SERIES 8000 ALUMINUM WINDOW WALL SYSTEM

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

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 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 & 4 FOR WINDOW WALL MULLION AND SHEETS 6 & 7 FOR DOOR MULLION
THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.

STEP 4 CHECK ANCHOR CAPACITY FOR WINDOW WALL SYSTEM USING CHARTS ON SHEETS 5, 5.1 & 5.2 FOR DOOR MULLION ANCHOR CAPACITY SEE CHART ON SHEET 7.
THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.

STEP 5 THE LOWEST VALUE RESULTING FROM STEPS 2, 3 AND 4 SHALL APPLY TO ENTIRE SYSTEM.

PRODUCT COMPLIES WITH REQUIREMENTS OF ANSI Z97.1.

LAMINATED GLASS
LARGE 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.

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

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

STORE\W17-92ES

SERIES 8000 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

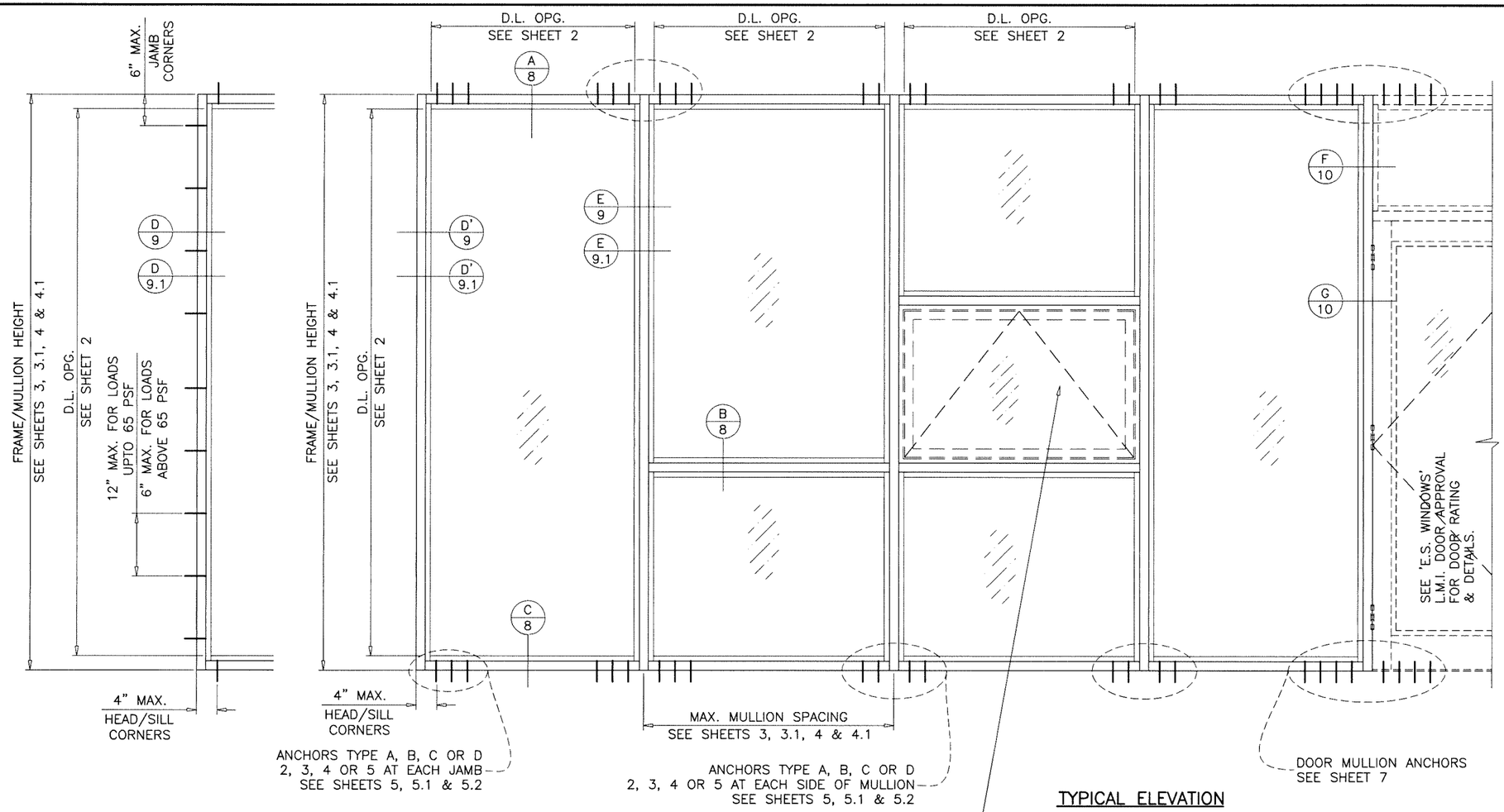
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C	12.21.20		NEW TESTS ADDED
D	01.25.23		GLAZING SILICONE GE ADDED
E	07.25.23		UPDATED TO 2023 FBC
F	06.11.24		LOUVER NOTE ADDED

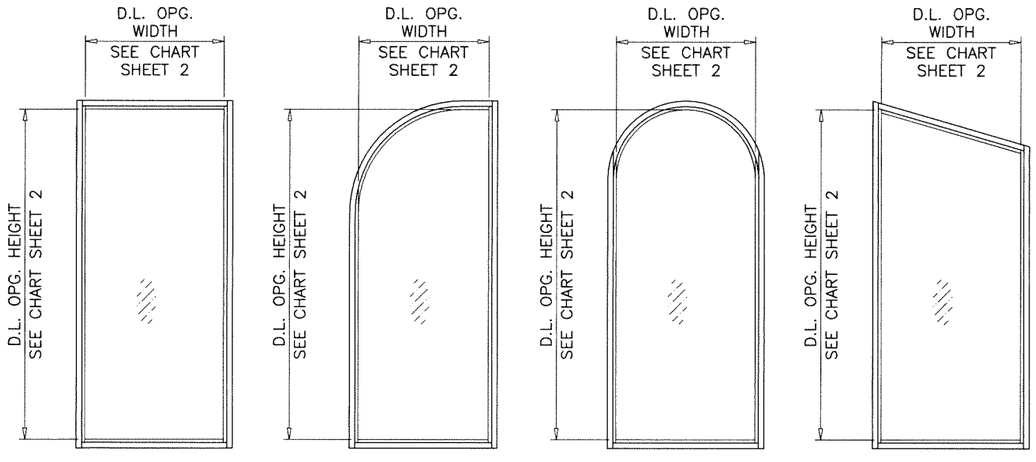
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chk. by:

drawing no. W17-92

sheet 1 of 12



TYPICAL ELEVATION



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.

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 3, 3.1, 4 & 4.1 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.

Sealed: 4/7/2025

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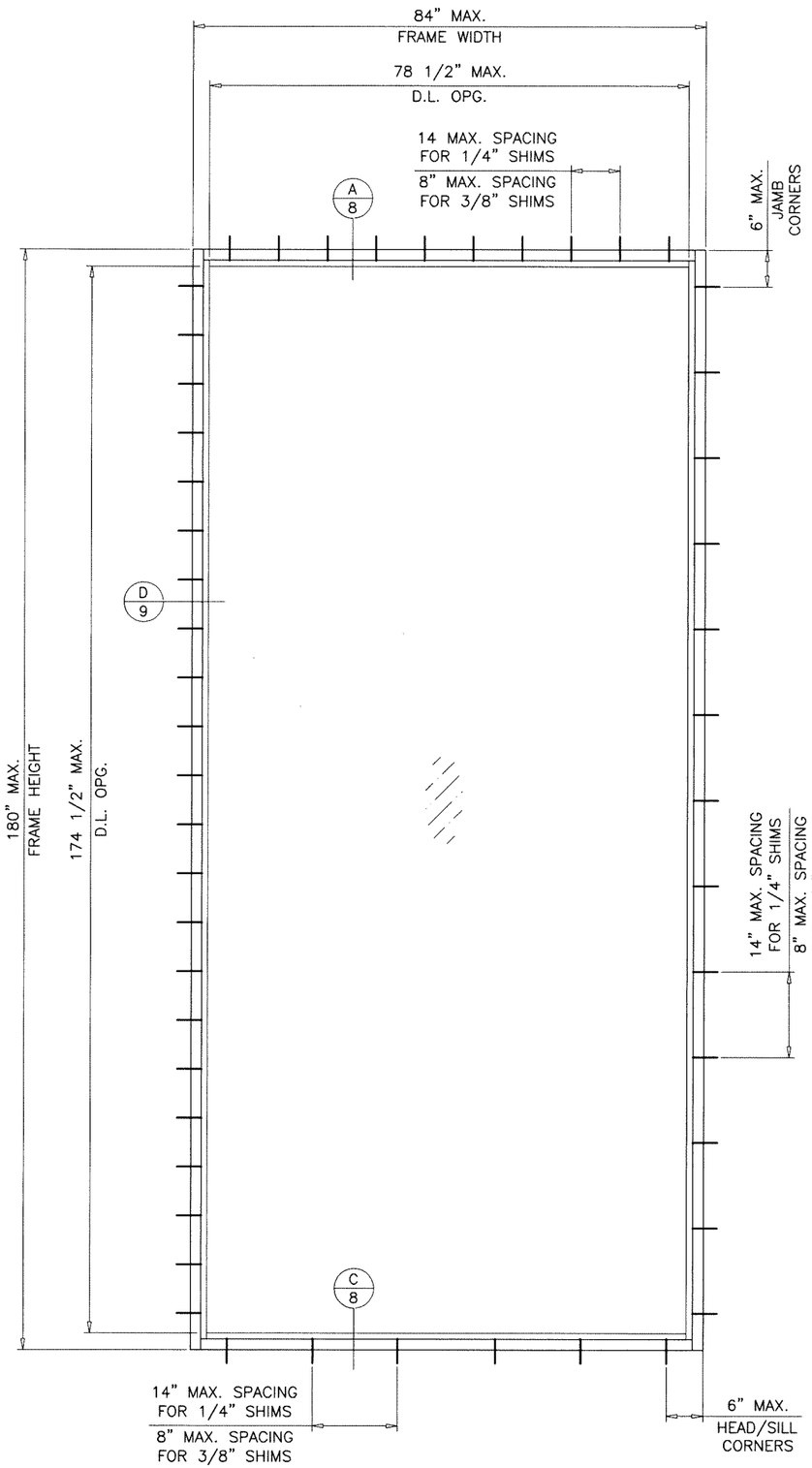
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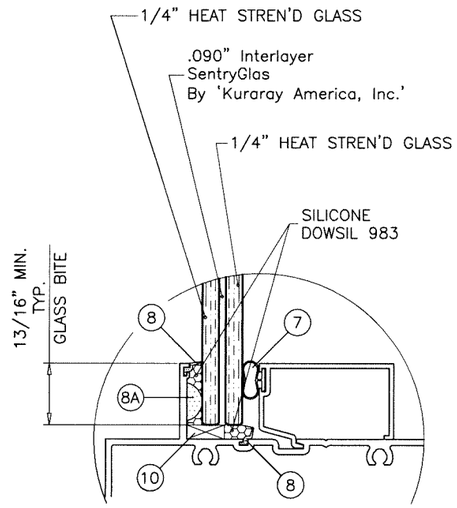
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sheet 1.1 of 12



TYPICAL ELEVATION
SINGLE (O) PANEL

MAXIMUM DESIGN LOAD RATING = + 70.0 PSF
– 70.0 PSF
(ONLY FOR SINGLE UNITS SHOWN IN THIS SHEET OR SMALLER)



GLASS TYPE 'B1'

Sealed: 4/7/2025

JALAL FAROOQ
LICENSE
No. 81223
STATE OF FLORIDA
PROFESSIONAL ENGINEER

FL #17897

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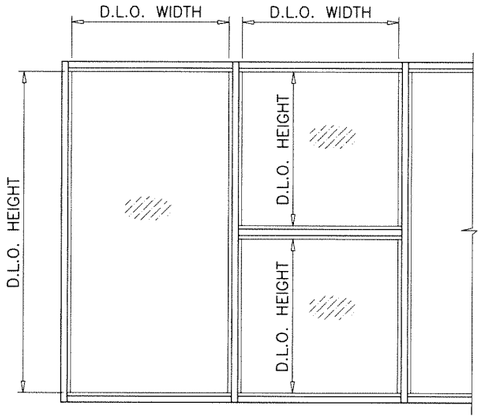
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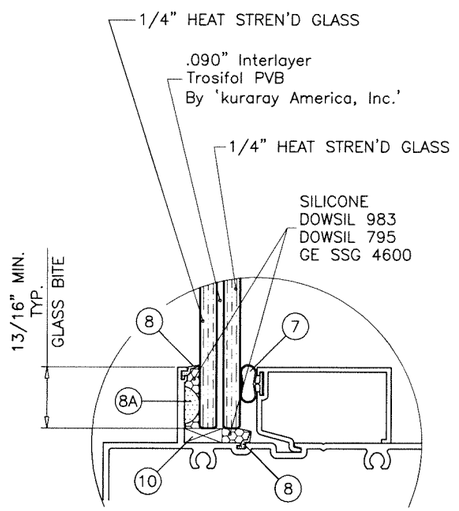
sheet 1.2 of 12

GLASS LOAD CAPACITY – PSF			
NOMINAL DIMS.		GLASS TYPE 'A'	GLASS TYPE 'B'
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)/INT.(–)	EXT.(+)/INT.(–)
28"	84–1/2"	80.0	130.0
32"		80.0	130.0
36"		80.0	130.0
40"		80.0	130.0
44–1/4"		80.0	130.0
48"		80.0	130.0
52"		80.0	130.0
56–1/4"		80.0	130.0
60–1/2"		–	63.6
66–1/2"		–	58.3
28"	90–1/2"	80.0	130.0
32"		80.0	130.0
36"		80.0	130.0
40"		80.0	130.0
44–1/4"		80.0	130.0
48"		80.0	130.0
52"		80.0	130.0
54–1/2"		56.0	70.0
60–1/2"		–	63.6
66–1/2"		–	58.3
28"	96–1/2"	80.0	130.0
32"		80.0	130.0
36"		80.0	130.0
40"		80.0	130.0
44–1/4"		80.0	130.0
48"		80.0	130.0
52"		80.0	127.2
54–1/2"		56.0	70.0
60–1/2"		–	63.6
66–1/2"		–	58.3
28"	102–1/2"	80.0	130.0
32"		80.0	130.0
36"		80.0	130.0
40"		80.0	130.0
44–1/4"		80.0	130.0
48"		80.0	128.9
54–1/2"		56.0	70.0
60–1/2"		–	63.6
66–1/2"		–	58.3
28"	108–1/2"	80.0	130.0
32"		80.0	130.0
36"		80.0	130.0
40"		80.0	130.0
44–1/4"		80.0	130.0
48"		62.2	70.0
54–1/2"		56.0	70.0
60–1/2"		–	63.6
66–1/2"		–	58.3

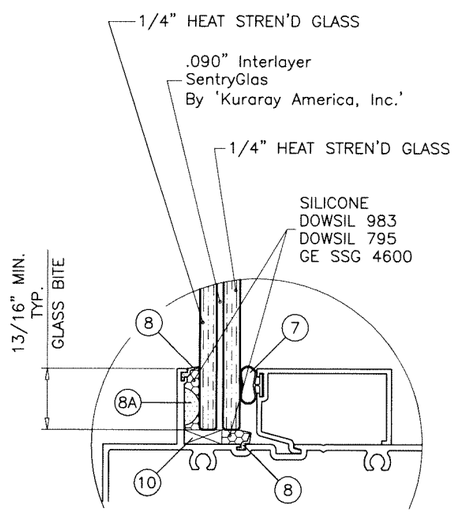
GLASS LOAD CAPACITY – PSF			
NOMINAL DIMS.		GLASS TYPE 'A'	GLASS TYPE 'B'
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)/INT.(–)	EXT.(+)/INT.(–)
28"	114–1/2"	80.0	130.0
32"		80.0	130.0
36"		80.0	130.0
40"		80.0	130.0
44–1/4"		80.0	130.0
48–1/2"		62.2	90.0
51–1/2"		–	90.0
54–1/2"		–	70.0
60–1/2"		–	63.6
66–1/2"		–	58.3
44–1/4"	120–1/2"	70.0	90.0
48"		62.2	90.0
50"		–	90.0
54–1/2"		–	70.0
60–1/2"		–	63.6
42–1/4"	126–1/2"	70.0	90.0
44–1/4"		–	90.0
48"		–	90.0
48–1/2"		–	70.0
54–1/2"		–	70.0
40"	132–1/2"	70.0	90.0
42–1/4"		70.0	90.0
44–1/4"		–	90.0
46"		–	90.0
48–1/2"		–	70.0
54–1/2"		–	70.0
40"	138–1/2"	70.0	90.0
42–1/4"		70.0	90.0
44–1/4"		–	90.0
48–1/2"		–	70.0
54–1/2"		–	70.0

NOTE:
INTERPOLATION BETWEEN WIDTHS ALLOWED.





GLASS TYPE 'A'



GLASS TYPE 'B'

GLAZING OPTIONS

Sealed: 4/7/2025

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

GLASS

FL #17897

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revisions:

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W17–92

sheet 2 of 12

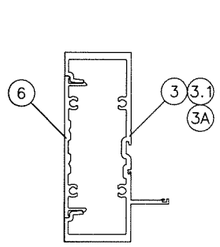
MULLION LOAD CAPACITY – PSF
MULLIONS WITHOUT INTERMEDIATE HORIZONTALS

NOMINAL DIMS.		JAMB 'J1' MULL 'M1'	JAMB 'J1' MULL 'M2'	JAMB 'J2' JAMB 'J3' MULL 'M3'	JAMB 'J3' MULL 'M4'	UNANCHORED JAMB OPTIONS MULL OPTIONS
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (–)	EXT. (+) INT. (–)	EXT. (+) INT. (–)	EXT. (+) INT. (–)	
30"	86–1/2"	130.0	130.0	130.0	130.0	
36"		130.0	130.0	130.0	130.0	
42"		130.0	130.0	130.0	130.0	
48"		130.0	130.0	130.0	130.0	
54"		130.0	130.0	130.0	130.0	
60"		127.3	130.0	130.0	130.0	
30"	90"	130.0	130.0	130.0	130.0	
36"		130.0	130.0	130.0	130.0	
42"		130.0	130.0	130.0	130.0	
48"		130.0	130.0	130.0	130.0	
54"		122.9	130.0	130.0	130.0	
60"		114.9	130.0	130.0	130.0	
30"	96"	130.0	130.0	130.0	130.0	
36"		130.0	130.0	130.0	130.0	
42"		121.1	130.0	130.0	130.0	
48"		108.6	130.0	130.0	130.0	
54"		99.4	130.0	125.6	130.0	
60"		92.4	130.0	116.3	130.0	
30"	98–1/2"	130.0	130.0	130.0	130.0	
36"		127.6	130.0	130.0	130.0	
42"		111.6	130.0	130.0	130.0	
48"		100.0	130.0	130.0	130.0	
54"		91.4	130.0	118.6	130.0	
58"		86.8	130.0	112.4	130.0	
30"	102"	130.0	130.0	130.0	130.0	
36"		114.5	130.0	130.0	130.0	
42"		100.0	130.0	130.0	130.0	
48"		89.5	130.0	120.9	130.0	
54"		81.6	130.0	109.8	130.0	
56"		79.4	127.7	106.7	130.0	
30"	108"	113.5	130.0	130.0	130.0	
36"		95.9	130.0	130.0	130.0	
42"		83.6	130.0	120.3	130.0	
48"		74.6	120.0	107.0	130.0	
53"		68.8	110.7	98.4	130.0	
30"	110–1/2"	105.9	130.0	130.0	130.0	
36"		89.4	130.0	130.0	130.0	
42"		77.8	125.2	114.7	130.0	
48"		69.4	111.6	101.9	130.0	
52"		64.9	104.5	95.1	130.0	
30"	114"	96.2	130.0	130.0	130.0	
36"		81.2	130.0	123.8	130.0	
42"		70.6	113.6	107.4	130.0	
48"		62.9	101.1	95.3	130.0	
50"		60.8	97.7	92.0	130.0	
30"	120"	82.3	130.0	130.0	130.0	
36"		69.3	111.5	111.4	130.0	
42"		60.2	96.9	96.5	130.0	
48"		53.5	86.1	85.5	130.0	

NOTE:
INTERPOLATION BETWEEN WIDTHS ALLOWED.

