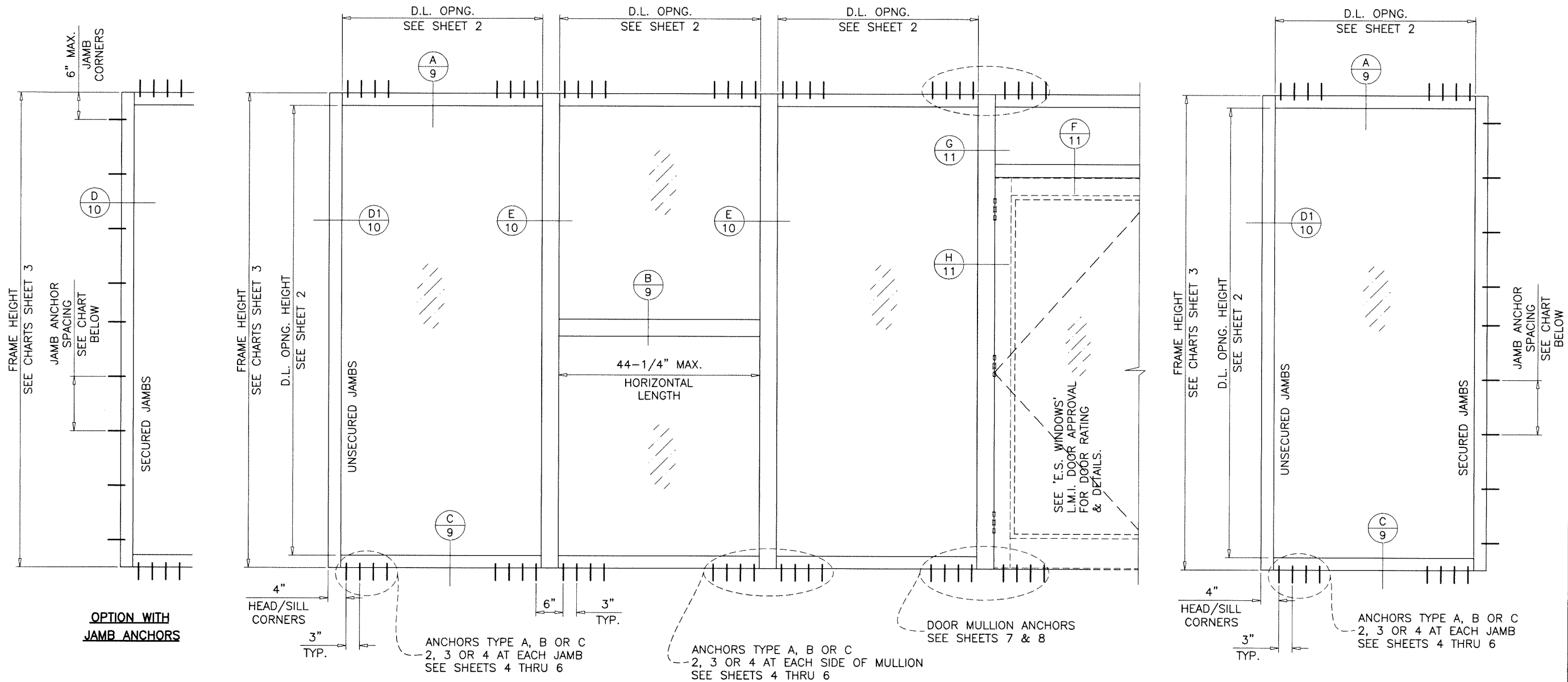




SERIES ES-WW5037T
ALUMINUM WINDOW WALL SYSTEM

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)'.

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 7 AND 8 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 6 FOR DOOR MULLION ANCHOR QUANTITY SEE CHART ON SHEETS 7 & 8. THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.
- STEP 5** THE LOWEST VALUE RESULTING FROM STEPS 2, 3 AND 4 SHALL APPLY TO ENTIRE SYSTEM.

ANCHOR TYPES	MAX. SHIMS	JAMB ANCHOR SPACING	
		MAX. DESIGN LOADS	
		UPTO 75 PSF	ABOVE 75 PSF
A	1/4"	12"	12"
	3/8"	6"	6"
B	3/8"	12"	12"
	1/2"	12"	6"
C	1/4"	12"	12"

THIS SYSTEM IS RATED FOR LARGE & SMALL MISSILE IMPACT. SHUTTERS ARE NOT REQUIRED.

PRODUCT COMPLIES WITH REQUIREMENTS OF ANSI Z97.1.

Sealed: 9/20/2023

FL #33057

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.



AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\20-56F-ES

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

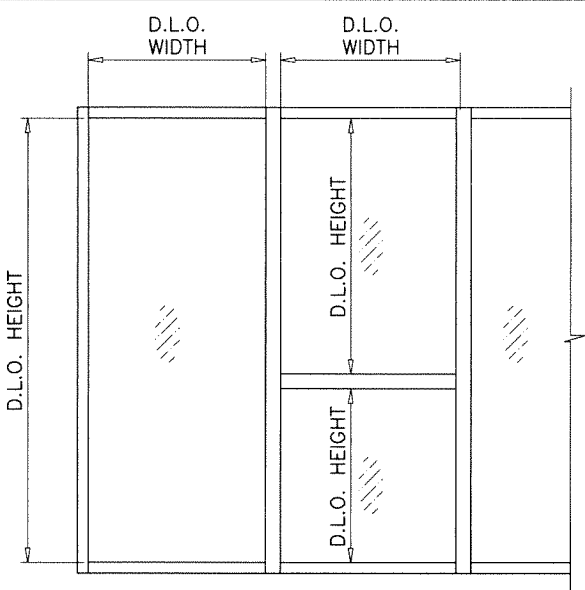
ES-WW5037T ALUM WINDOW WALL SYSTEM (L.M.I.)

revisions:	no.	date	description	by
	A	04.15.21	NEW TEST ADDED	
	B	09.11.23	UPDATED TO 2023 FBC	

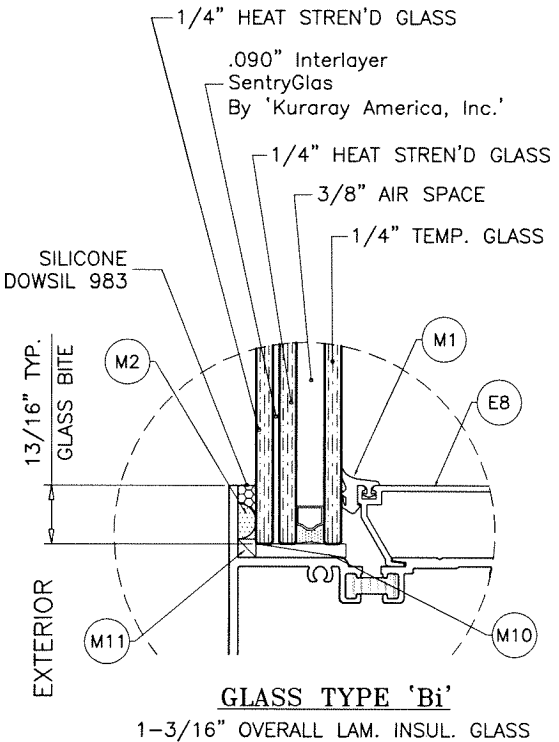
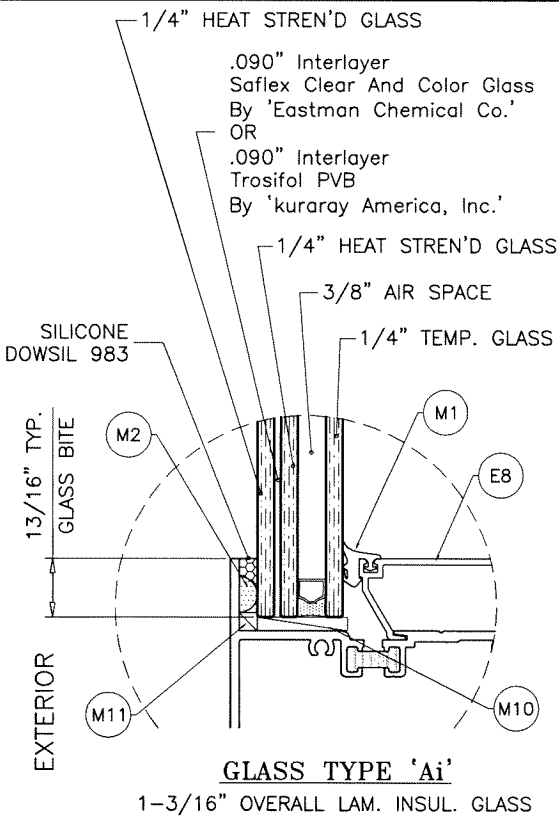
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dr. by:	TARIO
chk. by:	

drawing no.	20-56F
sheet	1 of 13

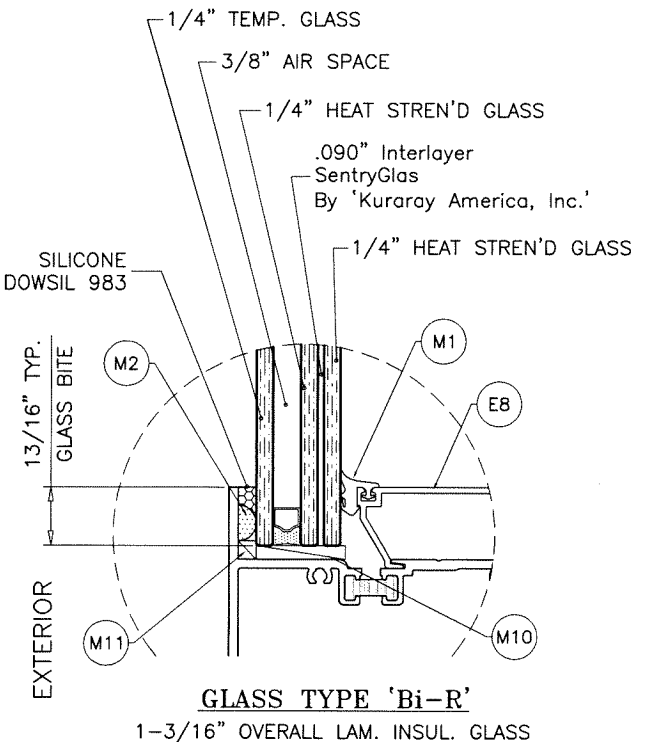
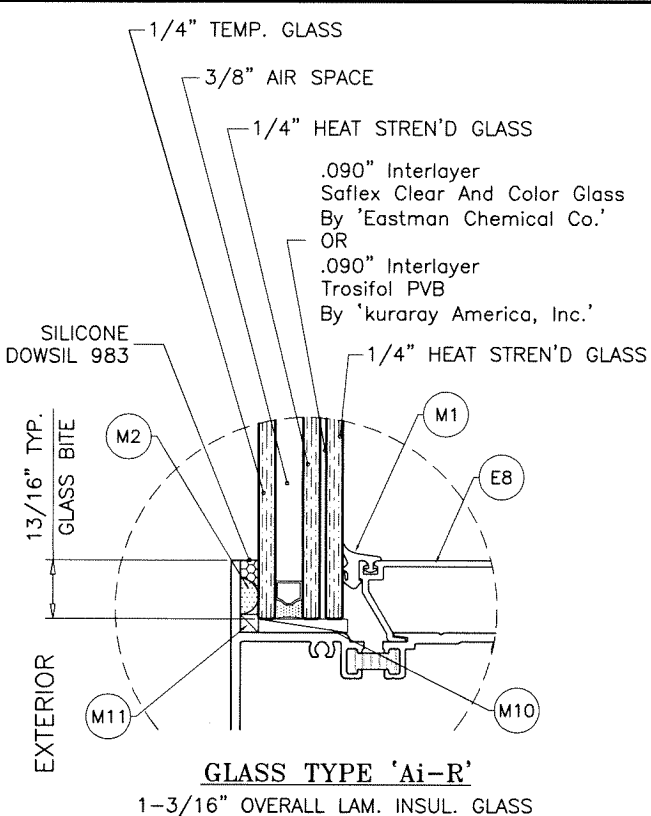
GLASS LOAD CAPACITY - PSF					
NOMINAL DIMS.		GLASS TYPES 'Ai', 'Ai-R'		GLASS TYPES 'Bi', 'Bi-R'	
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
30-1/2"	74-1/2"	70.0	80.0	90.0	120.0
36-1/2"		70.0	80.0	90.0	120.0
42-1/2"		70.0	80.0	90.0	120.0
48-1/2"		62.2	71.1	80.0	106.7
54-1/2"		56.0	64.0	72.0	96.0
60-1/2"		50.9	58.2	65.5	87.3
30-1/2"	78-1/2"	70.0	80.0	90.0	120.0
36-1/2"		70.0	80.0	90.0	120.0
42-1/2"		70.0	80.0	90.0	120.0
48-1/2"		62.2	71.1	80.0	106.7
54-1/2"		56.0	64.0	72.0	96.0
60-1/2"		50.9	58.2	65.5	87.3
30-1/2"	84-1/2"	70.0	80.0	90.0	120.0
36-1/2"		70.0	80.0	90.0	120.0
42-1/2"		70.0	80.0	90.0	120.0
48-1/2"		62.2	71.1	80.0	106.7
54-1/2"		56.0	64.0	72.0	96.0
60-1/2"		50.9	50.9	65.5	87.3
30-1/2"	90-1/2"	70.0	80.0	90.0	120.0
36-1/2"		70.0	80.0	90.0	120.0
42-1/2"		70.0	80.0	90.0	120.0
48-1/2"		62.2	71.1	80.0	106.7
54-1/2"		56.0	64.0	72.0	96.0
60-1/2"		50.9	50.9	58.2	80.0
30-1/2"	96-1/2"	70.0	80.0	90.0	120.0
36-1/2"		70.0	80.0	90.0	120.0
42-1/2"		70.0	80.0	90.0	120.0
48-1/2"		62.2	71.1	80.0	106.7
54-1/2"		56.0	56.0	64.0	88.0
60-1/2"		50.9	50.9	58.2	80.0
30-1/2"	102-1/2"	70.0	80.0	90.0	120.0
36-1/2"		70.0	80.0	90.0	120.0
42-1/2"		70.0	80.0	90.0	120.0
48-1/2"		62.2	62.2	71.1	97.8
54-1/2"		56.0	56.0	64.0	88.0
30-1/2"	108-1/2"	70.0	80.0	90.0	120.0
36-1/2"		70.0	80.0	90.0	120.0
42-1/2"		70.0	80.0	90.0	120.0
48-1/2"		62.2	62.2	71.1	97.8
54-1/2"		56.0	56.0	64.0	88.0
30-1/2"	114-1/2"	70.0	80.0	90.0	120.0
36-1/2"		70.0	80.0	90.0	120.0
42-1/2"		70.0	80.0	90.0	120.0
48-1/2"		62.2	62.2	71.1	97.8
54-1/2"		56.0	56.0	64.0	88.0
30-1/2"	120-1/2"	70.0	80.0	80.0	110.0
36-1/2"		70.0	80.0	80.0	110.0
42-1/2"		70.0	70.0	80.0	110.0
48-1/2"		62.2	62.2	71.1	97.8
54-1/2"		56.0	56.0	64.0	88.0
30-1/2"	126-1/2"	70.0	80.0	80.0	110.0
36-1/2"		70.0	79.3	80.0	110.0
42-1/2"		70.0	70.0	80.0	110.0
48-1/2"		62.2	62.2	71.1	97.8
54-1/2"		56.0	56.0	64.0	88.0
30-1/2"	138-1/2"	70.0	80.0	80.0	110.0
36-1/2"		70.0	78.0	80.0	110.0
42-1/2"		70.0	70.0	80.0	110.0
48-1/2"		62.2	62.2	71.1	97.8
54-1/2"		56.0	56.0	64.0	88.0



