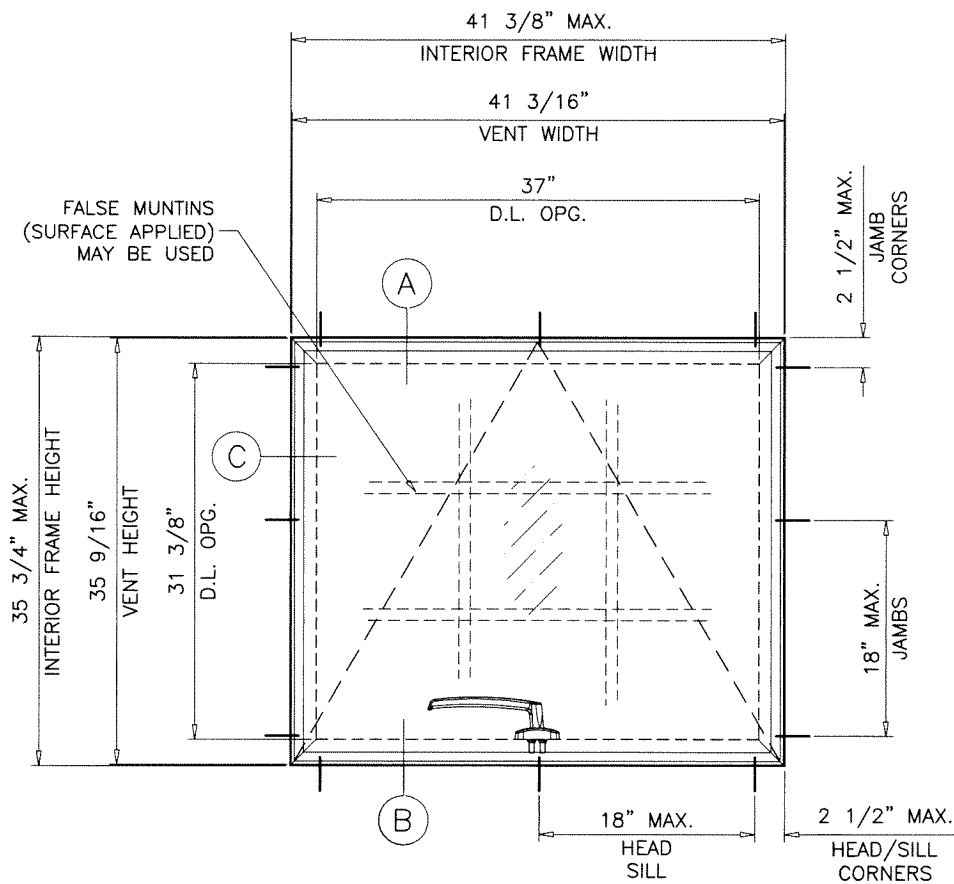
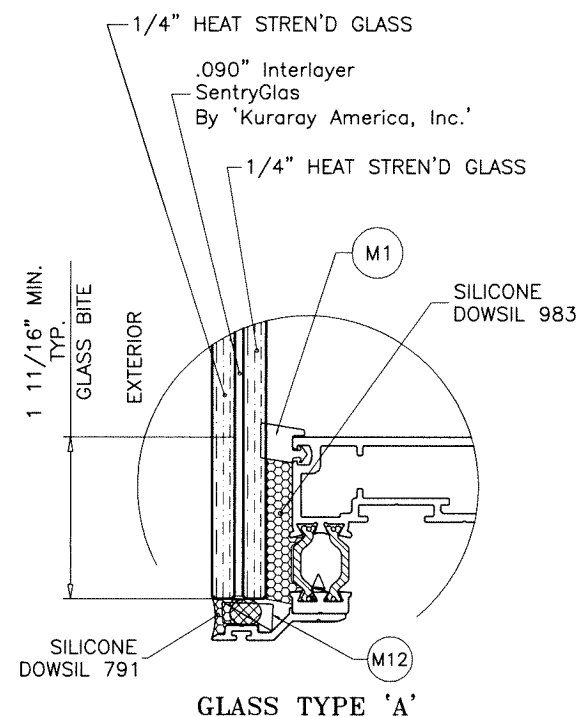




TYPICAL ELEVATION
TESTED UNIT

GLASS TYPE 'A'

