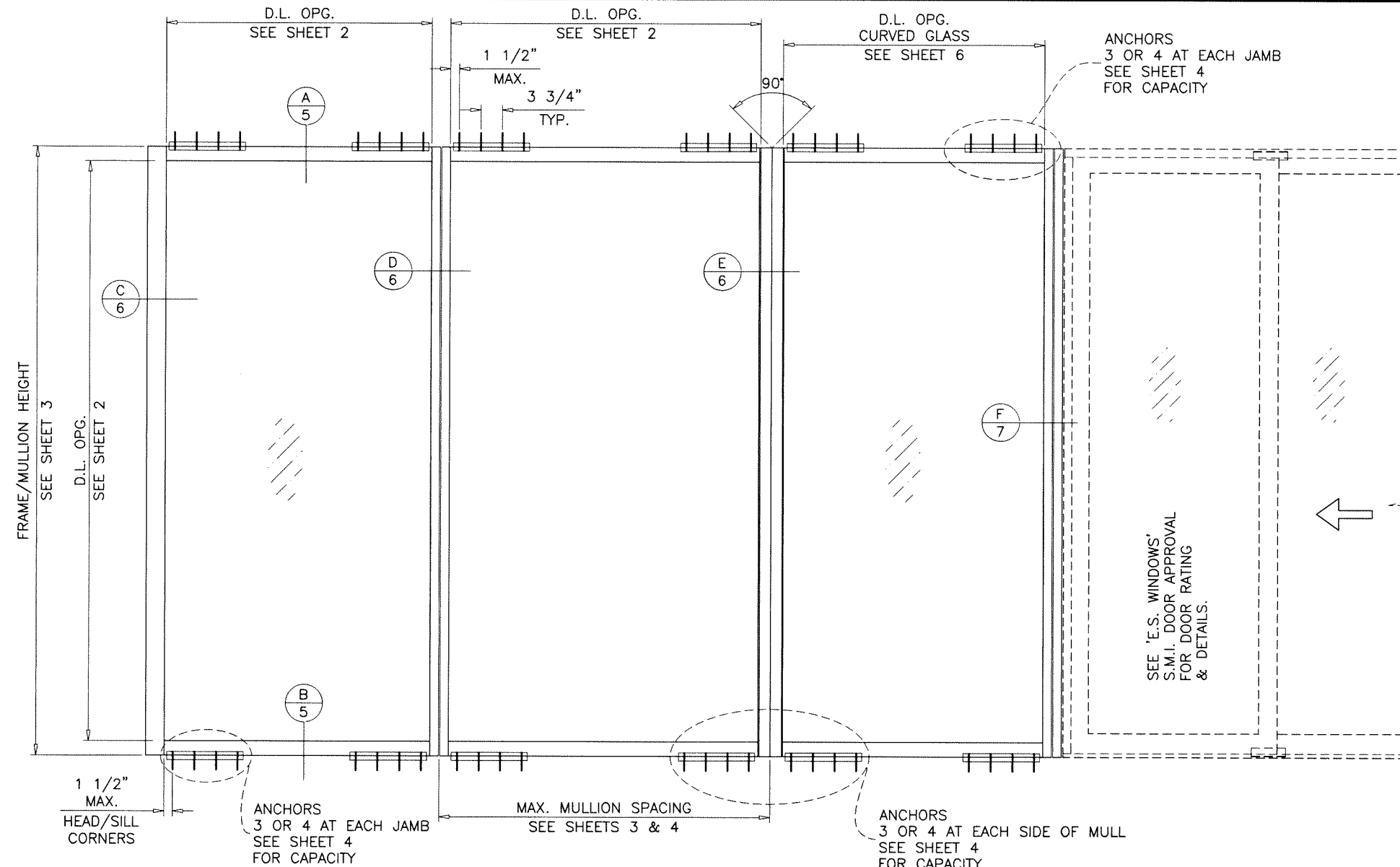
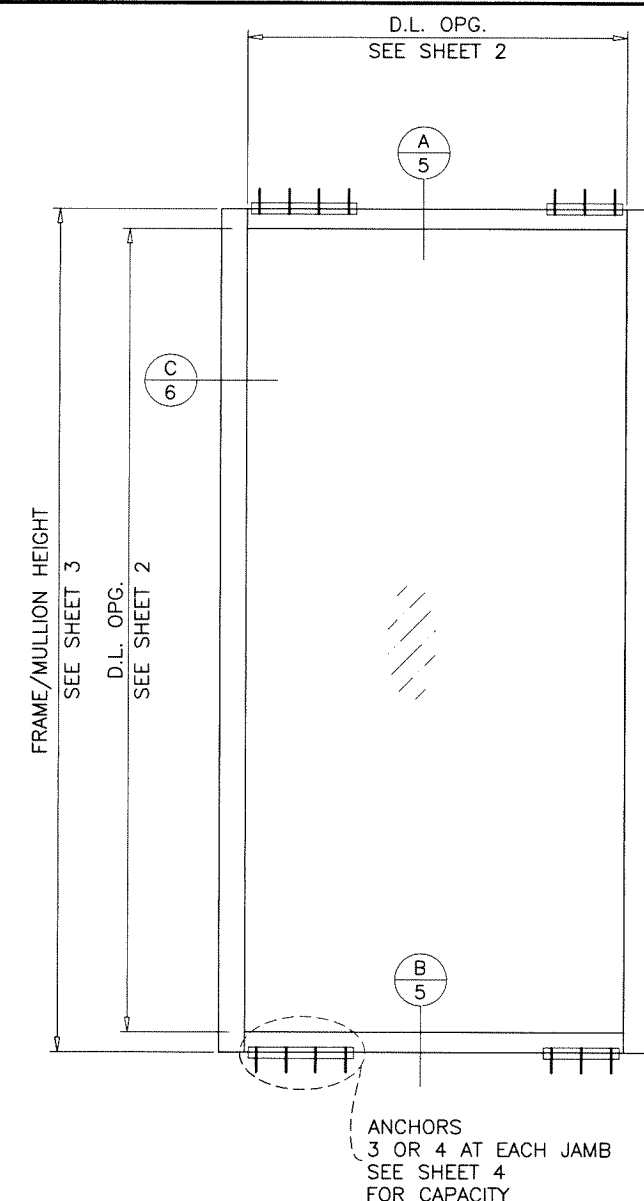




TYPICAL ELEVATIONS



ES-WW8701 ALUMINUM WINDOW WALL SYSTEM

THIS SYSTEM MAY BE USED IN CONJUNCTION WITH F.B.C. APPR'D LARGE MISSILE IMPACT RESISTANT DOORS. LOWER DESIGN PRESSURE FROM STOREFRONT OR DOOR APPROVAL WILL APPLY TO ENTIRE SYSTEM.