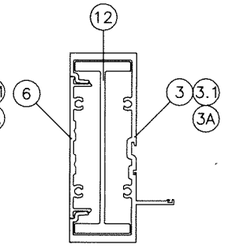
MULLION LOAD CAPACITY – PSF
MULLIONS W/O INTERMEDIATE HORIZONTALS

NOMINAL DIMS.		JAMB 'J2' JAMB 'J3' MULL 'M4'	JAMB 'J3' MULL 'M4'	UNANCHORED JAMB OPTIONS MULL OPTIONS
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (–)	EXT. (+) INT. (–)	
54"	120"	90.0	90.0	
57"		90.0	90.0	
60"		–	70.0	
66"		–	70.0	
72"		–	70.0	
30"	126"	90.0	90.0	
36"		90.0	90.0	
42"		90.0	90.0	
48"		90.0	90.0	
54"		90.0	90.0	
60"		–	70.0	
66"		–	70.0	
30"	132"	90.0	90.0	
36"		90.0	90.0	
42"		90.0	90.0	
48"		90.0	90.0	
52"		90.0	90.0	
54"		–	70.0	
60"		–	70.0	
30"	138"	90.0	90.0	
36"		90.0	90.0	
42"		90.0	90.0	
48"		90.0	90.0	
50"		86.9	86.9	
54"		–	70.0	
60"		–	64.9	
30"	144"	90.0	90.0	
36"		90.0	90.0	
42"		89.4	89.4	
48"		79.0	79.0	
54"		–	65.1	
60"		–	59.3	



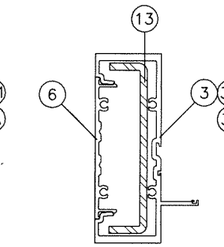
JAMB 'J1'

Ix IN^4	Sx IN^3
6.6509	2.6421



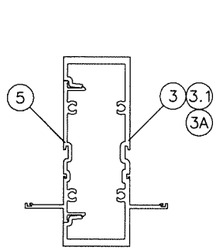
JAMB 'J2'

Ix IN^4	Sx IN^3
10.6486	4.4452



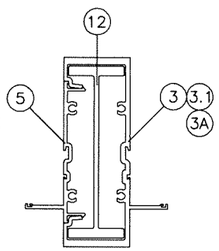
JAMB 'J3'

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



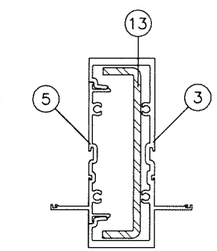
MULLION 'M1'

Ix IN^4	Sx IN^3
6.7195	2.6757



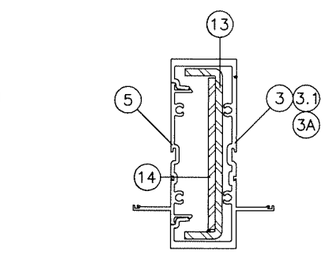
MULLION 'M2'

Ix IN^4	Sx IN^3
10.8072	3.7590



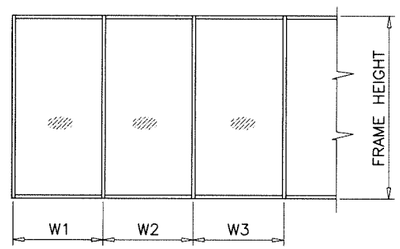
MULLION 'M3'

	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

MULLIONS

Sealed: 4/7/2025

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

FL #17897

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

STORE\W17-92ES

SERIES 8000 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

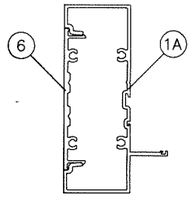
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dr. by: TARIQ
chk. by:

drawing no. W17-92

sheet 3 of 12

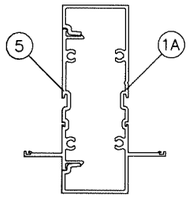
MULLION LOAD CAPACITY – PSF MULLIONS WITHOUT INTERMEDIATE HORIZONTALS			
NOMINAL DIMS.		JAMB 'J1A' MULL 'M1A'	JAMB 'J1A' MULL 'M2A'
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (–)	EXT. (+) INT. (–)
30"	86–1/2"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		60.0	70.0
54"		60.0	70.0
60"		60.0	70.0
30"	90"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		60.0	70.0
54"		60.0	70.0
60"		60.0	70.0
30"	96"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		60.0	70.0
54"		55.6	70.0
60"		51.5	70.0
30"	98–1/2"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		57.6	70.0
54"		52.4	70.0
30"	102"	60.0	70.0
36"		60.0	70.0
42"		59.7	70.0
48"		53.2	70.0
54"		48.3	70.0
30"	108"	60.0	70.0
36"		60.0	70.0
42"		52.6	70.0
48"		46.8	70.0
54"		–	70.0
60"		–	70.0
30"	110–1/2"	60.0	70.0
36"		57.1	70.0
42"		49.7	70.0
48"		44.3	70.0
54"		–	70.0
60"		–	70.0
30"	114"	60.0	70.0
36"		51.8	70.0
42"		45.1	70.0
48"		40.1	70.0
54"		–	70.0
30"	120"	52.5	70.0
36"		44.3	70.0
42"		38.5	70.0
48"		34.2	66.7
54"		–	60.4
57"		–	57.8

MULLION LOAD CAPACITY – PSF MULLIONS WITHOUT INTERMEDIATE HORIZONTALS				UNANCHORED JAMB OPTIONS MULL OPTIONS
NOMINAL DIMS.		JAMB 'J1A' MULL 'M1A'	JAMB 'J1A' MULL 'M2A'	
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (–)	EXT. (+) INT. (–)	
30"	126"	–	70.0	
36"		–	70.0	
42"		–	64.6	
48"		–	57.3	
54"		–	51.8	
30"	132"	–	70.0	
36"		–	64.5	
42"		–	55.9	
48"		–	49.6	
52"		–	46.2	
30"	138"	–	67.1	
36"		–	56.3	
42"		–	48.8	
48"		–	43.2	
50"		–	41.6	
30"	144"	–	58.9	
36"		–	49.5	
42"		–	42.8	
48"		–	37.8	



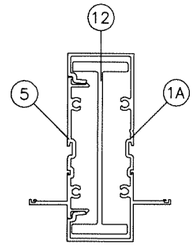
JAMB 'J1A'

Ix IN^4	Sx IN^3
4.1316	1.6902



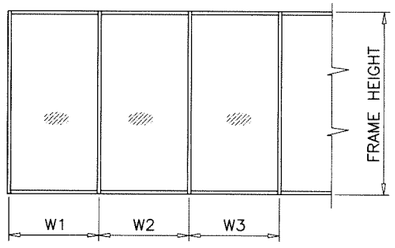
MULLION 'M1A'

Ix IN^4	Sx IN^3
4.2902	1.7239



MULLION 'M2A'

Ix IN^4	Sx IN^3
8.3779	3.527



WIDTH (W) = W1
AT FRAME JAMB

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

NOTE:
INTERPOLATION BETWEEN WIDTHS ALLOWED.

Sealed: 4/7/2025

MULLIONS

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

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revisions:

no	date	by	description

date: 10-20-17
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dr. by: TARIQ
chk. by:

drawing no.
W17–92

sheet 3.1 of 12

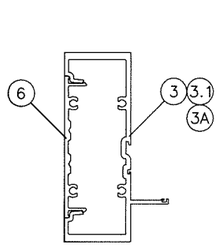
MULLION LOAD CAPACITY – PSF
MULLIONS WITH INTERMEDIATE HORIZONTALS

NOMINAL DIMS.		JAMB 'J1' MULL 'M1'	JAMB 'J1' MULL 'M2'	JAMB 'J2' JAMB 'J3' MULL 'M3'	JAMB 'J3' MULL 'M4'	UNANCHORED JAMB OPTIONS MULL OPTIONS
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (–)	EXT. (+) INT. (–)	EXT. (+) INT. (–)	EXT. (+) INT. (–)	
30"	78"	130.0	130.0	130.0	130.0	
36"		130.0	130.0	130.0	130.0	
42"		130.0	130.0	130.0	130.0	
48"		130.0	130.0	130.0	130.0	
54"		130.0	130.0	130.0	130.0	
60"		130.0	130.0	130.0	130.0	
30"	86–1/2"	130.0	130.0	130.0	130.0	
36"		130.0	130.0	130.0	130.0	
42"		130.0	130.0	130.0	130.0	
48"		130.0	130.0	130.0	130.0	
54"		118.9	130.0	130.0	130.0	
60"		107.0	130.0	124.8	130.0	
30"	90"	130.0	130.0	130.0	130.0	
36"		130.0	130.0	130.0	130.0	
42"		130.0	130.0	130.0	130.0	
48"		119.2	130.0	130.0	130.0	
54"		105.9	130.0	128.1	130.0	
60"		95.3	130.0	115.3	130.0	
30"	96"	130.0	130.0	130.0	130.0	
36"		130.0	130.0	130.0	130.0	
42"		112.2	130.0	130.0	130.0	
48"		98.2	130.0	126.7	130.0	
54"		87.3	130.0	112.6	130.0	
60"		78.5	122.1	101.4	130.0	
30"	98–1/2"	130.0	130.0	130.0	130.0	
36"		121.2	130.0	130.0	130.0	
42"		103.9	130.0	130.0	130.0	
48"		90.9	130.0	120.3	130.0	
54"		80.8	128.9	107.0	130.0	
58"		75.2	120.0	99.6	130.0	
30"	102"	130.0	130.0	130.0	130.0	
36"		109.1	130.0	130.0	130.0	
42"		93.6	130.0	128.3	130.0	
48"		81.9	130.0	112.2	130.0	
54"		72.8	117.0	99.8	130.0	
56"		70.2	112.8	96.2	130.0	
30"	108"	110.3	130.0	130.0	130.0	
36"		91.9	130.0	130.0	130.0	
42"		78.8	126.8	114.4	130.0	
48"		69.0	110.9	100.1	130.0	
53"		62.5	100.4	90.7	130.0	
30"	110–1/2"	103.0	130.0	130.0	130.0	
36"		85.8	130.0	127.5	130.0	
42"		73.6	118.3	109.3	130.0	
48"		64.4	103.6	95.6	130.0	
52"		59.4	95.6	88.3	130.0	
30"	114"	93.8	130.0	130.0	130.0	
36"		78.2	125.7	119.8	130.0	
42"		67.0	107.8	102.7	130.0	
48"		58.6	94.3	89.8	130.0	
50"		56.3	90.5	86.2	130.0	
30"	120"	80.4	129.4	129.7	130.0	
36"		67.0	107.8	108.1	130.0	
42"		57.5	92.4	92.7	130.0	
48"		50.3	80.9	81.1	130.0	

MULLION LOAD CAPACITY – PSF
MULLIONS WITH INTERMEDIATE HORIZONTALS

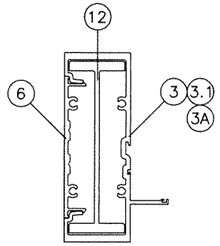
NOMINAL DIMS.		JAMB 'J2' JAMB 'J3' MULL 'M4'	JAMB 'J3' MULL 'M4'	UNANCHORED JAMB OPTIONS MULL OPTIONS
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (–)	EXT. (+) INT. (–)	
54"	120"	90.0	90.0	
57"		90.0	90.0	
30"	126"	90.0	90.0	
36"		90.0	90.0	
42"		90.0	90.0	
48"		90.0	90.0	
54"		90.0	90.0	
60"		–	70.0	
30"	132"	90.0	90.0	
36"		90.0	90.0	
42"		90.0	90.0	
48"		90.0	90.0	
52"		90.0	90.0	
54"		–	70.0	
60"		–	66.6	
30"	138"	90.0	90.0	
36"		90.0	90.0	
42"		90.0	90.0	
48"		86.6	86.6	
50"		83.1	83.1	
54"		–	67.7	
60"		–	60.9	
30"	144"	90.0	90.0	
36"		90.0	90.0	
42"		87.1	87.1	
48"		76.2	76.2	
54"		–	62.2	
60"		–	55.9	

NOTE:
INTERPOLATION BETWEEN WIDTHS ALLOWED.



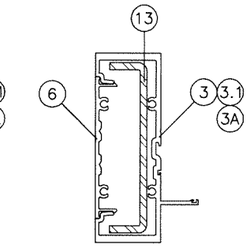
JAMB 'J1'

Ix IN^4	Sx IN^3
6.6509	2.6421



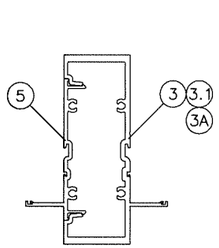
JAMB 'J2'

Ix IN^4	Sx IN^3
10.6486	4.4452



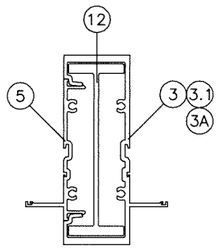
JAMB 'J3'

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



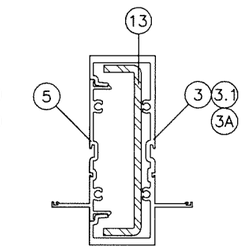
MULLION 'M1'

Ix IN^4	Sx IN^3
6.7195	2.6757



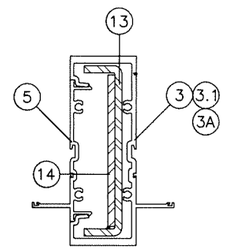
MULLION 'M2'

Ix IN^4	Sx IN^3
10.8072	3.7590



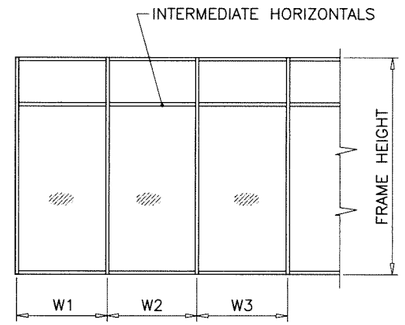
MULLION 'M3'

	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

MULLIONS

Sealed: 4/7/2025

FL #17897

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date: 10-20-17
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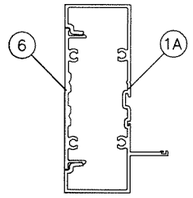
drawing no. W17-92

sheet 4 of 12

MULLION LOAD CAPACITY – PSF MULLIONS WITH INTERMEDIATE HORIZONTALS			
NOMINAL DIMS.		JAMB 'J1A' MULL 'M1A'	JAMB 'J1A' MULL 'M2A'
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (–)	EXT. (+) INT. (–)
30"	86–1/2"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		60.0	70.0
54"		60.0	70.0
60"		55.9	70.0
30"	90"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		60.0	70.0
54"		57.1	70.0
60"		51.4	70.0
30"	96"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		56.1	70.0
54"		49.9	70.0
60"		44.9	70.0
30"	98–1/2"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		53.2	70.0
54"		47.2	70.0
30"	102"	60.0	70.0
36"		60.0	70.0
42"		56.4	70.0
48"		49.4	70.0
54"		43.9	70.0
30"	108"	60.0	70.0
36"		58.4	70.0
42"		50.0	70.0
48"		43.8	70.0
54"		–	70.0
60"		–	70.0
30"	110–1/2"	60.0	70.0
36"		54.8	70.0
42"		47.0	70.0
48"		41.1	70.0
54"		–	70.0
60"		–	70.0
30"	114"	59.9	70.0
36"		49.9	70.0
42"		42.8	70.0
48"		37.4	70.0
54"		–	70.0
30"	120"	51.4	70.0
36"		42.8	70.0
42"		36.7	70.0
48"		32.1	66.7
54"		–	60.4
57"		–	57.8

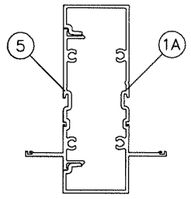
MULLION LOAD CAPACITY – PSF MULLIONS WITH INTERMEDIATE HORIZONTALS				UNANCHORED JAMB OPTIONS MULL OPTIONS
NOMINAL DIMS.		JAMB 'J1A' MULL 'M1A'	JAMB 'J1A' MULL 'M2A'	
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (–)	EXT. (+) INT. (–)	
30"	126"	–	70.0	
36"		–	70.0	
42"		–	64.6	
48"		–	57.3	
54"		–	51.8	
30"	132"	–	70.0	
36"		–	64.5	
42"		–	55.9	
48"		–	49.6	
52"		–	46.2	
30"	138"	–	67.1	
36"		–	56.3	
42"		–	48.8	
48"		–	43.2	
50"		–	41.6	
30"	144"	–	58.9	
36"		–	49.5	
42"		–	42.8	
48"		–	37.8	

NOTE:
INTERPOLATION BETWEEN WIDTHS ALLOWED.



