

**SERIES ES-8000T  
ALUMINUM WINDOW WALL SYSTEM**

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 2020 (7TH EDITION)/2023 (8TH EDITION) FLORIDA BUILDING CODE INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

1BY OR 2BY WOOD BUCKS & BUCK FASTENERS BY OTHERS, MUST BE DESIGNED AND INSTALLED ADEQUATELY TO TRANSFER APPLIED PRODUCT LOADS TO THE BUILDING STRUCTURE.

ANCHORS SHALL BE CORROSION RESISTANT, SPACED AS SHOWN ON DETAILS AND INSTALLED PER MANUF'S INSTRUCTIONS. SPECIFIED EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.

A LOAD DURATION INCREASE IS USED IN DESIGN OF ANCHORS INTO WOOD ONLY. ALL SHIMS TO BE HIGH IMPACT, NON-METALLIC AND NON-COMPRESSIBLE.

MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE 2020/2023 FLORIDA BLDG. CODE & ADOPTED STANDARDS.

THIS PRODUCT APPROVAL IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT, I.E. LIFE SAFETY OF THIS PRODUCT, ADEQUACY OF STRUCTURE RECEIVING THIS PRODUCT AND SEALING AROUND OPENING FOR WATER INFILTRATION RESISTANCE ETC. CONDITIONS NOT SHOWN IN THIS DRAWING ARE TO BE ANALYZED SEPARATELY, AND TO BE REVIEWED BY BUILDING OFFICIAL.

DESIGN LOADS SHOWN ARE BASED ON 'ALLOWABLE STRESS DESIGN (ASD)'.

MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION IN ACCORDANCE WITH SECTION 1709.9.3 OF FLORIDA BUILDING CODE. LABELING TO COMPLY WITH SECTION 1709.9.2.

**TYPICAL ELEVATIONS**

**INSTRUCTIONS:**

USE CHARTS AS FOLLOWS.

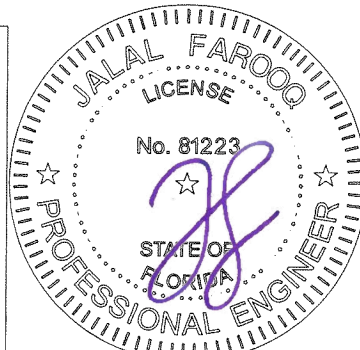
- STEP 1** DETERMINE DESIGN WIND LOAD REQUIREMENT BASED ON WIND VELOCITY, BLDG. HEIGHT, WIND ZONE USING APPLICABLE ASCE 7 STANDARD.
- STEP 2** SEE CHARTS ON SHEET 2 FOR DESIGN LOAD CAPACITY OF DESIRED GLASS SIZE.
- STEP 3** CHECK MULLION CAPACITY FOR A GIVEN SPACING AND HEIGHT USING CHARTS ON SHEETS 3 FOR WINDOW WALL MULLION AND SHEETS 5 & 6 FOR DOOR MULLION THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.
- STEP 4** CHECK ANCHOR CAPACITY FOR WINDOW WALL SYSTEM USING CHARTS ON SHEETS 4 THRU 4.2 FOR DOOR MULLION ANCHOR CAPACITY SEE CHART ON SHEET 7. THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.
- STEP 5** VERIFY UNANCHORED JAMBS, IF USED AS PER SHEET 9.
- STEP 6** THE LOWEST VALUE RESULTING FROM STEPS 2, 3 AND 4 SHALL APPLY TO ENTIRE SYSTEM.

THIS SYSTEM IS RATED FOR SMALL MISSILE IMPACT.  
F.B.C. APPROVED IMPACT RESISTANT SHUTTERS REQUIRED FOR INSTALLATIONS UP TO 30 FT. OF GRADE.  
SHUTTERS NOT REQD. FOR INSTALLATIONS ABOVE 30 FT. OF GRADE.

**INSUL. LAM. GLASS  
SMALL MISSILE IMPACT**

**Sealed: 7/25/2023 FL #17897**

A- CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION OF THIS PRODUCT BASED ON THIS PRODUCT EVALUATION PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT.  
B- THIS PRODUCT EVALUATION DOCUMENT WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.  
C- SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A FLORIDA REGISTERED ENGINEER OR ARCHITECT WHICH WILL BECOME THE ENGINEER OF RECORD (E.O.R.) FOR THE PROJECT AND WHO WILL BE RESPONSIBLE FOR THE PROPER USE OF THE P.E.D. ENGINEER OF RECORD, ACTING AS A DELEGATED ENGINEER TO THE P.E.D. ENGINEER SHALL SUBMIT TO THIS LATTER THE SITE SPECIFIC DRAWINGS FOR REVIEW.  
D- THIS P.E.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.



**af c**  
**AL-FAROOQ CORPORATION**  
 ENGINEERS & PRODUCT DEVELOPMENT  
 9360 SUNSET DRIVE, SUITE 220  
 MIAMI, FLORIDA 33173 (C.A.N. 3538)  
 TEL. (305) 264-8100 FAX. (305) 262-6978  
 COMP-ANL\21-12F-ES

ES-8000T ALUM WINDOW WALL SYSTEM (S.M.I.)  
**E.S. WINDOWS, LLC**  
 3550 N.W. 49 STREET  
 MIAMI, FL. 33142  
 TEL. (305) 638-5151 FAX. (305) 638-5158

no	date	description	by
A	02.08.23	SILICONE OPTIONS ADDED	
B	07.25.23	UPDATED TO 2023 FBC	

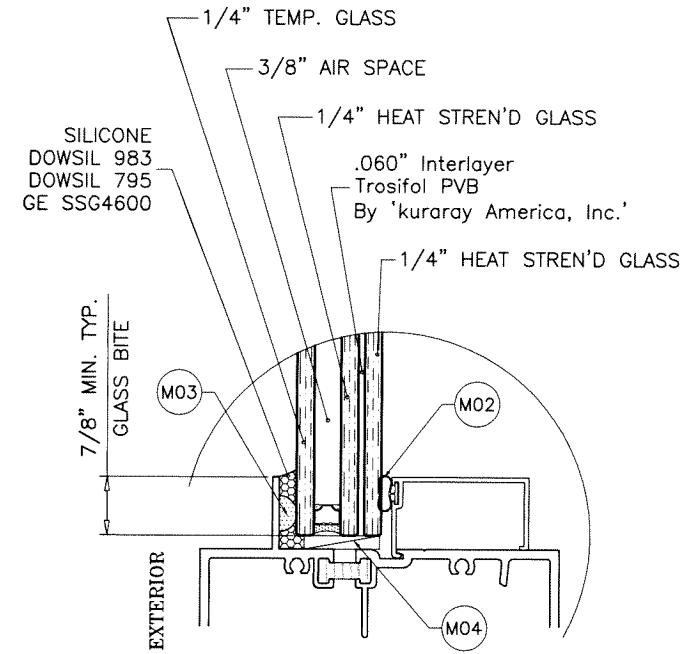
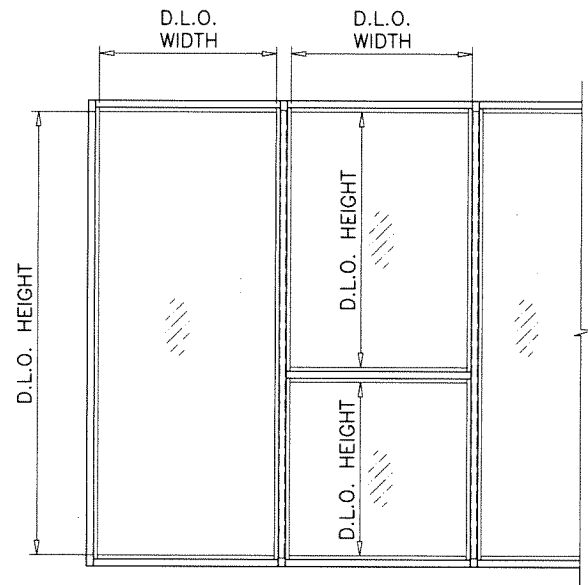
revisions:

date: 02-10-21  
 scale: 1/2"=1'-0"  
 dr. by: TARIQ  
 chk. by:

drawing no.  
**21-12F**  
 sheet 1 of 13

GLASS LOAD CAPACITY - PSF			
NOMINAL DIMS.		1-3/16" OVERALL INSUL. LAM. GLASS	
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)	INT.(-)
24-1/2"	96-1/2"	60.0	60.0
30-1/2"		60.0	60.0
36-1/2"		59.8	59.8
42-1/2"		52.3	52.3
48-1/2"		46.5	46.5
54-1/2"	41.8	41.8	
24-1/2"	108-1/2"	60.0	60.0
30-1/2"		60.0	60.0
36-1/2"		59.8	59.8
42-1/2"		52.3	52.3
48-1/2"		46.5	46.5
24-1/2"	114-1/2"	60.0	60.0
30-1/2"		60.0	60.0
36-1/2"		59.8	59.8
42-1/2"		52.3	52.3
48-1/2"		46.5	46.5
24-1/2"	120-1/2"	60.0	60.0
30-1/2"		60.0	60.0
36-1/2"		59.6	59.6
42-1/2"		52.3	52.3
48-1/2"		46.5	46.5
24-1/2"	126-1/2"	60.0	60.0
30-1/2"		60.0	60.0
36-1/2"		59.0	59.0
42-1/2"		52.3	52.3
48-1/2"		46.5	46.5
24-1/2"	131-1/2"	60.0	60.0
30-1/2"		60.0	60.0
36-1/2"		58.6	58.6
42-1/2"		52.3	52.3
48-1/2"		46.5	46.5
24-1/2"	132-1/2"	60.0	60.0
30-1/2"		60.0	60.0
36-1/2"		58.5	58.5
42-1/2"		52.3	52.3
48-1/2"		46.5	46.5
24-1/2"	138-1/2"	60.0	60.0
30-1/2"		60.0	60.0
36-1/2"		58.1	58.1
42-1/2"		52.3	52.3
48-1/2"		46.5	46.5

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



**GLAZING DETAIL**

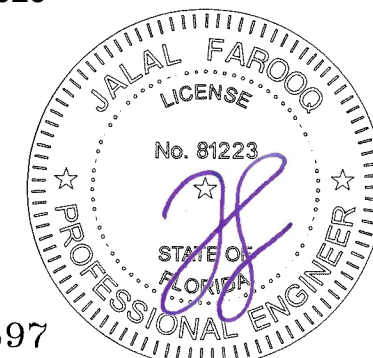
1-3/16" OVERALL INSUL. LAM. GLASS

**3/8" AIR SPACE CONSISTING OF:**

- SPACER:  
'HELIMA' LOW PROFILE ALUMINUM SPACER BY 'LINGERMANN GMBH' AROUND THE PERIMETER OF THE GLASS.
- PERIMETER SEALANT:  
SILICONE  
DOWSIL 791  
GE 2000

Sealed: 7/25/2023

GLASS



NOTE:  
GLASS CAPACITIES ON THIS SHEET ARE  
BASED ON ASTM E1300-09 (3 SEC. GUSTS).

FL #17897



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no	date	description

date: 02-10-21  
scale: 3/8" = 1"  
dr. by: TARIQ  
chk. by:

drawing no.  
**21-12F**

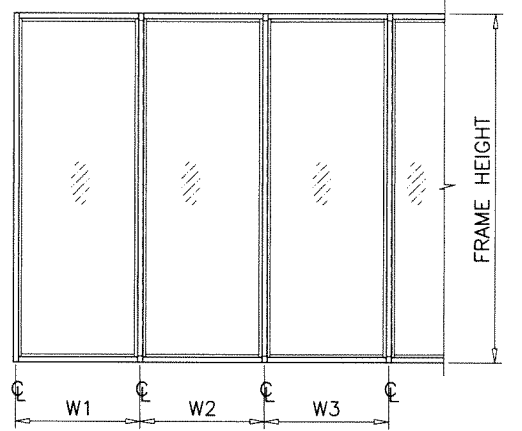
sheet 2 of 13

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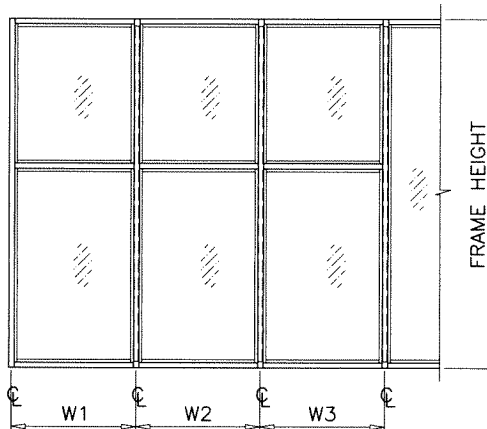
DESIGN LOAD CAPACITY - PSF JAMB/MULLION WITHOUT INTERMEDIATE HORIZONTALS												
NOMINAL DIMS.		JAMB 'J1'		JAMB 'J2'		MULLION 'M1'		MULLION 'M2'		MULLION 'M3'		
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	
30"	90"	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
36"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
42"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
48"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
54"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
60"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
30"	96"	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
36"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
40"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
42"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
48"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
54"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
60"	60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	60.0	
30"	102"	60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
36"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
42"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
48"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
54"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
60"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	60.0
30"	108"	60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
36"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
42"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
48"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
54"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
60"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	60.0
30"	126"	60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
36"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
42"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
48"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
60"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	60.0
60"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	60.0
30"	132"	60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
36"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
42"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
44-3/4"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
60"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	60.0
60"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	60.0
30"	137"	60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
36"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
42"		60.0	60.0	60.0	60.0	-	-	59.7	59.7	60.0	60.0	
44-3/4"		54.0	54.0	60.0	60.0	-	-	54.0	54.0	60.0	60.0	
60"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	60.0
60"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	60.0
30"	144"	-	-	60.0	60.0	-	-	-	-	60.0	60.0	
36"		-	-	60.0	60.0	-	-	-	-	60.0	60.0	
42"		-	-	57.4	57.4	-	-	-	-	57.4	57.4	
60"		-	-	60.0	60.0	-	-	-	-	60.0	60.0	
60"		-	-	60.0	60.0	-	-	-	-	60.0	60.0	
60"		-	-	57.4	57.4	-	-	-	-	57.4	57.4	

INTERPOLATION BETWEEN WIDTHS ALLOWED.



