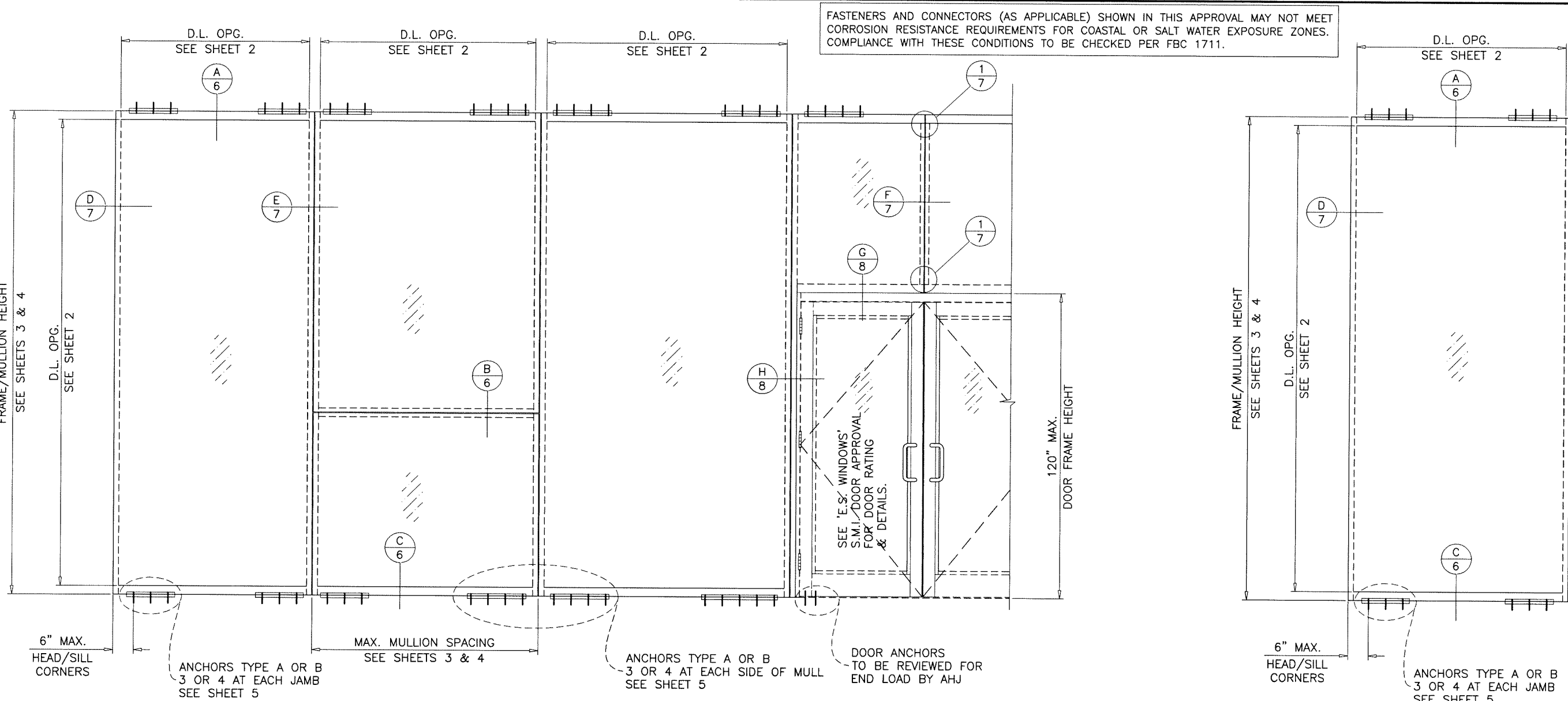




ES-WW8832
ALUMINUM WINDOW WALL SYSTEM

THIS SYSTEM MAY BE USED IN CONJUNCTION WITH 'E.S. WINDOWS' APPR'D SMALL MISSILE IMPACT RESISTANT DOORS. LOWER DESIGN PRESSURE FROM WINDOW WALL SYSTEM OR DOOR APPROVAL WILL APPLY TO ENTIRE SYSTEM.

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 2023 (8TH EDITION)/2026 (9TH EDITION) FLORIDA BUILDING CODE INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ). 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. ALL SHIMS TO BE LOAD-BEARING, (HIGH DENSITY PLASTIC/COMPOSITE, METAL OR OTHER RIGID MATERIALS). MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE 2023/2026 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)'.

FASTENERS AND CONNECTORS (AS APPLICABLE) SHOWN IN THIS APPROVAL MAY NOT MEET CORROSION RESISTANCE REQUIREMENTS FOR COASTAL OR SALT WATER EXPOSURE ZONES. COMPLIANCE WITH THESE CONDITIONS TO BE CHECKED PER FBC 1711.

TYPICAL ELEVATIONS

WINDOW WALL SYSTEM WITH DOORS LIMITED TO
MAX. $D_p = \pm 100.0$ PSF
MAX. DOOR FRAME HEIGHT = 120"
MAX. DOOR FRAME WIDTH = 90"

INSTRUCTIONS:

USE CHARTS AS FOLLOWS.

- STEP 1** DETERMINE DESIGN WIND PRESSURE REQUIREMENTS BASED ON WIND VELOCITY, BLDG. HEIGHT, WIND ZONE USING APPLICABLE ASCE 7 STANDARD.
- STEP 2** SEE CHARTS ON SHEET 2 FOR GLASS DESIGN LOAD CAPACITY.
- STEP 3** CHECK MULLION DESIGN LOAD CAPACITY FOR A GIVEN SPACING AND HEIGHT USING CHARTS ON SHEET 3 & 4 THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.
- STEP 4** USING CHARTS ON SHEET 5 SELECT ANCHOR OPTION WITH DESIGN LOAD CAPACITY MORE THAN DESIGN LOAD SPECIFIED IN STEP 1 ABOVE.
- STEP 5** THE LOWEST VALUE RESULTING FROM STEPS 2, 3 AND 4 THAT EXCEED THE DESIGN WIND PRESSURES DETERMINED THRU STEP 1 SHALL APPLY TO ENTIRE SYSTEM.
- STEP 6** FOR SYSTEMS WITH UNANCHORED JAMBS (FREE JAMBS), USING SHEET 7, DETERMINE THE MIN. & MAX. GAP DIMENSIONS.

SINGLE 'O' PANEL:
FRAME WIDTH = D.L.O. WIDTH + 3.125"
FRAME HEIGHT = D.L.O. HEIGHT + 5.00"

WINDOW WALL SYSTEM WITH GLASS TYPES 'GL2', 'GL3', 'GL4' AND 'GL5' COMPLIES WITH REQUIREMENTS OF ANSI Z97.1.

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.

Sealed: 8/4/2026

FL #21875

A- CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION OF THIS PRODUCT BASED ON THIS PRODUCT EVALUATION PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT.

B- THIS PRODUCT EVALUATION DOCUMENT WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.

C- SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A FLORIDA REGISTERED ENGINEER OR ARCHITECT WHICH WILL BECOME THE ENGINEER OF RECORD (E.O.R.) FOR THE PROJECT AND WHO WILL BE RESPONSIBLE FOR THE PROPER USE OF THE P.E.D. ENGINEER OF RECORD, ACTING AS A DELEGATED ENGINEER TO THE P.E.D. ENGINEER SHALL SUBMIT TO THIS LATTER THE SITE SPECIFIC DRAWINGS FOR REVIEW.

D- THIS P.E.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.

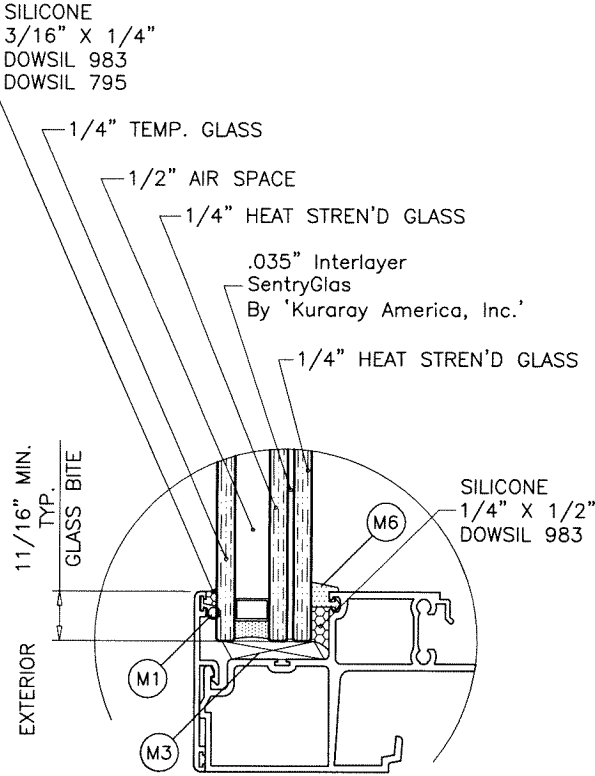


af c
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173 (C.A.N. 3538)
TEL. (305) 264-8100 FAX. (305) 262-6978
STORE \W17-09ES

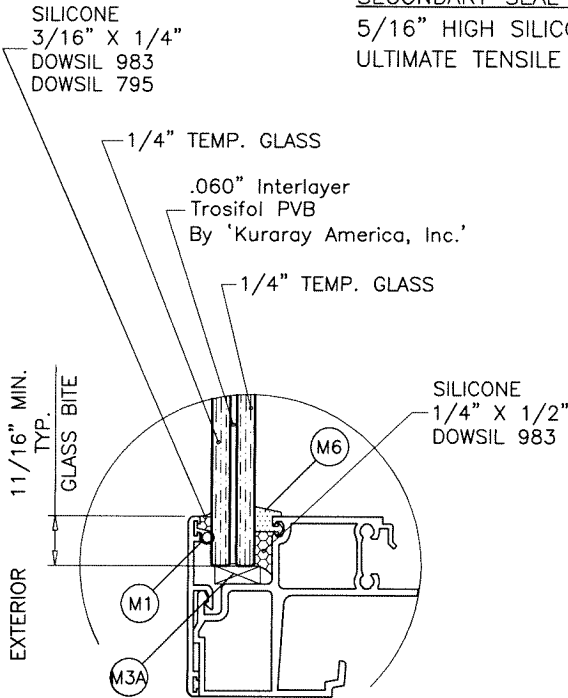
ES-WW8832 ALUM WINDOW WALL SYSTEM (S.M.I.)
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:		no		date		by		description	
date: 02-06-17	scale: 3/8"=1'-0"	A	10.11.17						UPDATED TO 2017 FBC
		B	10.03.19						SLANTED OPTION ADDED
		C	07.01.20						UPDATED TO 2020 FBC
		D	09.26.23						UPDATED TO 2023 FBC
		E	07.31.26						UPDATED TO 2026 FBC
drawing no.		W17-09							
sheet		1 of 11							

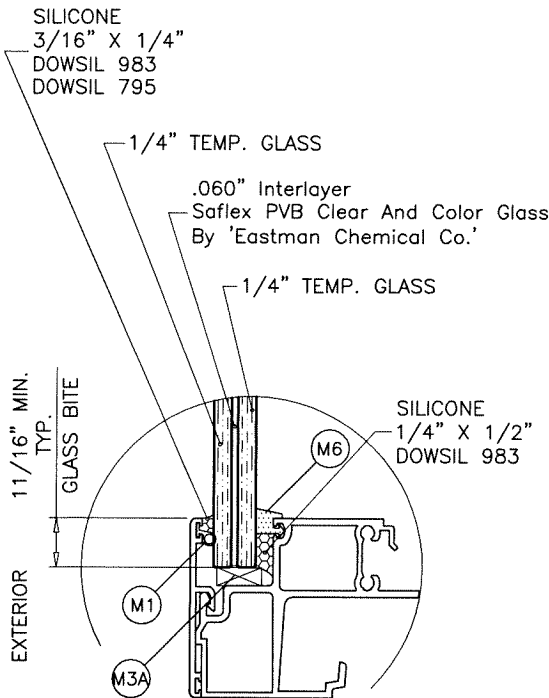
NOTE:
GLASS CAPACITIES ON THIS SHEET ARE
BASED ON ASTM E1300-16 (3 SEC. GUSTS).



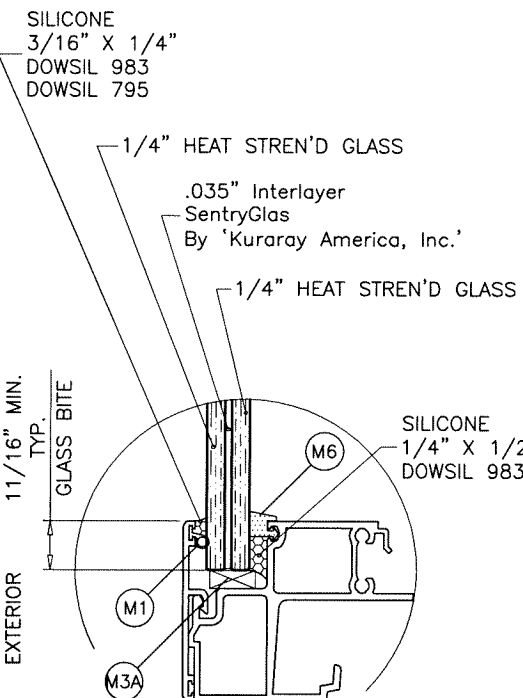
GLASS TYPE 'GL1'



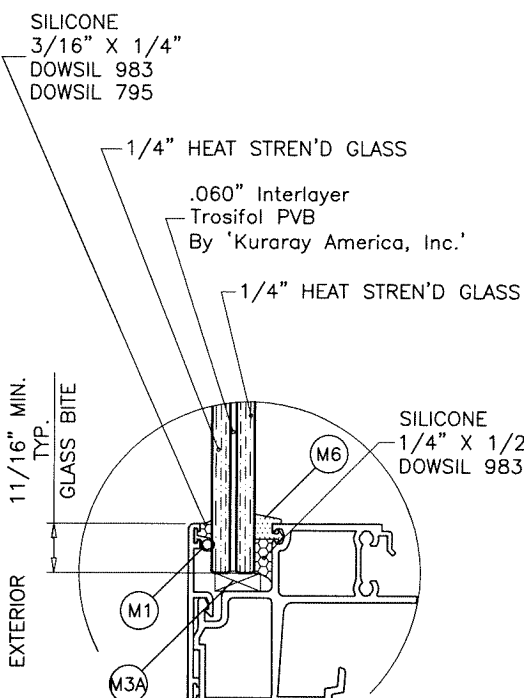
GLASS TYPE 'GL2'



GLASS TYPE 'GL3'



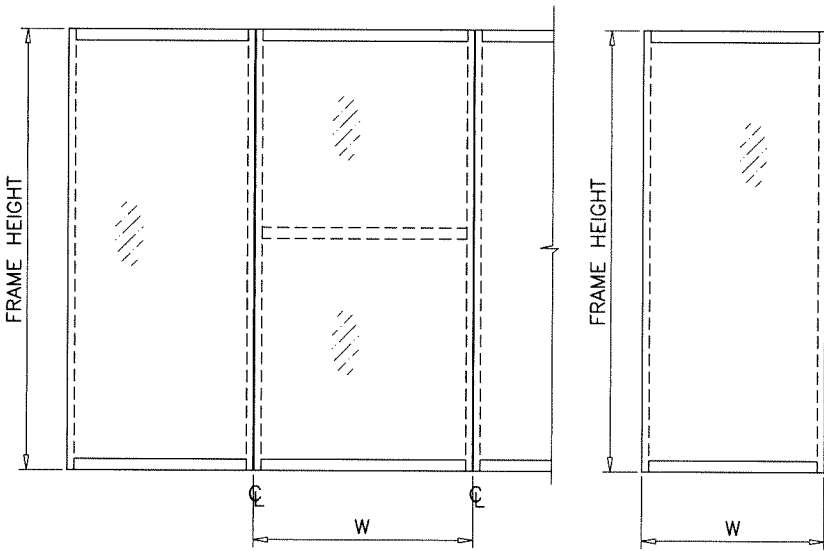
GLASS TYPE 'GL4'



GLASS TYPE 'GL5'

1/2" AIR SPACE CONSISTING OF:
SPACER:
'HELIMA' LOW PROFILE ALUMINUM SPACER
BY 'LINGERMANN GMBH'
AROUND THE PERIMETER OF THE GLASS.
SECONDARY SEAL FOR CAPTURED GLASS (W/ PRESS PLATE):
SILICONE
DOWSIL 791
GE 2000
SECONDARY SEAL FOR SSG GLASS (W/O PRESS PLATE):
5/16" HIGH SILICONE MIN.
ULTIMATE TENSILE STRENGTH PER ASTM C1135=150 PSI MIN.