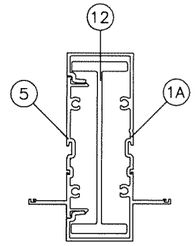
JAMB 'J1A'

Ix IN^4	Sx IN^3
4.1316	1.6902



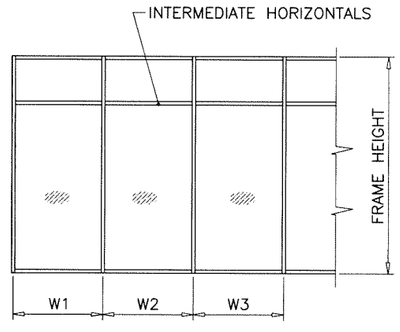
MULLION 'M1A'

Ix IN^4	Sx IN^3
4.2902	1.7239



MULLION 'M2A'

Ix IN^4	Sx IN^3
8.3779	3.527



WIDTH (W) = W1
AT FRAME JAMB

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

MULLIONS

Sealed: 4/7/2025

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MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

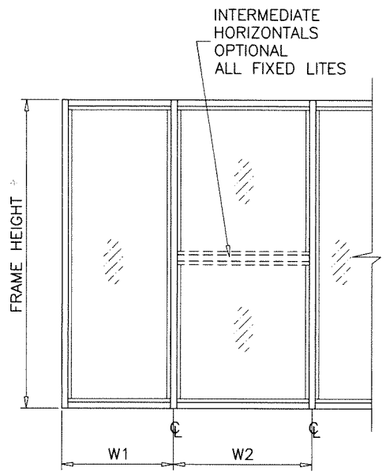
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no	date	by	description

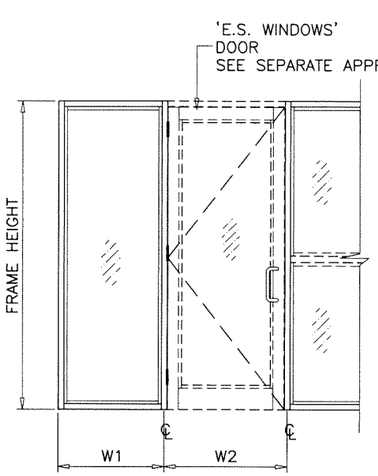
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scale: –
dr. by: TARIQ
chk. by:

drawing no.
W17–92

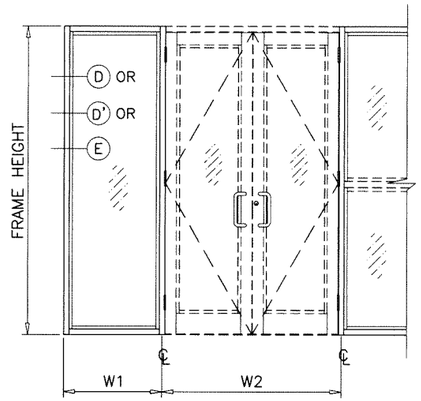
sheet 4.1 of 12



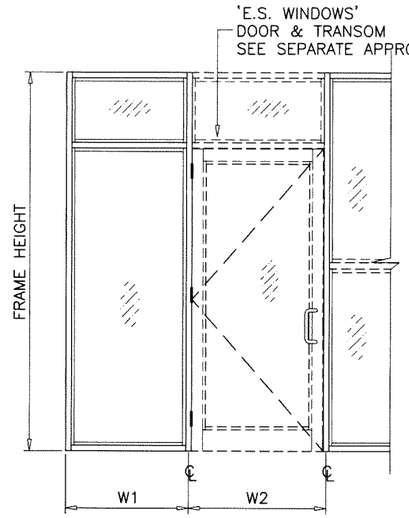
$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$



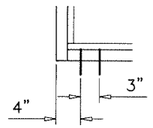
$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$

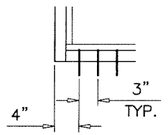


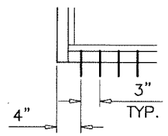
$$\text{WIDTH (W)} = \frac{W1}{2} + \frac{W2}{4}$$

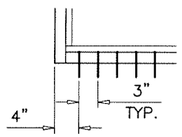


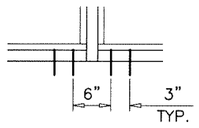
$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$



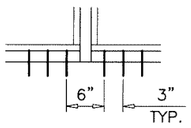




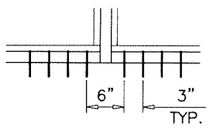




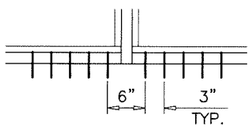
A2, B2, C2, D2



A3, B3, C3, D3



A4, B4, C4, D4



A5, B5, C5

ANCHORS TYPES: SEE SHEET 8 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

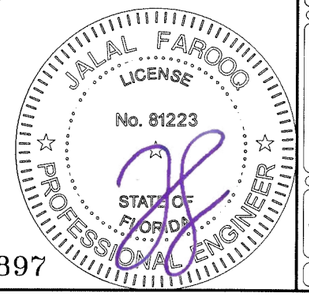
A5 = (5) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
B5 = (5) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
C5 = (5) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION

ALL OTHER ANCHORS TO BE SPACED AS PER ELEVATION.

SEE SHEETS 5, 5.1, 5.2 & 7 FOR ANCHOR CAPACITY CHART.
SEE SHEET 8 FOR ANCHOR DESCRIPTION.

ANCHORS

Sealed: 4/7/2025



FL #17897

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

STORE\W17-92ES

SERIES 8000 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: 10-20-17
scale: -
dr. by: TARIQ
chk. by:

drawing no. W17-92

sheet 5 of 12

ANCHOR LOAD CAPACITY – PSF
EXT.(+) & INT.(–)

NOMINAL DIMS.		ANCHORS TYPE 'A'								ANCHORS TYPE 'B'								ANCHORS TYPE 'C'								1/4" MAX. SHIM		
		3/8" SHIM SPACE				1/2" SHIM SPACE				3/8" SHIM SPACE				1/2" SHIM SPACE				3/8" SHIM SPACE				1/2" SHIM SPACE				ANCHORS TYPE 'D'		
WIDTH (W)	FRAME HEIGHT	A2	A3	A4	A5	A2	A3	A4	A5	B2	B3	B4	B5	B2	B3	B4	B5	C2	C3	C4	C5	C2	C3	C4	C5	D2	D3	D4
30"	86–1/2"	59.1	88.6	118.2	130.0	46.1	69.2	92.2	115.3	67.9	101.9	130.0	130.0	53.3	79.9	106.5	130.0	115.9	130.0	130.0	130.0	91.4	130.0	130.0	130.0	130.0	130.0	130.0
36"		49.2	73.9	98.5	123.1	38.4	57.7	76.9	96.1	56.6	84.9	113.2	130.0	44.4	66.6	88.8	111.0	96.6	130.0	130.0	130.0	76.2	114.3	130.0	130.0	130.0	130.0	130.0
42"		42.2	63.3	84.4	105.5	32.9	49.4	65.9	82.4	48.5	72.8	97.0	121.3	38.1	57.1	76.1	95.1	82.8	123.7	130.0	130.0	65.3	98.0	130.0	130.0	124.0	130.0	130.0
48"		36.9	55.4	73.9	92.3	28.8	43.2	57.7	72.1	42.5	63.7	84.9	106.1	33.3	49.9	66.6	83.2	72.4	108.2	130.0	130.0	57.2	85.7	114.3	130.0	108.5	130.0	130.0
54"		32.8	49.2	65.7	82.1	25.6	38.4	51.2	64.1	37.7	56.6	75.5	94.3	29.6	44.4	59.2	74.0	64.4	96.2	128.7	130.0	50.8	76.2	101.6	127.0	96.4	130.0	130.0
60"		29.5	44.3	59.1	73.9	23.1	34.6	46.1	57.7	34.0	50.9	67.9	84.9	26.6	40.0	53.3	66.6	57.9	86.6	115.9	130.0	45.7	68.6	91.4	114.3	86.8	130.0	130.0
66"		26.9	40.3	53.7	67.1	21.0	31.4	41.9	52.4	30.9	46.4	61.8	77.3	24.3	36.4	48.5	60.6	52.7	79.0	105.4	130.0	41.5	62.2	83.0	103.7	78.9	118.3	130.0
72"		24.6	36.9	49.2	61.5	–	28.8	38.4	48.0	28.3	42.5	56.7	70.8	22.2	33.4	44.5	55.6	48.3	72.4	96.6	120.7	38.0	57.0	76.1	95.1	72.3	108.5	130.0
30"	90"	56.8	85.2	113.6	130.0	44.3	66.5	88.7	110.8	65.3	97.9	130.0	130.0	51.2	76.8	102.4	128.0	111.4	130.0	130.0	130.0	87.9	130.0	130.0	130.0	130.0	130.0	130.0
36"		47.3	71.0	94.6	118.3	36.9	55.4	73.9	92.4	54.4	81.6	108.8	130.0	42.7	64.0	85.3	106.7	92.8	130.0	130.0	130.0	73.2	109.9	130.0	130.0	130.0	130.0	130.0
42"		40.6	60.8	81.1	101.4	31.7	47.5	63.3	79.2	46.6	69.9	93.3	116.6	36.6	54.9	73.1	91.4	79.5	118.9	130.0	130.0	62.8	94.2	125.6	130.0	119.2	130.0	130.0
48"		35.5	53.2	71.0	88.7	27.7	41.6	55.4	69.3	40.8	61.2	81.6	102.0	32.0	48.0	64.0	80.0	69.6	104.0	130.0	130.0	54.9	82.4	109.9	130.0	104.3	130.0	130.0
54"		31.5	47.3	63.1	78.9	24.6	36.9	49.3	61.6	36.3	54.4	72.5	90.7	28.4	42.7	56.9	71.1	61.9	92.4	123.7	130.0	48.8	73.2	97.7	122.1	92.7	130.0	130.0
60"		28.4	42.6	56.8	71.0	22.2	33.2	44.3	55.4	32.6	49.0	65.3	81.6	25.6	38.4	51.2	64.0	55.7	83.2	111.4	130.0	43.9	65.9	87.9	109.9	83.4	125.1	130.0
66"		25.8	38.7	51.6	64.5	20.2	30.2	40.3	50.4	29.7	44.6	59.4	74.3	23.3	35.0	46.6	58.3	50.6	76.0	101.3	126.6	39.9	59.8	79.7	99.7	75.8	113.7	130.0
72"		23.7	35.5	47.3	59.2	–	27.7	36.9	46.2	27.2	40.9	54.5	68.1	21.4	32.1	42.7	53.4	46.4	69.6	92.8	116.0	36.6	54.8	73.1	91.4	69.5	104.3	130.0
30"	96"	53.2	79.9	106.5	130.0	41.6	62.3	83.1	103.9	61.2	91.8	122.4	130.0	48.0	72.0	96.0	120.0	104.4	130.0	130.0	130.0	82.4	123.6	130.0	130.0	130.0	130.0	130.0
36"		44.4	66.6	88.7	110.9	34.6	52.0	69.3	86.6	51.0	76.5	102.0	127.5	40.0	60.0	80.0	100.0	87.0	130.0	130.0	130.0	68.7	103.0	130.0	130.0	130.0	130.0	130.0
42"		38.0	57.0	76.1	95.1	29.7	44.5	59.4	74.2	43.7	65.6	87.4	109.3	34.3	51.4	68.6	85.7	74.6	111.4	130.0	130.0	58.9	88.3	117.7	130.0	111.7	130.0	130.0
48"		33.3	49.9	66.6	83.2	26.0	39.0	52.0	64.9	38.3	57.4	76.5	95.6	30.0	45.0	60.0	75.0	65.3	97.5	130.0	130.0	51.5	77.3	103.0	128.8	97.8	130.0	130.0
54"		29.6	44.4	59.2	73.9	23.1	34.6	46.2	57.7	34.0	51.0	68.0	85.0	26.7	40.0	53.3	66.7	58.0	86.7	116.0	130.0	45.8	68.7	91.6	114.4	86.9	130.0	130.0
60"		26.6	39.9	53.2	66.6	20.8	31.2	41.6	52.0	30.6	45.9	61.2	76.5	24.0	36.0	48.0	60.0	52.2	78.0	104.4	130.0	41.2	61.8	82.4	103.0	78.2	117.3	130.0
66"		24.2	36.3	48.4	60.5	–	28.3	37.8	47.2	27.9	41.8	55.7	69.6	21.9	32.8	43.7	54.6	47.5	71.2	94.9	118.7	37.4	56.1	74.8	93.5	71.1	106.6	130.0
72"		22.2	33.3	44.4	55.5	–	26.0	34.6	43.3	25.5	38.3	51.1	63.8	20.0	30.1	40.1	50.1	43.5	65.3	87.0	108.8	34.3	51.4	68.5	85.7	65.2	97.8	130.0
30"	98–1/2"	51.9	77.8	103.8	129.7	40.5	60.8	81.0	101.3	59.6	89.5	119.3	130.0	46.8	70.2	93.6	117.0	101.8	130.0	130.0	130.0	80.3	120.5	130.0	130.0	130.0	130.0	130.0
36"		43.2	64.9	86.5	108.1	33.8	50.6	67.5	84.4	49.7	74.6	99.4	124.3	39.0	58.5	78.0	97.5	84.8	126.7	130.0	130.0	66.9	100.4	130.0	130.0	127.0	130.0	130.0
42"		37.1	55.6	74.1	92.7	28.9	43.4	57.9	72.3	42.6	63.9	85.2	106.5	33.4	50.1	66.8	83.5	72.7	108.6	130.0	130.0	57.4	86.0	114.7	130.0	108.9	130.0	130.0
48"		32.4	48.6	64.9	81.1	25.3	38.0	50.6	63.3	37.3	55.9	74.6	93.2	29.2	43.9	58.5	73.1	63.6	95.0	127.2	130.0	50.2	75.3	100.4	125.5	95.3	130.0	130.0
54"		28.8	43.2	57.7	72.1	22.5	33.8	45.0	56.3	33.1	49.7	66.3	82.8	26.0	39.0	52.0	65.0	56.5	84.5	113.1	130.0	44.6	66.9	89.2	111.5	84.7	127.0	130.0
60"		25.9	38.9	51.9	64.9	20.3	30.4	40.5	50.6	29.8	44.7	59.6	74.6	23.4	35.1	46.8	58.5	50.9	76.0	101.8	127.2	40.2	60.2	80.3	100.4	76.2	114.3	130.0
66"		23.6	35.4	47.2	59.0	–	27.6	36.8	46.0	27.1	40.7	54.3	67.9	21.3	31.9	42.6	53.2	46.3	69.4	92.5	115.7	36.4	54.6	72.9	91.1	69.3	103.9	130.0
72"		21.6	32.4	43.2	54.1	–	25.3	33.8	42.2	24.9	37.3	49.8	62.2	–	29.3	39.0	48.8	42.4	63.6	84.8	106.0	33.4	50.1	66.8	83.5	63.5	95.3	127.0
30"	102"	50.1	75.2	100.2	125.3	39.1	58.7	78.2	97.8	57.6	86.4	115.2	130.0	45.2	67.8	90.4	112.9	98.3	130.0	130.0	130.0	77.6	116.3	130.0	130.0	130.0	130.0	130.0
36"		41.8	62.6	83.5	104.4	32.6	48.9	65.2	81.5	48.0	72.0	96.0	120.0	37.6	56.5	75.3	94.1	81.9	122.4	130.0	130.0	64.6	96.9	129.3	130.0	122.7	130.0	130.0
42"		35.8	53.7	71.6	89.5	27.9	41.9	55.9	69.8	41.1	61.7	82.3	102.9	32.3	48.4	64.5	80.7	70.2	104.9	130.0	130.0	55.4	83.1	110.8	130.0	105.1	130.0	130.0
48"		31.3	47.0	62.6	78.3	24.4	36.7	48.9	61.1	36.0	54.0	72.0	90.0	28.2	42.4	56.5	70.6	61.4	91.8	122.8	130.0	48.5	72.7	96.9	121.2	92.0	130.0	130.0
54"		27.8	41.8	55.7	69.6	21.7	32.6	43.5	54.3	32.0	48.0	64.0	80.0	25.1	37.6	50.2	62.7	54.6	81.6	109.2	130.0	43.1	64.6	86.2	107.7	81.8	122.7	130.0
60"		25.1	37.6	50.1	62.6	–	29.3	39.1	48.9	28.8	43.2	57.6	72.0	22.6	33.9	45.2	56.5	49.1	73.4	98.3	122.8	38.8	58.2	77.6	96.9	73.6	110.4	130.0
66"		22.8	34.2	45.6	56.9	–	26.7	35.6	44.4	26.2	39.3	52.4	65.5	20.6	30.9	41.1	51.4	44.7	67.0	89.4	111.7	35.2	52.8	70.4	88.0	66.9	100.4	130.0
72"		20.9	31.3	41.8	52.2	–	24.4	32.6	40.7	24.0	36.0	48.1	60.1	–	28.3	37.7	47.1	41.0	61.4	81.9	102.4	32.3	48.4	64.5	80.6	61.3	92.0	122.7
30"	108"	47.3	71.0	94.6	118.3	36.9	55.4	73.9	92.4	54.4	81.6	108.8	130.0	42.7	64.0	85.3	106.7	92.8	130.0	130.0	130.0	73.2	109.9	130.0	130.0	130.0	130.0	130.0
36"		39.4	59.2	78.9	98.6	30.8	46.2	61.6	77.0	45.3	68.0	90.7	113.3	35.6	53.3	71.1	88.9	77.3	115.6	130.0	130.0	61.0	91.6	122.1	130.0	115.9	130.0	130.0
42"		33.8	50.7	67.6	84.5	26.4	39.6	52.8	66.0	38.9	58.3	77.7	97.1	30.5	45.7	61.0	76.2	66.3	99.0	130.0	130.0	52.3	78.5	104.6	130.0	99.3	130.0	130.0
48"		29.6	44.4	59.2	73.9	23.1	34.6	46.2	57.7	34.0	51.0	68.0	85.0	26.7	40.0	53.3	66.7	58.0	86.7	116.0	130.0	45.8	68.7	91.6	114.4	86.9	130.0	130.0
54"		26.3	39.4	52.6	65.7	20.5	30.8	41.0	51.3	30.2	45.3	60.4	75.6	23.7	35.6	47.4	59.3	51.6	77.0	103.1	128.9	40.7	61.0	81.4	101.7	77.2	115.9	130.0
60"		23.7	35.5	47.3	59.2	–	27.7	36.9	46.2	27.2	40.8	54.4	68.0	21.3	32.0	42.7	53.3	46.4	69.3	92.8	116.0	36.6	54.9	73.2	91.6	69.5	104.3	130.0
66"		21.5	32.3	43.0	53.8	–	25.2	33.6	42.0	24.8	37.1	49.5	61.9	–	29.1	38.9	48.6	42.2	63.3	84.4	105.5	33.2	49.8	66.5	83.1	63.2	94.8	126.4
72"		–	29.6	39.4	49.3	–	23.1	30.8	38.5	22.7	34.0	45.4	56.7	–	26.7	35.6	44.5	38.7	58.0	77.4	96.7	30.5	45.7	60.9	76.1	57.9	86.9	115.9

CHART CONTINUES NEXT SHEET

SEE SHEETS 5 AND 8 FOR ANCHOR DESCRIPTION.