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



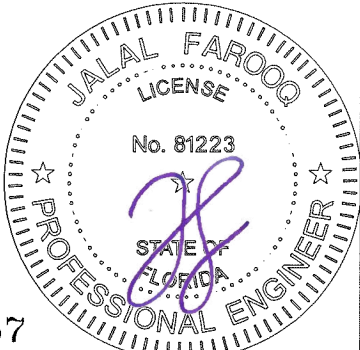
3/8" AIR SPACE CONSISTING OF:
SPACER:
'HELIMA' LOW PROFILE ALUMINUM SPACER
BY 'LINGERMANN GMBH'
AROUND THE PERIMETER OF THE GLASS.
PERIMETER SEALANT:
SILICONE
DOWSIL 791
GE 2000



Sealed: 9/20/2023

GLASS

FL #33057



AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978
(C.A.N. 3538)

ES-WW5037T ALUM WINDOW WALL SYSTEM (L.M.I.)

E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
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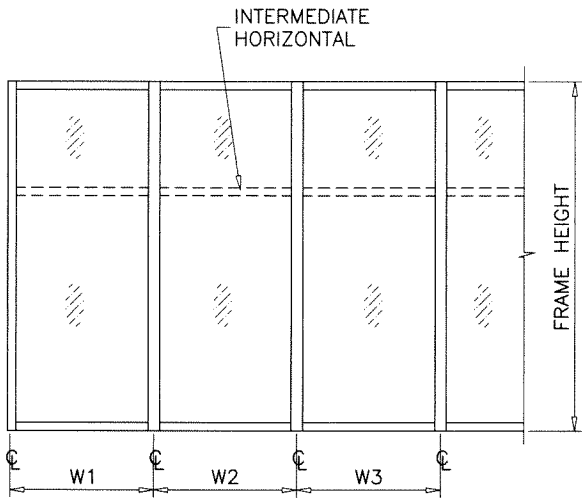
revisions:
no. date by description

date: 06-11-20
scale: 3/8" = 1"
dr. by: TARIQ
chk. by:

drawing no.
20-56F

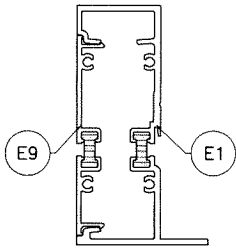
sheet 2 of 13

JAMB AND MULLION DESIGN LOAD CAPACITY - PSF							
NOMINAL DIMS.		JAMB 'J1'		MULLION 'M1'		MULLION 'M2'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
36"	80"	90.0	120.0	70.0	80.0	90.0	120.0
42"		90.0	120.0	70.0	80.0	90.0	120.0
48"		90.0	120.0	70.0	80.0	90.0	120.0
54"		90.0	120.0	70.0	80.0	90.0	120.0
60"		90.0	120.0	70.0	80.0	90.0	120.0
66"		90.0	120.0	70.0	80.0	90.0	120.0
36"	84"	90.0	120.0	70.0	80.0	90.0	120.0
42"		90.0	120.0	70.0	80.0	90.0	120.0
48"		90.0	120.0	70.0	80.0	90.0	120.0
54"		90.0	120.0	70.0	80.0	90.0	120.0
60"		90.0	120.0	70.0	80.0	90.0	120.0
66"		90.0	120.0	70.0	80.0	90.0	120.0
36"	90"	90.0	120.0	70.0	80.0	90.0	120.0
42"		90.0	120.0	70.0	80.0	90.0	120.0
48"		90.0	120.0	70.0	80.0	90.0	120.0
54"		90.0	120.0	70.0	80.0	90.0	120.0
60"		90.0	120.0	70.0	80.0	90.0	120.0
66"		70.0	80.0	-	-	70.0	80.0
36"	96"	90.0	120.0	70.0	80.0	90.0	120.0
42"		90.0	120.0	70.0	80.0	90.0	120.0
48"		90.0	120.0	70.0	80.0	90.0	120.0
54"		90.0	120.0	70.0	80.0	90.0	120.0
60"		90.0	120.0	70.0	78.9	90.0	120.0
66"		70.0	80.0	-	-	70.0	80.0
36"	102"	90.0	120.0	70.0	80.0	90.0	120.0
42"		90.0	120.0	70.0	80.0	90.0	120.0
48"		90.0	120.0	70.0	80.0	90.0	120.0
54"		90.0	120.0	70.0	80.0	90.0	120.0
60"		70.0	80.0	-	-	90.0	120.0
66"		70.0	80.0	-	-	70.0	80.0
36"	108"	90.0	120.0	70.0	80.0	90.0	120.0
42"		90.0	120.0	70.0	80.0	90.0	120.0
48"		90.0	120.0	70.0	80.0	90.0	120.0
54"		70.0	80.0	-	-	70.0	80.0
60"		70.0	80.0	-	-	70.0	80.0
66"		70.0	80.0	-	-	70.0	80.0
36"	114"	90.0	120.0	70.0	80.0	90.0	120.0
42"		90.0	120.0	70.0	78.6	90.0	120.0
48"		90.0	111.2	68.8	68.8	90.0	110.5
54"		70.0	80.0	-	-	70.0	80.0
60"		70.0	80.0	-	-	70.0	80.0
66"		70.0	80.0	-	-	70.0	80.0
36"	120"	90.0	120.0	70.0	80.0	90.0	120.0
42"		90.0	108.9	70.0	70.3	90.0	111.6
48"		90.0	95.3	61.5	61.5	90.0	97.6
54"		70.0	73.2	-	-	70.0	75.0
60"		70.0	80.0	-	-	70.0	80.0
66"		70.0	80.0	-	-	70.0	80.0
36"	132"	70.0	80.0	-	-	70.0	80.0
42"		70.0	80.0	-	-	70.0	80.0
48"		70.0	71.6	-	-	70.0	73.4
60"		70.0	73.5	-	-	70.0	75.3
66"		63.0	63.0	-	-	64.6	64.6
72"		55.2	55.2	-	-	56.5	56.5



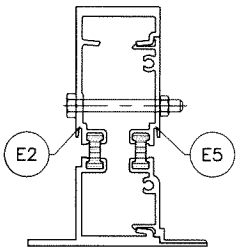
WIDTH (W) = W1
AT FRAME JAMB

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



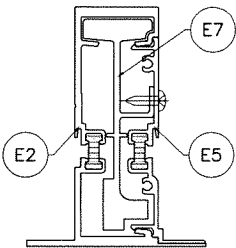
JAMB 'J1'

Ix	IN^4	Sx	IN^3
6.3695		2.3908	



MULLION 'M1'

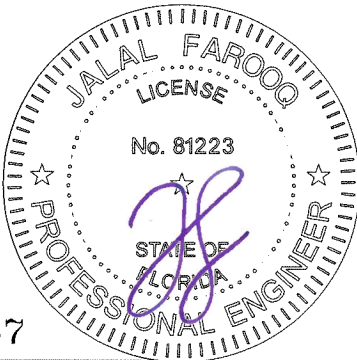
Ix	IN^4	Sx	IN^3
8.2237		2.9685	



MULLION 'M2'

Ix	IN^4	Sx	IN^3
13.0405		5.0498	

Sealed: 9/20/2023



FL #33057

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revisions:

no	date	by	description

date: 06-11-20

scale: -

dr. by: TARIQ

chk. by:

drawing no.

