

SERIES 8000 ALUMINUM WINDOW WALL SYSTEM

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 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 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.

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 3 FOR DESIGN LOAD CAPACITY OF DESIRED GLASS SIZE.
- STEP 3
- CHECK MULLION CAPACITY FOR A GIVEN SPACING AND HEIGHT USING CHARTS ON SHEETS 4 & 5 FOR WINDOW WALL MULLION AND SHEETS 8 THRU 10 FOR DOOR MULLION
THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.
- STEP 4
- CHECK ANCHOR CAPACITY FOR WINDOW WALL SYSTEM USING CHARTS ON SHEETS 7 FOR DOOR MULLION ANCHOR CAPACITY SEE CHART ON SHEETS 11 & 12.
THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.
- STEP 5
- 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.

WINDOW WALL SYSTEM WITH GLASS TYPE ‘B’ ONLY
COMPLY WITH REQUIREMENTS OF ANSI Z97.1.

LAMINATED GLASS
SMALL MISSILE IMPACT

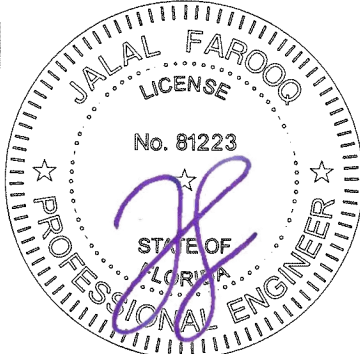
Sealed: 4/7/2025 FL #17897

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
TEL. (305) 264-8100
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FBPE #3538

STORE\23-06F-ES

SERIES 8000 ALUMINUM WINDOW WALL SYSTEM (S.M.I.)

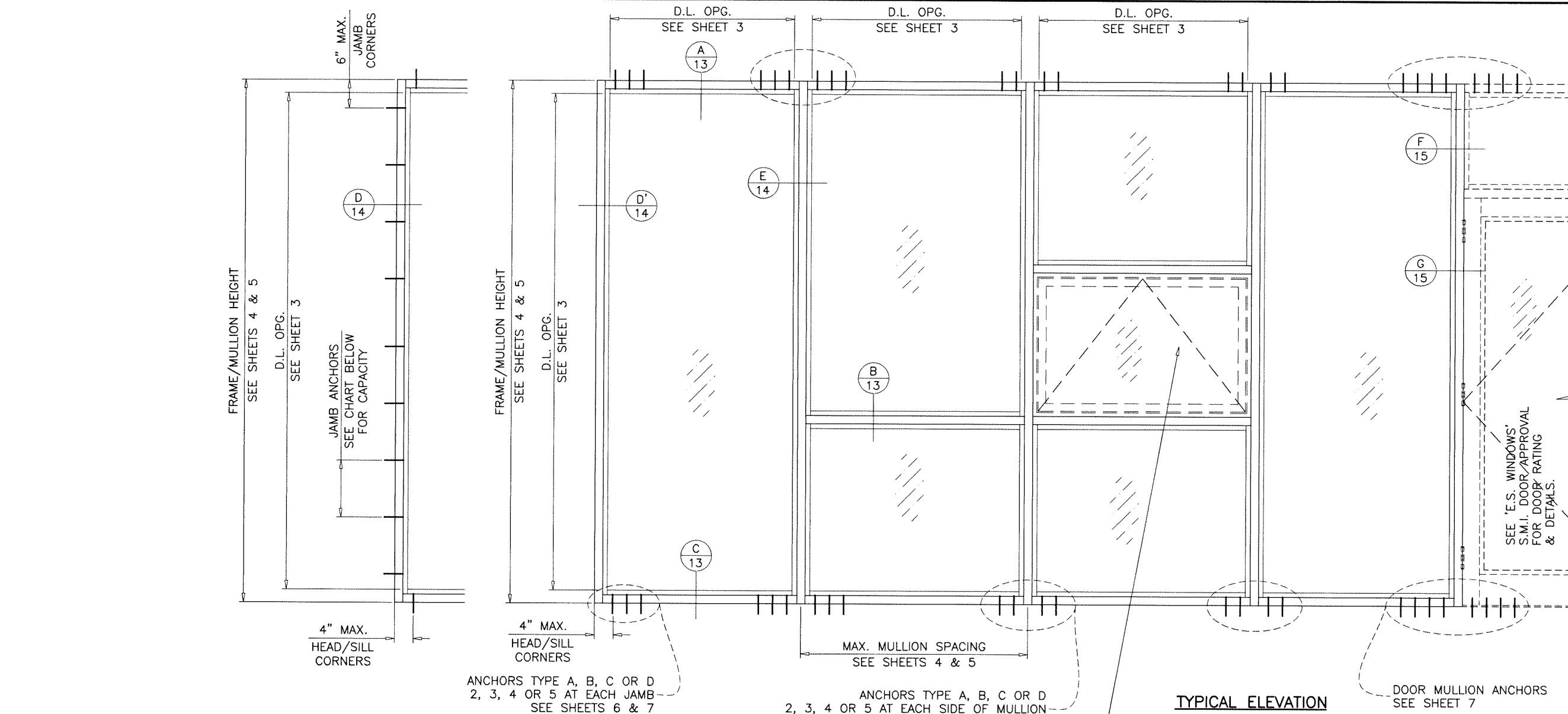
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
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revisions:

no	date	by	description
A	04.24.23		CHART SHEET 4.1 & 5.1 REV.
B	07.25.23		UPDATED TO 2023 FBC
C	06.11.24		LOUVER NOTE ADDED

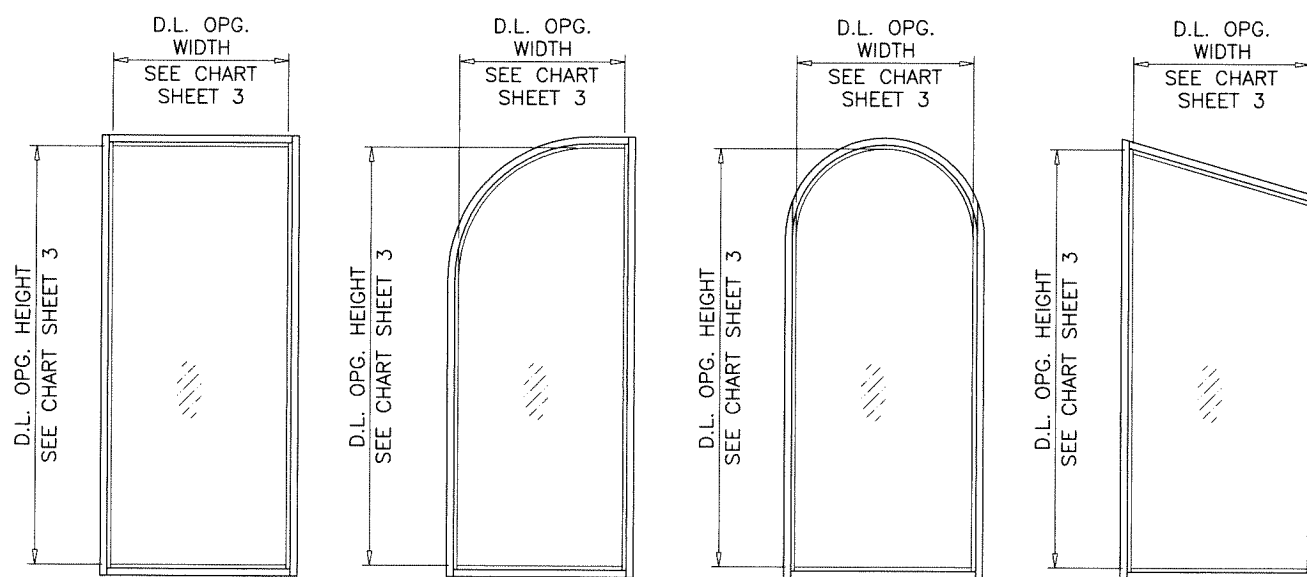
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dr. by: TARIQ
chk. by:

drawing no.
23-06F
sheet 1 of 18



TYPICAL ELEVATION

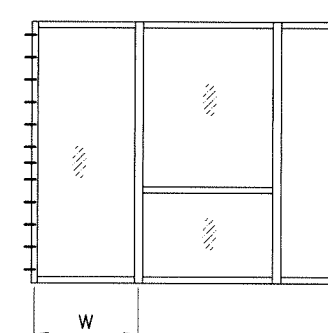
WINDOWS AND LOUVERS, SUPPORTED BY APPROVALS CAN BE INSTALLED WITHIN THE DAYLIGHT OPENING ALLOWED AREA NOT TO EXCEED THE TESTED GLASS AREA AND MAX. MULLION SPACING PER CHARTS ON SHEETS 4, 4.1, 5 & 5.1 PROVIDED THESE ARE PROPERLY SECURED WITH SCREWS AT PERIMETER OF OPENING. INSTALLATION AND COMPLIANCE WITH CODE SHALL BE VERIFIED INDEPENDENTLY PTAC UNITS USED AS WINDOW INSERT TO BE ENGINEERED SEPARATELY FOR MULLION CAPACITY, ANCHORS, ASYMMETRICAL LOADS ETC.



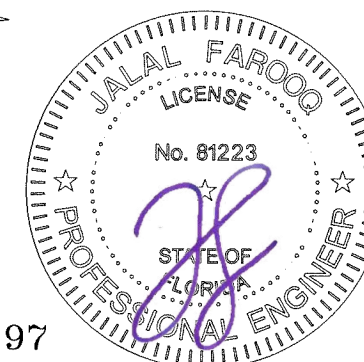
ALLOWABLE LOADS FOR ALTERNATE SHAPES AS SHOWN ABOVE OR SIMILAR CAN BE VERIFIED BY INSCRIBING PICTURE WINDOW SHAPE WITHIN SQUARE OR RECTANGLE AS SHOWN IN DOTTED LINES AND OBTAINING ALLOWABLE LOADS FROM THOSE SHAPES. SINGLE LITES MAY BE INSTALLED VERTICALLY AS SHOWN ABOVE OR HORIZONTALLY. ANCHORS AT ALTERNATE SHAPES TO BE ALL AROUND SPACED AS PER JAMB ANCHORS. **LIMIT MAX. DESIGN LOADS FOR ALTERNATE SHAPES TO ± 130.0 PSF**

JAMB ANCHORS LOAD CAPACITY					
SHIMS	WIDTH (W)	12" SPACING		6" SPACING	
		ANCHORS A, B & C	ANCHORS D	ANCHORS A, B & C	ANCHORS D
1/2" MAX.	48"	125.0	138.0	150.0	150.0
	60"	100.0	110.0	130.0	130.0
	72"	83.0	92.0	130.0	130.0
	48"	91.0	130.0	150.0	150.0
	60"	73.0	104.0	130.0	130.0
	72"	61.0	87.0	122.0	130.0
3/8" MAX.	48"	71.0	102.0	142.0	150.0
	60"	56.0	82.0	113.0	130.0
	72"	47.0	68.0	94.0	130.0

LIMIT MAX. EXTERIOR(+) LOADS TO +100.0 PSF INTERPOLATION BETWEEN WIDTHS ALLOWED



Sealed: 4/7/2025



FL #17897

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revisions:

no	date	by	description

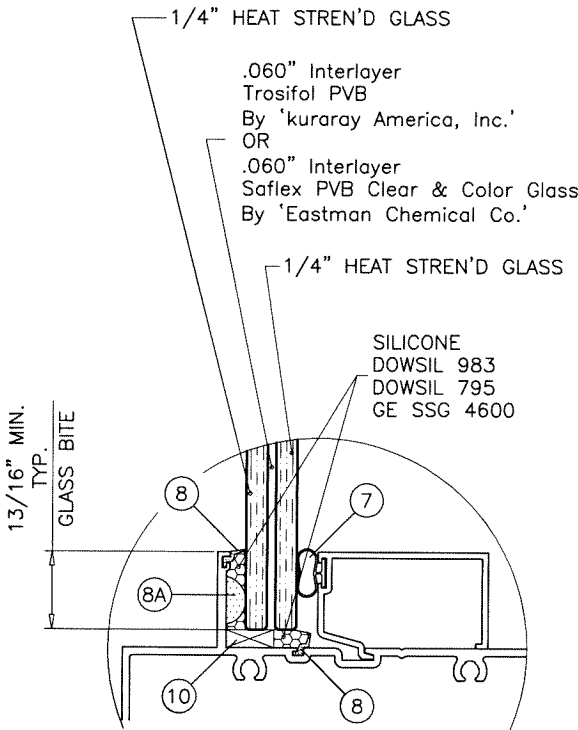
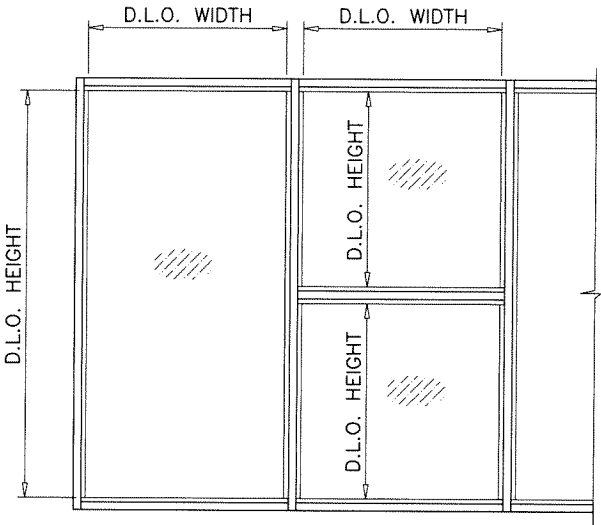
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dr. by: TARIQ
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drawing no. **23-06F**
sheet 2 of 18

GLASS LOAD CAPACITY - PSF					
NOMINAL DIMS.		GLASS TYPE 'A'		GLASS TYPE 'B'	
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
26-1/4"	72-1/2"	100.0	130.0	100.0	150.0
32-1/4"		100.0	130.0	100.0	150.0
38-1/4"		100.0	130.0	100.0	150.0
44-1/4"		100.0	130.0	100.0	150.0
50-1/4"		100.0	130.0	88.9	133.3
56-1/4"		100.0	130.0	80.0	120.0
62-1/4"		90.9	118.2	72.7	109.1
68-1/4"		83.3	108.3	66.7	100.0
26-1/4"	78-1/2"	100.0	130.0	100.0	150.0
32-1/4"		100.0	130.0	100.0	150.0
38-1/4"		100.0	130.0	100.0	150.0
44-1/4"		100.0	130.0	100.0	150.0
50-1/4"		100.0	130.0	88.9	133.3
56-1/4"		100.0	130.0	80.0	120.0
62-1/4"		90.9	118.2	72.7	109.1
68-1/4"		60.0	60.0	-	-
26-1/4"	84-1/2"	100.0	130.0	100.0	150.0
32-1/4"		100.0	130.0	100.0	150.0
38-1/4"		100.0	130.0	100.0	150.0
44-1/4"		100.0	130.0	100.0	150.0
50-1/4"		100.0	130.0	88.9	133.3
56-1/4"		100.0	130.0	80.0	120.0
62-1/4"		65.5	65.5	-	-
68-1/4"		60.0	60.0	-	-
26-1/4"	90-1/2"	100.0	130.0	100.0	150.0
32-1/4"		100.0	130.0	100.0	150.0
38-1/4"		100.0	130.0	100.0	150.0
44-1/4"		100.0	130.0	100.0	150.0
50-1/4"		100.0	130.0	88.9	133.3
56-1/4"		100.0	130.0	80.0	120.0
62-1/4"		65.5	65.5	-	-
68-1/4"		60.0	60.0	-	-
26-1/4"	96-1/2"	100.0	130.0	100.0	150.0
32-1/4"		100.0	130.0	100.0	150.0
38-1/4"		100.0	130.0	100.0	150.0
44-1/4"		100.0	130.0	100.0	150.0
50-1/4"		100.0	130.0	88.9	133.3
56-1/4"		72.0	72.0	-	-
62-1/4"		65.5	65.5	-	-
68-1/4"		-	-	-	-
26-1/4"	102-1/2"	100.0	130.0	100.0	150.0
32-1/4"		100.0	130.0	100.0	150.0
38-1/4"		100.0	130.0	100.0	150.0
44-1/4"		100.0	130.0	100.0	150.0
50-1/4"		80.0	80.0	-	-
56-1/4"		72.0	72.0	-	-
62-1/4"		-	-	-	-
68-1/4"		-	-	-	-
26-1/4"	108-1/2"	100.0	130.0	100.0	150.0
32-1/4"		100.0	130.0	100.0	150.0
38-1/4"		100.0	130.0	100.0	150.0
44-1/4"		100.0	130.0	100.0	150.0
50-1/4"		80.0	80.0	-	-
56-1/4"		72.0	72.0	-	-
62-1/4"		-	-	-	-
68-1/4"		-	-	-	-

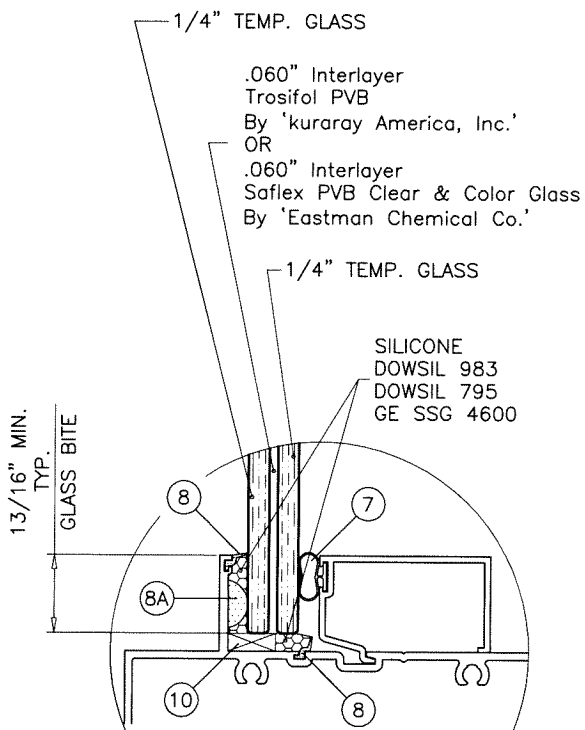
GLASS LOAD CAPACITY - PSF					
NOMINAL DIMS.		GLASS TYPE 'A'		GLASS TYPE 'B'	
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
26-1/4"	114-1/2"	100.0	130.0	100.0	150.0
32-1/4"		100.0	130.0	100.0	150.0
38-1/4"		100.0	130.0	100.0	150.0
44-1/4"		100.0	130.0	100.0	150.0
50-1/4"		80.0	80.0	-	-
26-1/4"	120-1/2"	100.0	130.0	100.0	150.0
32-1/4"		100.0	130.0	100.0	150.0
38-1/4"		100.0	130.0	100.0	150.0
44-1/4"		90.0	90.0	-	-
26-1/4"	126-1/2"	100.0	130.0	100.0	150.0
32-1/4"		100.0	130.0	100.0	150.0
38-1/4"		100.0	130.0	100.0	150.0
44-1/4"		90.0	90.0	-	-
26-1/4"	132-1/2"	100.0	130.0	100.0	150.0
32-1/4"		100.0	130.0	100.0	150.0
38-1/4"		90.0	90.0	-	-
26-1/4"	138-1/2"	100.0	130.0	100.0	150.0
32-1/4"		100.0	130.0	100.0	150.0
38-1/4"		90.0	90.0	-	-

INTERPOLATION BETWEEN WIDTHS ALLOWED.