GLASS LOAD CAPACITY - PSF									
NOMINAL DIMS.		GLASS TYPE 'GL1'		GLASS TYPES 'GL2' & 'GL3'		GLASS TYPE 'GL4'		GLASS TYPE 'GL5'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
30"	102"	140.0	140.0	130.0	130.0	130.0	130.0	130.0	130.0
36"		140.0	140.0	130.0	130.0	130.0	130.0	130.0	130.0
42"		140.0	140.0	130.0	130.0	130.0	130.0	130.0	130.0
48"		140.0	140.0	130.0	130.0	130.0	130.0	130.0	130.0
49-5/8"		137.0	137.0	-	-	-	-	-	-
30"	108"	140.0	140.0	130.0	130.0	130.0	130.0	130.0	130.0
36"		140.0	140.0	130.0	130.0	130.0	130.0	130.0	130.0
42"		140.0	140.0	130.0	130.0	130.0	130.0	130.0	130.0
48"		140.0	140.0	130.0	130.0	130.0	130.0	126.0	126.0
49-5/8"		137.0	137.0	-	-	-	-	-	-
30"	115"	140.0	140.0	130.0	130.0	130.0	130.0	130.0	130.0
36"		140.0	140.0	130.0	130.0	130.0	130.0	130.0	130.0
42"		140.0	140.0	130.0	130.0	130.0	130.0	130.0	130.0
48"		140.0	140.0	130.0	130.0	130.0	130.0	120.0	120.0
49-5/8"		137.0	137.0	-	-	-	-	-	-
30"	121-1/2"	140.0	140.0	130.0	130.0	-	-	-	-
36"		140.0	140.0	130.0	130.0	-	-	-	-
42"		140.0	140.0	130.0	130.0	-	-	-	-
48"		140.0	140.0	130.0	130.0	-	-	-	-
49-5/8"		137.0	137.0	-	-	-	-	-	-
30"	127-1/2"	-	-	130.0	130.0	-	-	-	-
36"		-	-	130.0	130.0	-	-	-	-
42"		-	-	130.0	130.0	-	-	-	-
48"		-	-	130.0	130.0	-	-	-	-

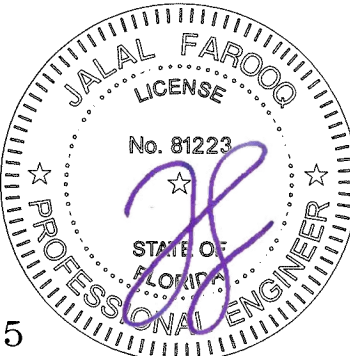


GLASS LIMITS AS PER SIZES SHOWN ON THIS SHEET
FOR MULTIPLE AND SINGLE LITES

Sealed: 8/4/2026

UPRIGHT GLASS

FL #21875

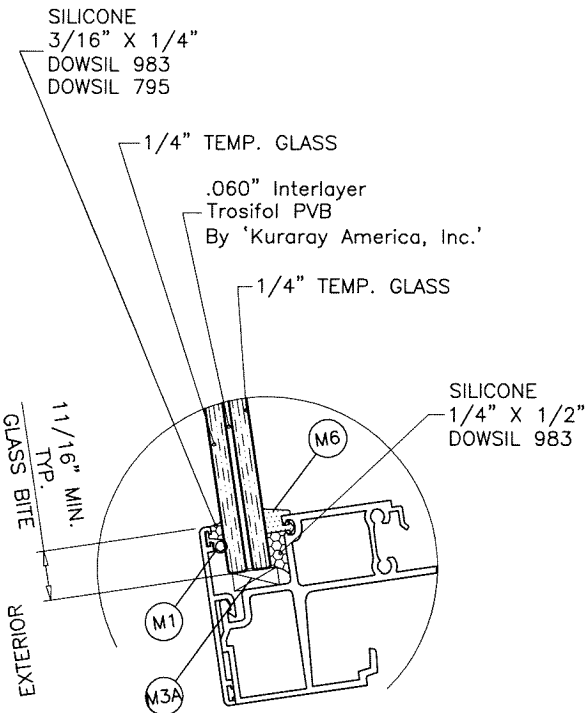


AL-FAROOQ CORPORATION
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STORE \W17-09ES

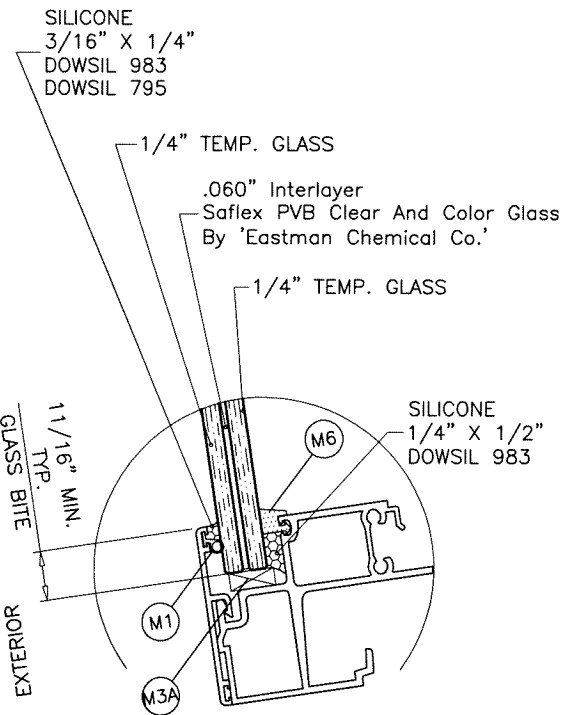
ES-WW8832 ALUM WINDOW WALL SYSTEM (S.M.I.)
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:
no. date by description
date: 02-06-17
scale: 3/8" = 1"
dr. by: TARIQ
chk. by:
drawing no.
W17-09
sheet 2 of 11

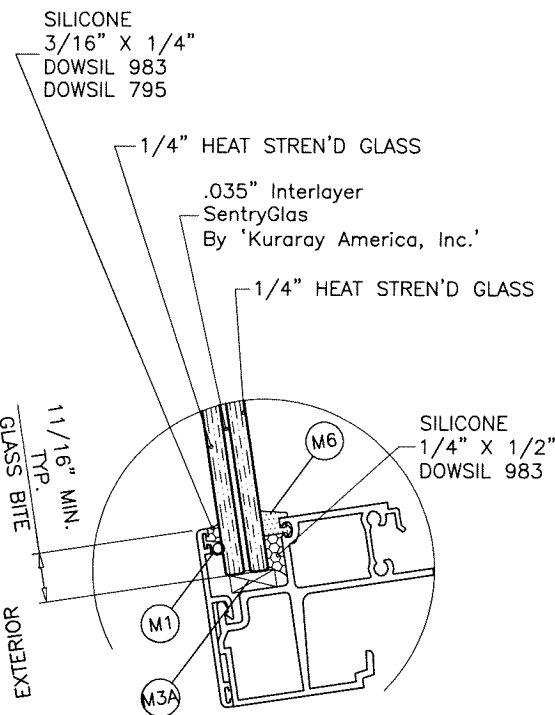
NOTE:
GLASS CAPACITIES ON THIS SHEET ARE
BASED ON ASTM E1300-16 (3 SEC. GUSTS).



GLASS TYPE 'GL2'



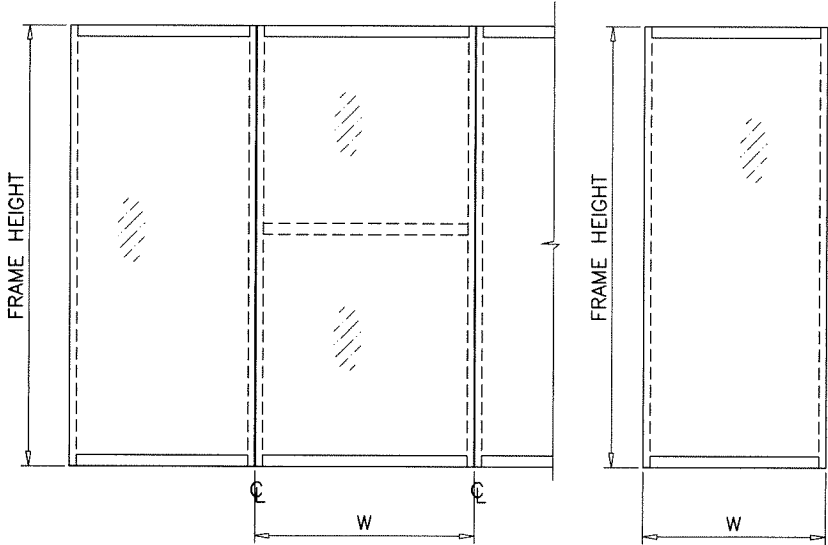
GLASS TYPE 'GL3'



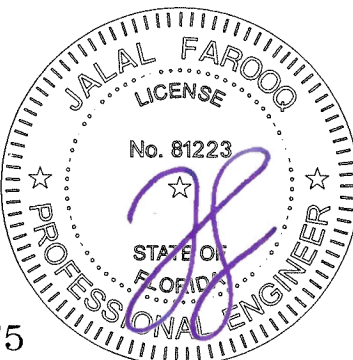
GLASS TYPE 'GL4'

GLAZING OPTIONS

GLASS LOAD CAPACITY - PSF					
NOMINAL DIMS.		GLASS TYPES 'GL2' & 'GL3'		GLASS TYPE 'GL4'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
30"	115"	110.0	130.0	110.0	130.0
36"		110.0	130.0	110.0	130.0
42"		110.0	130.0	110.0	130.0
48"		110.0	130.0	110.0	130.0
49-5/8"		110.0	130.0	-	-
51-3/8"		110.0	130.0	-	-
30"	121-1/2"	110.0	130.0	-	-
36"		110.0	130.0	-	-
42"		110.0	130.0	-	-
48"		110.0	130.0	-	-
49-5/8"		110.0	130.0	-	-
51-3/8"		110.0	130.0	-	-
30"	127-1/2"	110.0	130.0	-	-
36"		110.0	130.0	-	-
42"		110.0	130.0	-	-
48"		110.0	130.0	-	-
51-3/8"		110.0	130.0	-	-
30"	132-1/2"	110.0	130.0	-	-
36"		110.0	130.0	-	-
42"		110.0	130.0	-	-
48"		110.0	130.0	-	-
51-3/8"		110.0	130.0	-	-



GLASS LIMITS AS PER SIZES SHOWN ON THIS SHEET
FOR MULTIPLE AND SINGLE LITES



SLANTED GLASS

Sealed: 8/4/2026

FL #21875

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
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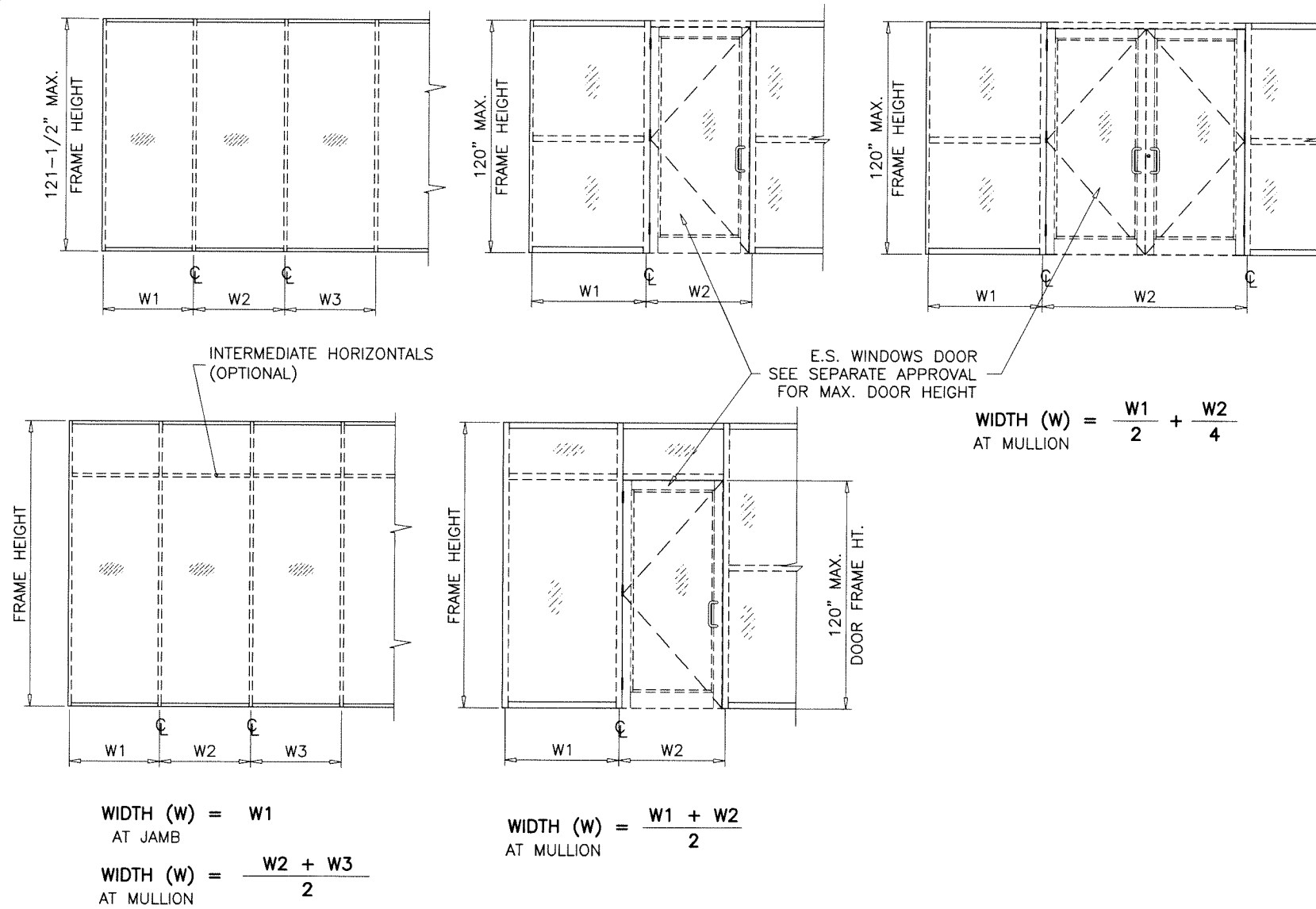
ES-WW832 ALUM WINDOW WALL SYSTEM (S.M.I.)

