

Description

14000 I/O Series Framing is a 2" x 4 1/2" deep flush glaze storefront designed to complement Tubelite's E & T 14000 Series. Glass position is now possible at the exterior or interior plane of the frame, to allow greater design and performance options.

This dry glazed, internally drained

storefront accepts 1" insulated glass, or 1/4" spandrel and panels by using a glass pocket adapter. Glass can be installed from the building interior or exterior, and is recommended for first or second floor applications. 14000 I/O is available in thermally improved or standard profiles.



15.02 14000 Series Flush Glaze - I/O Plane Guide Specifications

General

Description

Furnish all necessary materials, labor and equipment for the complete installation of aluminum framing as shown on the drawings and specified herein.

14000 Series Flush Glaze - I/O Plane Framing is manufactured by Tubelite Inc., Walker, Michigan. Submit substitute product technical literature, samples, drawings and performance data ten (10) days prior to bid in order to make a valid comparison of the products involved.

Performance Requirements

See Section 14 page 2 (14.02) for similar Performance Requirements.

Products

Materials

Extrusions of aluminum alloy 6063-T5 or 6063-T6 (as required), are manufactured within commercial tolerances and free from defects impairing strength and/or durability. Main framing sections to be of .075 inch minimum wall thickness and glazing stop moldings of .060 inch thickness.

Screws, bolts and all other accessories are compatible with the aluminum under normal service conditions.

Thermal barrier is a two part chemically curing, unfilled polyurethane casting resin poured in place for perimeter members.

Finish

All exposed framing surfaces are free of scratches and other serious blemishes.

Finish to be: (architect select)
Etched and clear anodized
(AAM10C21A31)
Class 2 Clear (C2)
(AAM10C21A41)
Class 1 Clear (C1)

(AAM10C21A44), Champagne (CH), Medium Bronze (MB), Dark Bronze (DB), Extra Dark Bronze (EB), Black (BL), or Fluoropolymer painted color Tubelite Standard (70% PVDF): Bone White (1P) Hartford Green (2P) Black (3P) Brick Red (4P) Sandstone (5P) Quaker Bronze (6P) Burnt Sun (7P) Sage Brown (8P) Boysenberry (9P) Agean Blue (0P) Ivory (AP) Beige (BP) Light Sea Wolf (CP) Military Blue (DP) Polar White (EP) Fluoropolymer painted color (Other):

Electrolytically deposited color

Execution

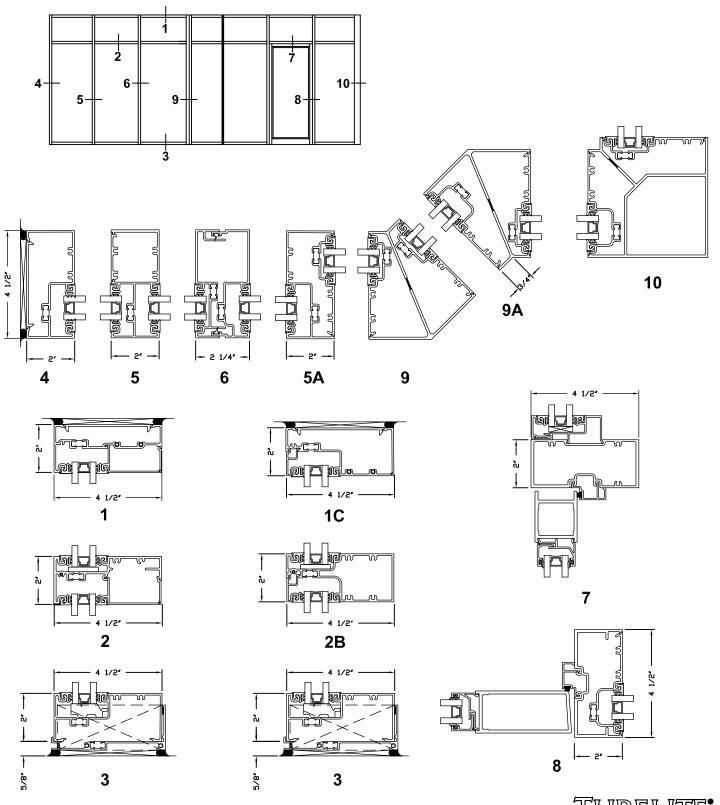
Installation

Follow the manufacturer's installation instructions and the approved shop drawings.

Note:

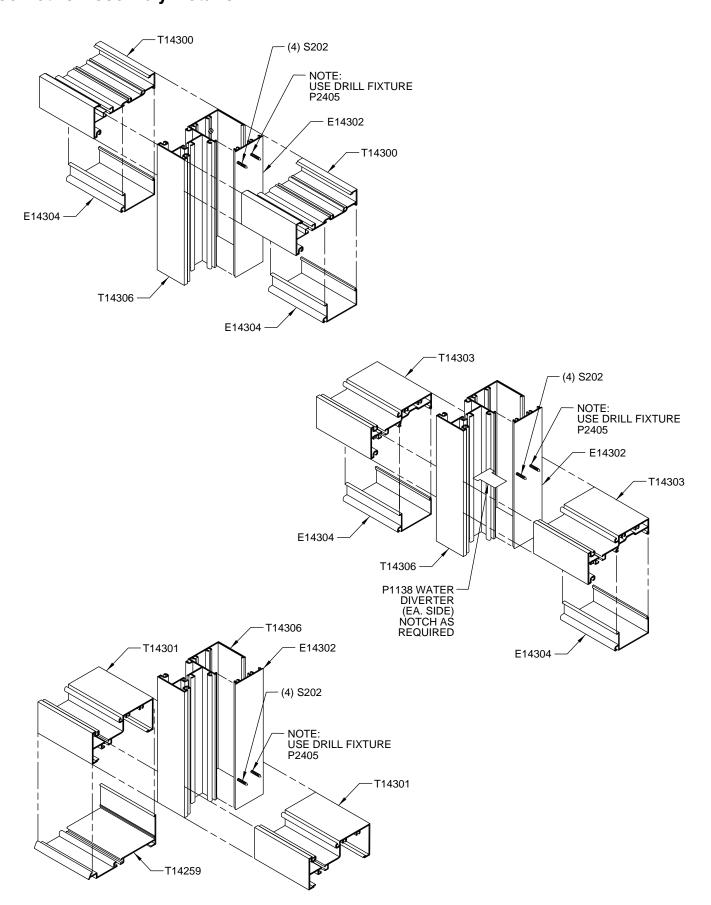
In keeping with Tubelite's policy of continuing product improvements, all specifications are subject to change without written notice by the manufacturer.

15.03 14000 Series Flush Glaze - I/O Plane Elevation & 1/4 Size Details

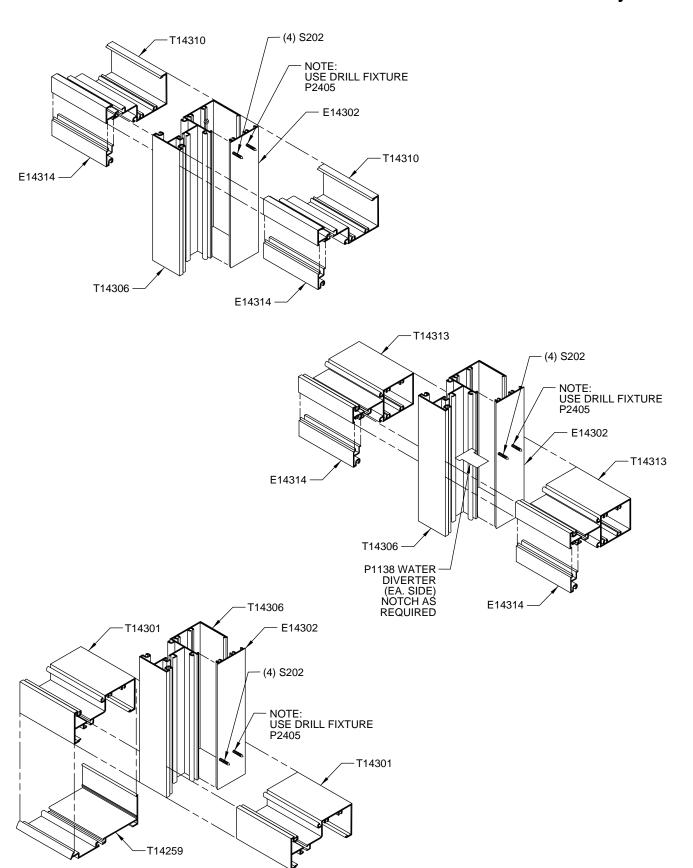


TUBELITE
DEPENDABLE
LEADERS IN ECO-STRICKET STOREFRONT,
CURTAINWALL AND ENTRANCE SYSTEMS

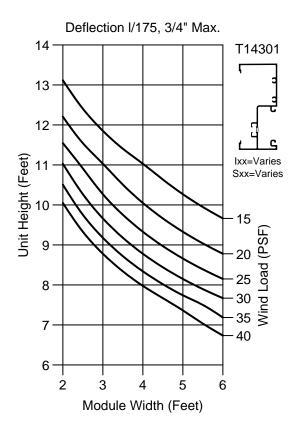
15.04 14000 Series Flush Glaze - I/O Plane Isometric Assembly Details

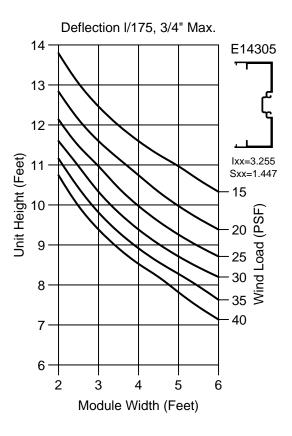


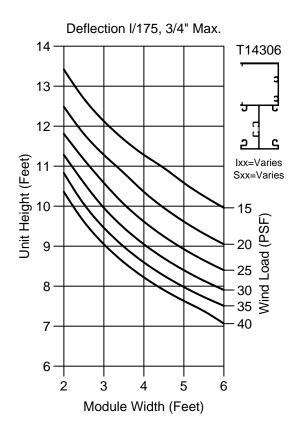
15.05 14000 Series Flush Glaze - I/O Plane Isometric Assembly Details