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 2020 (7TH EDITION)/2023 (8TH EDITION) FLORIDA BUILDING CODE INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

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 HIGH IMPACT, NON-METALLIC AND NON-COMPRESSIBLE.

MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE 2020/2023 FLORIDA BLDG. CODE & ADOPTED STANDARDS.

THIS PRODUCT APPROVAL IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT, I.E. LIFE SAFETY OF THIS PRODUCT, ADEQUACY OF STRUCTURE RECEIVING THIS PRODUCT AND SEALING AROUND OPENING FOR WATER INFILTRATION RESISTANCE ETC.

CONDITIONS NOT SHOWN IN THIS DRAWING ARE TO BE ANALYZED SEPARATELY, AND TO BE REVIEWED BY BUILDING OFFICIAL.

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

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 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 THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.
- STEP 4** USING CHARTS ON SHEET 4 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 UNANCHORED JAMBS, USING SHEET 6, DETERMINE THE MIN. & MAX. GAP DIMENSIONS.
- STEP 7** WHEN USING THIS SYSTEM WITH DOORS, THE LOWER VALUE OF THE DESIGN PRESSURE RATING FOR THE SYSTEM AND THE DOOR SHALL APPLY.

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.

PRODUCT COMPLIES WITH REQUIREMENTS OF ANSI Z97.1.

INSUL. LAM. GLASS
LARGE MISSILE IMPACT

Sealed: 10/9/2023

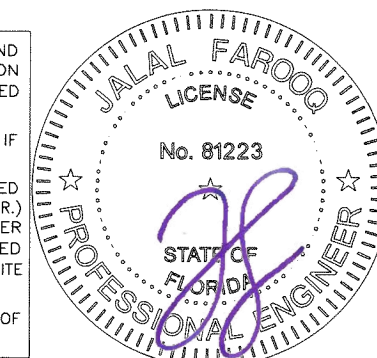
FL #29069

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

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

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

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



AL-FAROOQ CORPORATION
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COMP-ANL\19-08F-ES

ES-WW8701 ALUM WINDOW WALL SYSTEM (S.M.I.)

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3550 N.W. 49 STREET
MIAMI, FL. 33142
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19-08F

sheet 1 of 9

no.	date	by	description
A	12.04.20		updated to 2020 FBC
B	09.27.23		updated to 2023 FBC

date: 01-31-19

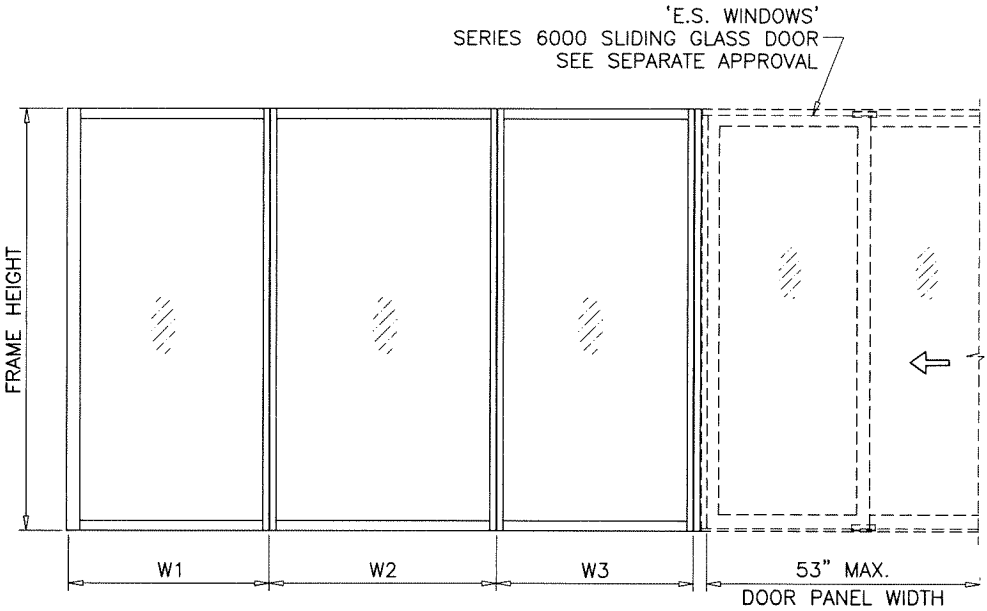
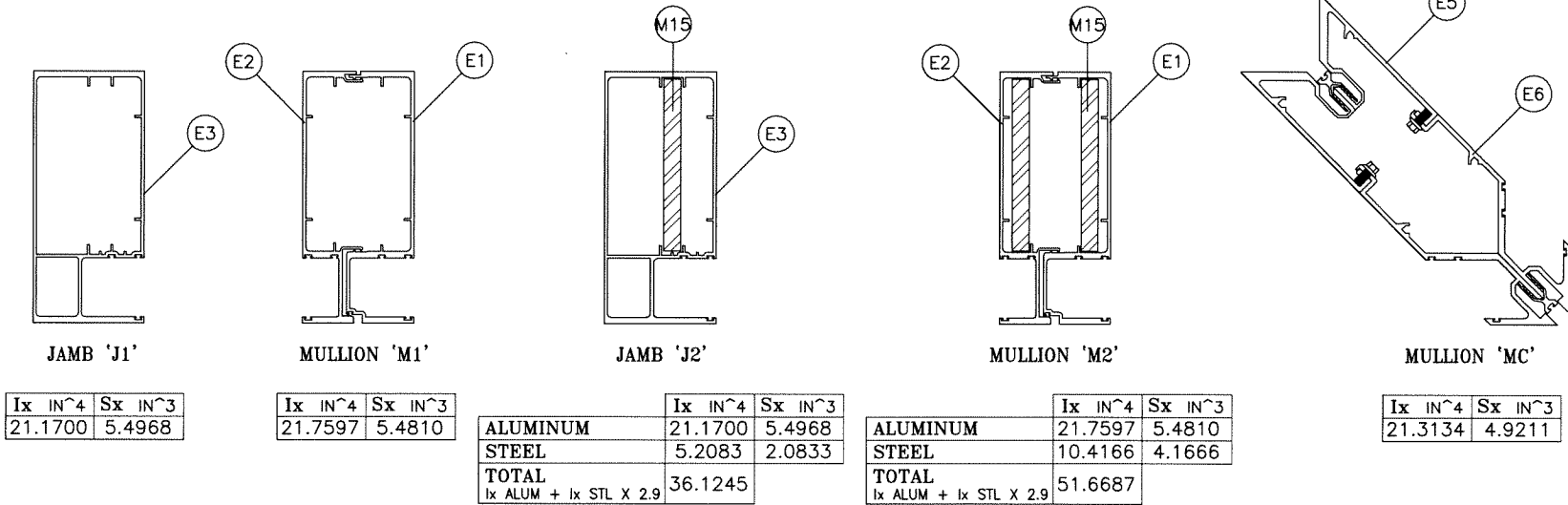
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dr. by: TARIQ

