#### 14.01 14000 Series Flush Glaze Description





#### **Description**

Tubelite T14000 Series Framing is a 2" x 4 1/2" deep flush glazed storefront system for use on first floor applications. This dry glazed internally drained framing can be glazed with 1" insulated glass or panels positioned in the center of the frame. Glass pocket reducers can be used to glaze infill thicknesses of 1/4" to 1/2"

A poured and de-bridged thermal break provides industry standard Condensation Resistance and limits thermal conduction. The thermal pocket also employs the Azon Lance for prevention of dry shrink of the polyurethane barrier.





#### 14.02 14000 Series Flush Glaze 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.

Fixed window framing shall be 14000 Series Flush Glaze (2" x 4 1/2") as manufactured by Tubelite Inc., Walker, Michigan. Whenever substitute products are to be considered, supporting technical literature, samples drawings and performance data must be submitted ten (10) days prior to bid in order to make a valid comparison of the products involved.

Test reports certified by an independent laboratory must be made available upon request.

#### **Performance Requirements**

Air infiltration shall not exceed .06 CFM/Ft<sup>2</sup> when tested in accordance with ASTM E-283 at a test pressure of 6.24 PSF.

There shall be no uncontrolled water entry when tested in accordance with ASTM E-331 "Water Penetration of Exterior Windows, Curtainwalls and Doors by Uniform Static Air Pressure Difference" at a test pressure of 15 PSF.

There shall be no uncontrolled water entry when tested in accordance with AAMA 501.1-94 at a dynamic pressure equivalent of 15 PSF.

Structural performance per ASTM E330 shall be based on a maximum allowable deflection of L/175 of the span or 3/4" maximum. The system shall perform to those criteria under a wind load of (architect specify) PSF.

There shall be no buckling, stress on glass, edge seal failure, excess stress on curtainwall structure, anchors and fasteners or reduction in performance when tested in accordance with AAMA 501.5-98 at a temperature range of 0° to 180° F.

There shall be no "Life/Safety" type failures (glass breakage, anchor failures, or structural damage) when tested in accordance with AAMA 501.4, seismic test (lateral cycling.)

Thermal transmittance due to conduction ( $\rm U_c$ ) shall be 0.40 - poured & debridged (see AAMA 507-12 test report B6911.03-116-45) BTU/Hr/Ft²/F degrees. Condensation Resistance Factor (CRF) shall not be less than 54 - poured & debridged only (or 53 - slotted only) when tested in accordance with AAMA 1503-98.

The system shall have a Sound Transmission

TUBELITE®

DEPENDABLE

LEADERS IN ECO-EFFICIENT STOREFRONT,

Class (STC) rating of 32 and an Outdoor-Indoor Transmission Class (OITC) rating of 26 when tested in accordance with ASTM E90-97, ASTM E413-87 (reapproved 1994) and ASTM E1332-90.

#### **Products**

#### **Materials**

Extrusions shall be of aluminum alloy 6063-T5 extruded within commercial tolerance 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 to be compatible with the aluminum under normal service conditions.

Glazing shall be by means of an exterior and interior roll-in wedge of high quality extruded elastomeric material.

Optional: Thermal barrier shall be a two part chemically curing, unfilled polyurethane casting resin poured in place for perimeter members. Intermediate vertical members shall be slotted for efficient thermal performance.

#### **Finish**

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

```
Finish to be: (architect select)
  Etched and clear anodized
      (AAM12C22A31)
          Clear - Class 2
                              (C2)
      (AAM12C22A41)
          Clear - Class 1
                              (C1)
  Electrolytically deposited color
      (AAM12C22A44) Class 1
          Champagne
                              (CH)
          Medium Bronze
                              (MB)
          Dark Bronze
                              (DB)
          Extra Dark Bronze
                              (EB)
          Black
                              (BL)
Fluoropolymer (70%) painted color
```

#### Execution

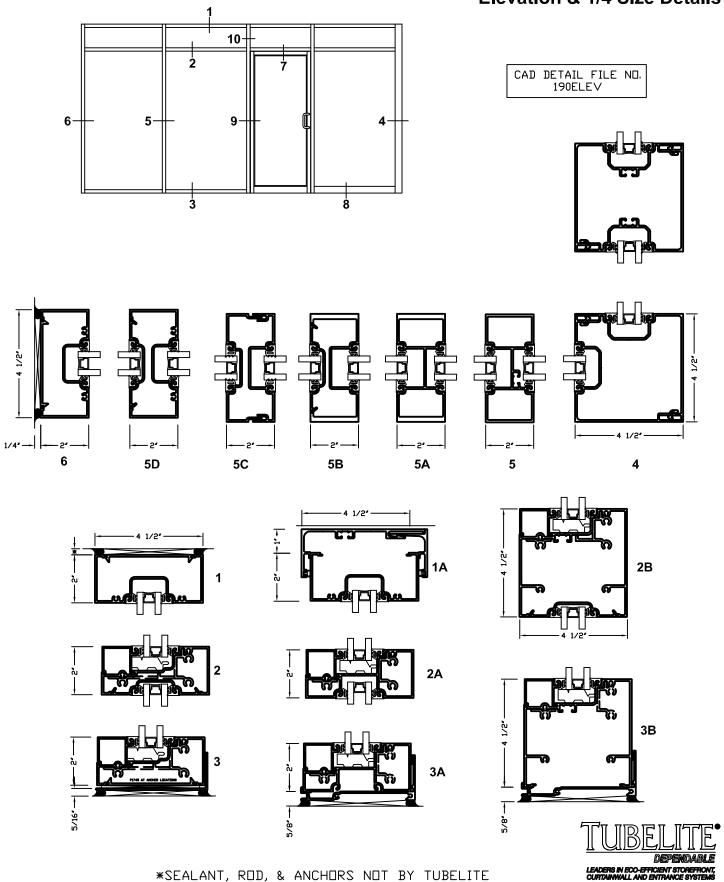
#### Installation

Shall be in accordance with 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.

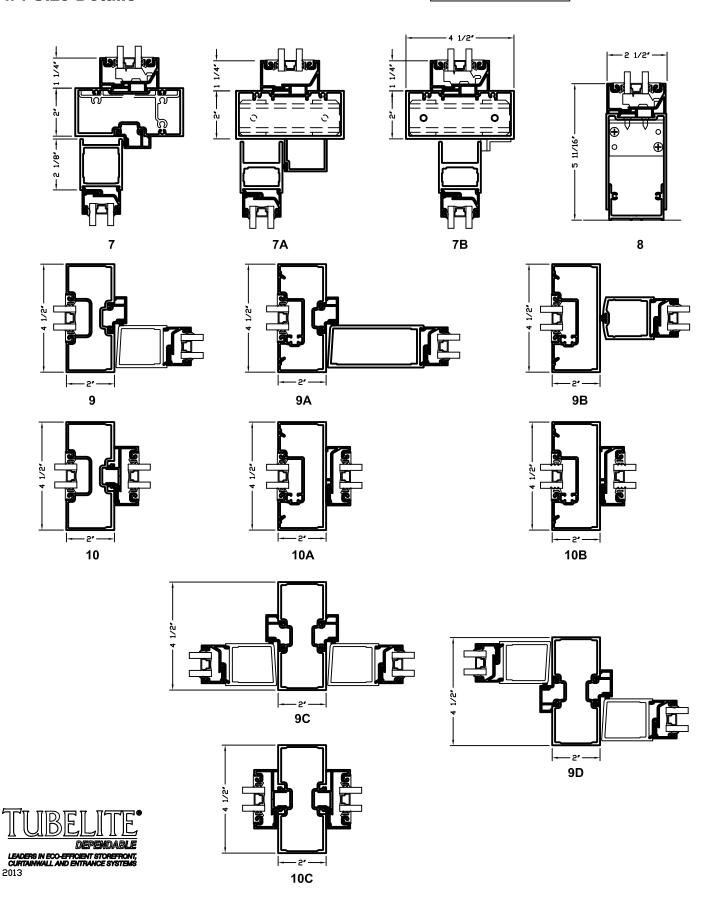
14.03 E14000 Series Flush Glaze Elevation & 1/4 Size Details



