

KAWNEER TRIFAB VG 451T FRONT

GENERAL NOTES

1. THIS STOREFRONT SYSTEM HAS BEEN TESTED TO ASTM E283, ASTM E330, ASTM E331, ASTM E547, AND AAMA 501, AND MEETS THE REQUIREMENTS OF THE FLORIDA BUILDING CODE (FBC), CURRENT EDITION, OUTSIDE THE HIGH VELOCITY HURRICANE ZONE. PRODUCT WAS TESTED WITH AND WITHOUT INTERIOR PERIMETER SEAL, BY OTHERS. WITHOUT INTERIOR PERIMETER SEAL, PRODUCT PASSED AIR INFILTRATION TESTING AT 1.56 PSF AND WATER PENETRATION RESISTANCE TEST OF 10.44 PSF. WITH INTERIOR PERIMETER SEAL, PRODUCT PASSED AIR INFILTRATION TESTING AT 6.24 PSF AND WATER PENETRATION RESISTANCE TEST OF 12 PSF.
2. A FLORIDA LICENSED ENGINEER FAMILIAR WITH STOREFRONT DESIGN SHALL APPROVE SHOP DRAWINGS FOR EACH PROJECT, AND THIS ENGINEER OF RECORD SHALL TAKE FULL RESPONSIBILITY FOR THE INSTALLED SYSTEM DESIGN AS A WHOLE WHILE MAKING SURE THAT THE LIMITATIONS INDICATED IN THIS DRAWING HAVE NOT BEEN EXCEEDED. THE INSTALLED STOREFRONT SYSTEM SHALL BE FABRICATED, GLAZED, AND ANCHORED IN ACCORDANCE WITH THIS DRAWING AND KAWNEER INSTALLATION INSTRUCTIONS, AS WELL AS THE APPLICABLE TEST REPORTS, OR AS INDICATED BY THE ENGINEER OF RECORD IN APPROVED SHOP DRAWINGS.
3. THIS DRAWING INDICATES VARIOUS APPROVED GLAZING METHODS AND FRAMING TYPES WHICH MAY BE USED SINGLY OR IN COMBINATION FOR EACH PROJECT. ANY NUMBER OF PANELS MAY BE USED HORIZONTALLY PROVIDED THE MAXIMUM DLO SIZES AS INDICATED IN THIS DRAWING ARE NOT EXCEEDED.
4. THIS PRODUCT IS NON-IMPACT AND REQUIRES THE USE OF APPROVED SHUTTERS IN WINDBORNE DEBRIS AREAS.
5. REQUIRED DESIGN PRESSURES SHALL BE DETERMINED FOR EACH PROJECT IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS AND GOVERNING WIND SPEEDS FOR THE PROJECT LOCATION.
6. THE ALLOWABLE DESIGN PRESSURES AND LOAD CAPACITIES SHOWN IN THIS DRAWING ARE ALLOWABLE STRESS DESIGN (ASD) BASIS AND ARE AS LIMITED BY ASTM E-1300 GLASS TABLES, TESTED PRESSURES, AND MULLION CALCULATIONS. ALTERNATE COMPARATIVE OR RATIONAL ANALYSIS CALCULATIONS AS DEEMED APPROPRIATE ON A PROJECT BASIS BY THE ENGINEER OF RECORD IS ACCEPTABLE.
7. DISSIMILAR MATERIALS THAT COME INTO CONTACT, INCLUDING BUT NOT LIMITED TO FASTENERS IN CONTACT WITH PRESSURE TREATED WOOD SUBSTRATES OR ALUMINUM, SHALL BE COATED OR OTHERWISE PROTECTED PER FBC REQUIREMENTS TO PREVENT CORROSION OR GALVANIC REACTIONS.
8. SEALING AND FLASHING STRATEGIES FOR OVERALL WATER INFILTRATION RESISTANCE OF THE INSTALLED PRODUCT IS NOT WITHIN THE SCOPE OF THIS APPROVAL AND SHALL BE THE RESPONSIBILITY OF OTHERS.
9. THE 4/3 ALLOWABLE STRESS INCREASE HAS NOT BEEN USED IN THE ANCHOR ANALYSIS FOR THIS SYSTEM. THE 1.6 Cd FACTOR WAS USED IN THE ANALYSIS OF WOOD SUBSTRATE.
10. STRUCTURAL INTEGRITY OF SUBSTRATE MATERIALS TO RECEIVE THE LOADS FROM THIS PRODUCT, AND INSTALLATION OF WOOD BUCKS OR OTHER ACCESSORIES TO THE SUBSTRATE, TO BE ENGINEERED BY OTHERS OR AS APPROVED BY THE AUTHORITY HAVING JURISDICTION.
11. THIS PRODUCT SHALL BE INSTALLED USING ONE OF THE APPROVED FASTENING OR WELDING METHODS INDICATED IN THIS DRAWING, AS APPROPRIATE FOR THE SUBSTRATE TYPE, OR AS INDICATED BY THE ENGINEER OF RECORD IN APPROVED SHOP DRAWINGS. ANCHOR SIZE, EMBEDMENT, EDGE DISTANCE, AND LOCATIONS, SHALL BE IN ACCORDANCE WITH THESE DRAWINGS OR AS INDICATED IN APPROVED SHOP DRAWINGS.
12. MINIMUM ANCHOR EMBEDMENTS LISTED IN THIS DRAWING SHALL BE BEYOND WALL DRESSING OR STUCCO AND FULLY INTO SUBSTRATE. LOAD-BEARING SHIMS SHALL BE USED AT ALL ANCHOR LOCATIONS WHERE A GAP OF MORE THAN 1/16" EXISTS BETWEEN THE PRODUCT AND OPENING SUBSTRATE. MAXIMUM SHIM GAP IS AS INDICATED IN THESE DRAWINGS.
13. SUBTRATES SHALL MEET THE MINIMUM STRENGTH REQUIREMENTS AS SHOWN IN ANCHOR DETAILS IN SECTION 6. CONCRETE OR MASONRY SUBSTRATES SHALL NOT BE CRACKED. FOR INSTALLATION TO METAL SUBSTRATES, ANCHORS SHALL BE LONG ENOUGH TO BE FULLY THREADED THROUGH THE METAL THICKNESS WITH AN ADDITIONAL 3/16" MIN. OF THREADS BEYOND.
14. CONSTRUCTION NOTES: THE VERITICAL FRAME MEMBERS RUN THROUGH WHILE THE HORIZONTAL MEMBERS ARE SQUARE CUT & BUTTED TO THE VERTICAL FRAME MEMBER. THE VERTICAL MEMBERS ARE FASTENED TO THE HORIZONTAL MEMBERS WITH ANCHORS INTO SCREW SPLINES OR WITH SHEAR BLOCKS AS INDICATED IN THIS DRAWING. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH KAWNEER INSTALLATION INSTRUCTIONS. APPLY SEALANT TO PROFILE ENDS OF ALL HORIZONTAL MEMBERS AT ASSEMBLY PER INSTALLATION INSTRUCTIONS. APPLY SEALANT IN GASKET REGLETS AND ON VERTICAL MULLION FACE UNDER GLASS STOPS PER INSTALLATION INSTRUCTIONS.