20-56F

sheet 3 of 13

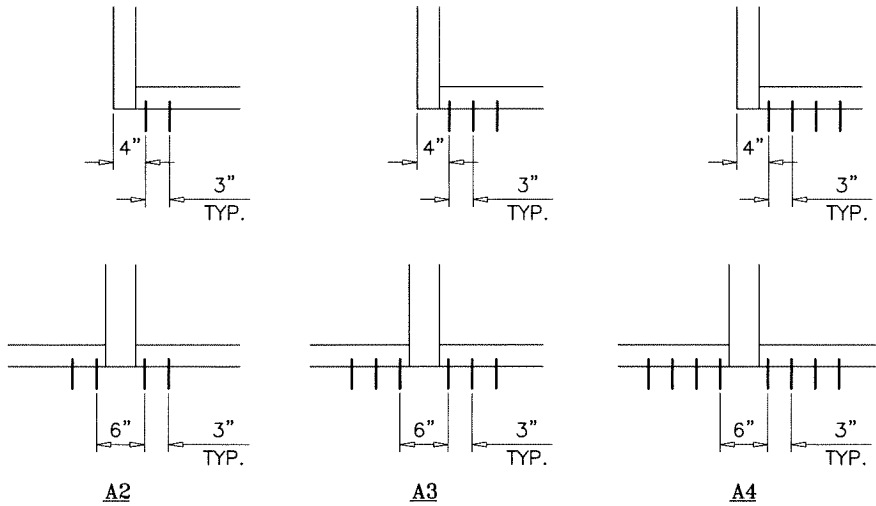
a f c

COMP-ANL\20-56F-ES

ANCHOR LOAD CAPACITY – PSF EXT.(+) & INT.(–)										
NOMINAL DIMS. WIDTH (W) FRAME HEIGHT		ANCHORS TYPE 'A'								
		1/4" MAX. SHIM			3/8" MAX. SHIM			1/2" MAX. SHIM		
A2	A3	A4	A2	A3	A4	A2	A3	A4		
30"	80"	120.0	120.0	120.0	65.8	98.6	120.0	51.0	76.5	102.0
36"		105.6	120.0	120.0	54.8	82.2	109.6	42.5	63.8	85.0
42"		90.5	120.0	120.0	47.0	70.5	93.9	36.4	54.7	72.9
48"		79.2	118.8	120.0	41.1	61.7	82.2	31.9	47.8	63.8
54"		70.4	105.6	120.0	36.5	54.8	73.1	28.3	42.5	56.7
60"		63.4	95.0	120.0	32.9	49.3	65.8	25.5	38.3	51.0
66"		57.6	86.4	115.2	29.9	44.8	59.8	23.2	34.8	46.4
30"	84"	120.0	120.0	120.0	62.6	93.9	120.0	48.6	72.9	97.2
36"		100.6	120.0	120.0	52.2	78.3	104.4	40.5	60.7	81.0
42"		86.2	120.0	120.0	44.7	67.1	89.5	34.7	52.1	69.4
48"		75.4	113.1	120.0	39.1	58.7	78.3	30.4	45.6	60.7
54"		67.0	100.6	120.0	34.8	52.2	69.6	27.0	40.5	54.0
60"		60.3	90.5	120.0	31.3	47.0	62.6	24.3	36.4	48.6
66"		54.9	82.3	109.7	28.5	42.7	56.9	22.1	33.1	44.2
30"	90"	112.6	120.0	120.0	58.5	87.7	116.9	45.4	68.0	90.7
36"		93.9	120.0	120.0	48.7	73.1	97.4	37.8	56.7	75.6
42"		80.5	120.0	120.0	41.8	62.6	83.5	32.4	48.6	64.8
48"		70.4	105.6	120.0	36.5	54.8	73.1	28.3	42.5	56.7
54"		62.6	93.9	120.0	32.5	48.7	64.9	25.2	37.8	50.4
60"		56.3	84.5	112.6	29.2	43.8	58.5	22.7	34.0	45.4
66"		51.2	76.8	102.4	26.6	39.9	53.1	20.6	30.9	41.2
30"	96"	105.6	120.0	120.0	54.8	82.2	109.6	42.5	63.8	85.0
36"		88.0	120.0	120.0	45.7	68.5	91.3	35.4	53.2	70.9
42"		75.4	113.1	120.0	39.1	58.7	78.3	30.4	45.6	60.7
48"		66.0	99.0	120.0	34.3	51.4	68.5	26.6	39.9	53.2
54"		58.7	88.0	117.3	30.4	45.7	60.9	23.6	35.4	47.2
60"		52.8	79.2	105.6	27.4	41.1	54.8	21.3	31.9	42.5
66"		48.0	72.0	96.0	24.9	37.4	49.8	–	29.0	38.7
30"	102"	99.4	120.0	120.0	51.6	77.4	103.2	40.0	60.0	80.0
36"		82.8	120.0	120.0	43.0	64.5	86.0	33.3	50.0	66.7
42"		71.0	106.5	120.0	36.8	55.3	73.7	28.6	42.9	57.2
48"		62.1	93.2	120.0	32.2	48.4	64.5	25.0	37.5	50.0
54"		55.2	82.8	110.4	28.7	43.0	57.3	22.2	33.3	44.5
60"		49.7	74.5	99.4	25.8	38.7	51.6	20.0	30.0	40.0
66"		45.2	67.8	90.4	23.4	35.2	46.9	–	27.3	36.4
30"	108"	93.9	120.0	120.0	48.7	73.1	97.4	37.8	56.7	75.6
36"		78.2	117.3	120.0	40.6	60.9	81.2	31.5	47.2	63.0
42"		67.0	100.6	120.0	34.8	52.2	69.6	27.0	40.5	54.0
48"		58.7	88.0	117.3	30.4	45.7	60.9	23.6	35.4	47.2
54"		52.1	78.2	104.3	27.1	40.6	54.1	21.0	31.5	42.0
60"		46.9	70.4	93.9	24.4	36.5	48.7	–	28.3	37.8
30"	114"	88.9	120.0	120.0	46.1	69.2	92.3	35.8	53.7	71.6
36"		74.1	111.2	120.0	38.5	57.7	76.9	29.8	44.8	59.7
42"		63.5	95.3	120.0	33.0	49.4	65.9	25.8	38.4	51.2
48"		55.6	83.4	111.2	28.8	43.3	57.7	22.4	33.6	44.8
54"		49.4	74.1	98.8	25.6	38.5	51.3	–	29.8	39.8
60"		44.5	66.7	88.9	23.1	34.6	46.1	–	26.9	35.8
30"	120"	84.5	120.0	120.0	43.8	65.8	87.7	34.0	51.0	68.0
36"		70.4	105.6	120.0	36.5	54.8	73.1	28.3	42.5	56.7
42"		60.3	90.5	120.0	31.3	47.0	62.6	24.3	36.4	48.6
48"		52.8	79.2	105.6	27.4	41.1	54.8	21.3	31.9	42.5
54"		46.9	70.4	93.9	24.4	36.5	48.7	–	28.3	37.8
60"		41.9	62.6	84.5	21.5	32.4	43.8	–	25.5	34.0

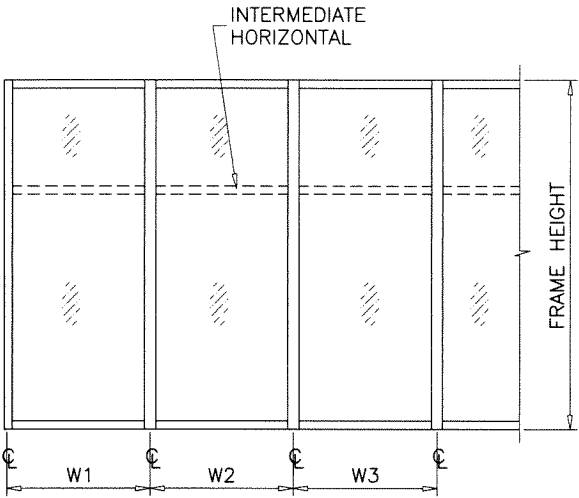
ANCHOR LOAD CAPACITY – PSF EXT.(+) & INT.(–)										
NOMINAL DIMS. WIDTH (W) FRAME HEIGHT		ANCHORS TYPE 'A'								
		1/4" MAX. SHIM			3/8" MAX. SHIM			1/2" MAX. SHIM		
A2	A3	A4	A2	A3	A4	A2	A3	A4		
30"	126"	80.5	120.0	120.0	41.8	62.6	83.5	32.4	48.6	54.0
36"		67.0	100.6	120.0	34.8	52.2	69.6	27.0	40.5	46.3
42"		57.5	86.2	114.9	29.8	44.7	59.6	23.1	34.7	40.5
48"		50.3	75.4	100.6	26.1	39.1	52.2	20.2	30.4	36.0
54"		44.7	67.0	89.4	23.2	34.8	46.4	–	27.0	120.0
30"	132"	76.8	115.2	120.0	39.9	59.8	79.7	30.9	46.4	61.6
36"		64.0	96.0	120.0	33.2	49.8	66.4	25.8	38.7	51.5
42"		54.9	82.3	109.7	28.5	42.7	56.9	22.1	33.1	44.2
48"	138"	48.0	72.0	96.0	24.9	37.4	49.8	–	29.0	38.7
30"		73.5	110.2	120.0	38.1	57.2	76.2	29.6	44.4	59.2
36"		61.2	91.8	120.0	31.8	47.7	63.5	24.6	37.0	49.3
42"		52.5	78.7	104.9	27.2	40.8	54.5	21.1	31.7	42.3
48"		45.9	68.9	91.8	23.8	35.7	47.7	–	27.7	37.0
30"	144"	70.4	105.6	120.0	36.5	54.8	73.1	28.3	42.5	56.7
36"		58.7	88.0	117.3	30.4	45.7	60.9	23.6	35.4	47.2
42"		50.3	75.4	100.6	26.1	39.1	52.2	20.2	30.4	40.5
48"		44.0	66.0	88.0	22.8	34.3	45.7	–	26.6	35.4
60"		38.3	57.6	75.6	19.7	29.1	38.3	–	23.2	30.9

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: 9/20/2023



ANCHORS

FL #33057

af c
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 262-6978
FAX. (305) 262-6978

ES-WW5037T ALUM WINDOW WALL SYSTEM (L.M.I.)
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151
FAX. (305) 638-5158

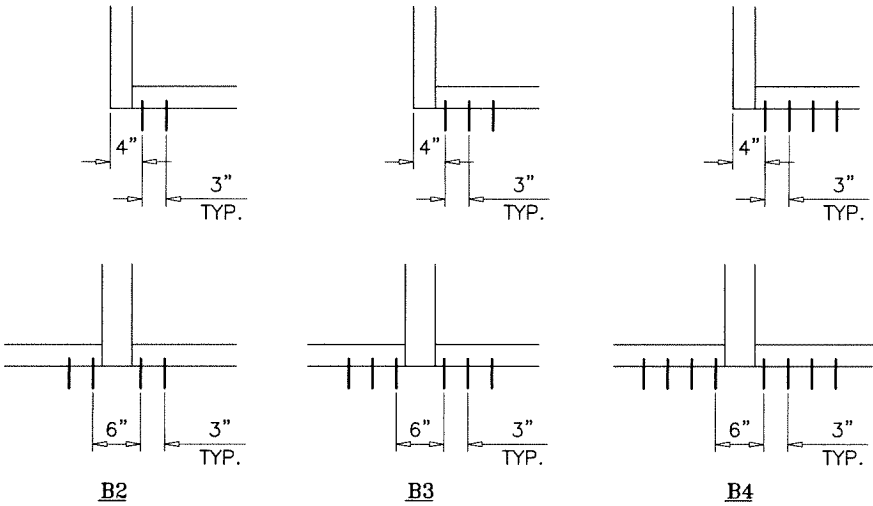
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date: 06-11-20
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dr. by: TARIQ
chk. by:
drawing no.
20-56F
sheet 4 of 13

COMP-ANL\20-56F-ES

ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)										
NOMINAL DIMS.		ANCHORS TYPE 'B'								
		1/4" MAX. SHIM			3/8" MAX. SHIM			1/2" MAX. SHIM		
WIDTH (W)	FRAME HEIGHT	B2	B3	B4	B2	B3	B4	B2	B3	B4
30"	80"	120.0	120.0	120.0	120.0	120.0	120.0	102.8	120.0	120.0
36"		120.0	120.0	120.0	110.0	120.0	120.0	85.6	120.0	120.0
42"		117.9	120.0	120.0	94.3	120.0	120.0	73.4	110.1	120.0
48"		103.2	120.0	120.0	82.5	120.0	120.0	64.2	96.3	120.0
54"		91.7	120.0	120.0	73.4	110.0	120.0	57.1	85.6	114.2
60"		82.6	120.0	120.0	66.0	99.0	120.0	51.4	77.1	102.8
66"		75.1	112.6	120.0	60.0	90.0	120.0	46.7	70.1	93.4
30"	84"	120.0	120.0	120.0	120.0	120.0	120.0	97.9	120.0	120.0
36"		120.0	120.0	120.0	104.8	120.0	120.0	81.6	120.0	120.0
42"		112.3	120.0	120.0	89.8	120.0	120.0	69.9	104.9	120.0
48"		98.3	120.0	120.0	78.6	117.9	120.0	61.2	91.8	120.0
54"		87.4	120.0	120.0	69.9	104.8	120.0	54.4	81.6	108.7
60"		78.6	117.9	120.0	62.9	94.3	120.0	48.9	73.4	97.9
66"		71.5	107.2	120.0	57.2	85.7	114.3	44.5	66.7	89.0
30"	90"	120.0	120.0	120.0	117.4	120.0	120.0	91.3	120.0	120.0
36"		120.0	120.0	120.0	97.8	120.0	120.0	76.1	114.2	120.0
42"		104.8	120.0	120.0	83.8	120.0	120.0	65.2	97.9	120.0
48"		91.7	120.0	120.0	73.4	110.0	120.0	57.1	85.6	114.2
54"		81.5	120.0	120.0	65.2	97.8	120.0	50.7	76.1	101.5
60"		73.4	110.1	120.0	58.7	88.0	117.4	45.7	68.5	91.3
66"		66.7	100.1	120.0	53.4	80.0	106.7	41.5	62.3	83.0
30"	96"	120.0	120.0	120.0	110.0	120.0	120.0	85.6	120.0	120.0
36"		114.7	120.0	120.0	91.7	120.0	120.0	71.4	107.1	120.0
42"		98.3	120.0	120.0	78.6	117.9	120.0	61.2	91.8	120.0
48"		86.0	120.0	120.0	68.8	103.2	120.0	53.5	80.3	107.1
54"		76.4	114.7	120.0	61.1	91.7	120.0	47.6	71.4	95.2
60"		68.8	103.2	120.0	55.0	82.5	110.0	42.8	64.2	85.6
66"		62.5	93.8	120.0	50.0	75.0	100.0	38.9	58.4	77.9
30"	102"	120.0	120.0	120.0	103.6	120.0	120.0	80.6	120.0	120.0
36"		107.9	120.0	120.0	86.3	120.0	120.0	67.2	100.8	120.0
42"		92.5	120.0	120.0	74.0	111.0	120.0	57.6	86.4	115.1
48"		80.9	120.0	120.0	64.7	97.1	120.0	50.4	75.6	100.8
54"		71.9	107.9	120.0	57.5	86.3	115.1	44.8	67.2	89.6
60"		64.8	97.1	120.0	51.8	77.7	103.6	40.3	60.5	80.6
66"		58.9	88.3	117.7	47.1	70.6	94.2	36.6	55.0	73.3
30"	108"	120.0	120.0	120.0	97.8	120.0	120.0	76.1	114.2	120.0
36"		101.9	120.0	120.0	81.5	120.0	120.0	63.4	95.2	120.0
42"		87.4	120.0	120.0	69.9	104.8	120.0	54.4	81.6	108.7
48"		76.4	114.7	120.0	61.1	91.7	120.0	47.6	71.4	95.2
54"		68.0	101.9	120.0	54.3	81.5	108.7	42.3	63.4	84.6
60"		61.2	91.7	120.0	48.9	73.4	97.8	38.1	57.1	76.1
66"		55.0	82.5	110.0	42.8	64.2	85.6	35.7	53.5	71.4
30"	114"	115.9	120.0	120.0	92.7	120.0	120.0	72.1	108.2	120.0
36"		96.6	120.0	120.0	77.2	115.8	120.0	60.1	90.1	120.0
42"		82.8	120.0	120.0	66.2	99.3	120.0	51.5	77.3	103.0
48"		72.4	108.6	120.0	57.9	86.9	115.8	45.1	67.6	90.1
54"		64.4	96.5	120.0	51.5	77.2	103.0	40.1	60.1	80.1
60"		57.9	86.9	115.9	46.3	69.5	92.7	36.1	54.1	72.1
66"		51.4	77.1	102.8	41.5	62.3	83.0	33.8	50.0	66.7
30"	120"	110.1	120.0	120.0	88.0	120.0	120.0	68.5	102.8	120.0
36"		91.7	120.0	120.0	73.4	110.0	120.0	57.1	85.6	114.2
42"		78.6	117.9	120.0	62.9	94.3	120.0	48.9	73.4	97.9
48"		68.8	103.2	120.0	55.0	82.5	110.0	42.8	64.2	85.6
54"		61.2	91.7	120.0	48.9	73.4	97.8	38.1	57.1	76.1
60"		55.0	82.5	110.0	42.8	64.2	85.6	35.7	53.5	71.4
66"		50.0	75.0	100.0	38.9	58.4	77.9	33.8	50.0	66.7