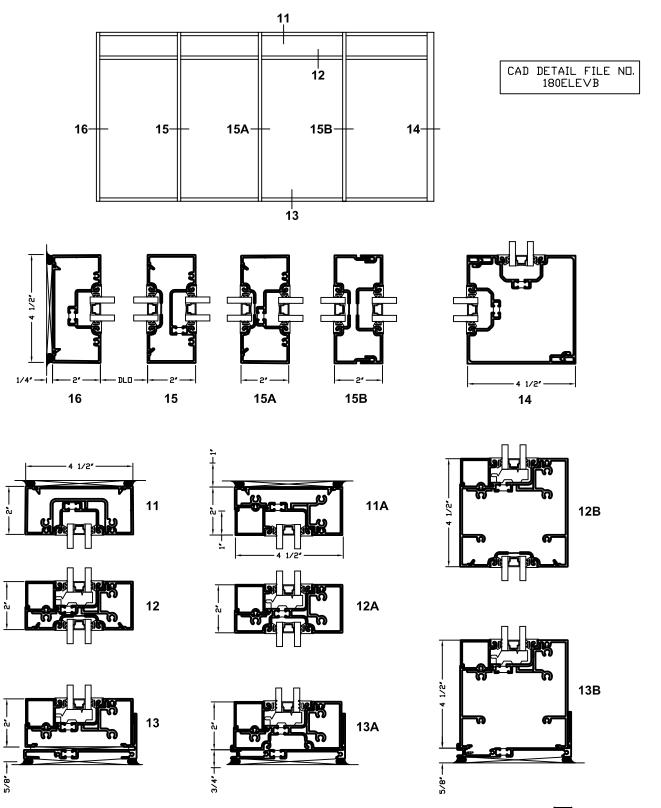
## 14.04 E14000 Series Flush Glaze

1/4 Size Details

CAD DETAIL FILE NO. 190ELE∨1

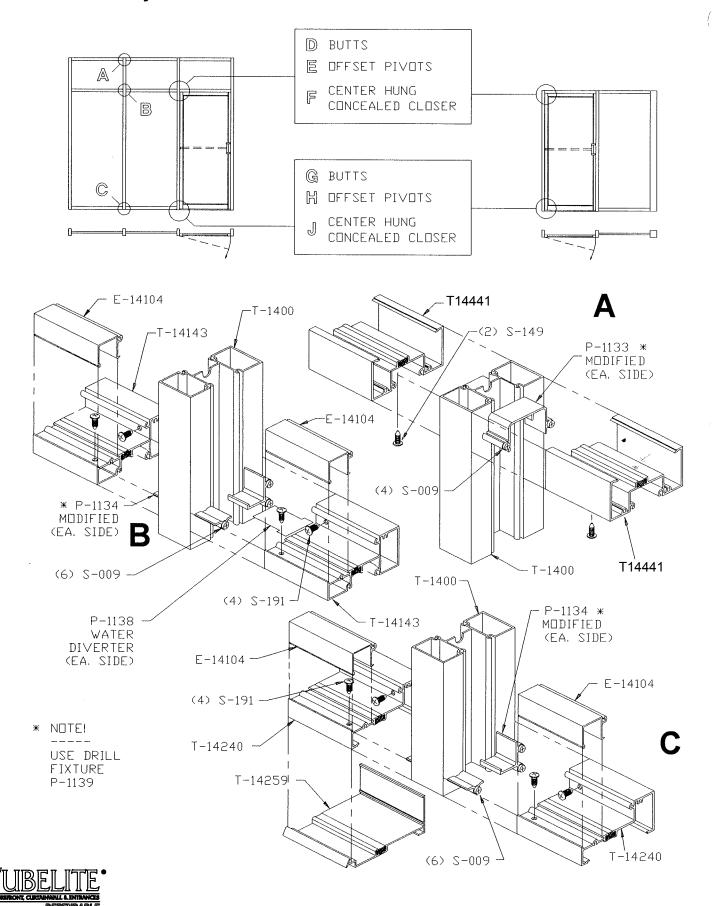


## 14.05 T14000 Series Flush Glaze Elevation & 1/4 Size Details

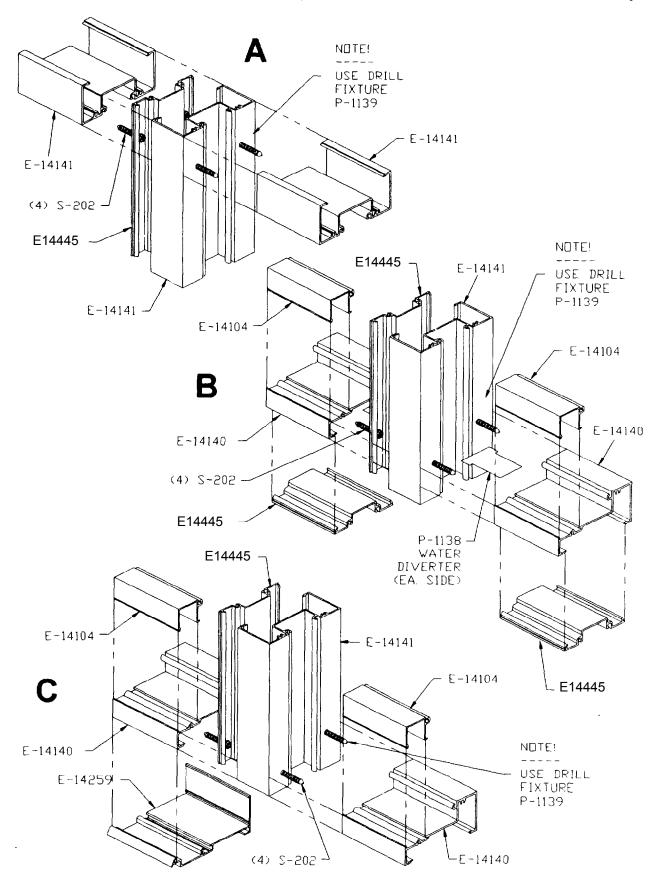


## 14.06 14000 Series Flush Glaze

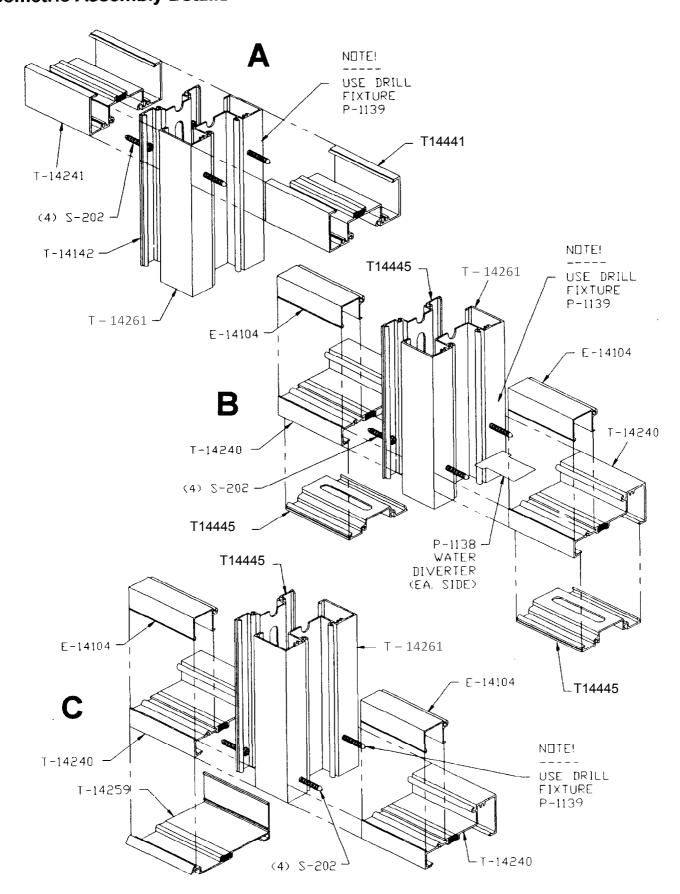
#### **Isometric Assembly Details**



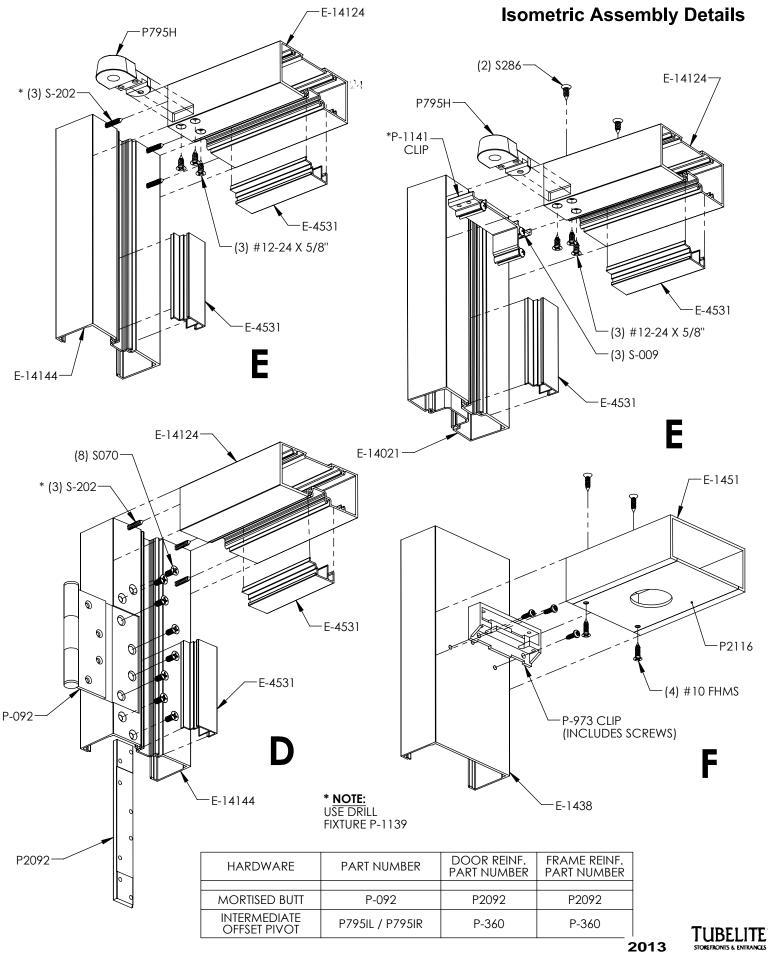
## 14.07 14000 Series Flush Glaze Isometric Assembly Details



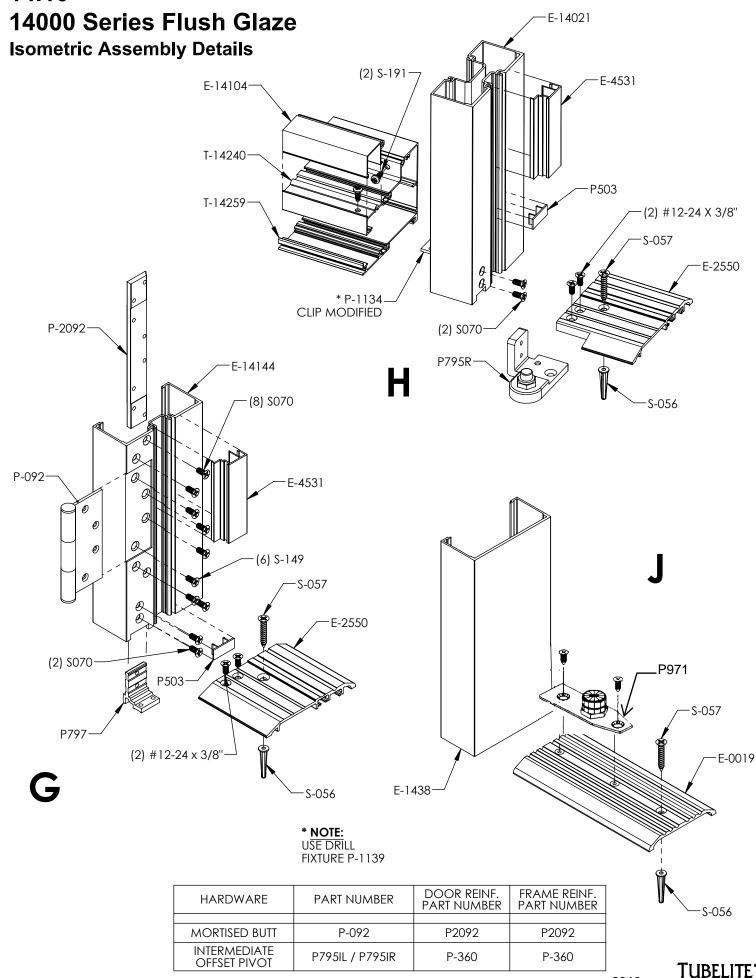
14.08 14000 Series Flush Glaze Isometric Assembly Details



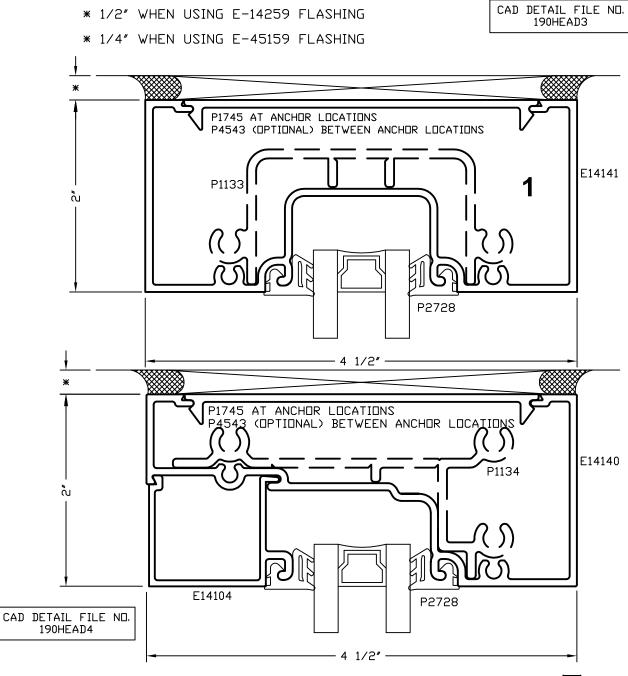
14.09 14000 Series Flush Glaze



14.10



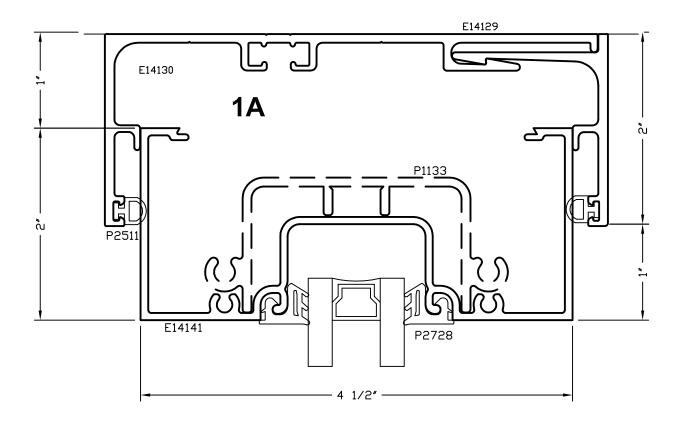
## 14.11 E14000 Series Flush Glaze Standard Head Member



## 14.12 E14000 Series Flush Glaze

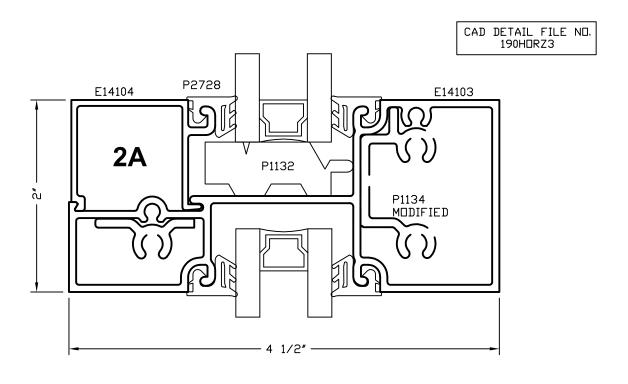
## **Head Receptor**

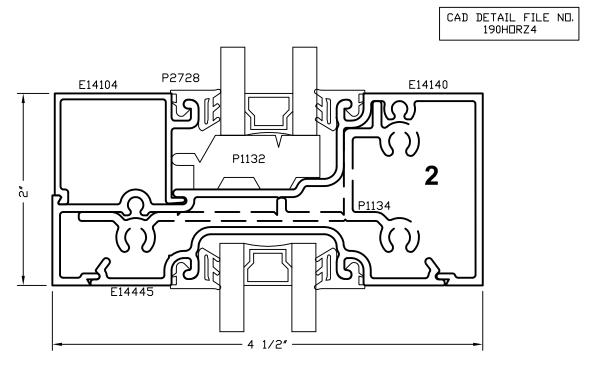
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## 14.13 E14000 Series Flush Glaze Intermediate Horizontals



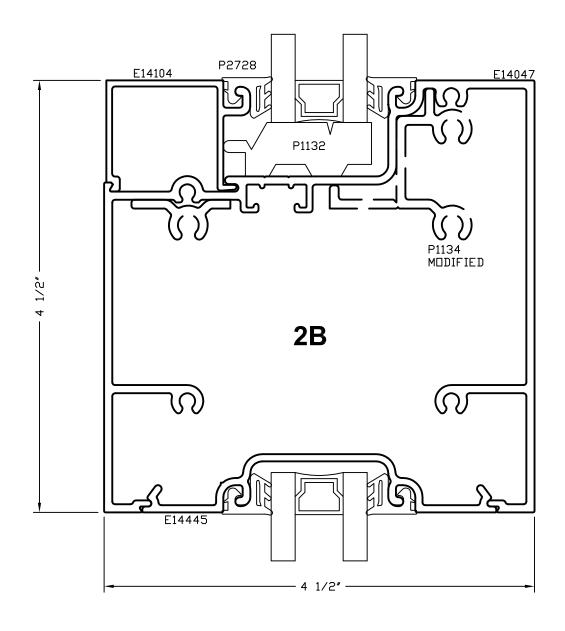




## 14.14

## E14000 Series Flush Glaze

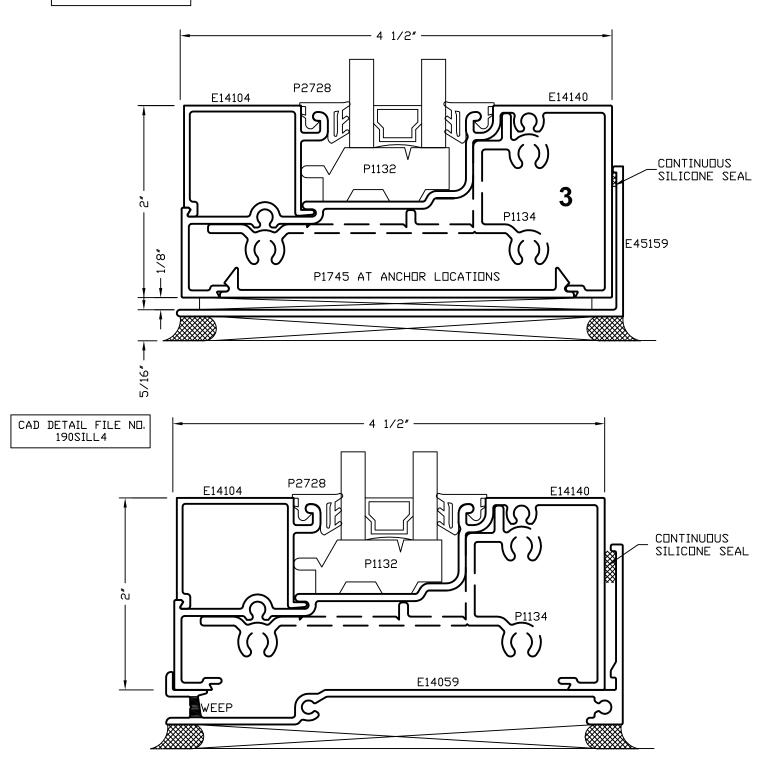
#### 4 1/2" x 4 1/2" Intermediate Horizontal