ANCHORS

Sealed: 4/7/2025

FL #17897

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

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

STORE\W17-92ES

SERIES 8000 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: 10-20-17
scale: –
dr. by: TARIQ
chk. by:

drawing no. W17–92

ANCHOR LOAD CAPACITY – PSF
EXT.(+) & INT.(–)

NOMINAL DIMS.		ANCHORS TYPE 'A'								ANCHORS TYPE 'B'								ANCHORS TYPE 'C'								1/4" MAX. SHIM		
		3/8" SHIM SPACE				1/2" SHIM SPACE				3/8" SHIM SPACE				1/2" SHIM SPACE				3/8" SHIM SPACE				1/2" SHIM SPACE				ANCHORS TYPE 'D'		
WIDTH (W)	FRAME HEIGHT	A2	A3	A4	A5	A2	A3	A4	A5	B2	B3	B4	B5	B2	B3	B4	B5	C2	C3	C4	C5	C2	C3	C4	C5	D2	D3	D4
30"	110–1/2"	46.3	69.4	92.5	115.6	36.1	54.2	72.2	90.3	53.2	79.8	106.3	130.0	41.7	62.6	83.4	104.3	90.7	130.0	130.0	130.0	71.6	107.4	130.0	130.0	130.0	130.0	130.0
36"		38.5	57.8	77.1	96.4	30.1	45.1	60.2	75.2	44.3	66.5	88.6	110.8	34.8	52.1	69.5	86.9	75.6	112.9	130.0	130.0	59.7	89.5	119.3	130.0	113.2	130.0	130.0
42"		33.0	49.6	66.1	82.6	25.8	38.7	51.6	64.5	38.0	57.0	76.0	94.9	29.8	44.7	59.6	74.5	64.8	96.8	129.6	130.0	51.1	76.7	102.3	127.8	97.1	130.0	130.0
48"		28.9	43.4	57.8	72.3	22.6	33.8	45.1	56.4	33.2	49.8	66.5	83.1	26.1	39.1	52.1	65.2	56.7	84.7	113.4	130.0	44.7	67.1	89.5	111.9	84.9	127.4	130.0
54"		25.7	38.5	51.4	64.2	20.1	30.1	40.1	50.1	29.5	44.3	59.1	73.8	23.2	34.8	46.3	57.9	50.4	75.3	100.8	126.0	39.8	59.7	79.5	99.4	75.5	113.2	130.0
60"		23.1	34.7	46.3	57.8	–	27.1	36.1	45.1	26.6	39.9	53.2	66.5	20.9	31.3	41.7	52.1	45.4	67.8	90.7	113.4	35.8	53.7	71.6	89.5	67.9	101.9	130.0
66"		21.0	31.5	42.0	52.6	–	24.6	32.8	41.0	24.2	36.3	48.4	60.5	–	28.5	38.0	47.5	41.2	61.9	82.5	103.1	32.5	48.7	65.0	81.2	61.8	92.6	123.5
72"		–	28.9	38.5	48.2	–	22.6	30.1	37.6	22.2	33.3	44.4	55.5	–	26.1	34.8	43.5	37.8	56.7	75.6	94.5	29.8	44.7	59.5	74.4	56.6	84.9	113.2
30"	114"	44.8	67.3	89.7	112.1	35.0	52.5	70.0	87.5	51.5	77.3	103.1	128.8	40.4	60.6	80.8	101.1	87.9	130.0	130.0	130.0	69.4	104.1	130.0	130.0	130.0	130.0	130.0
36"		37.4	56.0	74.7	93.4	29.2	43.7	58.3	72.9	42.9	64.4	85.9	107.4	33.7	50.5	67.4	84.2	73.3	109.5	130.0	130.0	57.8	86.7	115.6	130.0	109.8	130.0	130.0
42"		32.0	48.0	64.0	80.1	25.0	37.5	50.0	62.5	36.8	55.2	73.6	92.0	28.9	43.3	57.7	72.2	62.8	93.8	125.6	130.0	49.6	74.3	99.1	123.9	94.1	130.0	130.0
48"		28.0	42.0	56.0	70.1	21.9	32.8	43.7	54.7	32.2	48.3	64.4	80.5	25.3	37.9	50.5	63.2	54.9	82.1	109.9	130.0	43.4	65.1	86.7	108.4	82.3	123.5	130.0
54"		24.9	37.4	49.8	62.3	–	29.2	38.9	48.6	28.6	42.9	57.3	71.6	22.5	33.7	44.9	56.1	48.8	73.0	97.7	122.1	38.5	57.8	77.1	96.4	73.2	109.8	130.0
60"		22.4	33.6	44.8	56.0	–	26.2	35.0	43.7	25.8	38.7	51.5	64.4	20.2	30.3	40.4	50.5	44.0	65.7	87.9	109.9	34.7	52.0	69.4	86.7	65.9	98.8	130.0
66"		20.4	30.6	40.8	50.9	–	23.9	31.8	39.8	23.5	35.2	46.9	58.6	–	27.6	36.8	46.0	40.0	60.0	80.0	99.9	31.5	47.2	63.0	78.7	59.9	89.8	119.7
72"		–	28.0	37.4	46.7	–	21.9	29.2	36.5	21.5	32.3	43.0	53.8	–	25.3	33.7	42.2	36.6	55.0	73.3	91.6	28.9	43.3	57.7	72.1	54.9	82.3	109.8
30"	120"	42.6	63.9	85.2	106.5	33.2	49.9	66.5	83.1	49.0	73.4	97.9	122.4	38.4	57.6	76.8	96.0	83.5	124.8	130.0	130.0	65.9	98.9	130.0	130.0	125.1	130.0	130.0
36"		35.5	53.2	71.0	88.7	27.7	41.6	55.4	69.3	40.8	61.2	81.6	102.0	32.0	48.0	64.0	80.0	69.6	104.0	130.0	130.0	54.9	82.4	109.9	130.0	104.3	130.0	130.0
42"		30.4	45.6	60.8	76.1	23.7	35.6	47.5	59.4	35.0	52.5	69.9	87.4	27.4	41.1	54.9	68.6	59.7	89.1	119.3	130.0	47.1	70.6	94.2	117.7	89.4	130.0	130.0
48"		26.6	39.9	53.2	66.6	20.8	31.2	41.6	52.0	30.6	45.9	61.2	76.5	24.0	36.0	48.0	60.0	52.2	78.0	104.4	130.0	41.2	61.8	82.4	103.0	78.2	117.3	130.0
54"		23.7	35.5	47.3	59.2	–	27.7	36.9	46.2	27.2	40.8	54.4	68.0	21.3	32.0	42.7	53.3	46.4	69.3	90.0	90.0	36.6	54.9	73.2	90.0	69.5	90.0	90.0
60"		21.3	31.9	42.6	53.2	–	24.9	33.2	41.6	24.5	36.8	49.0	61.3	–	28.8	38.5	48.1	41.8	62.7	83.6	90.0	32.9	49.3	65.8	82.2	62.6	90.0	90.0
66"		–	29.0	38.7	48.4	–	22.7	30.2	37.8	22.3	33.4	44.6	55.7	–	26.2	35.0	43.7	38.0	57.0	76.0	90.0	29.9	44.9	59.8	74.8	56.9	85.3	90.0
72"		–	26.6	35.5	44.4	–	20.8	27.7	34.6	20.4	30.6	40.9	51.1	–	24.0	32.1	40.1	34.8	52.2	69.6	87.0	27.4	41.1	54.8	68.5	52.1	78.2	90.0
30"	126"	40.6	60.8	81.1	90.0	31.7	47.5	63.3	79.2	46.6	69.9	90.0	90.0	36.6	54.9	73.1	90.0	79.5	90.0	90.0	90.0	62.8	90.0	90.0	90.0	90.0	90.0	90.0
36"		33.8	50.7	67.6	84.5	26.4	39.6	52.8	66.0	38.9	58.3	77.7	90.0	30.5	45.7	61.0	76.2	66.3	90.0	90.0	90.0	52.3	78.5	90.0	90.0	90.0	90.0	90.0
42"		29.0	43.5	57.9	72.4	22.6	33.9	45.2	56.5	33.3	50.0	66.6	83.3	26.1	39.2	52.2	65.3	56.8	84.9	90.0	90.0	44.8	67.3	89.7	90.0	85.1	90.0	90.0
48"		25.4	38.0	50.7	63.4	–	29.7	39.6	49.5	29.1	43.7	58.3	72.9	22.9	34.3	45.7	57.1	49.7	74.3	90.0	90.0	39.2	58.9	78.5	90.0	74.5	90.0	90.0
54"		22.5	33.8	45.1	56.3	–	26.4	35.2	44.0	25.9	38.9	51.8	64.8	20.3	30.5	40.6	50.8	44.2	66.0	88.4	90.0	34.9	52.3	69.8	87.2	66.2	90.0	90.0
60"		20.3	30.4	40.6	50.7	–	23.7	31.7	39.6	23.3	35.0	46.7	58.4	–	27.5	36.6	45.8	39.8	59.7	79.6	90.0	31.3	47.0	62.7	78.3	59.6	89.4	90.0
30"	132"	38.7	58.1	77.4	90.0	30.2	45.3	60.5	75.6	44.5	66.8	89.0	90.0	34.9	52.4	69.8	87.3	75.9	90.0	90.0	90.0	59.9	89.9	90.0	90.0	90.0	90.0	90.0
36"		32.3	48.4	64.5	80.7	25.2	37.8	50.4	63.0	37.1	55.6	74.2	90.0	29.1	43.6	58.2	72.7	63.3	90.0	90.0	90.0	49.9	74.9	90.0	90.0	90.0	90.0	90.0
42"		27.7	41.5	55.3	69.1	21.6	32.4	43.2	54.0	31.8	47.7	63.6	79.5	24.9	37.4	49.9	62.3	54.2	81.0	90.0	90.0	42.8	64.2	85.6	90.0	81.2	90.0	90.0
48"		24.2	36.3	48.4	60.5	–	28.3	37.8	47.2	27.8	41.7	55.6	69.5	21.8	32.7	43.6	54.5	47.5	70.9	90.0	90.0	37.5	56.2	74.9	90.0	71.1	90.0	90.0
54"		21.5	32.3	43.0	53.8	–	25.2	33.6	42.0	24.8	37.1	49.5	61.9	–	29.1	38.9	48.6	42.2	53.3	84.4	90.0	33.2	49.8	66.5	83.1	63.2	90.0	90.0
60"		–	29.0	38.7	48.4	–	22.7	30.2	37.8	22.3	33.4	44.6	55.7	–	26.2	35.0	43.7	38.0	57.0	76.0	90.0	29.9	44.9	59.8	74.8	56.9	85.3	90.0
30"	138"	37.0	55.6	74.1	92.6	28.9	43.4	57.8	72.3	42.6	63.9	85.1	90.0	33.4	50.1	66.8	83.5	72.6	90.0	90.0	90.0	57.3	86.0	90.0	90.0	90.0	90.0	90.0
36"		30.9	46.3	61.7	77.2	24.1	36.1	48.2	60.2	35.5	53.2	71.0	88.7	27.8	41.7	55.7	69.6	60.5	90.0	90.0	90.0	47.8	71.7	90.0	90.0	90.0	90.0	90.0
42"		26.5	39.7	52.9	66.1	20.7	31.0	41.3	51.6	30.4	45.6	60.8	76.0	23.9	35.8	47.7	59.6	51.9	77.5	90.0	90.0	40.9	61.4	81.9	90.0	77.7	90.0	90.0
48"		23.1	34.7	46.3	57.9	–	27.1	36.1	45.2	26.6	39.9	53.2	66.5	20.9	31.3	41.7	52.2	45.4	67.8	90.0	90.0	35.8	53.7	71.7	89.6	68.0	90.0	90.0
54"		20.6	30.9	41.2	51.4	–	24.1	32.1	40.2	23.7	35.5	47.4	59.2	–	27.9	37.2	46.5	40.4	60.5	80.7	90.0	31.8	47.7	63.6	79.5	60.4	90.0	90.0
60"		–	27.8	37.0	46.3	–	21.7	28.9	36.1	21.3	32.0	42.6	53.3	–	25.1	33.4	41.8	36.3	54.5	72.7	90.0	28.6	42.9	57.2	71.5	54.4	81.6	90.0
30"	144"	35.5	53.2	71.0	88.7	27.7	41.6	55.4	69.3	40.8	61.2	81.6	90.0	32.0	48.0	64.0	80.0	69.6	90.0	90.0	90.0	54.9	82.4	90.0	90.0	90.0	90.0	90.0
36"		29.6	44.4	59.2	73.9	23.1	34.6	46.2	57.7	34.0	51.0	68.0	85.0	26.7	40.0	53.3	66.7	58.0	86.7	90.0	90.0	45.8	68.7	90.0	90.0	86.9	90.0	90.0
42"		25.4	38.0	50.7	63.4	–	29.7	39.6	49.5	29.1	43.7	58.3	72.9	22.9	34.3	45.7	57.1	49.7	74.3	90.0	90.0	39.2	58.9	78.5	90.0	74.5	90.0	90.0
48"		22.2	33.3	44.4	55.5	–	26.0	34.6	43.3	25.5	38.3	51.0	63.8	20.0	30.0	40.0	50.0	43.5	65.0	87.0	90.0	34.3	51.5	68.7	85.8	65.2	90.0	90.0
54"		–	29.6	39.4	49.3	–	23.1	30.8	38.5	22.7	34.0	45.4	56.7	–	26.7	35.6	44.5	38.7	58.0	77.4	90.0	30.5	45.7	60.9	76.1	57.9	86.9	90.0
60"		–	26.6	35.5	44.4	–	20.8	27.7	34.6	20.4	30.6	40.9	51.1	–	24.0	32.1	40.1	34.8	52.2	69.6	87.0	27.4	41.1	54.8	68.5	52.1	78.2	90.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.
SEE SHEET 5 FOR ANCHOR TYPES.

Sealed: 4/7/2025

FL #17897

ANCHORS

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

STORE\W17-92ES

SERIES 8000 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:

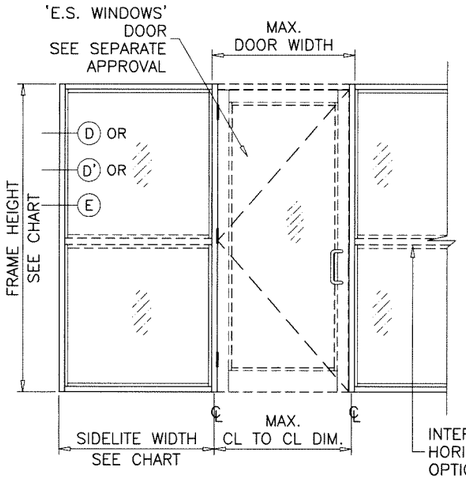
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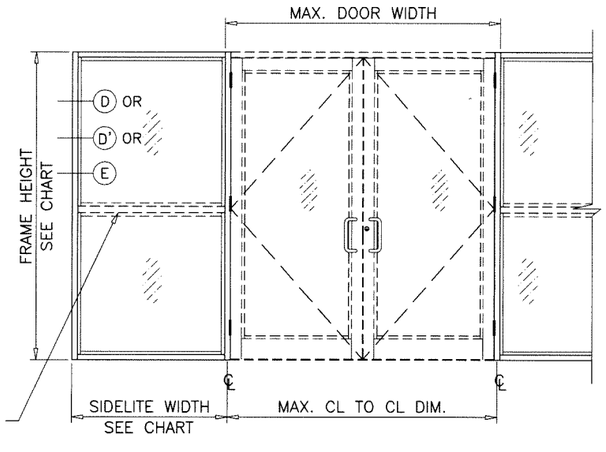
date: 10-20-17
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dr. by: TARIQ
chk. by:

drawing no. W17–92

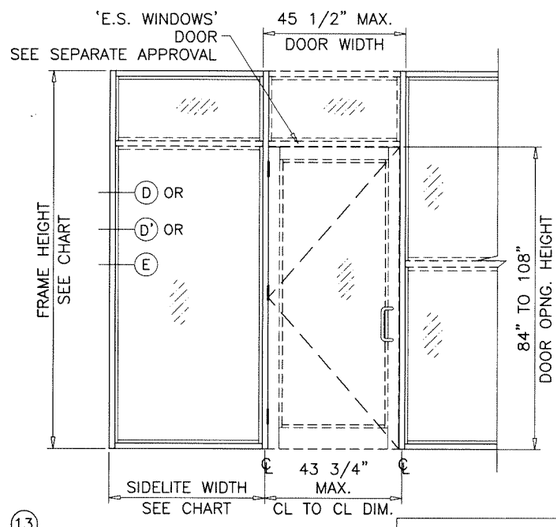
sheet 5.2 of 12

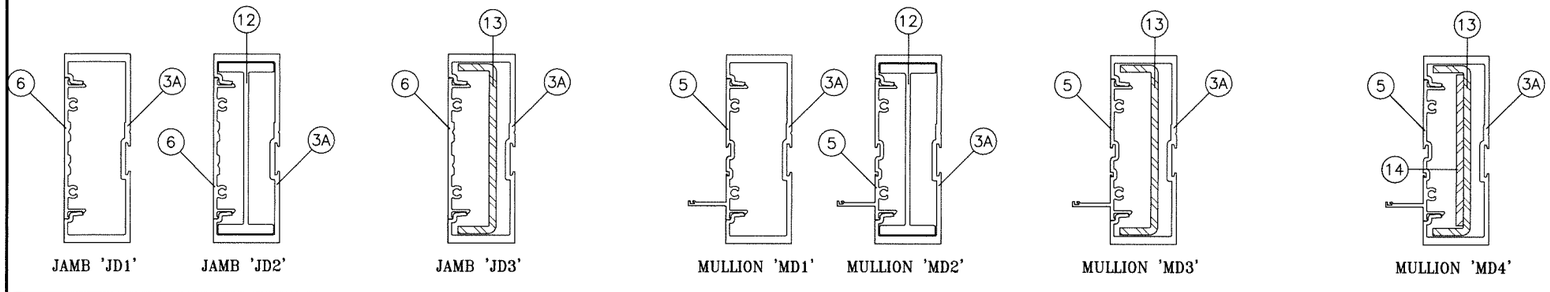
DOOR MULLION LOAD CAPACITY–PSF						
SIDELITE WIDTH INCHES	FRAME HEIGHT INCHES	JAMB 'JD1' MULL 'MD1' EXT. (+) INT. (–)	JAMB 'JD1' MULL 'MD2' EXT. (+) INT. (–)	JAMB 'JD2' JAMB 'JD3' MULL 'MD3' EXT. (+) INT. (–)	JAMB 'JD3' MULL 'MD4' EXT. (+) INT. (–)	
32	86–1/2	120.0	120.0	120.0	120.0	
36		120.0	120.0	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	MAX. DOOR WIDTH = 45–1/2" (X) 87–1/2" (XX)
36		107.1	120.0	120.0	120.0	
42		99.7	120.0	120.0	120.0	MAX. CL TO CL DIM. = 43–3/4" (X) 85–3/4" (XX)
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	MAX. DOOR WIDTH = 49–3/4" (X) 97–3/4" (XX)
36		–	–	–	90.0	
42		–	–	–	90.0	MAX. CL TO CL DIM. = 48" (X) 96" (XX)
48		–	–	–	85.1	





DOOR MULLION LOAD CAPACITY–PSF					
SIDELITE WIDTH INCHES	FRAME HEIGHT INCHES	JAMB 'JD1' MULL 'MD1' EXT. (+) INT. (–)	JAMB 'JD1' MULL 'MD2' EXT. (+) INT. (–)	JAMB 'JD2' JAMB 'JD3' MULL 'MD3' EXT. (+) INT. (–)	JAMB 'JD3' MULL 'MD4' 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
6.570	2.7226

Ix IN^4	Sx IN^3
10.6577	3.8057

	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
6.7195	2.6757

Ix IN^4	Sx IN^3
10.8072	4.4788

	Ix IN^4	Sx IN^3
ALUMINUM	6.7195	2.6757
STEEL	2.7506	1.224
TOTAL Ix ALUM + Ix STL X 2.9	14.6962	

	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

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

FL #17897

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220 (C.A.N. 3638)
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978
STORE\W17-92ES

SERIES 8000 ALUM WINDOW WALL SYSTEM (L.M.I.)

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

revisions:			
no	date	by	description

date: 10-20-17
scale: –
dr. by: TARIQ
chk. by:

drawing no. W17–92

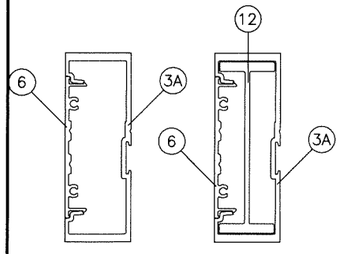
DOOR MULLION LOAD CAPACITY - PSF

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	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.

