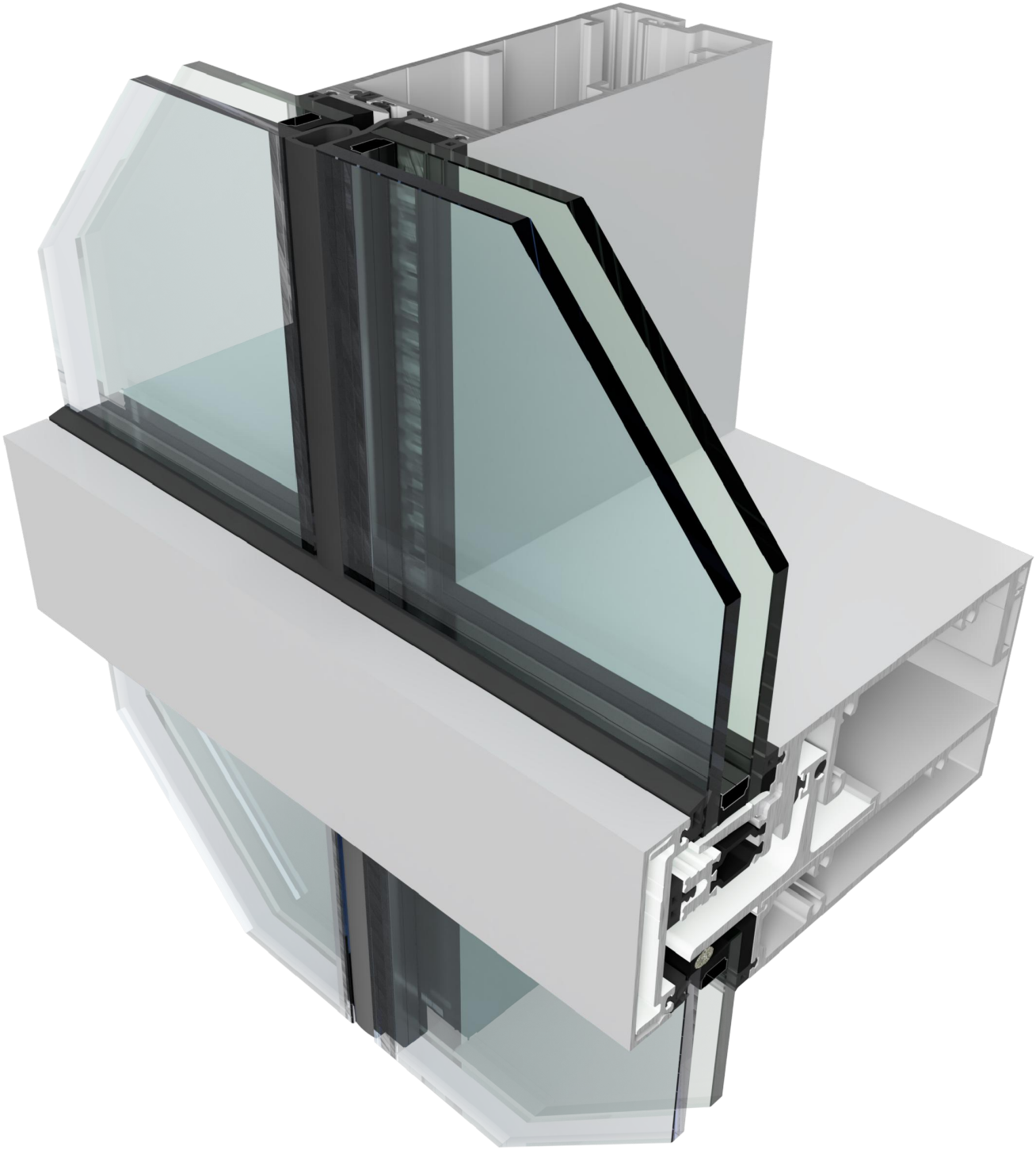
TUBELITE®

DEPENDABLE

SHOP GLAZED



400TU SG SERIES
ULTRA THERMAL SCREW SPLINE CURTAIN WALL

INSTALLATION INSTRUCTIONS

3056 Walker Ridge Dr. NW, Suite G ⊙ Walker, MI 49544 ⊙ 800-866-2227

1. These instructions cover typical product application, fabrication, installation and standard conditions and are general in nature. They provide useful guidelines, but the final shop drawings may include additional details specific to the project. Any conflict or discrepancies must be clarified prior to execution.

2. Materials stored at the job site must be kept in a safe place protected from possible damage by other trades Stack with adequate separation so materials will not rub together and store off the ground. Cardboard or paper wrapped materials must be kept dry. Check arriving materials for quantity and keep a record of where various materials are stored.

3. All field welding must be done in accordance with AISC guidelines. All aluminum and glass should be shielded from field welding to avoid damage from weld splatter. Results will be unsightly and may be structurally unsound. Advise general contractor and other trades accordingly.

4. Coordinate protection of installed work with general contractor and/or other trades.

5. Coordinate sequence of other trades which affect framing installation with the general contractor (e.g. fire proofing, back up walls, partitions, ceilings, mechanical ducts, HVAC, etc.).

6. General contractor should furnish and guarantee bench marks, offset lines and opening dimensions. These items should be checked for accuracy before proceeding with erection. Make certain that all adjacent substrate construction is in accordance with the contract documents and/or approved shop drawings. If not, notify the general contractor in writing before proceeding with installation because this could constitute acceptance of adjacent substrate construction by others.

7. Isolate all aluminum to be placed directly in contact with masonry or other incompatible materials with a heavy coat of zinc chromate or bituminous paint. Fasteners attaching framing to building structure are typically not provided by Tubelite.

8. Sealant selection is the responsibility of the erector, installer and/or glazing contractor and must be approved by the sealant manufacturer with regard to application and compatibility for its intended use. All sealants must be used in strict accordance with the manufacturer's instructions and applied only by trained personnel to surfaces that have been properly prepared.

9. Sealant must be compatible with all materials with which they have contact, including other sealant surfaces. Consult the sealant manufacturer for recommendations relative to shelf life, compatibility, cleaning of substrate, priming, tooling adhesion, etc. Recommend sealant manufacturer perform adhesion "pull test" at "wet" glazing for quality assurance.

10. Drainage gutters and weep holes must be kept clean at all times. Tubelite will not accept responsibility for improper drainage as a result of clogged gutters and weep holes.

11. This product requires clearances at the head, sill and jambs to allow for thermal expansion and contraction as well as construction tolerances. Refer to final distribution drawings for joint sizes. Joints smaller than 1/2 ” may be subject to failure. Consult the sealant manufacturer for proper sizing of joints.

12. All framing members, entrances and other materials are to be installed plumb, level and true with regard to established bench marks, column center lines or other working points established by the general contractor and checked by the erector, installer and/or glazing contractor.

13. After sealant is set and a representative amount of the wall has been glazed (500 square feet or more), run a water hose test to check installation. On large projects, a hose test should be repeated during glazing operation. This testing should be conducted in accordance with AAMA 501.2 specifications.

14. Cleaning of exposed aluminum surfaces should be done per AAMA recommendations.

15. Care must be taken when assembling aluminum framing components. Over tightening any fastener may cause stripping or fastener failure. Tubelite recommends the use of drill motors with clutches engaged to provide satisfactory tightening of the screw while preventing over torque. The use of impact drill motors is not recommended due to the absence of a clutch device.

16. Check www.TubeliteUSA.com for any installation instruction updates.

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QUICK REFERENCE CHECKLIST

1. Make sure the opening is square and the caulk joints are 3/4” minimum around the frame.
2. Ensure surfaces that will be sealed are free of contaminants that can lead to adhesion issues.
3. Check that all weeps and baffles (optional, if required) conform to the locations and sizes called out in these instructions.
4. Butter seal ends of horizontal frame members that are joined to vertical members.
5. Water dam installation and sealing is critical to system performance. Check installation against instructions to ensure conformity.
6. Apply sealant between all corner gasket joints.
7. **Glass bites vary in this system; verify glass sizes before ordering.**
8. Double check anchor size and location against installation instructions or approved shop drawings.
9. Ensure aluminum pressure plate fasteners are torqued to 90 in-lbs. All fastener locations must be utilized for proper load distrobution.
10. Frames must be installed from bottom of elevation to top, the horizontal direction of installation must be established long before the panels are installed.
11. Last bay must have ¾" [19] clearance for final unit drop.

GLASS SIZE CALCULATION

Condition	Shop Glaze
Captured Vertical Mullions	D.L.O. + 1 3/8" [35.0] (11/16" [17.5] Glass Bite)
Captured Horizontal Mullions	D.L.O. + 1 1/16" [26.9] (9/16" [14.3] Top Glass Bite) + (1/2" [12.7] Bottom Glass Bite)
Lower Expansion Horizontal SSG & Captured	D.L.O.+ 1.00" [25.4]
SSG Vertical Mullions	D.L.O + 2.00" [50.8] (1.00" [25.4] Glass Bite)
SSG Horizontal Mullions	D.L.O. + 1-3/4" [44.4] (7/8" [22.2] Glass Bite)
SSG Vertical Mullion Adjacent to Captured Jamb	D.L.O. + 1-11/16" [42.9] (Width Only)
SSG Head	D.L.O. + 1" [25.4]
SSG Sill	D.L.O. + 1 1/16" [26.9]
SSG Jamb	D.L.O. + 2" [50.8] (Using E4212)
SSG Jamb	D.L.O. + 1" [25.4] (Using E4210/E4211)
Corner Mullions	See Approved Shop Drawings

CAUTION

Mandatory Installer Requirements for Structural Glazed Applications

The performance and structural integrity of a structural sealant glazed (SSG) framing system is dependent upon proper sealant selection and installation procedures.

Structural sealant selection and application is the responsibility of the erector, installer and/or glazing contractor and must be approved by the sealant manufacturer with regard to application and compatibility for its intended use. All sealants must be used in strict accordance with the sealant manufacturer's instructions and applied only by trained personnel to surfaces that have been properly prepared.

The structural sealant affixes the glazing infill to the framing system and must not experience adhesive or cohesive failures from structural or environmental project design requirements. The sealant's ability to perform depends on many factors including but not limited to proper sealant selection, surface preparation, infill type, frame finish type, environmental conditions at application and curing, horizontal and vertical system movements, sealant shelf life, cure time, handling, and compatibility of other materials in contact.

Proper adhesion to infill and framing is critical. Structural sealant must be compatible with all materials in contact, including frame finish (paint, anodize, power coating, etc.), glazing materials (gaskets, tapes, sealants, etc.), infill surface (glass, panel, etc.), and cleaning materials. Consult the sealant manufacturer for compatibility assessment, application instructions, and adhesion testing. Special surface preparations such as priming may be required by the sealant manufacturer.

It is the responsibility of the installer to ensure all glazing infills be reviewed and approved by the infill manufacture for use in SSG applications. Infills include but are not limited to glass, metal panels, stone, etc. Design modifications of the infill may be required for use in SSG applications.

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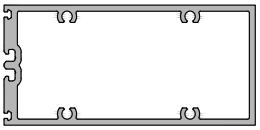
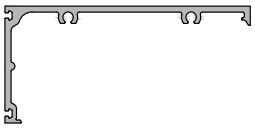
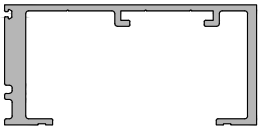
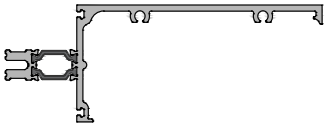
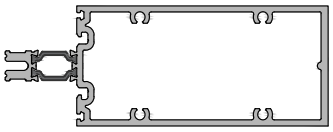
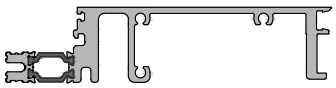
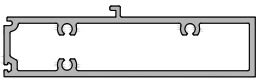
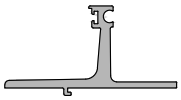
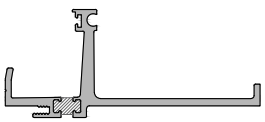
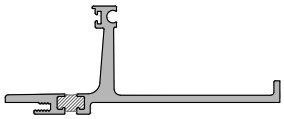
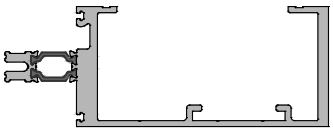
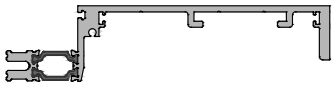
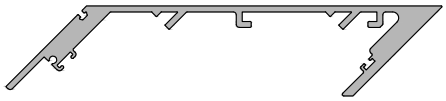
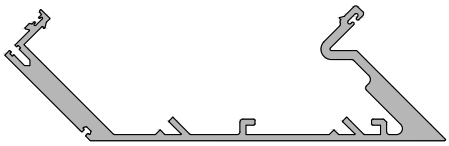
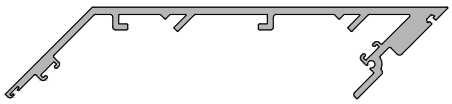
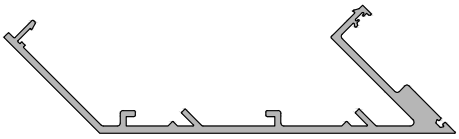
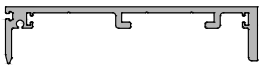
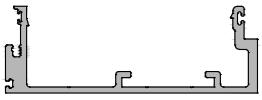
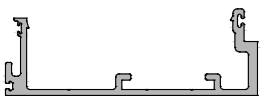
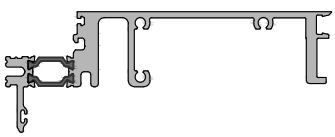
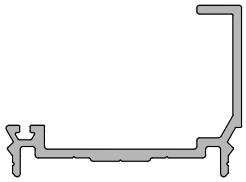
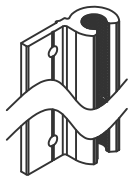
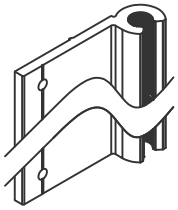
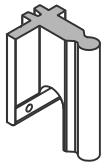
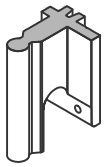
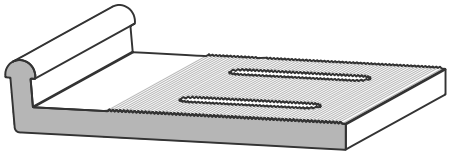
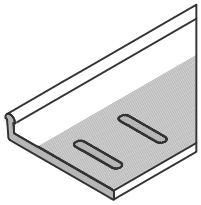
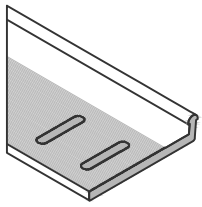
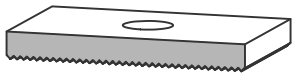
	Head/Sill Cover	E4165	5 1/4"
	SSG Horizontal	E4225	5 1/4"
	SSG Head	E4260	5 1/4"
	SSG Jamb	E4268	5 1/4"
	Head/Sill	A010595	5 1/4"
	Captured Horizontal	A010573	5 1/4"
	Captured Upper Expansion Horizontal	A060518	5 1/4"
	Lower Expansion Horizontal	E4283	5 1/4"
	SSG Upper Expansion Horizontal	E4284	5 1/4"
	Expansion Chicken Head	E4286	N/A
	Starter Chicken Head Captured	T4229	N/A

SHAPE	DESCRIPTION	Part No.	Back Member
	Starter Chicken Head SSG	T4228	N/A
	Captured Jamb	A010514	5 1/4"
	Female Captured Vertical	A010549	5 1/4"
	OS 90 Corner Half-Female	E4294	5 1/4"
	OS 90 Corner Half-Male	E4295	5 1/4"
	IS 90 Corner Half-Female	E4298	5 1/4"
	IS 90 Corner Half-Male	E4299	5 1/4"
	Female SSG Vertical	E546TU	5 1/4"
	Male SSG Vertical	E547TU	5 1/4"
	Male Captured Vertical	E548TU	5 1/4"
	Captured Expansion Sill	A417518	5 1/4"

SHAPE	DESCRIPTION	Part No.
	Typical Pressure Plate	M300TU
	Perimeter Pressure Plate	M301TU
	Expansion Horizontal Pressure Plate	M4106
	Typical Face Cover	E4TB64
	Expansion Horizontal Face Cover	E4133

SHAPE	DESCRIPTION	Part No.
	Top of Slab Anchor Clip (use at Vertical and IS°90 Mulls)	P4764
	Top of Slab Anchor Clip (use at OS°90 Mulls)	P4775
	Top of Slab Right Anchor Shoe	P4765
	Top of Slab Left Anchor Shoe	P4815
	Top of Slab Anchor Plate	P4763
	Top of Slab OS °90 Anchor Plate - Right	P4773
	Top of Slab OS °90 Anchor Plate - Left	P4774
	Top of Slab Anchor Lug	P4762
	Channel at Top-of-Slab Anchor	P4822

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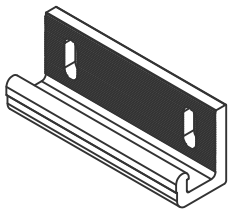
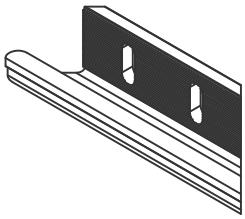
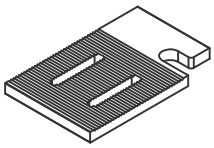
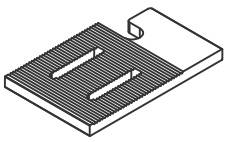
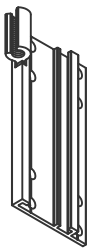
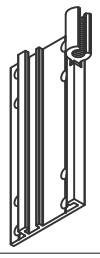
	Face of Slab J Anchor	P4263
	Face of Slab OS90 J Anchor	P4263B
	J Anchor Locking Lug	P4264
	Left Side J Anchor Saddle	P4265L
	Right Side J Anchor Saddle	P4265R
	Left Side J Anchor Clip	P4266L
	Right Side J Anchor Clip	P4266R

SHAPE	DESCRIPTION	Part No.
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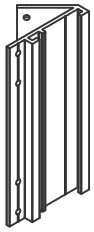
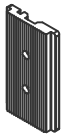
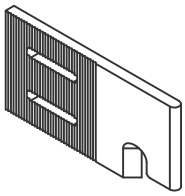
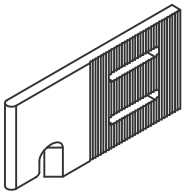
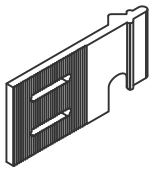
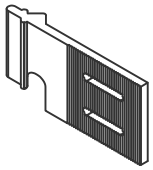
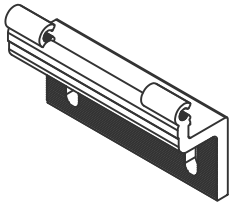
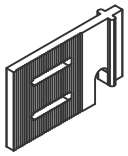
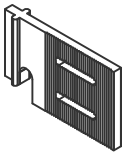
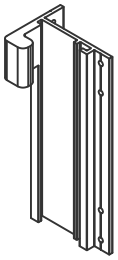
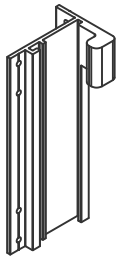
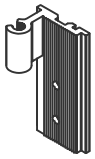
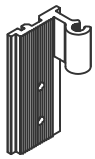
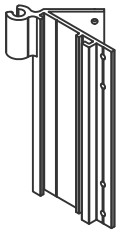
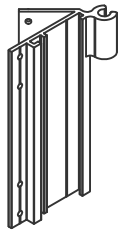
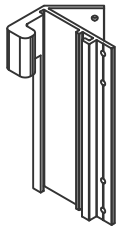
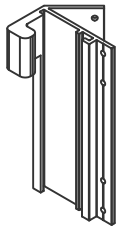
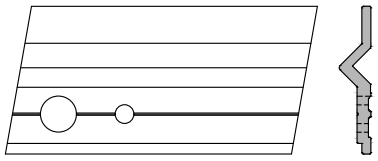
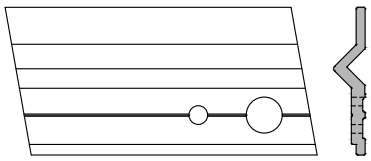
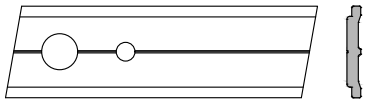
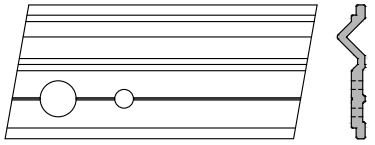
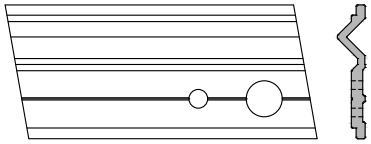
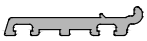
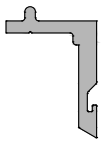
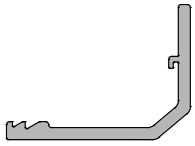
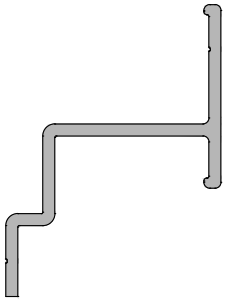
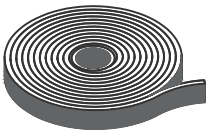
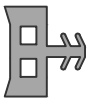
	OS Corner Wind Load Anchor Clip	P4236
	Locking Lug	P4267
	Left Side OS 90 J Anchor Saddle	P4262L
	Right Side OS 90 J Anchor Saddle	P4262R

SHAPE	DESCRIPTION	Part No.
	Left Side OS 90 Z anchor Saddle	P4232L
	Right Side OS 90 Z Anchor Saddle	P4232R
	Under-Mount Z-Anchor	P4233
	Left Side Z Anchor Saddle	P4235L
	Right Side Z anchor Saddle	P4235R
	Left Side Under-Mount Z Anchor Clip	P4236L
	Right Side Under-Mount Z Anchor Clip	P4236R

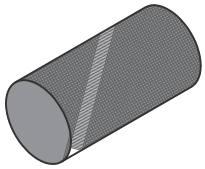
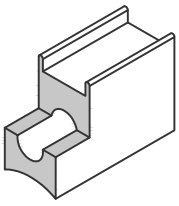
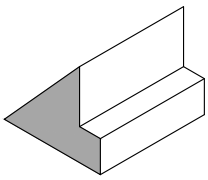
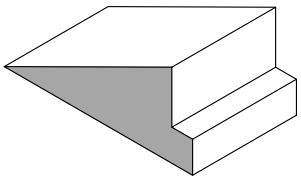
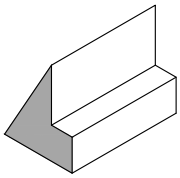
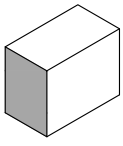
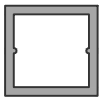
SHAPE	DESCRIPTION	Part No.
	Left Side Under-Mount Locking Lug	P4237L
	Right Side Under-Mount Locking Lug	P4237R
	Left Side OS 90 Anchor Clip	P5120L
	Right Side OS 90 Anchor Clip	P5120R
	Lateral Adjustment Anchor Clip, for Under-Mount Anchor	P4231
	Left Side Under-Mount OS 90 Z Anchor Clip	P5130L
	Right Side Under-Mount OS 90 Z Anchor Clip	P5130R

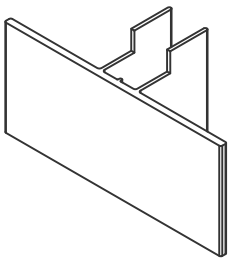
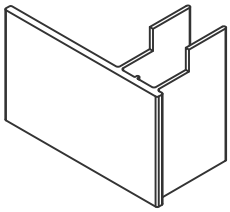
SHAPE	DESCRIPTION	Part No.
	Lifting Lug for IS 90 Corner at E4299	P4285
	Lifting Lug for IS 90 Corner at E4298	P4285A
	Typ Lifting Lug	P4287
	Lifting Lug for OS 90 Corner at E4294	P4296
	Lifting Lug for OS 90 Corner at E4295	P4296A
	Starter Sill Dead Load Block	P4817

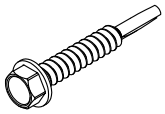
SHAPE	DESCRIPTION	Part No.
	Expansion Horizontal Interior Trim	E4201
	SSG Expansion Horizontal Setting Shelf	E4186
	Starter Sill Interior Trim	E4209
	SSG Perimeter Trim Mounting Bracket	E4210
	SSG Perimeter Trim Closure	E4211
	Glass-To-Edge Perimeter Angle	E4212
	Glass-To-Edge Perimeter, Wedge Temp Clip	E4213
	Door Jamb Support Clip	E4297

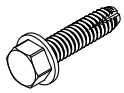
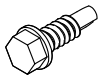
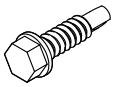
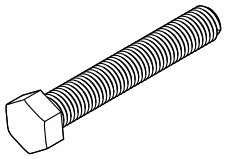
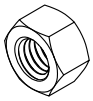
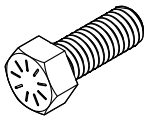
SHAPE	DESCRIPTION	Part No.
	SSG Gasket (At Perimeter)	P4631
	1/4" x 1" Glazing Tape Use With E4212/ E4211	P4648
	Wiper Gasket	P4730
	Air Seal Gasket	P4788
	Pressure Plate Isolator Gasket	P4808
	Wiper Gasket	P5114
	Vertical Stack Mullion Bulb Gasket	P9004
	Inside Corner Mullion Bulb Gasket	P9006

SHAPE	DESCRIPTION	Part No.
	Typical Glazing Spacer Gasket	P9010
	Outside Corner Diverter Gasket	P9049
	Exterior Weather Seal Bulb Gasket	P9088
	Chicken Head Gasket	PTB116
	PVC Rod Interior Chicken Head - 120" Length	PTB117C
	Rainscreen Gasket At SSG Expansion Horizontal	P2030

SHAPE	DESCRIPTION	Part No.
	1 7/8" [47.6] Angle Clip for Door Jambs	P761A
	Clip for Lifting Lug Nut	P4230
	Reticulated Foam - 3" Length	P4810
	Zone Dam SSG & Captured Horizontal to Captured Jamb & SSG Horizontal to Captured Vertical	P4601
	Zone Dam Captured Horizontal to SSG Jamb w/E4210/E4211 Perimeter Trim	P4851
	Zone Dam Captured Horizontal to SSG Jamb w/E4212 Glass-To-Edge Perimeter Angle	P4852
	Zone Dam Captured Horizontal to Captured Vertical	P4853
	Zone Dam Captured Horizontal to SSG Vertical	P4854
	1" X 1" X 24'-2" PVC Perimeter Tube	P4607

SHAPE	DESCRIPTION	Part No.
	TYP. Anti-Buckling Clip	P4615
	IS Corner Anti-Buckling Clip	P9743
	Front Anti-Buckling Clip	P4714
	SSG Expansion Horizontal Setting Block Silicone	P4603
	Captured Setting Block, Silicone	P4732
	SSG Horizontal Setting Block, Silicone	P5103S
	Setting Chair at SSG Horizontal - For 1" Infill	P5123
	T-Anchor for Punched Openings	P5252A
	F-Anchor for Punched Openings	P5253A

SHAPE	DESCRIPTION	Part No.
	1/4-20 X 1" UC FH IP30 TORX PLUS Self Tapping Screw (AT HEAD MEMBER ONLY, UNDER LIFTING LUG)	S114
	1/4-20 X 1 1/2" UC FH IP30 TORX PLUS Self Tapping Screw (AT HEAD MEMBER ONLY, OVER CORNER LIFTING LUG)	S116
	3/8"-16 Hex Nut Typical Lifting Lug Nut	S301
	3/8" Flat Washer Typical Lifting Lug Washer	S302
	1/4-20 X 1-1/2" HWH Frame Assembly Screw at Corners	S359
	#12-14 x 1-1/2" HWH 18-8 Self-Drill #4 PT Aluminum Pressure Plate Fastener	S400

SHAPE	DESCRIPTION	Part No.
	1/4-20 X 1" HWH Frame Assembly Screw	S403
	#8-18 x 3/4" Flat Head, Self Tapping Screw Perimeter Trim & Angle Attachment Screw	S418
	#10-16" X 3/4" Self Drilling, SS Lifting Lug Clip Attachment Screw	S441
	1/4" X 1" HWH TEK Anchor Clip Attachment Screw	S457
	#12 X 3/8" U-Drive Anchor Shoe Set Screw	S458
	9/16-12 X 3-1/2" Hex Bolt Jack Bolt - Top of Slab Deadload Anchor	S468
	9/16-12 Hex Nut Jack Bolt Lock Nut	S477
	3/8"-16 Hex Head Bolt For Lifting Lug (Use with S301)	S6502

TYPES OF CURTAIN WALL INSTALLATION

The 400TU SG curtain wall system is a structurally glazed system designed for low to mid-rise projects. It offers screw spline and shop-glazed construction where efficiency and quality are required. Refer to approved shop drawings for specific guidance on anchoring.

Shop glazing can be achieved by applying structural silicone around the perimeter of the glass, units than can be transported to the site and hoisted into place. See the illustrations below.

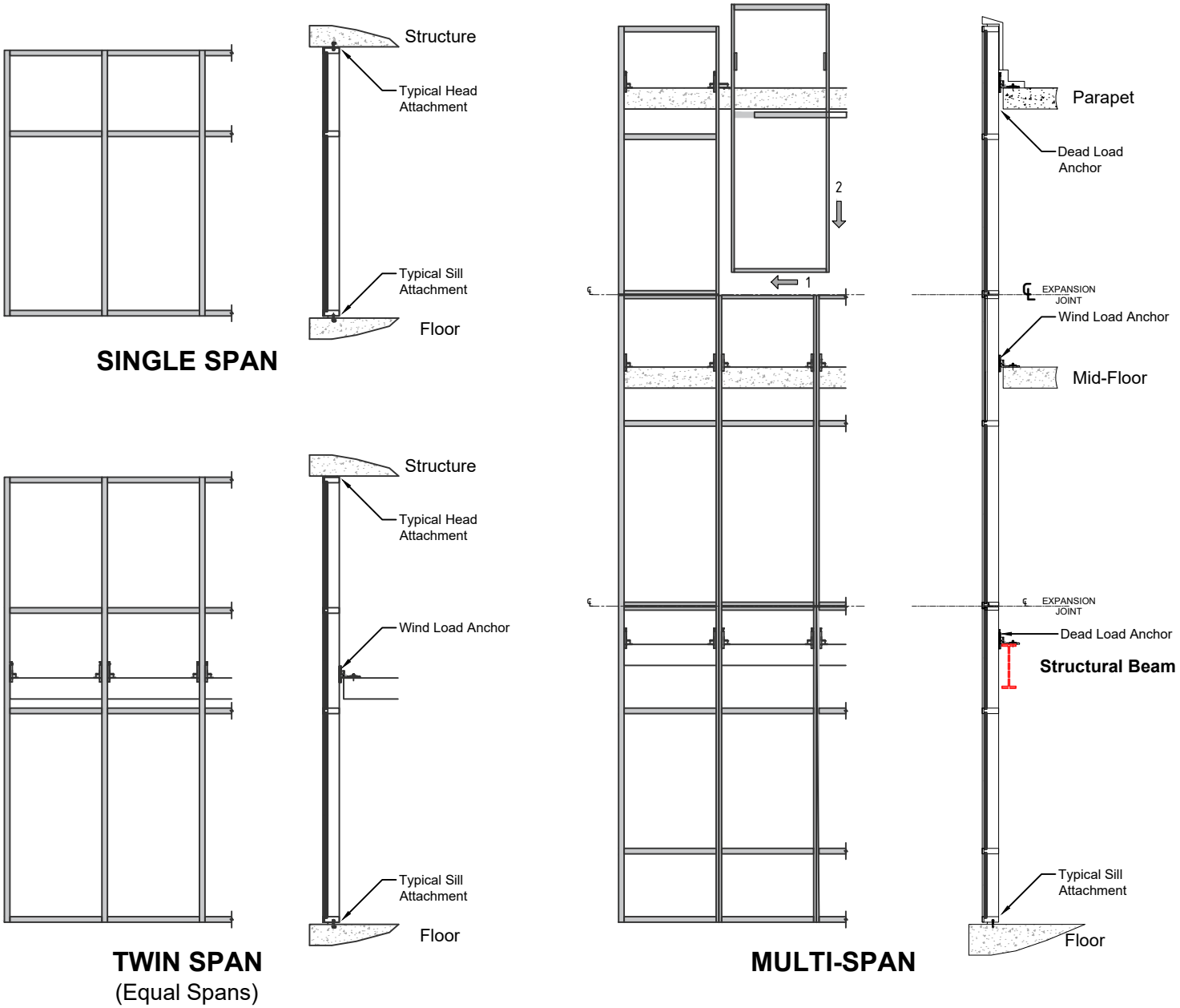


FIG. 1

NOTE: Span configurations will vary per project requirements. Conditions must be approved by engineers calculations.

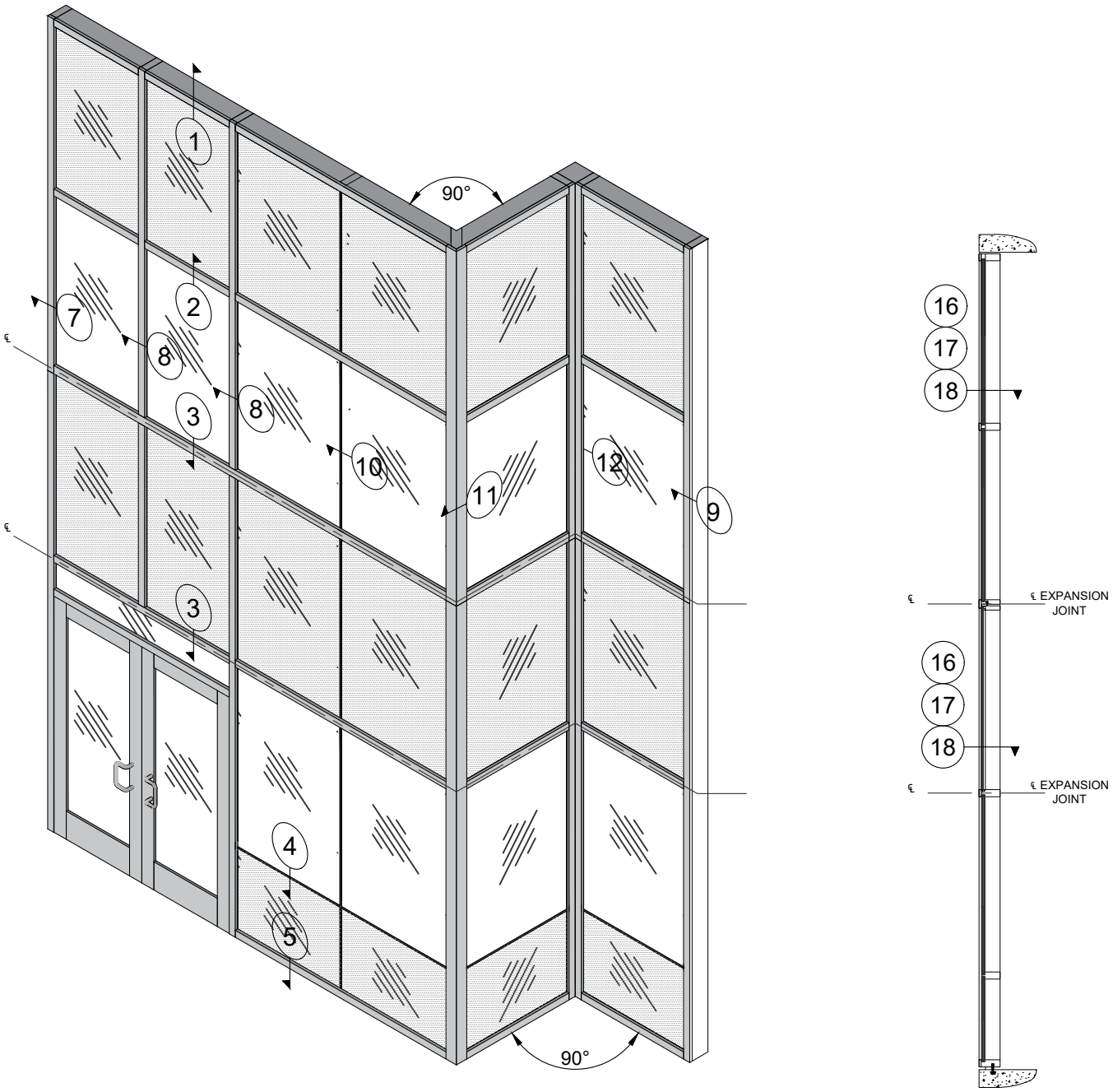
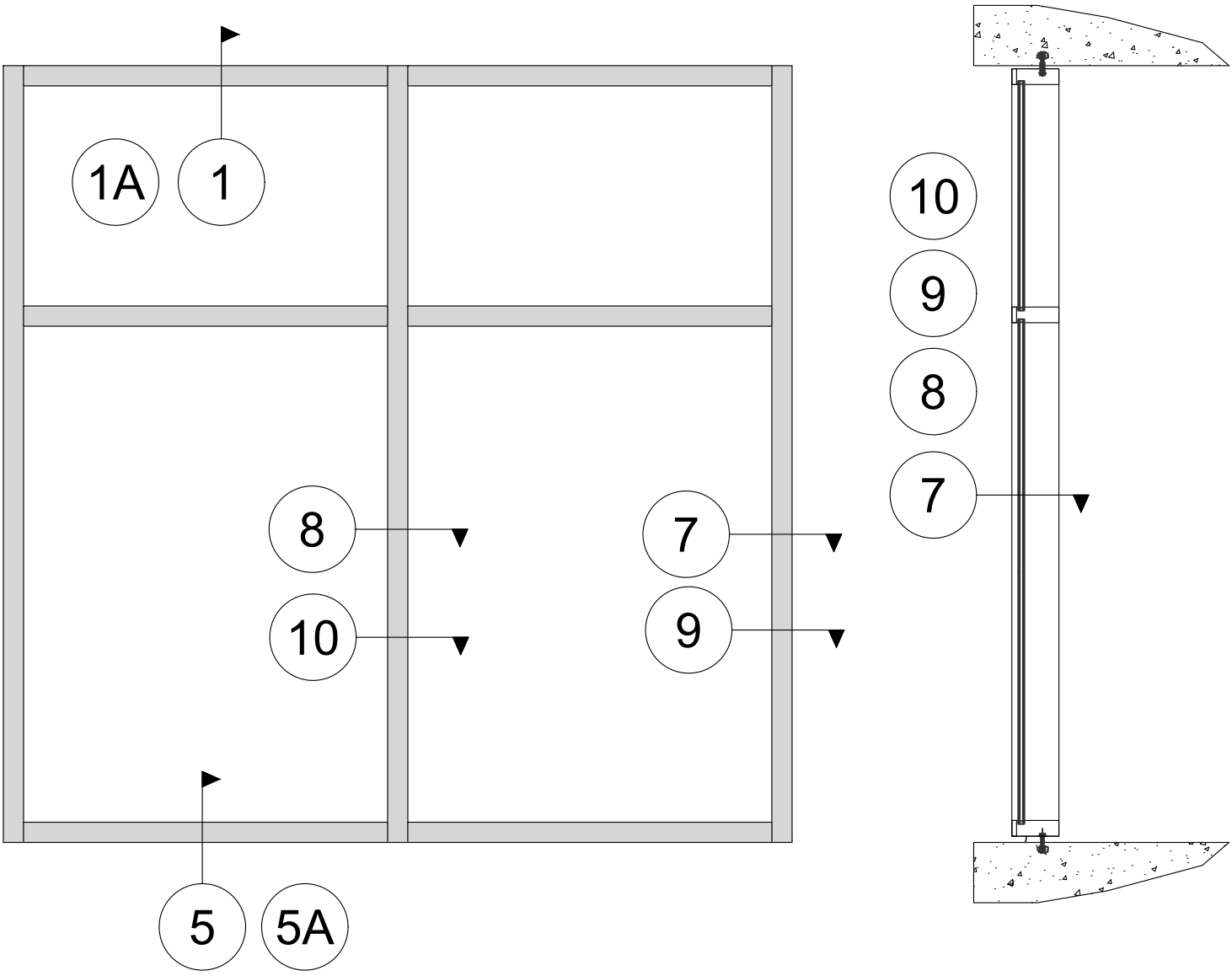


FIG. 1

NOTE: Span configurations will vary per project requirements. Conditions must be approved by engineers calculations.



NOTE: Span configurations will vary per project requirements.
Conditions must be approved by engineers calculations.