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



GLASS TYPE 'A'



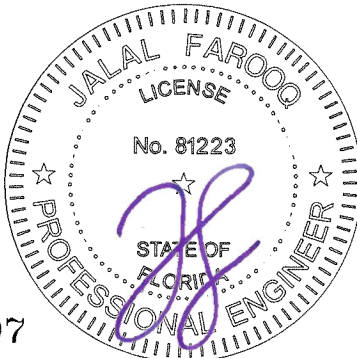
GLASS TYPE 'B'

GLAZING OPTIONS

Sealed: 4/7/2025

GLASS

FL #17897



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revisions:		date:		scale:		dr. by:		chk. by:	
no	description	no	date	no	date	no	date	no	date
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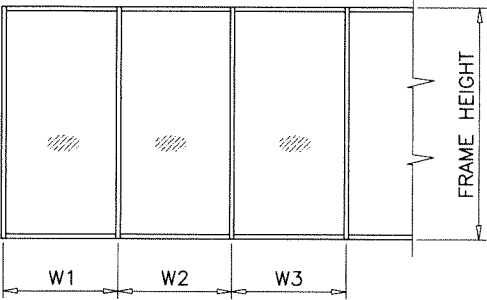
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23-06F
sheet 3 of 18

MULLION LOAD CAPACITY - PSF						
JAMB & MULLION WITHOUT INTERMEDIATE HORIZONTALS						
NOMINAL DIMS.		JAMB 'J2'	MULL 'M1'	MULL 'M2'	MULL 'M3'	MULL 'M4'
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (-)	EXT. (+) INT. (-)	EXT. (+) INT. (-)	EXT. (+) INT. (-)	EXT. (+) INT. (-)
30"	90"	130.0	130.0	130.0	130.0	130.0
36"		130.0	130.0	130.0	130.0	130.0
42"		130.0	130.0	130.0	130.0	130.0
48"		130.0	130.0	130.0	130.0	130.0
54"		130.0	122.9	130.0	130.0	130.0
60"		130.0	114.9	130.0	130.0	130.0
66"		-	-	-	-	90.0
72"		-	-	-	-	90.0
30"	96"	130.0	130.0	130.0	130.0	130.0
36"		130.0	130.0	130.0	130.0	130.0
42"		130.0	121.1	130.0	130.0	130.0
48"		130.0	108.6	130.0	130.0	130.0
54"		130.0	99.4	130.0	125.6	130.0
60"		130.0	92.4	130.0	116.3	130.0
66"		-	-	-	-	90.0
72"		-	-	-	-	90.0
30"	102"	130.0	130.0	130.0	130.0	130.0
36"		130.0	114.5	130.0	130.0	130.0
42"		130.0	100.0	130.0	130.0	130.0
48"		130.0	89.5	130.0	120.9	130.0
54"		130.0	81.6	130.0	109.8	130.0
56"		130.0	79.4	127.7	106.7	128.2
60"		-	-	-	-	90.0
66"		-	-	-	-	90.0
30"	108"	130.0	113.5	130.0	130.0	130.0
36"		130.0	95.9	130.0	130.0	130.0
42"		130.0	83.6	130.0	120.3	130.0
48"		130.0	74.6	120.0	107.0	128.5
53"		130.0	68.8	110.7	98.4	118.2
54"		-	-	-	-	90.0
60"		-	-	-	-	90.0
30"	114"	130.0	96.2	130.0	130.0	130.0
36"		130.0	81.2	130.0	123.8	130.0
42"		130.0	70.6	113.6	107.4	129.1
48"		130.0	62.9	101.1	95.3	114.5
50"		130.0	60.8	97.7	92.0	110.5
54"		-	-	-	-	90.0
60"		-	-	-	-	90.0
30"	120"	130.0	82.3	130.0	130.0	130.0
36"		130.0	69.3	111.5	111.4	130.0
42"		130.0	60.2	96.9	96.5	116.0
48"		130.0	53.5	86.1	85.5	102.8
54"		90.0	-	-	77.5	90.0
30"	126"	90.0	-	-	90.0	90.0
36"		90.0	-	-	90.0	90.0
42"		90.0	-	-	87.6	90.0
48"		90.0	-	-	77.5	90.0
54"		90.0	-	-	69.8	83.5

MULLION LOAD CAPACITY - PSF						
JAMB & MULLION WITHOUT INTERMEDIATE HORIZONTALS						
NOMINAL DIMS.		JAMB 'J2'	MULL 'M1'	MULL 'M2'	MULL 'M3'	MULL 'M4'
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (-)	EXT. (+) INT. (-)	EXT. (+) INT. (-)	EXT. (+) INT. (-)	EXT. (+) INT. (-)
30"	132"	90.0	-	-	90.0	90.0
36"		90.0	-	-	90.0	90.0
42"		90.0	-	-	79.5	90.0
48"		90.0	-	-	70.3	84.1
30"	138"	90.0	-	-	90.0	90.0
36"		90.0	-	-	84.0	90.0
42"		90.0	-	-	72.6	86.8
48"		90.0	-	-	64.1	76.7
30"	144"	90.0	-	-	90.0	90.0
36"		90.0	-	-	77.0	90.0
42"		90.0	-	-	66.5	79.5
48"		90.0	-	-	58.7	70.2

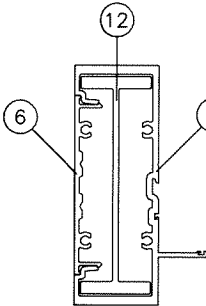
NOTE:
LIMIT MAXIMUM EXTERIOR(+) LOADS TO 100.0 PSF

INTERPOLATION BETWEEN WIDTHS ALLOWED.



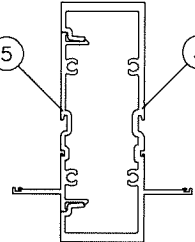
WIDTH (W) = W1
AT FRAME JAMB

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



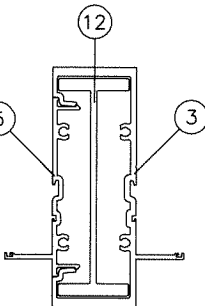
JAMB 'J2'

Ix IN^4	Sx IN^3
10.6486	4.4452



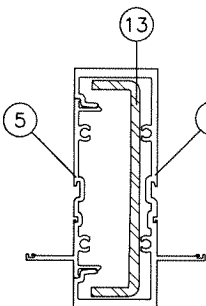
MULLION 'M1'

Ix IN^4	Sx IN^3
6.7195	2.6757



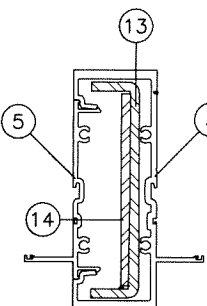
MULLION 'M2'

Ix IN^4	Sx IN^3
10.8072	3.7590



MULLION 'M3'

	Ix IN^4	Sx IN^3
ALUMINUM	6.7195	2.6757
STEEL	2.7506	1.2225
TOTAL	14.6962	
Ix ALUM + Ix STL X 2.9		

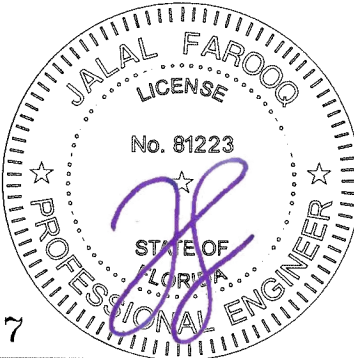


MULLION 'M4'

	Ix IN^4	Sx IN^3
ALUMINUM	6.7195	2.6757
STEEL	3.7533	1.668
TOTAL	17.6047	
Ix ALUM + Ix STL X 2.9		

Sealed: 4/7/2025

MULLIONS



FL #17897

afcc

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FBPE #3538

STORE 23-06F-ES

SERIES 8000 ALUMINUM WINDOW WALL SYSTEM (S.M.I.)

E.S. WINDOWS, LLC
3550 N.W. 49 STREET
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revisions:

no	date	by	description

date: 01-25-23

scale: -

dr. by: TARIQ

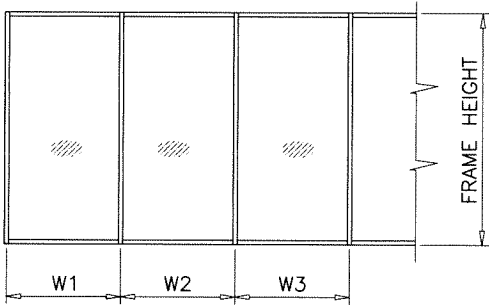
chk. by:

drawing no.
23-06F

sheet 4 of 18

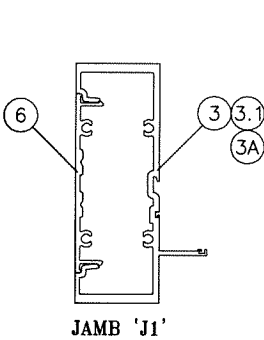
MULLION LOAD CAPACITY - PSF					
JAMB & MULLION WITHOUT INTERMEDIATE HORIZONTALS					
NOMINAL DIMS.		JAMB 'J1'	JAMB 'J3'	MULL 'M5'	MULL 'M6'
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (-)	EXT. (+) INT. (-)	EXT. (+) INT. (-)	EXT. (+) INT. (-)
30"	90"	130.0	150.0	150.0	150.0
36"		130.0	150.0	150.0	150.0
42"		130.0	150.0	150.0	150.0
48"		130.0	150.0	150.0	150.0
54"		130.0	150.0	150.0	150.0
60"		130.0	150.0	150.0	150.0
66"		-	90.0	90.0	90.0
72"		-	90.0	90.0	90.0
30"	96"	130.0	150.0	150.0	150.0
36"		130.0	150.0	150.0	150.0
42"		130.0	150.0	150.0	150.0
48"		130.0	150.0	150.0	150.0
54"		130.0	150.0	150.0	150.0
60"		130.0	150.0	150.0	150.0
66"		-	90.0	90.0	90.0
72"		-	90.0	90.0	90.0
30"	102"	130.0	150.0	150.0	150.0
36"		114.5	150.0	150.0	150.0
42"		100.0	150.0	150.0	150.0
48"		89.5	150.0	150.0	150.0
54"		81.6	150.0	150.0	150.0
60"		-	90.0	90.0	90.0
66"		-	90.0	90.0	90.0
30"	108"	113.5	150.0	150.0	150.0
36"		95.9	150.0	150.0	150.0
42"		83.6	150.0	150.0	150.0
48"		74.6	150.0	149.6	150.0
54"		-	90.0	90.0	90.0
60"		-	90.0	90.0	90.0
30"	114"	96.2	150.0	150.0	150.0
36"		81.2	150.0	150.0	150.0
42"		70.6	150.0	150.0	150.0
48"		62.9	150.0	133.3	150.0
54"		-	90.0	90.0	90.0
60"		-	90.0	90.0	90.0
30"	120"	82.3	150.0	150.0	150.0
36"		69.3	150.0	150.0	150.0
42"		60.2	150.0	135.0	150.0
48"		53.5	150.0	119.6	133.3
54"		-	90.0	90.0	90.0
30"	126"	-	90.0	90.0	90.0
36"		-	90.0	90.0	90.0
42"		-	90.0	90.0	90.0
48"		-	90.0	90.0	90.0
54"		-	90.0	90.0	90.0
30"	132"	-	90.0	90.0	90.0
36"		-	90.0	90.0	90.0
42"		-	90.0	90.0	90.0
48"		-	90.0	90.0	90.0
30"	138"	-	90.0	90.0	90.0
36"		-	90.0	90.0	90.0
42"		-	90.0	90.0	90.0
48"		-	90.0	86.2	86.2
30"	144"	-	90.0	90.0	90.0
36"		-	90.0	90.0	90.0
42"		-	90.0	85.5	85.5
48"		-	90.0	75.6	75.6

INTERPOLATION BETWEEN WIDTHS ALLOWED.

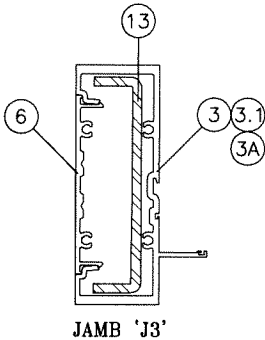


WIDTH (W) = W1
AT FRAME JAMB

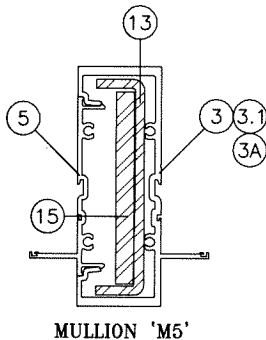
WIDTH (W) = $\frac{W2 + W3}{2}$
AT FRAME MULLION



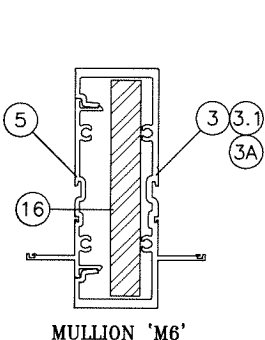
Ix IN^4	Sx IN^3
6.6509	2.6421



	Ix IN^4	Sx IN^3
ALUMINUM	6.6509	2.6421
STEEL	2.7506	1.2225
TOTAL	14.6276	
Ix ALUM + Ix STL X 2.9		

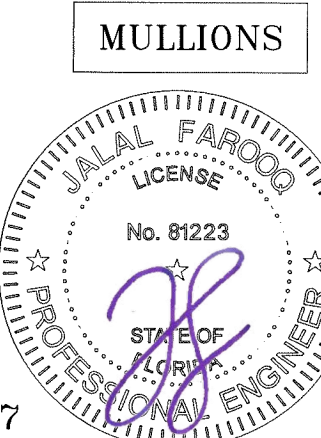


	Ix IN^4	Sx IN^3
ALUMINUM	6.7195	2.6757
STEEL	4.7506	2.1114
TOTAL	20.3598	
Ix ALUM + Ix STL X 2.9		



	Ix IN^4	Sx IN^3
ALUMINUM	6.7195	2.6757
STEEL	4.746	2.109
TOTAL	20.3464	
Ix ALUM + Ix STL X 2.9		

Sealed: 4/7/2025



AL-FAROOQ CORPORATION
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FBPE #3538

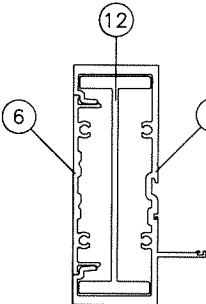
SERIES 8000 ALUMINUM WINDOW WALL SYSTEM (S.M.I.)
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:	no	date	by	description
date:	01-25-23			
scale:	-			
dr. by:	TARIQ			
chk. by:				
drawing no.	23-06F			
sheet	4.1 of 18			

MULLION LOAD CAPACITY - PSF						
JAMB & MULLION WITH INTERMEDIATE HORIZONTALS						
NOMINAL DIMS.		JAMB 'J2'	MULL 'M1'	MULL 'M2'	MULL 'M3'	MULL 'M4'
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (-)	EXT. (+) INT. (-)	EXT. (+) INT. (-)	EXT. (+) INT. (-)	EXT. (+) INT. (-)
30"	78"	130.0	130.0	130.0	130.0	130.0
36"		130.0	130.0	130.0	130.0	130.0
42"		130.0	130.0	130.0	130.0	130.0
48"		130.0	130.0	130.0	130.0	130.0
54"		130.0	130.0	130.0	130.0	130.0
60"		130.0	130.0	130.0	130.0	130.0
30"	90"	130.0	130.0	130.0	130.0	130.0
36"		130.0	130.0	130.0	130.0	130.0
42"		130.0	130.0	130.0	130.0	130.0
48"		130.0	119.2	130.0	130.0	130.0
54"		130.0	105.9	130.0	128.1	130.0
60"		130.0	95.3	130.0	115.3	130.0
30"	96"	130.0	130.0	130.0	130.0	130.0
36"		130.0	130.0	130.0	130.0	130.0
42"		130.0	112.2	130.0	130.0	130.0
48"		130.0	98.2	130.0	126.7	130.0
54"		130.0	87.3	130.0	112.6	130.0
60"		130.0	78.5	122.1	101.4	130.0
30"	102"	130.0	130.0	130.0	130.0	130.0
36"		130.0	109.1	130.0	130.0	130.0
42"		130.0	93.6	130.0	128.3	130.0
48"		130.0	81.9	130.0	112.2	130.0
54"		130.0	72.8	117.0	99.8	130.0
56"		130.0	70.2	112.8	96.2	130.0
60"		-	-	-	-	130.0
30"	108"	130.0	110.3	130.0	130.0	130.0
36"		130.0	91.9	130.0	130.0	130.0
42"		130.0	78.8	126.8	114.4	130.0
48"		130.0	69.0	110.9	100.1	120.3
53"		130.0	62.5	100.4	90.7	108.9
54"		-	-	-	-	90.0
60"		-	-	-	-	90.0
30"	114"	130.0	93.8	130.0	130.0	130.0
36"		130.0	78.2	125.7	119.8	130.0
42"		130.0	67.0	107.8	102.7	123.4
48"		130.0	58.6	94.3	89.8	108.0
50"		130.0	56.3	90.5	86.2	103.6
54"		-	-	-	-	90.0
60"		-	-	-	-	86.4
30"	120"	130.0	80.4	129.4	129.7	130.0
36"		130.0	67.0	107.8	108.1	129.9
42"		130.0	57.5	92.4	92.7	111.3
48"		130.0	50.3	80.9	81.1	97.4
54"		90.0	-	-	72.4	86.6
30"	126"	90.0	-	-	90.0	90.0
36"		90.0	-	-	90.0	90.0
42"		90.0	-	-	84.4	90.0
48"		90.0	-	-	73.9	88.4
54"		90.0	-	-	65.6	78.5

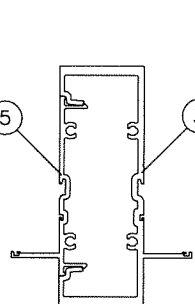
MULLION LOAD CAPACITY - PSF						
JAMB & MULLION WITH INTERMEDIATE HORIZONTALS						
NOMINAL DIMS.		JAMB 'J2'	MULL 'M1'	MULL 'M2'	MULL 'M3'	MULL 'M4'
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (-)	EXT. (+) INT. (-)	EXT. (+) INT. (-)	EXT. (+) INT. (-)	EXT. (+) INT. (-)
30"	132"	90.0	-	-	90.0	90.0
36"		90.0	-	-	89.7	90.0
42"		90.0	-	-	76.9	90.0
48"		90.0	-	-	67.3	80.5
30"	138"	90.0	-	-	90.0	90.0
36"		90.0	-	-	82.1	90.0
42"		90.0	-	-	70.4	84.2
48"		90.0	-	-	61.6	73.7
30"	144"	90.0	-	-	90.0	90.0
36"		90.0	-	-	75.4	90.0
42"		90.0	-	-	64.6	77.3
48"		90.0	-	-	56.5	67.7

NOTE:
LIMIT MAXIMUM EXTERIOR(+) LOADS TO 100.0 PSF



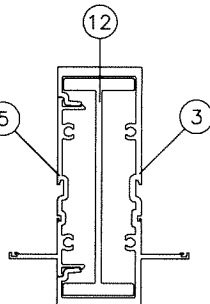
JAMB 'J2'

Ix IN^4	Sx IN^3
10.6486	4.4452



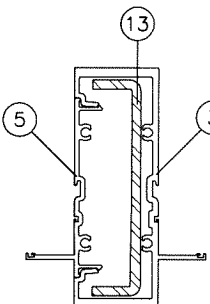
MULLION 'M1'

Ix IN^4	Sx IN^3
6.7195	2.6757



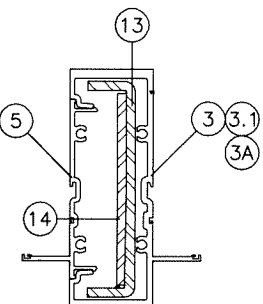
MULLION 'M2'

Ix IN^4	Sx IN^3
10.8072	3.7590



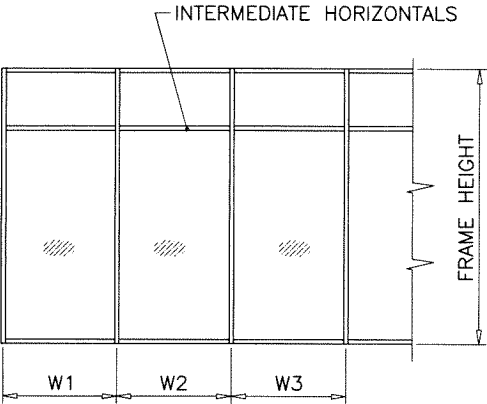
MULLION 'M3'

	Ix IN^4	Sx IN^3
ALUMINUM	6.7195	2.6757
STEEL	2.7506	1.2225
TOTAL		
Ix ALUM + Ix STL X 2.9	14.6962	



MULLION 'M4'

	Ix IN^4	Sx IN^3
ALUMINUM	6.7195	2.6757
STEEL	3.7533	1.668
TOTAL		
Ix ALUM + Ix STL X 2.9	17.6047	

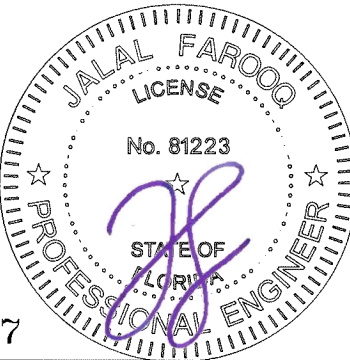


WIDTH (W) = W1
AT FRAME JAMB

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

INTERPOLATION BETWEEN WIDTHS ALLOWED.