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

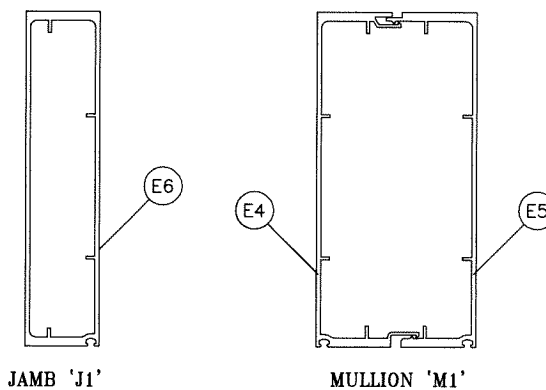
date:	02-06-17
scale:	3/8" = 1"
dr. by:	TARIQ
chk. by:	

drawing no.	W17-09
sheet	2.1 of 11



MULLION LOAD CAPACITY - PSF			
NOMINAL DIMS.		JAMB 'J1' MULL 'M1'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)
30"	96"	140.0	140.0
36"		140.0	140.0
42"		140.0	140.0
48"		140.0	140.0
49-3/8"		140.0	140.0
49-5/8"		140.0	140.0
30"	108"	140.0	140.0
36"		140.0	140.0
42"		139.4	139.4
48"		121.9	121.9
49-3/8"		118.6	118.6
49-5/8"		118.0	118.0
30"	109"	140.0	140.0
36"		140.0	140.0
42"		136.6	136.6
48"		119.5	119.5
49-3/8"		116.2	116.2
49-5/8"		115.6	115.6
30"	120"	140.0	140.0
36"		129.1	129.1
42"		110.7	110.7
48"		96.8	96.8
49-5/8"		93.7	93.7
30"	121-1/2"	140.0	140.0
36"		125.6	125.6
42"		107.7	107.7
48"		94.2	94.2
49-5/8"		91.1	91.1

INTERPOLATION BETWEEN WIDTHS AND HEIGHTS ALLOWED.

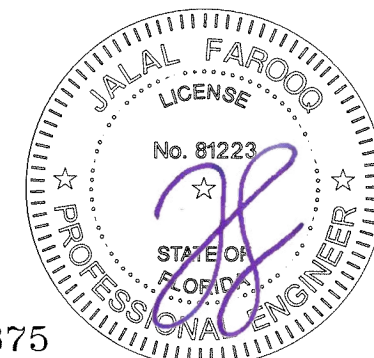


Ix IN ⁴	Sx IN ³
11.581	3.28

Ix IN ⁴	Sx IN ³
19.3	5.34

UPRIGHT JAMB & MULLION

FL #21875



Sealed: 8/4/2026

AL-FAROOQ CORPORATION
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ES-WW8832 ALUM WINDOW WALL SYSTEM (S.M.I.)

E.S. WINDOWS, LLC
3550 N.W. 49 STREET
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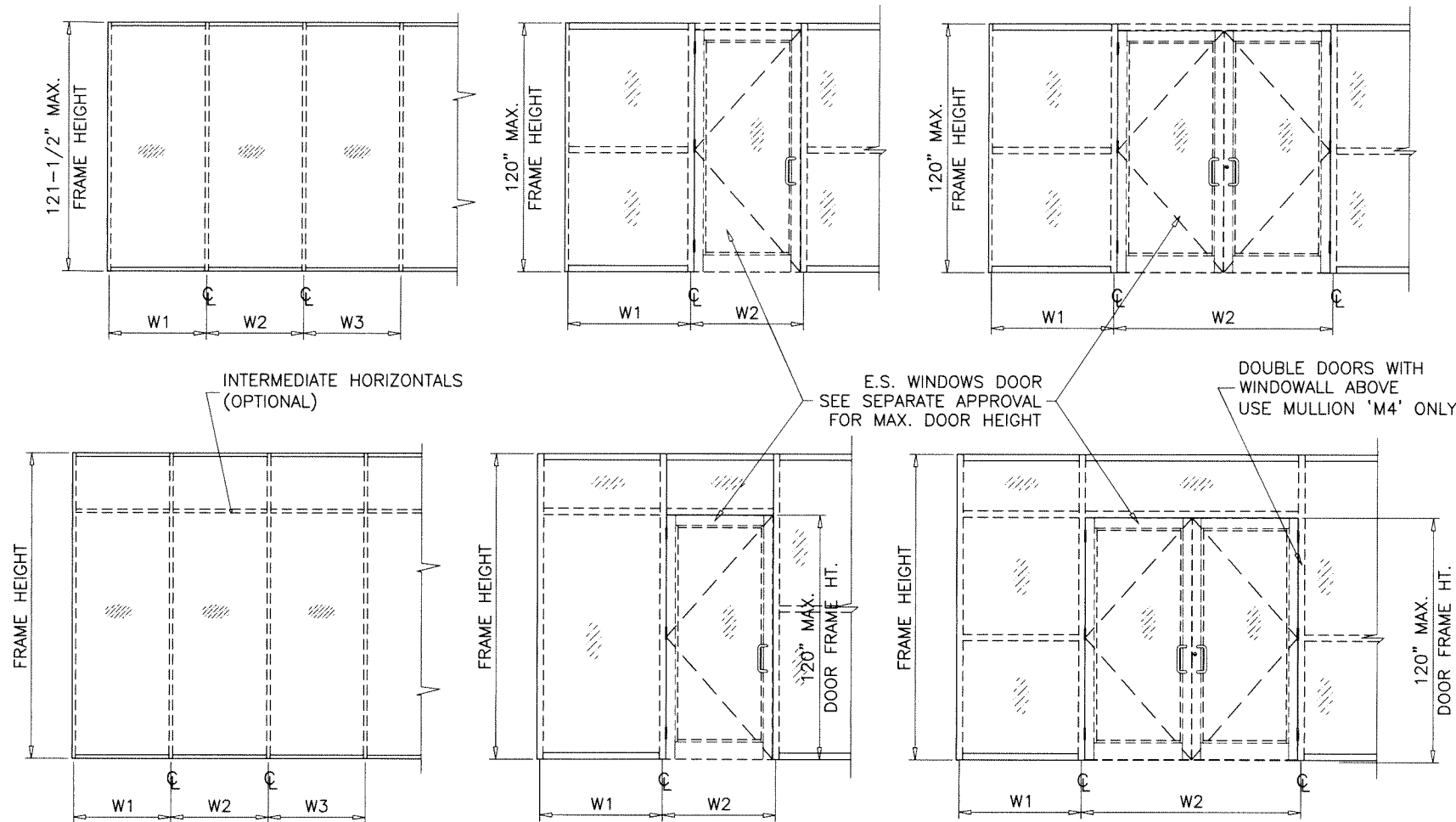
STORE W17-09ES

revisions:	no	date	by	description

date: 02-06-17	scale: -	dr. by: TARIQ	chk. by:
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drawing no. **W17-09**

sheet **3** of **11**

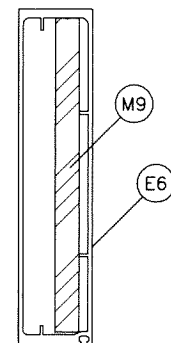


WIDTH (W) = W1
AT JAMB

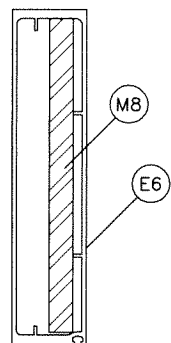
WIDTH (W) = $\frac{W2 + W3}{2}$
AT MULLION

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

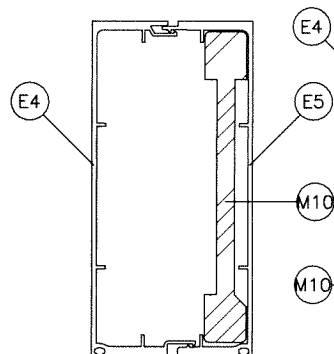
WIDTH (W) = $\frac{W1}{2} + \frac{W2}{4}$
AT MULLION



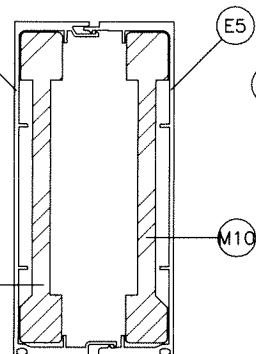
JAMB 'J2'



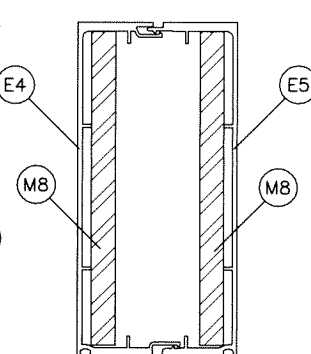
JAMB 'J3'



MULLION 'M2'



MULLION 'M3'



MULLION 'M4'

Ix IN ⁴	Sx IN ³
23.3	6.59

	Ix IN ⁴	Sx IN ³
ALUMINUM	11.581	3.28
STEEL	11.7147	3.575
TOTAL		
Ix ALUM + Ix STL X 2.9	45.55	

Ix IN ⁴	Sx IN ³
35.2	9.76

Ix IN ⁴	Sx IN ³
51.1	14.16

	Ix IN ⁴	Sx IN ³
ALUMINUM	19.3	5.34
STEEL	23.43	7.152
TOTAL		
Ix ALUM + Ix STL X 2.9	87.247	

MULLION LOAD CAPACITY - PSF							
NOMINAL DIMS.		JAMB 'J2' MULL 'M2'		JAMB 'J2' MULL 'M3'		JAMB 'J3' MULL 'M4'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
30"	96"	140.0	140.0	140.0	140.0	140.0	140.0
36"		140.0	140.0	140.0	140.0	140.0	140.0
42"		140.0	140.0	140.0	140.0	140.0	140.0
48"		140.0	140.0	140.0	140.0	140.0	140.0
49-3/8"		140.0	140.0	140.0	140.0	140.0	140.0
49-5/8"		140.0	140.0	140.0	140.0	140.0	140.0
30"	108"	140.0	140.0	140.0	140.0	140.0	140.0
36"		140.0	140.0	140.0	140.0	140.0	140.0
42"		140.0	140.0	140.0	140.0	140.0	140.0
48"		140.0	140.0	140.0	140.0	140.0	140.0
49-3/8"		140.0	140.0	140.0	140.0	140.0	140.0
49-5/8"		140.0	140.0	140.0	140.0	140.0	140.0
30"	120"	140.0	140.0	140.0	140.0	140.0	140.0
36"		140.0	140.0	140.0	140.0	140.0	140.0
42"		140.0	140.0	140.0	140.0	140.0	140.0
48"		140.0	140.0	140.0	140.0	140.0	140.0
49-3/8"		140.0	140.0	140.0	140.0	140.0	140.0
49-5/8"		140.0	140.0	140.0	140.0	140.0	140.0
30"	121-1/2"	140.0	140.0	140.0	140.0	140.0	140.0
36"		140.0	140.0	140.0	140.0	140.0	140.0
42"		140.0	140.0	140.0	140.0	140.0	140.0
48"		140.0	140.0	140.0	140.0	140.0	140.0
49-3/8"		140.0	140.0	140.0	140.0	140.0	140.0
49-5/8"		140.0	140.0	140.0	140.0	140.0	140.0
30"	132"	90.0	90.0	90.0	90.0	140.0	140.0
36"		90.0	90.0	90.0	90.0	140.0	140.0
42"		90.0	90.0	90.0	90.0	140.0	140.0
45"		90.0	90.0	90.0	90.0	140.0	140.0
49-3/8"		90.0	90.0	90.0	90.0	140.0	140.0
30"	144"	90.0	90.0	90.0	90.0	140.0	140.0
36"		90.0	90.0	90.0	90.0	140.0	140.0
42"		90.0	90.0	90.0	90.0	140.0	140.0
45"		90.0	90.0	90.0	90.0	140.0	140.0
49-3/8"		90.0	90.0	90.0	90.0	140.0	140.0
30"	156"	90.0	90.0	90.0	90.0	140.0	140.0
36"		90.0	90.0	90.0	90.0	140.0	140.0
42"		90.0	90.0	90.0	90.0	140.0	140.0
45"		90.0	90.0	90.0	90.0	140.0	140.0
49-3/8"		90.0	90.0	90.0	90.0	140.0	140.0
30"	168"	90.0	90.0	90.0	90.0	140.0	140.0
36"		90.0	90.0	90.0	90.0	140.0	140.0
42"		90.0	90.0	90.0	90.0	140.0	140.0
45"		90.0	90.0	90.0	90.0	140.0	140.0
49-3/8"		90.0	90.0	90.0	90.0	140.0	140.0
30"	175-3/4"	90.0	90.0	90.0	90.0	140.0	140.0
36"		90.0	90.0	90.0	90.0	140.0	140.0
42"		90.0	90.0	90.0	90.0	140.0	140.0
45"		87.8	87.8	90.0	90.0	140.0	140.0
49-3/8"		87.8	87.8	90.0	90.0	140.0	140.0

INTERPOLATION BETWEEN WIDTHS AND HEIGHTS ALLOWED.

Sealed: 8/4/2026



UPRIGHT JAMB & MULLION

FL #21875

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
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ES-WW832 ALUM WINDOW WALL SYSTEM (S.M.I.)

