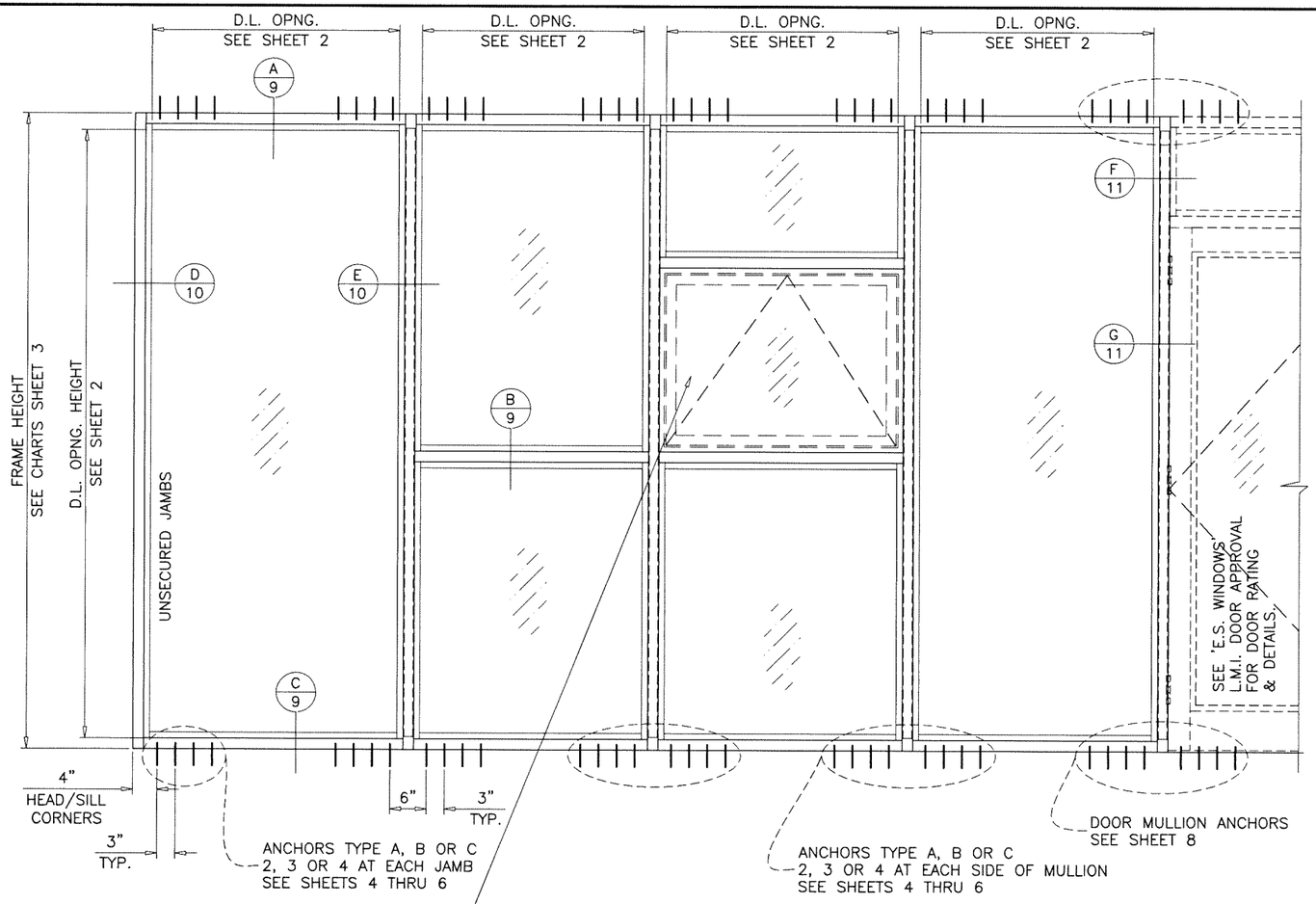
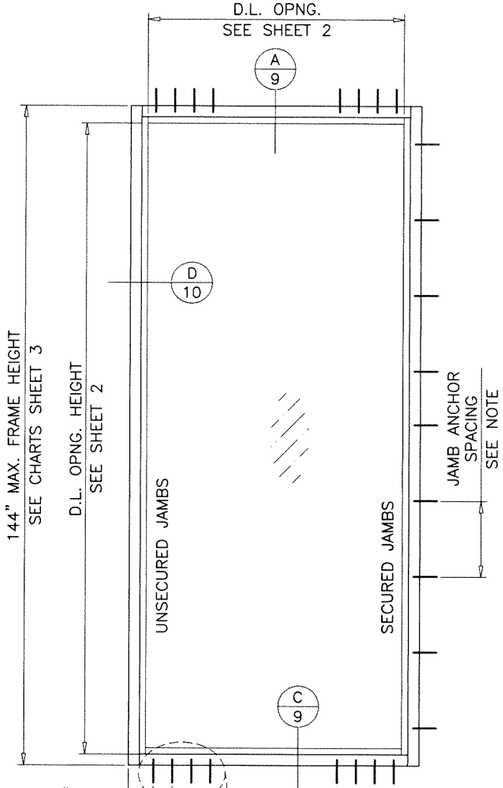


OPTION WITH JAMB ANCHORS





SERIES ES-8000T
ALUMINUM WINDOW WALL SYSTEM

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

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

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

A LOAD DURATION INCREASE IS USED IN DESIGN OF ANCHORS INTO WOOD ONLY.

ALL SHIMS TO BE HIGH IMPACT, NON-METALLIC AND NON-COMPRESSIBLE.

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

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

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

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

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 & 3.2 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.

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 THRU 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 CAPACITY SEE CHART ON SHEET 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.

TYPICAL ELEVATIONS

SINGLE 'O' PANEL:
FRAME WIDTH = D.L.O. WIDTH + 5.50"
FRAME HEIGHT = D.L.O. HEIGHT + 5.50"

JAMB ANCHORS:

FOR 12" MAX. SPACING LIMIT MAX. LOADS
TO 80.0 PSF FOR ANCHOR TYPES 'A' & 'B'
TO 74.0 PSF FOR ANCHOR TYPE 'C'
FOR LOADS HIGHER THAN SHOWN ABOVE LIMIT ANCHOR SPACING TO 6" MAX.

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

PRODUCT COMPLIES WITH REQUIREMENTS OF ANSI Z97.1.

Sealed: 3/13/2025

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

COMP-ANL\W15-37ES

ES-8000T 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

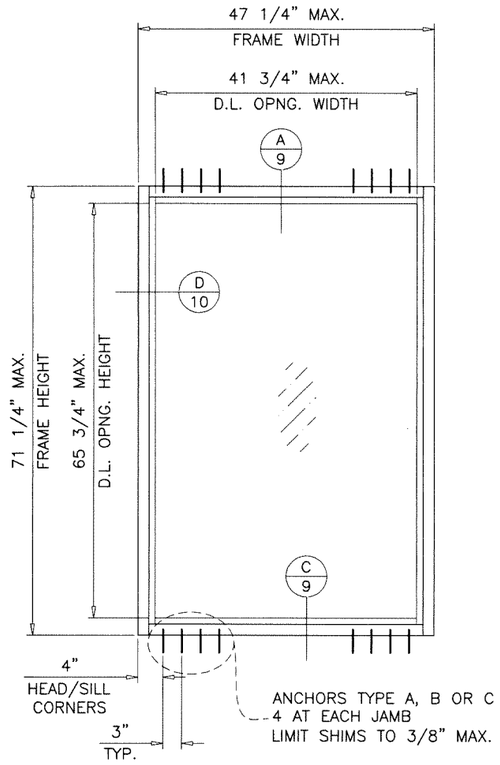
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H	11.24.21		NEW TESTS ADDED
I	01.25.23		GLAZING SILICONE GE ADDED
J	08.01.23		UPDATED TO 2023 FBC
K	06.11.24		LOUVER NOTE ADDED

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chk. by:

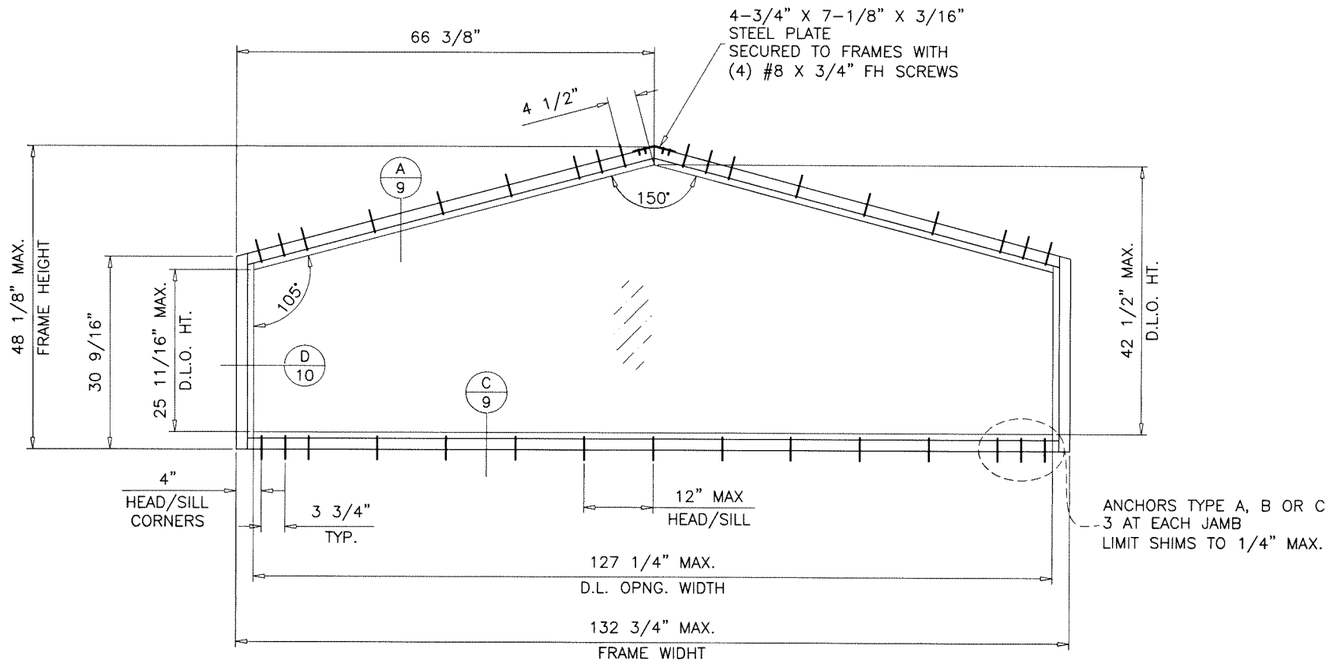
drawing no. W15-37

sheet 1 of 13



GLASS TYPE 'GL2R'

MAXIMUM DESIGN LOAD RATING = + 66.0 PSF
(FOR SINGLE UNIT SHOWN ABOVE) − 108.0 PSF



GLASS TYPE 'GL2R'

MAXIMUM DESIGN LOAD RATING = + 80.0 PSF
(FOR SINGLE UNIT SHOWN ABOVE) − 80.0 PSF

Sealed: 3/13/2025

FL #17897

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revisions:

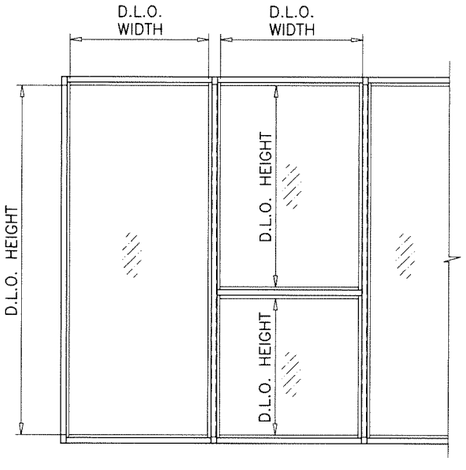
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dr. by: TARIQ
chk. by:

drawing no.
W15–37

sheet 1.1 of 13

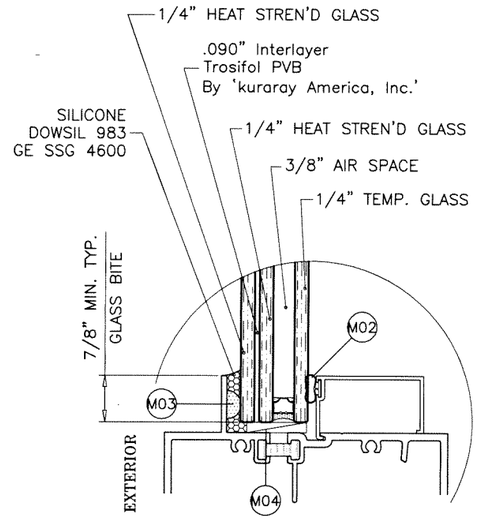
GLASS LOAD CAPACITY - PSF			
NOMINAL DIMS.		GLASS TYPES 'GL1'/'GL1R'	
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)	INT.(−)
26−1/4"	105−1/2"	60.0	70.0
32−1/4"		60.0	70.0
38−1/4"		60.0	70.0
44−1/4"		60.0	70.0
50−1/4"		60.0	70.0
56−1/4"		60.0	70.0
26−1/4"	108−1/2"	60.0	70.0
32−1/4"		60.0	70.0
38−1/4"		60.0	70.0
44−1/4"		60.0	70.0
50−1/4"		60.0	70.0
56−1/4"		60.0	70.0
26−1/4"	114−1/2"	60.0	70.0
32−1/4"		60.0	70.0
38−1/4"		60.0	70.0
44−1/4"		60.0	70.0
50−1/4"		60.0	70.0
26−1/4"	120−1/2"	60.0	70.0
32−1/4"		60.0	70.0
38−1/4"		60.0	70.0
44−1/4"		60.0	70.0
50−1/4"		60.0	70.0
26−1/4"	126−1/2"	60.0	70.0
32−1/4"		60.0	70.0
38−1/4"		60.0	70.0
44−1/4"		60.0	70.0
48−1/4"		60.0	70.0
26−1/4"	132−1/2"	60.0	70.0
32−1/4"		60.0	70.0
38−1/4"		60.0	70.0
44−1/4"		60.0	70.0
46−1/4"		60.0	70.0
26−1/4"	138−1/2"	60.0	70.0
32−1/4"		60.0	70.0
38−1/4"		60.0	70.0
44−1/4"		60.0	70.0



GLASS LOAD CAPACITY - PSF					
NOMINAL DIMS.		GLASS TYPES 'GL2'		'GL2R'	
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)
26−1/4"	84−1/2"	90.0	120.0	90.0	90.0
32−1/4"		90.0	120.0	90.0	90.0
38−1/4"		90.0	120.0	90.0	90.0
44−1/4"		90.0	120.0	90.0	90.0
50−1/4"		90.0	120.0	90.0	90.0
56−1/4"		90.0	120.0	90.0	90.0
26−1/4"	96−1/2"	90.0	120.0	90.0	90.0
32−1/4"		90.0	120.0	90.0	90.0
38−1/4"		90.0	120.0	90.0	90.0
44−1/4"		90.0	120.0	90.0	90.0
50−1/4"		90.0	120.0	90.0	90.0
56−1/4"		–	–	60.0	60.0
26−1/4"	102−1/2"	90.0	120.0	90.0	90.0
32−1/4"		90.0	120.0	90.0	90.0
38−1/4"		90.0	120.0	90.0	90.0
44−1/4"		90.0	120.0	90.0	90.0
49"		90.0	120.0	90.0	90.0
50−1/4"		–	–	66.7	66.7
56−1/4"		–	–	60.0	60.0
26−1/4"	105−1/2"	90.0	120.0	90.0	90.0
32−1/4"		90.0	120.0	90.0	90.0
38−1/4"		90.0	120.0	90.0	90.0
44−1/4"		90.0	120.0	90.0	90.0
48"		90.0	120.0	90.0	90.0
50−1/4"		–	–	66.7	66.7
56−1/4"		–	–	60.0	60.0
26−1/4"	108−1/2"	90.0	120.0	90.0	90.0
32−1/4"		90.0	120.0	90.0	90.0
38−1/4"		90.0	120.0	90.0	90.0
44−1/4"		90.0	120.0	90.0	90.0
46"		90.0	120.0	90.0	90.0
50−1/4"		–	–	66.7	66.7
56−1/4"		–	–	60.0	60.0
26−1/4"	114−1/2"	90.0	120.0	90.0	90.0
32−1/4"		90.0	120.0	90.0	90.0
38−1/4"		90.0	120.0	90.0	90.0
44−1/4"		90.0	120.0	90.0	90.0
50−1/4"		–	–	66.7	66.7
56−1/4"		–	–	60.0	60.0
26−1/4"	126−1/2"	–	–	70.0	70.0
32−1/4"		–	–	70.0	70.0
38−1/4"		–	–	70.0	70.0
44−1/4"		–	–	70.0	70.0
50−1/4"		–	–	66.3	66.3
56−1/4"		–	–	60.0	60.0
26−1/4"	138−1/2"	–	–	70.0	70.0
32−1/4"		–	–	70.0	70.0
38−1/4"		–	–	70.0	70.0
44−1/4"		–	–	70.0	70.0
50−1/4"		–	–	65.0	65.0
56−1/4"		–	–	60.0	60.0

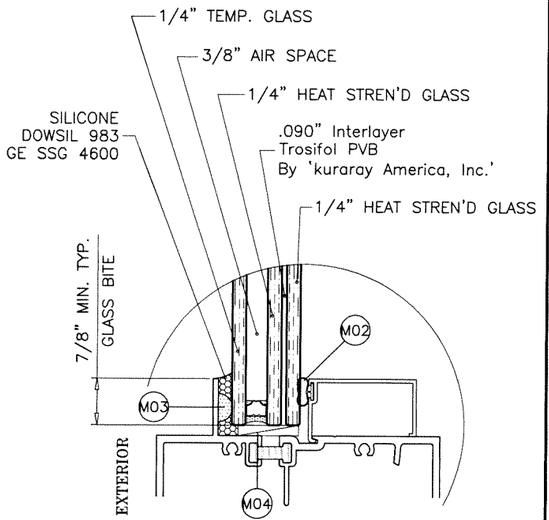
INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

GLASS



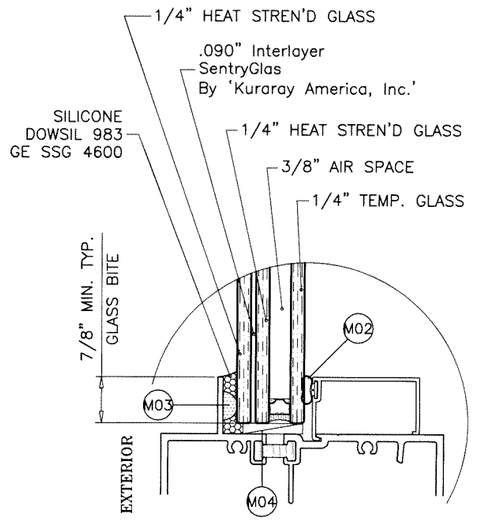
GLASS TYPE 'GL1'

1−3/16" OVERALL INSUL. LAM. GLASS



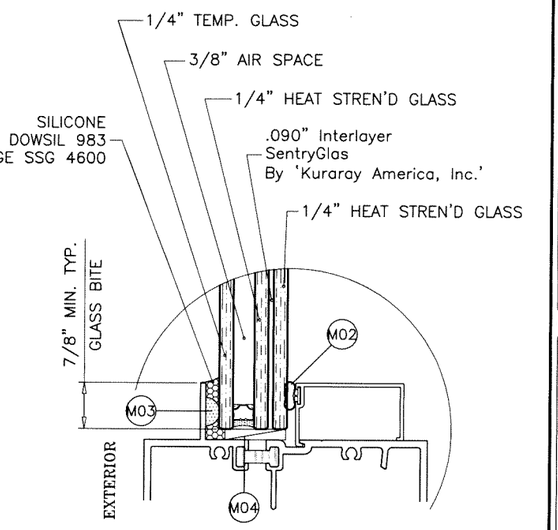
GLASS TYPE 'GL1R'

1−3/16" OVERALL INSUL. LAM. GLASS



GLASS TYPE 'GL2'

1−3/16" OVERALL INSUL. LAM. GLASS



GLASS TYPE 'GL2R'

1−3/16" OVERALL INSUL. LAM. GLASS

3/8" AIR SPACE CONSISTING OF:

SPACER:

'HELIMA' LOW PROFILE ALUMINUM SPACER
BY 'LINGERMANN GMBH'
AROUND THE PERIMETER OF THE GLASS.