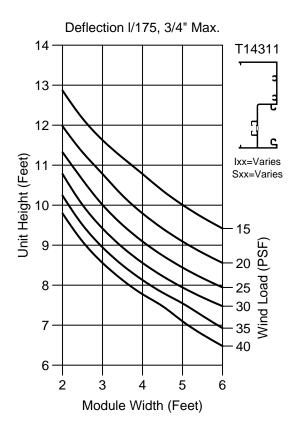


15.06 14000 Series Flush Glaze I/O Plane Windload Charts





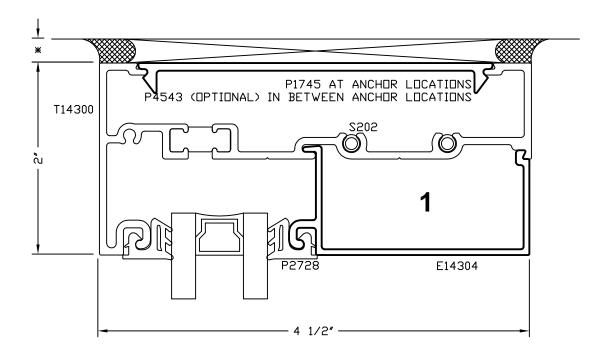




14000 Series Flush Glaze - I/O Plane Screw Spline Head - Inside Set/Outboard Plane

- * 1/2" WHEN USING E-14259 FLASHING
- * 1/4" WHEN USING E-45159 FLASHING

CAD DETAIL FILE NO. 180HEAD9



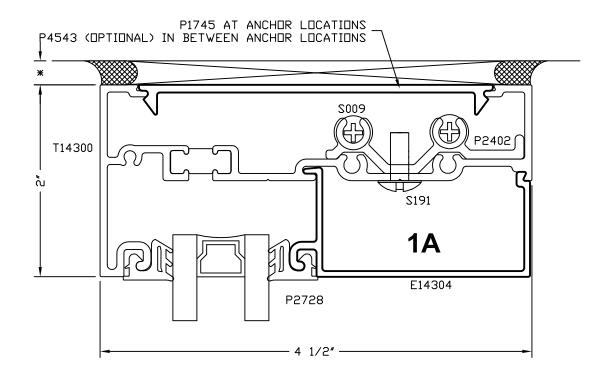


14000 Series Flush Glaze - I/O Plane

Shear Block Head - Inside Set/Outboard Plane

CAD DETAIL FILE NO. 180HEAD10

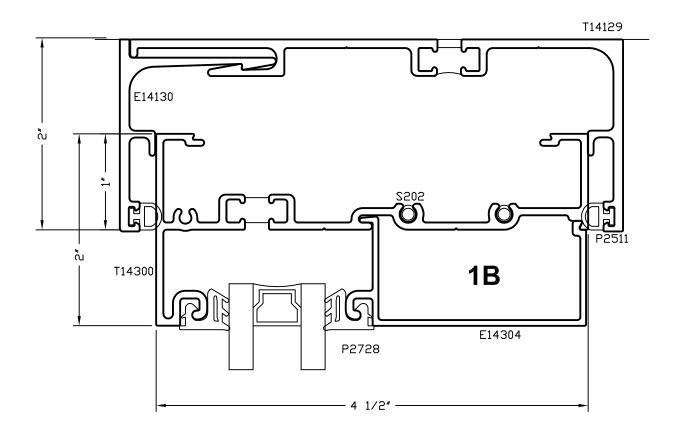
- * 1/2" WHEN USING E-14259 FLASHING
- * 1/4" WHEN USING E-45159 FLASHING





15.09 14000 Series Flush Glaze Head Receptor - Inside Set

CAD DETAIL FILE NO. 180HEAD11



SUBSTITUTE E14329 & E14300 FOR T14329 & T14300, IF THERMAL BREAK IS NOT REQUIRED.

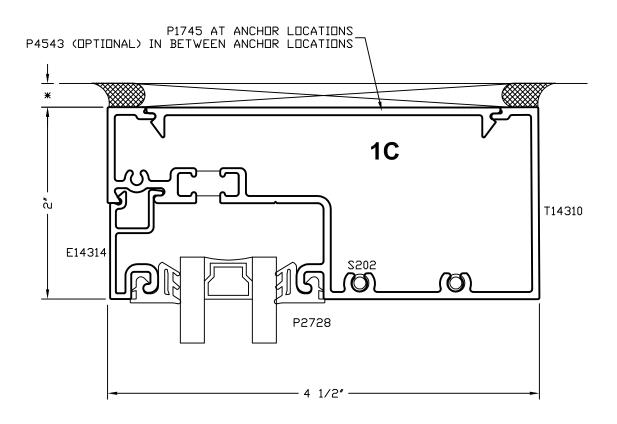


14000 Series Flush Glaze - I/O Plane

Screw Spline Head - Outside Set/Outboard Plane

CAD DETAIL FILE NO. 180HEAD12

- * 1/2" WHEN USING E-14259 FLASHING
- * 1/4" WHEN USING E-45159 FLASHING

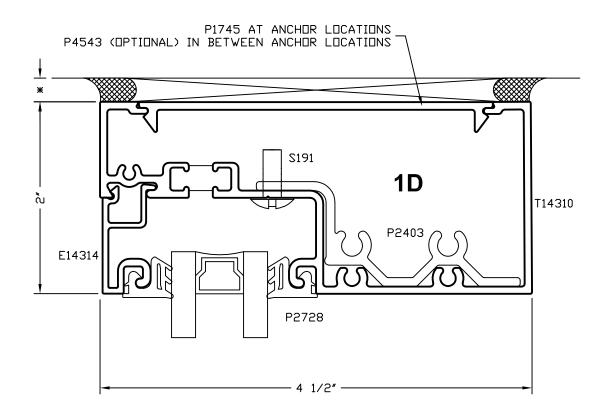




14000 Series Flush Glaze - I/O Plane Shear Block Head - Outside Set/Outboard Plane

- * 1/2" WHEN USING E-14259 FLASHING
- * 1/4" WHEN USING E-45159 FLASHING

CAD DETAIL FILE NO. 180HEAD13

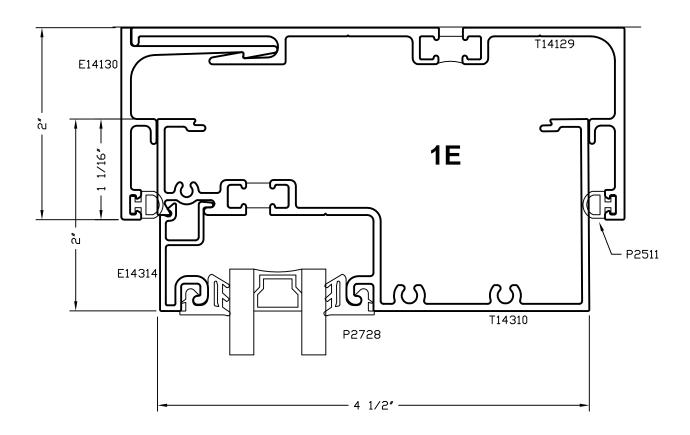




14000 Series Flush Glaze - I/O Plane

Head Receptor - Outside Set

CAD DETAIL FILE NO. 180HEAD14

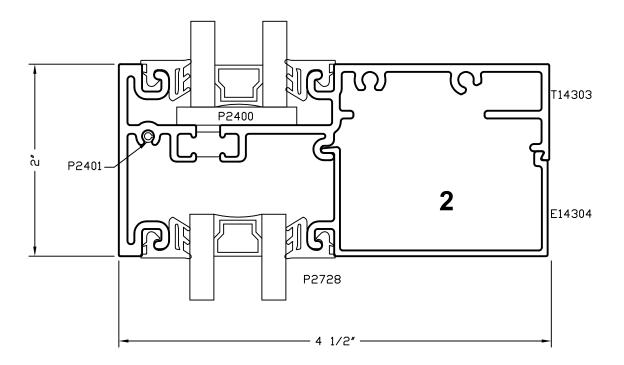


SUBSTITUTE E14129 & E14310 FOR T14129 & T14310, IF THERMAL BREAK IS NOT REQUIRED.