14.15 E14000 Series Flush Glaze Sill With Alternate Flashing

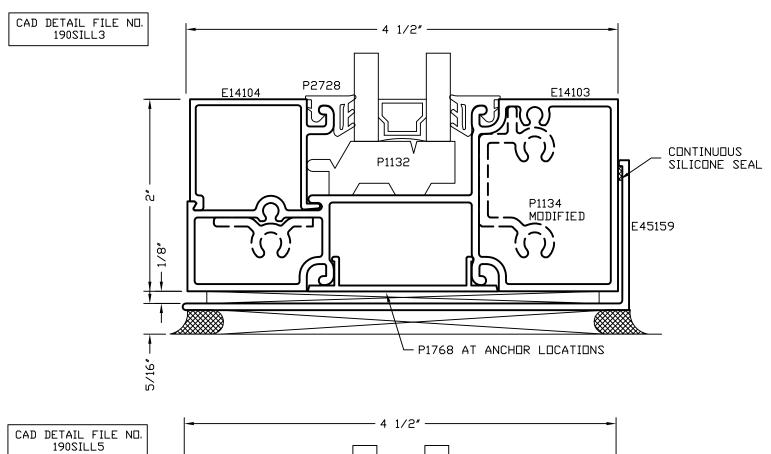
CAD DETAIL FILE NO. 190SILL2

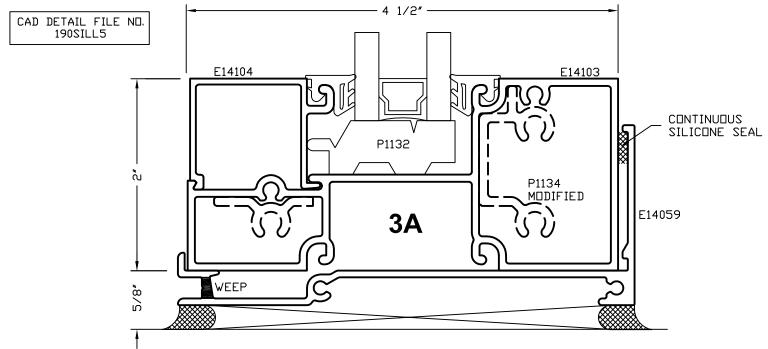




## 14.16 E14000 Series Flush Glaze

## **Alternate Sills With Flashing**

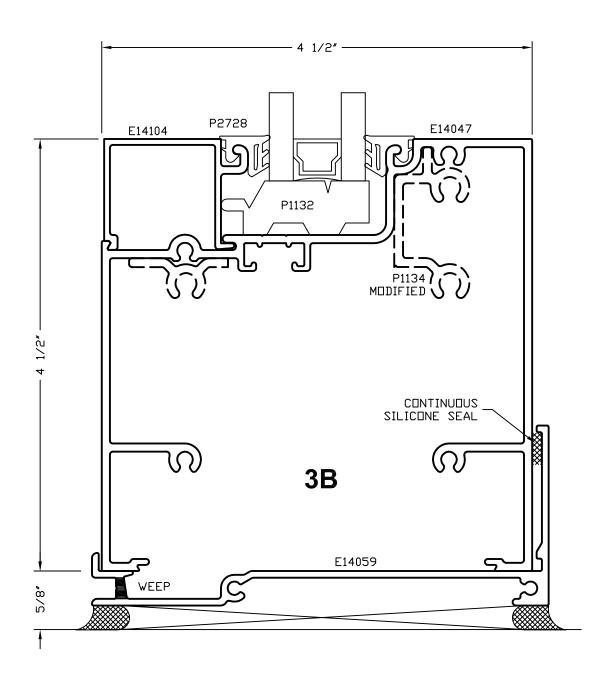






14.17 E14000 Series Flush Glaze Alternate Sill With Flashing

CAD DETAIL FILE NO. 190SILL6

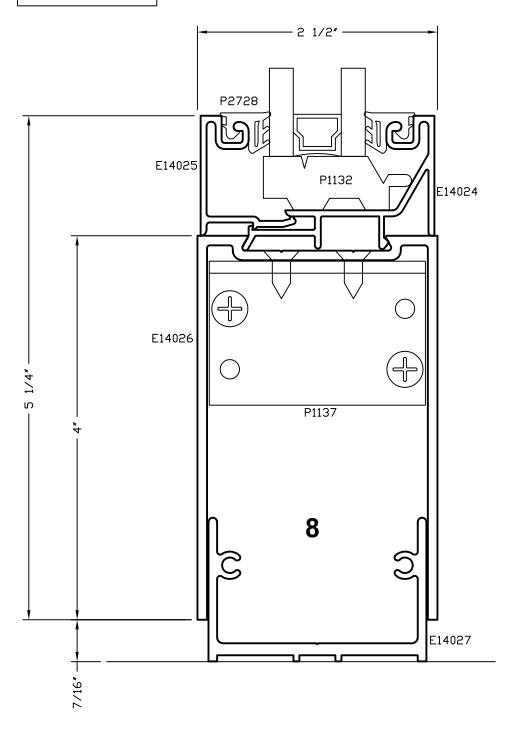




## 14.18 E14000 Series Flush Glaze

## **Sidelight Base Sill Option**

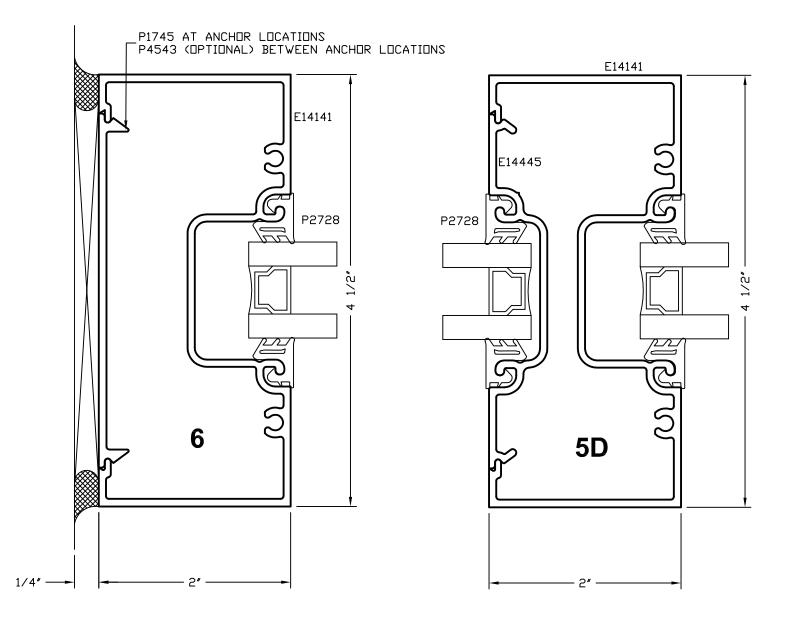
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CAD DETAIL FILE NO. 190JAMB1

CAD DETAIL FILE NO. 190SVERT2





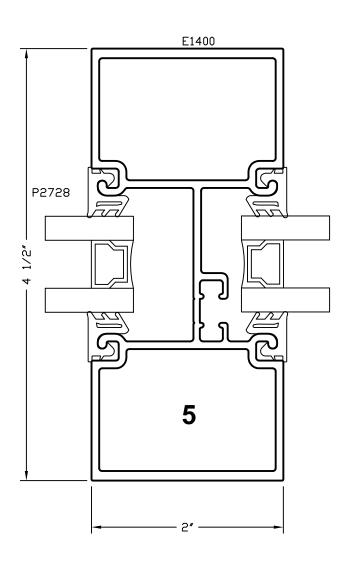
## 14.20 E14000 Series Flush Glaze Heavy Duty & Expansion Verticals

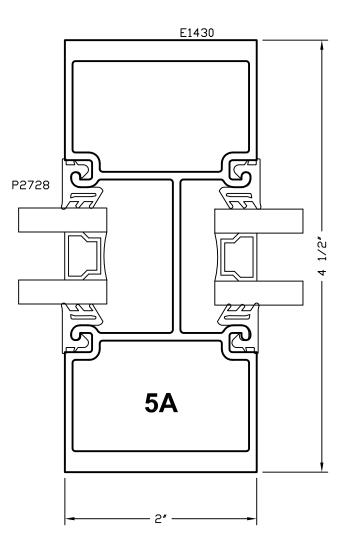
CAD DETAIL FILE NO. CAD DETAIL FILE NO. 190HSVT2 190XVERT2 E1435 E1435 E14445 E14445 P2728 P2728 **5B 5B** 



- 2" -

CAD DETAIL FILE NO. 190HVRT2 CAD DETAIL FILE NO. 190VERT2



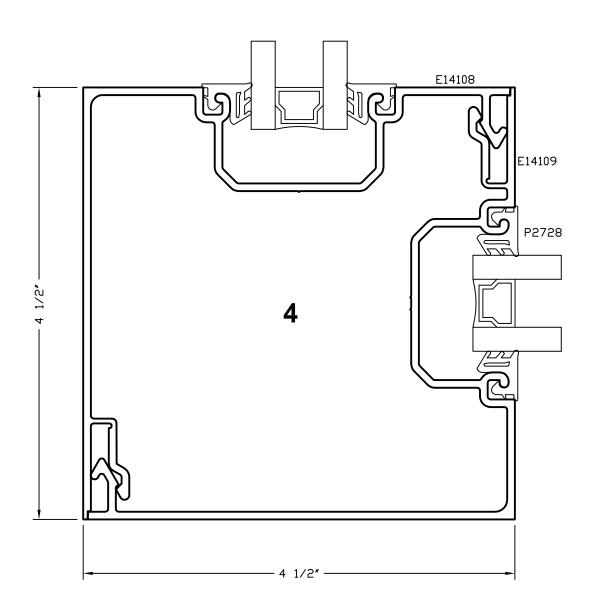




## 14.22

## E14000 Series Flush Glaze

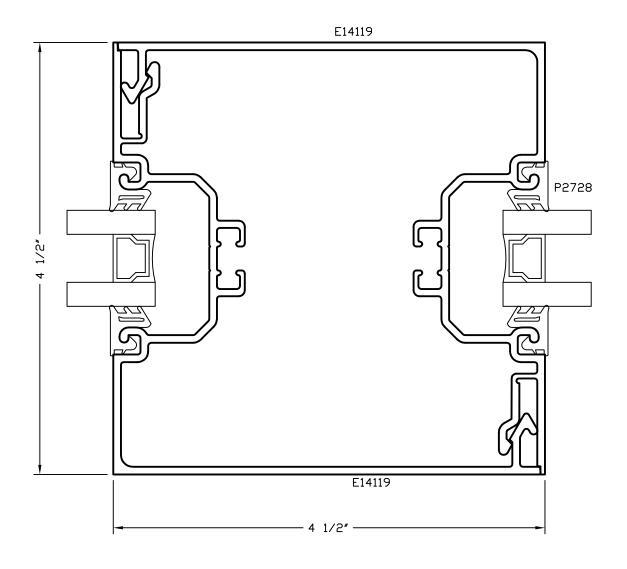
4 1/2" x 4 1/2" - 90° Corner





# E14000 Series Flush Glaze

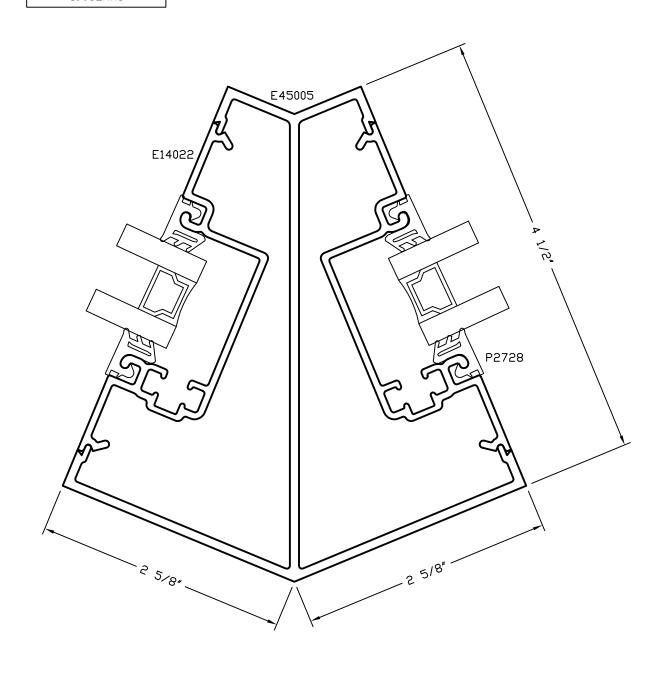
4 1/2" x 4 1/2" Intermediate Vertical





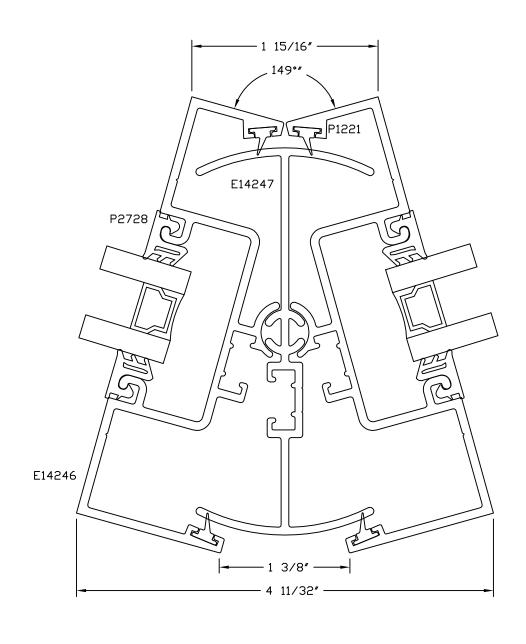
## 14.24 E14000 Series Flush Glaze

135° Corner





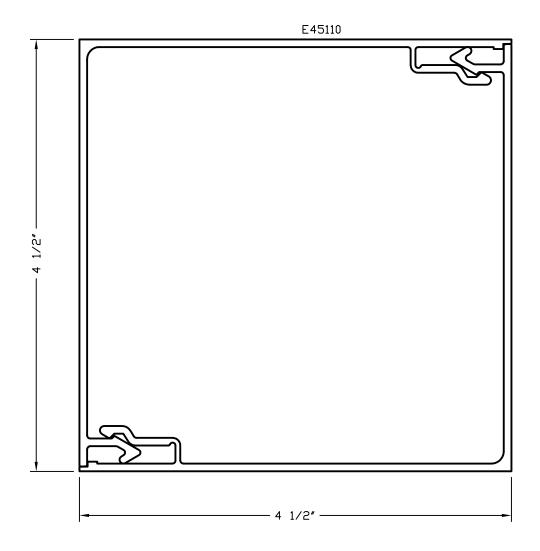
## 14.24A E14000 Series Flush Glaze Rotational Mullion



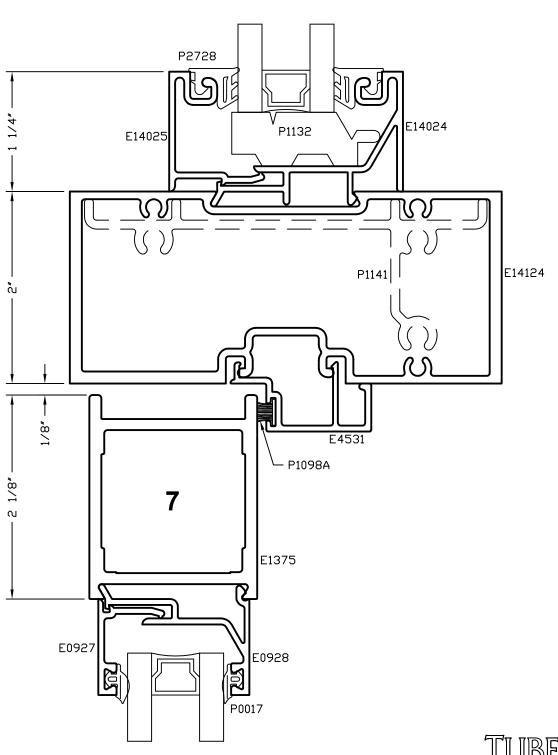


## 14.24B E14000 Series Flush Glaze

4 1/2" x 4 1/2" Corner



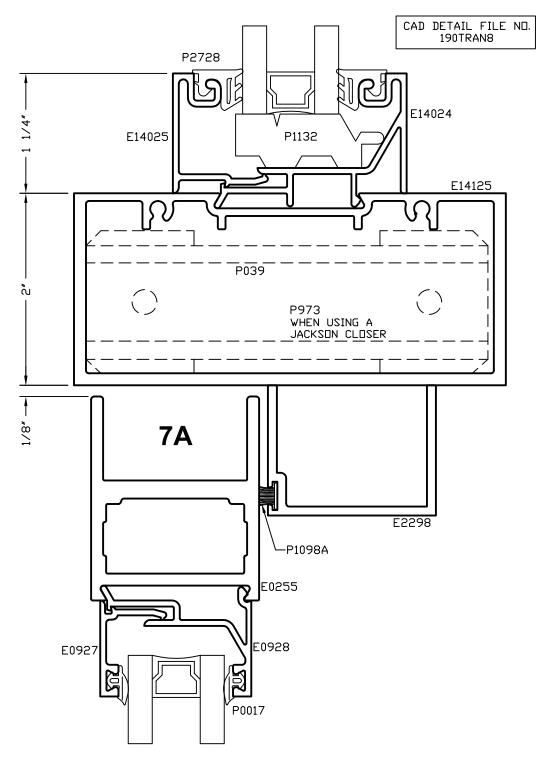




## 14.26

## E14000 Series Flush Glaze

## **Door Header With Transom - Offset Pivot Or Butt Hinge**





14.27 E14000 Series Flush Glaze Door Header With Transom - Center Pivot

CAD DETAIL FILE NO. 190TRAN7 P2728 E14024 E14025 P1132 E14125 P039 ໍ້ P973 WHEN USING A JACKSON CLOSER 1/8" + P315B **7B** E0255 E0928 E0927 P0017