PERIMETER SEALANT:

SILICONE
DOWSIL 791
GE 2000

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

Sealed: 3/13/2025

FL #17897

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

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COMP−ANL\W15−37ES

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revisions:

no.	date	by	description

date: 07−16−15
scale: −
dr. by: TARIQ
chk. by:

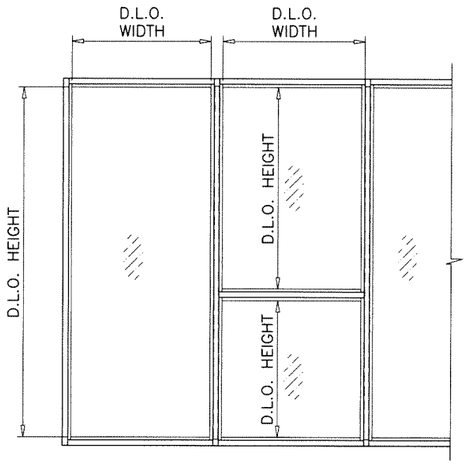
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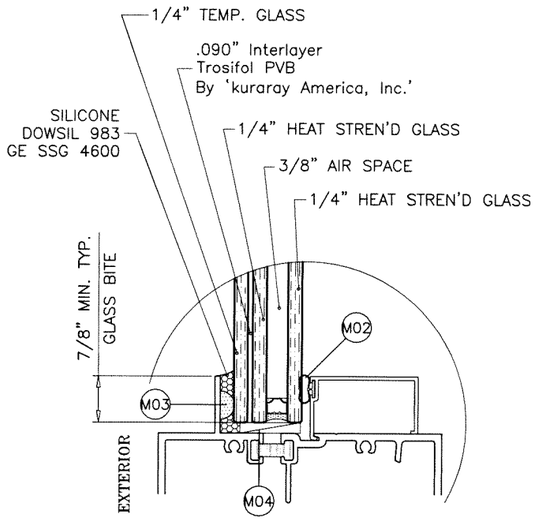
sheet 2 of 13

GLASS LOAD CAPACITY – PSF					
NOMINAL DIMS.		GLASS TYPES 'GL3'		'GL4'	
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
26–1/4"	84–1/2"	60.0	70.0	90.0	120.0
32–1/4"		60.0	70.0	90.0	120.0
38–1/4"		60.0	70.0	90.0	120.0
44–1/4"		60.0	70.0	90.0	120.0
46–1/4"		57.4	67.0	86.6	115.4
48–1/4"		55.0	64.2	83.0	110.6
49"		53.5	62.0	81.3	108.4
50–1/4"		52.8	61.6	79.3	105.7
56–1/4"		47.2	55.1	70.8	94.4
26–1/4"	96–1/2"	60.0	70.0	90.0	120.0
32–1/4"		60.0	70.0	90.0	120.0
38–1/4"		60.0	70.0	90.0	120.0
44–1/4"		60.0	70.0	90.0	120.0
46–1/4"		57.4	67.0	86.6	115.4
48–1/4"		55.0	64.2	83.0	110.6
49"		53.5	62.0	81.3	108.4
50–1/4"		52.8	61.6	79.3	105.7
56–1/4"		47.2	55.1	–	–
26–1/4"	102–1/2"	60.0	70.0	90.0	120.0
32–1/4"		60.0	70.0	90.0	120.0
38–1/4"		60.0	70.0	90.0	120.0
44–1/4"		60.0	70.0	90.0	120.0
46–1/4"		57.4	67.0	86.6	115.4
48–1/4"		55.0	64.2	83.0	110.6
49"		53.5	62.0	81.3	108.4
50–1/4"		52.8	61.6	–	–
56–1/4"		47.2	55.1	–	–
26–1/4"	105–1/2"	60.0	70.0	90.0	120.0
32–1/4"		60.0	70.0	90.0	120.0
38–1/4"		60.0	70.0	90.0	120.0
44–1/4"		60.0	70.0	90.0	120.0
46–1/4"		57.4	67.0	86.6	115.4
48–1/4"		55.0	64.2	83.0	110.6
50–1/4"		52.8	61.6	–	–
56–1/4"		47.2	55.1	–	–
26–1/4"	108–1/2"	60.0	70.0	90.0	120.0
32–1/4"		60.0	70.0	90.0	120.0
38–1/4"		60.0	70.0	90.0	120.0
44–1/4"		60.0	70.0	90.0	120.0
46–1/4"		57.4	67.0	86.6	115.4
48–1/4"		55.0	64.2	–	–
50–1/4"		52.8	61.6	–	–
56–1/4"		47.2	55.1	–	–
26–1/4"	114–1/2"	60.0	70.0	90.0	120.0
32–1/4"		60.0	70.0	90.0	120.0
38–1/4"		60.0	70.0	90.0	120.0
44–1/4"		60.0	70.0	90.0	120.0
46–1/4"		57.4	67.0	–	–
48–1/4"		55.0	64.2	–	–
50–1/4"		52.8	61.6	–	–

GLASS LOAD CAPACITY – PSF					
NOMINAL DIMS.		GLASS TYPES 'GL3'		'GL4'	
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
26–1/4"	120–1/2"	60.0	70.0	–	–
32–1/4"		60.0	70.0	–	–
38–1/4"		60.0	70.0	–	–
44–1/4"		60.0	70.0	–	–
46–1/4"		57.4	67.0	–	–
48–1/4"		55.0	64.2	–	–
50–1/4"		52.8	61.6	–	–
26–1/4"	126–1/2"	60.0	70.0	–	–
32–1/4"		60.0	70.0	–	–
38–1/4"		60.0	70.0	–	–
44–1/4"		60.0	70.0	–	–
46–1/4"		57.4	67.0	–	–
48–1/4"		55.0	64.2	–	–
26–1/4"	132–1/2"	60.0	70.0	–	–
32–1/4"		60.0	70.0	–	–
38–1/4"		60.0	70.0	–	–
44–1/4"		60.0	70.0	–	–
46–1/4"		57.4	67.0	–	–
26–1/4"	138–1/2"	60.0	70.0	–	–
32–1/4"		60.0	70.0	–	–
38–1/4"		60.0	70.0	–	–
44–1/4"		60.0	70.0	–	–

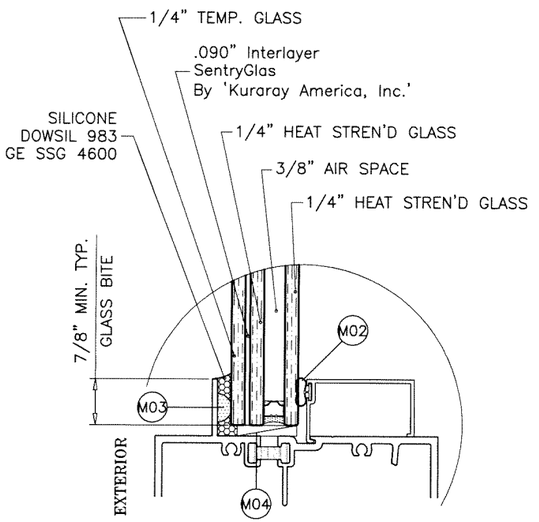
INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.





GLASS TYPE 'GL3'

1–3/16" OVERALL INSUL. LAM. GLASS



GLASS TYPE 'GL4'

1–3/16" OVERALL INSUL. LAM. GLASS

3/8" AIR SPACE CONSISTING OF:

SPACER:

'HELIMA' LOW PROFILE ALUMINUM SPACER
BY 'LINGERMANN GMBH'
AROUND THE PERIMETER OF THE GLASS.

PERIMETER SEALANT:

SILICONE
DOWSIL 791
GE 2000

GLASS

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

FL #17897

Sealed: 3/13/2025

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

COMP-ANL\W15-37ES

ES-8000T 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: 07-16-15
scale: –
dr. by: TARIQ
chk. by:

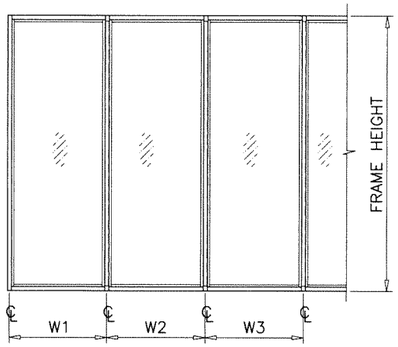
drawing no. W15–37

sheet 2.1 of 13

DESIGN LOAD CAPACITY – PSF
JAMB/MULLION
WITHOUT INTERMEDIATE HORIZONTALS

NOMINAL DIMS.		JAMB 'J1'		MULLION 'M1'		MULLION 'M2'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
30"	90"	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	60.0	60.0
48"		60.0	60.0	60.0	60.0	60.0	60.0
54"		60.0	60.0	60.0	60.0	60.0	60.0
60"		60.0	60.0	60.0	60.0	60.0	60.0
30"	96"	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0
40"		60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	–	–	60.0	60.0
48"		60.0	60.0	–	–	60.0	60.0
54"		60.0	60.0	–	–	60.0	60.0
60"		60.0	60.0	–	–	60.0	60.0
30"	102"	60.0	60.0	–	–	60.0	60.0
36"		60.0	60.0	–	–	60.0	60.0
42"		60.0	60.0	–	–	60.0	60.0
48"		60.0	60.0	–	–	60.0	60.0
54"		60.0	60.0	–	–	60.0	60.0
60"		60.0	60.0	–	–	60.0	60.0
30"	108"	60.0	60.0	–	–	60.0	60.0
36"		60.0	60.0	–	–	60.0	60.0
42"		60.0	60.0	–	–	60.0	60.0
48"		60.0	60.0	–	–	60.0	60.0
54"		60.0	60.0	–	–	60.0	60.0
30"	126"	60.0	60.0	–	–	60.0	60.0
36"		60.0	60.0	–	–	60.0	60.0
42"		60.0	60.0	–	–	60.0	60.0
48"		60.0	60.0	–	–	60.0	60.0
30"	132"	60.0	60.0	–	–	60.0	60.0
36"		60.0	60.0	–	–	60.0	60.0
42"		60.0	60.0	–	–	60.0	60.0
44–3/4"		60.0	60.0	–	–	60.0	60.0
30"	137"	60.0	60.0	–	–	60.0	60.0
36"		60.0	60.0	–	–	60.0	60.0
42"		60.0	60.0	–	–	58.1	58.1
44–3/4"		54.0	54.0	–	–	54.0	54.0

INTERPOLATION BETWEEN WIDTHS ALLOWED.



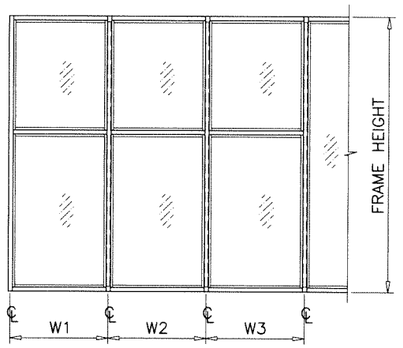
WIDTH (W) = W1
AT FRAME JAMB

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

DESIGN LOAD CAPACITY – PSF
JAMB/MULLION
WITH INTERMEDIATE HORIZONTALS

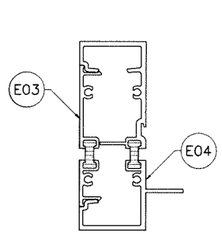
NOMINAL DIMS.		JAMB 'J1'		MULLION 'M1'		MULLION 'M2'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
30"	90"	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	60.0	60.0
48"		60.0	60.0	60.0	60.0	60.0	60.0
54"		60.0	60.0	60.0	60.0	60.0	60.0
60"		60.0	60.0	60.0	60.0	60.0	60.0
30"	96"	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0
40"		60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	–	–	60.0	60.0
48"		60.0	60.0	–	–	60.0	60.0
54"		60.0	60.0	–	–	60.0	60.0
60"		60.0	60.0	–	–	60.0	60.0
30"	102"	60.0	60.0	–	–	60.0	60.0
36"		60.0	60.0	–	–	60.0	60.0
42"		60.0	60.0	–	–	60.0	60.0
48"		60.0	60.0	–	–	60.0	60.0
54"		60.0	60.0	–	–	60.0	60.0
60"		60.0	60.0	–	–	60.0	60.0
30"	108"	60.0	60.0	–	–	60.0	60.0
36"		60.0	60.0	–	–	60.0	60.0
42"		60.0	60.0	–	–	60.0	60.0
48"		60.0	60.0	–	–	60.0	60.0
54"		60.0	60.0	–	–	60.0	60.0
30"	126"	60.0	60.0	–	–	60.0	60.0
36"		60.0	60.0	–	–	60.0	60.0
42"		60.0	60.0	–	–	60.0	60.0
48"		60.0	60.0	–	–	60.0	60.0
30"	132"	60.0	60.0	–	–	60.0	60.0
36"		60.0	60.0	–	–	60.0	60.0
42"		60.0	60.0	–	–	60.0	60.0
44–3/4"		60.0	60.0	–	–	58.8	58.8
30"	137"	60.0	60.0	–	–	60.0	60.0
36"		60.0	60.0	–	–	60.0	60.0
42"		60.0	60.0	–	–	56.1	56.1
44–3/4"		54.0	54.0	–	–	52.6	52.6

INTERPOLATION BETWEEN WIDTHS ALLOWED.



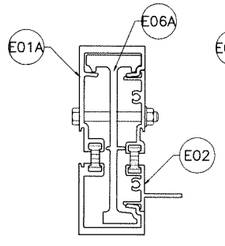
WIDTH (W) = W1
AT FRAME JAMB

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



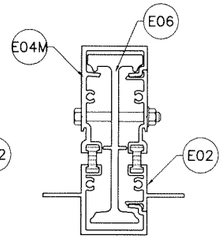
JAMB 'J1'

Ix IN^4	Sx IN^3
5.6469	2.1997



MULLION 'M1'

Ix IN^4	Sx IN^3
10.5913	4.2065



MULLION 'M2'

Ix IN^4	Sx IN^3
10.2689	4.1244

MULLIONS

Sealed: 3/13/2025

FL #17897

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
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COMP-ANL\W15-37ES

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revisions:

no	date	by	description

date: 07-16-15
scale: –
dr. by: TARIQ
chk. by:

drawing no. W15-37

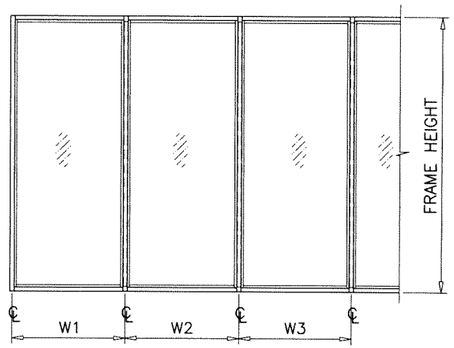
DESIGN LOAD CAPACITY – PSF
JAMB/MULLION
WITHOUT INTERMEDIATE HORIZONTALS

NOMINAL DIMS.		JAMB 'J2'		JAMB 'J3'		MULLION 'M3'		MULLION 'M4'		MULLION 'M5'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
30"	96"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
54"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
60"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
30"	98–1/2"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
54"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
60"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
30"	102"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
54"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
60"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
30"	108"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
54"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
30"	110–1/2"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	116.1	90.0	116.1	90.0	116.1	90.0	116.1	90.0	116.1
54"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
30"	114"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	118.1	90.0	118.1	90.0	118.1	90.0	118.1	90.0	118.1
48"		90.0	105.2	90.0	105.2	90.0	105.2	90.0	105.2	90.0	105.2
54"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
30"	120"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	116.0	90.0	116.0	90.0	116.0	90.0	116.0	90.0	116.0
42"		90.0	100.7	90.0	100.7	90.0	100.7	90.0	100.7	90.0	100.7
48"		89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5
54"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
57"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		–	–	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
30"	126"	60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
54"		60.0	69.4	70.0	70.0	69.4	69.4	70.0	70.0	70.0	70.0
60"		–	–	70.0	70.0	63.6	63.6	70.0	70.0	70.0	70.0

DESIGN LOAD CAPACITY – PSF
JAMB/MULLION
WITHOUT INTERMEDIATE HORIZONTALS

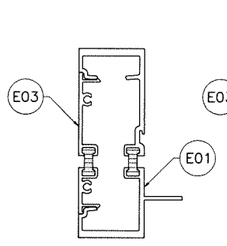
NOMINAL DIMS.		JAMB 'J2'		JAMB 'J3'		MULLION 'M3'		MULLION 'M4'		MULLION 'M5'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
30"	132"	60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		60.0	66.5	70.0	70.0	66.5	66.5	70.0	70.0	70.0	70.0
52"		60.0	62.0	70.0	70.0	62.0	62.0	70.0	70.0	70.0	70.0
54"		–	–	70.0	70.0	59.9	59.9	70.0	70.0	70.0	70.0
60"		–	–	70.0	70.0	54.8	54.8	69.2	69.2	70.0	70.0
30"	138"	60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		60.0	65.4	70.0	70.0	65.4	65.4	70.0	70.0	70.0	70.0
48"		57.9	57.9	70.0	70.0	57.9	57.9	70.0	70.0	70.0	70.0
50"		55.8	55.8	70.0	70.0	55.8	55.8	70.0	70.0	70.0	70.0
54"		–	–	70.0	70.0	52.1	52.1	69.0	69.0	70.0	70.0
60"		–	–	70.0	70.0	47.6	47.6	62.9	62.9	70.0	70.0
30"	144"	60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36"		60.0	66.4	70.0	70.0	66.4	66.4	70.0	70.0	70.0	70.0
42"		57.4	57.4	70.0	70.0	57.4	57.4	70.0	70.0	70.0	70.0
48"		50.8	50.8	70.0	70.0	50.8	50.8	70.0	70.0	70.0	70.0
54"		–	–	70.0	70.0	45.6	45.6	63.1	63.1	70.0	70.0
60"		–	–	60.0	60.0	41.6	41.6	57.5	57.5	60.0	60.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



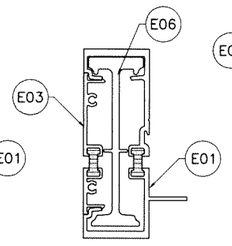
WIDTH (W) = W1
AT FRAME JAMB

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



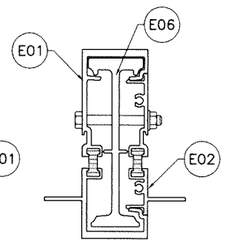
JAMB 'J2'