HORIZONTAL DETAILS

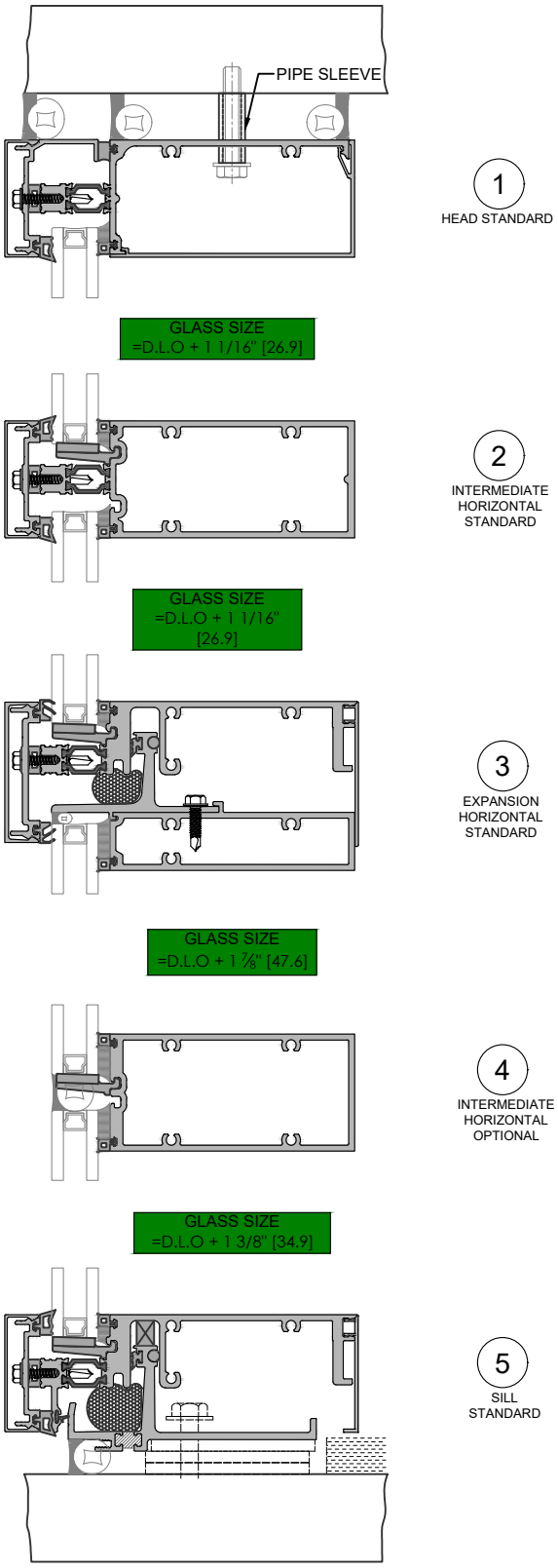


FIG. 1

OPTIONAL HORIZONTAL DETAILS

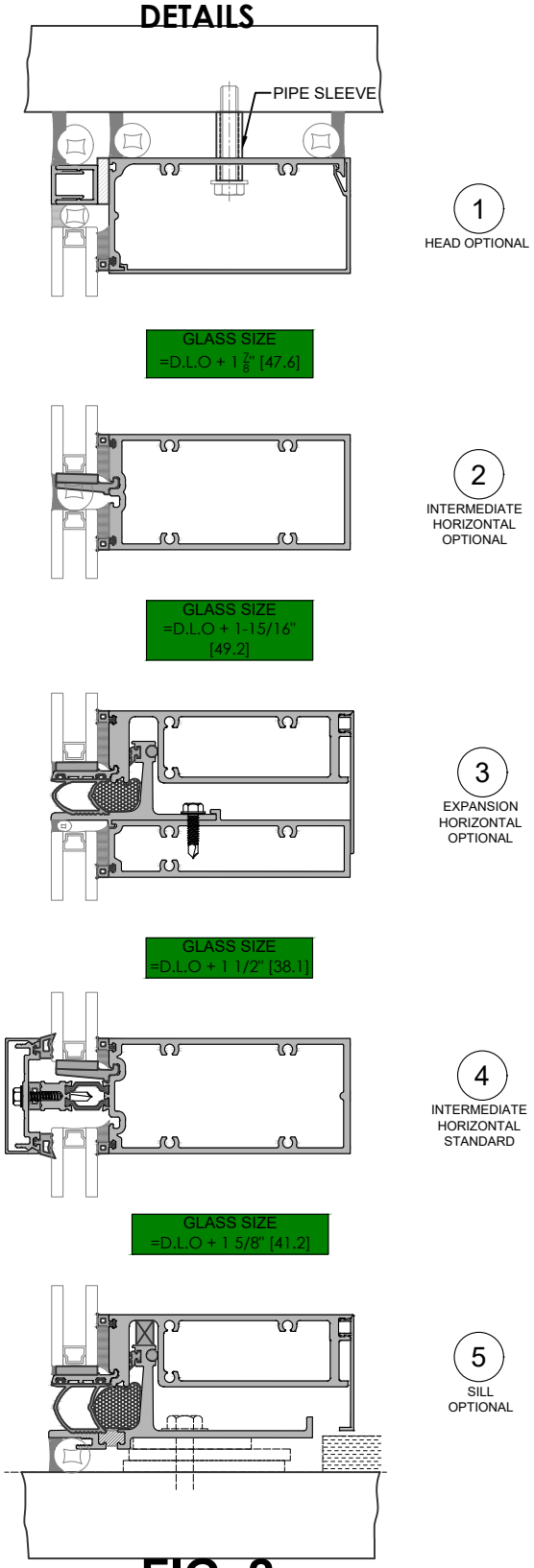


FIG. 2

NOTE: Refer to the Glass Calculations table on Page 4 for a complete list of glass sizes

CRITICAL: Ensure vertical mullions are oriented and installed in the LEFT-to-RIGHT sequence as per **FIG 1** below. To reverse installation sequence vertical mullions & E4286 Chicken Head overlap must be reversed **FIG 2**.

VERTICAL DETAILS

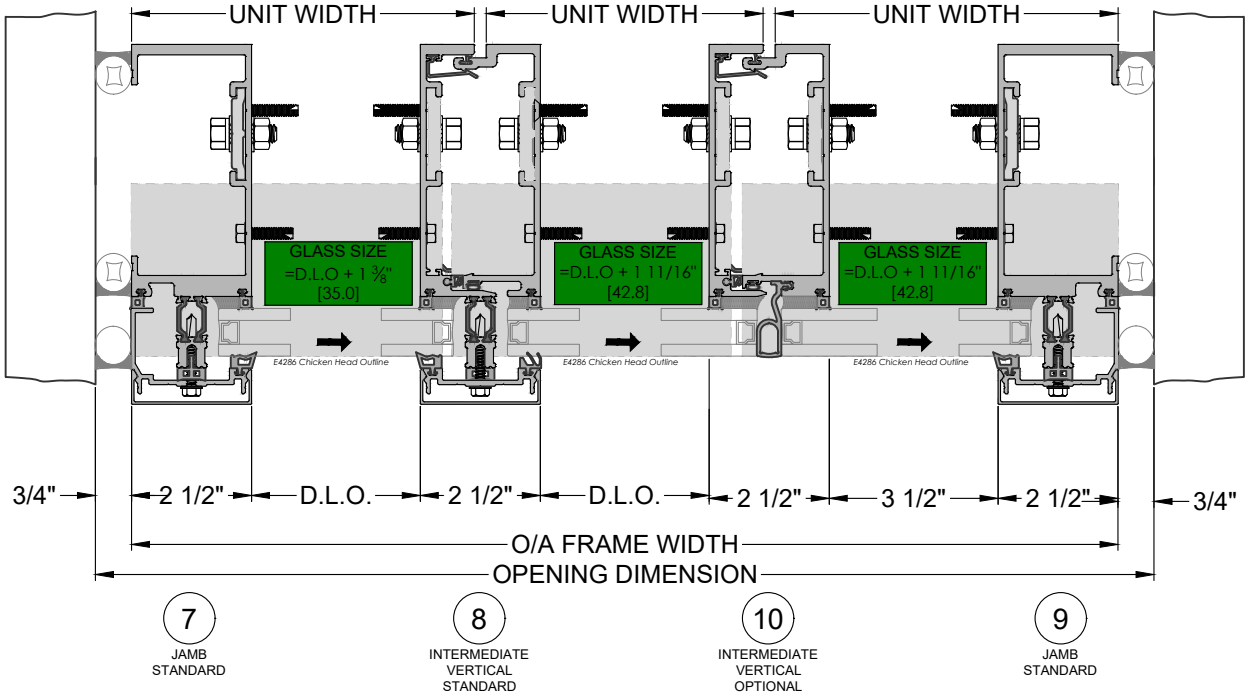


FIG. 1

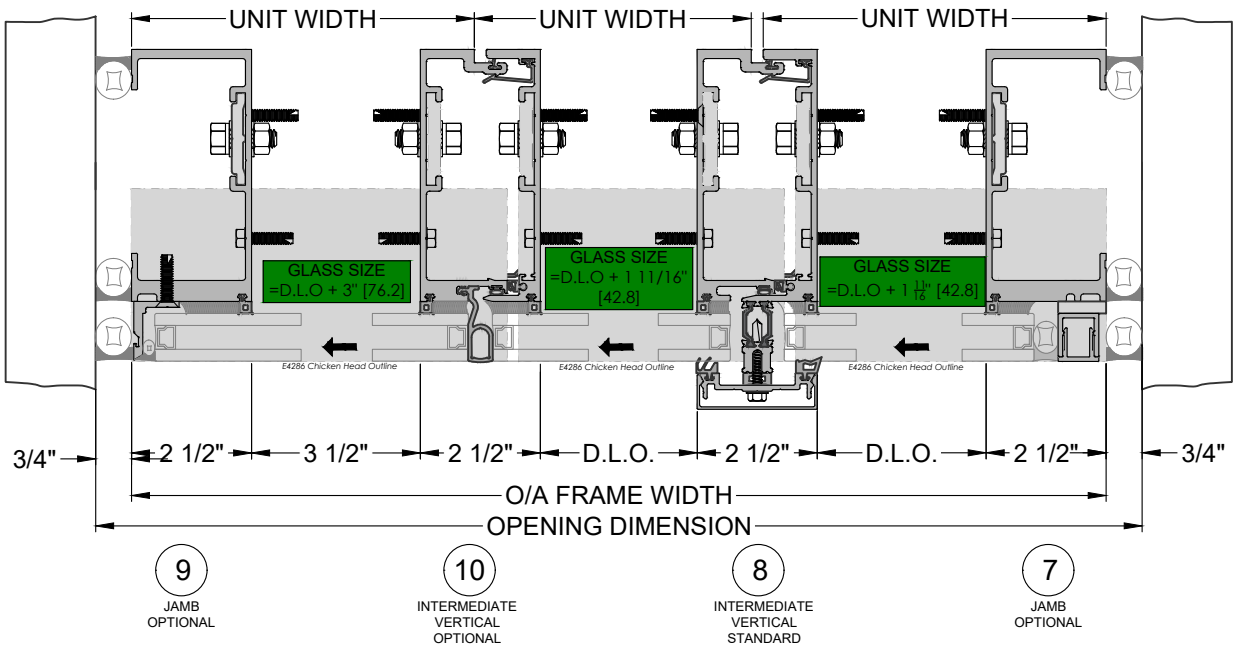


FIG. 2

NOTE: Refer to the Glass Calculations table on Page 4 for a complete list of glass sizes

Punched Opening Details

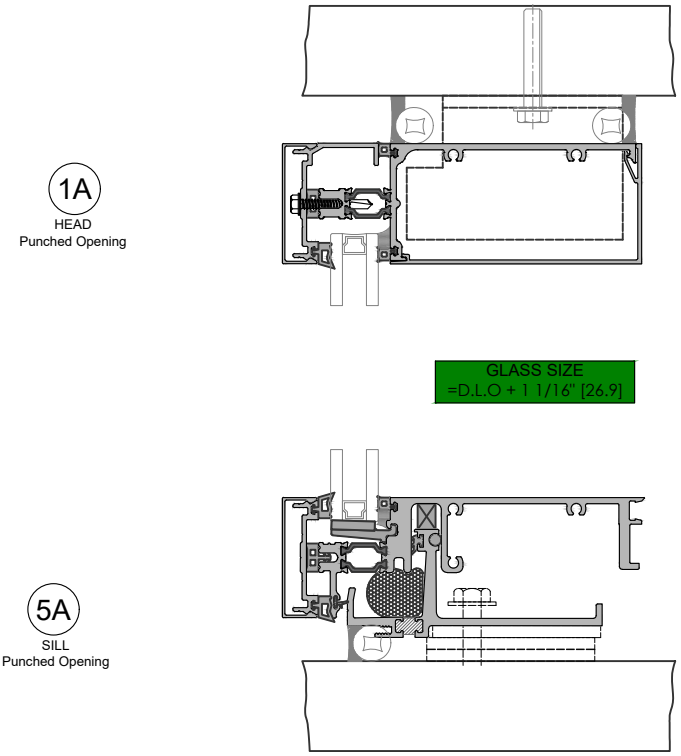
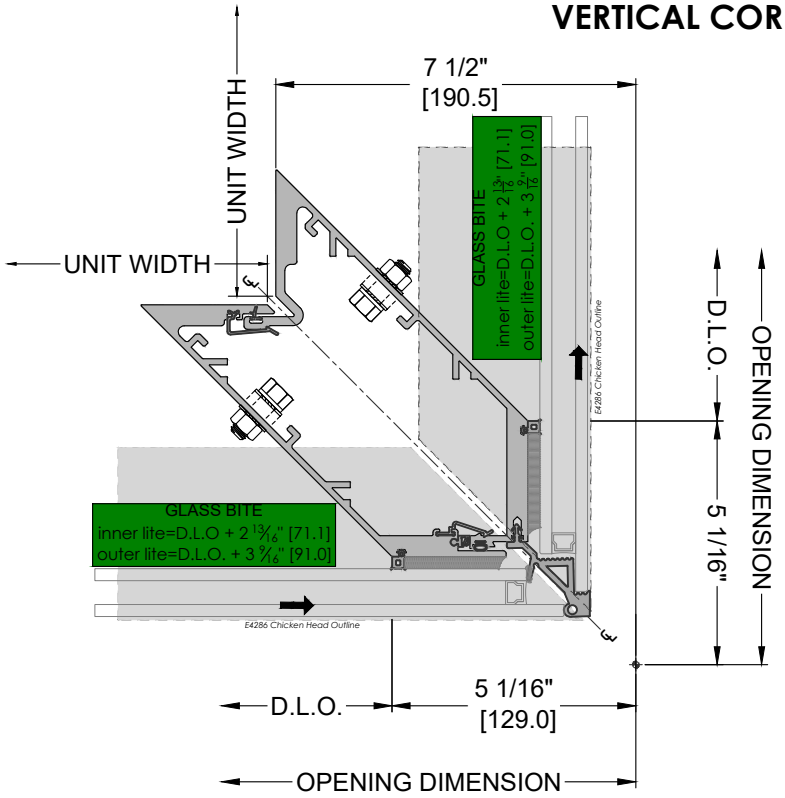


FIG. 1

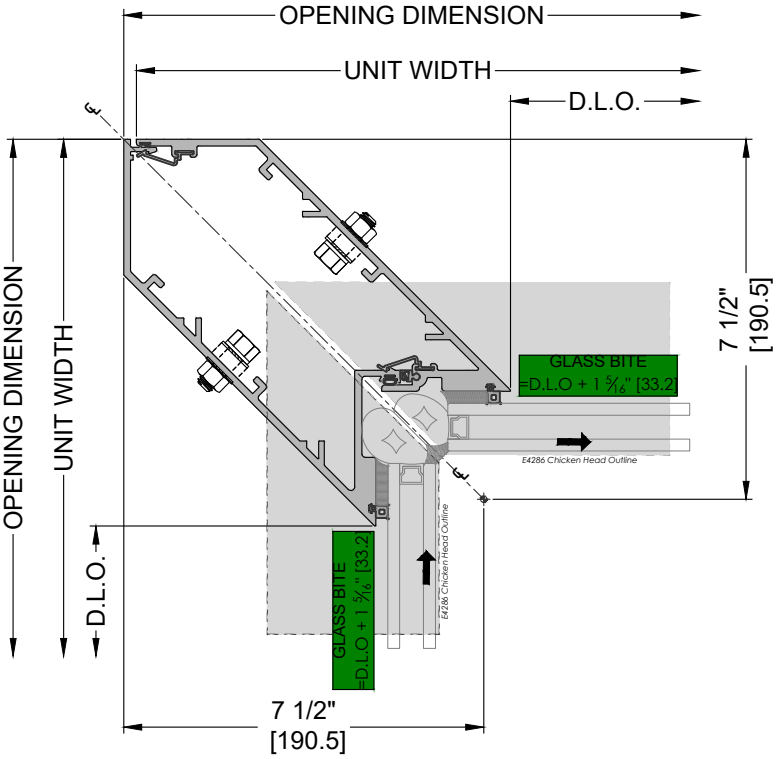
NOTE: Refer to the Glass Calculations table on Page 4 for a complete list of glass sizes

CRITICAL: Ensure vertical mullions are oriented and installed in the LEFT-to-RIGHT sequence as per **FIG 1** below. To reverse installation sequence vertical mullions & E4286 Chicken Head overlap must be reversed.

VERTICAL CORNER DETAILS



10
OUTSIDE CORNER STANDARD



11
INSIDE CORNER STANDARD

NOTE: Refer to the Glass Calculations table on Page 4 for a complete list of glass sizes

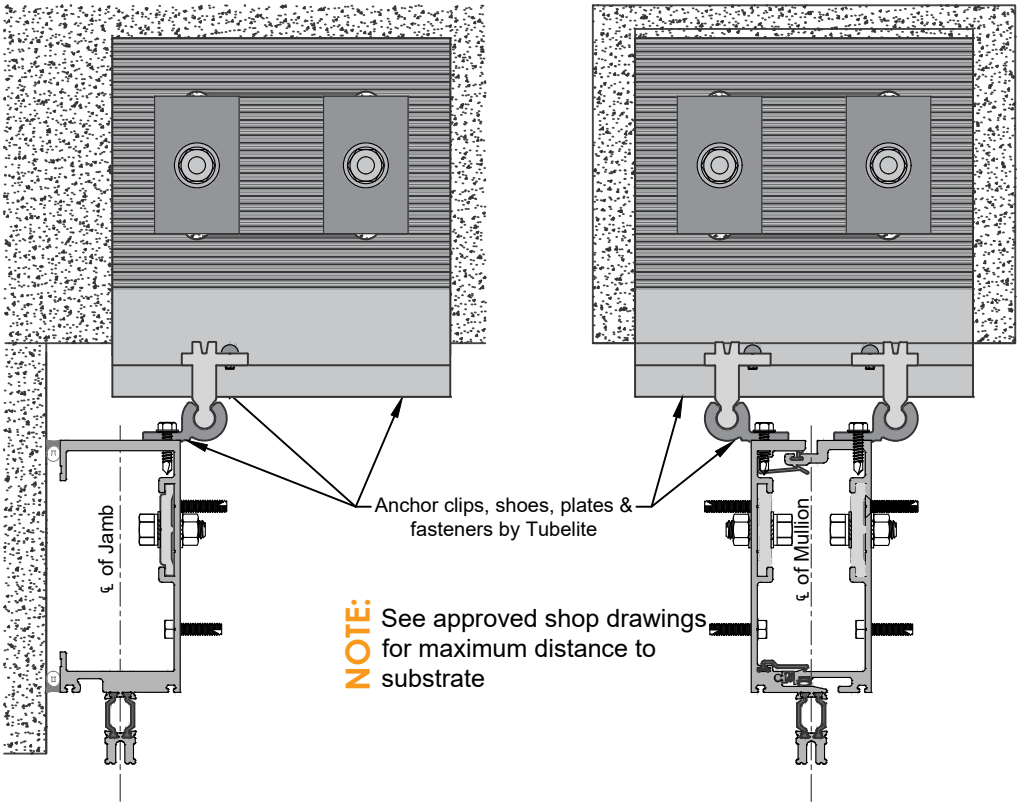
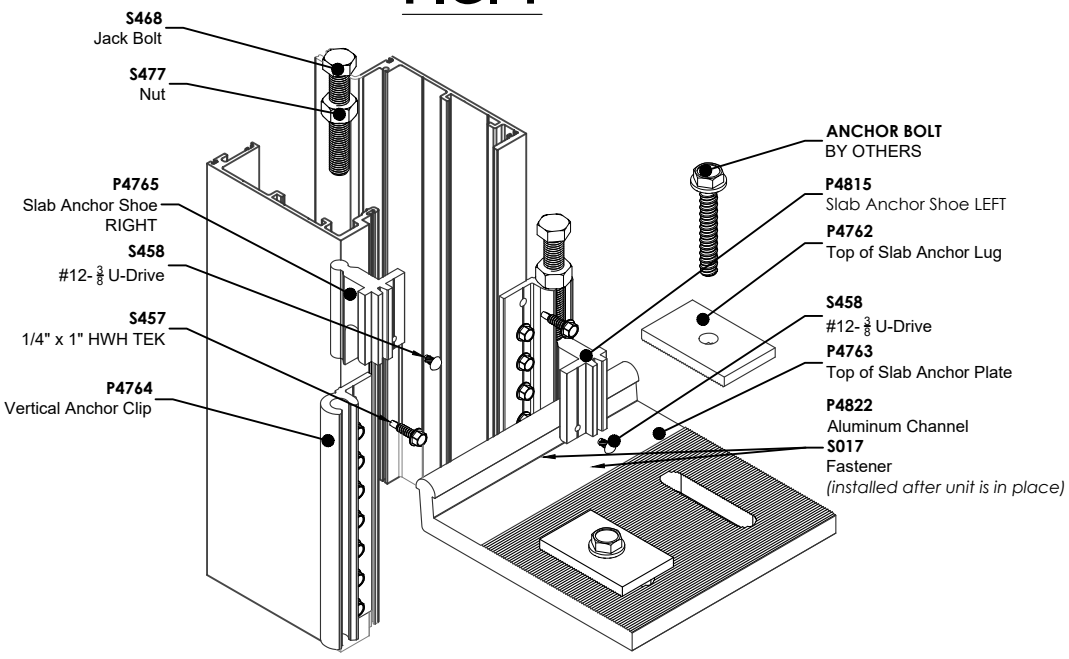


FIG. 1



TYP. TOP OF SLAB ANCHOR ASSEMBLY

NOTE: Anchor details represent some of several methods of anchoring. Refer to approved shop drawings for job specific applications.

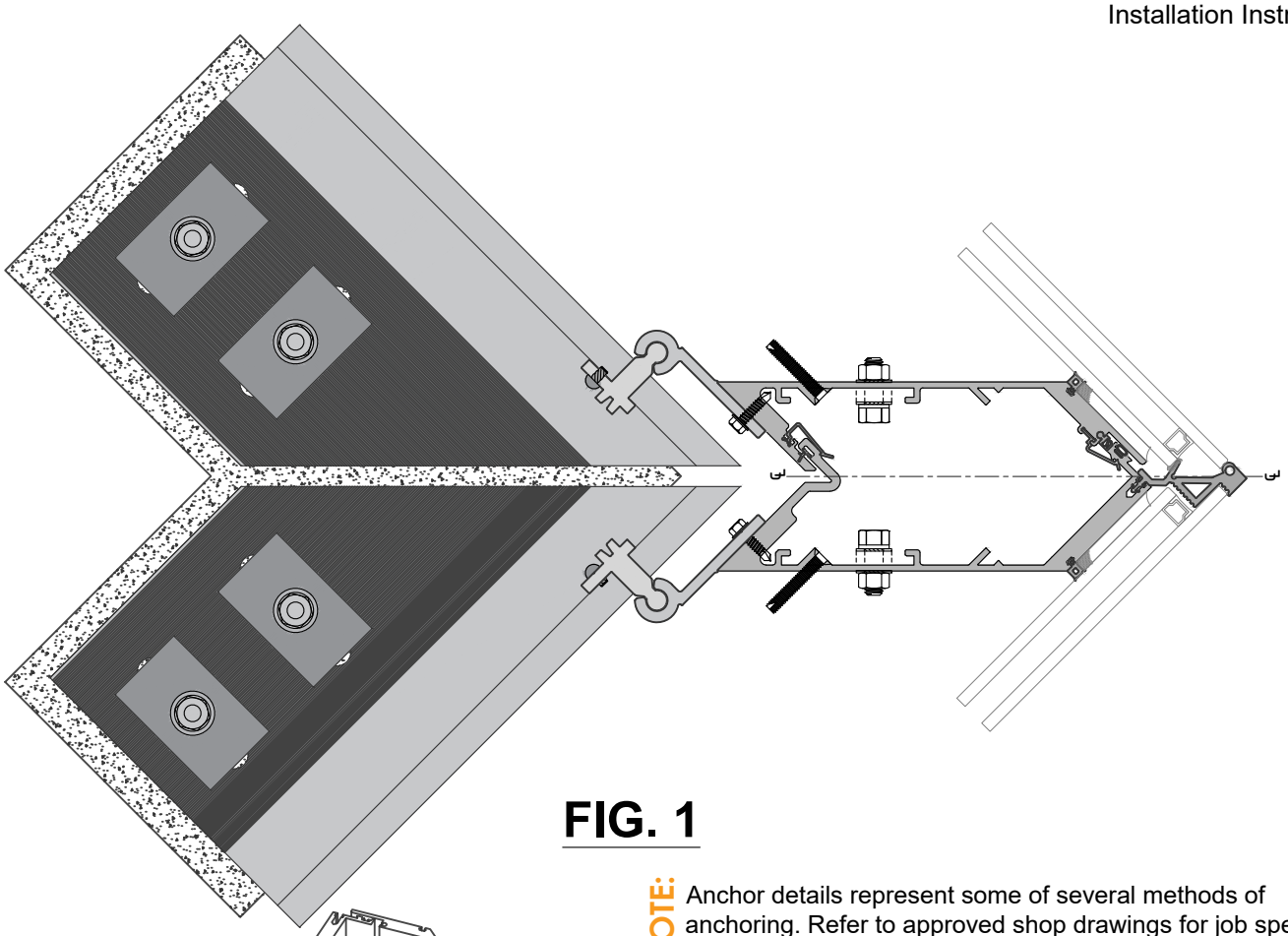
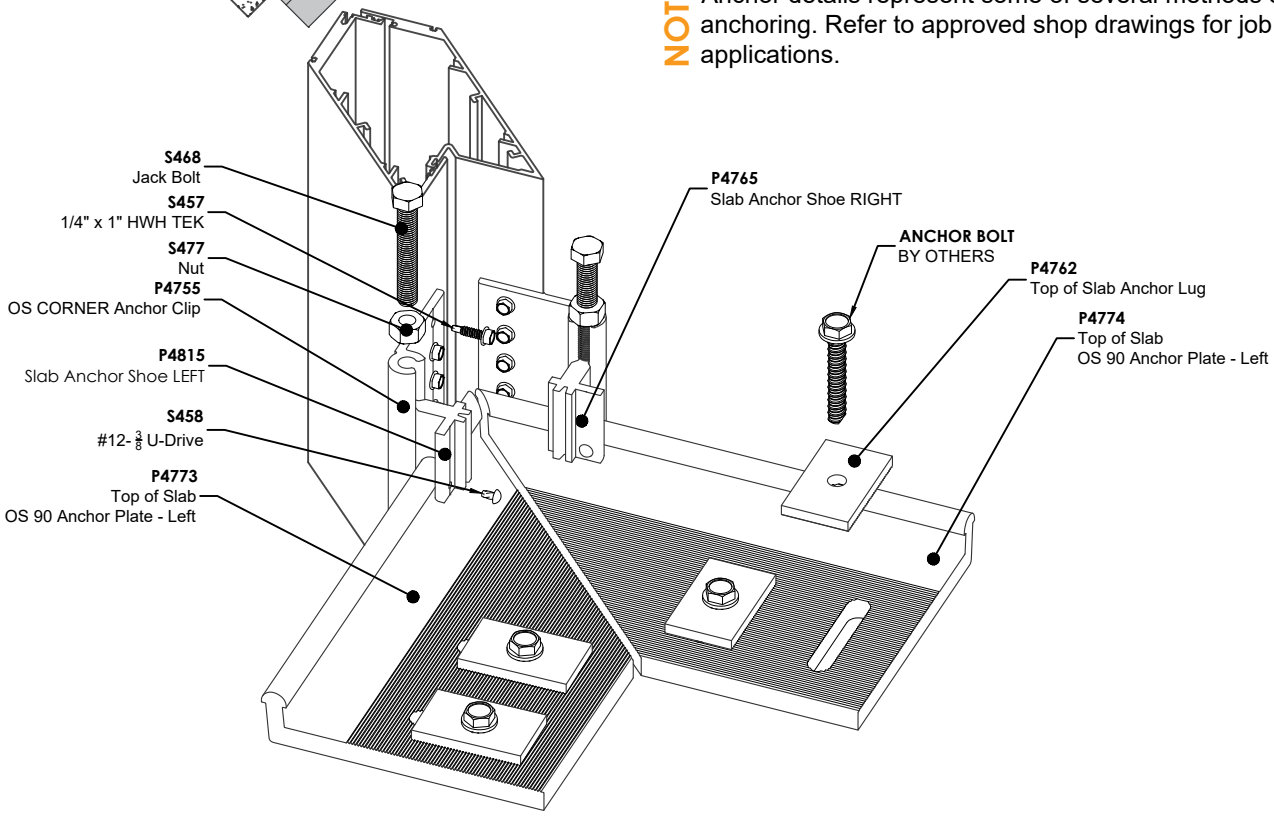
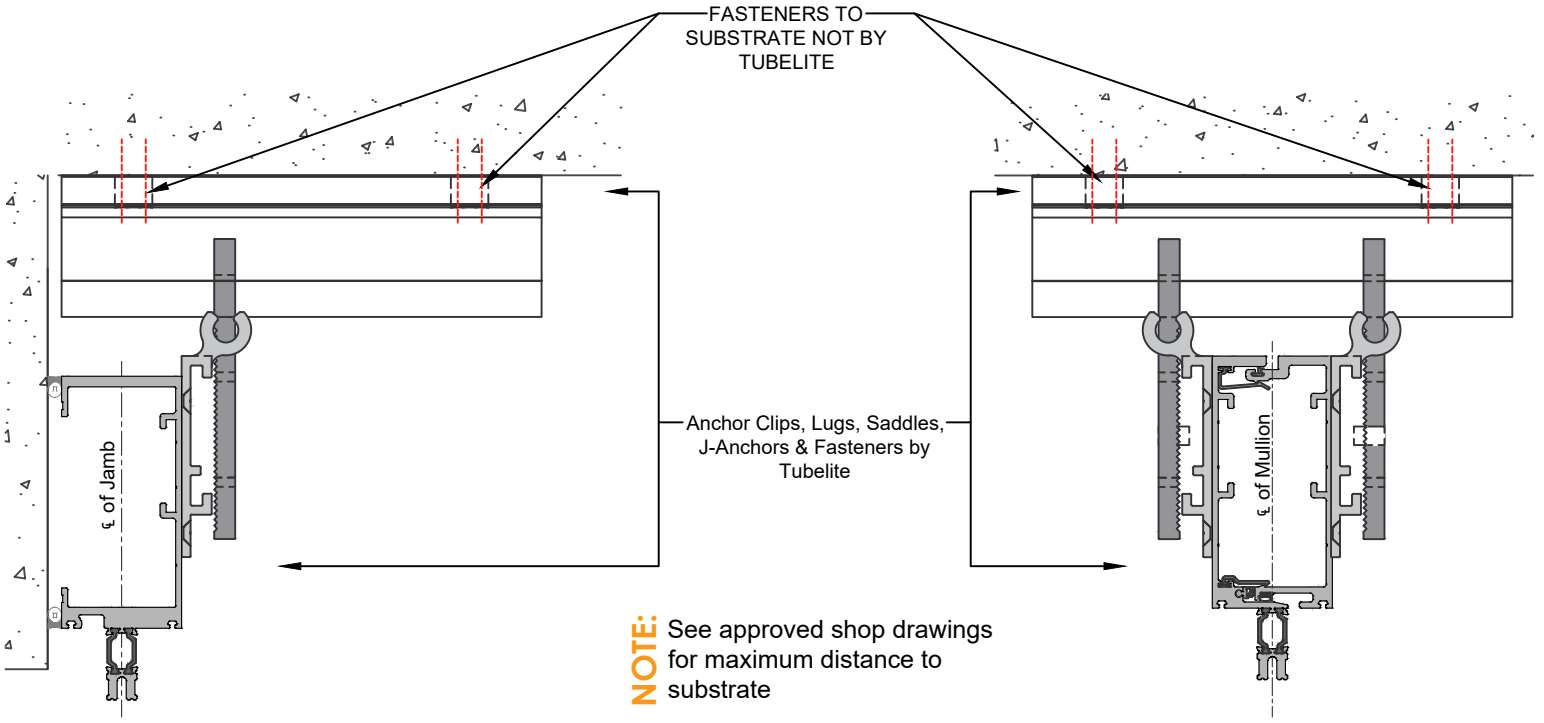


FIG. 1

NOTE: Anchor details represent some of several methods of anchoring. Refer to approved shop drawings for job specific applications.

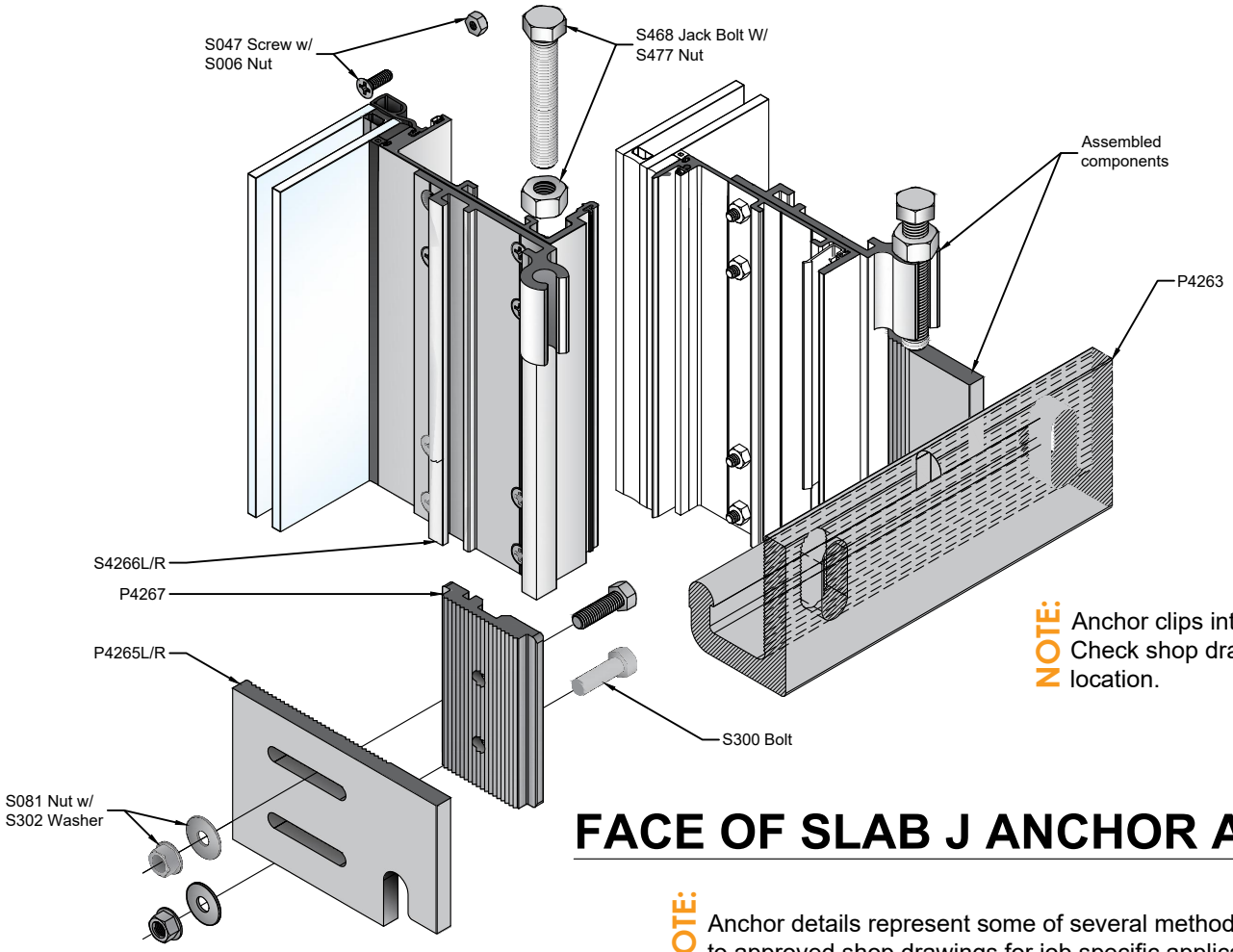


OUTSIDE CORNER TOP OF SLAB ANCHOR ASSEMBLY



NOTE: See approved shop drawings for maximum distance to substrate

FIG. 1



NOTE: Anchor clips interfere with horizontals, Check shop drawings to verify anchor location.

FACE OF SLAB J ANCHOR ASSEMBLY

NOTE: Anchor details represent some of several methods of anchoring. Refer to approved shop drawings for job specific applications.

NOTE: Anchor clips interfere with horizontals, Check shop drawings to verify anchor location.

