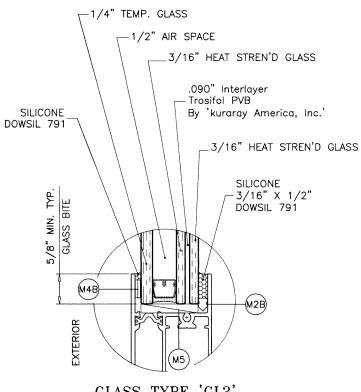
-1/4" TEMP. GLASS -1/2" AIR SPACE 3/16" HEAT STREN'D GLASS .090" Interlayer SentryGlas SILICONE By 'Kuraray America, Inc.' 1/8" X 1/8" DOWSIL 791 _3/16" HEAT STREN'D GLASS SILICONE -3/16" X 1/8" DOWSIL 791 Z. 5/8" GLASS TYPE 'GL1 1-1/4" OVERALL INSUL. LAM. GLASS



GLASS TYPE 'GL2' 1-1/4" OVERALL INSUL. LAM. GLASS

THESE DOORS ARE RATED FOR LARGE & SMALL MISSILE IMPACT. SHUTTERS ARE NOT REQUIRED.

SERIES ES-SD451 THERMAL ALUMINUM SLIDING GLASS DOOR

DESIGN LOAD RATING FOR DOORS TO BE AS PER CHARTS SHOWN ON SHEET 3.

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).

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 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.

GLAZING OPTIONS

1/2" 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

Sealed: 10/5/2023

- 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.
- 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.

FL #22528



ES-SD451 THERMAL **E.S.** 3550 MIAMI, TEL. (30 description
UPDATED TO 201
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sheet 1 of 11

CORPORATION

R000

(L.M.I.)

DOOR

GF.

ALUM SLIDING

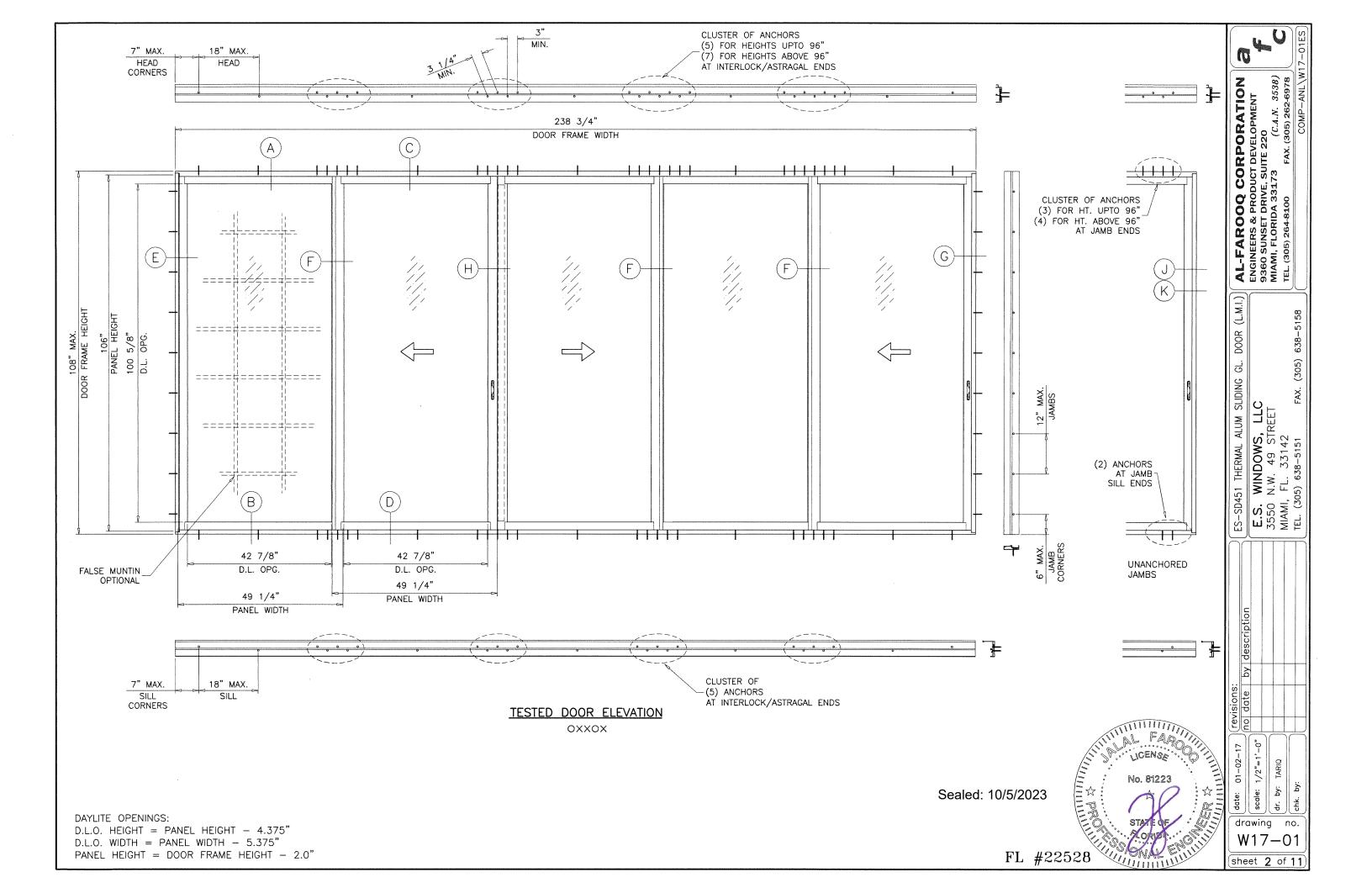
S. WINDOWS, LLC 50 N.W. 49 STREET MI, FL. 33142 (305) 638–5151 FA