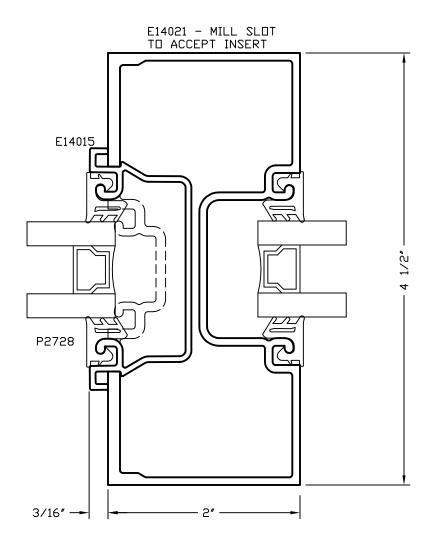


## 14.28

## E14000 Series Flush Glaze

## **Alternate Transom Jamb With Sidelight**

CAD DETAIL FILE ND. 190TRANVERT1

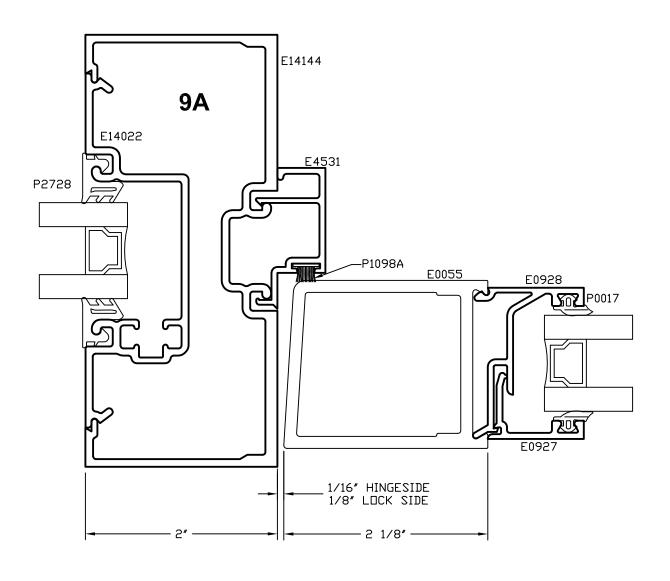




# E14000 Series Flush Glaze

## **Door Jamb - Narrow Stile Offset Pivot or Butt Hinge**

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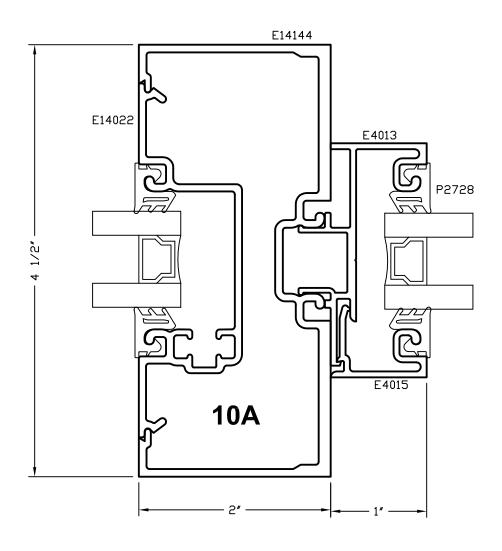




## 14.30

## E14000 Series Flush Glaze

## **Door Jamb With Transom & Sidelight**

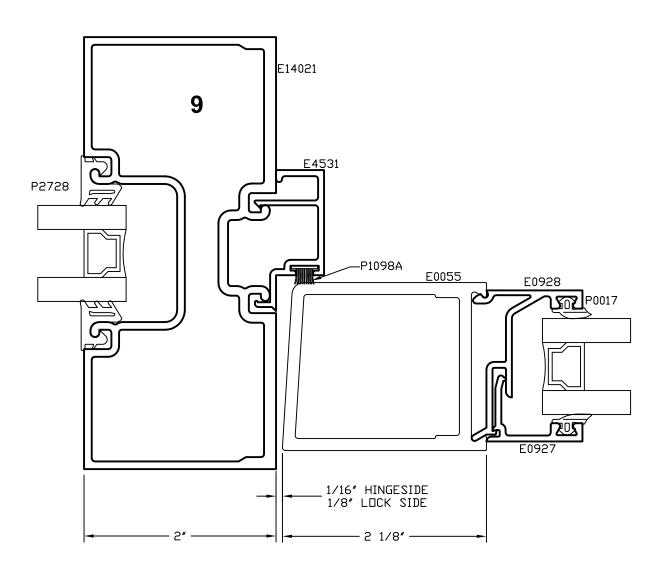




## E14000 Series Flush Glaze

## **Door Jamb - Narrow Stile Offset Pivot or Butt Hinge**

CAD DETAIL FILE NO. 190DRJBNS



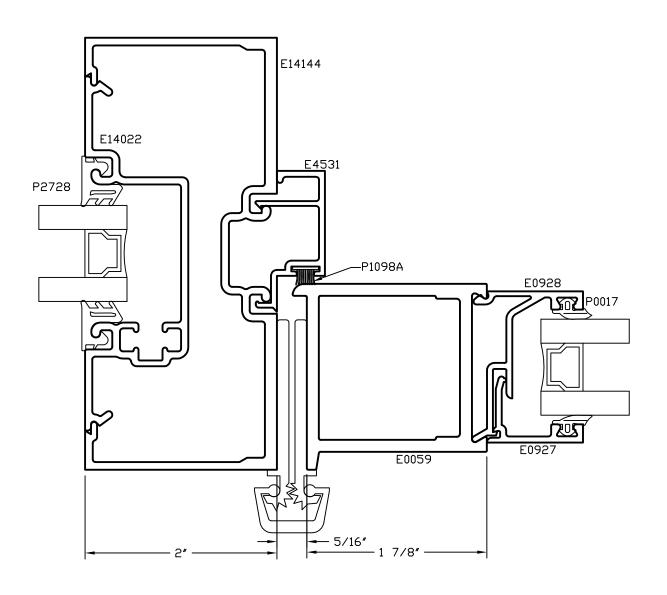


## 14.31a

## E14000 Series Flush Glaze

## **Door Jamb - Narrow Stile With Continuous Hinge**

CAD DETAIL FILE NO. 190DRJBNSCH1



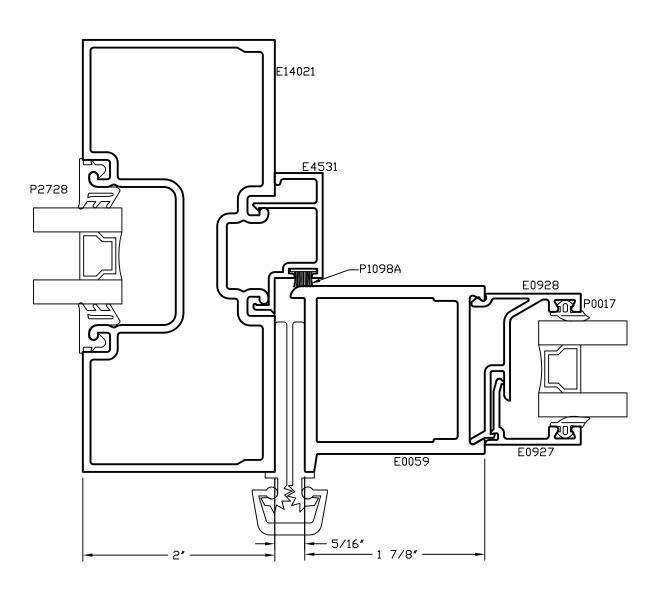


## 14.31b

## E14000 Series Flush Glaze

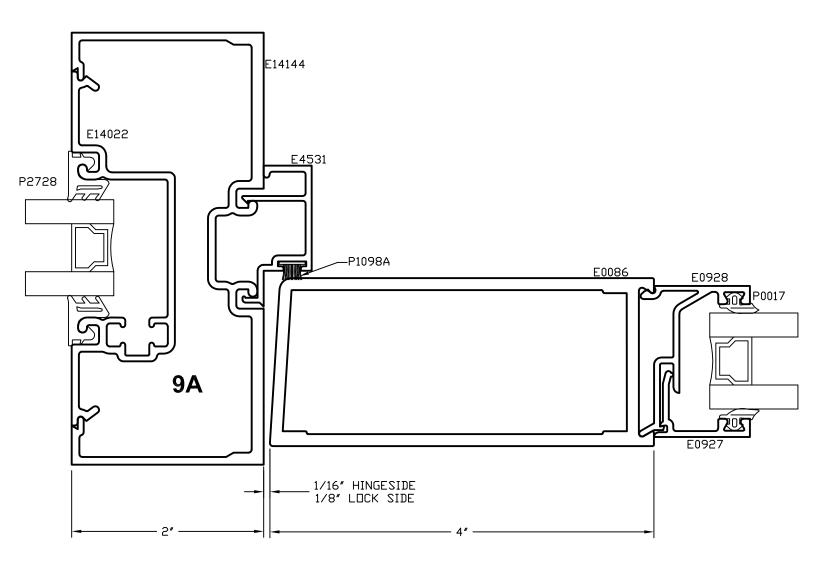
## **Door Jamb - Narrow Stile With Continuous Hinge**