14000 Series Flush Glaze - I/O Plane Screw Spline Intermediate Horizontal - Inside Set/Outboard Plane

CAD DETAIL FILE NO. 180HORZ10

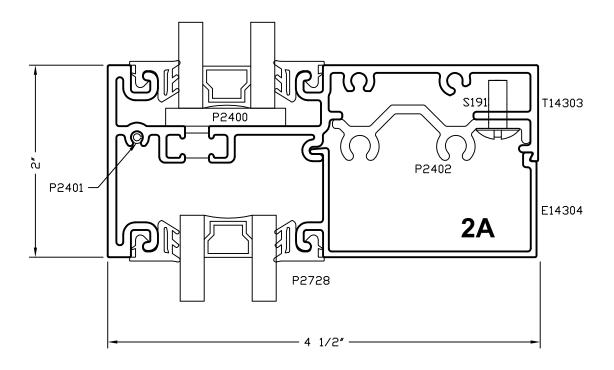




14000 Series Flush Glaze - I/O Plane

Shear Block Intermediate Horizontal - Inside Set/Outboard Plane

CAD DETAIL FILE NO. 180HORZ11

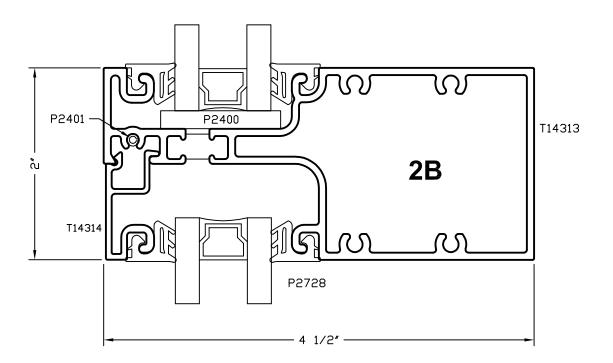




14000 Series Flush Glaze - I/O Plane

Screw Spline Intermediate Horizontal - Outboard Set/Outboard Plane

CAD DETAIL FILE NO. 180HORZ12

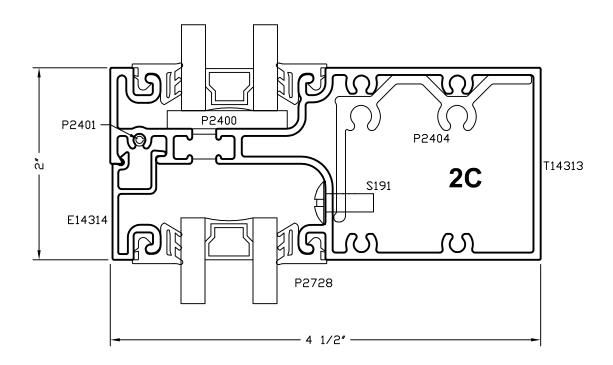




14000 Series Flush Glaze - I/O Plane

Shear Block Intermediate Horizontal - Outside Set/Outboard Plane

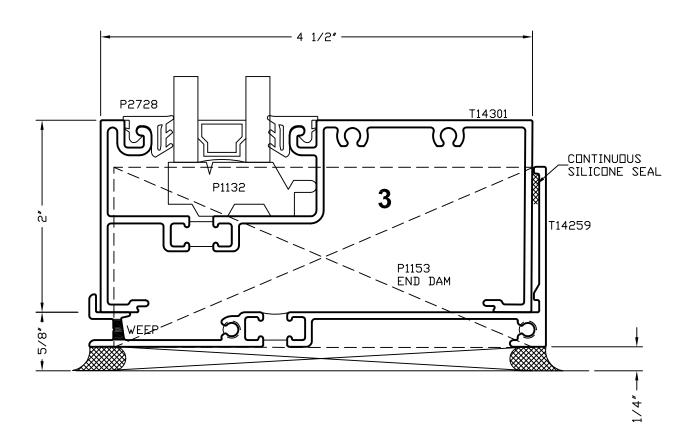
CAD DETAIL FILE NO. 180HORZ13





14000 Series Flush Glaze - I/O Plane Screw Spline Sill - Outboard Plane

CAD DETAIL FILE NO. 180SILL8



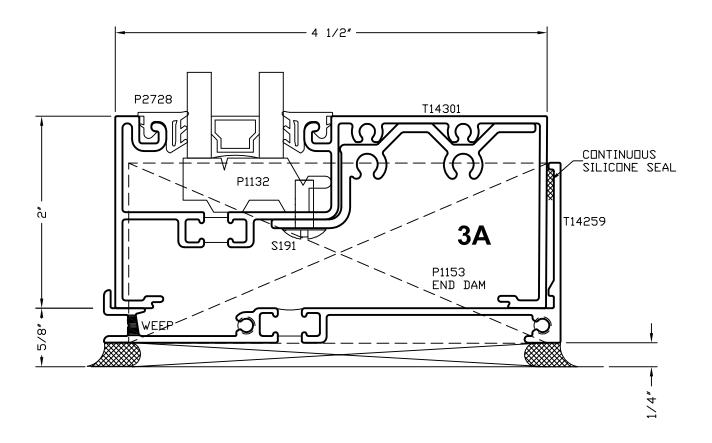
SUBSTITUTE E14301 & E14059 FOR T14301 & T14259, IF THERMAL BREAK IS NOT REQUIRED.



15.18 14000 Series Flush Glaze - I/O Plane

Shear Block Sill - Outboard Plane

CAD DETAIL FILE NO. 180SILL9

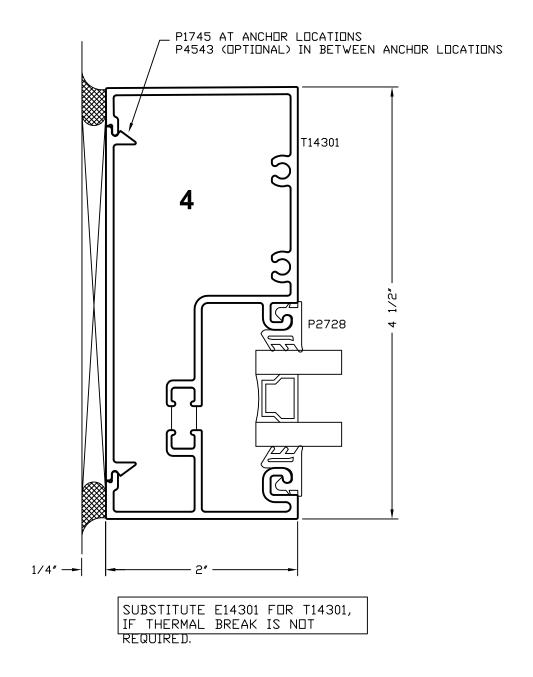


SUBSTITUTE E14301 & E14059 FOR T14301 & T14259, IF THERMAL BREAK IS NOT REQUIRED.



14000 Series Flush Glaze - I/O Plane Screw Spline Jamb - Outboard Plane

CAD DETAIL FILE NO. 180JAMB3

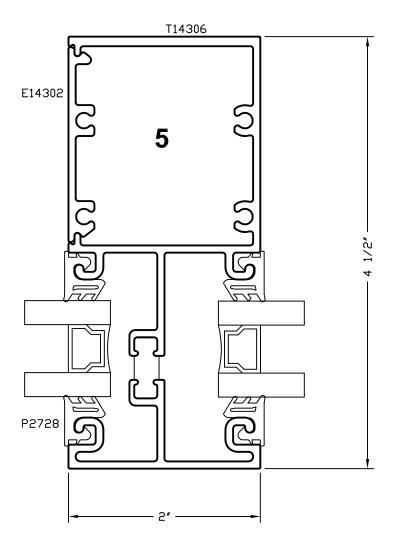




14000 Series Flush Glaze - I/O Plane

Screw Spline Intermediate Vertical - Outboard Plane

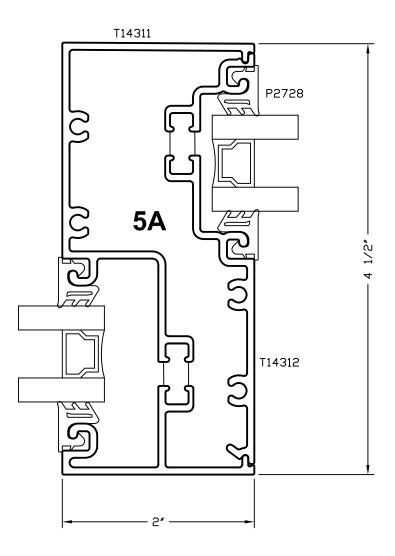
CAD DETAIL FILE NO. 180VERT8





14000 Series Flush Glaze - I/O Plane Inboard/Outboard Transition Vertical

CAD DETAIL FILE N□. 180∨ERT9



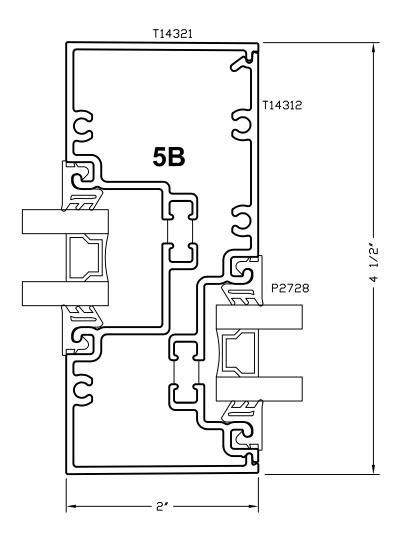
SUBSTITUTE E14311 & E14312 FOR T14311 & T14312, IF THERMAL BREAK IS NOT REQUIRED.



14000 Series Flush Glaze - I/O Plane

Center/Outboard Transition Vertical

CAD DETAIL FILE NO. 180VERT10

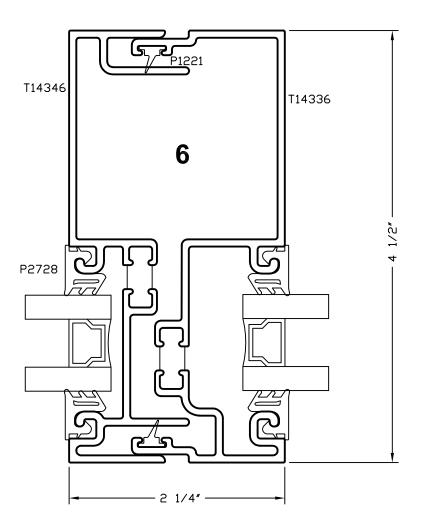


SUBSTITUTE E14321 & E14312 FOR T14321 & T14312, IF THERMAL BREAK IS NOT REQUIRED.



14000 Series Flush Glaze - I/O Plane Expansion Vertical - Outboard Plane

CAD DETAIL FILE N□. 180∨ERT11



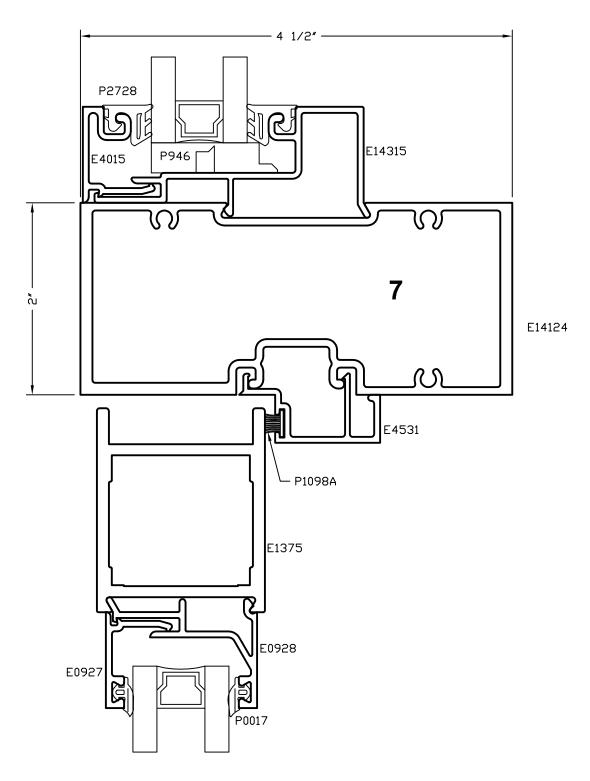
SUBSTITUTE E14336 & E14346 FOR T14336 & T14346, IF THERMAL BREAK IS NOT REQUIRED.