Sealed: 4/7/2025



FL #17897

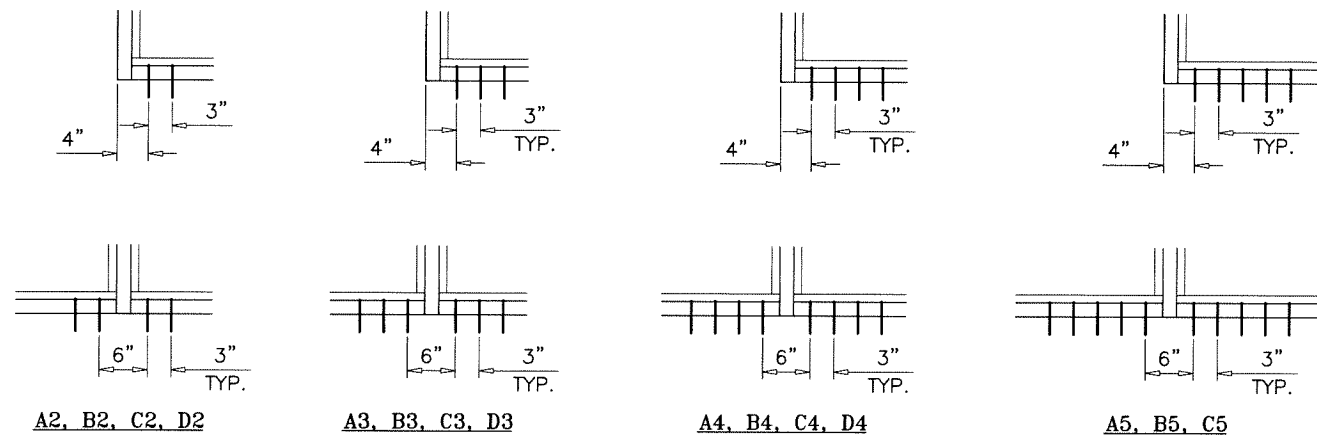
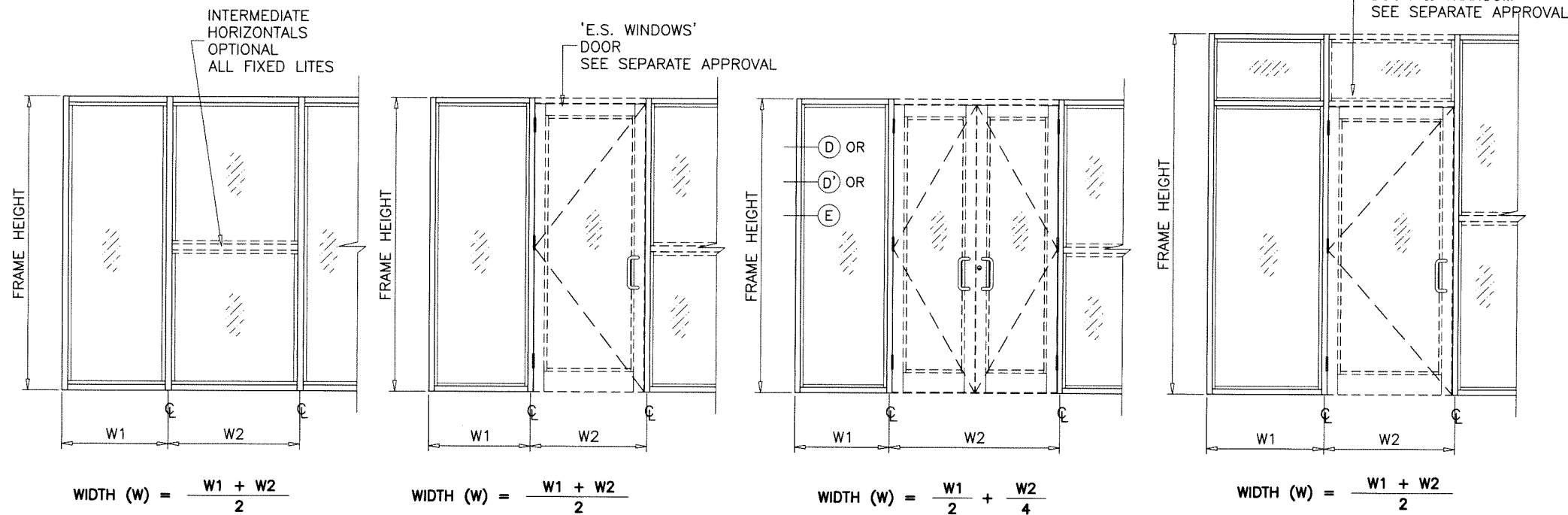
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AL-FAROOQ CORPORATION
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SERIES 8000 ALUMINUM WINDOW WALL SYSTEM (S.M.I.)

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3550 N.W. 49 STREET
MIAMI, FL. 33142
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revisions:	no	date	by	description
date:	01-25-23	scale:	-	
dr. by:	TARIQ	chk. by:		
drawing no.	23-06F	sheet	5 of 18	



ANCHORS TYPES: SEE SHEET 13 FOR DESCRIPTION

- A2 = (2) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
 B2 = (2) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
 C2 = (2) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION
 D2 = (2) ANCHORS TYPE 'D' AT EACH SIDE OF JAMB AND MULLION
- A3 = (3) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
 B3 = (3) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
 C3 = (3) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION
 D3 = (3) ANCHORS TYPE 'D' AT EACH SIDE OF JAMB AND MULLION
- A4 = (4) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
 B4 = (4) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
 C4 = (4) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION
 D4 = (4) ANCHORS TYPE 'D' AT EACH SIDE OF JAMB AND MULLION
- A5 = (5) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
 B5 = (5) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
 C5 = (5) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION

ALL OTHER ANCHORS TO BE SPACED AS PER ELEVATION.

SEE SHEETS 7 FOR ANCHOR CAPACITY CHART.

Sealed: 4/7/2025



ANCHORS

FL #17897

af c
AL-FAROOQ CORPORATION
 ENGINEERS & PRODUCT DEVELOPMENT
 9360 SUNSET DRIVE, SUITE 220
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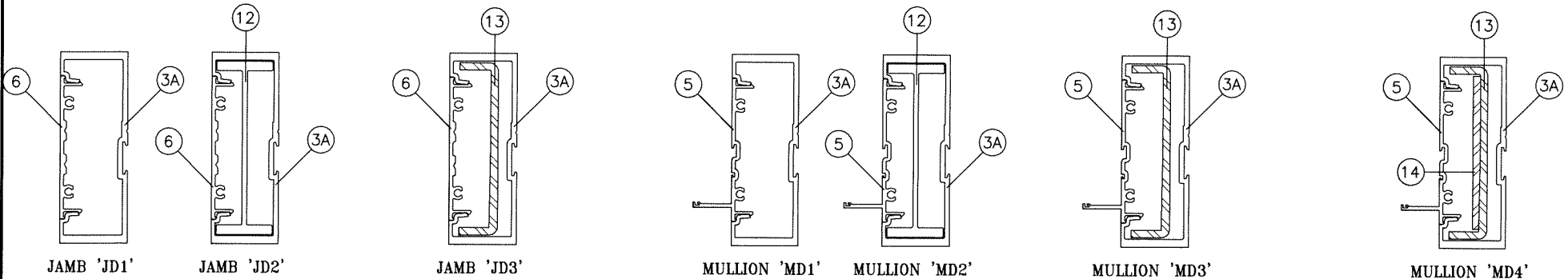
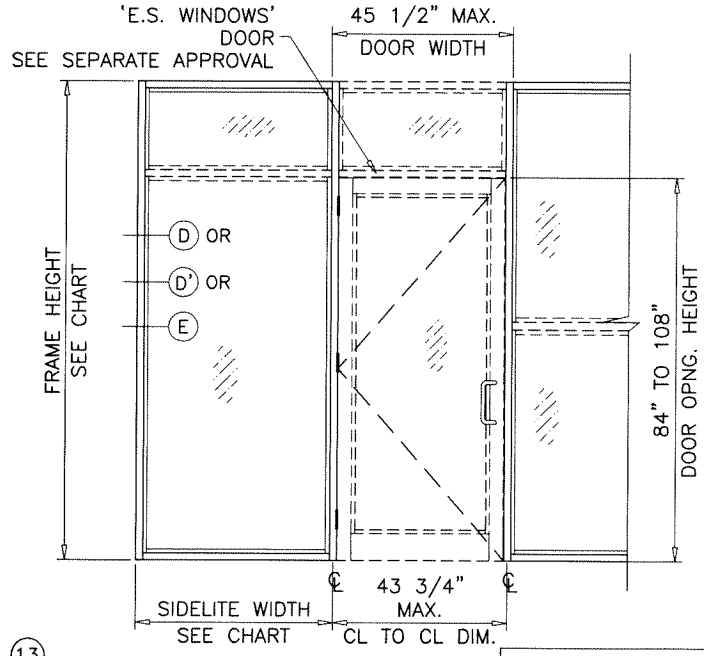
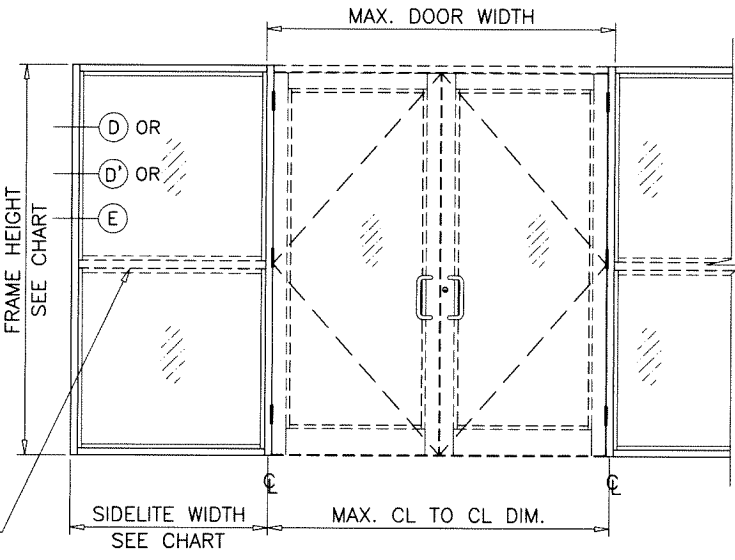
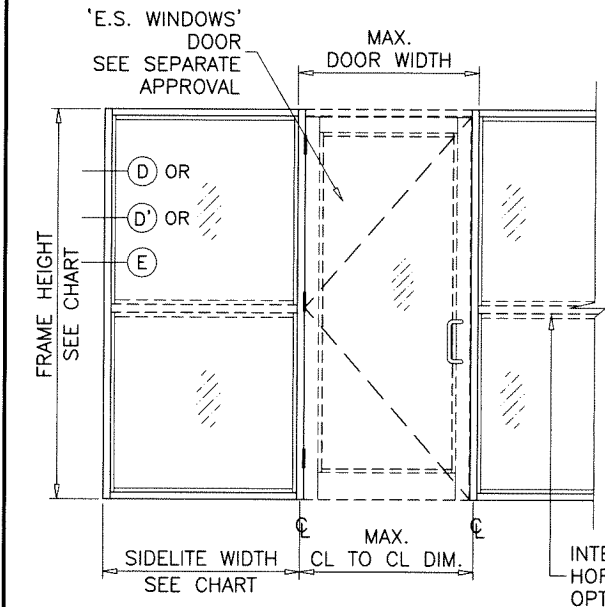
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date:	01-25-23			
scale:	-			
dr. by:	TARIQ			
chk. by:				
drawing no.	23-06F			
sheet	6 of 18			

ANCHOR LOAD CAPACITY – PSF EXT.(+) & INT.(–)																												
NOMINAL DIMS.		3/8" MAX. SHIM SPACE												1/2" MAX. SHIM SPACE												1/4" SHIM SPACE		
		ANCHORS TYPE 'A'				ANCHORS TYPE 'B'				ANCHORS TYPE 'C'				ANCHORS TYPE 'A'				ANCHORS TYPE 'B'				ANCHORS TYPE 'C'				ANCHORS TYPE 'D'		
WIDTH (W)	FRAME HEIGHT	A2	A3	A4	A5	B2	B3	B4	B5	C2	C3	C4	C5	A2	A3	A4	A5	B2	B3	B4	B5	C2	C3	C4	C5	D2	D3	D4
30"	90"	56.8	85.2	113.6	150.0	65.4	98.0	130.7	150.0	111.4	130.0	150.0	150.0	44.3	66.5	88.7	110.8	51.3	76.9	102.6	128.2	87.7	130.0	150.0	150.0	130.0	130.0	150.0
36"		47.3	71.0	94.6	118.3	54.5	81.7	108.9	136.2	92.8	130.0	150.0	150.0	36.9	55.4	73.9	92.4	42.7	64.1	85.5	106.8	73.1	109.7	146.2	150.0	130.0	130.0	150.0
42"		40.6	60.8	81.1	101.4	46.7	70.0	93.4	116.7	79.6	119.4	150.0	150.0	31.7	47.5	63.3	79.2	36.6	54.9	73.3	91.6	62.7	94.0	125.3	150.0	119.2	130.0	150.0
48"		35.5	53.2	71.0	88.7	40.9	61.3	81.7	102.1	69.6	104.4	139.3	150.0	27.7	41.6	55.4	69.3	32.1	48.1	64.1	80.1	54.8	82.2	109.7	137.1	104.3	130.0	150.0
54"		31.5	47.3	63.1	78.9	36.3	54.5	72.6	90.8	61.9	92.8	123.8	150.0	24.6	36.9	49.3	61.6	28.5	42.7	57.0	71.2	48.7	73.1	97.5	121.8	92.7	130.0	150.0
60"		28.4	42.6	56.8	71.0	32.7	49.0	65.4	81.7	55.7	83.6	111.4	139.3	22.2	33.2	44.3	55.4	25.6	38.5	51.3	64.1	43.9	65.8	87.7	109.7	83.4	125.1	150.0
66"		25.8	38.7	51.6	64.5	29.7	44.6	59.4	74.3	50.6	76.0	90.0	90.0	20.2	30.2	40.3	50.4	23.3	35.0	46.6	58.3	39.9	59.8	79.7	90.0	75.8	90.0	90.0
72"		23.7	35.5	47.3	59.2	27.2	40.9	54.5	68.1	46.4	69.6	90.0	90.0	–	27.7	36.9	46.2	21.4	32.1	42.7	53.4	36.6	54.8	73.1	90.0	69.5	90.0	90.0
30"	96"	53.2	79.9	106.5	133.1	61.3	91.9	122.6	150.0	104.4	130.0	150.0	150.0	41.6	62.3	83.1	103.9	48.1	72.1	96.2	120.2	82.2	123.4	150.0	150.0	130.0	130.0	150.0
36"		44.4	66.6	88.7	110.9	51.1	76.6	102.1	127.7	87.0	130.0	150.0	150.0	34.6	52.0	69.3	86.6	40.1	60.1	80.1	100.2	68.5	102.8	137.1	150.0	130.0	130.0	150.0
40"		39.9	59.9	79.9	99.8	46.0	68.9	91.9	114.9	78.3	117.5	150.0	150.0	31.2	46.8	62.3	77.9	36.1	54.1	72.1	90.2	61.7	92.5	123.4	150.0	117.3	130.0	150.0
42"		38.0	57.0	76.1	95.1	43.8	65.7	87.5	109.4	74.6	111.9	149.2	150.0	29.7	44.5	59.4	74.2	34.3	51.5	68.7	85.9	58.7	88.1	117.5	146.9	111.7	130.0	150.0
48"		33.3	49.9	66.6	83.2	38.3	57.5	76.6	95.8	65.3	97.9	130.6	150.0	26.0	39.0	52.0	64.9	30.1	45.1	60.1	75.1	51.4	77.1	102.8	128.5	97.8	130.0	150.0
54"		29.6	44.4	59.2	73.9	34.0	51.1	68.1	85.1	58.0	87.0	116.0	145.1	23.1	34.6	46.2	57.7	26.7	40.1	53.4	66.8	45.7	68.5	91.4	114.2	86.9	130.0	150.0
60"		26.6	39.9	53.2	66.6	30.6	46.0	61.3	76.6	52.2	78.3	104.4	130.6	20.8	31.2	41.6	52.0	24.0	36.1	48.1	60.1	41.1	61.7	82.2	102.8	78.2	117.3	150.0
66"		24.2	36.3	48.4	60.5	27.9	41.8	55.7	69.6	47.5	71.2	90.0	90.0	–	28.3	37.8	47.2	21.9	32.8	43.7	54.6	37.4	56.1	74.8	90.0	71.1	90.0	90.0
72"	22.2	33.3	44.4	55.5	25.5	38.3	51.1	63.8	43.5	65.3	87.0	90.0	–	26.0	34.6	43.3	20.0	30.1	40.1	50.1	34.3	51.4	68.5	85.7	65.2	90.0	90.0	
30"	102"	50.1	75.2	100.2	125.3	57.7	86.5	115.4	144.2	98.3	130.0	150.0	150.0	39.1	58.7	78.2	97.8	45.3	67.9	90.5	113.1	77.4	116.1	150.0	150.0	130.0	130.0	150.0
36"		41.8	62.6	83.5	104.4	48.1	72.1	96.1	120.2	81.9	122.9	150.0	150.0	32.6	48.9	65.2	81.5	37.7	56.6	75.4	94.3	64.5	96.8	129.0	150.0	122.7	130.0	150.0
42"		35.8	53.7	71.6	89.5	41.2	61.8	82.4	103.0	70.2	105.3	140.4	150.0	27.9	41.9	55.9	69.8	32.3	48.5	64.6	80.8	55.3	82.9	110.6	138.2	105.1	130.0	150.0
48"		31.3	47.0	62.6	78.3	36.0	54.1	72.1	90.1	61.4	92.2	122.9	150.0	24.4	36.7	48.9	61.1	28.3	42.4	56.6	70.7	48.4	72.6	96.8	120.9	92.0	130.0	150.0
54"		27.8	41.8	55.7	69.6	32.0	48.1	64.1	80.1	54.6	81.9	109.2	136.5	21.7	32.6	43.5	54.3	25.1	37.7	50.3	62.8	43.0	64.5	86.0	107.5	81.8	122.7	150.0
60"		25.1	37.6	50.1	62.6	28.8	43.3	57.7	72.1	49.1	73.7	90.0	90.0	–	29.3	39.1	48.9	22.6	33.9	45.3	56.6	38.7	58.1	77.4	90.0	73.6	90.0	90.0
66"		22.8	34.2	45.6	56.9	26.2	39.3	52.4	65.5	44.7	67.0	89.4	90.0	–	26.7	35.6	44.4	20.6	30.9	41.1	51.4	35.2	52.8	70.4	88.0	66.9	90.0	90.0
72"		20.8	31.2	41.6	52.0	24.0	36.1	48.1	60.1	41.1	61.7	82.2	102.8	78.2	117.3	150.0	150.0	130.0	130.0	150.0	130.0	130.0	150.0	150.0	130.0	130.0	150.0	
30"	108"	47.3	71.0	94.6	118.3	54.5	81.7	108.9	136.2	92.8	130.0	150.0	150.0	36.9	55.4	73.9	92.4	42.7	64.1	85.5	106.8	73.1	109.7	146.2	150.0	130.0	130.0	150.0
36"		39.4	59.2	78.9	98.6	45.4	68.1	90.8	113.5	77.4	116.0	150.0	150.0	30.8	46.2	61.6	77.0	35.6	53.4	71.2	89.0	60.9	91.4	121.8	150.0	115.9	130.0	150.0
42"		33.8	50.7	67.6	84.5	38.9	58.4	77.8	97.3	66.3	99.5	132.6	150.0	26.4	39.6	52.8	66.0	30.5	45.8	61.1	76.3	52.2	78.3	104.4	130.5	99.3	130.0	150.0
48"		29.6	44.4	59.2	73.9	34.0	51.1	68.1	85.1	58.0	87.0	116.0	145.1	23.1	34.6	46.2	57.7	26.7	40.1	53.4	66.8	45.7	68.5	91.4	114.2	86.9	130.0	150.0
54"		26.3	39.4	52.6	65.7	30.3	45.4	60.5	75.7	51.6	77.4	90.0	90.0	20.5	30.8	41.0	51.3	23.7	35.6	47.5	59.4	40.6	60.9	81.2	90.0	77.2	90.0	90.0
60"		23.7	35.5	47.3	59.2	27.2	40.9	54.5	68.1	46.4	69.6	90.0	90.0	–	27.7	36.9	46.2	21.4	32.1	42.7	53.4	36.6	54.8	73.1	90.0	69.5	90.0	90.0
30"	114"	44.8	67.3	89.7	112.1	51.6	77.4	103.2	129.0	87.9	130.0	150.0	150.0	35.0	52.5	70.0	87.5	40.5	60.7	81.0	101.2	69.3	103.9	138.5	150.0	130.0	130.0	150.0
36"		37.4	56.0	74.7	93.4																							

DOOR MULLION LOAD CAPACITY-PSF					
SIDELITE WIDTH INCHES	FRAME HEIGHT INCHES	JAMB 'JD1'	JAMB 'JD1'	JAMB 'JD2'	JAMB 'JD3'
		MULL 'MD1'	MULL 'MD2'	MULL 'MD3'	MULL 'MD4'
EXT. (+)	INT. (-)	EXT. (+)	INT. (-)	EXT. (+)	INT. (-)
32	86-1/2	120.0	120.0	120.0	120.0
36		120.0	120.0	120.0	120.0
42		120.0	120.0	120.0	120.0
48		120.0	120.0	120.0	120.0
54		120.0	120.0	120.0	120.0
60		120.0	120.0	120.0	120.0
32	98-1/2	112.6	120.0	120.0	120.0
36		107.1	120.0	120.0	120.0
42		99.7	120.0	120.0	120.0
48		93.3	120.0	120.0	120.0
54		87.7	120.0	116.1	120.0
32	110-1/2	79.8	120.0	118.5	120.0
36		75.8	120.0	112.6	120.0
42		70.6	113.6	104.9	120.0
48		66.1	106.3	98.2	120.0
32	120	-	-	-	90.0
36		-	-	-	90.0
42		-	-	-	90.0
48		-	-	-	85.1

