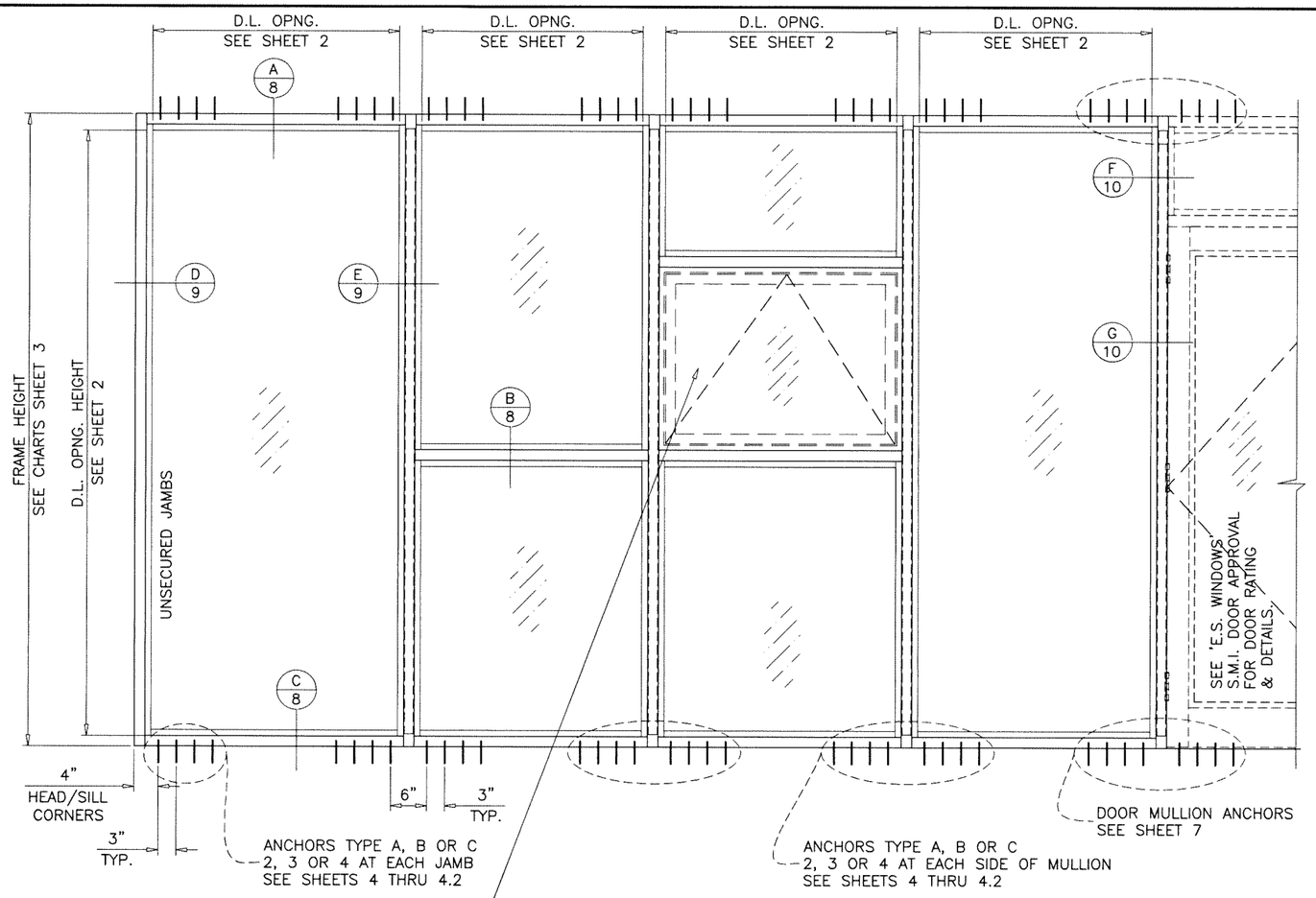
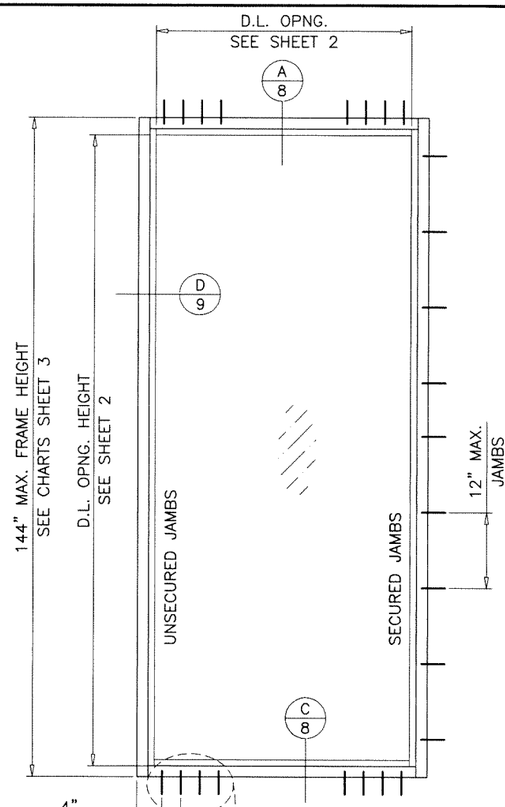


OPTION WITH JAMB ANCHORS





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 SHEET 3 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.

TYPICAL ELEVATIONS

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

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.

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 SHEET 3 FOR WINDOW WALL MULLION AND SHEETS 5 & 6 FOR DOOR MULLION THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.

STEP 4 CHECK ANCHOR CAPACITY FOR WINDOW WALL SYSTEM USING CHARTS ON SHEETS 4 THRU 4.2
FOR DOOR MULLION ANCHOR CAPACITY SEE CHART ON SHEET 7.
THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.

STEP 5 VERIFY UNANCHORED JAMBS, IF USED AS PER SHEET 9.

STEP 6 THE LOWEST VALUE RESULTING FROM STEPS 2, 3 AND 4 SHALL APPLY TO ENTIRE SYSTEM.

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

INSUL. LAM. GLASS
SMALL MISSILE IMPACT

Sealed: 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\21-12F-ES

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

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

revisions:

no	date	by	description
A	02.08.23		SILICONE OPTIONS ADDED
B	07.25.23		UPDATED TO 2023 FBC
C	06.11.24		LOUVER NOTE ADDED

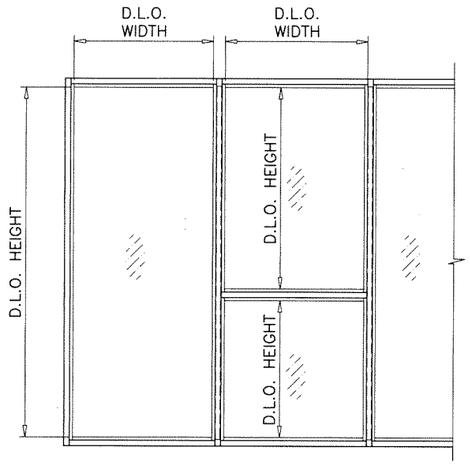
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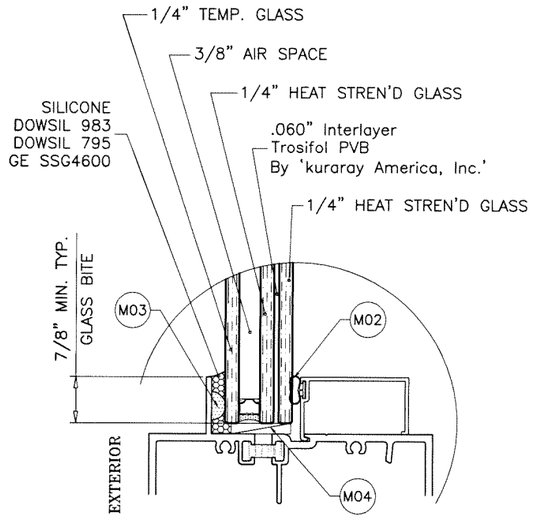
drawing no. 21-12F

sheet 1 of 13

GLASS LOAD CAPACITY – PSF			
NOMINAL DIMS.		1-3/16" OVERALL INSUL. LAM. GLASS	
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)	INT.(–)
24-1/2"	96-1/2"	60.0	60.0
30-1/2"		60.0	60.0
36-1/2"		59.8	59.8
42-1/2"		52.3	52.3
48-1/2"		46.5	46.5
54-1/2"		41.8	41.8
24-1/2"	108-1/2"	60.0	60.0
30-1/2"		60.0	60.0
36-1/2"		59.8	59.8
42-1/2"		52.3	52.3
48-1/2"		46.5	46.5
24-1/2"	114-1/2"	60.0	60.0
30-1/2"		60.0	60.0
36-1/2"		59.8	59.8
42-1/2"		52.3	52.3
24-1/2"	120-1/2"	60.0	60.0
30-1/2"		60.0	60.0
36-1/2"		59.6	59.6
42-1/2"		52.3	52.3
24-1/2"	126-1/2"	60.0	60.0
30-1/2"		60.0	60.0
36-1/2"		59.0	59.0
42-1/2"		52.3	52.3
24-1/2"	131-1/2"	60.0	60.0
30-1/2"		60.0	60.0
36-1/2"		58.6	58.6
41"		54.0	54.0
24-1/2"	132-1/2"	60.0	60.0
30-1/2"		60.0	60.0
36-1/2"		58.5	58.5
24-1/2"	138-1/2"	60.0	60.0
30-1/2"		60.0	60.0
36-1/2"		58.1	58.1

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.





