

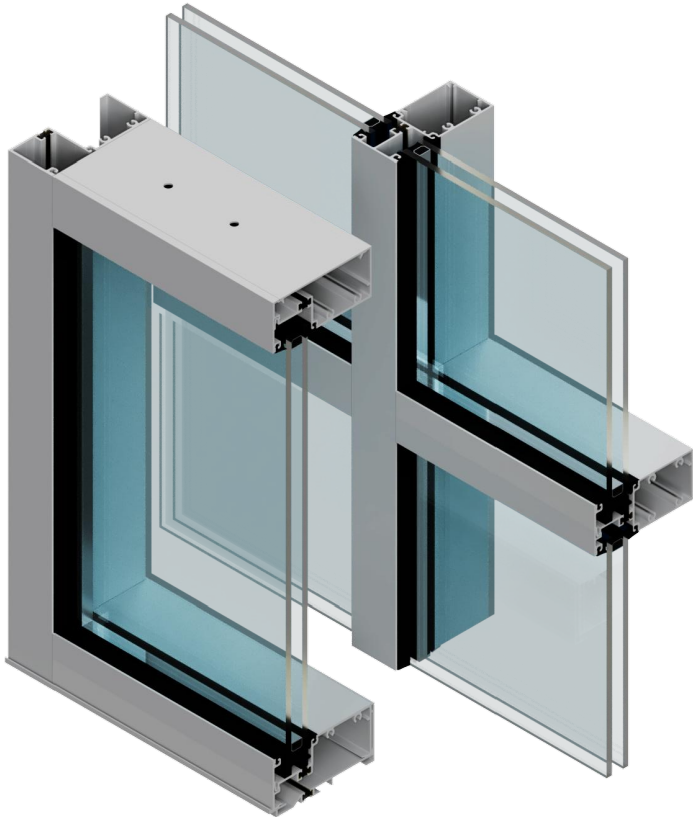
TRULITE GLASS & ALUMINUM SOLUTIONS

SERIES FT451 (THERMAL) / FG451 (NON-THERMAL)

STOREFRONT SYSTEM (NON-HVHZ & NON-IMPACT)

GENERAL NOTES:

1. THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE 8TH EDITION (2023) EXCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ) .
2. STOREFRONT SYSTEM IS FOR NON-IMPACT AND NON-HVHZ APPLICATION
3. CODE REQUIREMENTS FOR SAFEGUARDS MUST BE OBSERVED.
4. WOOD BUCKS BY OTHERS. MUST BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE STRUCTURE.
5. ANCHORS SHALL BE AS LISTED. SPACED AS SHOWN ON DETAILS. THE NUMBER OF INSTALLATION ANCHORS DEPICTED IS THE MINIMUM NUMBER OF ANCHORS REQUIRED. ANCHORS EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO. FOR INSTALLATION THROUGH METAL FRAME, PROVIDE 3 THREADS MINIMUM PENETRATION BEYOND METAL FRAME SUBSTRATE. FOR CONCRETE BLOCK, DO NOT INSTALL ANCHORS INTO MORTAR JOINTS. EDGE DISTANCE IS REFERENCED FROM FREE EDGE OF BLOCK OR EDGE OF MORTAR JOINT IN FACE SHELL OF BLOCK.
6. MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS THAT COME IN CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE 2023 FLORIDA CODE & ADAPTED STANDARDS.
7. ALL SHIMS TO BE HIGH IMPACT, NON-METALLIC AND NON-COMPRESSIBLE.
8. A LOAD DURATION INCREASE IS USED IN DESIGN OF ANCHORS INTO WOOD ONLY.



9. ULTIMATE LOAD OBTAINED FROM APPLICABLE ASCE 7 STANDARD MULTIPLY BY 0.6 SHALL BE LESS THAN OR EQUAL TO MAX. DESIGN LOAD IN THIS DOCUMENT. THE DESIGN LOADS SHOWN IN THIS DOCUMENT ARE ALLOWABLE DESIGN LOADS.
10. GASKETS USED IN THIS FENESTRATION PRODUCT ARE IN COMPLIANCE WITH ASTM STANDARD C864.

INSTRUCTIONS FOR USE:

1. DETERMINE DESIGN WIND LOAD REQUIREMENTS BASED ON WIND VELOCITY, BLDG. HEIGHT, WIND ZONE USING APPLICABLE ASCE 7 STANDARD.
2. SEE SHEET 2 FOR DESIGN LOAD CAPACITY & MAX. DLO AREA OF GLASS.
3. CHECK MULLION AND JAMB CAPACITY FOR A GIVEN SPACING AND HEIGHT USING TABLES ON SHEET 3 AND DOUBLE DOUBLE JAMB CAPACITY ON SHEET 2. THE CAPACITY SHOULD BE EQUAL OR GREATER THAN THE DESIGN LOAD.
4. USING TABLES ON SHEET 8, SELECT ANCHOR OPTION WITH DESIGN RATING EQUAL OR GREATER THAN DESIGN LOAD.
5. THE LOWEST VALUE RESULTING FROM STEP 2,3 AND 4 SHALL APPLY TO ENTIRE SYSTEM.

ABBREVIATIONS:

DLO or D.L.O. - DAYLIGHT OPENING
TYP. - TYPICAL
W - WIDTH
H - HEIGHT
DP - DESIGN PRESSURE
PER. - PERIMETER
NTS - NOT TO SCALE
OPPO. - OPPOSITE

LIMITATION OF USE

- A. THIS PRODUCT APPROVAL DOCUMENT IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT OR WHERE THE SITE CONDITIONS DEVIATE FROM THE PRODUCT APPROVAL DOCUMENT.
- B. FOR CONDITIONS THAT DEVIATE FROM THE PRODUCT APPROVAL DOCUMENTS, THIS SHALL BE REVIEWED BY A FLORIDA REGISTERED ENGINEER OR ARCHITECT WHICH WILL BECOME THE ENGINEER OF RECORD FOR THE PROJECT.

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Alpharetta GA, 30009
p. 800-432-8132

PRODUCT:

Series
FT451/FG451
Alum Thermal &
Non-Thermal
Storefronts
NON-IMPACT

REVN	DATE/REMARKS

ENGINEER:

E3
En3 Engineering & Consultancy
950 SW 135th Way Sunrise,
FL 33325 P. 702 6260939
Email: en3.engconsul@gmail.com

STAMP:

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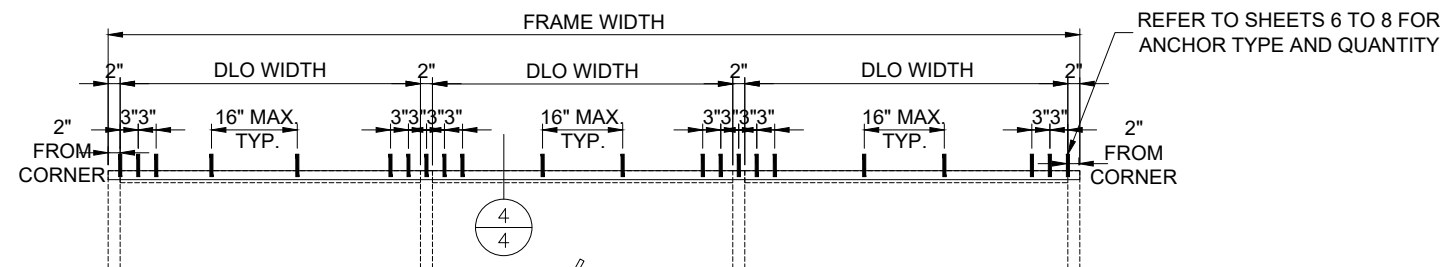
FLORIDA PRODUCT APPROVAL:

FL46714

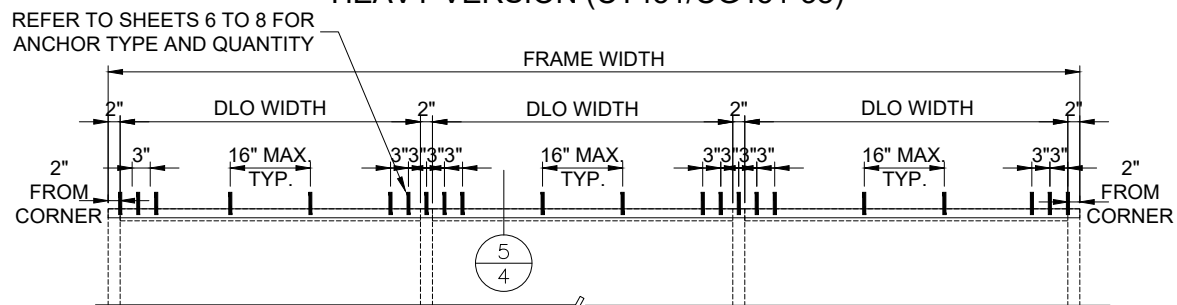
DATE:	APRIL 27, 2024
DRAWN: Erick	CHK: ESN
DRWG. No: 24FL-102	SCALE: NTS

SHEET NO.:

1 OF 12

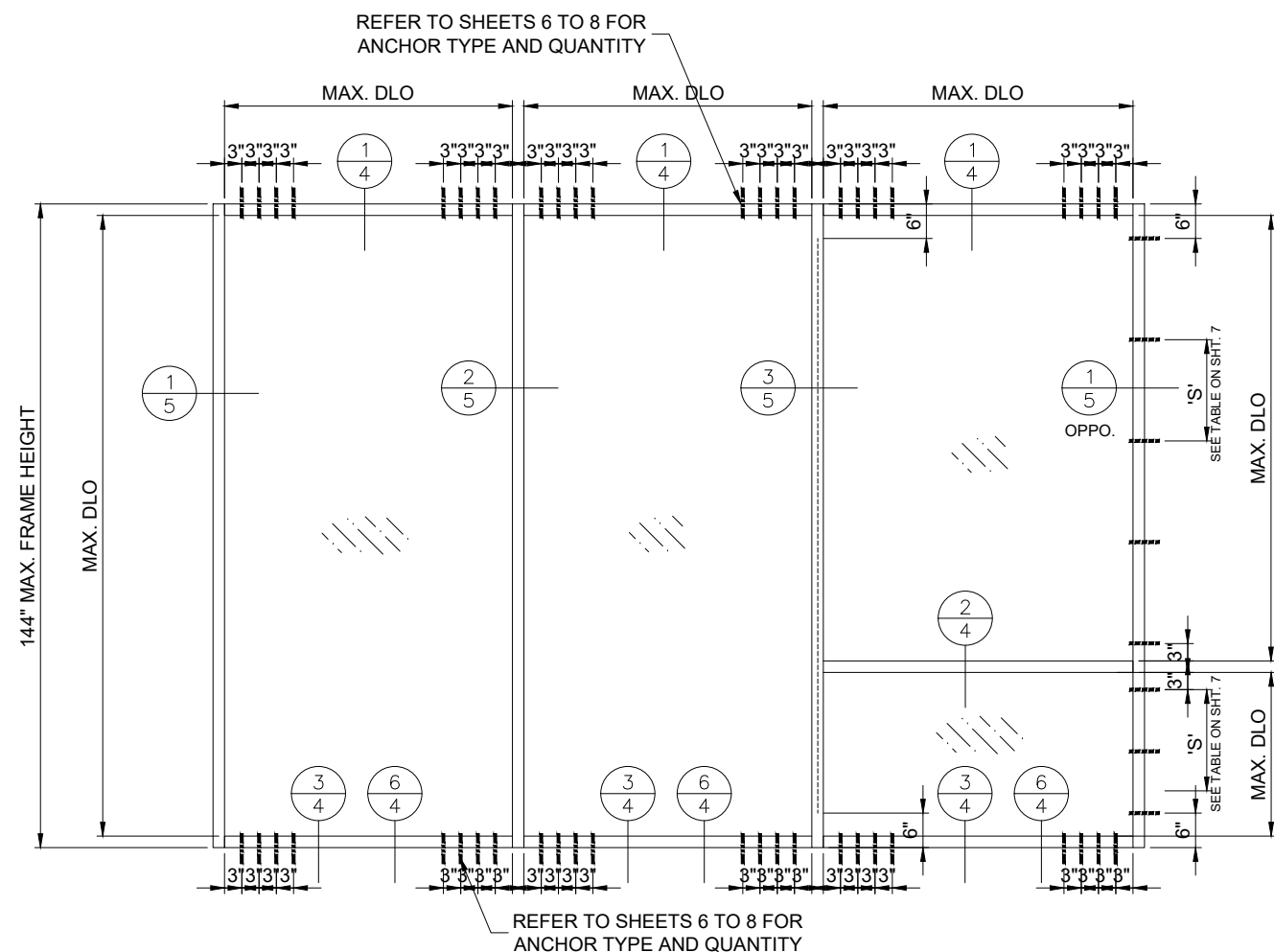


HEAVY VERSION (CT451/CG451-38)