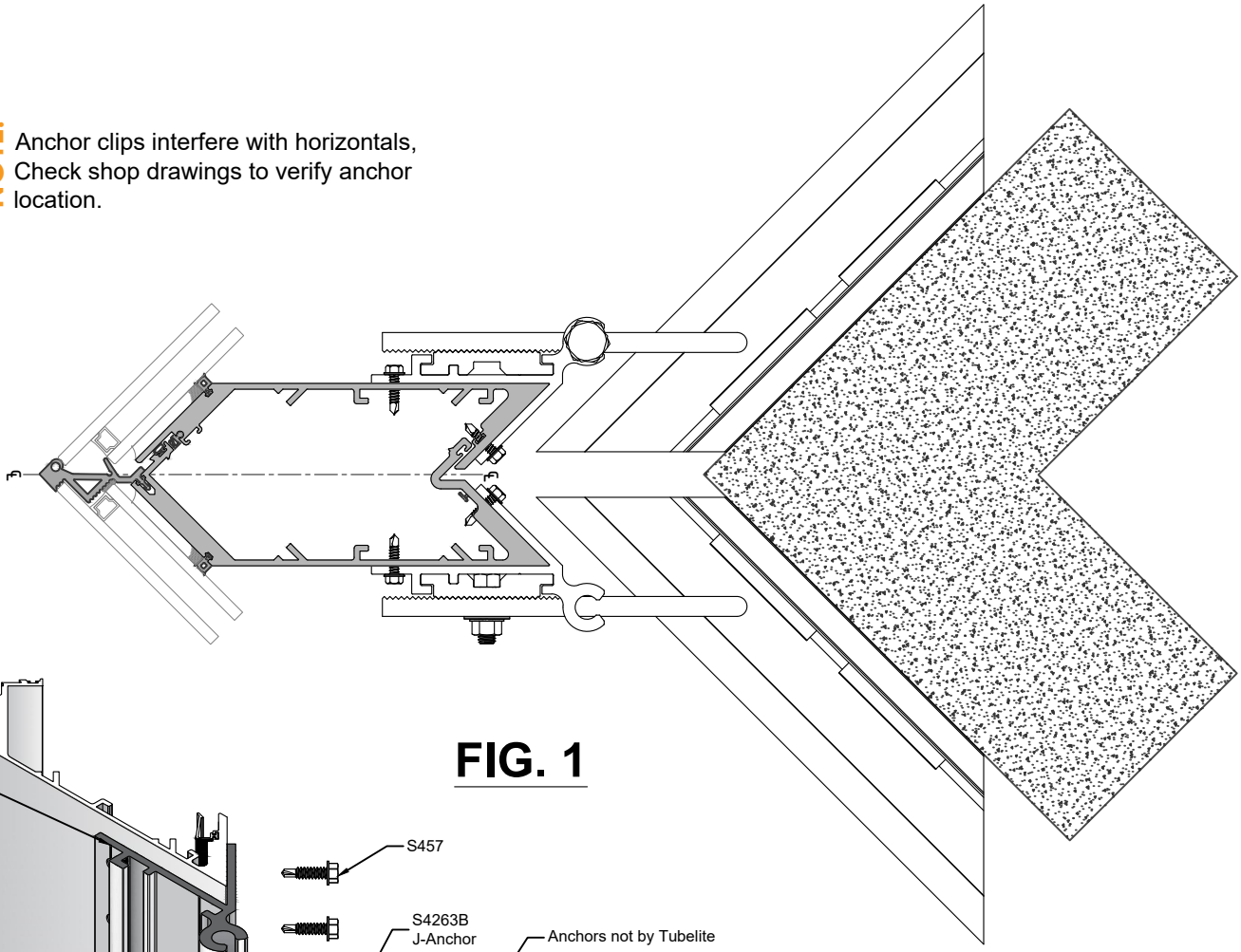
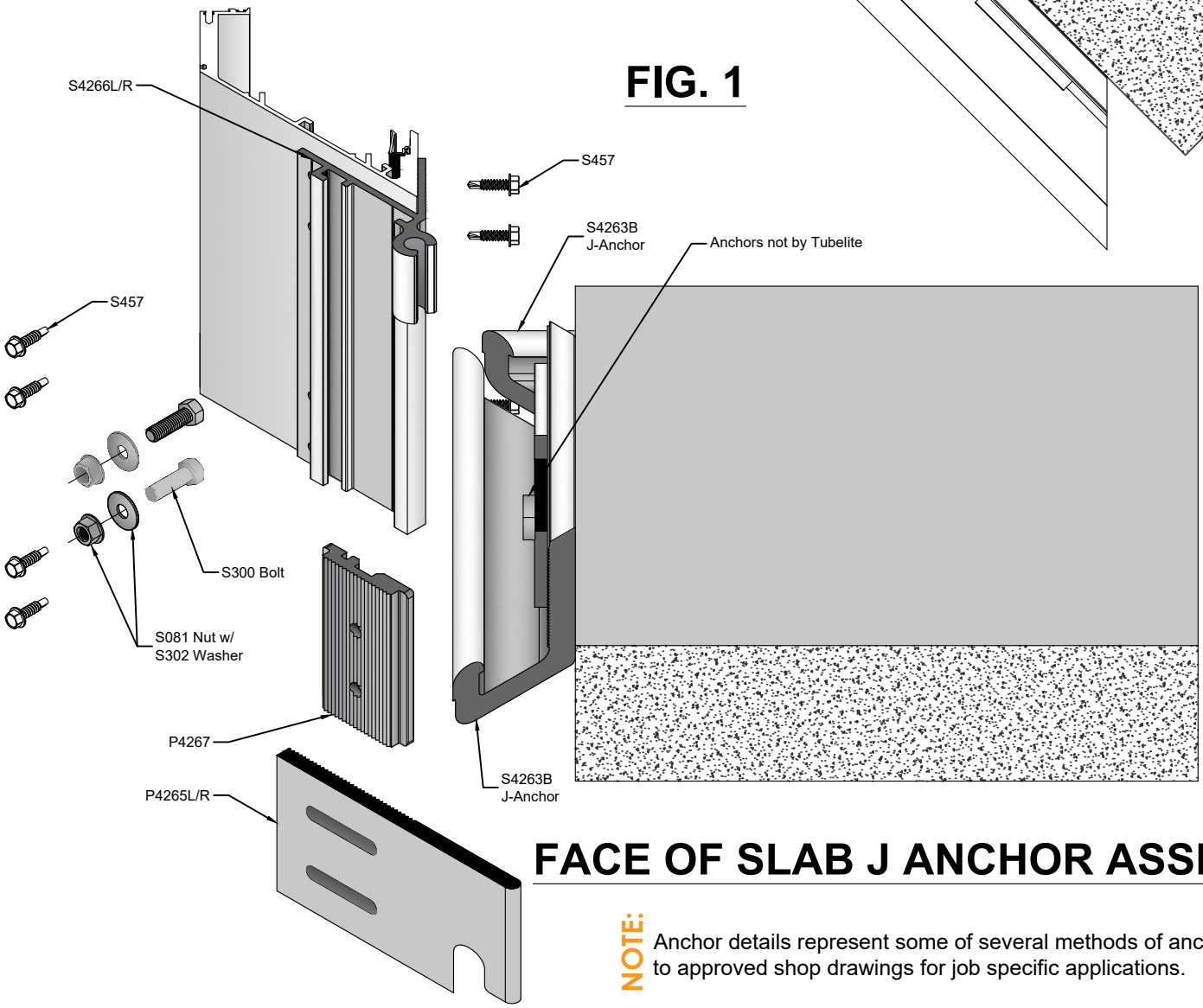


FIG. 1

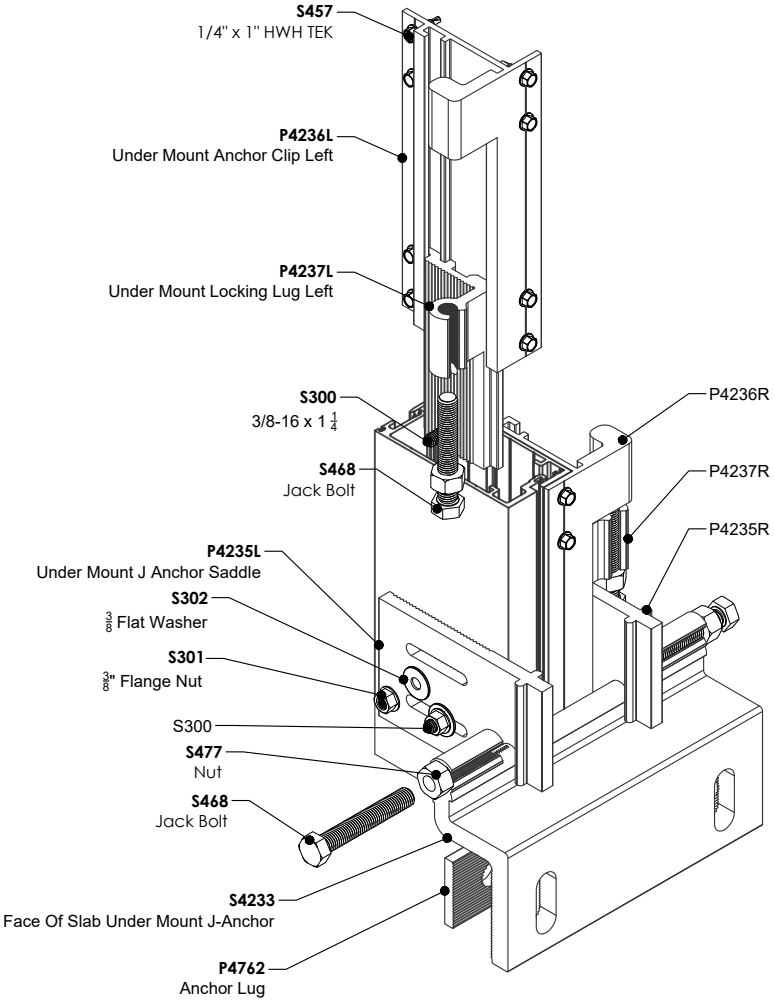


FACE OF SLAB J ANCHOR ASSEMBLY

NOTE: Anchor details represent some of several methods of anchoring. Refer to approved shop drawings for job specific applications.

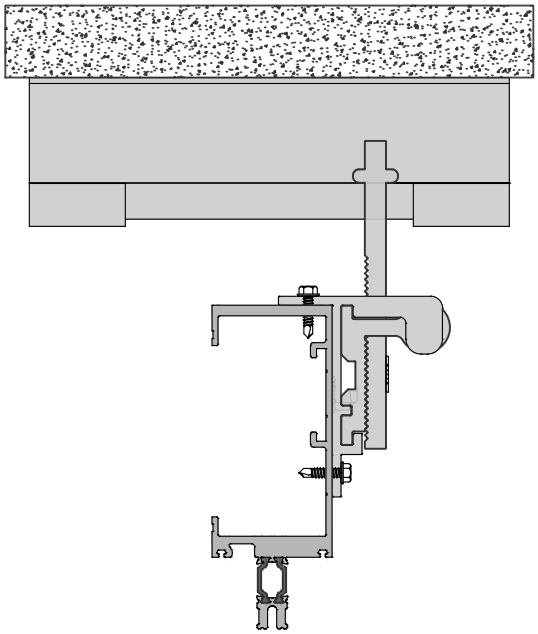
STEP 1

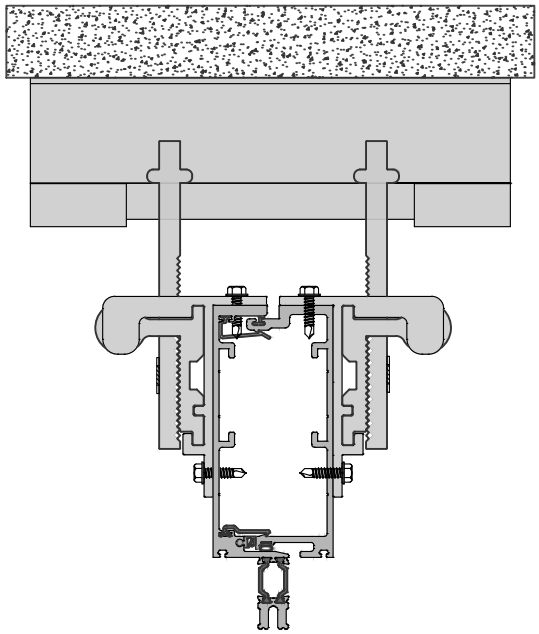
TYP FACE OF SLAB Z ANCHOR ASSEMBLY



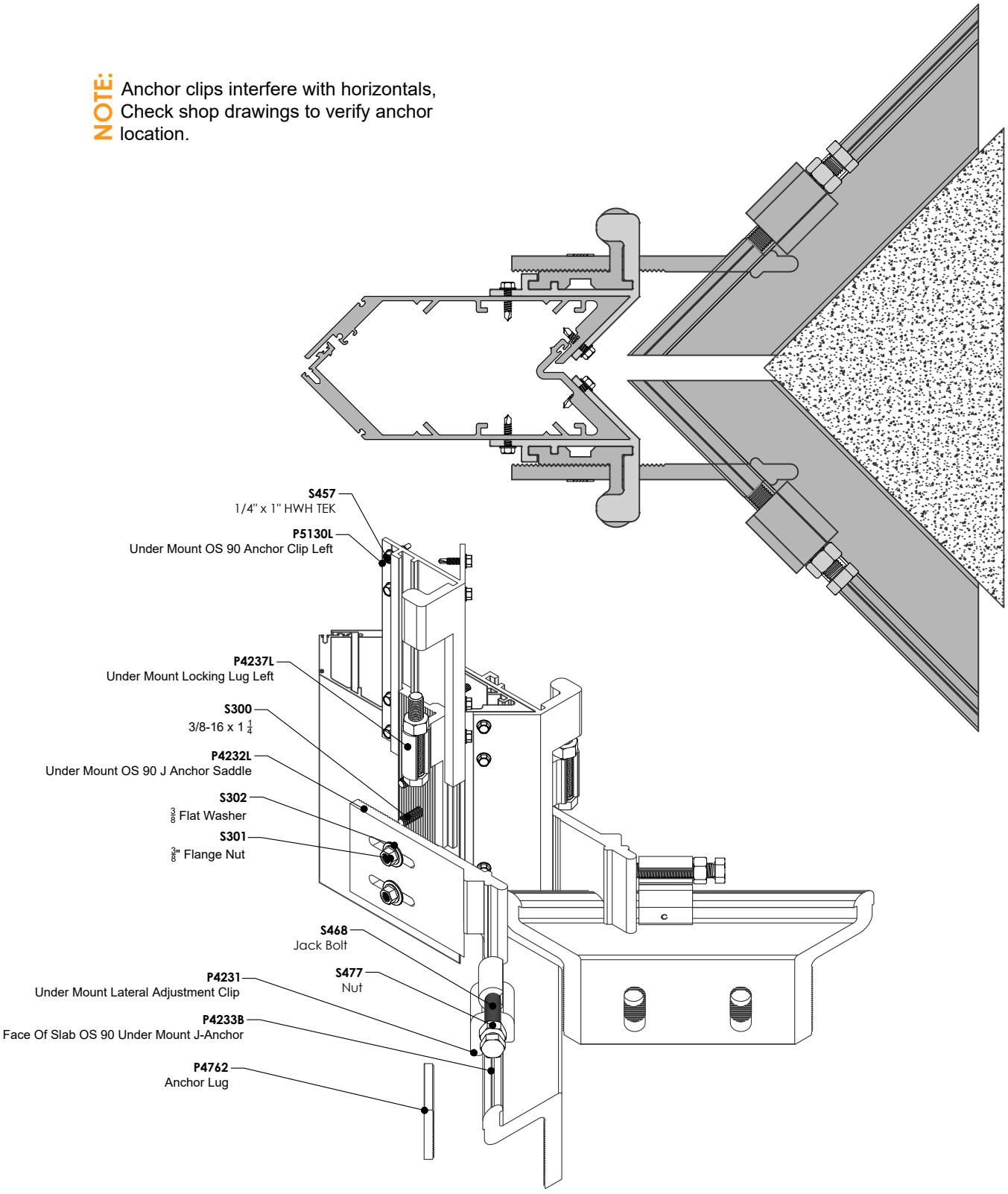
NOTE: Anchor details represent some of several methods of anchoring. Refer to approved shop drawings for job specific applications.

NOTE: Anchor clips interfere with horizontals, Check shop drawings to verify anchor location.





NOTE: Anchor clips interfere with horizontals, Check shop drawings to verify anchor location.



OUTSIDE CORNER FACE OF SLAB Z ANCHOR ASSEMBLY

NOTE: Anchor details represent some of several methods of anchoring. Refer to approved shop drawings for job specific applications.

Frame Width

a. Make sure the opening is square and plumb. Measure each diagonal of the opening. **SEE FIG. 1**.
b. Measure the width of the opening (Rough Opening) at the top, middle and bottom. Select the smallest of these dimensions and subtract the left and right caulk joint width per approved shop drawing (3/4" [19] minimum caulk joint at jambs). **SEE FIG. 2**.
c. Allow a larger clearance to accommodate building tolerances, an out-of-square opening, anticipated thermal expansion within the unit or as required by shop drawings.

Frame Height

A. Measure the height of the opening (Rough Opening) at several points along the entire width of the opening. Select the smallest of these dimensions and subtract 1-1/2" [38.1] to allow a minimum of 3/4" [19] at sill and head for shim and caulking. **SEE FIG. 3**. Allow a larger clearance to accommodate building tolerances, an out-of-square opening, anticipated thermal expansion within the unit or as required by shop drawings.

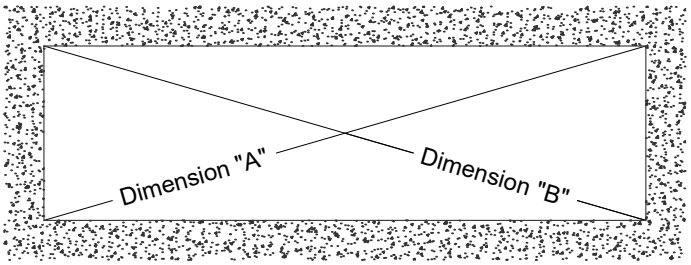


FIG. 1

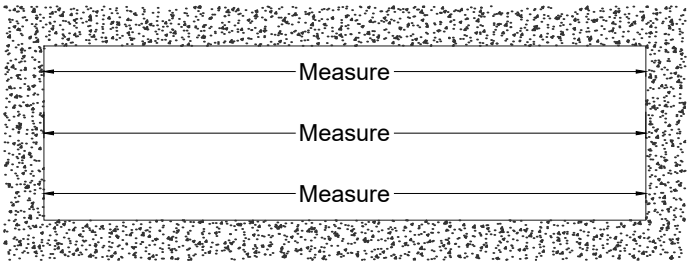


FIG. 2

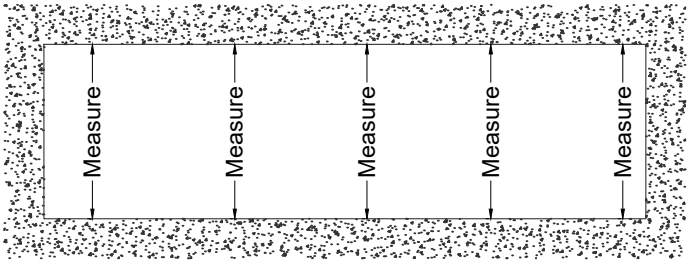


FIG. 3

STEP 2

a. Cut Materials to size as per **TABLE 1 & 2**

b. Cut gaskets and accessories as per **TABLE 3 & TABLE 4 on next page**

STEP 3

a. Fabricate pre-cut framing members as per FAB drawings, pages 36-57

b. Framing members must be cleaned and de-burred of any debris before assembling the frames.

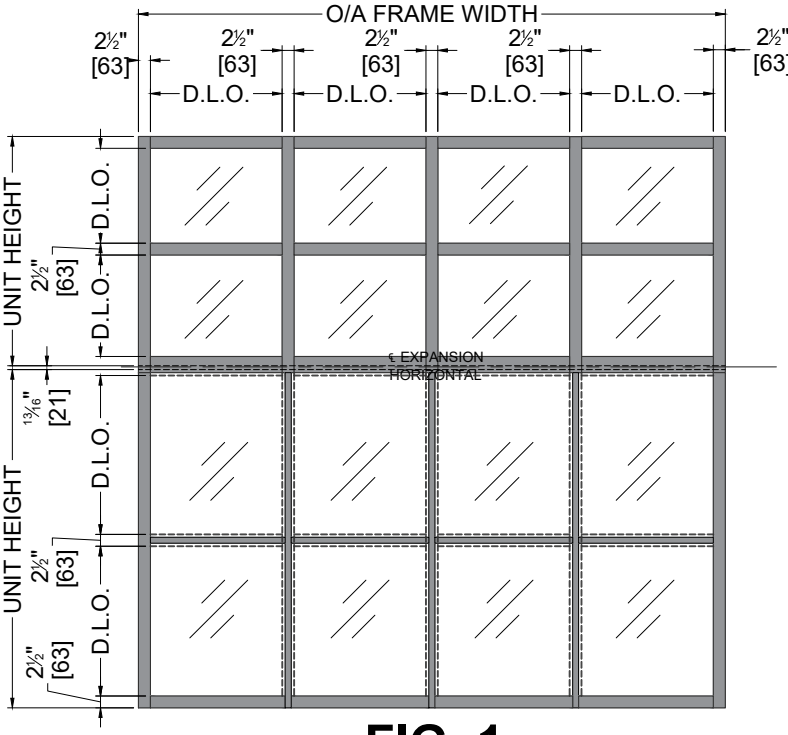


FIG. 1

TABLE 1

FRAMING MEMBERS CUT SIZE

MEMBER	CUT SIZE FORMULA
Starter Sill TA4288, TA4229	O/A Frame Width + 3/4" [19]
Chicken Head E4286	See Table 6, Page 53
Verticals Mullions	Unit Height
Head, Horizontals & Sill Mullions	D.L.O.
Expansion Horizontal Trim	Frame Width
E4210/E4211 Perimeter Trim	D.L.O. + 2.00" [50.8] @ Horizontals Continuous @ verticals
E4212	Continuous @ verticals
E4186 Expansion Horizontal Setting Chair between SSG	D.L.O. + 2.00" [50.8]
E4186 Expansion Horizontal Setting Chair between SSG/Capped	D.L.O. + 1.688" [42.9]

TABLE 2

HORIZONTAL PRESSURE PLATE & FACE COVER CUT SIZE

MEMBER	CUT SIZE FORMULA
Horizontal Pressure Plate & Face Cover	D.L.O. - 3/8" [9.5] PP D.L.O. - 1/16" [1.6] FC (3⁄16" [4.8] gap @ Vertical PP)
Horizontal Pressure Plate & Face Cover b/w SSG Verticals	D.L.O. + 2 1/4" [57.2] (1/4" [6.4] gap with adjacent cover)
Horizontal Pressure Plates & Face Cover b/w SSG Vertical to Captured Vertical	D.L.O. + 15/16" [23.8] PP D.L.O. + 1 1/16" [27.0] FC (3⁄16" [4.8] gap @ Vertical PP)

[1]M301TU Vertical Pressure Plate to be notched @ captured expansion horizontal See page 56

TABLE 3

Interior Gaskets & Accessories

	SHAPE	GASKET	CUT SIZE FORMULA
vertical		Glazing Spacer Gasket	D.L.O. 1/2" [12.7] + Allowance[1]
		Glazing Spacer Gasket @ perimeter	Unit Height + Allowance[1]
		Stack Mullion Bulb Gasket	Unit Height + Allowance[1]
		Stack Mullion Air Seal Gasket	Unit Height + Allowance[1]
		Stack Mullion & OS Corner Wiper Gasket	Unit Height + Allowance[1]
		IS Corner Wiper Gasket	Unit Height + Allowance[1]
horizontal		Glazing Spacer Gasket	D.L.O. + Allowance[1]
		Glazing Spacer Gasket @ perimeter	Unit Width + Allowance[12]
		Chicken Head Gasket	equal to E4286 length + 4" [101.6mm]
		Chicken Head PVC Rod	equal to E4286 length (see Page 53)

[1]Allowance = 1/8" [3.2] extra length per 12" [304.8] of D.L.O.
[2] Run Gasket through a chicken head splice. If gasket splice is required, locate at least 1" [25.4] from a chicken head splice joint.

TABLE 4

Exterior Gaskets

	SHAPE	GASKET	CUT SIZE FORMULA
vertical		Pressure Plate Gasket @ Expansion Vertical	Vertical Pressure Plate Cut Size + Allowance[1] (see TABLE 5)
vertical		Isolator Pressure Plate Gasket	Unit Heigt - 1-1/8" [28.6] + Allowance[1]
vertical		Weather Seal Bulb Gasket	Unit Height +3/8" [9.6] + Allowance[1]
vertical		OS Corner Diverter Gasket	Unit Height +3/8" [9.6] + Allowance[1]
horizontal		Pressure Plate Gasket	Horizontal Pressure Plate Cut Size + Allowance[1] (see TABLE 2)
horizontal		Pressure Plate Gasket @ Lower Expansion Horizontal	Horizontal Pressure Plate Cut Size + Allowance[1] (see TABLE 2)
horizontal		Isolator Pressure Plate Gasket	D.L.O. + Allowance[1]
horizontal		Rainscreen @ SSG Expansion	equal to E4186 length + Allowance[1] (see Page 54)

[1] *Allowance = 1/8" [3.2] extra length per 12" [304.8] of D.L.O.*
[2] *Run Gasket through a chicken head splice. If gasket splice is required, locate at least 1" [25.4] from a chicken head splice joint.*

TABLE 5

VERTICAL PRESSURE PLATE & FACE COVER CUT SIZE

MEMBER	CUT SIZE FORMULA	REFERENCE
Vertical Pressure Plates & Face Covers between Captured Sill & Captured Expansion Horizontal	[1]Unit Height + 2-1/2" [63.5]	FIG. 1-"1A"
Vertical Pressure Plates & Face Covers between Captured Expansion Horizontals	[1]Unit Height + 3" [76.2]	FIG. 1-"1B"
Vertical Pressure Plates & Face Covers between Captured Expansion Horizontal & Head	[1]Unit Height + 5-1/2" [139.7]	FIG. 1-"1C"
Vertical Pressure Plates & Face Cover between SSG Sill & SSG Expansion Horizontal	Unit Height + 2-1/2" [63.5]	FIG. 2-"2A"
Vertical Pressure Plates & Face Cover between SSG Expansion Horizontals	Unit Height + 3" [76.2]	FIG. 2-"2B"
Vertical Pressure Plates & Face Cover between SSG Expansion Horizontal & Head	Unit Height + 5-1/2" [139.7]	FIG. 2-"2C"
[1] *M301TU Vertical Pressure Plate to be notched @ captured expansion horizontal*		

NOTE: ***Pipe Sleeve may not allow for sufficient movement. Check job requirements before detailing this condition.***

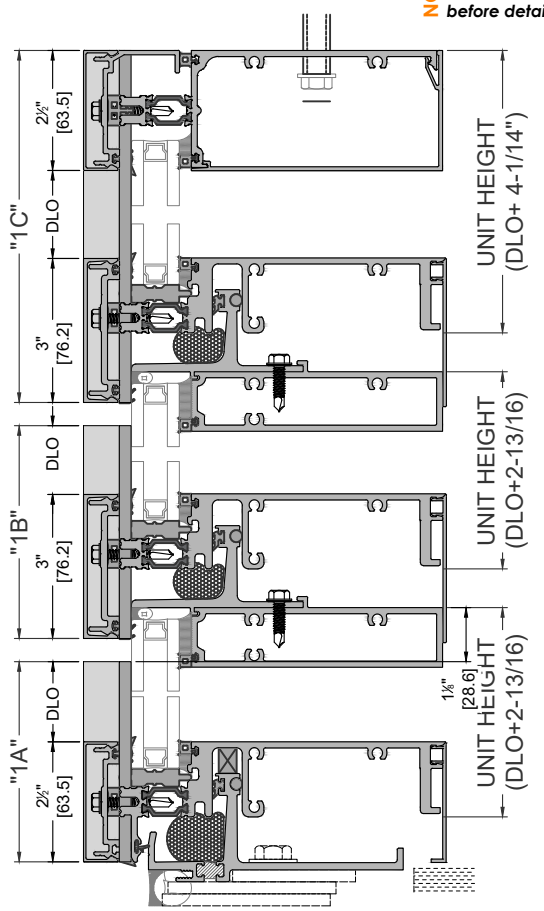


FIG. 1

NOTE: ***See page 64 Fig. 2 for sealing face caps***

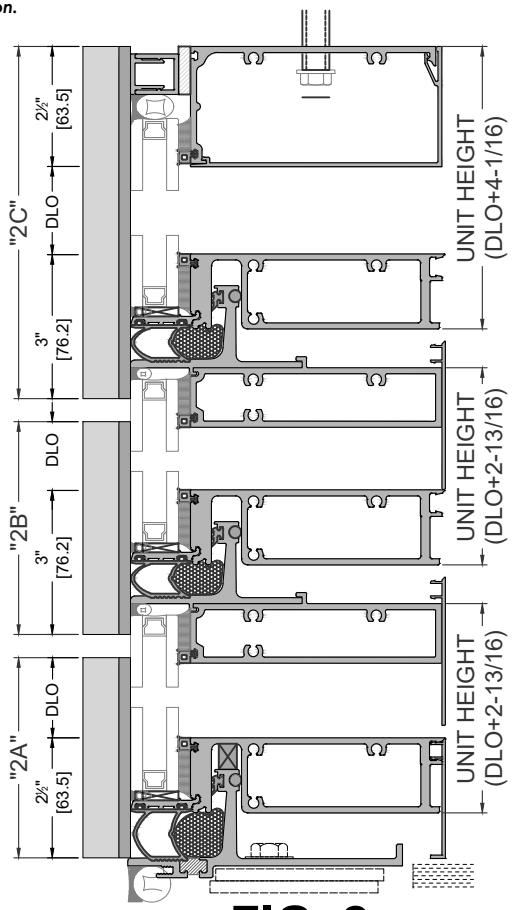
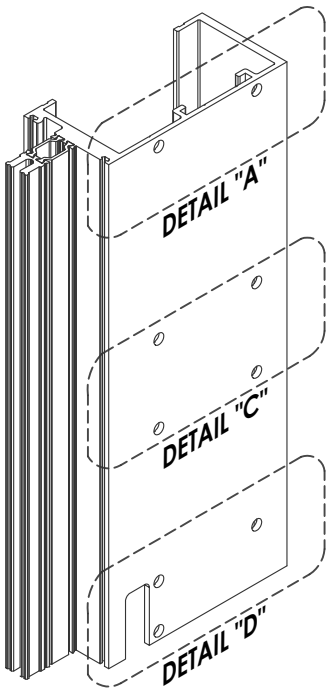


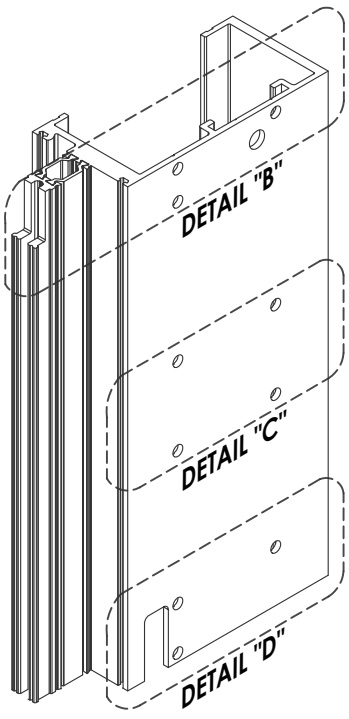
FIG. 2

NOTE: ***Unit Height = Vertical Height***

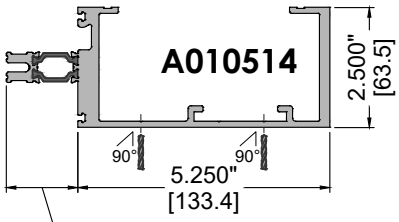


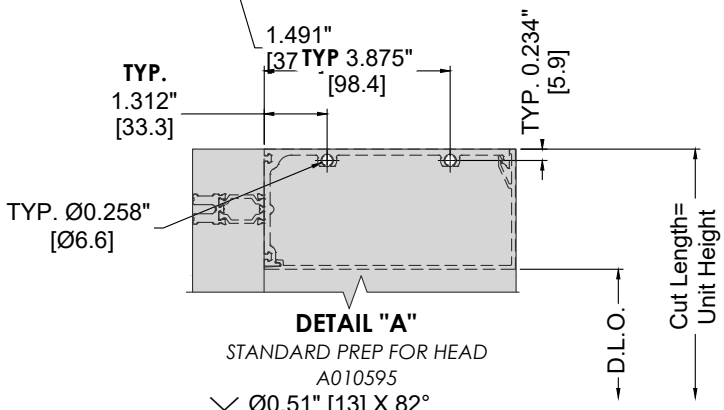
EXPANSION HORIZONTAL STANDARD

JAMB LEFT SHOWN
JAMB RIGHT MIRRORED

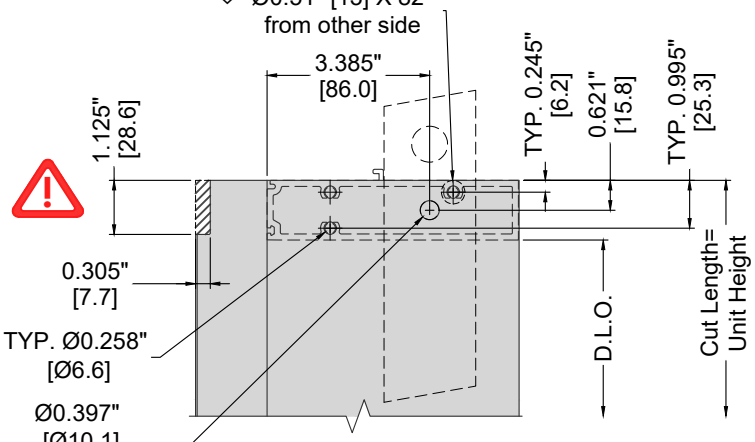


JAMB LEFT SHOWN
JAMB RIGHT MIRRORED



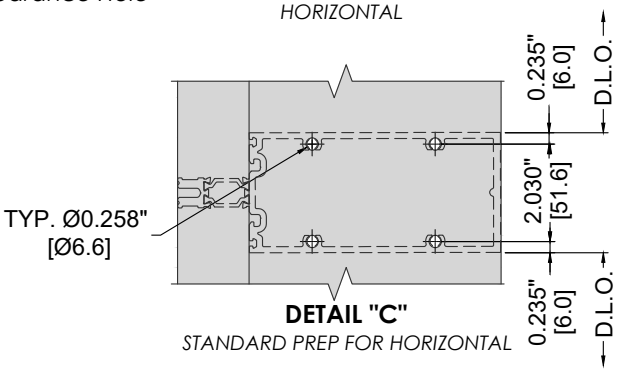


DETAIL "A"
STANDARD PREP FOR HEAD A010595

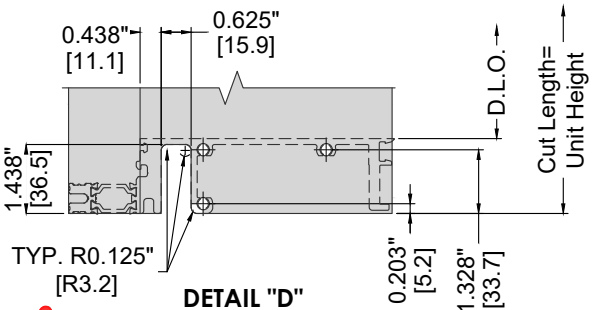


machine hatched area at expansion horizontal Capped ONLY

DETAIL "B"
STANDARD PREP FOR EXPANSION HORIZONTAL

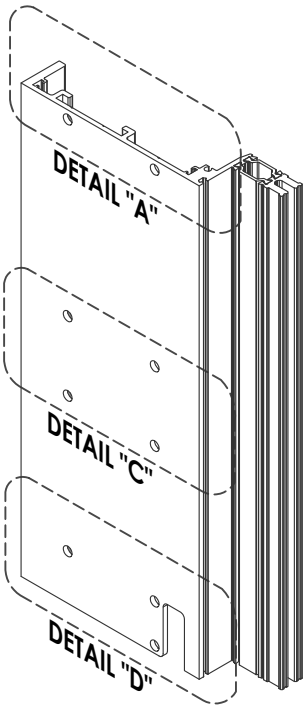


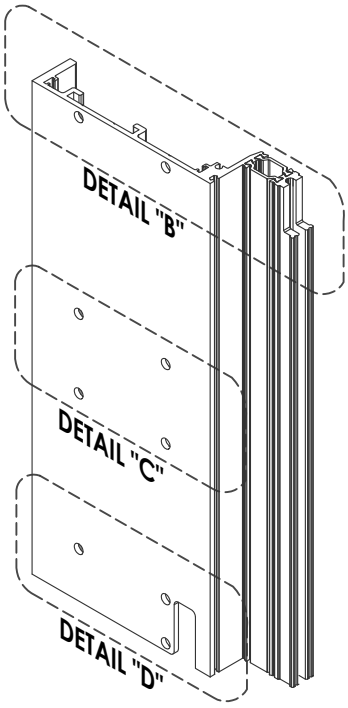
DETAIL "C"
STANDARD PREP FOR HORIZONTAL

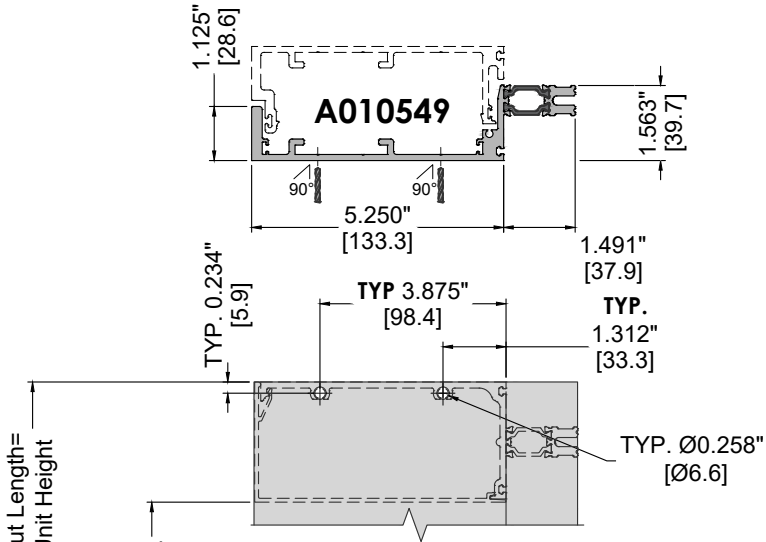


deburr and clean notched area

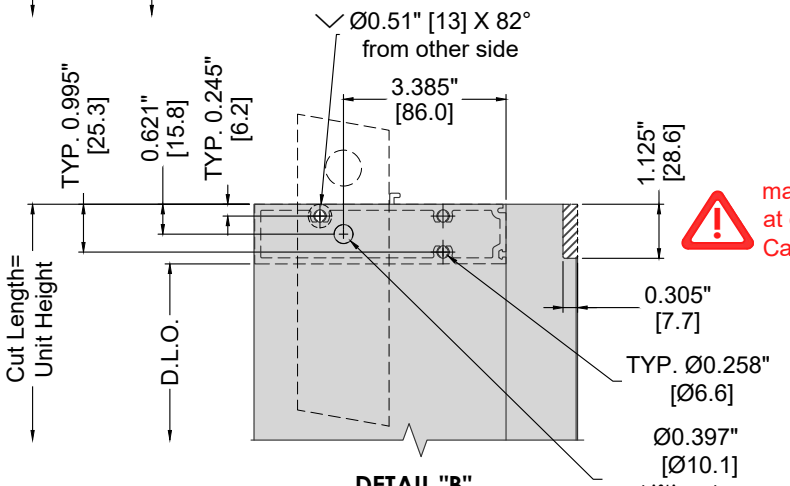
DETAIL "D"
STANDARD PREP FOR SILL & EXPANSION HORIZONTAL





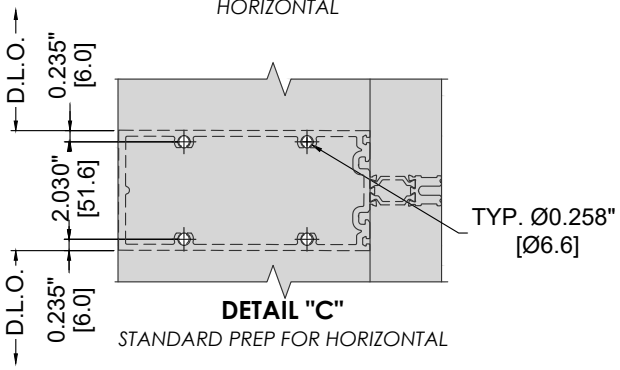


DETAIL "A"
STANDARD PREP FOR HEAD A010595

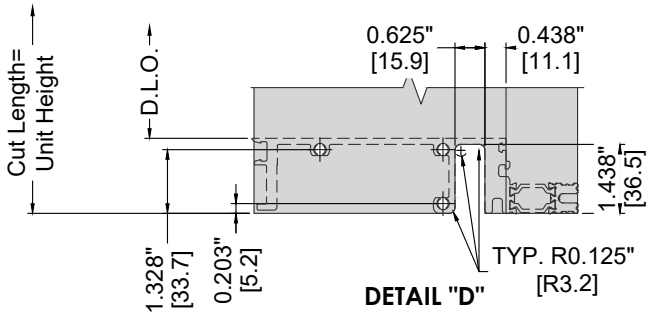


machine hatched area at expansion horizontal Capped ONLY

DETAIL "B"
STANDARD PREP FOR EXPANSION HORIZONTAL

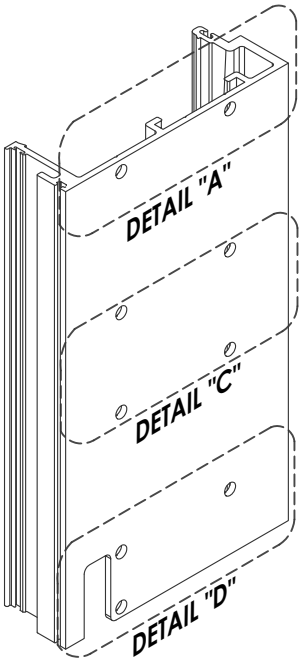


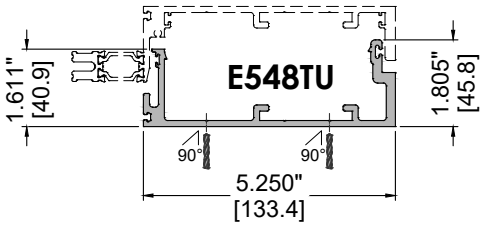
DETAIL "C"
STANDARD PREP FOR HORIZONTAL

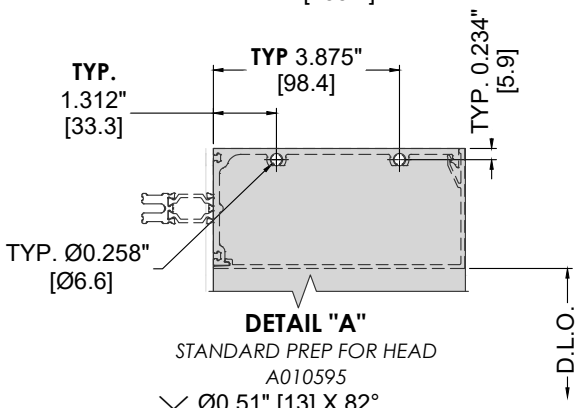


deburr and clean notched area AB Clip Channel must be nachined off in this area

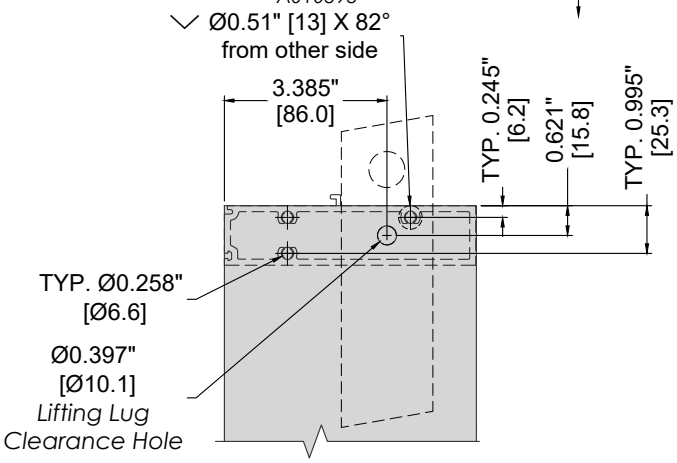
DETAIL "D"
STANDARD PREP FOR SILL & EXPANSION HORIZONTAL



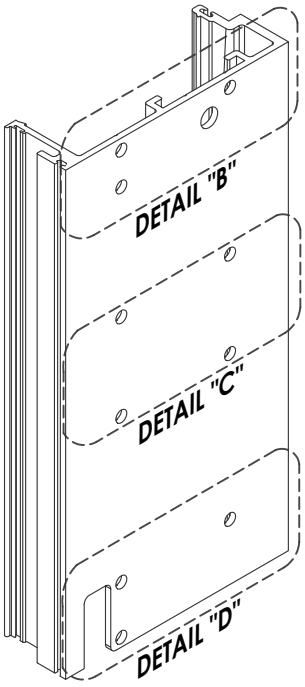


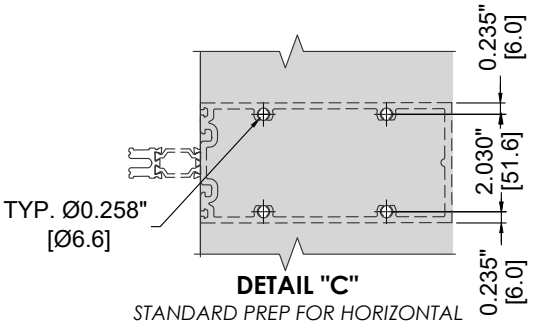


DETAIL "A"
STANDARD PREP FOR HEAD
A010595

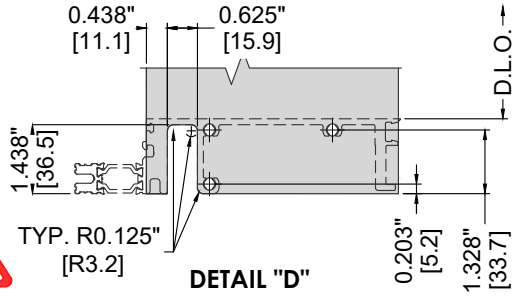


DETAIL "B"
STANDARD PREP FOR EXPANSION HORIZONTAL



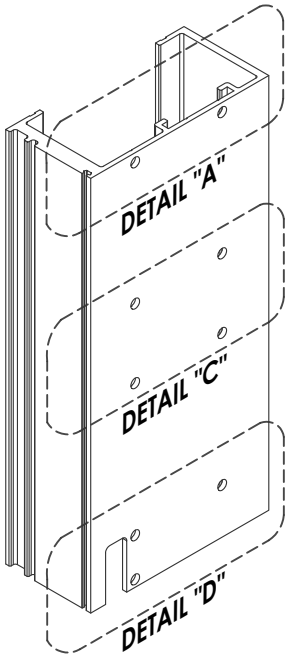


DETAIL "C"
STANDARD PREP FOR HORIZONTAL

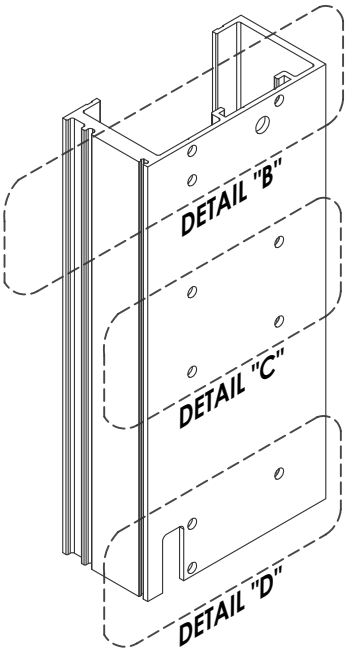


DETAIL "D"
STANDARD PREP FOR SILL & EXPANSION HORIZONTAL

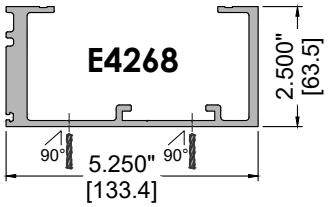
deburr and clean notched area.
AB clip snap must be machined
off in this area