chk. by:

MULLION DESIGN LOAD CAPACITY - PSF									
NOMINAL DIMS.		JAMB 'J1' MULL 'M1'		JAMB 'J2' MULL 'M2'		JAMB 'J1' MULL 'MC'		JAMB 'J2' MULL 'MC'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
48"	96"	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
54"		125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
60"		125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
66"		125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
72"		125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
48"	102"	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
54"		125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
60"		125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
66"		125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
72"		-	-	125.0	125.0	-	-	125.0	125.0
48"	108"	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
54"		125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
60"		125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
66"		125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
72"		-	-	125.0	125.0	-	-	125.0	125.0
48"	114"	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
54"		125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
60"		125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
66"		-	-	125.0	125.0	-	-	125.0	125.0
72"		-	-	125.0	125.0	-	-	125.0	125.0
48"	120"	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
54"		125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
60"		124.0	124.0	125.0	125.0	125.0	125.0	125.0	125.0
66"		-	-	125.0	125.0	-	-	125.0	125.0
72"		-	-	125.0	125.0	-	-	125.0	125.0
48"	126"	-	-	125.0	125.0	-	-	125.0	125.0
54"		-	-	125.0	125.0	-	-	125.0	125.0
60"		-	-	125.0	125.0	-	-	125.0	125.0
66"		-	-	125.0	125.0	-	-	124.8	124.8
72"		-	-	125.0	125.0	-	-	125.0	125.0
48"	132"	-	-	125.0	125.0	-	-	125.0	125.0
54"		-	-	125.0	125.0	-	-	125.0	125.0
60"		-	-	125.0	125.0	-	-	123.7	123.7
66"		-	-	125.0	125.0	-	-	113.3	113.3
72"		-	-	125.0	125.0	-	-	125.0	125.0
48"	138"	-	-	125.0	125.0	-	-	125.0	125.0
54"		-	-	125.0	125.0	-	-	124.7	124.7
60"		-	-	125.0	125.0	-	-	112.9	112.9
72"		-	-	125.0	125.0	-	-	125.0	125.0
72"		-	-	125.0	125.0	-	-	117.6	117.6
48"	142"	-	-	125.0	125.0	-	-	106.4	106.4
54"		-	-	125.0	125.0	-	-	109.6	109.6
60"		-	-	125.0	125.0	-	-	99.1	99.1
72"		-	-	125.0	125.0	-	-	99.1	99.1
72"		-	-	125.0	125.0	-	-	99.1	99.1

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



WIDTH (W) = W1
AT JAMB

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

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FL #29069

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C.O.A.N. 3538

ES-WW8701 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

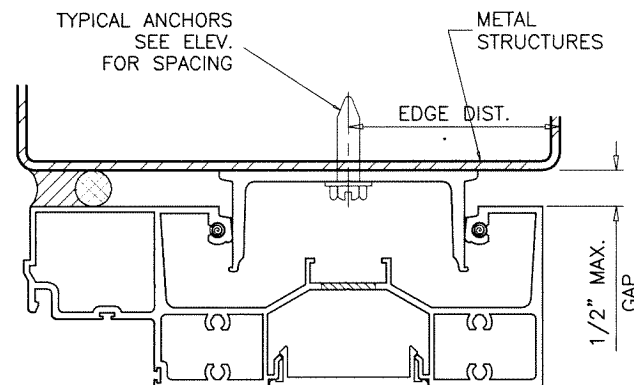
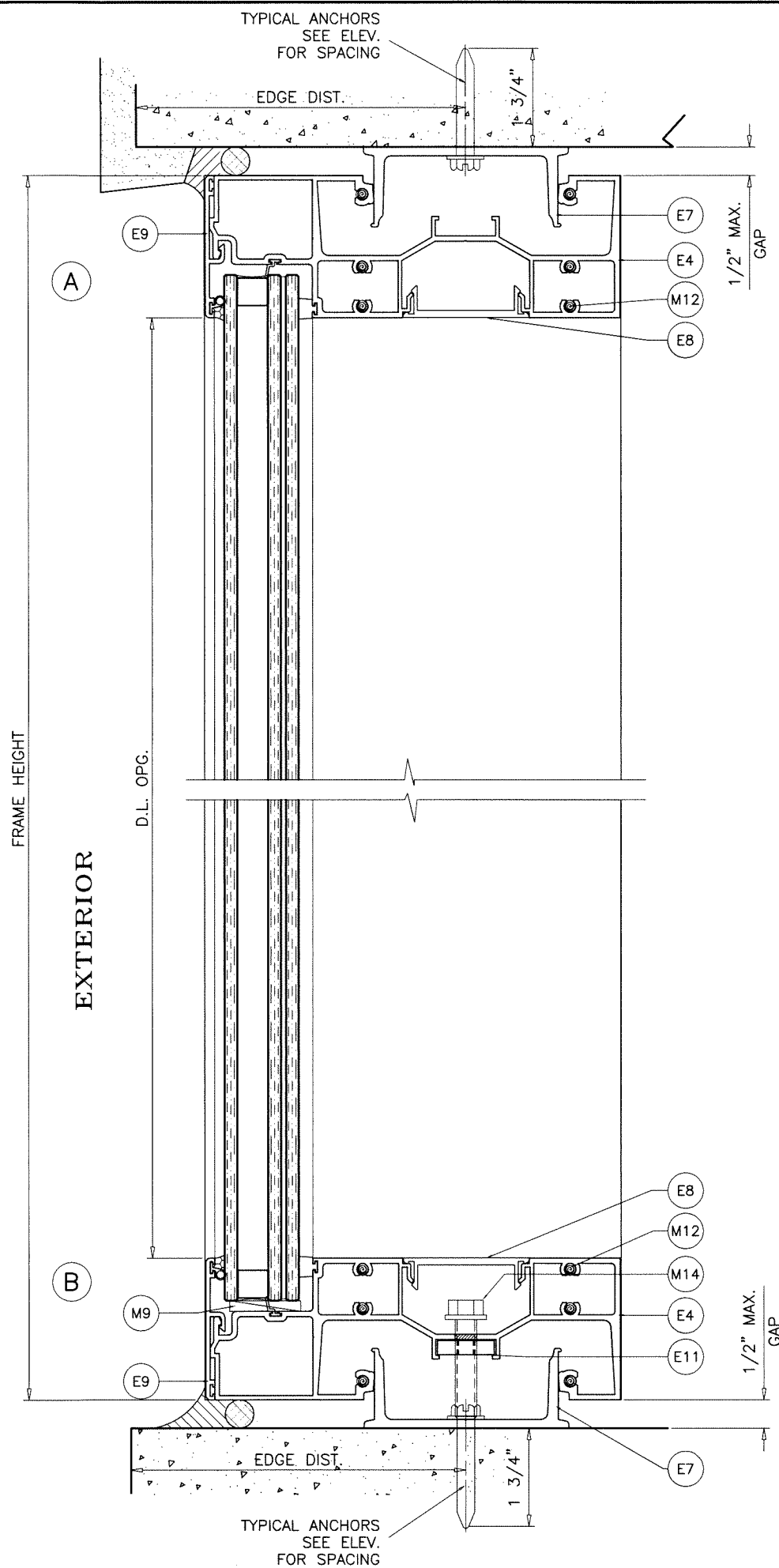
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dr. by: TARIQ
chk. by:

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19-08F

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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' - 1/4" DIA. ULTRACON+ BY 'DEWALT' ($F_u=164$ KSI, $F_y=148$ KSI)
DIRECTLY INTO CONCRETE
1-3/4" MIN. EMBED INTO CONCRETE (HEAD/SILL)

TYPE 'B' - 1/4" DIA. TEKS OR SELF DRILLING SCREWS (GRADE 5 CRS)
INTO F.B.C. APPROVED MULLIONS
OR
INTO METAL STRUCTURES (HEAD/SILL)
(3) THREADS MIN. TO EXTEND BEYOND METAL THICKNESS
ALUMINUM: 3/16" THK. MIN. (6063-T5 MIN.)
STEEL: 1/8" THK. MIN. ($F_y = 36$ KSI MIN.)
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

TYPE 'AA' - 5/16" DIA. ULTRACON BY 'DEWALT' ($F_u=177$ KSI, $F_y=155$ KSI)
DIRECTLY INTO CONCRETE
1-3/4" MIN. EMBED INTO CONCRETE (HEAD/SILL)

TYPE 'BB' - 5/16" DIA. TEKS OR SELF DRILLING SCREWS (GRADE 5 CRS)
INTO F.B.C. APPROVED MULLIONS
OR
INTO METAL STRUCTURES (HEAD/SILL)
(3) THREADS MIN. TO EXTEND BEYOND METAL THICKNESS
ALUMINUM: 3/16" THK. MIN. (6063-T5 MIN.)
STEEL: 1/8" THK. MIN. ($F_y = 36$ KSI MIN.)
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

TYPICAL EDGE DISTANCE

INTO CONCRETE AND BLOCKS = 2-1/2" MIN.
INTO METAL STRUCTURE = 3/4" MIN.

CONCRETE AT HEAD, SILL $f'_c = 3500$ PSI MIN.

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FL #29069

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no	date		

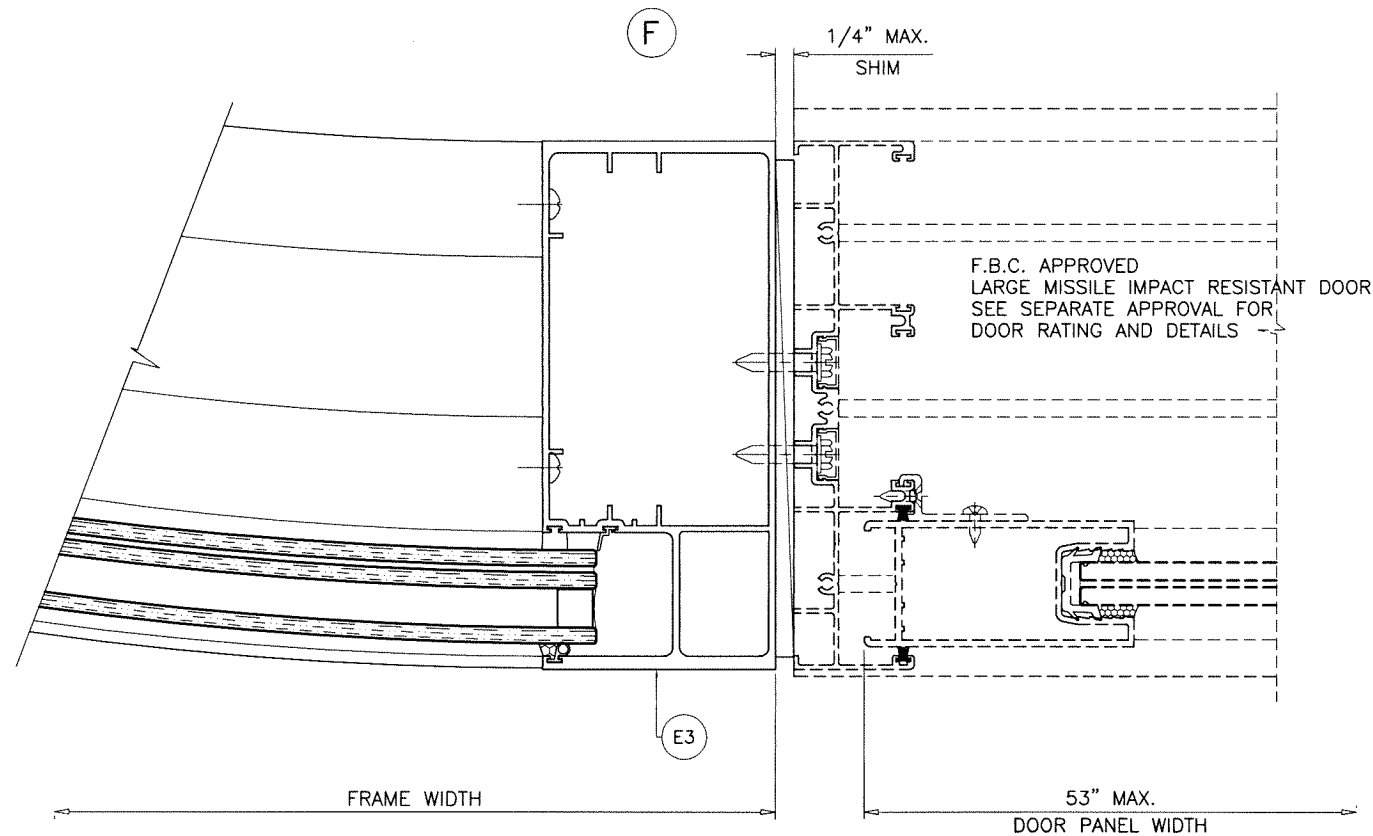
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19-08F