SILICONE REQUIREMENTS:

- DOW CORNING 791 - WEATHER SEALS
- PERIMETER SEALS (BY OTHERS)



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						8/17/2023	02/11/2021	DATE
						1	-	REV. #
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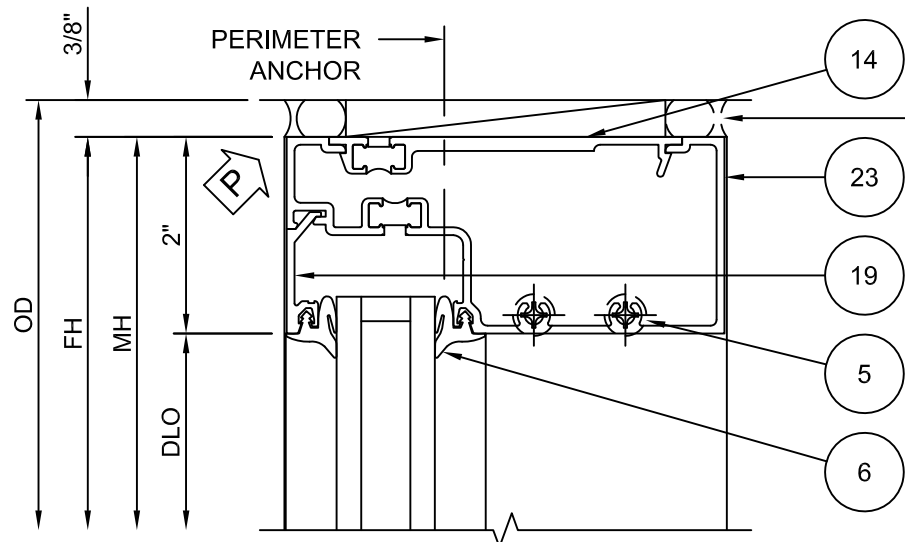


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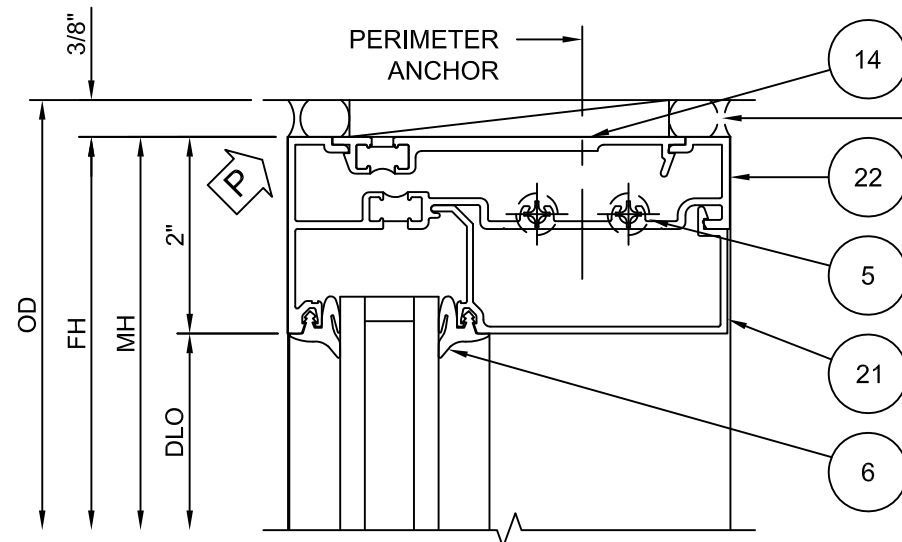
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DRAWING NO. 451T-Front	PRODUCT TRIFAB VG 451T
FPA # FL37876	SECTION 01
DATE 02/11/2021	
SCALE NTS	SHEET 01 OF 09



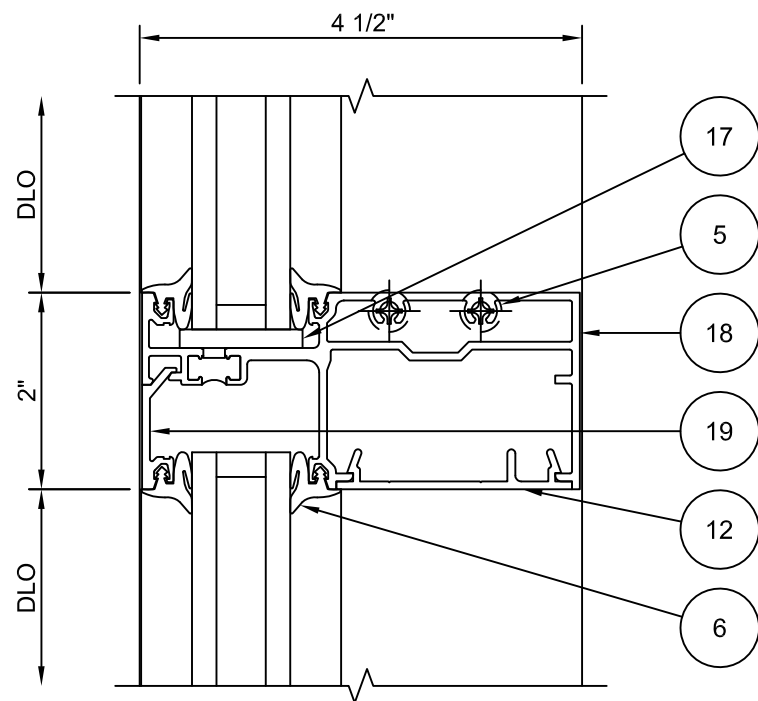
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PERIMETER
SEAL, SEE
NOTE 1, SHT. 1

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| 1 | HEAD |
| 4 | OG SPLINE |

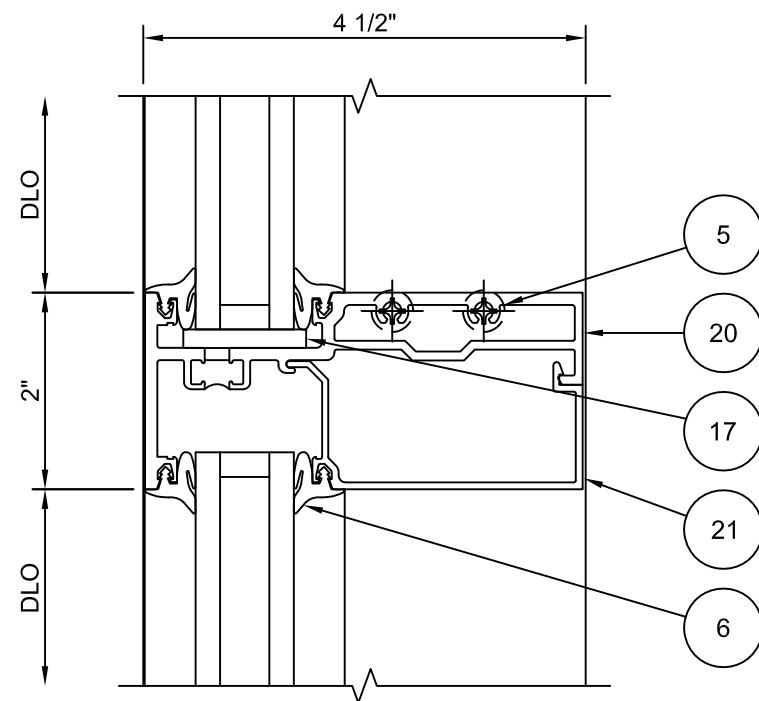


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| 4 | IG SPLINE |



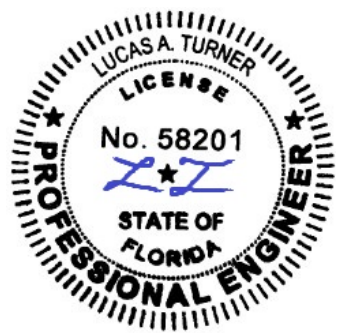
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| 2 | HORIZONTAL |
| 4 | OG SPLINE |