WIDTH (W) = W1  
AT FRAME JAMB

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

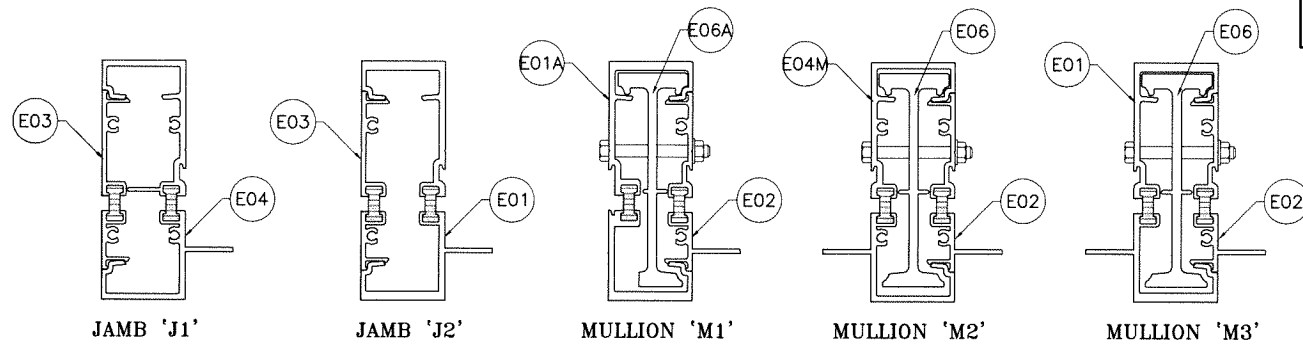


WIDTH (W) = W1  
AT FRAME JAMB

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

DESIGN LOAD CAPACITY - PSF JAMB/MULLION WITH INTERMEDIATE HORIZONTALS												
NOMINAL DIMS.		JAMB 'J1'		JAMB 'J2'		MULLION 'M1'		MULLION 'M2'		MULLION 'M3'		
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	
30"	90"	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
36"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
42"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
48"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
54"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
60"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
30"	96"	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
36"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
40"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	
42"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
48"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
54"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
60"	60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	60.0	
30"	102"	60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
36"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
42"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
48"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
54"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
60"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	60.0
30"	108"	60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
36"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
42"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
48"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
54"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
60"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	60.0
30"	126"	60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
36"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
42"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
48"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
60"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	60.0
60"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	60.0
30"	132"	60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
36"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
42"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
44-3/4"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
60"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	60.0
60"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	60.0
30"	137"	60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
36"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	
42"		60.0	60.0	60.0	60.0	-	-	57.6	57.6	60.0	60.0	
44-3/4"		54.0	54.0	60.0	60.0	-	-	54.0	54.0	60.0	60.0	
60"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	60.0
60"		60.0	60.0	60.0	60.0	-	-	60.0	60.0	60.0	60.0	60.0
30"	144"	-	-	60.0	60.0	-	-	-	-	60.0	60.0	
36"		-	-	60.0	60.0	-	-	-	-	60.0	60.0	
42"		-	-	60.0	60.0	-	-	-	-	60.0	60.0	
44-3/4"		-	-	55.6	55.6	-	-	-	-	55.6	55.6	
60"		-	-	60.0	60.0	-	-	-	-	60.0	60.0	
60"		-	-	48.7	48.7	-	-	-	-	48.7	48.7	

INTERPOLATION BETWEEN WIDTHS ALLOWED.



Ix IN^4	Sx IN^3
5.6469	2.1997

Ix IN^4	Sx IN^3
6.5995	2.5891

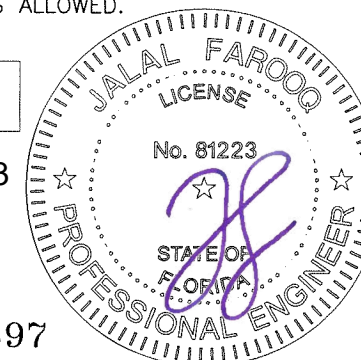
Ix IN^4	Sx IN^3
10.5913	4.2065

Ix IN^4	Sx IN^3
10.2689	4.1244

Ix IN^4	Sx IN^3
11.2393	4.3497

MULLIONS

Sealed: 7/25/2023



FL #17897

**af c**  
**AL-FAROOQ CORPORATION**  
 ENGINEERS & PRODUCT DEVELOPMENT  
 9360 SUNSET DRIVE, SUITE 220  
 MIAMI, FLORIDA 33173 (C.A.N. 3538)  
 TEL. (305) 262-6978 FAX. (305) 264-8100  
 COMP-ANL\21-12F-ES

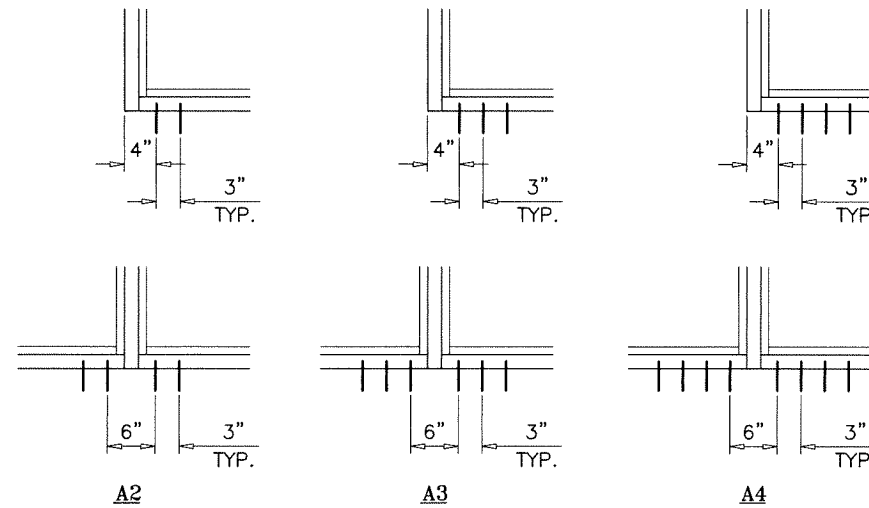
ES-8000T ALUM WINDOW WALL SYSTEM (S.M.I.)  
**E.S. WINDOWS, LLC**  
 3550 N.W. 49 STREET  
 MIAMI, FL. 33142  
 TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:	no.	date	by	description
date:	02-10-21			
scale:	-			
dr. by:	TARIQ			
chk. by:				
drawing no.	21-12F			
sheet	3 of 13			

ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)								
NOMINAL DIMS.		ANCHORS TYPE 'A'						
WIDTH (W)	FRAME HEIGHT	1/4" SHIM		3/8" MAX. SHIM			1/2" SHIM	
		A2	A3	A2	A3	A4	A3	A4
30"	78"	60.0	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	60.0	60.0	60.0
48"		60.0	60.0	56.4	60.0	60.0	60.0	60.0
54"		60.0	60.0	50.2	60.0	60.0	58.5	60.0
60"		60.0	60.0	45.1	60.0	60.0	52.7	60.0
30"	84"	60.0	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	59.9	60.0	60.0	60.0	60.0
48"		60.0	60.0	52.4	60.0	60.0	60.0	60.0
54"		60.0	60.0	46.6	60.0	60.0	54.3	60.0
60"		59.7	60.0	41.9	60.0	60.0	48.9	60.0
30"	90"	60.0	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	55.9	60.0	60.0	60.0	60.0
48"		60.0	60.0	48.9	60.0	60.0	57.0	60.0
54"		60.0	60.0	43.5	60.0	60.0	50.7	60.0
60"		55.7	60.0	39.1	58.7	60.0	45.6	60.0
30"	96"	60.0	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	52.4	60.0	60.0	60.0	60.0
48"		60.0	60.0	45.9	60.0	60.0	53.5	60.0
54"		58.0	60.0	40.8	60.0	60.0	47.5	60.0
60"		52.2	60.0	36.7	55.0	60.0	42.8	57.0
30"	102"	60.0	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	57.5	60.0	60.0	60.0	60.0
42"		60.0	60.0	49.3	60.0	60.0	57.5	60.0
48"		60.0	60.0	43.2	60.0	60.0	50.3	60.0
54"		54.6	60.0	38.4	57.5	60.0	44.7	59.6
60"		49.1	60.0	34.5	51.8	60.0	40.3	53.7
30"	108"	60.0	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	54.3	60.0	60.0	60.0	60.0
42"		60.0	60.0	46.6	60.0	60.0	54.3	60.0
48"		58.0	60.0	40.8	60.0	60.0	47.5	60.0
54"		51.6	60.0	36.2	54.3	60.0	42.3	56.3
60"		46.4	60.0	32.6	48.9	60.0	38.0	50.7
30"	114"	60.0	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	51.5	60.0	60.0	60.0	60.0
42"		60.0	60.0	44.1	60.0	60.0	51.5	60.0
48"		54.9	60.0	38.6	57.9	60.0	45.0	60.0
54"		48.8	60.0	34.3	51.5	60.0	40.0	53.4
60"		44.0	60.0	30.9	46.3	60.0	36.0	48.0
30"	120"	60.0	60.0	58.7	60.0	60.0	60.0	60.0
36"		60.0	60.0	48.9	60.0	60.0	57.0	60.0
42"		59.7	60.0	41.9	60.0	60.0	48.9	60.0
48"		52.2	60.0	36.7	55.0	60.0	42.8	57.0
54"		46.4	60.0	32.6	48.9	60.0	38.0	50.7
60"		44.2	60.0	31.1	46.6	60.0	36.2	48.3
30"	126"	60.0	60.0	55.9	60.0	60.0	60.0	60.0
36"		60.0	60.0	46.6	60.0	60.0	54.3	60.0
42"		56.8	60.0	39.9	59.9	60.0	46.6	60.0
48"		49.7	60.0	34.9	52.4	60.0	40.7	54.3
54"		44.2	60.0	31.1	46.6	60.0	36.2	48.3

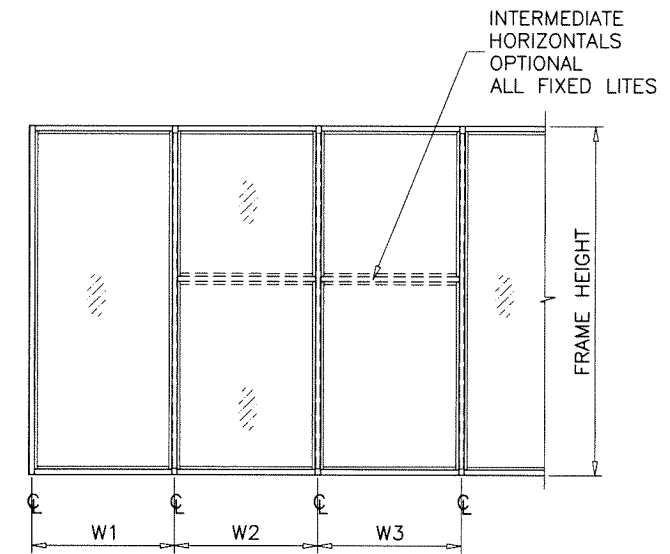
ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)								
NOMINAL DIMS.		ANCHORS TYPE 'A'						
WIDTH (W)	FRAME HEIGHT	1/4" SHIM		3/8" MAX. SHIM			1/2" SHIM	
		A2	A3	A2	A3	A4	A3	A4
30"	132"	60.0	60.0	53.4	60.0	60.0	60.0	60.0
36"		60.0	60.0	44.5	60.0	60.0	51.9	60.0
42"		54.2	60.0	38.1	57.2	60.0	44.4	59.3
48"		47.5	60.0	33.3	50.0	60.0	38.9	51.9
30"	138"	60.0	60.0	51.0	60.0	60.0	59.5	60.0
36"		60.0	60.0	42.5	60.0	60.0	49.6	60.0
42"		51.9	60.0	36.5	54.7	60.0	42.5	56.7
48"	45.4	60.0	31.9	47.8	60.0	37.2	49.6	
30"	144"	60.0	60.0	48.9	60.0	60.0	57.0	60.0
36"		58.0	60.0	40.8	60.0	60.0	47.5	60.0
42"		49.7	60.0	34.9	52.4	60.0	40.7	54.3
48"		43.5	60.0	30.6	45.9	60.0	35.7	47.5

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



ANCHORS TYPES: SEE SHEET 9 FOR DESCRIPTION

- A2 = (2) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
- A3 = (3) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
- A4 = (4) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION

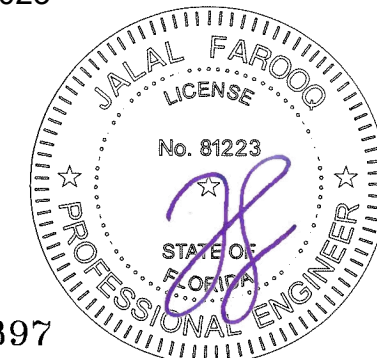


WIDTH (W) = W1  
AT FRAME JAMB

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

Sealed: 7/25/2023

ANCHORS



FL #17897

**af c**  
**AL-FAROOQ CORPORATION**  
 ENGINEERS & PRODUCT DEVELOPMENT  
 9360 SUNSET DRIVE, SUITE 220  
 MIAMI, FLORIDA 33173 (C.A.N. 3538)  
 TEL. (305) 264-8100 FAX. (305) 262-6978  
 COMP-ANL\21-12F-ES

ES-800T ALUM WINDOW WALL SYSTEM (S.M.I.)  
**E.S. WINDOWS, LLC**  
 3550 N.W. 49 STREET  
 MIAMI, FL. 33142  
 TEL. (305) 638-5151 FAX. (305) 638-5158