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

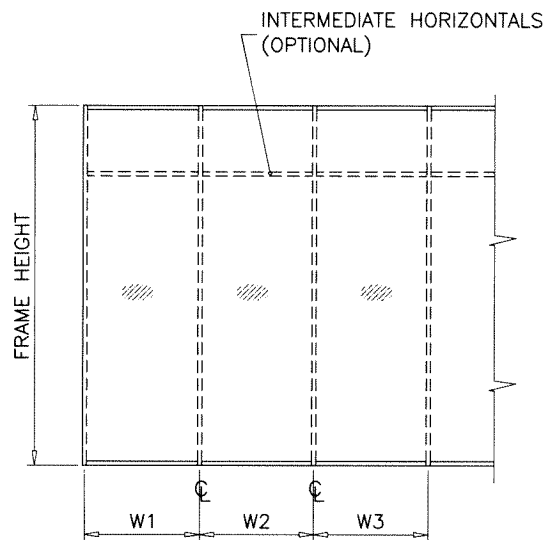
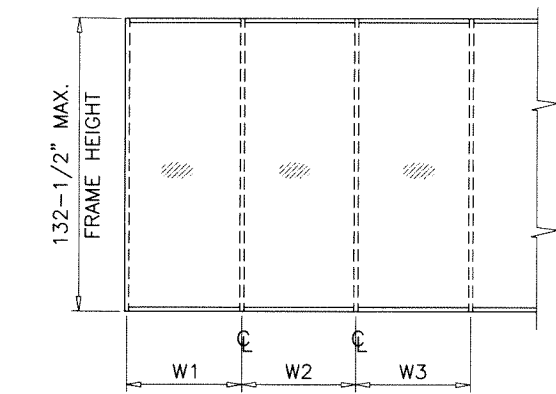
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dr. by: TARIQ
chk. by:

drawing no.

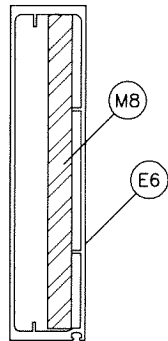
W17-09

sheet 4 of 11

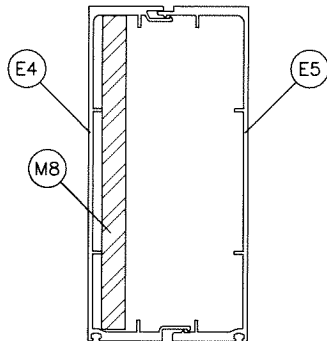


WIDTH (W) = W1
AT JAMB

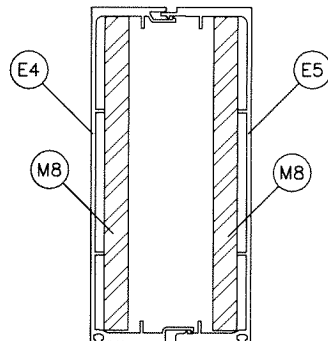
WIDTH (W) = $\frac{W2 + W3}{2}$
AT MULLION



JAMB 'J3'



MULLION 'M4A'



MULLION 'M4'

	Ix IN ⁴	Sx IN ³
ALUMINUM	11.581	3.28
STEEL	11.7147	3.575
TOTAL Ix ALUM + Ix STL X 2.9	45.55	

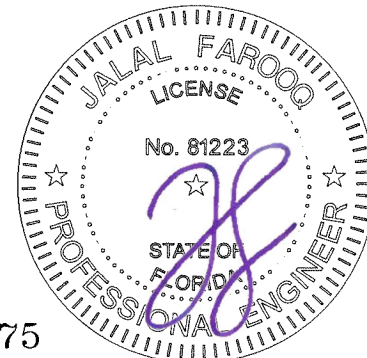
	Ix IN ⁴	Sx IN ³
ALUMINUM	19.3	5.34
STEEL	11.7147	3.575
TOTAL Ix ALUM + Ix STL X 2.9	53.273	

	Ix IN ⁴	Sx IN ³
ALUMINUM	19.3	5.34
STEEL	23.43	7.152
TOTAL Ix ALUM + Ix STL X 2.9	87.247	

JAMB AND MULLION LOAD CAPACITY - PSF							
NOMINAL DIMS.		JAMB 'J3'		MULL 'M4A'		MULL 'M4'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
30"	96"	110.0	130.0	110.0	130.0	110.0	130.0
36"		110.0	130.0	110.0	130.0	110.0	130.0
42"		110.0	130.0	110.0	130.0	110.0	130.0
48"		110.0	130.0	110.0	130.0	110.0	130.0
50"		110.0	130.0	110.0	130.0	110.0	130.0
51-3/8"		110.0	130.0	110.0	130.0	110.0	130.0
30"	108"	110.0	130.0	110.0	130.0	110.0	130.0
36"		110.0	130.0	110.0	130.0	110.0	130.0
42"		110.0	130.0	110.0	130.0	110.0	130.0
48"		110.0	130.0	110.0	130.0	110.0	130.0
50"		110.0	130.0	110.0	130.0	110.0	130.0
51-3/8"		110.0	130.0	110.0	130.0	110.0	130.0
30"	120"	110.0	130.0	110.0	130.0	110.0	130.0
36"		110.0	130.0	110.0	130.0	110.0	130.0
42"		110.0	130.0	110.0	130.0	110.0	130.0
48"		110.0	130.0	110.0	130.0	110.0	130.0
50"		110.0	130.0	110.0	130.0	110.0	130.0
51-3/8"		110.0	130.0	110.0	130.0	110.0	130.0
30"	132"	110.0	130.0	110.0	130.0	110.0	130.0
36"		110.0	130.0	110.0	130.0	110.0	130.0
42"		110.0	130.0	110.0	130.0	110.0	130.0
48"		110.0	130.0	110.0	130.0	110.0	130.0
50"		110.0	130.0	110.0	130.0	110.0	130.0
51-3/8"		110.0	130.0	110.0	130.0	110.0	130.0
30"	144"	110.0	130.0	110.0	130.0	110.0	130.0
36"		110.0	130.0	110.0	130.0	110.0	130.0
42"		110.0	130.0	110.0	130.0	110.0	130.0
48"		110.0	130.0	110.0	130.0	110.0	130.0
50"		110.0	130.0	110.0	130.0	110.0	130.0
51-3/8"		110.0	130.0	110.0	130.0	110.0	130.0
30"	156"	110.0	130.0	-	-	110.0	130.0
36"		110.0	130.0	-	-	110.0	130.0
42"		110.0	130.0	-	-	110.0	130.0
48"		110.0	130.0	-	-	110.0	130.0
50"		110.0	130.0	-	-	110.0	130.0
51-3/8"		110.0	130.0	-	-	110.0	130.0
30"	166-1/2"	110.0	130.0	-	-	110.0	130.0
36"		110.0	130.0	-	-	110.0	130.0
42"		110.0	130.0	-	-	110.0	130.0
48"		110.0	118.0	-	-	110.0	130.0
50"		110.0	113.3	-	-	110.0	130.0
51-3/8"		110.0	110.3	-	-	110.0	130.0

INTERPOLATION BETWEEN WIDTHS AND HEIGHTS ALLOWED.

Sealed: 8/4/2026



SLANTED JAMB & MULLION

FL #21875

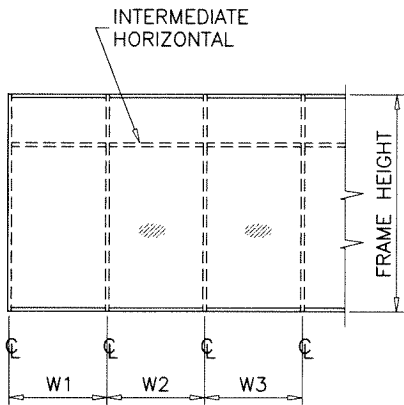
af c
AL-FAROOQ CORPORATION
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MIAMI, FLORIDA 33173
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revisions:
no date by description
date: 02-06-17
scale: -
dr. by: TARIQ
chk. by:
drawing no.
W17-09
sheet 4.1 of 11

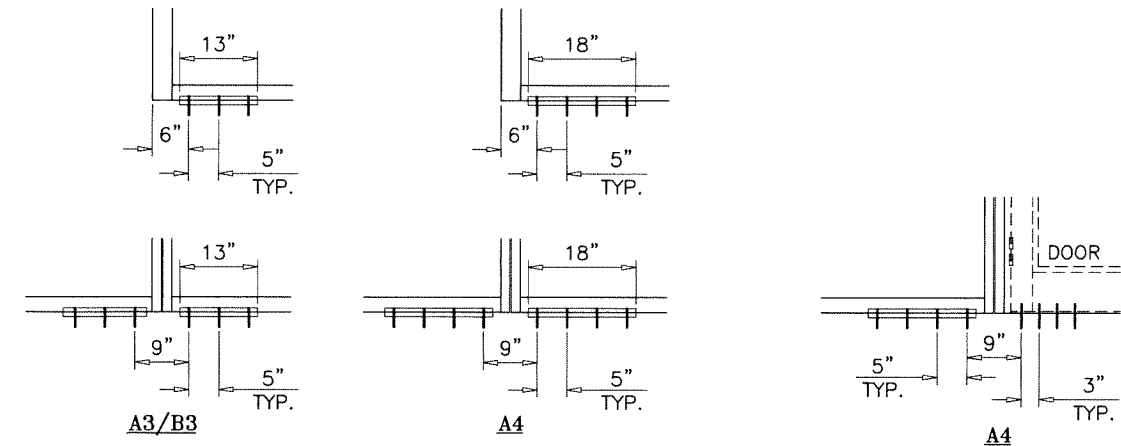
ANCHORS LOAD CAPACITY - PSF EXT.(+) & INT.(-)				
NOMINAL DIMS.		ANCHOR TYPE 'A'		ANCHOR 'B'
WIDTH (W)	FRAME HEIGHT	A3	A4	B3
30"	121-1/2"	140.0	-	140.0
36"		140.0	-	140.0
42"		140.0	-	140.0
48"		140.0	-	140.0
49-3/8"		140.0	-	140.0
49-5/8"		140.0	-	140.0
30"	132"	140.0	-	140.0
36"		140.0	-	140.0
42"		140.0	-	140.0
45"		140.0	-	140.0
30"	144"	140.0	-	140.0
36"		140.0	-	140.0
42"		140.0	-	140.0
45"		135.0	140.0	140.0
30"	156"	140.0	-	140.0
36"		140.0	-	140.0
42"		133.0	140.0	140.0
45"		124.0	140.0	140.0
30"	168"	140.0	-	140.0
36"		140.0	-	140.0
42"		123.0	140.0	140.0
45"		115.0	140.0	140.0
30"	175-3/4"	140.0	-	140.0
36"		138.0	140.0	140.0
42"		118.0	140.0	140.0
45"		110.0	140.0	140.0

INTERPOLATION BETWEEN WIDTHS AND HEIGHTS ALLOWED.



WIDTH (W) = W1
AT FRAME JAMB

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



ANCHORS TYPES: SEE SHEET 6 FOR DESCRIPTION

A3 = (3) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION

A4 = (4) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION

B3 = (3) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION

UPRIGHT JAMB & MULLION ANCHOR

Sealed: 8/4/2026



FL #21875

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(C.A.N. 3538)

ES-WW832 ALUM WINDOW WALL SYSTEM (S.M.I.)

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no. date by description

date: 02-06-17
scale: -
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chk. by:

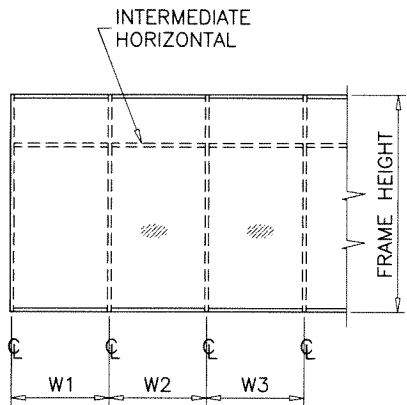
drawing no.
W17-09

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STORE\W17-09ES

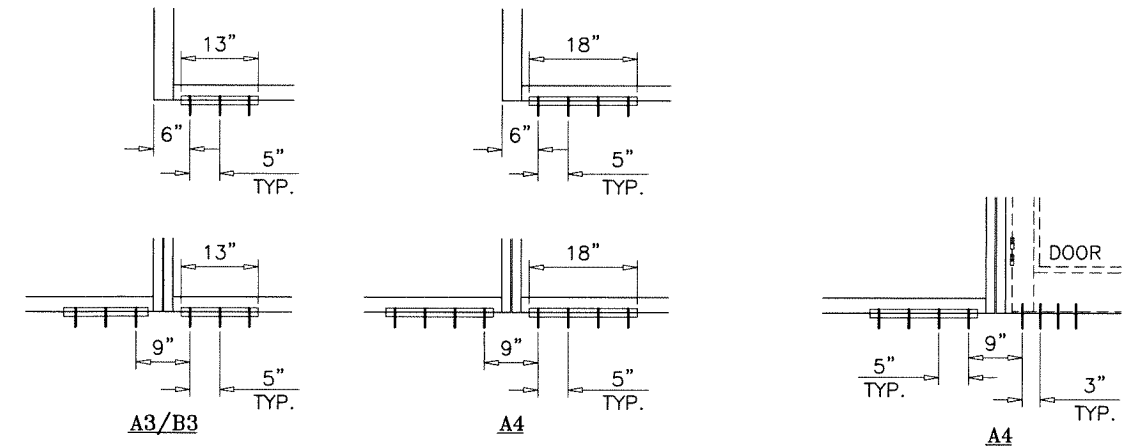
ANCHORS LOAD CAPACITY - PSF EXT.(+) & INT.(-)				
NOMINAL DIMS.		ANCHOR TYPE 'A'		ANCHOR 'B'
WIDTH (W)	FRAME HEIGHT	A3	A4	B3
30"	120"	130.0	—	130.0
36"		130.0	—	130.0
42"		130.0	—	130.0
48"		130.0	—	130.0
50"		130.0	—	130.0
51-3/8"		130.0	—	130.0
30"	132"	130.0	—	130.0
36"		130.0	—	130.0
42"		130.0	—	130.0
48"		130.0	—	130.0
50"		130.0	—	130.0
51-3/8"		129.0	130.0	130.0
30"	144"	130.0	—	130.0
36"		130.0	—	130.0
42"		130.0	—	130.0
48"		126.0	130.0	130.0
50"		121.0	130.0	130.0
51-3/8"		118.0	130.0	130.0
30"	156"	130.0	—	130.0
36"		130.0	—	130.0
42"		124.0	130.0	130.0
48"		116.0	130.0	130.0
50"		112.0	130.0	130.0
51-3/8"		109.0	130.0	130.0
30"	166-1/2"	130.0	—	130.0
36"		130.0	—	130.0
42"		125.0	130.0	130.0
48"		109.0	130.0	130.0
50"		105.0	130.0	130.0
51-3/8"		102.0	130.0	130.0

INTERPOLATION BETWEEN WIDTHS AND HEIGHTS ALLOWED.