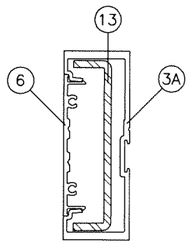


JAMB 'JD1'

Ix IN^4	Sx IN^3
6.570	2.7226

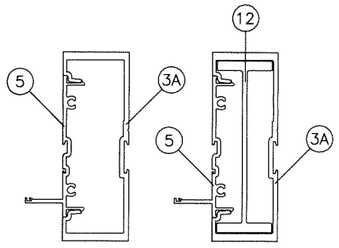
JAMB 'JD2'

Ix IN^4	Sx IN^3
10.6577	3.8057



JAMB 'JD3'

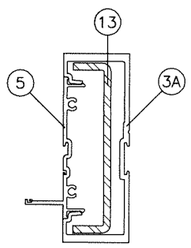
	Ix IN^4	Sx IN^3
ALUMINUM	6.570	2.7226
STEEL	2.7506	1.2224
TOTAL Ix ALUM + Ix STL X 2.9	14.5467	



MULLION 'MD1' MULLION 'MD2'

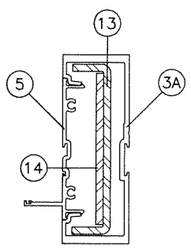
Ix IN^4	Sx IN^3
6.7195	2.6757

Ix IN^4	Sx IN^3
10.8072	4.4788



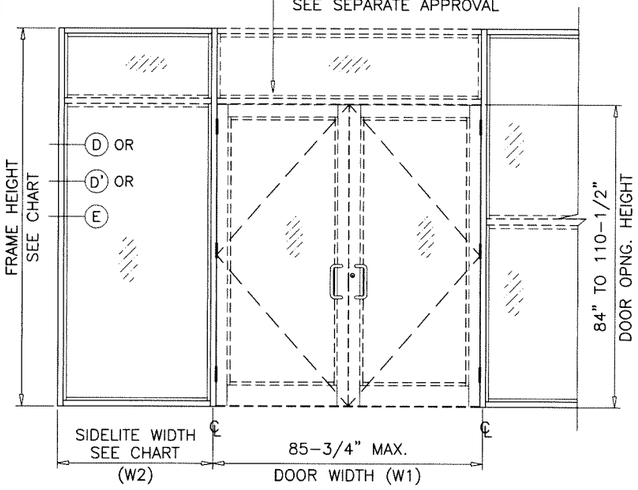
MULLION 'MD3'

	Ix IN^4	Sx IN^3
ALUMINUM	6.7195	2.6757
STEEL	2.7506	1.224
TOTAL Ix ALUM + Ix STL X 2.9	14.6962	



MULLION 'MD4'

	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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FL #17897

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STORE\W17-92ES

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

revisions:

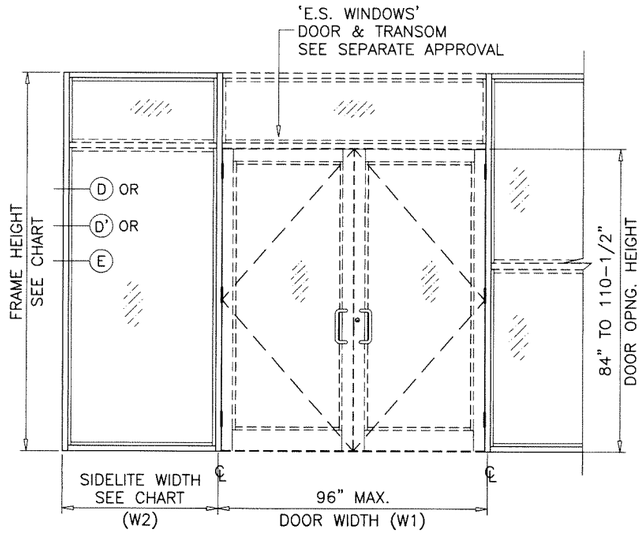
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scale: -
dr. by: TARIQ
chk. by:

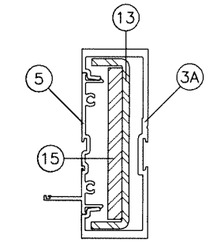
drawing no. W17-92

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		90.0
	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	90	90.0
	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

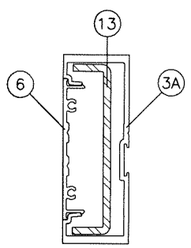


DOOR MULLION LOAD CAPACITY – PSF				
NOMINAL DIMS.				JAMB 'JD3' MULL 'MD5'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(–)
76	30	144	108	78.4
	36			73.8
	42			69.7
	48			66.1
84	30			73.1
	36			69.1
	42			65.5
	48			62.3
96	30			66.3
	36			63.0
	42			60.0
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



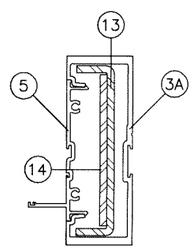
MULLION 'MD5'

	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'

	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	



MULLION 'MD4'

	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

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

FL #17897

AL-FAROOQ CORPORATION
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revisions:

no	date	by	description

date: 10-20-17
scale: –
dr. by: TARIQ
chk. by:

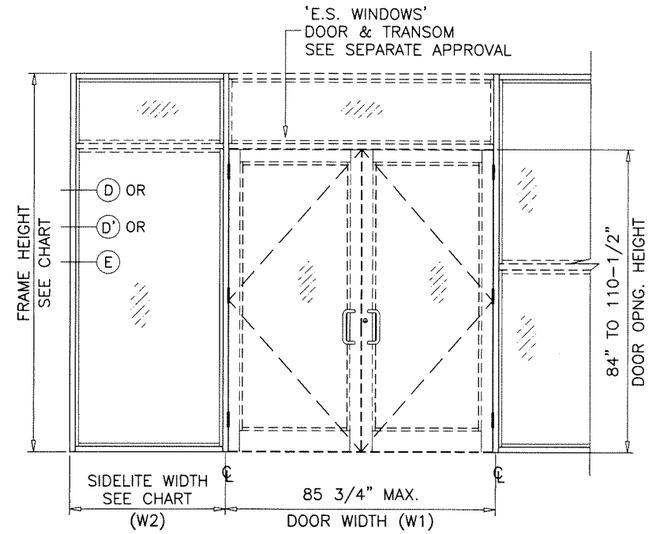
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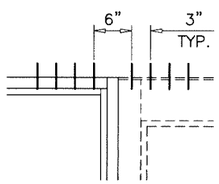
sheet 6.2 of 12

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.(–)
85–3/4	30	96	84	89.6	90.0	90.0
	36			85.0	90.0	90.0
	42			80.8	90.0	90.0
	48			77.0	90.0	90.0
	54			73.6	90.0	90.0
	60			70.4	88.0	90.0
	30	102		86.0	90.0	90.0
	36			81.5	90.0	90.0
	42			77.4	90.0	90.0
	48			73.8	90.0	90.0
	54			70.4	88.0	90.0
	30	108		82.7	90.0	90.0
	36			78.3	90.0	90.0
	42			74.3	90.0	90.0
	48			70.8	88.4	90.0
	30	114		79.7	90.0	90.0
	36			75.4	90.0	90.0
	42			71.5	89.4	90.0
	48			68.0	85.0	90.0
	30	120		76.9	90.0	90.0
	36			72.6	90.0	90.0
	42			68.9	86.1	90.0
	48			65.4	81.8	90.0
85–3/4	30	102	90	84.1	90.0	90.0
	36			79.7	90.0	90.0
	42			75.8	90.0	90.0
	48			72.3	90.0	90.0
	54			69.1	86.4	90.0
	30	108		80.9	90.0	90.0
	36			76.7	90.0	90.0
	42			72.9	90.0	90.0
	48			69.4	86.8	90.0
	30	114		78.0	90.0	90.0
	36			73.9	90.0	90.0
	42			70.1	87.7	90.0
	48			66.8	83.5	90.0
	30	120		75.3	90.0	90.0
	36			71.2	89.1	90.0
	42			67.6	84.5	90.0
	48			64.3	80.4	90.0

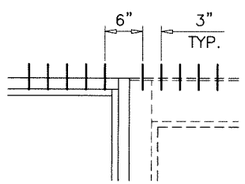
DOOR MULLION HEAD ANCHOR LOAD CAPACITY – PSF						
NOMINAL DIMS.				'C4'	'C5'	'C6'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)
85–3/4	30	108	96	79.2	90.0	90.0
	36			75.1	90.0	90.0
	42			71.5	89.3	90.0
	48			68.1	85.2	90.0
	30	114		76.4	90.0	90.0
	36			72.4	90.0	90.0
	42			68.8	86.0	90.0
	48			65.6	82.0	90.0
	30	120		73.8	90.0	90.0
	36			69.9	87.4	90.0
	42			66.4	83.0	90.0
	48			63.2	79.0	90.0
85–3/4	30	114	102	74.9	90.0	90.0
	36			71.0	88.8	90.0
	42			67.6	84.5	90.0
	48			64.4	80.5	90.0
	30	120		72.4	90.0	90.0
	36			68.6	85.7	90.0
	42			65.2	81.5	90.0
	48			62.1	77.7	90.0
85–3/4	30	120	110–1/2	70.4	88.0	90.0
	36			66.8	83.5	90.0
	42			63.6	79.5	90.0
	48			60.7	75.9	90.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

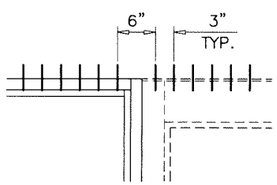




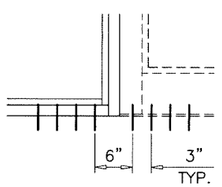
'C4'



'C5'



'C6'



'C4' AT SILL ALL CASES

ANCHORS TYPES: SEE SHEET 8 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

Sealed: 4/7/2025

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

FL #17897

afc
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

STORE\W17-92ES

SERIES 8000 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

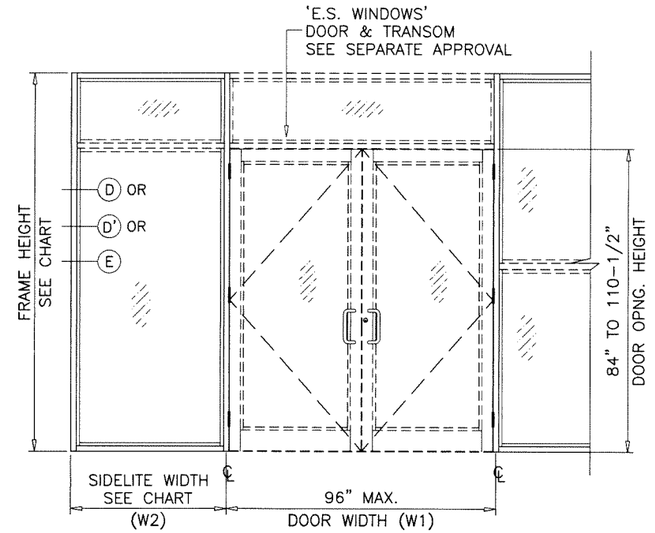
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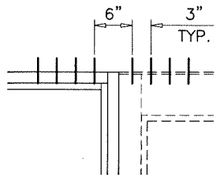
drawing no. W17-92

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	90.0	90.0
	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

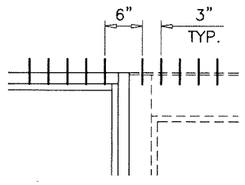
DOOR MULLION HEAD ANCHOR LOAD CAPACITY – PSF						
NOMINAL DIMS.				'C4'	'C5'	'C6'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)
96	30	108	96	72.8	90.0	90.0
	36			69.4	86.7	90.0
	42			66.3	82.8	90.0
	48			63.4	79.2	90.0
	30	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.

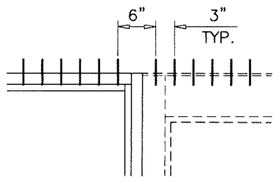




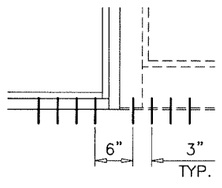
'C4'



'C5'



'C6'



'C4' AT SILL ALL CASES

ANCHORS TYPES: SEE SHEET 8 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

Sealed: 4/7/2025

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

FL #17897

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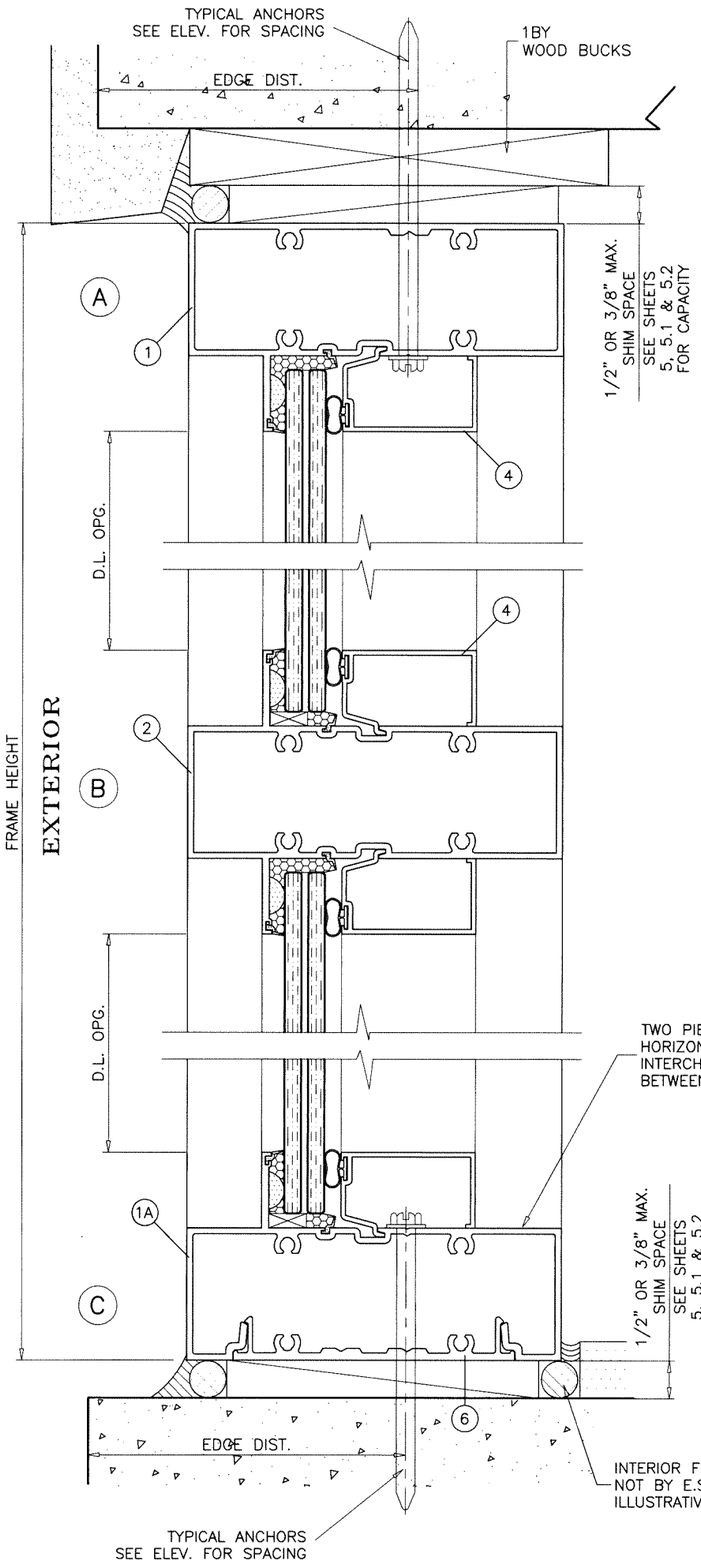
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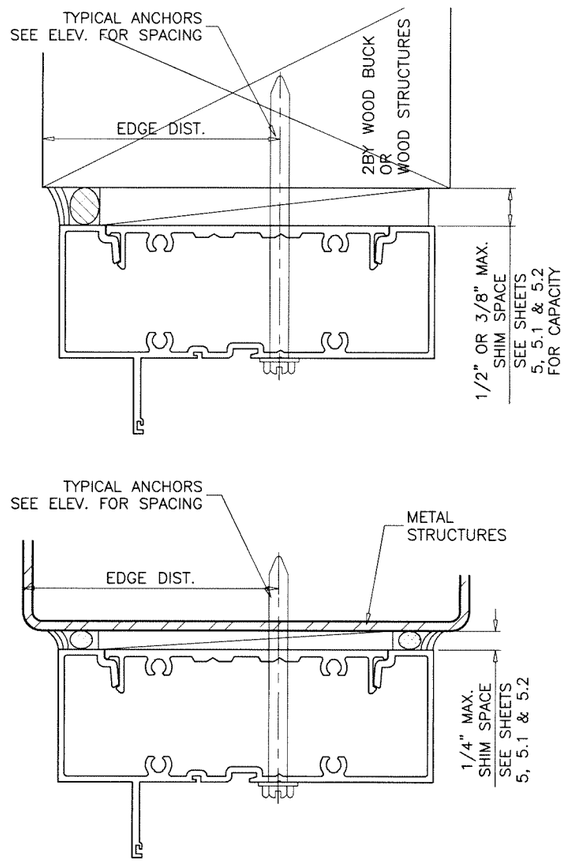
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TYPICAL ANCHORS: SEE ELEV. FOR SPACING

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 1–1/4" 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 1–1/4" 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.

Sealed: 4/7/2025

JALAL FAROOQ
LICENSE
No. 81223
STATE OF FLORIDA
PROFESSIONAL ENGINEER

FL #17897

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.