(C.A.N. §

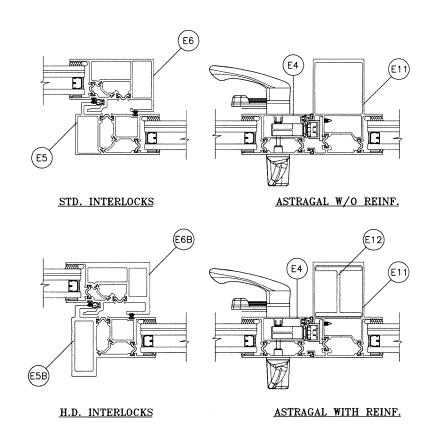
RODUCT RIVE, SU A 33173

AL-FAROOC ENGINEERS & PRO 9360 SUNSET DRI MIAMI, FLORIDA 3 TEL. (305) 264-8100

NOTE: GLASS CAPACITIES ARE BASED ON ASTM E1300-09 (3 SEC. GUSTS) AND FLORIDA BUILDING COMMISSION DECLARATORY STATEMENT DCA05-DEC-219



DESIGN LOAD CAPACITY - PSF								
AVERAGE PANEL WIDTH	DOOR FRAME HEIGHT	STD. INTERLOCKS ASTRAGAL W/O REINF.		H.D. INTERLOCKS ASTRAGAL W/ REINF.				
INCHES	INCHES	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)			
30	84	70.0	70.0	80.0	80.0			
36		70.0	70.0	80.0	80.0			
42		70.0	70.0	80.0	80.0			
48		69.6	69.6	79.6	79.6			
54		61.9	61.9	70.7	70.7			
60		_	-	63.7	63.7			
30	90	70.0	70.0	80.0	80.0			
36		70.0	70.0	80.0	80.0			
42		70.0	70.0	80.0	80.0			
48		69.6	69.6	79.6	79.6			
54				70.7	70.7			
30		70.0	70.0	80.0	80.0			
36	96	70.0	70.0	80.0	80.0			
42		70.0	70.0	80.0	80.0			
47-3/4		70.0	70.0	80.0	80.0			
48				79.6	79.6			
30		-	_	80.0	80.0			
36	102	_	_	80.0	80.0			
42	102	-		80.0	80.0			
47-3/4			-	80.0	80.0			
48			_	79.6	79.6			
30				80.0	80.0			
36	108	_	_	80.0	80.0			
42	100	_		80.0	80.0			
47-3/4				80.0	80.0			



AVERAGE PANEL WIDTH = $\frac{\text{DOOR FRAME WIDTH}}{\text{NUMBER OF PANELS}}$

DOOR HEIGHT AND WIDTH SIZE MUST COMPLY EGRESS REQUIREMENTS PER FBC AS REQUIRED.