CAD DETAIL FILE NO. 190DRJBNSCH



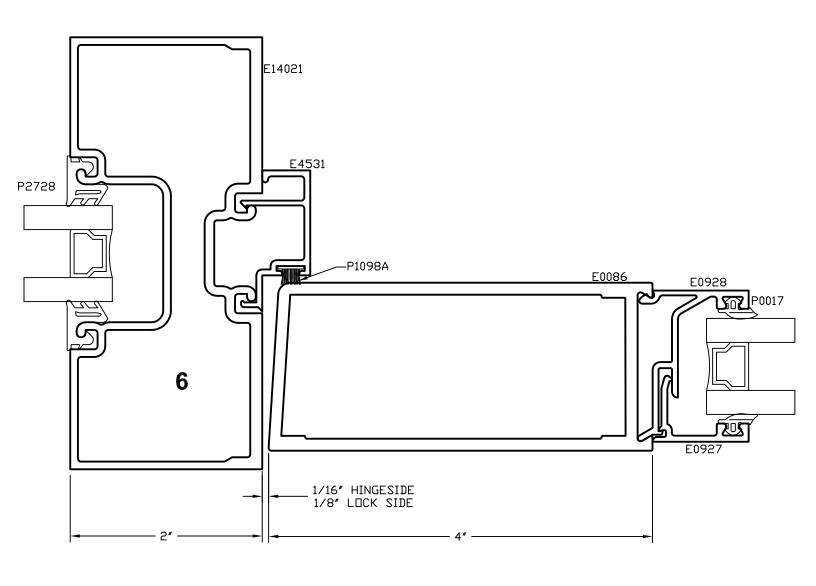


CAD DETAIL FILE NO. 190DRJBMS1



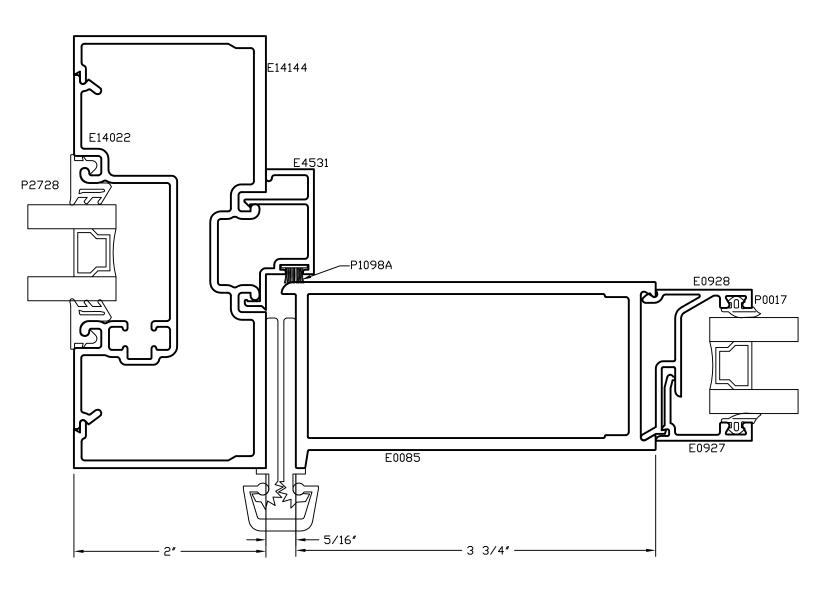
## 14.31d E14000 Series Flush Glaze

## **Door Jamb - Medium Stile Offset Pivot or Butt Hinge**





CAD DETAIL FILE NO. 190DRJBMSCH1



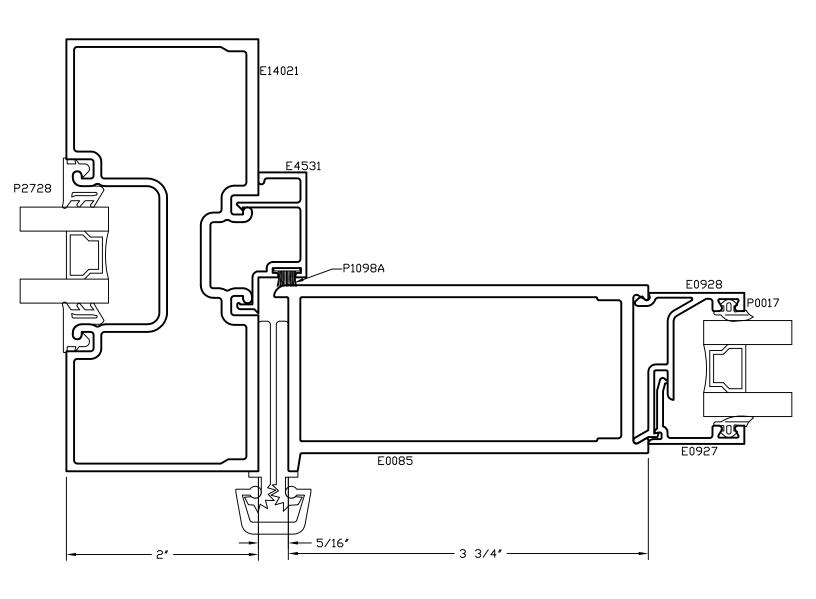


## 14.31f

## E14000 Series Flush Glaze

## **Door Jamb - Medium Stile With Continuous Hinge**

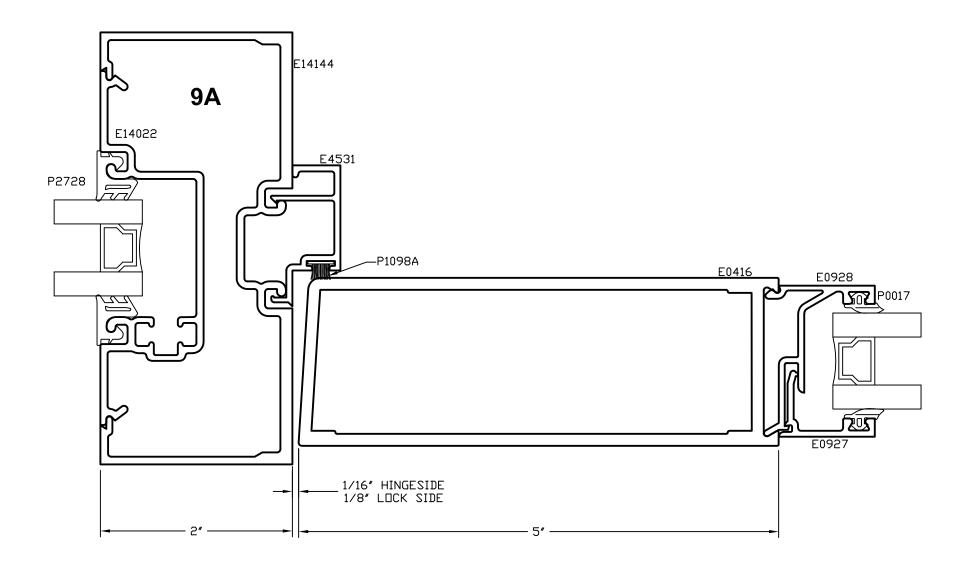
CAD DETAIL FILE NO. 190DRJBMSCH





# 14.31g E14000 Series Flush Glaze Door Jamb - Wide Stile Offset Pivot or Butt Hinge

CAD DETAIL FILE NO. 190DRJBWS1



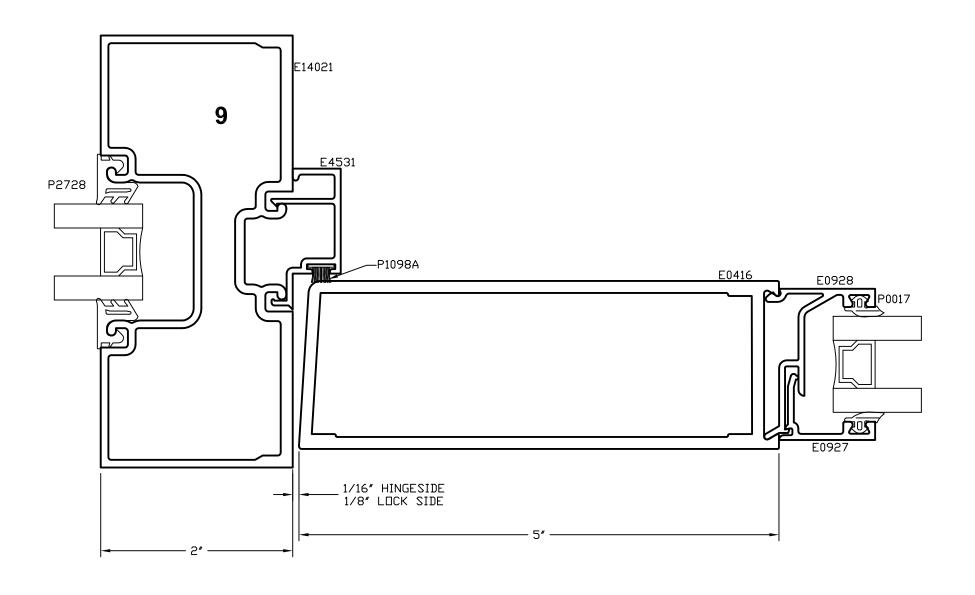


## 14.31h

## E14000 Series Flush Glaze

**Door Jamb - Wide Stile Offset Pivot or Butt Hinge** 

CAD DETAIL FILE NO. 190DRJBWS



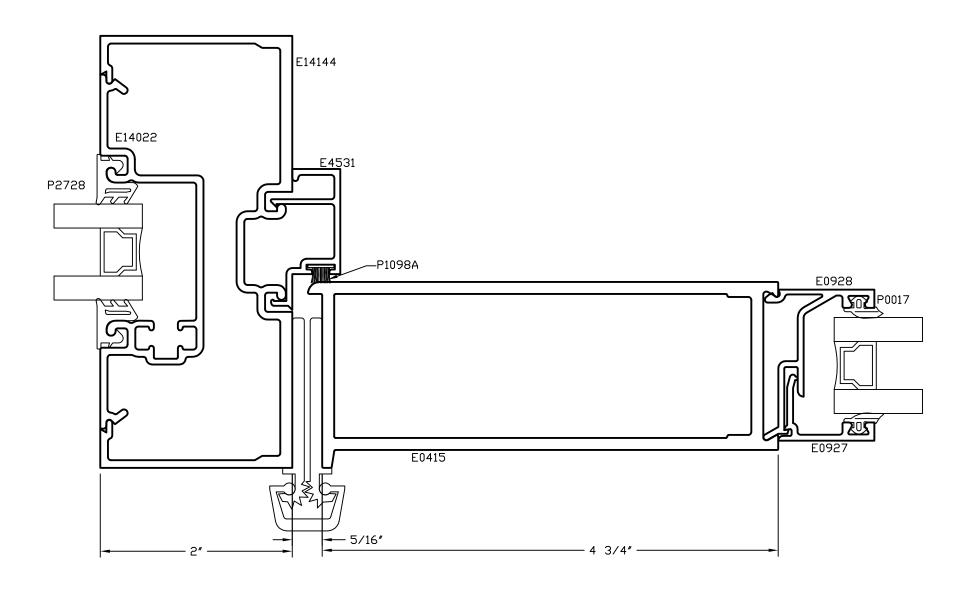


## 14.31i

## E14000 Series Flush Glaze

## **Door Jamb - Wide Stile With Continuous Hinge**

CAD DETAIL FILE NO. 190DRJBWSCH1



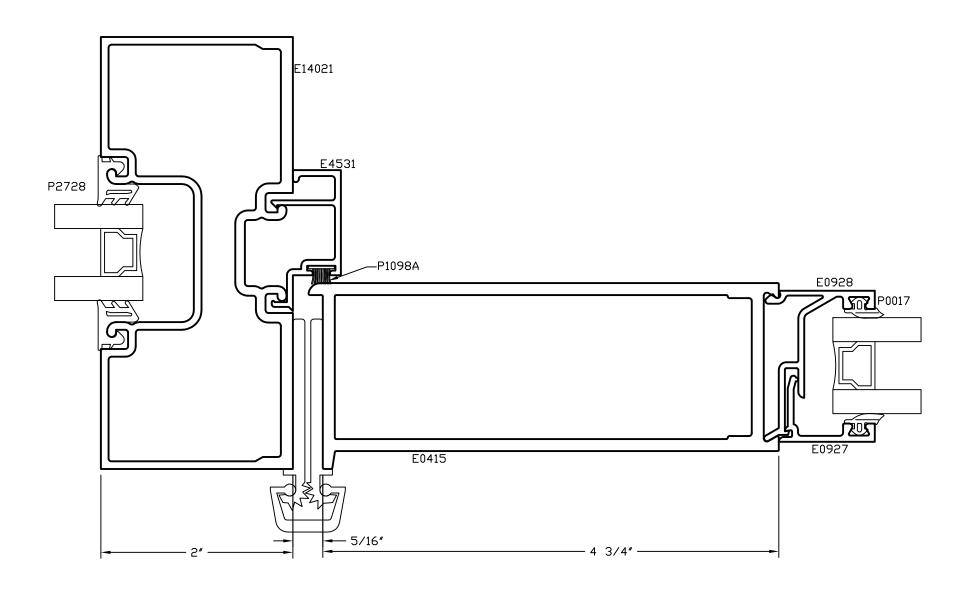


## 14.31j

## E14000 Series Flush Glaze

**Door Jamb - Wide Stile With Continuous Hinge** 

CAD DETAIL FILE NO. 190DRJBWSCH

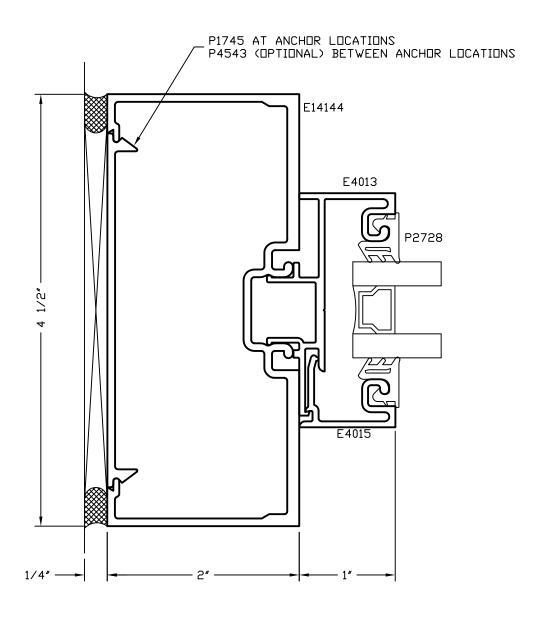




## 14.32 E14000 Series Flush Glaze

#### **Door Jamb With Transom**

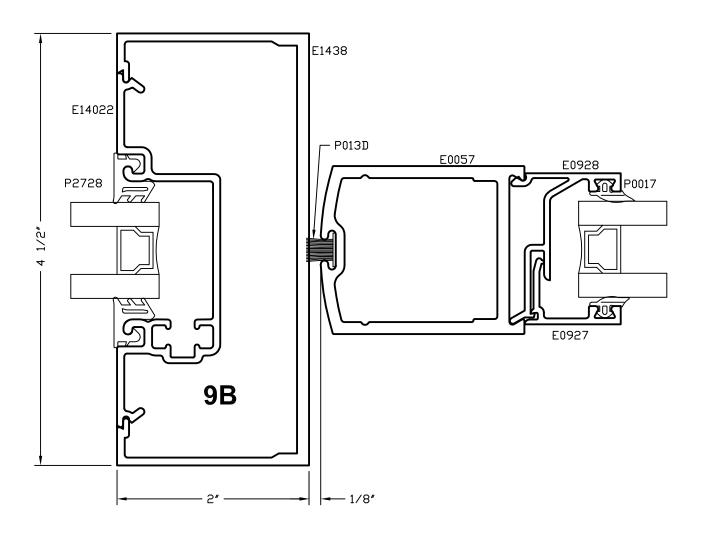
CAD DETAIL FILE NO. 190DRVS8





## E14000 Series Flush Glaze Door Jamb With Sidelight - Center Pivot

CAD DETAIL FILE NO. 190DRVS13



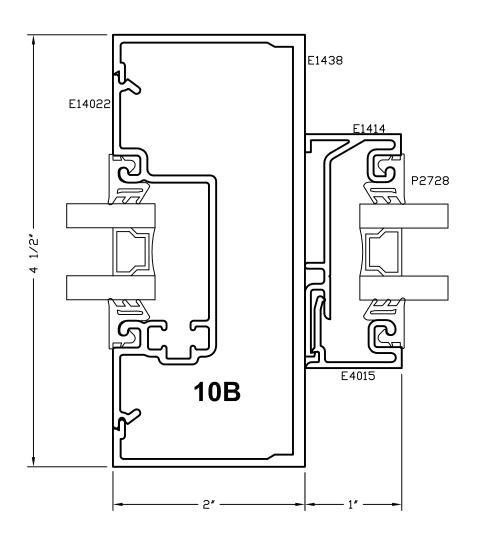


## 14.34

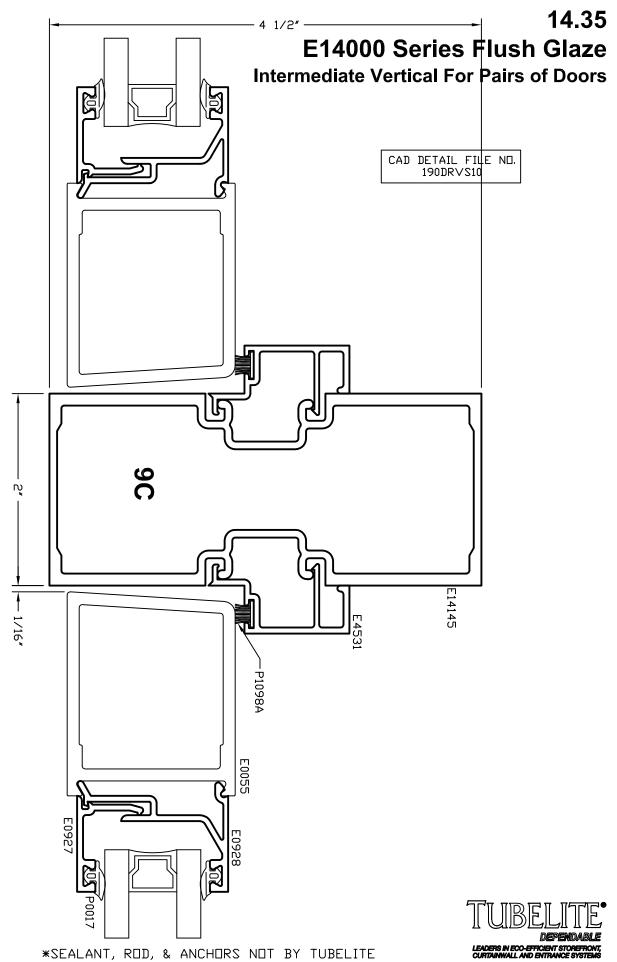
## E14000 Series Flush Glaze

## **Transom Jamb With Sidelight**

CAD DETAIL FILE NO. 190DR∨14





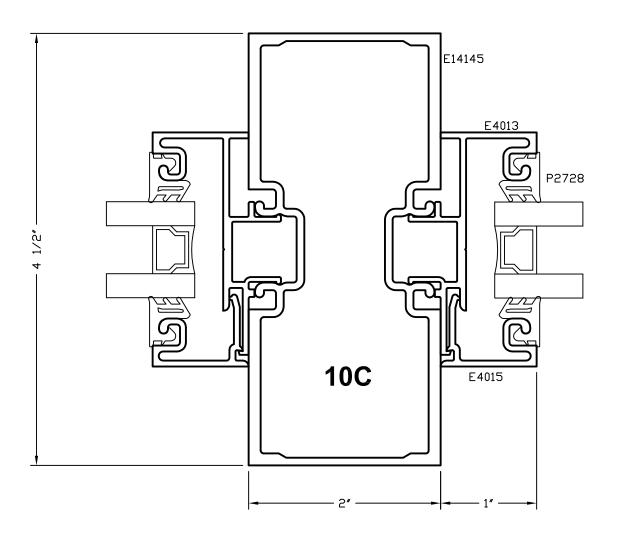


## 14.36

## E14000 Series Flush Glaze

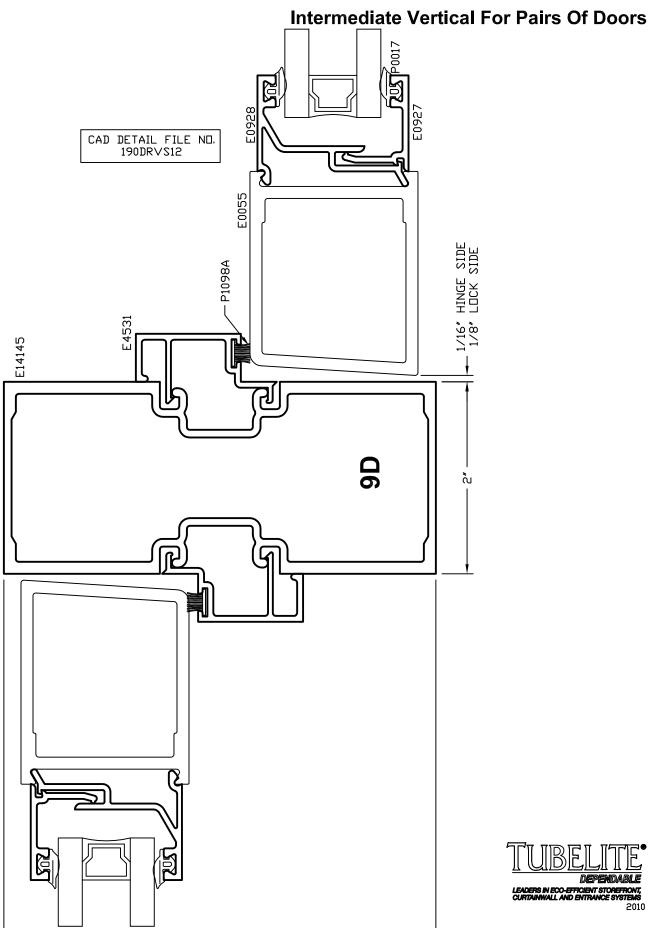
#### **Intermediate Vertical For Pairs of Doors With Transom**

CAD DETAIL FILE NO. 190DR∨10





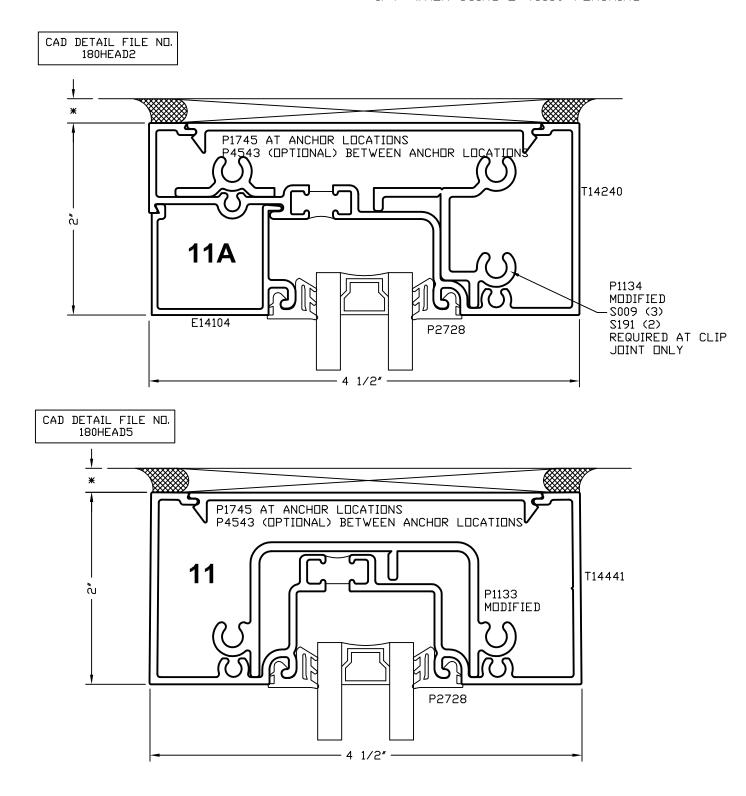
14.37
E14000 Series Flush Glaze
Intermediate Vertical For Pairs Of Doors