NOTE:
LIMIT MAXIMUM EXTERIOR(+) LOADS TO 100.0 PSF

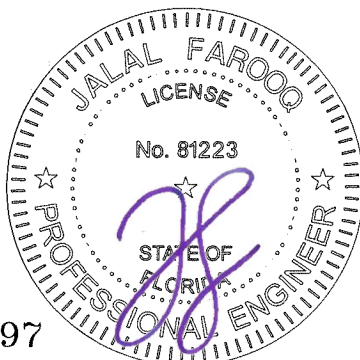
DOOR MULLION LOAD CAPACITY-PSF					
SIDELITE WIDTH INCHES	FRAME HEIGHT INCHES	JAMB 'JD1'	JAMB 'JD1'	JAMB 'JD2'	JAMB 'JD3'
		MULL 'MD1'	MULL 'MD2'	MULL 'MD3'	MULL 'MD4'
EXT. (+)	INT. (-)	EXT. (+)	INT. (-)	EXT. (+)	INT. (-)
32	98-1/2	90.0	90.0	90.0	90.0
36		90.0	90.0	90.0	90.0
42		90.0	90.0	90.0	90.0
48		90.0	90.0	90.0	90.0
54		87.7	90.0	90.0	90.0
32	110-1/2	79.8	90.0	90.0	90.0
36		75.8	90.0	90.0	90.0
42		70.6	90.0	90.0	90.0
48		66.1	90.0	90.0	90.0
32	114	72.6	90.0	90.0	90.0
36		69.1	90.0	90.0	90.0
42		64.3	90.0	90.0	90.0
48		60.2	90.0	90.0	90.0
32	120	62.3	90.0	90.0	90.0
36		59.2	90.0	90.0	90.0
42		55.2	88.7	89.1	90.0
48		51.6	83.0	83.4	90.0
32	144	-	-	-	90.0
36		-	-	-	89.8
42		-	-	-	83.6
48		-	-	-	78.3



Ix IN^4	Sx IN^3	Ix IN^4	Sx IN^3		Ix IN^4	Sx IN^3		Ix IN^4	Sx IN^3		Ix IN^4	Sx IN^3		Ix IN^4	Sx IN^3		
6.570	2.7226	10.6577	3.8057	ALUMINUM	6.570	2.7226		6.7195	2.6757	10.8072	4.4788	ALUMINUM	6.7195	2.6757	ALUMINUM	6.7195	2.6757
				STEEL	2.7506	1.2224						STEEL	2.7506	1.224	STEEL	3.7533	1.668
				TOTAL								TOTAL			TOTAL		
				Ix ALUM + Ix STL X 2.9	14.5467							Ix ALUM + Ix STL X 2.9	14.6962		Ix ALUM + Ix STL X 2.9	17.6041	

DOOR-WINDOW WALL
TRANSITION MULLION

Sealed: 4/7/2025



FL #17897

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100
WWW.AFCENG.COM
FBPE #3538

SERIES 8000 ALUMINUM 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

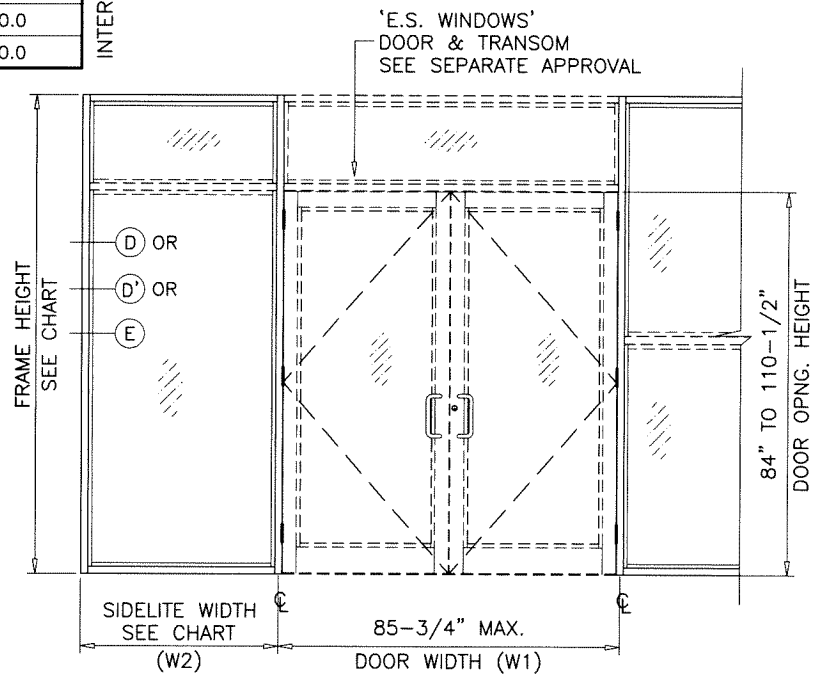
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drawing no.
23-06F
sheet 8 of 18

DOOR MULLION LOAD CAPACITY - PSF							
NOMINAL DIMS.				JAMB 'JD1' MULL 'MD1'	JAMB 'JD1' MULL 'MD2'	JAMB 'JD2' JAMB 'JD3' MULL 'MD3'	JAMB 'JD3' MULL 'MD4'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(-)	EXT.(+) INT.(-)	EXT.(+) INT.(-)	EXT.(+) INT.(-)
85-3/4	30	96	84	90.0	90.0	90.0	90.0
	36			90.0	90.0	90.0	90.0
	42			90.0	90.0	90.0	90.0
	48			90.0	90.0	90.0	90.0
	54			90.0	90.0	90.0	90.0
	60			85.7	90.0	90.0	90.0
	30	102		90.0	90.0	90.0	90.0
	36			86.9	90.0	90.0	90.0
	42			81.5	90.0	90.0	90.0
	48			76.7	90.0	90.0	90.0
	54			72.5	90.0	89.0	90.0
	30	108		74.2	90.0	90.0	90.0
	36			69.5	90.0	89.1	90.0
	42			65.4	90.0	84.4	90.0
	48			61.7	90.0	80.2	90.0
	30	114		60.2	90.0	81.7	90.0
	36			56.6	90.0	77.4	90.0
	42			53.3	85.8	73.4	87.8
	48			50.5	81.2	69.9	83.5
	30	120		49.7	80.0	71.9	85.9
	36			46.8	75.3	68.1	81.5
	42			44.2	71.2	64.8	77.4
	48			41.9	67.5	61.7	73.8
	85-3/4	30		102	90	90.0	90.0
36		90.0	90.0			90.0	90.0
42		86.6	90.0			90.0	90.0
48		81.2	90.0			90.0	90.0
54		76.5	90.0			90.0	90.0
30		108	79.3	90.0		90.0	90.0
36			74.0	90.0		90.0	90.0
42			69.3	90.0		88.9	90.0
48			65.2	90.0		84.3	90.0
30		114	63.9	90.0		85.6	90.0
36			59.9	90.0		80.8	90.0
42			56.3	90.0		76.5	90.0
48			53.1	85.4		72.7	86.9
30		120	52.4	84.2		74.5	89.1
36			49.2	79.1		70.5	84.3
42			46.3	74.5		66.9	80.0
48			43.8	70.5		63.6	76.1

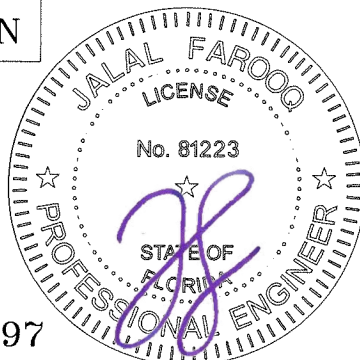
DOOR MULLION LOAD CAPACITY - PSF							
NOMINAL DIMS.				JAMB 'JD1' MULL 'MD1'	JAMB 'JD1' MULL 'MD2'	JAMB 'JD2' JAMB 'JD3' MULL 'MD3'	JAMB 'JD3' MULL 'MD4'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(-)	EXT.(+) INT.(-)	EXT.(+) INT.(-)	EXT.(+) INT.(-)
85-3/4	30	108	96	84.6	90.0	90.0	90.0
	36			78.6	90.0	90.0	90.0
	42			73.4	90.0	90.0	90.0
	48			68.8	90.0	89.7	90.0
	30	114		68.2	90.0	90.0	90.0
	36			63.5	90.0	85.3	90.0
	42			59.5	90.0	80.6	90.0
	48			56.0	90.0	76.3	90.0
	30	120		55.5	89.3	78.0	90.0
	36			51.9	83.5	73.6	88.0
	42			48.8	78.5	69.7	83.3
	48			46.0	74.0	66.2	79.1
85-3/4	30	114	102	72.4	90.0	90.0	90.0
	36			67.2	90.0	90.0	90.0
	42			62.7	90.0	85.9	90.0
	48			58.8	90.0	81.1	90.0
	30	120		59.0	90.0	82.6	90.0
	36			55.0	88.4	77.7	90.0
	42			51.5	82.8	73.3	87.7
	48			48.4	77.8	69.4	83.0
85-3/4	30	120	110-1/2	63.7	90.0	90.0	90.0
	36			59.0	90.0	85.7	90.0
	42			55.0	88.4	80.4	90.0
	48			51.5	82.8	75.7	90.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



DOOR-WINDOW WALL
TRANSITION MULLION

Sealed: 4/7/2025



FL #17897

JAMB 'JD1'		JAMB 'JD2'		JAMB 'JD3'		MULLION 'MD1'		MULLION 'MD2'		MULLION 'MD3'		MULLION 'MD4'	
Ix IN ⁴	Sx IN ³	Ix IN ⁴	Sx IN ³	Ix IN ⁴	Sx IN ³	Ix IN ⁴	Sx IN ³	Ix IN ⁴	Sx IN ³	Ix IN ⁴	Sx IN ³	Ix IN ⁴	Sx IN ³
6.570	2.7226	10.6577	3.8057	ALUMINUM	6.570	2.7226	6.7195	2.6757	10.8072	4.4788	ALUMINUM	6.7195	2.6757
				STEEL	2.7506	1.2224					STEEL	3.7533	1.668
				TOTAL							TOTAL		
				Ix ALUM + Ix STL X 2.9	14.5467			Ix ALUM + Ix STL X 2.9	14.6962			Ix ALUM + Ix STL X 2.9	17.6041

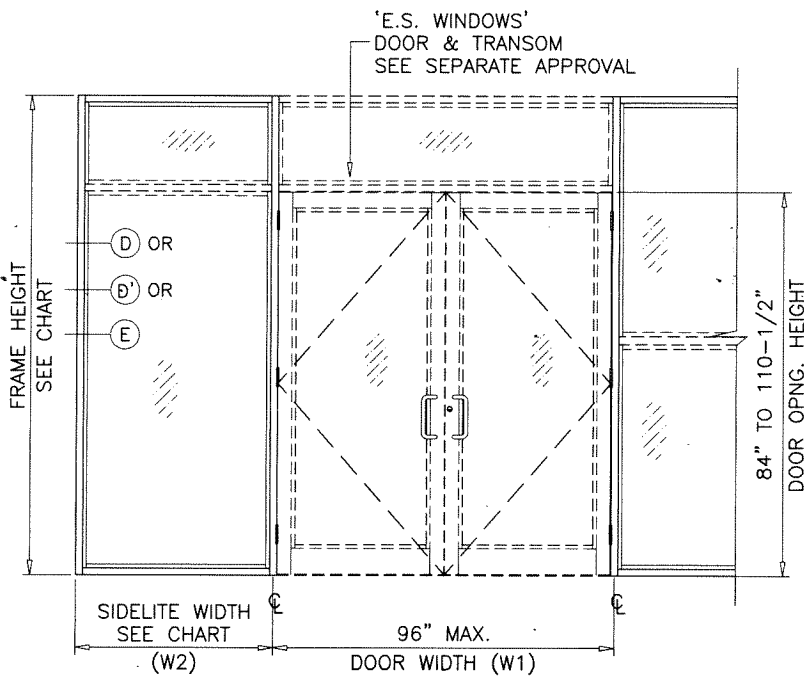
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
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STORE \23-06F-ES

SERIES 8000 ALUMINUM WINDOW WALL SYSTEM (S.M.I.)
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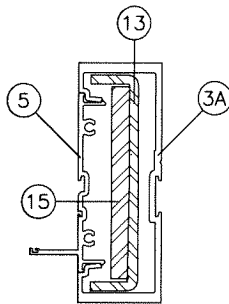
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chk. by:				
drawing no.	23-06F			
sheet	9 of 18			

DOOR MULLION LOAD CAPACITY – PSF				
NOMINAL DIMS.				JAMB 'JD3' MULL 'MD4'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(–)
96	30	96	84	90.0
	36			90.0
	42			90.0
	48			90.0
	54			90.0
	60			90.0
	30	102		90.0
	36			90.0
	42			90.0
	48			90.0
	54			90.0
	30			108
	36	90.0		
	42	90.0		
	48	89.4		
	30	114		90.0
	36			85.5
	42			81.5
	48			77.8
	30	120		79.1
	36			75.3
	42			71.8
	48			68.7
	96	30		102
36		90.0		
42		90.0		
48		90.0		
54		90.0		
30		108	90.0	
36			90.0	
42			90.0	
48			90.0	
30		114	90.0	
36			89.5	
42			85.1	
48			81.1	
30		120	82.1	
36			78.0	
42			74.3	
48			70.9	

DOOR MULLION LOAD CAPACITY – PSF				
NOMINAL DIMS.				JAMB 'JD3' MULL 'MD4'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(–)
96	30	108	96	90.0
	36			90.0
	42			90.0
	48			90.0
	30	114		90.0
	36			90.0
	42			89.8
	48			85.3
	30	120		86.1
	36			81.6
	42			77.5
	48			73.9
96	30	114	102	90.0
	36			90.0
	42			90.0
	48			90.0
	30	120		90.0
	36			86.3
	42			81.8
	48			77.7
96	30	120	110–1/2	90.0
	36			90.0
	42			90.0
	48			85.1
96	30	144	108	57.0
	36			54.2
	42			51.6
	48			49.2

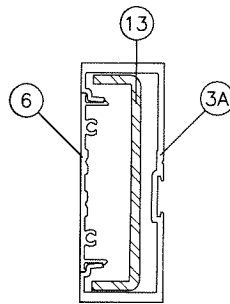


DOOR MULLION LOAD CAPACITY - PSF				
NOMINAL DIMS.				JAMB 'JD3' MULL 'MD5'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(-)
76	30	144	108	78.4
	36			73.8
	42			69.7
	48			66.1
84	30			73.1
	36			69.1
	42			65.5
	48			62.3
96	30			66.3
	36			63.0
	42			60.0
	48			57.3

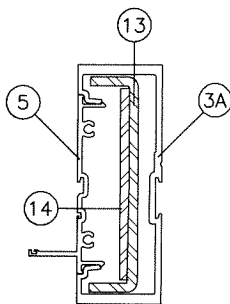


MULLION 'MD5'

	Ix IN^4	Sx IN^3
ALUMINUM	6.7195	2.6757
STEEL	4.7506	2.1114
TOTAL Ix ALUM + Ix STL X 2.9	20.3598	



JAMB 'JD3'



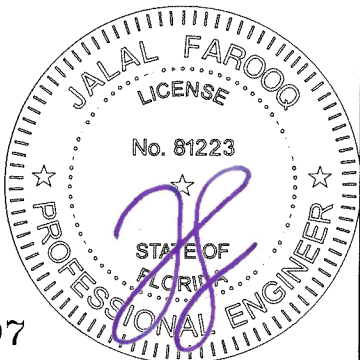
MULLION 'MD4'

	Ix IN^4	Sx IN^3
ALUMINUM	6.570	2.7226
STEEL	2.7506	1.2224
TOTAL Ix ALUM + Ix STL X 2.9	14.5467	

	Ix IN^4	Sx IN^3
ALUMINUM	6.7195	2.6757
STEEL	3.7533	1.668
TOTAL Ix ALUM + Ix STL X 2.9	17.6041	

DOOR-WINDOWALL
TRANSITION MULLION

Sealed: 4/7/2025



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date: 01-25-23

scale: -

dr. by: TARIQ

chk. by:

drawing no.

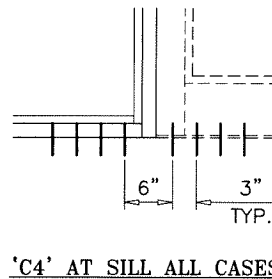
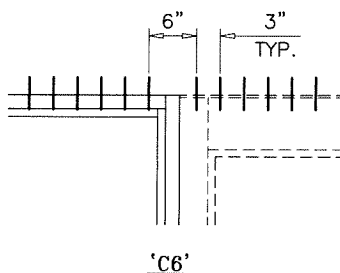
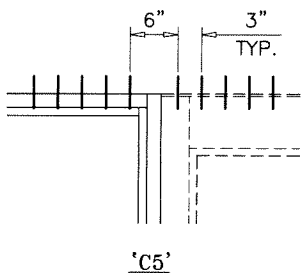
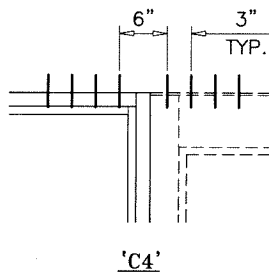
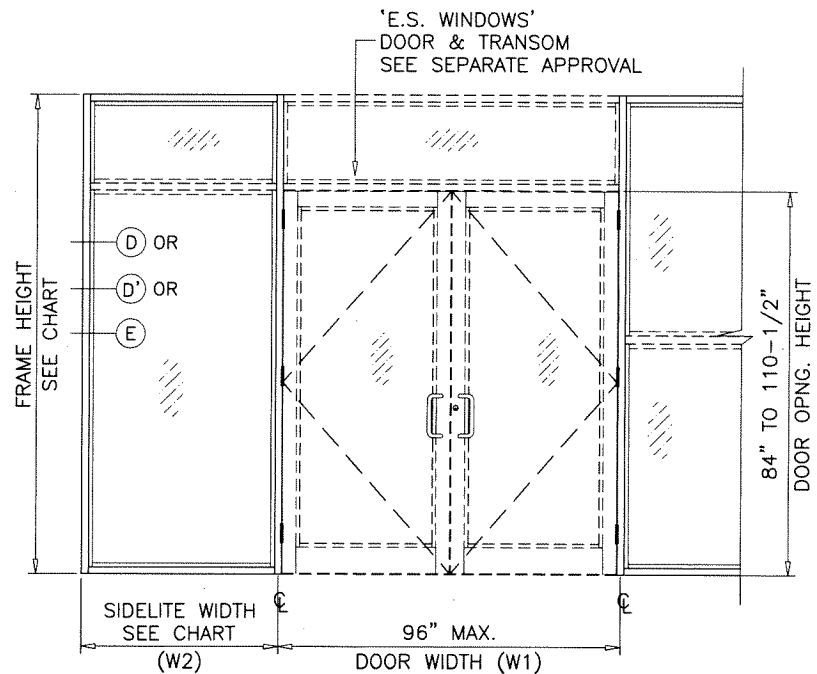
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sheet 10 of 18

DOOR MULLION HEAD ANCHOR LOAD CAPACITY – PSF						
NOMINAL DIMS.				'C4'	'C5'	'C6'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)
96	30	96	84	82.4	90.0	90.0
	36			78.5	90.0	90.0
	42			74.9	90.0	90.0
	48			71.7	89.6	90.0
	54			68.7	85.8	90.0
	60			65.9	82.4	90.0
	30	102		79.2	90.0	90.0
	36			75.3	90.0	90.0
	42			71.8	89.8	90.0
	48			68.7	85.8	90.0
	54			65.8	82.2	90.0
	30	108		76.2	90.0	90.0
	36			72.4	90.0	90.0
	42			69.0	86.3	90.0
	48			65.9	82.4	90.0
	30	114		73.4	90.0	90.0
	36			69.8	87.2	90.0
	42			66.4	83.0	90.0
	48			63.4	79.2	90.0
	30	120		70.9	88.6	90.0
	36			67.3	84.1	90.0
	42			64.0	80.0	90.0
	48			61.0	76.3	90.0
	96	30		102	90	77.3
36		73.7	90.0			90.0
42		70.3	87.9			90.0
48		67.3	84.1			90.0
54		64.5	80.6			90.0
30		108	74.5	90.0		90.0
36			70.9	88.6		90.0
42			67.6	84.5		90.0
48			64.6	80.8		90.0
30		114	71.8	89.8		90.0
36			68.3	85.4		90.0
42			65.1	81.4		90.0
48			62.2	77.7		90.0
30		120	69.4	86.7		90.0
36			65.9	82.4		90.0
42			62.8	78.5		90.0
48			59.9	74.9		89.9

DOOR MULLION HEAD ANCHOR LOAD CAPACITY – PSF						
NOMINAL DIMS.				'C4'	'C5'	'C6'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)
96	30	108	96	72.8	90.0	90.0
	36			69.4	86.7	90.0
	42			66.3	82.8	90.0
	48			63.4	79.2	90.0
	30	114		70.3	87.9	90.0
	36			66.9	83.7	90.0
	42			63.8	79.8	90.0
	48			61.0	76.3	90.0
	30	120		68.0	84.9	90.0
	36			64.6	80.8	90.0
	42			61.6	77.0	90.0
	48			58.9	73.6	88.3
96	30	114	102	68.8	86.1	90.0
	36			65.6	82.0	90.0
	42			62.6	78.3	90.0
	48			59.9	74.9	89.9
	30	120		66.6	83.2	90.0
	36			63.4	79.2	90.0
	42			60.5	75.6	90.0
	48			57.8	72.3	86.7
96	30	120	110–1/2	64.7	80.9	90.0
	36			61.7	77.1	90.0
	42			58.9	73.7	88.4
	48			56.4	70.5	84.6
96	30	144	108	57.8	72.3	86.7
	36			54.9	68.7	82.4
	42			52.3	65.4	78.5
	48			49.9	62.4	74.9

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



ANCHORS TYPES: SEE SHEET 13 FOR DESCRIPTION

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

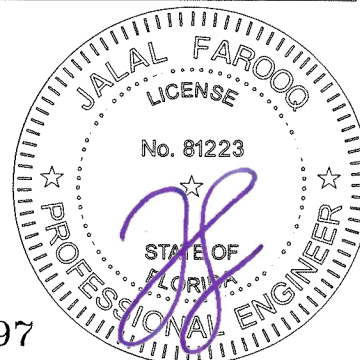
C5 = (5) ANCHORS TYPE 'C' AT EACH SIDE OF DOOR MULLION

C6 = (6) ANCHORS TYPE 'C' AT EACH SIDE OF DOOR MULLION

ALL OTHER ANCHORS TO BE SPACED AS PER ELEVATION.