afc
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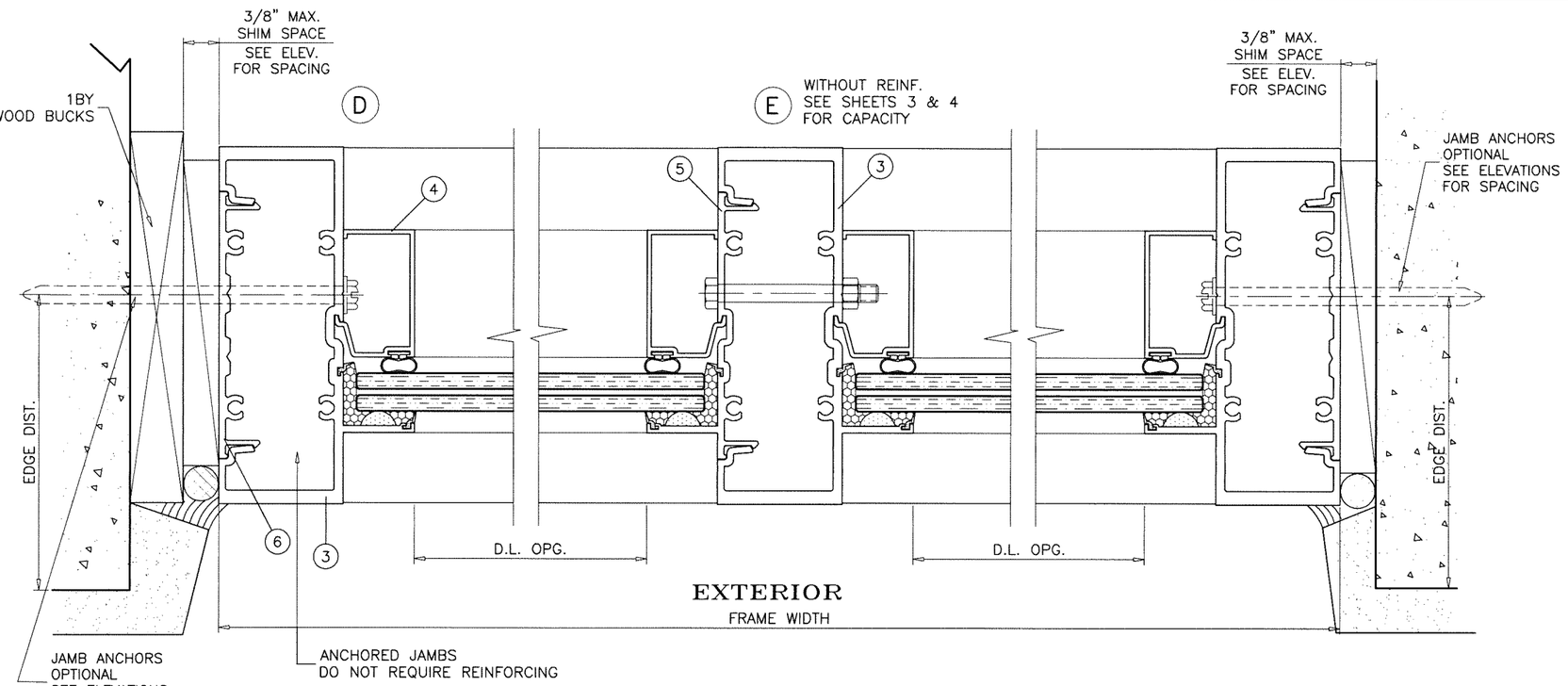
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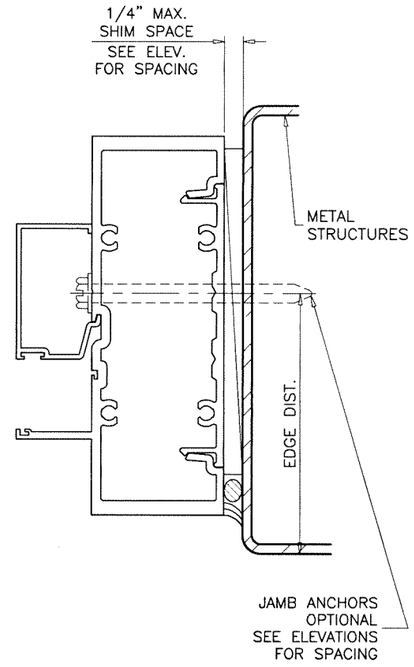
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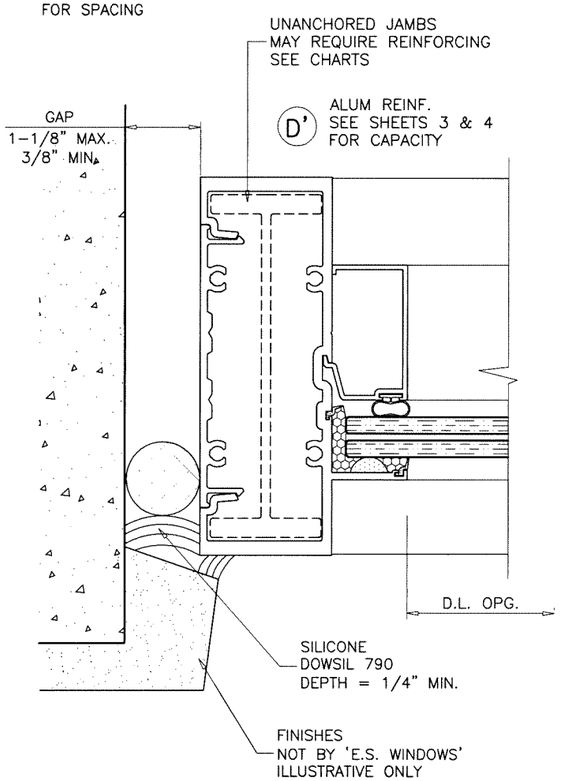
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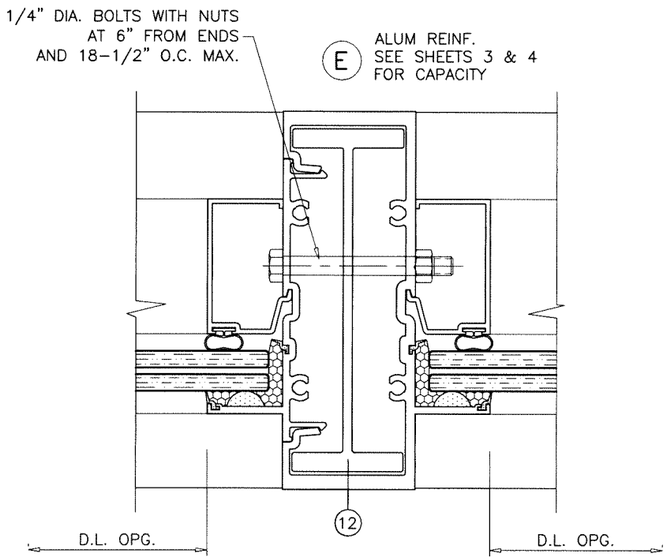
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chk. by:

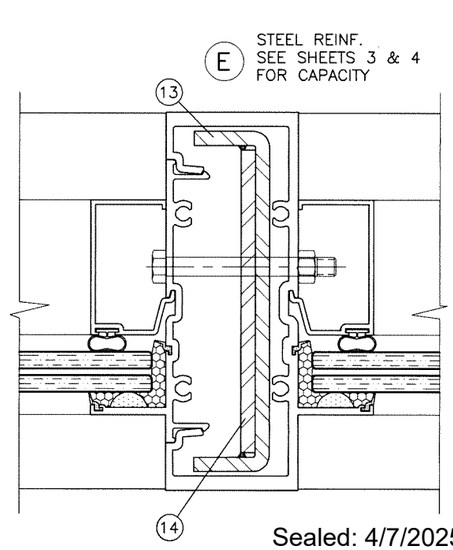
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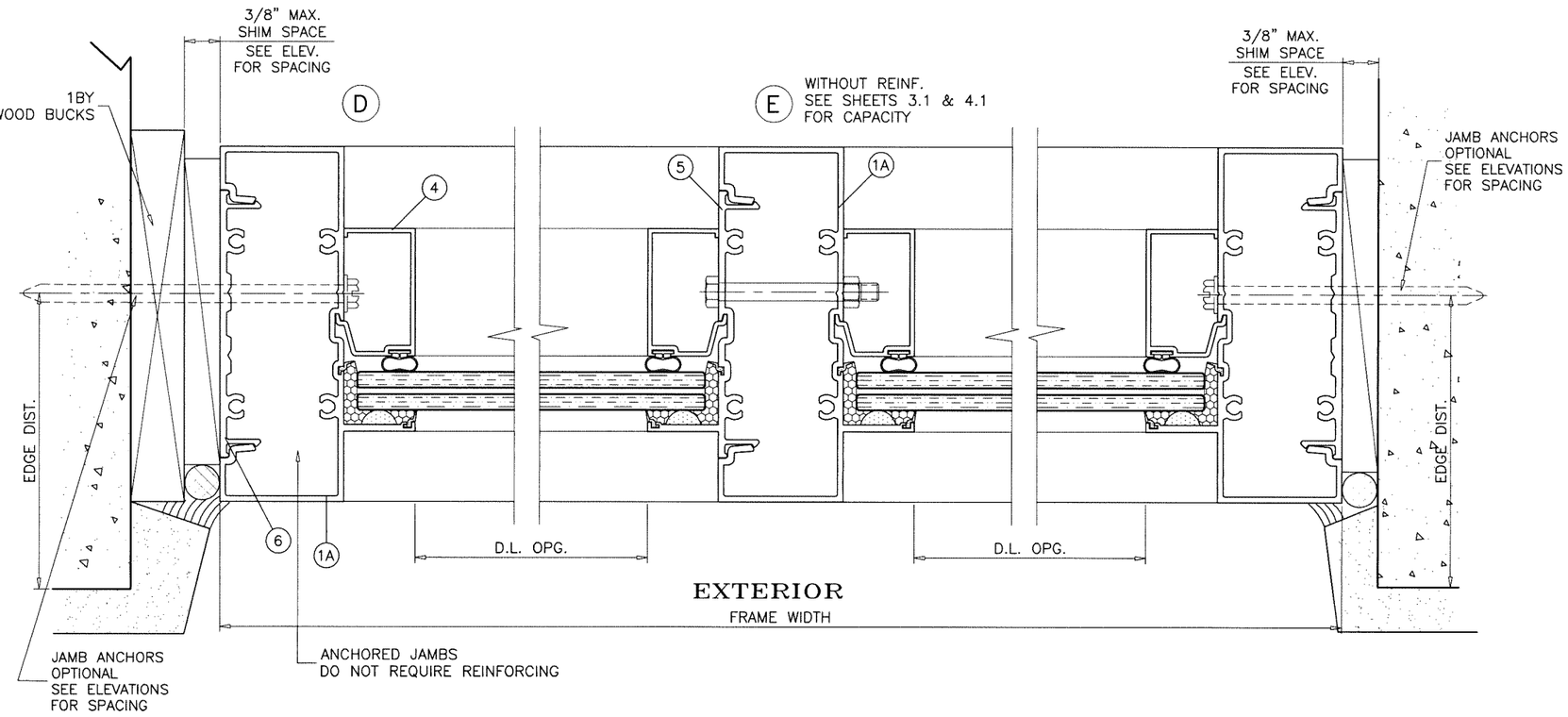
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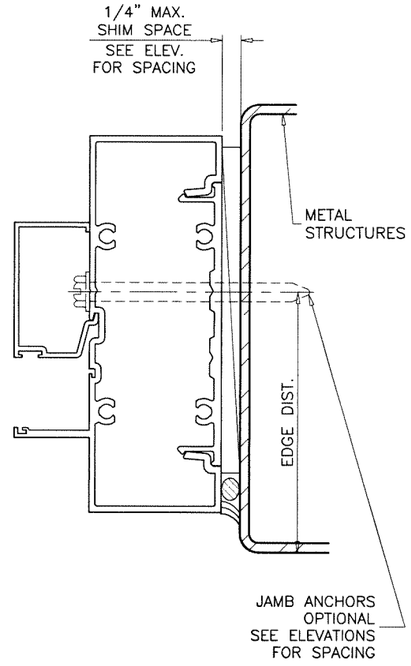
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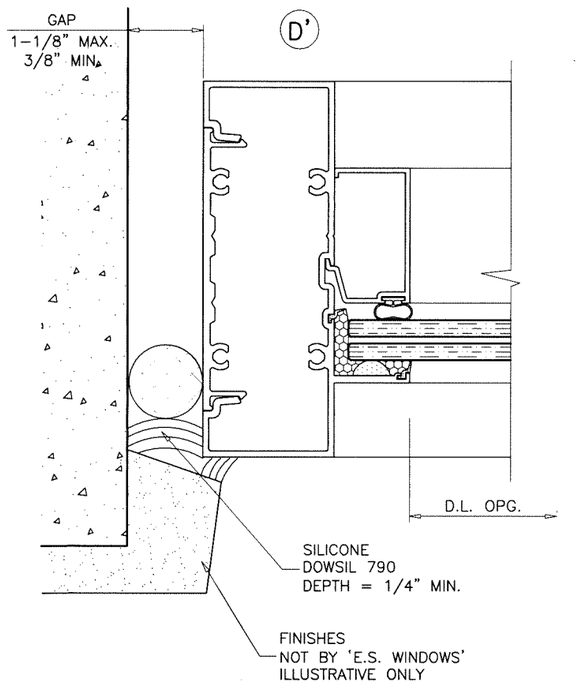
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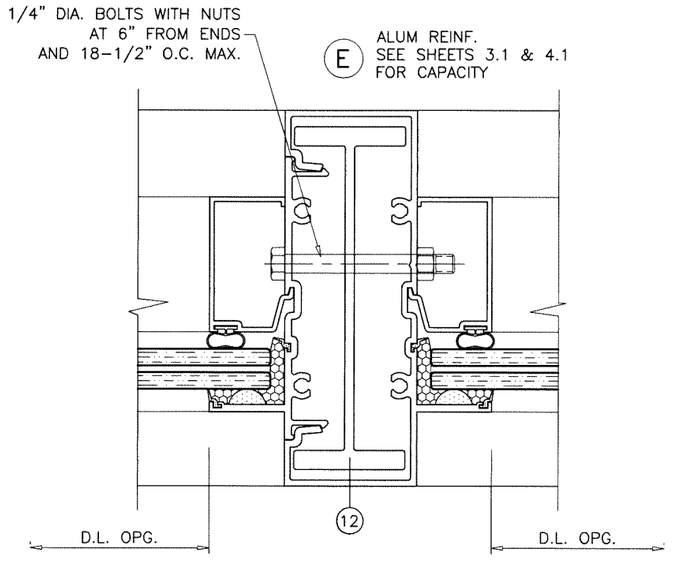
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sheet 9 of 12









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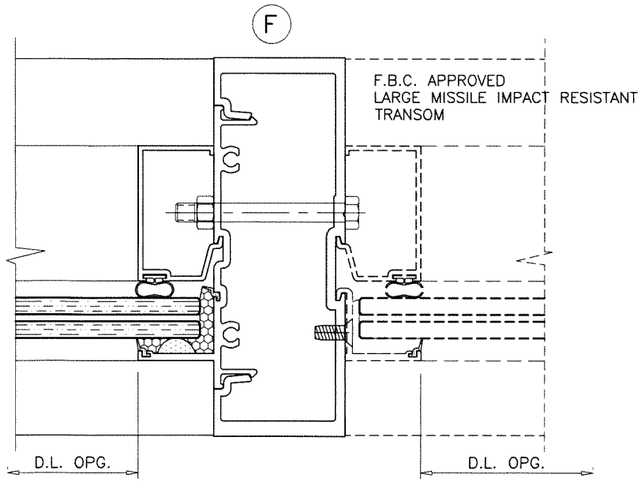
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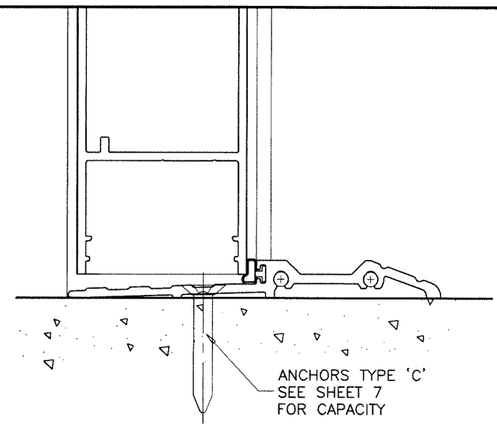
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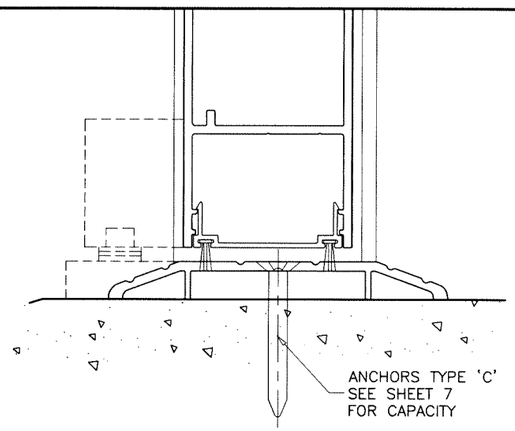
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sheet 9.1 of 12

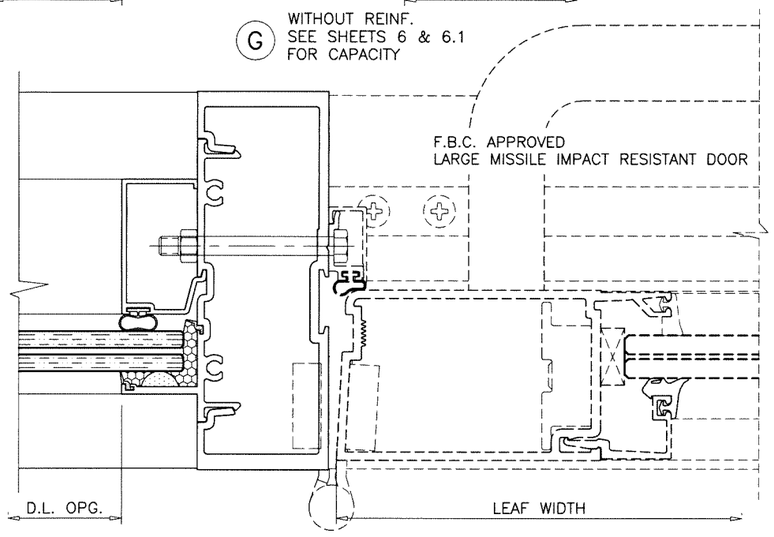


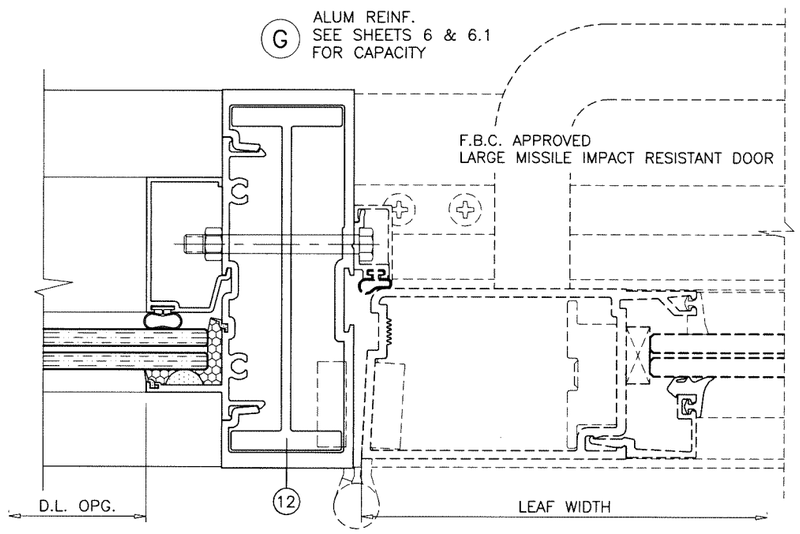


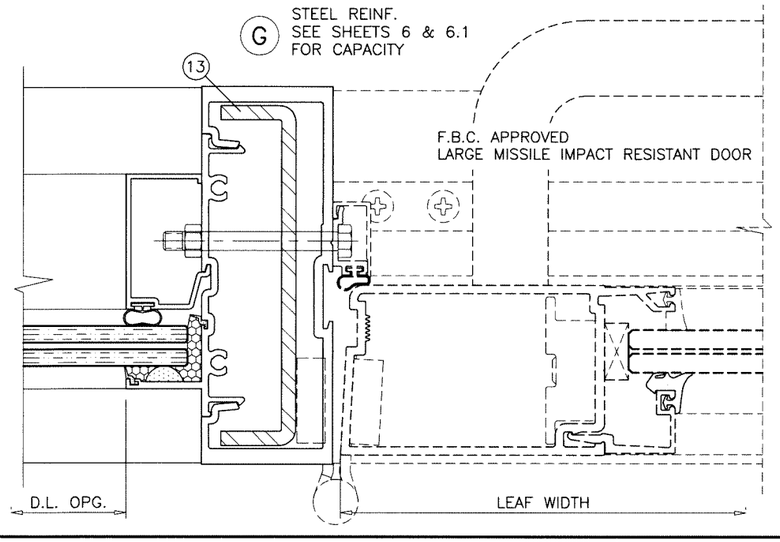


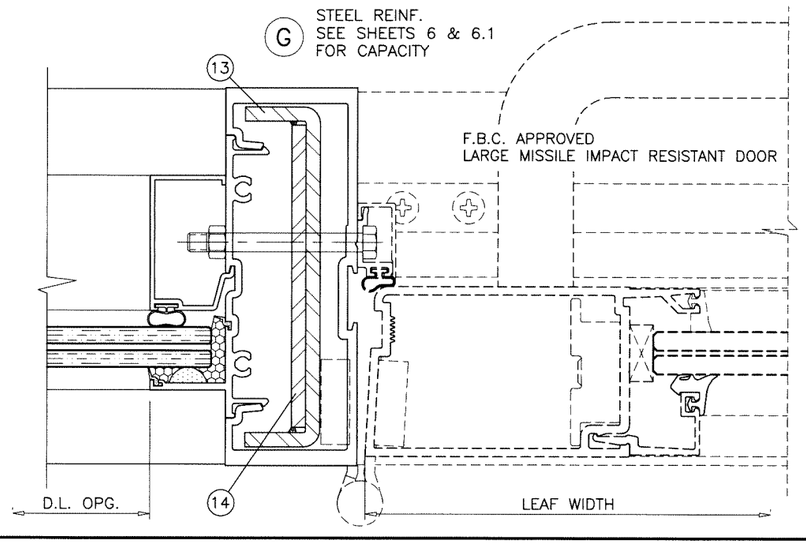
SEE SEPARATE APPROVAL FOR DESIGN LOAD CAPACITY OF DOORS AND DOOR ANCHORS.