Sealed: 10/5/2023 No. 81223

FL #22528

W17-01

 AL-FAROOQ CORPORATION

 ENGINEERS & PRODUCT DEVELOPMENT

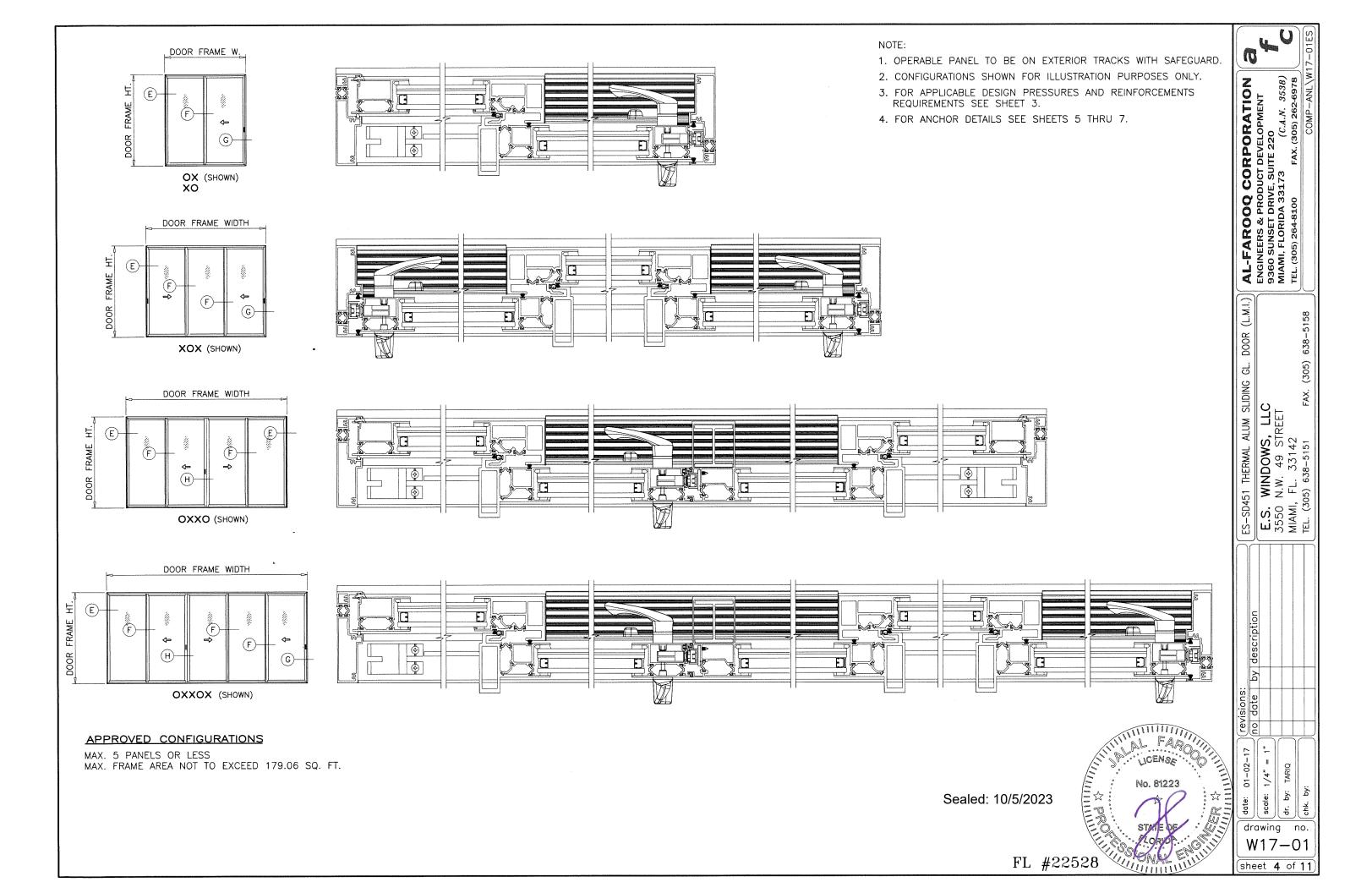
 9360 SUNSET DRIVE, SUITE 220

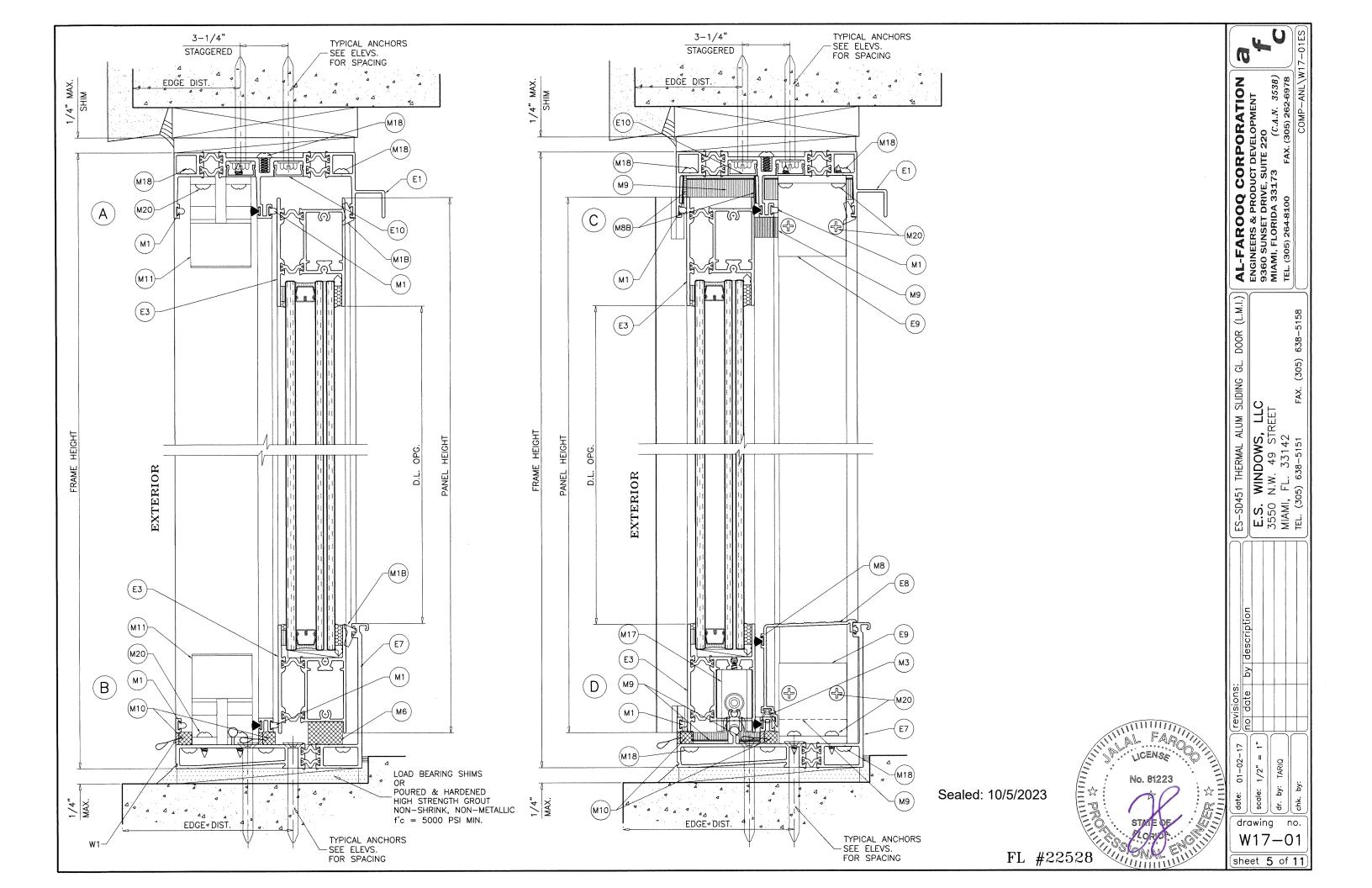
 MIAMI, FLORIDA 33.173
 (C.A.N. 3538)