"S\1 4 -

## 14.38 T14000 Series Flush Glaze Standard and Alternate Head Members

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





#### 14.38A

### T14000 Series Flush Glaze

#### Inside Glazed Head and Intermediate Vertical

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

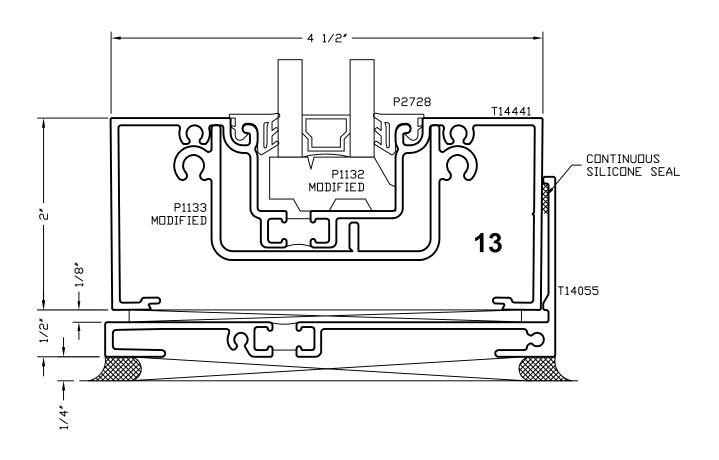
CAD DETAIL FILE NO. 180IGHD P1745 AT ANCHOR LOCATIONS P4543 (OPTIONAL) BETWEEN ANCHOR LOCATIONS T14240 ູ້ E14104 P2728 - 4 1/2*"* P1134 MODIFIED (3) \$191 (2) CAD DETAIL FILE NO. REQUIRED AT CLIP JOINT ONLY 180IGHZ P2728 T14143 P2400 ້໙ E14104 P2728 - 4 1/2" LEADERS IN ECO-EFFICIENT STOREFRONT, CURTAINWALL AND ENTRANCE SYSTEMS \*SEALANT, ROD, & ANCHORS NOT BY TUBELITE

## 14.38B

## T14000 Series Flush Glaze

#### **Inside Glazed Sill Member**

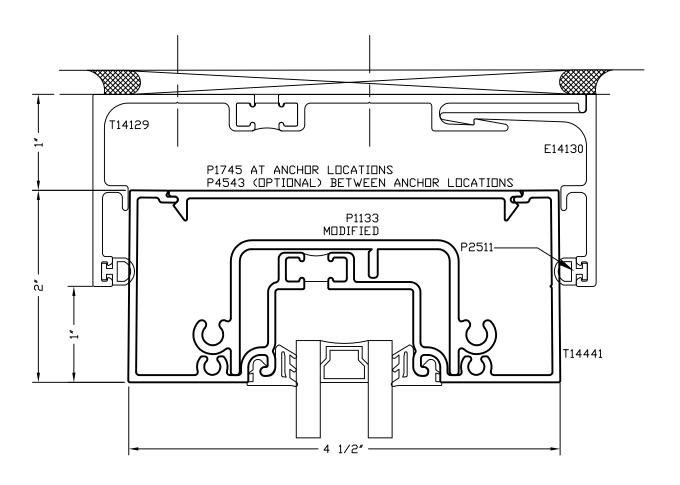
CAD DETAIL FILE NO. 180IGSL





## 14.39 T14000 Series Flush Glaze Head Receptor

CAD DETAIL FILE NO. 180HEAD4

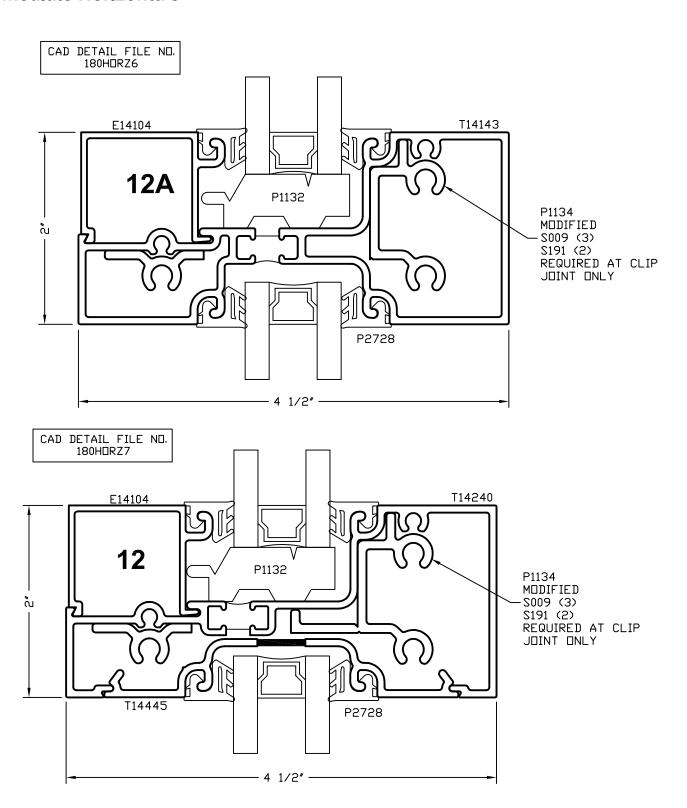




#### 14.40

#### **T14000 Series Flush Glaze**

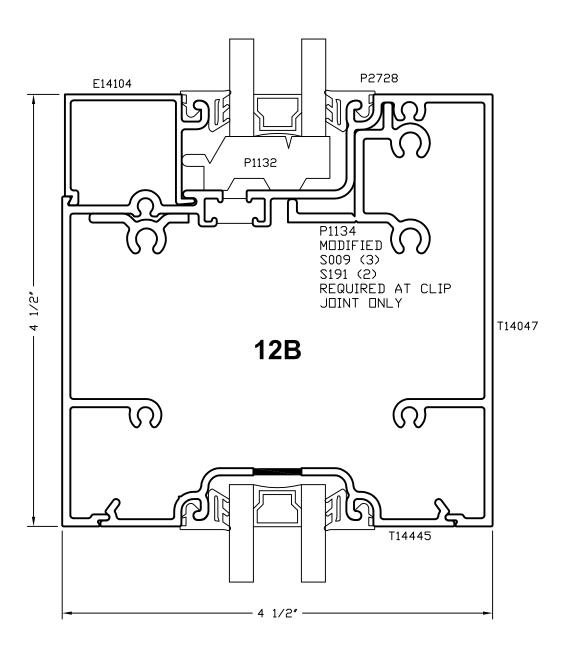
#### **Intermediate Horizontals**





## T14000 Series Flush Glaze 4 1/2" x 4 1/2" Intermediate Horizontal

CAD DETAIL FILE NO. 180HORZ5



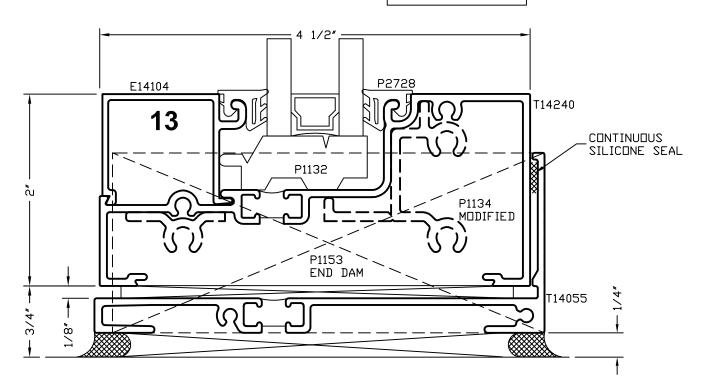


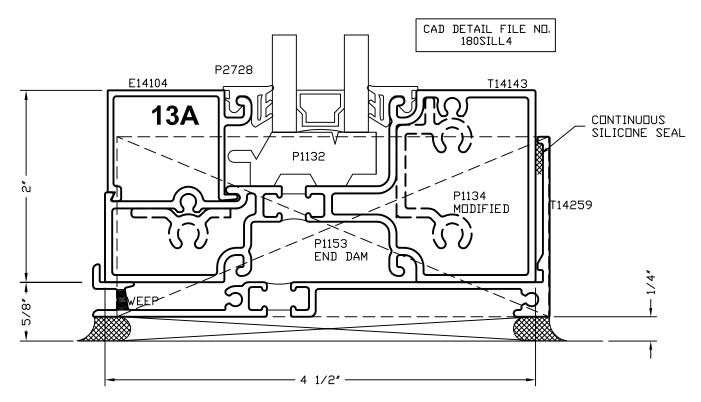
## 14.42

## T14000 Series Flush Glaze

#### **Standard and Alternate Sills**

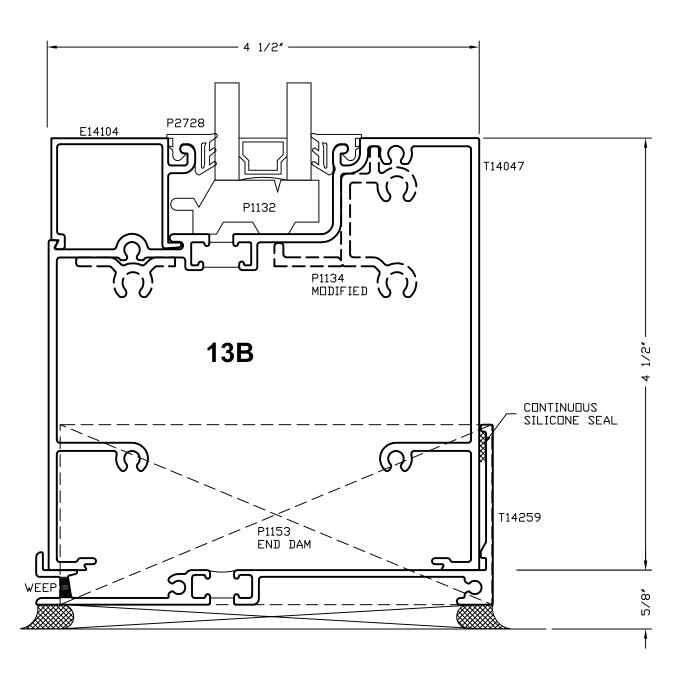
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CAD DETAIL FILE NO. 180SILL5

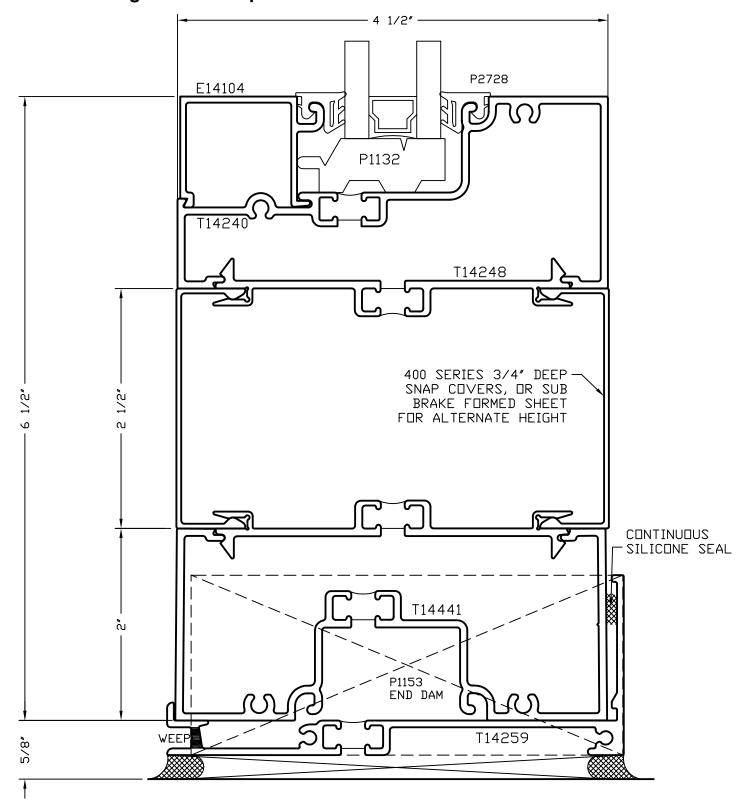




## 14.43a T14000 Series Flush Glaze

CAD DETAIL FILE NO. 180SILL12

Sill with Sidelight Base Adapter

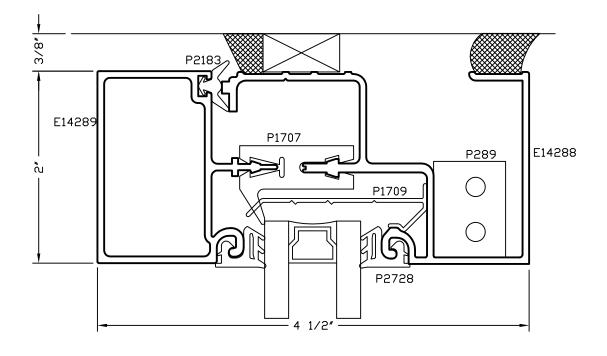




## Page 14.43b T14000 Series Flush Glaze

#### **Two-Piece Curvable Header**

CAD DETAIL FILE NO. 180HEAD17

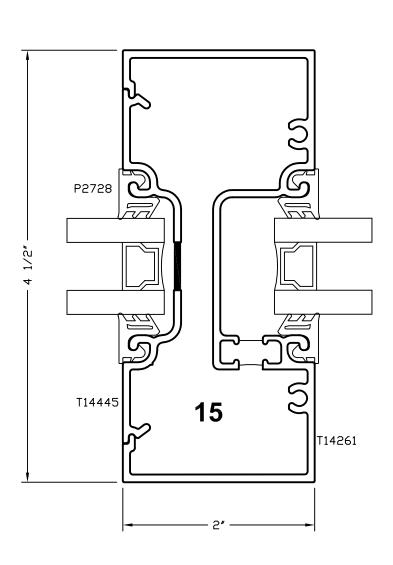


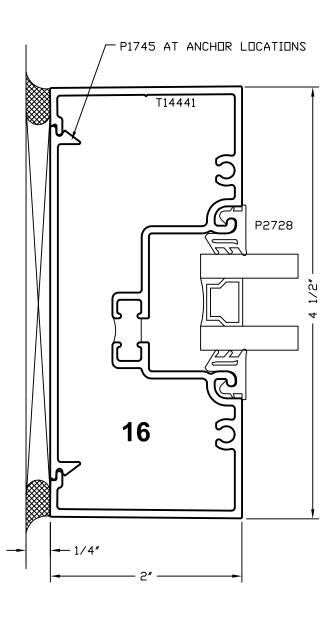


## 14.44 T14000 Series Flush Glaze Jamb & Intermediate Vertical

CAD DETAIL FILE NO. 180VERT4

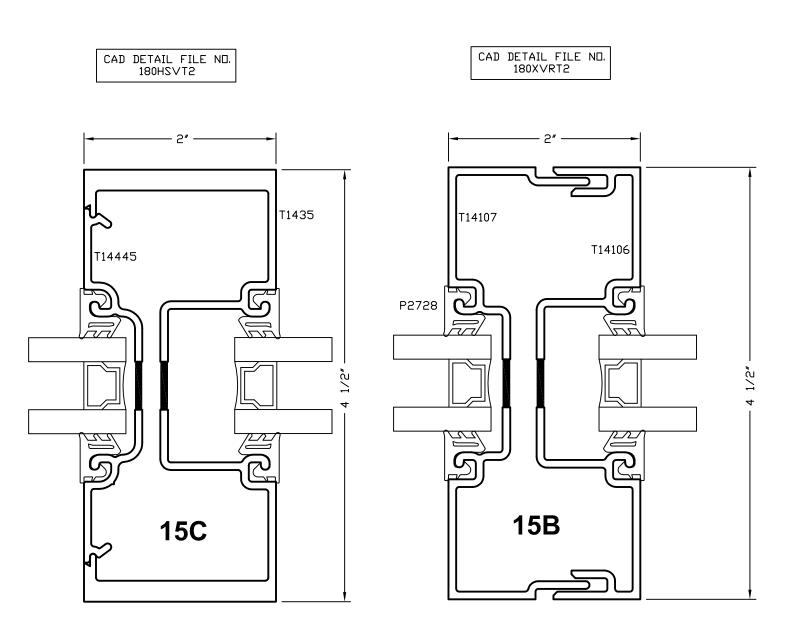
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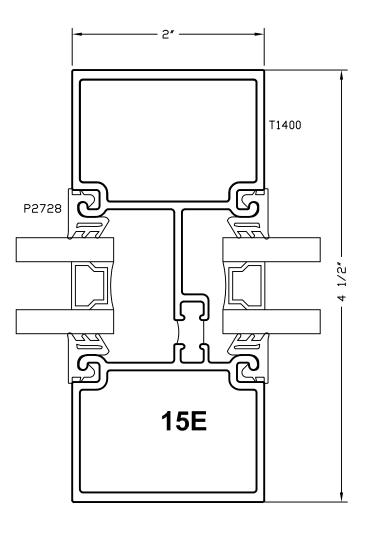
14.45 T14000 Series Flush Glaze Heavy Duty and Expansion Verticals



# 14.46 T14000 Series Flush Glaze Intermediate Verticals For Clip Joinery

CAD DETAIL FILE NO.