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| 4 | HORIZONTAL |
| 4 | IG SPLINE |



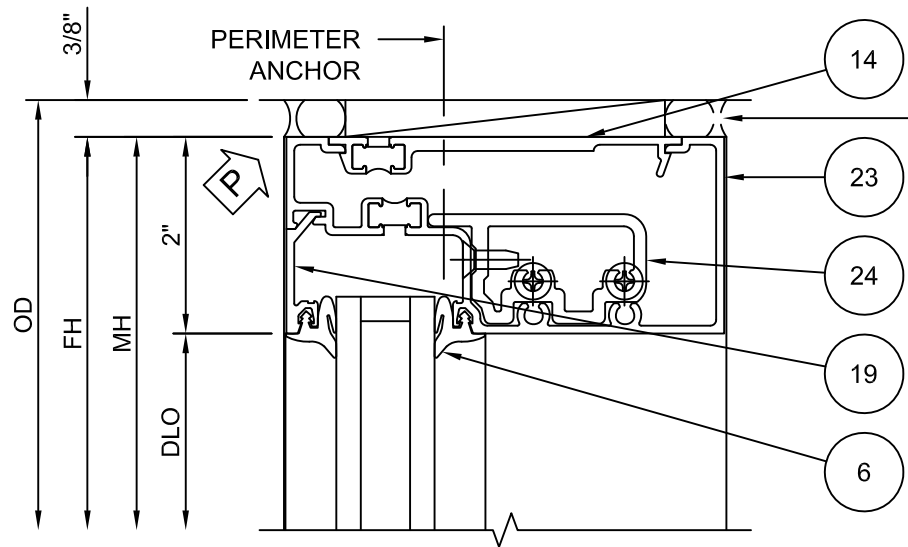
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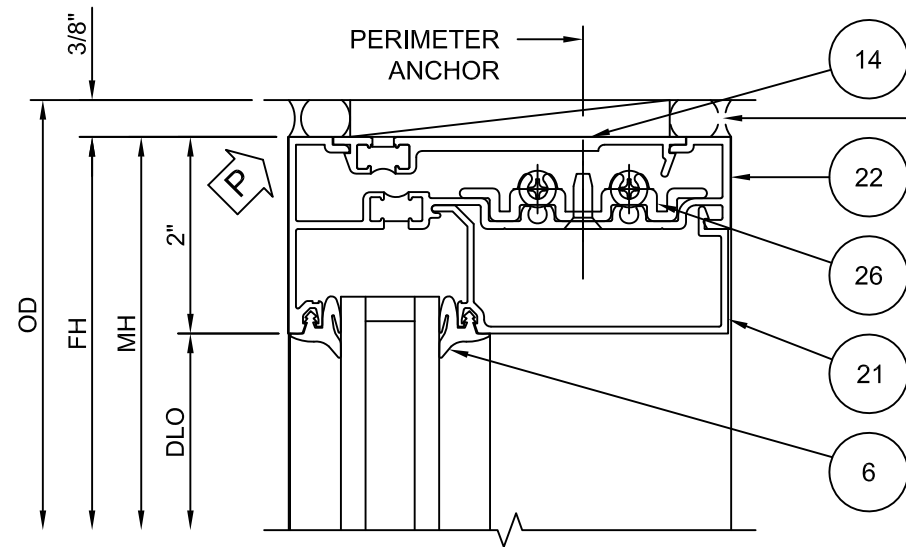
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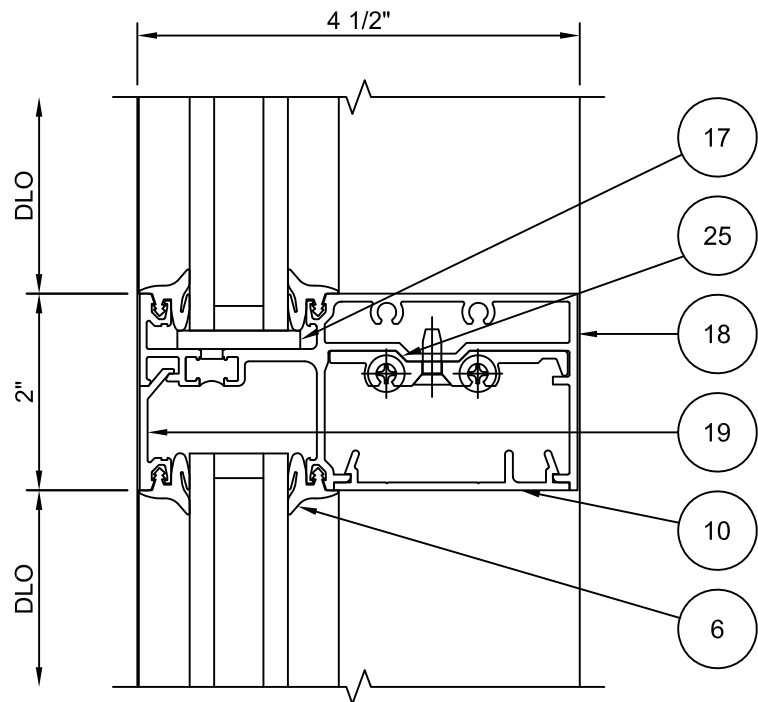
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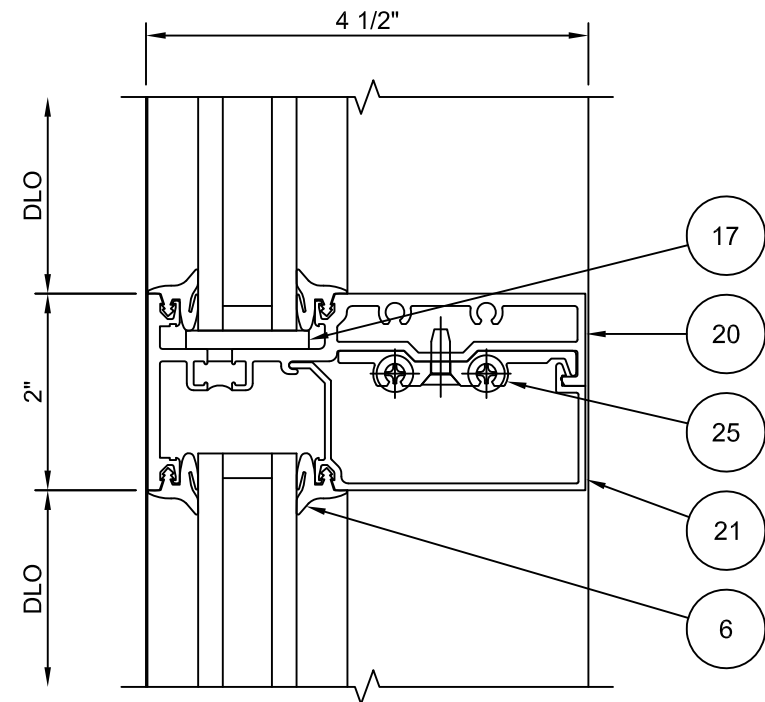
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INTERIOR
PERIMETER
SEAL, SEE
NOTE 1, SHT. 1