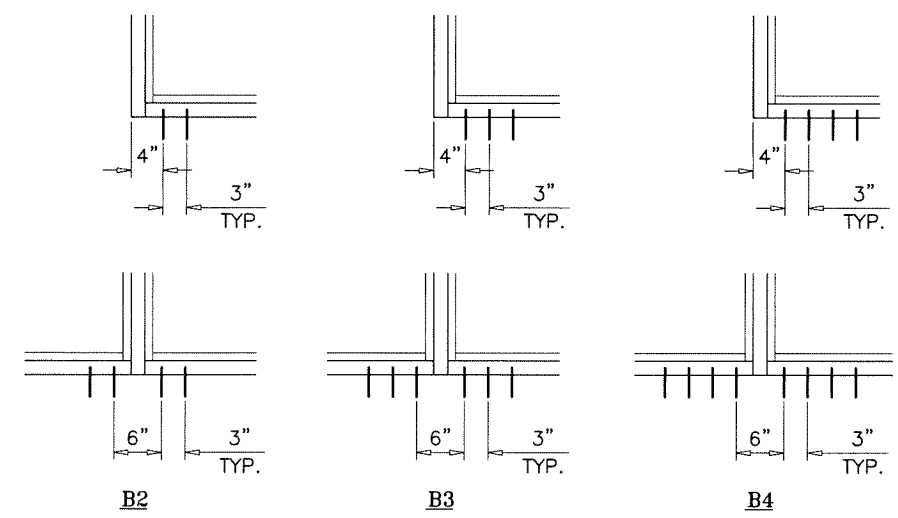
revisions:	no.	date	description
date:	02-10-21	scale:	-
dr. by:	TARIO	chk. by:	
drawing no.	21-12F		
sheet	4 of 13		



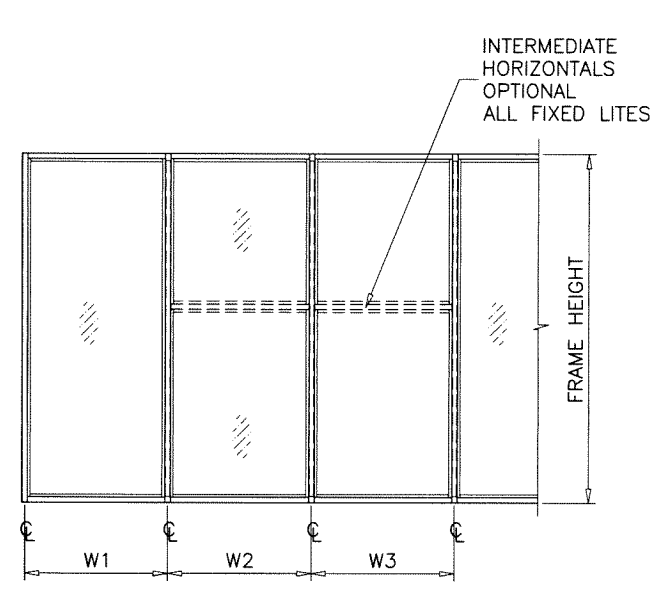
ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)								
NOMINAL DIMS.		ANCHORS TYPE 'B'						
WIDTH (W)	FRAME HEIGHT	1/4" SHIM		3/8" SHIM		1/2" SHIM		
		B2	B3	B2	B3	B2	B3	B4
30"	78"	60.0	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	60.0	60.0	60.0
48"		60.0	60.0	60.0	60.0	60.0	60.0	60.0
54"		60.0	60.0	60.0	60.0	56.3	60.0	60.0
60"		60.0	60.0	60.0	60.0	50.7	60.0	60.0
30"	84"	60.0	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	60.0	60.0	60.0
48"		60.0	60.0	60.0	60.0	58.9	60.0	60.0
54"		60.0	60.0	60.0	60.0	52.3	60.0	60.0
60"		60.0	60.0	59.7	60.0	47.1	60.0	60.0
30"	90"	60.0	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	60.0	60.0	60.0
48"		60.0	60.0	60.0	60.0	54.9	60.0	60.0
54"		60.0	60.0	60.0	60.0	48.8	60.0	60.0
60"		60.0	60.0	55.7	60.0	43.9	60.0	60.0
30"	96"	60.0	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	58.9	60.0	60.0
48"		60.0	60.0	60.0	60.0	51.5	60.0	60.0
54"		60.0	60.0	58.0	60.0	45.8	60.0	60.0
60"		60.0	60.0	52.2	60.0	41.2	60.0	60.0
30"	102"	60.0	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	55.4	60.0	60.0
48"		60.0	60.0	60.0	60.0	48.5	60.0	60.0
54"		60.0	60.0	54.6	60.0	43.1	60.0	60.0
60"		60.0	60.0	49.1	60.0	38.8	58.2	60.0
30"	108"	60.0	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	52.3	60.0	60.0
48"		60.0	60.0	58.0	60.0	45.8	60.0	60.0
54"		60.0	60.0	51.6	60.0	40.7	60.0	60.0
60"		60.0	60.0	46.4	60.0	36.6	54.9	60.0
30"	114"	60.0	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	57.8	60.0	60.0
42"		60.0	60.0	60.0	60.0	49.6	60.0	60.0
48"		60.0	60.0	54.9	60.0	43.4	60.0	60.0
54"		60.0	60.0	48.8	60.0	38.5	57.8	60.0
60"		57.4	60.0	44.0	60.0	34.7	52.0	60.0
30"	120"	60.0	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	54.9	60.0	60.0
42"		60.0	60.0	59.7	60.0	47.1	60.0	60.0
48"		60.0	60.0	52.2	60.0	41.2	60.0	60.0
54"		60.0	60.0	46.4	60.0	36.6	54.9	60.0
60"		60.0	60.0	44.2	60.0	34.9	52.3	60.0
30"	126"	60.0	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	52.3	60.0	60.0
42"		60.0	60.0	56.8	60.0	44.8	60.0	60.0
48"		60.0	60.0	49.7	60.0	39.2	58.9	60.0
54"		57.7	60.0	44.2	60.0	34.9	52.3	60.0

ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)								
NOMINAL DIMS.		ANCHORS TYPE 'B'						
WIDTH (W)	FRAME HEIGHT	1/4" SHIM		3/8" SHIM		1/2" SHIM		
		B2	B3	B2	B3	B2	B3	B4
30"	132"	60.0	60.0	60.0	60.0	59.9	60.0	60.0
36"		60.0	60.0	60.0	60.0	49.9	60.0	60.0
42"		60.0	60.0	54.2	60.0	42.8	60.0	60.0
48"		62.0	60.0	47.5	60.0	37.5	56.2	60.0
30"	138"	60.0	60.0	60.0	60.0	57.3	60.0	60.0
36"		60.0	60.0	60.0	60.0	47.8	60.0	60.0
42"		67.8	60.0	51.9	60.0	40.9	60.0	60.0
48"	59.3	60.0	45.4	60.0	35.8	53.7	60.0	
30"	144"	60.0	60.0	60.0	60.0	54.9	60.0	60.0
36"		60.0	60.0	58.0	60.0	45.8	60.0	60.0
42"		65.0	60.0	49.7	60.0	39.2	58.9	60.0
48"		56.8	60.0	43.5	60.0	34.3	51.5	60.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



**ANCHORS TYPES:** SEE SHEET 9 FOR DESCRIPTION  
**B2 = (2) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION**  
**B3 = (3) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION**  
**B4 = (4) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION**



WIDTH (W) = W1  
AT FRAME JAMB

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

Sealed: 7/25/2023

**ANCHORS**

FL #17897

**af c**

**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
9360 SUNSET DRIVE, SUITE 220  
MIAMI, FLORIDA 33173  
TEL. (305) 264-8100 FAX. (305) 262-6978  
COMP-ANL\21-12F-ES

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ES-8000T ALUM WINDOW WALL SYSTEM (S.M.I.)

**E.S. WINDOWS, LLC**  
3550 N.W. 49 STREET  
MIAMI, FL. 33142  
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:	no	date	by	description

date: 02-10-21  
scale: -  
dr. by: TARIQ  
chk. by:

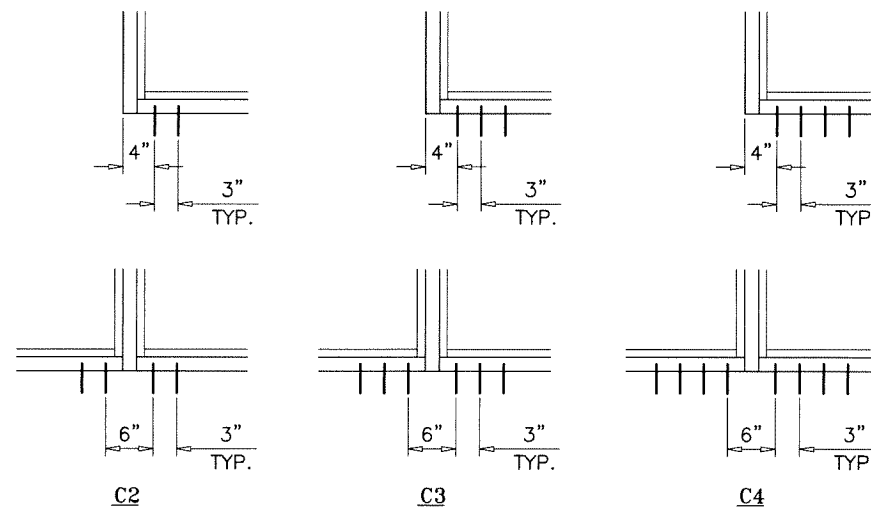
drawing no.  
**21-12F**

sheet 4.1 of 13

ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)							
NOMINAL DIMS.		ANCHORS TYPE 'C'					
WIDTH (W)	FRAME HEIGHT	1/4" SHIM	3/8" MAX. SHIM		1/2" SHIM		
		C2	C2	C3	C4	C3	C4
30"	78"	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	60.0	60.0
48"		60.0	57.2	60.0	60.0	60.0	60.0
54"		60.0	50.9	60.0	60.0	60.0	60.0
60"		60.0	45.8	60.0	60.0	54.3	60.0
30"	84"	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	60.0	60.0
48"		60.0	53.1	60.0	60.0	60.0	60.0
54"		60.0	47.2	60.0	60.0	56.0	60.0
60"		60.0	42.5	60.0	60.0	50.4	60.0
30"	90"	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	56.7	60.0	60.0	60.0	60.0
48"		60.0	49.6	60.0	60.0	58.8	60.0
54"		60.0	44.1	60.0	60.0	52.3	60.0
60"		60.0	39.7	59.5	60.0	47.0	60.0
30"	96"	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	53.1	60.0	60.0	60.0	60.0
48"		60.0	46.5	60.0	60.0	55.1	60.0
54"		60.0	41.3	60.0	60.0	49.0	60.0
60"		60.0	37.2	55.8	60.0	44.1	58.8
30"	102"	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	58.4	60.0	60.0	60.0	60.0
42"		60.0	50.0	60.0	60.0	59.3	60.0
48"		60.0	43.8	60.0	60.0	51.9	60.0
54"		60.0	38.9	58.4	60.0	46.1	60.0
60"		60.0	35.0	52.5	60.0	41.5	55.3
30"	108"	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	55.1	60.0	60.0	60.0	60.0
42"		60.0	47.2	60.0	60.0	56.0	60.0
48"		60.0	41.3	60.0	60.0	49.0	60.0
54"		60.0	36.7	55.1	60.0	43.6	58.1
60"		60.0	33.1	49.6	60.0	39.2	52.3
30"	114"	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	52.2	60.0	60.0	60.0	60.0
42"		60.0	44.8	60.0	60.0	53.1	60.0
48"		60.0	39.2	58.7	60.0	46.4	60.0
54"		60.0	34.8	52.2	60.0	41.3	55.0
60"		60.0	31.3	47.0	60.0	37.1	49.5
30"	120"	60.0	59.5	60.0	60.0	60.0	60.0
36"		60.0	49.6	60.0	60.0	58.8	60.0
42"		60.0	42.5	60.0	60.0	50.4	60.0
48"		60.0	37.2	55.8	60.0	44.1	58.8
54"		60.0	33.1	49.6	60.0	39.2	52.3
60"		60.0	31.5	47.2	60.0	37.3	49.8

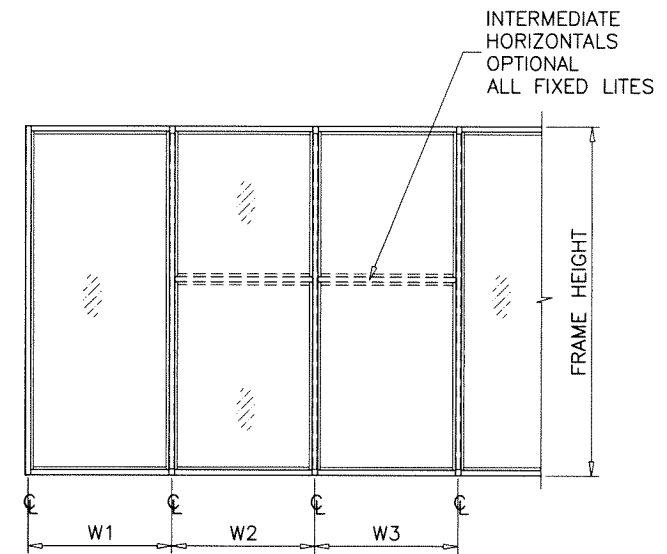
ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)							
NOMINAL DIMS.		ANCHORS TYPE 'C'					
WIDTH (W)	FRAME HEIGHT	1/4" SHIM	3/8" MAX. SHIM		1/2" SHIM		
		C2	C2	C3	C4	C3	C4
30"	132"	60.0	54.1	60.0	60.0	60.0	60.0
36"		60.0	45.1	60.0	60.0	53.5	60.0
42"		60.0	38.6	58.0	60.0	45.8	60.0
48"		60.0	33.8	50.7	60.0	40.1	53.5
30"	138"	60.0	51.8	60.0	60.0	60.0	60.0
36"		60.0	43.1	60.0	60.0	51.1	60.0
42"		60.0	37.0	55.5	60.0	43.8	58.4
48"		68.0	32.3	48.5	60.0	38.3	51.1
30"	144"	60.0	49.6	60.0	60.0	58.8	60.0
36"		60.0	41.3	60.0	60.0	49.0	60.0
42"		60.0	35.4	53.1	60.0	42.0	56.0
48"		60.0	31.0	46.5	60.0	36.8	49.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