Ix IN^4	Sx IN^3
6.5995	2.5891



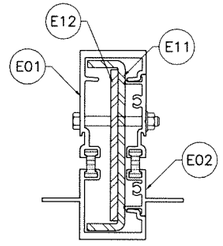
JAMB 'J3'

Ix IN^4	Sx IN^3
11.0604	4.4380



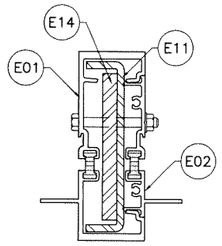
MULLION 'M3'

Ix IN^4	Sx IN^3
11.2393	4.3497



MULLION 'M4'

	Ix IN^4	Sx IN^3
ALUMINUM	6.7652	2.6449
STEEL	3.7533	1.6656
TOTAL Ix ALUM + Ix STL X 2.9	17.5420	



MULLION 'M5'

	Ix IN^4	Sx IN^3
ALUMINUM	6.7652	2.6449
STEEL	4.5689	2.0306
TOTAL Ix ALUM + Ix STL X 2.9	19.8838	

MULLIONS

Sealed: 3/13/2025

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

COMP-ANL\W15-37ES

ES-8000T 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: 07-16-15
scale: –
dr. by: TARIQ
chk. by:

drawing no. W15-37

sheet 3.1 of 13

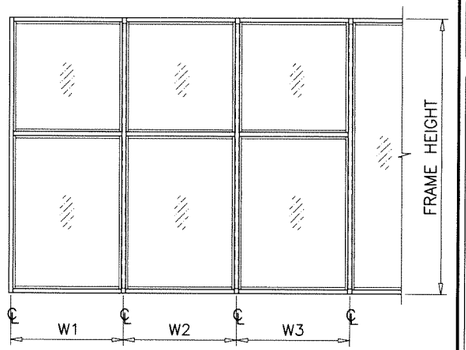
DESIGN LOAD CAPACITY – PSF
JAMB/MULLION
WITH INTERMEDIATE HORIZONTALS

NOMINAL DIMS.		JAMB 'J2'		JAMB 'J3'		MULLION 'M3'		MULLION 'M4'		MULLION 'M5'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
30"	96"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
54"		–	–	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		–	–	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
30"	98–1/2"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
54"		–	–	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		–	–	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
30"	102"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
54"		–	–	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		–	–	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
30"	108"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	115.3	90.0	115.3	90.0	115.3	90.0	115.3	90.0	115.3
54"		–	–	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		–	–	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
30"	110–1/2"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	107.7	90.0	107.7	90.0	107.7	90.0	107.7	90.0	107.7
54"		–	–	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		–	–	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
30"	114"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	112.1	90.0	112.1	90.0	112.1	90.0	112.1	90.0	112.1
48"		90.0	98.1	90.0	98.1	90.0	98.1	90.0	98.1	90.0	98.1
54"		–	–	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		–	–	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
30"	120"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	112.1	90.0	112.1	90.0	112.1	90.0	112.1	90.0	112.1
42"		90.0	96.1	90.0	96.1	90.0	96.1	90.0	96.1	90.0	96.1
48"		84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1
54"		–	–	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		–	–	70.0	70.0	67.2	67.2	70.0	70.0	70.0	70.0
30"	126"	60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
54"		–	–	70.0	70.0	64.5	64.5	70.0	70.0	70.0	70.0
60"		–	–	70.0	70.0	58.0	58.0	70.0	70.0	70.0	70.0

DESIGN LOAD CAPACITY – PSF
JAMB/MULLION
WITH INTERMEDIATE HORIZONTALS

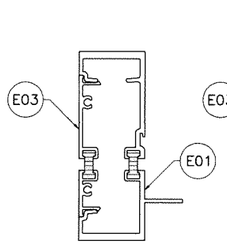
NOMINAL DIMS.		JAMB 'J2'		JAMB 'J3'		MULLION 'M3'		MULLION 'M4'		MULLION 'M5'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
30"	132"	60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		60.0	63.2	70.0	70.0	63.2	63.2	70.0	70.0	70.0	70.0
54"		–	–	70.0	70.0	56.1	56.1	70.0	70.0	70.0	70.0
60"		–	–	70.0	70.0	50.5	50.5	64.5	64.5	70.0	70.0
30"	138"	60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		60.0	63.2	70.0	70.0	63.2	63.2	70.0	70.0	70.0	70.0
48"		55.3	55.3	70.0	70.0	55.3	55.3	70.0	70.0	70.0	70.0
54"		–	–	70.0	70.0	49.1	49.1	65.6	65.6	70.0	70.0
60"		–	–	70.0	70.0	44.2	44.2	59.0	59.0	67.0	67.0
30"	144"	60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36"		60.0	64.9	70.0	70.0	64.9	64.9	70.0	70.0	70.0	70.0
42"		55.6	55.6	70.0	70.0	55.6	55.6	70.0	70.0	70.0	70.0
48"		48.7	48.7	70.0	70.0	48.7	48.7	67.8	67.8	70.0	70.0
54"		–	–	70.0	70.0	43.2	43.2	60.2	60.2	68.4	68.4
60"		–	–	60.0	60.0	38.9	38.9	54.2	54.2	60.0	60.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



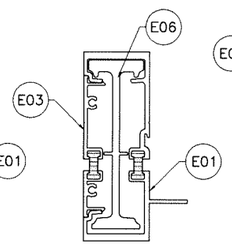
WIDTH (W) = W1
AT FRAME JAMB

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



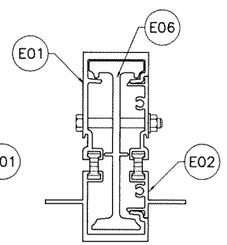
JAMB 'J2'

Ix IN^4	Sx IN^3
6.5995	2.5891



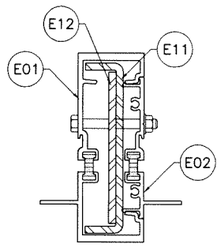
JAMB 'J3'

Ix IN^4	Sx IN^3
11.0604	4.4380



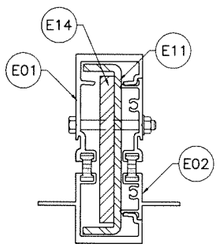
MULLION 'M3'

Ix IN^4	Sx IN^3
11.2393	4.3497



MULLION 'M4'

	Ix IN^4	Sx IN^3
ALUMINUM	6.7652	2.6449
STEEL	3.7533	1.6656
TOTAL Ix ALUM + Ix STL X 2.9	17.5420	



MULLION 'M5'

	Ix IN^4	Sx IN^3
ALUMINUM	6.7652	2.6449
STEEL	4.5689	2.0306
TOTAL Ix ALUM + Ix STL X 2.9	19.8838	

MULLIONS

Sealed: 3/13/2025

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

COMP-ANL\W15-37ES

ES-8000T 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: 07-16-15
scale: –
dr. by: TARIQ
chk. by:

drawing no. W15-37

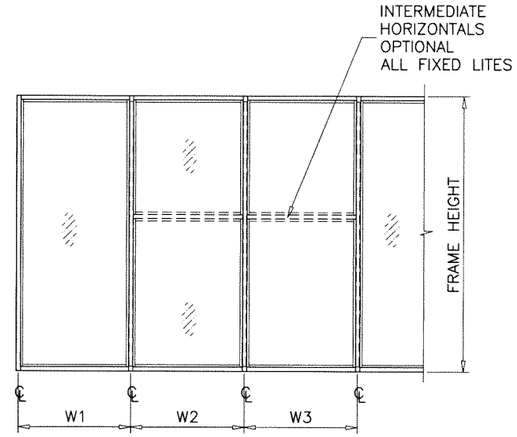
ANCHOR LOAD CAPACITY – PSF
EXT.(+) & INT.(–)

NOMINAL DIMS.		ANCHORS TYPE 'A'							
		1/4" MAX. SHIM			3/8" MAX. SHIM			1/2" SHIM	
WIDTH (W)	FRAME HEIGHT	A2	A3	A4	A2	A3	A4	A3	A4
30"	78"	120.0	120.0	120.0	90.3	120.0	120.0	105.3	120.0
36"		107.1	120.0	120.0	75.2	112.9	120.0	87.8	117.0
42"		91.8	120.0	120.0	64.5	96.7	120.0	75.2	100.3
48"		80.3	120.0	120.0	56.4	84.6	112.9	65.8	87.8
54"		71.4	107.1	120.0	50.2	75.2	100.3	58.5	78.0
60"		64.2	96.4	120.0	45.1	67.7	90.3	52.7	70.2
30"	84"	119.3	120.0	120.0	83.8	120.0	120.0	97.8	120.0
36"		99.4	120.0	120.0	69.9	104.8	120.0	81.5	108.6
42"		85.2	120.0	120.0	59.9	89.8	119.8	69.8	93.1
48"		74.6	111.9	120.0	52.4	78.6	104.8	61.1	81.5
54"		66.3	99.4	120.0	46.6	69.9	93.2	54.3	72.4
60"		59.7	89.5	119.3	41.9	62.9	83.8	48.9	65.2
30"	90"	111.4	120.0	120.0	78.3	117.4	120.0	91.3	120.0
36"		92.8	120.0	120.0	65.2	97.8	120.0	76.1	101.4
42"		79.5	119.3	120.0	55.9	83.8	111.8	65.2	86.9
48"		69.6	104.4	120.0	48.9	73.4	97.8	57.0	76.1
54"		61.9	92.8	120.0	43.5	65.2	86.9	50.7	67.6
60"		55.7	83.5	111.4	39.1	58.7	78.3	45.6	60.8
30"	96"	104.4	120.0	120.0	73.4	110.0	120.0	85.6	114.1
36"		87.0	120.0	120.0	61.1	91.7	120.0	71.3	95.1
42"		74.6	111.9	120.0	52.4	78.6	104.8	61.1	81.5
48"		65.3	97.9	120.0	45.9	68.8	91.7	53.5	71.3
54"		58.0	87.0	116.0	40.8	61.1	81.5	47.5	63.4
60"		52.2	78.3	104.4	36.7	55.0	73.4	42.8	57.0
30"	102"	98.3	120.0	120.0	69.0	103.6	120.0	80.5	107.4
36"		81.9	120.0	120.0	57.5	86.3	115.1	67.1	89.5
42"		70.2	105.3	120.0	49.3	74.0	98.6	57.5	76.7
48"		61.4	92.1	120.0	43.2	64.7	86.3	50.3	67.1
54"		54.6	81.9	109.2	38.4	57.5	76.7	44.7	59.6
60"		49.1	70.0	70.0	34.5	51.8	69.0	40.3	53.7
30"	108"	92.8	120.0	120.0	65.2	97.8	120.0	76.1	101.4
36"		77.3	116.0	120.0	54.3	81.5	108.7	63.4	84.5
42"		66.3	99.4	120.0	46.6	69.9	93.2	54.3	72.4
48"		58.0	87.0	116.0	40.8	61.1	81.5	47.5	63.4
54"		51.6	77.3	103.1	36.2	54.3	72.5	42.3	56.3
60"		46.4	69.6	70.0	32.6	48.9	65.2	38.0	50.7
30"	114"	87.9	120.0	120.0	61.8	92.7	120.0	72.1	96.1
36"		73.3	109.9	120.0	51.5	77.2	103.0	60.0	80.1
42"		62.8	94.2	120.0	44.1	66.2	88.3	51.5	68.6
48"		54.9	82.4	109.9	38.6	57.9	77.2	45.0	60.0
54"		48.8	70.0	70.0	34.3	51.5	68.6	40.0	53.4
60"		44.0	65.9	70.0	30.9	46.3	61.8	36.0	48.0
30"	120"	83.5	120.0	120.0	58.7	88.0	117.4	68.4	91.3
36"		69.6	104.4	120.0	48.9	73.4	97.8	57.0	76.1
42"		59.7	89.5	119.3	41.9	62.9	83.8	48.9	65.2
48"		52.2	78.3	104.4	36.7	55.0	73.4	42.8	57.0
54"		46.4	69.6	70.0	32.6	48.9	65.2	38.0	50.7
60"		–	62.6	70.0	–	44.0	58.7	34.2	45.6
30"	126"	70.0	70.0	70.0	55.9	70.0	70.0	65.2	70.0
36"		66.3	70.0	70.0	46.6	69.9	70.0	54.3	70.0
42"		56.8	70.0	70.0	39.9	59.9	70.0	46.6	62.1
48"		49.7	70.0	70.0	34.9	52.4	69.9	40.7	54.3
54"		44.2	66.3	70.0	31.1	46.6	62.1	36.2	48.3
60"		–	59.7	70.0	–	41.9	55.9	32.6	43.5

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

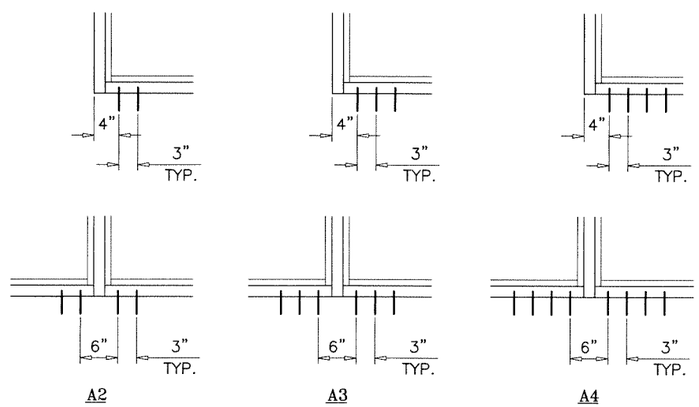
NOMINAL DIMS.		ANCHORS TYPE 'A'							
		1/4" MAX. SHIM			3/8" MAX. SHIM			1/2" SHIM	
WIDTH (W)	FRAME HEIGHT	A2	A3	A4	A2	A3	A4	A3	A4
30"	132"	70.0	70.0	70.0	53.4	70.0	70.0	62.2	70.0
36"		63.3	70.0	70.0	44.5	66.7	70.0	51.9	69.1
42"		54.2	70.0	70.0	38.1	57.2	70.0	44.4	59.3
48"		47.5	70.0	70.0	33.3	50.0	66.7	38.9	51.9
54"		–	63.3	70.0	–	44.5	59.3	34.6	46.1
60"		–	56.9	70.0	–	40.0	53.4	31.1	41.5
30"	138"	70.0	70.0	70.0	51.0	70.0	70.0	59.5	70.0
36"		60.5	70.0	70.0	42.5	63.8	70.0	49.6	66.1
42"		51.9	70.0	70.0	36.5	54.7	70.0	42.5	56.7
48"		45.4	68.1	70.0	31.9	47.8	63.8	37.2	49.6
54"		–	60.5	70.0	–	42.5	56.7	33.1	44.1
60"		–	54.5	70.0	–	38.3	51.0	29.8	39.7
30"	144"	69.6	70.0	70.0	48.9	70.0	70.0	57.0	70.0
36"		58.0	70.0	70.0	40.8	61.1	70.0	47.5	63.4
42"		49.7	70.0	70.0	34.9	52.4	69.9	40.7	54.3
48"		43.5	65.3	70.0	30.6	45.9	61.1	35.7	47.5
54"		–	58.0	70.0	–	40.8	54.3	31.7	42.3
60"		–	52.2	60.0	–	36.7	48.9	28.5	38.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



WIDTH (W) = W1
AT FRAME JAMB

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



A2 A3 A4

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

ANCHORS

Sealed: 3/13/2025

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

COMP-ANL\W15-37ES

ES-8000T 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: 07-16-15
scale: –
dr. by: TARIQ
chk. by:

drawing no. W15-37

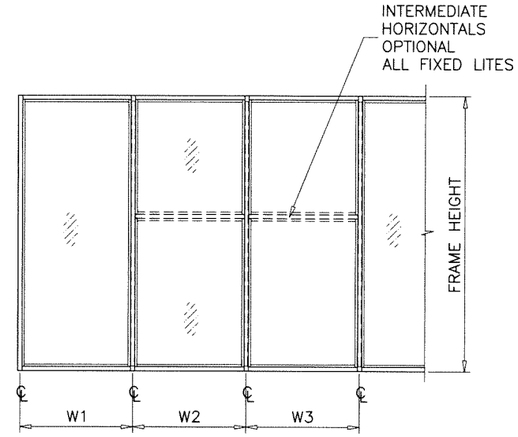
ANCHOR LOAD CAPACITY – PSF
EXT.(+) & INT.(–)

NOMINAL DIMS.		ANCHORS TYPE 'B'								
		1/4" MAX. SHIM			3/8" MAX. SHIM			1/2" SHIM		
WIDTH (W)	FRAME HEIGHT	B2	B3	B4	B2	B3	B4	B2	B3	B4
30"	78"	120.0	120.0	120.0	120.0	120.0	120.0	101.4	120.0	120.0
36"		120.0	120.0	120.0	107.1	120.0	120.0	84.5	120.0	120.0
42"		119.9	120.0	120.0	91.8	120.0	120.0	72.4	108.7	120.0
48"		104.9	120.0	120.0	80.3	120.0	120.0	63.4	95.1	120.0
54"		93.3	120.0	120.0	71.4	107.1	120.0	56.3	84.5	112.7
60"		83.9	120.0	120.0	64.2	96.4	120.0	50.7	76.1	101.4
30"	84"	120.0	120.0	120.0	119.3	120.0	120.0	94.2	120.0	120.0
36"		120.0	120.0	120.0	99.4	120.0	120.0	78.5	117.7	120.0
42"		111.3	120.0	120.0	85.2	120.0	120.0	67.3	100.9	120.0
48"		97.4	120.0	120.0	74.6	111.9	120.0	58.9	88.3	117.7
54"		86.6	120.0	120.0	66.3	99.4	120.0	52.3	78.5	104.6
60"		77.9	116.9	120.0	59.7	89.5	119.3	47.1	70.6	94.2
30"	90"	120.0	120.0	120.0	111.4	120.0	120.0	87.9	120.0	120.0
36"		120.0	120.0	120.0	92.8	120.0	120.0	73.2	109.9	120.0
42"		103.9	120.0	120.0	79.5	119.3	120.0	62.8	94.2	120.0
48"		90.9	120.0	120.0	69.6	104.4	120.0	54.9	82.4	109.9
54"		80.8	120.0	120.0	61.9	92.8	120.0	48.8	73.2	97.7
60"		72.7	109.1	120.0	55.7	83.5	111.4	43.9	65.9	87.9
30"	96"	120.0	120.0	120.0	104.4	120.0	120.0	82.4	120.0	120.0
36"		113.7	120.0	120.0	87.0	120.0	120.0	68.7	103.0	120.0
42"		97.4	120.0	120.0	74.6	111.9	120.0	58.9	88.3	117.7
48"		85.3	120.0	120.0	65.3	97.9	120.0	51.5	77.3	103.0
54"		75.8	113.7	120.0	58.0	87.0	116.0	45.8	68.7	91.6
60"		68.2	102.3	120.0	52.2	78.3	104.4	41.2	61.8	82.4
30"	102"	120.0	120.0	120.0	98.3	120.0	120.0	77.6	116.3	120.0
36"		107.0	120.0	120.0	81.9	120.0	120.0	64.6	96.9	120.0
42"		91.7	120.0	120.0	70.2	105.3	120.0	55.4	83.1	110.8
48"		80.2	120.0	120.0	61.4	92.1	120.0	48.5	72.7	96.9
54"		71.3	107.0	120.0	54.6	81.9	109.2	43.1	64.6	86.2
60"		64.2	70.0	70.0	49.1	70.0	70.0	38.8	58.2	70.0
30"	108"	120.0	120.0	120.0	92.8	120.0	120.0	73.2	109.9	120.0
36"		101.0	120.0	120.0	77.3	116.0	120.0	61.0	91.6	120.0
42"		86.6	120.0	120.0	66.3	99.4	120.0	52.3	78.5	104.6
48"		75.8	113.7	120.0	58.0	87.0	116.0	45.8	68.7	91.6
54"		67.4	101.0	120.0	51.6	77.3	103.1	40.7	61.0	81.4
60"		60.6	70.0	70.0	46.4	69.6	70.0	36.6	54.9	70.0
30"	114"	114.9	120.0	120.0	87.9	120.0	120.0	69.4	104.1	120.0
36"		95.7	120.0	120.0	73.3	109.9	120.0	57.8	86.7	115.6
42"		82.0	120.0	120.0	62.8	94.2	120.0	49.6	74.3	99.1
48"		71.8	107.7	120.0	54.9	82.4	109.9	43.4	65.1	86.7
54"		63.8	70.0	70.0	48.8	70.0	70.0	38.5	57.8	70.0
60"		57.4	70.0	70.0	44.0	65.9	70.0	34.7	52.0	69.4
30"	120"	109.1	120.0	120.0	83.5	120.0	120.0	65.9	98.9	120.0
36"		90.9	120.0	120.0	69.6	104.4	120.0	54.9	82.4	109.9
42"		77.9	116.9	120.0	59.7	89.5	119.3	47.1	70.6	94.2
48"		68.2	102.3	120.0	52.2	78.3	104.4	41.2	61.8	82.4
54"		60.6	70.0	70.0	46.4	69.6	70.0	36.6	54.9	70.0
60"		–	70.0	70.0	–	62.6	70.0	–	49.4	65.9
30"	126"	70.0	70.0	70.0	70.0	70.0	70.0	62.8	70.0	70.0
36"		70.0	70.0	70.0	66.3	70.0	70.0	52.3	70.0	70.0
42"		70.0	70.0	70.0	56.8	70.0	70.0	44.8	67.3	70.0
48"		65.0	70.0	70.0	49.7	70.0	70.0	39.2	58.9	70.0
54"		57.7	70.0	70.0	44.2	66.3	70.0	34.9	52.3	69.8
60"		–	70.0	70.0	–	59.7	70.0	–	47.1	62.8