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

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

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

GLASS

Sealed: 3/13/2025

FL #17897

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revisions:

no	date	by	description

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

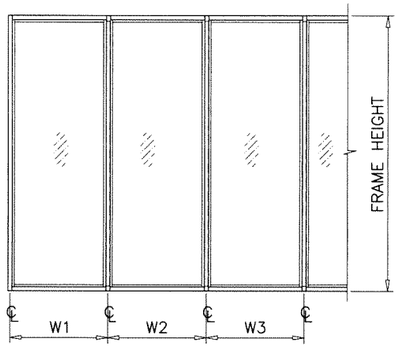
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sheet 2 of 13

DESIGN LOAD CAPACITY – PSF
JAMB/MULLION
WITHOUT INTERMEDIATE HORIZONTALS

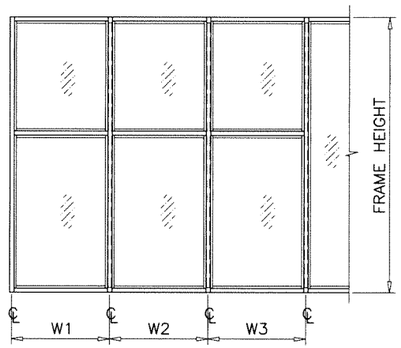
NOMINAL DIMS.		JAMB 'J1'		JAMB 'J2'		MULLION 'M1'		MULLION 'M2'		MULLION 'M3'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)
30"	90"	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
48"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
54"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
60"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
30"	96"	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
40"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
48"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
54"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
60"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
30"	102"	60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
48"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
54"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
60"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
30"	108"	60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
48"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
54"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
30"	126"	60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
48"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
30"	132"	60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
44–3/4"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
30"	137"	60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	–	–	59.7	59.7	60.0	60.0
44–3/4"		54.0	54.0	60.0	60.0	–	–	54.0	54.0	60.0	60.0
30"	144"	–	–	60.0	60.0	–	–	–	–	60.0	60.0
36"		–	–	60.0	60.0	–	–	–	–	60.0	60.0
42"		–	–	57.4	57.4	–	–	–	–	57.4	57.4

INTERPOLATION BETWEEN WIDTHS ALLOWED.



WIDTH (W) = W1
AT FRAME JAMB

WIDTH (W) = (W2 + W3) / 2
AT FRAME MULLION



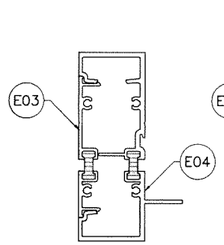
WIDTH (W) = W1
AT FRAME JAMB

WIDTH (W) = (W2 + W3) / 2
AT FRAME MULLION

DESIGN LOAD CAPACITY – PSF
JAMB/MULLION
WITH INTERMEDIATE HORIZONTALS

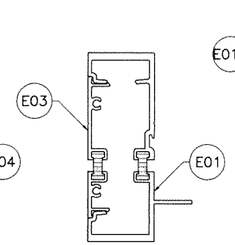
NOMINAL DIMS.		JAMB 'J1'		JAMB 'J2'		MULLION 'M1'		MULLION 'M2'		MULLION 'M3'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)
30"	90"	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
48"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
54"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
60"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
30"	96"	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
40"		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
48"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
54"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
60"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
30"	102"	60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
48"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
54"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
60"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
30"	108"	60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
48"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
54"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
30"	126"	60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
48"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
30"	132"	60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
44–3/4"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
48"		–	–	60.0	60.0	–	–	–	–	60.0	60.0
30"	137"	60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	–	–	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	–	–	57.6	57.6	60.0	60.0
44–3/4"		54.0	54.0	60.0	60.0	–	–	54.0	54.0	60.0	60.0
48"		–	–	55.3	55.3	–	–	–	–	55.3	55.3
30"	144"	–	–	60.0	60.0	–	–	–	–	60.0	60.0
36"		–	–	60.0	60.0	–	–	–	–	60.0	60.0
42"		–	–	60.0	60.0	–	–	–	–	60.0	60.0
44–3/4"		–	–	55.6	55.6	–	–	–	–	55.6	55.6
48"		–	–	48.7	48.7	–	–	–	–	48.7	48.7

INTERPOLATION BETWEEN WIDTHS ALLOWED.



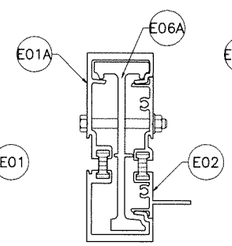
JAMB 'J1'

Ix IN^4	Sx IN^3
5.6469	2.1997



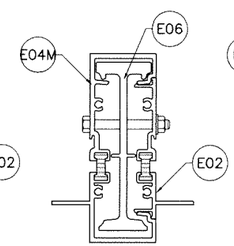
JAMB 'J2'

Ix IN^4	Sx IN^3
6.5995	2.5891



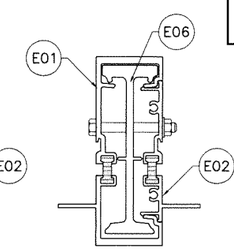
MULLION 'M1'

Ix IN^4	Sx IN^3
10.5913	4.2065



MULLION 'M2'

Ix IN^4	Sx IN^3
10.2689	4.1244



MULLION 'M3'

Ix IN^4	Sx IN^3
11.2393	4.3497

MULLIONS

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\21-12F-ES

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

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

revisions:			
no	date	by	description

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

drawing no. 21–12F

sheet 3 of 13

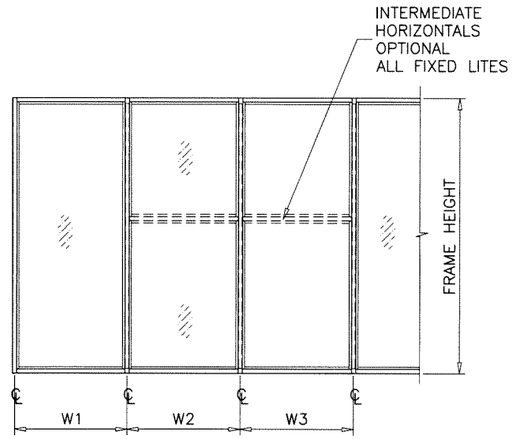
ANCHOR LOAD CAPACITY – PSF
EXT.(+) & INT.(–)

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

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

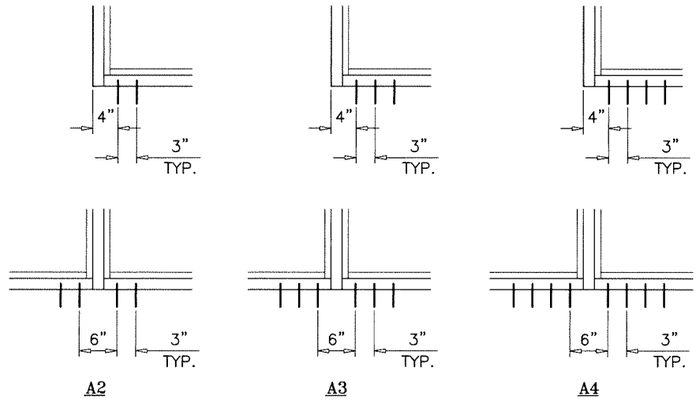
NOMINAL DIMS.		ANCHORS TYPE 'A'						
		1/4" SHIM		3/8" MAX. SHIM			1/2" SHIM	
WIDTH (W)	FRAME HEIGHT	A2	A3	A2	A3	A4	A3	A4
30"	132"	60.0	60.0	53.4	60.0	60.0	60.0	60.0
36"		60.0	60.0	44.5	60.0	60.0	51.9	60.0
42"		54.2	60.0	38.1	57.2	60.0	44.4	59.3
48"		47.5	60.0	33.3	50.0	60.0	38.9	51.9
30"	138"	60.0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

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



WIDTH (W) = W1
AT FRAME JAMB

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



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

Sealed: 3/13/2025

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

COMP-ANL\21-12F-ES

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revisions:

no	date	by	description

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

drawing no. 21–12F

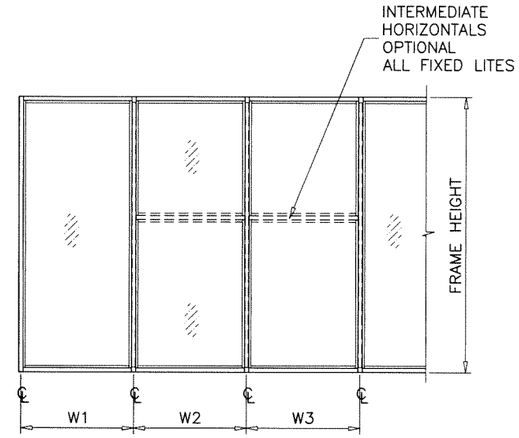
ANCHOR LOAD CAPACITY – PSF
EXT.(+) & INT.(–)

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

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

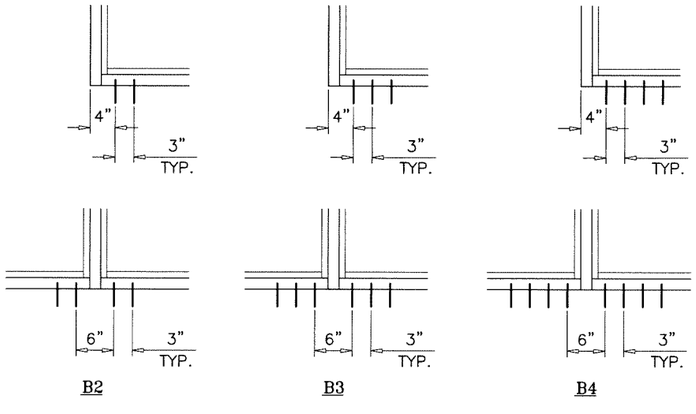
NOMINAL DIMS.		ANCHORS TYPE 'B'						
		1/4" SHIM		3/8" SHIM		1/2" SHIM		
WIDTH (W)	FRAME HEIGHT	B2	B3	B2	B3	B2	B3	B4
30"	132"	60.0	60.0	60.0	60.0	59.9	60.0	60.0
36"		60.0	60.0	60.0	60.0	49.9	60.0	60.0
42"		60.0	60.0	54.2	60.0	42.8	60.0	60.0
48"		62.0	60.0	47.5	60.0	37.5	56.2	60.0
30"	138"	60.0	60.0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