14000 Series Flush Glaze - I/O Plane

Transom Door Header - Outboard Plane

CAD DETAIL FILE NO. 180TRAN2

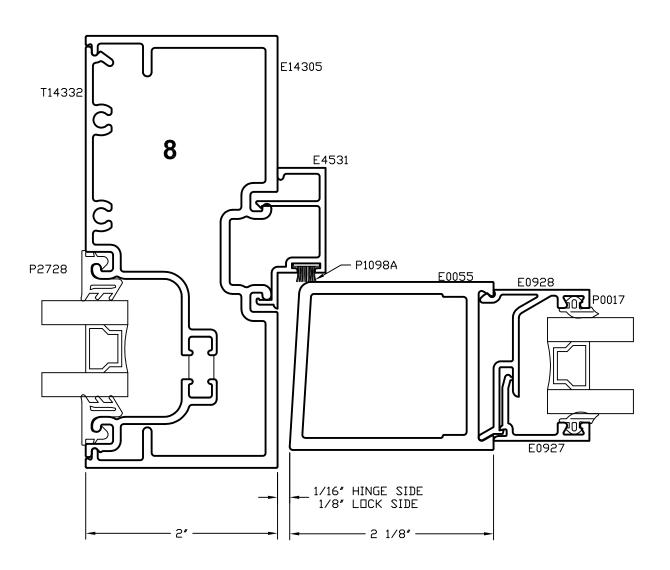




14000 Series Flush Glaze - I/O Plane

Door Jamb - Outboard Plane - Narrow Stile Offset Pivot or Butt Hinge

CAD DETAIL FILE NO. 180DRJBNS2

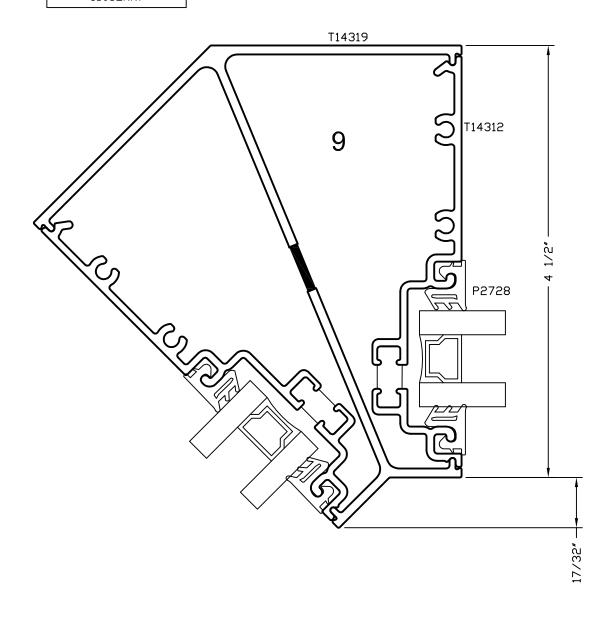




14000 Series Flush Glaze - I/O Plane

135° Corner - Outboard Plane

CAD DETAIL FILE NO. 180CORN7



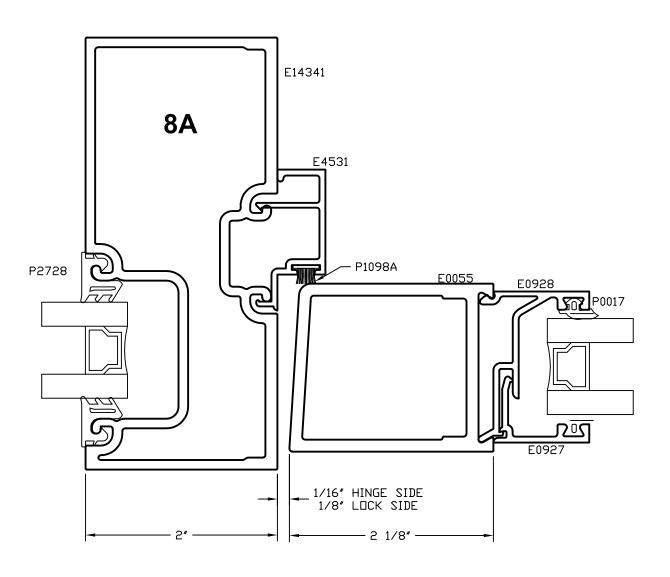
SUBSTITUTE E14319 & E14312 FOR T14319 & T14312, IF THERMAL BREAK IS NOT REQUIRED.