ANCHORS TYPES: SEE SHEET 9 FOR DESCRIPTION

- C2 = (2) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION
- C3 = (3) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION
- C4 = (4) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION

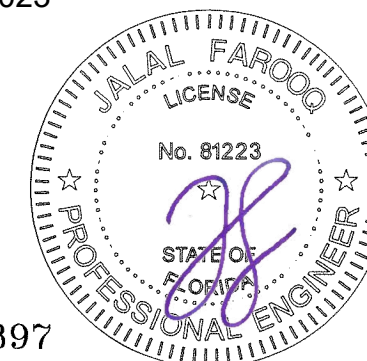


WIDTH (W) = W1  
AT FRAME JAMB

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

Sealed: 7/25/2023

ANCHORS



FL #17897

**af c**  
**AL-FAROOQ CORPORATION**  
 ENGINEERS & PRODUCT DEVELOPMENT  
 9360 SUNSET DRIVE, SUITE 220  
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 TEL. (305) 262-6978  
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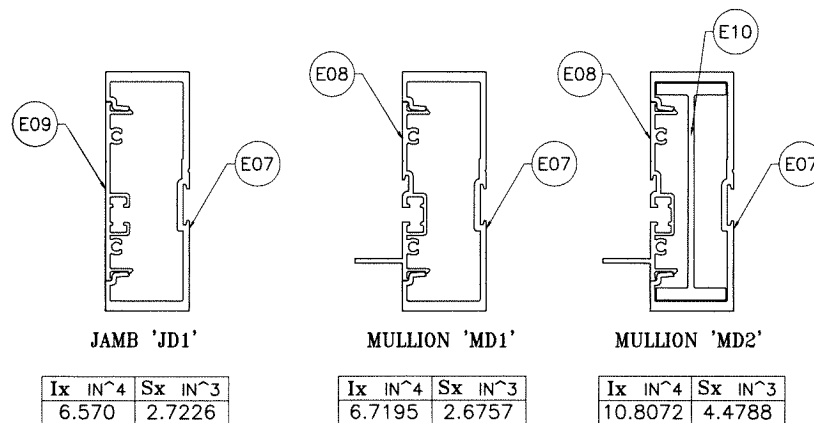
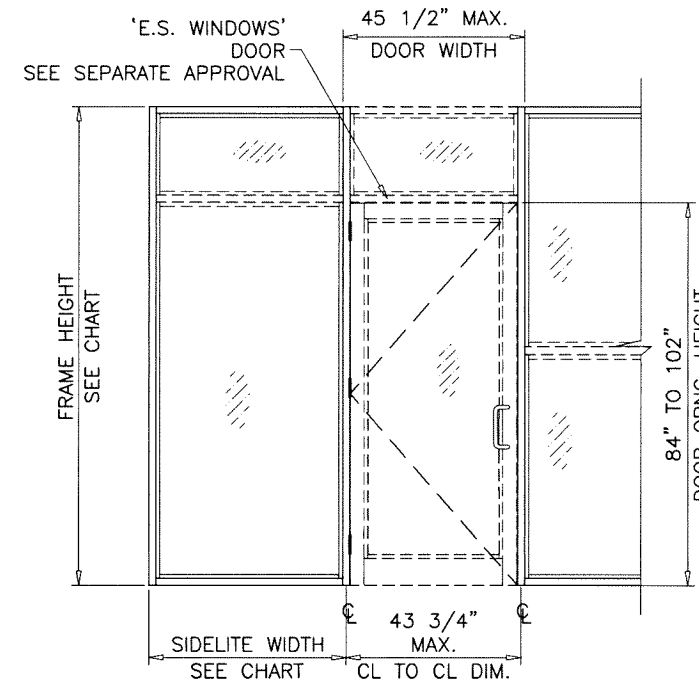
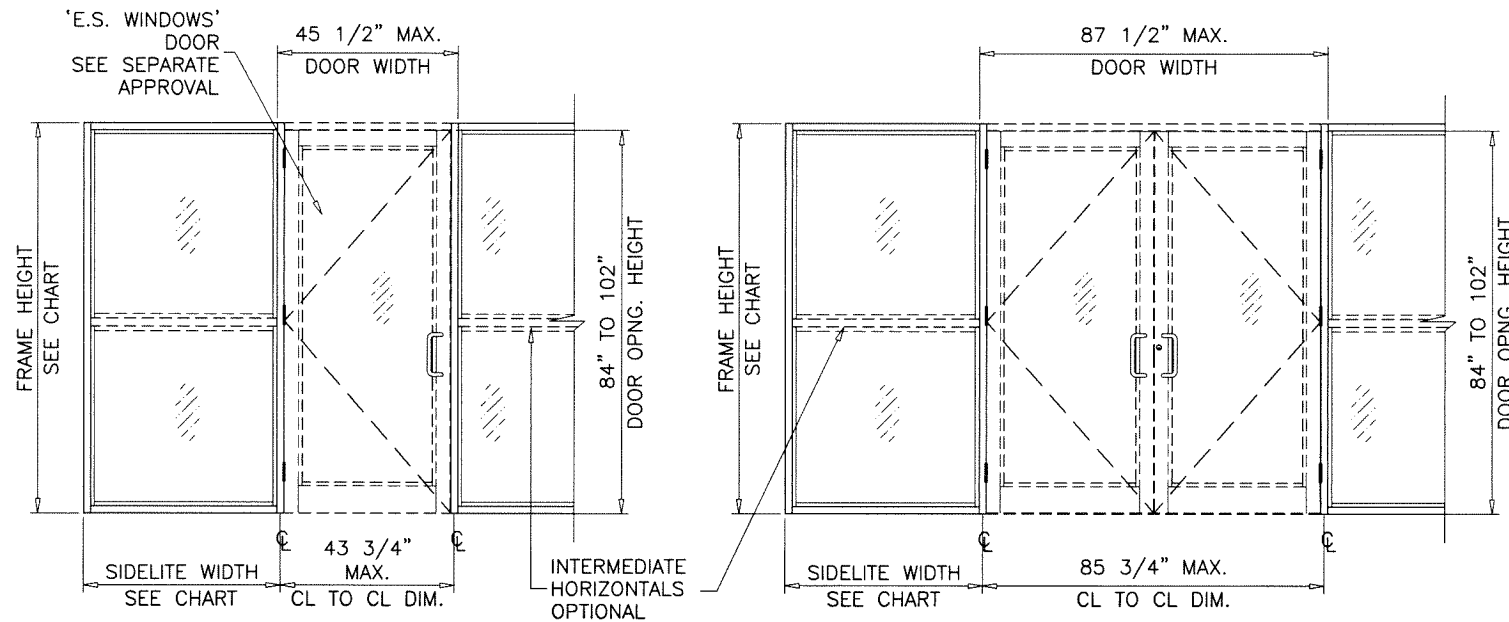
ES-800T ALUM WINDOW WALL SYSTEM (S.M.I.)  
**E.S. WINDOWS, LLC**  
 3550 N.W. 49 STREET  
 MIAMI, FL. 33142  
 TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:	no.	date	by	description
date:	02-10-21	scale:	-	dr. by: TARIQ
chk. by:				
drawing no.	21-12F			
sheet	4.2 of 13			

COMP-ANL\21-12F-ES

DOOR MULLION LOAD CAPACITY-PSF		
SIDELITE WIDTH INCHES	FRAME HEIGHT INCHES	JAMB 'JD1' MULL 'MD1'
		EXT. (+) INT. (-)
32	86-1/2	60.0
36		60.0
42		60.0
48		60.0
54		60.0
60		60.0
32	98-1/2	60.0
36		60.0
42		60.0
48		60.0
54		60.0
60		60.0
32	110-1/2	60.0
36		60.0
42		60.0
48		60.0
54		60.0
60		60.0

DOOR MULLION LOAD CAPACITY-PSF			
SIDELITE WIDTH INCHES	FRAME HEIGHT INCHES	JAMB 'JD1' MULL 'MD1'	JAMB 'JD1' MULL 'MD2'
		EXT. (+) INT. (-)	EXT. (+) INT. (-)
32	98-1/2	60.0	60.0
36		60.0	60.0
42		60.0	60.0
48		60.0	60.0
54		60.0	60.0
60		60.0	60.0
32	110-1/2	60.0	60.0
36		60.0	60.0
42		60.0	60.0
48		60.0	60.0
54		60.0	60.0
60		60.0	60.0
32	114	60.0	60.0
36		60.0	60.0
42		60.0	60.0
48		60.0	60.0
54		60.0	60.0
60		60.0	60.0
32	120	60.0	60.0
36		59.2	60.0
42		55.2	60.0
48			60.0
54			60.0
60		60.0	60.0



DOOR-WINDOWALL  
TRANSITION MULLION

Sealed: 7/25/2023



FL #17897

**af c**  
**AL-FAROOQ CORPORATION**  
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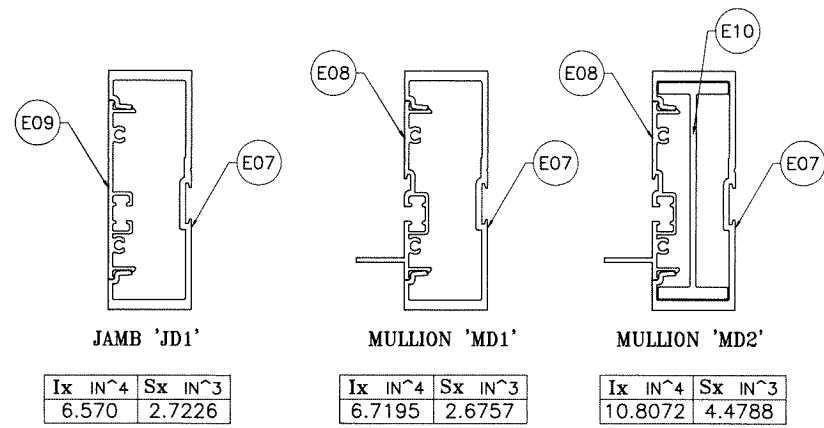
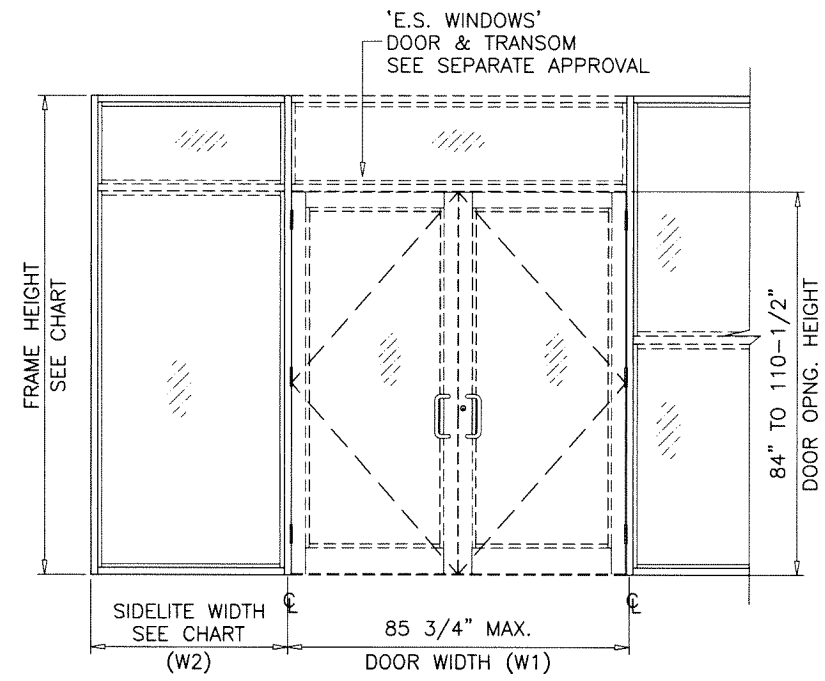
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dr. by:	TARIQ	chk. by:		
drawing no.	21-12F			
sheet	5 of 13			



DOOR MULLION LOAD CAPACITY - PSF						
NOMINAL DIMS.				JAMB 'JD1'	JAMB 'JD1'	
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	MULL 'MD1'	MULL 'MD2'	
85-3/4	30	96	84	EXT.(+) 60.0	INT.(-) 60.0	
	36			EXT.(+) 60.0	INT.(-) 60.0	
	42			EXT.(+) 60.0	INT.(-) 60.0	
	48			EXT.(+) 60.0	INT.(-) 60.0	
	54			EXT.(+) 60.0	INT.(-) 60.0	
	60			EXT.(+) 60.0	INT.(-) 60.0	
	30	102		EXT.(+) 60.0	INT.(-) 60.0	
	36			EXT.(+) 60.0	INT.(-) 60.0	
	42			EXT.(+) 60.0	INT.(-) 60.0	
	48			EXT.(+) 60.0	INT.(-) 60.0	
	54			EXT.(+) 60.0	INT.(-) 60.0	
	60			EXT.(+) 60.0	INT.(-) 60.0	
	30	108		EXT.(+) 60.0	INT.(-) 60.0	
	36			EXT.(+) 60.0	INT.(-) 60.0	
	42			EXT.(+) 60.0	INT.(-) 60.0	
	48			EXT.(+) 60.0	INT.(-) 60.0	
	54			EXT.(+) 60.0	INT.(-) 60.0	
	60			EXT.(+) 60.0	INT.(-) 60.0	
	30	114		EXT.(+) 60.0	INT.(-) 60.0	
	36			56.6	60.0	
	42			53.3	60.0	
	48			50.5	60.0	
	30			120	49.7	60.0
	36				46.8	60.0
42	44.2	60.0				
48	41.9	60.0				
85-3/4	30	102	90		60.0	60.0
	36				60.0	60.0
	42			60.0	60.0	
	48			60.0	60.0	
	54			60.0	60.0	
	60			60.0	60.0	
	30	108		60.0	60.0	
	36			60.0	60.0	
	42			60.0	60.0	
	48			60.0	60.0	
	54			60.0	60.0	
	60			60.0	60.0	
30	114	60.0	60.0			
36		59.9	60.0			
42		56.3	60.0			
48		53.1	60.0			
30		120	52.4	60.0		
36			49.2	60.0		
42	46.3		60.0			
48	43.8		60.0			