MAXIMUM DESIGN LOAD RATING = + 110.0 PSF
(FOR SIZES SHOWN ABOVE OR SMALLER) **- 130.0 PSF**



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

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

SERIES ES-PA220 (L.M.I.)
ALUMINUM THERMALLY BROKEN PROJECT-OUT WINDOW

APPROVAL APPLIES TO SINGLE UNITS OR SIDE BY SIDE
COMBINATIONS OF P.O./P.O. OR PROJECT-OUT WITH OTHER
WINDOW TYPES IN MODULES OF TWO OR MORE WINDOWS USING
F.B.C. APPROVED MULLIONS IN BETWEEN.
LOWER DESIGN PRESSURE FROM WINDOWS OR MULLION APPROVAL
WILL APPLY TO ENTIRE 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.

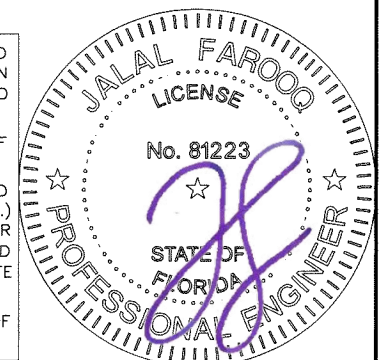
DESIGN LOADS SHOWN ARE BASED ON 'ALLOWABLE STRESS DESIGN (ASD)'.

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.

Sealed: 10/23/2024

FL #24524

- 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.