14000 Series Flush Glaze - I/O Plane

Door Jamb - Outboard Plane - Narrow Stile Offset Pivot or Butt Hinge

CAD DETAIL FILE NO. 180DRJBNS3



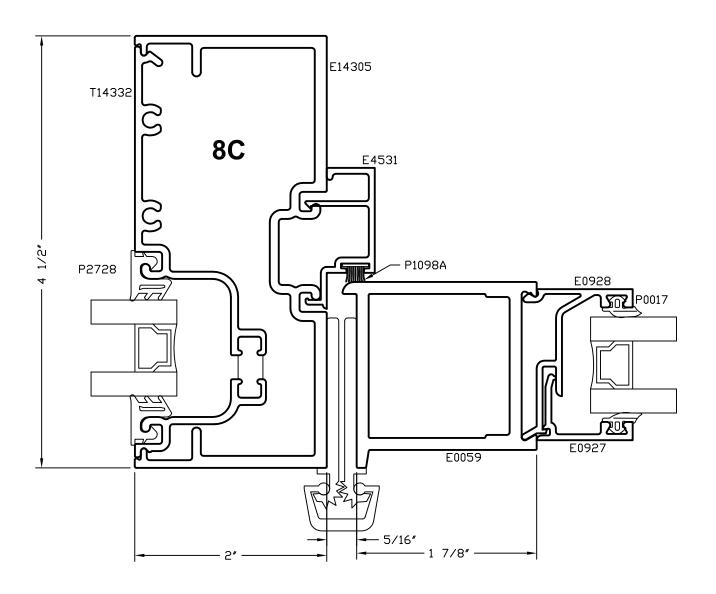


15.26b

14000 Series Flush Glaze - I/O Plane

Door Jamb - Outboard Plane - Narrow Stile With Continuous Hinge

CAD DETAIL FILE NO. 180DRJBNSCH2

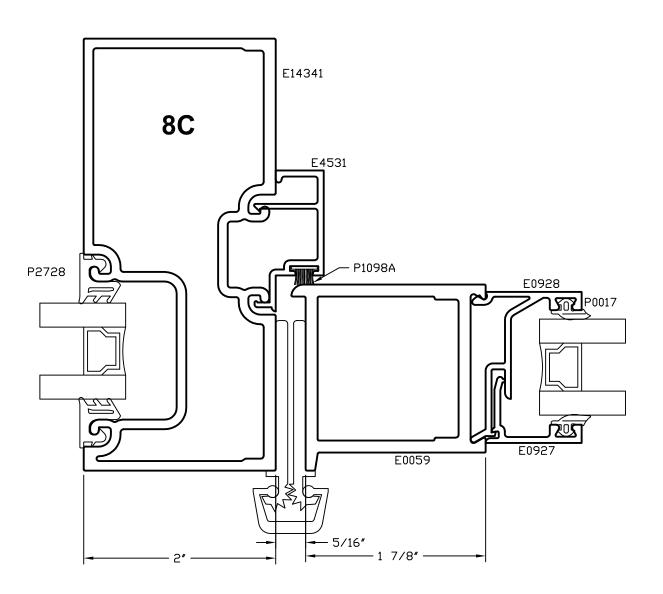




14000 Series Flush Glaze - I/O Plane

Door Jamb - Outboard Plane - Narrow Stile With Continuous Hinge

CAD DETAIL FILE NO. 180DRJBNSCH3



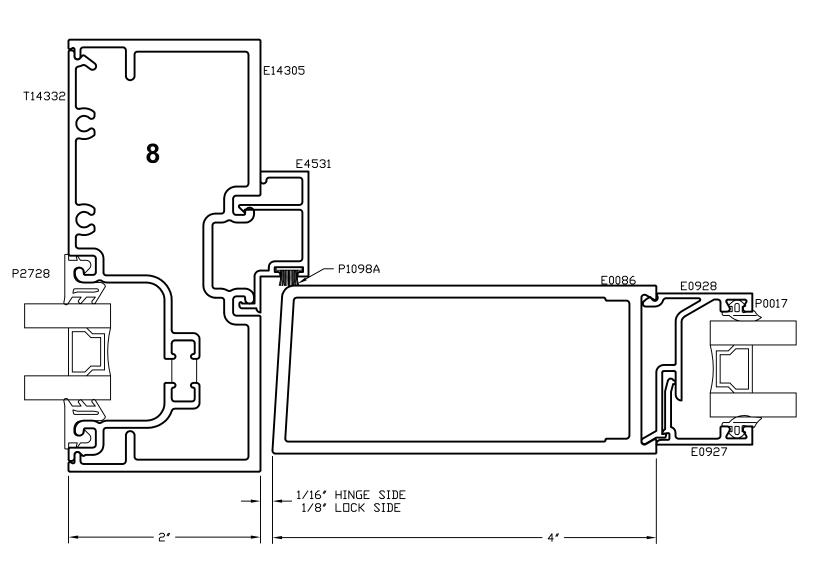


15.26d

14000 Series Flush Glaze - I/O Plane

Door Jamb - Outboard Plane - Medium Stile Offset Pivot or Butt Hinge

CAD DETAIL FILE NO. 180DRJBMS2

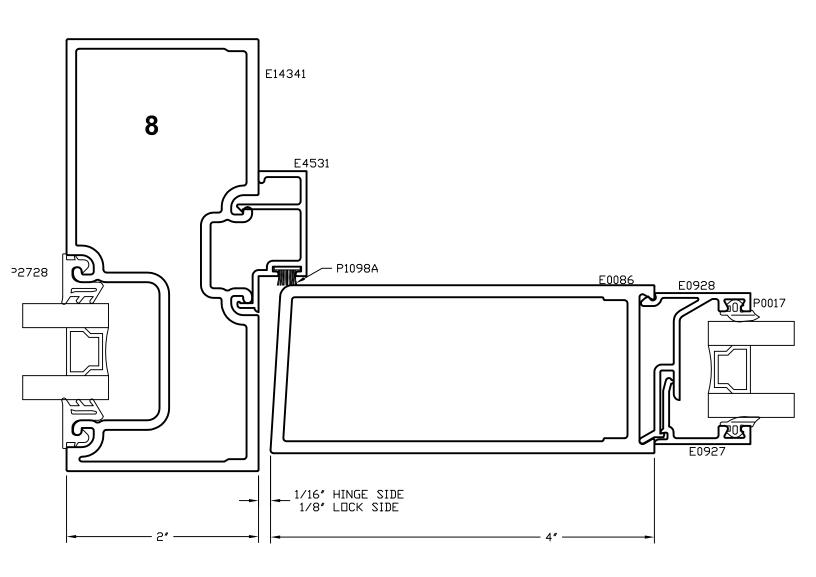




14000 Series Flush Glaze - I/O Plane

Door Jamb - Outboard Plane - Medium Stile Offset Pivot or Butt Hinge

CAD DETAIL FILE NO. 180DRJBMS3



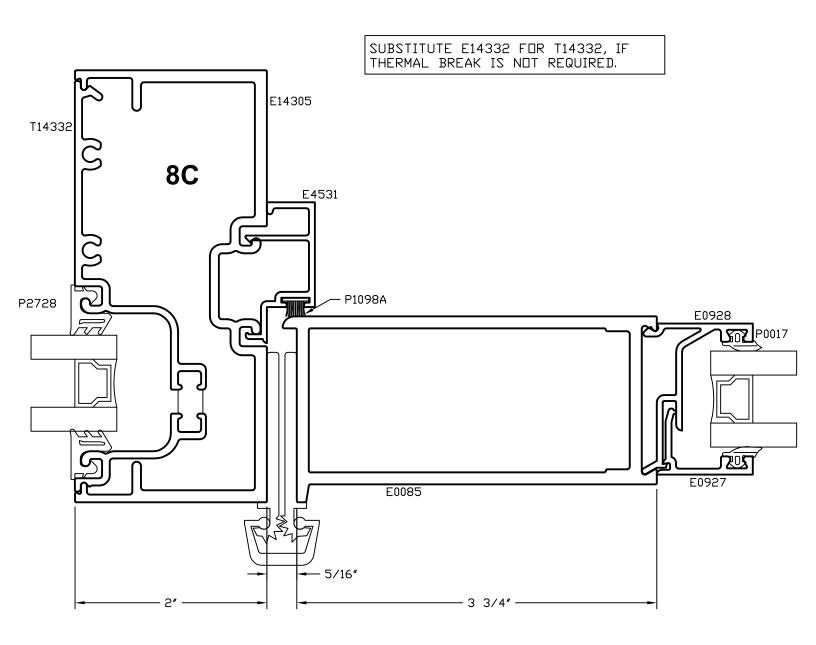


15.26f

14000 Series Flush Glaze - I/O Plane

Door Jamb - Outboard Plane - Medium Stile With Continuous Hinge

CAD DETAIL FILE NO. 180DRJBMSCH2

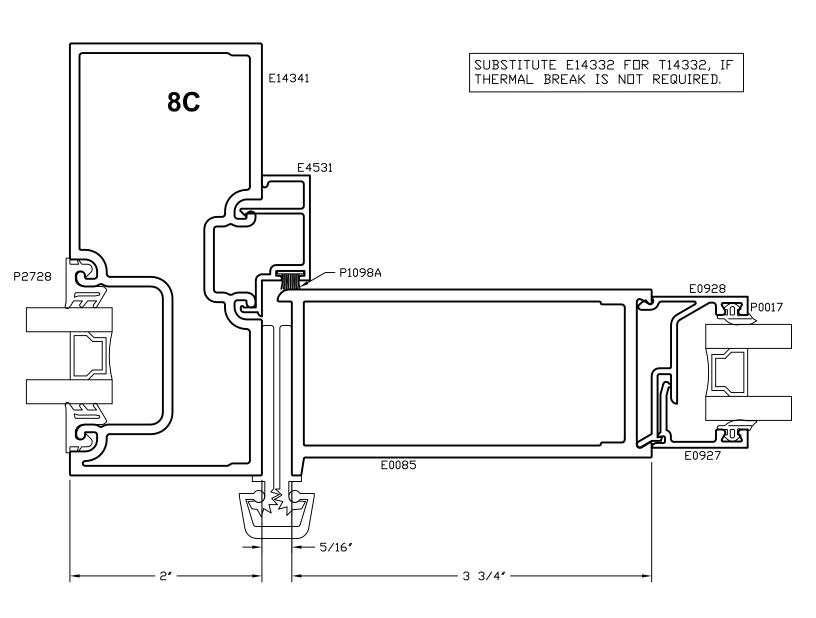




14000 Series Flush Glaze - I/O Plane

Door Jamb - Outboard Plane - Medium Stile With Continuous Hinge

CAD DETAIL FILE NO. 180DRJBMSCH3



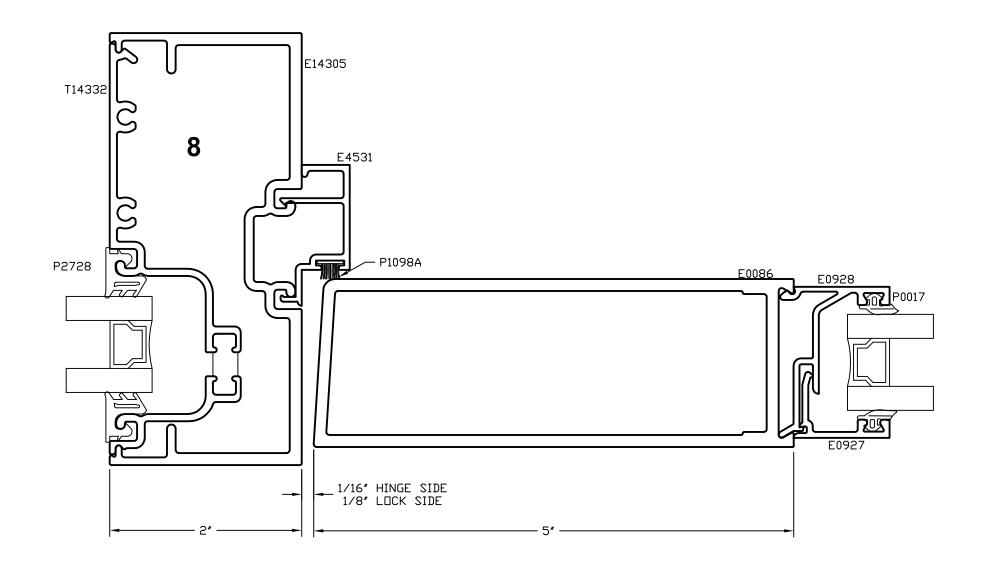


15.26h

14000 Series Flush Glaze - I/O Plane

Door Jamb - Outboard Plane - Wide Stile Offset Pivot or Butt Hinge

CAD DETAIL FILE NO. 180DRJBWS2



SUBSTITUTE E14332 FOR T14332, IF THERMAL BREAK IS NOT REQUIRED.



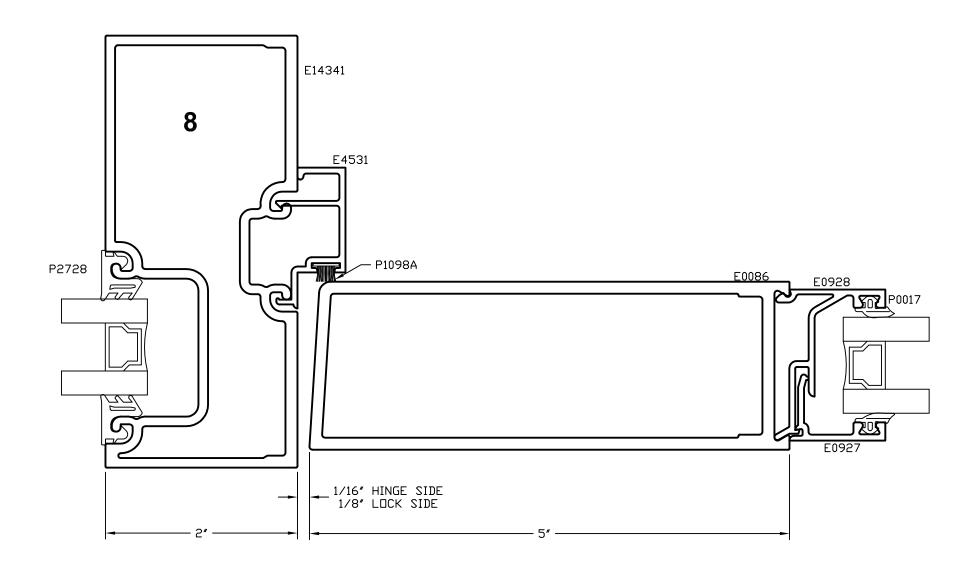
*SEALANT, ROD, & ANCHORS NOT BY TUBELITE

15.26i

14000 Series Flush Glaze - I/O Plane

Door Jamb - Outboard Plane - Wide Stile Offset Pivot or Butt Hinge

CAD DETAIL FILE NO. 180DRJBWS3



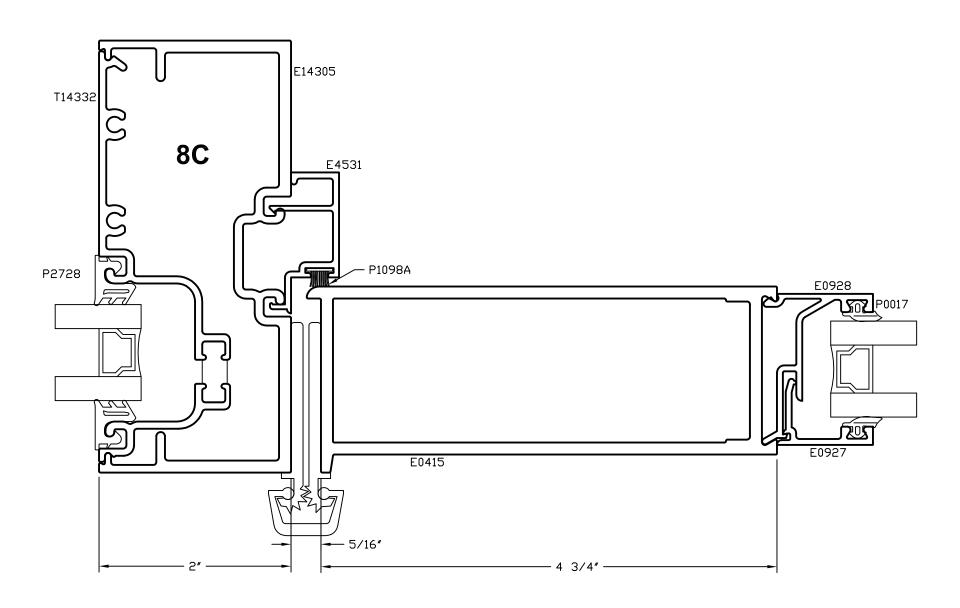
SUBSTITUTE E14332 FOR T14332, IF THERMAL BREAK IS NOT REQUIRED.



*SEALANT, ROD, & ANCHORS NOT BY TUBELITE

15.26j 14000 Series Flush Glaze - I/O Plane Door Jamb - Outboard Plane - Wide Stile With Continuous Hinge

CAD DETAIL FILE NO. 180DRJBWSCH2



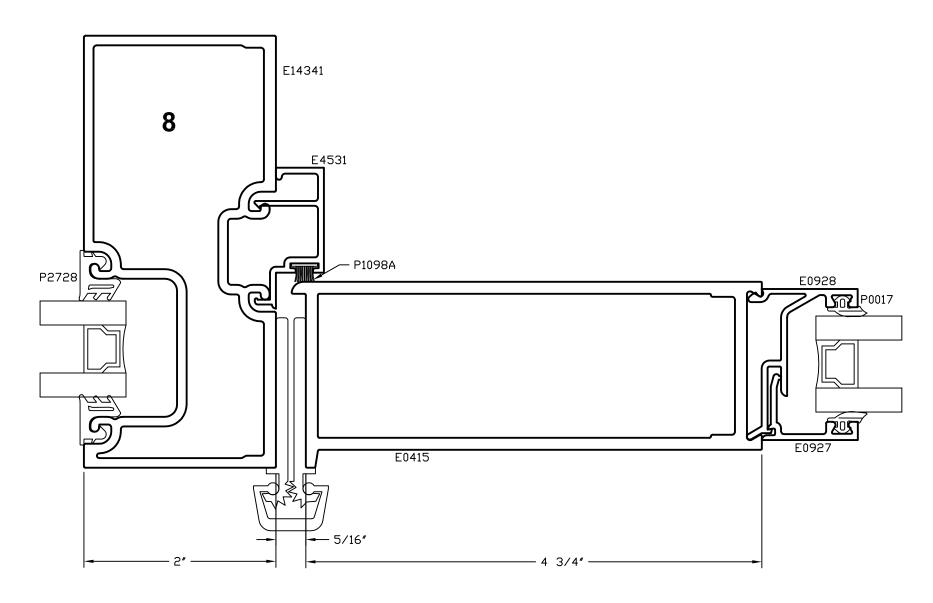


15.26k

14000 Series Flush Glaze - I/O Plane

Door Jamb - Outboard Plane - Wide Stile With Continuous Hinge

CAD DETAIL FILE NO. 180DRJBWSCH3



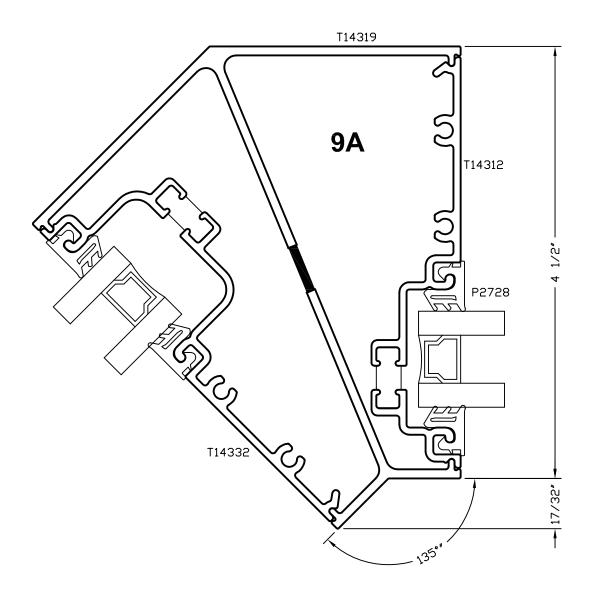
SUBSTITUTE E14332 FOR T14332, IF THERMAL BREAK IS NOT REQUIRED.