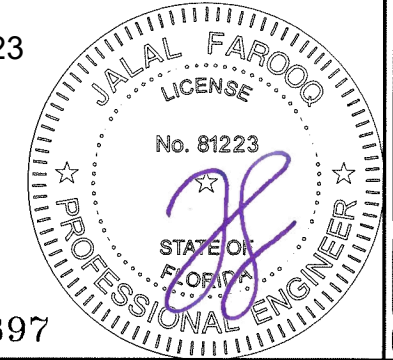
DOOR MULLION LOAD CAPACITY - PSF								
NOMINAL DIMS.				JAMB 'JD1'	JAMB 'JD1'			
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	MULL 'MD1'	MULL 'MD2'			
85-3/4	30	108	96	EXT.(+) 60.0	INT.(-) 60.0			
	36			EXT.(+) 60.0	INT.(-) 60.0			
	42			EXT.(+) 60.0	INT.(-) 60.0			
	48			EXT.(+) 60.0	INT.(-) 60.0			
	30			114	60.0	60.0		
	36				60.0	60.0		
	42	59.5			60.0			
	48	56.0			60.0			
	30	120			55.5	60.0		
	36				51.9	60.0		
	42			48.8	60.0			
	48			46.0	60.0			
85-3/4	30		114	102	60.0	60.0		
	36				60.0	60.0		
	42	60.0			60.0			
	48	58.8			60.0			
	30	120			59.0	60.0		
	36				55.0	60.0		
	42		51.5		60.0			
	48		48.4		60.0			
	85-3/4		30		120	110-1/2	60.0	60.0
			36				59.0	60.0
		42	55.0				60.0	
		48	51.5				60.0	

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



**DOOR-WINDOW WALL  
TRANSITION MULLION**

Sealed: 7/25/2023



FL #17897

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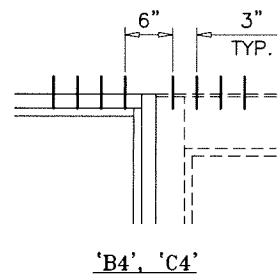
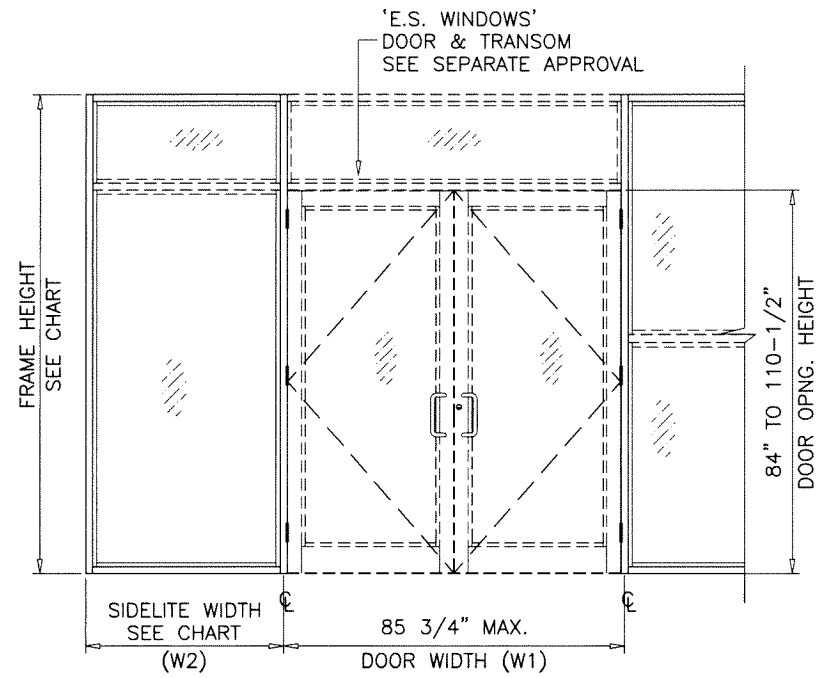
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drawing no.	21-12F			
sheet	6 of 13			



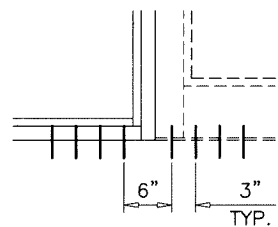
DOOR MULLION HEAD ANCHOR LOAD CAPACITY - PSF				
NOMINAL DIMS.				'B4'/'C4'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(-)
85-3/4	30	96	84	60.0
	36			60.0
	42			60.0
	48			60.0
	54			60.0
	60			60.0
	30	102		60.0
	36			60.0
	42			60.0
	48			60.0
	54			60.0
	60			60.0
	30	108	60.0	
	36		60.0	
	42		60.0	
	48		60.0	
	54		60.0	
	60		60.0	
	30	114	60.0	
	36		60.0	
	42		60.0	
	48		60.0	
	60		60.0	
	60		60.0	
30	120	60.0		
36		60.0		
42		60.0		
48		60.0		
60		60.0		
60		60.0		
85-3/4	30	102	90	60.0
	36			60.0
	42			60.0
	48			60.0
	54			60.0
	60			60.0
	30	108		60.0
	36			60.0
	42			60.0
	48			60.0
	54			60.0
	60			60.0
	30	114	60.0	
	36		60.0	
	42		60.0	
	48		60.0	
	60		60.0	
	60		60.0	
	30	120	60.0	
	36		60.0	
	42		60.0	
	48		60.0	
	60		60.0	
	60		60.0	

DOOR MULLION HEAD ANCHOR LOAD CAPACITY - PSF					
NOMINAL DIMS.				'B4'/'C4'	
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(-)	
85-3/4	30	108	96	60.0	
	36			60.0	
	42			60.0	
	48			60.0	
	30	114		60.0	
	36			60.0	
	42			60.0	
	48			60.0	
	30	120	60.0		
	36		60.0		
	42		60.0		
	48		60.0		
85-3/4	30	114	102	60.0	
	36			60.0	
	42			60.0	
	48			60.0	
	30	120		60.0	
	36			60.0	
	42			60.0	
	48			60.0	
	85-3/4	30	120	110-1/2	60.0
		36			60.0
		42			60.0
		48			60.0
60		60.0			
60		60.0			

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



'B4', 'C4'



'B4' AT SILL ALL CASES

ANCHORS TYPES: SEE SHEET 8 FOR DESCRIPTION

B4 = (4) ANCHORS TYPE 'B' AT EACH SIDE OF DOOR MULLION

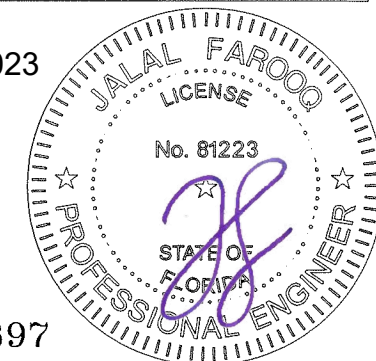
C4 = (4) ANCHORS TYPE 'C' AT EACH SIDE OF DOOR MULLION

ALL OTHER ANCHORS TO BE SPACED AS PER ELEVATION.

SHIM SPACE FOR ANCHORS TYPE 'C' LIMITED TO 1/4\"/>

TRANSITION MULLION ANCHORS

Sealed: 7/25/2023



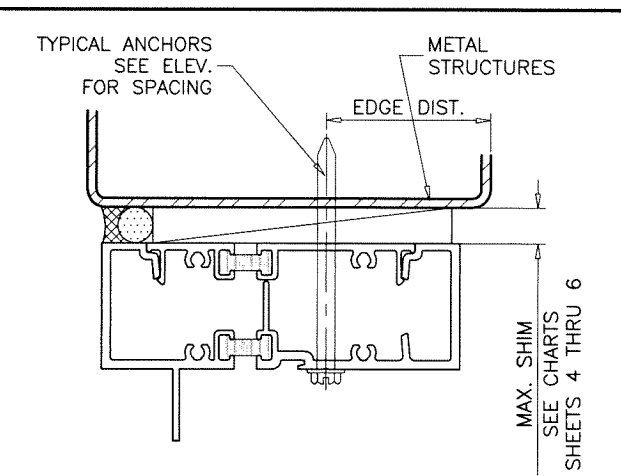
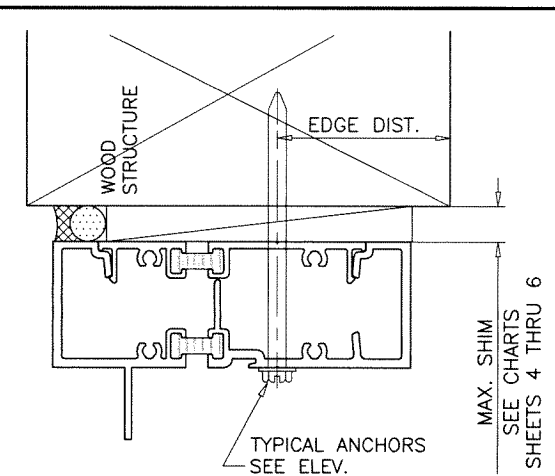
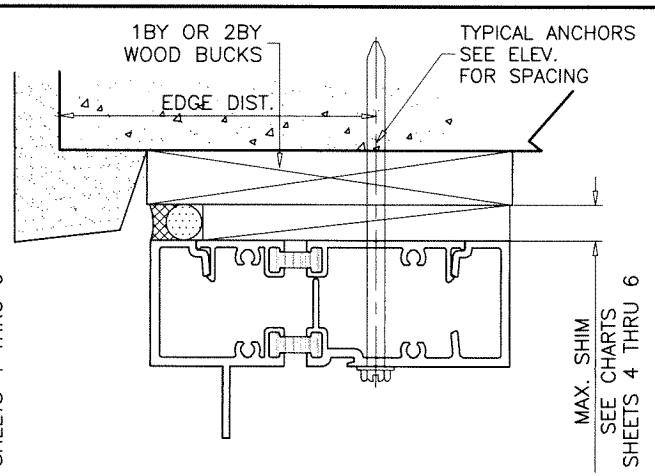
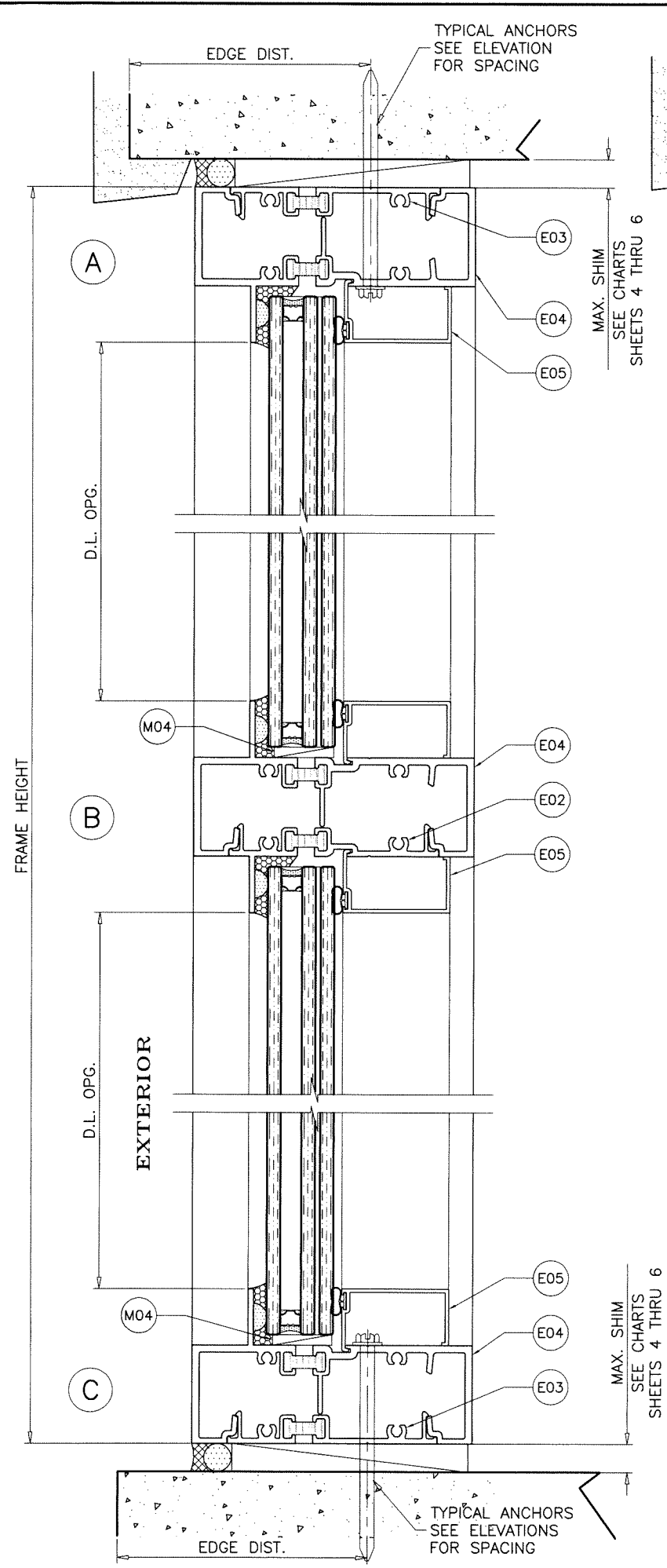
FL #17897

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no.	date	description

date: 02-10-21  
 scale: -  
 dr. by: TARIQ  
 chk. by:   
 drawing no. 21-12F  
 sheet 7 of 13



**TYPICAL ANCHORS:** SEE ELEV. FOR SPACING

**TYPE 'A' - 1/4" DIA. ULTRACON+ BY 'DEWALT'** (Fu=164 KSI, Fy=148 KSI)  
 INTO WOOD STRUCTURES  
 2" MIN. PENETRATION INTO WOOD (HEAD/SILL/JAMBS)  
 THRU 1BY OR 2BY BUCKS INTO CONC. OR BLOCKS  
 1-1/4" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)  
 1-1/4" MIN. EMBED INTO BLOCKS (JAMBS)  
 DIRECTLY INTO CONC. OR BLOCKS  
 2" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)  
 2" MIN. EMBED INTO FILLED BLOCKS (JAMBS)

**ANCHOR EDGE DISTANCES**

INTO CONCRETE AND MASONRY = 2-1/2" MIN.  
 INTO WOOD STRUCTURE = 1" MIN.