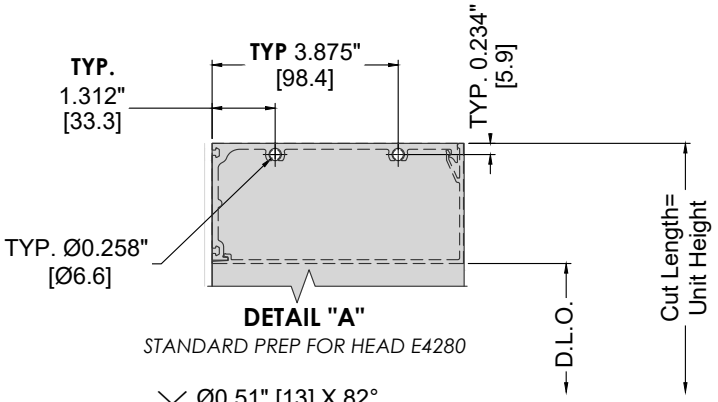


JAMB LEFT SHOWN
JAMB RIGHT MIRRORED

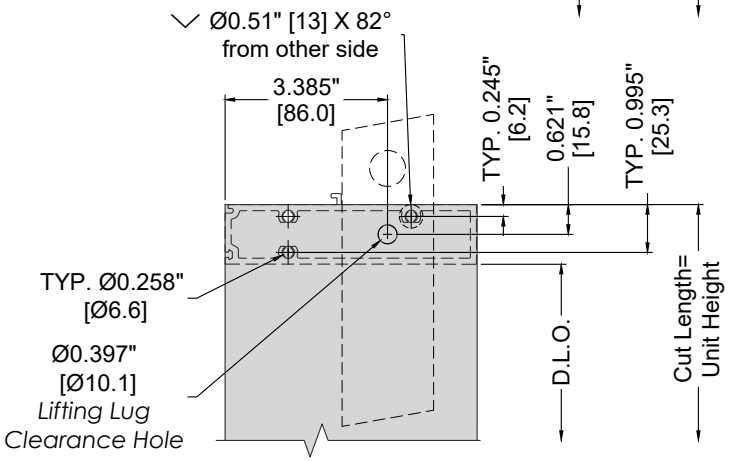


JAMB LEFT SHOWN
JAMB RIGHT MIRRORED

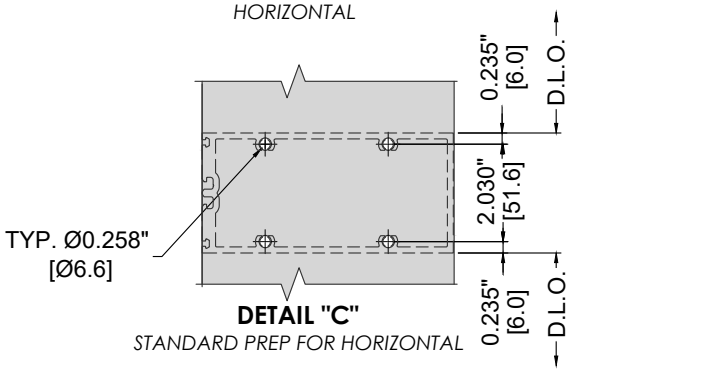




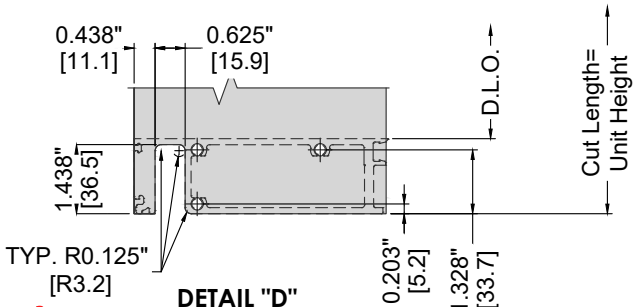
DETAIL "A"
STANDARD PREP FOR HEAD E4280



DETAIL "B"
STANDARD PREP FOR EXPANSION HORIZONTAL

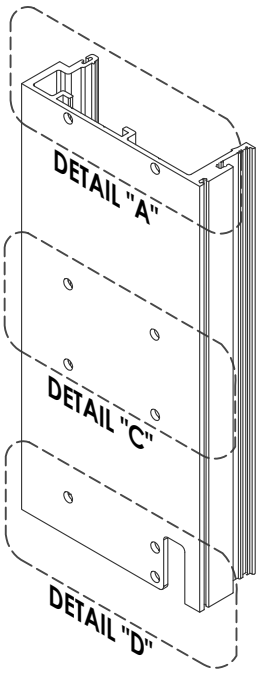


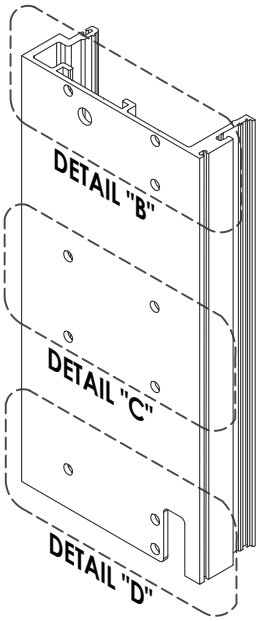
DETAIL "C"
STANDARD PREP FOR HORIZONTAL

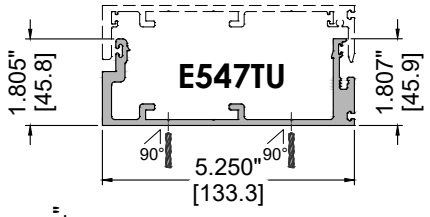


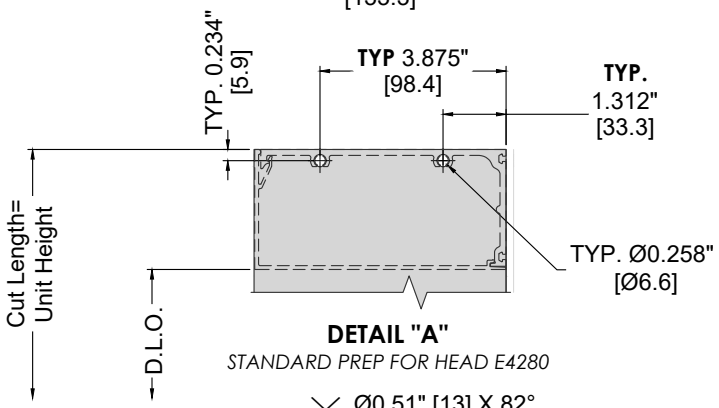
DETAIL "D"
STANDARD PREP FOR SILL & EXPANSION HORIZONTAL

deburr and clean notched area



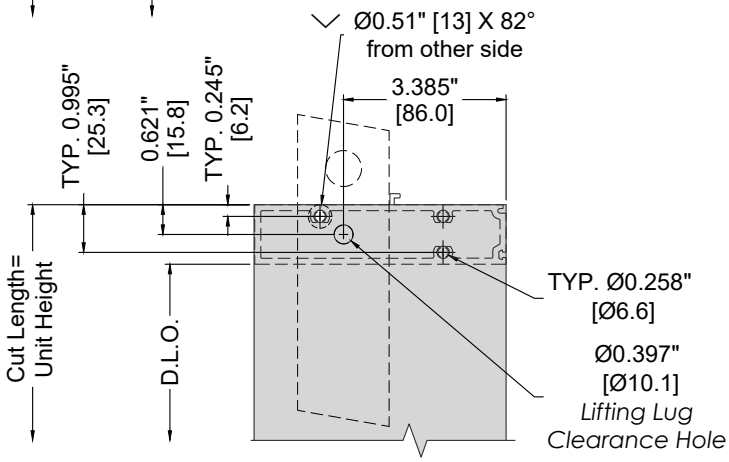






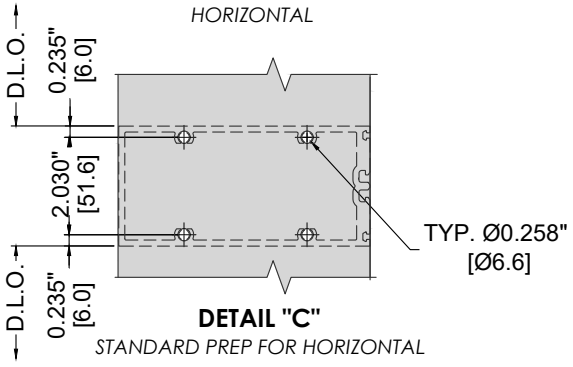
DETAIL "A"

STANDARD PREP FOR HEAD E4280



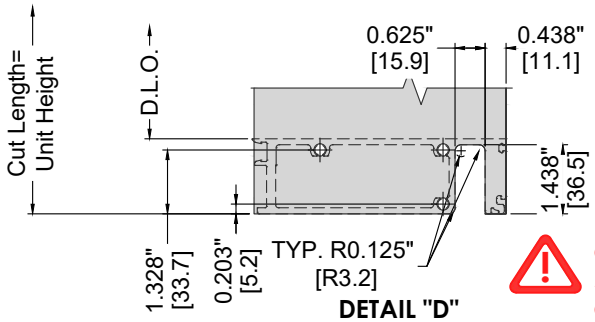
DETAIL "B"

STANDARD PREP FOR EXPANSION HORIZONTAL



DETAIL "C"

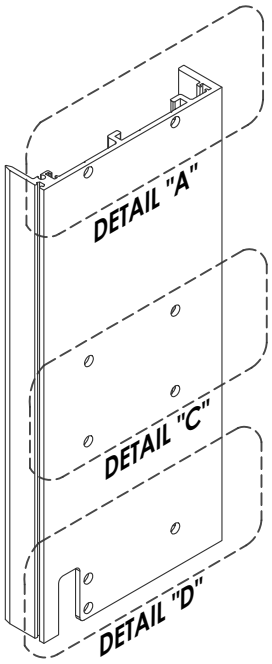
STANDARD PREP FOR HORIZONTAL

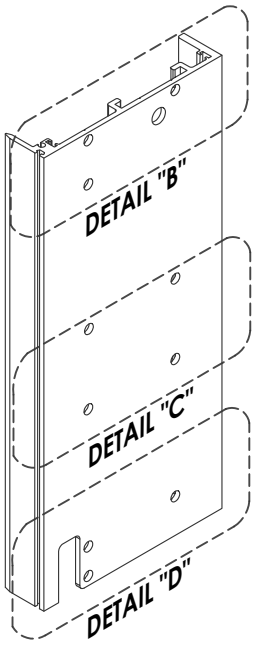


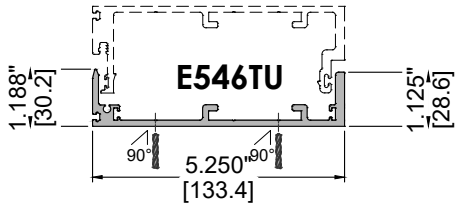
DETAIL "D"

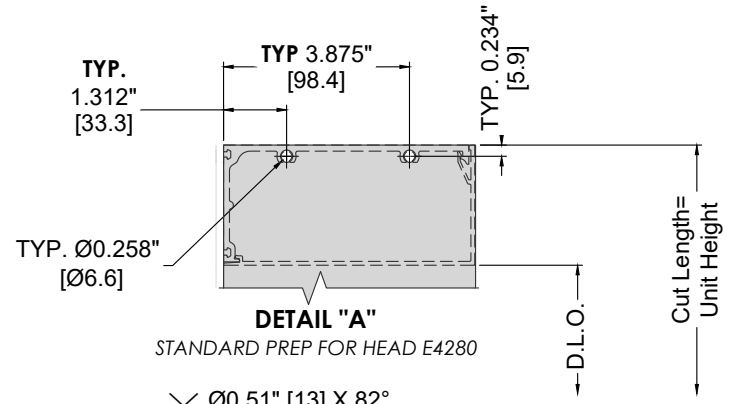
STANDARD PREP FOR SILL & EXPANSION HORIZONTAL

deburr and clean notched area
AB clip snap must be machined off in this area



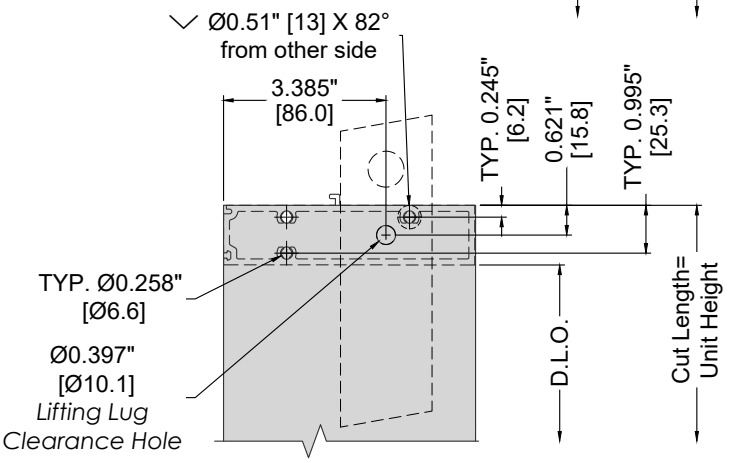






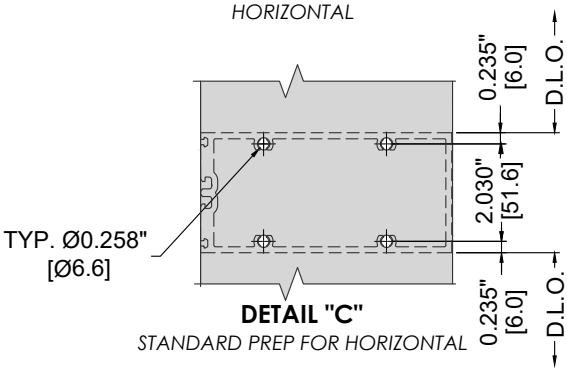
DETAIL "A"

STANDARD PREP FOR HEAD E4280



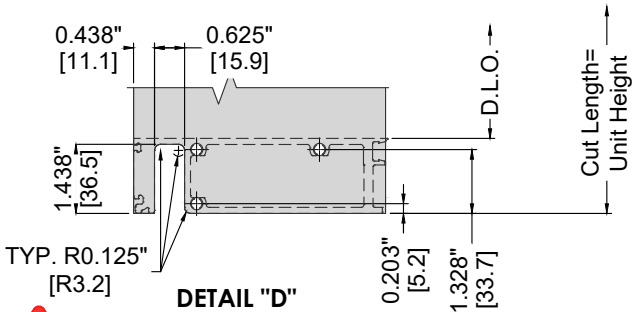
DETAIL "B"

STANDARD PREP FOR EXPANSION HORIZONTAL



DETAIL "C"

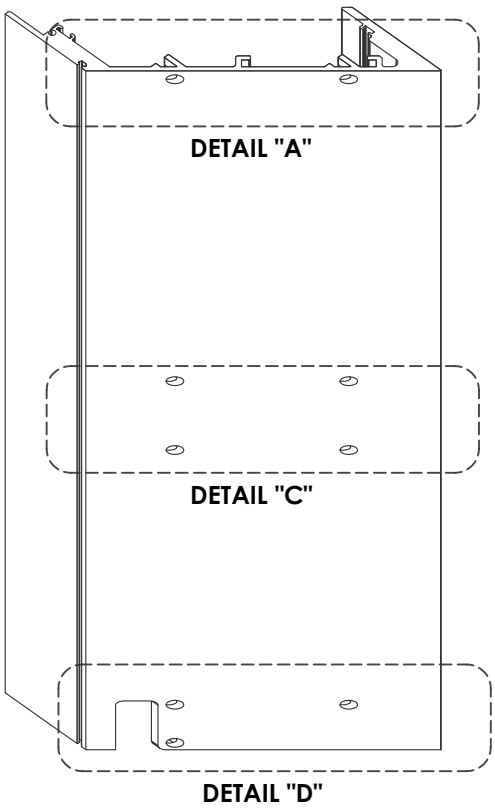
STANDARD PREP FOR HORIZONTAL

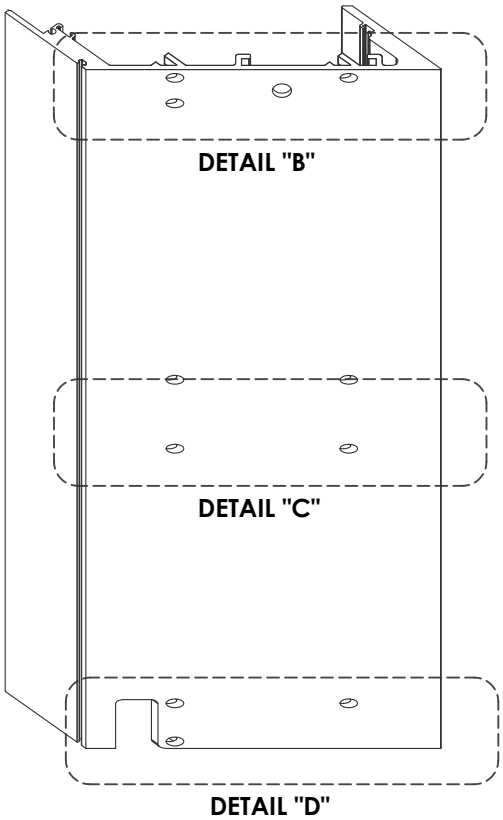


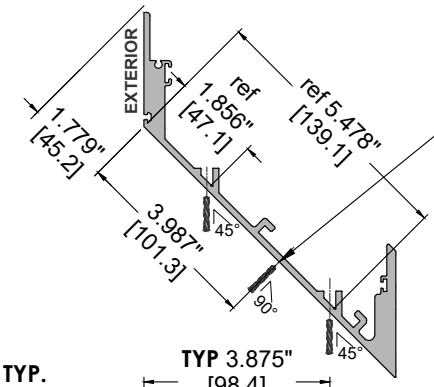
DETAIL "D"

STANDARD PREP FOR SILL & EXPANSION HORIZONTAL

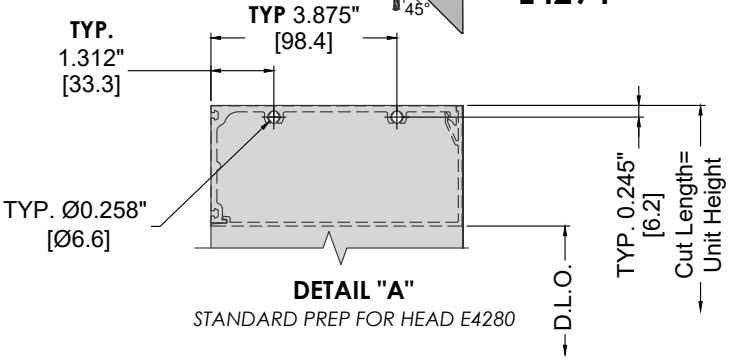
Deburr and clean notched area. AB Clip channel must be machined off in this area



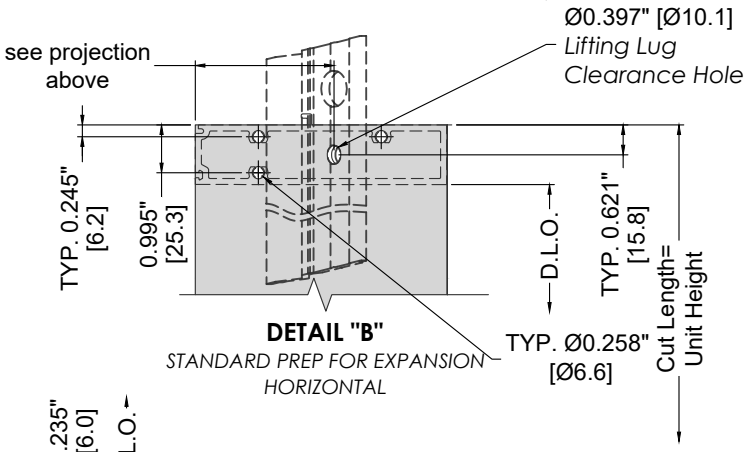




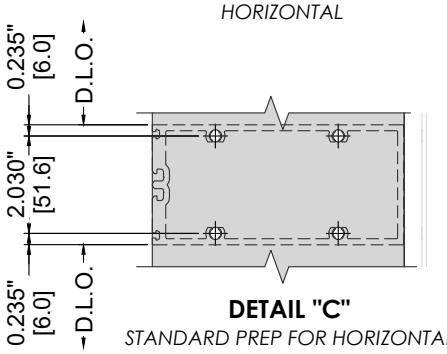
E4294



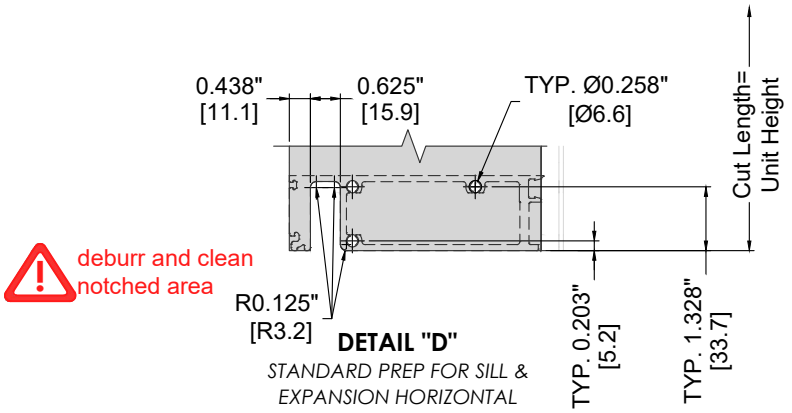
DETAIL "A"
STANDARD PREP FOR HEAD E4280



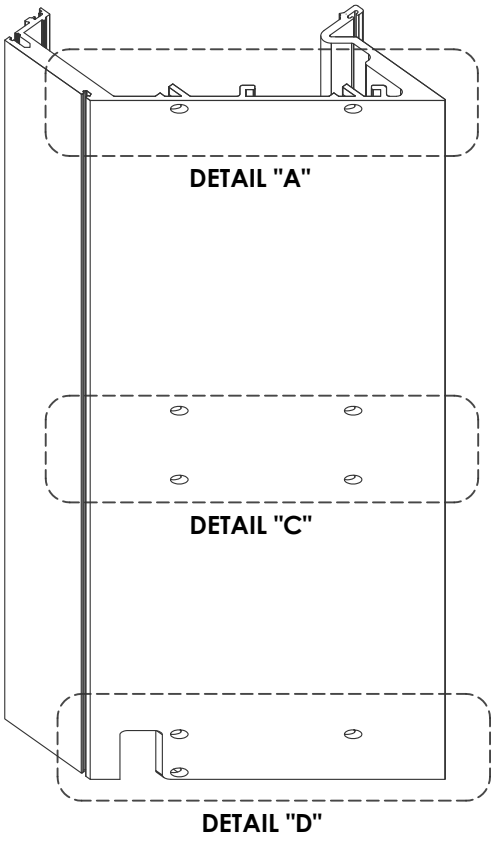
DETAIL "B"
STANDARD PREP FOR EXPANSION HORIZONTAL

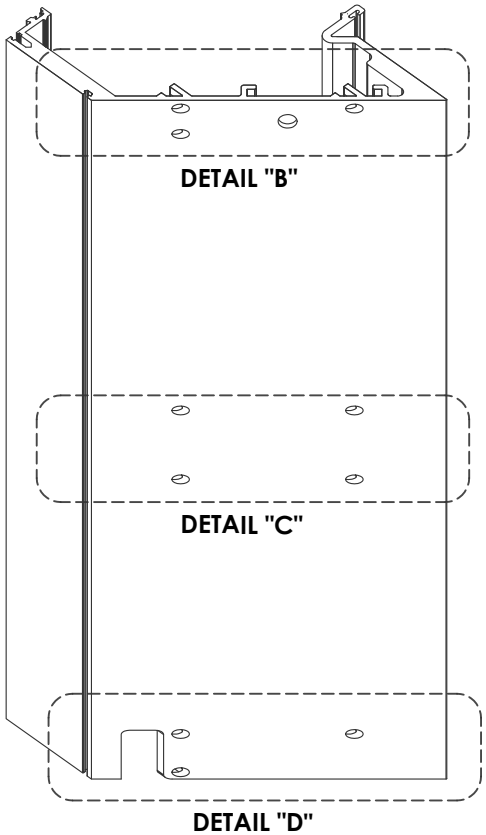


DETAIL "C"
STANDARD PREP FOR HORIZONTAL

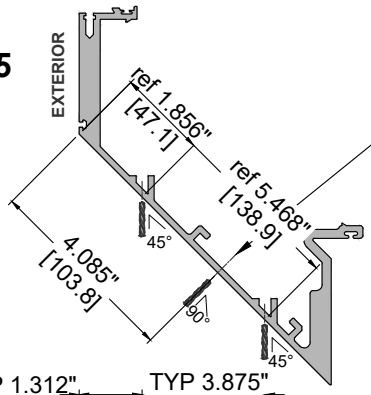


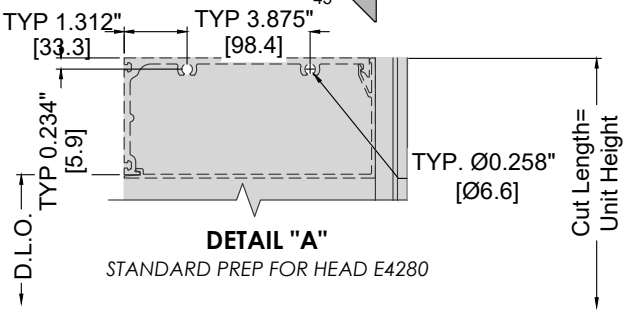
DETAIL "D"
STANDARD PREP FOR SILL & EXPANSION HORIZONTAL



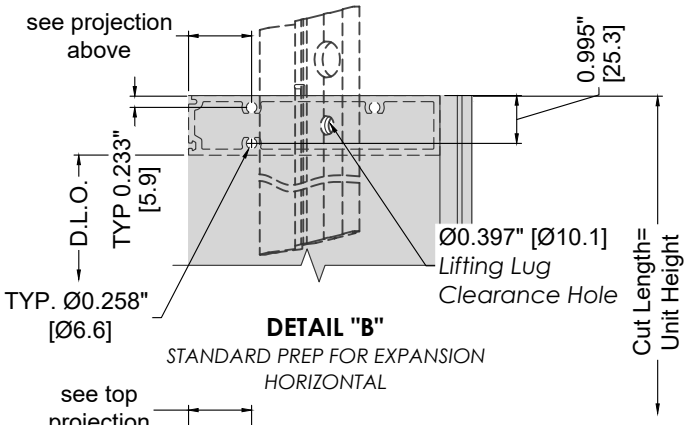


E4295

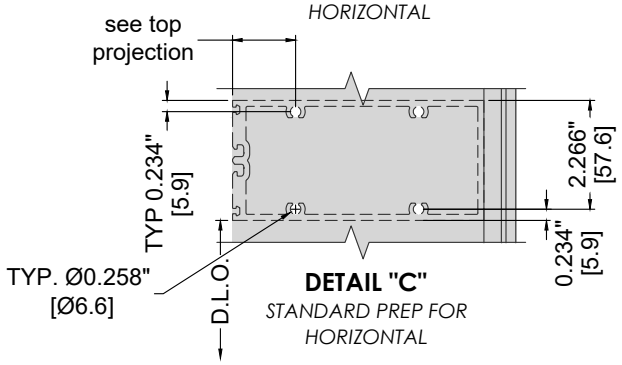




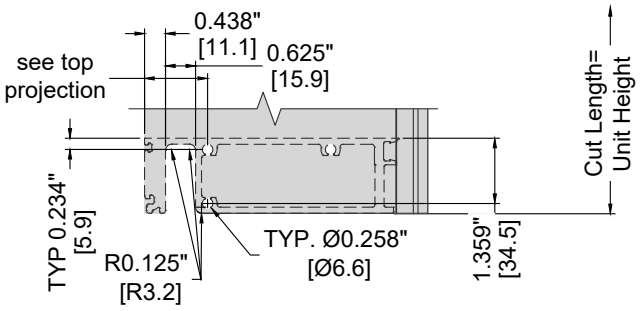
DETAIL "A"
STANDARD PREP FOR HEAD E4280



DETAIL "B"
STANDARD PREP FOR EXPANSION HORIZONTAL

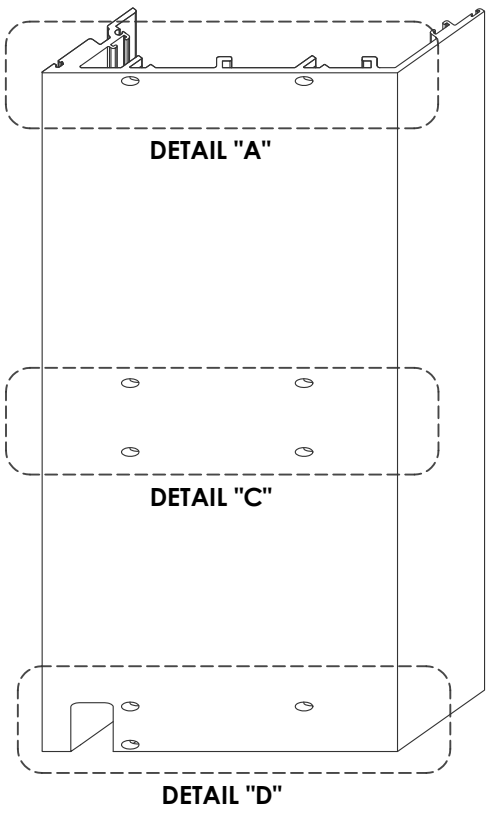


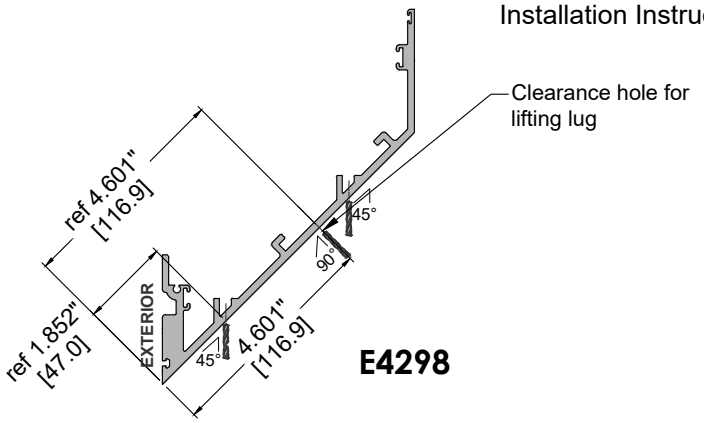
DETAIL "C"
STANDARD PREP FOR HORIZONTAL

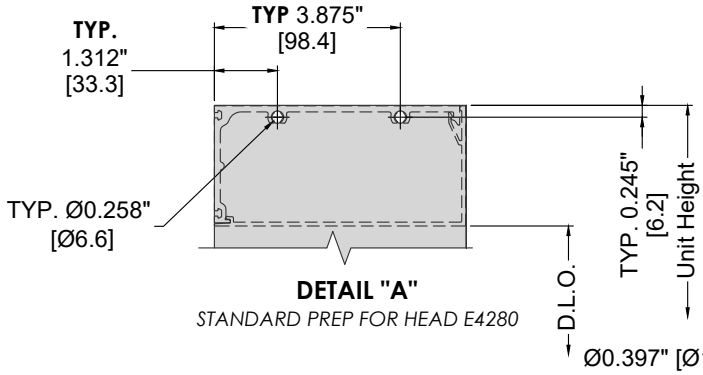


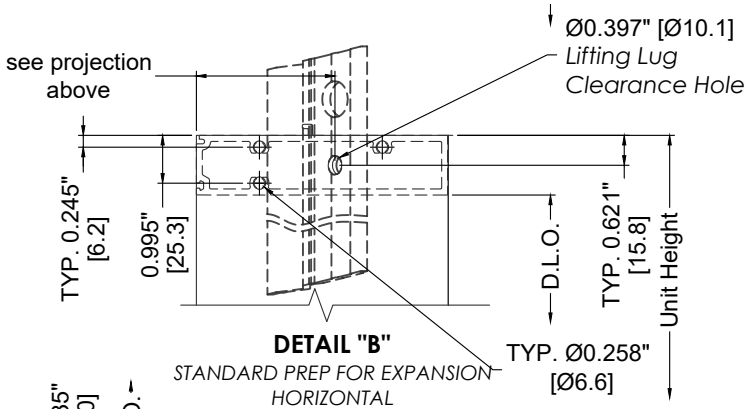
DETAIL "D"
STANDARD PREP FOR SILL & EXPANSION HORIZONTAL

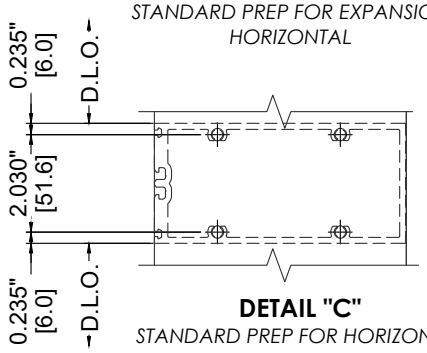
deburr and clean notched area

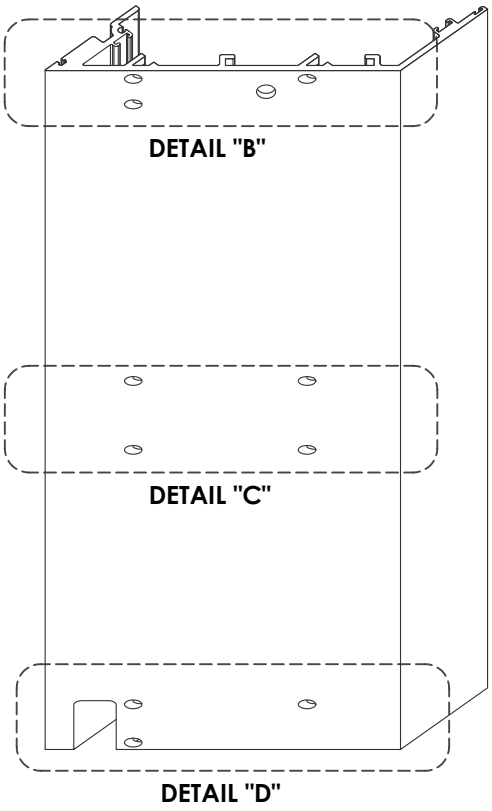

DETAIL "A"
DETAIL "C"
DETAIL "D"

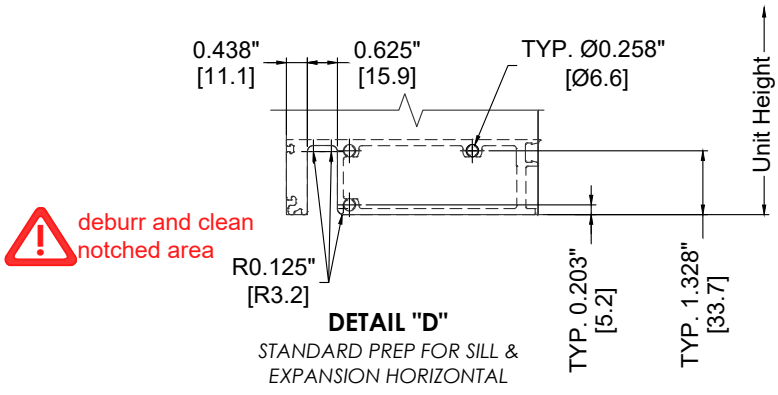

Clearance hole for lifting lug
ref 4.601" [116.9]
45°
90°
EXTERIOR
ref 1.852" [47.0]
45°
4.601" [116.9]
E4298


TYP. 1.312" [33.3]
TYP 3.875" [98.4]
TYP. Ø0.258" [Ø6.6]
TYP. 0.245" [6.2]
Unit Height
D.L.O.
DETAIL "A"
STANDARD PREP FOR HEAD E4280

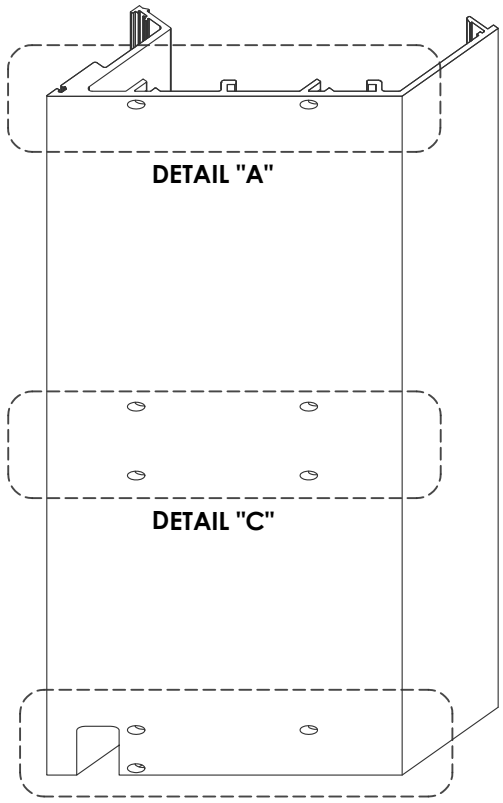

see projection above
Ø0.397" [Ø10.1]
Lifting Lug Clearance Hole
TYP. 0.245" [6.2]
0.995" [25.3]
D.L.O.
TYP. 0.621" [15.8]
Unit Height
TYP. Ø0.258" [Ø6.6]
DETAIL "B"
STANDARD PREP FOR EXPANSION HORIZONTAL

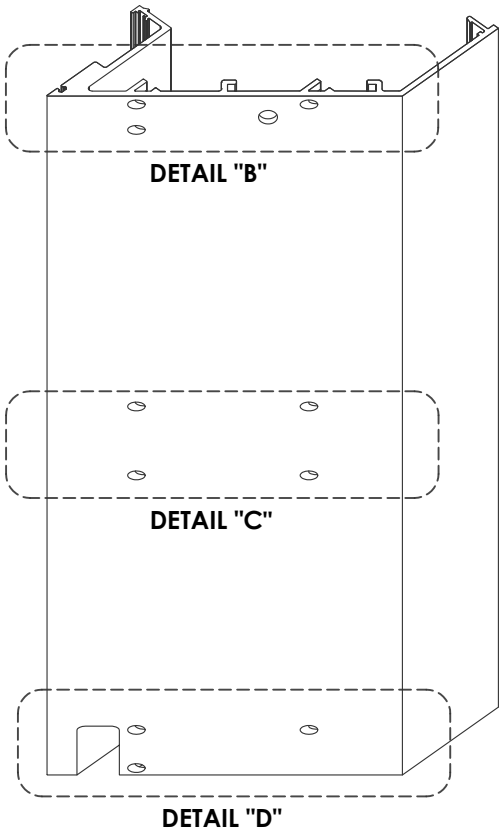

0.235" [6.0]
D.L.O.
2.030" [51.6]
0.235" [6.0]
D.L.O.
DETAIL "C"
STANDARD PREP FOR HORIZONTAL

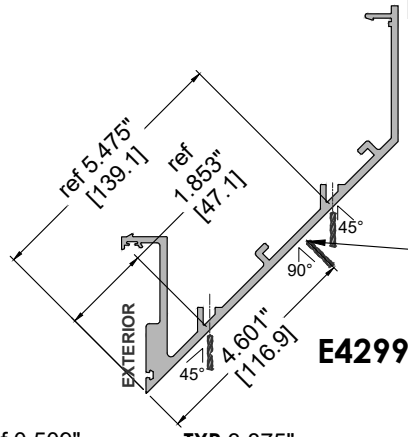

DETAIL "B"
DETAIL "C"
DETAIL "D"