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

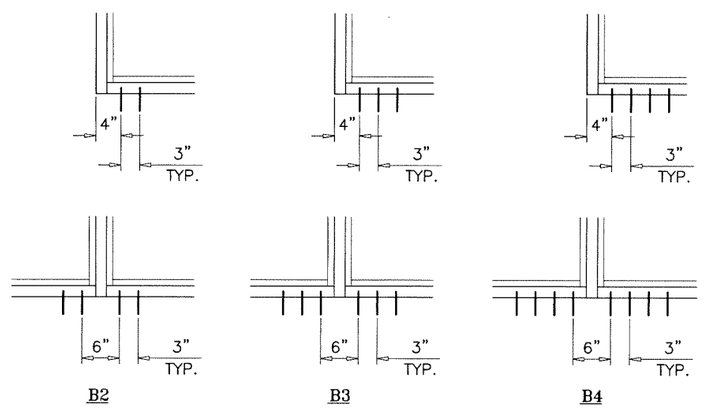
NOMINAL DIMS.		ANCHORS TYPE 'B'								
		1/4" MAX. SHIM			3/8" MAX. SHIM			1/2" SHIM		
WIDTH (W)	FRAME HEIGHT	B2	B3	B4	B2	B3	B4	B2	B3	B4
30"	132"	70.0	70.0	70.0	70.0	70.0	70.0	59.9	70.0	70.0
36"		70.0	70.0	70.0	63.3	70.0	70.0	49.9	70.0	70.0
42"		70.0	70.0	70.0	54.2	70.0	70.0	42.8	64.2	70.0
48"		62.0	70.0	70.0	47.5	70.0	70.0	37.5	56.2	70.0
54"		–	70.0	70.0	–	63.3	70.0	–	49.9	66.6
60"		–	70.0	70.0	–	56.9	70.0	–	44.9	59.9
30"	138"	70.0	70.0	70.0	70.0	70.0	70.0	57.3	70.0	70.0
36"		70.0	70.0	70.0	60.5	70.0	70.0	47.8	70.0	70.0
42"		67.8	70.0	70.0	51.9	70.0	70.0	40.9	61.4	70.0
48"		59.3	70.0	70.0	45.4	68.1	70.0	35.8	53.7	70.0
54"		–	70.0	70.0	–	60.5	70.0	–	47.8	63.7
60"		–	70.0	70.0	–	54.5	70.0	–	43.0	57.3
30"	144"	70.0	70.0	70.0	69.6	70.0	70.0	54.9	70.0	70.0
36"		70.0	70.0	70.0	58.0	70.0	70.0	45.8	68.7	70.0
42"		65.0	70.0	70.0	49.7	70.0	70.0	39.2	58.9	70.0
48"		56.8	70.0	70.0	43.5	65.3	70.0	34.3	51.5	68.7
54"		–	70.0	70.0	–	58.0	70.0	–	45.8	61.0
60"		–	60.0	60.0	–	52.2	60.0	–	41.2	54.9

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



WIDTH (W) = W1
AT FRAME JAMB

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



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

ANCHORS

Sealed: 3/13/2025

FL #17897

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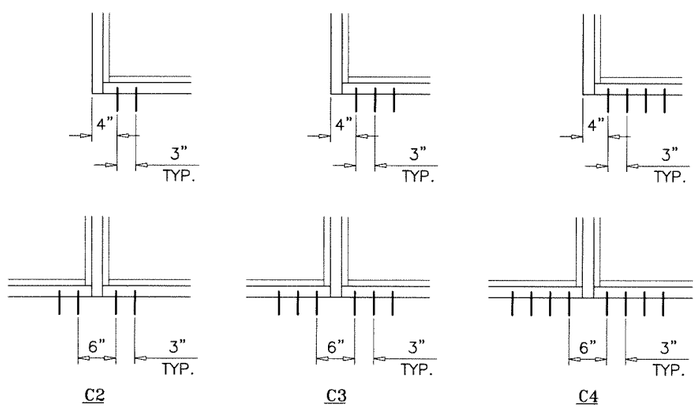
ANCHOR LOAD CAPACITY – PSF
EXT.(+) & INT.(–)

NOMINAL DIMS.		ANCHORS TYPE 'C'							
		1/4" MAX. SHIM			3/8" MAX. SHIM			1/2" SHIM	
WIDTH (W)	FRAME HEIGHT	C2	C3	C4	C2	C3	C4	C3	C4
30"	78"	120.0	120.0	120.0	91.6	120.0	120.0	108.6	120.0
36"		120.0	120.0	120.0	76.3	114.5	120.0	90.5	120.0
42"		120.0	120.0	120.0	65.4	98.1	120.0	77.5	103.4
48"		120.0	120.0	120.0	57.2	85.8	114.5	67.8	90.5
54"		106.9	120.0	120.0	50.9	76.3	101.7	60.3	80.4
60"		96.2	120.0	120.0	45.8	68.7	91.6	54.3	72.4
30"	84"	120.0	120.0	120.0	85.0	120.0	120.0	100.8	120.0
36"		120.0	120.0	120.0	70.9	106.3	120.0	84.0	112.0
42"		120.0	120.0	120.0	60.7	91.1	120.0	72.0	96.0
48"		111.7	120.0	120.0	53.1	79.7	106.3	63.0	84.0
54"		99.3	120.0	120.0	47.2	70.9	94.5	56.0	74.7
60"		89.4	120.0	120.0	42.5	63.8	85.0	50.4	67.2
30"	90"	120.0	120.0	120.0	79.4	119.0	120.0	94.1	120.0
36"		120.0	120.0	120.0	66.1	99.2	120.0	78.4	104.5
42"		119.2	120.0	120.0	56.7	85.0	113.4	67.2	89.6
48"		104.3	120.0	120.0	49.6	74.4	99.2	58.8	78.4
54"		92.7	120.0	120.0	44.1	66.1	88.2	52.3	69.7
60"		83.4	120.0	120.0	39.7	59.5	79.4	47.0	62.7
30"	96"	120.0	120.0	120.0	74.4	111.6	120.0	88.2	117.6
36"		120.0	120.0	120.0	62.0	93.0	120.0	73.5	98.0
42"		111.7	120.0	120.0	53.1	79.7	106.3	63.0	84.0
48"		97.8	120.0	120.0	46.5	69.8	93.0	55.1	73.5
54"		86.9	120.0	120.0	41.3	62.0	82.7	49.0	65.3
60"		78.2	117.3	120.0	37.2	55.8	74.4	44.1	58.8
30"	102"	120.0	120.0	120.0	70.0	105.0	120.0	83.0	110.7
36"		120.0	120.0	120.0	58.4	87.5	116.7	69.2	92.2
42"		105.1	120.0	120.0	50.0	75.0	100.0	59.3	79.1
48"		92.0	120.0	120.0	43.8	65.6	87.5	51.9	69.2
54"		81.8	120.0	120.0	38.9	58.4	77.8	46.1	61.5
60"		70.0	70.0	70.0	35.0	52.5	70.0	41.5	55.3
30"	108"	120.0	120.0	120.0	66.1	99.2	120.0	78.4	104.5
36"		115.9	120.0	120.0	55.1	82.7	110.2	65.3	87.1
42"		99.3	120.0	120.0	47.2	70.9	94.5	56.0	74.7
48"		86.9	120.0	120.0	41.3	62.0	82.7	49.0	65.3
54"		77.2	115.9	120.0	36.7	55.1	73.5	43.6	58.1
60"		69.5	70.0	70.0	33.1	49.6	66.1	39.2	52.3
30"	114"	120.0	120.0	120.0	62.7	94.0	120.0	74.3	99.0
36"		109.8	120.0	120.0	52.2	78.3	104.4	61.9	82.5
42"		94.1	120.0	120.0	44.8	67.1	89.5	53.1	70.7
48"		82.3	120.0	120.0	39.2	58.7	78.3	46.4	61.9
54"		70.0	70.0	70.0	34.8	52.2	69.6	41.3	55.0
60"		65.9	70.0	70.0	31.3	47.0	62.7	37.1	49.5
30"	120"	120.0	120.0	120.0	59.5	89.3	119.0	70.6	94.1
36"		104.3	120.0	120.0	49.6	74.4	99.2	58.8	78.4
42"		89.4	120.0	120.0	42.5	63.8	85.0	50.4	67.2
48"		78.2	117.3	120.0	37.2	55.8	74.4	44.1	58.8
54"		69.5	70.0	70.0	33.1	49.6	66.1	39.2	52.3
60"		–	70.0	70.0	–	44.6	59.5	35.3	47.0
30"	126"	70.0	70.0	70.0	56.7	70.0	70.0	67.2	70.0
36"		70.0	70.0	70.0	47.2	70.0	70.0	56.0	70.0
42"		70.0	70.0	70.0	40.5	60.7	70.0	48.0	64.0
48"		70.0	70.0	70.0	35.4	53.1	70.0	42.0	56.0
54"		66.2	70.0	70.0	31.5	47.2	63.0	37.3	49.8
60"		–	70.0	70.0	–	42.5	56.7	33.6	44.8

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

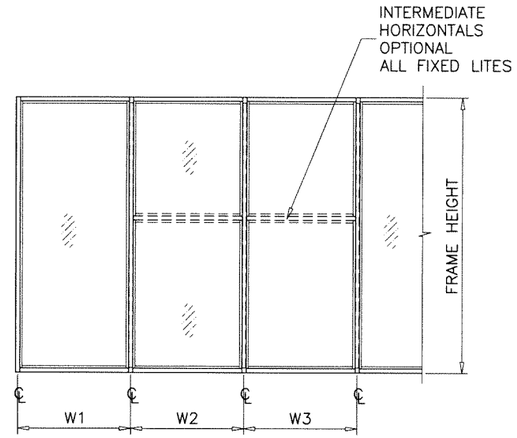
NOMINAL DIMS.		ANCHORS TYPE 'C'							
		1/4" MAX. SHIM			3/8" MAX. SHIM			1/2" SHIM	
WIDTH (W)	FRAME HEIGHT	C2	C3	C4	C2	C3	C4	C3	C4
30"	132"	70.0	70.0	70.0	54.1	70.0	70.0	64.1	70.0
36"		70.0	70.0	70.0	45.1	67.6	70.0	53.5	70.0
42"		70.0	70.0	70.0	38.6	58.0	70.0	45.8	61.1
48"		70.0	70.0	70.0	33.8	50.7	67.6	40.1	53.5
54"		–	70.0	70.0	–	45.1	60.1	35.6	47.5
60"		–	70.0	70.0	–	40.6	54.1	32.1	42.8
30"	138"	70.0	70.0	70.0	51.8	70.0	70.0	61.4	70.0
36"		70.0	70.0	70.0	43.1	64.7	70.0	51.1	68.2
42"		70.0	70.0	70.0	37.0	55.5	70.0	43.8	58.4
48"		68.0	70.0	70.0	32.3	48.5	64.7	38.3	51.1
54"		–	70.0	70.0	–	43.1	57.5	34.1	45.4
60"		–	70.0	70.0	–	38.8	51.8	30.7	40.9
30"	144"	70.0	70.0	70.0	49.6	70.0	70.0	58.8	70.0
36"		70.0	70.0	70.0	41.3	62.0	70.0	49.0	65.3
42"		70.0	70.0	70.0	35.4	53.1	70.0	42.0	56.0
48"		65.2	70.0	70.0	31.0	46.5	62.0	36.8	49.0
54"		–	70.0	70.0	–	41.3	55.1	32.7	43.6
60"		–	60.0	60.0	–	37.2	49.6	29.4	39.2

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

ANCHORS

Sealed: 3/13/2025

FL #17897

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COMP-ANL\W15-37ES

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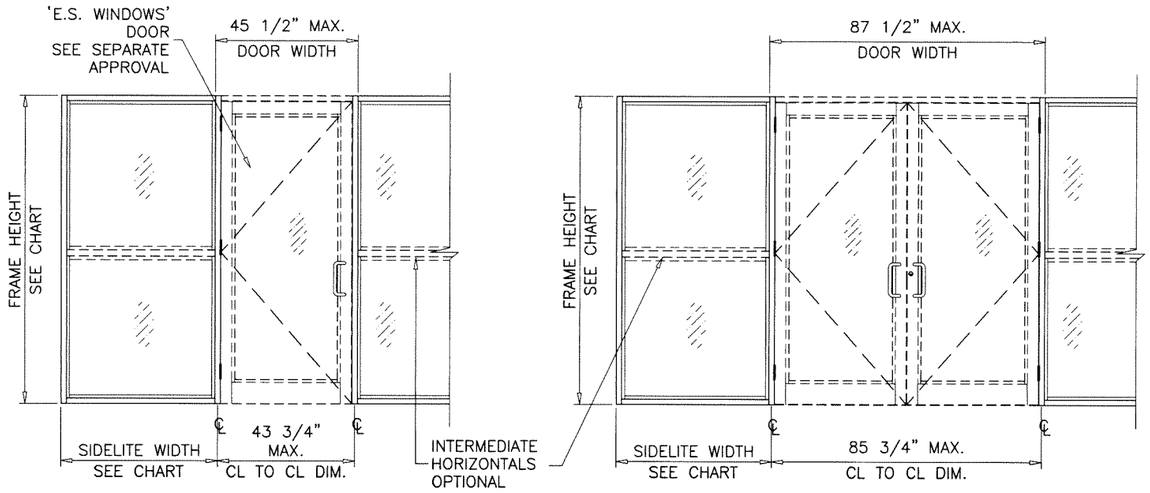
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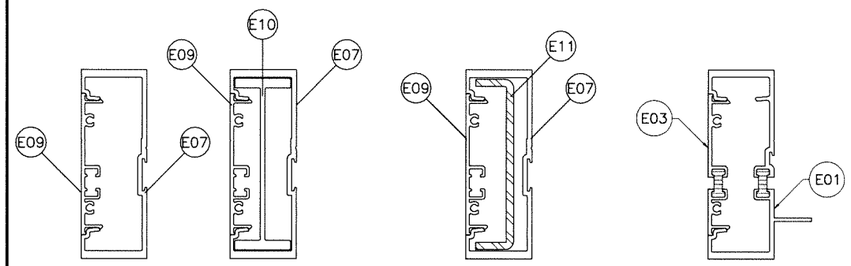
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scale: –
dr. by: TARIQ
chk. by:

drawing no. W15-37

sheet 6 of 13

DOOR MULLION LOAD CAPACITY–PSF											
SIDELITE WIDTH INCHES	FRAME HEIGHT INCHES	JAMB 'JD1' MULL 'MD1'		JAMB 'JD1' MULL 'MD2'		JAMB 'JD2' JAMB 'JD3' MULL 'MD3'		JAMB 'JD3' MULL 'MD4'		JAMB 'JD4' MULL 'MD5'	
		EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
32	86–1/2	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	80.0	90.0
36		120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	80.0	90.0
42		120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	80.0	90.0
48		120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	80.0	90.0
54		120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	80.0	90.0
60		120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	80.0	90.0
32	98–1/2	112.6	112.6	120.0	120.0	120.0	120.0	120.0	120.0	80.0	90.0
36		107.1	107.1	120.0	120.0	120.0	120.0	120.0	120.0	80.0	90.0
42		99.7	99.7	120.0	120.0	120.0	120.0	120.0	120.0	80.0	90.0
48		93.3	93.3	120.0	120.0	120.0	120.0	120.0	120.0	80.0	90.0
54		87.7	87.7	120.0	120.0	116.1	116.1	120.0	120.0	80.0	90.0
32	110–1/2	79.8	79.8	120.0	120.0	118.5	118.5	120.0	120.0	80.0	90.0
36		75.8	75.8	120.0	120.0	112.6	112.6	120.0	120.0	80.0	90.0
42		70.6	70.6	113.6	113.6	104.9	104.9	120.0	120.0	80.0	90.0
48		66.1	66.1	106.3	106.3	98.2	98.2	120.0	120.0	80.0	90.0
32	120	–	–	–	–	–	–	–	–	80.0	90.0
36		–	–	–	–	–	–	–	–	80.0	90.0
42		–	–	–	–	–	–	–	–	80.0	88.7
48		–	–	–	–	–	–	–	–	80.0	82.9





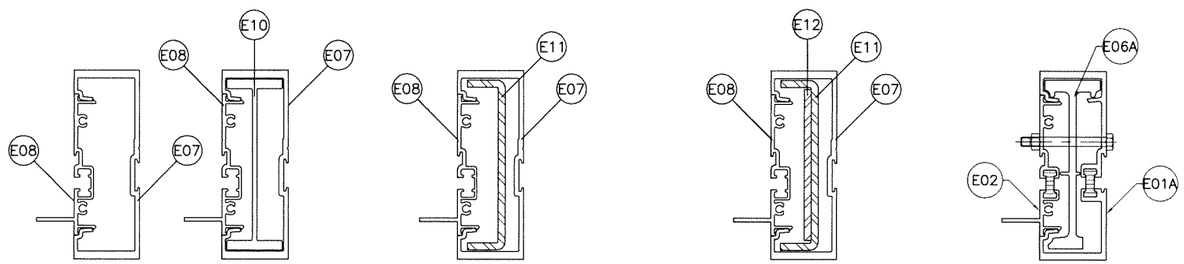
JAMB 'JD1' | JAMB 'JD2' | JAMB 'JD3' | JAMB 'JD4'