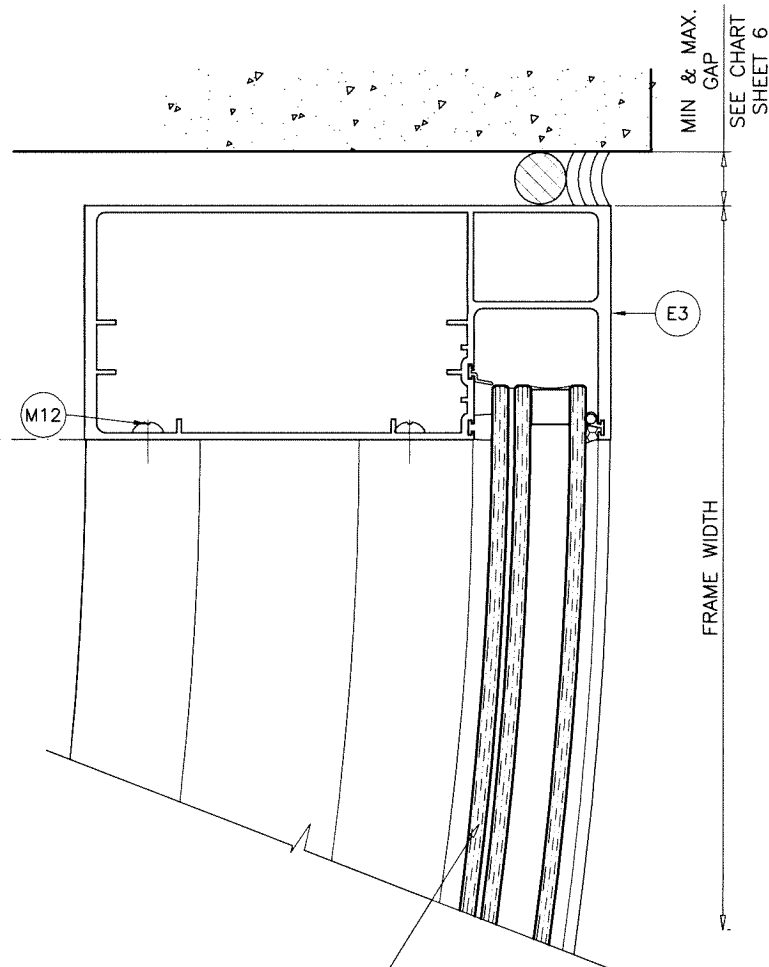
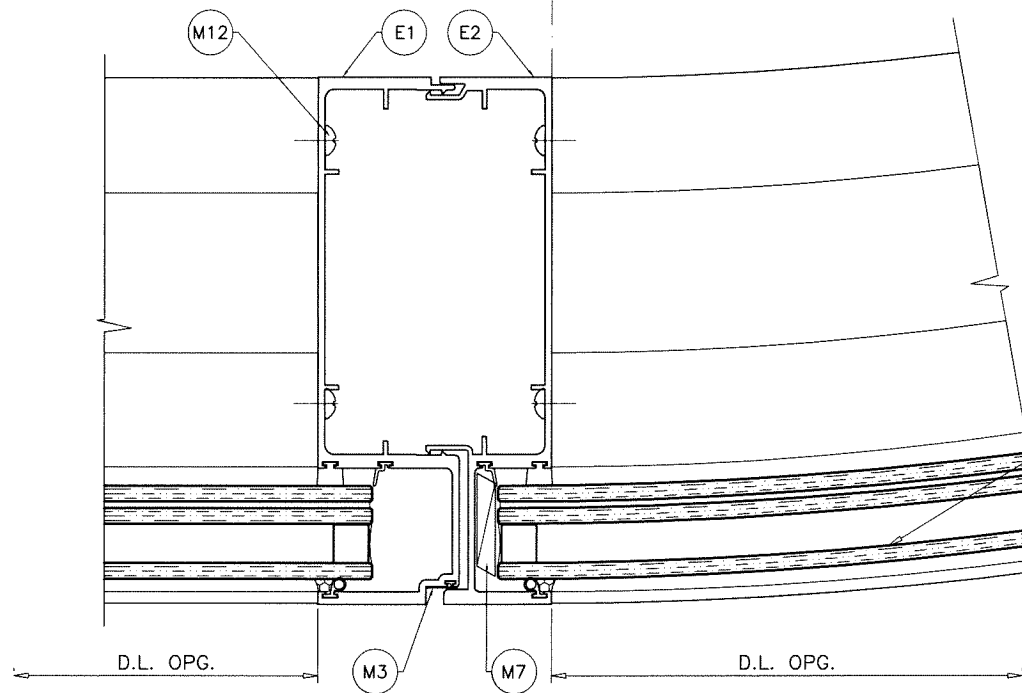
sheet 5 of 9

