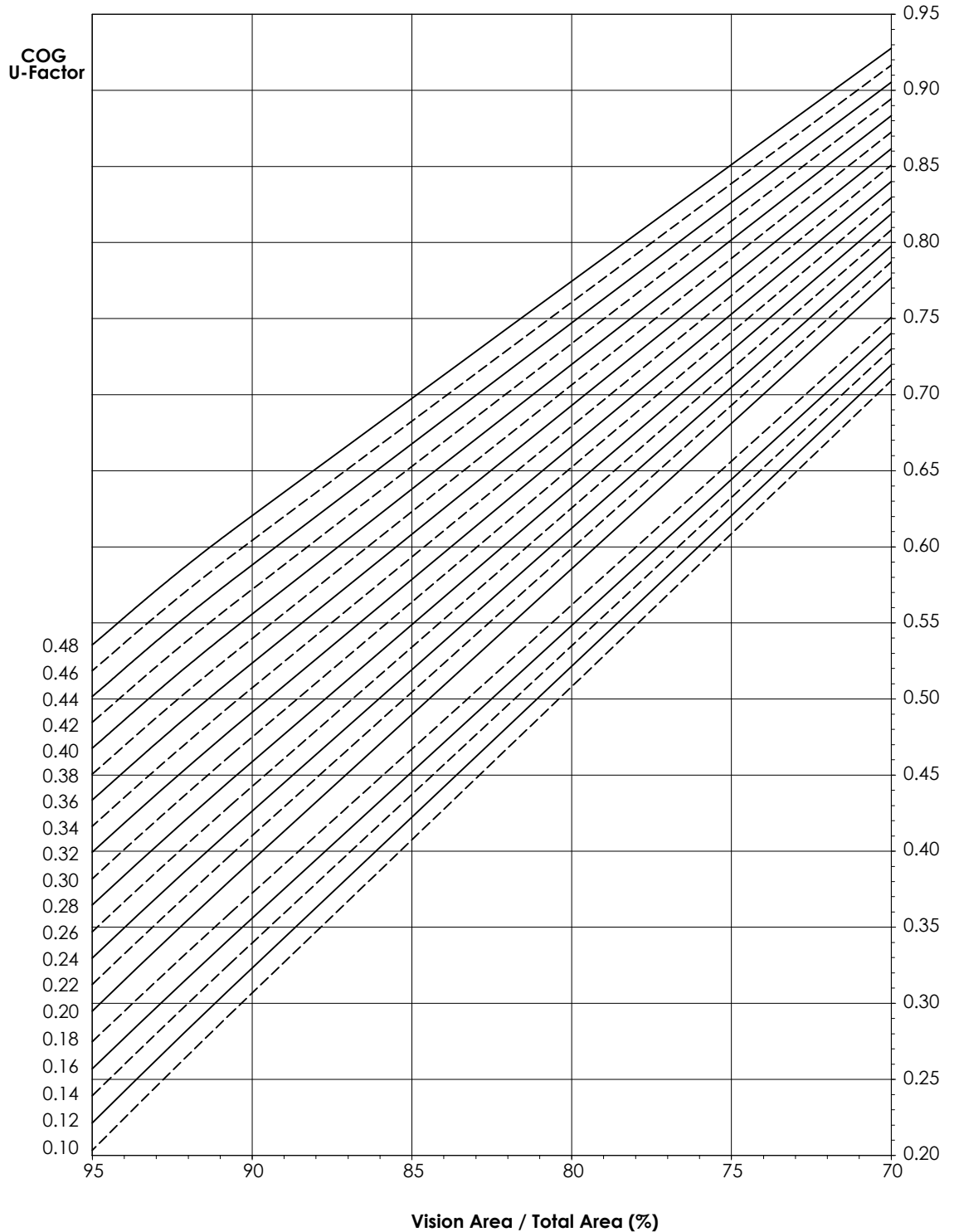
U-FACTOR CALCULATIONS (CW750 Stick Built System)		
Size Specific U-Factor Matrix*		
Glazing Option	Center-of-Glass U-Factor	Overall U-Factor
1	0.48	0.61
2	0.46	0.59
3	0.44	0.58
4	0.42	0.56
5	0.40	0.54
6	0.38	0.53
7	0.36	0.51
8	0.34	0.50
9	0.32	0.48
10	0.30	0.46
11	0.28	0.45
12	0.26	0.43
13	0.24	0.41
14	0.22	0.40
15	0.20	0.38
16	0.18	0.36
17	0.16	0.34
18	0.14	0.33
19	0.12	0.31
20	0.10	0.29

*The size specific U-Factor matrix is based on the Glazed Wall System NFRC specimen size of 2000mm x 2000mm (78.75 in x 78.75 in). This represents 90.7% Vision Area / Total Area.