WIDTH (W) = W1
AT FRAME JAMB

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



ANCHORS TYPES: SEE SHEET 6 FOR DESCRIPTION

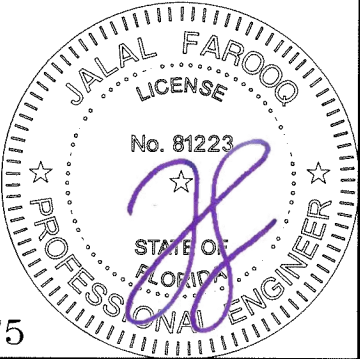
A3 = (3) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION

A4 = (4) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION

B3 = (3) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION

SLANTED JAMB & MULLION ANCHOR

Sealed: 8/4/2026



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ES-WW8832 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

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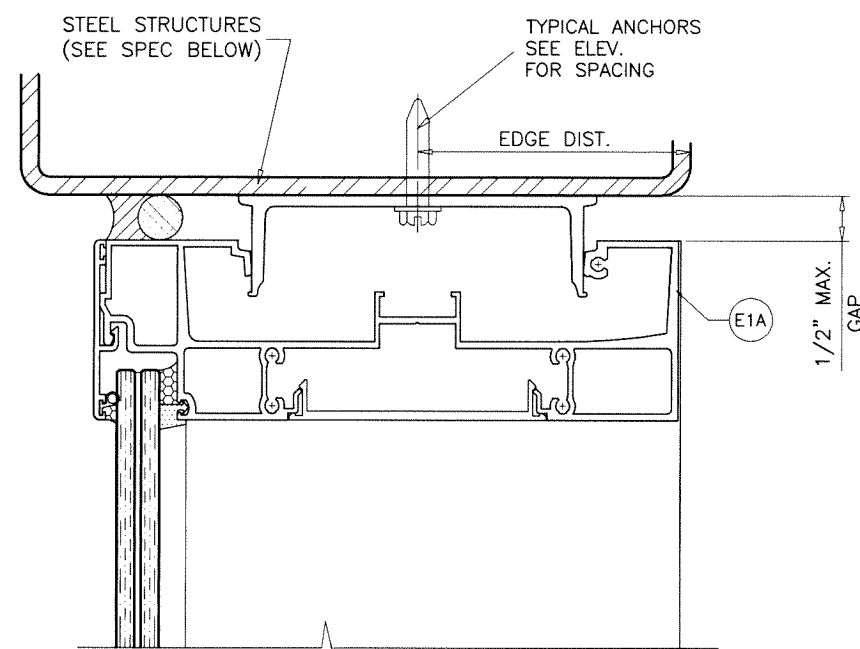
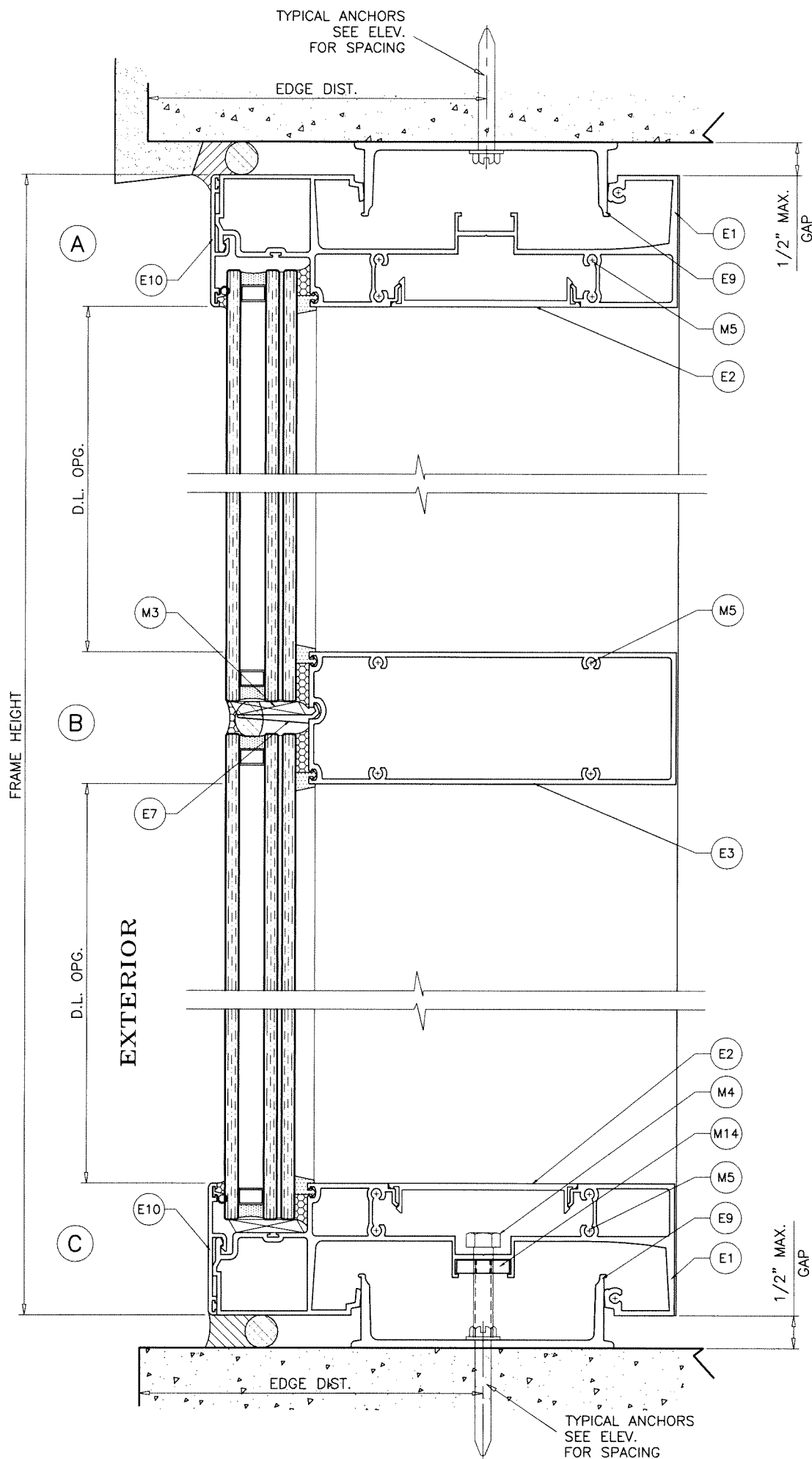
dr. by: TARIQ

chk. by:

drawing no.

W17-09

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

TYPICAL ANCHORS: SEE ELEV. FOR SPACING

TYPE 'A' (HEAD/SILL)

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

DIRECTLY INTO CONCRETE (3500 PSI MIN.)
WITH 2" MIN. EMBED INTO CONCRETE, 5" O.C. MIN.

ANCHOR EDGE DISTANCES

INTO CONCRETE = 3-1/8" MIN.

TYPE 'B' (HEAD/SILL)

5/16" DIA. DRIL-FLEX SELF DRILLING SCREWS (Fu=120 KSI, Fy=95 KSI)

INTO METAL STRUCTURES, 3" O.C. MIN.

STEEL : 1/4" THK. MIN. (Fy = 36 KSI MIN.)

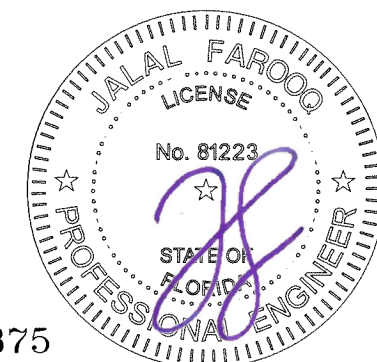
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

ANCHOR EDGE DISTANCES

INTO METAL STRUCTURE = 1" MIN.

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FL #21875



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revisions:	no	date	by	description

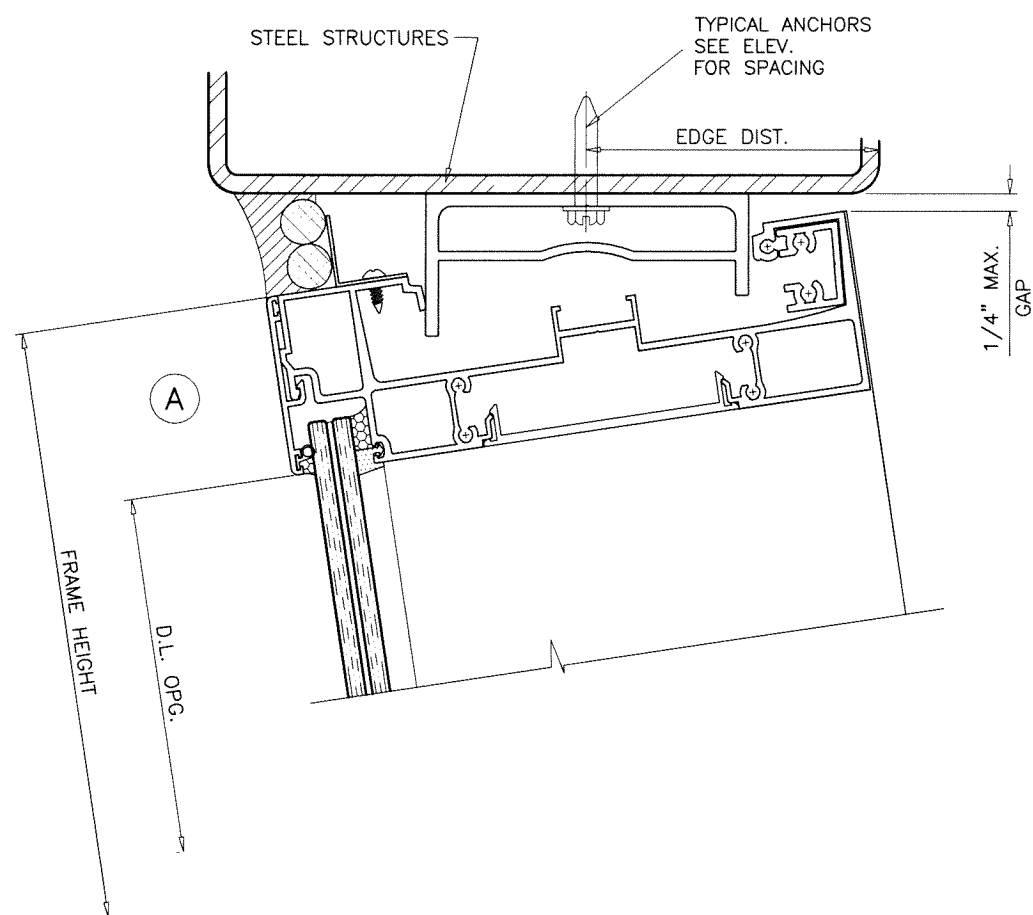
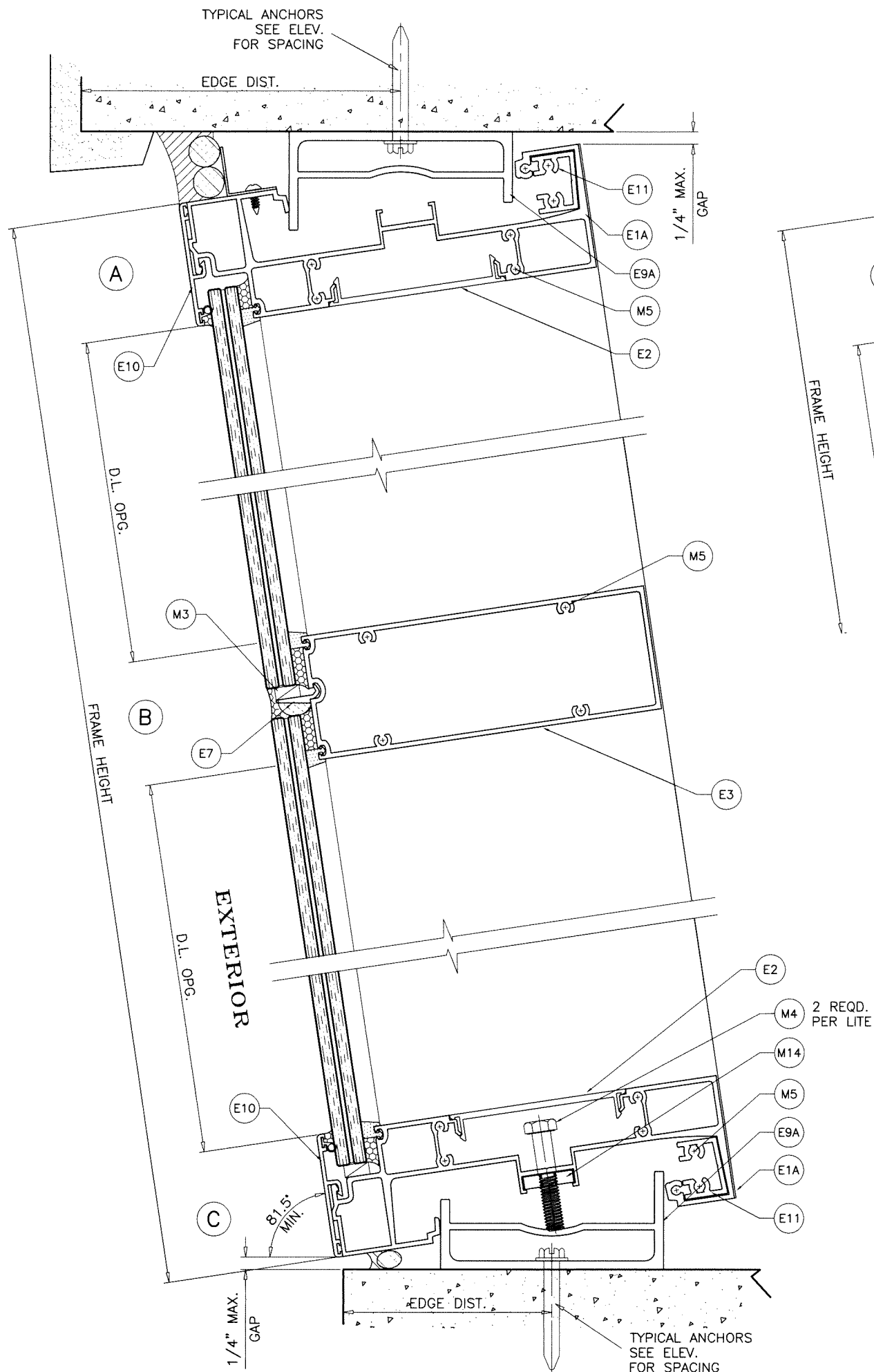
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chk. by:

drawing no.

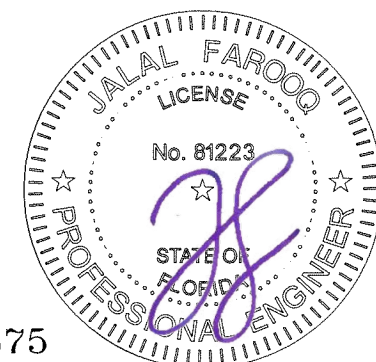
W17-09

sheet 6 of 11

STORE\W17-09ES



SLANTED WINDOW WALL SYSTEM
 LAMINATED GLASS ONLY
 MAX. DESIGN LOAD NOT TO EXCEED +110.0, -130.0 PSF
 SLOPING ANGLE NOT TO EXCEED 8.5°



Sealed: 8/4/2026

FL #21875

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 TEL. (305) 264-8100 FAX. (305) 262-6978

ES-WW832 ALUM WINDOW WALL SYSTEM (S.M.I.)