COMP-ANL\19-08F-ES



F.B.C. APPROVED
LARGE MISSILE IMPACT RESISTANT DOOR
SEE SEPARATE APPROVAL FOR
DOOR RATING AND DETAILS

53\"/>

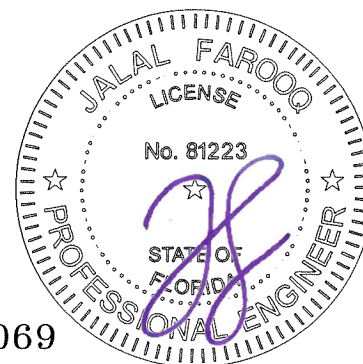


MIN & MAX.
GAP
SEE CHART
SHEET 6

FRAME WIDTH

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FL #29069



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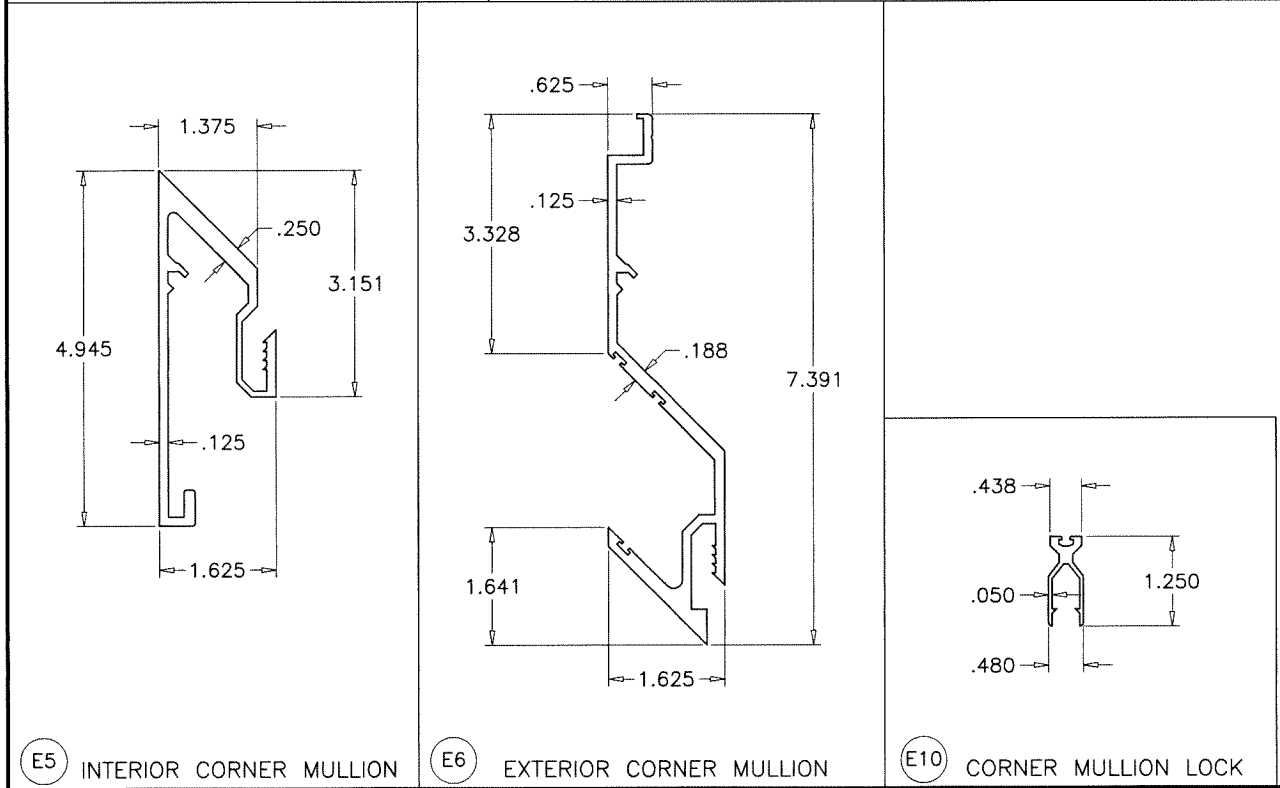
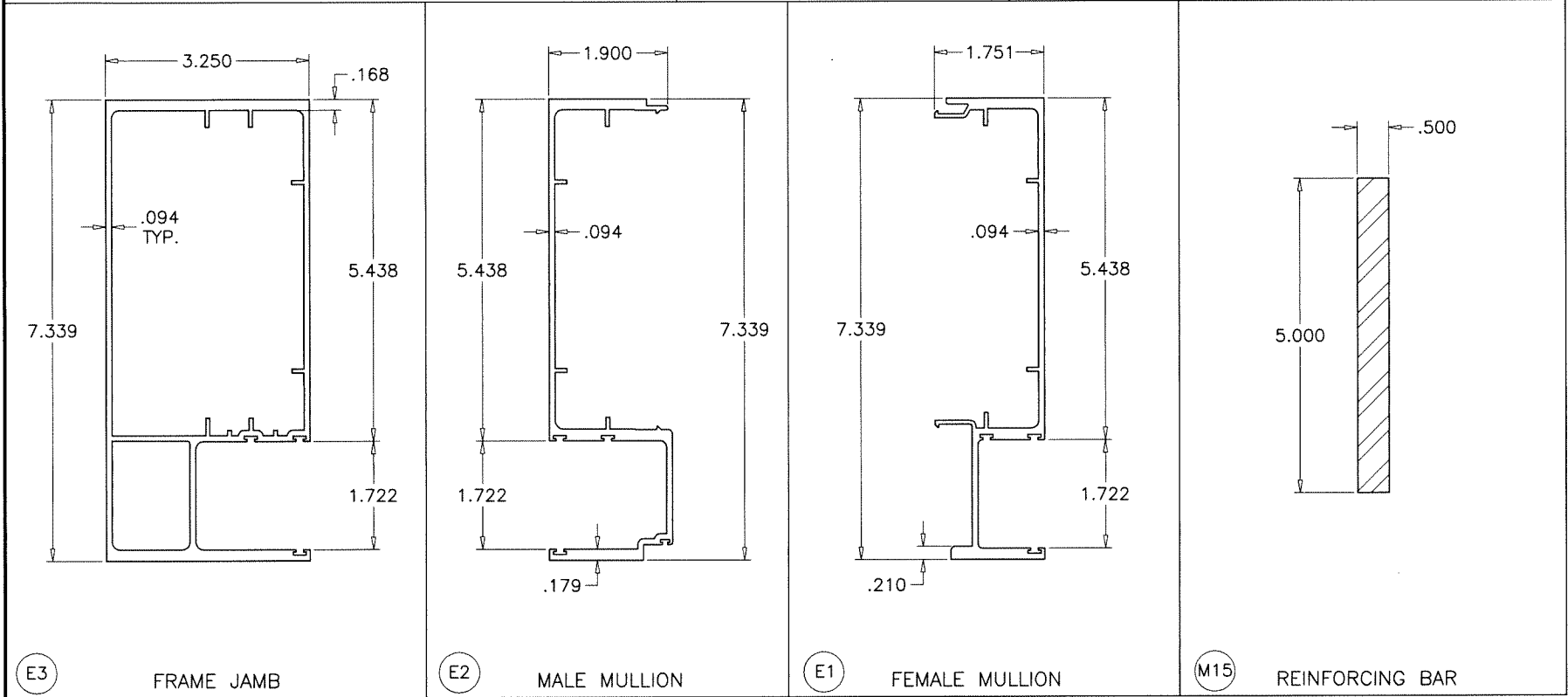
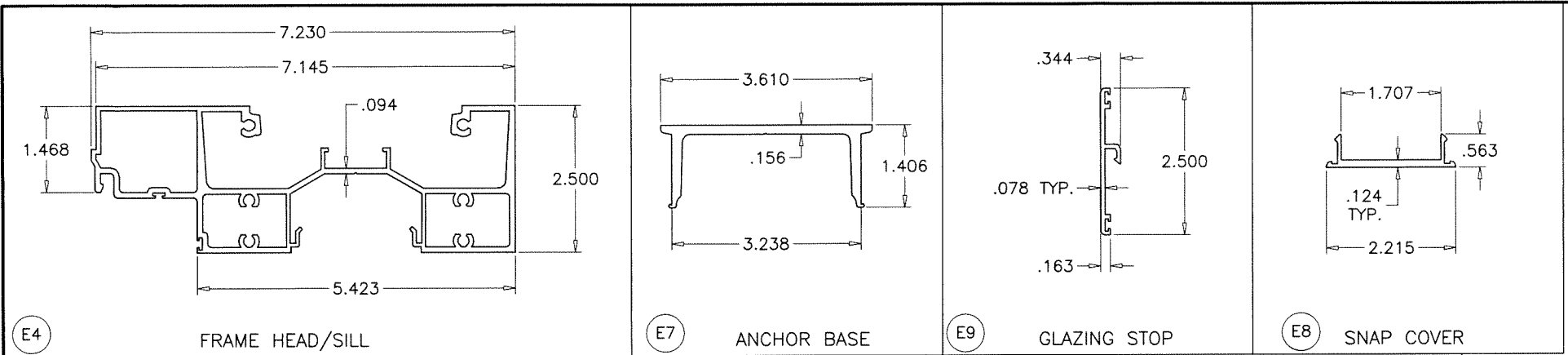
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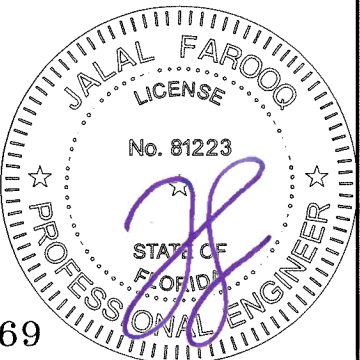
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drawing no.
19-08F
sheet 7 of 9