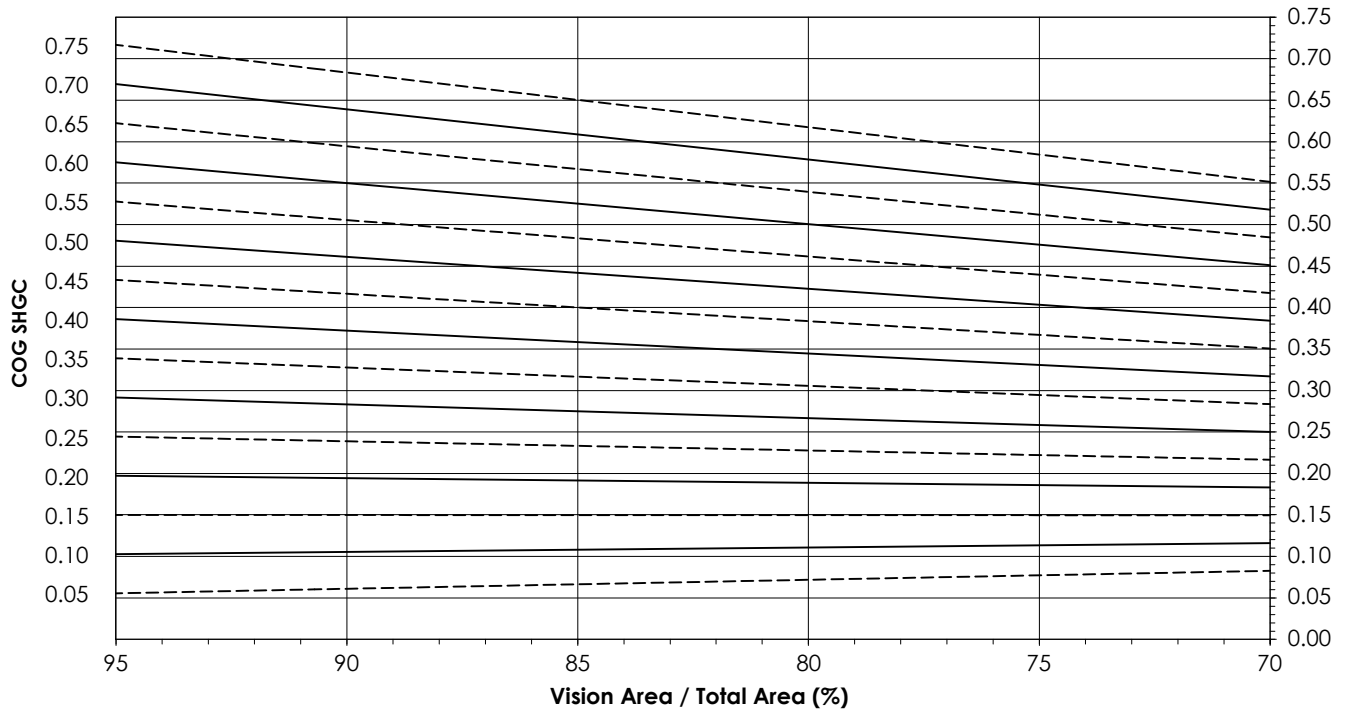
SHGC/VT CALCULATIONS (CW750 Stick Built System)			
Size Specific SHGC Matrix*		Size Specific VT Matrix*	
Center-of-Glass SHGC	Overall SHGC	Center-of-Glass VT	Overall VT
0.75	0.69	0.75	0.67
0.70	0.64	0.70	0.63
0.65	0.60	0.65	0.58
0.60	0.55	0.60	0.54
0.55	0.51	0.55	0.49
0.50	0.46	0.50	0.45
0.45	0.42	0.45	0.40
0.40	0.37	0.40	0.36
0.35	0.33	0.35	0.31
0.30	0.28	0.30	0.27
0.25	0.24	0.25	0.22
0.20	0.19	0.20	0.18
0.15	0.15	0.15	0.13
0.10	0.11	0.10	0.09
0.05	0.06	0.05	0.04

*The size specific SHGC and VT matrices are based on the Glazed Wall System NFRC specimen size of 2000mm x 2000mm (78.75 in x 78.75 in). This represents 90.7% Vision Area / Total Area

U-FACTOR CALCULATIONS: System U-Factor vs. Percentage of Vision Area



SHGC CALCULATIONS: System SHGC vs. Percentage of Vision Area



VT CALCULATIONS: System VT vs. Percentage of Vision Area