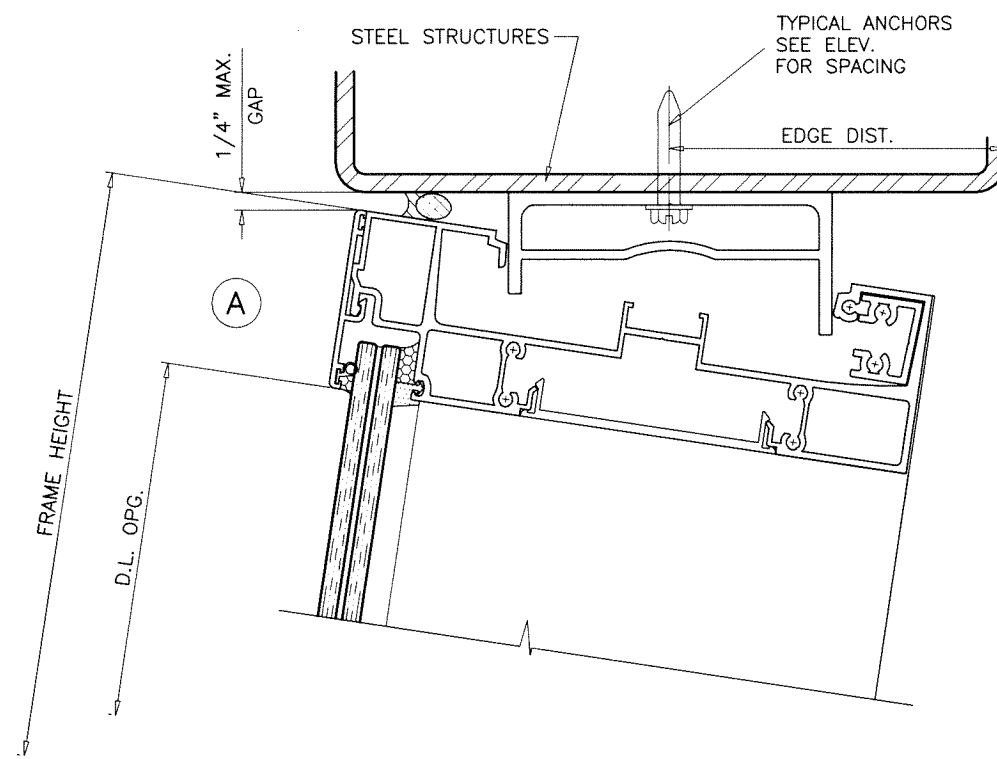
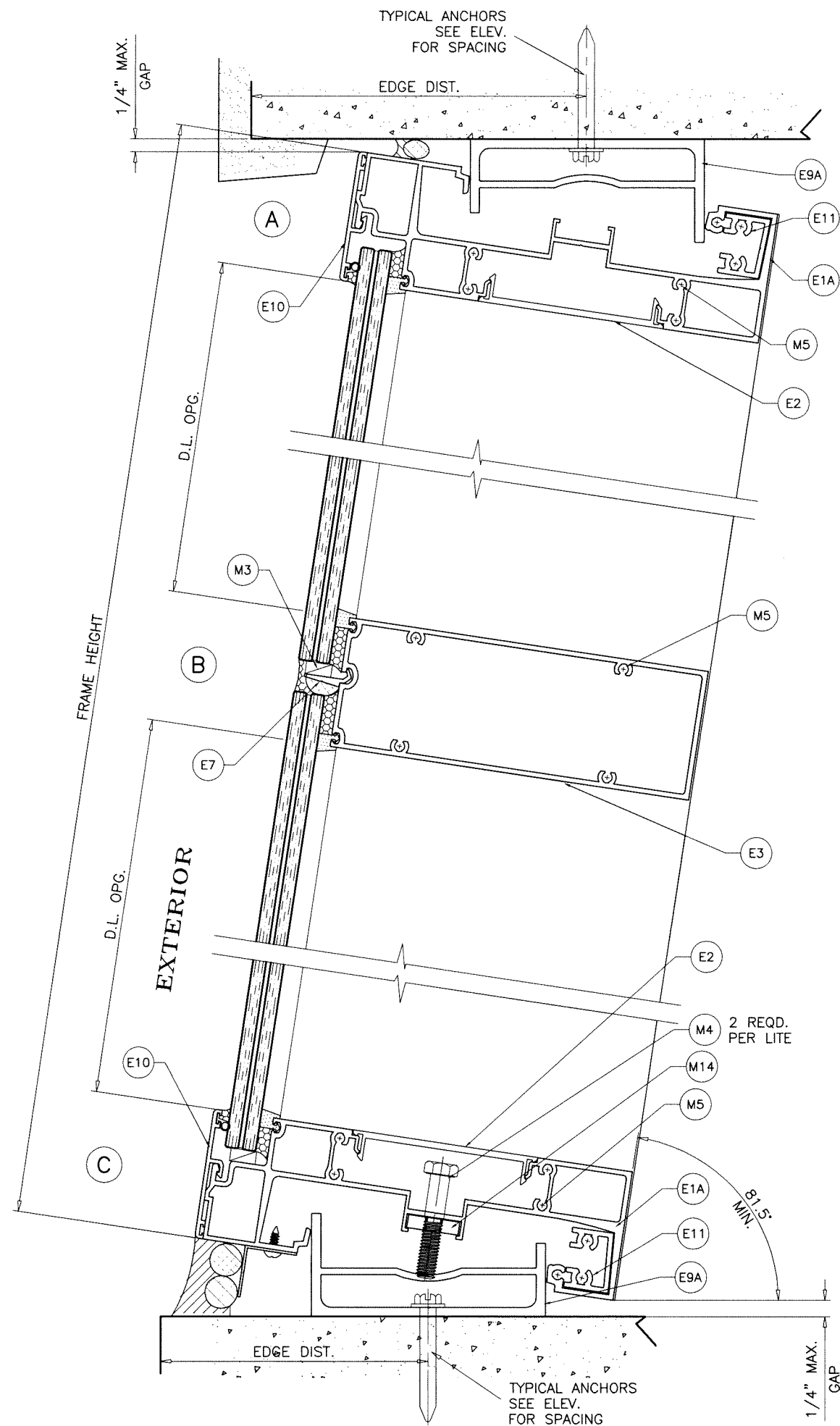
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 MIAMI, FL. 33142
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revisions:		no	date	by	description

date: 02-06-17
 scale: 3/8" = 1"
 dr. by: TARIQ
 chk. by:

drawing no.
W17-09
 sheet 6.1 of 11

STORE\W17-09ES



SLANTED WINDOW WALL SYSTEM

LAMINATED GLASS ONLY
 MAX. DESIGN LOAD NOT TO EXCEED +110.0, -130.0 PSF
 SLOPING ANGLE NOT TO EXCEED 8.5°



Sealed: 8/4/2026

FL #21875

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STORE W17-09ES

ES-WW832 ALUM WINDOW WALL SYSTEM (S.M.I.)

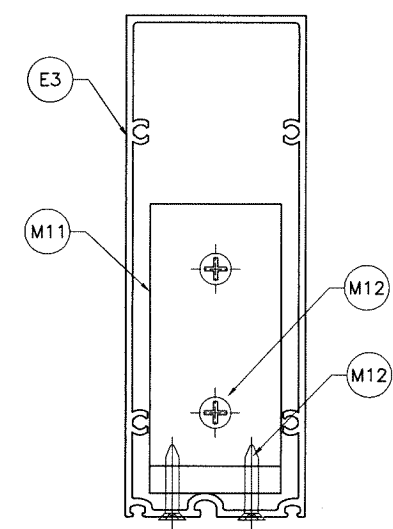
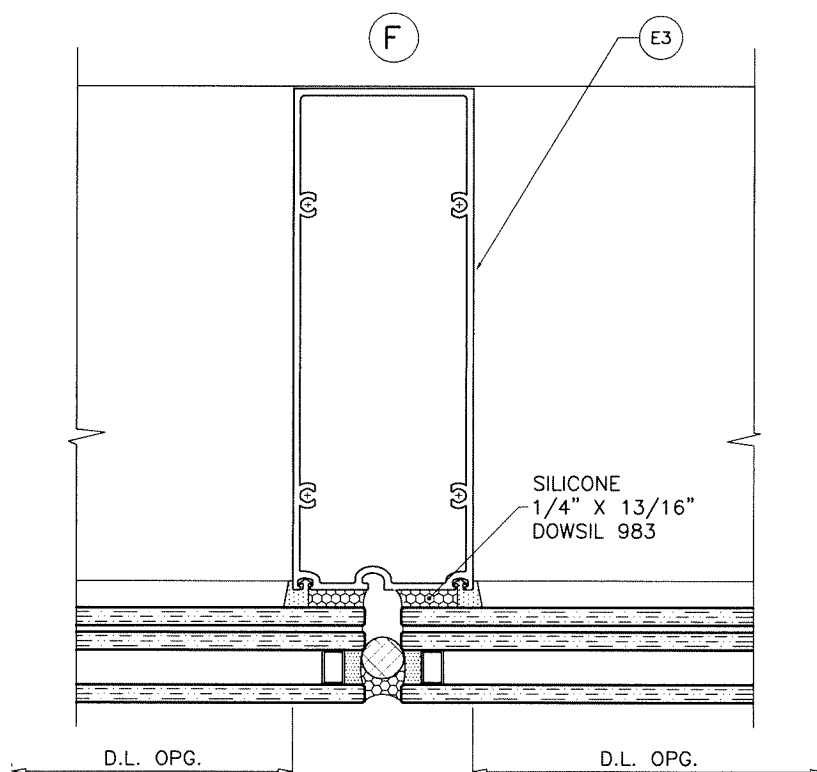
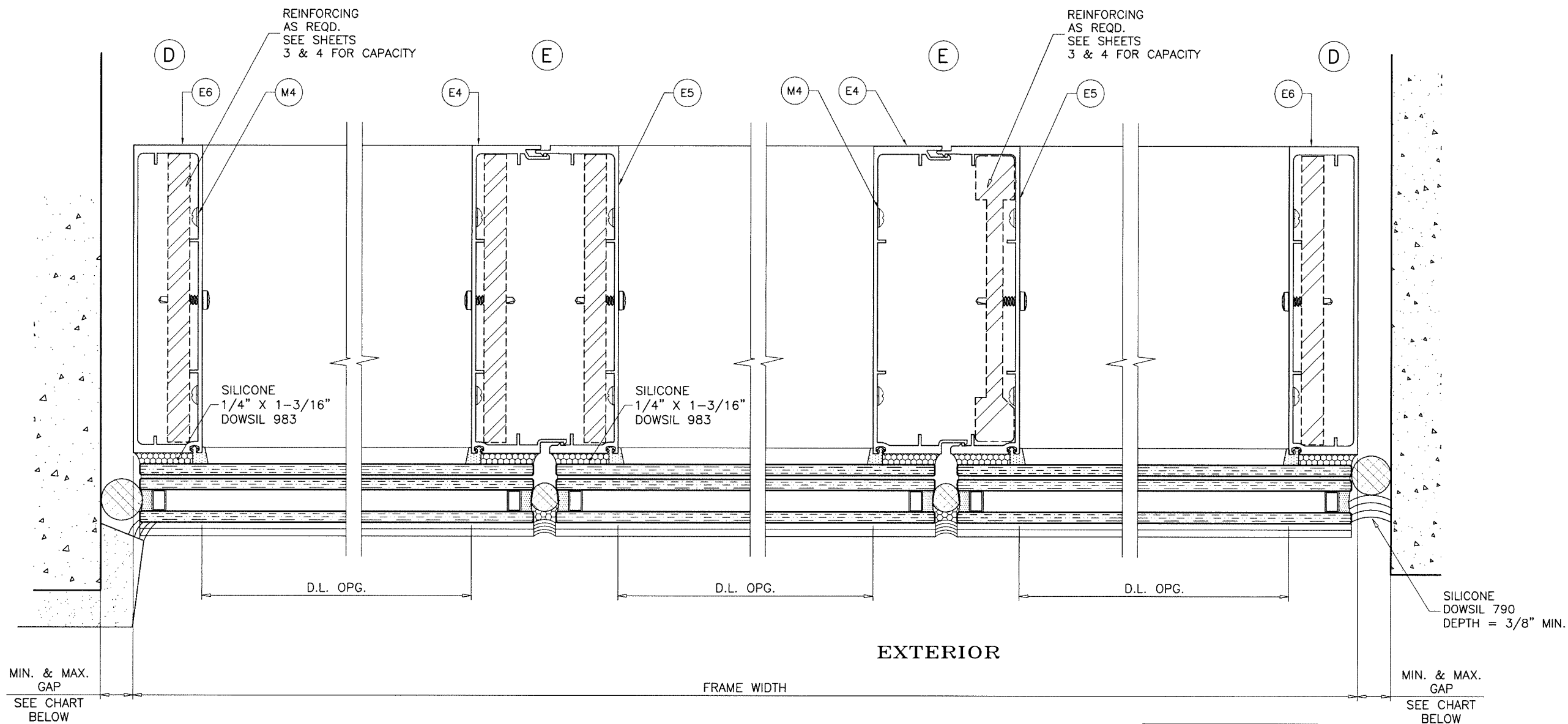
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revisions:

no	date	by	description

date: 02-06-17
 scale: 3/8" = 1"
 dr. by: TARIQ
 chk. by:

drawing no.
W17-09
 sheet 6.2 of 11

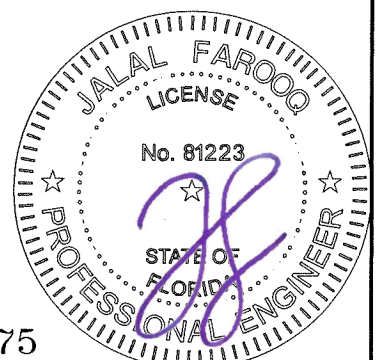


MAX. FRAME HEIGHT	GAP	
	MIN.	MAX.
98"	5/16"	3/4"
121-1/2"	3/8"	3/4"
175-3/4"	1/2"	3/4"

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.