*SEALANT, ROD, & ANCHORS NOT BY TUBELITE

14000 Series Flush Glaze- I/O Plane 135° Corner - Inboard/Outboard Plane

CAD DETAIL FILE NO. 180CORN8



SUBSTITUTE E14319 & E14312 FOR T14319 & T14312, IF THERMAL BREAK IS NOT REQUIRED.

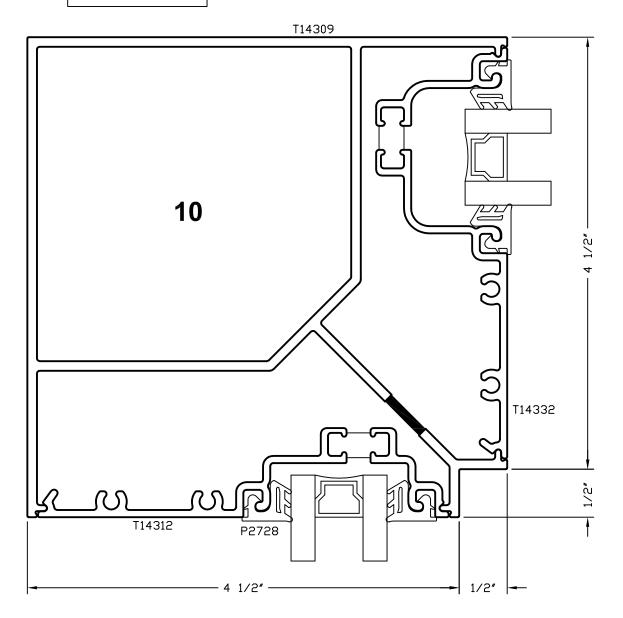


15.28

14000 Series Flush Glaze - I/O Plane

90° Corner - Inboard/Outboard Plane

CAD DETAIL FILE N□. 180C□RN6

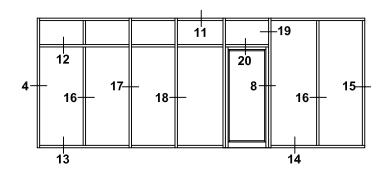


SUBSTITUTE E14309 & E14312 FOR T14309 & T14312, IF THERMAL BREAK IS NOT REQUIRED.

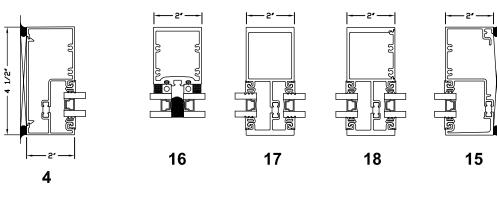


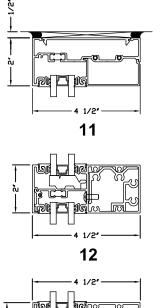
14000 Series Flush Glaze - I/O Plane

Elevation & 1/4 Size Details

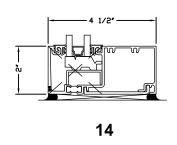


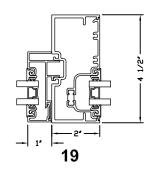
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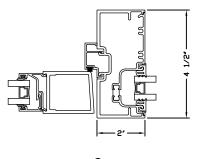




13

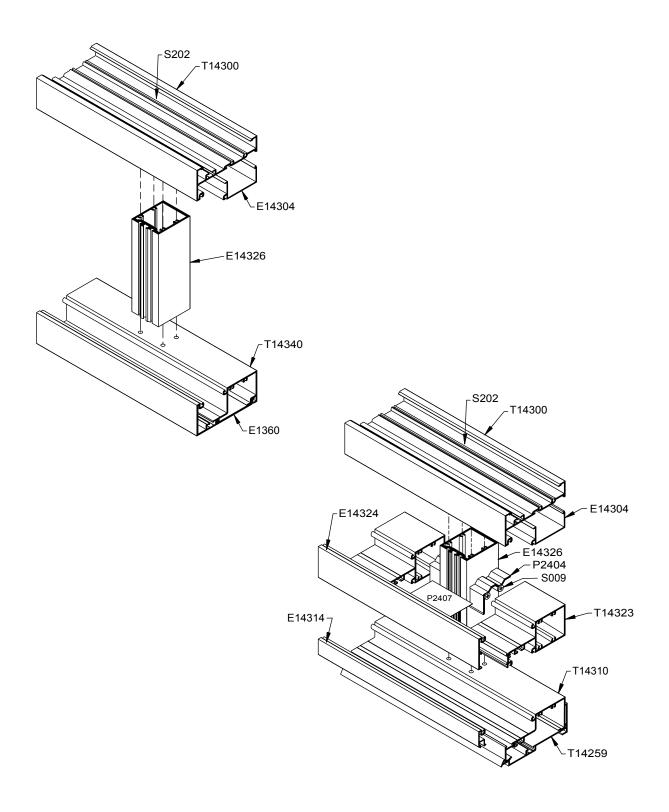




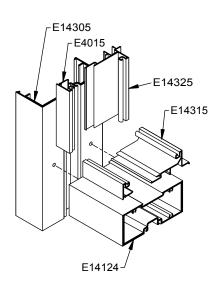


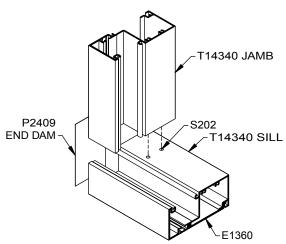
8

15.30 14000 Series Flush Glaze - I/O Plane Isometric Assembly Details

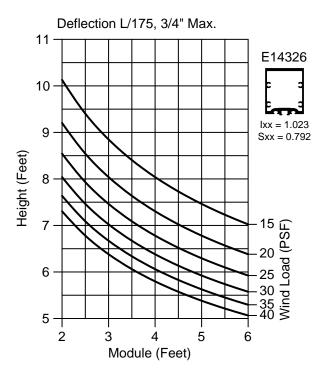


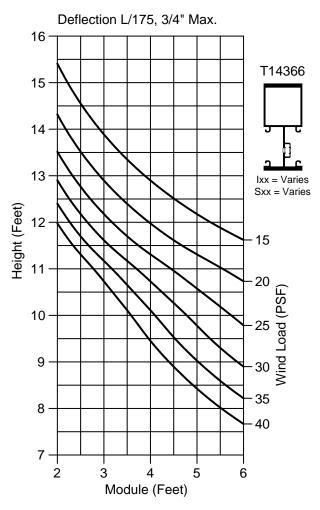
15.31 14000 Series Flush Glaze - I/O Plane Isometric Assembly Details

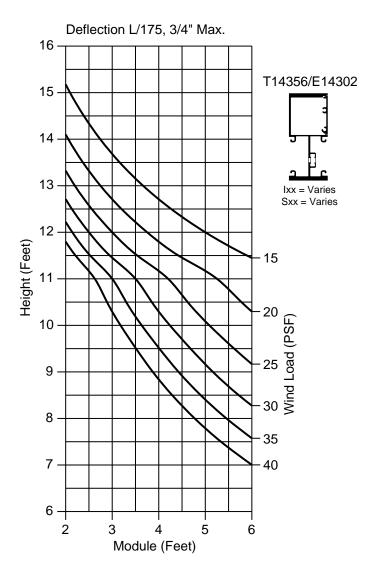




15.32 14000 Series Flush Glaze - I/O Plane Windload Charts





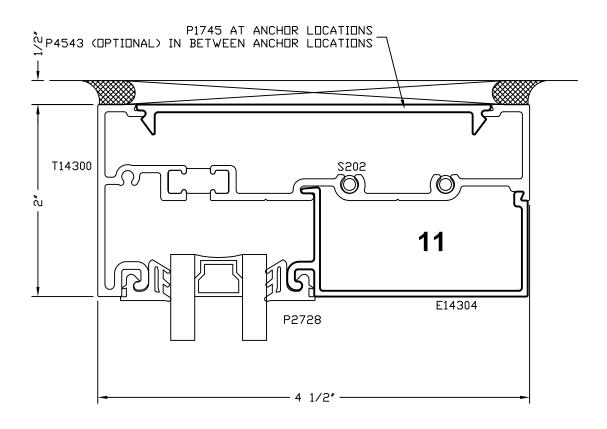


TUBELITE STOREFRONTS & ENTRANCES

2001

14000 Series Flush Glaze - I/O Plane Screw Spline Head - Inside Set/Outboard Plane

CAD DETAIL FILE NO. 180HEAD15



SUBSTITUTE E14300 FOR T14300, IF THERMAL BREAK IS NOT REQUIRED.