afc

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

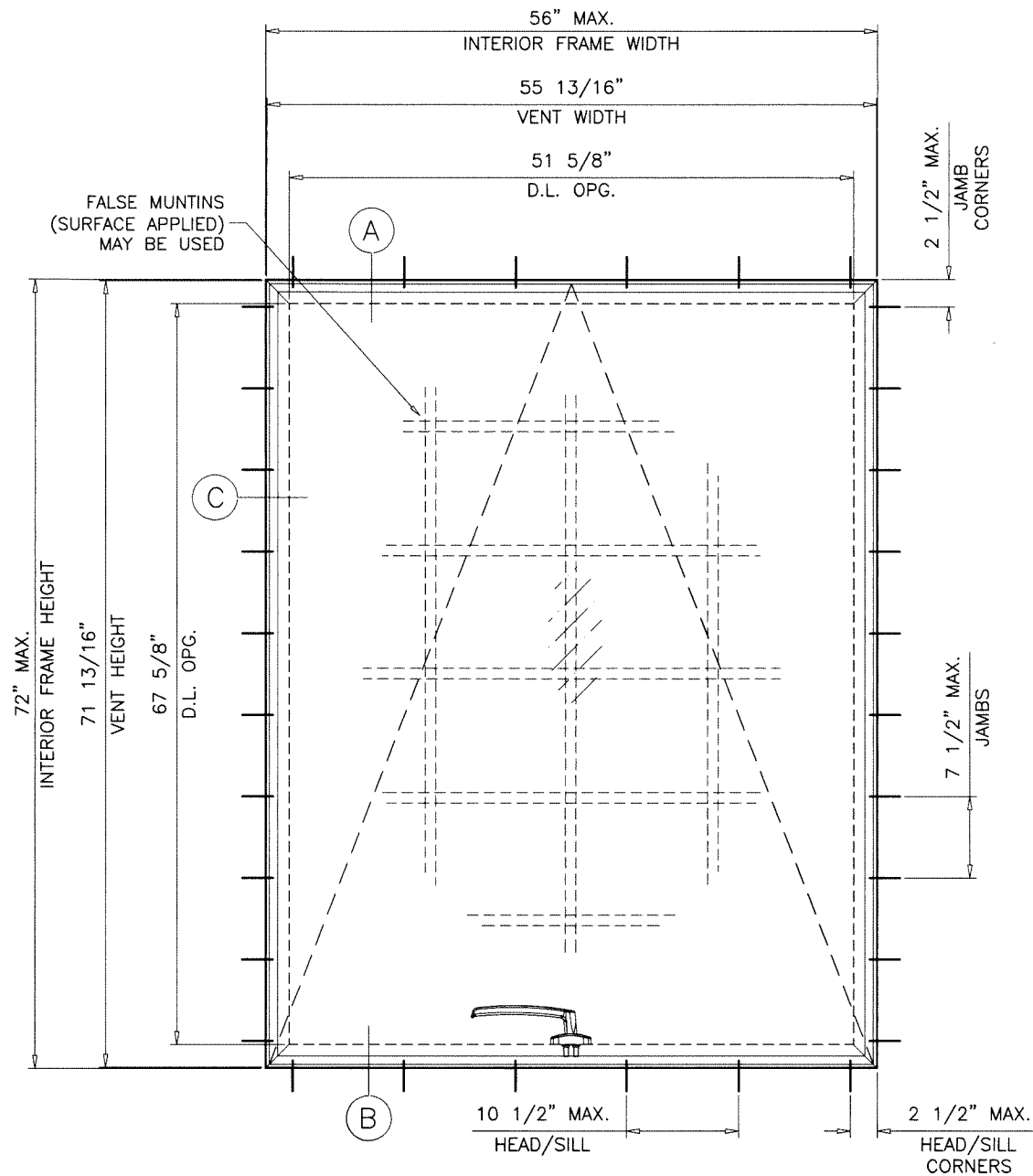
COMP-ANL\W17-93ES

ES-PA220 ALUM THERMALLY BROKEN PROJECT-OUT W. (L.M.I.)

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

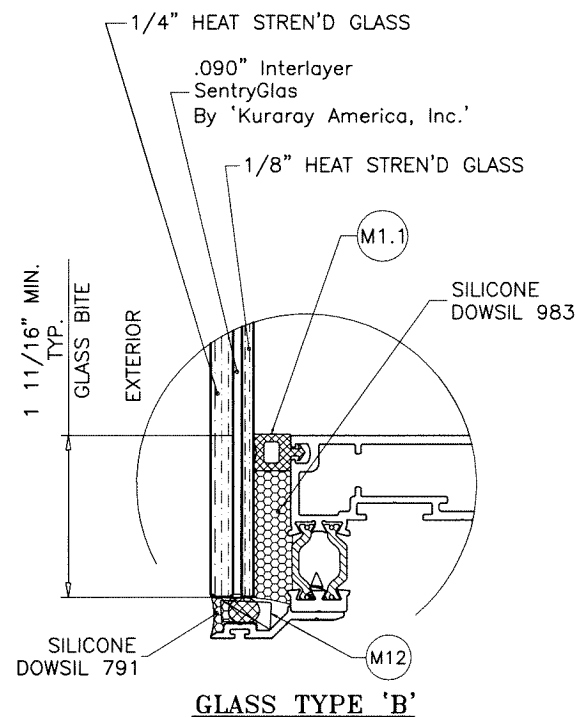
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drawing no.	W17-93	sheet	1 of 6				



TYPICAL ELEVATION
TESTED UNIT

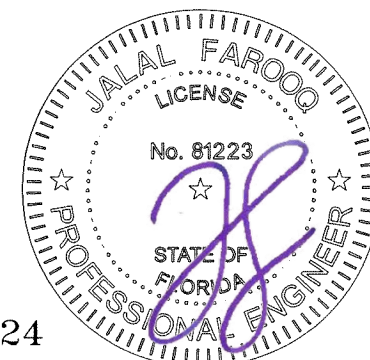
GLASS TYPE 'B'
MAXIMUM DESIGN LOAD RATING = + 100.0 PSF
(FOR SIZES SHOWN ABOVE OR SMALLER) - 140.0 PSF



GLASS TYPE 'B'

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FL #24524



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MIAMI, FLORIDA 33173
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COMP-ANL\W17-93ES