**TYPE 'B' - 5/16" DIA. ULTRACON BY 'DEWALT'** (Fu=177 KSI, Fy=155 KSI)  
 INTO WOOD STRUCTURES  
 2" MIN. PENETRATION INTO WOOD (HEAD/SILL/JAMBS)  
 THRU 1BY OR 2BY BUCKS INTO CONC. OR BLOCKS  
 1-1/4" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)  
 1-1/4" MIN. EMBED INTO BLOCKS (JAMBS)  
 DIRECTLY INTO CONC. OR BLOCKS  
 2" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)  
 2" MIN. EMBED INTO FILLED BLOCKS (JAMBS)

**ANCHOR EDGE DISTANCES**

INTO CONCRETE AND MASONRY = 2-1/2" MIN.  
 INTO WOOD STRUCTURE = 1-1/4" MIN.

**TYPE 'C' - 1/4" DIA. TEKS OR SELF DRILLING SCREWS ST/ST** (GRADE 5 CRS)  
 INTO F.B.C. APPROVED MULLIONS  
 OR  
 INTO METAL STRUCTURES (HEAD/SILL/JAMBS)  
 (3) THREADS MIN. PENETRATION BEYOND SUBSTRATE  
 ALUMINUM: 1/8" THK. MIN. (6063-T5 MIN.)  
 STEEL: 1/8" THK. MIN. (Fy = 36 KSI MIN.)  
 (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

**ANCHOR EDGE DISTANCES**

INTO METAL STRUCTURE = 1/2" MIN.

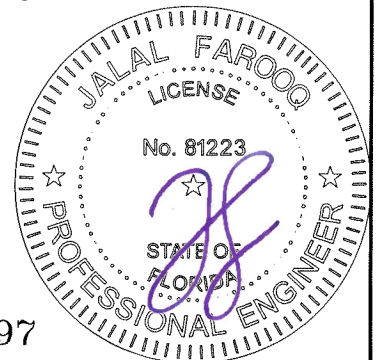
WOOD AT HEAD, SILL OR JAMBS SG = 0.55 MIN.  
 CONCRETE AT HEAD, SILL OR JAMBS f'c = 3000 PSI MIN.  
 C-90 GROUT FILLED NORMAL WEIGHT BLOCK AT JAMBS f'm = 2000 PSI MIN.

**SEALANTS:**

ALL FRAME CORNERS, JOINTS, MULLION SEAMS AND PERIMETER OF GLAZING BEAD TO FRAME SEALED WITH SILICONE SEALANT.

1BY OR 2BY WOOD BUCKS AND METAL STRUCTURE NOT BY 'E.S. WDW.' MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

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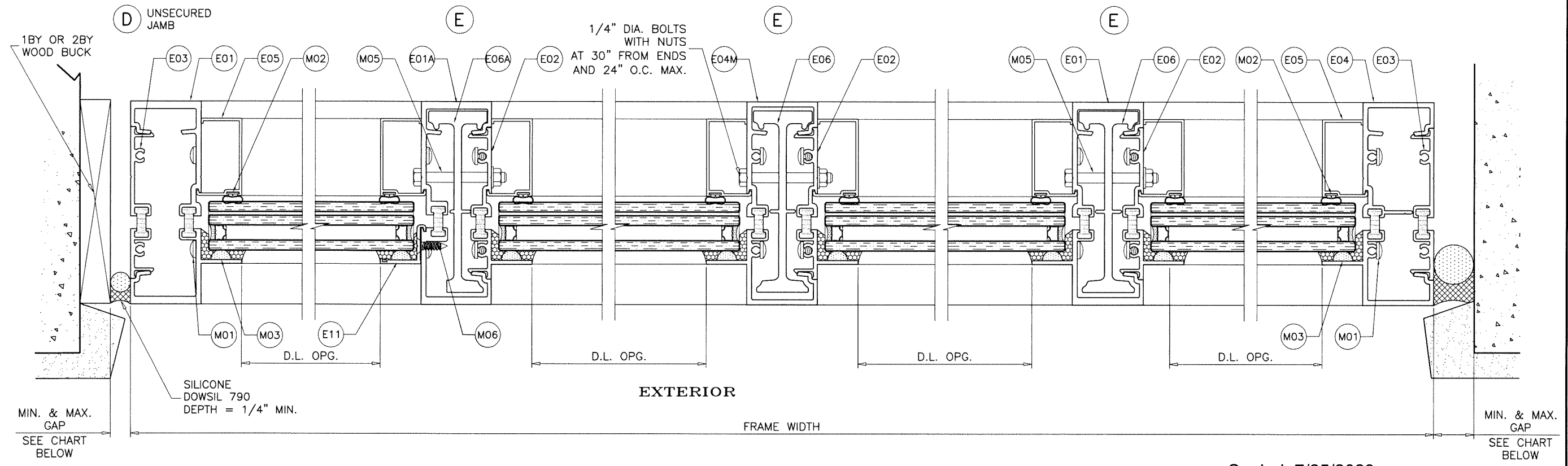
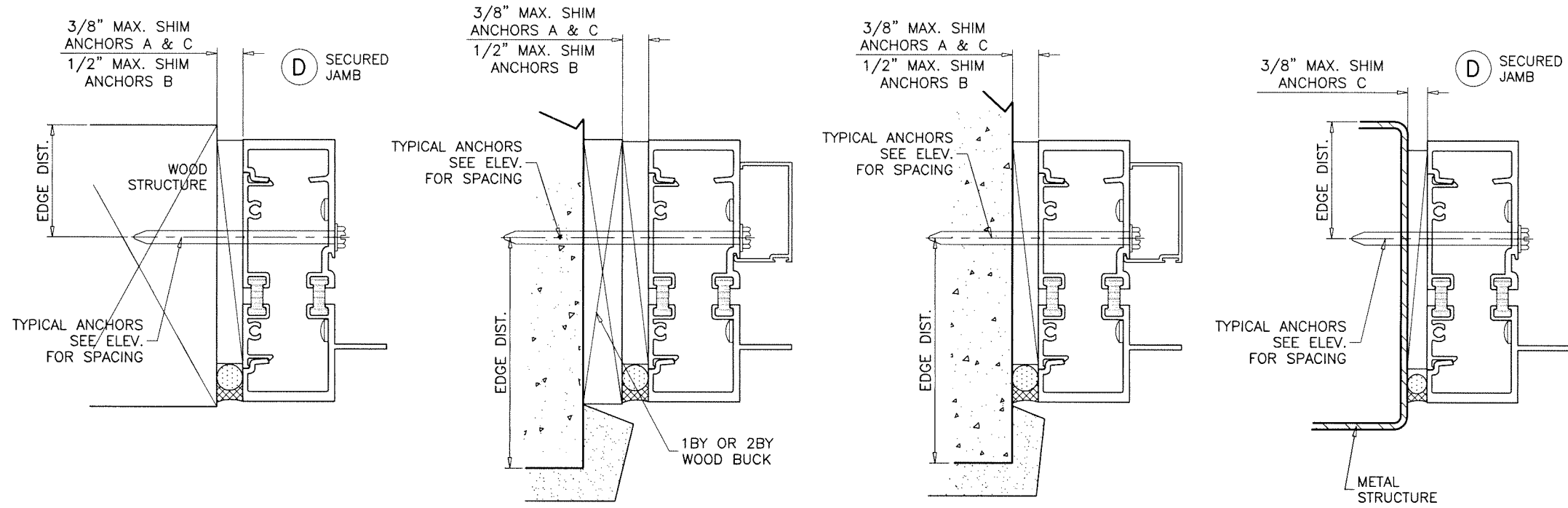
FL #17897

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revisions:	no	date	by	description
date:	02-10-21			
scale:	3/8" = 1"			
dr. by:	TARIQ			
chk. by:				
drawing no.	21-12F			
sheet	8 of 13			

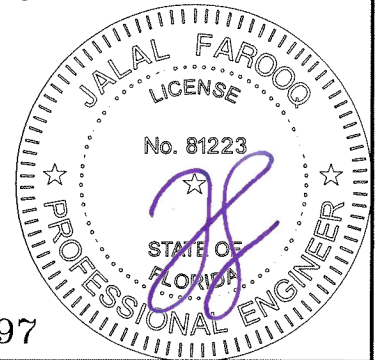




MAX. GAPS FOR UNANCHORED JAMBS		
MAX. FRAME HEIGHT	JAMB J1	
	MIN.	MAX.
96"	1/4"	1"
102"	1/4"	1"
108"	3/8"	1"
120"	3/8"	1"
132"	3/8"	1"
144"	3/8"	1"

NOTE:  
 MAX. MOVEMENT CONSIDERED=100% STRETCH.  
 PLEASE REFER TO SEALANT MANUFACTURER'S DATA AND APPLICATION MANUAL FOR COMPATABILITY OF SEALANT TO SUBSTRATE & WINDOWALL MATERIAL/FINISH AND COMPLIANCE FOR WARRANTY.  
 REFER TO ACI-117-10 FOR CONSTRUCTION TOLERANCES.  
 ALTERNATE SEALANTS AT JAMB GAPS CAN BE DESIGNED BY ENGINEER OF RECORD BASED ON MANUFACTURER GUIDE LINES.  
 GAPS LESS THAN 1/4" MAY BE DESIGNED BY ENGINEER OF RECORD BY THE USE OF BOND BREAKER TAPE OR 15% OF GAP ALLOWED MOVEMENT.

Sealed: 7/25/2023



FL #17897

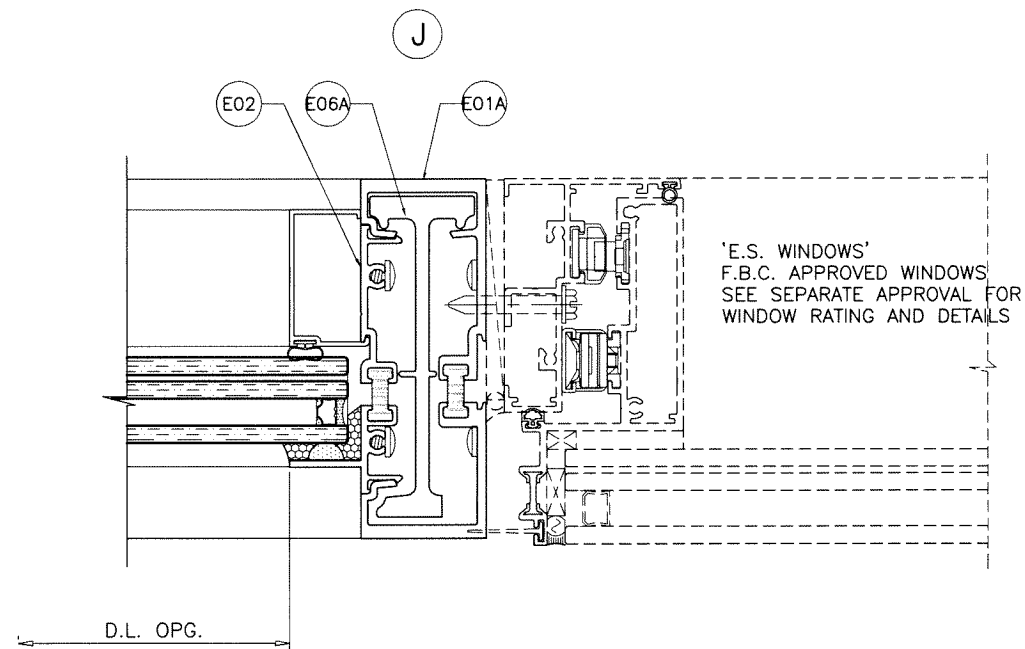
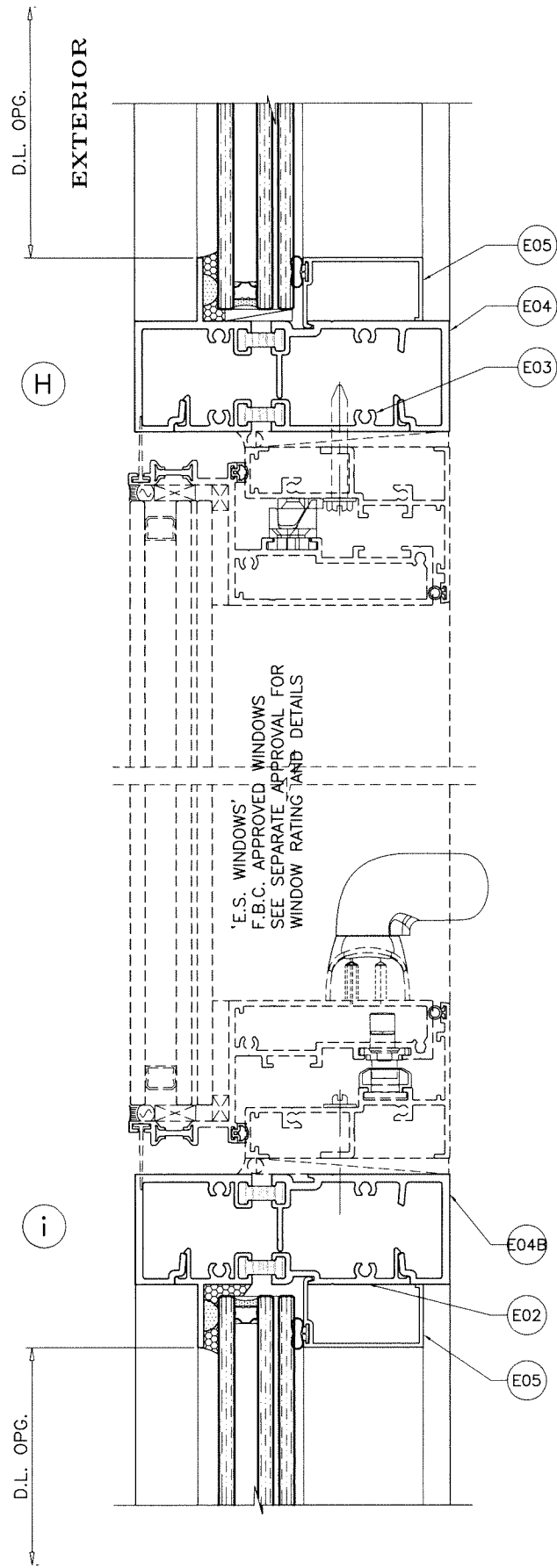
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 TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:	no	date	by	description
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drawing no.	21-12F			
sheet	9 of 13			