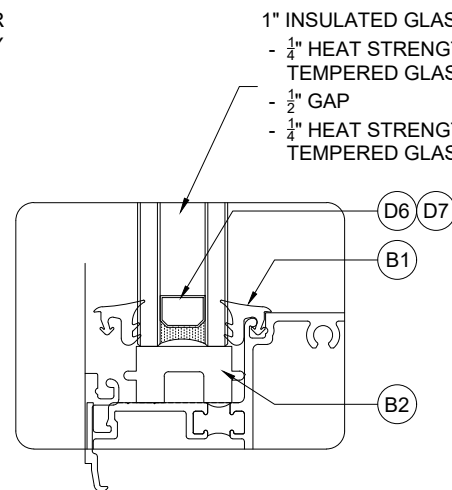


LIGHT VERSION (CT450/CG450-27 + CT450-26)
MAX. LOAD CAPACITY = +/-25psf

HEAD RECEPTOR OPTIONS



TYPICAL ELEVATIONS



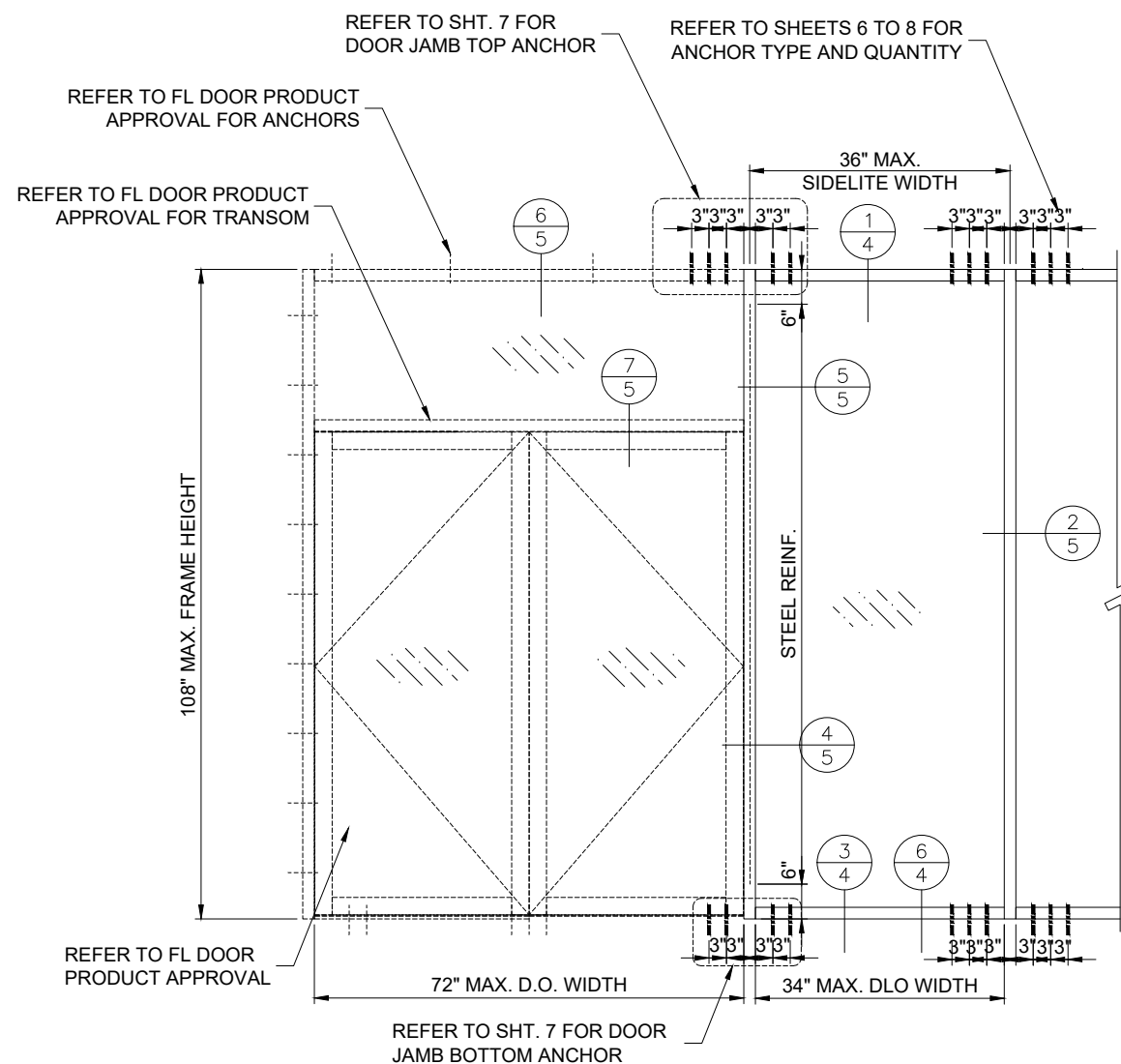
GLASS CONFIGURATIONS

LIMITATIONS: - MAX. DLO AREA OF 26.2ft²
- MAX. DP OF 60psf FOR GLASS WITH LEAST DIMENSION OF < 48in.
- MAX. DP OF 40psf FOR GLASS WITH LEAST DIMENSION OF > 48in.

1" INSULATED GLASS COMPOSED OF:
- 1/4" HEAT STRENGTHENED OR TEMPERED GLASS
- 1/2" GAP
- 1/4" HEAT STRENGTHENED OR TEMPERED GLASS

GLAZING NOTES:

1. PROVIDE 2 SETTING BLOCKS PER GLASS PANEL AS PER FBC CHAPTER 24. GLASS SETTING BLOCKS SHALL BE LOCATED AT L/4 FOR HORIZONTAL MEMBER LENGTH ≤ 60" AND AT L/8 FOR SPAN > 60".
2. GLASS TYPE AND THICKNESS SHALL COMPLY WITH ASTM E1300 REQUIREMENTS PER THE LATEST FBC. THICKNESS, TEMPER AND SAFETY GLAZING REQUIREMENTS SHALL BE REVIEWED ON A SITE SPECIFIC BASIS.



DOUBLE DOOR JAMB CAPACITY = +/- 40psf

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Series
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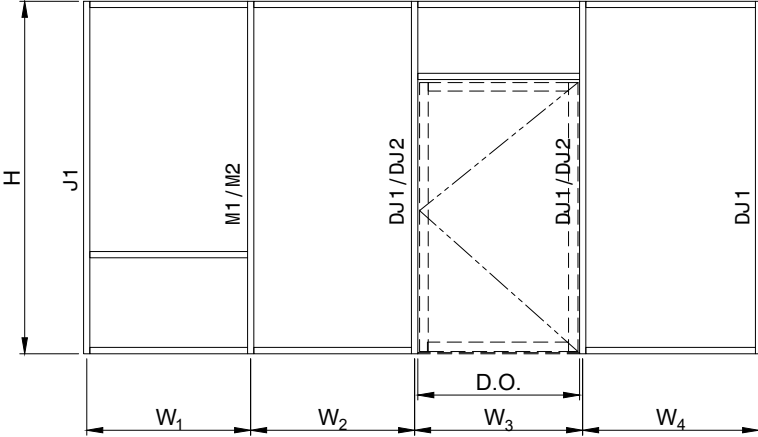
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DRAWN: Erick CHK: ESN
DRWG. No: 24FL-102 SCALE: NTS

SHEET NO.:
2 OF 12

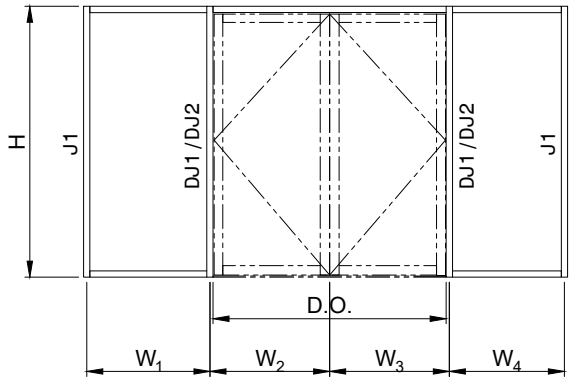
MULLIONS & JAMBS CAPACITIES, psf (ASD)			
Module Size (in)		M1, DJ1, J1	M2, DJ2
W	H	+(EXT.)/-(INT.)	+(EXT.)/-(INT.)
48	78	60.0	60.0
54	78	53.9	60.0
60	78	-	60.0
66	78	-	60.0
72	78	-	60.0
36	84	60.0	60.0
42	84	59.7	60.0
48	84	52.2	60.0
54	84	46.4	60.0
60	84	-	60.0
66	84	-	60.0
72	84	-	60.0
36	90	60.0	60.0
42	90	52.0	60.0
48	90	45.5	60.0
54	90	-	60.0
60	90	-	60.0
66	90	-	57.0
30	96	60.0	60.0
36	96	53.3	60.0
42	96	45.7	60.0
48	96	40.0	60.0
54	96	-	60.0
60	96	-	55.1
24	102	60.0	60.0
30	102	54.2	60.0
36	102	45.2	60.0
42	102	38.7	60.0
48	102	-	60.0
54	102	-	54.3
24	108	57.1	60.0
30	108	45.6	60.0
36	108	38.0	60.0
42	108	32.6	60.0
48	108	-	54.4
54	108	-	48.4

MULLIONS & JAMBS CAPACITIES, psf (ASD)			
Module Size (in)		M1, DJ1, J1	M2, DJ2
W	H	+(EXT.)/-(INT.)	+(EXT.)/-(INT.)
24	114	48.5	60.0
30	114	38.8	60.0
36	114	32.3	60.0
42	114	-	55.8
48	114	-	48.9
24	120	41.6	60.0
30	120	33.3	60.0
36	120	27.7	56.5
42	120	-	48.4
48	120	-	42.4
24	126	35.9	60.0
30	126	28.7	58.6
36	126	24.0	48.8
42	126	-	41.8
48	126	-	36.6
24	132	31.3	60.0
30	132	25.0	50.9
36	132	-	42.5
42	132	-	36.4
24	138	27.4	55.7
30	138	21.9	44.6
36	138	-	37.2
42	138	-	31.8
24	144	24.1	49.0
30	144	19.3	39.2
36	144	-	32.7
42	144	-	28.0



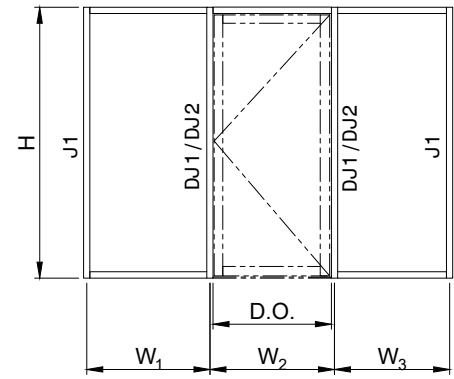
FOR MULLION/DOOR JAMB: $W = \frac{W_1 + W_2}{2}$ $W = \frac{W_2 + W_3}{2}$ $W = \frac{W_3 + W_4}{2}$

FOR JAMB: $W = W_1$
 $W = W_4$



FOR DOOR JAMB: $W = \frac{W_1 + W_2}{2}$ $W = \frac{W_3 + W_4}{2}$

FOR JAMB: $W = W_1$
 $W = W_4$



FOR DOOR JAMB: $W = \frac{W_1 + W_2}{2}$ $W = \frac{W_2 + W_3}{2}$

FOR JAMB: $W = W_1$
 $W = W_2$

M1 (THERMAL)	
	lx (in ⁴)
FT451-1	3.103 x 0.85 = 2.64
FG451-1	0.090
TOTAL	2.728

M1 (NON-THERMAL)	
	lx (in ⁴)
FG451-1	3.103
FG451-5	0.090
TOTAL	3.193

'M2' (THERMAL)	
	lx (in ⁴)
FT451-1	3.103 x 0.85 = 2.64
FG451-5	0.090
ST451-1	0.976 x 2.9 = 2.8321
TOTAL	5.562

M2 (NON-THERMAL)	
	lx (in ⁴)
FG451-1	3.103
FG451-5	0.090
STEEL	0.976 x 2.9 = 2.8321
TOTAL	6.023

J1 (THERMAL)	
	lx (in ⁴)
ALUM.	2.843 x 0.85 = 2.417

J1 (NON-THERMAL)	
	lx (in ⁴)
ALUM.	2.8437

DJ1	
	lx (in ⁴)
DF451-10	3.696

DJ2	
	lx (in ⁴)
DF451-10	3.696
ST451-2	2.667 x 2.9 = 7.733
TOTAL	11.430



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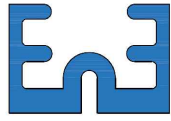
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p. 800-432-8132

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Alum Thermal &
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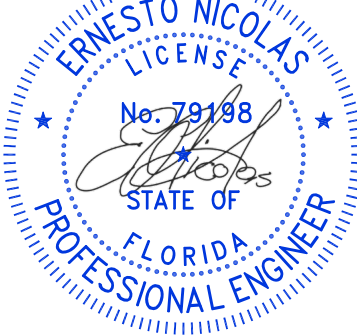


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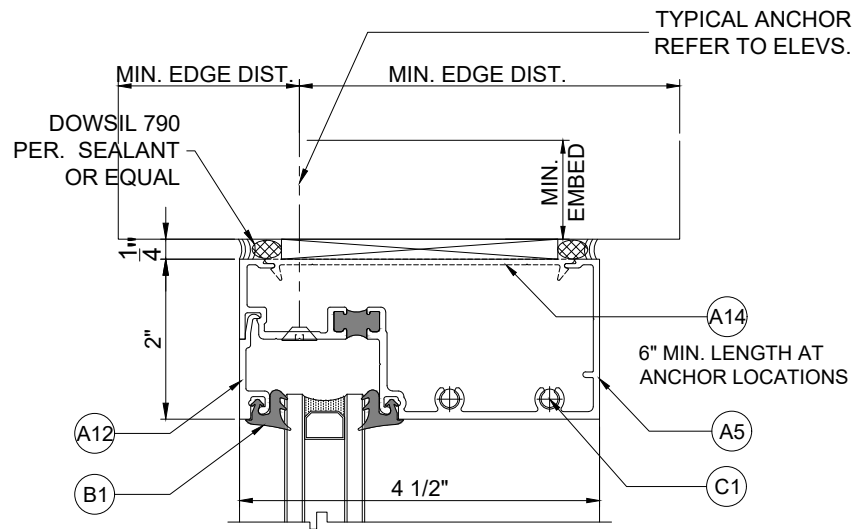
DRAWN: Erick CHK: ESN