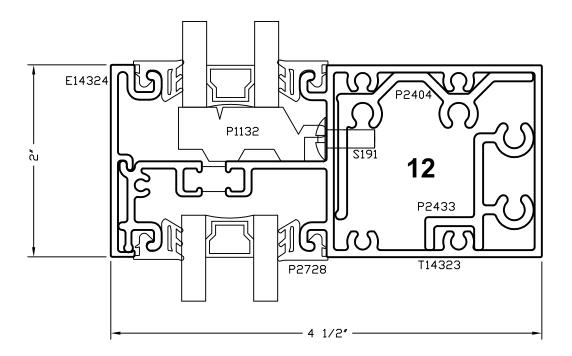


15.34

14000 Series Flush Glaze - I/O Plane

Shear Block Intermediate Horizontal - Inside Set/SSG Vertical

CAD DETAIL FILE NO. 180HORZ15

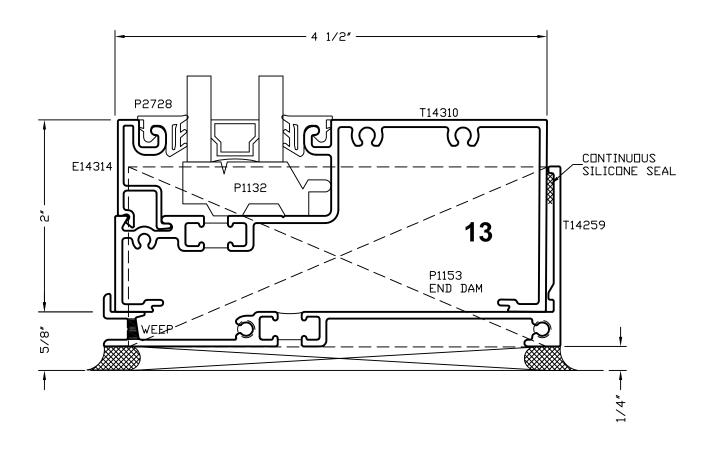


SUBSTITUTE E14323 FOR T14323, IF THERMAL BREAK IS NOT REQUIRED.



14000 Series Flush Glaze - I/O Plane Screw Spline Sill - Outside Set/SSG Vertical

CAD DETAIL FILE NO. 180SILL11

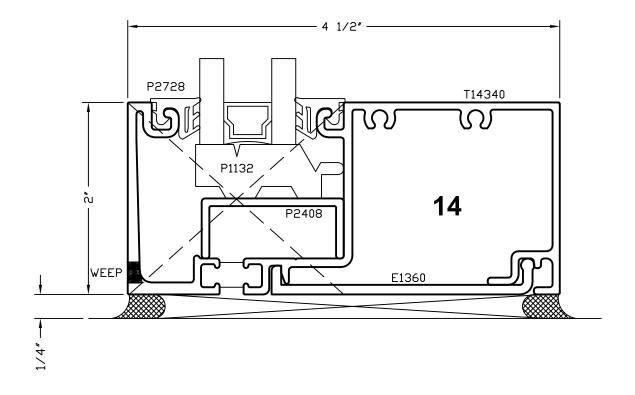


SUBSTITUTE E14310 & E14059 FOR T14310 & T14259, IF THERMAL BREAK IS NOT REQUIRED.



15.36 14000 Series Flush Glaze - I/O Plane Screw Spline Sill With Sill Runner

CAD DETAIL FILE NO. 180SILL10

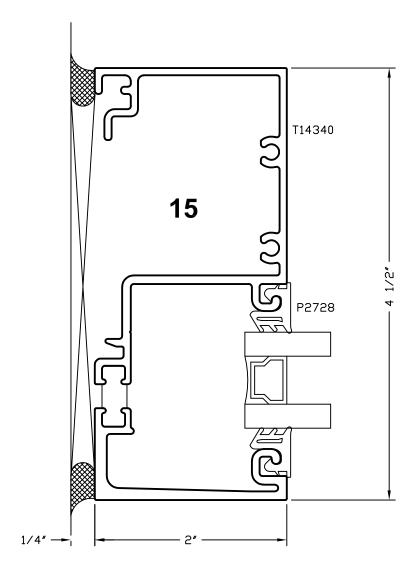


SUBSTITUTE E14340 FOR T14340, IF THERMAL BREAK IS NOT REQUIRED.



14000 Series Flush Glaze - I/O Plane Alternate Screw Spline Jamb - Outboard Plane

CAD DETAIL FILE NO. 180JAMB4

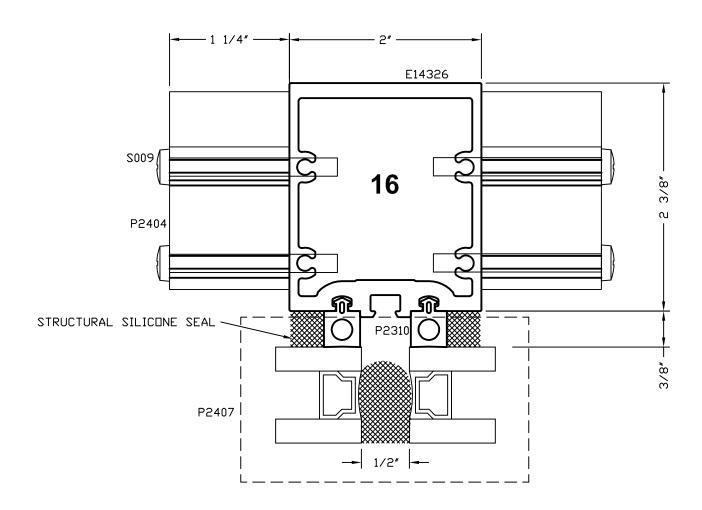


SUBSTITUTE E14340 FOR T14340, IF THERMAL BREAK IS NOT REQUIRED.



15.38 14000 Series Flush Glaze - I/O Plane Silicone Glazed Vertical

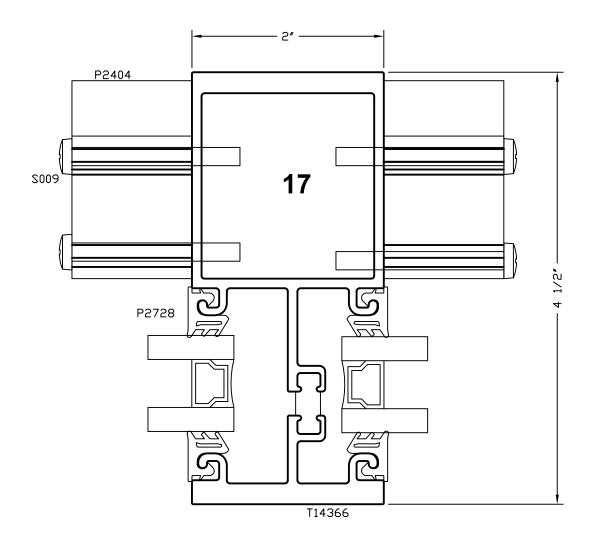
CAD DETAIL FILE NO. 180∨ERT12





14000 Series Flush Glaze - I/O Plane Heavy Duty Tubular Verticall - Outboard Plane

CAD DETAIL FILE NO. 180VERT14

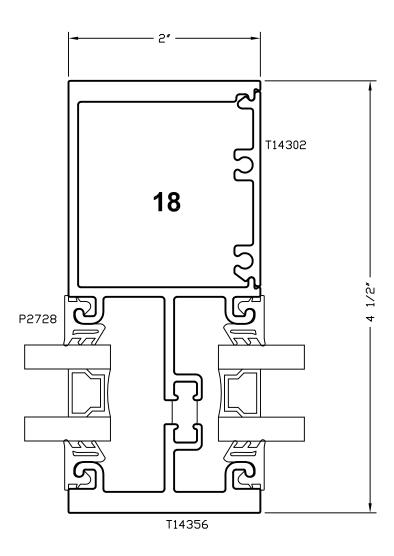


SUBSTITUTE E14366 FOR T14366, IF THERMAL BREAK IS NOT REQUIRED.



15.4014000 Series Flush Glaze - I/O PlaneHeavy Duty Screw Spline Vertical - Outboard Plane

CAD DETAIL FILE N□. 180∨ERT13

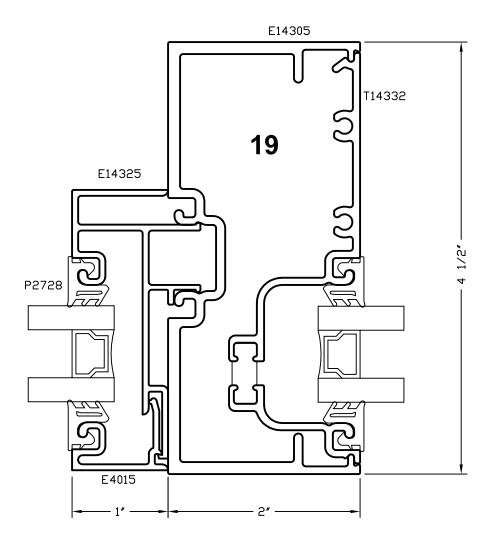


SUBSTITUTE E14356 FOR T14356, IF THERMAL BREAK IS NOT REQUIRED.



14000 Series Flush Glaze - I/O Plane Transom Door Jamb - Outboard Plane

CAD DETAIL FILE NO. 180TRANVERT



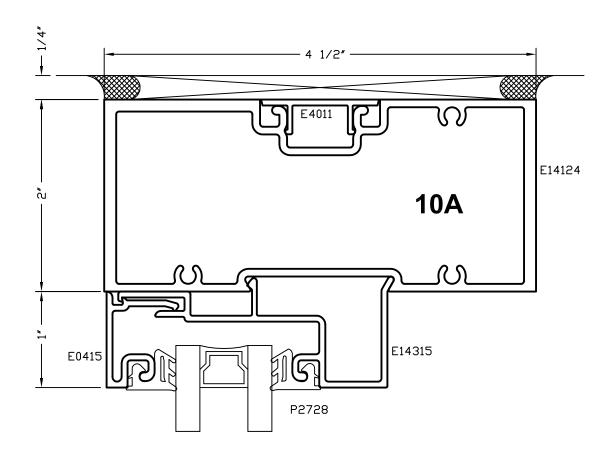
SUBSTITUTE E14332 FOR T14332, IF THERMAL BREAK IS NOT REQUIRED.