- 2″ -T1430 P2728 15F CAD DETAIL FILE NO. 180VERT2

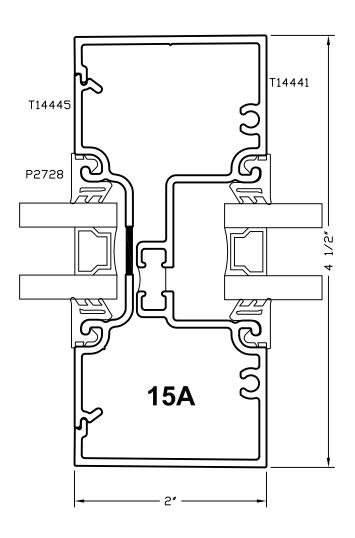


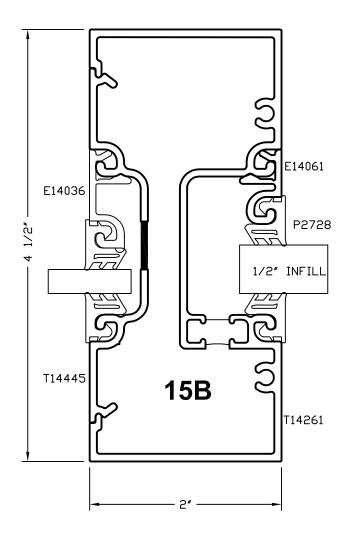


14.47 T14000 Series Flush Glaze Alternate Intermediate Vertical

CAD DETAIL FILE NO. 180VERT

CAD DETAIL FILE NO. 180VERT8



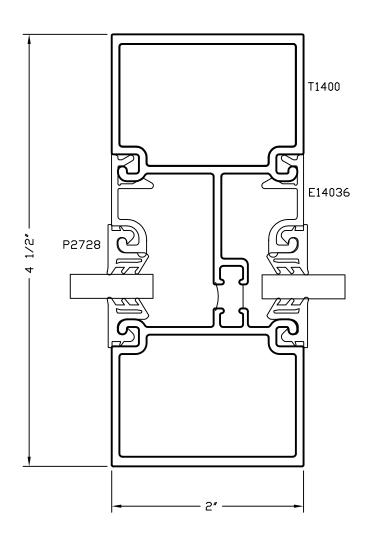




## **T14000 Series Flush Glaze**

## Intermediate Vertical With Glazing Reducer

CAD DETAIL FILE NO. 180VERT3

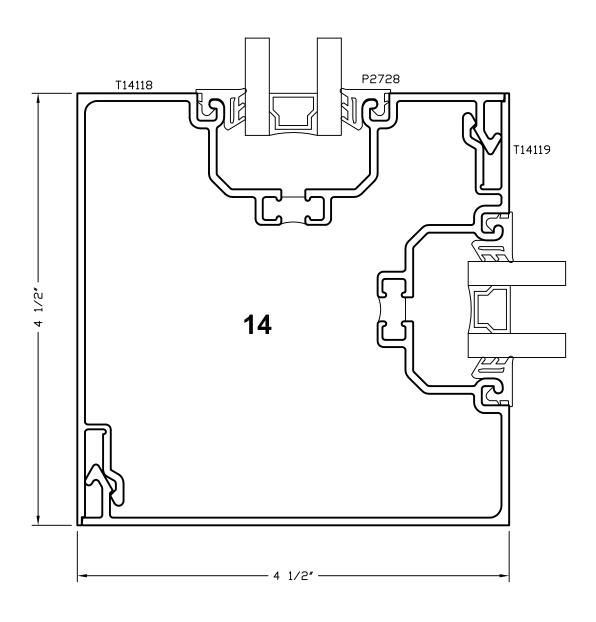




## 14.48 T14000 Series Flush Glaze

4 1/2" x 4 1/2" - 90° Corner

CAD DETAIL FILE NO. 180CORN2

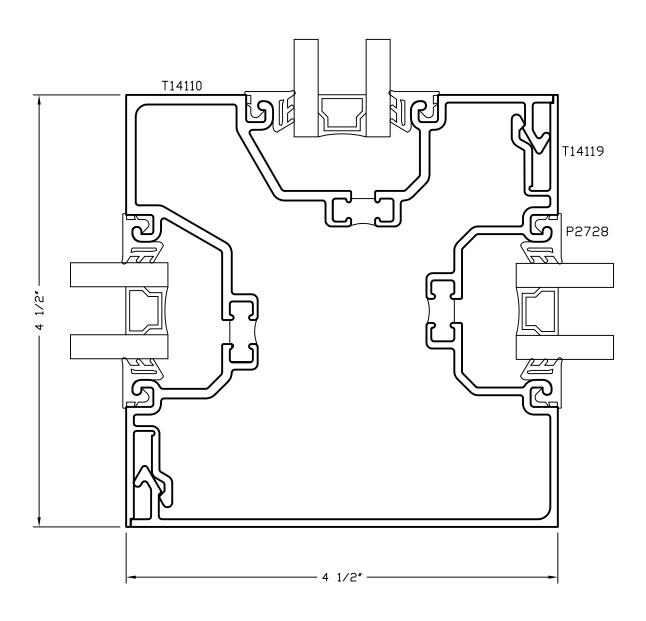




## 14.48a T14000 Series Flush Glaze

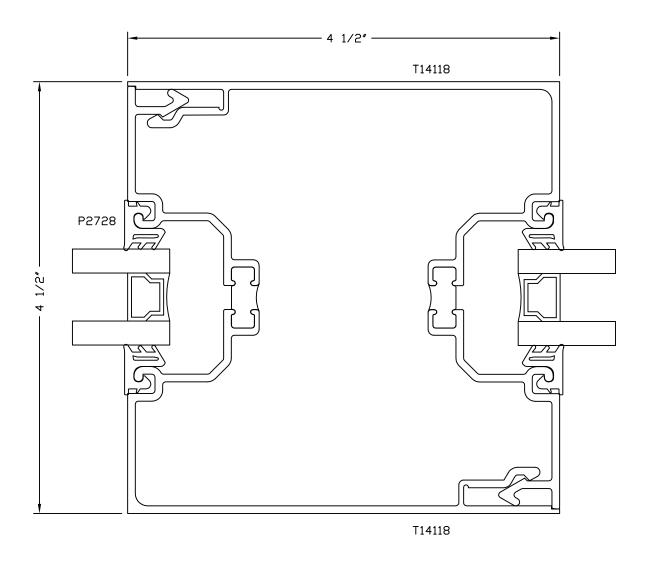
## 4 1/2" x 4 1/2" - Three Way Corner

CAD DETAIL FILE NO. 180CORN2





CAD DETAIL FILE NO. 180CORN3

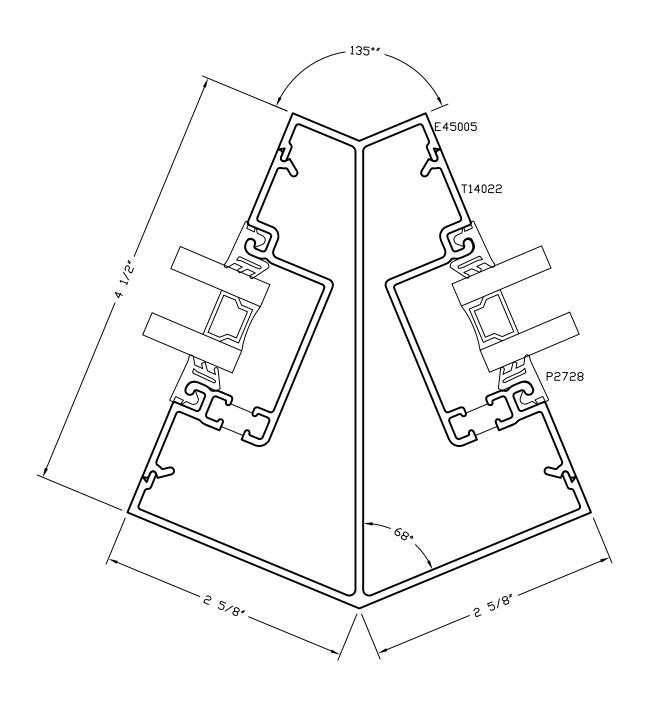




## 14.50 T14000 Series Flush Glaze

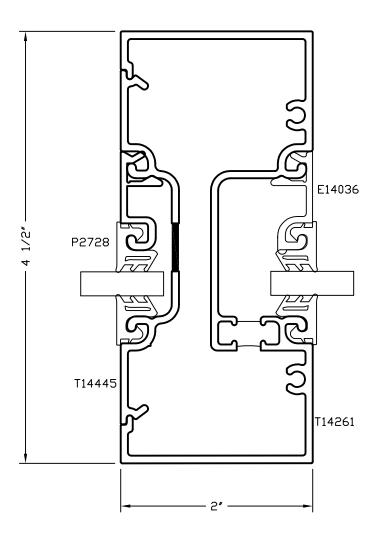
#### 135° Corner

CAD DETAIL FILE NO. 180CORN4





CAD DETAIL FILE NO. 180∨ERT6



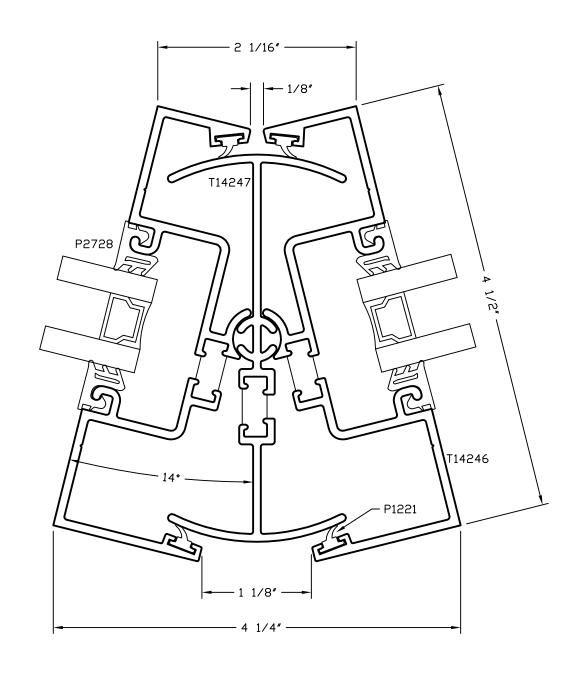


## 14.52

## **T14000 Series Flush Glaze**

#### **Rotational Mullion**

CAD DETAIL FILE NO. 180CORN5



14.53
T14000 Series Flush Glaze Structural Values

Shape	Description	Area	Ixx	Sxx	Iyy	Syy
T1400	Vertical Mullion	1.309	3.267	1.452	0.652	0.645
T1430	Heavy Duty Vertical Mullion	1.743	5.165	2.296	0.775	0.769
T1435	Open Back Heavy Duty Vertical	1.435	4.821	2.142	0.550	0.477
T14022	Snap-In Filler With Deep Pocket	0.459	0.538	0.292	0.066	0.100
T14047	4 1/2" x 4 1/2" Open Back Horiz	*	*	*	*	*
T14054	6" x 4 1/2" Self Mating Horiz	*	*	*	*	*
T14106	Expansion Mullion (Female Half)	0.744	1.766	0.785	0.091	0.138
T14107	Expansion Mullion (Male Half)	0.676	1.796	0.798	0.102	0.097
T14108	Corner Mullion - Single Pocket	0.975	2.278	0.757	1.832	0.566
T14109	Corner Mullion - Single Pocket	0.975	2.155	0.701	1.960	0.618
T14110	Corner Mullion - Double Pocket	1.132	2.218	0.727	2.108	0.678
T14141	Open Back Vertical	0.962	2.604	1.157	0.378	0.290
T14142	Snap-In Filler - Shallow Pocket	0.394	0.500	0.271	0.018	0.048
T14143	Horizontal Mullion	*	*	*	*	*
T14240	Open Back Horizontal	*	*	*	*	*
T14241	Open Back Vertical With Pocket	*	*	*	*	*
T14242	Snap-In Filler With Pocket	*	*	*	*	*
T14243	2 1/8" x 4 1/2" Open Back Vert	*	*	*	*	*
T45005	Open Back 135 Degree Corner Mull	1.173	3.834	1.221	1.373	0.568

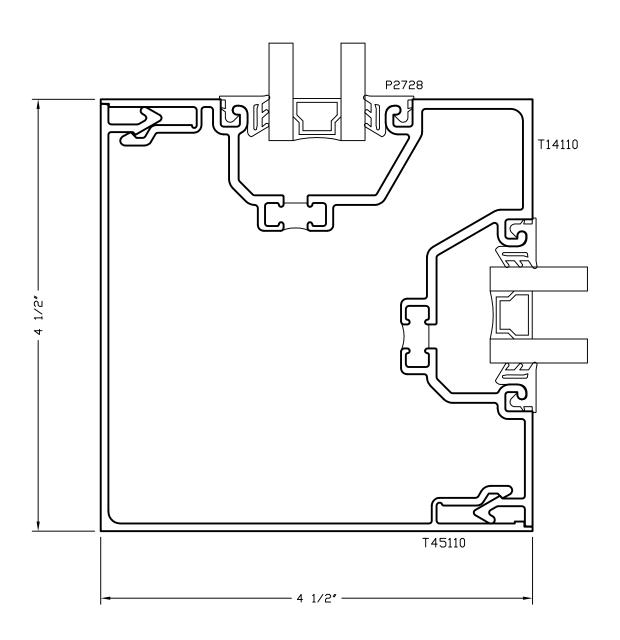
<sup>\*</sup> Consult Factory For Section Properties