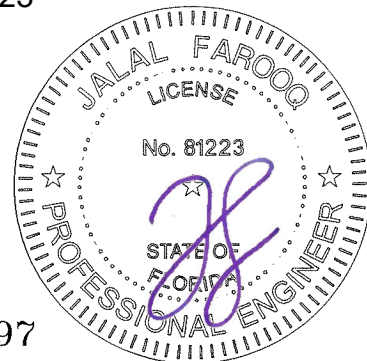






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FL #17897



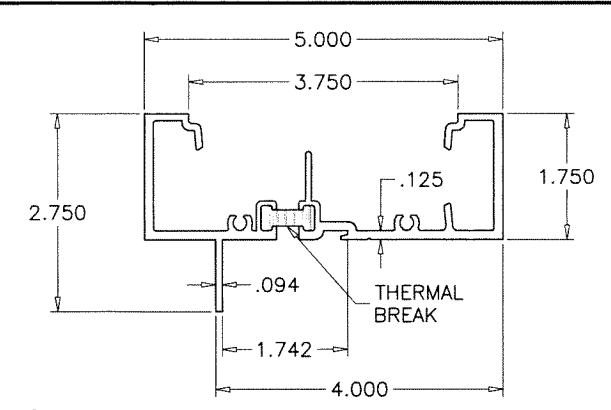
**afc**  
**AL-FAROOQ CORPORATION**  
 ENGINEERS & PRODUCT DEVELOPMENT  
 9360 SUNSET DRIVE, SUITE 220 (C.A.N. 3538)  
 MIAMI, FLORIDA 33173  
 TEL. (305) 264-8100 FAX. (305) 262-6978  
 COMP-ANL\21-12F-ES

ES-800T ALUM WINDOW WALL SYSTEM (S.M.I.)  
**E.S. WINDOWS, LLC**  
 3550 N.W. 49 STREET  
 MIAMI, FL. 33142  
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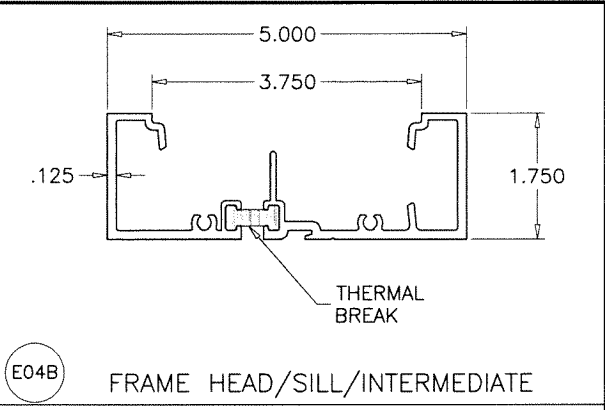
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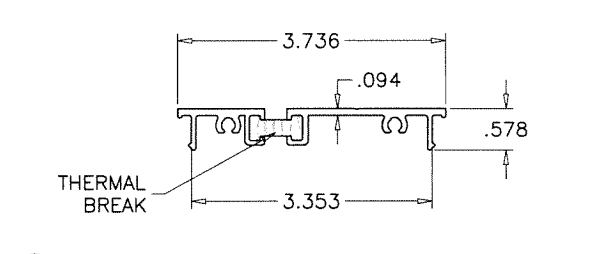
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 sheet 11 of 13