DRWG. No: 24FL-102 SCALE: NTS

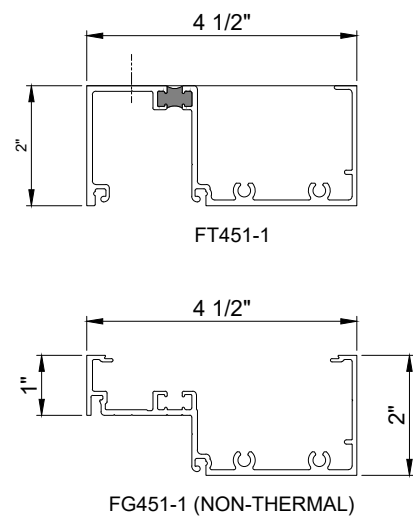
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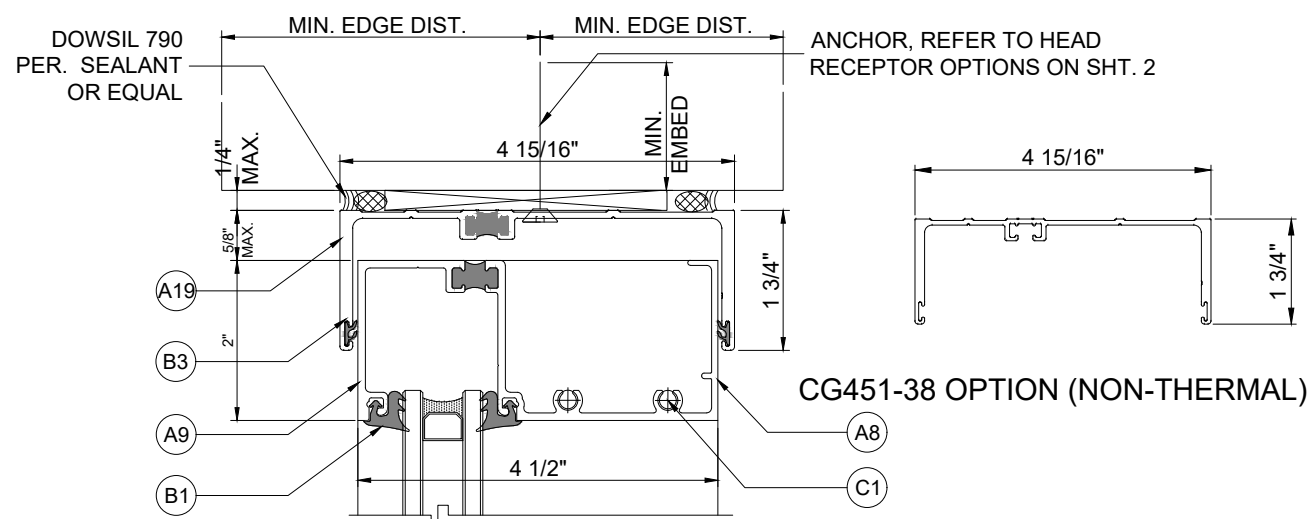
MULLION & JAMB LOAD CAPACITIES



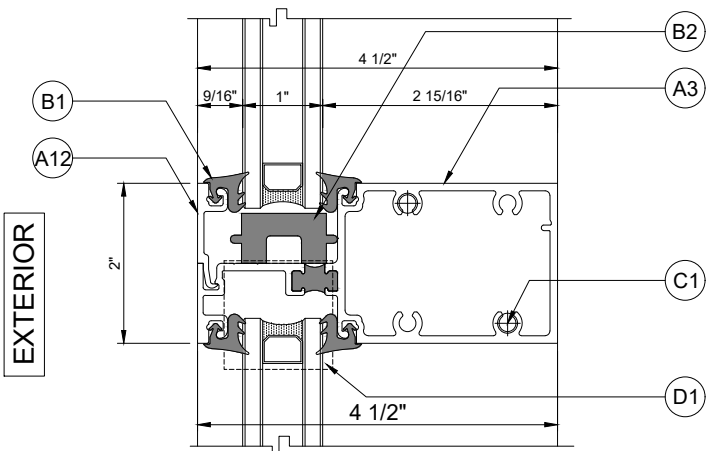
1 HEAD DETAIL



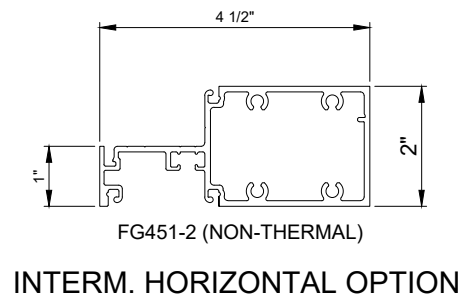
HEAD OPTIONS



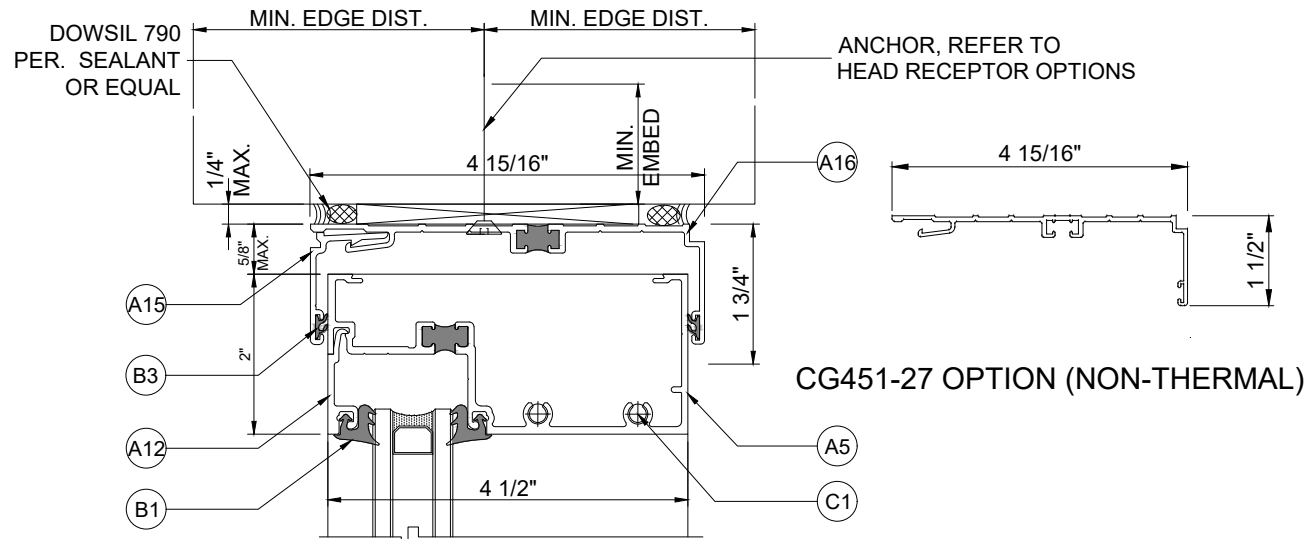
4 HEAVY HEAD RECEPTOR (CT451-38)



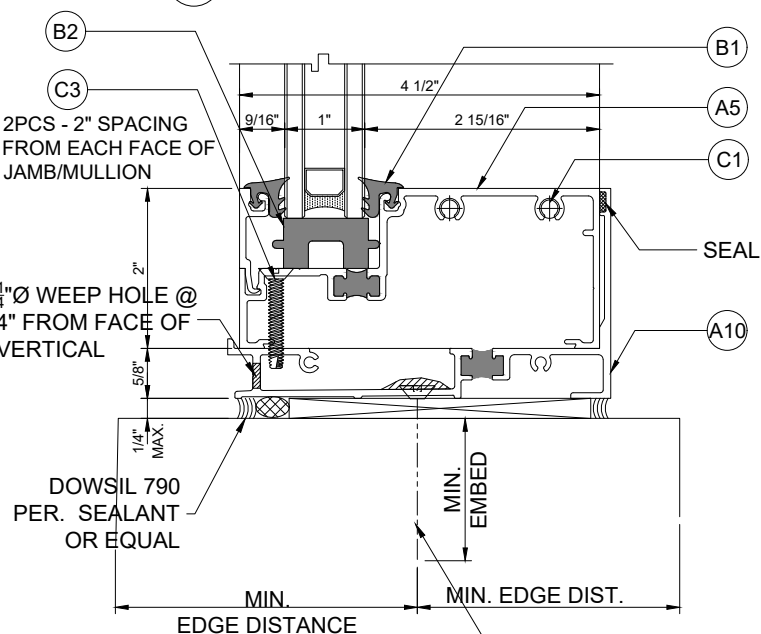
2 INTERM HOR. DETAIL



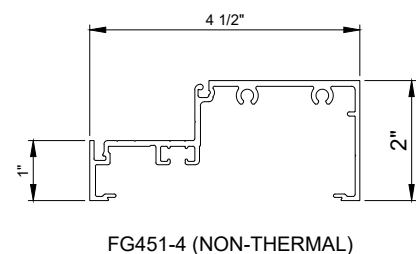
INTERM. HORIZONTAL OPTION



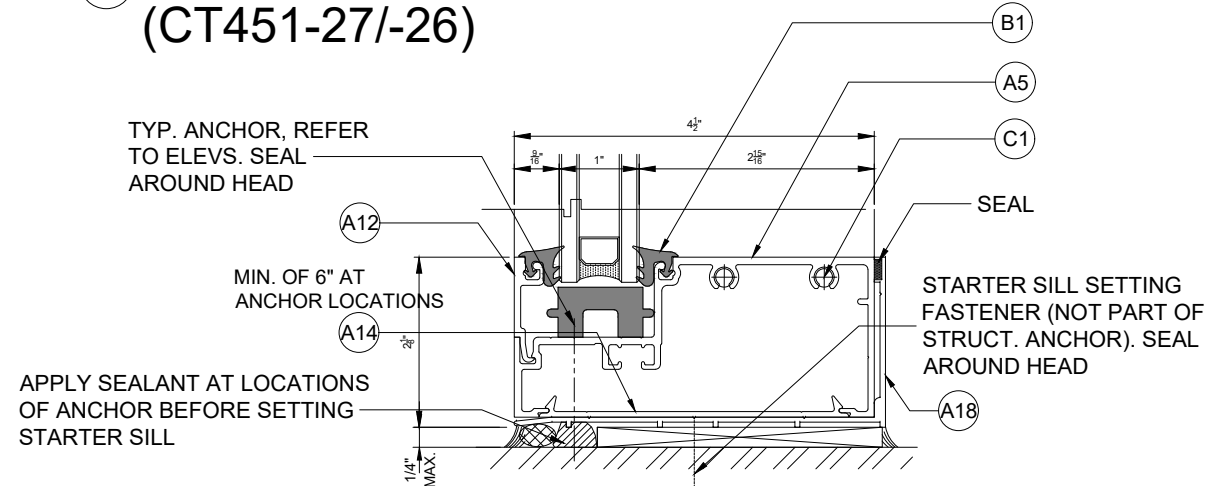
5 LIGHT HEAD RECEPTOR (CT451-27/-26)