TRANSITION MULLION ANCHORS

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date: 01-25-23

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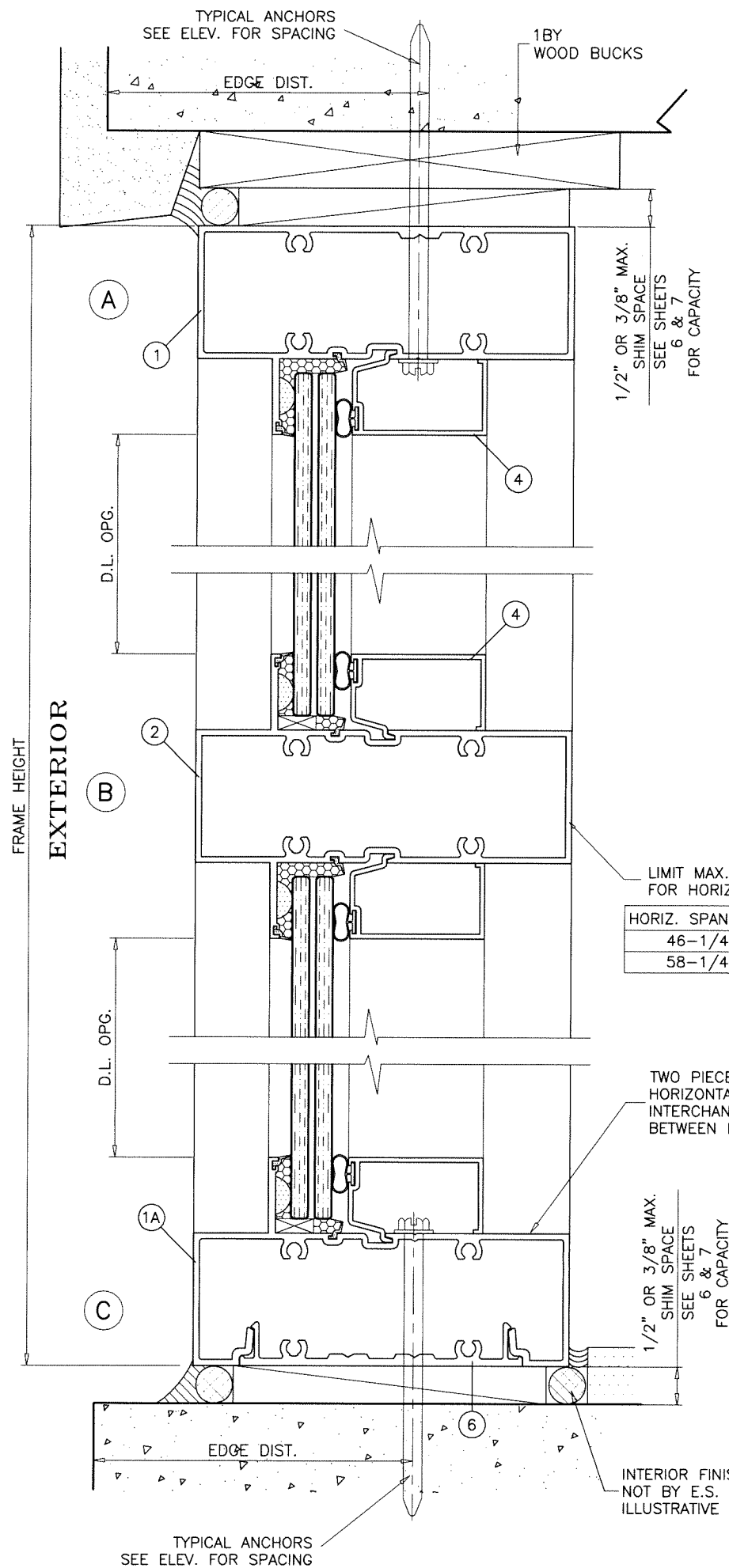
dr. by: TARIQ

chk. by:

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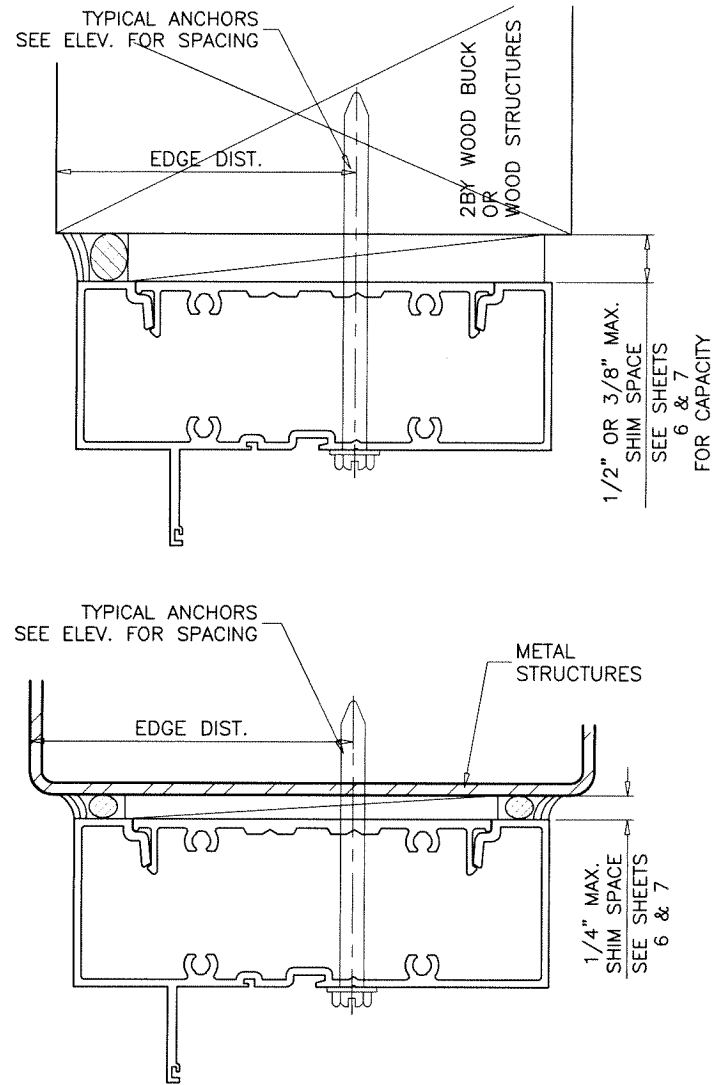
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sheet 12 of 18



LIMIT MAX. DESIGN LOADS
FOR HORIZONTAL AS FOLLOWS

HORIZ. SPAN MAX.	LOAD CAPACITY - PSF
46-1/4"	+100.0, -130.0
58-1/4"	+70.0, -70.0



SEALANTS:

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

WOOD BUCKS AND METAL STRUCTURES NOT BY 'E.S. WDW.' MUST SUPPORT LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

TYPICAL ANCHORS: SEE ELEV. FOR SPACING

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

ANCHOR EDGE DISTANCES

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

TYPE 'B' - 1/4" DIA. KWIK-CON II+ BY 'HILTI' (Fu=138 KSI, Fy=137 KSI)
 INTO 2BY WOOD BUCKS OR WOOD STRUCTURES WITH 1-1/2" MIN. PENETRATION INTO WOOD
 THRU 1BY WOOD BUCKS INTO CONCRETE WITH 1-1/4" MIN. EMBED INTO CONCRETE

DIRECTLY INTO CONCRETE WITH 2" MIN. EMBED INTO CONC.

ANCHOR EDGE DISTANCES

INTO CONCRETE AND MASONRY = 3" MIN.
 INTO WOOD STRUCTURE = 1" MIN.

TYPE 'C' - 5/16" DIA ULTRACON BY 'DEWALT' (Fu=177 KSI, Fy=155 KSI)
 INTO 2BY WOOD BUCKS OR WOOD STRUCTURES WITH 1-1/2" MIN. PENETRATION INTO WOOD
 THRU 1BY WOOD BUCKS INTO CONCRETE WITH 1-1/4" MIN. EMBED INTO CONCRETE

DIRECTLY INTO CONCRETE WITH 1-1/4" MIN. EMBED INTO CONC.

ANCHOR EDGE DISTANCES

INTO CONCRETE AND MASONRY = 3" MIN.
 INTO WOOD STRUCTURE = 1-1/4" MIN.

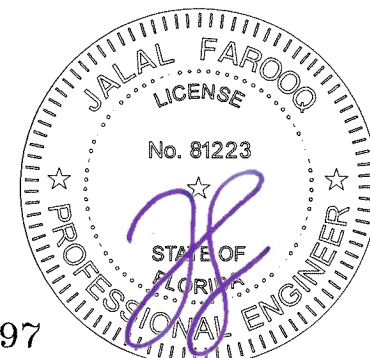
TYPE 'D' - 1/4" DIA. TEKS OR SELF DRILLING SCREWS ST/ST (GRADE 5 CRS)
 INTO METAL STRUCTURES
 (3) THREADS MIN. PENETRATION BEYOND SUBSTRATE
 ALUMINUM: 1/8" THK. MIN. (6063-T5 MIN.)
 STEEL: 1/8" THK. MIN. (Fy = 36 KSI MIN.)
 (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

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 HOLLOW/FILLED BLOCK AT JAMBS f'm = 2000 PSI MIN.

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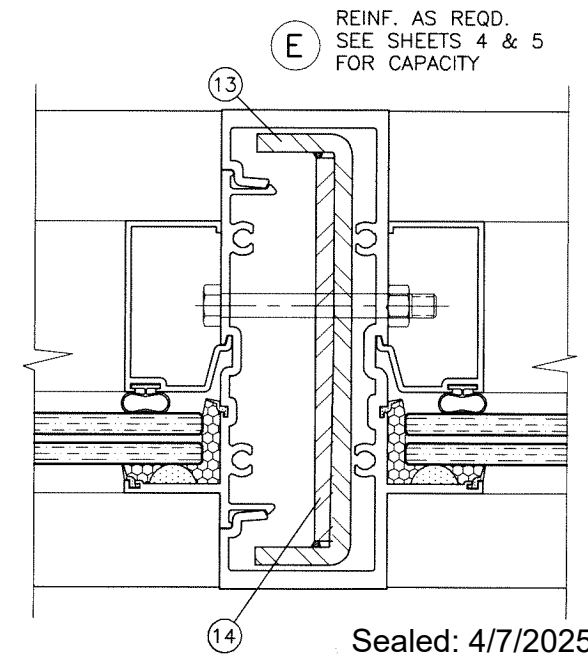
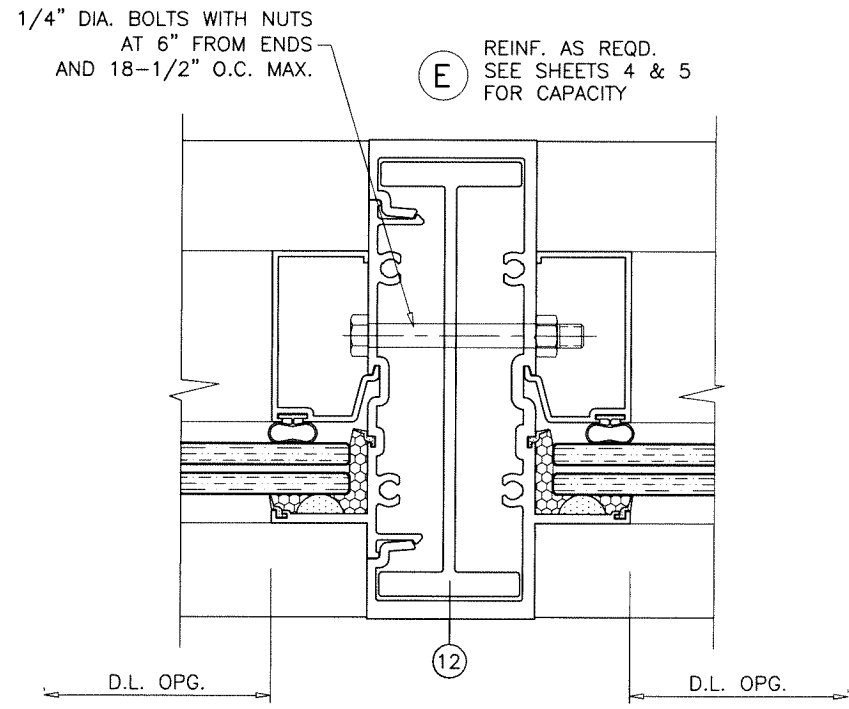
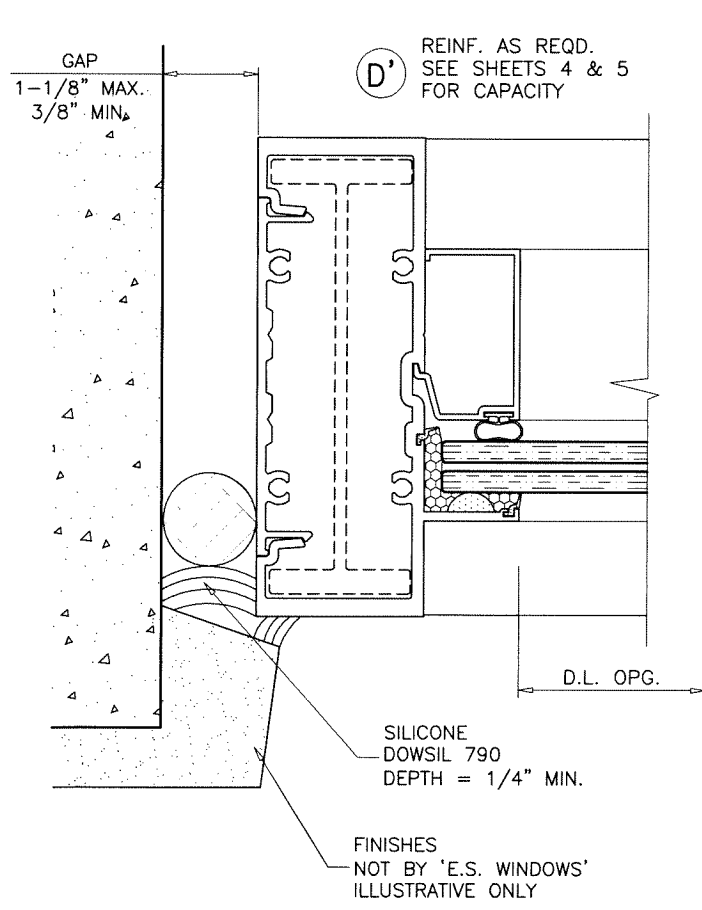
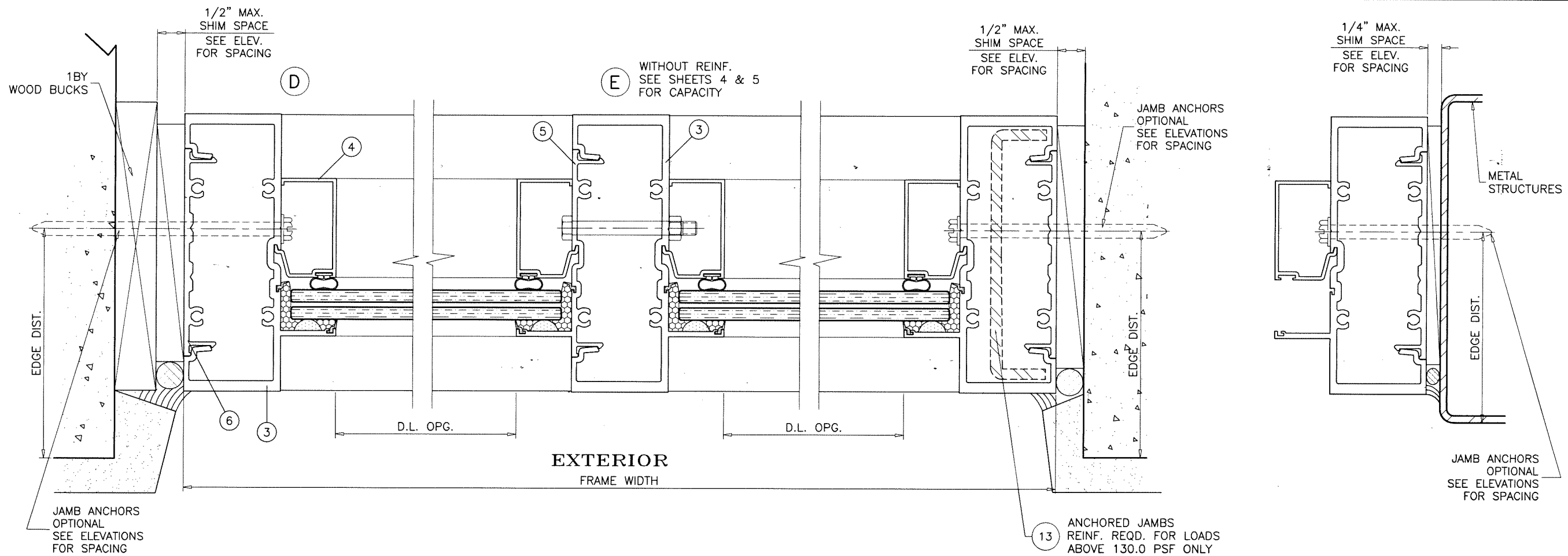


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		01-25-23					
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		dr. by:	TARIQ				
		chk. by:					
drawing no.		23-06F		sheet 13 of 18			