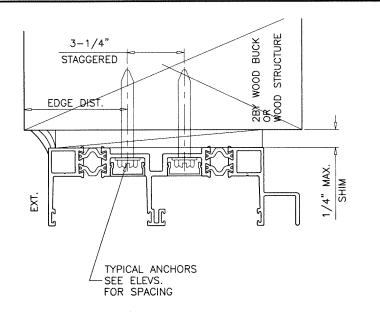
 TEL. (305) 264-8100
 FAX. (305) 262-6978

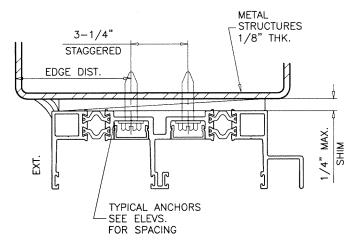
 ES-SD451 THERMAL ALUM SLIDING GL. DOOR (L.M.I.)

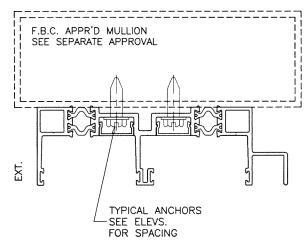
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158 revisions: dr. by: chk. by:











TYPICAL ANCHORS: SEE ELEV. FOR SPACING

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

INTO 2BY WOOD BUCKS OR WOOD STRUCTURES

1-1/2" MIN. PENETRATION INTO WOOD (HEAD/JAMBS)

THRU 1BY BUCKS INTO CONC. OR BLOCKS

1-3/4" MIN. EMBED INTO CONCRETE (HEAD/JAMBS)

1-1/4" MIN. EMBED INTO BLOCKS (JAMBS)

DIRECTLY INTO CONCRETE OR GROUT FILLED BLOCKS

1-3/4" MIN. EMBED INTO CONCRETE (HEAD/SILL)

1-3/4" MIN. EMBED INTO GROUT FILLED BLOCKS (JAMBS)

1/4" DIA. TEKS OR SELF DRILLING SCREWS (GRADE 5 CRS)

INTO F.B.C. APPROVED MULLIONS

INTO METAL STRUCTURES (HEAD/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)