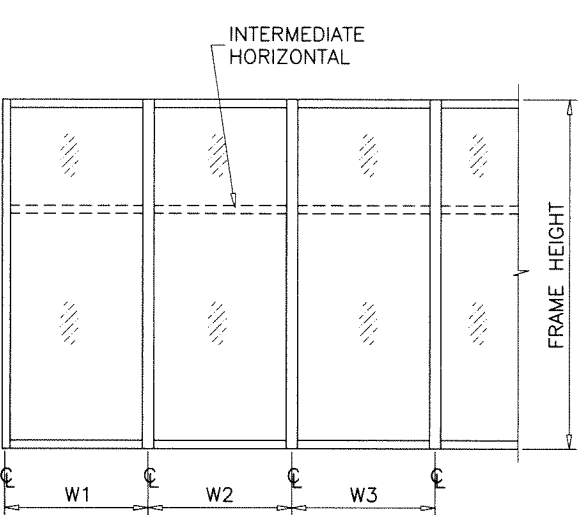
ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)										
NOMINAL DIMS.		ANCHORS TYPE 'B'								
		1/4" MAX. SHIM			3/8" MAX. SHIM			1/2" MAX. SHIM		
WIDTH (W)	FRAME HEIGHT	B2	B3	B4	B2	B3	B4	B2	B3	B4
30"	126"	104.8	120.0	120.0	83.8	120.0	120.0	65.2	97.9	120.0
36"		87.4	120.0	120.0	69.9	104.8	120.0	54.4	81.6	108.7
42"		74.9	112.3	120.0	59.9	89.8	119.8	46.6	69.9	93.2
48"		65.5	98.3	120.0	52.4	78.6	104.8	40.8	61.2	81.6
54"		58.2	87.4	116.5	46.6	69.9	93.2	36.2	54.4	72.5
30"	132"	100.1	120.0	120.0	80.0	120.0	120.0	62.3	93.4	120.0
36"		83.4	120.0	120.0	66.7	100.0	120.0	51.9	77.9	103.8
42"		71.5	107.2	120.0	57.2	85.7	114.3	44.5	66.7	89.0
48"	138"	62.5	93.8	120.0	50.0	75.0	100.0	38.9	58.4	77.9
30"		95.7	120.0	120.0	76.5	114.8	120.0	59.6	89.4	119.2
36"		79.8	119.7	120.0	63.8	95.7	120.0	49.6	74.5	99.3
42"		68.4	102.6	120.0	54.7	82.0	109.4	42.6	63.8	85.1
48"	144"	59.8	89.7	119.7	47.8	71.8	95.7	37.2	55.9	74.5
30"		91.7	120.0	120.0	73.4	110.0	120.0	57.1	85.6	114.2
36"		76.4	114.7	120.0	61.1	91.7	120.0	47.6	71.4	95.2
42"		65.5	98.3	120.0	52.4	78.6	104.8	40.8	61.2	81.6
48"		57.3	86.0	114.7	45.9	68.8	91.7	35.7	53.5	71.4

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



ANCHORS TYPES: SEE SHEET 9 FOR DESCRIPTION

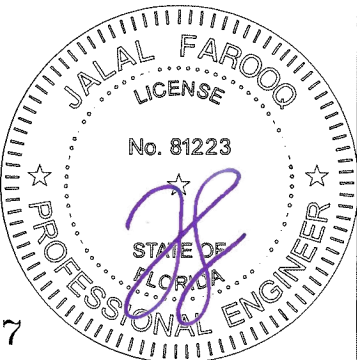
- B2 = (2) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
B3 = (3) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
B4 = (4) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION



WIDTH (W) = W1
AT FRAME JAMB

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

Sealed: 9/20/2023



ANCHORS

FL #33057

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978
(C.A.N. 3538)

ES-WW5037T ALUM WINDOW WALL SYSTEM (L.M.I.)
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

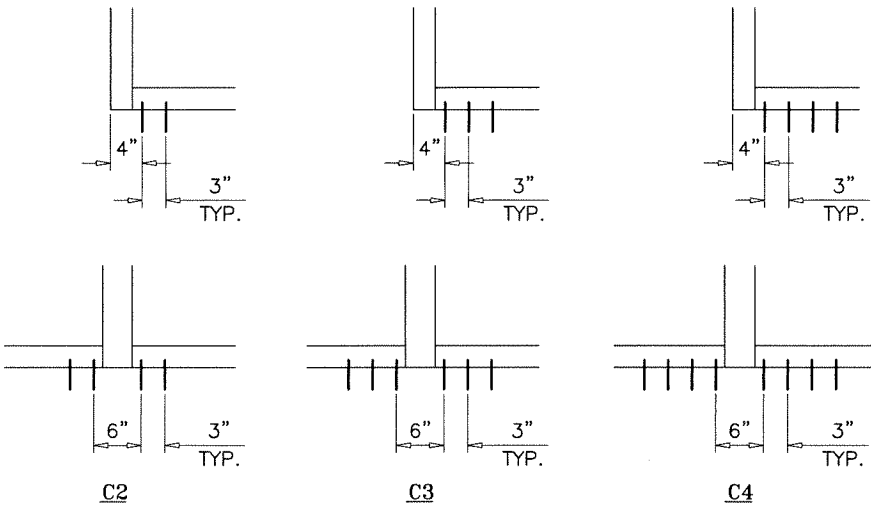
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dr. by:	TARIQ	chk. by:		
drawing no.	20-56F	sheet	5 of 13	

COMP-ANL\20-56F-ES

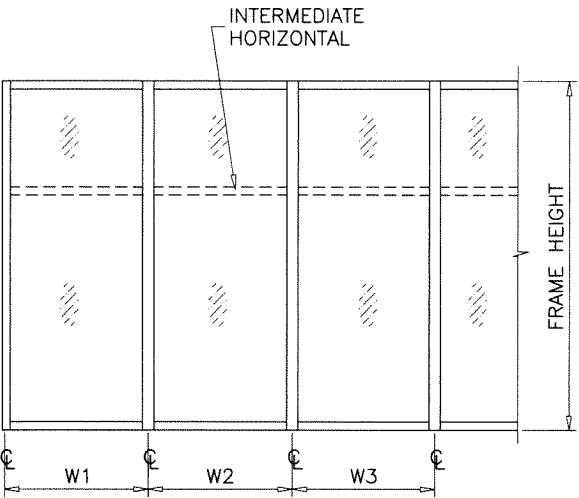
ANCHOR LOAD CAPACITY – PSF EXT.(+) & INT.(–)										
NOMINAL DIMS.		ANCHORS TYPE 'C'								
		1/4" MAX. SHIM			3/8" MAX. SHIM			1/2" MAX. SHIM		
WIDTH (W)	FRAME HEIGHT	C2	C3	C4	C2	C3	C4	C2	C3	C4
30"	80"	120.0	120.0	120.0	88.4	120.0	120.0	69.8	104.4	120.0
36"		120.0	120.0	120.0	73.6	110.5	120.0	58.0	87.0	116.1
42"		120.0	120.0	120.0	63.1	94.7	120.0	49.7	74.8	99.4
48"		119.4	120.0	120.0	55.2	82.8	110.5	43.5	65.3	87.0
54"		106.1	120.0	120.0	49.1	73.6	98.2	38.7	58.0	77.3
60"		95.5	120.0	120.0	44.2	66.3	88.4	34.8	52.2	69.6
66"		86.8	120.0	120.0	40.2	60.3	80.3	31.6	47.5	63.3
30"	84"	120.0	120.0	120.0	84.2	120.0	120.0	66.3	99.4	120.0
36"		120.0	120.0	120.0	70.1	105.2	120.0	55.2	82.9	110.6
42"		120.0	120.0	120.0	60.1	90.2	120.0	47.3	71.0	94.7
48"		113.7	120.0	120.0	52.6	78.9	105.2	41.4	62.1	82.9
54"		101.1	120.0	120.0	46.8	70.1	93.5	36.8	55.2	73.7
60"		91.0	120.0	120.0	42.1	63.1	84.2	33.1	49.7	66.3
66"		82.7	120.0	120.0	38.3	57.4	76.5	30.1	45.2	60.3
30"	90"	120.0	120.0	120.0	78.5	117.8	120.0	61.9	92.8	120.0
36"		120.0	120.0	120.0	65.5	98.2	120.0	51.6	77.3	103.1
42"		120.0	120.0	120.0	56.1	84.2	112.2	44.2	66.3	88.4
48"		106.1	120.0	120.0	49.1	73.6	98.2	38.7	58.0	77.3
54"		94.3	120.0	120.0	43.6	65.5	87.3	34.4	51.6	68.7
60"		84.9	120.0	120.0	39.3	58.9	78.5	30.9	46.4	61.9
66"		77.2	115.8	120.0	35.7	53.6	71.4	28.1	42.2	56.2
30"	96"	120.0	120.0	120.0	73.6	110.5	120.0	58.0	87.0	116.1
36"		120.0	120.0	120.0	61.4	92.1	120.0	48.3	72.5	96.7
42"		120.0	120.0	120.0	52.6	78.9	105.2	41.4	62.1	82.9
48"		99.5	120.0	120.0	46.0	69.0	92.1	36.3	54.4	72.5
54"		88.4	120.0	120.0	40.9	61.4	81.8	32.2	48.3	64.4
60"		79.6	119.4	120.0	36.8	55.2	73.6	29.0	43.5	58.0
66"		72.4	108.5	120.0	33.5	50.2	66.9	26.4	39.5	52.7
30"	102"	120.0	120.0	120.0	69.3	104.0	120.0	54.6	81.9	109.3
36"		120.0	120.0	120.0	57.8	86.6	115.5	45.5	68.2	91.0
42"		107.0	120.0	120.0	49.5	74.3	99.0	39.0	58.5	78.0
48"		93.6	120.0	120.0	43.3	65.0	86.6	34.1	51.2	68.2
54"		83.2	120.0	120.0	38.5	57.8	77.0	30.3	45.5	60.7
60"		74.9	112.4	120.0	34.7	52.0	69.3	27.3	40.9	54.6
66"		68.1	102.2	120.0	31.5	47.3	63.0	24.8	37.2	49.6
30"	108"	120.0	120.0	120.0	65.5	98.2	120.0	51.6	77.3	103.2
36"		117.9	120.0	120.0	54.5	81.8	109.1	43.0	64.4	85.9
42"		101.1	120.0	120.0	46.8	70.1	93.5	36.8	55.2	73.7
48"		88.4	120.0	120.0	40.9	61.4	81.8	32.2	48.3	64.4
54"		78.6	117.9	120.0	36.4	54.5	72.7	28.6	43.0	57.3
60"		70.8	106.1	120.0	32.7	49.1	65.5	25.8	38.7	51.6
30"	114"	120.0	120.0	120.0	62.0	93.0	120.0	48.8	73.3	97.7
36"		111.7	120.0	120.0	51.7	77.5	103.4	40.7	61.1	81.4
42"		95.8	120.0	120.0	44.3	66.4	88.6	34.9	52.3	69.8
48"		83.8	120.0	120.0	38.8	58.1	77.5	30.5	45.8	61.1
54"		74.5	111.7	120.0	34.5	51.7	68.9	27.1	40.7	54.3
60"		67.0	100.5	120.0	31.0	46.5	62.0	24.4	36.6	48.8
30"	120"	120.0	120.0	120.0	58.9	88.4	117.8	46.4	69.6	92.8
36"		106.1	120.0	120.0	49.1	73.6	98.2	38.7	58.0	77.3
42"		91.0	120.0	120.0	42.1	63.1	84.2	33.1	49.7	66.3
48"		79.6	119.4	120.0	36.8	55.2	73.6	29.0	43.5	58.0
54"		70.8	106.1	120.0	32.7	49.1	65.5	25.8	38.7	51.6