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
6.5995	2.5891



MULLION 'MD1' | MULLION 'MD2' | MULLION 'MD3' | MULLION 'MD4' | MULLION 'MD5'

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	1.6681
TOTAL Ix ALUM + Ix STL X 2.9	17.6041	

Ix IN^4	Sx IN^3
10.5913	4.2065

DOOR–WINDOWALL TRANSITION MULLION

Sealed: 3/13/2025

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

COMP–ANL\W15–37ES

ES–8000T 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

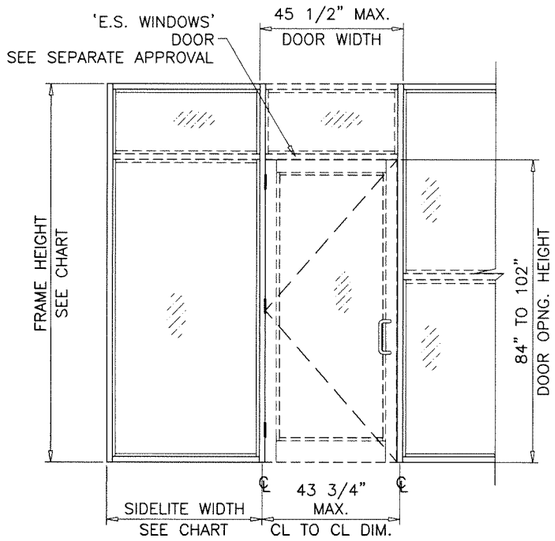
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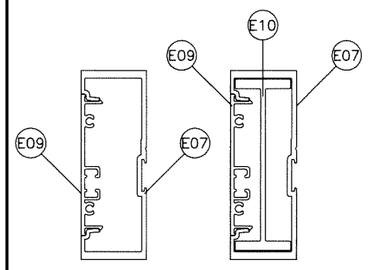
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chk. by:

drawing no. W15–37

sheet 7 of 13

DOOR MULLION LOAD CAPACITY–PSF											
SIDELITE WIDTH INCHES	FRAME HEIGHT INCHES	JAMB 'JD1' MULL 'MD1'		JAMB 'JD1' MULL 'MD2'		JAMB 'JD2' JAMB 'JD3' MULL 'MD3'		JAMB 'JD3' MULL 'MD4'		JAMB 'JD4' MULL 'MD5'	
		EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
32	98–1/2	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
36		90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
42		90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
48		90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
54		87.7	87.7	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
32	110–1/2	79.8	79.8	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
36		75.8	75.8	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
42		70.6	70.6	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
48		66.1	66.1	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
32	114	72.6	72.6	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
36		69.1	69.1	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
42		64.3	64.3	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
48		60.2	60.2	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
32	120	62.3	62.3	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
36		59.2	59.2	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
42		55.2	55.2	88.7	88.7	89.1	89.1	90.0	90.0	80.0	88.7
48		51.6	51.6	83.0	83.0	83.4	83.4	90.0	90.0	80.0	82.9



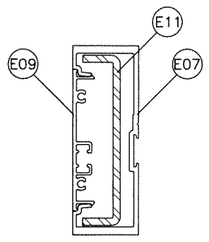


JAMB 'JD1'

Ix IN^4	Sx IN^3
6.570	2.7226

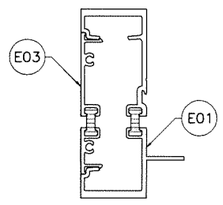
JAMB 'JD2'

Ix IN^4	Sx IN^3
10.6577	3.8057



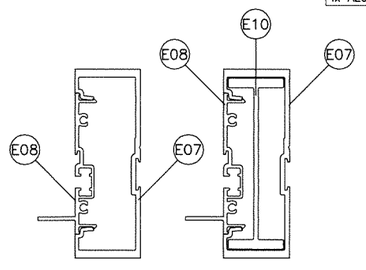
JAMB 'JD3'

	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	



JAMB 'JD4'

Ix IN^4	Sx IN^3
6.5995	2.5891

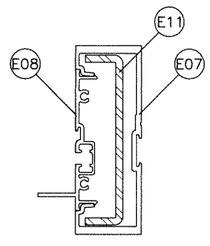


MULLION 'MD1'

Ix IN^4	Sx IN^3
6.7195	2.6757

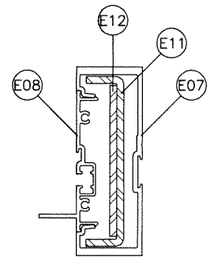
MULLION 'MD2'

Ix IN^4	Sx IN^3
10.8072	4.4788



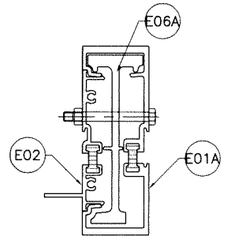
MULLION 'MD3'

	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	1.6681
TOTAL Ix ALUM + Ix STL X 2.9	17.6041	



MULLION 'MD5'

Ix IN^4	Sx IN^3
10.5913	4.2065

DOOR–WINDOWALL TRANSITION MULLION

Sealed: 3/13/2025

FL #17897

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
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COMP–ANL\W15–37ES

ES–8000T ALUM WINDOW WALL SYSTEM (L.M.I.)

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revisions:

no	date	by	description

date: 07–16–15
scale: –
dr. by: TARIQ
chk. by:

drawing no. W15–37

sheet 7.1 of 13

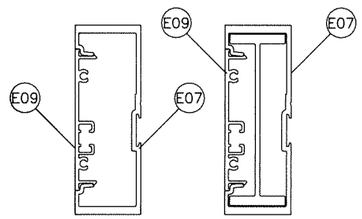
DOOR MULLION LOAD CAPACITY – PSF

NOMINAL DIMS.				JAMB 'JD1' MULL 'MD1'		JAMB 'JD1' MULL 'MD2'		JAMB 'JD2' JAMB 'JD3' MULL 'MD3'		JAMB 'JD3' MULL 'MD4'		JAMB 'JD4' MULL 'MD5'	
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)
85−3/4	30	96	84	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	36			90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	42			90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	48			90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	54			90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	60			85.7	85.7	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	30	102		90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	36			86.9	86.9	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	42			81.5	81.5	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	48			76.7	76.7	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	54			72.5	72.5	90.0	90.0	89.0	89.0	90.0	90.0	80.0	90.0
	30	108		74.2	74.2	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	36			69.5	69.5	90.0	90.0	89.1	89.1	90.0	90.0	80.0	90.0
	42			65.4	65.4	90.0	90.0	84.4	84.4	90.0	90.0	80.0	88.9
	48			61.7	61.7	90.0	90.0	80.2	80.2	90.0	90.0	80.0	84.5
	30	114		60.2	60.2	90.0	90.0	81.7	81.7	90.0	90.0	80.0	86.1
	36			56.6	56.6	90.0	90.0	77.4	77.4	90.0	90.0	80.0	81.5
	42			53.3	53.3	85.8	85.8	73.4	73.4	87.8	87.8	77.4	77.4
	48			50.5	50.5	81.2	81.2	69.9	69.9	83.5	83.5	73.6	73.6
	30	120		49.7	49.7	80.0	80.0	71.9	71.9	85.9	85.9	75.8	75.8
	36			46.8	46.8	75.3	75.3	68.1	68.1	81.5	81.5	71.8	71.8
	42			44.2	44.2	71.2	71.2	64.8	64.8	77.4	77.4	68.2	68.2
	48			41.9	41.9	67.5	67.5	61.7	61.7	73.8	73.8	65.0	65.0
85−3/4	30	102	90	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	36			90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	42			86.6	86.6	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	48			81.2	81.2	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	54			76.5	76.5	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	30	108		79.3	79.3	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	36			74.0	74.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	42			69.3	69.3	90.0	90.0	88.9	88.9	90.0	90.0	80.0	90.0
	48			65.2	65.2	90.0	90.0	84.3	84.3	90.0	90.0	80.0	88.0
	30	114		63.9	63.9	90.0	90.0	85.6	85.6	90.0	90.0	80.0	89.4
	36			59.9	59.9	90.0	90.0	80.8	80.8	90.0	90.0	80.0	84.4
	42			56.3	56.3	90.0	90.0	76.5	76.5	90.0	90.0	79.9	79.9
	48			53.1	53.1	85.4	85.4	72.7	72.7	86.9	86.9	75.9	75.9
	30	120		52.4	52.4	84.2	84.2	74.5	74.5	89.1	89.1	77.9	77.9
	36			49.2	49.2	79.1	79.1	70.5	70.5	84.3	84.3	73.7	73.7
	42			46.3	46.3	74.5	74.5	66.9	66.9	80.0	80.0	69.9	69.9
	48			43.8	43.8	70.5	70.5	63.6	63.6	76.1	76.1	66.5	66.5
85−3/4	30	108	96	84.6	84.6	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	36			78.6	78.6	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	42			73.4	73.4	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	48			68.8	68.8	90.0	90.0	89.7	89.7	90.0	90.0	80.0	90.0
	30	114		68.2	68.2	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	36			63.5	63.5	90.0	90.0	85.3	85.3	90.0	90.0	80.0	88.4
	42			59.5	59.5	90.0	90.0	80.6	80.6	90.0	90.0	80.0	83.5
	48			56.0	56.0	90.0	90.0	76.3	76.3	90.0	90.0	79.1	79.1
	30	120		55.5	55.5	89.3	89.3	78.0	78.0	90.0	90.0	80.0	80.9
	36			51.9	51.9	83.5	83.5	73.6	73.6	88.0	88.0	76.3	76.3
	42			48.8	48.8	78.5	78.5	69.7	69.7	83.3	83.3	72.2	72.2
	48			46.0	46.0	74.0	74.0	66.2	66.2	79.1	79.1	68.6	68.6

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

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'		JAMB 'JD4' MULL 'MD5'	
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)
85−3/4	30	114	102	72.4	72.4	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	36			67.2	67.2	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	42			62.7	62.7	90.0	90.0	85.9	85.9	90.0	90.0	80.0	88.2
	48			58.8	58.8	90.0	90.0	81.1	81.1	90.0	90.0	80.0	83.3
	30	120		59.0	59.0	90.0	90.0	82.6	82.6	90.0	90.0	80.0	84.9
	36			55.0	55.0	88.4	88.4	77.7	77.7	90.0	90.0	79.9	79.9
	42			51.5	51.5	82.8	82.8	73.3	73.3	87.7	87.7	75.4	75.4
	48			48.4	48.4	77.8	77.8	69.4	69.4	83.0	83.0	71.4	71.4
85−3/4	30	120	110−1/2	63.7	63.7	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	36			59.0	59.0	90.0	90.0	85.7	85.7	90.0	90.0	80.0	87.1
	42			55.0	55.0	88.4	88.4	80.4	80.4	90.0	90.0	80.0	81.7
	48			51.5	51.5	82.8	82.8	75.7	75.7	90.0	90.0	77.0	77.0

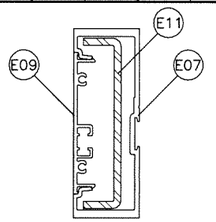


JAMB 'JD1'

Ix IN^4	Sx IN^3
6.570	2.7226

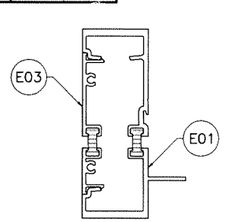
JAMB 'JD2'

Ix IN^4	Sx IN^3
10.6577	3.8057



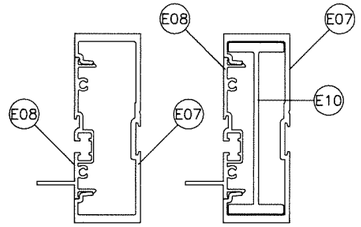
JAMB 'JD3'

	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	



JAMB 'JD4'

Ix IN^4	Sx IN^3
6.5995	2.5891

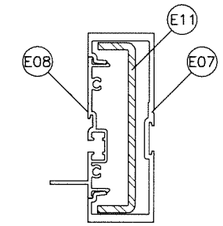


MULLION 'MD1'

Ix IN^4	Sx IN^3
6.7195	2.6757

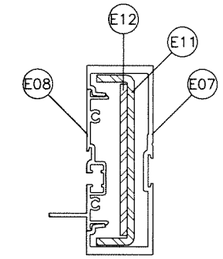
MULLION 'MD2'

Ix IN^4	Sx IN^3
10.8072	4.4788



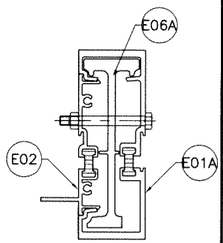
MULLION 'MD3'

	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	



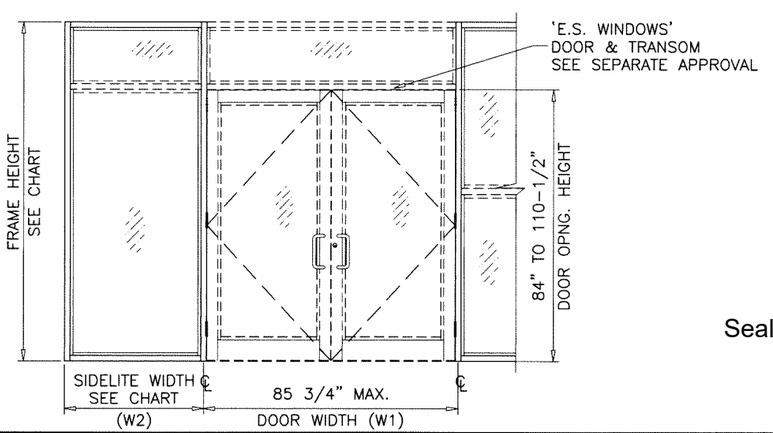
MULLION 'MD4'

	Ix IN^4	Sx IN^3
ALUMINUM	6.7195	2.6757
STEEL	3.7533	1.6681
TOTAL Ix ALUM + Ix STL X 2.9	17.6041	



MULLION 'MD5'

Ix IN^4	Sx IN^3
10.5913	4.2065



DOOR–WINDOWALL
TRANSITION MULLION

Sealed: 3/13/2025

FL #17897

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COMP–ANL\W15–37ES

ES–8000T ALUM WINDOW WALL SYSTEM (L.M.I.)

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3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638–5158 FAX. (305) 638–5151

revisions:

no	date	by	description

date: 07–16–15
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dr. by: TARIQ
chk. by:

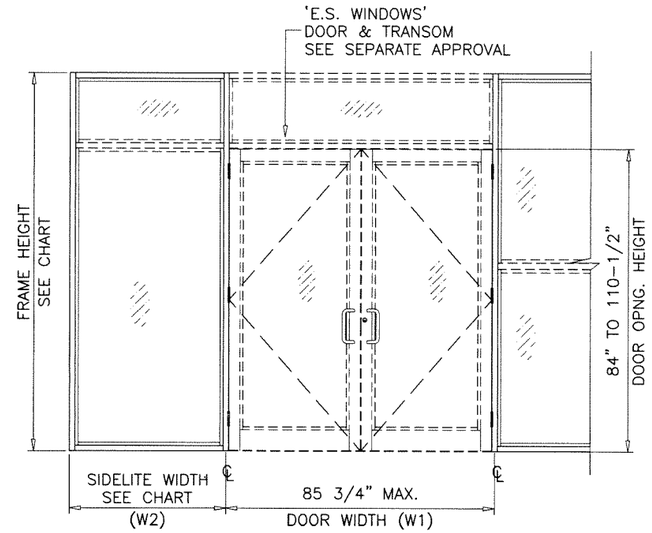
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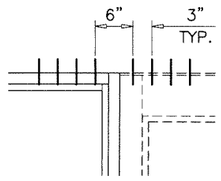
sheet 7.2 of 13

DOOR MULLION HEAD ANCHOR LOAD CAPACITY – PSF						
NOMINAL DIMS.				'B4'/'C4'	'B5'/'C5'	'B6'/'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

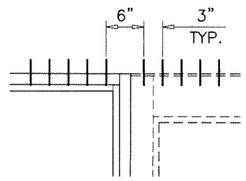
DOOR MULLION HEAD ANCHOR LOAD CAPACITY – PSF						
NOMINAL DIMS.				'B4'/'C4'	'B5'/'C5'	'B6'/'C6'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)
85–3/4	30	108	96	79.2	90.0	90.0
	36			75.1	90.0	90.0
	42			71.5	89.3	90.0
	48			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.

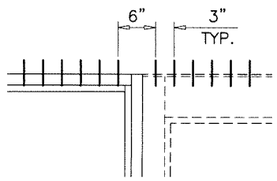




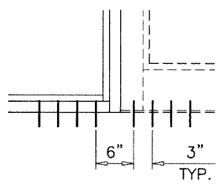
'B4', 'C4'



'B5', 'C5'



'B6', 'C6'



'B4' AT SILL ALL CASES

ANCHORS TYPES: SEE SHEET 8 FOR DESCRIPTION

B4 = (4) ANCHORS TYPE 'B' AT EACH SIDE OF DOOR MULLION
B5 = (5) ANCHORS TYPE 'B' AT EACH SIDE OF DOOR MULLION
B6 = (6) ANCHORS TYPE 'B' AT EACH SIDE OF DOOR MULLION

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.
SHIM SPACE FOR ANCHORS TYPE 'C' LIMITED TO 1/4" MAX.

TRANSITION MULLION ANCHORS

Sealed: 3/13/2025

FL #17897

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COMP–ANL\W15–37ES

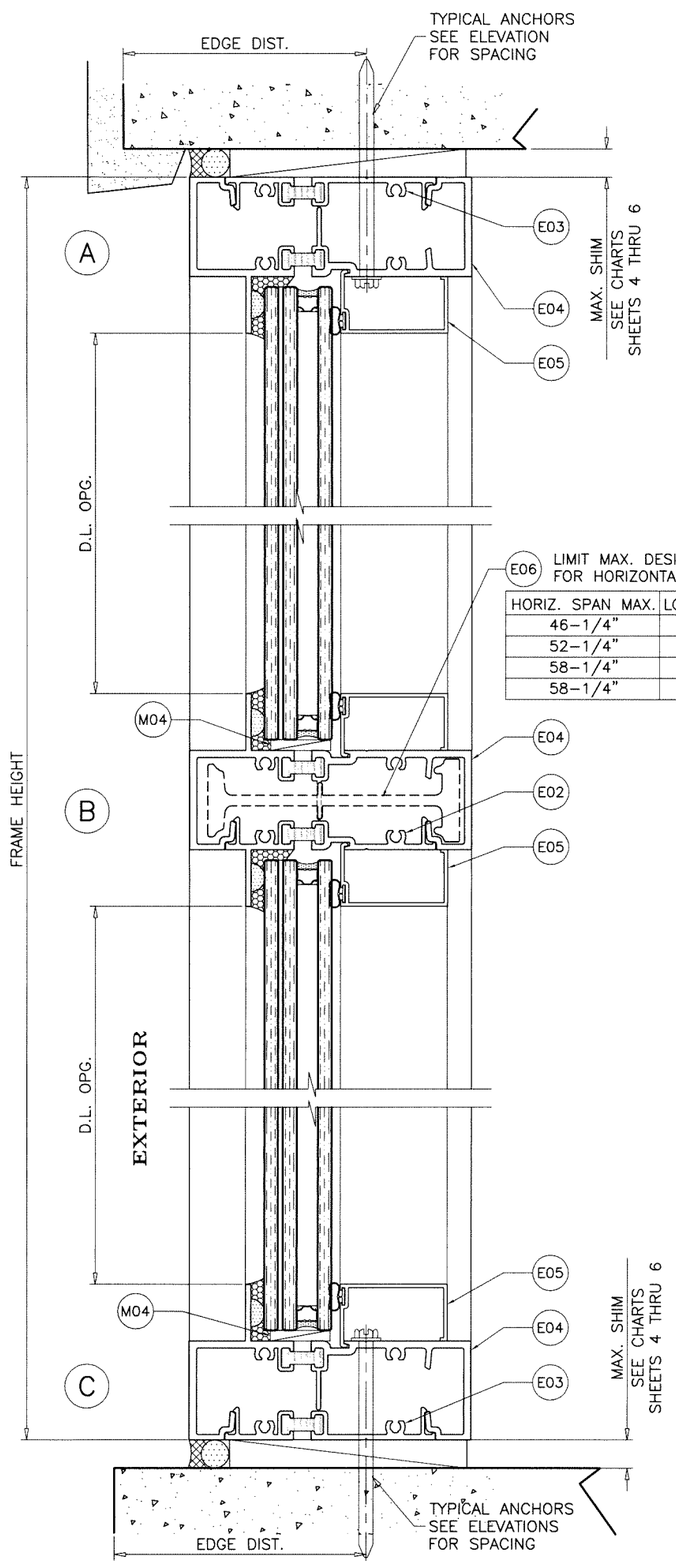
ES–8000T ALUM WINDOW WALL SYSTEM (L.M.I.)