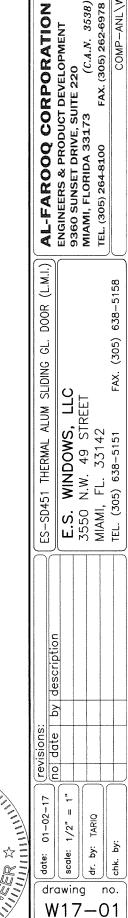
TYPICAL EDGE DISTANCE

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

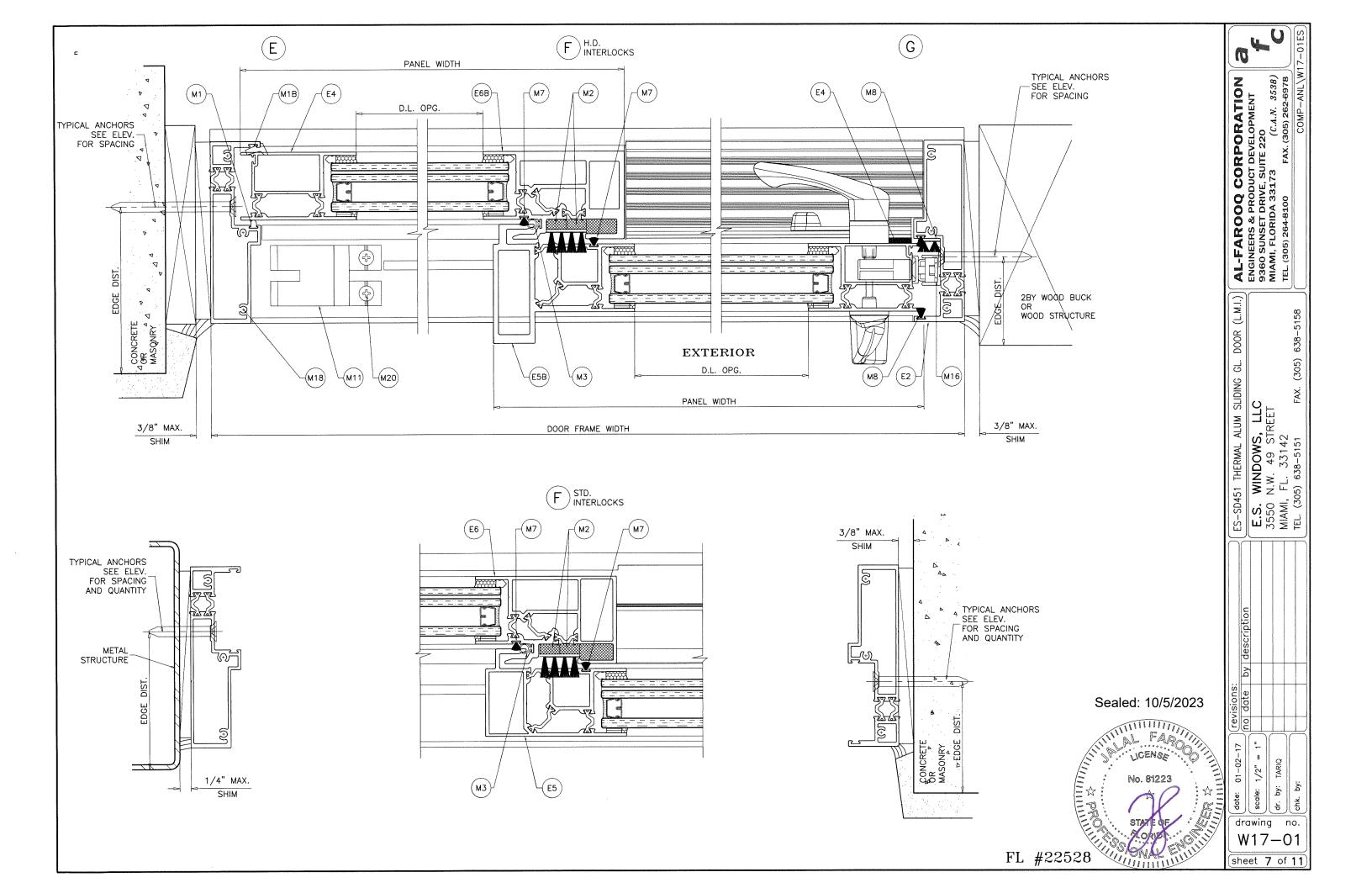
INTO METAL STRUCTURE = 3/4" MIN.