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



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

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\21-12F-ES

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

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revisions:

no	date	by	description

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

drawing no. 21–12F

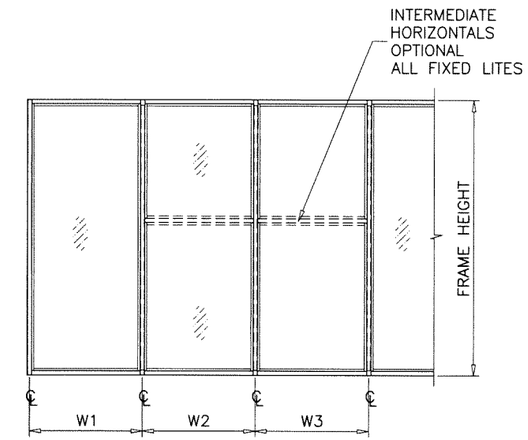
ANCHOR LOAD CAPACITY – PSF
EXT.(+) & INT.(–)

NOMINAL DIMS.		ANCHORS TYPE 'C'					
		1/4" SHIM	3/8" MAX. SHIM			1/2" SHIM	
WIDTH (W)	FRAME HEIGHT	C2	C2	C3	C4	C3	C4
30"	78"	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	60.0	60.0
48"		60.0	57.2	60.0	60.0	60.0	60.0
54"		60.0	50.9	60.0	60.0	60.0	60.0
60"		60.0	45.8	60.0	60.0	54.3	60.0
30"	84"	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	60.0	60.0	60.0	60.0	60.0
48"		60.0	53.1	60.0	60.0	60.0	60.0
54"		60.0	47.2	60.0	60.0	56.0	60.0
60"		60.0	42.5	60.0	60.0	50.4	60.0
30"	90"	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	56.7	60.0	60.0	60.0	60.0
48"		60.0	49.6	60.0	60.0	58.8	60.0
54"		60.0	44.1	60.0	60.0	52.3	60.0
60"		60.0	39.7	59.5	60.0	47.0	60.0
30"	96"	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	60.0	60.0	60.0	60.0	60.0
42"		60.0	53.1	60.0	60.0	60.0	60.0
48"		60.0	46.5	60.0	60.0	55.1	60.0
54"		60.0	41.3	60.0	60.0	49.0	60.0
60"		60.0	37.2	55.8	60.0	44.1	58.8
30"	102"	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	58.4	60.0	60.0	60.0	60.0
42"		60.0	50.0	60.0	60.0	59.3	60.0
48"		60.0	43.8	60.0	60.0	51.9	60.0
54"		60.0	38.9	58.4	60.0	46.1	60.0
60"		60.0	35.0	52.5	60.0	41.5	55.3
30"	108"	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	55.1	60.0	60.0	60.0	60.0
42"		60.0	47.2	60.0	60.0	56.0	60.0
48"		60.0	41.3	60.0	60.0	49.0	60.0
54"		60.0	36.7	55.1	60.0	43.6	58.1
60"		60.0	33.1	49.6	60.0	39.2	52.3
30"	114"	60.0	60.0	60.0	60.0	60.0	60.0
36"		60.0	52.2	60.0	60.0	60.0	60.0
42"		60.0	44.8	60.0	60.0	53.1	60.0
48"		60.0	39.2	58.7	60.0	46.4	60.0
54"		60.0	34.8	52.2	60.0	41.3	55.0
60"		60.0	31.3	47.0	60.0	37.1	49.5
30"	120"	60.0	59.5	60.0	60.0	60.0	60.0
36"		60.0	49.6	60.0	60.0	58.8	60.0
42"		60.0	42.5	60.0	60.0	50.4	60.0
48"		60.0	37.2	55.8	60.0	44.1	58.8
54"		60.0	33.1	49.6	60.0	39.2	52.3
30"	126"	60.0	56.7	60.0	60.0	60.0	60.0
36"		60.0	47.2	60.0	60.0	56.0	60.0
42"		60.0	40.5	60.0	60.0	48.0	60.0
48"		60.0	35.4	53.1	60.0	42.0	56.0
54"		60.0	31.5	47.2	60.0	37.3	49.8

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

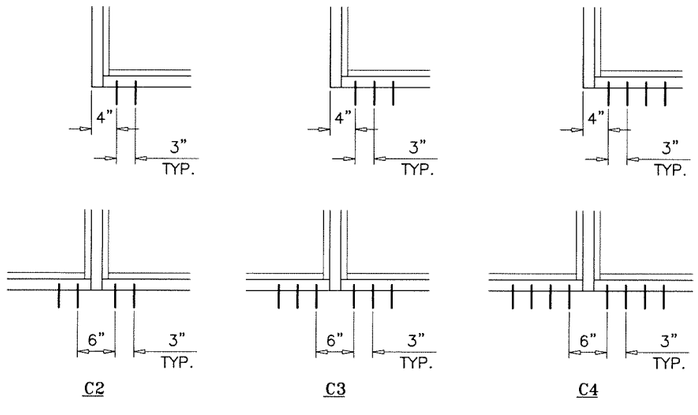
NOMINAL DIMS.		ANCHORS TYPE 'C'					
		1/4" SHIM	3/8" MAX. SHIM			1/2" SHIM	
WIDTH (W)	FRAME HEIGHT	C2	C2	C3	C4	C3	C4
30"	132"	60.0	54.1	60.0	60.0	60.0	60.0
36"		60.0	45.1	60.0	60.0	53.5	60.0
42"		60.0	38.6	58.0	60.0	45.8	60.0
48"		60.0	33.8	50.7	60.0	40.1	53.5
30"	138"	60.0	51.8	60.0	60.0	60.0	60.0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

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



WIDTH (W) = W1
AT FRAME JAMB

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



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

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\21-12F-ES

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

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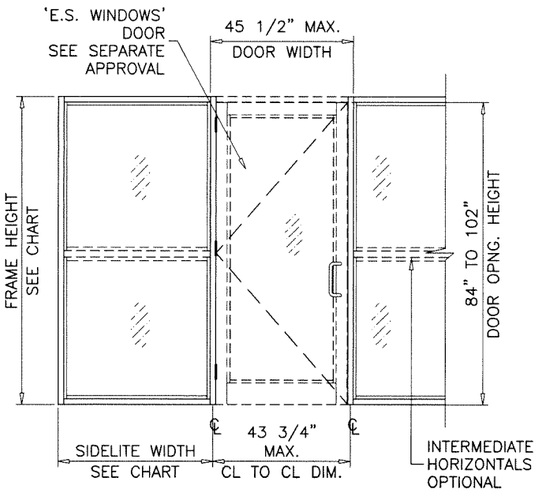
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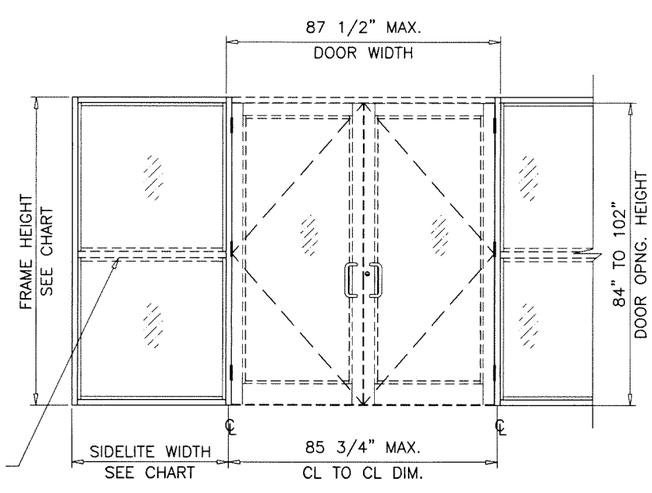
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chk. by:

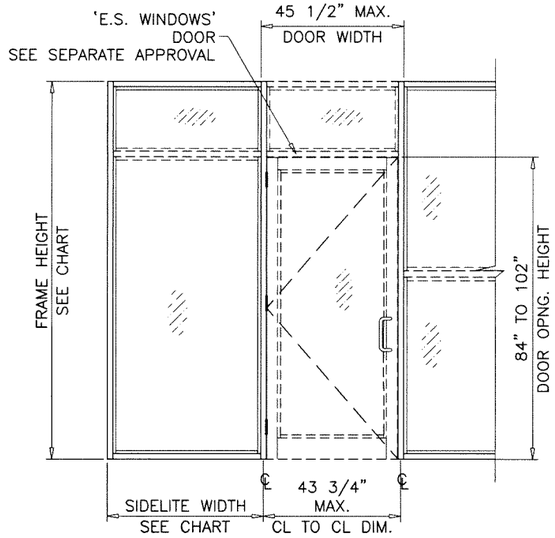
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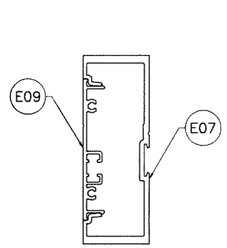
DOOR MULLION LOAD CAPACITY-PSF		
SIDELITE WIDTH INCHES	FRAME HEIGHT INCHES	JAMB 'JD1' MULL 'MD1' EXT. (+) INT. (−)
32	86−1/2	60.0
36		60.0
42		60.0
48		60.0
54		60.0
60		60.0
32	98−1/2	60.0
36		60.0
42		60.0
48		60.0
54		60.0
32	110−1/2	60.0
36		60.0
42		60.0
48		60.0





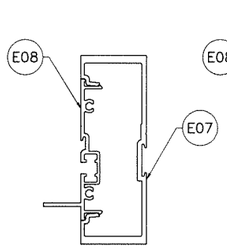
DOOR MULLION LOAD CAPACITY-PSF			
SIDELITE WIDTH INCHES	FRAME HEIGHT INCHES	JAMB 'JD1' MULL 'MD1' EXT. (+) INT. (−)	JAMB 'JD1' MULL 'MD2' EXT. (+) INT. (−)
32	98−1/2	60.0	60.0
36		60.0	60.0
42		60.0	60.0
48		60.0	60.0
54		60.0	60.0
32	110−1/2	60.0	60.0
36		60.0	60.0
42		60.0	60.0
48		60.0	60.0
32	114	60.0	60.0
36		60.0	60.0
42		60.0	60.0
48		60.0	60.0
32	120	60.0	60.0
36		59.2	60.0
42		55.2	60.0
48		51.6	60.0