COMP-ANL 19-08F-ES



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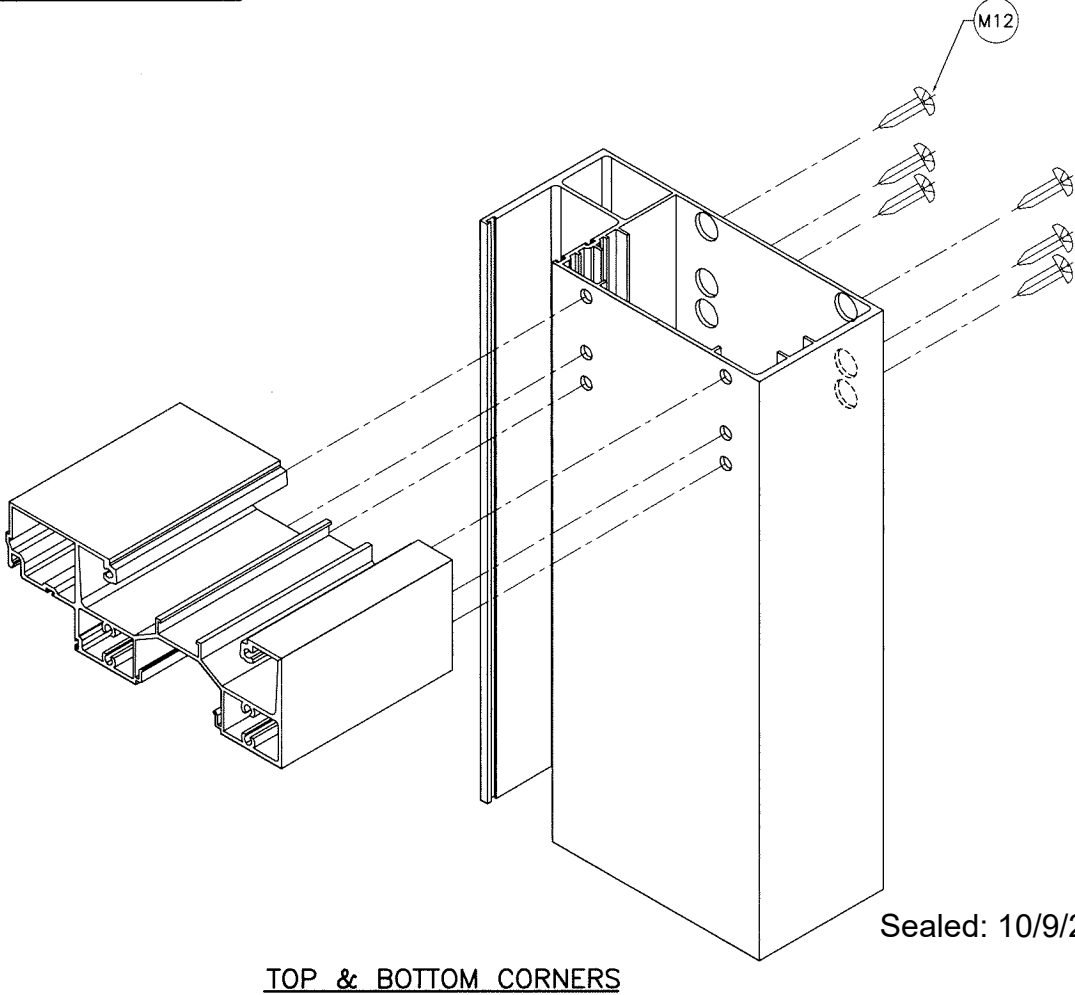
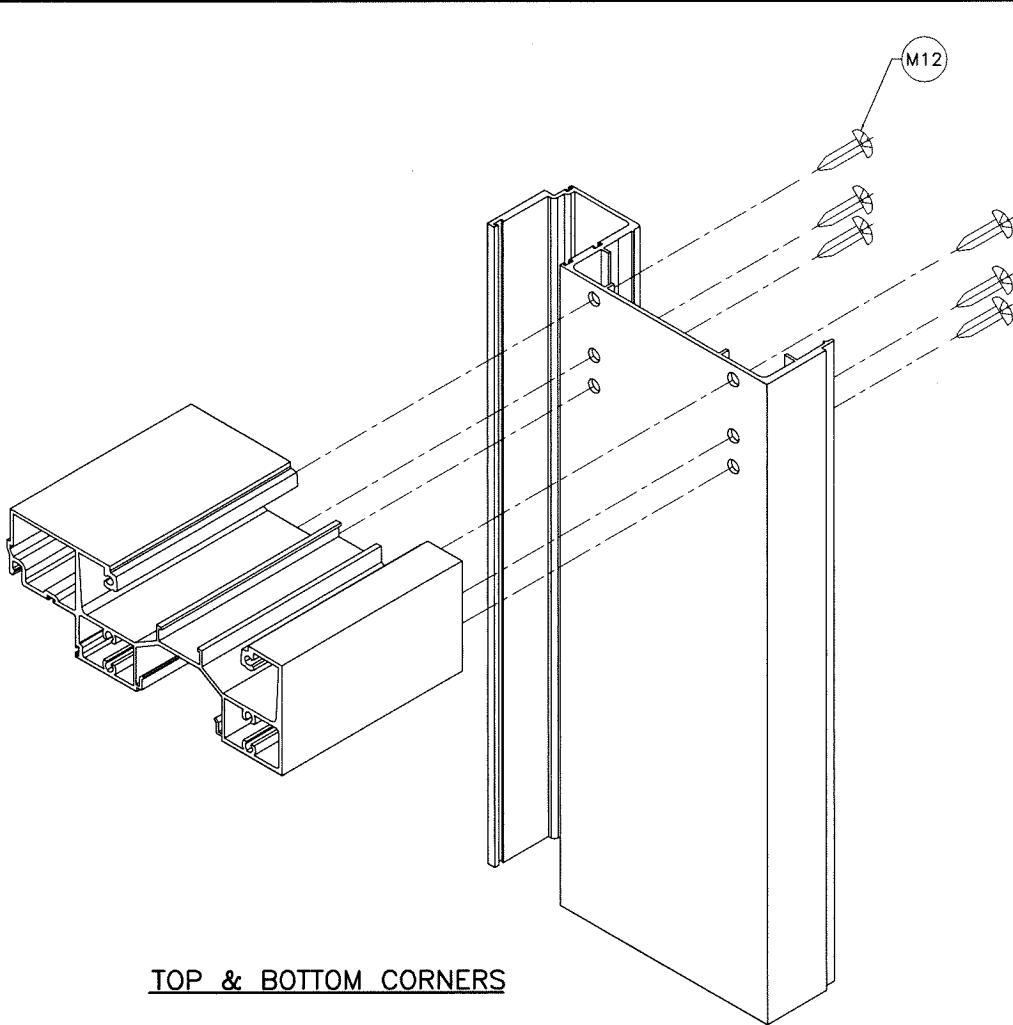
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19-08F
sheet 8 of 9

ITEM NO.	PART NUMBER	QUANTITY	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
E1	ES-WW8701-001	AS REQD.	FEMALE MULLION	6005-T5	-
E2	ES-WW8701-002	AS REQD.	MALE MULLION	6005-T5	-
E3	ES-WW8701-003	AS REQD.	FRAME JAMB	6005-T5	-
E4	ES-WW8701-004	AS REQD.	FRAME HEAD/SILL	6063-T6	-
E5	ES-WW8701-005	AS REQD.	INTERIOR CORNER MULLION	6005-T5	-
E6	ES-WW8701-006	AS REQD.	EXTERIOR CORNER MULLION	6005-T5	-
E7	ES-7004	AS REQD.	ANCHOR BASE (SEE SHEET 4 FOR LENGTHS)	6005-T5	-
E8	ES-7003A	AS REQD.	SNAP COVER	6063-T5	-
E9	ES-7006	AS REQD.	GLAZING STOP	6063-T6	-
E10	HP3060-059	AS REQD.	CORNER MULLION LOCK	6063-T6	-
E11	ALU-P-020	AS REQD.	SILL LEVELER	6063-T6	-
M1	ES-7000-G01	AS REQD.	EXTERIOR BULB SEAL	SILICONE	DUROMETER 65±5 SHORE A
M2	ES-7000-G02	AS REQD.	SILICONE DAM	SILICONE	DUROMETER 65±5 SHORE A
M3	ES-7000-G03	AS REQD.	SILICONE SEPARATER	SILICONE	DUROMETER 65±5 SHORE A
M4	V-003A	AS REQD.	MARINE GLAZING FOR GLASS	SILICONE	DUROMETER 65±5 SHORE A
M5	ES-7100-G01	AS REQD.	SPACER GASKET	SILICONE	DUROMETER 65±5 SHORE A
M7	ES7000-B01A	AS REQD.	SETTING BLOCK (INSUL. GLASS)	SILICONE	DUROMETER 80±5 SHORE A
M9	ES-4520-B02A	AS REQD.	SETTING BLOCK	SILICONE	DUROMETER 80±5 SHORE A
M10	80342A	AS REQD.	SIDE BLOCK	SILICONE	DUROMETER 80±5 SHORE A
M12	#12 X 1"	AS REQD.	FRAME ASSEMBLY SCREWS	-	PH SMS
M13	1/4-20 X 1/2"	AS REQD.	FRAME ASSEMBLY CORNER	ST/ST	PH SMS
M14	3/8-16 X 2"	AS REQD.	LEVELING SCREW	ST/ST	HH BOLT
M15	-	AS REQD.	REINFORCING BAR	STEEL	A36, Fu MIN. = 58 KSI

SEALANTS:

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



Sealed: 10/9/2023



FL #29069

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