3 SILL DETAIL



SILL OPTION



6 SILL WITH FLAT STARTER SILL (NOT RECOMMENDED FOR THERMAL SYSTEM)

HOR. DETAILS & OPTIONS

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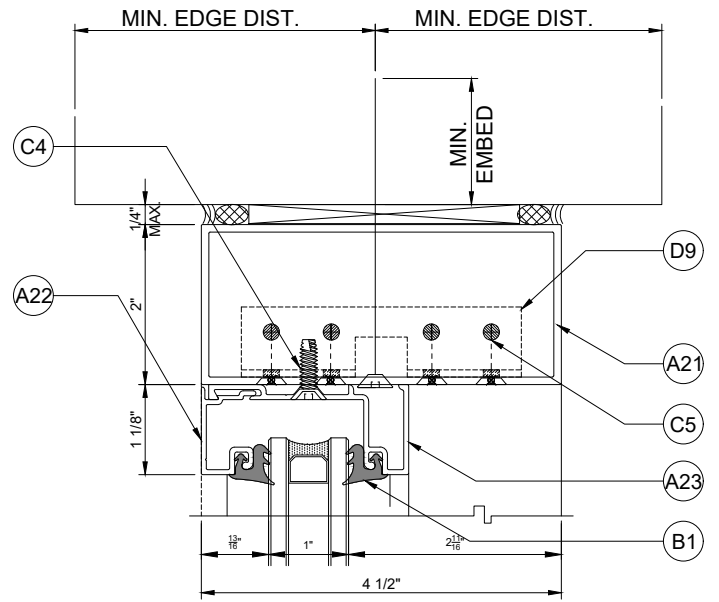
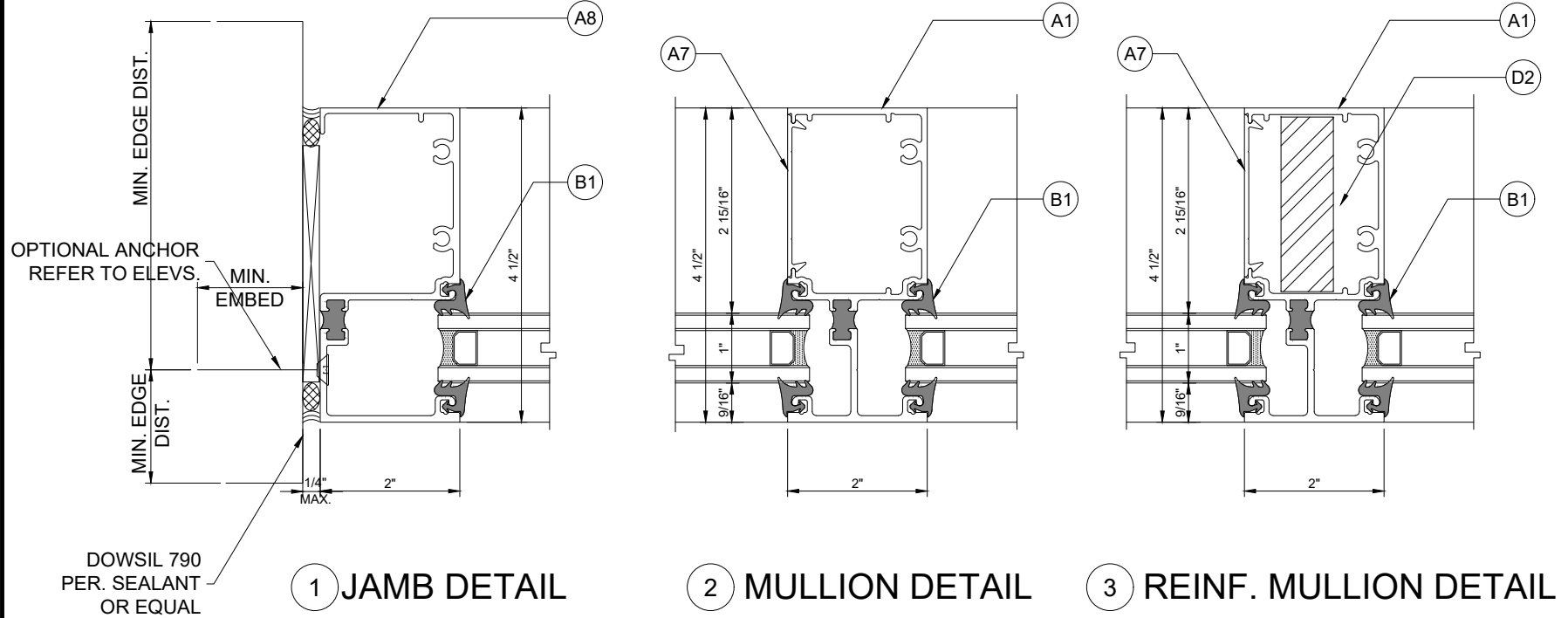
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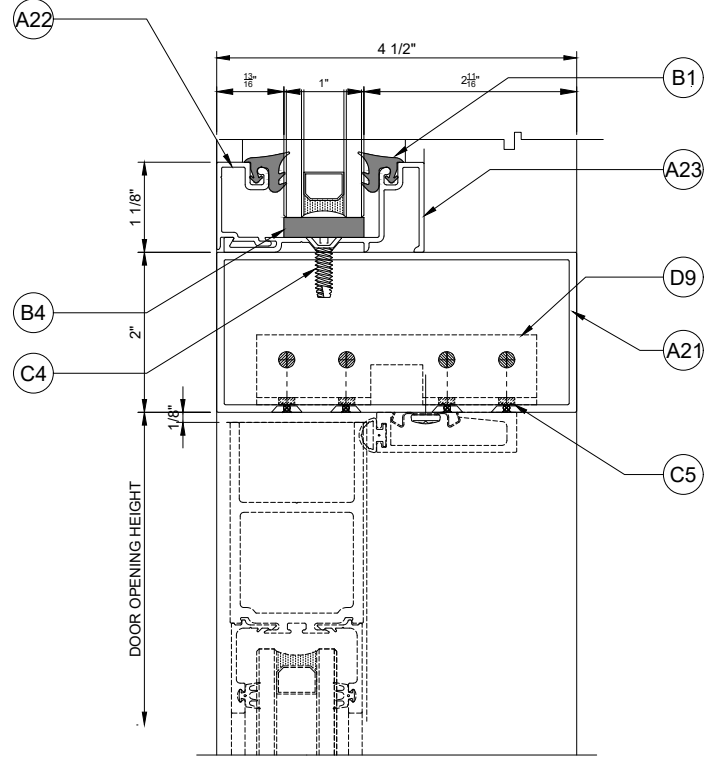
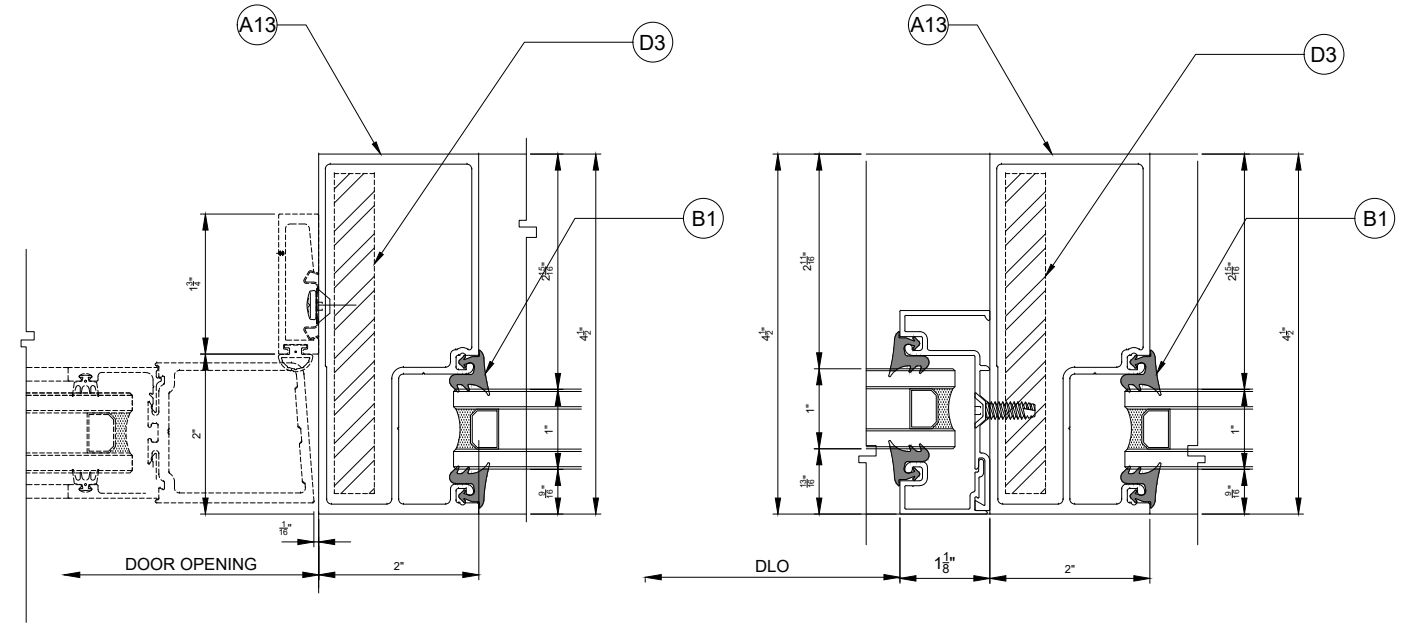
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SHEET NO.:
4 OF 12



6 REFER TO DOOR PRODUCT FOR MAX. SIZE & CAPACITY



7 REFER TO DOOR PRODUCT FOR MAX. SIZE & CAPACITY

VERT. DETAILS & OPTIONS

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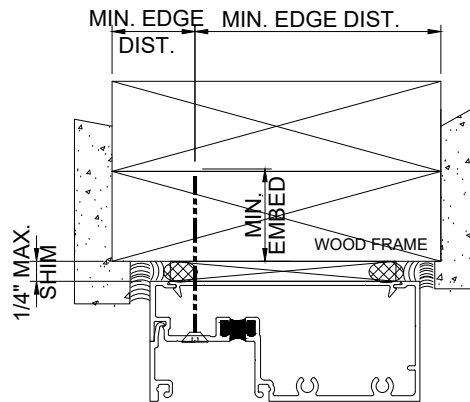
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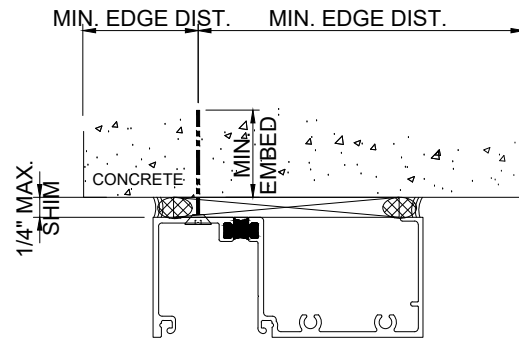
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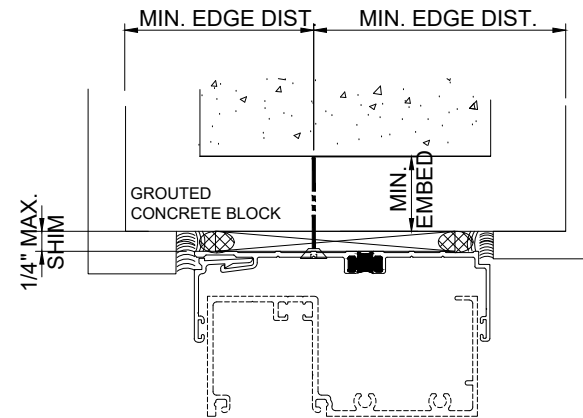
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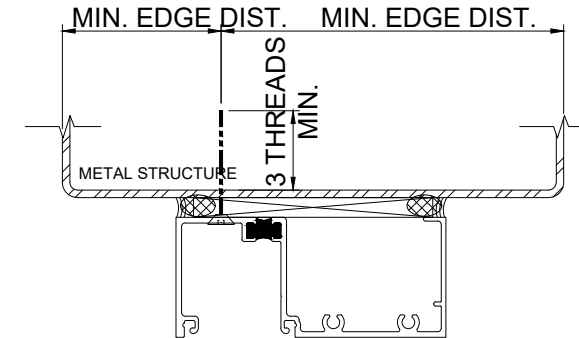
TYPE A or B



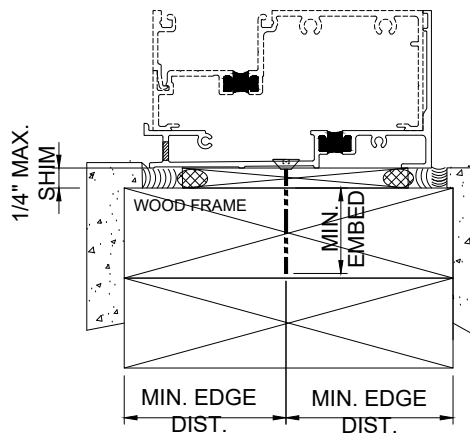
TYPE C or D



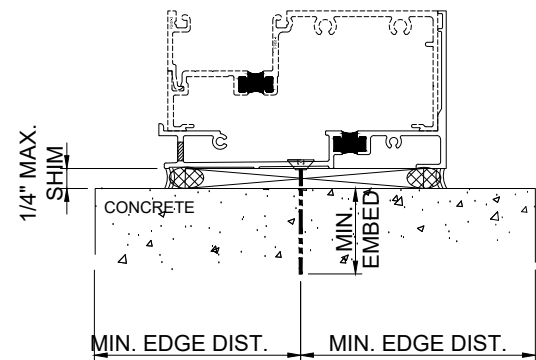
TYPE E



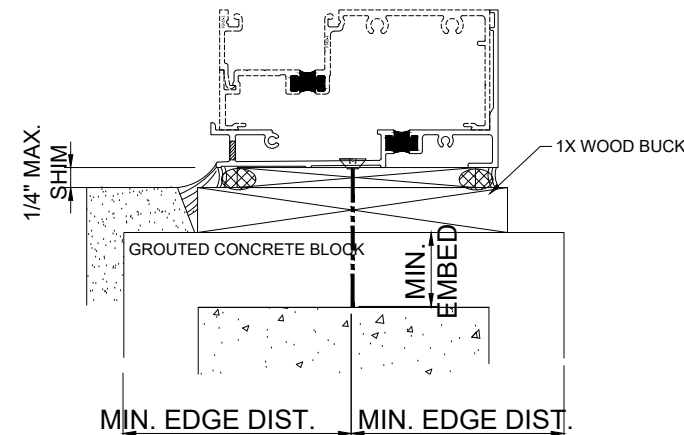
TYPE F



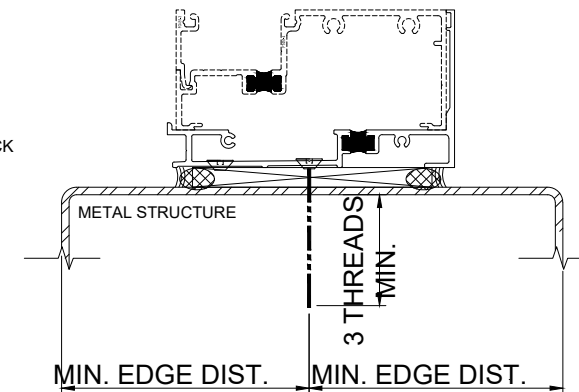
TYPE A or B



TYPE C or D



TYPE E



TYPE F

ANCHOR OPTIONS

ANCHOR TYPES				
TYPE	SUBSTRATE	DSCRIPTION	MIN. EMBED (IN.)	MIN. EDGE DIST. (IN.)
A	WOOD	$\frac{1}{4}$ " $\varnothing$ - TAPCON (Fy = 100ksi & Fu = 125ksi min.)	1.50	1.00
B		$\frac{1}{4}$ " $\varnothing$ - ULTRACON (Fy = 148ksi & Fu = 164ksi min.)	1.50	1.00
C	CONCRETE	$\frac{1}{4}$ " $\varnothing$ - TAPCON (Fy = 100ksi & Fu = 125ksi min.)	1.75	2.50
D		$\frac{1}{4}$ " $\varnothing$ - ULTRACON (Fy = 148ksi & Fu = 164ksi min.)	1.75	2.50
E	MASONRY	$\frac{1}{4}$ " $\varnothing$ - ULTRACON (Fy = 148ksi & Fu = 164ksi min.)	1.25	2.50
F	METAL	$\frac{1}{4}$ " $\varnothing$ Gr. 5 Metal Screw	Min. 3 Threads pass substrate	0.75
NOTE:				
- MAXIMUM SHIM GAP = $\frac{3}{8}$ "				
- MIN. SPECIFIC GRAVITY OF WOOD = 0.55				
- MIN. CONCRETE COMPRESSIVE STRENGTH = 3000psi (NORMAL WEIGHT & UNCRACKED)				
- MIN. COMPRESSIVE STRENGTH OF CONCRETE MASONRY = 2000PSI (MEDIUM WEIGHT & CONFORM TO ASTM C90)				
- METAL SUBSTRATE SHALL BE STEEL (FY=36KSI MIN. & 18GA. THICK) OR ALUMINUM (6063-T5 MIN. & $\frac{1}{16}$ " THICK)				