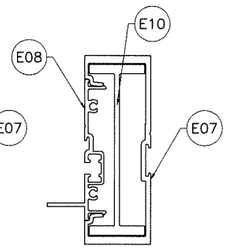
JAMB 'JD1'

Ix IN^4	Sx IN^3
6.570	2.7226



MULLION 'MD1'

Ix IN^4	Sx IN^3
6.7195	2.6757



MULLION 'MD2'

Ix IN^4	Sx IN^3
10.8072	4.4788

DOOR−WINDOWALL TRANSITION MULLION

Sealed: 3/13/2025

FL #17897

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COMP−ANL\21−12F−ES

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chk. by:

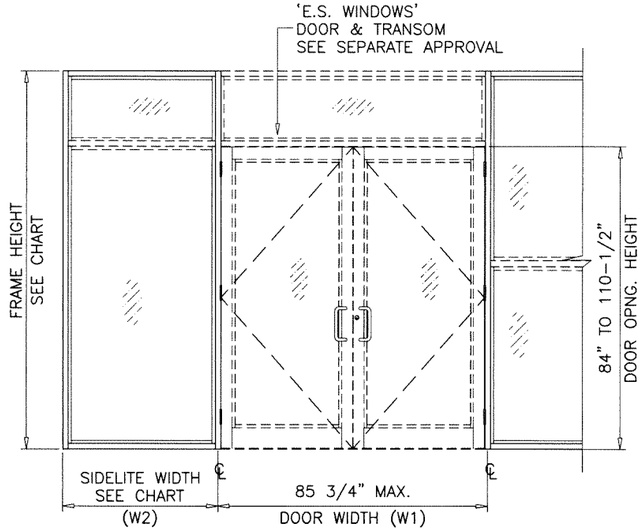
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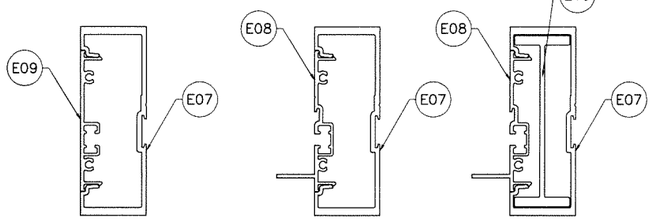
sheet 5 of 13

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

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

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.





JAMB 'JD1'

Ix IN^4	Sx IN^3
6.570	2.7226

MULLION 'MD1'

Ix IN^4	Sx IN^3
6.7195	2.6757

MULLION 'MD2'

Ix IN^4	Sx IN^3
10.8072	4.4788

DOOR–WINDOWALL
TRANSITION MULLION

Sealed: 3/13/2025

FL #17897

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COMP–ANL\21–12F–ES

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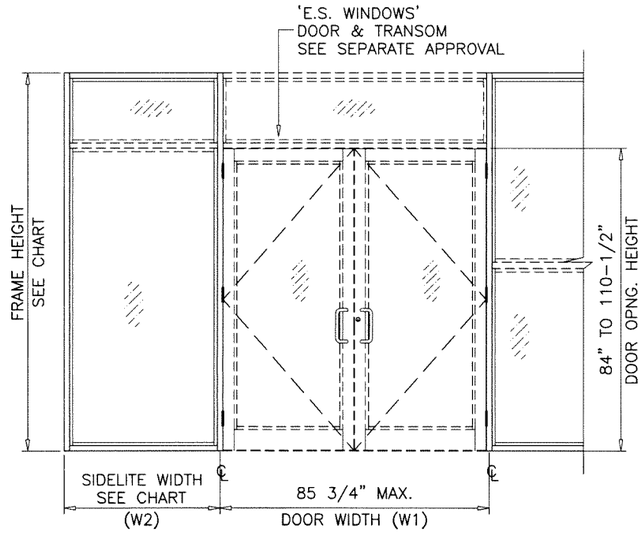
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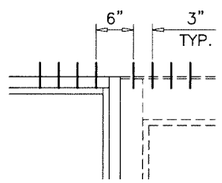
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DOOR MULLION HEAD ANCHOR LOAD CAPACITY – PSF				
NOMINAL DIMS.				'B4'/'C4'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(–)
85–3/4	30	96	84	60.0
	36			60.0
	42			60.0
	48			60.0
	54			60.0
	60			60.0
	30	102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

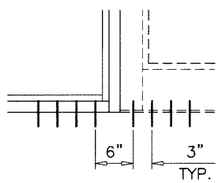
DOOR MULLION HEAD ANCHOR LOAD CAPACITY – PSF				
NOMINAL DIMS.				'B4'/'C4'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(–)
85–3/4	30	108	96	60.0
	36			60.0
	42			60.0
	48			60.0
	30	114		60.0
	36			60.0
	42			60.0
	48			60.0
	30	120		60.0
	36			60.0
	42			60.0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

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.





'B4', 'C4'



'B4' AT SILL ALL CASES

ANCHORS TYPES: SEE SHEET 8 FOR DESCRIPTION

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

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

ALL OTHER ANCHORS TO BE SPACED AS PER ELEVATION.

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

TRANSITION MULLION ANCHORS

Sealed: 3/13/2025

FL #17897

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COMP-ANL\21-12F-ES

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

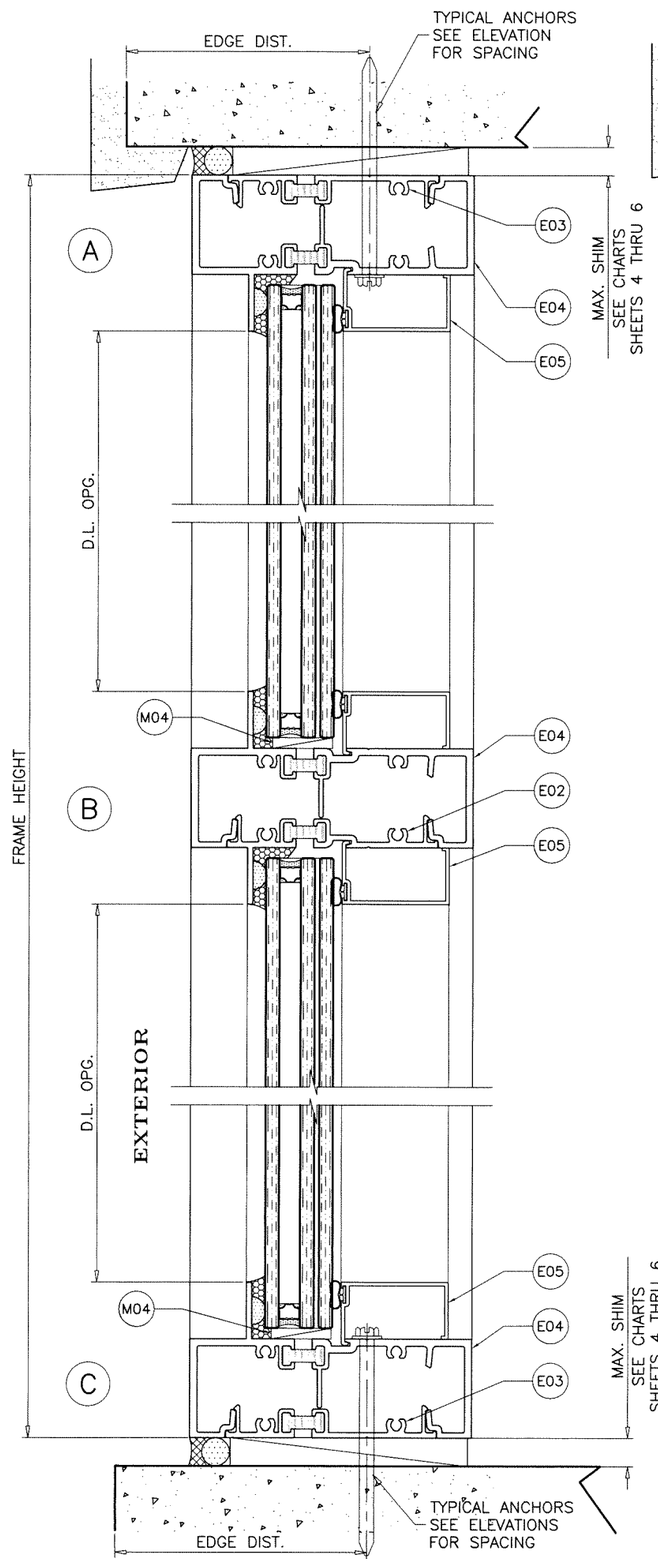
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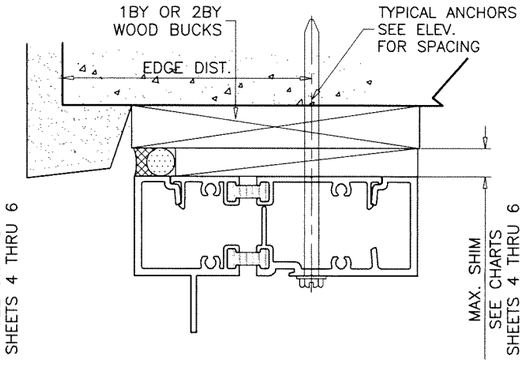
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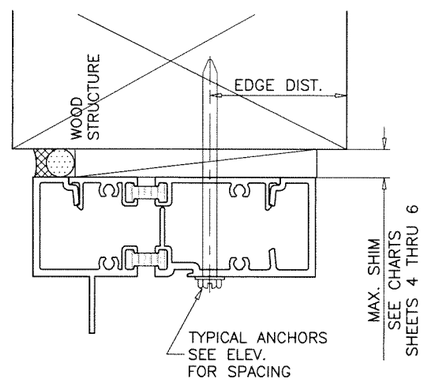
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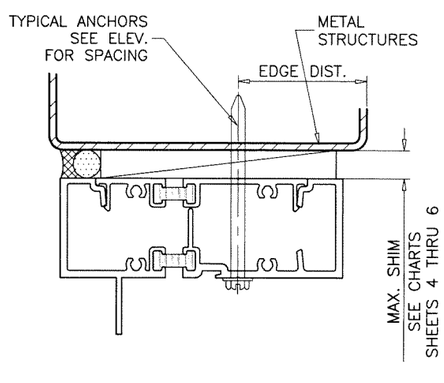
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chk. by:

drawing no. 21–12F









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. WDW.' 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