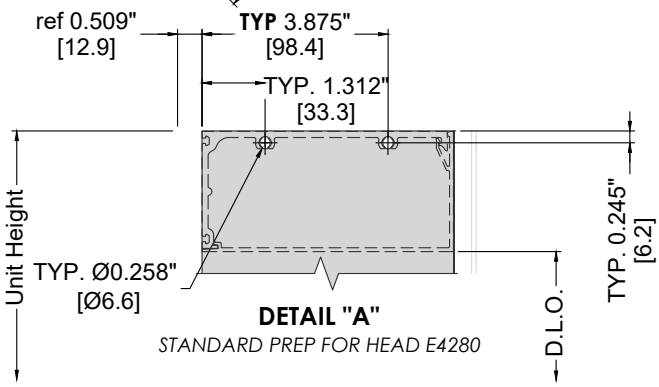

0.438" [11.1]
0.625" [15.9]
TYP. Ø0.258" [Ø6.6]
Unit Height
deburr and clean notched area
R0.125" [R3.2]
TYP. 0.203" [5.2]
TYP. 1.328" [33.7]
DETAIL "D"
STANDARD PREP FOR SILL & EXPANSION HORIZONTAL

Installation Instructions

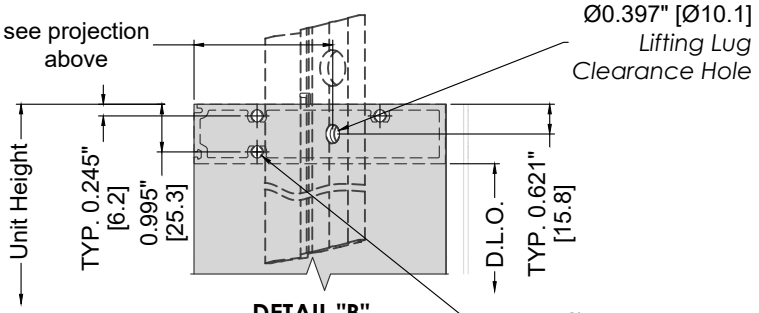




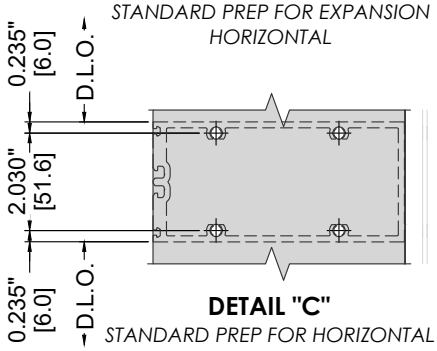




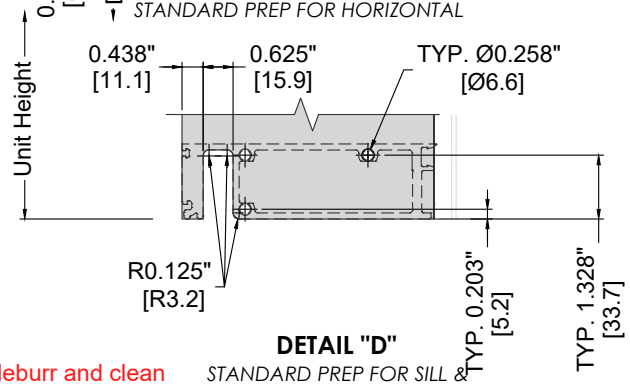
DETAIL "A"
STANDARD PREP FOR HEAD E4280



DETAIL "B"
STANDARD PREP FOR EXPANSION HORIZONTAL



DETAIL "C"
STANDARD PREP FOR HORIZONTAL



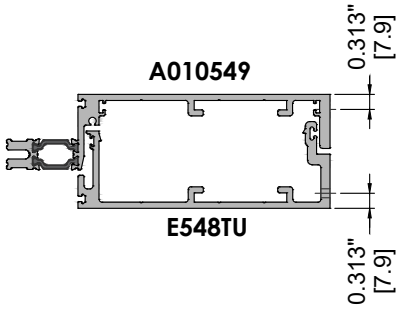
DETAIL "D"
STANDARD PREP FOR SILL & EXPANSION HORIZONTAL

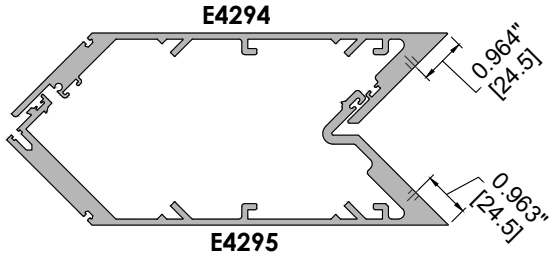
deburr and clean notched area

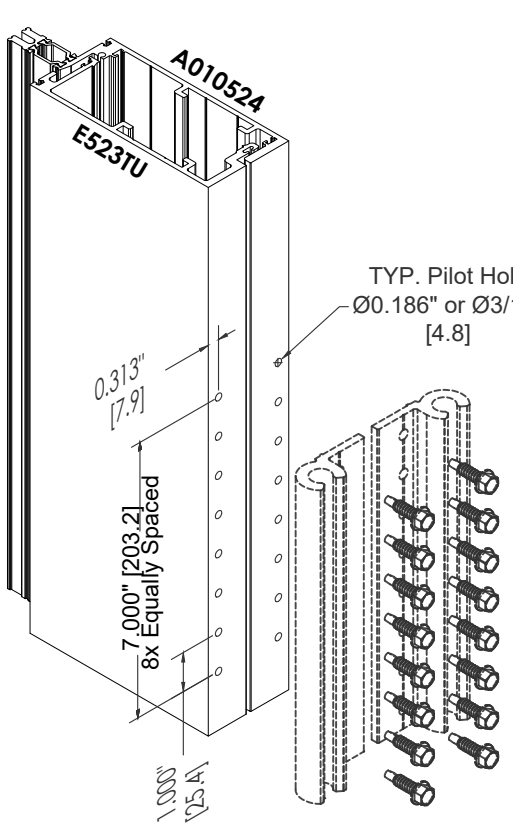
STEP 4

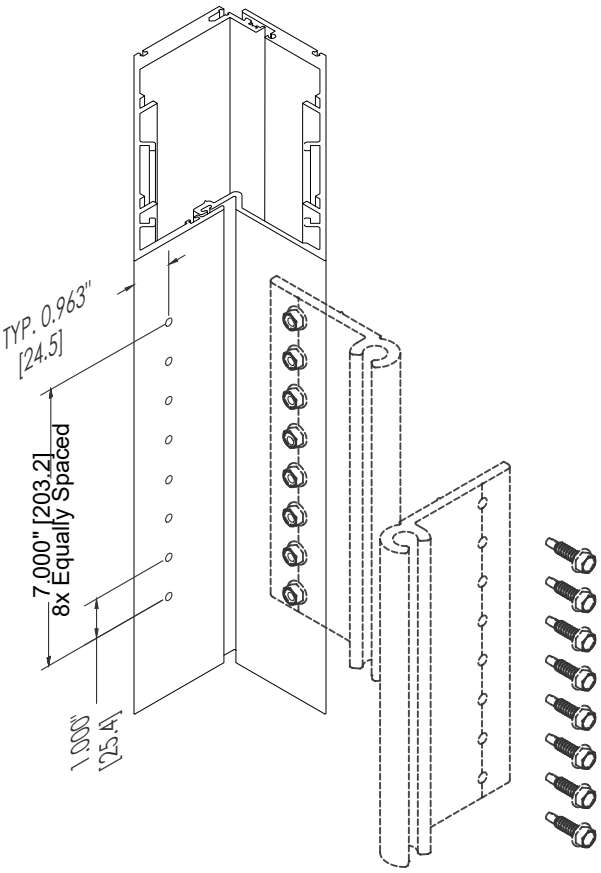
a. Locate the anchor clips for each vertical so the center line of the clip aligns with the top of the anchor plate ball. See **FIG. 3**

b. Drill (8x) Ø0.186" [4.8] pilot holes for 1/4 " fastener per approved shop drawings. See **FIG. 1 & FIG 2**









-1 A010524 & E523TU SHOWN
-2 E4268, E4288, E521TU & E522TU SIMILAR

FIG. 1

FIG. 2

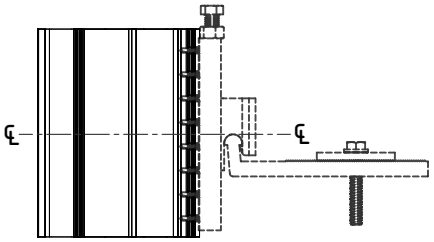


FIG. 3

STEP 4

a. Locate the Front-of-Slab anchor clips for each vertical so the top of clip sits approximately 6-7/8" from the top of the notched anchor plate ball. See **FIG. 3**

b. Drill (8x) Ø0.173" [4.3](#17 drill bit) clearance holes for 1/4 " fastener per approved shop drawings. See **FIG. 1 & FIG 2**

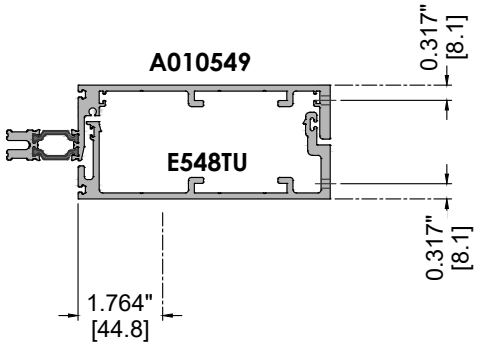


FIG. 1

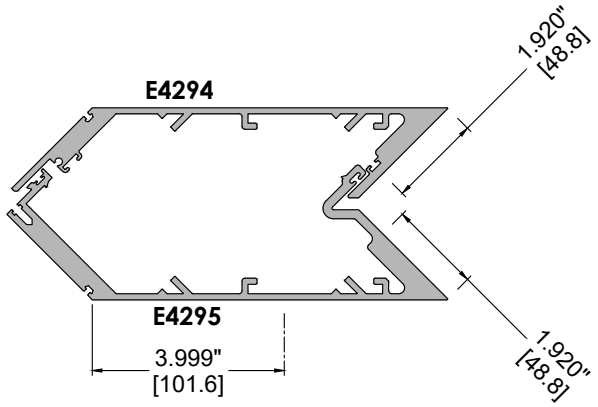


FIG. 2

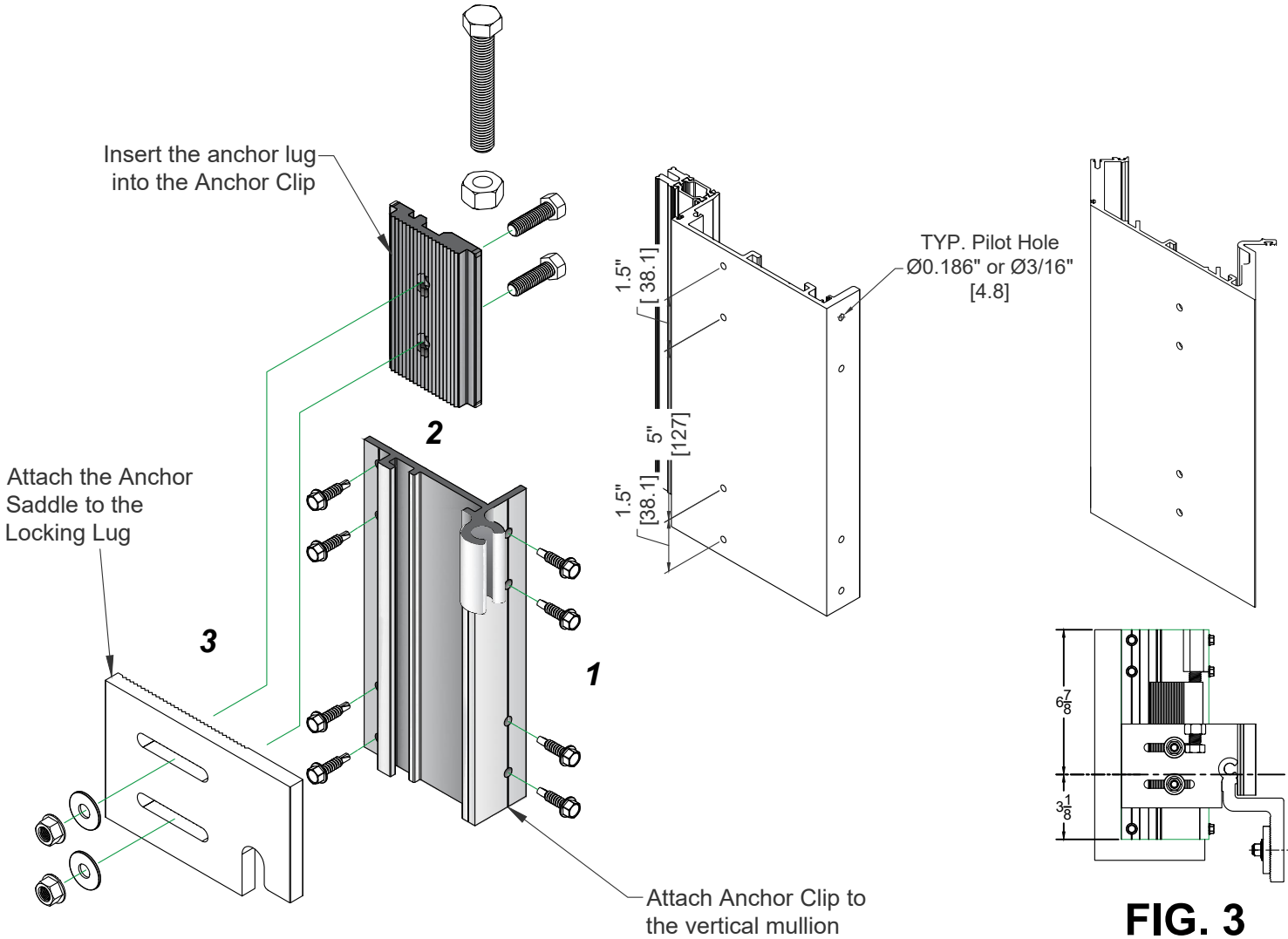
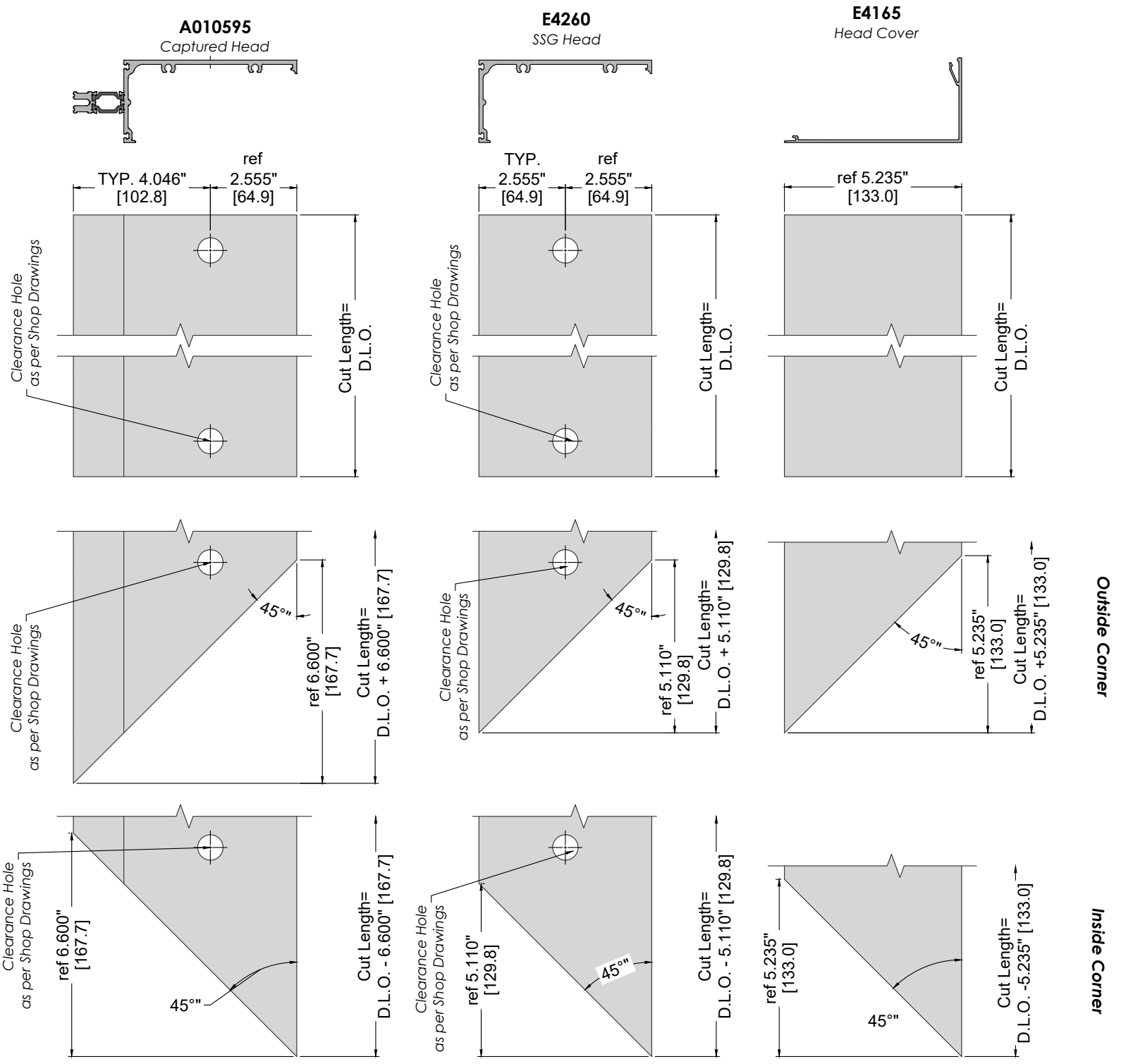
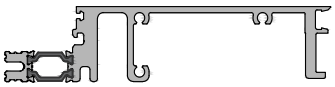
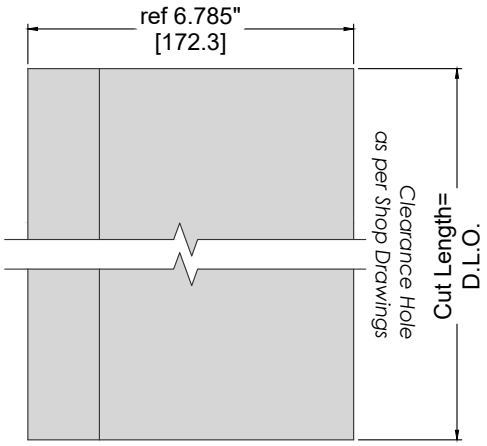


FIG. 3

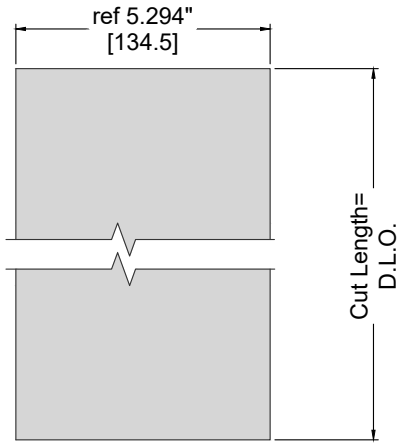

A010595
Captured Head
E4260
SSG Head
E4165
Head Cover
TYP. 4.046" [102.8]
ref 2.555" [64.9]
TYP. 2.555" [64.9]
ref 2.555" [64.9]
ref 5.235" [133.0]
Clearance Hole as per Shop Drawings
Cut Length= D.L.O.
45°
ref 6.600" [167.7]
Cut Length= D.L.O. + 6.600" [167.7]
ref 5.110" [129.8]
Cut Length= D.L.O. + 5.110" [129.8]
ref 5.235" [133.0]
Cut Length= D.L.O. +5.235" [133.0]
Outside Corner
Cut Length= D.L.O. - 6.600" [167.7]
Cut Length= D.L.O. - 5.110" [129.8]
Cut Length= D.L.O. -5.235" [133.0]
Inside Corner

A060518
Captured Upper Expansion Horizontal

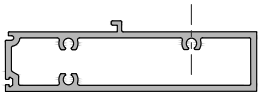


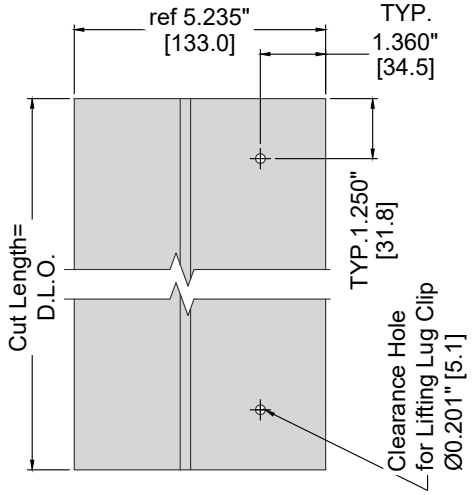


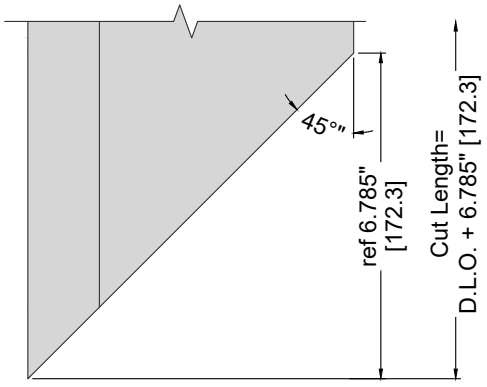
E4284
SSG Upper Expansion Horizontal

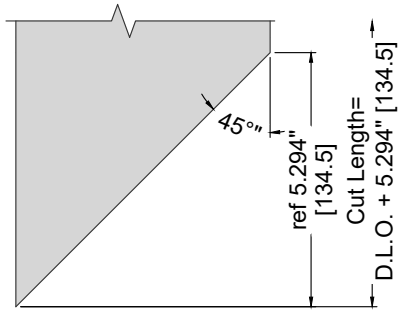


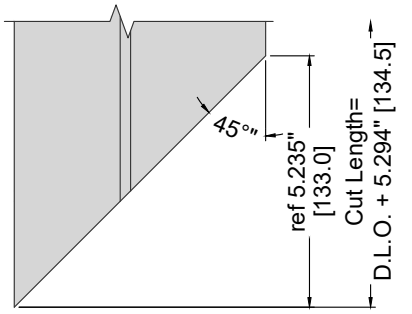
E4283
Lower Expansion Horizontal



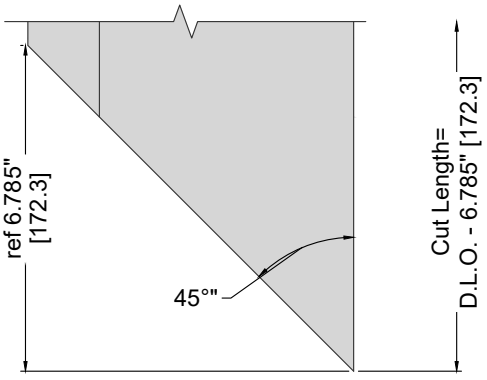


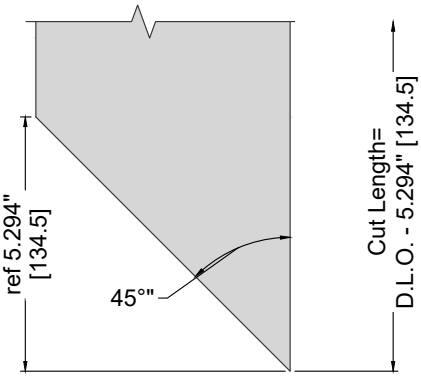


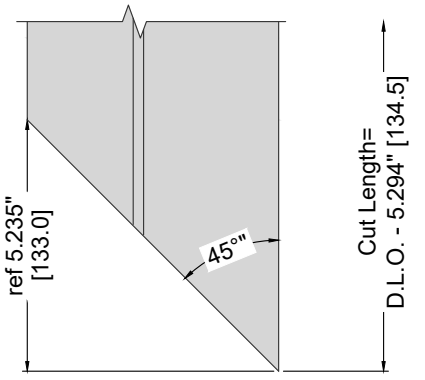




Outside Corner



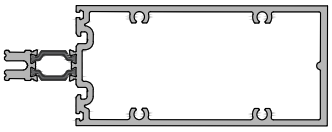


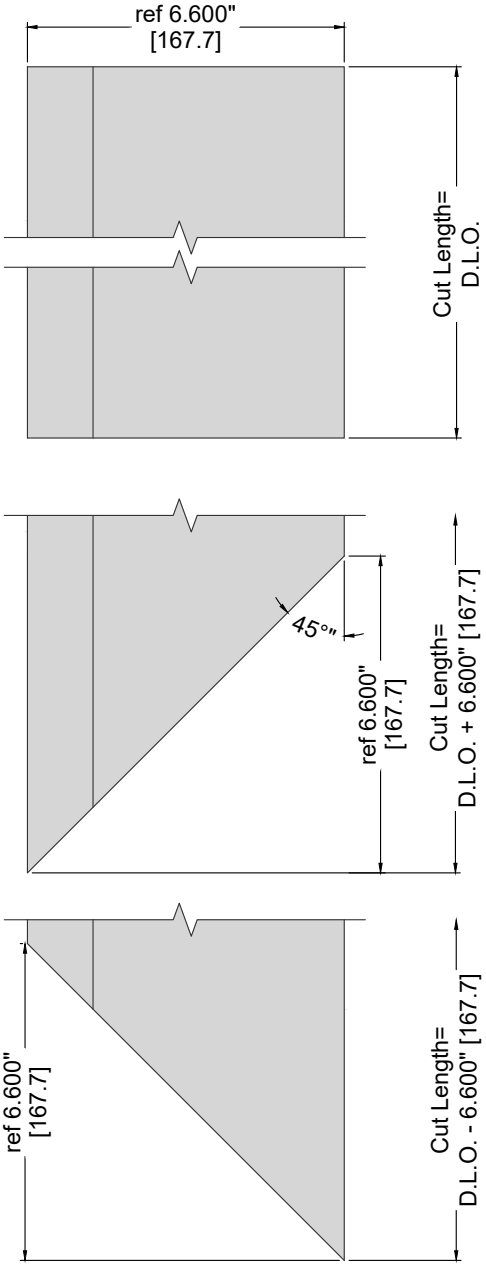


Inside Corner

A010573

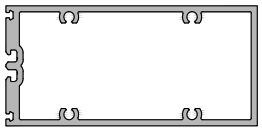
Captured Horizontal

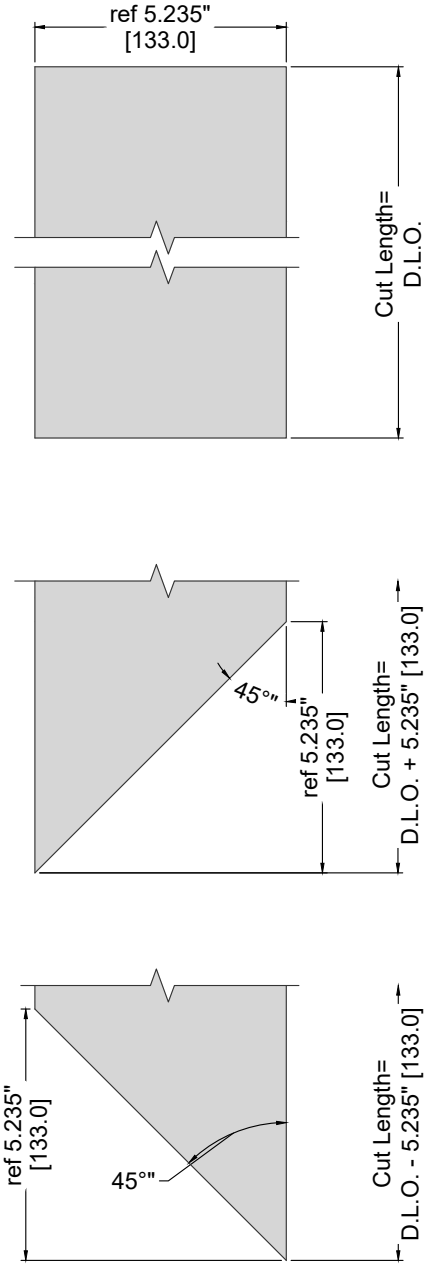




E4225

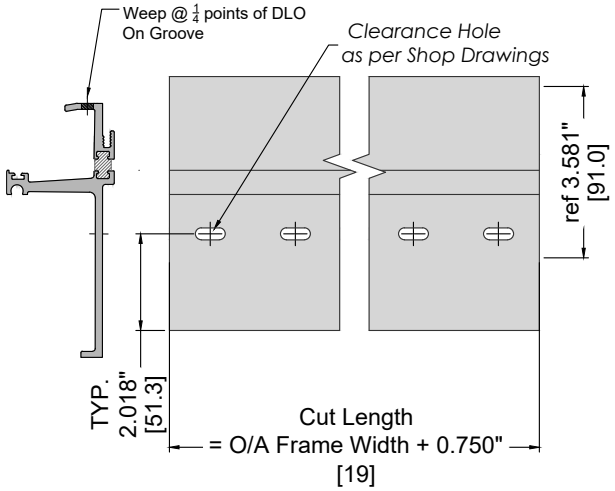
SSG Horizontal



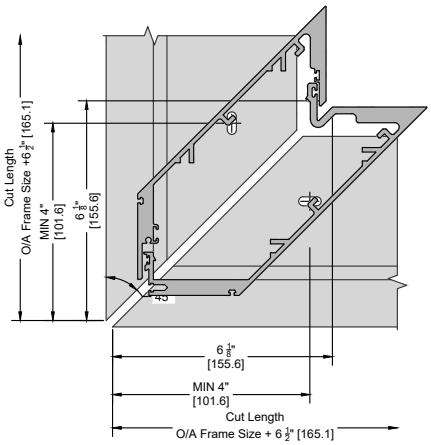


Outside Corner

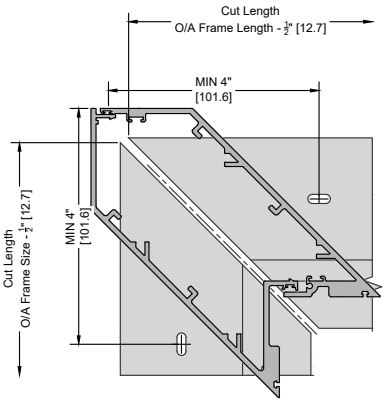
Inside Corner



Outside Corner

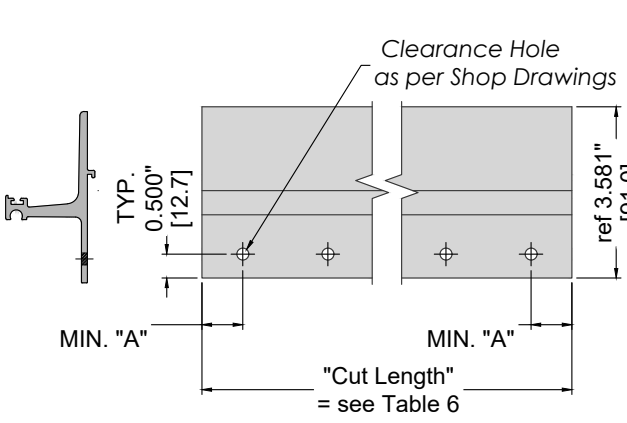


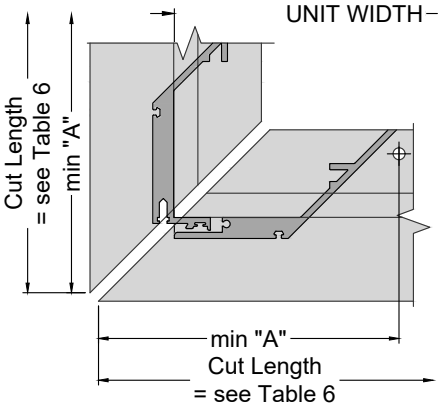
Inside Corner



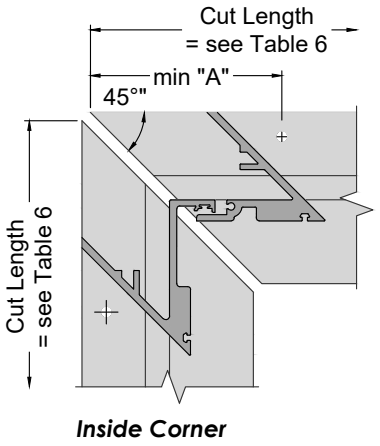
T4229 (shown)/T4228 (sim)

Chicken Head at Starter Sill

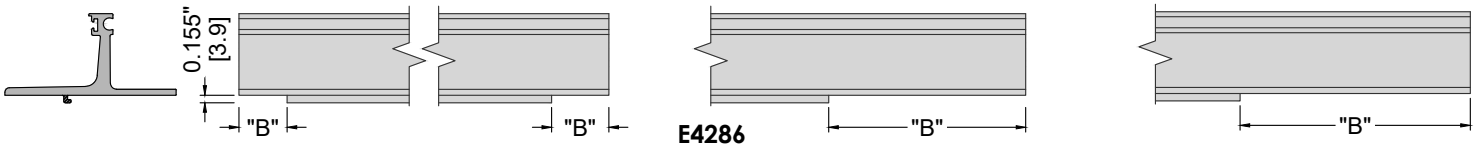




Outside Corner



Inside Corner

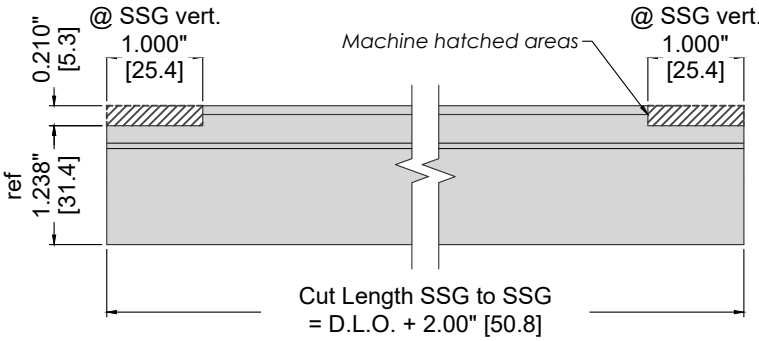


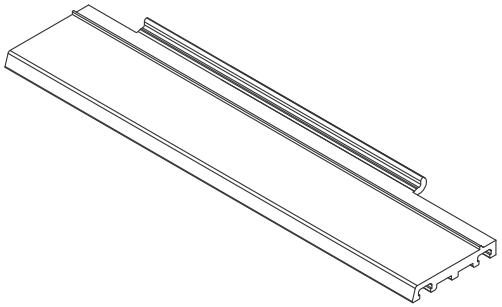
E4286

Chicken Head at Expansion Horizontal

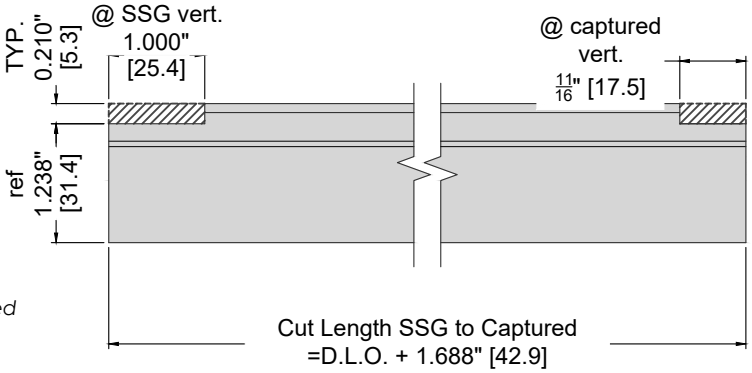
TABLE 6			
CUT & PREP for E4286 @ Expansion Horizontal			
Vertical Condition	**"Cut Length"**	**"A" Clearance Hole**	**"B" Notch**
Jamb to Inter. Vertical	=DLO + 2-15/16" [74.6]	A=min. 3-3/4" [92] (@Jamb)	B= 2-5/8" [66.8] (@ jamb)
Inter. Vertical to Inter. Vertical	DLO + 2-1/4" [58.0]	A= min. 1-1/2" [38] (@ female side) A= min. 2-1/2" [38] (@ male side)	B= 5/8" [15.9] (@ female side) B= 1 7/8" [47.6] (@ male side)
Inter. Vertical to Jamb	DLO + 4-5/16" [109.5]	A= min. 3-3/4" [92] (@ jamb)	B= 2-5/8" [66.8] (@ jamb)
Inter. Vertical to Outside Corner E522TU & E4290	DLO + 5-3/4" [146.1}	A= min. 6-1/4" [159] (@ outside corner)	B= 4-1/8" [105] (@ outside corner)
Outside Corner to inter. vert. E4291 & E521TU	DLO+ 4-7/16" [112.7]	A= min. 6-1/4" [159] (@ Outside corner)	B= 4-5/8" [105] (@ Outside corner)
Int vert to inside corner E522TU & E4293	DLO +6-11/16" [169.9]	A= min 4" [102] (@ Inside Corner)	B= 5" [127] (@ Inside Corner)
Inside corner to int vert E4292 &E521TU	DLO + 5-5/16" [134.9]	A= min 4" [102] (@ Inside Corner)	B= 5" [127] (@ Inside Corner)