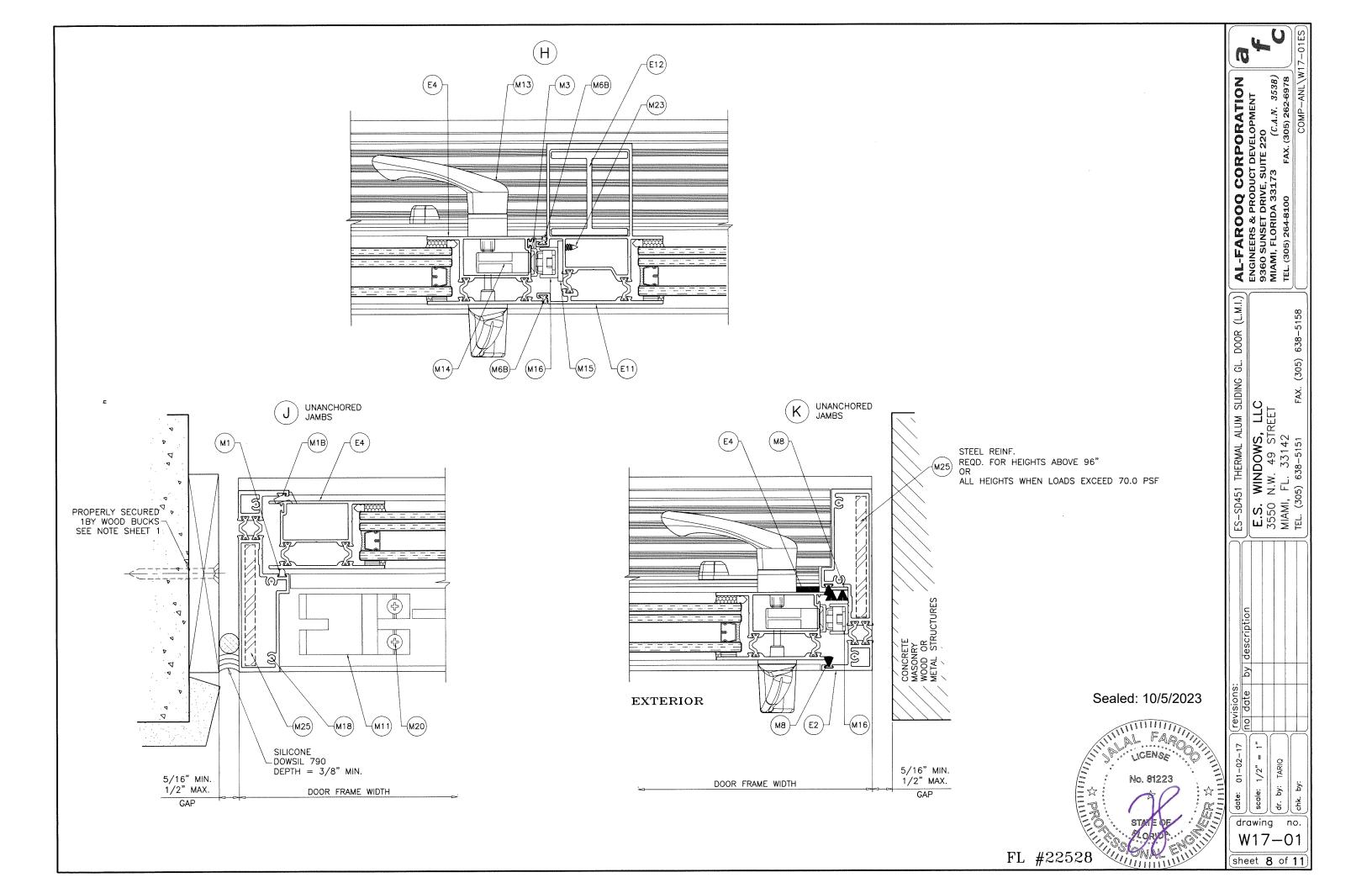
WOOD AT HEAD OR JAMBS SG = 0.55 MIN. CONCRETE AT HEAD, SILL OR JAMBS f'c = 3000 PSI MIN. C-90 GROUT FILLED BLOCK AT JAMBS f'm = 2000 PSI MIN. Sealed: 10/5/2023