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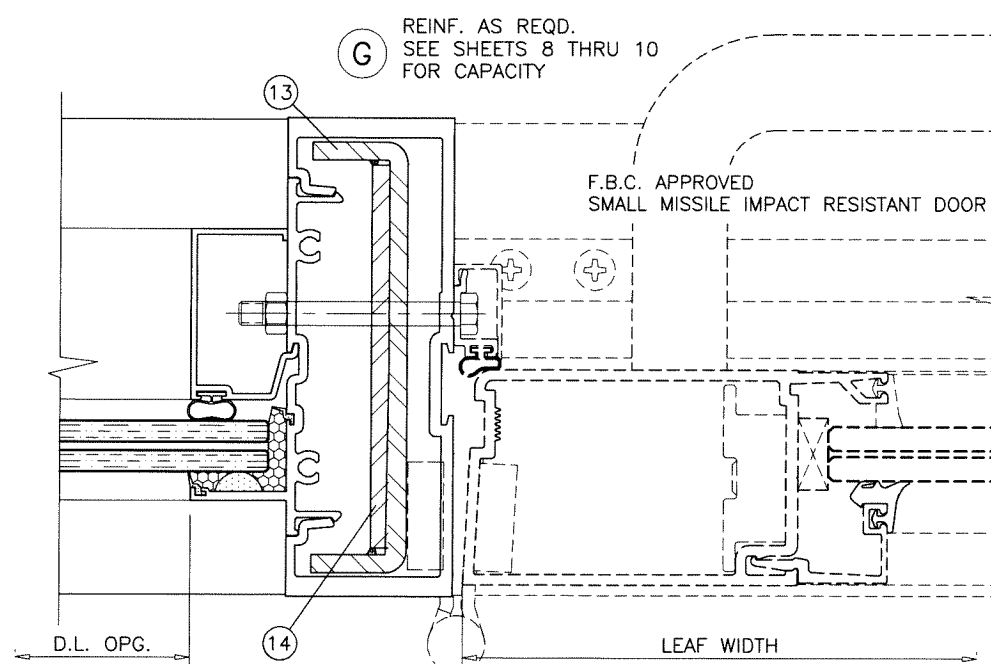
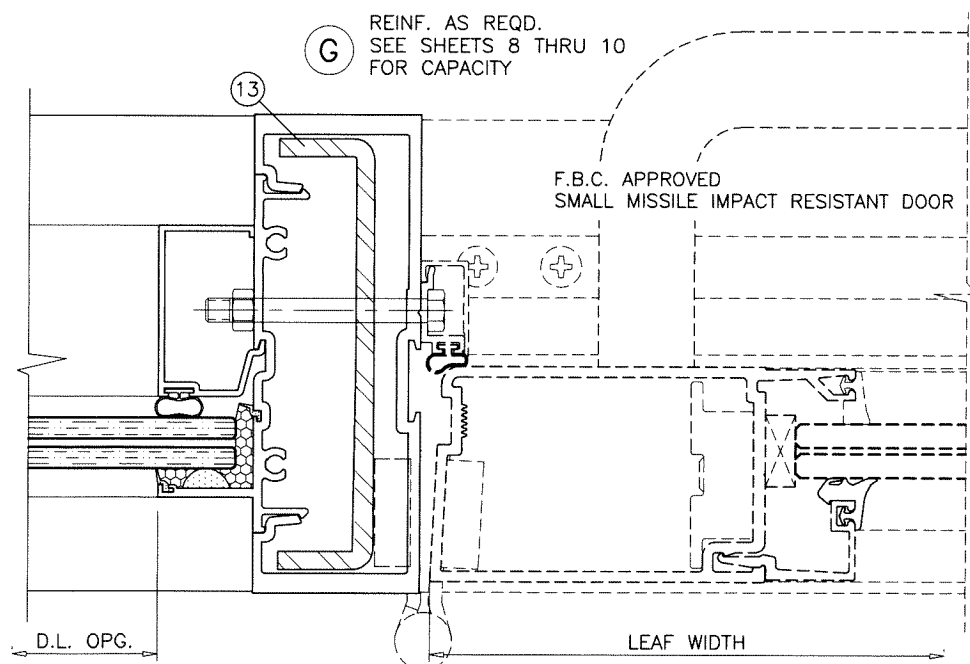
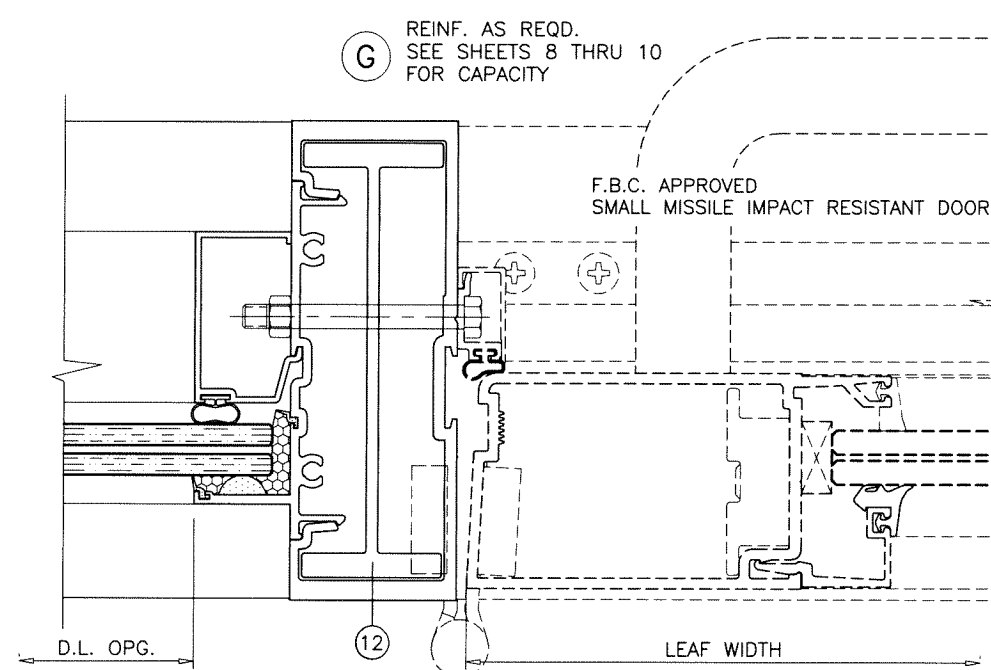
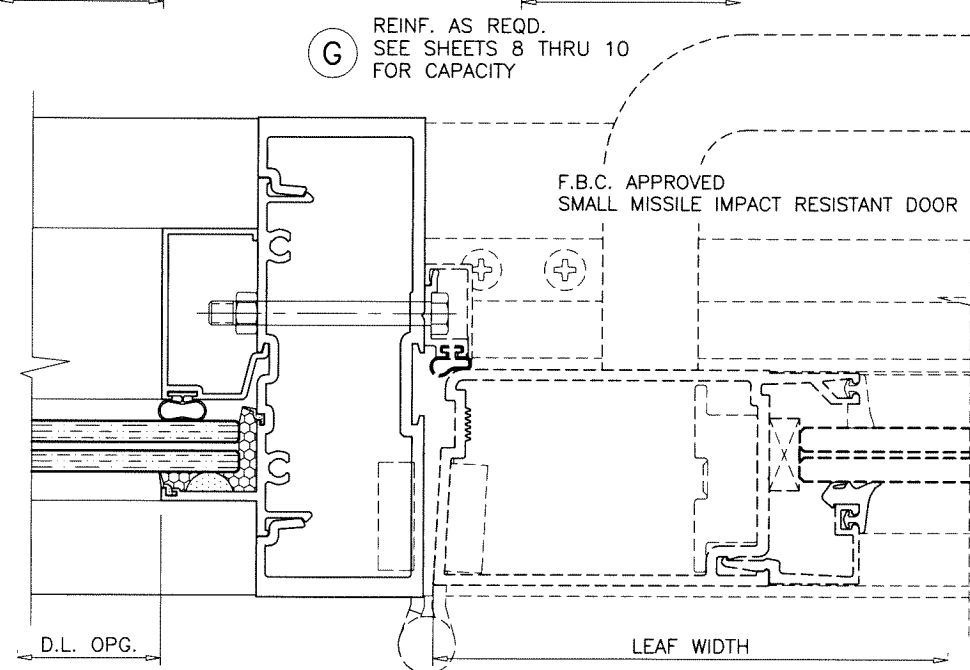
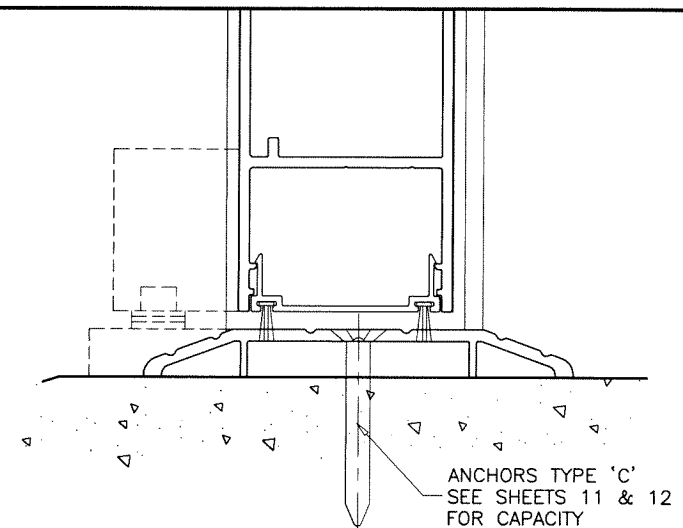
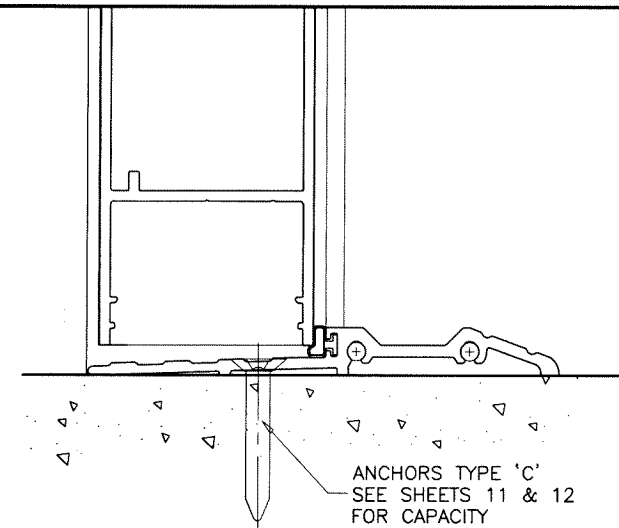
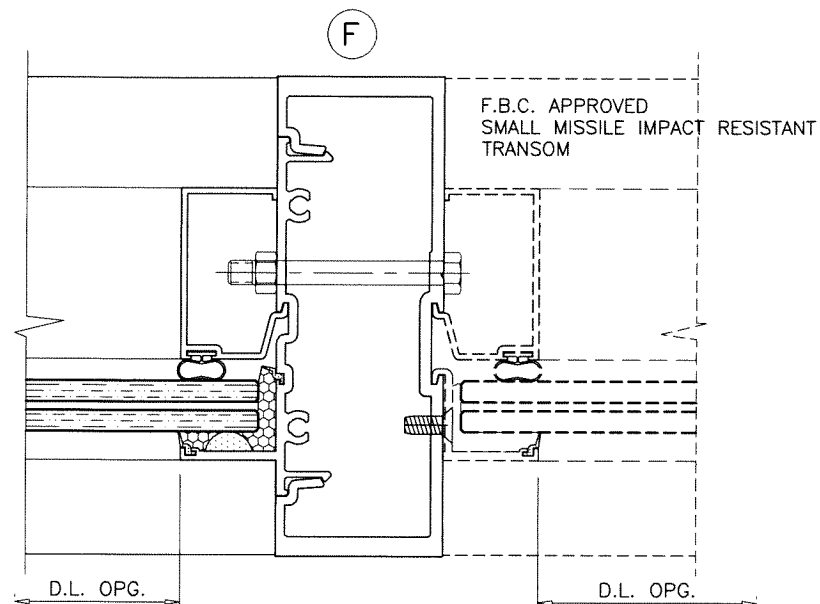
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23-06F
sheet 14 of 18



SEE SEPARATE APPROVAL FOR DESIGN LOAD
CAPACITY OF DOORS AND DOOR ANCHORS.

LOWER VALUES FROM DOORS APPROVAL
OR WINDOW WALL SYSTEM CAPACITY CHARTS
WILL APPLY TO ENTIRE SYSTEM.

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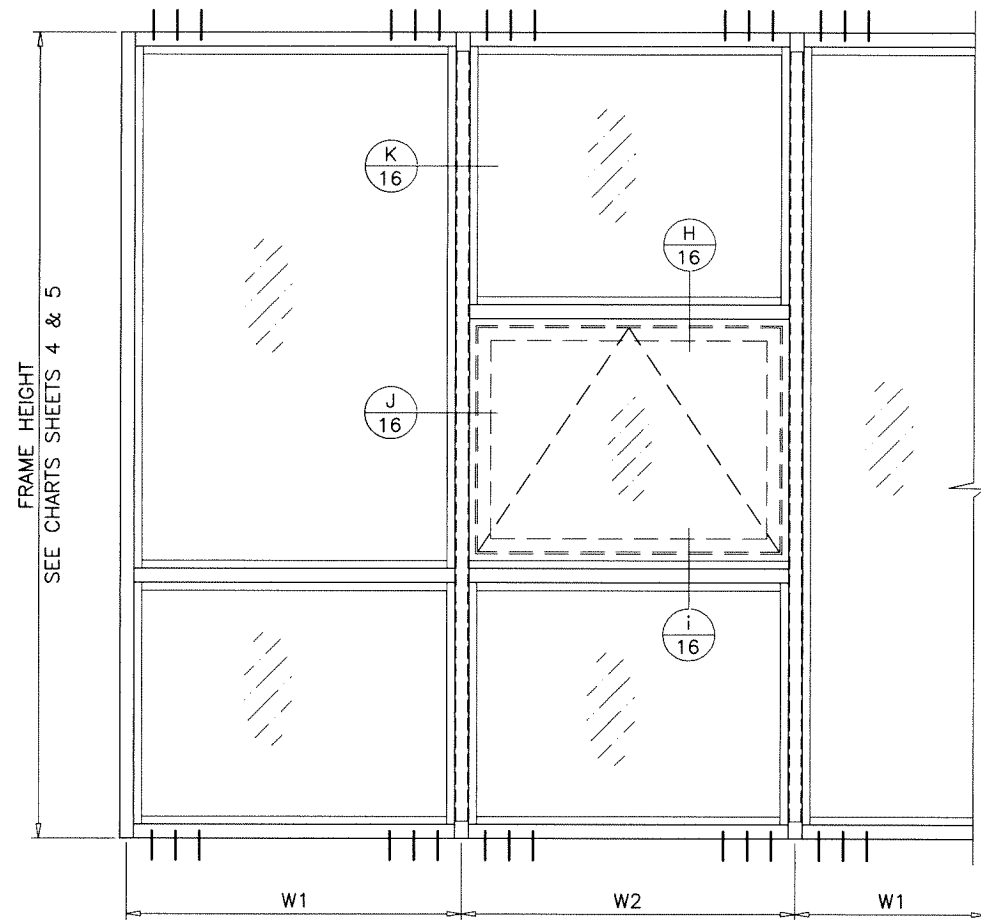
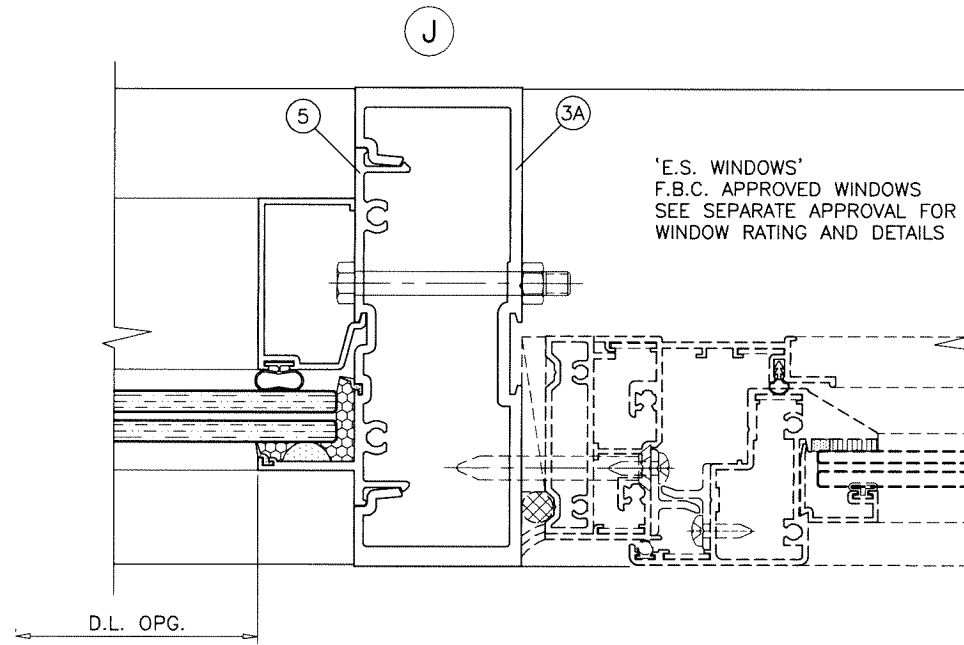
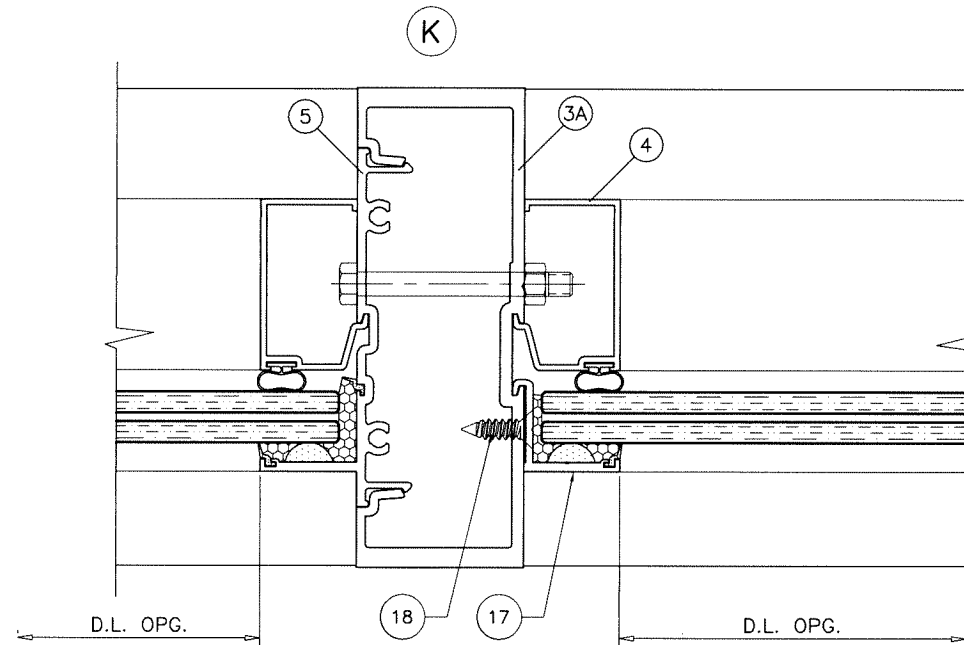
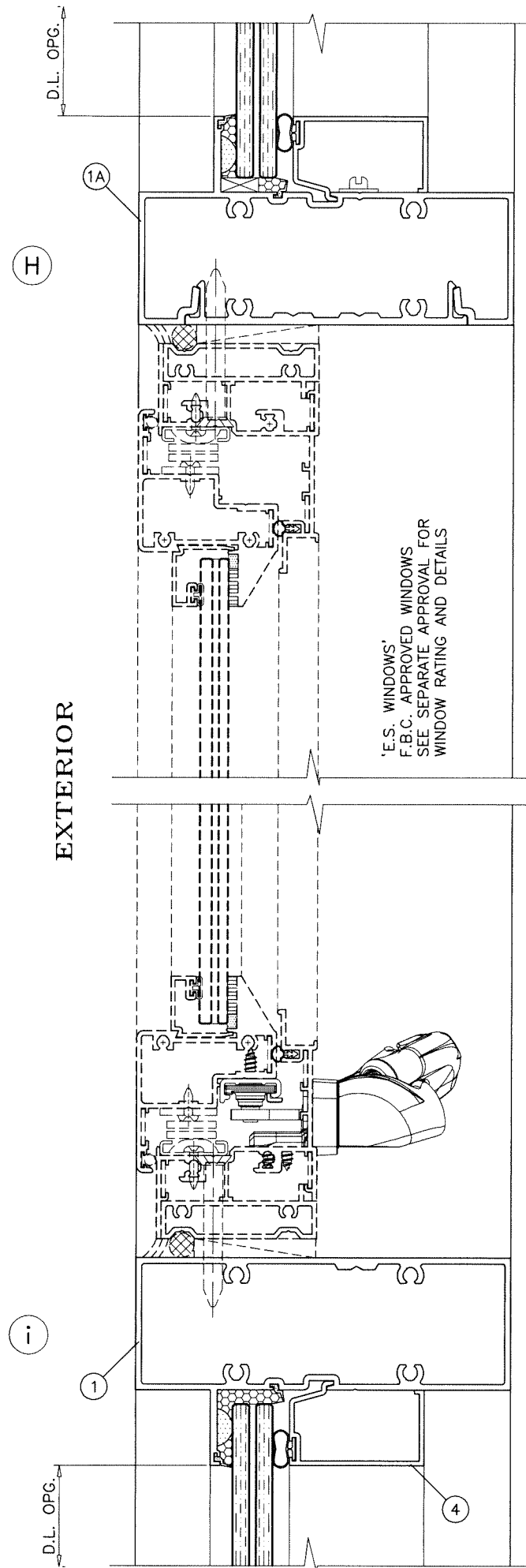
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chk. by:			