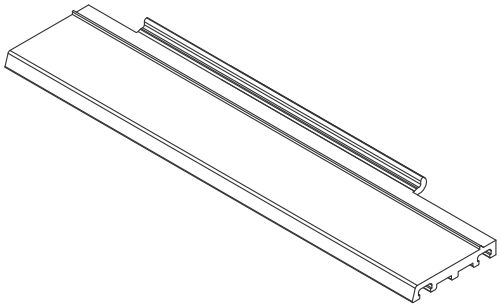
E4186
SSG/SSG



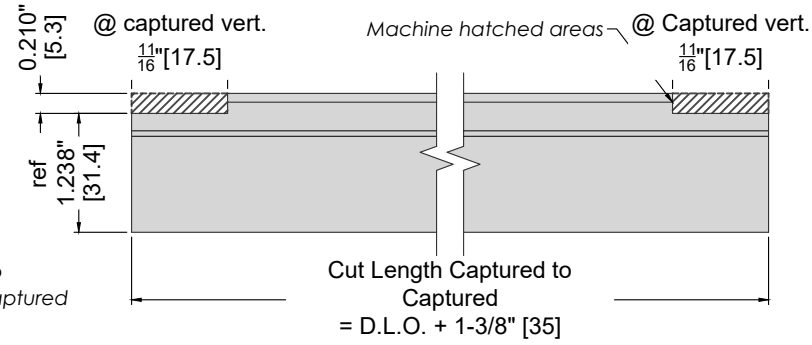


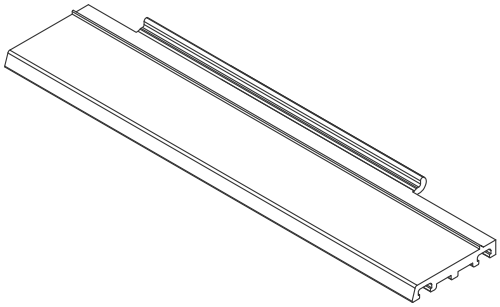
E4186
SSG/Captured

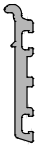




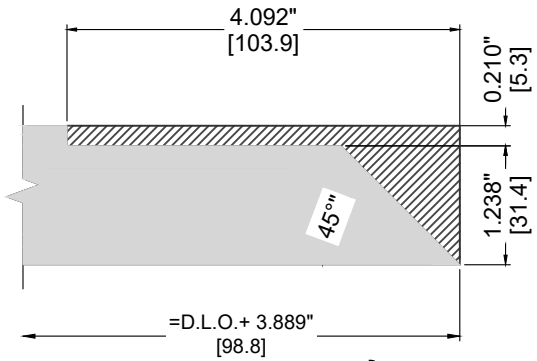
E4186
Captured/Captured

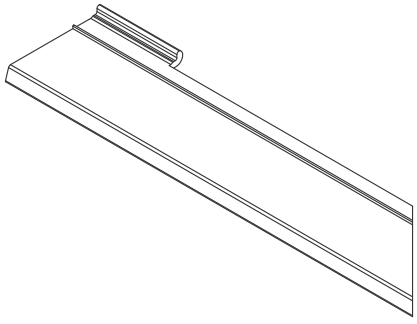


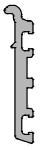




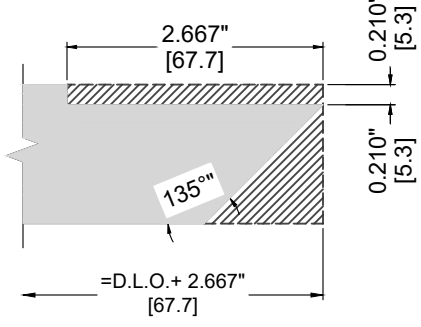
E4186
OS Corner

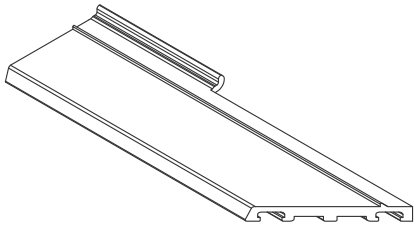




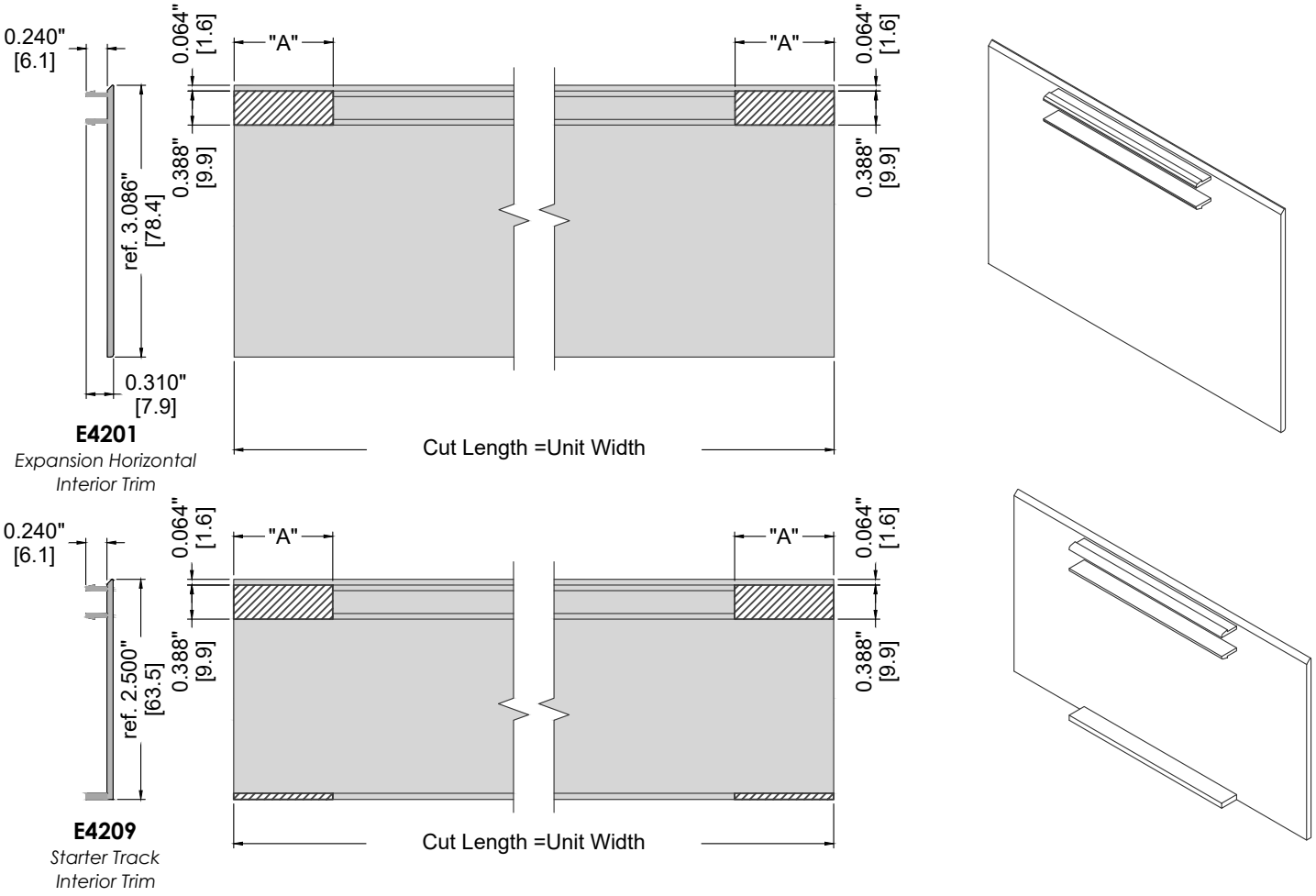


E4186
IS Corner





NOTE: *See page 28 for unit width calculation.*



E4201
Expansion Horizontal Interior Trim

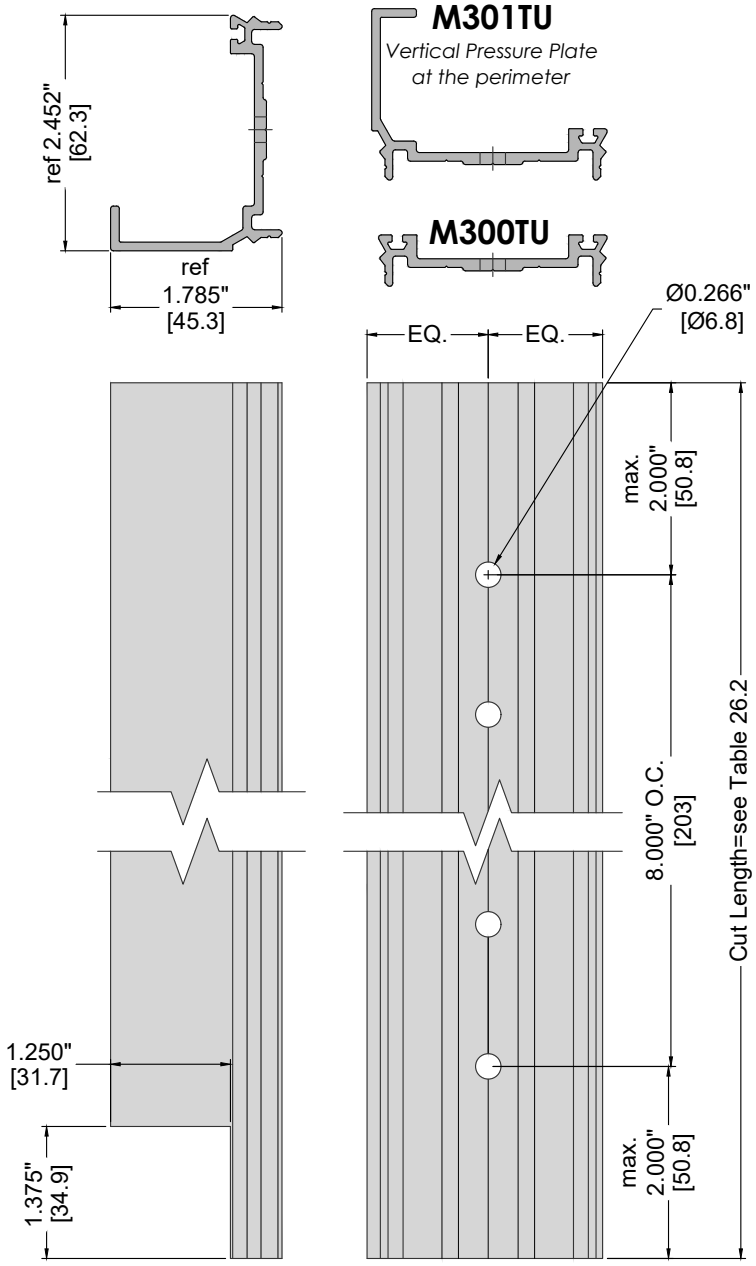
E4209
Starter Track Interior Trim

FIG. 1

TABLE 7	
Notch Length	
Vertical Condition	**Dimension "A"**
@ Jamb	A= 2-1/2" [63.5]
@ Vertical Expansion	A= 1-1/8" [33]
@ Outside Corner	A= 2-3/4" [70]
@ Inside Corner	A= 3" [76.2]

STEP 5

a. Aluminum pressure plates are factory punched on center for pressure plate screws.
b. Drill Ø0.266 [7] additional hole(s) as required to ensure a maximum of 2” [51] from the ends of the plates. **See FIG. 1**
c. Return Pressure Plate used at the perimeter must be notched from the bottom to clear expansion horizontal joint. **See FIG. 1**



NOTE: Notch bottom of M301TU for chicken head clearance

FIG. 1

STEP 6

a. Drill two Ø5/16” [8] diameter weep holes per horizontal pressure plate at 4" from each end **See FIG. 1**. Locate the holes on the V-groove above the center line of the pressure plate.

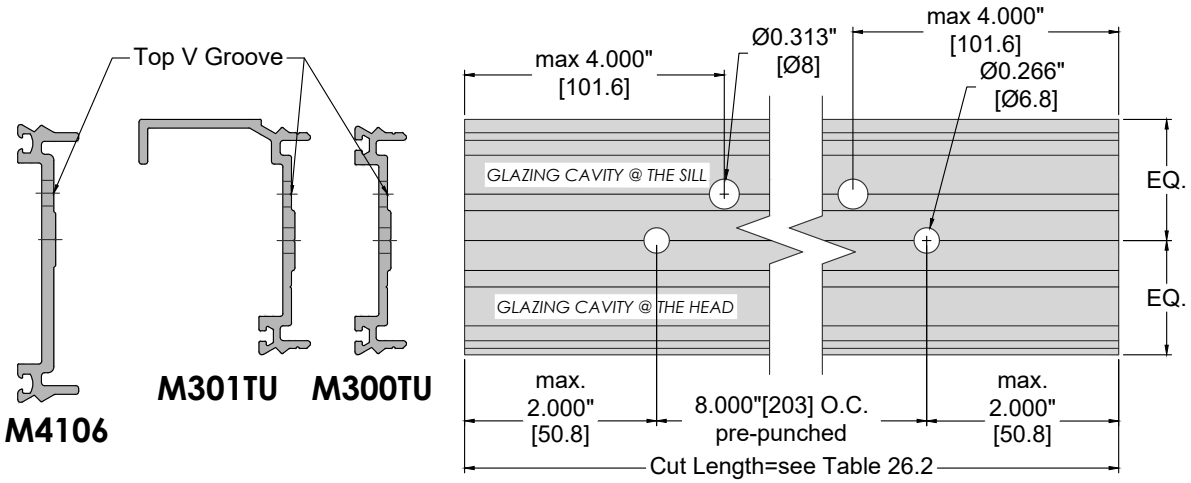


FIG. 1

STEP 7

a. Drill Ø5/16” [8] diameter weep hole in the center of the face cap, **See FIG. 4**

FIG. 3

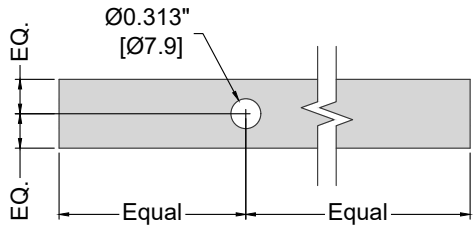


FIG. 4

STEP 1

a. Starting at the jamb of the opening, lay out the verticals and horizontals for correct assembly of each bay.
b. De-bur and clean the ends of all horizontals with IPA 2 rag method to ensure a tight joint with good sealant adhesion.
c. Seal ends of horizontal prior to attaching to the verticals. **See Fig. 1** for sealant locations.
d. Assemble the horizontals to the verticals with S403, 1/4-20 x 1" HWH.
e. At all two-piece corner mullions, use S359 to assemble the horizontals to the corner mullions.
f. Tool excess sealant at the joints.

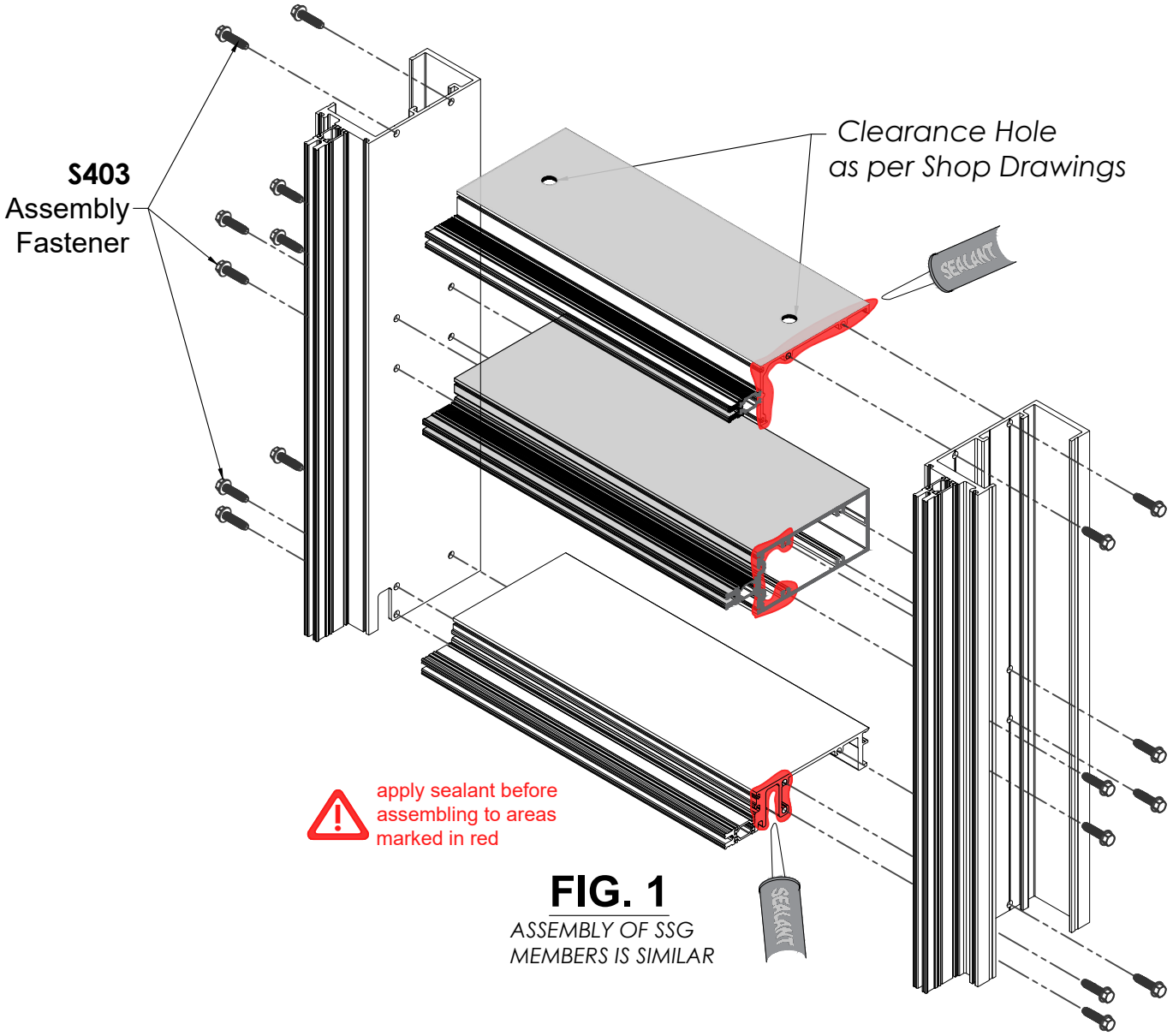


FIG. 1
ASSEMBLY OF SSG MEMBERS IS SIMILAR

NOTE: ***IPA 2 method****-dispense Iso-Propanol Alcohol (IPA) on a cloth, gently wipe the area. Immediately use another lint-free clean cloth to wipe the area dry.*

STEP 2

a. Before assembling verticals to horizontals, insert and crimp **S301** Nut within **P4230** Clip with adjustable pliers, add a dab of sealand behind nut. Insert assembly into horizontal member and secure with **S441** Fastener. **See Fig. 1.**

f. Clean mating surfaces with IPA 2 rag method.

g. Seal ends of horizontal prior to attaching to the verticals. Attach horizontal members to vertical using **S403** and **S114** fasteners. **See Fig. 2**

h. Insert Lifting Lug into a vertical member from the top, align clearance hole and fasten **S6502/S302** into **S301**. **See Fig. 3**

i. Repeat for both sides.

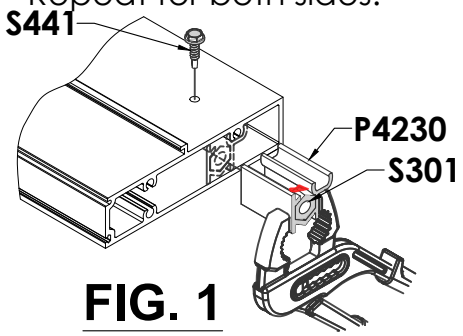


FIG. 1

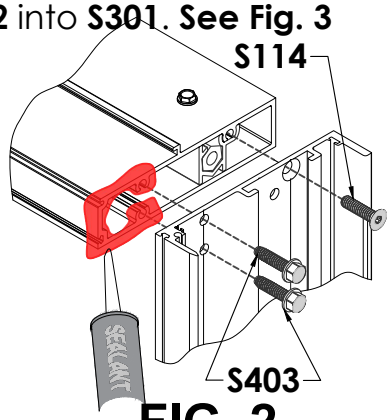


FIG. 2

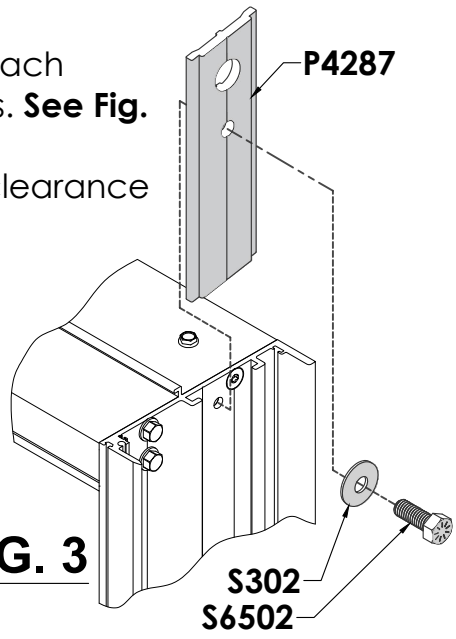


FIG. 3

STEP 2A (OS/IS corners)

a. Before assembling OS/IS corner verticals to horizontals, drill Ø0.258" [6.6] clearance hole through lifting lug as per **FIG. 4.**

d. Insert Lifting Lug into a vertical member from the top, align clearance hole and attach using **S6502/S302** into **S301**. **See FIG. 5**

e. Clean mating surfaces with IPA 2 rag method.

f. Seal ends of horizontal prior to attaching to the verticals. Attach horizontal members to vertical using **S403** and **S116** fasteners. **See FIG 6.**

g. Repeat for both sides.

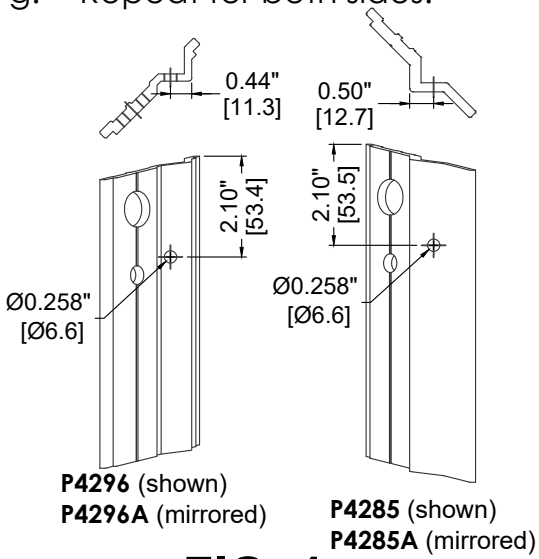


FIG. 4

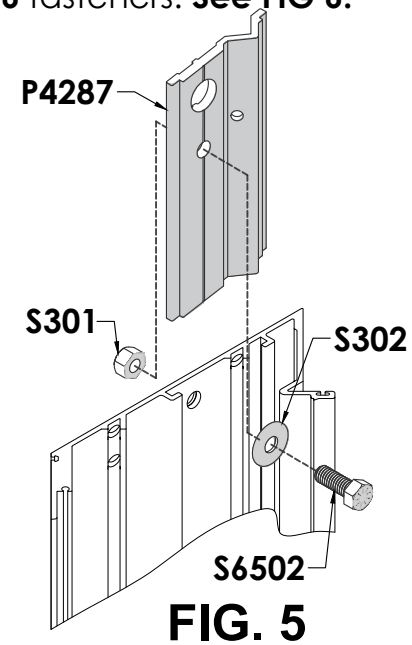


FIG. 5

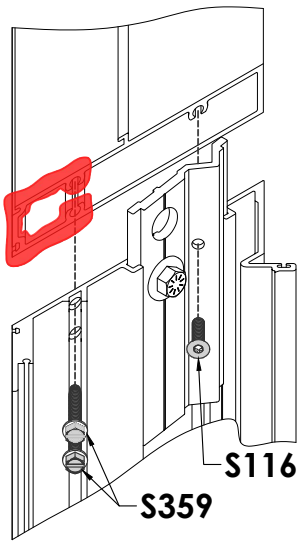


FIG. 6

NOTE: Each project must be reviewed by an Engineer to determine loading limits on the lugs for job specific conditions. Glass and frame sizes as well as the method of installing frames can affect loading limitations on the lugs. Clearances in the building opening also need to be factored in as well.

STEP 5

BUCKLING CLIP

a. Slide anti-buckling clips into location on the female verticals. Note that it is best to locate clips at the top, bottom and mid-point of each frame unit for best results.

b. Crimp clips into place, apply dab of sealant from both sides of clip. **See FIG. 1**.

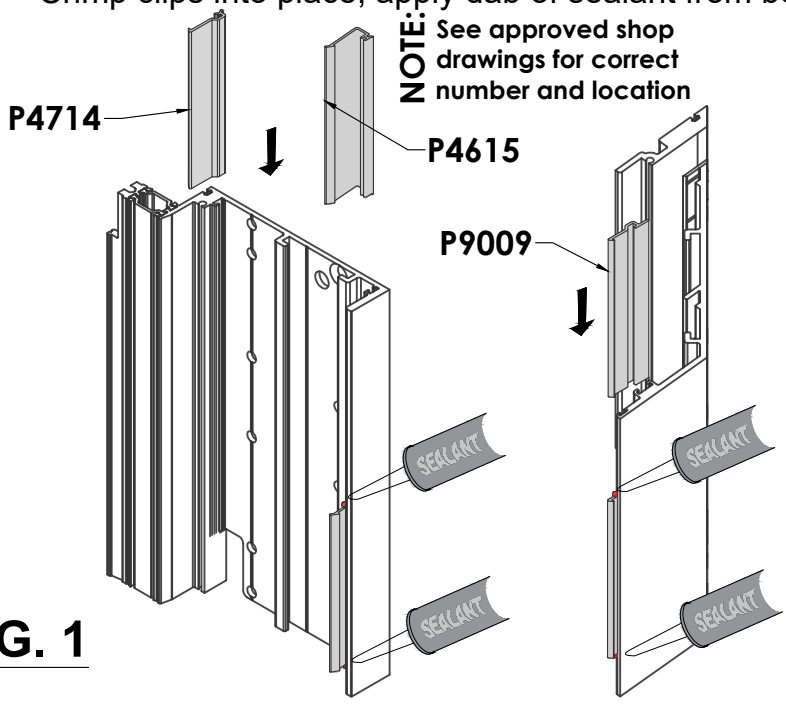


FIG. 1

E4289 SHOWN
E521TU & E4290 SIMILAR

E4292 (Inside Corner) SHOWN

STEP 6

OPTIONAL STEEL REINFORCEMENT

a. If steel reinforcing is required, install per approved shop drawings. Steel reinforcing can be attached to frame units in different ways. See **FIG. 4** for examples.

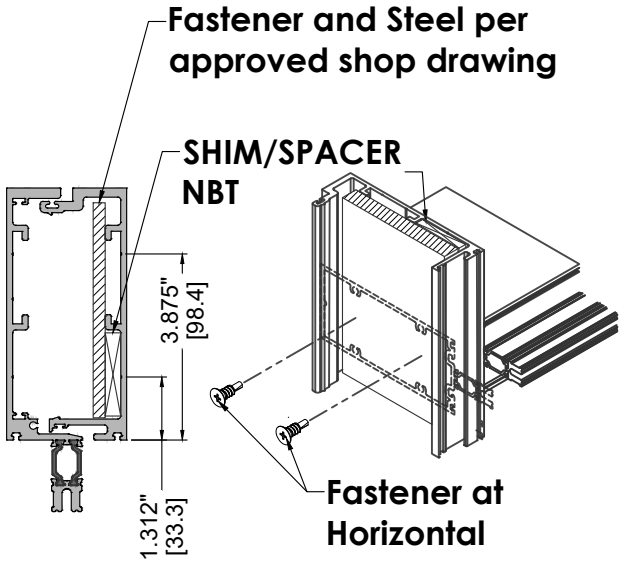
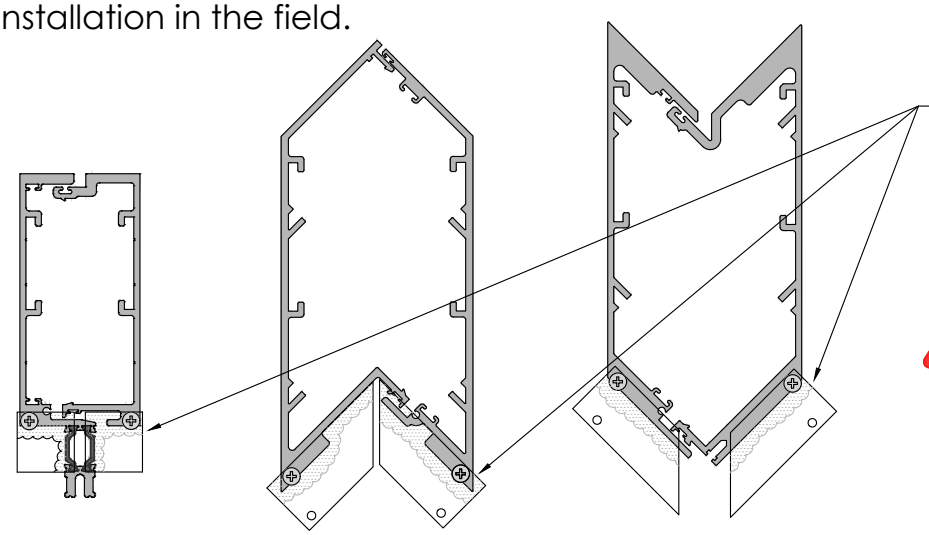


FIG. 2

STEP 7

Mullion end caps can be installed as shown below or with silicone after unit installation in the field.

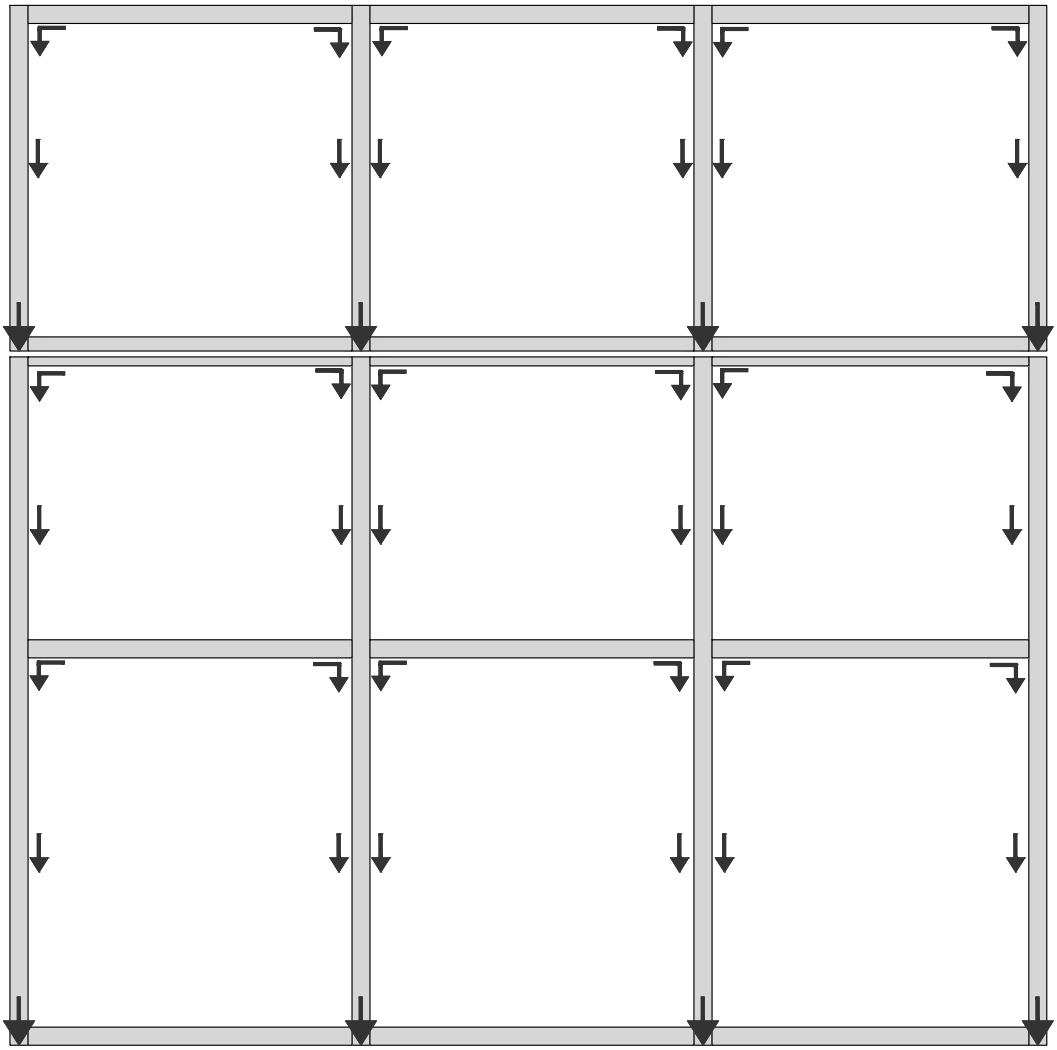


Seal and tool where mullion end cap contacts the end of the mullion. ***CRITICAL SEAL***

care must be taken during transport & installation of frames so as not to disturb the mullion end cap seals.

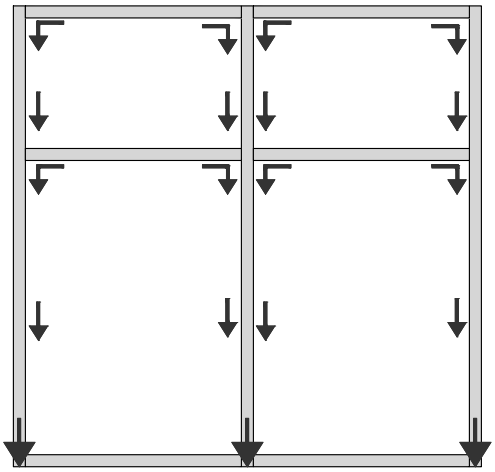
STEP 1

a. In multi span applications water will drain vertically down to each chicken head, and weep at vertical mullion locations. Diverters will be applied to direct water from the horizontas into the mullions. See following page for diverter installation.



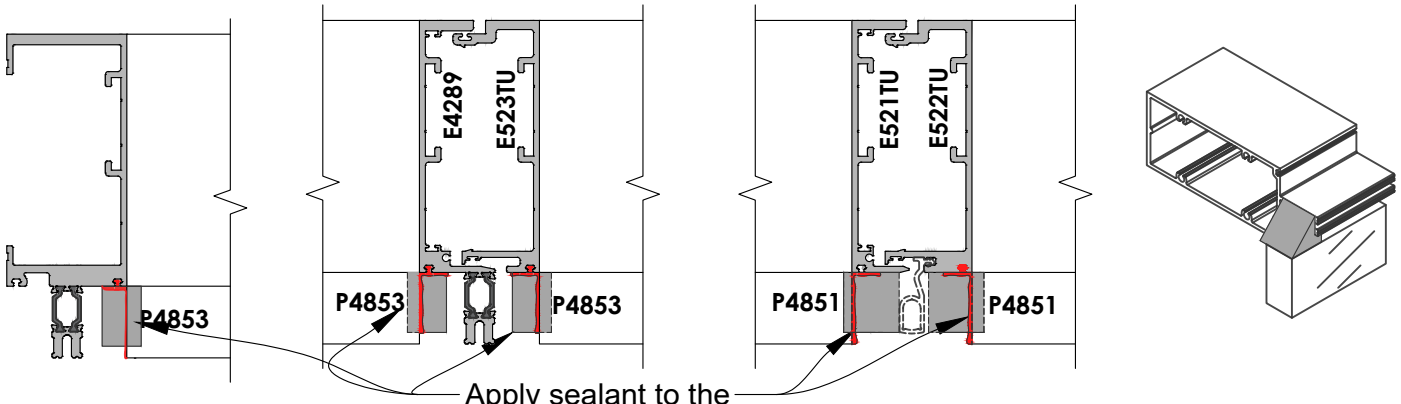
STEP 1

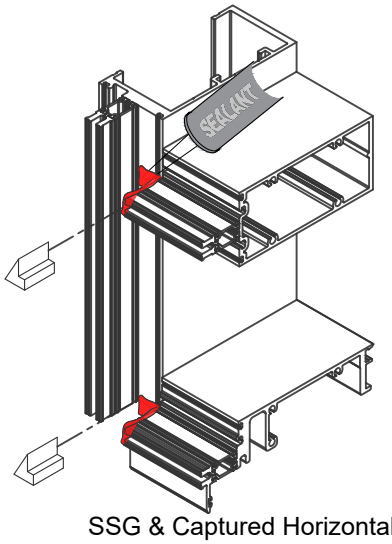
a. In single span locations, water will drain down the vertical and weep out in front of the perimeter seal. If a cosmetic seal is applied on the exterior, it will have to be discontinued at vertical locations for weeping.



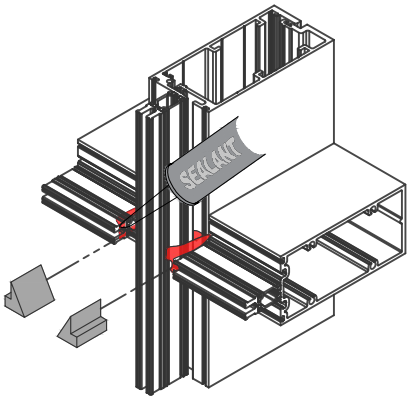
STEP 1

a. Pre-seal the cavity where the water diverter is to be installed. Sealant should be applied liberally. **See Fig. 1**. When expansion horizontals are used, only the upper horizontal (sill of upper frame unit) will receive a water diverter.
b. Push the water diverter into the cavity between the end of the horizontal and the vertical tongue.
c. After the water diverter is in place, apply silicone between the top of the diverter and end of the horizontal, tooling over the end diverter for a water tight seal. Seal over the top of the water diverter onto the horizontal tongue, creating a ramp off of the horizontal into the vertical cavity. SSG Horizontals do not require a diverter.

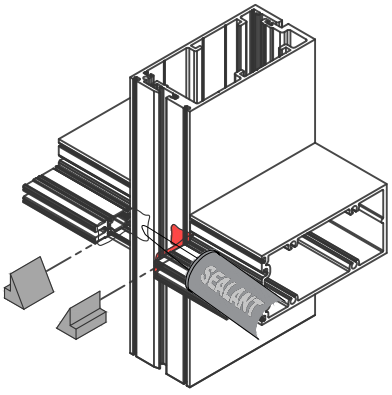




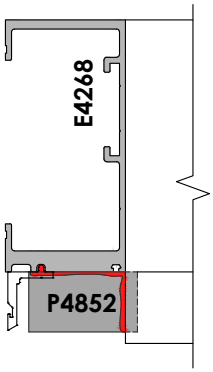
SSG & Captured Horizontal Captured Jamb & SSG Horizontal Captured Vertical

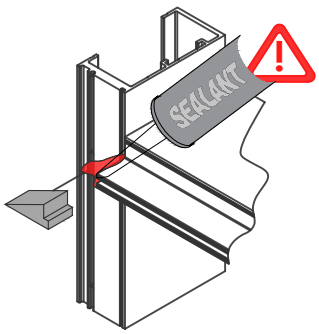


Captured Horizontal to Captured Vertical



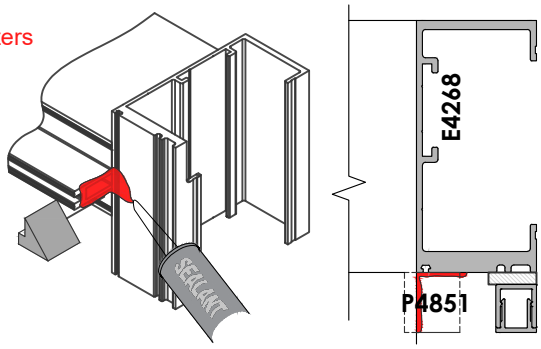
Captured Horizontal to SSG Vertical





Captured Horizontal to SSG Jamb w/E4212 Perimeter Angle

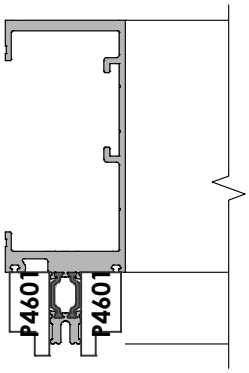
FIG. 1

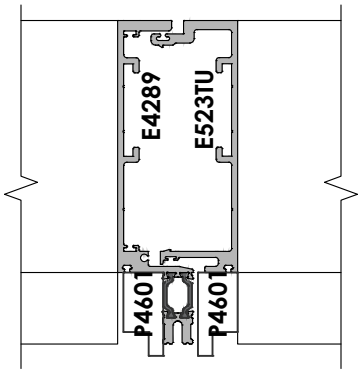


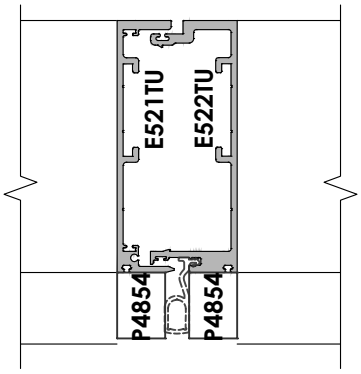
Captured Horizontal to SSG Jamb w/E4210 & E4211 Trim

STEP 2

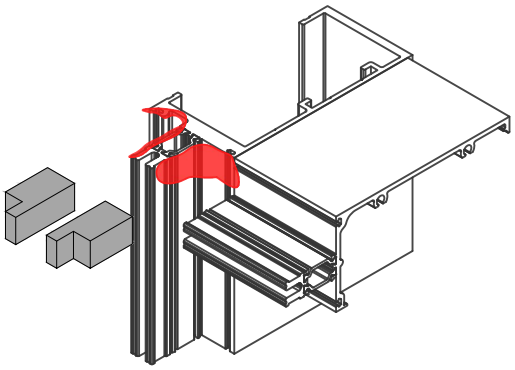
a. Pre-seal the cavity where the water dam is to be installed. Sealant should be applied liberally. **See Fig. 1**.
b. Push the water dam into the cavity between the end of the horizontal and the vertical tongue.
c. After the water dam is in place, apply silicone between the top of the diverter and top of the return leg pressure plate or SSG sorround for a water tight seal.
d. Seal the diverter to the top of the vertical to prevent water from penetrating into the vertical cavity



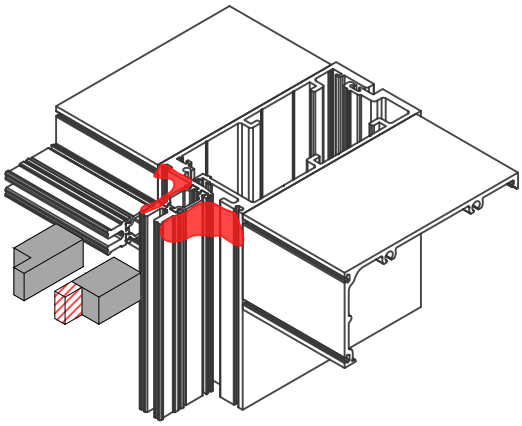




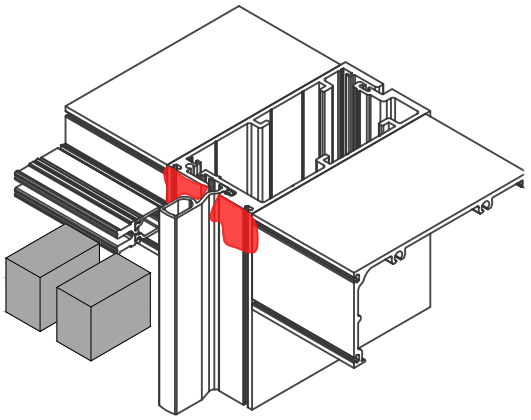
NOTE: cut off part of P4601 on the female captured mull half to clear the pressure plate and P5114 gasket during unit install



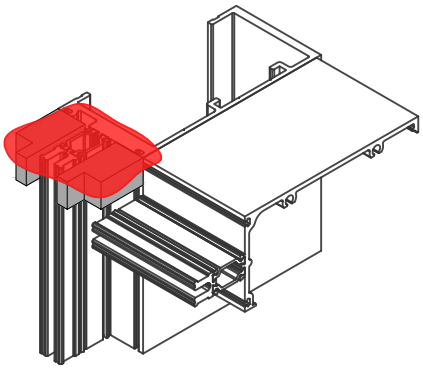
Captured Jamb



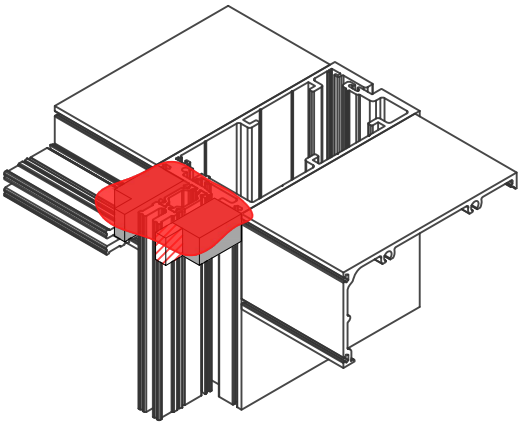
Captured Vertical



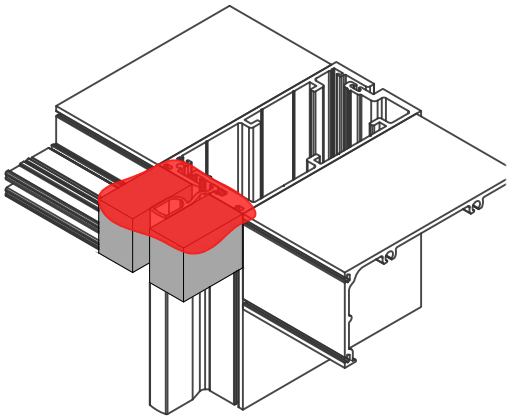
SSG Vertical



Captured Jamb



Captured Vertical



SSG Vertical

STEP 1

INTERMEDIATE VERTICAL GASKETS

a. Install P4830 wiper gasket and P9004 bulb gasket continuous into the front and back of each male vertical member. Crimp the ends of the mullion to lock the wiper gasket in place. **See FIG. 1.**
b. Install P4788 air seal gasket continuous in the front of each female intermediate vertical. 'Ping' metal to crimp gasket in place. **See FIG. 1.**

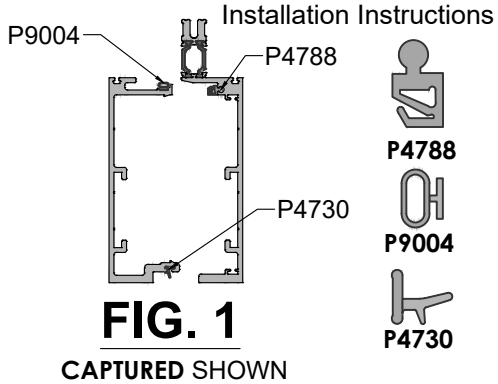


FIG. 1

CAPTURED SHOWN
SSG SIMILAR

STEP 2

GLAZING SPACER GASKETS

a. Remove any debris from the glazing pockets and reglets.
b. Push in Glazing Spacer gasket into horizontal tongues.
c. Apply small dab of sealant to each end of horizontal spacer gasket. **See FIG. 2.**
d. Push in Glazing Spacer gasket into vertical mullions, run 1/4" [6] beyond the horizontal gaskets.