FL #22528



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**************************************	DADE #	OHANDIDA	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
ITEM #	PART #	QUANTITY			MARY./ SOIT LIER/ REMARKS
E1	ES-SD451-501	1	FRAME HEAD	6063-T6	
E2	ES-SD451-503	2	FRAME JAMB	6063-T6	_
E3	ES-SD451-504	2/ PANEL	TOP & BOTTOM RAIL	6063-T6	_
E4	ES-SD451-505	2/ PANEL	VERTICAL STILE	6063-T6	_
E5	ES-SD451-506	AS REQD.	STD. EXTERIOR INTERLOCK	6063-T6	
E5B	ES-SD451-507	AS REQD.	H.D. EXTERIOR INTERLOCK	6063-T6	
E6	ES-SD451-508	AS REQD.	STD. INTERIOR INTERLOCK	6063-T6	_
E6B	ES-SD451-509	AS REQD.	H.D. INTERIOR INTERLOCK	6063-T6	_
E7	ES-SD451-512	1	FRAME SILL	6063-T6	
E8	ES-SD451-025	AS REQD.	FRAME SILL COVER	6063-T6	_
E9	AAC-A-028	AS REQD.	FIXED PANEL CLIP	6063-T6	
E10	ES-6011	AS REQD.	SCREW COVER	6063-T6	
E11	ES-SD451-510	AS REQD.	ASTRAGAL STILE	6063-T6	
E12	ES-SD451-021	AS REQD.	ASTRAGAL STIFFENER	6063-T6	_
M1	NC-4000I-PV-2	AS REQD.	INSULATION	PVC	_
м1В	NF-315-G06	AS REQD.	WEDGE GASKET	EODM	DUROMETER 70±5 SHORE A
M2		AS REQD.	TAPE (1/2" X 1/4")	-	_
M2B	ES-SD451-G04	AS REQD.	GLAZING GASKET	EPDM	DUROMETER 80±5 SHORE A
м3	ES-5008	AS REQD.	BULB GASKET	EPDM	DUROMETER 70±5 SHORE A
M4	ES-SD451-G02	AS REQD.	GLAZING GASKET	EPDM	DUROMETER 70±5 SHORE A
M4B	-	AS REQD.	GLAZING TAPE (1/8" X 3/8")	EPDM	DUROMETER 70±5 SHORE A
M5	ES-4520-B02A	2/ LITE	SETTING BLOCK	EPDM	DUROMETER 80±5 SHORE A
M5B	ngarder	AS REQD.	TAPE FOR FIX. INTERLOCK (1/4" X 3/8")	_	
М6	ES-21-B02	2/ LITE	SETTING BLOCK (FIXED PANEL)	EPDM	DUROMETER 80±5 SHORE A
м6В	ES-SD451-G03	AS REQD.	ASTRAGAL WEATHER SEAL	SILICONE	DUROMETER 70±5 SHORE A
M7	W22252NK	AS REQD.	INTERLOCK W'STRIPPING	PILE	
М8	W22322NK	AS REQD.	INTERLOCK W'STRIPPING	PILE	
M8B	P 3802 AFK	AS REQD.	ADHESIVE PILE PAD (3" X 0.55")	PILE	_
М9	P 6304 AFK	AS REQD.	ADHESIVE PILE PAD FOR INTERLOCK (4" X 1")	PILE	
M10	ES-SD450-F01	AS REQD.	5/8" X 5/8" X 2" RETICULATED FOAM 30PPI	OPEN CELL FOAM	_
M11	SGD 1600	AS REQD.	BUMPER	ALUMINUM	_
M12	LUG 2-500	AS REQD.	PLUG FOR ROLLER SCREW	PVC	
M13	PS01-0014-117	1	2 POINT LOCK HANDLE KIT	CAST ALUMINUM	
M14	PS01-1020	1	2 POINT MORTISE LOCK	CAST ALUMINUM	-
M15	ES-SD450-P01	1	3/16" PLATE FOR STRIKE ASSEMBLY	ALUMINUM	
M16	PS01-1015-00B	_	MORTISE LOCK KEEPER	_	
M17	GTT-R34/3-01-A	2/ MOV. PANEL	ROLLER ASSEMBLY (ZAMAK WITH ACETAL WHEELS)		_
М18	#10 X 1-1/4"	AS REQD.	FRAME AND PANEL ASSEMBLY FASTENERS	ST/ST	PH SMS
M19	#10 X 1"	AS REQD.	MORTISE LOCK FASTENERS	ST/ST	FH SMS
M20	#10 X 1/2"	AS REQD.	BUMPER AND ROLLER ASSEMBLY FASTENERS	ST/ST	PH SMS
M21	#8 X 1"	AS REQD.	ALUMINUM PLATE ASSEMBLY FASTENERS	ST/ST	FH SMS
M22	#8 X 1"	AS REQD.	KEEPER FASTENERS	ST/ST	PH SMS
M23	#8 X 1/2"	AS REQD.	ASSEMBLY FASTENER AT STRIKE PLATE	ST/ST	FH SMS
M24	#8 X 5/8"	AS REQD.	KEEPER FASTENERS	ST/ST	PH SMS
M25	_	AS REQD.	JAMB REINFORCING	STEEL	_
M26		AS REQD.	INSULBAR 12MM OFFSET	POLYAMIDE	ENSINGER
M27		AS REQD.	INSULBAR 14MM OFFSET	POLYAMIDE	ENSINGER
M28	1673	AS REQD.	INSULBAR 20MM OFFSET	POLYAMIDE	ENSINGER

AL-FAROOQ CORPORATION

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9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173 (C.A.N. 3538)

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COMP-ANL\W17-ES-SD451 THERMAL ALUM SLIDING GL. DOOR (L.M.I.)