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af c
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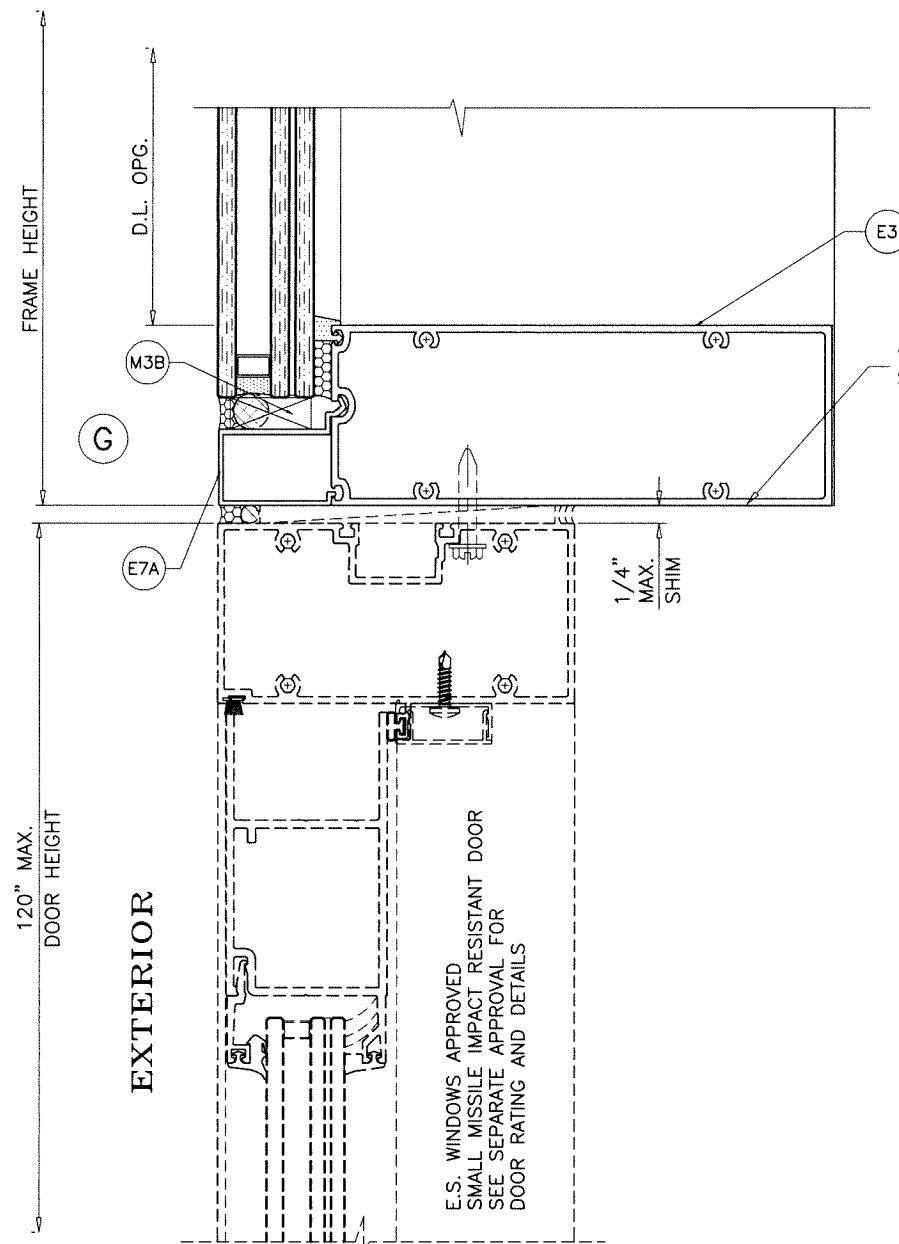
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revisions:		date	by	description
no	date	by	description	

date: 02-06-17
 scale: 3/8" = 1"
 dr. by: TARIQ
 chk. by:

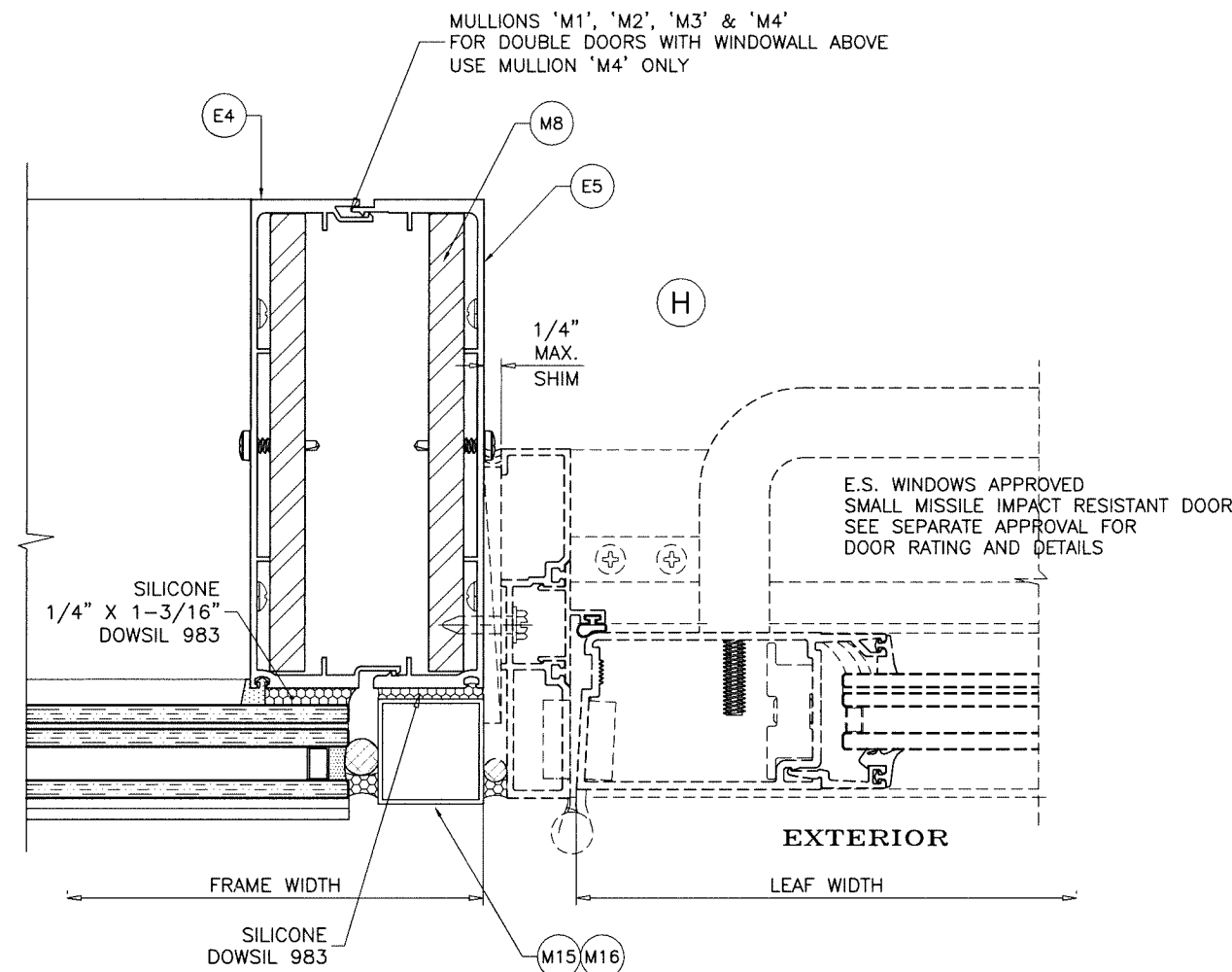
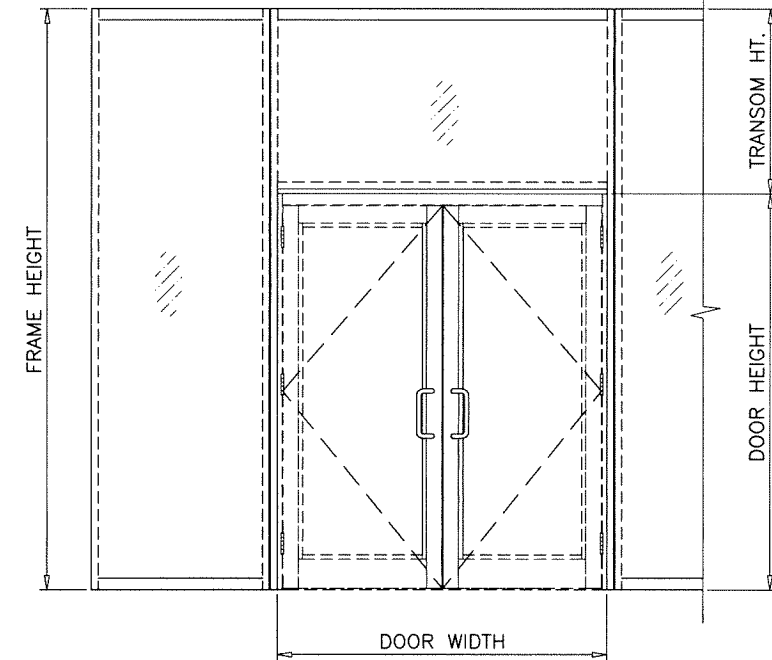
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WINDOW WALL SYSTEM WITH DOORS
SEE CHART FOR CAPACITIES

Ix IN ⁴	Sx IN ³
11.7058	3.250

DOOR HORIZONTAL LOAD CAPACITY - PSF					
DOOR WIDTH INCHES	TRANSOM HT. INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+)	INT.(-)
90	24	144	120	100.0	100.0
	30	150		96.4	96.4
	36	156		92.0	92.0
	42	162		87.9	87.9
	48	168		84.1	84.1
	54	174		80.6	80.6
	55-3/4	175-3/4		79.6	79.6



Sealed: 8/4/2026



FL #21875

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

ES-WW832 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: 02-06-17	scale: 3/8" = 1"	dr. by: TARIQ	chk. by:
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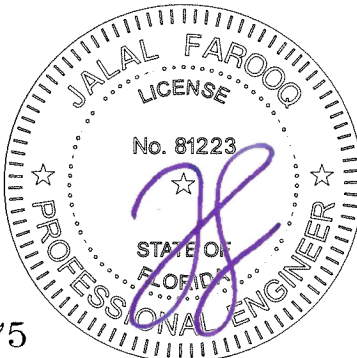
drawing no.
W17-09
sheet 8 of 11

ITEM NO.	PART NUMBER	QUANTITY	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
E1	ES-WW8832-051	AS REQD.	FRAME HEAD/SILL (INSUL. LAM. GLASS)	6005-T5	-
E1A	ES-WW8832-053	AS REQD.	FRAME HEAD/SILL (LAM. GLASS)	6005-T5	-
E2	ES-WW8832-052	AS REQD.	SCREW COVER	6005-T5	-
E3	ES-WW8832-101	AS REQD.	INTERMEDIATE HORIZONTAL	6005-T5	-
E4	ES-WW8832-102	AS REQD.	FEMALE MULLION	6063-T6	-
E5	ES-WW8832-103	AS REQD.	MALE MULLION	6063-T6	-
E6	ES-WW8832-104	AS REQD.	FRAME JAMB	6063-T6	-
E7	ES-WW8832-105	AS REQD.	SETTING CHAIR	6005-T5	-
E7A	ES-WW8832-106	AS REQD.	SETTING CHAIR FILLER	6005-T5	-
E9	ES-WW8832-201	AS REQD.	ANCHOR BASE	6005-T5	-
E9A	-	AS REQD.	ANCHOR BASE, AT SLANTED SYSTEM	6005-T5	-
E10	ES-7006	AS REQD.	GLAZING STOP	6063-T5	-
E11	-	AS REQD.	SHEAR BLOCK, AT SLANTED SYSTEM	6063-T5	-
M1	ES7000-G01	AS REQD.	EXTERIOR GLASS SEAL	SILICONE	TREMCO, DUROMETER 60±5 SHORE A
M3	ES7000-B01A	2/ LITE	SETTING BLOCKS AT 1/4 POINTS (INSUL. LAM. GLASS)	EPDM	TREMCO, DUROMETER 85±5 SHORE A
M3A	80-378	2/ LITE	SETTING BLOCKS AT 1/4 POINTS (LAM. GLASS)	EPDM	TREMCO, DUROMETER 85±5 SHORE A
M3B	ES-6025-B01A	2/ LITE	SETTING BLOCKS AT 1/4 POINTS (AT DOOR HORIZONTAL)	EPDM	TREMCO, DUROMETER 85±5 SHORE A
M4	3/8-16 X 2"	AS REQD.	LEVELING SCREW	ST/ST	HWH
M5	#12 X 1"	AS REQD.	FRAME ASSEMBLY FASTENERS	ST/ST	PH SMS
M6	ES-U3525-G08	AS REQD.	SPACER GASKET	SILICONE	TREMCO, DUROMETER 70±5 SHORE A
M8	-	AS REQD.	STEEL REINFORCING BAR (LENGTH = FRAME LENGTH - 6")	STEEL	A36, Fu MIN. = 58 KSI
M9	ES-WW8832-202	AS REQD.	ALUMINUM REINFORCING BAR (LENGTH = FRAME LENGTH - 6")	6063-T6	-
M10	ES-WW8832-204	AS REQD.	ALUMINUM REINFORCING (LENGTH = FRAME LENGTH - 6")	6063-T6	-
M12	#12 X 1"	AS REQD.	SHEAR BLOCK ASSEMBLY FASTENERS	ST/ST	FH SMS
M13	-	AS REQD.	SHEAR BLOCK ANGLE	6063-T6	-
M14	ALU-P-020	AS REQD.	1" X 1" SILL LEVELER	ALUMINUM	-
M15	-	AS REQD.	FILLER TUBE (1" X 1-1/2" X 1/16")	6063-T5	-
M16	-	AS REQD.	FILLER TUBE (1-1/2" X 1-1/2" X 1/16")	6063-T5	-

SEALANTS:

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

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FL #21875

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ES-WW8832 ALUM WINDOW WALL SYSTEM (S.M.I.)

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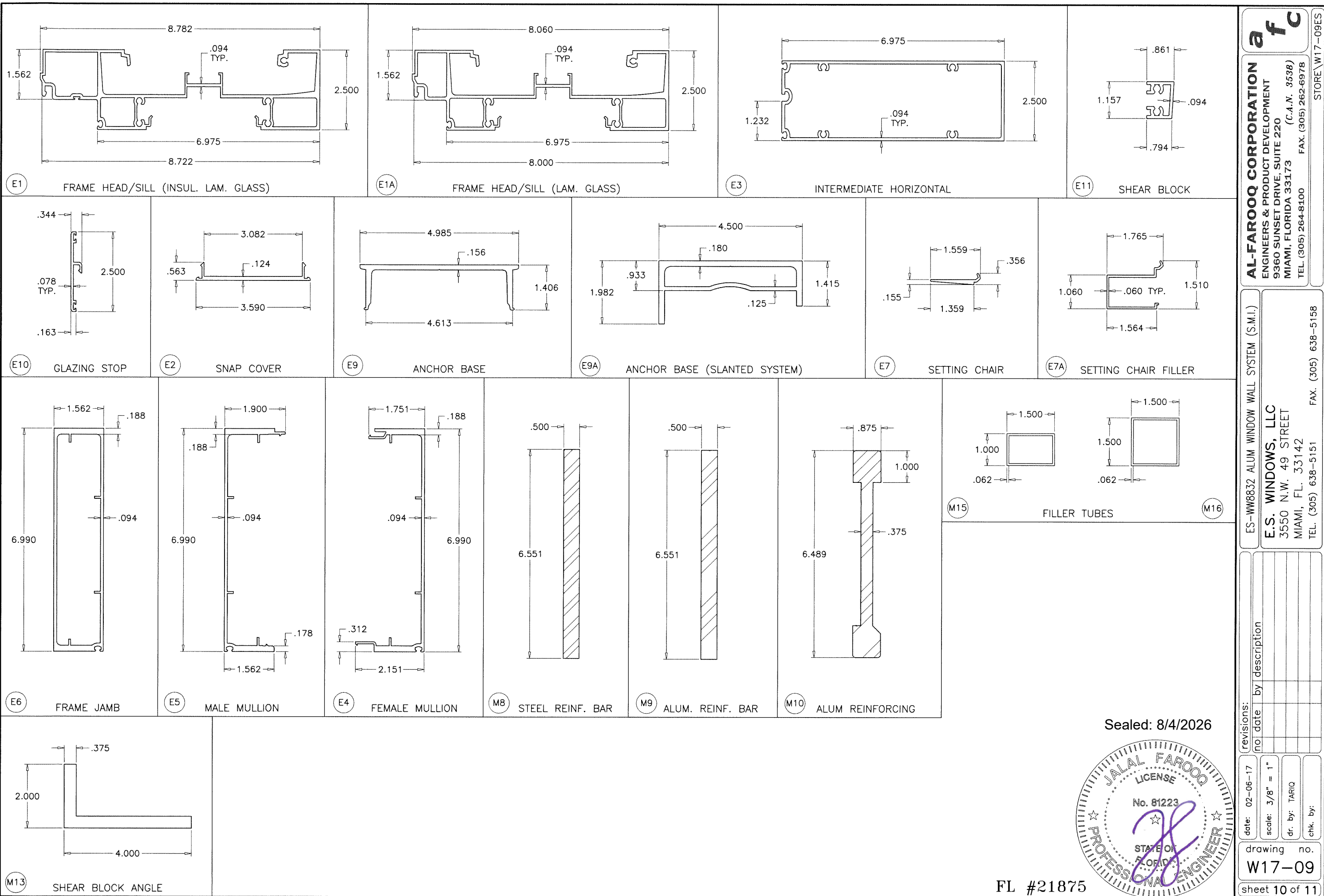
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drawing no.