NOTE: Crowd gaskets toward the center of the member during installation to avoid gaps caused by relaxation of the gasket material.

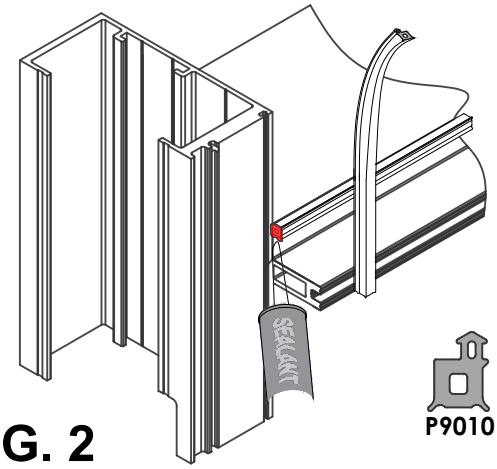


FIG. 2

STEP 3

ISOLATOR AND PRESSURE PLATE GASKET

a. Cut Isolator Gasket adding additional 1/8" [3] per 12" [305] of mullion length. Push in into mullions vertical and horizontal tongues **See FIG. 3**
b. Press pressure plate gaskets into reglets and crowd towards the center of the pressure plate to avoid gaps caused by relaxation of the gasket. **See FIG. 4**
c. Ensure proper pressure plate gaskets are used at each condition. **See FIG. 5**

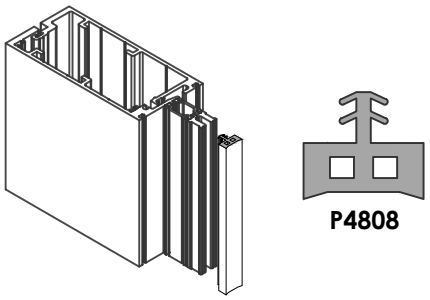


FIG. 3

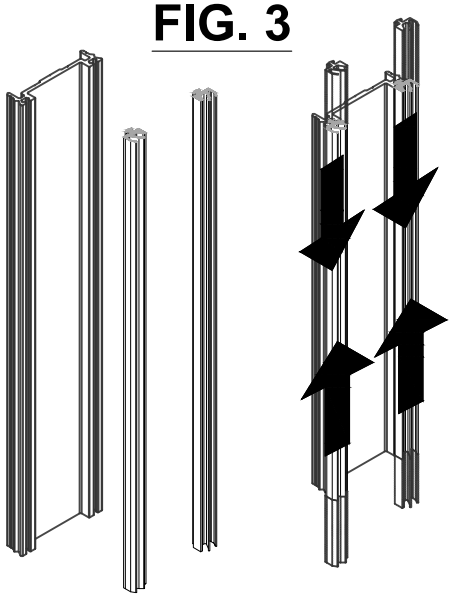
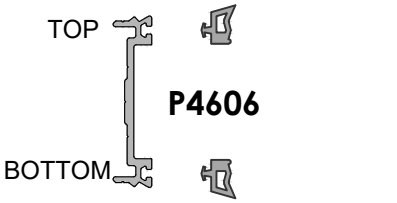
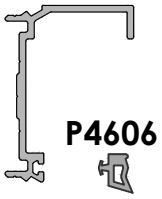


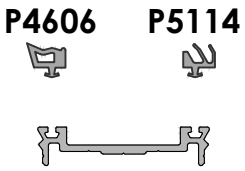
FIG. 4



Sill & Intermediate Horizontal SHOWN
Expansion Horizontal P5114 Both Sides



Head SHOWN
Vertical Jamb SIMILAR



Intermediate Vertical SHOWN

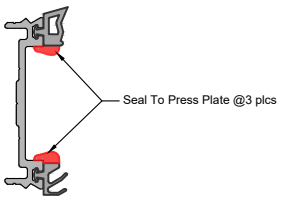


FIG. 5

STEP 1

CAPTURED FRAME CONDITION

a. **Glass bites vary on this system; verify glass sizes before ordering.**
b. Set frame on a horizontal surface, glass side up. Frame must be square.
c. Thoroughly clean edges of glass and frame where silicone will be contacting using IPA 2 rag method.
d. Place setting blocks at sill member per approved shop drawings. Dab of sealant can be used to hold setting blocks in place. **See FIG. 1**
e. Set glass in place, ensuring proper glass bite on all sides.
f. Apply an approved structural silicone from the bottom to the top of the joint. Use positive pressure to completely fill the cavity between the glass and mullion. **See FIG. 2**
g. Using a nylon spatula or other non-scratching implement, tool the silicone immediately after running the bead. Exert positive pressure while tooling to ensure that the silicone completely fills the cavity.
h. Face clearance between the glass and the mullion at the interior should be 1/4" [6.4]. **See FIG. 2**.
i. Apply ISOLATOR GASKET, see **PAGE 63 STEP 3,** followed by vertical pressure plate torque fasteners to 90 in-lbs. **See FIG. 3**.
j. Install horizontal pressure plate, ensuring that weep holes are on the top side of the pressure plate. Torque all pressure plate fasteners to 90 in-lbs. When using a cordless drill with a torque limiter, check torque periodically against a torque wrench
k. Check D.L.O. and frame unit diagonal dimensions for squareness. Adjust as necessary. It is critical that the frame unit is square before silicone cures.
l. Exercise care in moving frame unit so as not to disturb the corner seals. Follow sealant manufacturer's recommendations for cure time before moving and installing frame units.

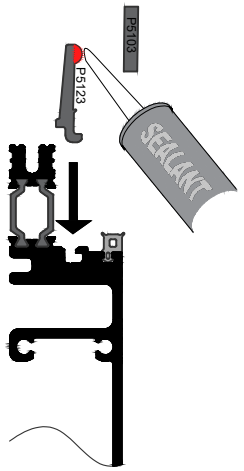


FIG. 1

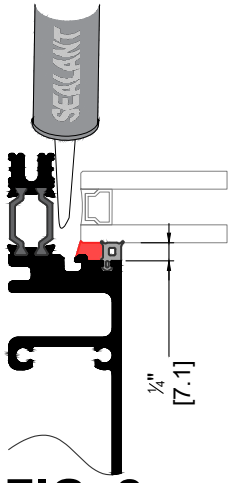


FIG. 2

STEP 2

a. Install chicken head at the top of the unit, see **PAGE 63 STEP 3**
b. Apply appropriate backer rod into the joint and apply a continuous silicone weather seal. Tool any excess he sealant. **See FIG. 4**

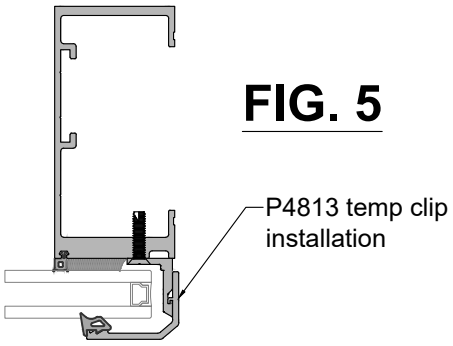


FIG. 5

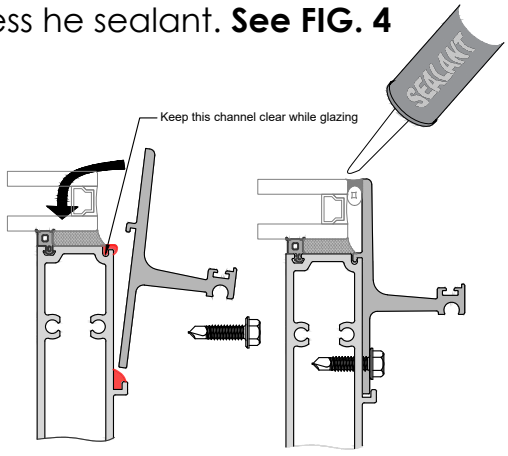


FIG. 4

NOTE: ***IPA 2 method****-dispense Iso-Propanol Alcohol (IPA) on a cloth, gently wipe the area. Immediately use another lint-free clean cloth to wipe the area dry.*

τ = 90 in-lbs

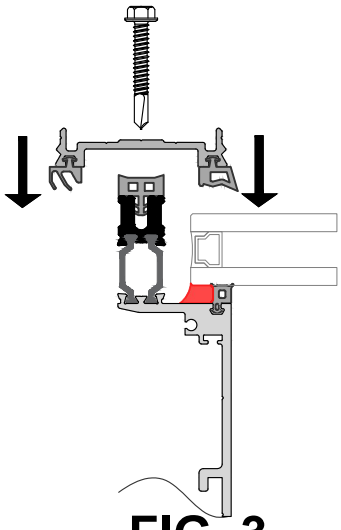


FIG. 3

STEP 3

SSG FRAME CONDITION

a. Set frame on a horizontal surface, glass side up. Frame must be square.
b. Thoroughly clean edges of glass and frame where silicone will be contacting using IPA 2 rag method.
c. Tape critical areas before glazing such as gasket race on Male Vertical SSG member. **See FIG. 1**
d. Pre-load Setting Shelf E4186 at expansion horizontal and P5123 at horizontal mullions before setting glass in place. **See FIG. 2**
e. Pre apply approved structural silicone at SSG Upper Expansion Horizontal ONLY. **See FIG. 3**
f. Set glass in place, ensuring proper glass bite on all sides.
g. Apply an approved structural silicone on remaining sides. Use positive pressure to completely fill the cavity between the glass and mullion. **See FIG. 4.**
h. Using a nylon spatula or other non-scratching implement, tool the silicone immediately after running the bead. Exert positive pressure while tooling to ensure that the silicone completely fills the cavity.
i. Face clearance between the glass and the mullion at the interior should be 1/4" [6.4]. **See FIG. 4.**
j. Check D.L.O. and frame unit diagonal dimensions for squareness. Adjust as necessary. It is critical that the frame unit is square before silicone cures.
k. Exercise care in moving frame unit so as not to disturb the corner seals. Follow sealant manufacturer's recommendations for cure time before moving and installing frame units.

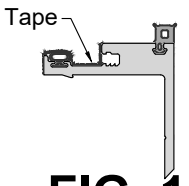
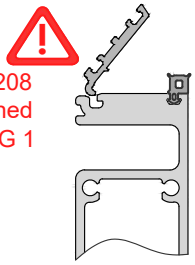


FIG. 1


Both ends of E4208 must be notched See PAGE 44 FIG 1
FIG. 2

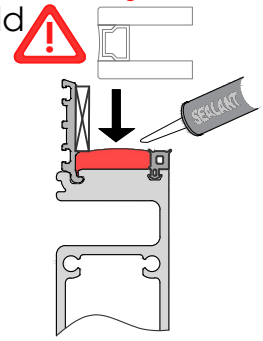


FIG. 3

STEP 4

a. Install chicken head at the top of the unit, see **PAGE 67 STEP 2**
b. Apply appropriate backer rod into the joint and apply a continuous silicone weather seal. Tool any excess he sealant. **See FIG. 5**

STEP 5

a. Insert vertical diverter gasket P9088 into the race from underneath the chicken head and 3/8" [9.5] lower than setting shelf . **See FIG. 6**
b. Insert horizontal Rainscreen Gasket P2030 making it flush with setting shelf from both ends. **See FIG. 7**

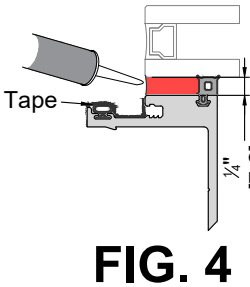


FIG. 4

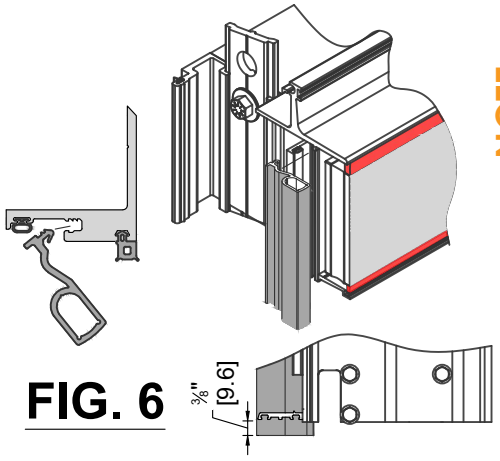


FIG. 6

NOTE: Its recommend to insert P9088 & P2030 right before lifting unit into place to avoid damage during transportation

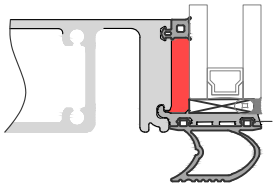


FIG. 7

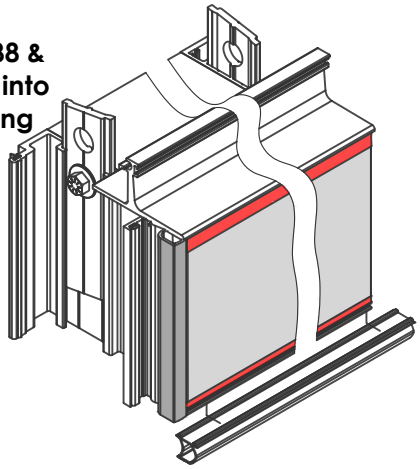


FIG. 5

STEP 3

a. After frames are assembled and GLAZED, clean top of lower expansion horizontal on the exterior side with IPA 2 rag method .
b. Apply continuous bead of sealant across entire section including the verticals on both sides. **See FIG. 1**
c. Set the chicken head in place ensuring the section engaged into the hook from both sides and of the chicken head is milled off from both ends. **See FIG. 2**
d. Secure chicken head with S457 Fasteners.
f. Tool and clean excess sealant at the joints.
g. Apply 4" [102] of sealant into PTB117 race, 6" [152] away from each end and on in the center to prevent any movement of PVC rod. **See FIG. 3**
h. Pre-load 3 finger gasket PTB116 and PVC rod PTB117 before setting track into place. **See FIG. 3**

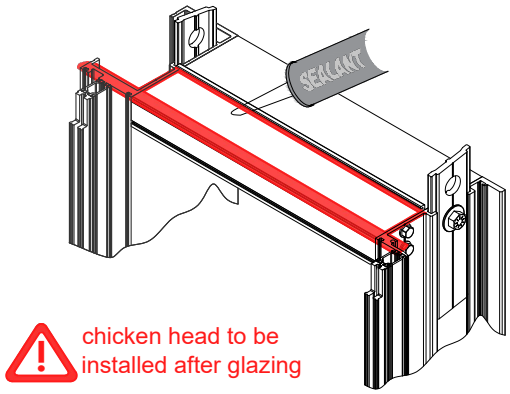
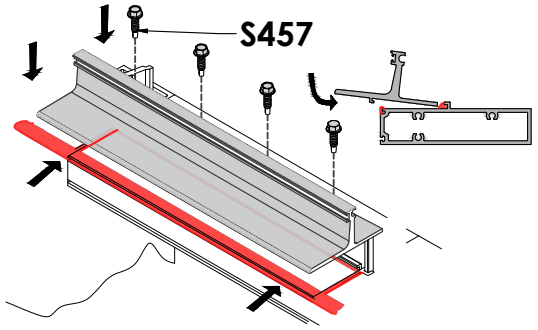


FIG. 1



NOTE: See approved shop drawings for spacing of fasteners

FIG. 2

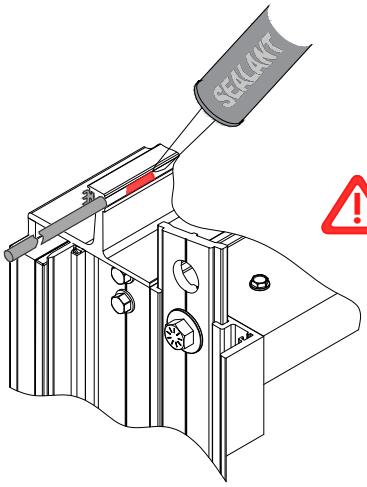
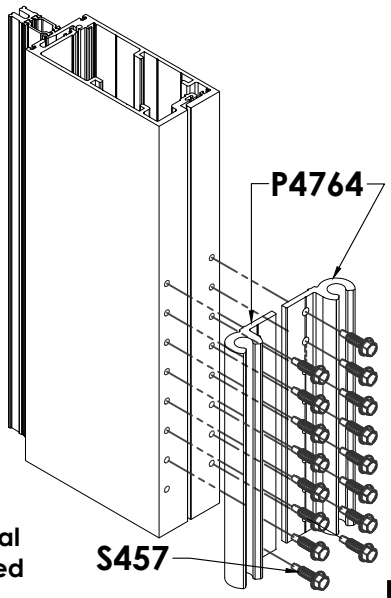


FIG. 3

STEP 4

a. Assemble Anchor components as per exploded diagrams below. See **FIG. 4**



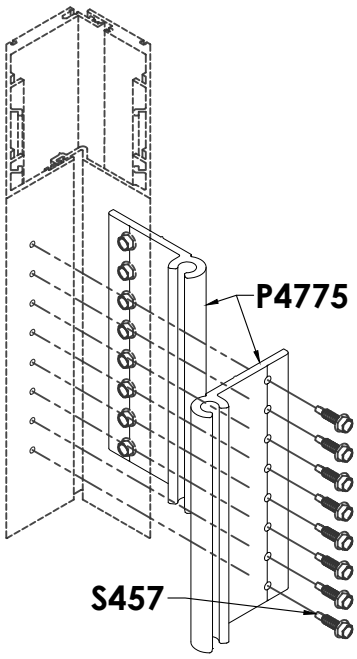


FIG. 4

NOTE: Anchor details represent some of several methods of anchoring. Refer to approved shop drawings for job specific applications.

E4289 & E523TU SHOWN
E4268, E4288, E521TU & E522TU SIMILAR

Outside Corner SHOWN

STEP 6

a. Install the vertical face covers first by using a wood block to protect the finish. **SEE FIG. 1**
b. Seal the horizontal pressure plates to the vertical face covers, tooling the sealant into the joint. **SEE FIG. 1**
c. Seal the top termination point of all vertical face covers below an expansion horizontal, **SEE FIG. 2.**
d. Vertical Cap to be 1 $\frac{1}{8}$" shorter than vertical frame member
e. Pinning requirements for all pressure plates:
   - Cover depth less than 1": Pin to pressure plates as required
   - Cover depth 2" or more:
     - Less than 6 ft long: Pin to pressure plate at center on each side
     - Greater than 6 ft long: Pin to pressure plate on each end and 3 ft O.C.
   - Building Specific conditions may require spacing different than this. Consult Tubelite Engineering for recommendations.

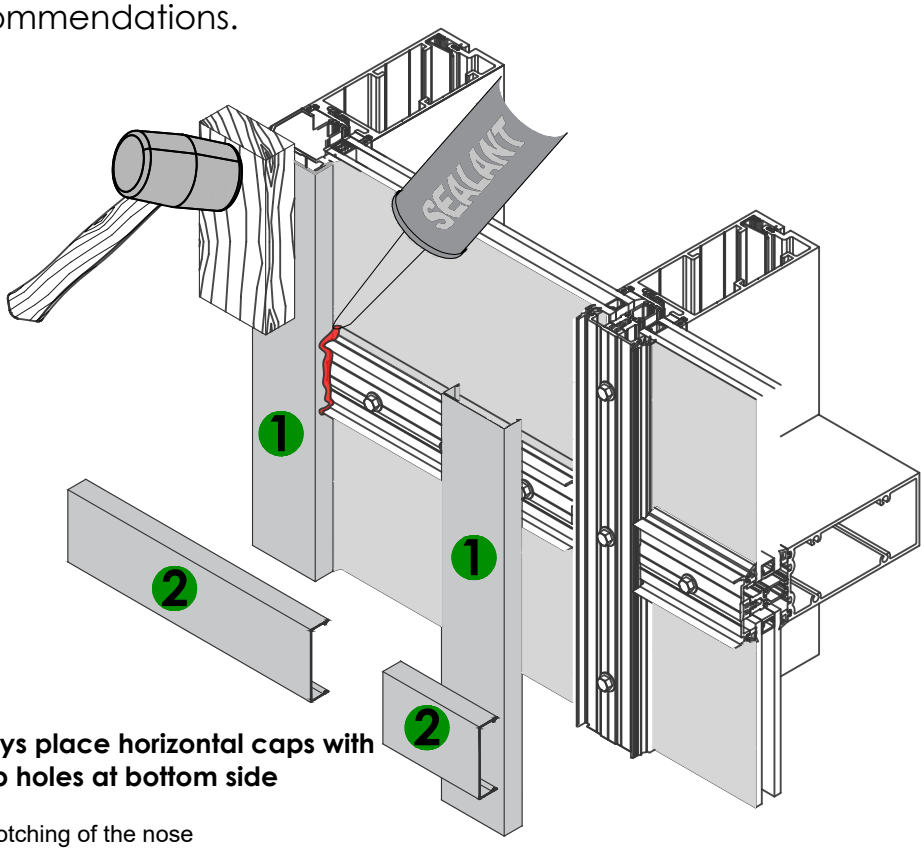


FIG. 1

NOTE: **Always place horizontal caps with weep holes at bottom side**

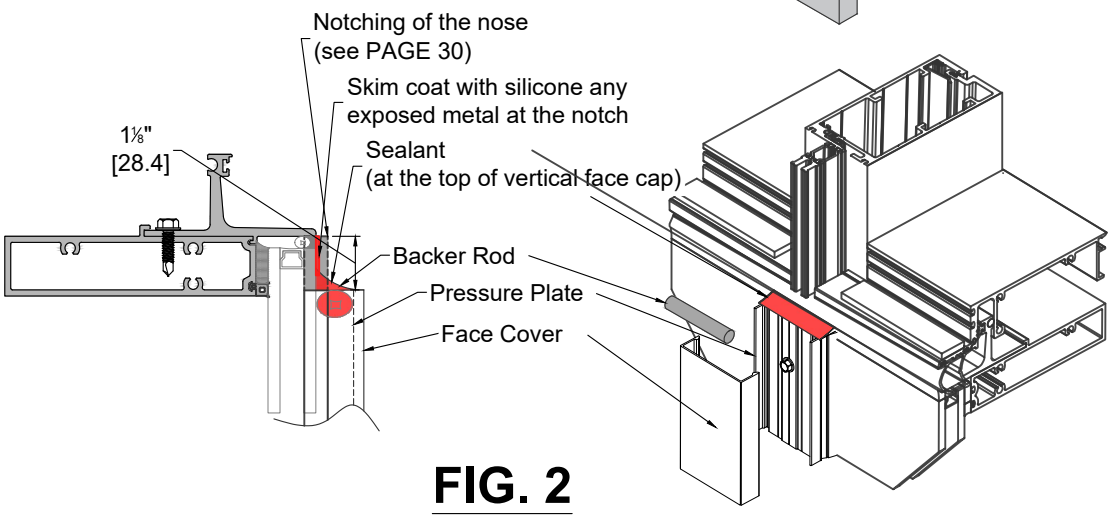


FIG. 2

STEP 1

a. Apply 4" [102] of sealant into PTB117 race, 6" [152] away from each end and on in the center to prevent any movement of PVC rod. **See FIG. 1**

b. Pre-load 3 finger gasket PTB116 and PVC rod PTB117 before setting sill into place. **See FIG. 1**

c. Locate starter sill per approved shop drawings. Use established benchmarks and placed Anchor Plates to ensure the accuracy of the starter sill location. Starter sill must extend minimum 3/8" [9.5] past the edge of the unit jamb. **See FIG. 2**

d. Using a chalk line or laser level, align the starter sill onto the substrate. Clamp the sill down if possible to ensure the sill is following the correct course across the elevation.

e. The starter sill must be installed level and straight - if the substrate is not level, determine the high point and transfer the height to the starting point of the starter sill.

f. Starting at the end, shim the anchoring locations using structural shims. Determine the sill base height as per approved shop drawings and the variations in the substrate.

g. Once leveled fasten the sill using fasteners as per approved shop drawings. Keep the shims inboard from the exterior to allow for backer rod to be installed. **See FIG. 3**

h. If multiple lengths are used and splicing is necessary, a 1/2" gap should be left between Starter Track lengths to allow for expansion and contraction. Splice to be offset from the center lines of vertical expansion mullions. Seal and tool the joint fully. Once starter sill are set in place, set a silicone sheet in a bed of sealant over the splice joint. **See FIG. 3**

i. PTB116 should run through the splice

j. Seal the gap between the starter sill and the substrate using backer rod and sealant.

k. For deadload conditions place Starter Sill Dead load Block P4817 as per approved shop drawings. **See FIG. 4**

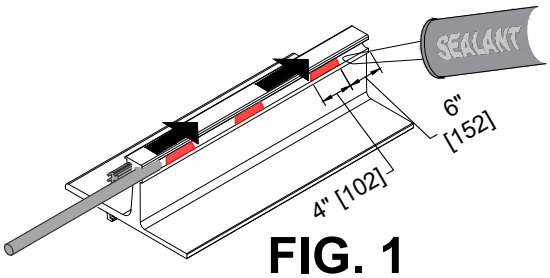


FIG. 1

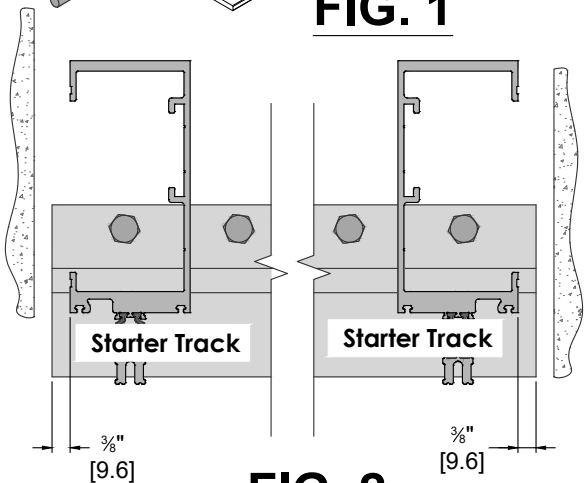
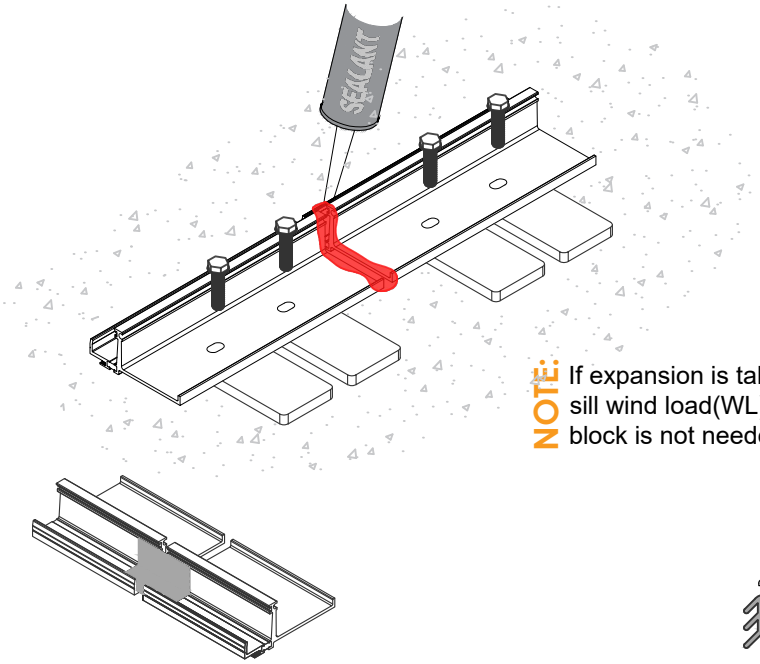


FIG. 2



NOTE: If expansion is taken up at the sill wind load(WL) the dead load block is not needed

FIG. 3

NOTE: See approved shop drawings for spacing of fasteners

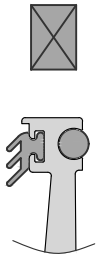


FIG. 4

STEP 1

a. Check to make sure Chicken Head is clean of any debris, clean if necessary.
b. Apply silicone grease along chicken head and gaskets to facilitate installation. **See FIG. 1**

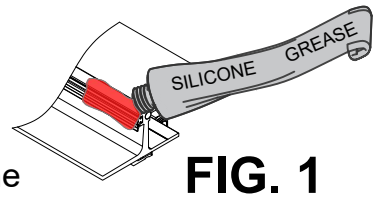


FIG. 1

STEP 2

a. Panels are lifted into position by hooking into the precut holes in the two lifting lugs on the heads of the panels. The means and methods of lifting the panels are the sole responsibility of the installer.
b. Tape Anchor shoes to the Anchor Clip right before lifting the unit. **See FIG. 2**
c. Lift and set first unit onto starter track and set the anchor shoe over the anchor plate ball . See FIG. 1
d. Secure with S458 U-Drive Setting Screw. **See FIG. 2**
e. Adjust jack bolt and anchor plate as necessary for proper sill joint, frame unit squareness and offset distance from edge of slab

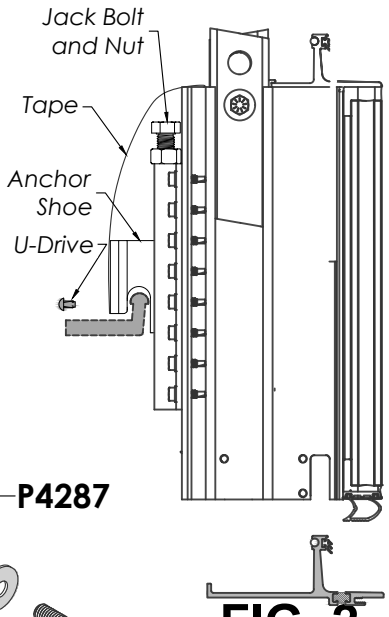


FIG. 2

STEP 3

a. If the shop drawings call for SEISMIC movement or Horizontal Interstory Drift, lifting lugs must be removed from the unit. **See FIG. 3.**
b. Check per approved shop drawings
c. This is critical to be done prior to next unit being hoisted down

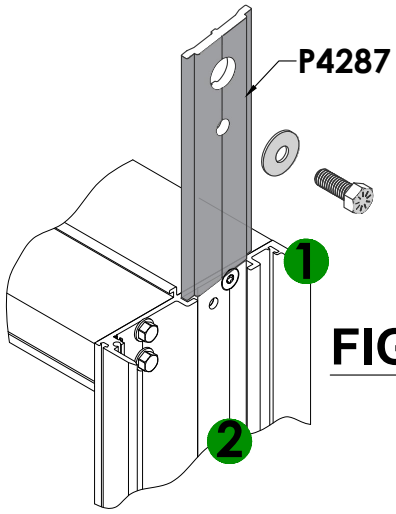


FIG. 3

STEP 3A

a. Outside and Inside Corners lifting lugs must be cut down and flush with the unit.This is critical to be done prior to next unit being installed. **See FIG. 4.**

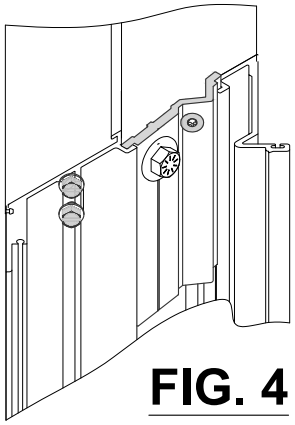


FIG. 4

REMOVE THE BOLT SECURING LIFTING LUG AND SLIDE THE LIFTING LUG OUT OF THE RECEIVER FOR SEISMIC MOVEMENT OR HORIZONTAL INTERSTORY DRIFT

STEP 4

a. Lift next unit in sequence and apply 3" [76] seals from top and bottom of the unit. **See FIG. 5**
b. Frames must be installed from bottom of elevation to top - the horizontal direction of installation must be established long before the panels are installed - refer to approved shop drawings. **See FIG. 1 on following page**
c. Install the next frame just above the starter sill by engaging the mullions halves together. A click will be heard when the anti-buckling clips are properly engaged. Slide panel down over the starter sill chicken head. Check to see that the bottoms and tops of the adjacent frame units align and the width of the intermediates verticals are consistently 2-1/2" [63.5]. **See FIG. 3 on the following page**

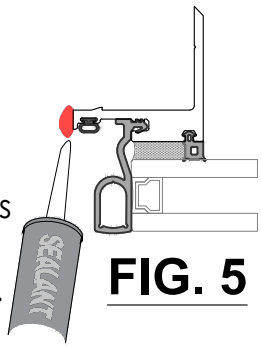


FIG. 5

STEP 5

a. Once panels are in a desired position, set a silicone sheet in a bed of silicone over the splice joint. **See FIG. 2**
b. Press sheet into the silicone and tool excess around the perimeter.
c. Use backer rod and sealant on the interior side of the splice.
d. Pull extra PTB116 through the reciever in the second unit and splice a minimum of 3" away from the chicken head splice.

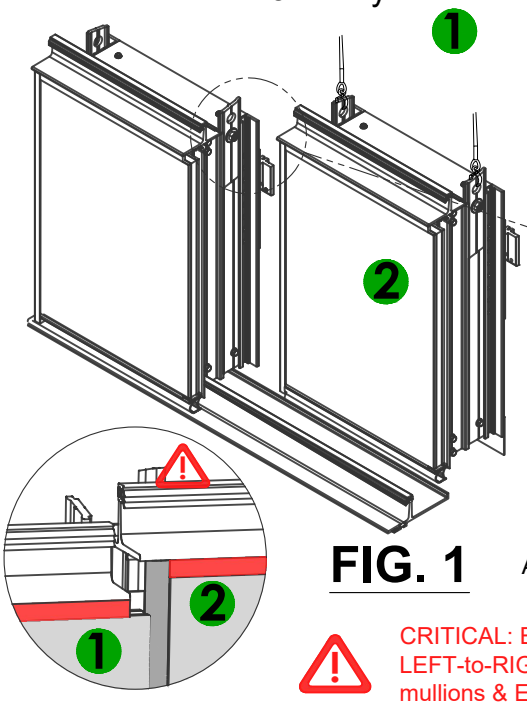


FIG. 1

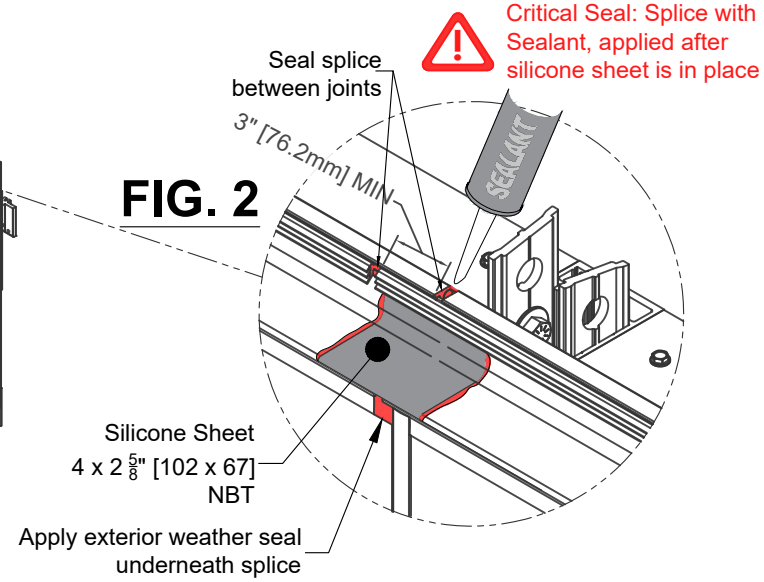


FIG. 2

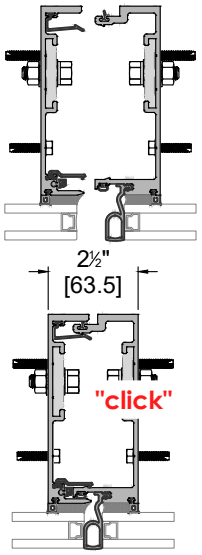


FIG. 3

CRITICAL: Ensure vertical mullions are oriented and installed in the LEFT-to-RIGHT sequence. To reverse installation sequence vertical mullions & E4286 Chicken Head must be flipped.

STEP 6

a. When all adjustments have been made, install E0199 1" x 1" x 1" channel between anchor shoes to lock in place. Cut length should be snug and is determined by field conditions. Attach channel to anchor plate ball with S017 #10 x 5/8" PH **See Fig. 2 Page 29**.
b. Ensure Weather Seal Bulb Gasket at Intermediate Vertical has 5/16" [8] opening for weeping. **See FIG. 5**
c. Liberally fill the area between reticulated foam and PTB116 with Dow 111 or equivalent to fill any pinholes in the splice

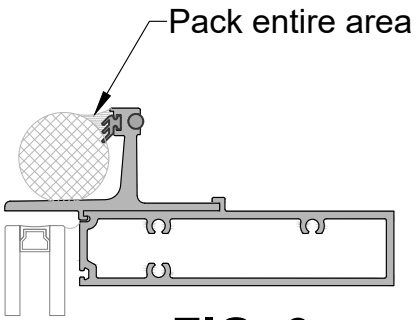


FIG. 6

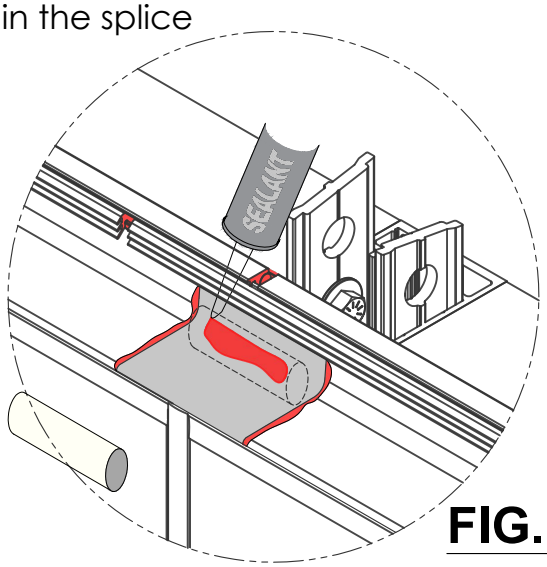
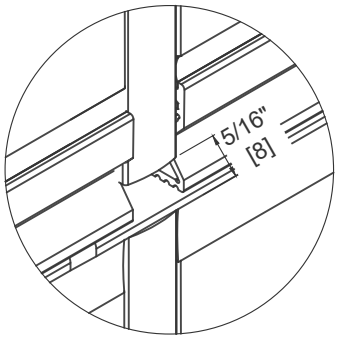


FIG. 4



SSG Intermediate Vertical

FIG. 5

STEP 7

a. Set the next row of frame units above the first row from the floor above, aligning mullion notch over the chicken head. Set the frame expansion joint to the correct height before anchoring the upper frame unit per **step 1-6. See FIG 1**

b. Repeat **STEPS 1-6**Last bay must have a minimum of ¾" [19] clearance for final unit installation.