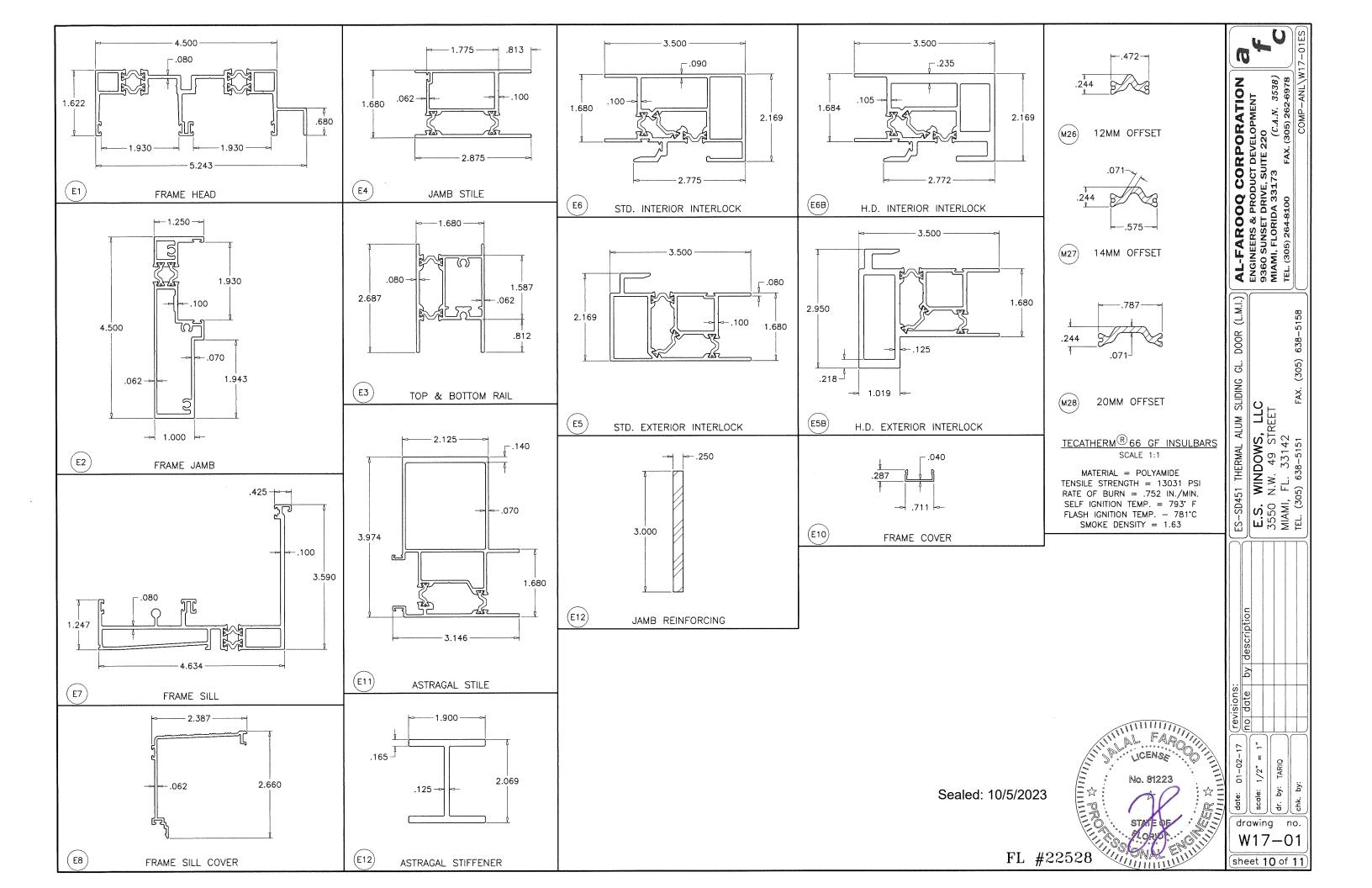
E.S. WINDOWS, LLC
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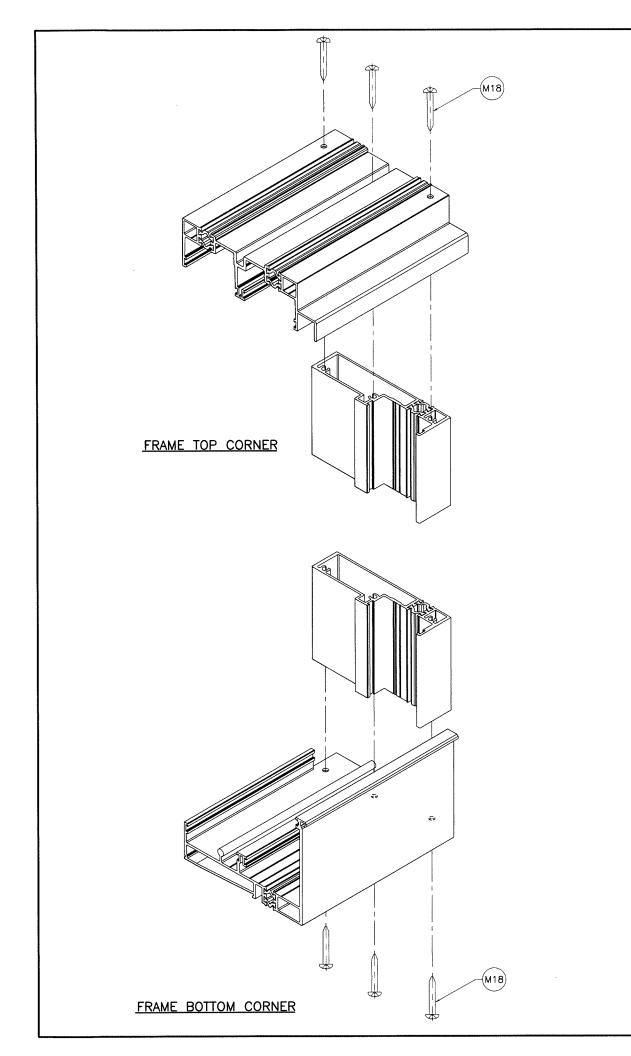
sheet 9 of 11)

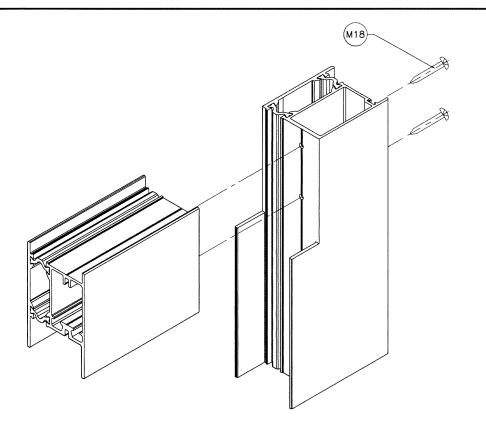
Sealed: 10/5/2023

STATE OF FL #22528

FL #22528







PANEL TOP/BOTTOM CORNER

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drawing no. W17 - 01sheet **11** of **11**