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IG SHEAR BLOCK

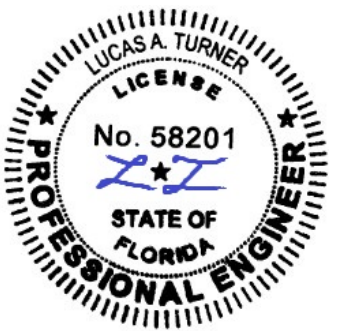
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 HORIZONTAL
OG SHEAR BLOCK

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 HORIZONTAL
IG SHEAR BLOCK

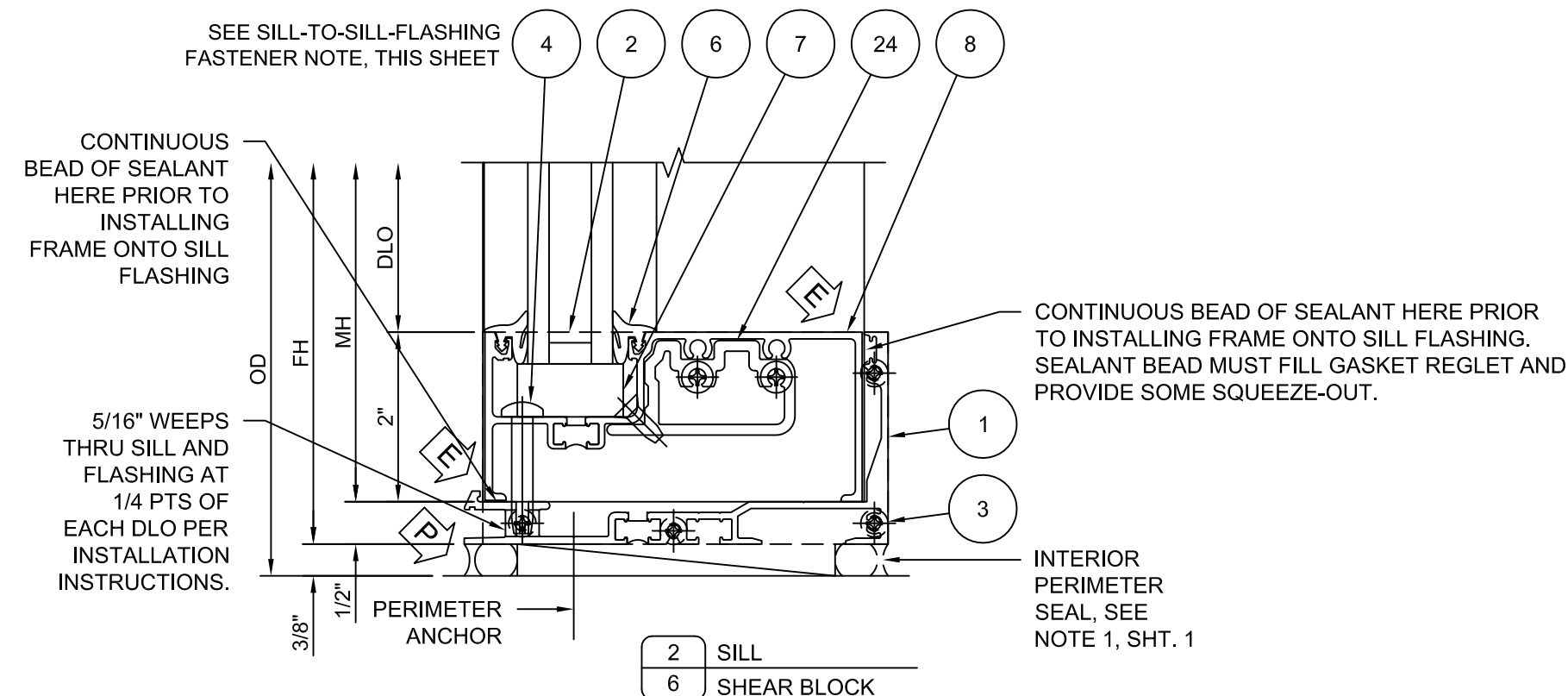
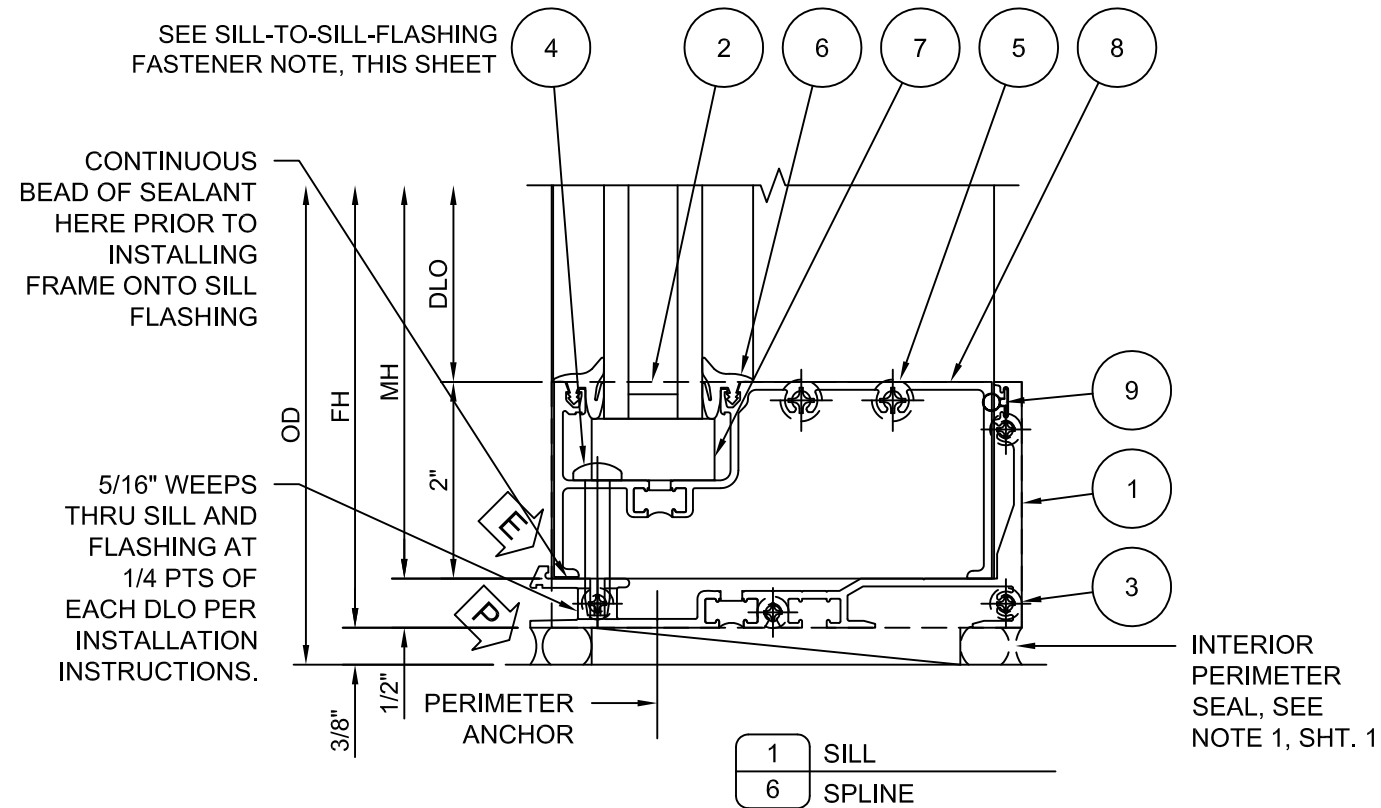
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SILL-TO-SILL-FLASHING FASTENER NOTE:

ATTACH SILL TO SILL FLASHING USING #10 SCREWS P/N 128583, AT 12" MAX. ON-CENTER FASTENER SPACING, AND WITH FASTENER CLUSTER QUANTITY AT MULLIONS DETERMINED BY MULLION END REACTION:

MULL END REACTION $\leq$ 400 LB, USE ONE (1) FASTENER EACH SIDE OF VERTICAL MULLION, LOCATED 3" FROM END OF THE SILL MEMBER.

MULL END REACTION $>$ 400 LB AND $\leq$ 800 LB, USE TWO (2) FASTENERS EACH SIDE OF VERTICAL MULLION, STARTING 3" FROM END OF THE SILL MEMBER AND SPACED 2" ON CENTERS GOING AWAY FROM THE END.

MULL END REACTION $>$ 800 LB, USE THREE (3) FASTENERS EACH SIDE OF VERTICAL MULLION, STARTING 3" FROM END OF THE SILL MEMBER AND SPACED 2" ON CENTERS GOING AWAY FROM THE END.



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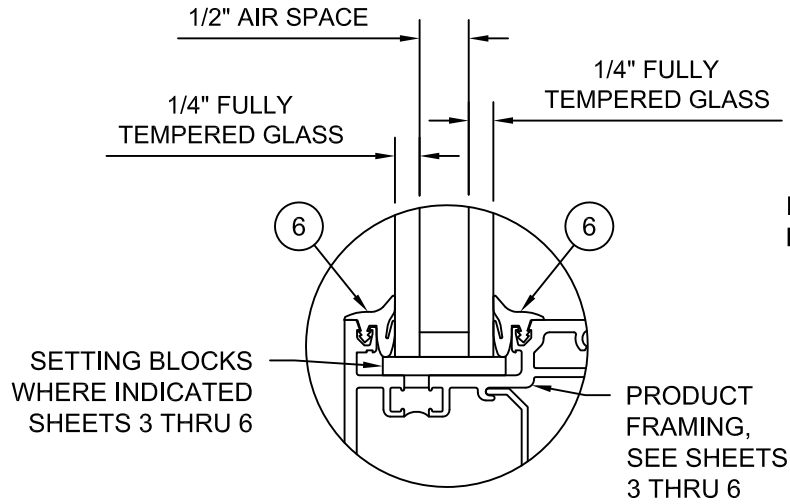
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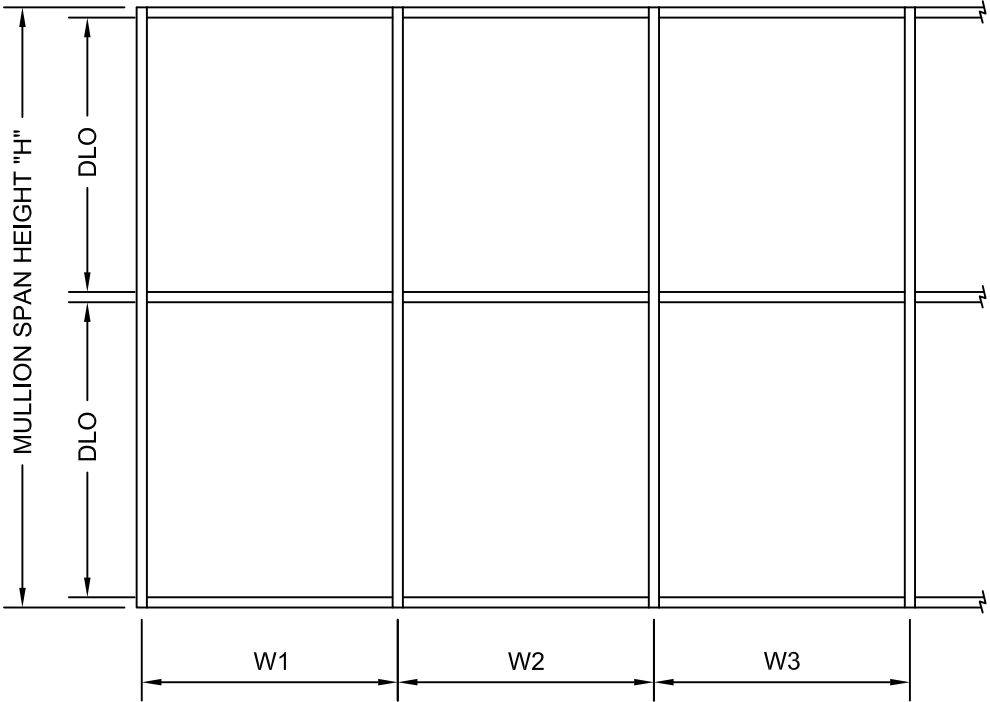
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DATE 02/11/2021	
SCALE NTS	SHEET 06 OF 09

REV. #	DATE
1	8/17/2023
-	02/11/2021
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JAMB AND MULLION LOAD CAPACITY					
DIMENSION			JAMB "J1"	MULLION "M1"	MULLION "M2"
WIDTH "W" (in.)	MULL HEIGHT "H" (in.)	MAX. DLO (in.)	(+/- psf)	(+/- psf)	(+/- psf)
23	72	33	52.5	52.5	52.5
29			52.5	52.5	52.5
35			52.5	52.5	52.5
41			46.0	46.0	46.0
47			35.0	35.0	35.0
53			21.6	21.6	21.6
59			14.1	14.1	14.1
23	84	39	52.5	52.5	52.5
29			52.5	52.5	52.5
35			51.2	51.2	51.2
41			45.8	45.8	45.8
47			35.0	35.0	35.0
53			21.6	21.6	21.6
23	96	45	52.5	52.5	52.5
29			50.5	50.5	50.5
35			43.4	43.4	43.4
41			38.5	38.5	38.5
47			35.0	35.0	35.0
53			21.6	21.6	21.6
23	108	51	46.3	46.3	46.3
29			37.2	37.2	37.2
35			31.2	31.2	31.2
41			27.1	27.1	27.1
23	120	57	33.7	33.7	33.7
29			26.9	26.9	26.9
35			22.6	22.6	22.6