ANCHOR LOAD CAPACITY – PSF EXT.(+) & INT.(–)										
NOMINAL DIMS.		ANCHORS TYPE 'C'								
		1/4" MAX. SHIM			3/8" MAX. SHIM			1/2" MAX. SHIM		
WIDTH (W)	FRAME HEIGHT	C2	C3	C4	C2	C3	C4	C2	C3	C4
30"	126"	120.0	120.0	120.0	56.1	84.2	112.2	44.2	66.3	88.4
36"		101.1	120.0	120.0	46.8	70.1	93.5	36.8	55.2	73.7
42"		86.6	120.0	120.0	40.1	60.1	80.2	31.6	47.3	63.1
48"		75.8	113.7	120.0	35.1	52.6	70.1	27.6	41.4	55.2
54"		67.4	101.1	120.0	31.2	46.8	62.3	24.6	36.8	49.1
30"	132"	115.8	120.0	120.0	53.6	80.3	107.1	42.2	63.3	84.4
36"		96.5	120.0	120.0	44.6	66.9	89.3	35.2	52.7	70.3
42"		82.7	120.0	120.0	38.3	57.4	76.5	30.1	45.2	60.3
48"		72.4	108.5	120.0	33.5	50.2	66.9	26.4	39.5	52.7
30"	138"	110.7	120.0	120.0	51.2	76.8	102.5	40.3	60.5	80.7
36"		92.3	120.0	120.0	42.7	64.0	85.4	33.6	50.4	67.2
42"		79.1	118.7	120.0	36.6	54.9	73.2	28.8	43.2	57.6
48"		69.2	103.8	120.0	32.0	48.0	64.0	25.2	37.8	50.4
30"	144"	106.1	120.0	120.0	49.1	73.6	98.2	38.7	58.0	77.3
36"		88.4	120.0	120.0	40.9	61.4	81.8	32.2	48.3	64.4
42"		75.8	113.7	120.0	35.1	52.6	70.1	27.8	41.4	55.2
48"		66.3	99.5	120.0	30.7	46.0	61.4	24.2	36.3	48.3

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



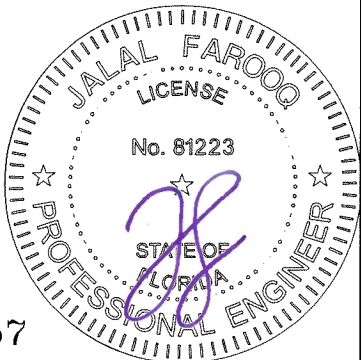
ANCHORS TYPES: SEE SHEET 9 FOR DESCRIPTION
C2 = (2) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION
C3 = (3) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION
C4 = (4) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION



WIDTH (W) = W1
AT FRAME JAMB

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

Sealed: 9/20/2023



ANCHORS

FL #33057

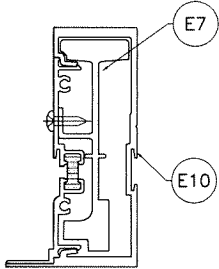
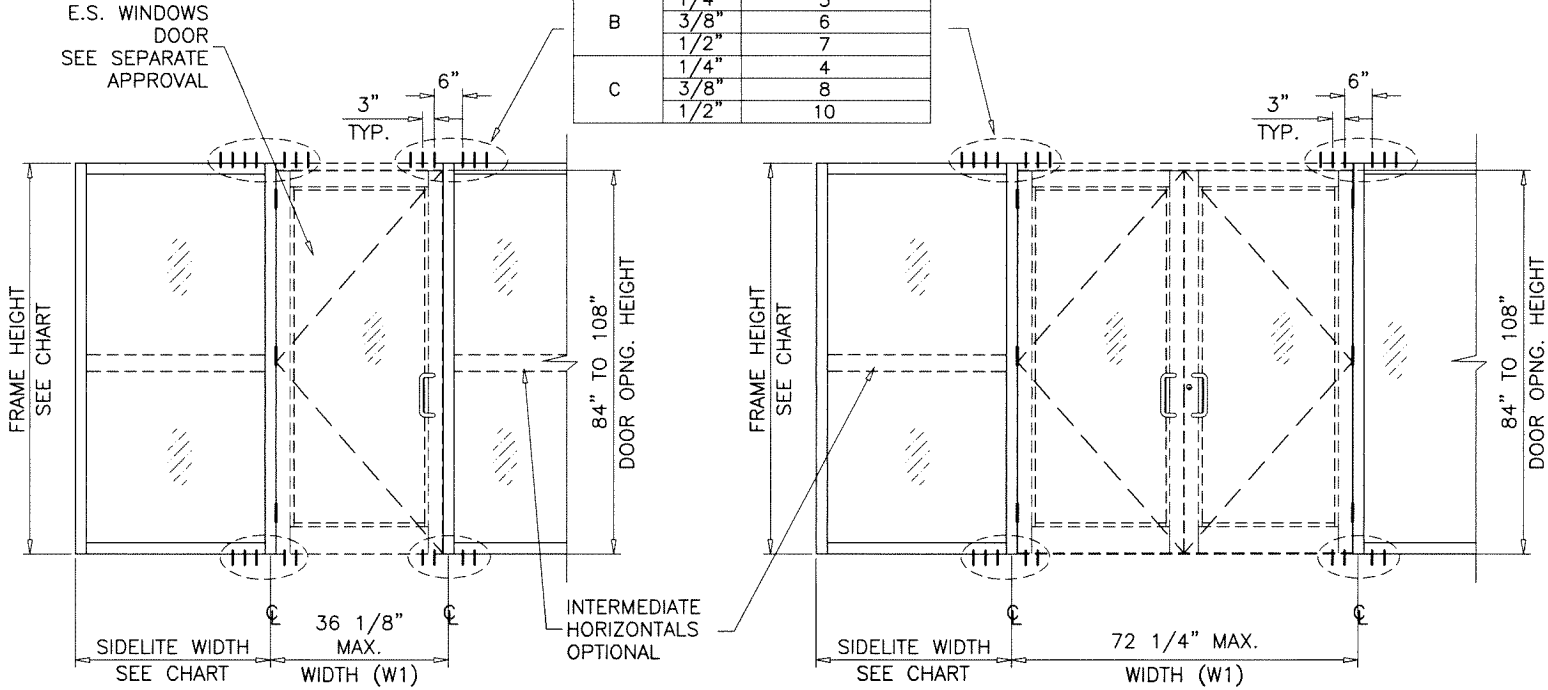
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AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978
(C.A.N. 3538)

ES-WW5037T ALUM WINDOW WALL SYSTEM (L.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: 06-11-20
scale: -
dr. by: TARIQ
chk. by:
drawing no.
20-56F
sheet 6 of 13

DOOR MULLION LOAD CAPACITY-PSF			
SIDELITE WIDTH INCHES	FRAME HEIGHT INCHES	MULL 'MD'	
		EXT.(+)	INT.(-)
30	108	70.0	80.0
36		70.0	80.0
42		70.0	80.0
48		70.0	80.0
54		70.0	80.0
60		70.0	80.0

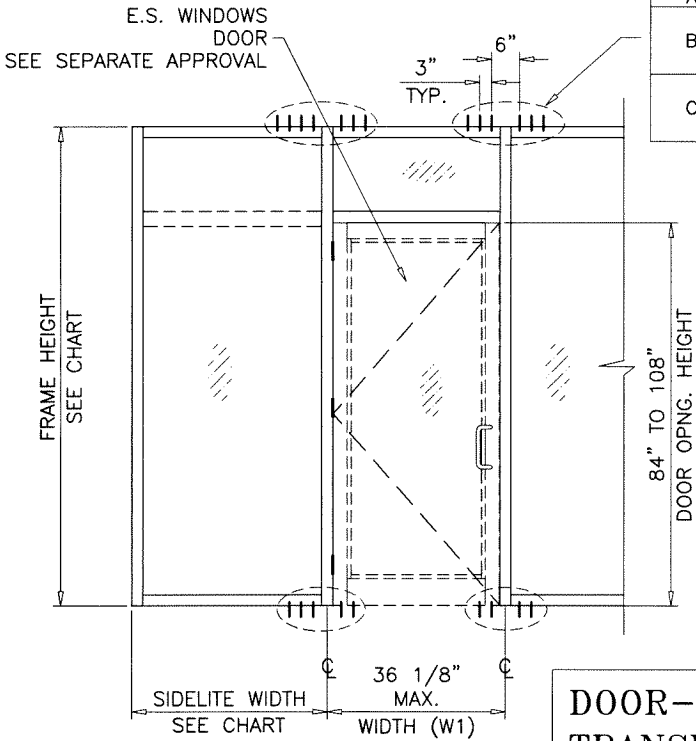
ANCHOR TYPES	MAX. SHIMS	NO. OF ANCHORS AT DOOR MULLION HEAD AND SILL
A	1/4"	6
	1/4"	5
B	3/8"	6
	1/2"	7
C	1/4"	4
	3/8"	8
	1/2"	10



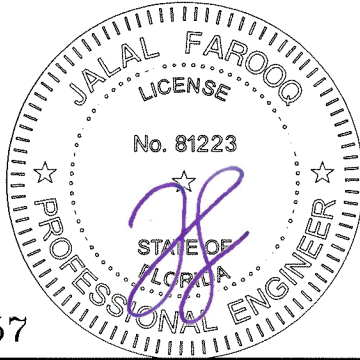
DOOR MULLION 'MD'

Ix IN ⁴	Sx IN ³
13.0405	5.0498

DOOR MULLION LOAD CAPACITY-PSF			
SIDELITE WIDTH INCHES	FRAME HEIGHT INCHES	MULL 'MD'	
		EXT.(+)	INT.(-)
36	102	70.0	80.0
42		70.0	80.0
48		70.0	80.0
54		70.0	80.0
60		70.0	80.0
66		70.0	80.0
36	114	70.0	80.0
42		70.0	80.0
48		70.0	80.0
54		70.0	80.0
60		70.0	80.0
36	126	70.0	80.0
42		70.0	80.0
48		70.0	80.0
54		70.0	80.0
60		70.0	80.0
36	132	70.0	80.0
42		70.0	80.0
48		70.0	80.0
54		70.0	80.0
60		70.0	80.0
36	144	70.0	73.3
42		67.8	67.8
48		63.1	63.1



DOOR-WINDOWALL
TRANSITION MULLION



Sealed: 9/20/2023

FL #33057

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FAX. (305) 262-6978
(C.A.N. 3538)

ES-WW5037T ALUM WINDOW WALL SYSTEM (L.M.I.)

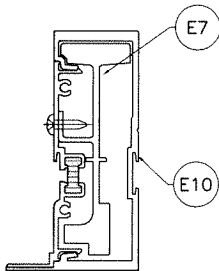
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151
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revisions:	no	date	by	description
date:	06-11-20	scale:	-	
dr.	by:	TARIQ	chk.	by:
drawing	no.			
	20-56F			
sheet	7 of 13			

DOOR MULLION LOAD CAPACITY – PSF					
NOMINAL DIMS.				MULL ‘MD’	
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+)	INT.(–)
72–1/4	36	120	84	70.0	80.0
	42			70.0	80.0
	48			70.0	80.0
	54			70.0	80.0
	36	126		70.0	80.0
	42			70.0	79.2
	48			70.0	74.8
	54			70.0	70.9
	36	132		70.0	71.7
	42			67.6	67.6
	48			63.9	63.9
	36	138		61.8	61.8
	42			58.3	58.3
	48			55.1	55.1
	36	144		53.8	53.8
	42			50.8	50.8
48	48.1		48.1		
72–1/4	36	120	90	70.0	80.0
	42			70.0	80.0
	48			70.0	80.0
	54			70.0	80.0
	36	126		70.0	80.0
	42			70.0	80.0
	48			70.0	77.4
	54			70.0	73.2
	36	132		70.0	74.0
	42			69.6	69.6
	48			65.7	65.7
	36	138		63.4	63.4
	42			59.7	59.7
	48			56.4	56.4
	36	144		54.8	54.8
	42			51.7	51.7
48	48.9		48.9		

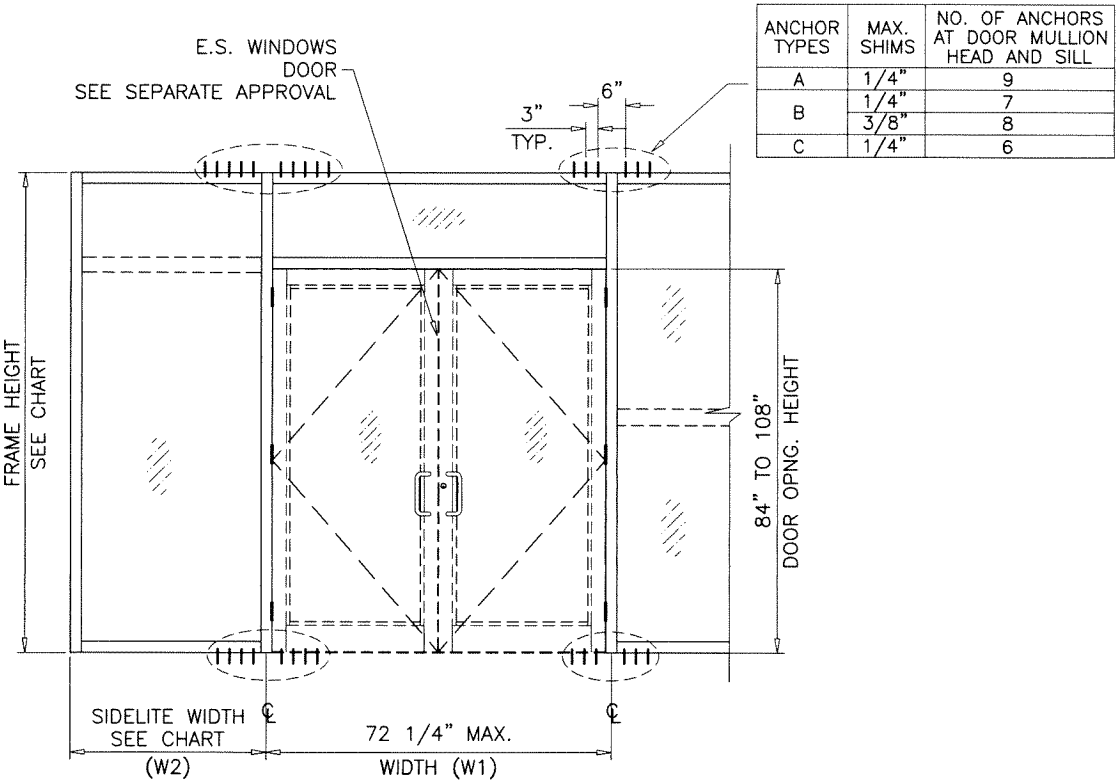
DOOR MULLION LOAD CAPACITY – PSF					
NOMINAL DIMS.				MULL ‘MD’	
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+)	INT.(–)
72–1/4	36	120	96	70.0	80.0
	42			70.0	80.0
	48			70.0	80.0
	54			70.0	80.0
	36	126		70.0	80.0
	42			70.0	80.0
	48			70.0	80.0
	54			70.0	80.0
	36	132		70.0	80.0
	42			70.0	80.0
	48			70.0	80.0
	36	138		70.0	80.0
	42			70.0	80.0
	48			70.0	80.0
	36	144		70.0	80.0
	42			70.0	80.0
48	70.0		80.0		
72–1/4	36	120	108	70.0	80.0
	42			70.0	80.0
	48			70.0	80.0
	54			70.0	80.0
	36	126		70.0	80.0
	42			70.0	80.0
	48			70.0	80.0
	54			70.0	80.0
	36	132		70.0	80.0
	42			70.0	78.8
	48			70.0	73.9
	36	138		70.0	71.2
	42			66.6	66.6
	48			62.5	62.5
	36	144		60.6	60.6
	42			56.8	56.8
48	53.4		53.4		