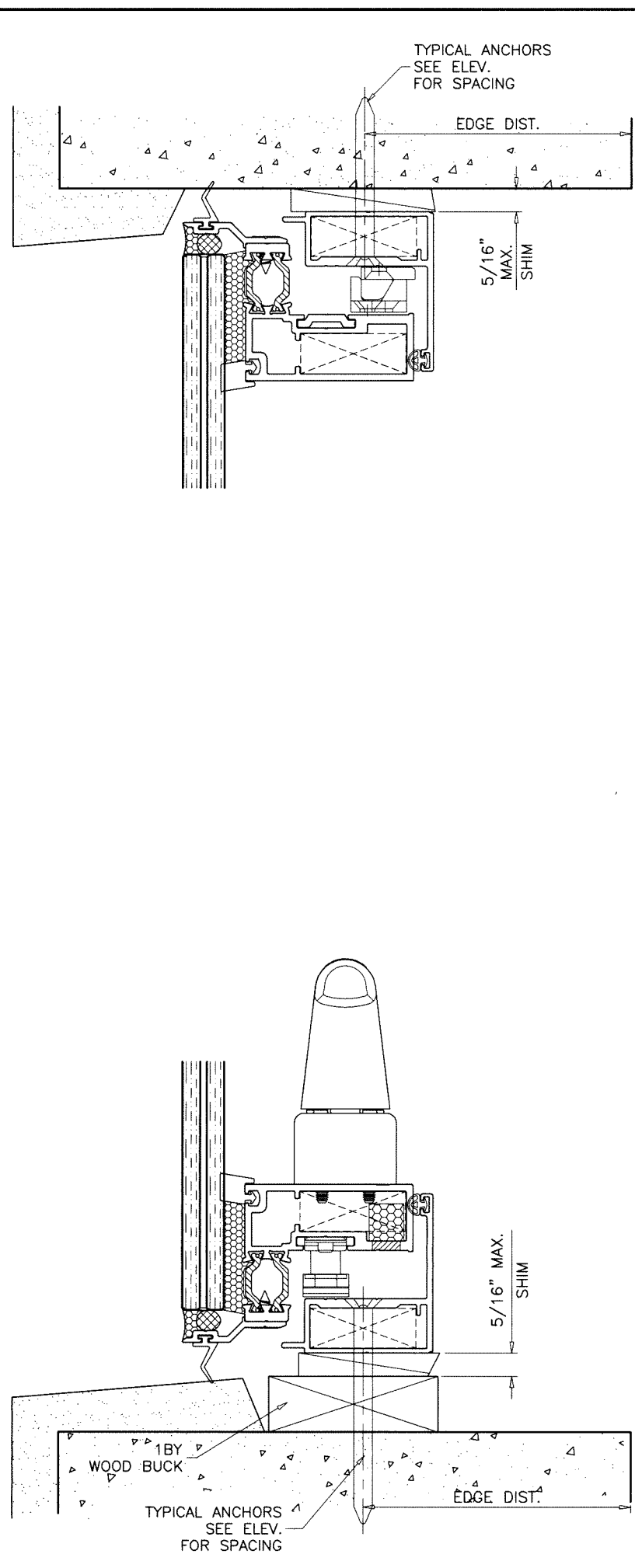
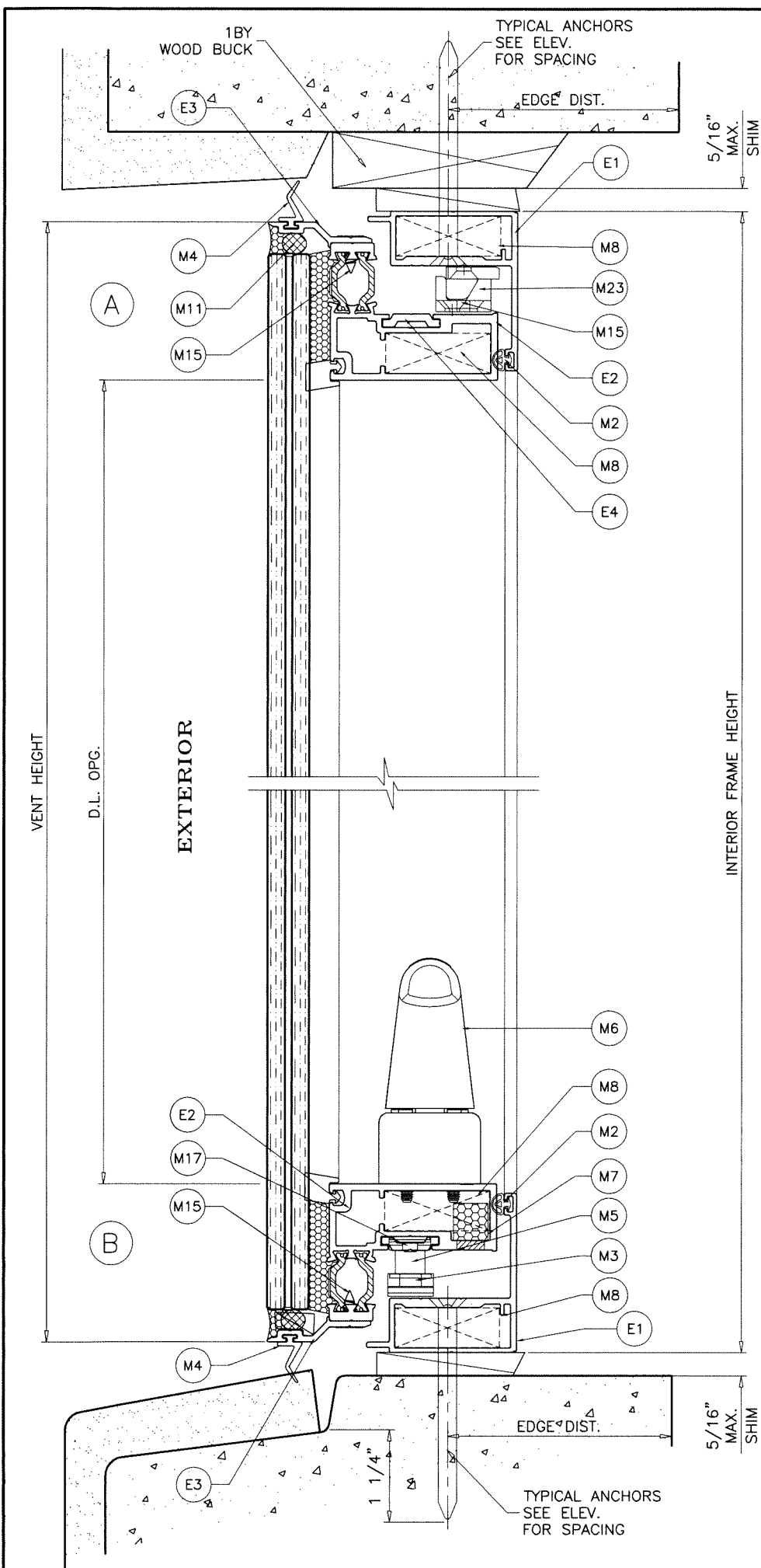
ES-PA220 ALUM THERMALLY BROKEN PROJECT-OUT W. (L.M.I.)