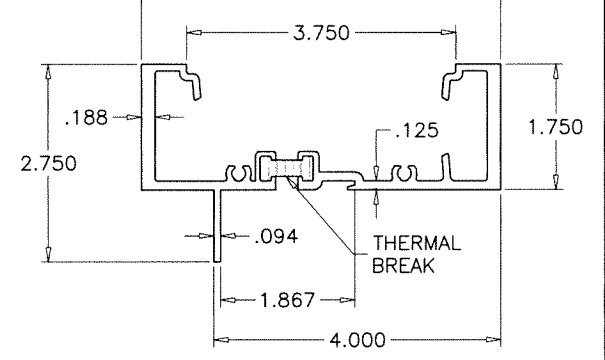
E04 FRAME HEAD/SILL/INTERMEDIATE



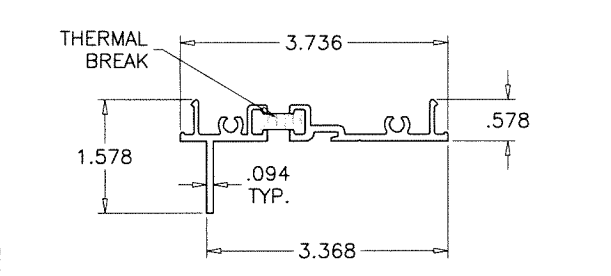
E04B FRAME HEAD/SILL/INTERMEDIATE



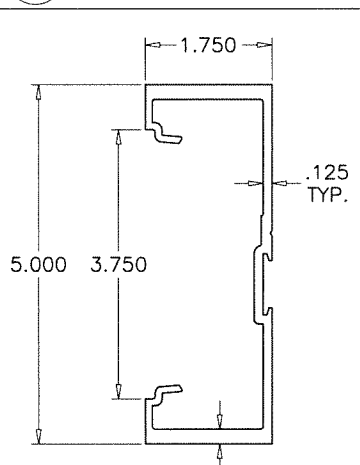
E03 FRAME HEAD/SILL/JAMB SNAP-IN PLATE



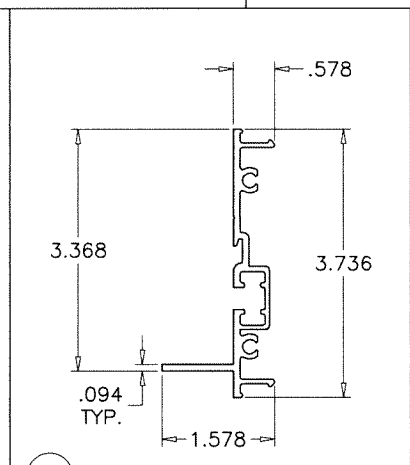
E04A FRAME HEAD/SILL/JAMB



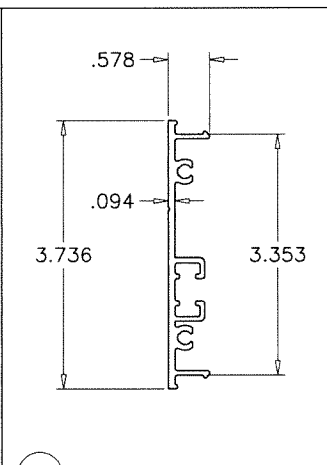
E02 SNAP-IN MATE



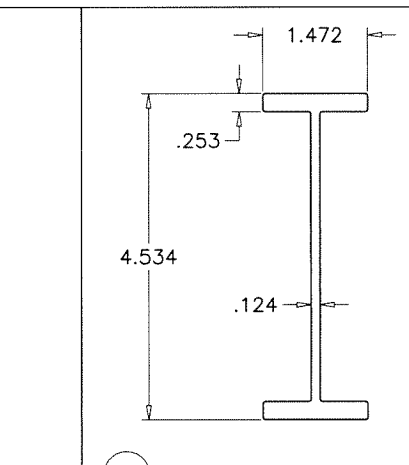
E07 DOOR MULLION



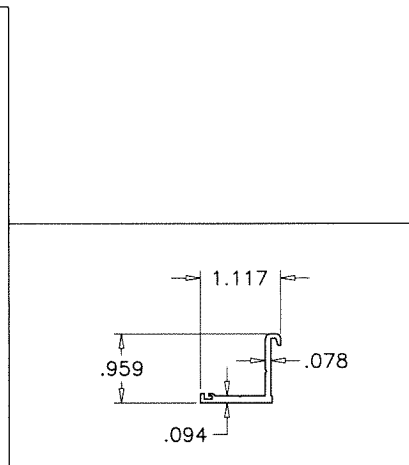
E08 DOOR MULL SNAP-IN MATE



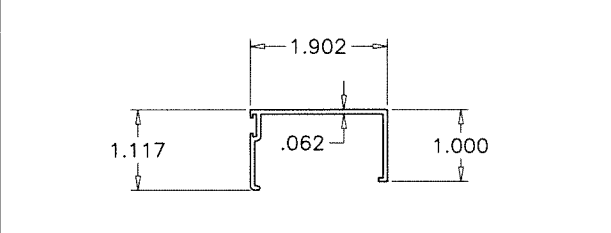
E09 DOOR MULL SNAP-IN PLATE



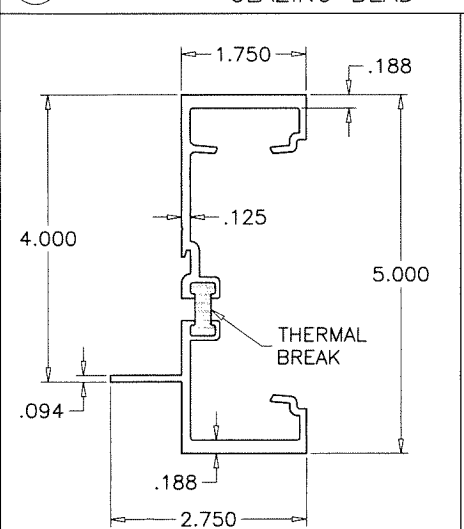
E10 DOOR MULL STIFFENER



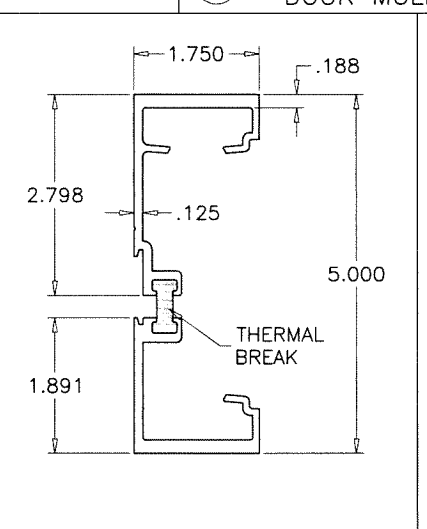
E11 EXT. GLAZING ADAPTER



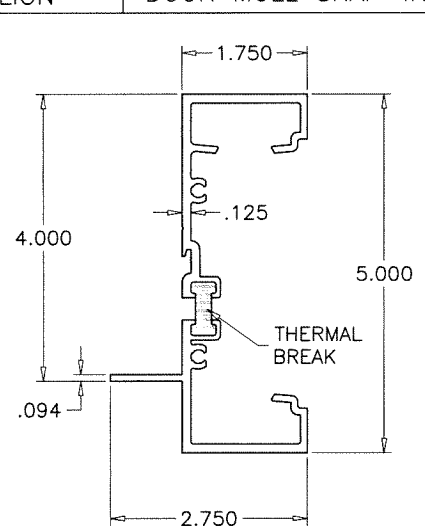
E05 GLAZING BEAD



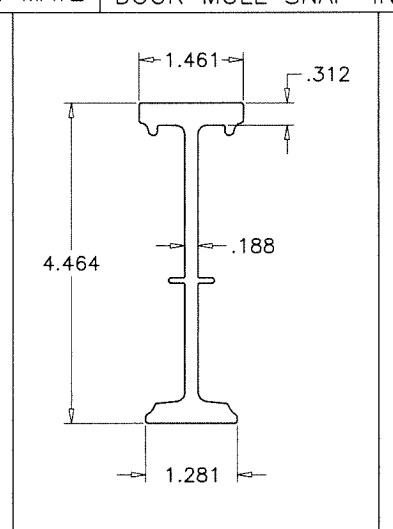
E01 JAMB/VERTICAL MULLION



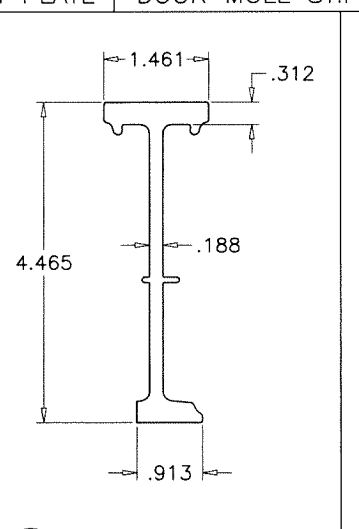
E01A VERTICAL MULLION



E04M VERTICAL MULLION



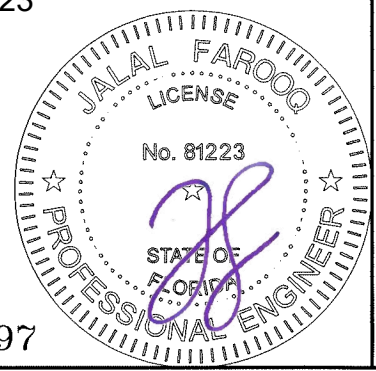
E06 STIFFENER



E06A STIFFENER

ITEM #	PART #	REQ'D	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
E01	ES-8000T-001	AS REQD.	JAMB AND VERTICAL MULLION	6005-T5	-
E01A	ES-8000T-009T	AS REQD.	VERTICAL MULLION	6063-T6	-
E02	ES-8000T-002	AS REQD.	SNAP-IN MATE	6005-T5	-
E03	ES-8000T-003	AS REQD.	HEAD/SILL/JAMB SNAP-IN PLATE	6005-T5	-
E04	ES-8000T-004	AS REQD.	FRAME HEAD/SILL/INTERMEDIATE	6005-T5	-
E04M	ES-8000T-004	AS REQD.	VERTICAL MULLION	6005-T5	-
E04A	ES-8000T-007	AS REQD.	FRAME HEAD/SILL/JAMB (GLASS TYPE GL3)	6005-T5	-
E04B	ES-8000T-012T	AS REQD.	FRAME HEAD/SILL/INTERMEDIATE	6005-T5	-
E05	ES-8000T-005	AS REQD.	GLAZING BEAD	6063-T5	-
E06	ES-8000T-006	AS REQD.	STIFFENER	6005-T5	-
E06A	ES-8000T-011	AS REQD.	STIFFENER	6005-T5	-
E07	-	AS REQD.	DOOR MULLION	6005-T5	-
E08	ES-8000T-002	AS REQD.	DOOR MULLION SNAP-IN MATE	6005-T5	-
E09	ES-8000T-003	AS REQD.	DOOR MULL SNAP-IN PLATE	6005-T5	-
E10	-	AS REQD.	DOOR MULLION STIFFENER	6005-T5	-
E11	ES8014	AS REQD.	EXTERIOR GLAZING ADAPTER	6063-T6	-
M01	#12 X 1-1/2"	AS REQD.	ASSEMBLY FASTENERS	ST. STEEL	PH SMS
M02	ES-8010	AS REQD.	INTERIOR GLAZING GASKET	EPDM	DUROMETER 60±5 SHORE A
M03	ES-8011A	AS REQD.	1/4" GLASS SPACER	SILICONE	DUROMETER 85±5 SHORE A
M04	ES-7530-B01A	2/ LITE	SETTING BLOCKS AT 1/4 POINTS	EPDM	DUROMETER 80±5 SHORE A
M05	1/4" X 2-1/8"	AS REQD.	MULLION FASTENERS	ST. STEEL	BOLT WITH NUT
M06	#12 X 3/4"	AS REQD.	ADAPTER FASTENERS, AT 3" FROM ENDS & 12" O.C.	ST. STEEL	FH SMS

THERMAL BREAK:  
 FRAME MEMBERS FILLED AND DEBRIDGED USING  
 'BAYDUR TB 100-30' MANUFACTURED BY  
 'BAYER MATERIALSCIENCE, LLC.  
 Sealed: 7/25/2023



FL #17897

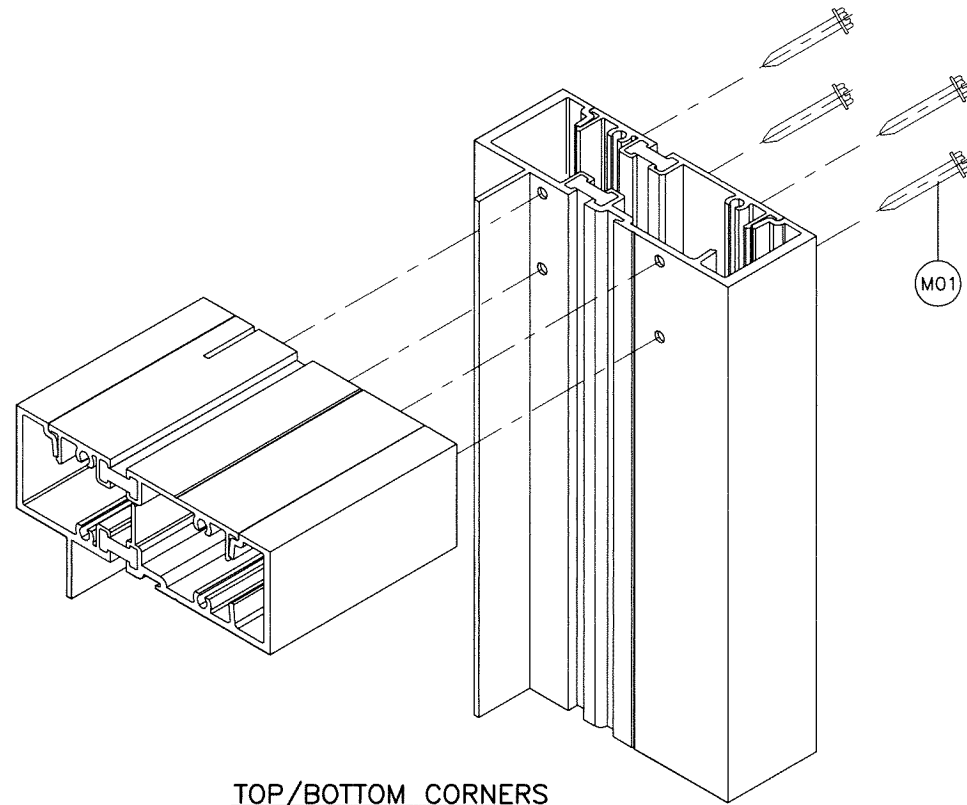
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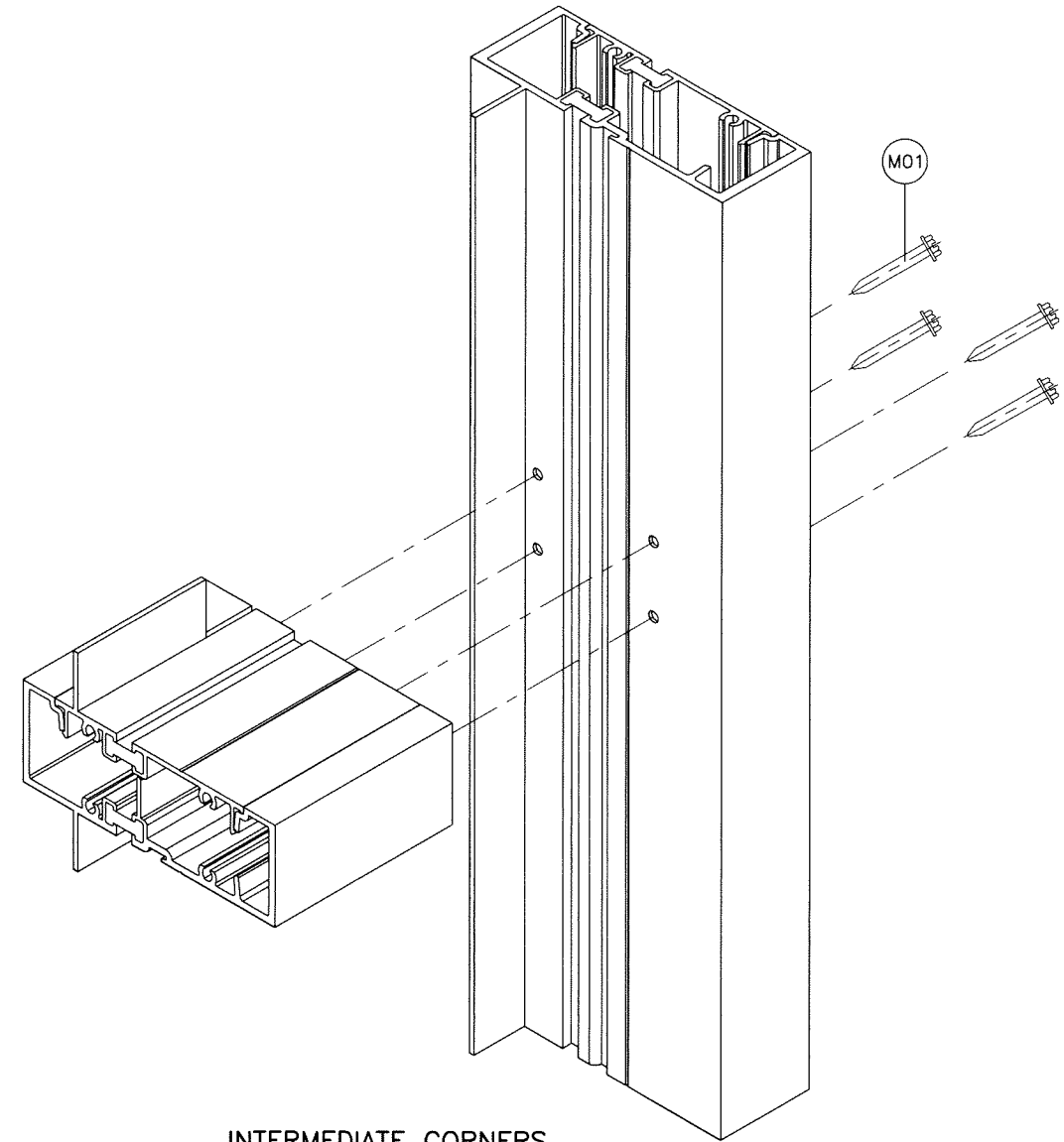
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 drawing no.  
**21-12F**  
 sheet 12 of 13

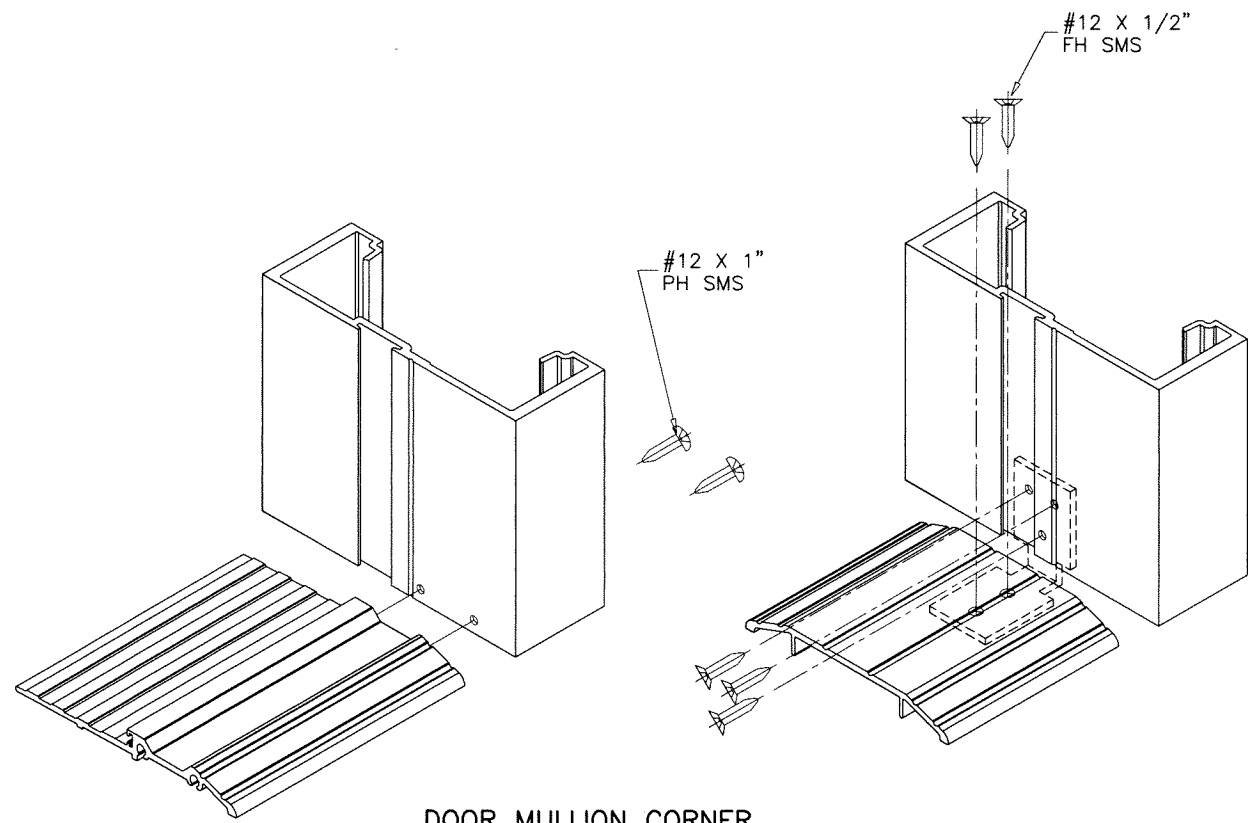




TOP/BOTTOM CORNERS

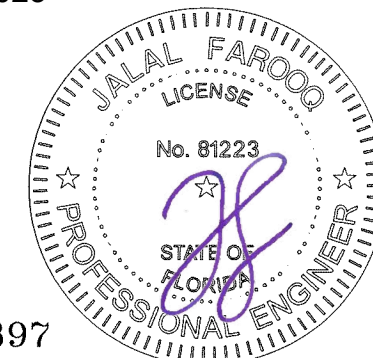


INTERMEDIATE CORNERS



DOOR MULLION CORNER

Sealed: 7/25/2023



FL #17897

**afc**

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sheet 13 of 13