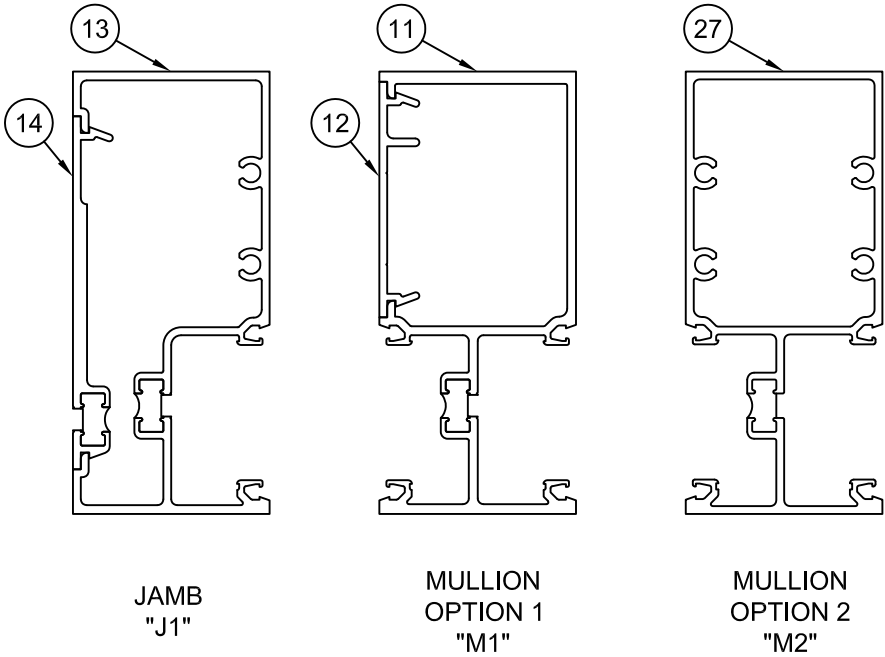


NOTE: GLAZING MEETS OR EXCEEDS MULLION DESIGN PRESSURES INDICATED IN LOAD CAPACITY TABLE ABOVE, IN ALL SIZES.



WIDTH "W" = W1 (JAMB)

WIDTH "W" = $\frac{W2 + W3}{2}$ (MULLION)



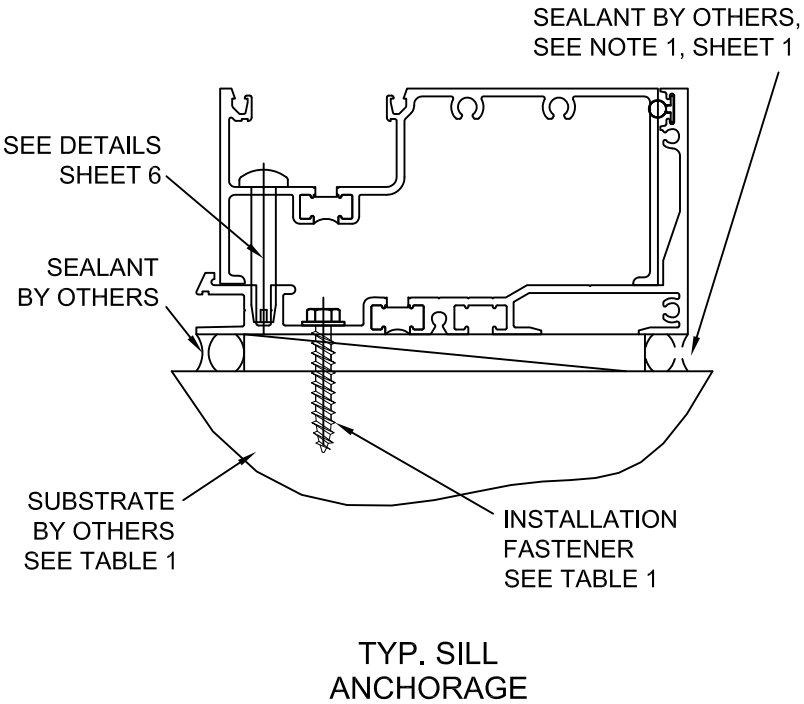
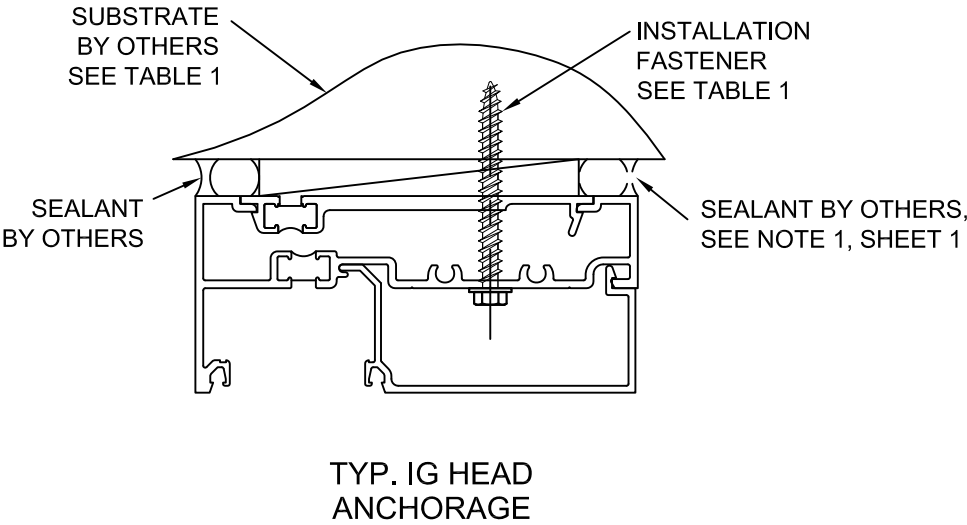
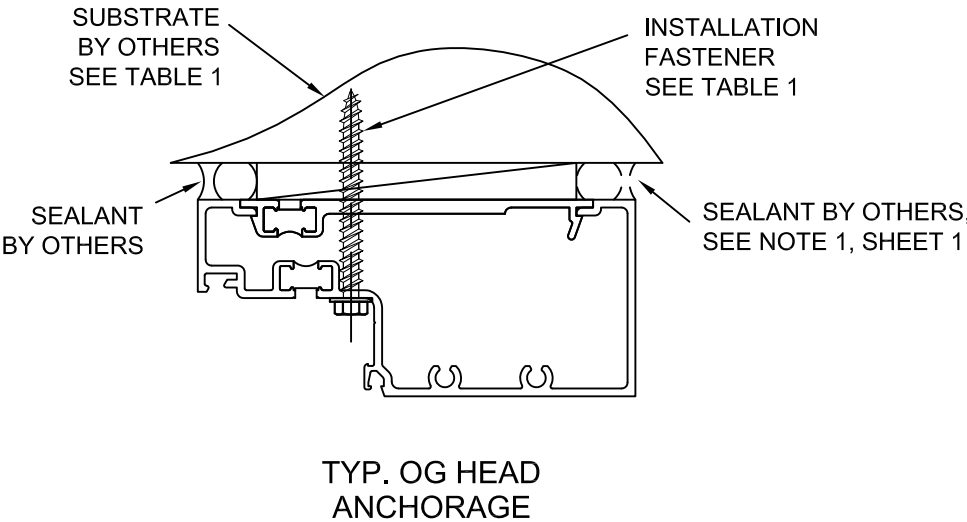
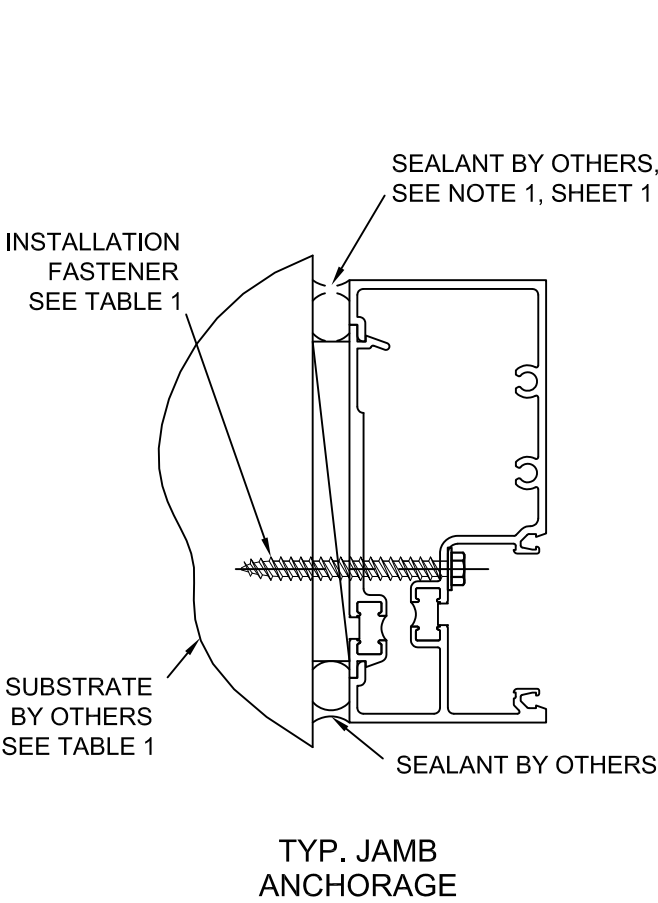
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DRAWING NO. 451T-Front	PRODUCT TRIFAB VG 451T
FPA # FL37876	SECTIONS 04/05
DATE 02/11/2021	
SCALE NTS	