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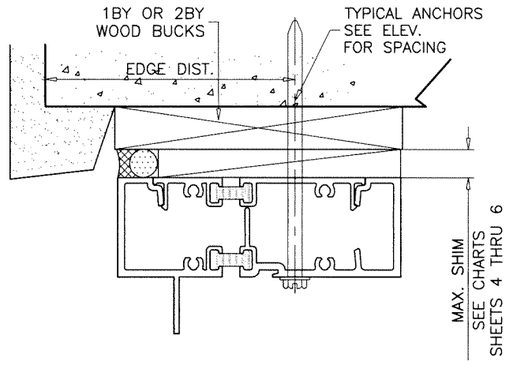
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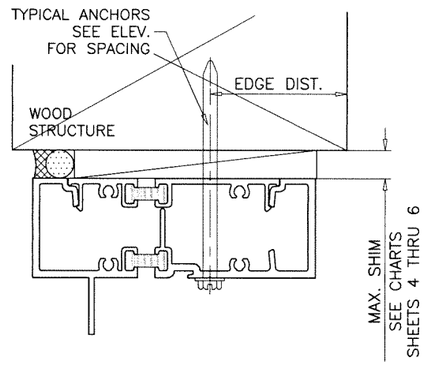
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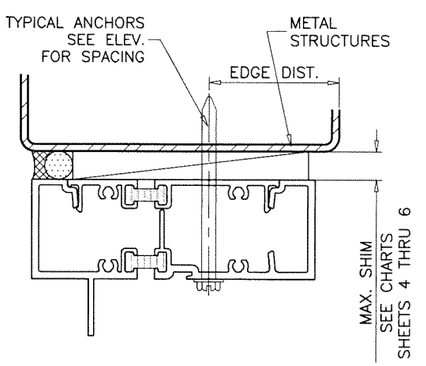
drawing no. W15–37



HORIZ. SPAN MAX.	LOAD CAPACITY – PSF	
46–1/4"	120.0	W/O REINF.
52–1/4"	70.0	
58–1/4"	51.0	
58–1/4"	60.0	WITH REINF.







TYPICAL ANCHORS: SEE ELEV. FOR SPACING

TYPE 'A'– 1/4" DIA. ULTRACON+ BY 'DEWALT' (Fu=164 KSI, Fy=148 KSI)

INTO WOOD STRUCTURES
2" MIN. PENETRATION INTO WOOD (HEAD/SILL/JAMBS)

THRU 1BY OR 2BY BUCKS INTO CONC. OR BLOCKS
1–1/4" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)
1–1/4" MIN. EMBED INTO BLOCKS (JAMBS)

DIRECTLY INTO CONC. OR BLOCKS
2" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)
2" MIN. EMBED INTO FILLED BLOCKS (JAMBS)

ANCHOR EDGE DISTANCES

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

TYPE 'B'– 5/16" DIA. ULTRACON BY 'DEWALT' (Fu=177 KSI, Fy=155 KSI)

INTO WOOD STRUCTURES
2" MIN. PENETRATION INTO WOOD (HEAD/SILL/JAMBS)

THRU 1BY OR 2BY BUCKS INTO CONC. OR BLOCKS
1–1/4" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)
1–1/4" MIN. EMBED INTO BLOCKS (JAMBS)

DIRECTLY INTO CONC. OR BLOCKS
2" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)
2" MIN. EMBED INTO FILLED BLOCKS (JAMBS)

ANCHOR EDGE DISTANCES

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

TYPE 'C'– 1/4" DIA. TEKS OR SELF DRILLING SCREWS ST/ST (GRADE 5 CRS)

INTO F.B.C. APPROVED MULLIONS
OR
INTO METAL STRUCTURES (HEAD/SILL/JAMBS)
(3) THREADS MIN. PENETRATION BEYOND SUBSTRATE
ALUMINUM: 1/8" THK. MIN. (6063–T5 MIN.)
STEEL: 1/8" THK. MIN. (Fy = 36 KSI MIN.)
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

ANCHOR EDGE DISTANCES

INTO METAL STRUCTURE = 1/2" MIN.

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

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

SEALANTS:

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

Sealed: 3/13/2025

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COMP–ANL\W15–37ES

ES–8000T ALUM WINDOW WALL SYSTEM (L.M.I.)

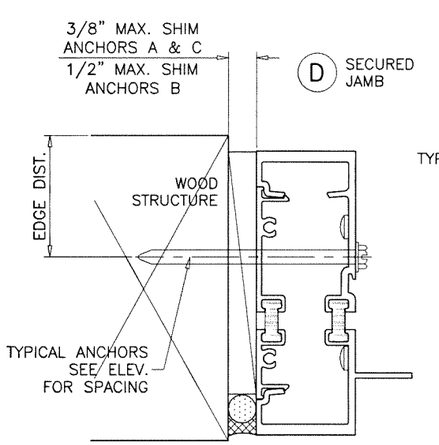
E.S. WINDOWS, LLC
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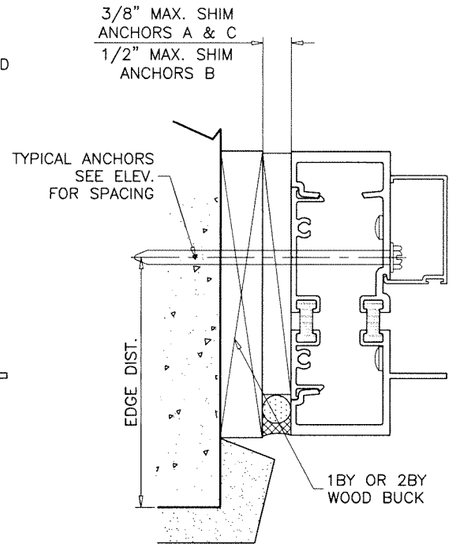
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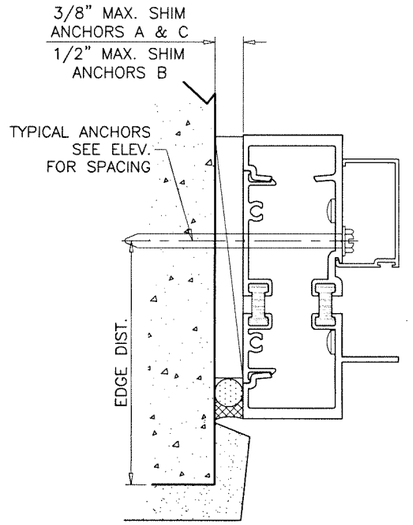
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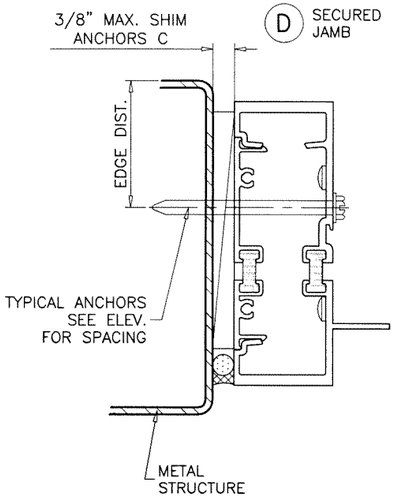
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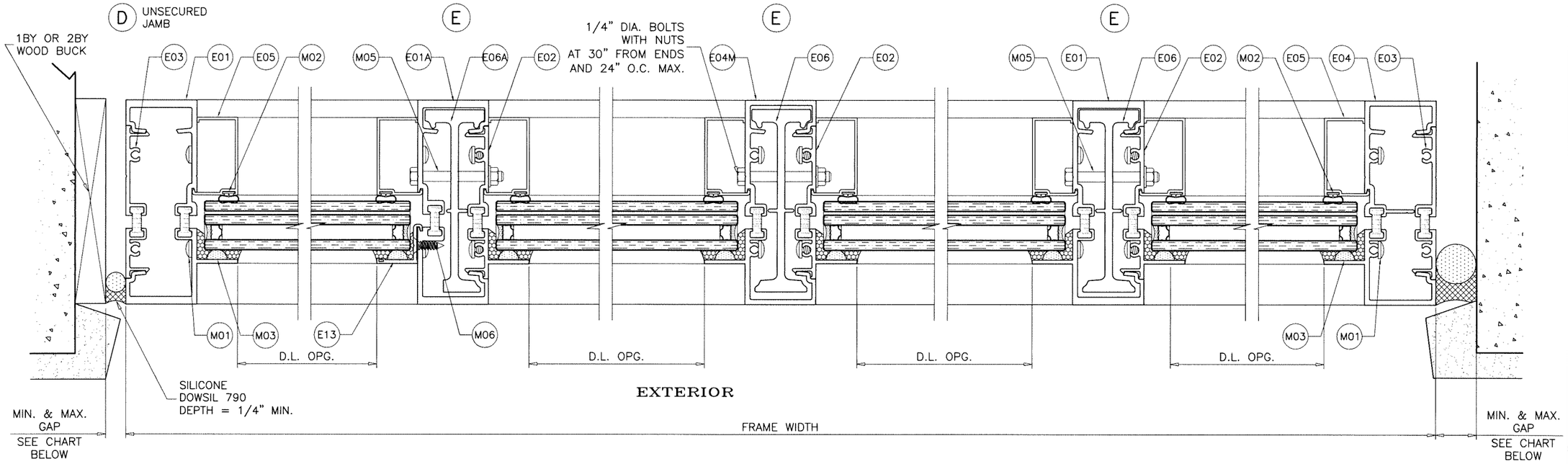
drawing no. W15–37











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

NOTE:
MAX. MOVEMENT CONSIDERED=100% STRETCH.
PLEASE REFER TO SEALANT MANUFACTURER'S DATA AND APPLICATION MANUAL FOR COMPATABILITY OF SEALANT TO SUBSTRATE & WINDOWALL MATERIAL/FINISH AND COMPLIANCE FOR WARRANTY.
REFER TO ACI-117-10 FOR CONSTRUCTION TOLERANCES.

ALTERNATE SEALANTS AT JAMB GAPS CAN BE DESIGNED BY ENGINEER OF RECORD BASED ON MANUFACTURER GUIDE LINES.

GAPS LESS THAN 1/4" MAY BE DESIGNED BY ENGINEER OF RECORD BY THE USE OF BOND BREAKER TAPE OR 15% OF GAP ALLOWED MOVEMENT.

Sealed: 3/13/2025

FL #17897

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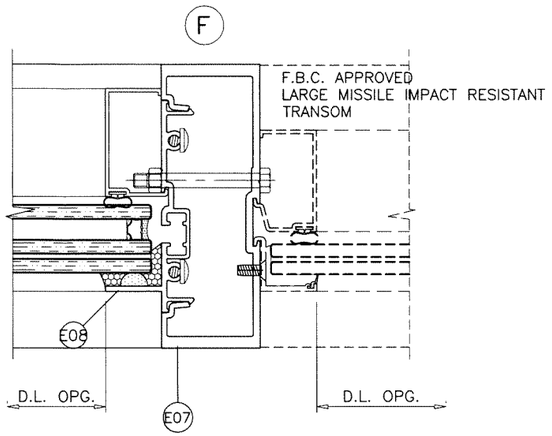
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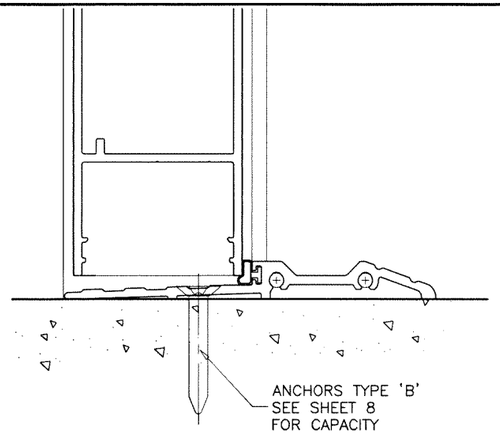
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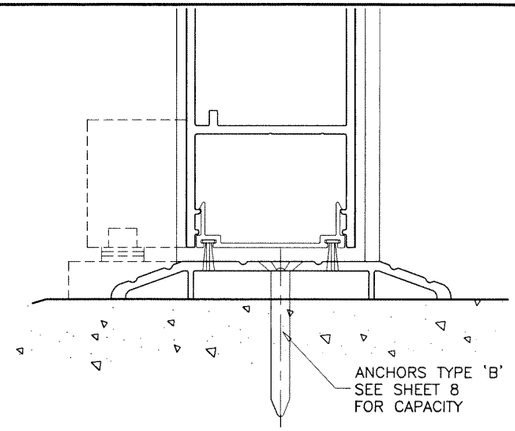
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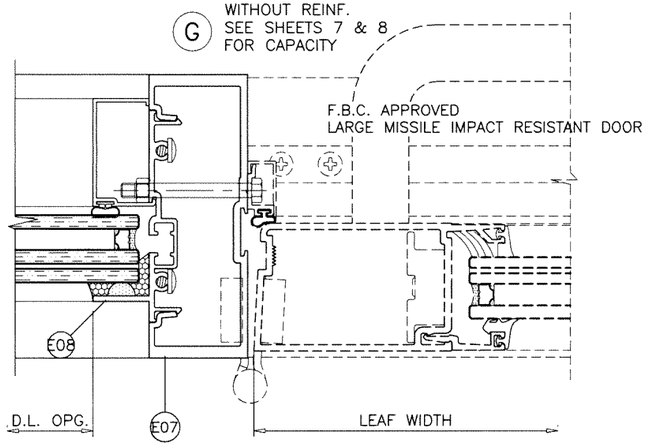
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chk. by:

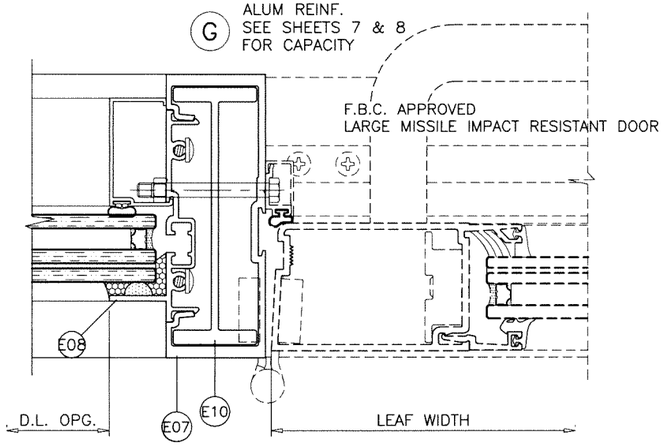
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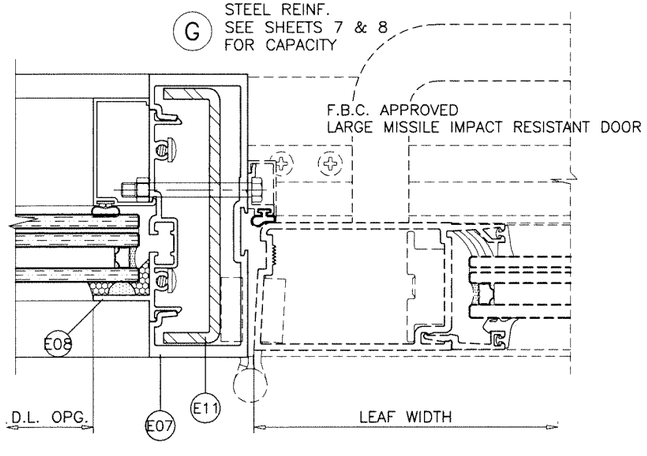


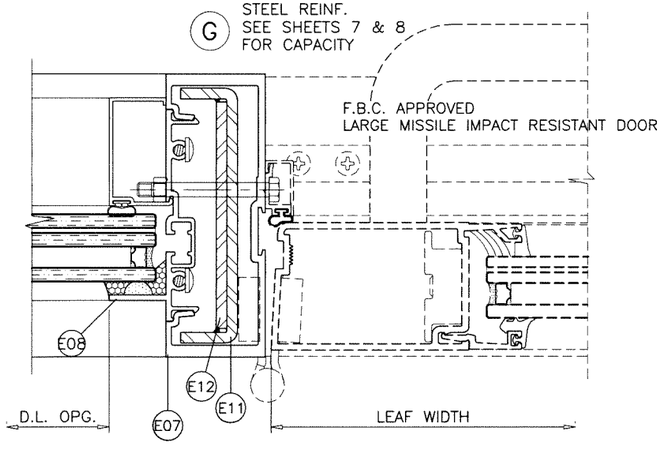












SEE SEPARATE APPROVAL FOR DESIGN LOAD CAPACITY OF DOORS AND DOOR ANCHORS.