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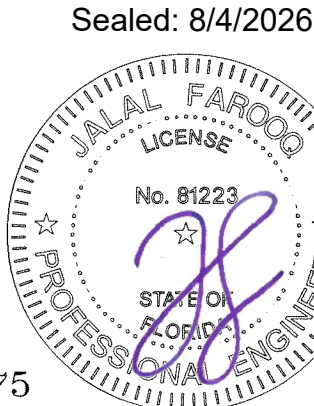
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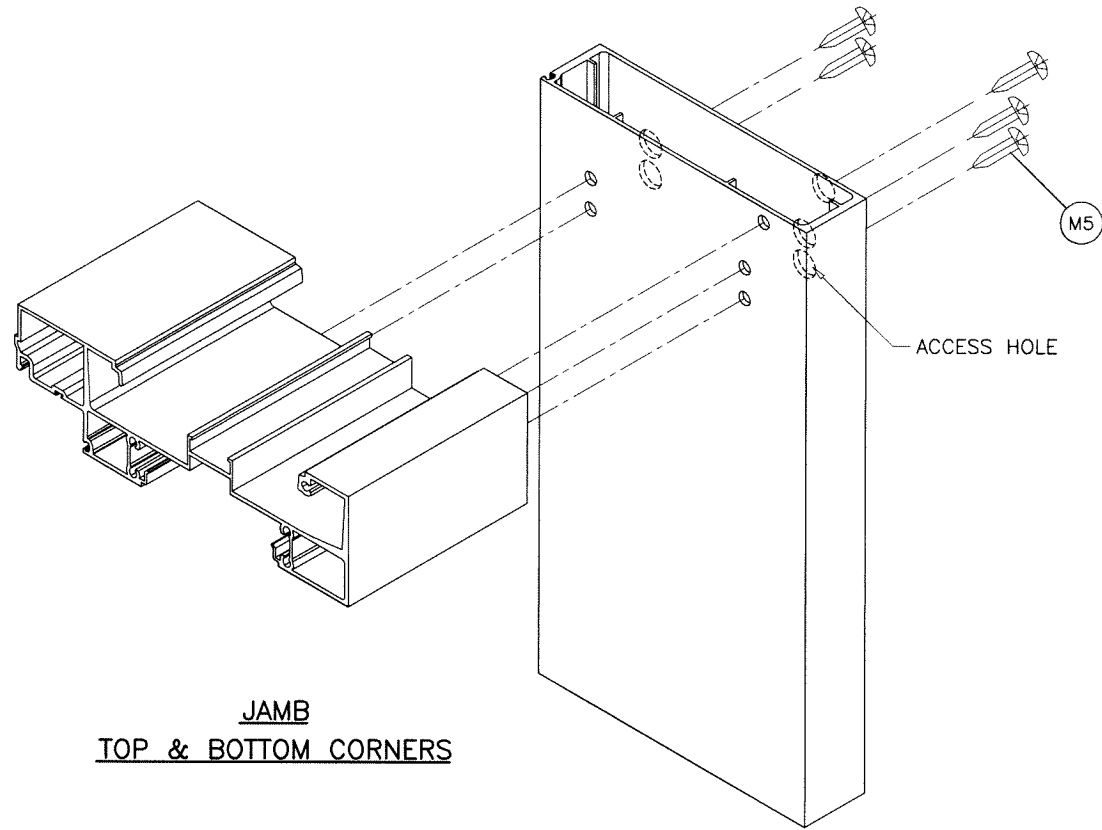
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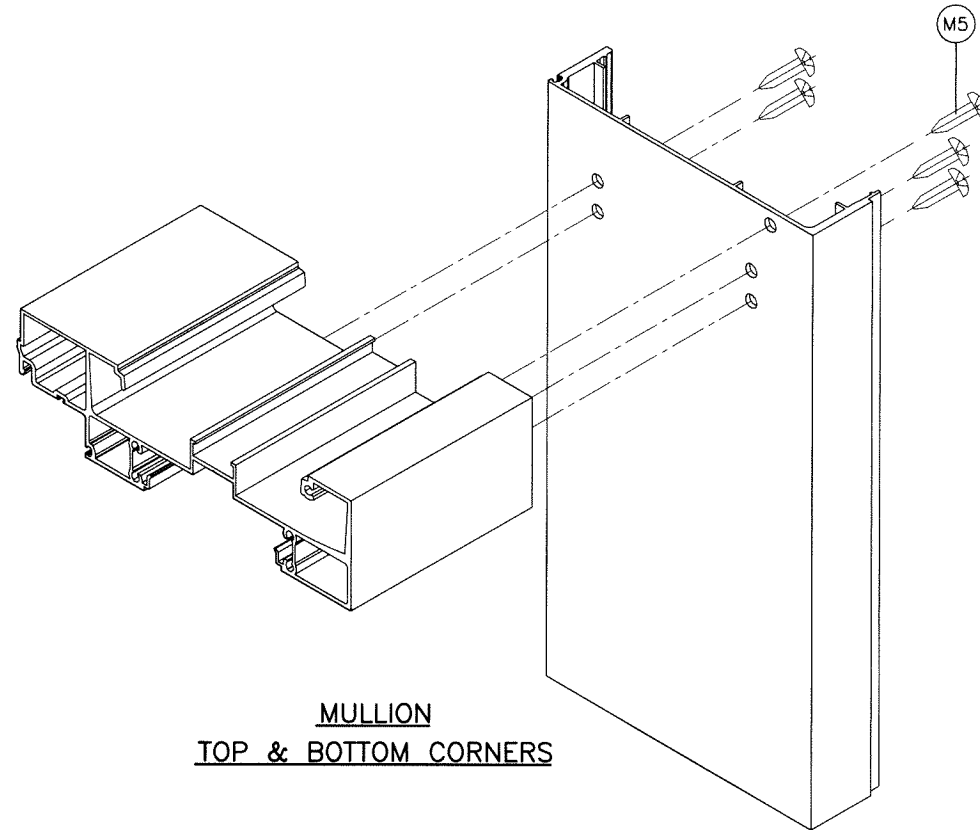


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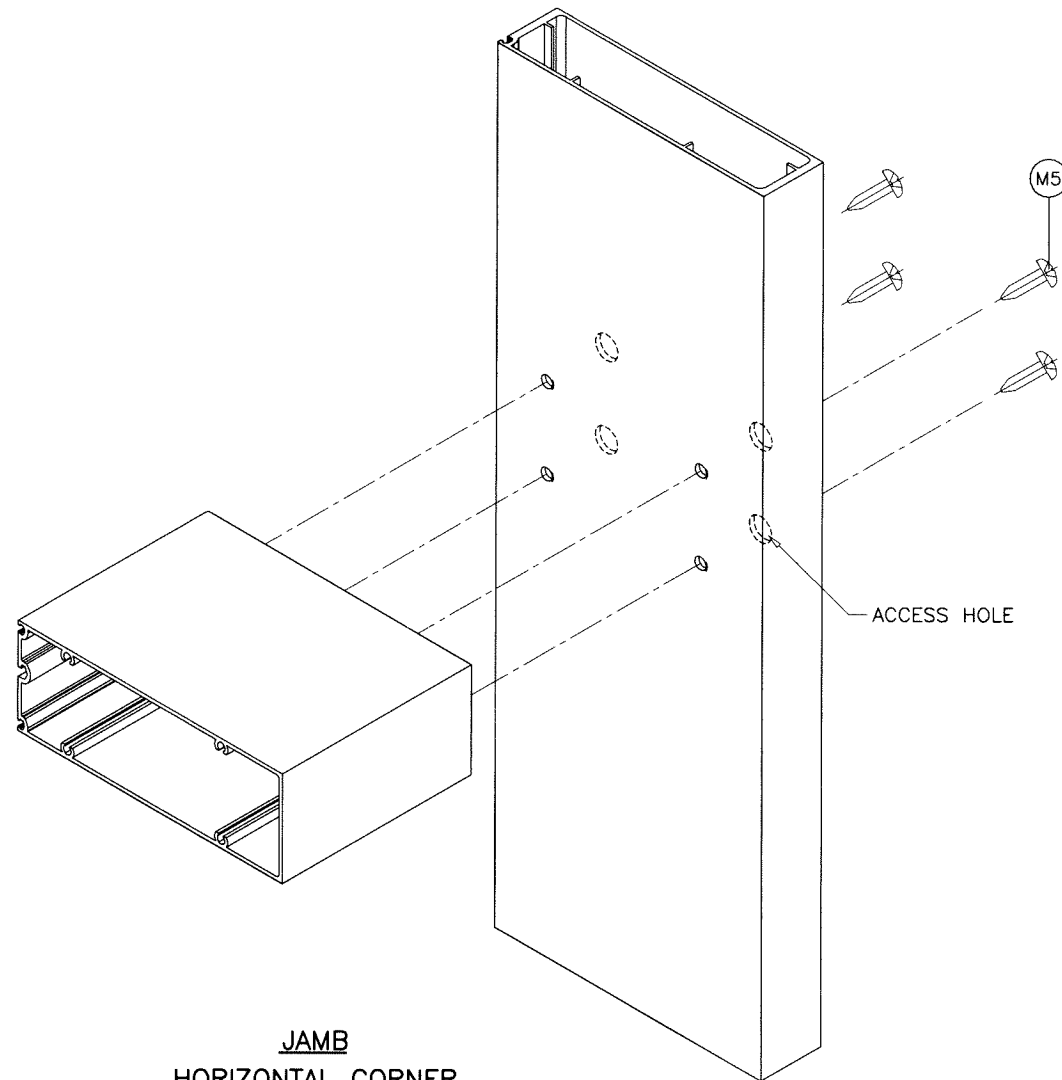
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sheet 10 of 11



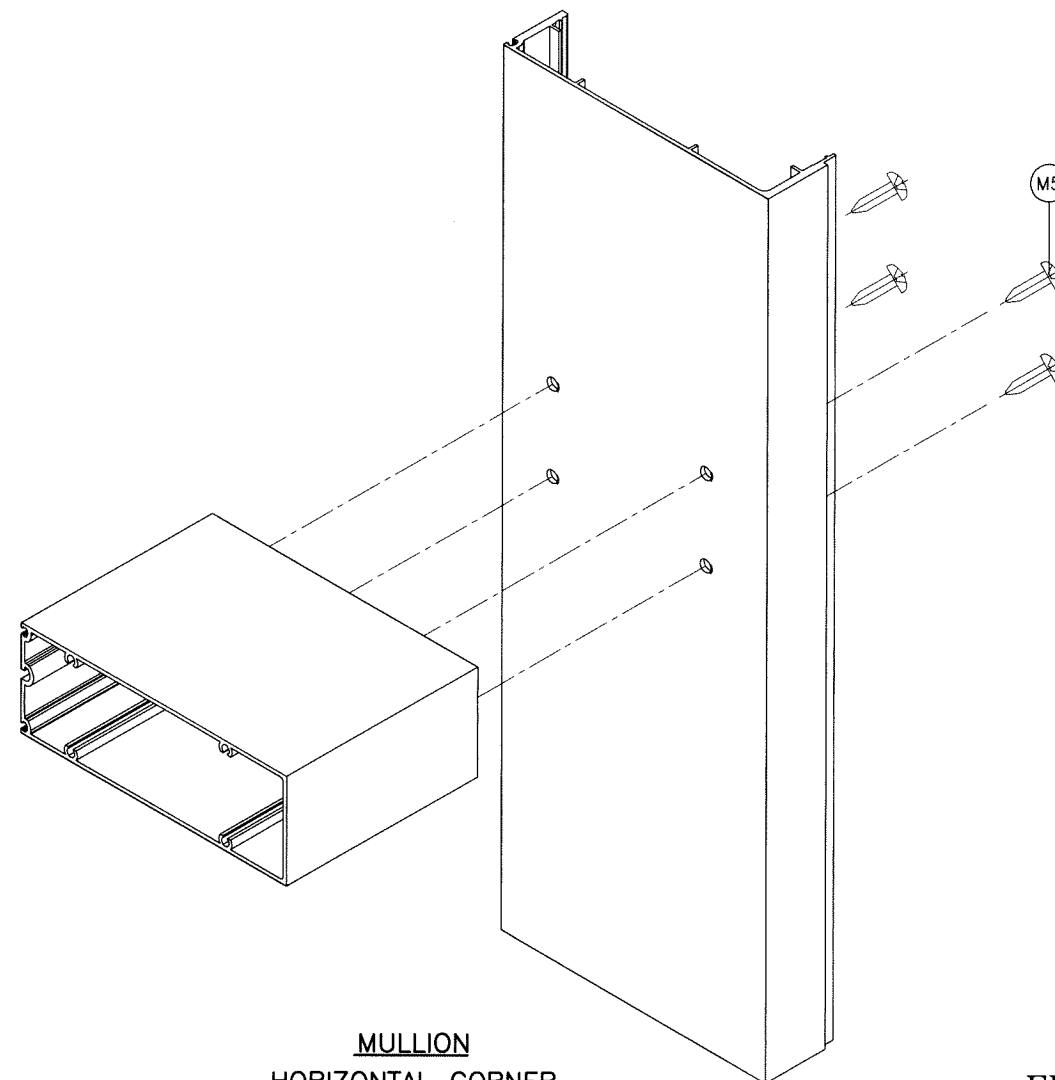
JAMB
TOP & BOTTOM CORNERS



MULLION
TOP & BOTTOM CORNERS



JAMB
HORIZONTAL CORNER



MULLION
HORIZONTAL CORNER

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