FL #17897

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COMP–ANL\21–12F–ES

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

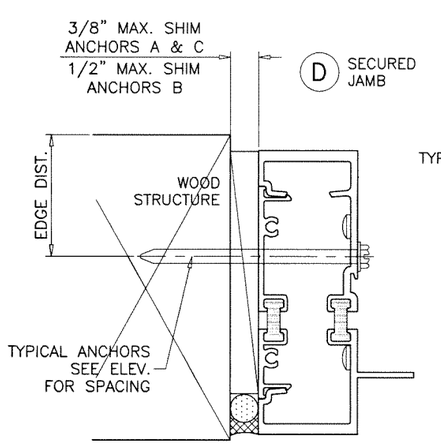
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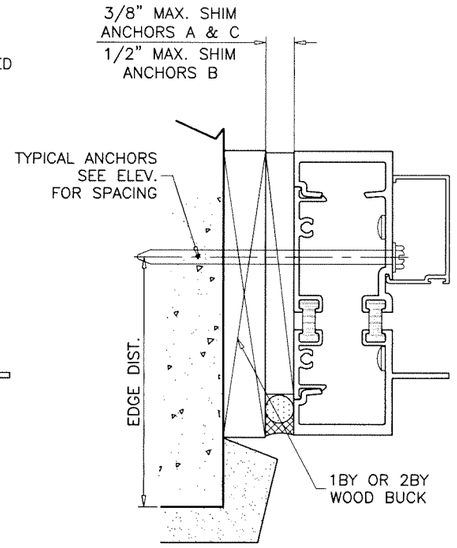
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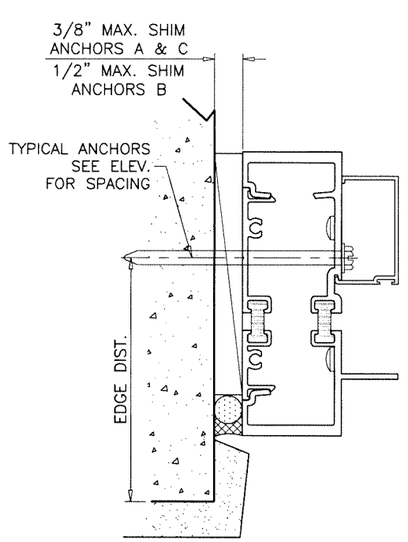
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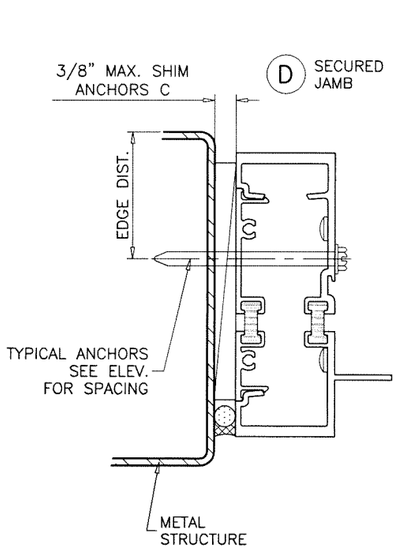
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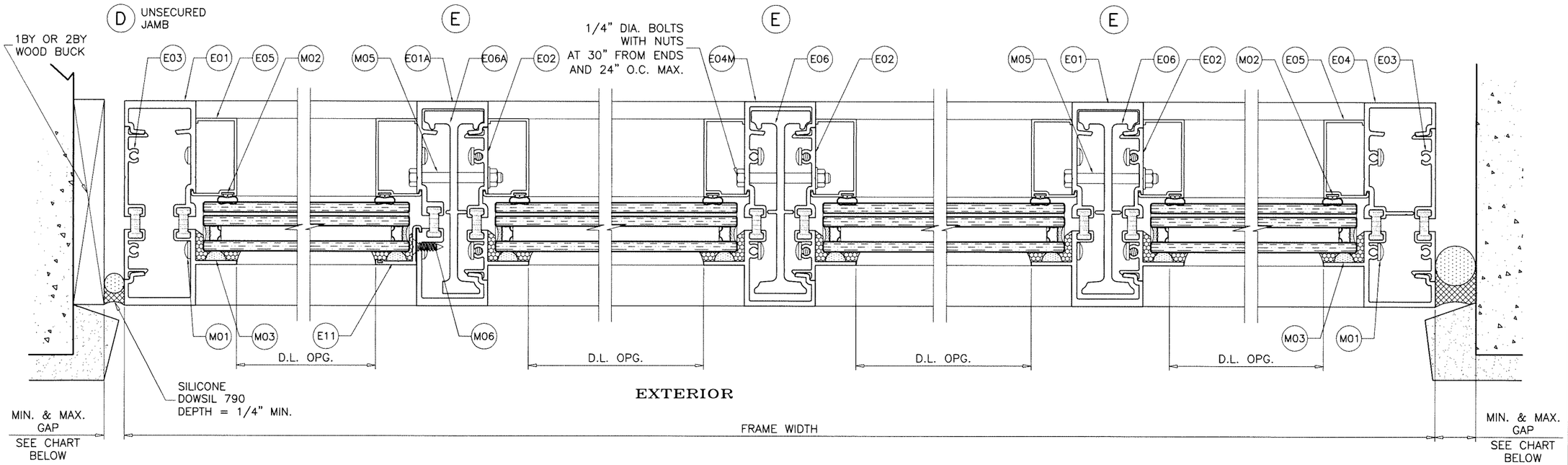
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MAX. GAPS FOR UNANCHORED JAMBS		
MAX. FRAME HEIGHT	JAMB J1	
	MIN.	MAX.
96"	1/4"	1"
102"	1/4"	1"
108"	3/8"	1"
120"	3/8"	1"
132"	3/8"	1"
144"	3/8"	1"

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

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\21-12F-ES

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

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

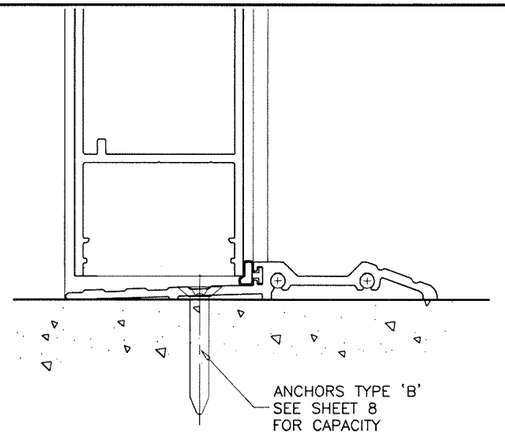
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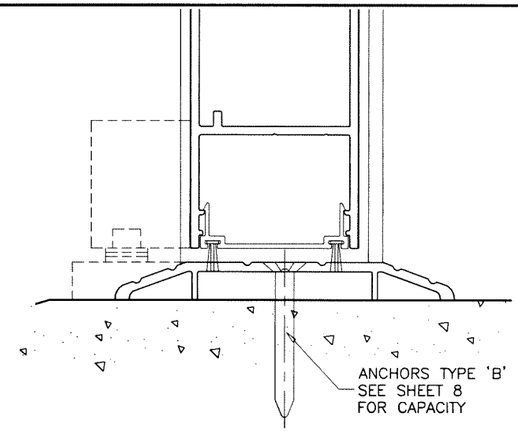
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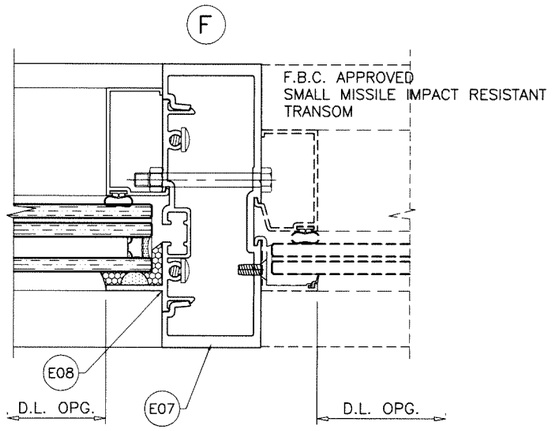
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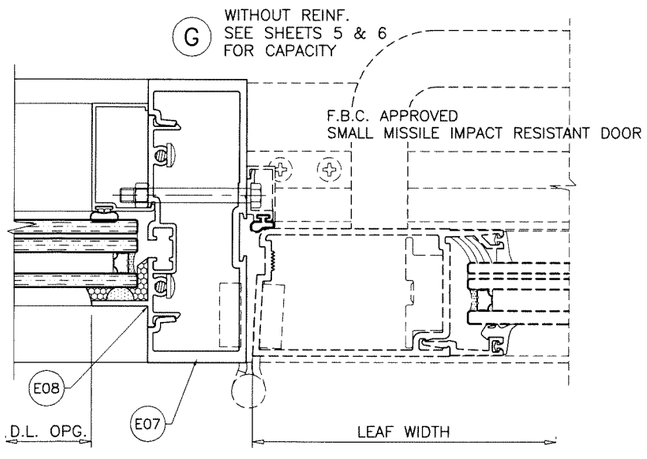


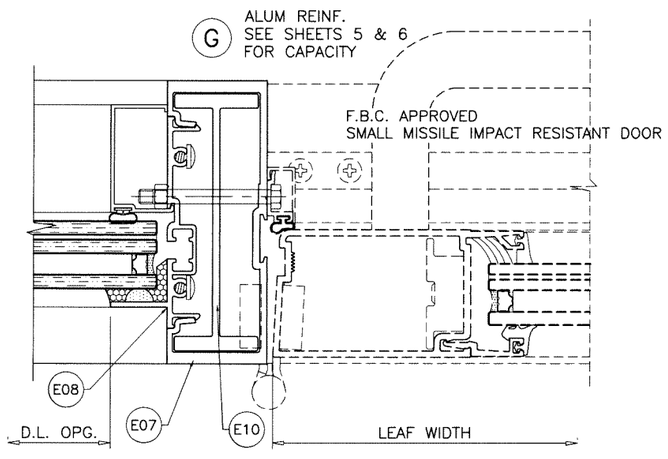


SEE SEPARATE APPROVAL FOR DESIGN LOAD CAPACITY OF DOORS AND DOOR ANCHORS.