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

Sealed: 3/13/2025

FL #17897

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COMP-ANL\W15-37ES

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

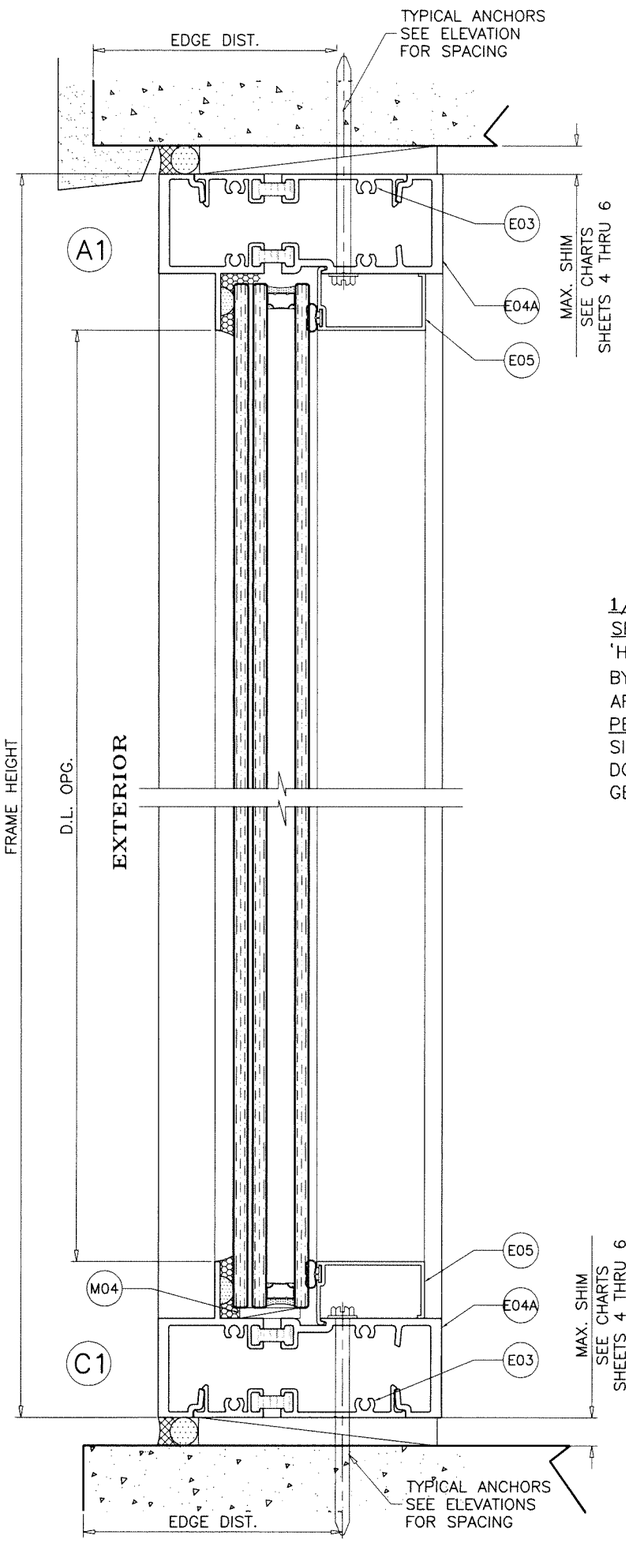
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

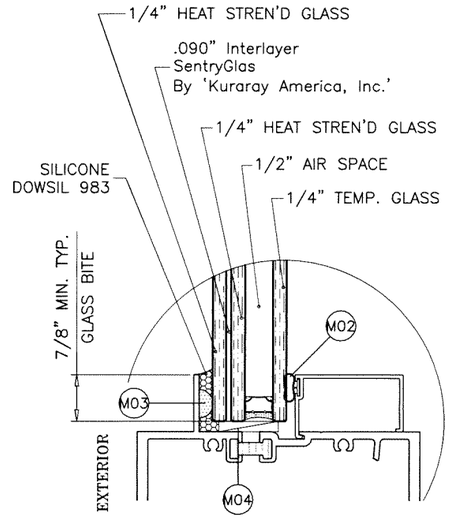
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date: 07-16-15
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dr. by: TARIQ
chk. by:

drawing no. W15-37





GLASS TYPE 'GL3'

1–5/16" OVERALL INSUL. LAM. GLASS

1/2" AIR SPACE CONSISTING OF:

SPACER:

'HELIMA' LOW PROFILE ALUMINUM SPACER
BY 'LINGERMANN GMBH'
AROUND THE PERIMETER OF THE GLASS.

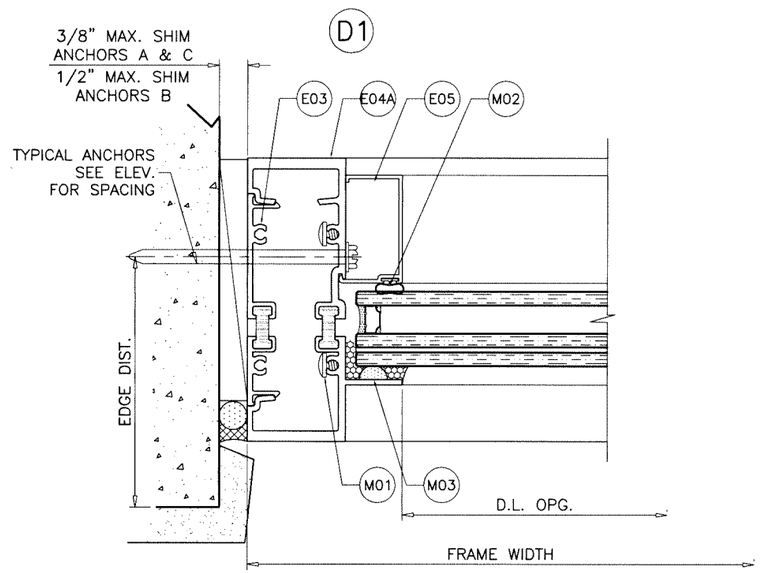
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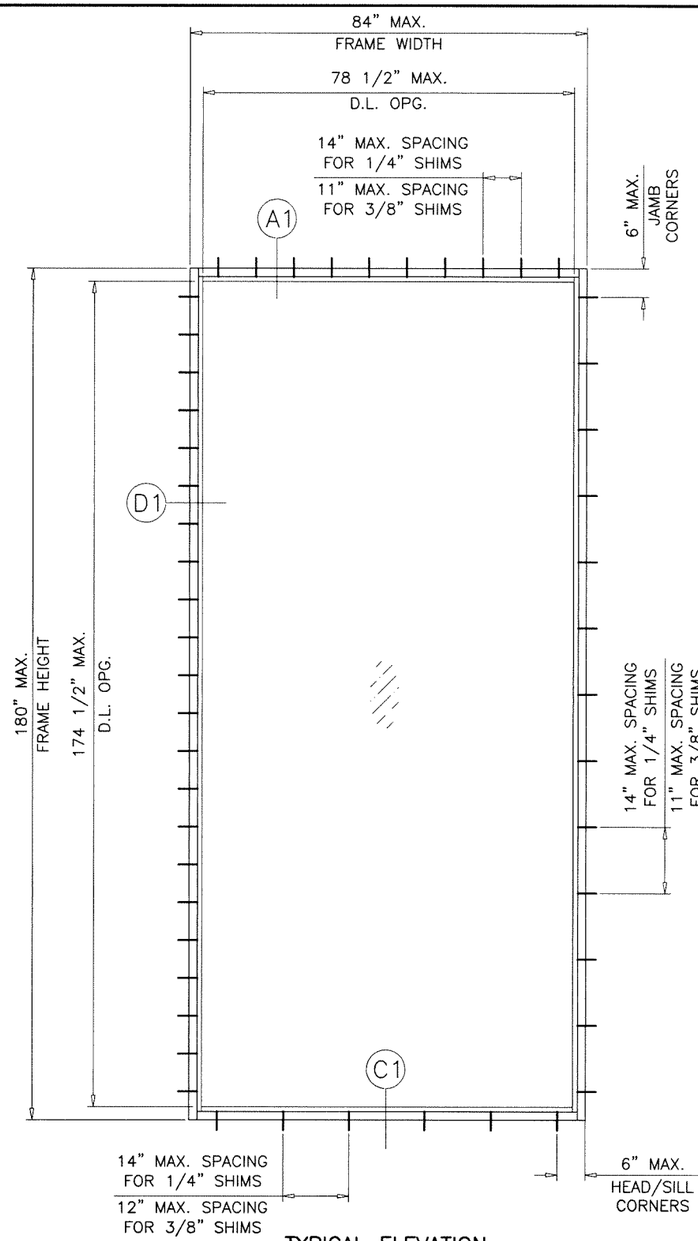
SILICONE
DOWSIL 791
GE 2000

MAXIMUM DESIGN LOAD RATING =	+ 70.0 PSF
	– 70.0 PSF

(FOR SINGLE UNITS SHOWN IN THIS SHEET OR SMALLER)

THESE FRAMES CAN BE USED AT ALL SUBSTRATES SHOWN ON SHEETS 9 AND 10.





TYPICAL ELEVATION
SINGLE (O) PANEL
Scale: 3/8"=1'–0"

Sealed: 3/13/2025

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

COMP-ANL\W15-37ES

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

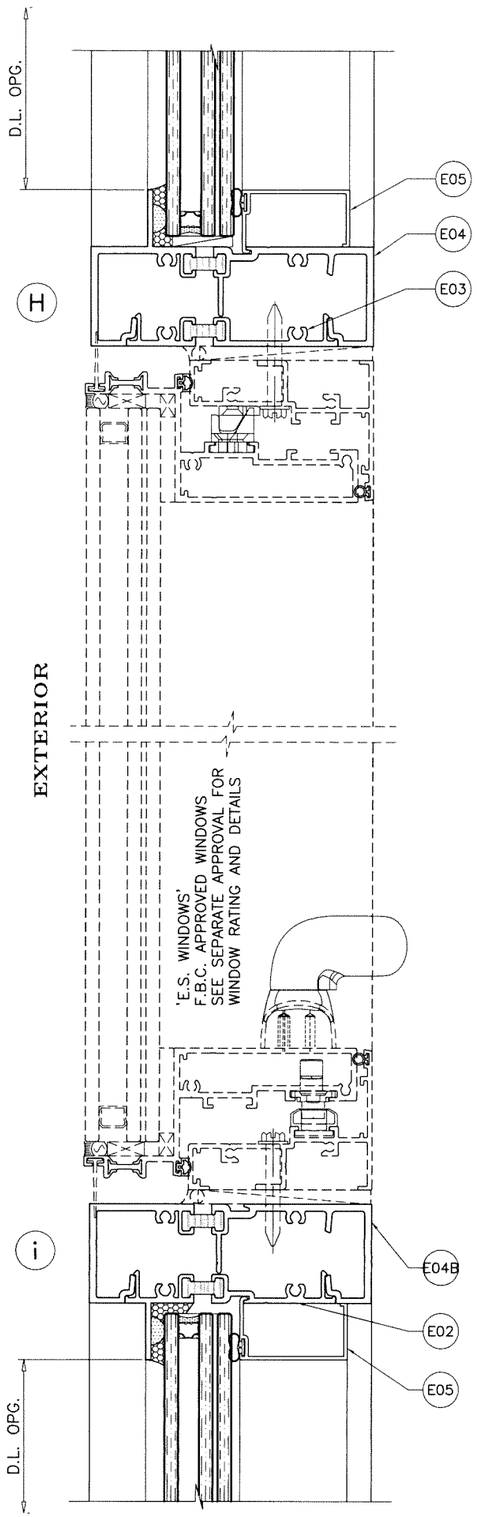
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5158 FAX. (305) 638-5151

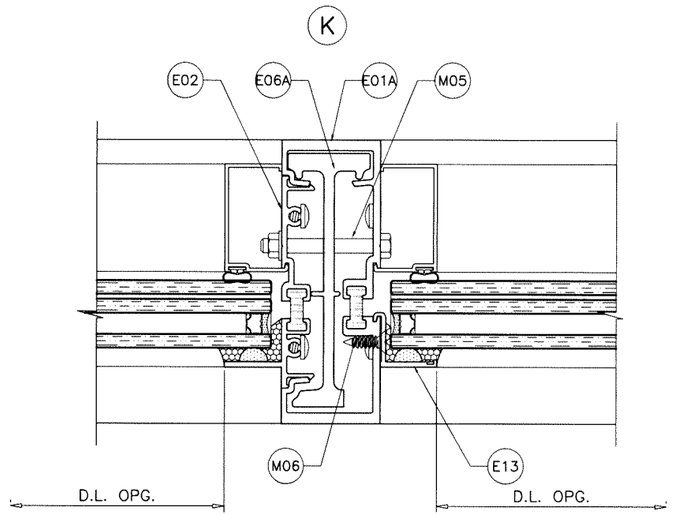
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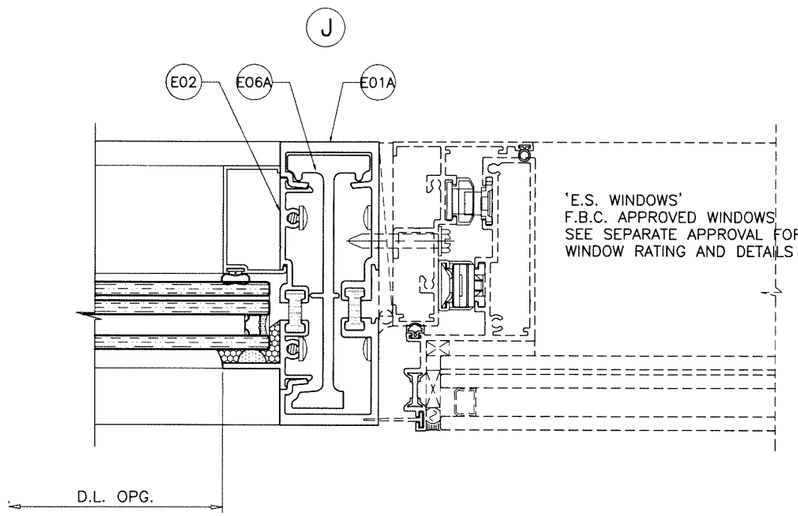
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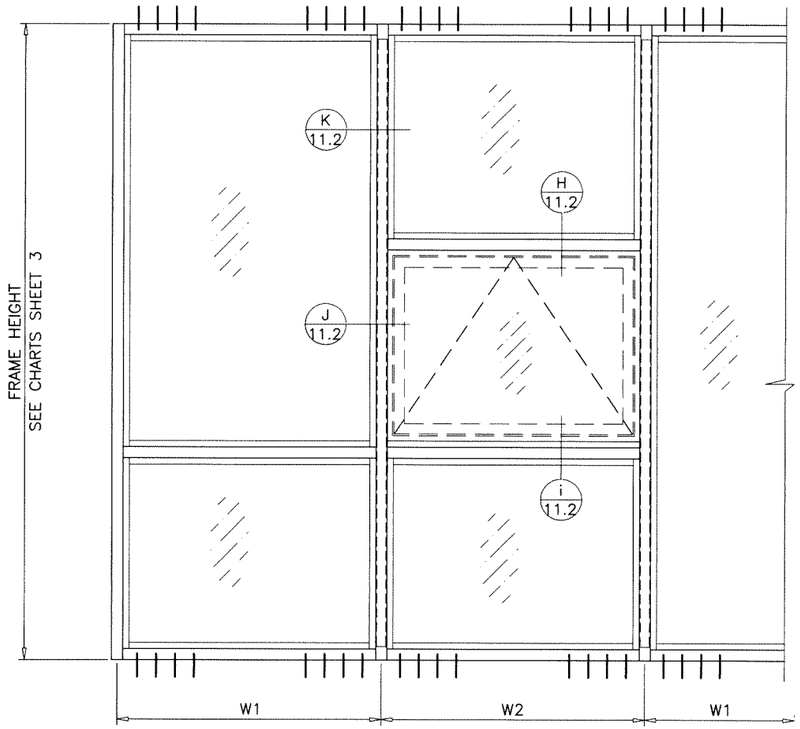
drawing no. W15-37

sheet 11.1 of 13









TYPICAL INSTALLATION OF WINDOWS IN THE WINDOW WALL SYSTEM

USE WINDOWS HOLDING CURRENT APPROVAL

REFER TO NOTES ON SHEET 1

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

Sealed: 3/13/2025

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JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

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ENGINEERS & PRODUCT DEVELOPMENT
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COMP-ANL\W15-37ES

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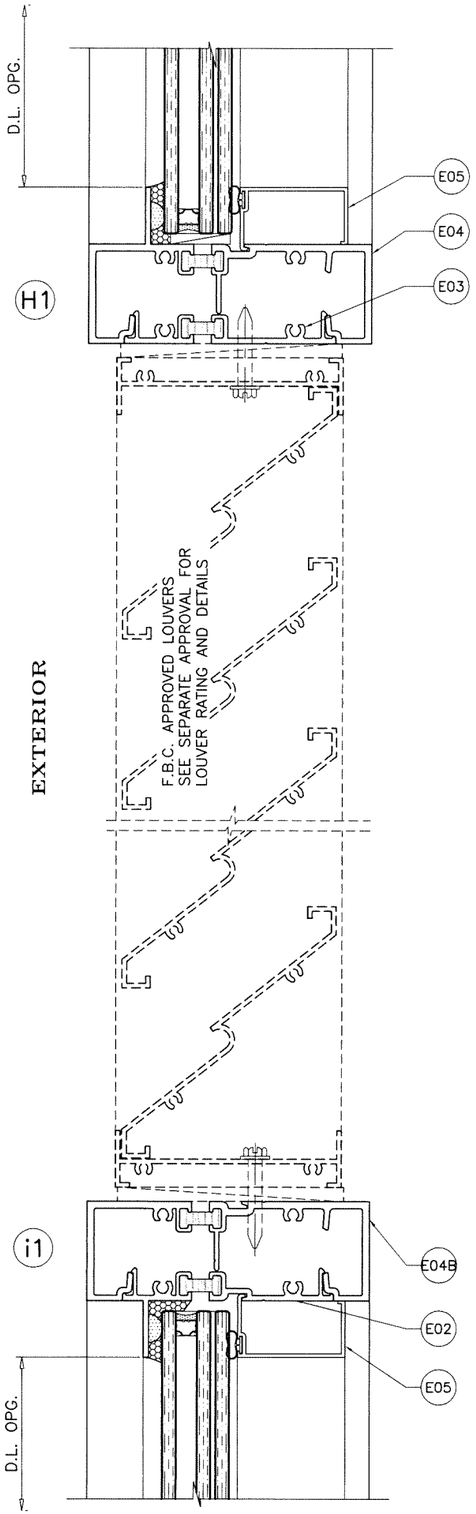
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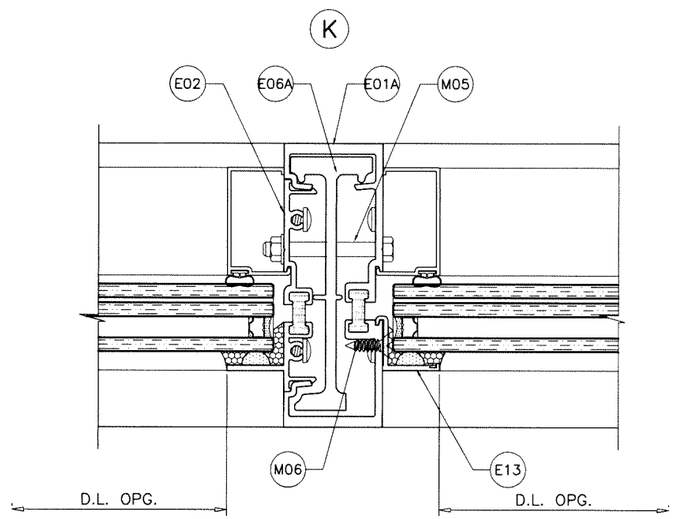
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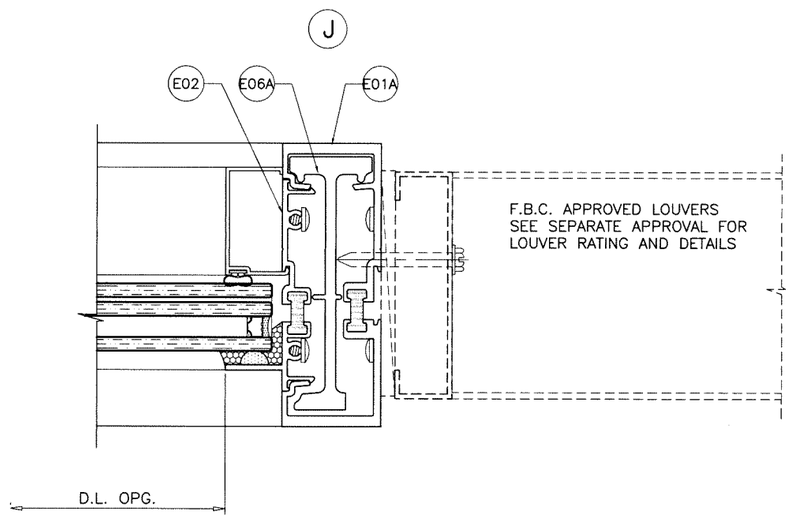
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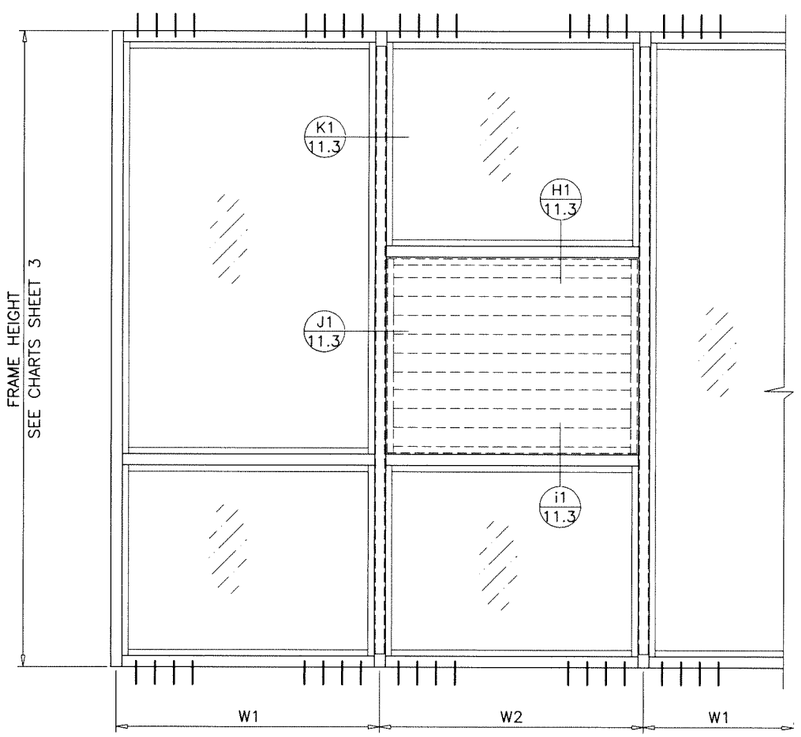
sheet 11.2 of 13