EXTERIOR



TYPICAL INSTALLATION OF WINDOWS IN THE WINDOW WALL SYSTEM
USE WINDOWS HOLDING CURRENT APPROVAL
REFER TO NOTES ON SHEET 2

WIDTH (W) = $\frac{W1 + W2}{2}$
AT FRAME MULLION

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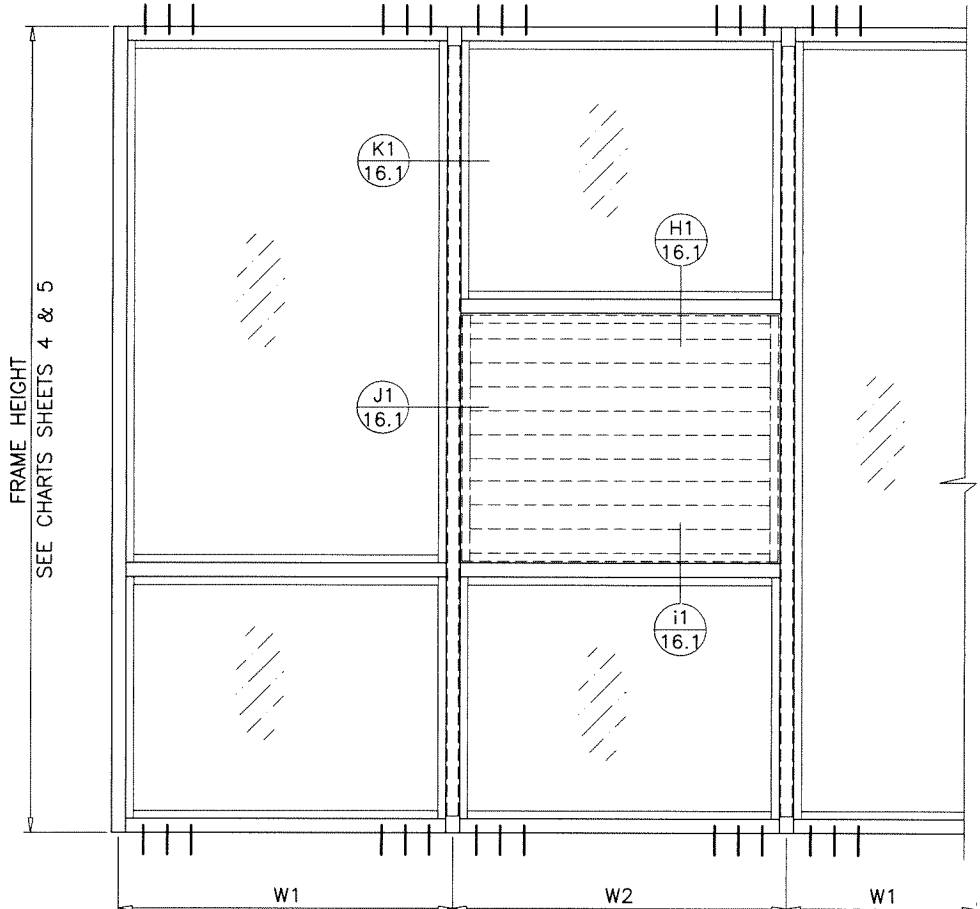
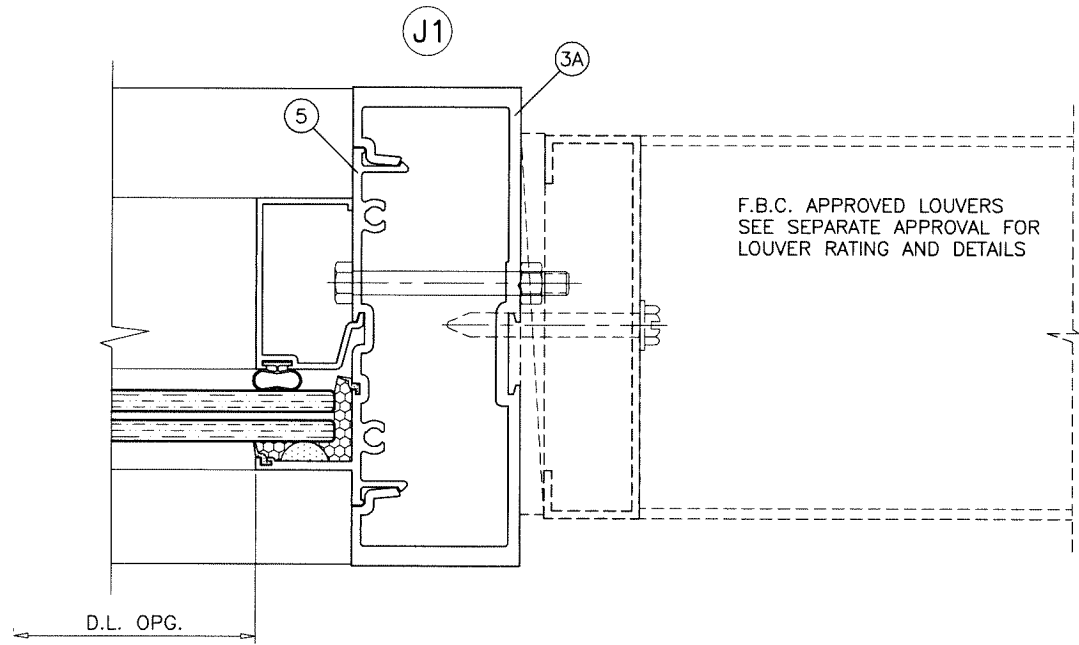
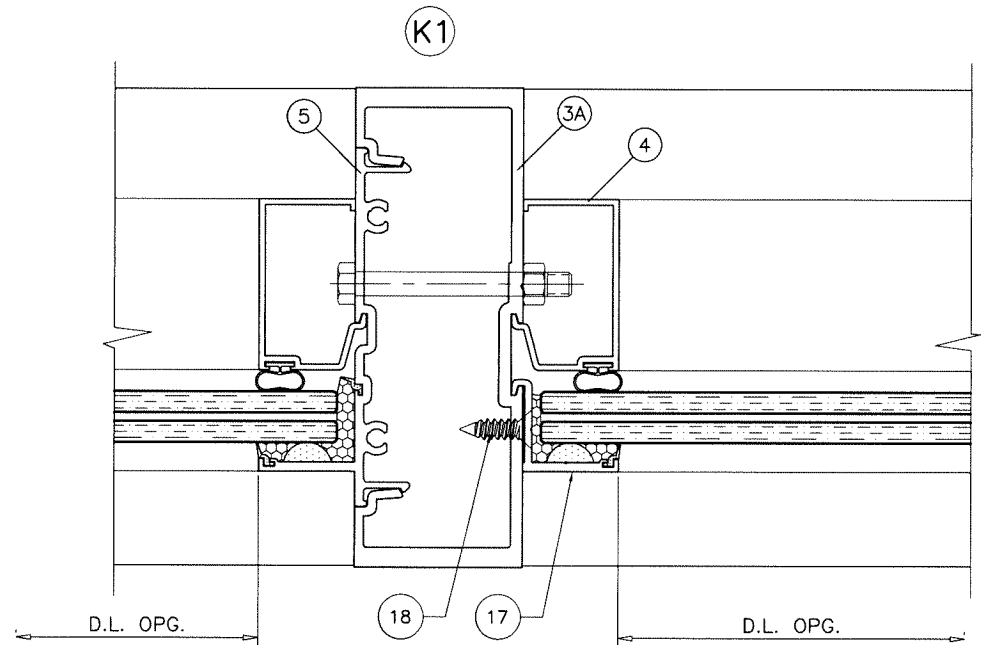
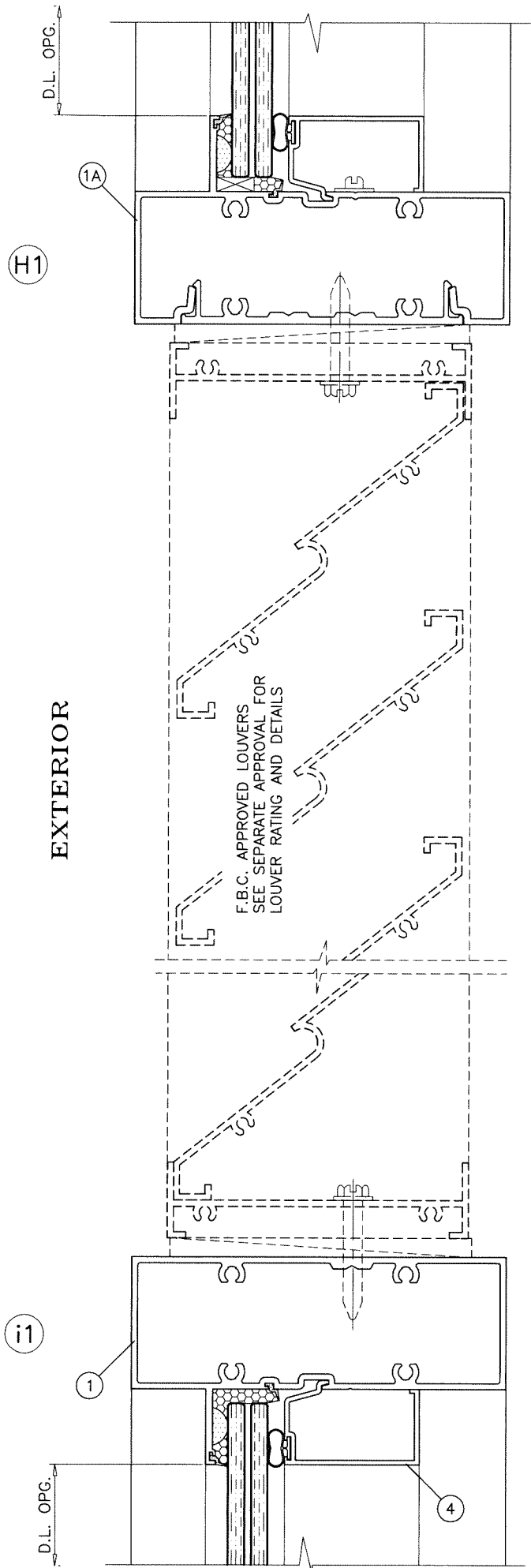
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23-06F
sheet 16 of 18

EXTERIOR



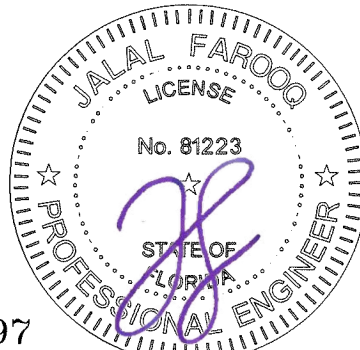
TYPICAL INSTALLATION OF LOUVERS IN THE WINDOW WALL SYSTEM

USE LOUVERS HOLDING CURRENT APPROVAL
REFER TO NOTES ON SHEET 2

$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$

AT FRAME MULLION

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FDP# #3538

SERIES 8000 ALUMINUM WINDOW WALL SYSTEM (S.M.I.)

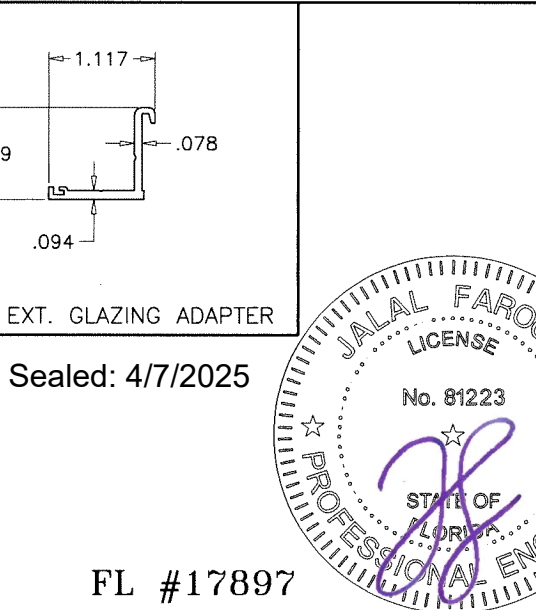
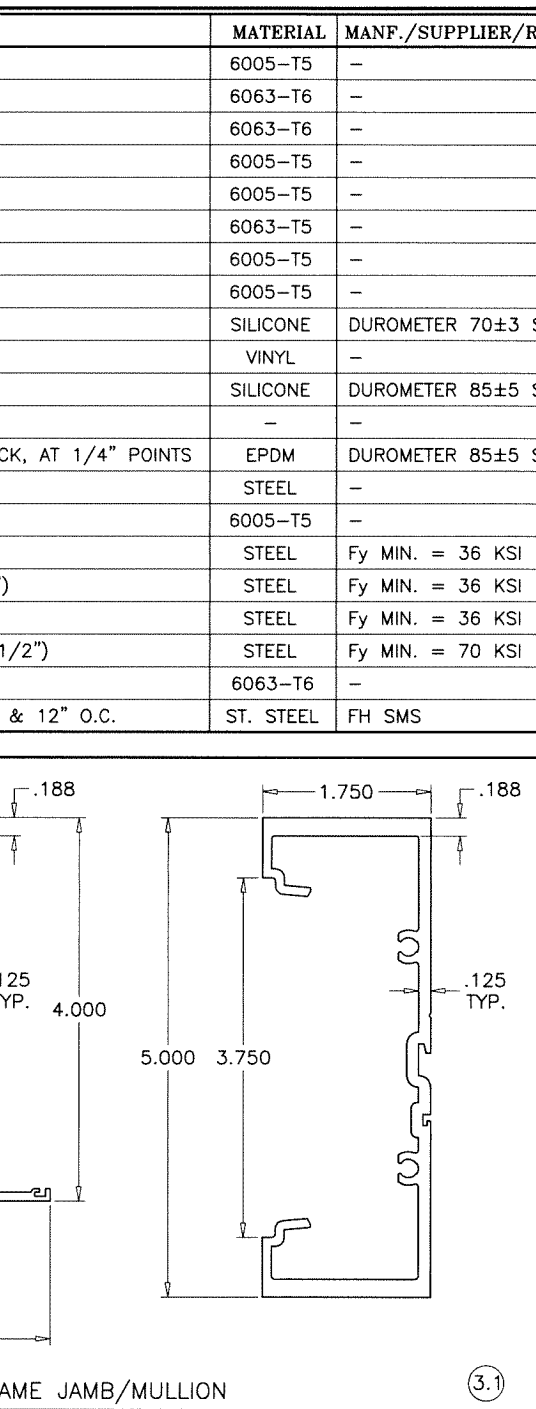
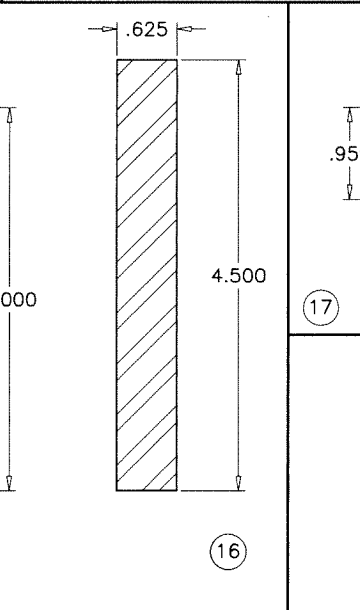
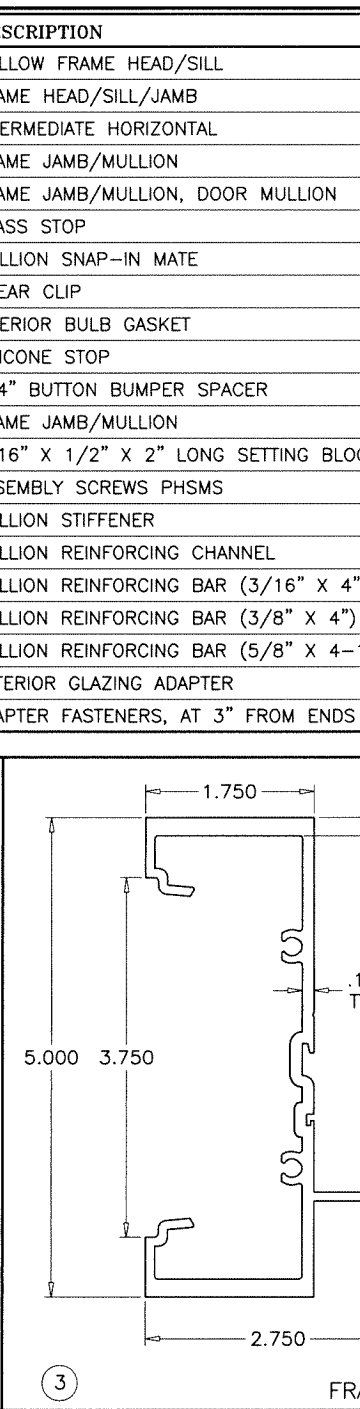
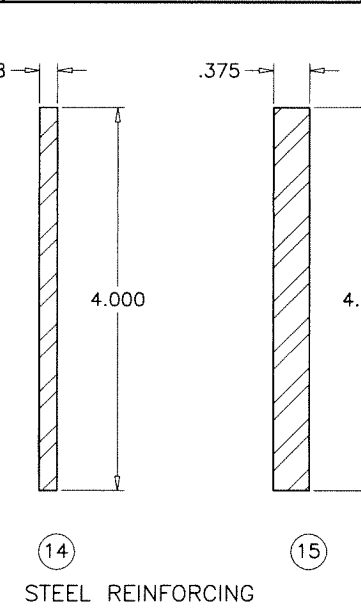
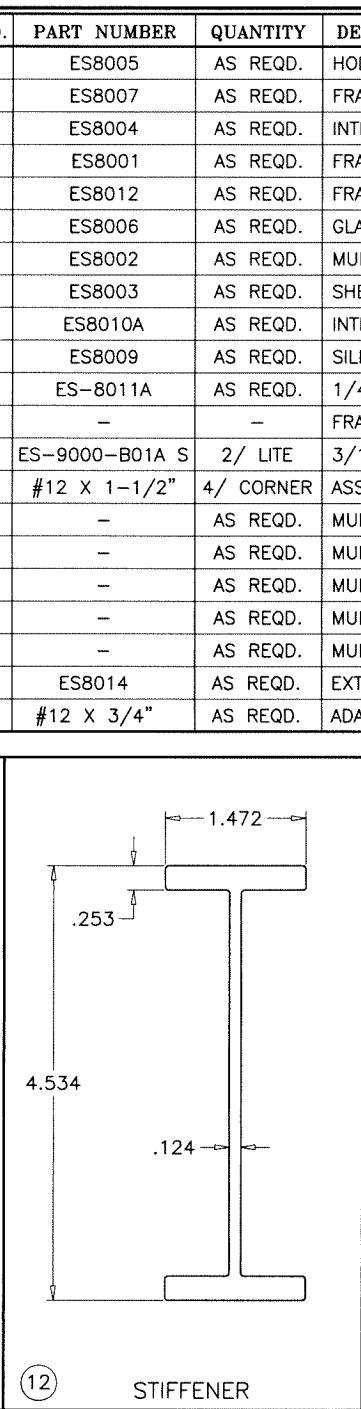
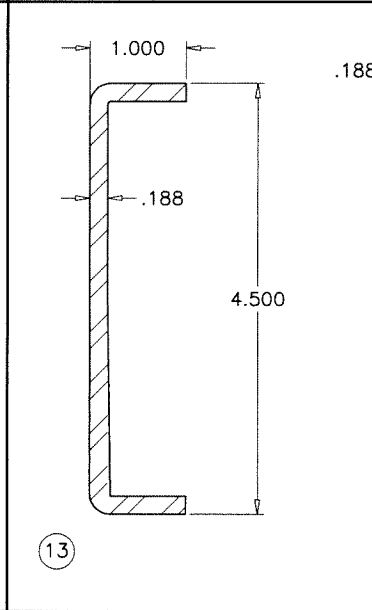
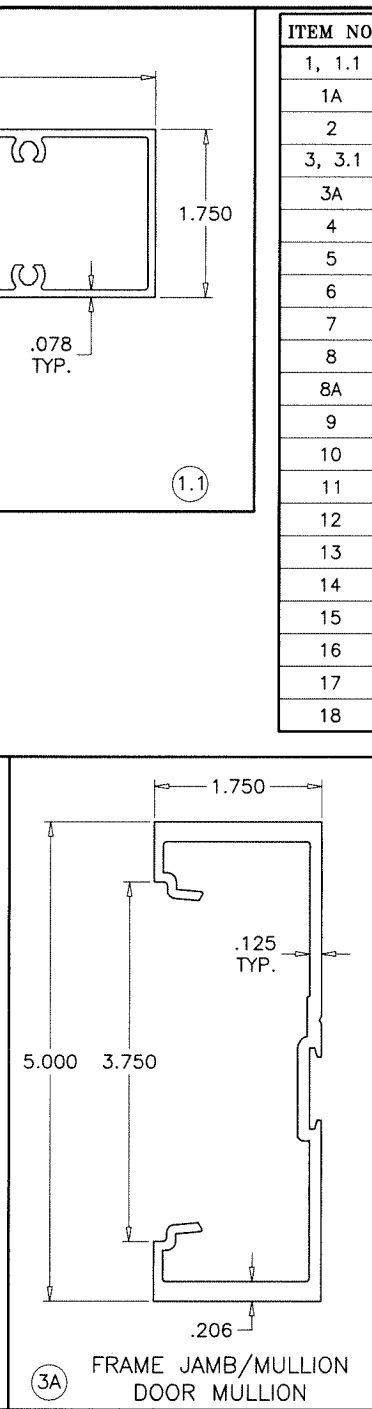
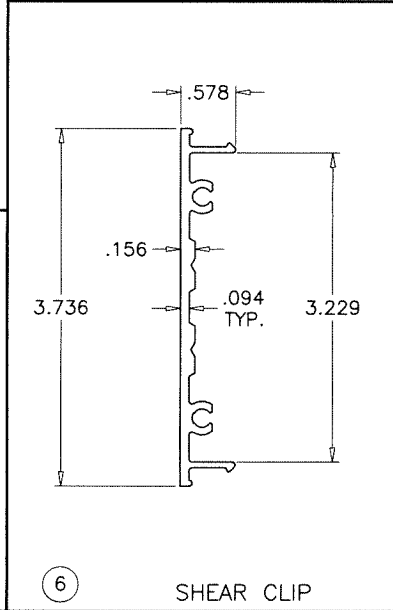
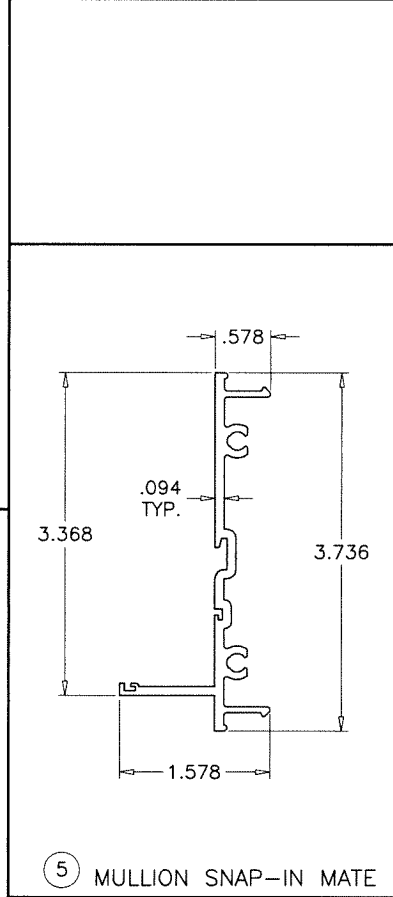
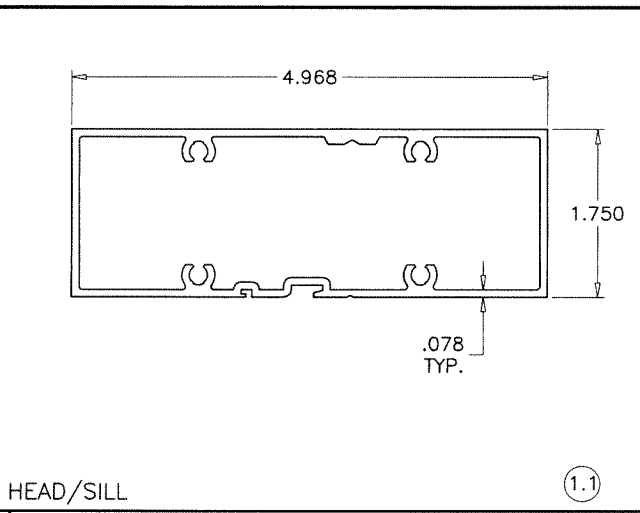
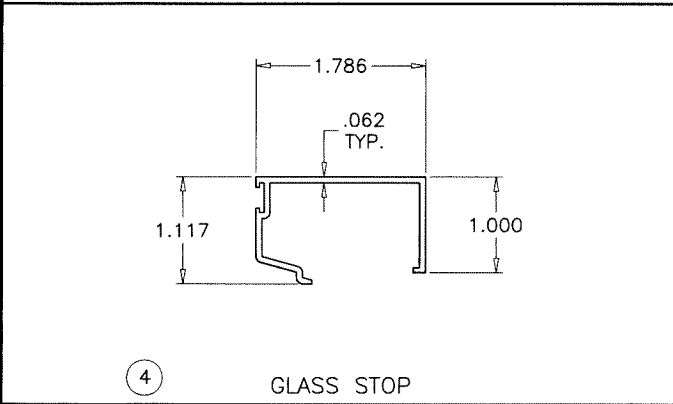
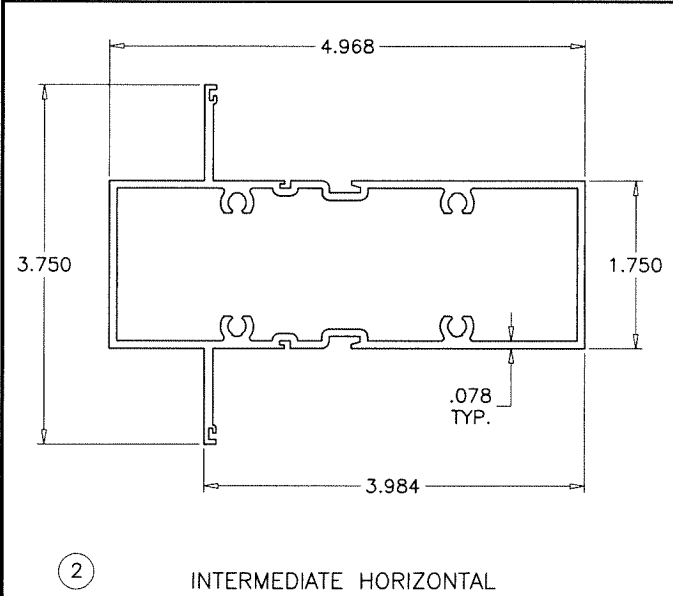
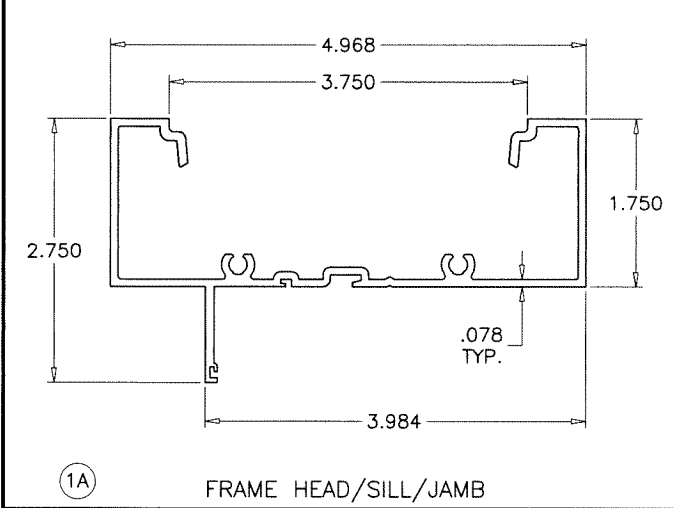
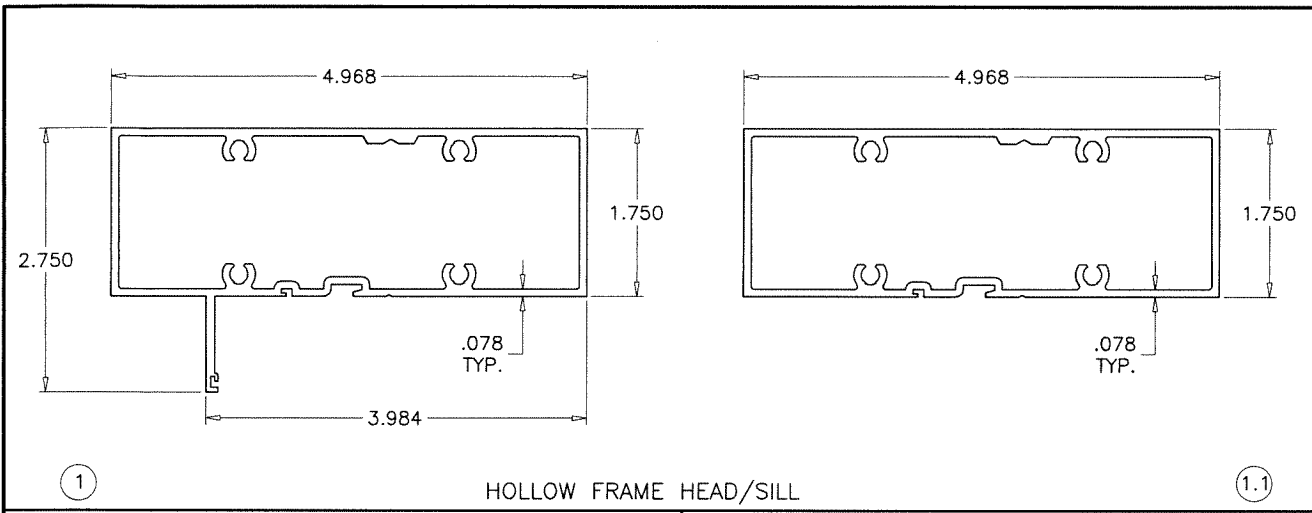
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:

no	date	by	description

date: 01-25-23
scale: 1/2" = 1"
dr. by: TARIQ
chk. by:

drawing no.
23-06F
sheet 16.1 of 18



ITEM NO.	PART NUMBER	QUANTITY	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
1, 1.1	ES8005	AS REQD.	HOLLOW FRAME HEAD/SILL	6005-T5	-
1A	ES8007	AS REQD.	FRAME HEAD/SILL/JAMB	6063-T6	-
2	ES8004	AS REQD.	INTERMEDIATE HORIZONTAL	6063-T6	-
3, 3.1	ES8001	AS REQD.	FRAME JAMB/MULLION	6005-T5	-
3A	ES8012	AS REQD.	FRAME JAMB/MULLION, DOOR MULLION	6005-T5	-
4	ES8006	AS REQD.	GLASS STOP	6063-T5	-
5	ES8002	AS REQD.	MULLION SNAP-IN MATE	6005-T5	-
6	ES8003	AS REQD.	SHEAR CLIP	6005-T5	-
7	ES8010A	AS REQD.	INTERIOR BULB GASKET	SILICONE	DUROMETER 70±3 SHORE A
8	ES8009	AS REQD.	SILICONE STOP	VINYL	-
8A	ES-8011A	AS REQD.	1/4" BUTTON BUMPER SPACER	SILICONE	DUROMETER 85±5 SHORE A
9	-	-	FRAME JAMB/MULLION	-	-
10	ES-9000-B01A S	2/ LITE	3/16" X 1/2" X 2" LONG SETTING BLOCK, AT 1/4" POINTS	EPDM	DUROMETER 85±5 SHORE A
11	#12 X 1-1/2"	4/ CORNER	ASSEMBLY SCREWS PHSMS	STEEL	-
12	-	AS REQD.	MULLION STIFFENER	6005-T5	-
13	-	AS REQD.	MULLION REINFORCING CHANNEL	STEEL	Fy MIN. = 36 KSI
14	-	AS REQD.	MULLION REINFORCING BAR (3/16" X 4")	STEEL	Fy MIN. = 36 KSI
15	-	AS REQD.	MULLION REINFORCING BAR (3/8" X 4")	STEEL	Fy MIN. = 36 KSI
16	-	AS REQD.	MULLION REINFORCING BAR (5/8" X 4-1/2")	STEEL	Fy MIN. = 70 KSI
17	ES8014	AS REQD.	EXTERIOR GLAZING ADAPTER	6063-T6	-
18	#12 X 3/4"	AS REQD.	ADAPTER FASTENERS, AT 3" FROM ENDS & 12" O.C.	ST. STEEL	FH SMS

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100
WWW.AFCENG.COM

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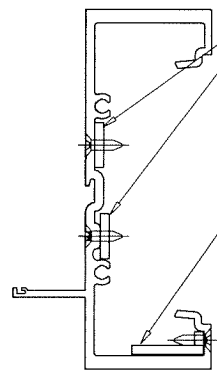
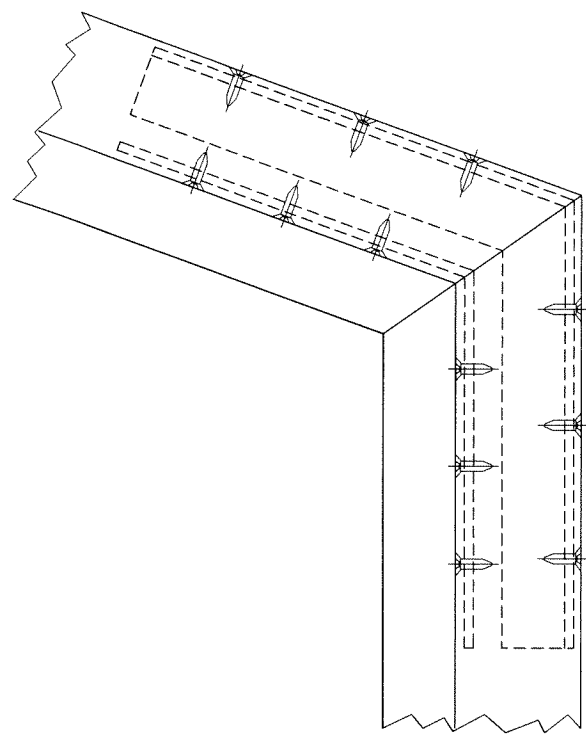
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dr. by: TARIQ
chk. by:

Sealed: 4/7/2025

FL #17897

JALAL FAROOQ
LICENSE
No. 81223
STATE OF FLORIDA
PROFESSIONAL ENGINEER

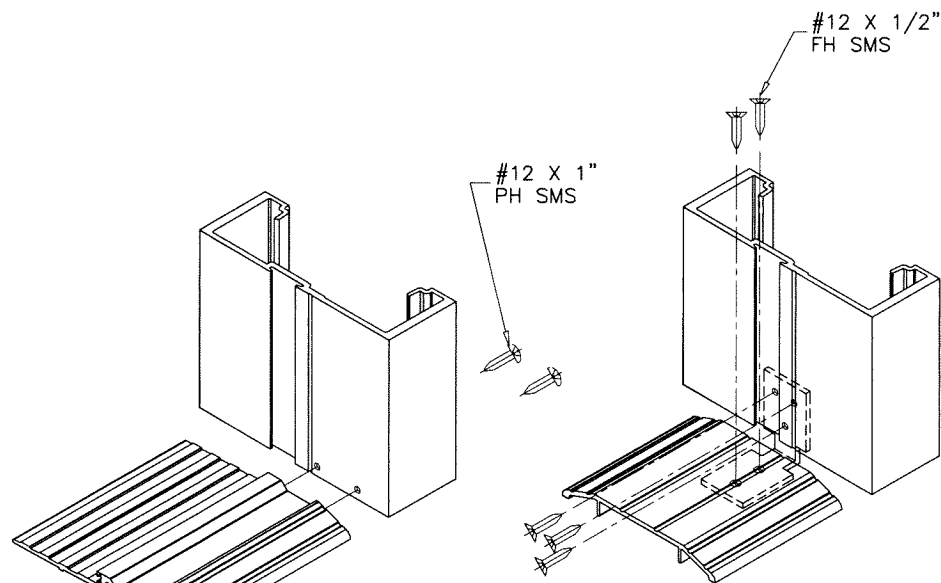
drawing no.
23-06F
sheet 17 of 18



5/8" X 1/8"
ALUM PLATE
BENT TO MATCH JOINT
SECURED WITH #8 SMS
(3) PER SIDE OF JOINT

5/16 X 1 X 1/8"
ALUM ANGLE
BENT TO MATCH JOINT
SECURED WITH #8 SMS
(3) PER SIDE OF JOINT

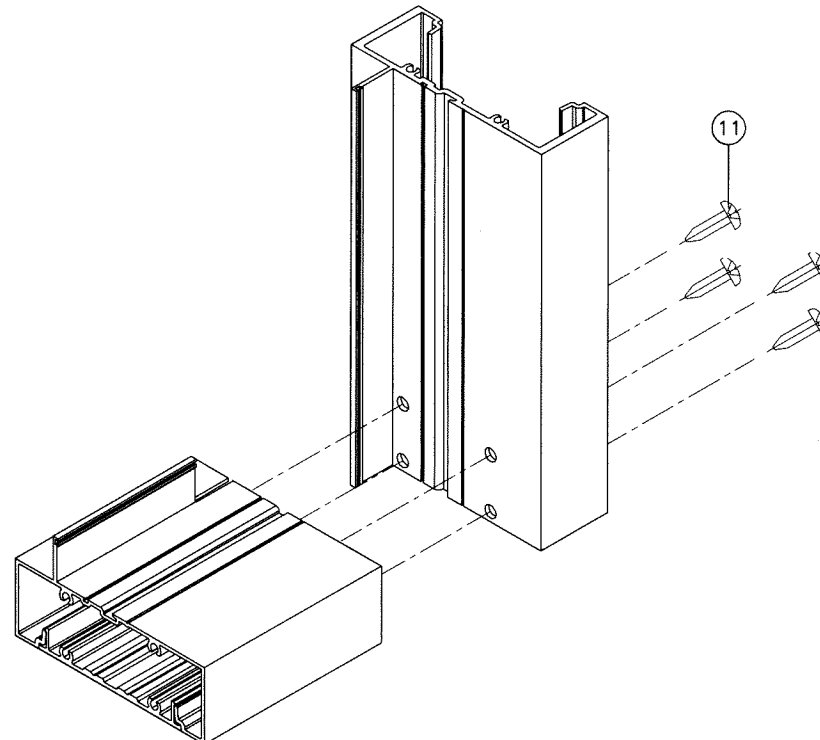
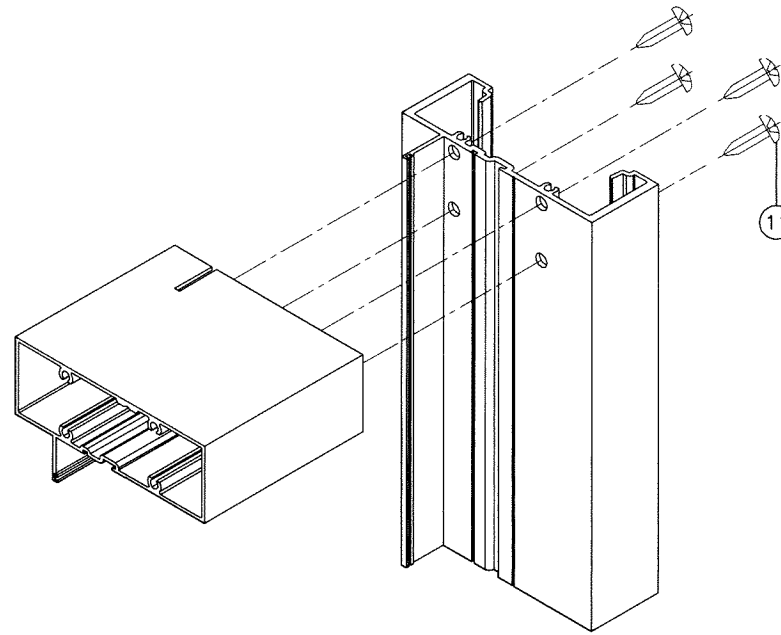
CIRCULAR OR ANGLED CORNERS



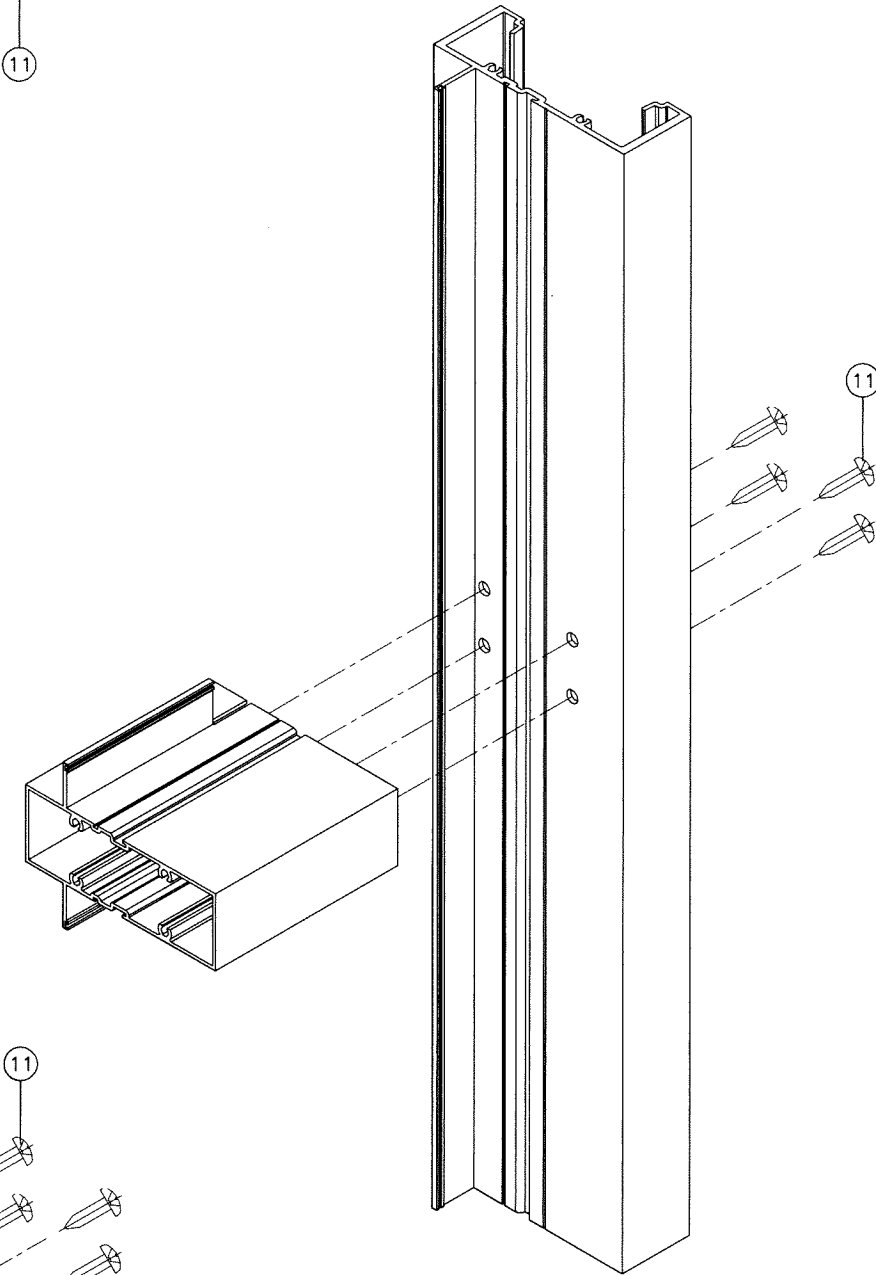
#12 X 1"
PH SMS

#12 X 1/2"
FH SMS

DOOR MULLION CORNER

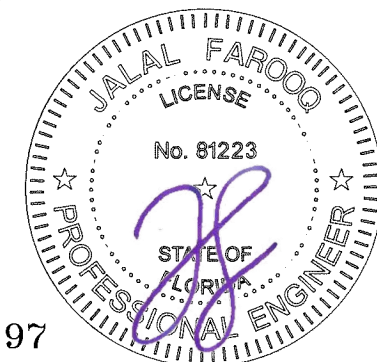


RECT. OR SQUARE CORNERS



HORIZONTAL CORNER

Sealed: 4/7/2025



FL #17897

af c
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STORE 23-06F-ES