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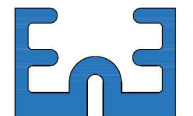
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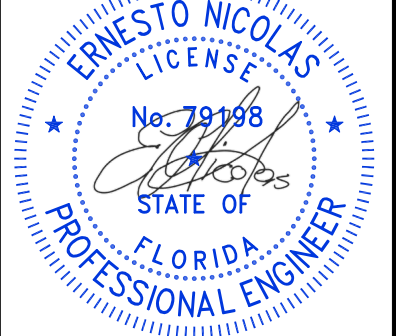


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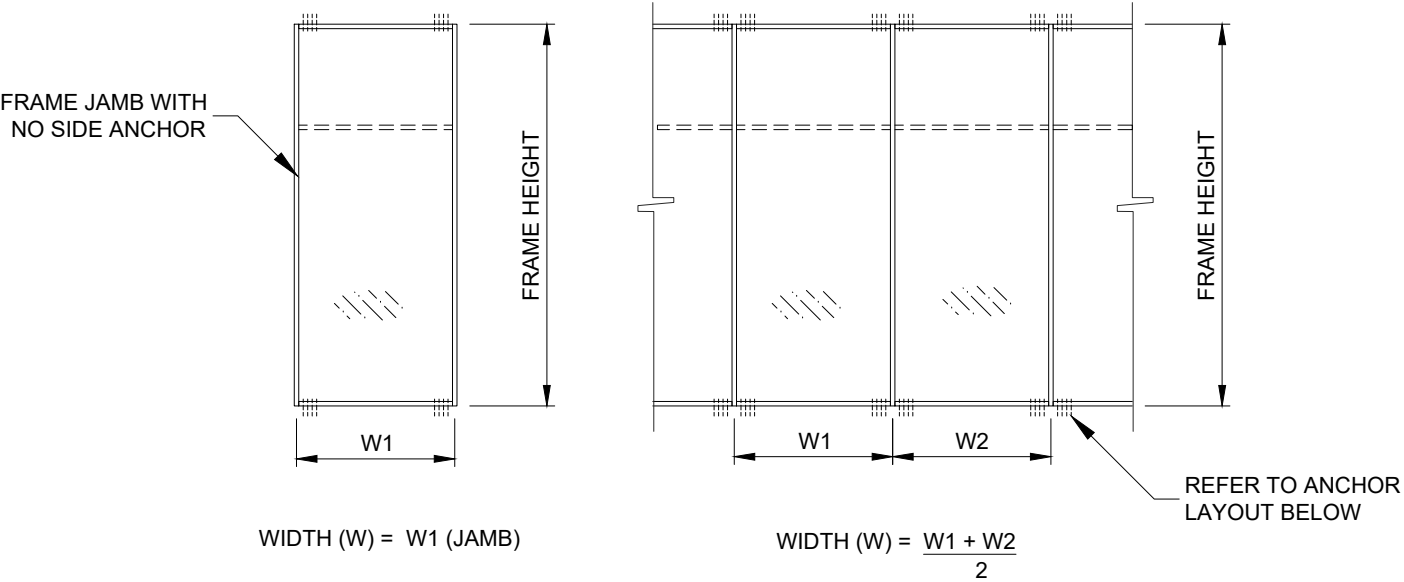
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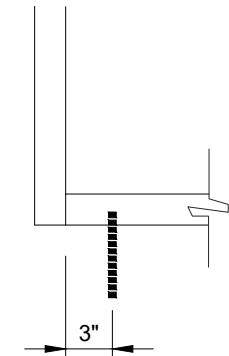
SHEET NO.:

6 OF 12

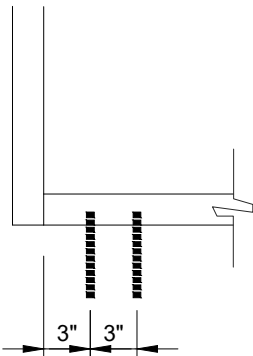


FRAME JAMB ANCHOR SPACING 'S' (in) ALONG LENGTH			
TYPE	MULLION SPACING		
	≤ 48"	≤ 60"	≤ 72"
A	16	12	10
B	24	18	16
C	16	12	10
D	24	18	16
E	24	18	16
F	14	10	8
NOTE: BASED ON ¼" MAX. SHIM GAP			

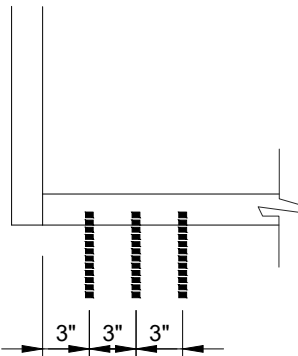
NOTE: ANCHORED JAMB IS APPLICABLE TO MAX. PRESSURE, MAX. SPACING & MAX. HEIGHT



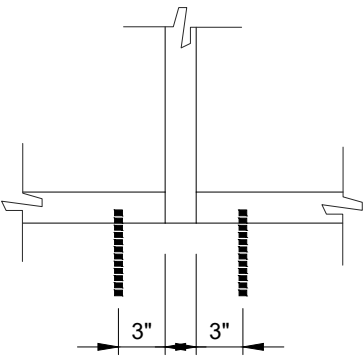
A1, B1, C1, D1, E1, F1



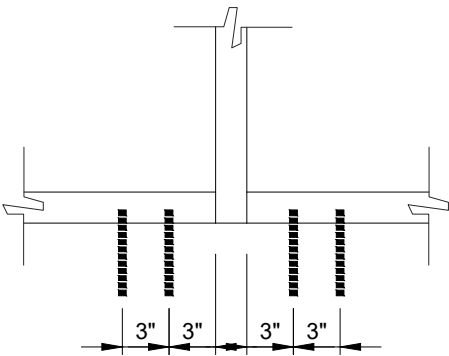
A2, B2, C2, D2, E2, F2



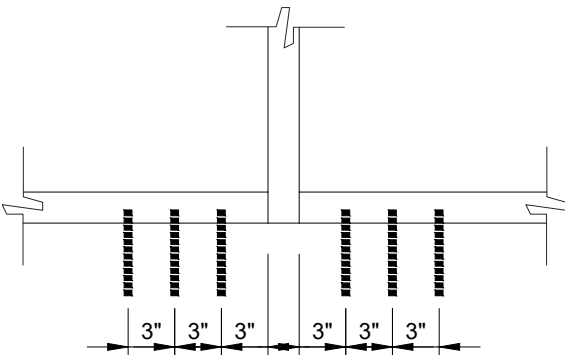
A3, B3, C3, D3, E3, F3



A1, B1, C1, D1, E1, F1



A2, B2, C2, D2, E2, F2



A3, B3, C3, D3, E3, F3

ANCHOR LAYOUT
REFER TO SHEET 6 FOR TYPES

DOUBLE DOOR JAMB ANCHOR		
TYPE	NO. OF ANCHORS	
	TOP	BOTTOM
A	5	4
B	4	3
C	5	4
D	4	3
E	4	3
F	6	5
NOTE: BASED ON ¼" MAX. SHIM GAP		

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Alum Thermal & Non-Thermal Storefronts

NON-IMPACT

REVN	DATE/REMARKS

ENGINEER:

En3 Engineering & Consultancy
950 SW 135th Way Sunrise,
FL 33325 P. 702 6260939
Email: en3.engconsul@gmail.com

STAMP:

FLORIDA PRODUCT APPROVAL:

FL46714

DATE:	APRIL 27, 2024
DRAWN: Erick	CHK: ESN
DRWG. No: 24FL-102	SCALE: NTS

SHEET NO.:

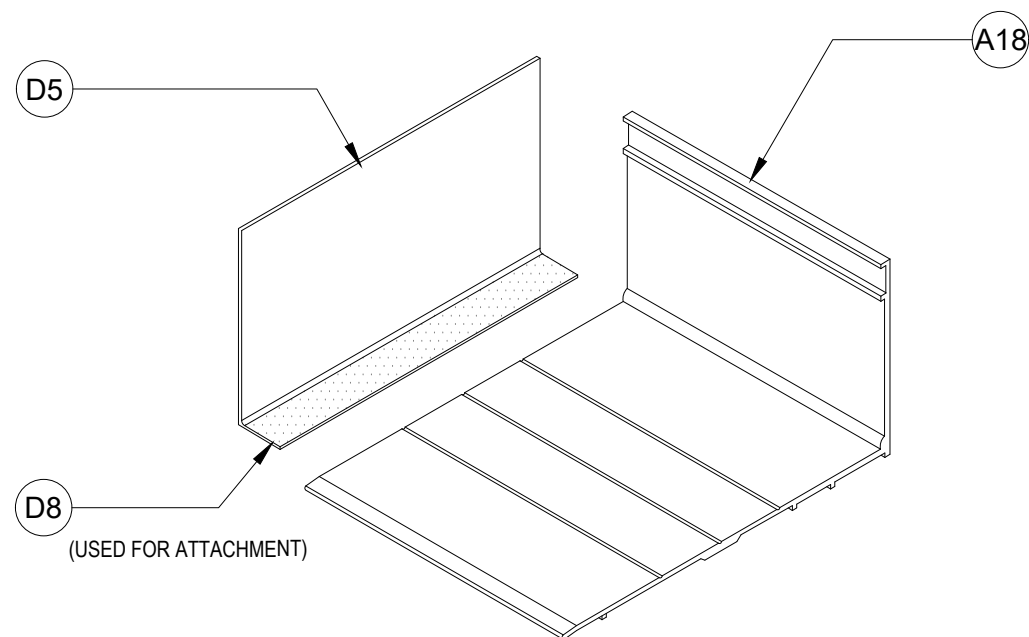
7 OF 12

ANCHOR LOAD CAPACITY, psf (ASD) Based on max. 1/4" thk. shim																	
Dimens. (in)		TYPE 'A'			TYPE 'B'			TYPE 'C'			TYPE 'D'		TYPE 'E'		TYPE 'F'		
W	H	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	E1	E2	F1	F2	F3
30	66	48.3	60.0	60.0	60.0	60.0	60.0	48.3	60.0	60.0	60.0	60.0	60.0	60.0	42.5	60.0	60.0
36		40.2	60.0	60.0	59.2	60.0	60.0	40.2	60.0	60.0	59.2	60.0	59.2	60.0	35.4	60.0	60.0
42		34.5	60.0	60.0	50.7	60.0	60.0	34.5	60.0	60.0	50.7	60.0	50.7	60.0	30.3	60.0	60.0
48		30.2	60.0	60.0	44.4	60.0	60.0	30.2	60.0	60.0	44.4	60.0	44.4	60.0	26.5	53.1	60.0
54		26.8	53.7	60.0	39.4	60.0	60.0	26.8	53.7	60.0	39.4	60.0	39.4	60.0	23.6	47.2	60.0
60		24.1	48.3	60.0	35.5	60.0	60.0	24.1	48.3	60.0	35.5	60.0	35.5	60.0	21.2	42.5	60.0
66		22.0	43.9	60.0	32.3	60.0	60.0	22.0	43.9	60.0	32.3	60.0	32.3	60.0	19.3	38.6	57.9
72	72	20.1	40.2	60.0	29.6	59.2	60.0	20.1	40.2	60.0	29.6	59.2	29.6	59.2	17.7	35.4	53.1
30		44.3	60.0	60.0	60.0	60.0	60.0	44.3	60.0	60.0	60.0	60.0	60.0	60.0	38.9	60.0	60.0
36		36.9	60.0	60.0	54.2	60.0	60.0	36.9	60.0	60.0	54.2	60.0	54.2	60.0	32.4	60.0	60.0
42		31.6	60.0	60.0	46.5	60.0	60.0	31.6	60.0	60.0	46.5	60.0	46.5	60.0	27.8	55.6	60.0
48		27.7	55.3	60.0	40.7	60.0	60.0	27.7	55.3	60.0	40.7	60.0	40.7	60.0	24.3	48.7	60.0
54		24.6	49.2	60.0	36.1	60.0	60.0	24.6	49.2	60.0	36.1	60.0	36.1	60.0	21.6	43.3	60.0
60		22.1	44.3	60.0	32.5	60.0	60.0	22.1	44.3	60.0	32.5	60.0	32.5	60.0	19.5	38.9	58.4
66	78	20.1	40.2	60.0	29.6	59.2	60.0	20.1	40.2	60.0	29.6	59.2	29.6	59.2	17.7	35.4	53.1
72		18.4	36.9	55.3	27.1	54.2	60.0	18.4	36.9	55.3	27.1	54.2	27.1	54.2	16.2	32.4	48.7
30		40.9	60.0	60.0	60.0	60.0	60.0	40.9	60.0	60.0	60.0	60.0	60.0	60.0	35.9	60.0	60.0
36		34.1	60.0	60.0	50.1	60.0	60.0	34.1	60.0	60.0	50.1	60.0	50.1	60.0	29.9	59.9	60.0
42		29.2	58.4	60.0	42.9	60.0	60.0	29.2	58.4	60.0	42.9	60.0	42.9	60.0	25.7	51.3	60.0
48		25.5	51.1	60.0	37.5	60.0	60.0	25.5	51.1	60.0	37.5	60.0	37.5	60.0	22.5	44.9	60.0
54		22.7	45.4	60.0	33.4	60.0	60.0	22.7	45.4	60.0	33.4	60.0	33.4	60.0	20.0	39.9	59.9
60	84	20.4	40.9	60.0	30.0	60.0	60.0	20.4	40.9	60.0	30.0	60.0	30.0	60.0	18.0	35.9	53.9
66		18.6	37.1	55.7	27.3	54.6	60.0	18.6	37.1	55.7	27.3	54.6	27.3	54.6	16.3	32.7	49.0
72		17.0	34.1	51.1	25.0	50.1	60.0	17.0	34.1	51.1	25.0	50.1	25.0	50.1	15.0	29.9	44.9
30		37.9	60.0	60.0	55.8	60.0	60.0	37.9	60.0	60.0	55.8	60.0	55.8	60.0	33.4	60.0	60.0
36		31.6	60.0	60.0	46.5	60.0	60.0	31.6	60.0	60.0	46.5	60.0	46.5	60.0	27.8	55.6	60.0
42		27.1	54.2	60.0	39.8	60.0	60.0	27.1	54.2	60.0	39.8	60.0	39.8	60.0	23.8	47.7	60.0
48		23.7	47.4	60.0	34.9	60.0	60.0	23.7	47.4	60.0	34.9	60.0	34.9	60.0	20.9	41.7	60.0
54	90	21.1	42.2	60.0	31.0	60.0	60.0	21.1	42.2	60.0	31.0	60.0	31.0	60.0	18.5	37.1	55.6
60		19.0	37.9	56.9	27.9	55.8	60.0	19.0	37.9	56.9	27.9	55.8	27.9	55.8	16.7	33.4	50.1
66		17.2	34.5	51.7	25.4	50.7	60.0	17.2	34.5	51.7	25.4	50.7	25.4	50.7	15.2	30.3	45.5
72		15.8	31.6	47.4	23.2	46.5	60.0	15.8	31.6	47.4	23.2	46.5	23.2	46.5	13.9	27.8	41.7
30		35.4	60.0	60.0	52.1	60.0	60.0	35.4	60.0	60.0	52.1	60.0	52.1	60.0	31.1	60.0	60.0
36		29.5	59.0	60.0	43.4	60.0	60.0	29.5	59.0	60.0	43.4	60.0	43.4	60.0	26.0	51.9	60.0
42		25.3	50.6	60.0	37.2	60.0	60.0	25.3	50.6	60.0	37.2	60.0	37.2	60.0	22.2	44.5	60.0
48	96	22.1	44.3	60.0	32.5	60.0	60.0	22.1	44.3	60.0	32.5	60.0	32.5	60.0	19.5	38.9	58.4
54		19.7	39.3	59.0	28.9	57.8	60.0	19.7	39.3	59.0	28.9	57.8	28.9	57.8	17.3	34.6	51.9
60		17.7	35.4	53.1	26.0	52.1	60.0	17.7	35.4	53.1	26.0	52.1	26.0	52.1	15.6	31.1	46.7
66		16.1	32.2	48.3	23.7	47.3	60.0	16.1	32.2	48.3	23.7	47.3	23.7	47.3	14.2	28.3	42.5
72		14.8	29.5	44.3	21.7	43.4	60.0	14.8	29.5	44.3	21.7	43.4	21.7	43.4	13.0	26.0	38.9
30		33.2	60.0	60.0	48.8	60.0	60.0	33.2	60.0	60.0	48.8	60.0	48.8	60.0	29.2	58.4	60.0
36		27.7	55.3	60.0	40.7	60.0	60.0	27.7	55.3	60.0	40.7	60.0	40.7	60.0	24.3	48.7	60.0
42	96	23.7	47.4	60.0	34.9	60.0	60.0	23.7	47.4	60.0	34.9	60.0	34.9	60.0	20.9	41.7	60.0
48		20.8	41.5	60.0	30.5	60.0	60.0	20.8	41.5	60.0	30.5	60.0	30.5	60.0	18.3	36.5	54.8
54		18.4	36.9	55.3	27.1	54.2	60.0	18.4	36.9	55.3	27.1	54.2	27.1	54.2	16.2	32.4	48.7
60		16.6	33.2	49.8	24.4	48.8	60.0	16.6	33.2	49.8	24.4	48.8	24.4	48.8	14.6	29.2	43.8
66		15.1	30.2	45.3	22.2	44.4	60.0	15.1	30.2	45.3	22.2	44.4	22.2	44.4	13.3	26.5	39.8
72		13.8	27.7	41.5	20.3	40.7	60.0	13.8	27.7	41.5	20.3	40.7	20.3	40.7	12.2	24.3	36.5

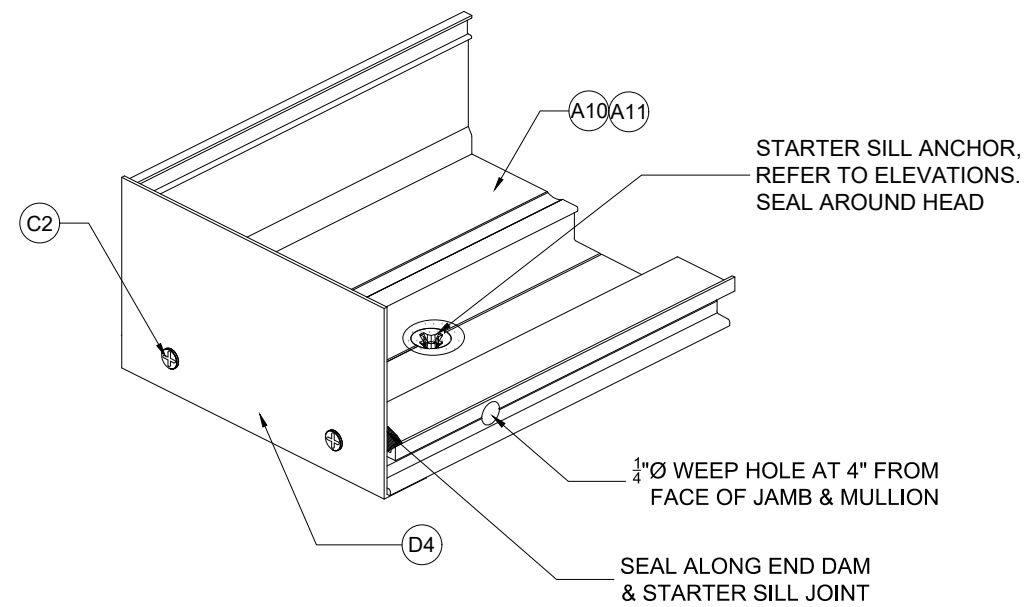
ANCHOR CAPACITIES

BASED ON $\frac{1}{4}$ " SHIM THICKNESS

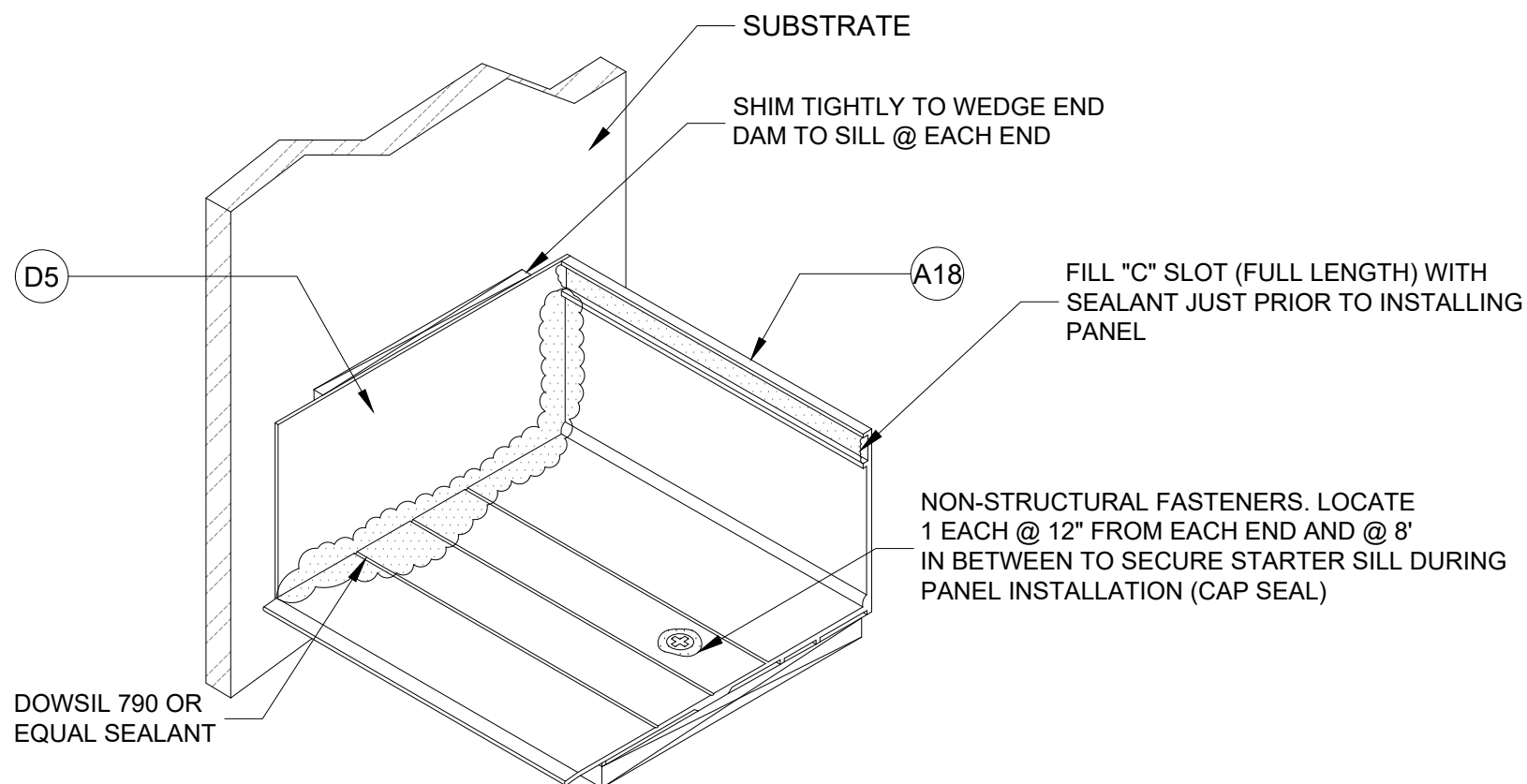
ANCHOR LOAD CAPACITY, psf (ASD) Based on max. 1/4" thk. shim																	
Dimens. (in)		TYPE 'A'			TYPE 'B'			TYPE 'C'			TYPE 'D'		TYPE 'E'		TYPE 'F'		
W	H	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	E1	E2	F1	F2	F3
30	102	31.2	60.0	60.0	45.9	60.0	60.0	31.2	60.0	60.0	45.9	60.0	45.9	60.0	27.5	55.0	60.0
36		26.0	52.1	60.0	38.3	60.0	60.0	26.0	52.1	60.0	38.3	60.0	38.3	60.0	22.9	45.8	60.0
42		22.3	44.6	60.0	32.8	60.0	60.0	22.3	44.6	60.0	32.8	60.0	32.8	60.0	19.6	39.3	58.9
48		19.5	39.1	58.6	28.7	57.4	60.0	19.5	39.1	58.6	28.7	57.4	28.7	57.4	17.2	34.4	51.5
54		17.4	34.7	52.1	25.5	51.0	60.0	17.4	34.7	52.1	25.5	51.0	25.5	51.0	15.3	30.5	45.8
60		15.6	31.2	46.9	23.0	45.9	60.0	15.6	31.2	46.9	23.0	45.9	23.0	45.9	13.7	27.5	41.2
66		14.2	28.4	42.6	20.9	41.8	60.0	14.2	28.4	42.6	20.9	41.8	20.9	41.8	12.5	25.0	37.5
72	108	13.0	26.0	39.1	19.1	38.3	57.4	13.0	26.0	39.1	19.1	38.3	19.1	38.3	11.5	22.9	34.4
30		29.5	59.0	60.0	43.4	60.0	60.0	29.5	59.0	60.0	43.4	60.0	43.4	60.0	26.0	51.9	60.0
36		24.6	49.2	60.0	36.1	60.0	60.0	24.6	49.2	60.0	36.1	60.0	36.1	60.0	21.6	43.3	60.0
42		21.1	42.2	60.0	31.0	60.0	60.0	21.1	42.2	60.0	31.0	60.0	31.0	60.0	18.5	37.1	55.6
48		18.4	36.9	55.3	27.1	54.2	60.0	18.4	36.9	55.3	27.1	54.2	27.1	54.2	16.2	32.4	48.7
54		16.4	32.8	49.2	24.1	48.2	60.0	16.4	32.8	49.2	24.1	48.2	24.1	48.2	14.4	28.8	43.3
60		14.8	29.5	44.3	21.7	43.4	60.0	14.8	29.5	44.3	21.7	43.4	21.7	43.4	13.0	26.0	38.9
66	114	13.4	26.8	40.2	19.7	39.4	59.2	13.4	26.8	40.2	19.7	39.4	19.7	39.4	11.8	23.6	35.4
72		12.3	24.6	36.9	18.1	36.1	54.2	12.3	24.6	36.9	18.1	36.1	18.1	36.1	10.8	21.6	32.4
30		28.0	55.9	60.0	41.1	60.0	60.0	28.0	55.9	60.0	41.1	60.0	41.1	60.0	24.6	49.2	60.0
36		23.3	46.6	60.0	34.2	60.0	60.0	23.3	46.6	60.0	34.2	60.0	34.2	60.0	20.5	41.0	60.0
42		20.0	39.9	59.9	29.4	58.7	60.0	20.0	39.9	59.9	29.4	58.7	29.4	58.7	17.6	35.1	52.7
48		17.5	34.9	52.4	25.7	51.4	60.0	17.5	34.9	52.4	25.7	51.4	25.7	51.4	15.4	30.7	46.1
54		15.5	31.1	46.6	22.8	45.7	60.0	15.5	31.1	46.6	22.8	45.7	22.8	45.7	13.7	27.3	41.0
60	120	14.0	28.0	41.9	20.5	41.1	60.0	14.0	28.0	41.9	20.5	41.1	20.5	41.1	12.3	24.6	36.9
66		12.7	25.4	38.1	18.7	37.4	56.0	12.7	25.4	38.1	18.7	37.4	18.7	37.4	11.2	22.4	33.5
72		11.6	23.3	34.9	17.1	34.2	51.4	11.6	23.3	34.9	17.1	34.2	17.1	34.2	10.2	20.5	30.7
30		26.6	53.1	60.0	39.0	60.0	60.0	26.6	53.1	60.0	39.0	60.0	39.0	60.0	23.4	46.7	60.0
36		22.1	44.3	60.0	32.5	60.0	60.0	22.1	44.3	60.0	32.5	60.0	32.5	60.0	19.5	38.9	58.4
42		19.0	37.9	56.9	27.9	55.8	60.0	19.0	37.9	56.9	27.9	55.8	27.9	55.8	16.7	33.4	50.1
48		16.6	33.2	49.8	24.4	48.8	60.0	16.6	33.2	49.8	24.4	48.8	24.4	48.8	14.6	29.2	43.8
54	126	14.8	29.5	44.3	21.7	43.4	60.0	14.8	29.5	44.3	21.7	43.4	21.7	43.4	13.0	26.0	38.9
60		13.3	26.6	39.8	19.5	39.0	58.6	13.3	26.6	39.8	19.5	39.0	19.5	39.0	11.7	23.4	35.0
66		12.1	24.1	36.2	17.7	35.5	53.2	12.1	24.1	36.2	17.7	35.5	17.7	35.5	10.6	21.2	31.9
72		11.1	22.1	33.2	16.3	32.5	48.8	11.1	22.1	33.2	16.3	32.5	16.3	32.5	9.7	19.5	29.2
30		25.3	50.6	60.0	37.2	60.0	60.0	25.3	50.6	60.0	37.2	60.0	37.2	60.0	22.2	44.5	60.0
36		21.1	42.2	60.0	31.0	60.0	60.0	21.1	42.2	60.0	31.0	60.0	31.0	60.0	18.5	37.1	55.6
42		18.1	36.1	54.2	26.6	53.1	60.0	18.1	36.1	54.2	26.6	53.1	26.6	53.1	15.9	31.8	47.7
48	132	15.8	31.6	47.4	23.2	46.5	60.0	15.8	31.6	47.4	23.2	46.5	23.2	46.5	13.9	27.8	41.7
54		14.1	28.1	42.2	20.7	41.3	60.0	14.1	28.1	42.2	20.7	41.3	20.7	41.3	12.4	24.7	37.1
60		12.6	25.3	37.9	18.6	37.2	55.8	12.6	25.3	37.9	18.6	37.2	18.6	37.2	11.1	22.2	33.4
30		24.1	48.3	60.0	35.5	60.0	60.0	24.1	48.3	60.0	35.5	60.0	35.5	60.0	21.2	42.5	60.0
36		20.1	40.2	60.0	29.6	59.2	60.0	20.1	40.2	60.0	29.6	59.2	29.6	59.2	17.7	35.4	53.1
42		17.2	34.5	51.7	25.4	50.7	60.0	17.2	34.5	51.7	25.4	50.7	25.4	50.7	15.2	30.3	45.5
48		15.1	30.2	45.3	22.2	44.4	60.0	15.1	30.2	45.3	22.2	44.4	22.2	44.4	13.3	26.5	39.8
54	138	13.4	26.8	40.2	19.7	39.4	59.2	13.4	26.8	40.2	19.7	39.4	19.7	39.4	11.8	23.6	35.4
30		23.1	46.2	60.0	33.9	60.0	60.0	23.1	46.2	60.0	33.9	60.0	33.9	60.0	20.3	40.6	60.0
36		19.2	38.5	57.7	28.3	56.6	60.0	19.2	38.5	57.7	28.3	56.6	28.3	56.6	16.9	33.9	50.8
42		16.5	33.0	49.5	24.2	48.5	60.0	16.5	33.0	49.5	24.2	48.5	24.2	48.5	14.5	29.0	43.5
48		14.4	28.9	43.3	21.2	42.4	60.0	14.4	28.9	43.3	21.2	42.4	21.2	42.4	12.7	25.4	38.1
54		12.8	25.7	38.5	18.9	37.7	56.6	12.8	25.7	38.5	18.9	37.7	18.9	37.7	11.3	22.6	33.9
24		144	27.7	55.3	60.0	40.7	60.0	60.0	27.7	55.3	60.0	40.7	60.0	40.7	60.0	24.3	48.7
30	22.1		44.3	60.0	32.5	60.0	60.0	22.1	44.3	60.0	32.5	60.0	32.5	60.0	19.5	38.9	58.4
36	18.4		36.9	55.3	27.1	54.2	60.0	18.4	36.9	55.3	27.1	54.2	27.1	54.2	16.2	32.4	48.7
42	15.8		31.6	47.4	23.2	46.5	60.0	15.8	31.6	47.4	23.2	46.5	23.2	46.5	13.9	27.8	41.7
48	13.8		27.7	41.5	20.3	40.7	60.0	13.8	27.7	41.5	20.3	40.7	20.3	40.7	12.2	24.3	36.5