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









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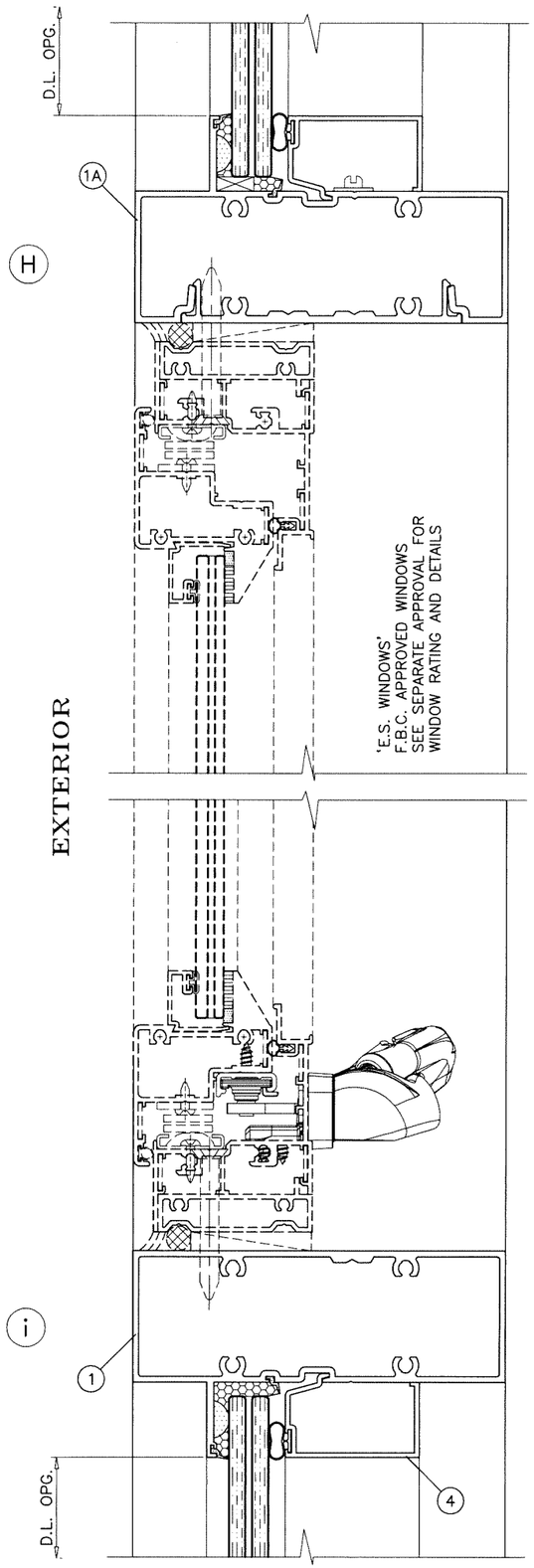
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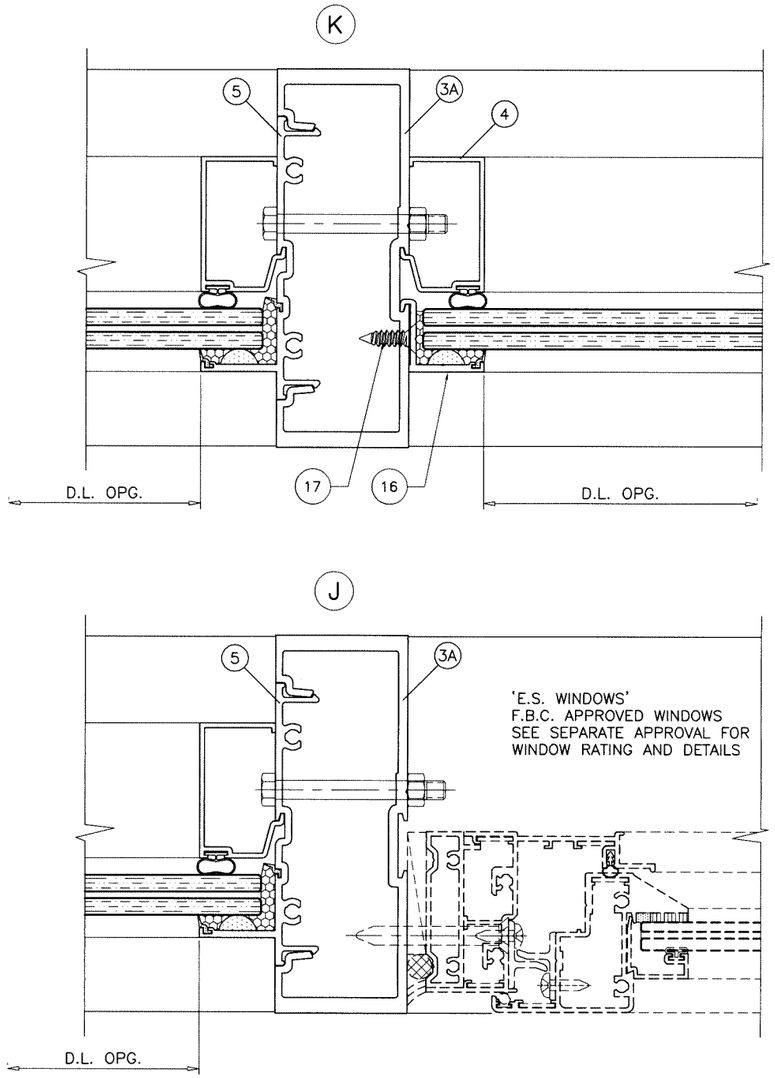
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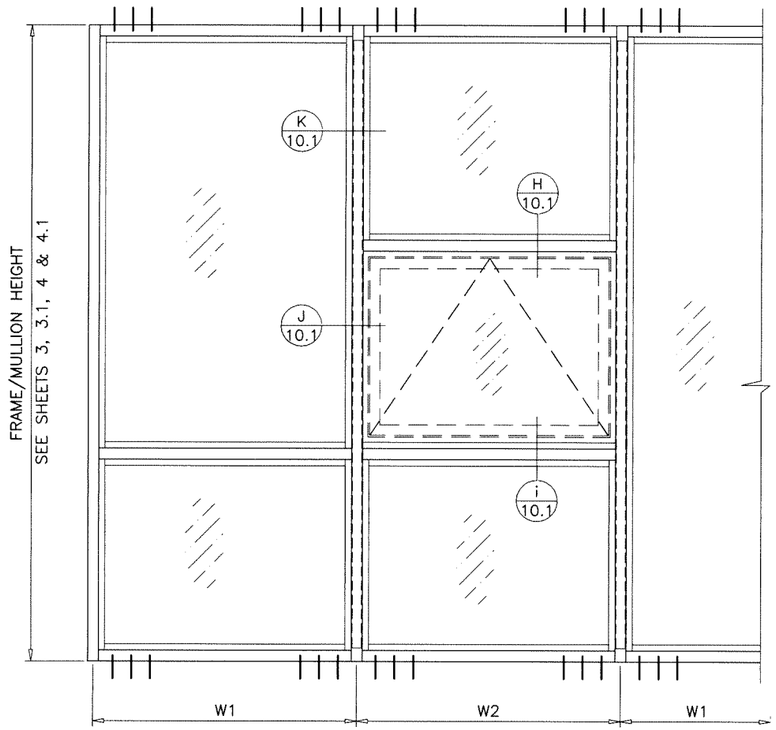
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drawing no. W17-92

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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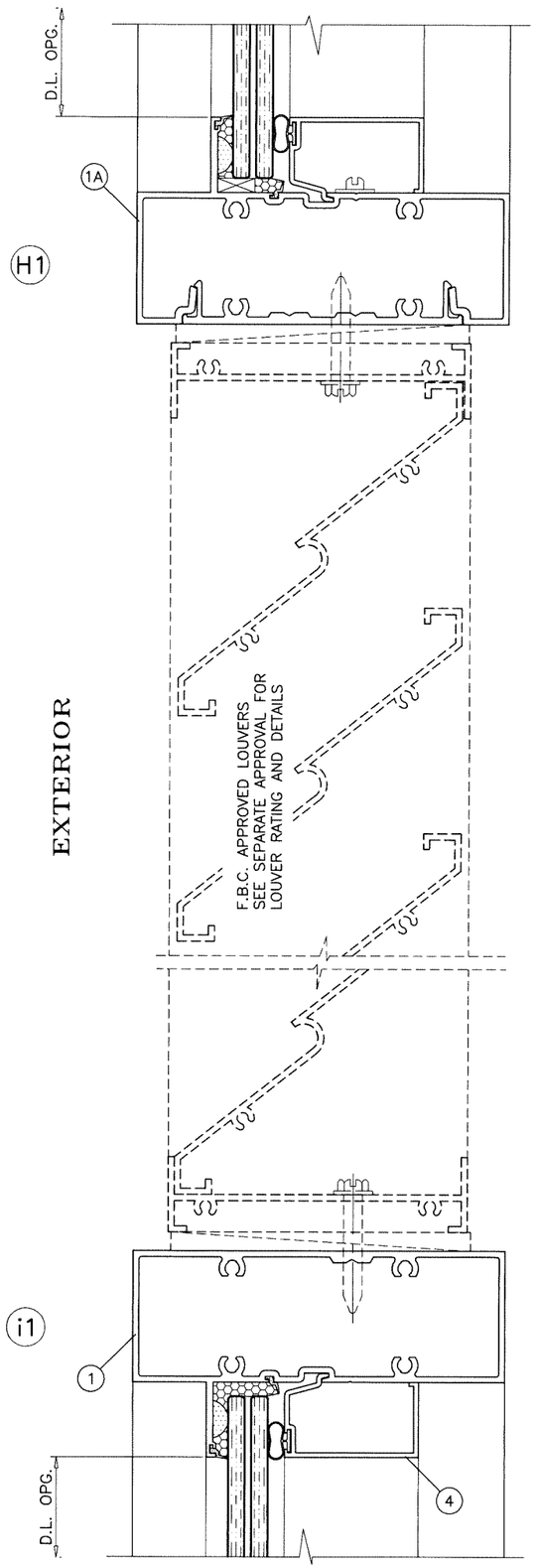
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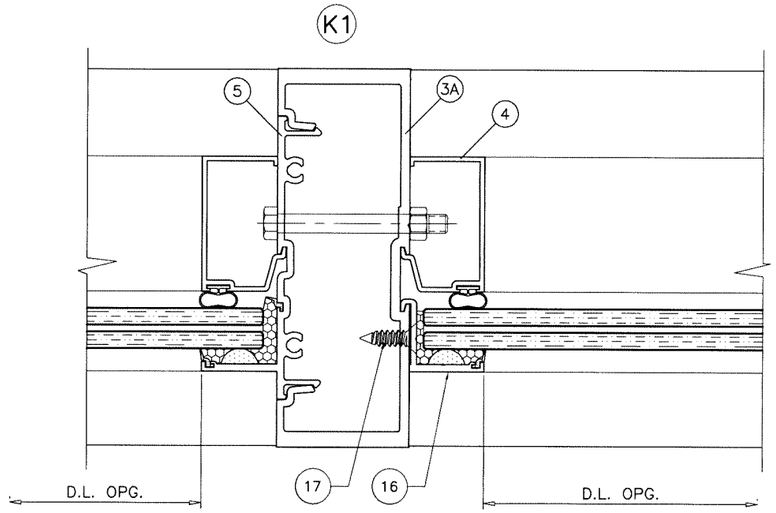
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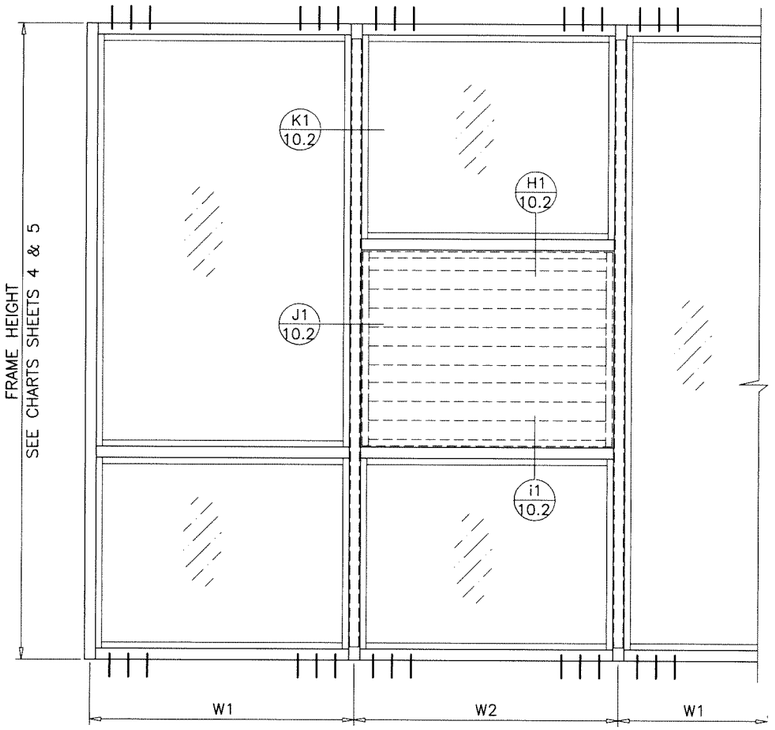
EXTERIOR

H1



K1



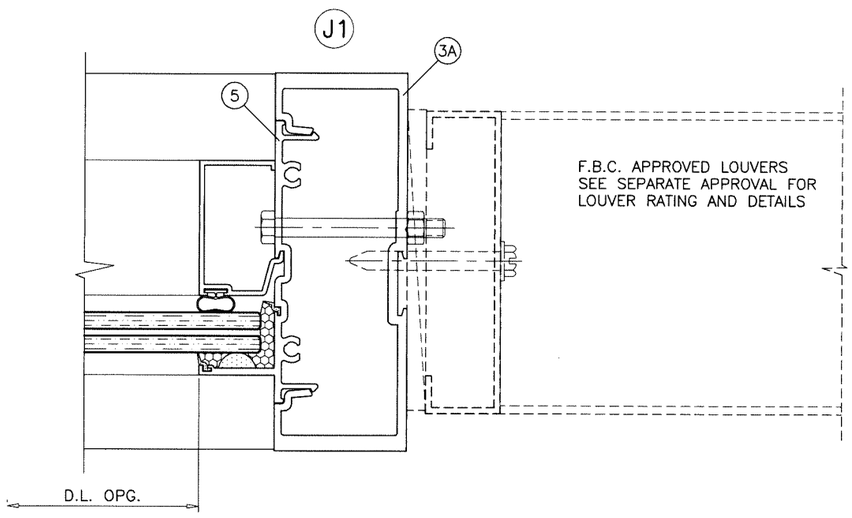


TYPICAL INSTALLATION OF LOUVERS IN THE WINDOW WALL SYSTEM

USE LOUVERS HOLDING CURRENT APPROVAL
REFER TO NOTES ON SHEET 2

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

J1



i1

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FL #17897

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

STORE\W17-92ES

SERIES 8000 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

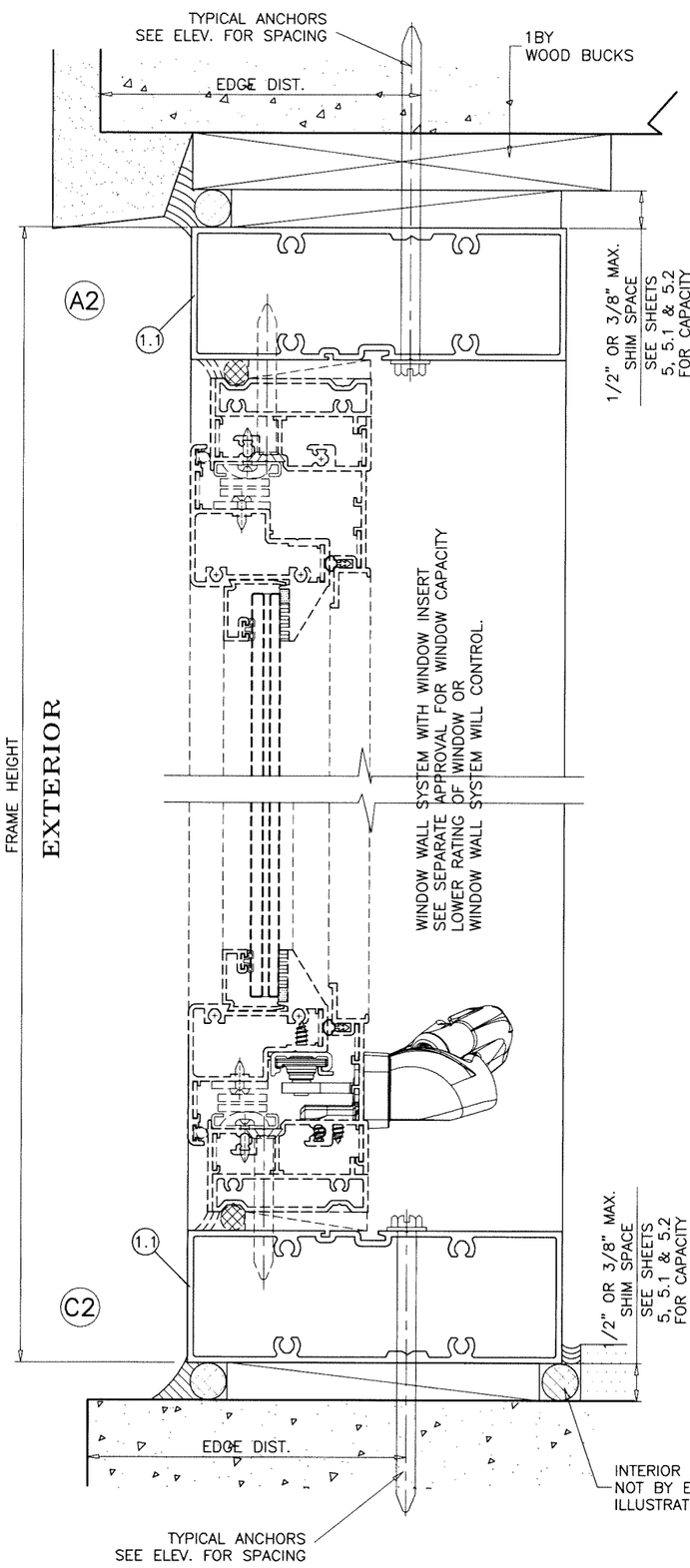
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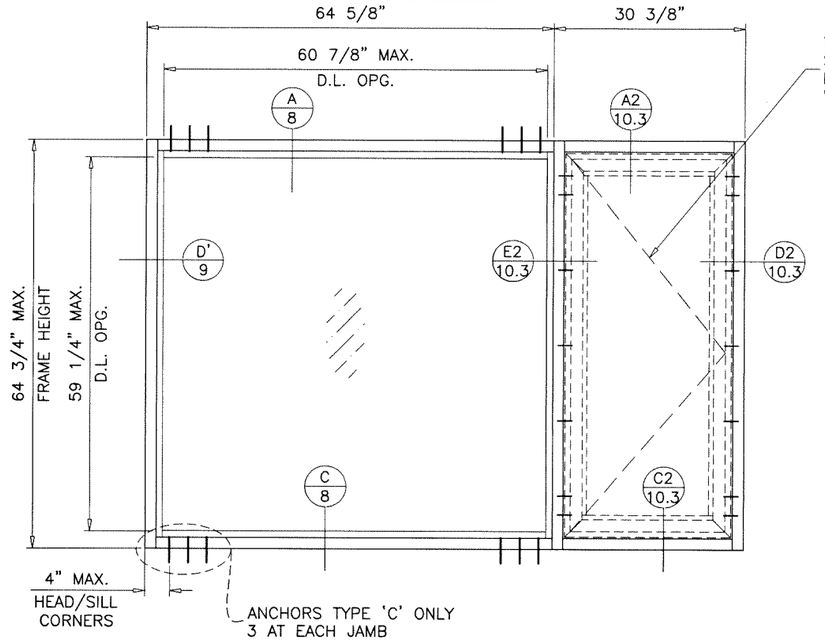
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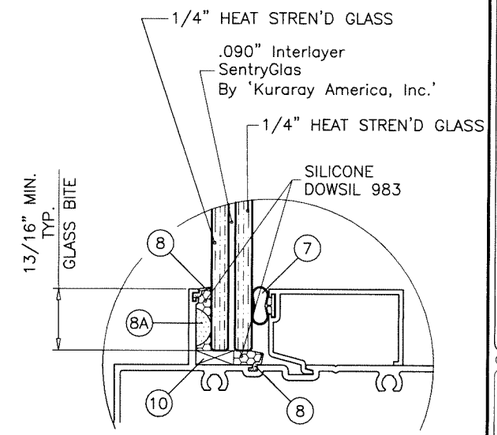
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chk. by:

drawing no.
W17-92

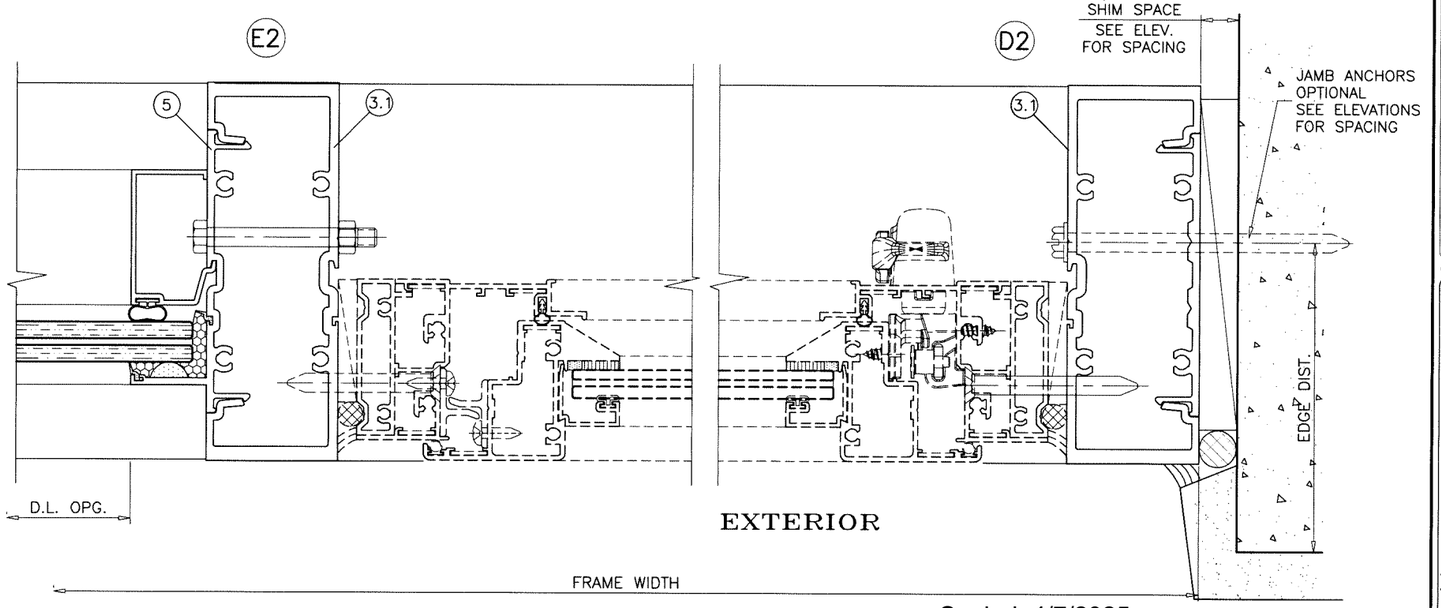
sheet 10.2 of 12







GLASS TYPE 'B1'



MAXIMUM DESIGN LOAD RATING = + 78.0 PSF
– 114.0 PSF
(ONLY FOR SINGLE UNITS SHOWN IN THIS SHEET)

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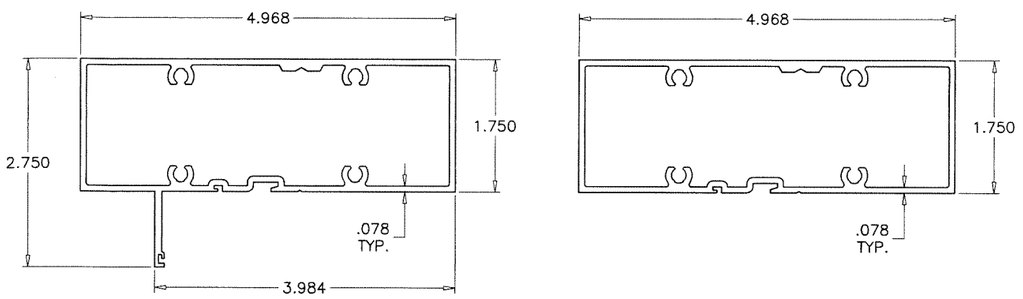
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chk. by:

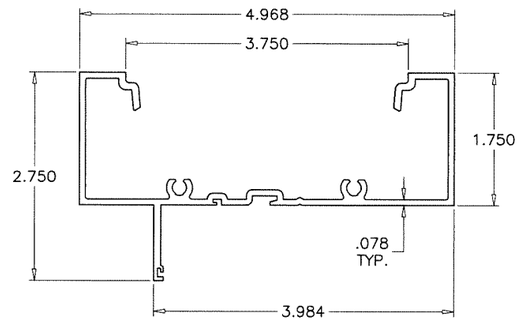
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sheet 10.3 of 12

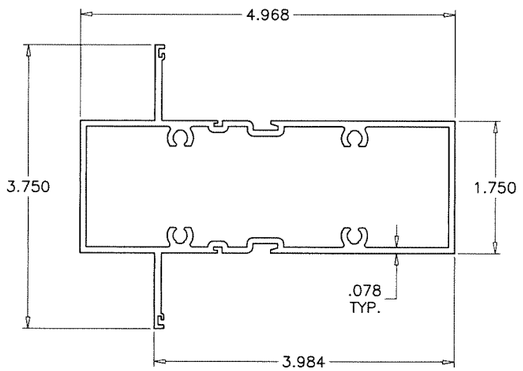


1 HOLLOW FRAME HEAD/SILL

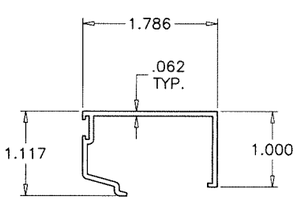
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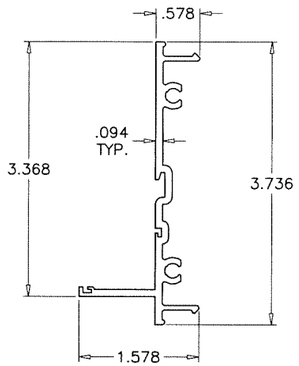
1A FRAME HEAD/SILL/JAMB/MULLION



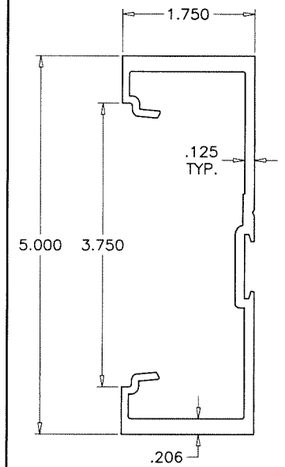
2 INTERMEDIATE HORIZONTAL



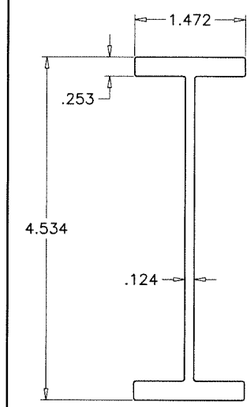
4 GLASS STOP



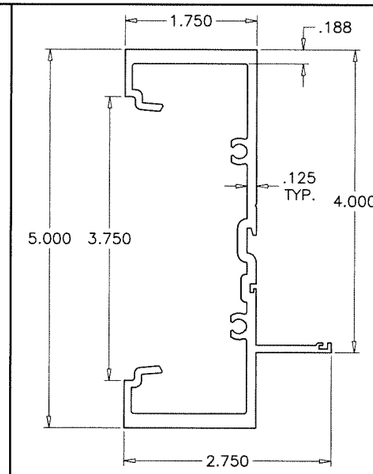
5 MULLION SNAP–IN MATE



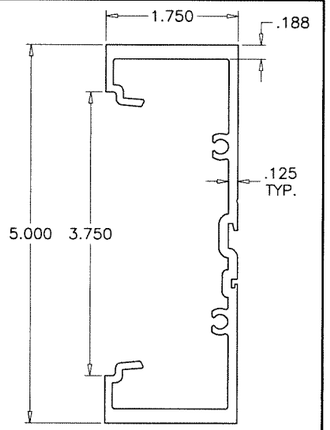
3A FRAME JAMB/MULLION DOOR MULLION



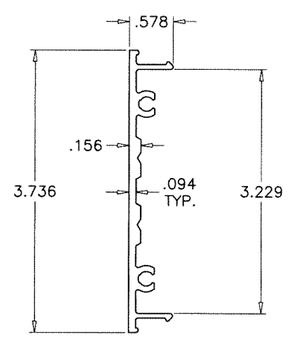
12 STIFFENER



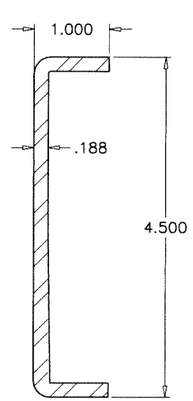
3 FRAME JAMB/MULLION



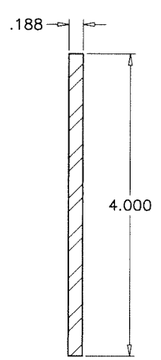
3.1



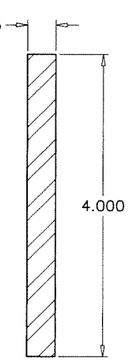
6 SHEAR CLIP



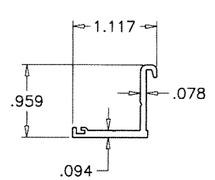
13 STEEL REINFORCING
36 KSI MIN.



14



15



16 EXT. GLAZING ADAPTER

ITEM NO.	PART NUMBER	QUANTITY	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
1	ES8005	AS REQD.	HOLLOW FRAME HEAD/SILL	6005–T5	–
1A	ES8007	AS REQD.	FRAME HEAD/SILL/JAMB/MULLION	6063–T6	–
2	ES8004	AS REQD.	INTERMEDIATE HORIZONTAL	6063–T6	–
3	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	–	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	–
14	–	AS REQD.	MULLION REINFORCING BAR (3/16" X 4")	STEEL	–
15	–	AS REQD.	MULLION REINFORCING BAR (3/8" X 4")	STEEL	–
16	ES8014	AS REQD.	EXTERIOR GLAZING ADAPTER	6063–T6	–
17	#12 X 3/4"	AS REQD.	ADAPTER FASTENERS, AT 3" FROM ENDS & 12" O.C.	ST. STEEL	FH SMS

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FL #17897

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afc
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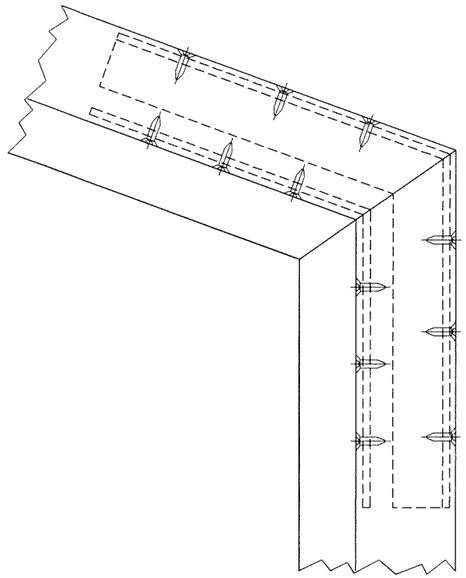
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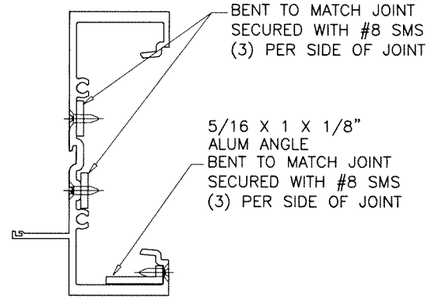
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chk. by:

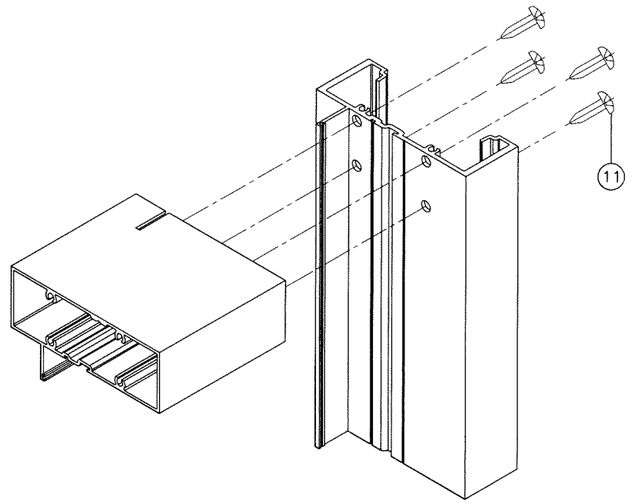
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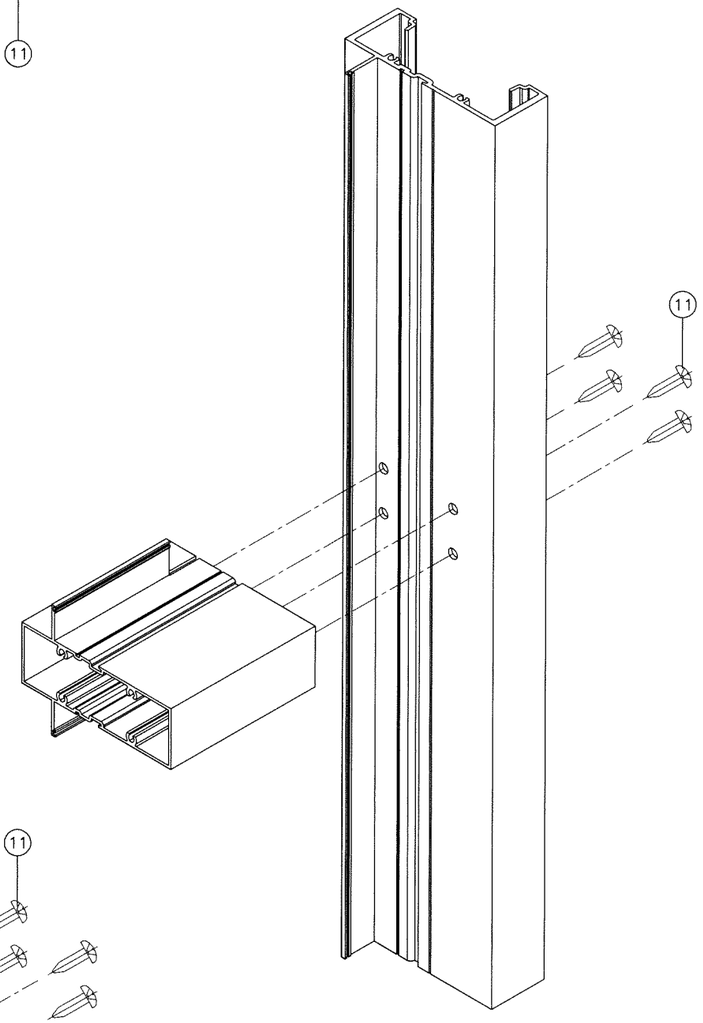
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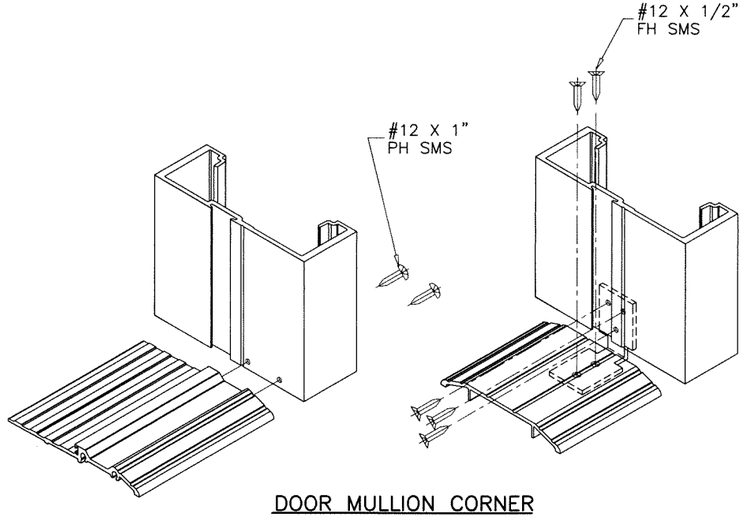


CIRCULAR OR ANGLED CORNERS

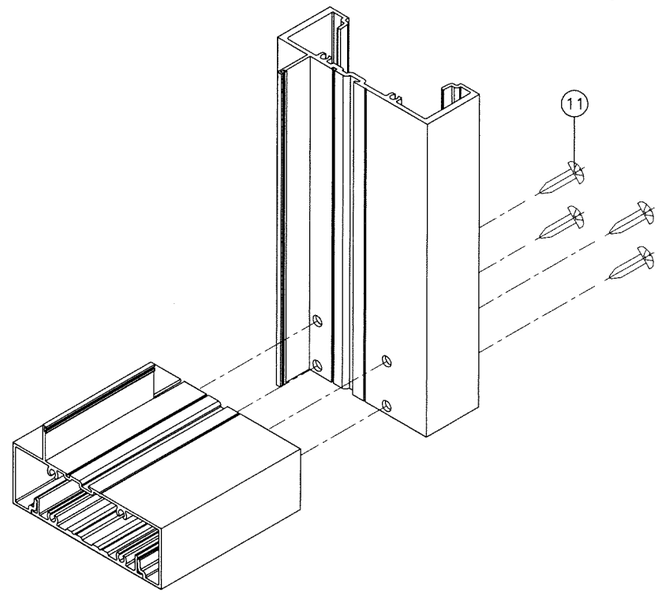




HORIZONTAL CORNER



DOOR MULLION CORNER



RECT. OR SQUARE CORNERS

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scale: -
dr. by: TARIQ
chk. by:

drawing no.
W17-92

sheet 12 of 12