TABLE 1. QUALIFIED ANCHOR INFORMATION

ID	SUBSTRATE	ANCHOR	MIN. EMBEDMENT	MIN. EDGE DISTANCE
A	SOLID UNCRACKED CONCRETE (3050 PSI MIN.)	1/4" DEWALT COATED CARBON STEEL ULTRAACON+	1 3/4"	2 1/2"
B	CMU (ASTM C-90) (JAMBS ONLY)	1/4" DEWALT COATED CARBON STEEL ULTRAACON+	1 3/4"	2 1/2"
C	SOLID UNCRACKED CONCRETE (3350 PSI MIN.)	1/4" DEWALT CRETE-FLEX SS4 MASONRY SCREW	1 3/4"	1"
D	CMU (ASTM C-90) (JAMBS ONLY)	1/4" DEWALT CRETE-FLEX SS4 MASONRY SCREW	1 1/4"	2 1/2"
E	SOLID UNCRACKED CONCRETE (2000 PSI MIN.)	1/4" ITW COATED CARBON STEEL TAPCON	1 1/2"	1 1/2"
F	CMU (DENSITY > 117 PCF) (JAMBS ONLY)	1/4" ITW COATED CARBON STEEL TAPCON	1"	2"
G	CONCRETE (3000 PSI MIN)	1/4" HILTI COATED CARBON STEEL OR STAINLESS STEEL KWIK-CON II	1"	2 1/2"
H	CMU (ASTM C-90)	1/4" HILTI COATED CARBON STEEL OR STAINLESS STEEL KWIK-CON II	1"	2 1/2"
I	2x MIN. SOUTHERN PINE WOOD (G=0.55 MIN)	#14 GRADE 5 WOOD SCREW	1 1/2"	1"
J	16 GAUGE (0.060") MIN. STEEL STUD (33 KSI YIELD MIN.) OR 1/8" MIN. ALUMINUM (6063-T5 MIN.) OR 1/8" MIN. A36 STEEL	#1/4-14 ITW TEKS SELF-DRILLING SCREW	FULL + 3 THREADS	1/2"



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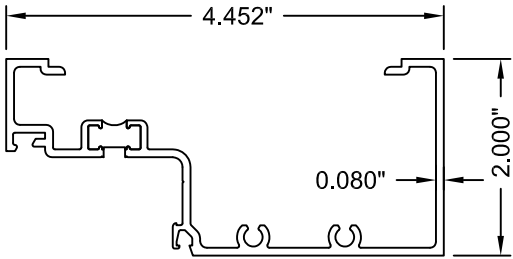
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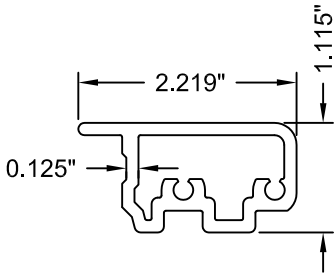
DRAWING NO. 451T-Front	PRODUCT TRIFAB VG 451T
FPA # FL37876	SECTION 06
DATE 02/11/2021	
SCALE NTS	SHEET 08 OF 09

ITEM	PART NO.	DESCRIPTION
1	451TVG037	451T SILL FLASHING
2	451TVG316	END DAM / SCREW APPLIED
3	028808	END DAM SCREW
4	128583	#10-16 x 1-3/8 CRPHTFS-B SS
5	028856	FRAMING SCREW
6	027074	WEDGE GASKET
7	027073	SETTING BLOCK
8	451TFG014	451T SILL / FRONT
9	127043	GASKET
10	451VG026	FLAT FILLER
11	451TVG012	451T MULLION / SPLIT
12	451VG026	FLAT FILLER
13	451TVG001	451T JAMB / FRONT-BACK
14	451T126	THERMAL SHIM SUPPORT
15	480520	W SIDE BLOCK
16	451105	WATER DEFLECTOR
17	027081	SETTING BLOCK
18	451TVG011	451T HORIZONTAL / OG
19	451VG004	GLASS STOP / OG
20	451TVG111	451T HORIZONTAL / IG
21	451VG104	GLASS STOP / IG
22	451TVG103	451T HEAD / IG
23	451TVG003	451T HORIZONTAL / OPEN-BACK
24	451VG524	SHEAR BLOCK PKG
25	451VG525	SHEAR BLOCK PKG
26	451VG624	SHEAR BLOCK PKG
27	451TVG005	451T MULLION / TUBE