FLAT STARTER SILL (CG451-12) TO
END DAM (ED450-2) CONNECTION



TALL STARTER SILL (CT451-39/CG451-39)
TO END DAM (ED450-1) CONNECTION



STARTER SILL - END DAM CONNECTIONS

PRODUCT:

Series
FT451/FG451
Alum Thermal &
Non-Thermal
Storefronts
NON-IMPACT

REVN	DATE/REMARKS

ENGINEER:

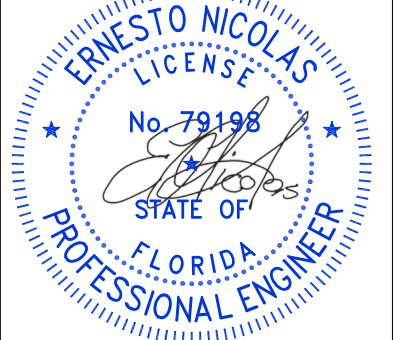


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DATE: APRIL 27, 2024

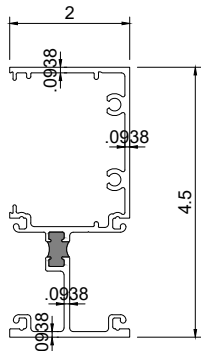
DRAWN: Erick CHK: ESN

DRWG. No: 24FL-102 SCALE: NTS

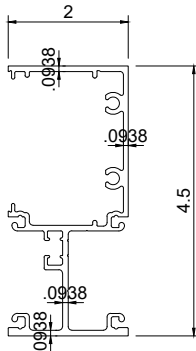
SHEET NO.:

9 OF 12

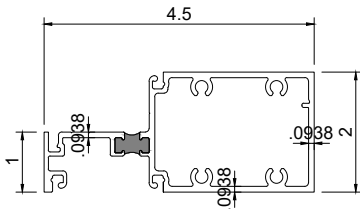
SERIES FT451 / FG451 PARTS TABLE



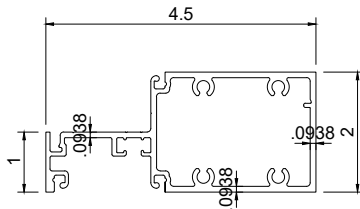
A1) MULLION (THERMAL)
FT451- 1 (6063-T6)



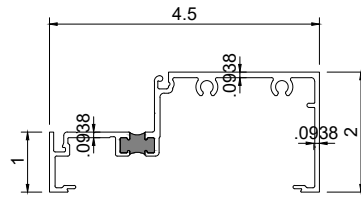
A2) MULLION (NON-THERMAL)
FG451- 1 (6063-T6)



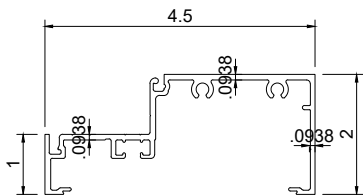
A3) INT. HOR. (THERMAL)
FT451- 2 (6063-T6)



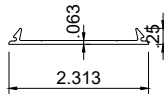
A4) INT. HOR. (NON-THERMAL)
FG451- 2 (6063-T6)



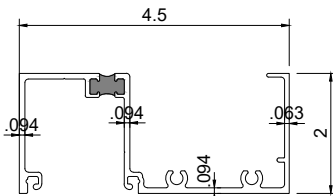
A5) SILL/HEAD (THERMAL)
FT451- 4 (6063-T6)



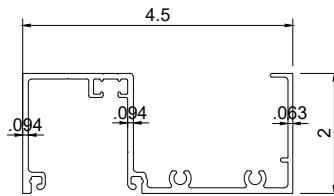
A6) SILL/HEAD (NON-THERMAL)
FG451- 4 (6063-T6)



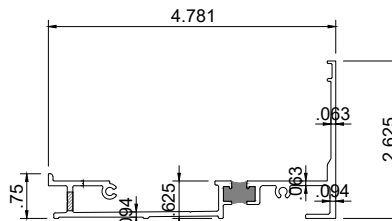
A7) MULLION FILLER
FG451-5 (6063-T6)



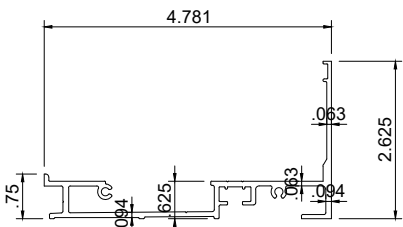
A8) HEAD / JAMB (THEMAL)
FT451-11 (6063-T6)



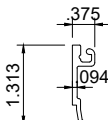
A9) HEAD / JAMB (NON-THEMAL)
FG451-11 (6063-T6)



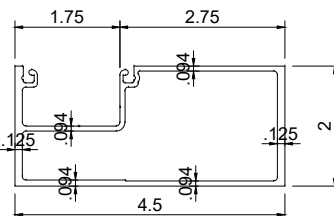
A10) STARTER SILL (THERMAL)
CT451-39 (6063-T6)



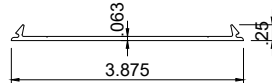
A11) STARTER SILL (NON-THERMAL)
CG451-39 (6063-T6)



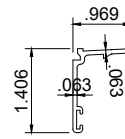
A12) (GLASS STOP)
FG451- 3 (6063-T6)



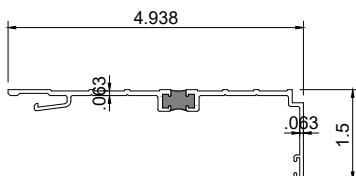
A13) DOOR JAMB
DF451-10 (6063-T6)



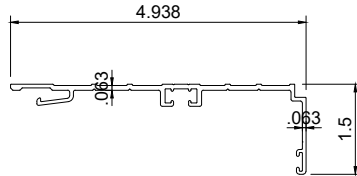
A14) FILLER PLATE
CG450 -18 (6063-T6)



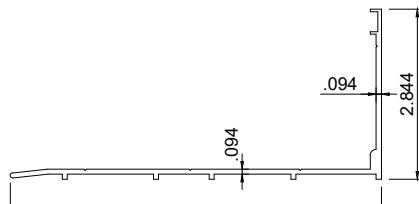
A15) RECEPTOR
CG450-26 (6063-T6)



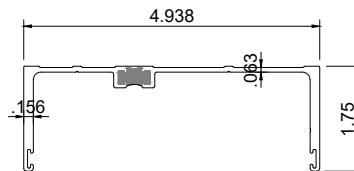
A16) FEMALE HEAD RECEPTOR
CT450-27 (6063-T6)



A17) FEMALE HEAD RECEPTOR
CT450-27 (6063-T6)



A18) FLAT STARTER SILL (NON-THERMAL)
CG451-12 (6063-T6)



A19) HEAVY HEAD RECEPTOR (THERMAL)
CG451-12 (6063-T6)



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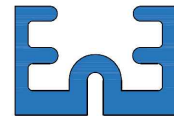
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Alpharetta GA, 30009
p. 800-432-8132

PRODUCT:

Series
FT451/FG451
Alum Thermal &
Non-Thermal
Storefronts
NON-IMPACT

REVN	DATE/REMARKS

ENGINEER:

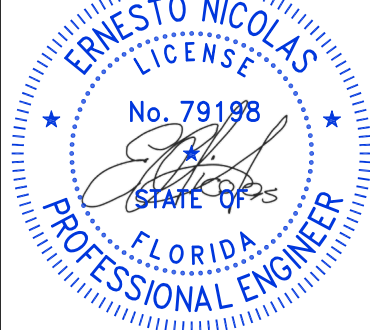


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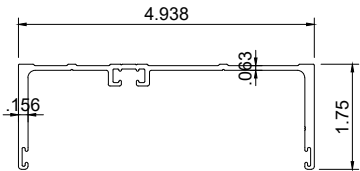
DRAWN: Erick CHK: ESN