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MIAMI, FL. 33142
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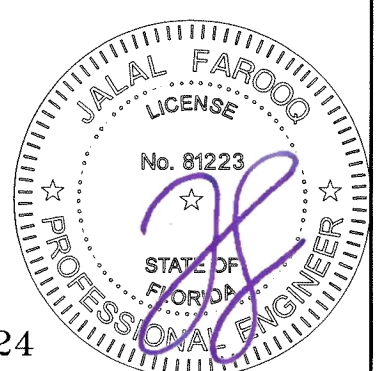
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W17-93
sheet 2 of 6

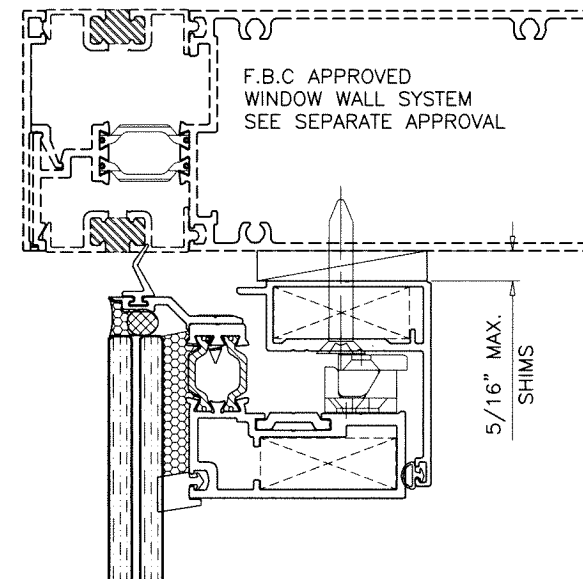
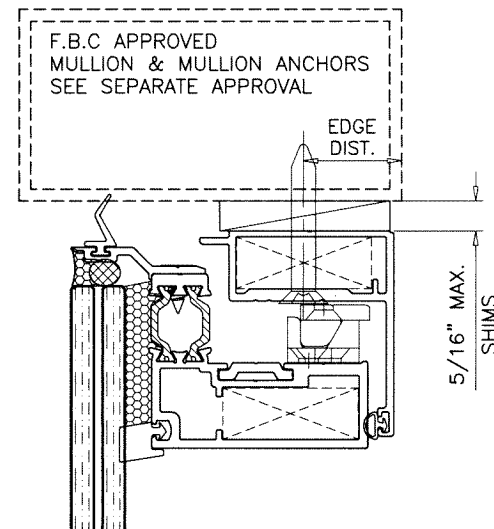
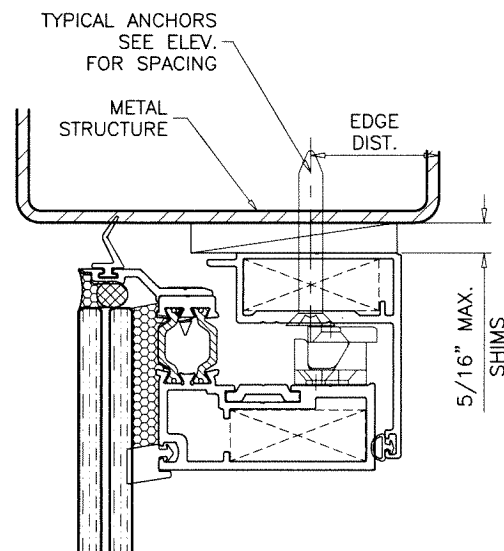
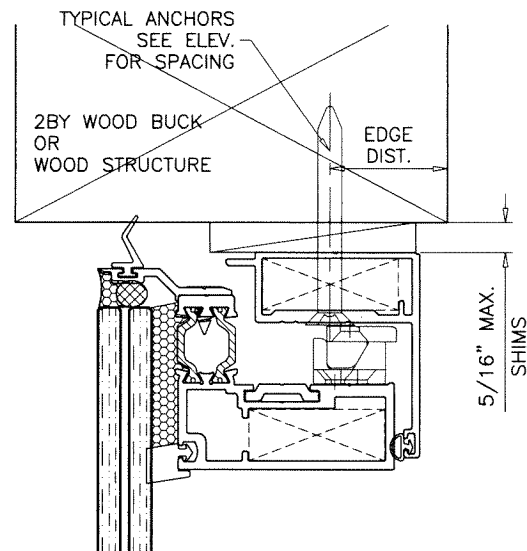


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FL #24524



AL-FAROOQ CORPORATION ENGINEERS & PRODUCT DEVELOPMENT 9360 SUNSET DRIVE, SUITE 220 MIAMI, FLORIDA 33173 TEL. (305) 264-8100 FAX. (305) 262-6978 COMP-ANL W17-93ES	
ES-PA220 ALUM THERMALLY BROKEN PROJECT-OUT W. (L.M.I.)	
E.S. WINDOWS, LLC 3550 N.W. 49 STREET MIAMI, FL. 33142 TEL. (305) 638-5151 FAX. (305) 638-5158	
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drawing no. W17-93	
sheet 3 of 6	



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

TYPICAL ANCHORS: SEE ELEV. FOR SPACING

#14 DIA. CRETE-FLEX SS4 BY 'DEWALT' (Fu=190 KSI, Fy=127 KSI)

1/4\" DIA. ULTRACON SS4 410 BY 'DEWALT' (Fu=190 KSI, Fy=164 KSI)

1/4\" DIA. AGGRE-GATOR 300 BY 'DEWALT' (Fu=96 KSI, Fy=57 KSI)

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

INTO WOOD STRUCTURES

1-1/2\" 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

1-3/8\" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)

1-3/8\" MIN. EMBED INTO GROUT FILLED BLOCKS (JAMBS)

1/4\" DIA. BI-FLEX 300 SELF DRILLING SCREWS BY 'DEWALT' (Fu=96 KSI, Fy=57 KSI)

1/4\" DIA. SELF DRILLING SCREWS (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.)

ALUMINUM: .090\" THK. MIN. (6063-T6 MIN.)

STEEL: 1/8\" THK. MIN. (Fy = 36 KSI MIN.)