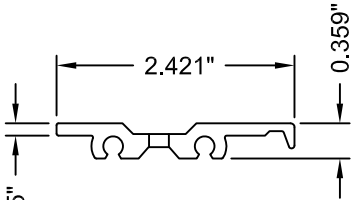
ALL ALUMINUM COMPONENTS ARE 6063-T6



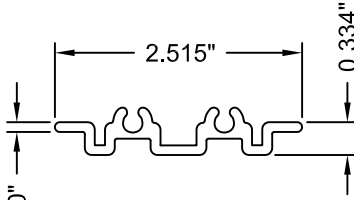
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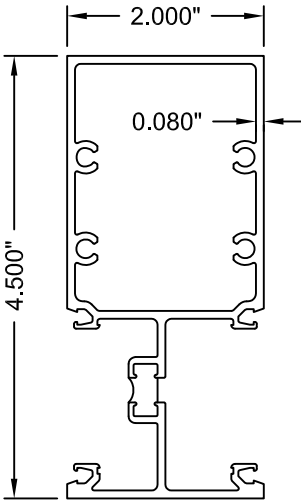
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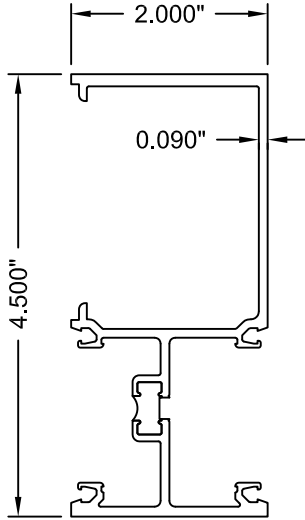
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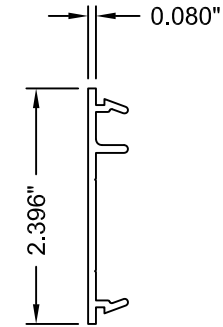
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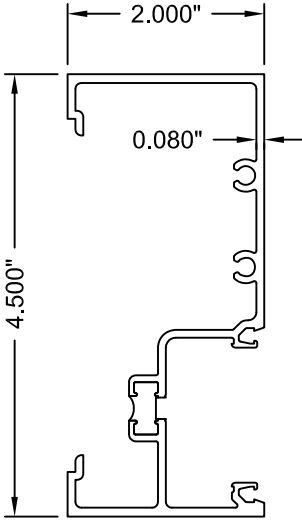
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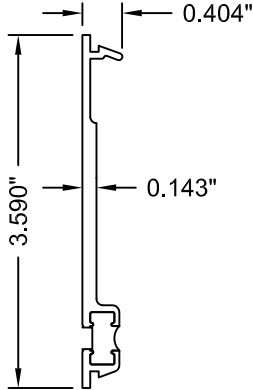
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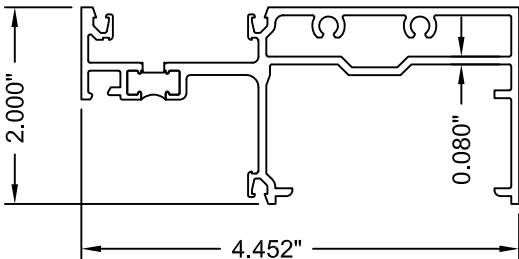
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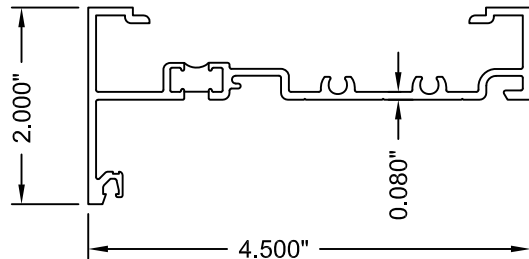
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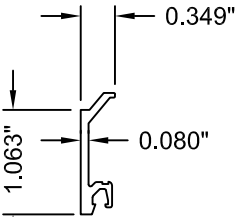
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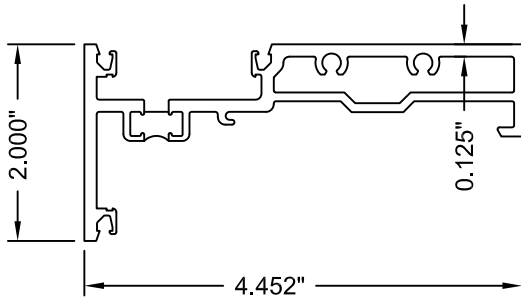
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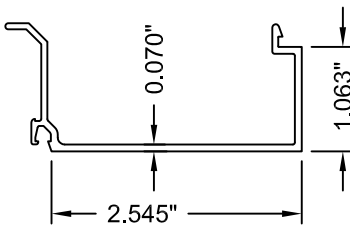
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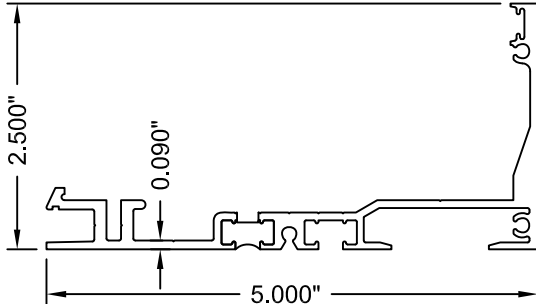
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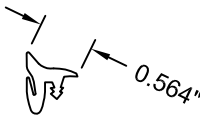
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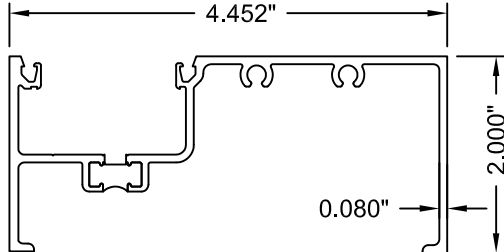
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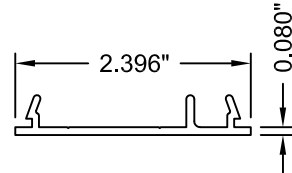
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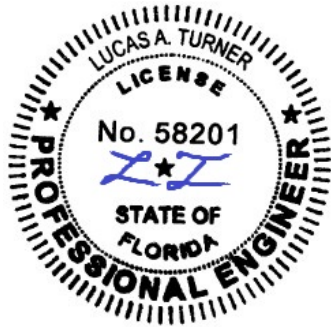
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10 451VG026



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WWW.KAWNEER.COM



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FL P.E. #58201

TURNER ENGINEERING &
CONSULTING, INC.
2428 OLD NATCHEZ TRACE TRL.
CAMDEN, TN 38320
PH. 941-380-1574

DRAWING NO.

451T-Front

PRODUCT

TRIFAB VG 451T

FPA #

FL37876

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DATE

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2023 FBC UPDATE

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