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



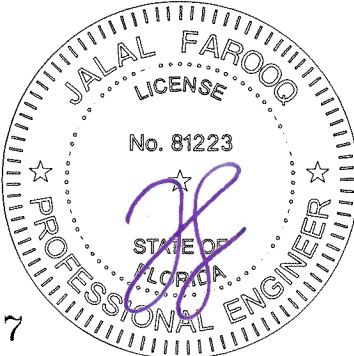
DOOR MULLION 'MD'

Ix	IN^4	Sx	IN^3
13.0405		5.0498	



DOOR-WINDOW WALL
TRANSITION MULLION

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FL #33057

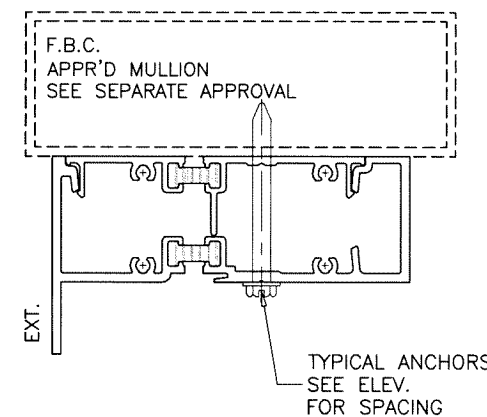
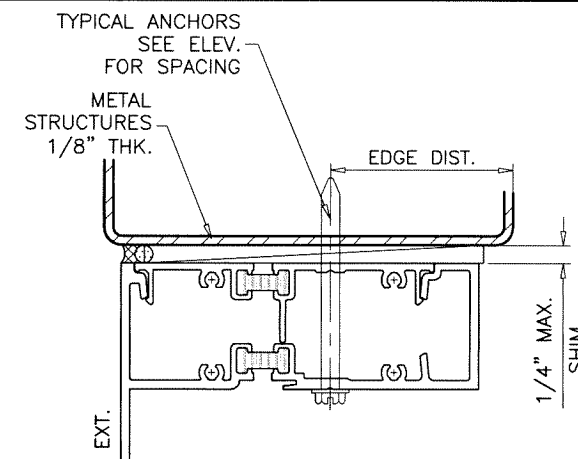
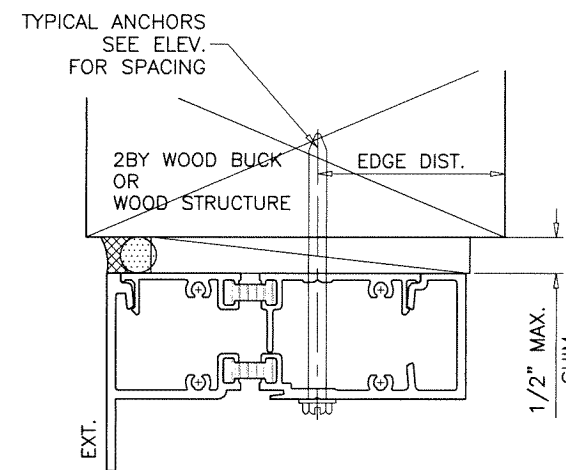
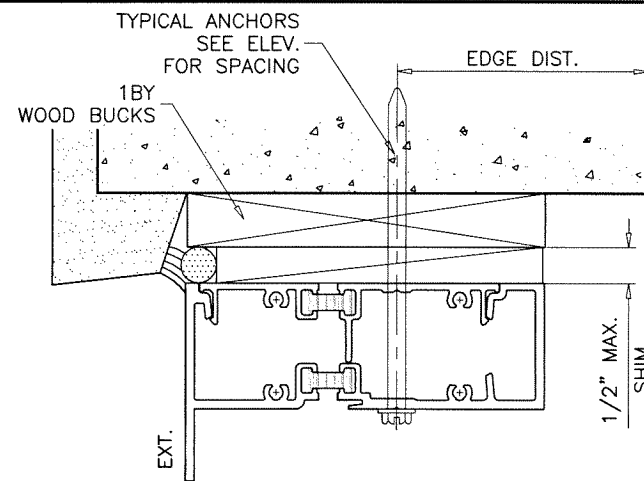
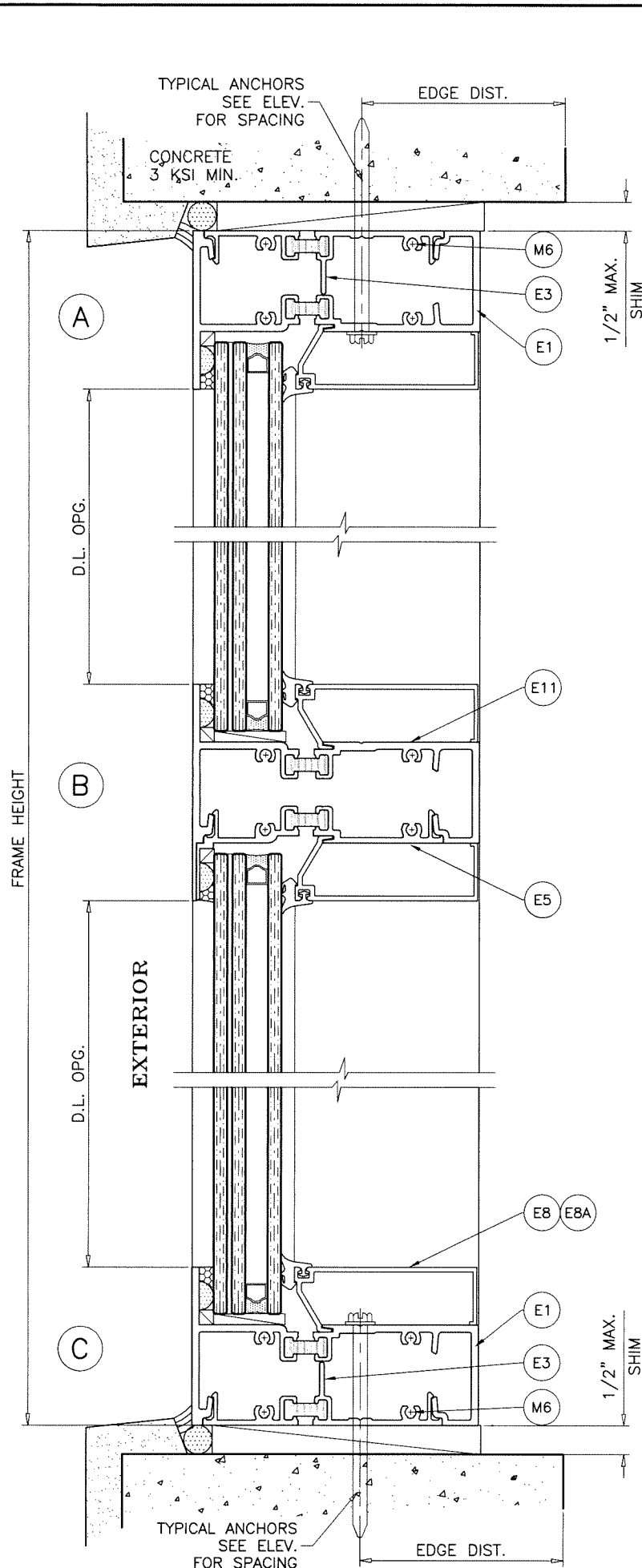
a f c
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 262-6978
FAX. (305) 264-8100
COMP-ANL\20-56F-ES

ES-WW5037T ALUM WINDOW WALL SYSTEM (L.M.I.)
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151
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revisions:
no date by description

date: 06-11-20
scale: -
dr. by: TARIQ
chk. by:

drawing no.
20-56F
sheet 8 of 13



TYPICAL ANCHORS: SEE ELEV. FOR SPACING

TYPE 'A'— 1/4" DIA. ULTRACON+ BY 'DEWALT' ($F_u=164$ KSI, $F_y=148$ KSI)
 INTO 2BY WOOD BUCKS OR WOOD STRUCTURES
 1-1/2" MIN. PENETRATION INTO WOOD (HEAD/SILL/JAMBS)
 THRU 1BY BUCKS INTO CONC. OR BLOCKS
 1-1/2" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)
 1-1/2" 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' ($F_u=177$ KSI, $F_y=155$ KSI)
 INTO WOOD STRUCTURES
 2" MIN. PENETRATION INTO WOOD (HEAD/SILL/JAMBS)
 THRU 1BY OR 2BY BUCKS INTO CONC. OR BLOCKS
 2" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)
 2" 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 (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. ($F_y = 36$ KSI MIN.)
 (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

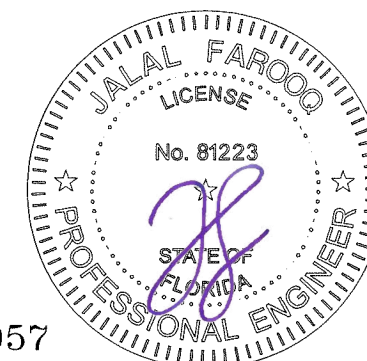
ANCHOR EDGE DISTANCES

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. (ANCHORS TYPE 'A')
 CONCRETE AT HEAD, SILL OR JAMBS $f'_c = 3500$ PSI MIN. (ANCHORS TYPE 'B')
 C-90 GROUT FILLED NORMAL WEIGHT BLOCK AT JAMBS $f'_m = 2000$ PSI MIN.