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







Sealed: 3/13/2025

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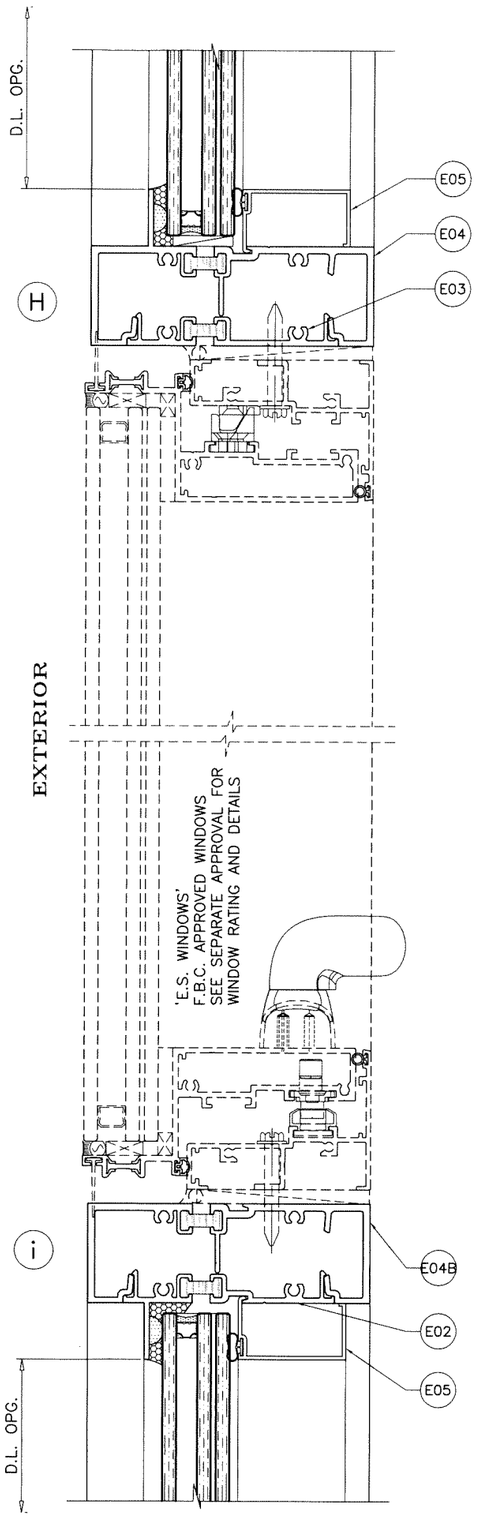
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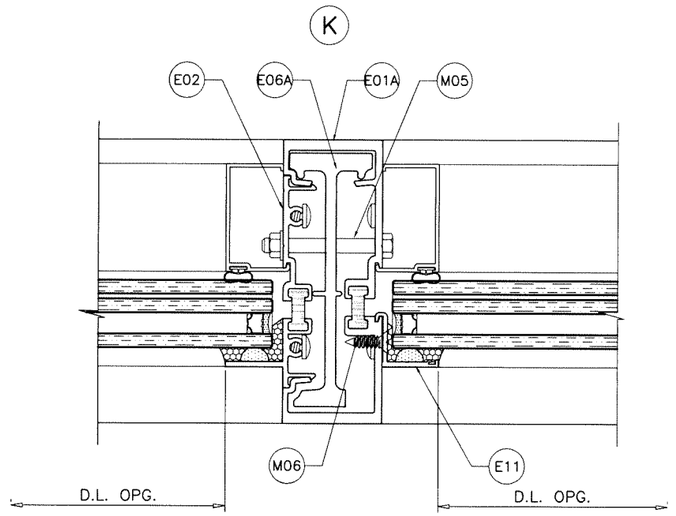
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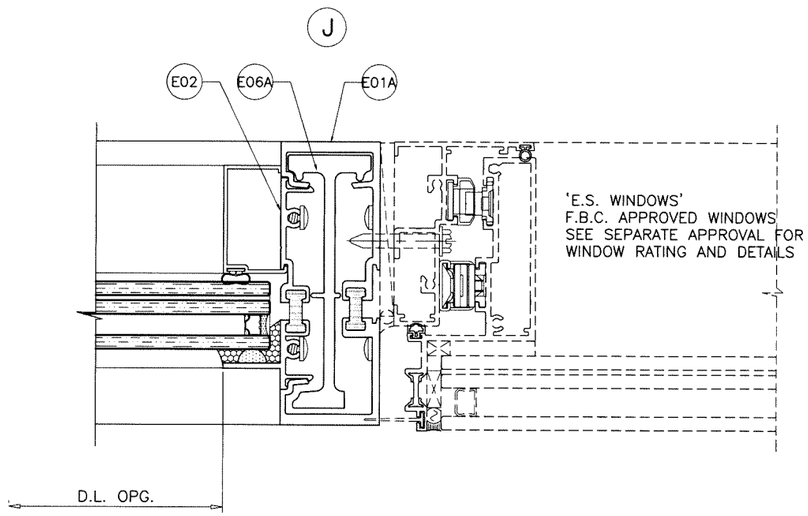
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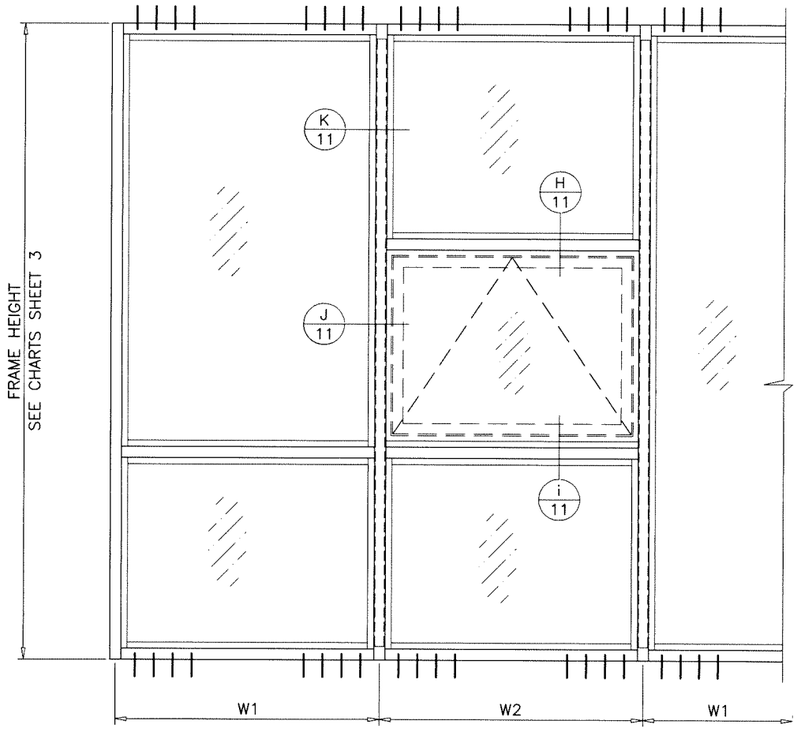
drawing no. 21-12F