15.41a 14000 Series Flush Glaze - I/O Plane

Transom Header - Outboard Plane

CAD DETAIL FILE NO. 180TRAN3





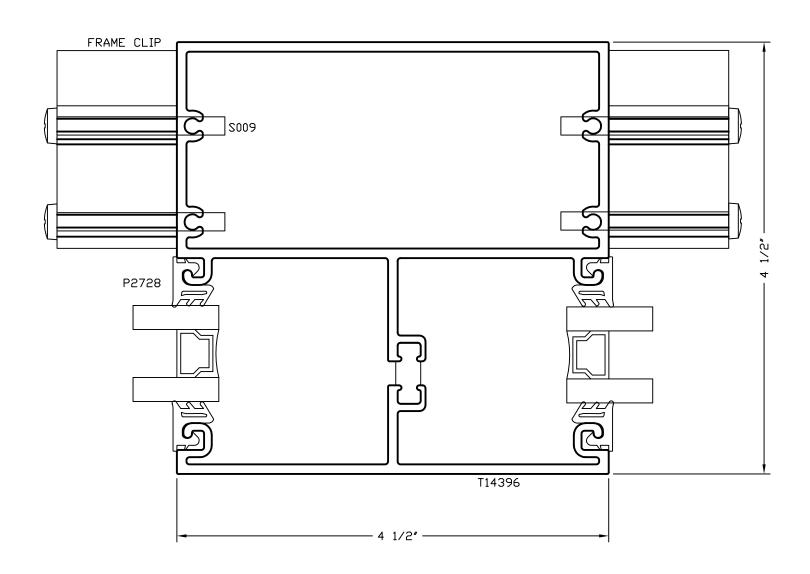
15.42 E14000 Series Flush Glaze - I/O Plane Structural Values

Shape	Description	Area (in²)	Ixx (in ⁴)	Sxx (in ³)	Iyy (in ⁴)	Syy (in ³)
E14055	Sub Sill	0.619	1.662	0.610	0.107	0.072
E14259	Sub Sill	0.600	1.677	0.571	0.110	0.074
E14300	Open-back Head - Inside Glaze	0.845	2.213	0.840	0.181	0.163
E14301	Open-back Sill / Jamb	1.024	2.684	1.111	0.402	0.323
E14302	Vertical Flat Filler for E14306	0.244	0.089	0.085	0.001	0.007
E14303	Horizontal - Inside Glaze	1.154	2.631	1.045	0.290	0.206
E14304	Inside Glaze Glass Stop	0.316	0.278	0.215	0.040	0.050
E14305	Door Jamb	1.125	3.255	1.447	0.364	0.251
E14306	Open-back Intermediate Vertical	1.204	2.937	1.212	0.500	0.438
E14309	90° Corner	1.925	5.405	1.891	5.405	1.891
E14310	Open-back Head - Outside Glaze	0.898	2.126	0.901	0.367	0.316
E14311	Open-back Intermediate Vertical	0.971	2.487	1.026	0.321	0.245
E14312	Shallow Pocket Filler - Inboard	0.594	0.916	0.397	0.045	0.073
E14313	Horizontal - Outside Glaze	1.248	2.483	1.044	0.611	0.540
E14314	Glass Stop - Outside Glaze	0.189	0.005	0.016	0.023	0.036
E14319	135° Corner	1.115	3.069	0.947	1.381	0.535
E14321	Open-back Int. Vertical - Center	0.974	2.333	1.028	0.317	0.239
E14322	Deep Pocket Filler - Center	0.683	0.899	0.415	0.137	0.155
E14329	Head Receptor - Exterior Glaze	0.910	2.014	0.672	0.258	0.163
E14332	Deep Pocket Filler - Inboard	0.660	0.994	0.416	0.134	0.153
E14336	Expansion Vertical	0.878	2.189	0.863	0.208	0.219
E14339	Head Receptor - Interior	0.475	0.136	0.111	0.159	0.124
E14346	Expansion Vertical	0.820	1.959	0.840	0.086	0.107
E14323	Intermediate Horiz F/R Plane	1.205	2.199	0.916	0.585	0.541
E14326	Silicone Glazed Vertical - Front	1.258	1.023	0.792	0.662	0.662
E14340	Sill for E14326	1.162	2.985	1.286	0.648	0.627
E14342	Shallow Pocket Filler - Non P&D	0.520	0.820	0.378	0.022	0.061
E14356	Heavy Duty Open-back Vertical	1.715	4.902	2.010	0.625	0.570
E14366	Heavy Duty Tubular Vertical	1.921	5.320	2.322	0.826	0.814

14000 Series Flush Glaze - I/O Plane

4 1/2" x 4 1/2" Intermediate Vertical

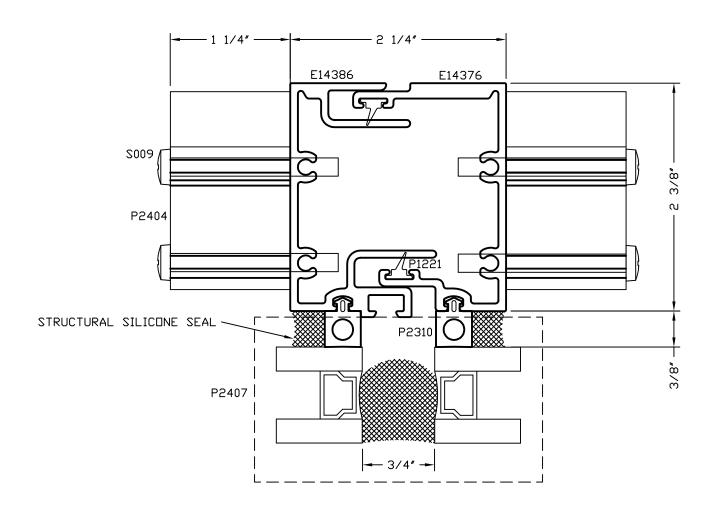
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14000 Series Flush Glaze - I/O Plane SSG Expansion Vertical

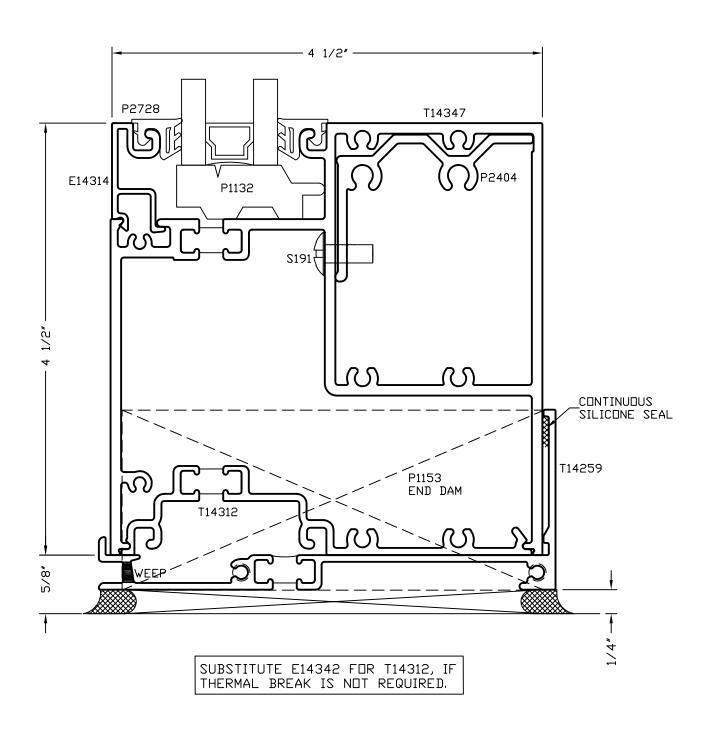
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14000 Series Flush Glaze - I/O Plane 4 1/2" Screw Spline Sill - Outboard Plane

CAD DETAIL FILE NO. 180SILL13

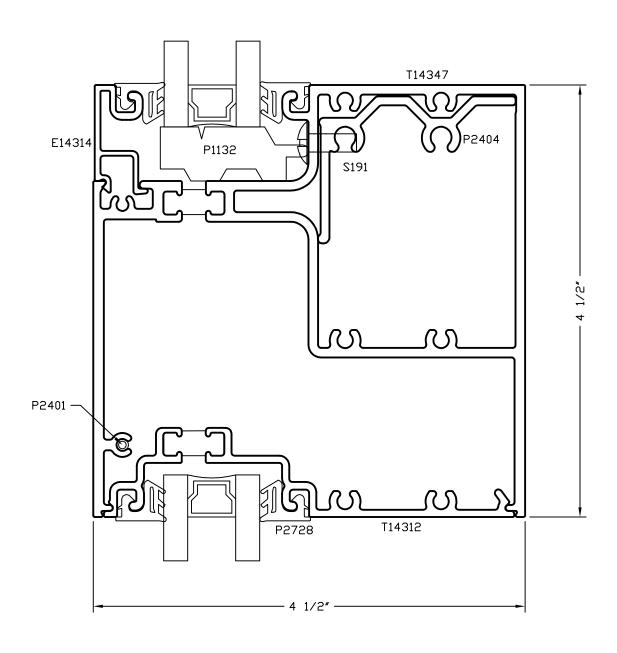




14000 Series Flush Glaze - I/O Plane

4 1/2" x 4 1/2" Shear Block Intermediate Horizontal

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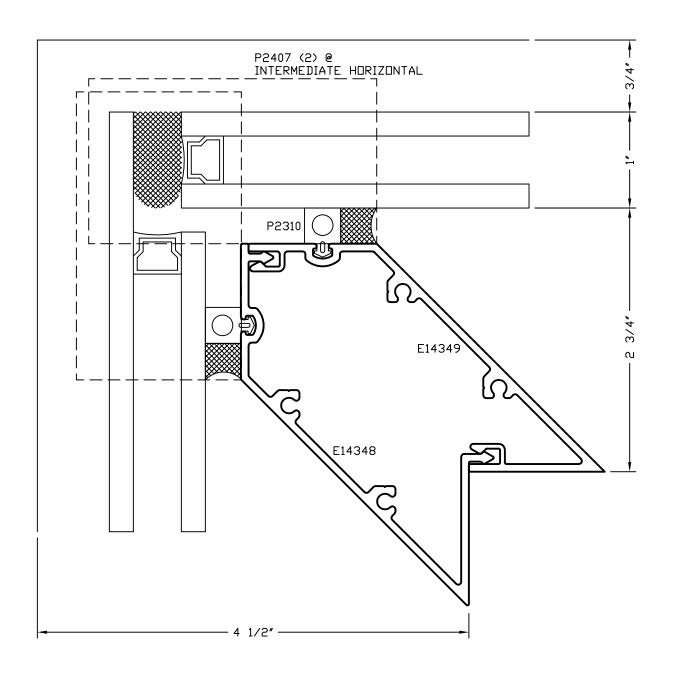




14000 Series Flush Glaze - I/O Plane

Corner

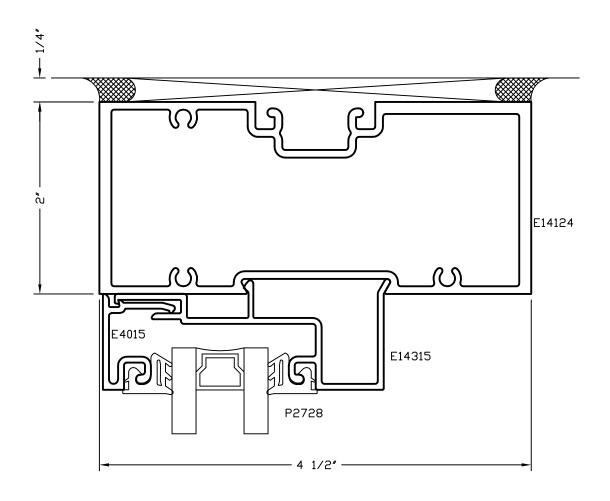
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14000 Series Flush Glaze - I/O Plane Head

CAD DETAIL FILE NO. 180HEAD16





15.41a 14000 Series Flush Glaze - I/O Plane

Transom Header - Outboard Plane

CAD DETAIL FILE NO. 180TRAN3