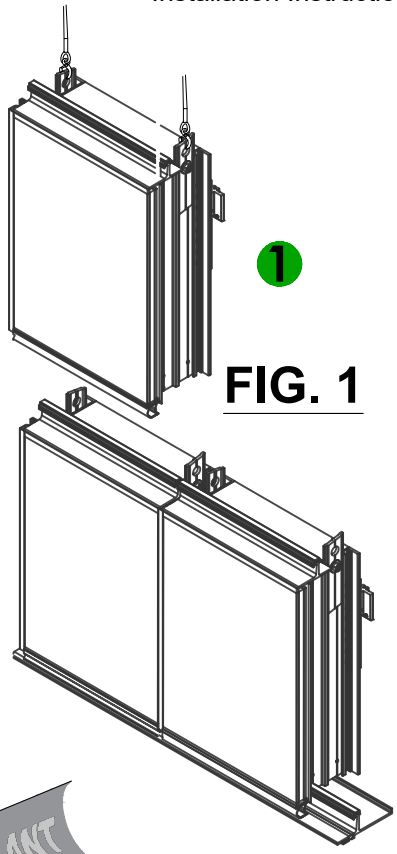


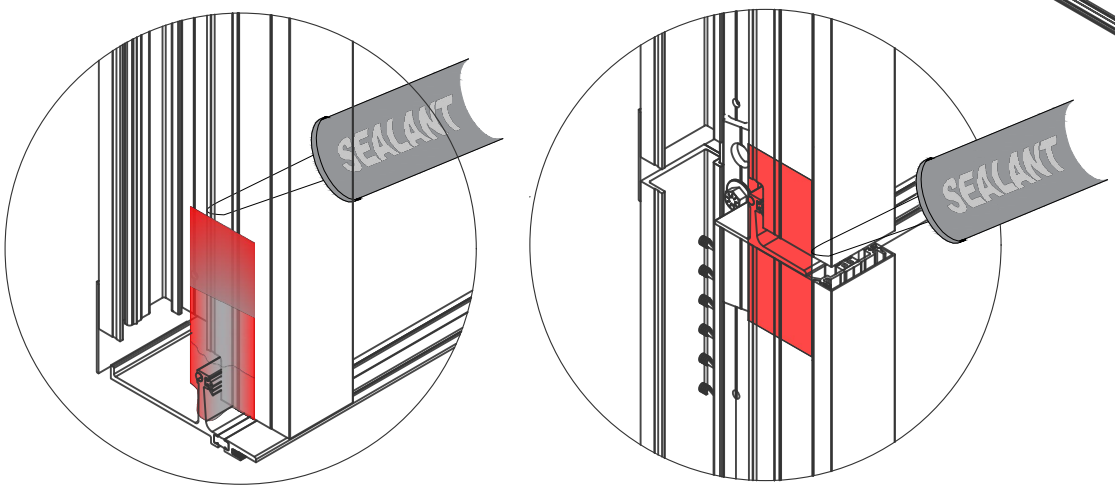
FIG. 1

STEP 8

a. After upper row of units are in final position, clean the side of expansion horizontals where silicone sheet will be applied.

b. Apply sealant on all mating surfaces with silicone sheet and 2 ½ x 6 silicone sheet over the sealant in line with the frames.

c. Pat the sheet down in the sealant until the sealant squeezes out around the sheet perimeter. **See FIG 2**



Starter Sill **Expansion Horizontal**

FIG. 2

STEP 1

OUTSIDE CORNER VERTICAL GASKET

a. apply continuous bead of sealant onto the interior glass lite before inserting vertical gasket. **See FIG 1**

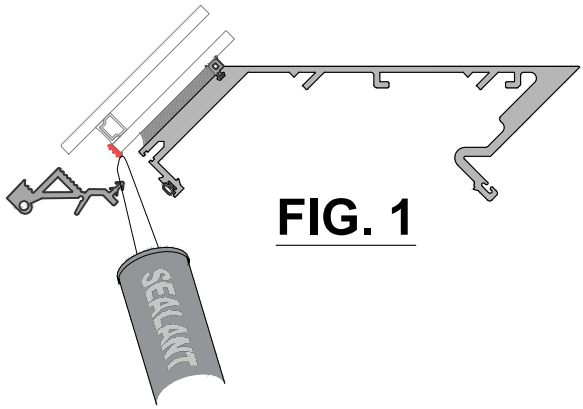


FIG. 1

STEP 2

OUTSIDE CORNER SPLICE

a. Miter the PTB117 PVC rod and seal together.
b. Turn the corner with PTB116 gasket and splice a minimum of 3" away from the chicken head splice. **See FIG 2**
c. Set a silicone sheet into a bed of sealant similar to page 71. backfill behind the splice and between PTB116 and PTB117. **See FIG 2**
d. Set 2 P4810 retuculated foam pieces into a bed of sealant in front of the splice. **See FIG 3**
e. Liberally fill the cavity between reticulated foam and chicken head splice with dow 111 to plug any pinholes in sealant. **See FIG 4**

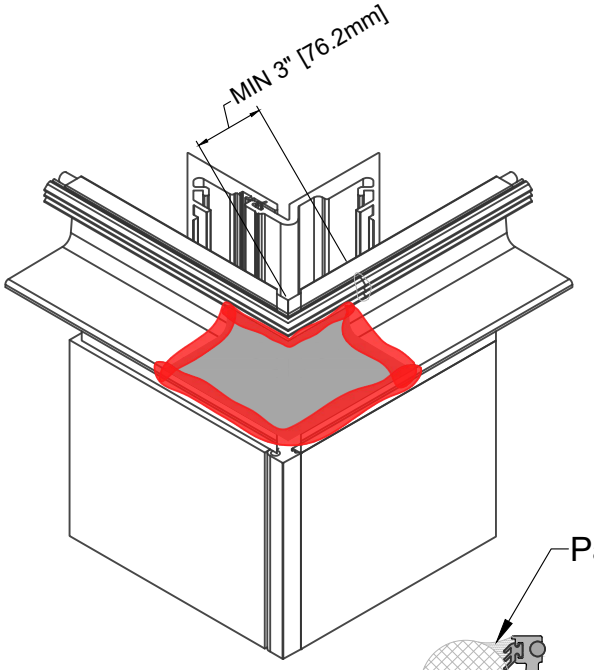


FIG. 2

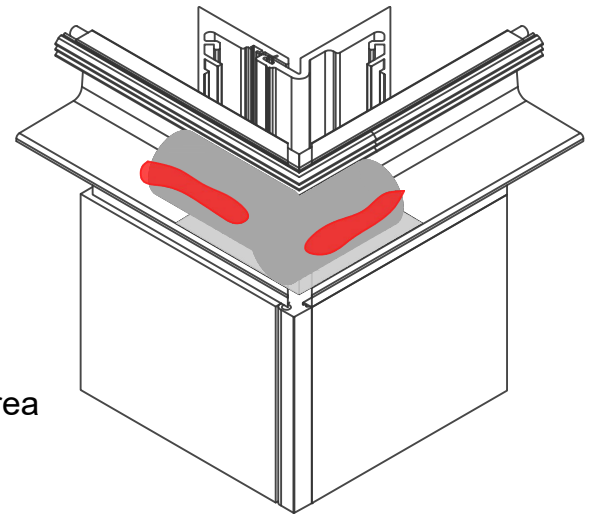


FIG. 3

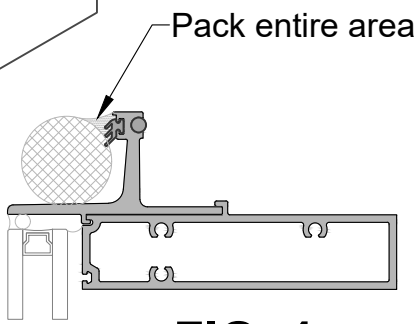


FIG. 4

STEP 1

SEALING THE PERIMETER

a. CAP seal at the head condition. **See FIG 2**

b. For Jamb SSG with using E4212 Angle, approved structural sealant must be pumped prior to setting glass. **See FIG 3**

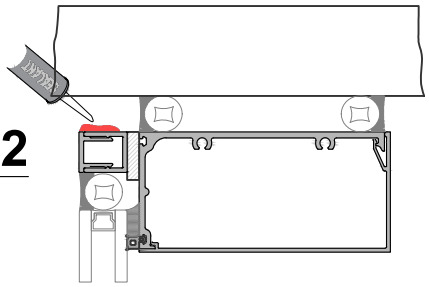
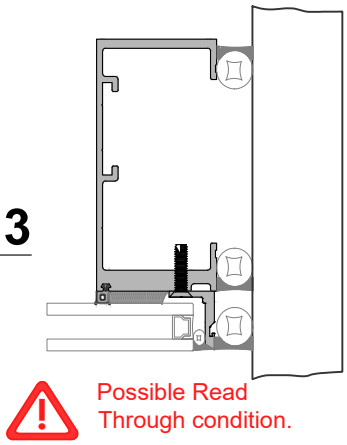


FIG. 2

FIG. 3



STEP 2

INSTALLING HORIZONTAL TRIM COVER

a. Cut and prep Horizontal Trim Cover per PAGE 55.

b. Using a mallet hammer install interior trim covers once the units are in place. **See FIG 4**

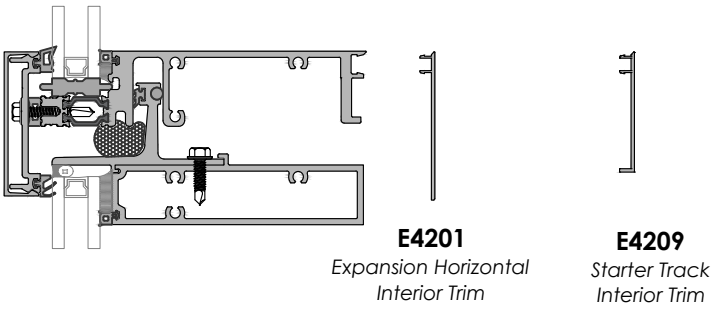


FIG. 4

STEP 1

Frame Prep

a. fabricate clearance holes in the frame head for fastening the F & T anchors to the substrate.

b. Pre-load anchors into frame prior to setting into place. Temporatily tape them in place during frame installation

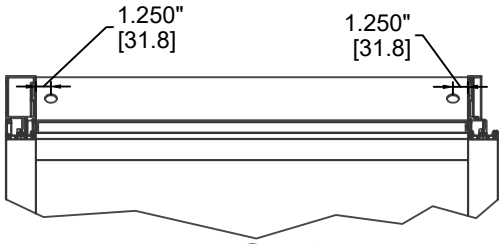


FIG. 1

STEP 2

Frame Installation

a. Install starter track as described on page 70.

b. install first frame level and plumb within the opening. **SEE FIG 3**

c. drill clearance holes in F & T anchors and fasten with approved fasteners. **SEE FIG 2**

FIG. 2

NOTE: **Exterior secondary seal is required at the head to reduce water penetration.**

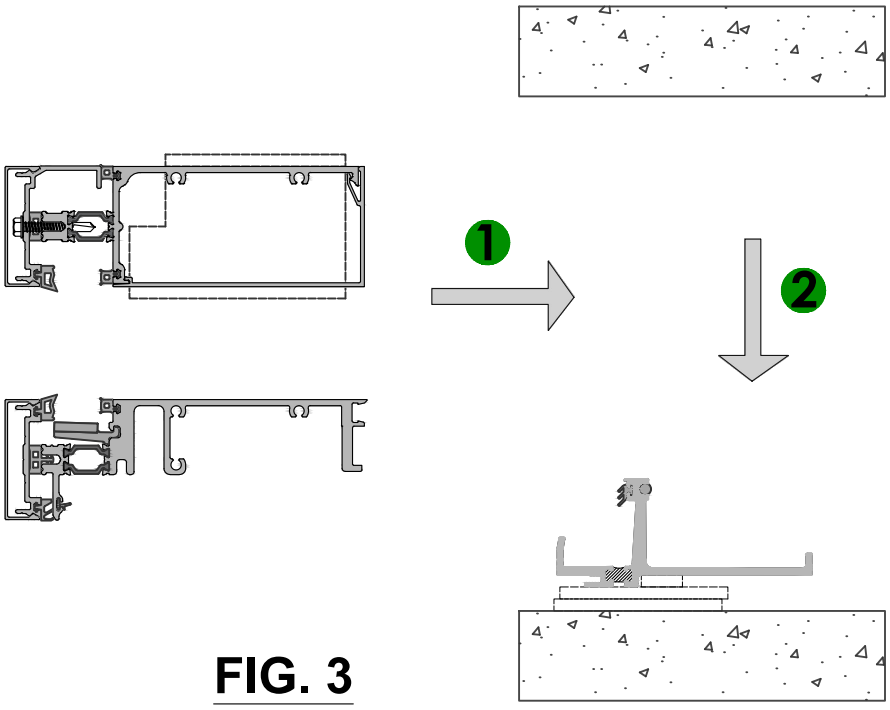


FIG. 3

STEP 1

a. All door framing is shipped fabricated from the factory. Curtain wall frames can be installed in the field prior to installing the doors.
b. Curtain wall verticals and door sub frames run to floor. **See FIG. 2**
c. Vertical members next to door frame must be notched to create a flat surface for starter sill termination, and to clear P761A anchor angle. See **FIG. 3**
d. Always refer to approved shop drawings for specific requirements
e. Verify that Opening is $\frac{3}{8}$" wider and $\frac{3}{16}$" taller than door frame.

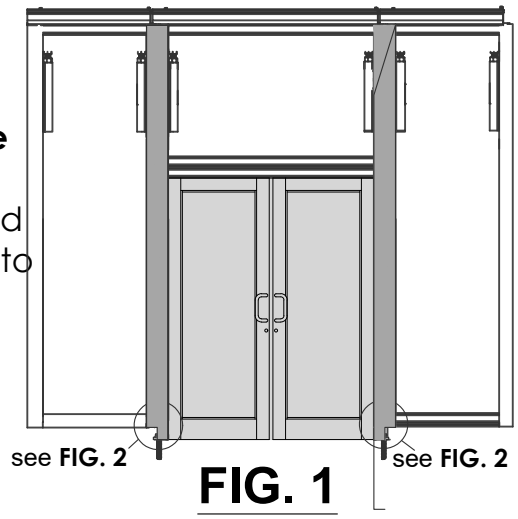
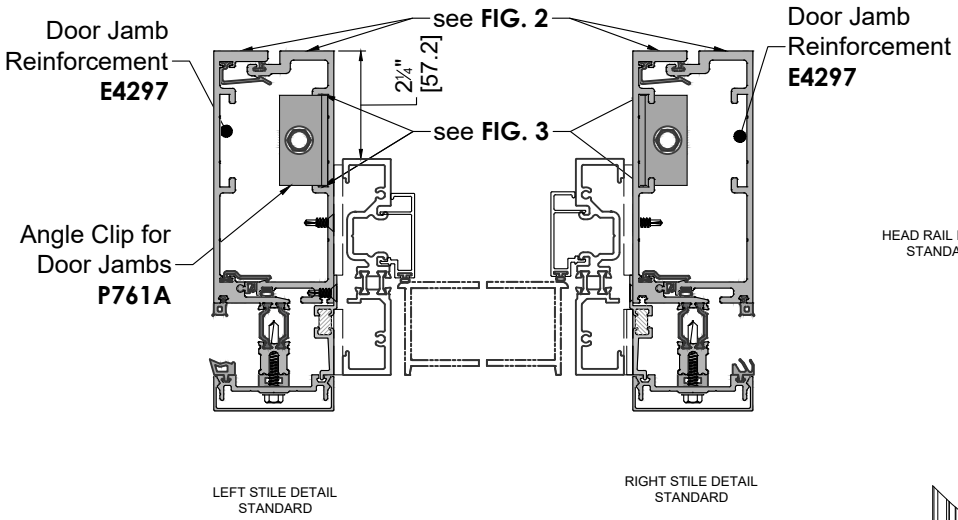


FIG. 1



REFER TO ENTRANCE DOOR DETAILS FOR INSERTION OF DESIRED DOOR MEMBER TO COMPLETE THIS DETAIL

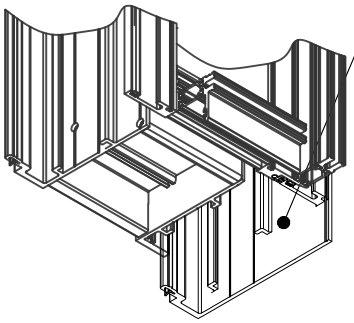
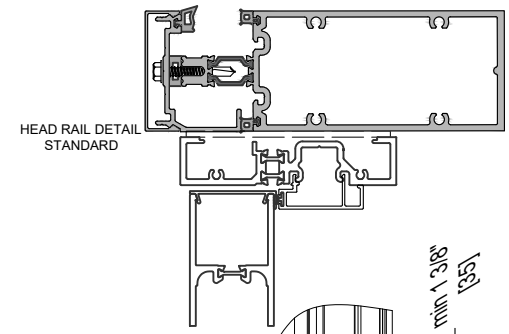


FIG. 2



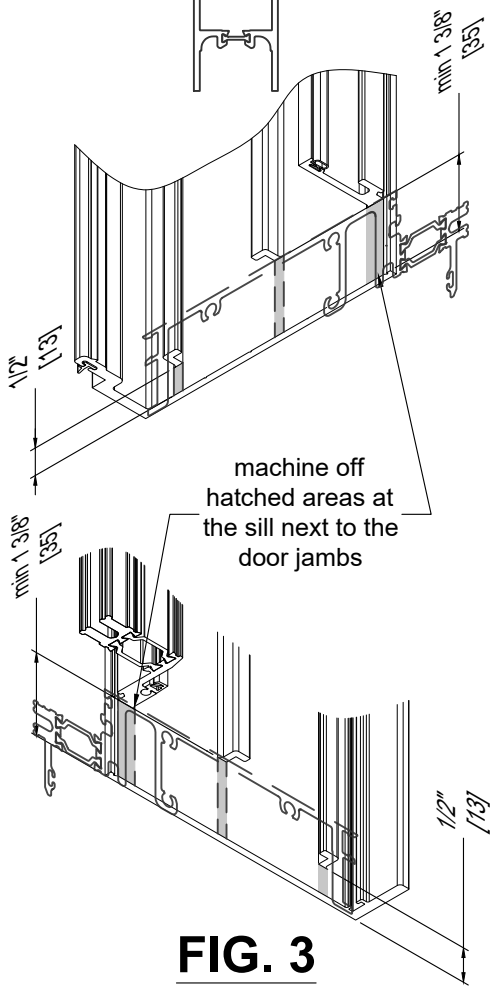


FIG. 3

STEP 2

DOOR JAMB REINFORCEMENT

a. Cut E4297 Door Reinforcement Adaptor to 2 inches short of the door opening height.

b. Pre-Insert pre E4297 into vertical extrusion. Ensure the side inserted into vertical member is positioned on the adjacent side of the door frame opening **See FIG. 1**

c. Once the units on both sides of the door are installed fasten E4297 into place using S444 screw, 18" [457] O.C. and 1 $\frac{11}{16}$" [42.8]from exterior face or per approved shop drawings. **See FIG. 2 Next Page**.

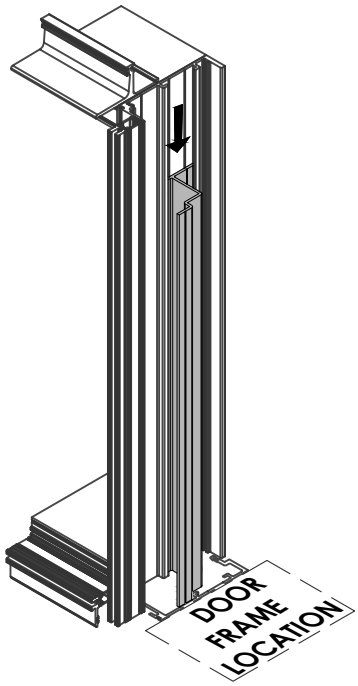


FIG. 1

STEP 3

a. Locate and install starter sill per approved shop drawings. Around Entrance door unit starter sill must have maximum 1/8" [3] gap between starter sill and vertical member. **See FIG. 2**

b. Seal gap between starter sill and substrate all around using backer rod and sealant. **See FIG. 3**

c. Once the unit is in place use that as a benchmark to position and anchor 1 $\frac{1}{2}$" [38.9] long L-angle onto substrate used for on both sides of entrance framing. A small "cutoff" piece of vertical mullion can be used to position L-angle. **See FIG. 4**

d. Appropriate fasteners must be used and bottom to be bed into sealant. Ensure the side of the angle facing upward will align with lifting lug receiver sleeve. **See FIG. 4**

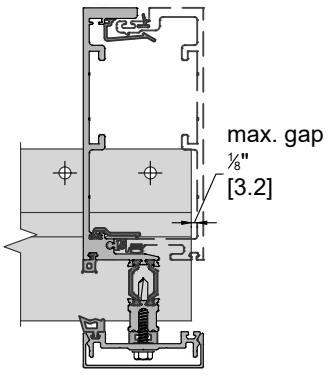


FIG. 2

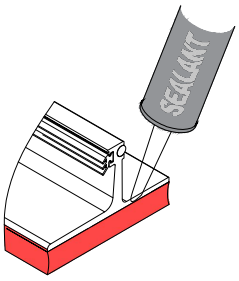


FIG. 3

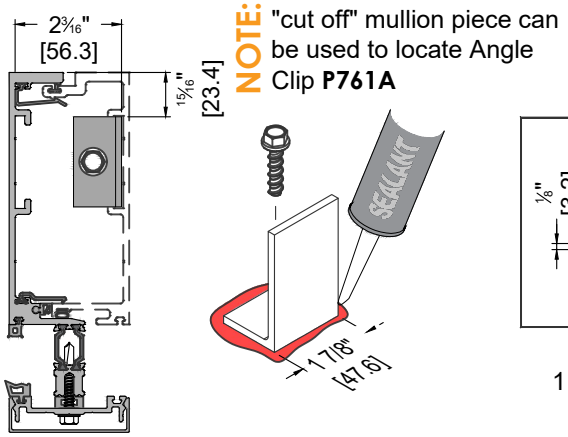


FIG. 4

STEP 4

a. Prior to lowering entrance unit frame into position, place bed of sealant under the vertical member and end side of the starter sill. Also apply 3" [76] of sealant on exterior/interior legs of the receiving frame. **See FIG. 1.**

b. Ensure the vertical member sleeve aligns with L-angle bracket installed in STEP 3.

c. Tool excess sealant around vertical member.

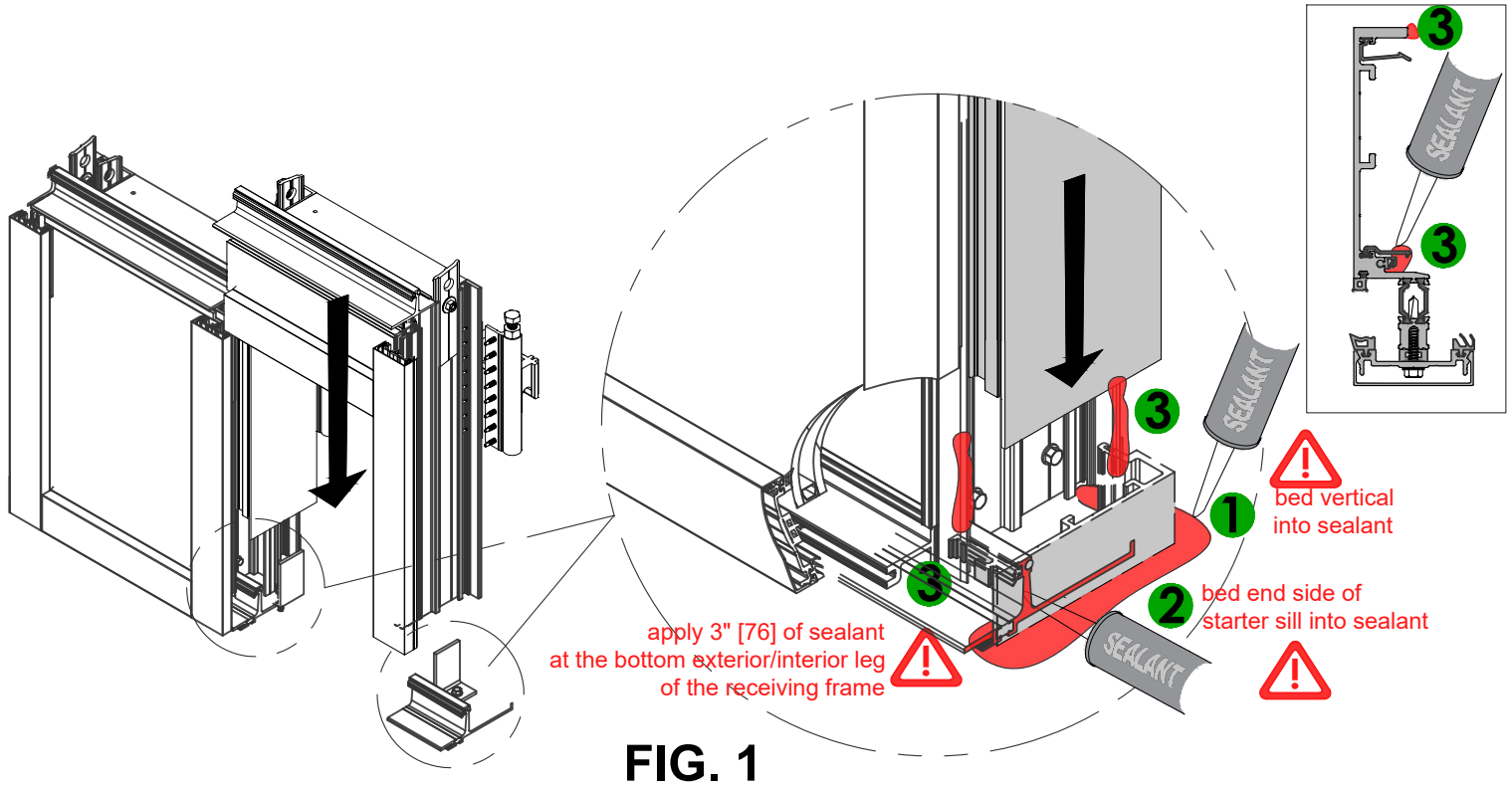


FIG. 1

STEP 5

a. Once the units on both sides of the door frame are installed fasten E4297 into place using S444 screw, 18" [457] O.C. and 1 $\frac{11}{16}$" [42.8] from exterior face. Place the bottom screw minimum 3" [76] off the floor. **See FIG. 2.**

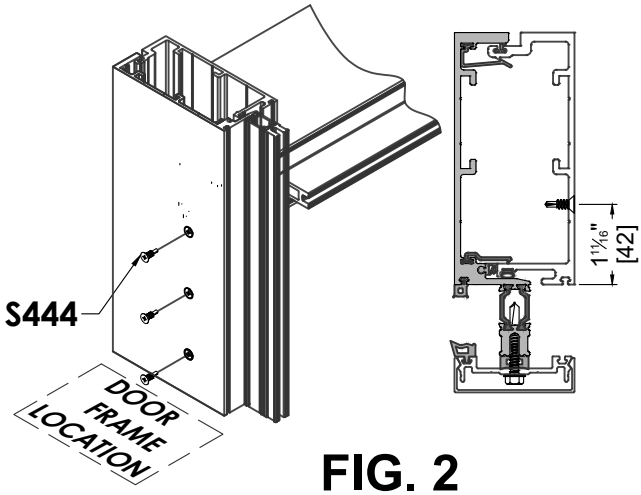


FIG. 2

STEP 6

a. Install M301TU Return pressure plate at the head of the entrance frame unit. **See FIG. 1**.
b. Pre-drill and countersink clearance holes for #10 FHS, 3" [76] from the ends and 18" [457] O.C. **See FIG. 2**.
c. Clean the sides of vertical mullions where pocket filler will be installed (ex. TA9404) using IPA2 wipe method.
d. Apply continuous bead of sealant into pressure plate race and the edge of the mullion shoulder.**See FIG. 3**.
e. Insert pocket filler into the pressure plate race first, rotate until the back side is seated tight against the mullion. **See FIG. 3.**
f. Attach the pocket filler adaptor using S444 fastener.**See FIG. 3.**
g. Seal and tool pocket filler to the floor and return pressure plate at the head. **See FIG. 4.**

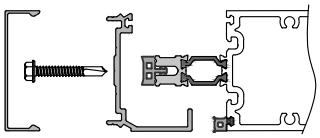


FIG. 1

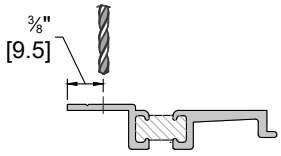


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FIG. 2

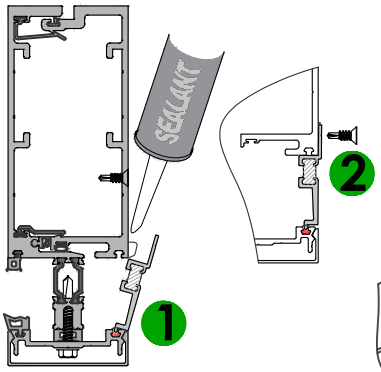
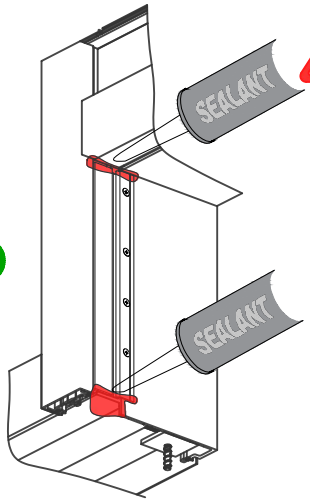


FIG. 3



seal and tool both ends of pocket filler

FIG. 4

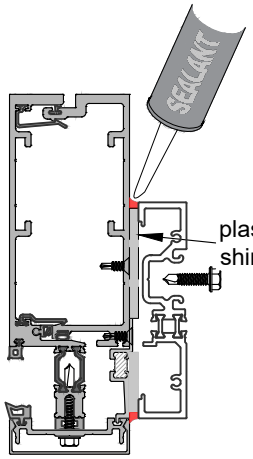


FIG. 5

REFER TO ENTRANCE DOOR INSTALLATION MANUAL FOR SUB DOOR FRAMES ASSEMBLY, GLAZING & HARDWARE INSTALLATION

STEP 7

a. Ensure opening is 1/4" [10] wider and 1/8" [5] taller. **See FIG. 6**.
b. Curtain wall verticals and door sub frames run to floor. Apply bed of sealant at the base door sub frame. **See FIG.6**.
c. Insert door sub frame into the opening.
d. Anchor to curtain wall frames using fastener as per approved shop drawings. Ensure door sub frame is squared and leveled. Shim using appropriate plastic horseshoe shims. **See FIG. 5.**
e. Cap seal all fasteners and seal perimeter joint between sub frame and curtain wall on exterior/interior. **See FIG. 5.**

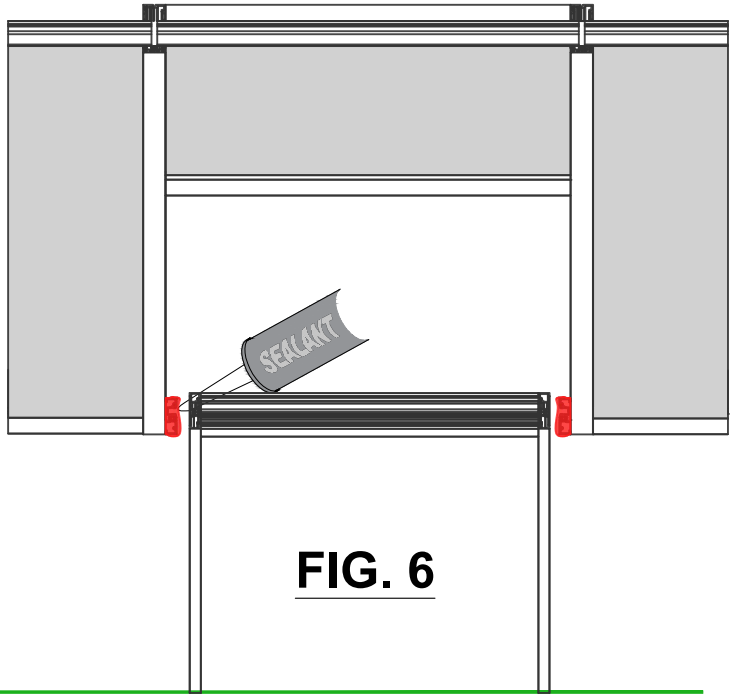


FIG. 6

STEP 8

a. Lay down a bed of sealant where the threshold will be installed. **See FIG. 1**
b. Ensure both ends of threshold are sealed to the door subframe. **See FIG. 2**
c. Fill jamb pockets at threshold. **See FIG. 3**

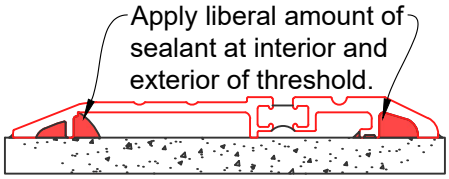


FIG. 1

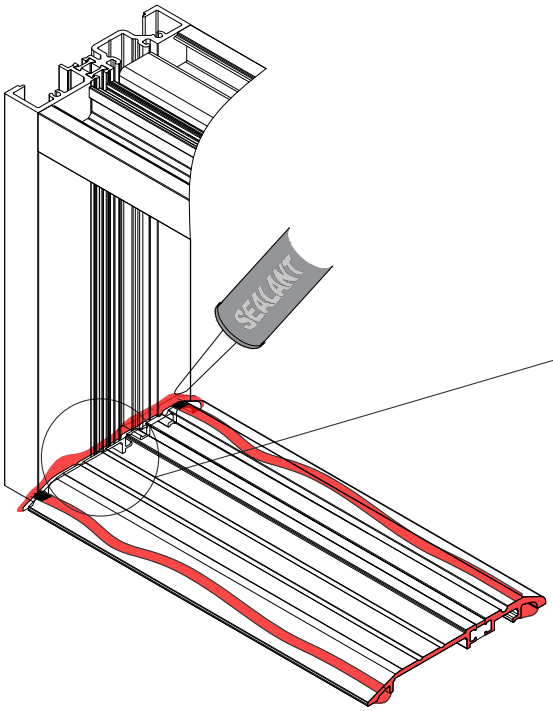


FIG. 2

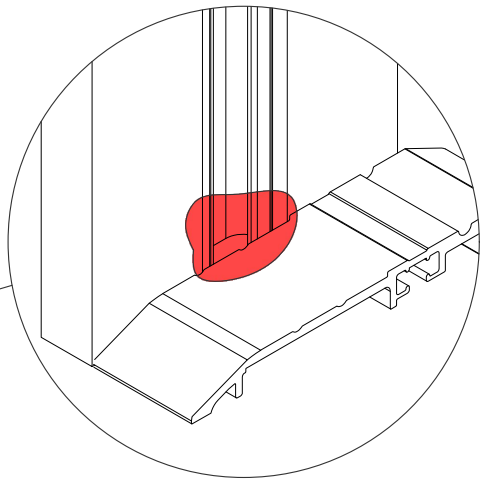


FIG. 3

STEP 9

a. Install door leafs per Tubelite's Entrances And Frames Installation Manual.

STEP 1

a. Remove The pressure plates and face covers on the unit being reglazed.
b. Secure the IGU with a Manipulator.
c. From the inside of the building cut the seals on all four sides of the DLO.
d. If cutting at an SSG vertical cut with care to avoid damaging the P9088 Rainscreen Gasket.
e. If cutting at an SSG Horizontal, completley cut out the exterior SSG joint
f. Carefully remove the IGU
g. With a razor and a scraper clean up any remaining sealant

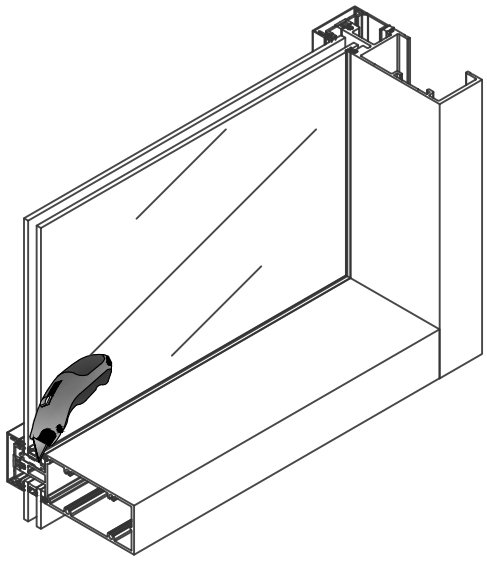


FIG. 1

STEP 2

a. Clean the frame and new IGU using the IPA2 Method.
b. Apply P4211 1/4 " x 1/4" foam spacer tape to the outer edge of the interior side of the replacement IGU. SEE FIG 2
c. replace any damaged setting blocks. inspect and replace any damaged water diverters. These are critical for water management in the system.
d. carefully install the new IGU keeping the same glass bites described in this manual.

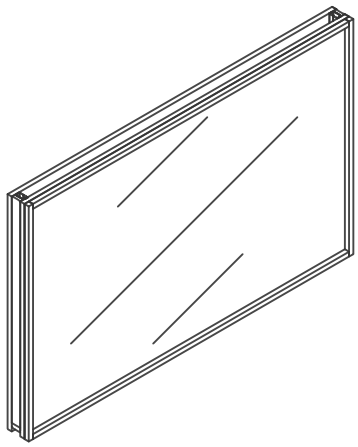


FIG. 2

Reglazing this system will require a cre present at both the interior and exterior of the building. All sealant should be cut with care to avoid damaging any gasket, water diverters or other critical seals not being remediated.

STEP 3

a. Install P4634 temp clips around the perimeter of the new IGU to hold in place. **SEE FIG 1**
b. Pump approved structural sealant around the interior of the lite. **SEE FIG 2**.
c. If reglazing at an SSG condition the holes left by the P4634 fasteners will need to be backfilled.

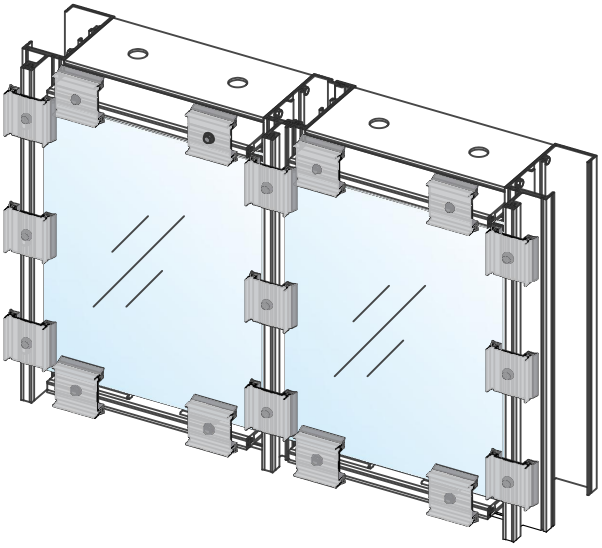


FIG. 1

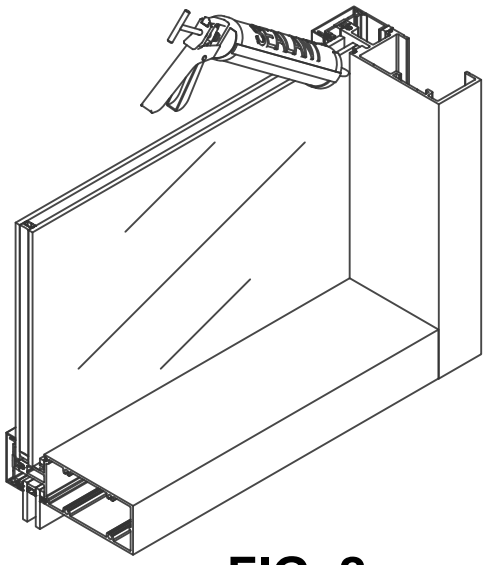


FIG. 2

STEP 4

a. After sealant is fully cured P4634 temp clups can be removed.
b. re apply exterior SSG seals, and reinstall any pressure plates and face caps.

REV	DATE	DESCRIPTION	BY
1.1	12/15/2022	RELEASED FOR REVIEW	IK
A	1/11/2023	RELEASED FOR PRODUCTION	IK
B	1/20/2023	REVISED VERTICAL PP CUT LENGTH	IK
C	2/2/2023	REVISED JAMB PP GASKETS	IK
D	4/26/2023	REVISED IS CORNER CLIP FROM P9099 to P9743	IK
E	10/5/2023	Updated Details Per EC868 System Enhancements	RB
F	10/28/2024	Correct Part Number TA4229 with T4229	XPC
G	1/20/2025	Revisions based EC980 Punched Opening Details	RB
H	5/6/2025	Updated details per EC1005 Front AB Clip	RB
I	8/11/2025	Remove P4836&4837, S377	XPC
J	8/12/2025	Updated E4165 Profile	CAA