sheet 10 of 13









TYPICAL INSTALLATION OF WINDOWS IN THE WINDOW WALL SYSTEM

USE WINDOWS HOLDING CURRENT APPROVAL
REFER TO NOTES ON SHEET 1

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

Sealed: 3/13/2025

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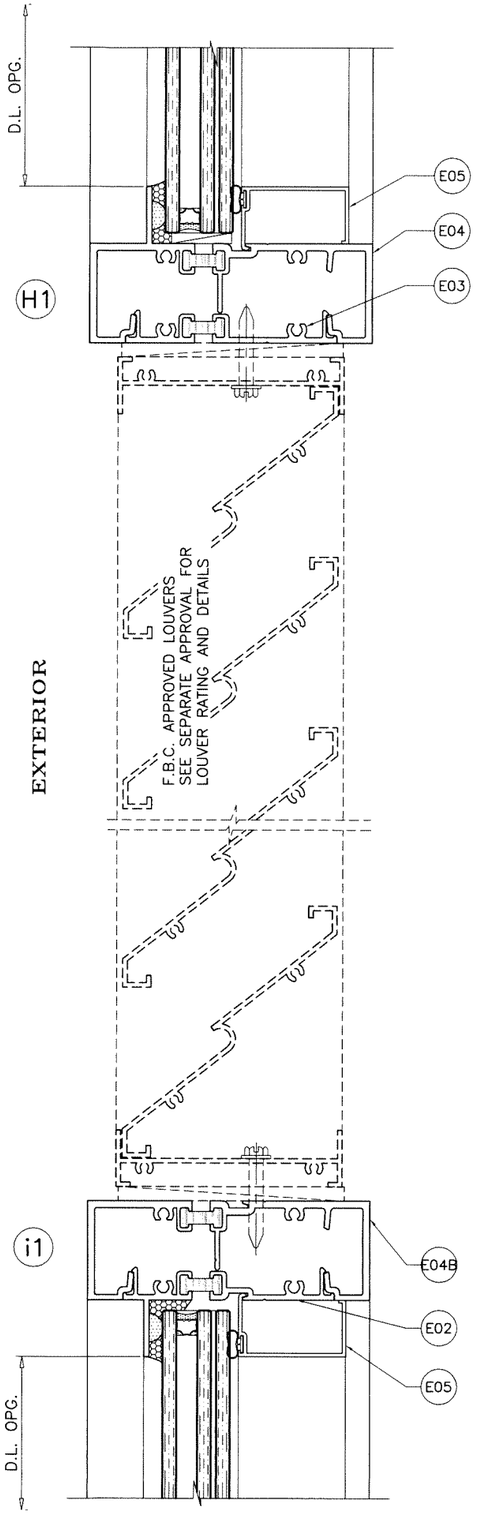
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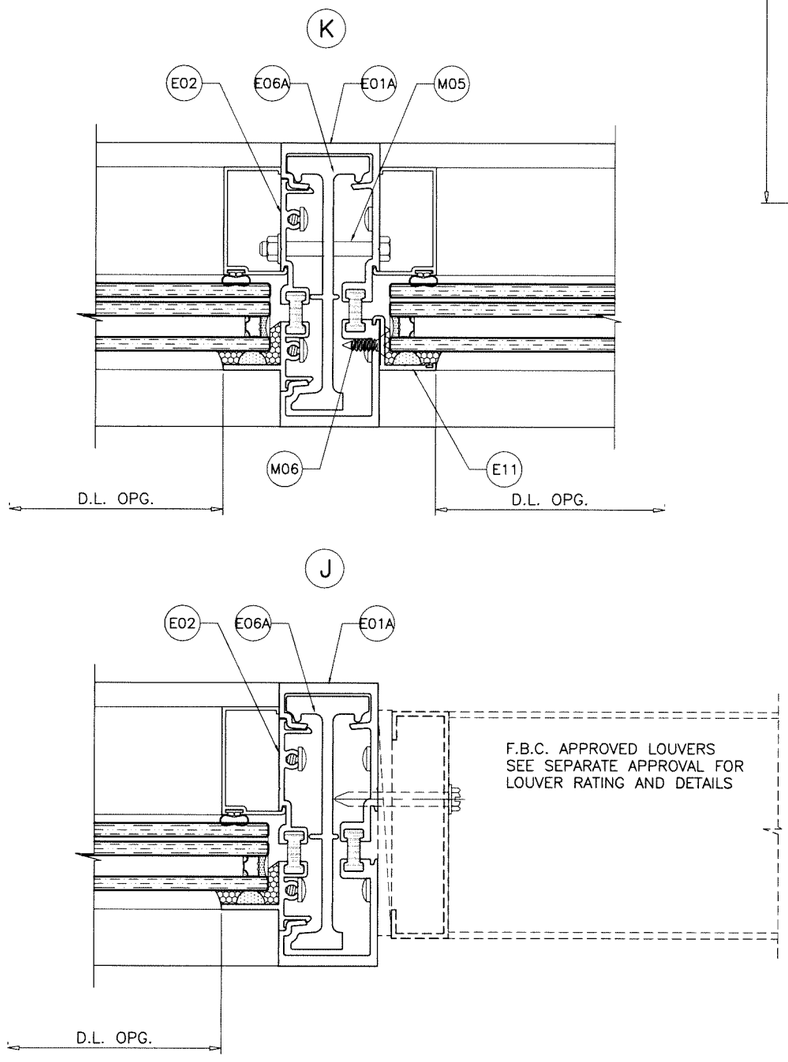
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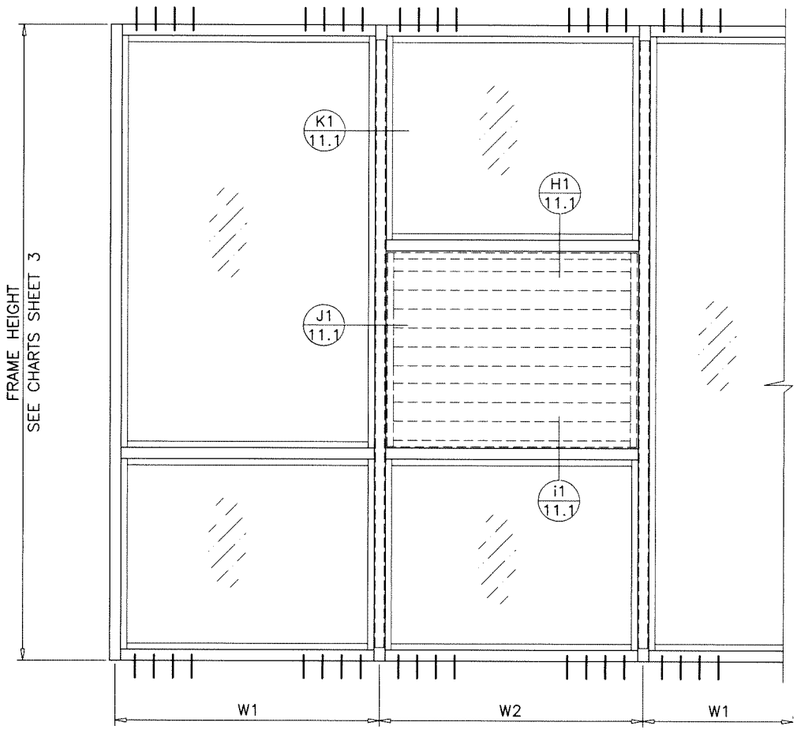
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sheet 11 of 13

EXTERIOR







TYPICAL INSTALLATION OF LOUVERS IN THE WINDOW WALL SYSTEM

USE LOUVERS HOLDING CURRENT APPROVAL
REFER TO NOTES ON SHEET 1

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

Sealed: 3/13/2025

FL #17897

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COMP-ANL\21-12F-ES

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

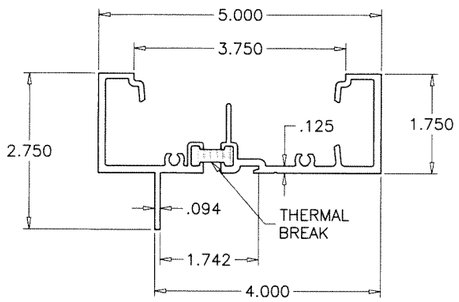
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

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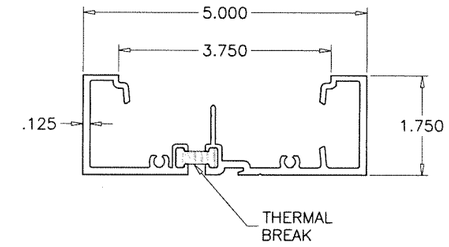
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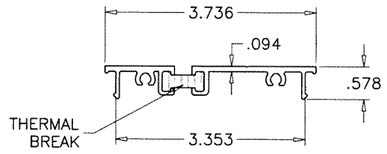
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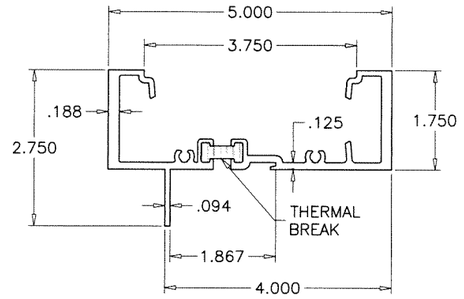
E04 FRAME HEAD/SILL/INTERMEDIATE



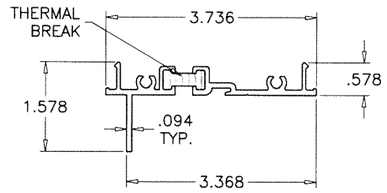
E04B FRAME HEAD/SILL/INTERMEDIATE



E03 FRAME HEAD/SILL/JAMB SNAP-IN PLATE

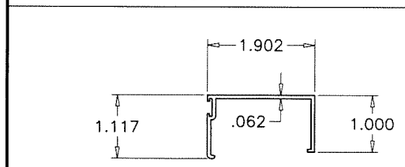


E04A FRAME HEAD/SILL/JAMB

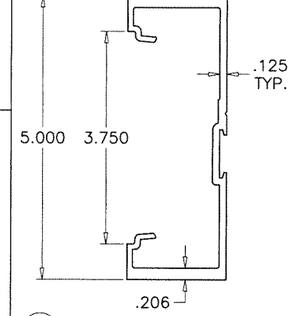


E02 SNAP-IN MATE

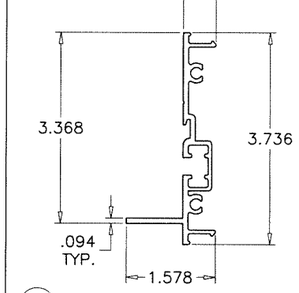
ITEM #	PART #	REQ'D	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
E01	ES-8000T-001	AS REQD.	JAMB AND VERTICAL MULLION	6005-T5	-
E01A	ES-8000T-009T	AS REQD.	VERTICAL MULLION	6063-T6	-
E02	ES-8000T-002	AS REQD.	SNAP-IN MATE	6005-T5	-
E03	ES-8000T-003	AS REQD.	HEAD/SILL/JAMB SNAP-IN PLATE	6005-T5	-
E04	ES-8000T-004	AS REQD.	FRAME HEAD/SILL/INTERMEDIATE	6005-T5	-
E04M	ES-8000T-004	AS REQD.	VERTICAL MULLION	6005-T5	-
E04A	ES-8000T-007	AS REQD.	FRAME HEAD/SILL/JAMB (GLASS TYPE GL3)	6005-T5	-
E04B	ES-8000T-012T	AS REQD.	FRAME HEAD/SILL/INTERMEDIATE	6005-T5	-
E05	ES-8000T-005	AS REQD.	GLAZING BEAD	6063-T5	-
E06	ES-8000T-006	AS REQD.	STIFFENER	6005-T5	-
E06A	ES-8000T-011	AS REQD.	STIFFENER	6005-T5	-
E07	-	AS REQD.	DOOR MULLION	6005-T5	-
E08	ES-8000T-002	AS REQD.	DOOR MULLION SNAP-IN MATE	6005-T5	-
E09	ES-8000T-003	AS REQD.	DOOR MULL SNAP-IN PLATE	6005-T5	-
E10	-	AS REQD.	DOOR MULLION STIFFENER	6005-T5	-
E11	ES8014	AS REQD.	EXTERIOR GLAZING ADAPTER	6063-T6	-
M01	#12 X 1-1/2"	AS REQD.	ASSEMBLY FASTENERS	ST. STEEL	PH SMS
M02	ES-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