EXTERIOR







TYPICAL INSTALLATION OF LOUVERS IN THE WINDOW WALL SYSTEM

USE LOUVERS HOLDING CURRENT APPROVAL
REFER TO NOTES ON SHEET 1

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

Sealed: 3/13/2025

FL #17897

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ENGINEERS & PRODUCT DEVELOPMENT
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COMP-ANL\W15-37ES

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

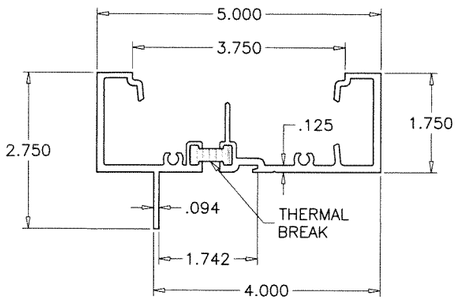
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

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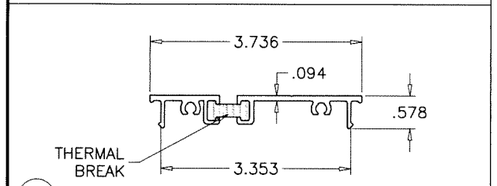
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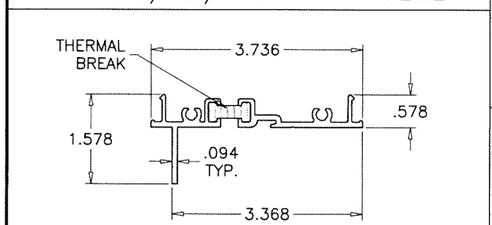
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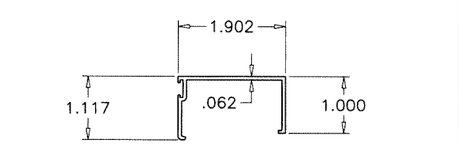
E04 FRAME HEAD/SILL/INTERMEDIATE



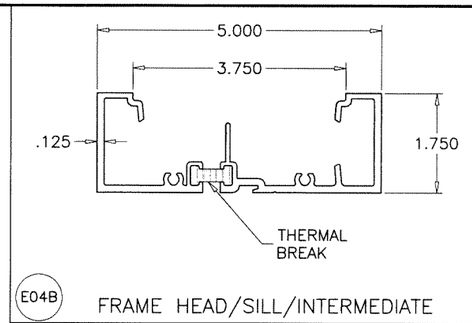
E03 FRAME HEAD/SILL/JAMB SNAP-IN PLATE



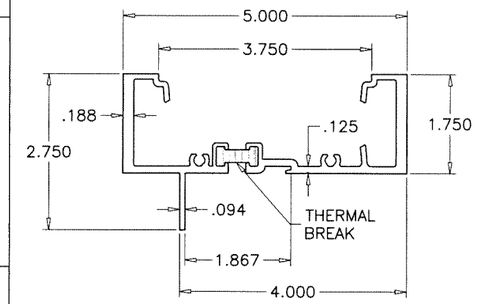
E02 SNAP-IN MATE



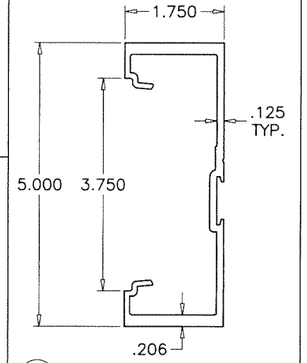
E05 GLAZING BEAD



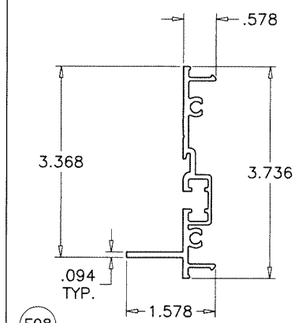
E04B FRAME HEAD/SILL/INTERMEDIATE



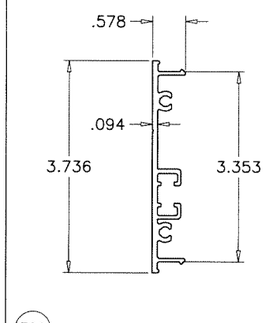
E04A FRAME HEAD/SILL/JAMB



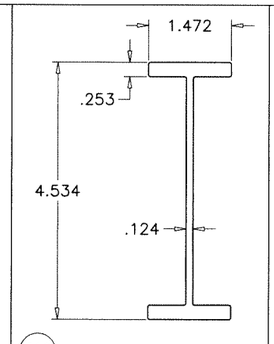
E07 DOOR MULLION



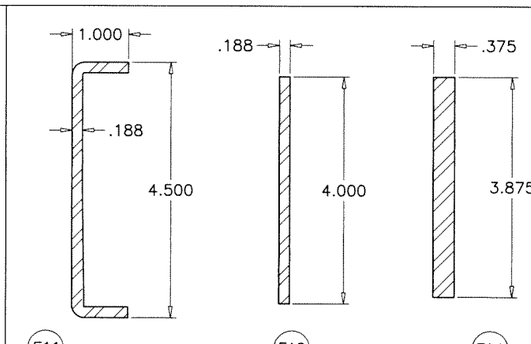
E08 DOOR MULL SNAP-IN MATE



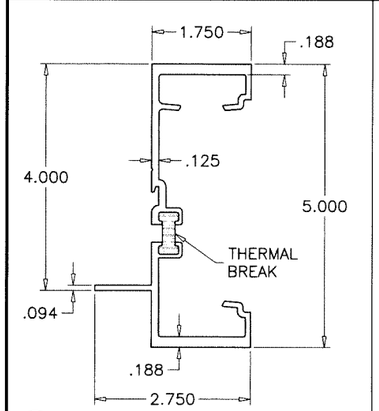
E09 DOOR MULL SNAP-IN PLATE



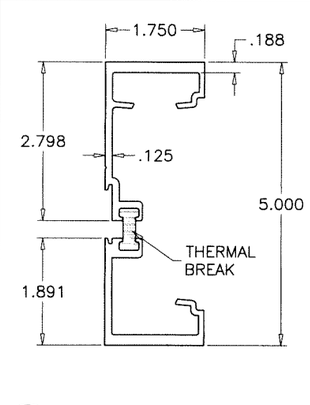
E10 DOOR MULL STIFFENER



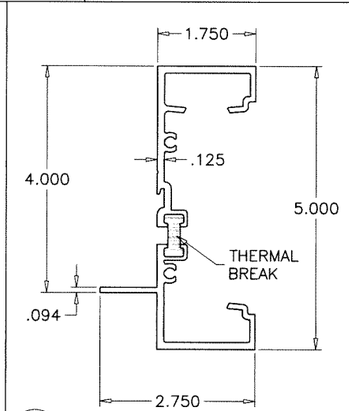
E11 E12 E14 MULL STEEL REINF.



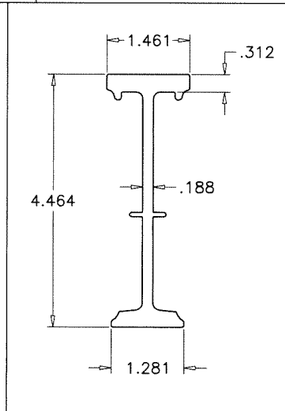
E01 JAMB/VERTICAL MULLION



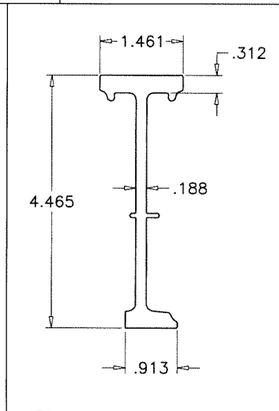
E01A VERTICAL MULLION



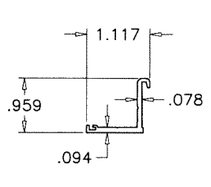
E04M VERTICAL MULLION



E06 STIFFENER



E06A STIFFENER



E13 EXT. GLAZING ADAPTER

ITEM #	PART #	REQ'D	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
E01	ES-8000T-001	AS REQD.	JAMB AND VERTICAL MULLION	6005-T5	-
E01A	ES-8000T-009T	AS REQD.	VERTICAL MULLION	6063-T6	-
E02	ES-8000T-002	AS REQD.	SNAP-IN MATE	6005-T5	-
E03	ES-8000T-003	AS REQD.	HEAD/SILL/JAMB SNAP-IN PLATE	6005-T5	-
E04	ES-8000T-004	AS REQD.	FRAME HEAD/SILL/INTERMEDIATE	6005-T5	-
E04M	ES-8000T-004	AS REQD.	VERTICAL MULLION	6005-T5	-
E04A	ES-8000T-007	AS REQD.	FRAME HEAD/SILL/JAMB (GLASS TYPE GL3)	6005-T5	-
E04B	ES-8000T-012T	AS REQD.	FRAME HEAD/SILL/INTERMEDIATE	6005-T5	-
E05	ES-8000T-005	AS REQD.	GLAZING BEAD	6063-T5	-
E06	ES-8000T-006	AS REQD.	STIFFENER	6005-T5	-
E06A	ES-8000T-011	AS REQD.	STIFFENER	6005-T5	-
E07	-	AS REQD.	DOOR MULLION	6005-T5	-
E08	ES-8000T-002	AS REQD.	DOOR MULLION SNAP-IN MATE	6005-T5	-
E09	ES-8000T-003	AS REQD.	DOOR MULL SNAP-IN PLATE	6005-T5	-
E10	-	AS REQD.	DOOR MULLION STIFFENER	6005-T5	-
E11	-	AS REQD.	MULLION REINFORCING CHANNEL	STEEL	A36, Fu MIN. = 58 KSI
E12	-	AS REQD.	MULLION REINFORCING BAR	STEEL	A36, Fu MIN. = 58 KSI
E13	ES8014	AS REQD.	EXTERIOR GLAZING ADAPTER	6063-T6	-
E14	-	AS REQD.	MULLION REINFORCING BAR	STEEL	A36, Fu MIN. = 58 KSI
M01	#12 X 1-1/2"	AS REQD.	ASSEMBLY FASTENERS	ST. STEEL	PH SMS
M02	ES-8010A	AS REQD.	INTERIOR GLAZING GASKET	SILICONE	DUROMETER 70±3 SHORE A
M03	ES-8011A	AS REQD.	1/4" GLASS SPACER	SILICONE	DUROMETER 85±5 SHORE A
M04	ES-7530-B01A	2/ LITE	SETTING BLOCKS AT 1/4 POINTS	EPDM	DUROMETER 80±5 SHORE A
M05	1/4" X 2-1/8"	AS REQD.	MULLION FASTENERS	ST. STEEL	BOLT WITH NUT
M06	#12 X 3/4"	AS REQD.	ADAPTER FASTENERS, AT 3" FROM ENDS & 12" O.C.	ST. STEEL	FH SMS

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

Sealed: 3/13/2025

FL #17897

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

afc
AL-FAROOQ CORPORATION
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COMP-ANL\W15-37ES

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

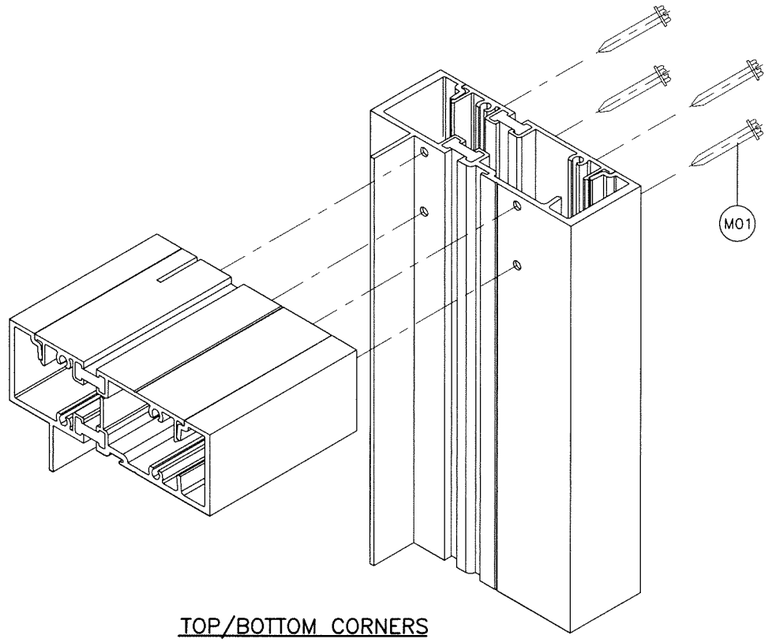
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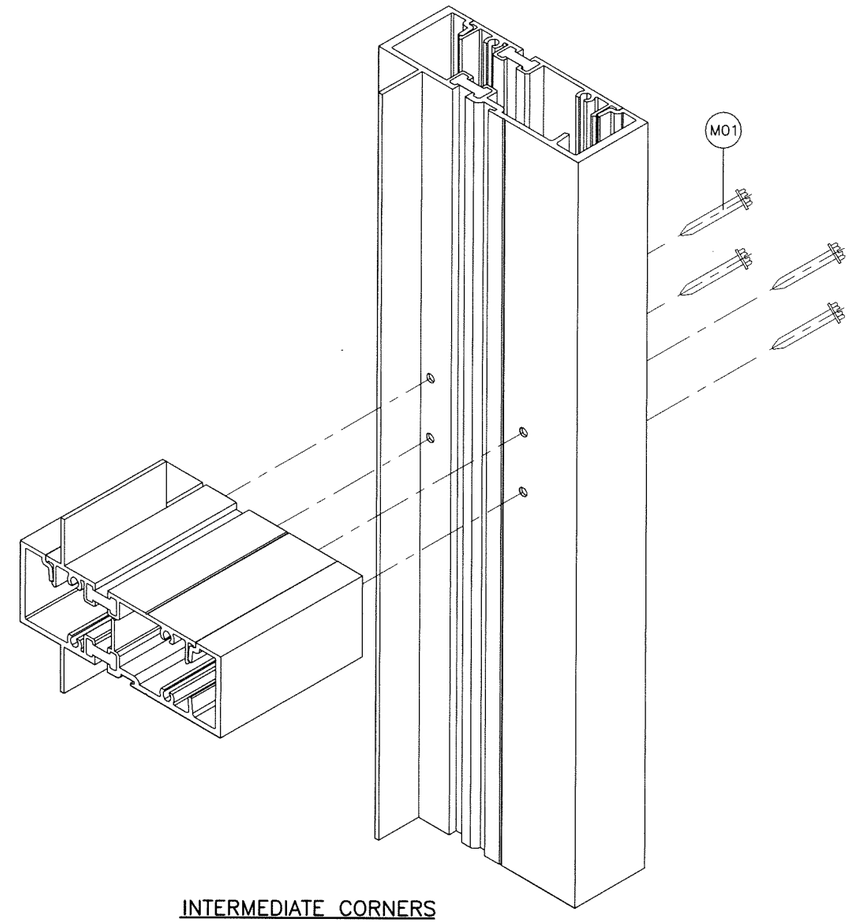
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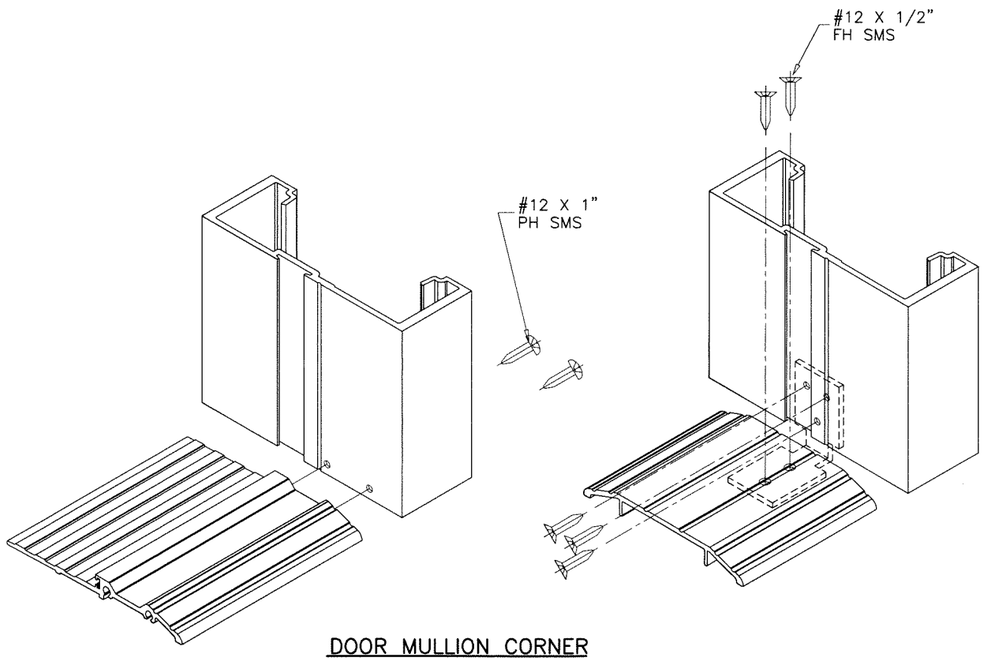
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TOP/BOTTOM CORNERS



INTERMEDIATE CORNERS



DOOR MULLION CORNER

Sealed: 3/13/2025

FL #17897

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W15-37

sheet 13 of 13