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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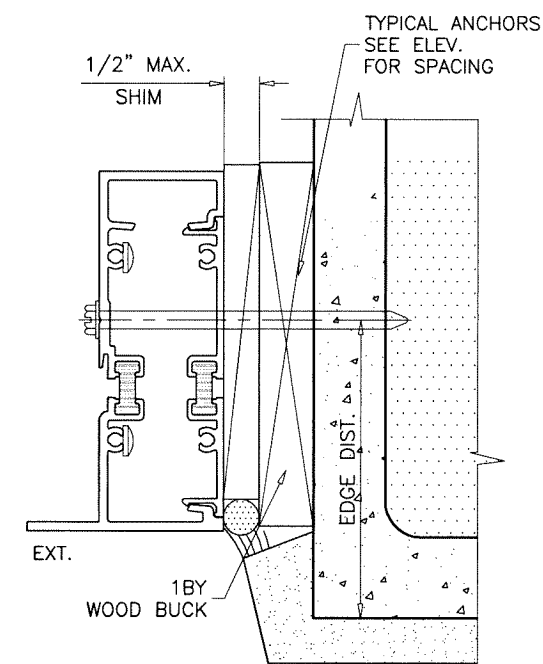
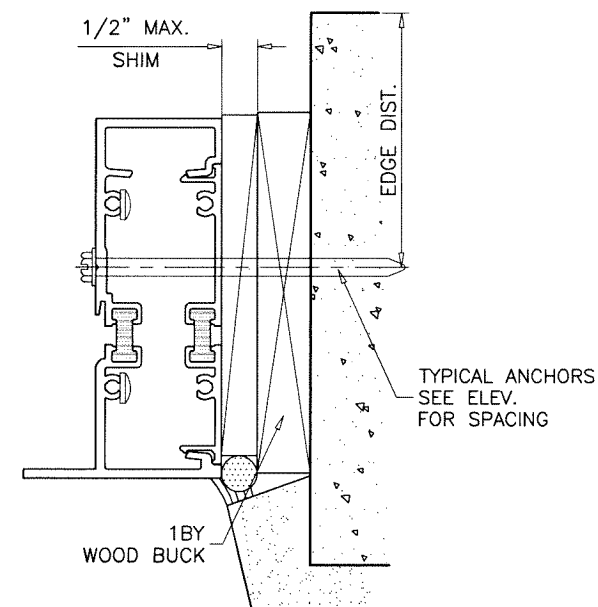
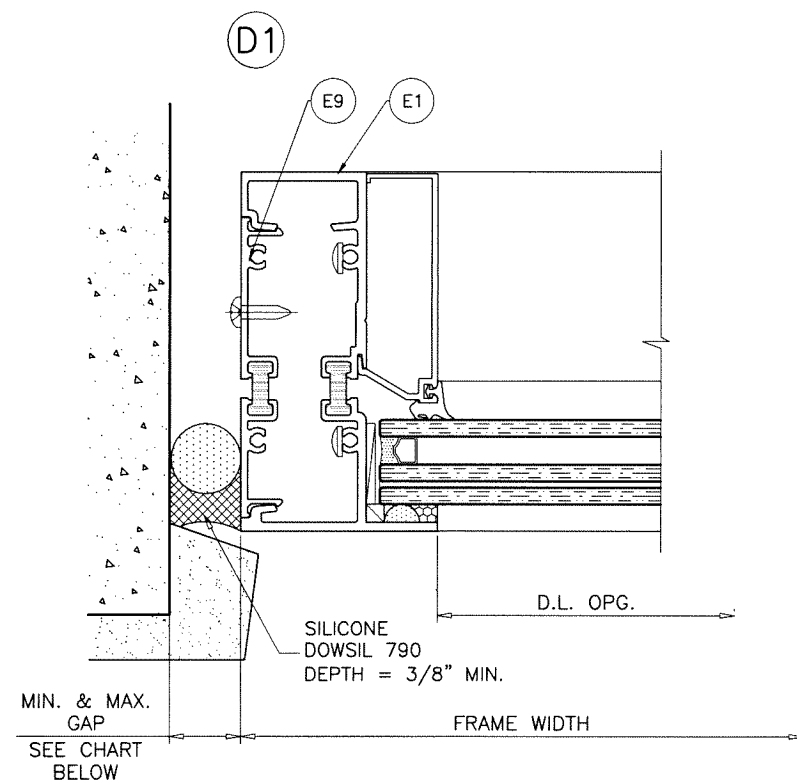
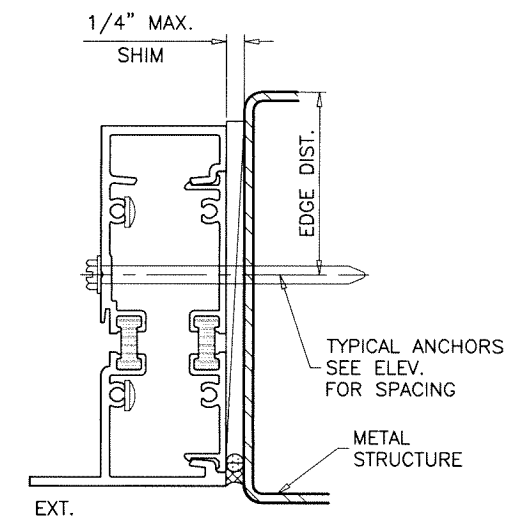
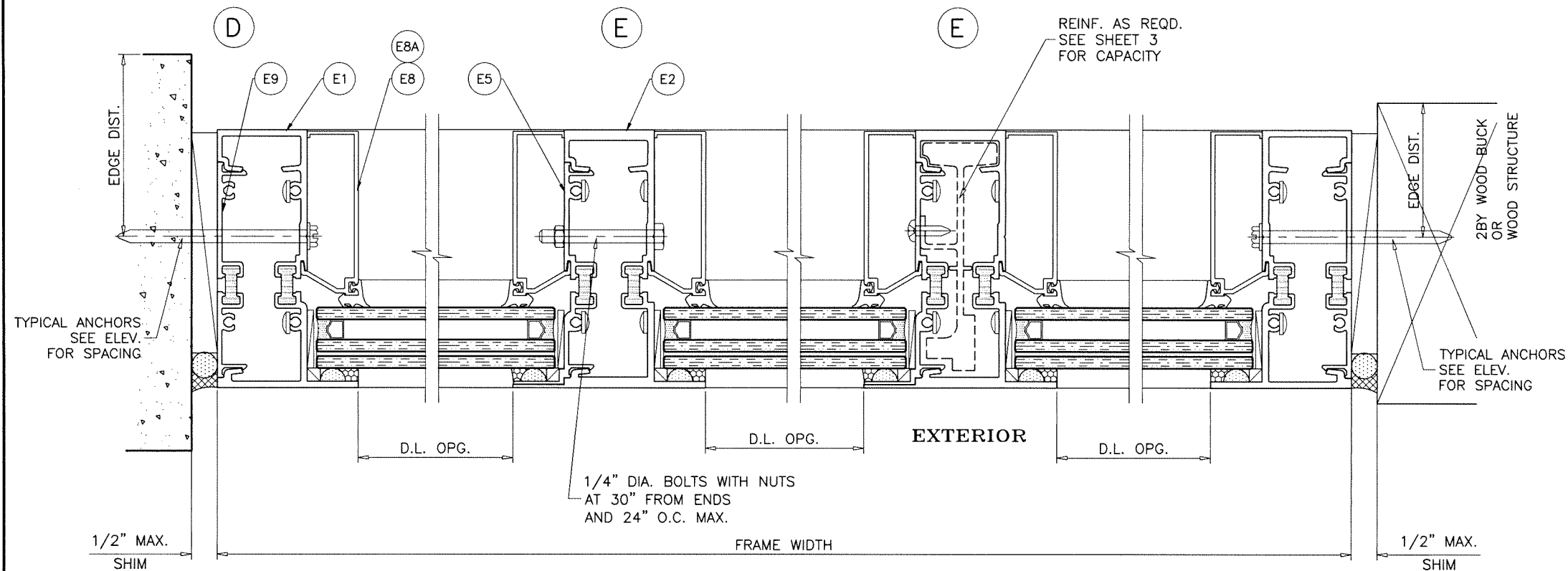


FL #33057

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AL-FAROOQ CORPORATION
 ENGINEERS & PRODUCT DEVELOPMENT
 9360 SUNSET DRIVE, SUITE 220 (C.A.N. 3538)
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 TEL. (305) 264-8100 FAX. (305) 262-6978
 COMP-ANL \ 20-56F-ES

ES-WW5037T ALUM WINDOW WALL SYSTEM (L.M.I.)
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 3550 N.W. 49 STREET
 MIAMI, FL. 33142
 TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:		no	date	by	description
date:	06-11-20	scale:	3/8" = 1"	dr. by:	TARIQ
chk. by:					
drawing no.	20-56F				
sheet	9 of 13				



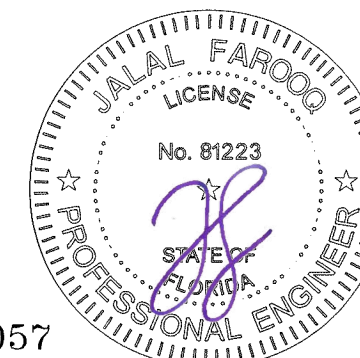
MAX. GAPS FOR UNANCHORED JAMBS		
MAX. FRAME HEIGHT	JAMB J1	
	MIN.	MAX.
114"	5/8"	1"
144"	3/4"	1"

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: 9/20/2023



FL #33057

AL-FAROOQ CORPORATION
 ENGINEERS & PRODUCT DEVELOPMENT
 9360 SUNSET DRIVE, SUITE 220
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COMP-ANL 20-56F-ES

ES-WW5037T ALUM WINDOW WALL SYSTEM (L.M.I.)

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revisions:	
no	description

date: 06-11-20

scale: 3/8" = 1"

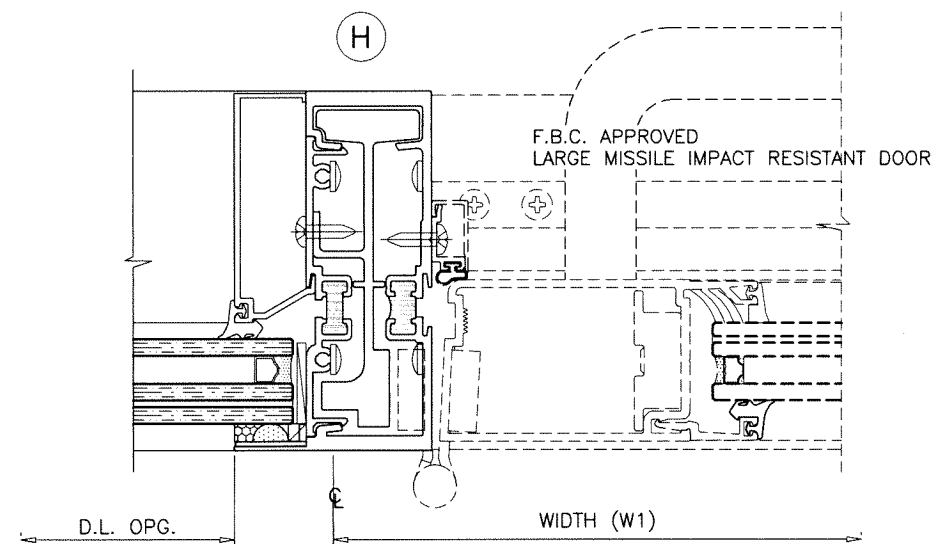
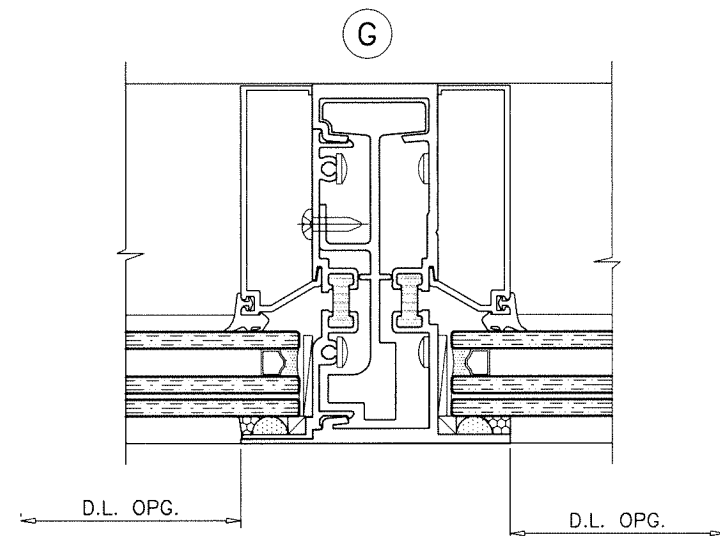
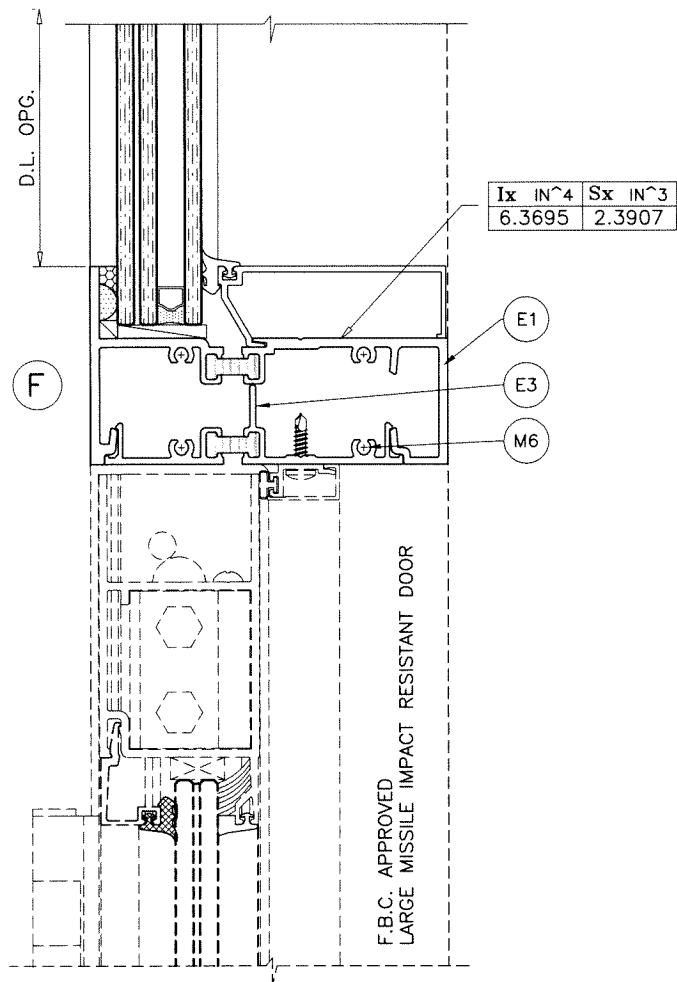
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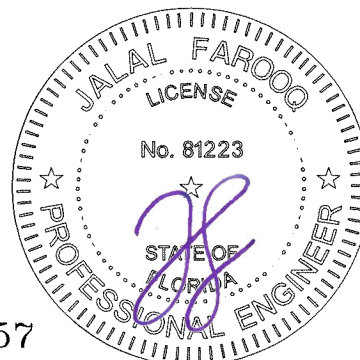
drawing no.