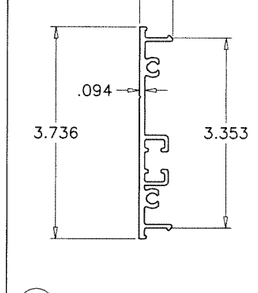
E05 GLAZING BEAD



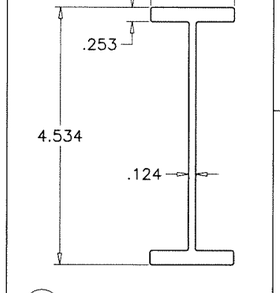
E07 DOOR MULLION



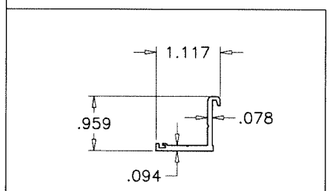
E08 DOOR MULL SNAP-IN MATE



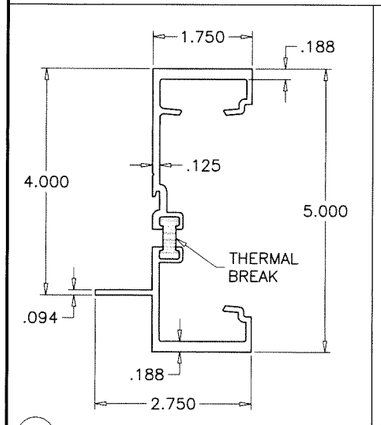
E09 DOOR MULL SNAP-IN PLATE



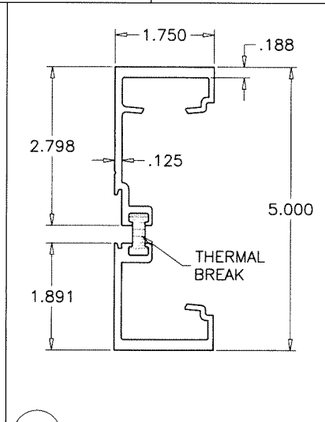
E10 DOOR MULL STIFFENER



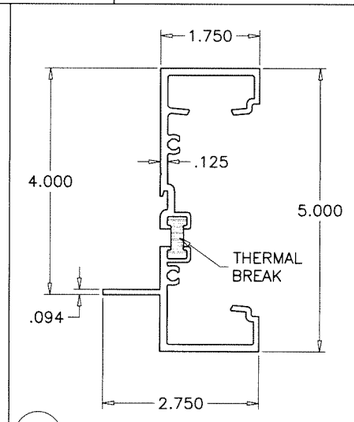
E11 EXT. GLAZING ADAPTER



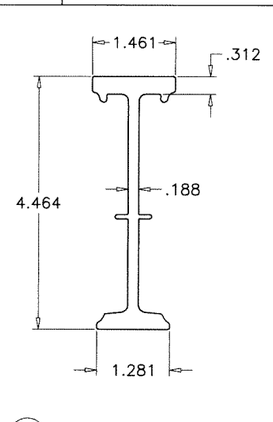
E01 JAMB/VERTICAL MULLION



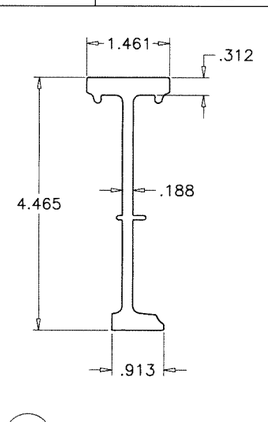
E01A VERTICAL MULLION



E04M VERTICAL MULLION



E06 STIFFENER



E06A STIFFENER

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

Sealed: 3/13/2025

FL #17897

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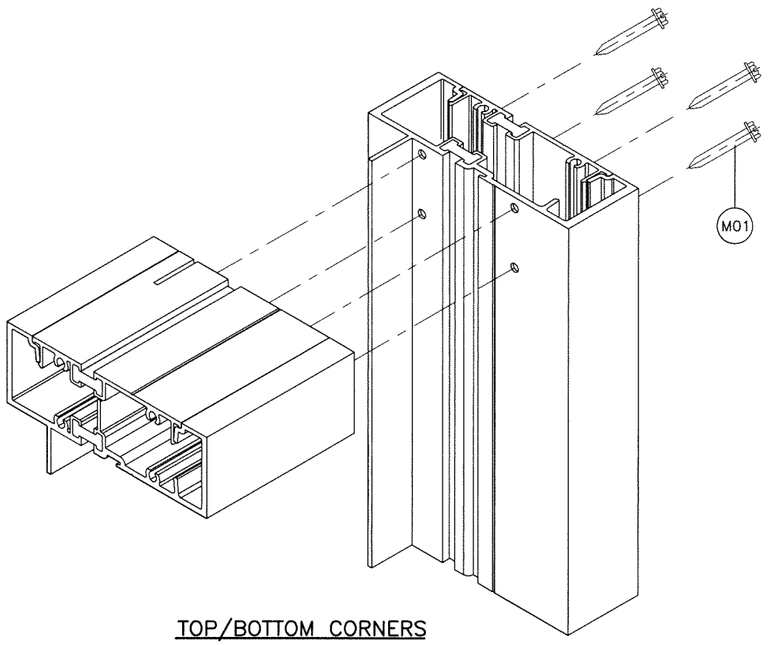
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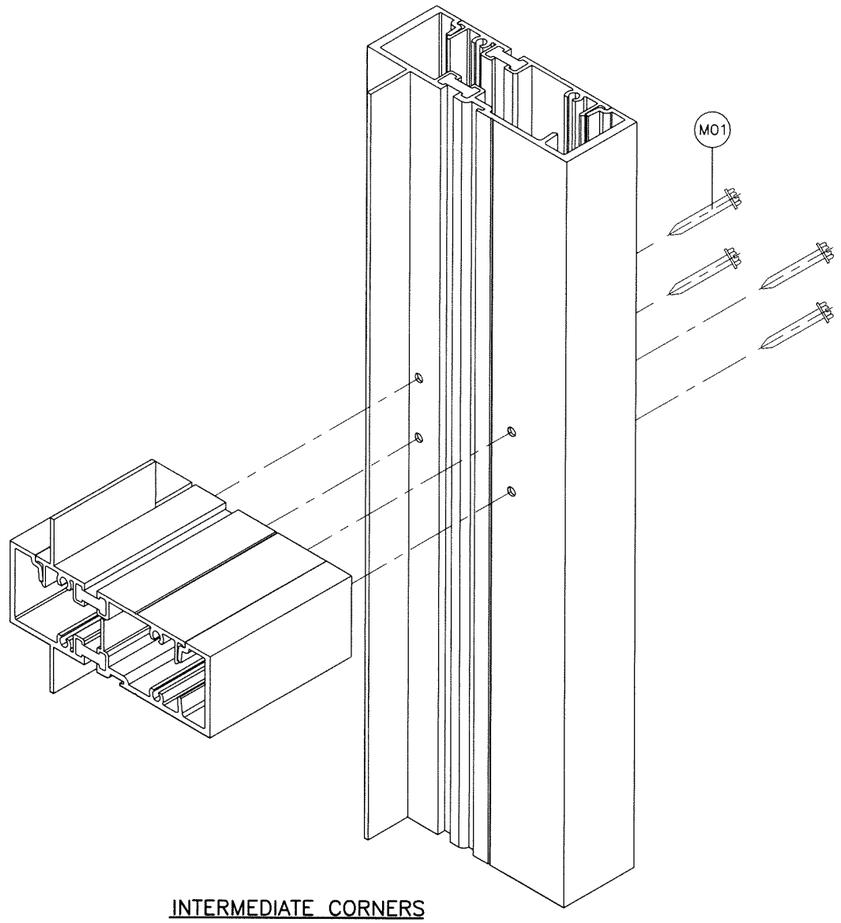
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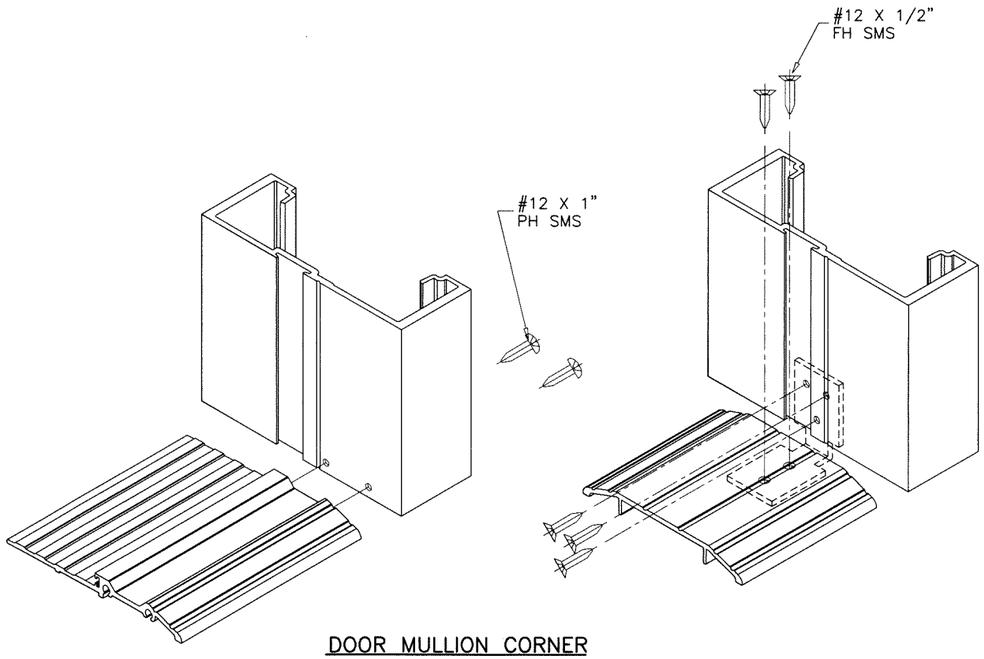
sheet 12 of 13



TOP/BOTTOM CORNERS



INTERMEDIATE CORNERS



DOOR MULLION CORNER

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FL #17897

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no	date	by	description

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chk. by:

drawing no. 21-12F

sheet 13 of 13