DRWG. No: 24FL-102 SCALE: NTS

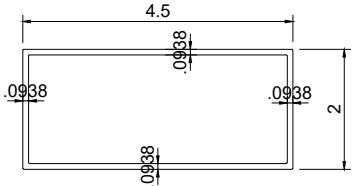
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10 OF 12

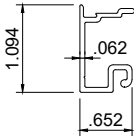
SERIES FT451 / FG451 PARTS TABLE



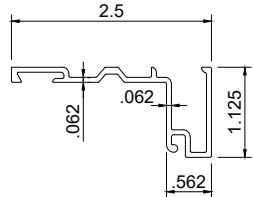
A20) HEAVY HEAD RECEPTOR (NON-THERMAL)
CG451-12 (6063-T6)



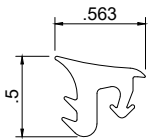
A21) TRANSOM BAR / TRANSOM HEADER
10184 (6063-T6)



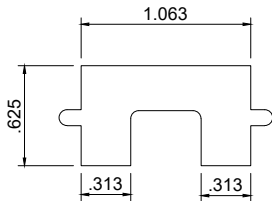
A22) TRANSOM / JAMB SASH
40785 (6063-T6)



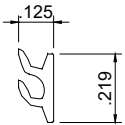
A23) TRANSOM / JAMB SASH
40786 (6063-T6)



B1) GLAZING GASKET
RG-1 (EPDM)

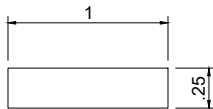


B2) SETTING BLOCK
RSB - 3 (EPDM)



B3) FINGER GASKET
RG-11 (EPDM)

H62B



B4) TRANSOM GLASS SETTING BLOCK
H62B (EPDM)



C1) ASSEMBLY SCREW (#14-14X1" HWH-F)
FAS14-2 (ZINC COATED STEEL)



C2) #6 x 3/8" HWH-F MS
23005 (STAINLESS STEEL)



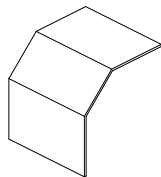
C3) SILL TO STARTER SILL SCREW (#10x1 1/4" UC PFH)
FAS10-3 (STAINLESS STEEL)



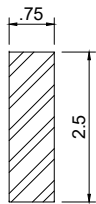
C4) TRANSOM SASH SCREW (#12 x 3/4" UC PFH MS)
23163 (ZINC COATED STEEL)



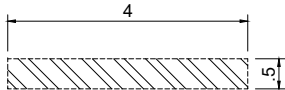
C5) TUBE CLIP SCREW (#10-24 x 3/4" UC PFH)
23079 (ZINC COATED STEEL)



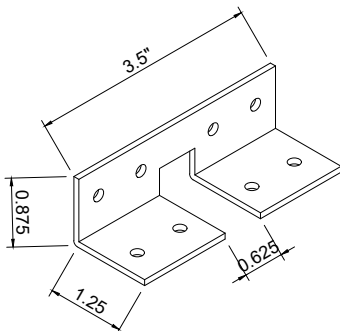
D1) WATER DEFLECTOR
WD451-1 (PLASTIC)



D2) MULLION REINF.
ST451-1 (A36 MIN.)



D3) DOOR JAMB REINF.
ST451-2 (A36 MIN.)



D9) TUBE CLIP
16ga GALV. STEEL



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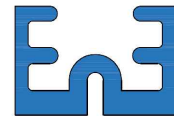
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p. 800-432-8132

PRODUCT:

Series
FT451/FG451
Alum Thermal &
Non-Thermal
Storefronts
NON-IMPACT

REVN	DATE/REMARKS

ENGINEER:

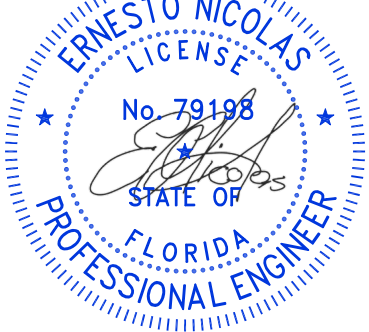


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DATE: APRIL 27, 2024

DRAWN: Erick CHK: ESN

DRWG. No: 24FL-102 SCALE: NTS

SHEET NO.:

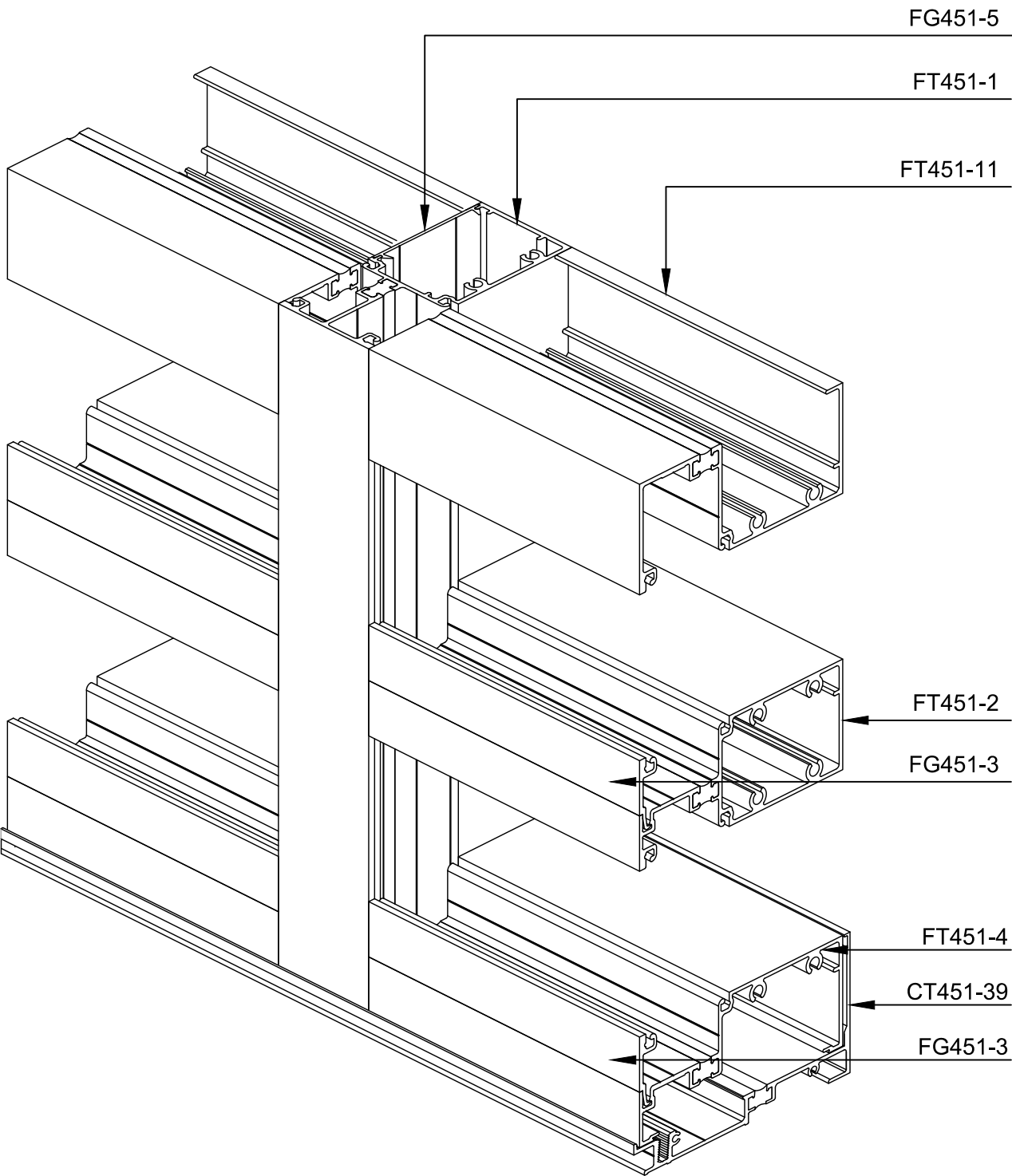
11 OF 12

FT451 / FG451 BILL OF MATERIALS				
ITEM NO.	PART NO.	DESCRIPTION	MATERIAL	MANUFACTURER
A 1	FT451- 1	MULLION (THERMAL)	ALUM. 6063-T6	TRULITE
A 2	FG451- 1	MULLION (NON-THERMAL)	ALUM. 6063-T6	TRULITE
A 3	FT451- 2	INT. HOR. (THERMAL)	ALUM. 6063-T6	TRULITE
A 4	FG451- 2	INT. HOR. (NON-THERMAL)	ALUM. 6063-T6	TRULITE
A 5	FT451- 4	SILL/HEAD (THERMAL)	ALUM. 6063-T6	TRULITE
A 6	FG451- 4	SILL/HEAD (NON-THERMAL)	ALUM. 6063-T6	TRULITE
A 7	FG451-5	MULLION FILLER	ALUM. 6063-T6	TRULITE
A 8	FT451-11	HEAD/JAMB (THERMAL)	ALUM. 6063-T6	TRULITE
A 9	FG451-11	HEAD/JAMB (NON-THERMAL)	ALUM. 6063-T6	TRULITE
A 10	CT451-39	TALL STARTER SILL (THERMAL)	ALUM. 6063-T6	TRULITE
A 11	CG451-39	TALL STARTER SILL (NON-THERMAL)	ALUM. 6063-T6	TRULITE
A 12	FG451-3	GLASS STOP	ALUM. 6063-T6	TRULITE
A 13	DF451-10	DOOR JAMB	ALUM. 6063-T6	TRULITE
A 14	CG450 -18	FILLER PLATE	ALUM. 6063-T6	TRULITE
A 15	CG450-26	RECEPTOR	ALUM. 6063-T6	TRULITE
A 16	CT450-27	FEMALE HEAD RECEPTOR (THERMAL)	ALUM. 6063-T6	TRULITE
A 17	CG450-27	FEMALE HEAD RECEPTOR (NON-THERMAL)	ALUM. 6063-T6	TRULITE
A 18	CG451-12	FLAT STARTER SILL	ALUM. 6063-T6	TRULITE
A 19	CT451-38	HEAVY HEAD RECEPTOR (THERMAL)	ALUM. 6063-T6	TRULITE
A 20	CG451-38	HEAVY HEAD RECEPTOR (NON-THERMAL)	ALUM. 6063-T6	TRULITE
A 21	10184	TRANSOM BAR / TRANSOM HEAD	ALUM. 6063-T6	TRULITE
A 22	40785	TRANSOM /JAMB SASH	ALUM. 6063-T6	TRULITE
A 23	40786	TRANSOM /JAMB SASH	ALUM. 6063-T6	TRULITE

ITEM NO.	PART NO.	DESCRIPTION	MATERIAL	MANUFACTURER
B 1	RG-1	GLAZING GASKET	EPDM, DURO 65 +-5, SHORE A	TRULITE
B 2	RSB - 3	SETTING BLOCK	EPDM, DURO 85 +-5, SHORE A	TRULITE
B 3	RG-11	FINGER GASKET	EPDM, DURO 65 +-5, SHORE A	TRULITE
B 4	H62B	TRANSOM GLASS SETTING BLOCK	EPDM, DURO 85 +-5, SHORE A	TRULITE

ITEM NO.	PART NO.	DESCRIPTION	MATERIAL	MANUFACTURER
C 1	FAS14-2	#14-14X1"HWH-F ASSEMBLY SCREW	ZINC COATED STEEL	ALLOY FASTENER
C 2	23005	#6 x $\frac{3}{8}$ " PHP MS	STAINLESS STEEL	ALLOY FASTENER
C 3	FAS10-3	#10 x 1 $\frac{1}{4}$ " UC PFH MS	STAINLESS STEEL	ALLOY FASTENER
C 4	2163	#12 x $\frac{3}{4}$ " UC PFH MS	ZINC COATED STEEL	ALLOY FASTENER
C 5	23079	#10-24 x $\frac{3}{4}$ " UC PFH	ZINC COATED STEEL	ALLOY FASTENER

ITEM NO.	PART NO.	DESCRIPTION	MATERIAL	MANUFACTURER
D 1	WD451-1	WATER DEFLECTOR FOR 1" IG	ABS PLASTIC	UNITED PLASTIC
D 2	ST451-1	0.75" X 2.5" MULLION STEEL REINF.	A36 MIN.	VARIES
D 3	ST451-2	0.5" X 4" DOOR RAMB REINF.	A36 MIN.	VARIES
D 4	ED450-1	END DAM FOR CT451/CG451-39	ALUMINUM	TRULITE
D 5	ED450-2	END DAM FOR CG451-12	ABS PLASTIC	UNITED PLASTIC
D 6	-	ALUMIN GLASS SPACER	ALUMINUM	TRULITE
D 7	-	KODISPACE 4SG WARM EDGE SPACER	THERMO PLASTIC	HB FULLER KOMMERLING
D 8	GT-1	JOINT SEALANT TAPE	BUTIL	SCHNEE-MOREHEAD
D 9	40671	TUBE CLIP	GALV. STEEL	VARIES



FT451 THERMAL STOREFRONT
NOTE: SIMILAR APPLICATION FOR FG451 (NON-THERMAL VERSION)



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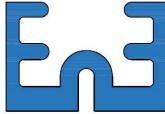
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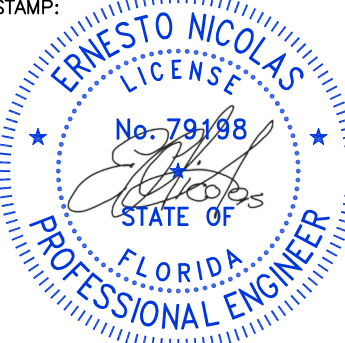
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DRWG. No: 24FL-102	SCALE: NTS

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12 OF 12