**14.54** E14000 Series Flush Glaze Structural Values

Shape	Description	Area	Ixx	Sxx	Іуу	Syy
E1400	Vertical Mullion	1.349	3.267	1.452	0.653	0.643
E1403	Horizontal Mullion	1.375	2.822	1.085	0.577	0.463
E1430	Heavy Duty Vertical Mullion	1.783	5.166	2.296	0.776	0.767
E1435	Open Back Heavy Duty Vertical	1.475	4.821	2.143	0.554	0.484
E1438	Open Back Door Jamb - No Pocket	0.957	2.795	1.242	0.447	0.303
E1451	2" x 4 1/2" Slick Tube	1.563	3.993	1.774	1.102	1.102
E14021	Door Jamb With Two Pockets	1.409	3.031	1.301	0.741	0.672
E14022	Snap-In Filler With Deep Pocket	0.497	0.539	0.292	0.080	0.129
E14047	4 1/2" x 4 1/2" Open Back Horiz	1.548	4.806	1.937	2.918	1.172
E14054	6" x 4 1/2" Self Mating Horiz	1.129	2.659	0.912	3.845	0.972
E14080	4" x 4 1/2" Slick Tube	2.063	6.386	2.838	5.323	2.662
E14103	Horizontal Mullion	1.192	2.559	1.005	0.474	0.408
E14106	Expansion Mullion (Female Half)	0.784	1.767	0.785	0.106	0.168
E14107	Expansion Mullion (Male Half)	0.716	1.797	0.799	0.104	0.100
E14108	Corner Mullion - Single Pocket	1.015	2.304	0.774	1.834	0.565
E14109	Corner Mullion - Single Pocket	1.015	2.182	0.717	1.961	0.617
E14110	Corner Mullion - Double Pocket	1.212	2.252	0.742	2.143	0.693
E14124	Door Header - Single Pocket	1.463	3.754	1.641	0.889	0.847
E14125	Door Header - No Pocket	1.511	3.914	1.739	1.000	0.950
E14140	Open Back Horizontal	0.865	2.136	0.812	0.302	0.286
E14141	Open Back Vertical	0.999	2.605	1.157	0.382	0.296
E14142	Snap-In Filler - Shallow Pocket	0.431	0.501	0.272	0.022	0.064
E14143	Horizontal Mullion	1.180	2.394	0.964	0.452	0.390
E14144	Open Back Door Jamb With Pocket	1.001	2.801	1.245	0.414	0.287
E14145	Door Jamb - Back To Back Doors	1.543	3.496	1.554	0.992	0.992
E14240	Open Back Horizontal	0.875	2.015	0.797	0.292	0.280
E14241	Open Back Vertical With Pocket	1.073	2.610	1.150	0.400	0.319
E14242	Snap-In Filler With Pocket	0.510	0.531	0.275	0.036	0.065
E14624	2" x 6" Door Header	2.031	9.566	1.378	2.819	1.35
E14640	2" x 6" Open-back Sill	1.289	5.951	0.49	1.699	0.403
E14641	2" x 6" OB Head, Jamb or Vertical	1.487	7.478	0.538	2.222	0.390
E14642	2" x 6" Snap-in Filler with	0.689	1.708	0.045	0.559	0.074
E14644	2" x 6" Open-back Door Jamb	1.260	7.179	0.507	2.103	0.344
E14659	2" x 6" Open-back Door Jamb	1.015	5.619	0.148	1.420	0.098
E45005	Open Back 135 Degree Corner Mull	1.220	3.882	1.252	1.373	0.568

#### 4 1/2" x 4 1/2" Alternate 90° Corner

CAD DETAIL FILE NO. 180CORN6

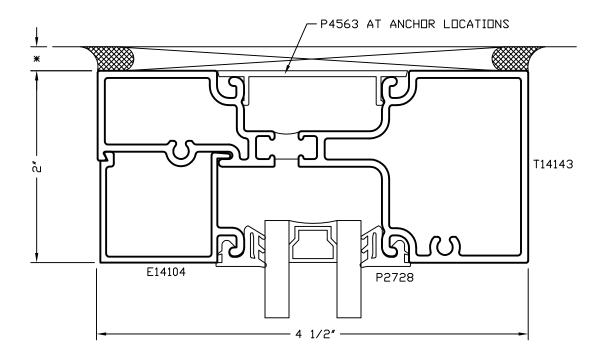




#### **Alternate Head Member**

CAD DETAIL FILE NO. 180HEAD3

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

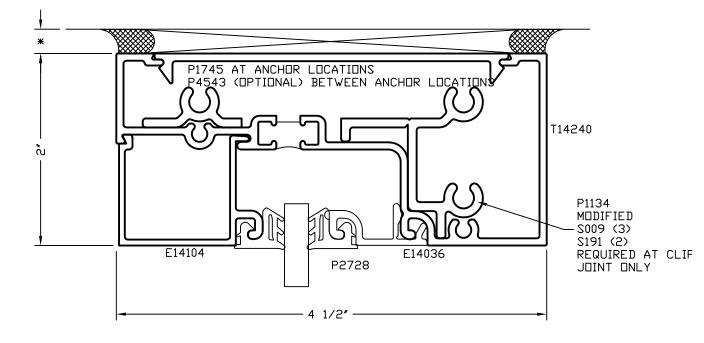




#### **Head With Glazing Reducer**

CAD DETAIL FILE NO. 180HEAD6

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

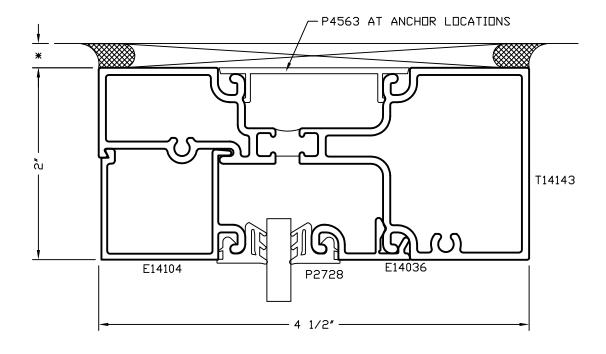




## **Head With Glazing Reducer**

CAD DETAIL FILE NO. 180HEAD7

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

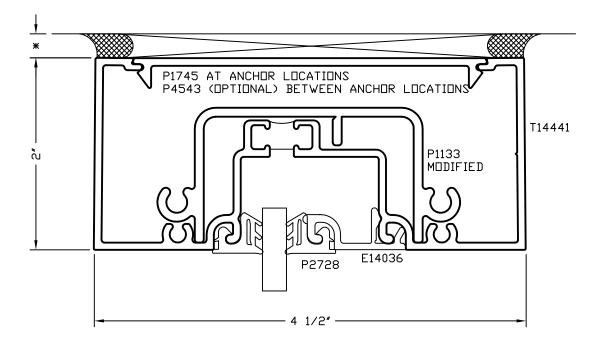




## **Alternate Head With Glazing Reducer**

CAD DETAIL FILE NO. 180HEAD8

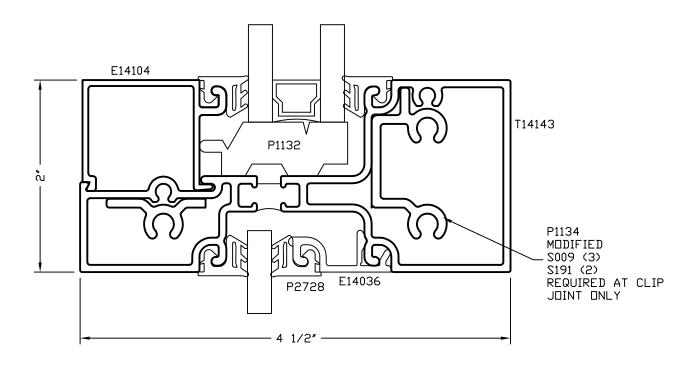
- \* 1/2" WHEN USING E-14259 FLASHING
- \* 1/4" WHEN USING E-45159 FLASHING





## **Horizontal With Glazing Reducer**

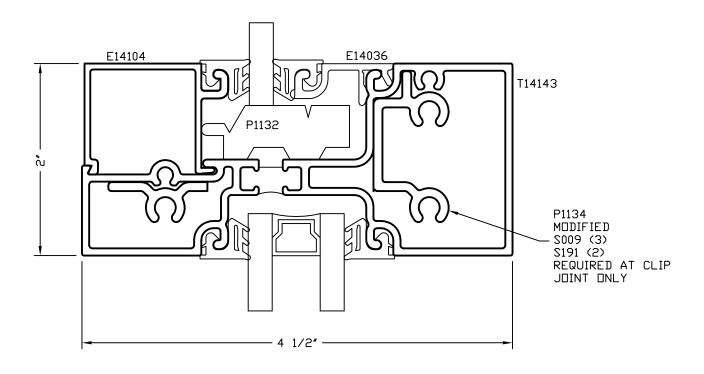
CAD DETAIL FILE NO. 180HORZ3





## **Horizontal With Glazing Reducer**

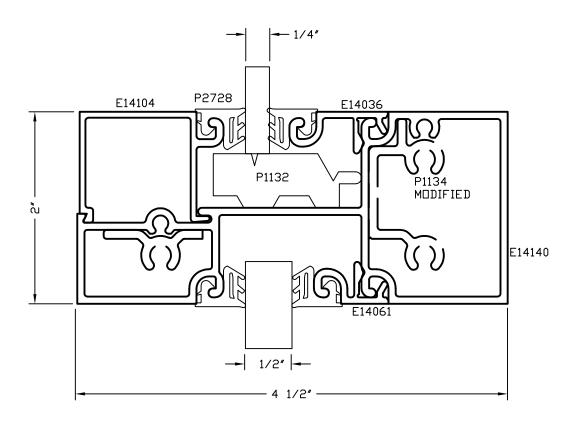
CAD DETAIL FILE NO. 180HORZ4





# Intermediate Horizontal With Glazing Adapters - 1/4" & 1/2" Infill

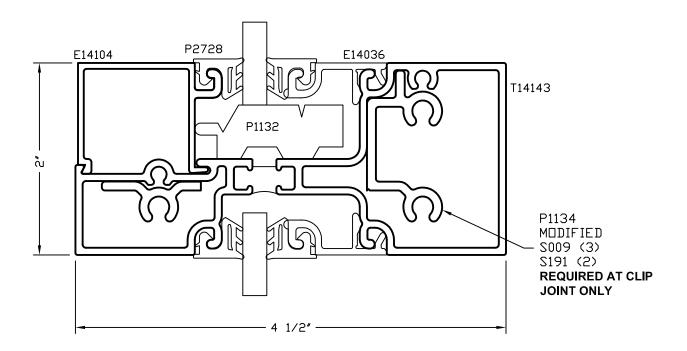
CAD DETAIL FILE NO. 190HORZ7





## **Horizontal With Glazing Reducer**

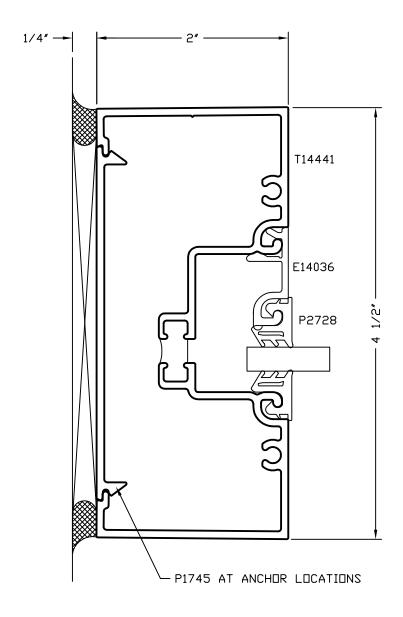
CAD DETAIL FILE NO. 180HORZ8





# **Jamb With Glazing Reducer**

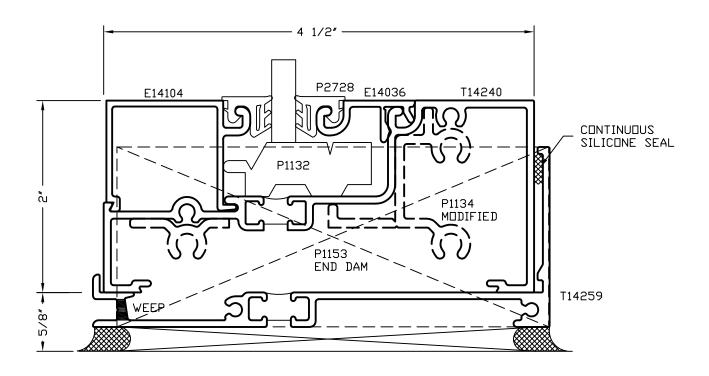
CAD DETAIL FILE NO. 180JAMB2





# T14000 Series Flush Glaze Alternate Sill With Glazing Reducer

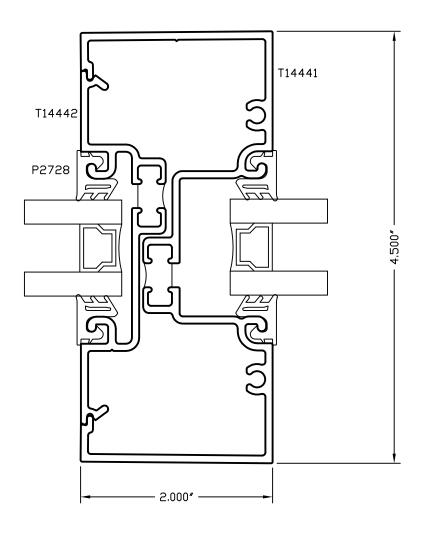
CAD DETAIL FILE NO. 180SILL6





#### **Alternate Intermediate Vertical**

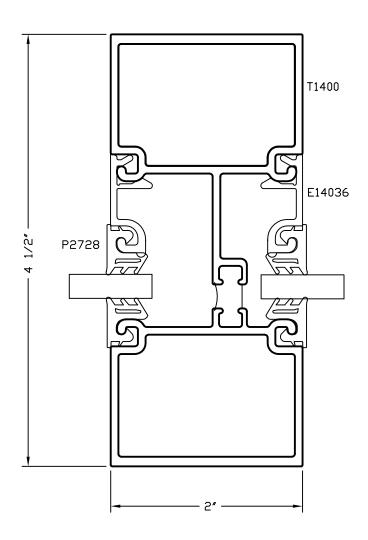
CAD DETAIL FILE NO. 180VERT1





# Intermediate Vertical With Glazing Reducer

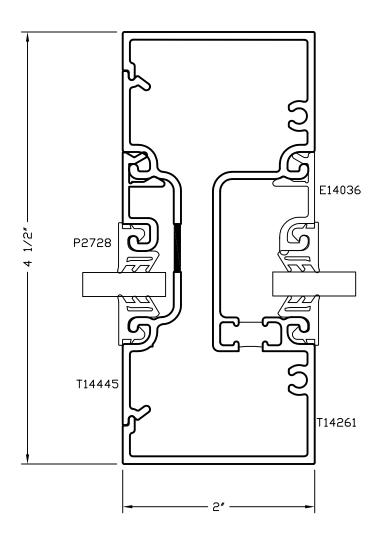
CAD DETAIL FILE NO. 180VERT3





# Intermediate Vertical With Glazing Reducer

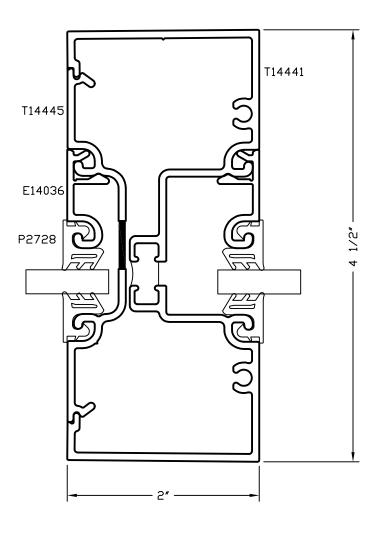
CAD DETAIL FILE NO. 180VERT5





# Intermediate Vertical With Glazing Reducer

CAD DETAIL FILE NO. 180VERT7





# **T14000 Series Flush Glaze Alternate Sill With Glazing Reducer**

CAD DETAIL FILE NO. 180SILL7