20-56F

sheet 10 of 13



Sealed: 9/20/2023



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

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

AL-FAROOQ CORPORATION ENGINEERS & PRODUCT DEVELOPMENT 9360 SUNSET DRIVE, SUITE 220 MIAMI, FLORIDA 33173 TEL. (305) 264-8100 FAX. (305) 262-6978 (C.A.N. 3538)		E.S. WINDOWS, LLC 3550 N.W. 49 STREET MIAMI, FL 33142 TEL. (305) 638-5151 FAX. (305) 638-5158	
ES-WW5037T ALUM WINDOW WALL SYSTEM (L.M.I.)		COMP-ANL\20-56F-ES	
date: 06-11-20 scale: 3/8" = 1" dr. by: TARIQ chk. by:		drawing no. 20-56F sheet 11 of 13	

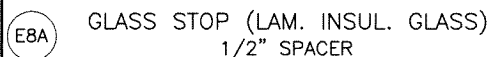
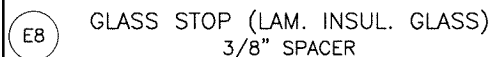


ITEM #	PART #	QUANTITY	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
E1	ES-WW5037T-001	AS REQD.	FRAME HEAD/SILL/JAMB	6005-T5	-
E2	ES-WW5037T-003	AS REQD.	FRAME MULLION	6005-T5	-
E3	ES-WW5037T-002	AS REQD.	FLAT FILLER (HEAD/SILL)	6005-T5	-
E5	ES-WW5037T-007	AS REQD.	MULLION/HORIZONTAL SNAP IN MATE	6005-T5	-
E7	ES-WW5037T-008	AS REQD.	MULLION REINF.	6005-T5	-
E8	ES-WW5037T-003	AS REQD.	GLASS STOP (LAM. INSUL. GLASS) (3/8" SPACER)	6063-T6	-
E8A	ES-WW5037-009	AS REQD.	GLASS STOP (LAM. INSUL. GLASS) (1/2" SPACER)	6063-T6	-
E9	ES-WW5037T-009T	AS REQD.	FLAT FILLER (JAMB)	6063-T6	-
E10	ES-WW5037T-005	AS REQD.	DOOR MULLION	6005-T5	-
E11	ES-WW5037T-004	AS REQD.	FRAME HORIZONTAL	6005-T5	-
M1	ES-9000-G01	4/ LITE	INTERIOR GLAZING GASKET	EPDM	DUROMETER 70±5 SHORE A
M2	ES-8011A	4/ LITE	GLASS SPACER	EPDM	DUROMETER 85±5 SHORE A
M5	#10 X 5/8"	AS REQD.	REINF. FASTENERS	ST. STEEL	P.H. SELF DRILLING
M6	#12 X 1-1/2"	AS REQD.	FRAME ASSEMBLY FASTENERS	ST. STEEL	P.H. SMS
M7	#14 X 4"	AS REQD.	MULLION FASTENERS	ST. STEEL	HWH SELF DRILLING GRADE 5
M8	ES-4520-B02A	2/ LITE	SETTING BLOCKS, AT 1/4 POINTS	EPDM	DUROMETER 80±5 SHORE A
M10	ES-U7530-B01A	2/ LITE	SIDE BLOCKS	EPDM	DUROMETER 80±5 SHORE A
M11	1/4" X 1/4"	-	GLAZING TAPE	POLYURETHANE	T-BOND

SEALANTS:

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

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



Sealed: 9/20/2023

FL #33057

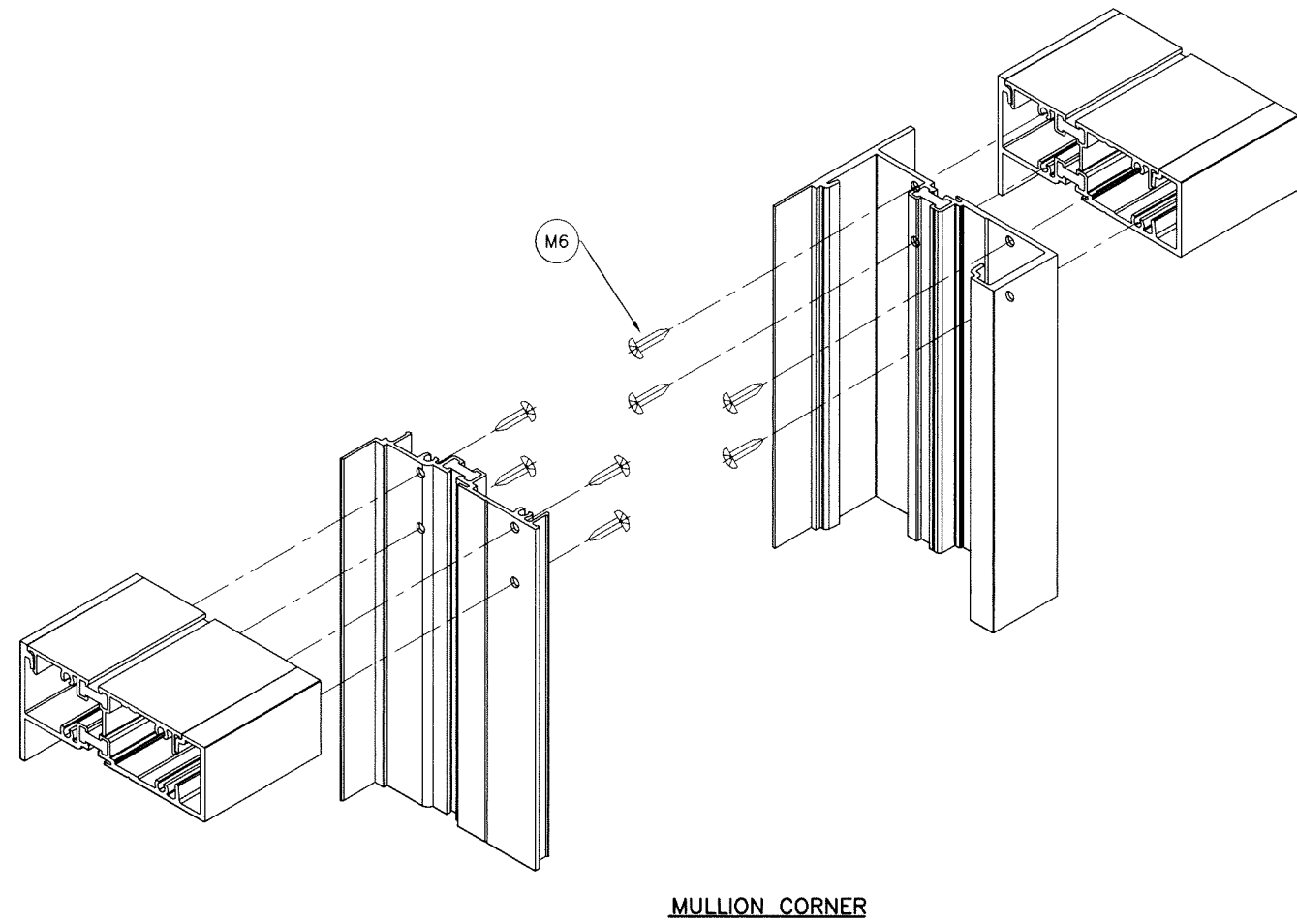
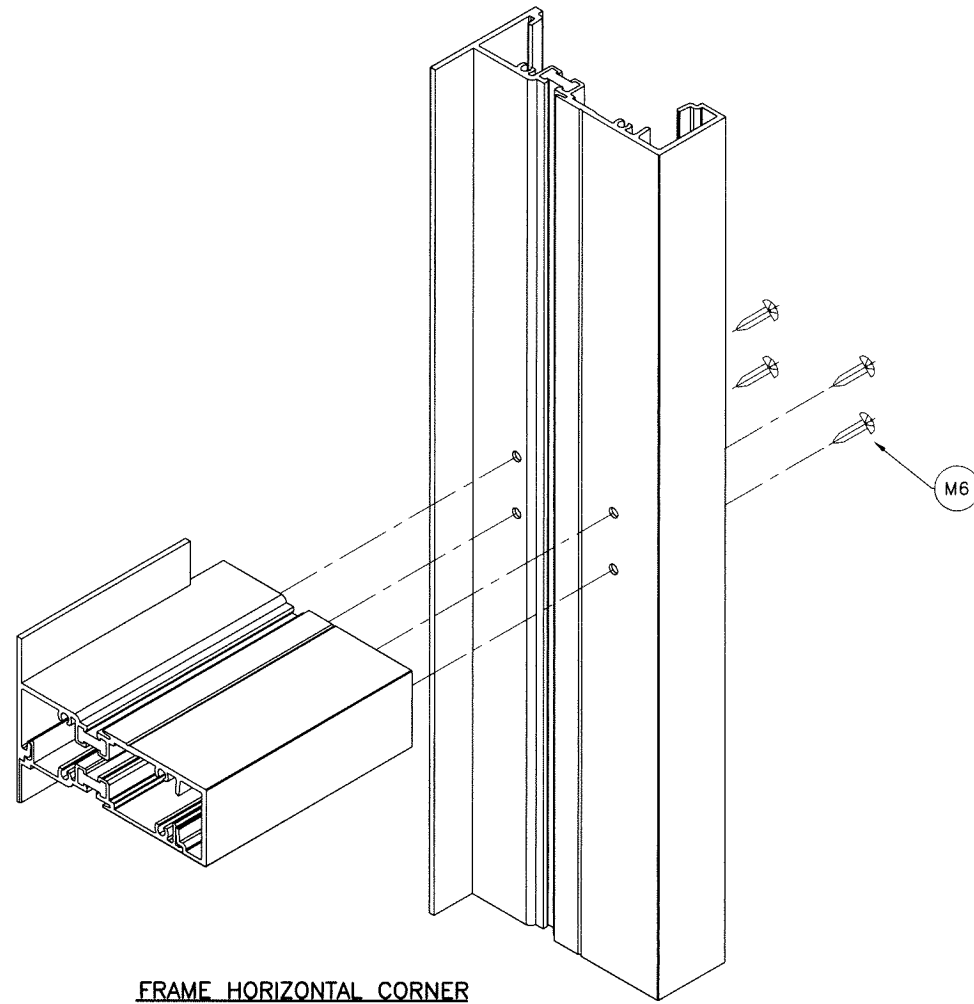
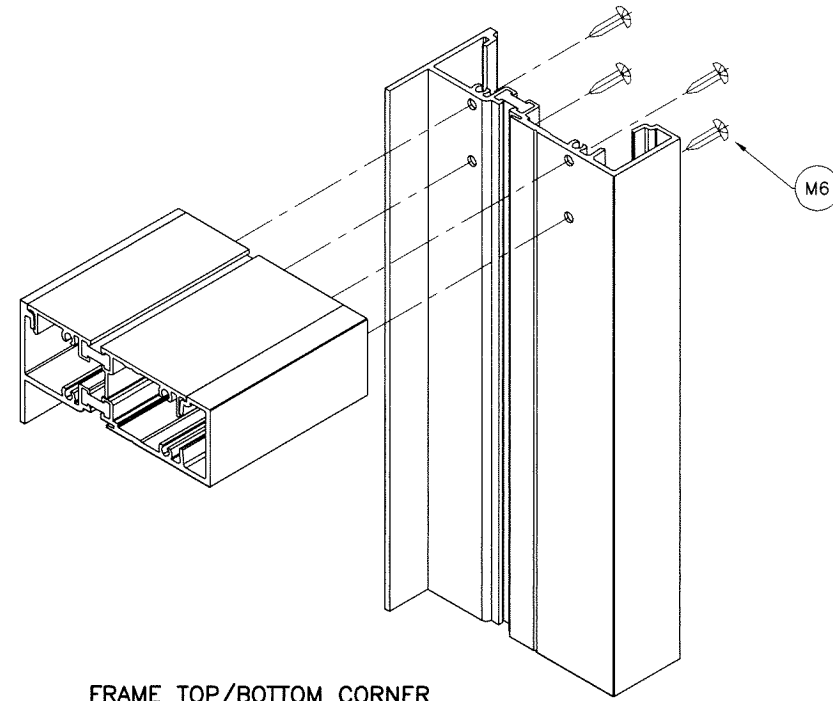
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173 (C.A.N. 3538)
TEL. (305) 264-8100 FAX. (305) 262-6978

ES-WW5037T ALUM WINDOW WALL SYSTEM (L.M.I.)

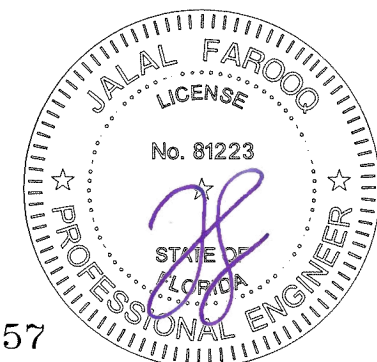
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151

FAX. (305) 638-5158

date: 06-11-20	scale: $3/8" = 1"$	dr. by: TARIQ	chk. by:	
drawing no. 20-56F				
sheet 12 of 13				



Sealed: 9/20/2023



FL #33057

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
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TEL. (305) 264-8100 FAX. (305) 262-6978

ES-WW50377 ALUM WINDOW WALL SYSTEM (L.M.I.)

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

date:		06-11-20	
scale:		-	
dr.		by: TARIQ	
chk.		by:	

drawing no.
20-56F

sheet **13** of **13**