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

ANCHOR EDGE DISTANCES

INTO CONCRETE AND BLOCKS = 2-1/2\" MIN.

INTO WOOD STRUCTURE = 1\" MIN.

INTO METAL STRUCTURE = 3/4\" MIN.

WOOD AT HEAD, SILL OR JAMBS SG = 0.55 MIN.

CONCRETE AT HEAD, SILL OR JAMBS f'c = 3000 PSI MIN.

C-90 HOLLOW/FILLED BLOCK AT JAMBS f'm = 2000 PSI MIN.

Sealed: 10/23/2024

FL #24524



ES-PA220 ALUM THERMALLY BROKEN PROJECT-OUT W. (L.M.I.)

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MIAMI, FL. 33142

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AL-FAROOQ CORPORATION

ENGINEERS & PRODUCT DEVELOPMENT

9360 SUNSET DRIVE, SUITE 220

MIAMI, FLORIDA 33173

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

COMP-ANL\W17-93ES

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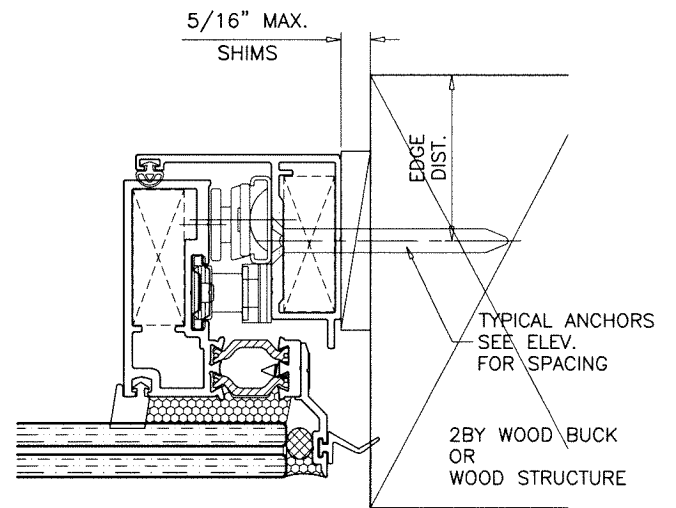
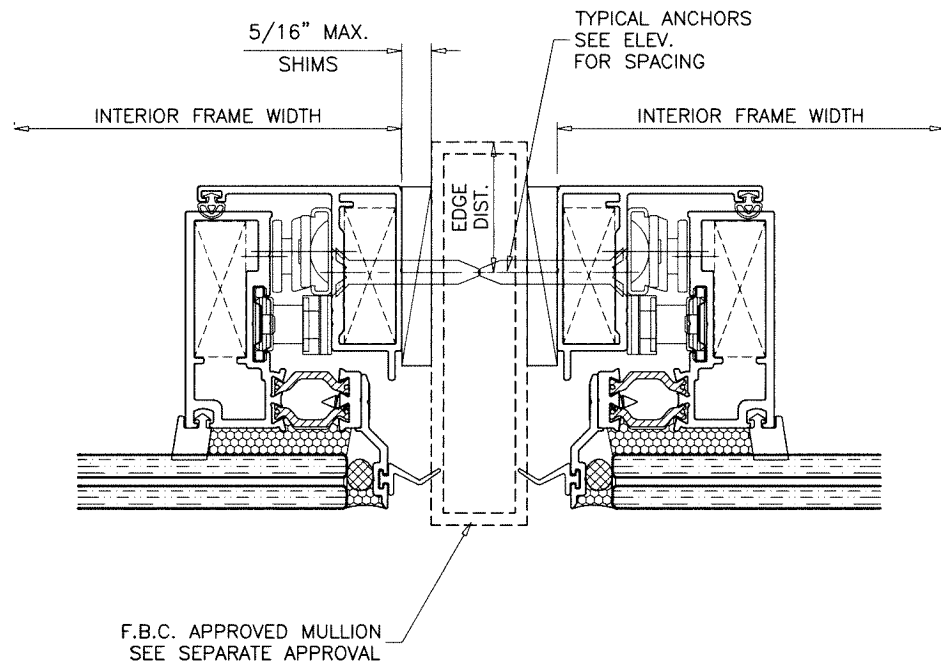
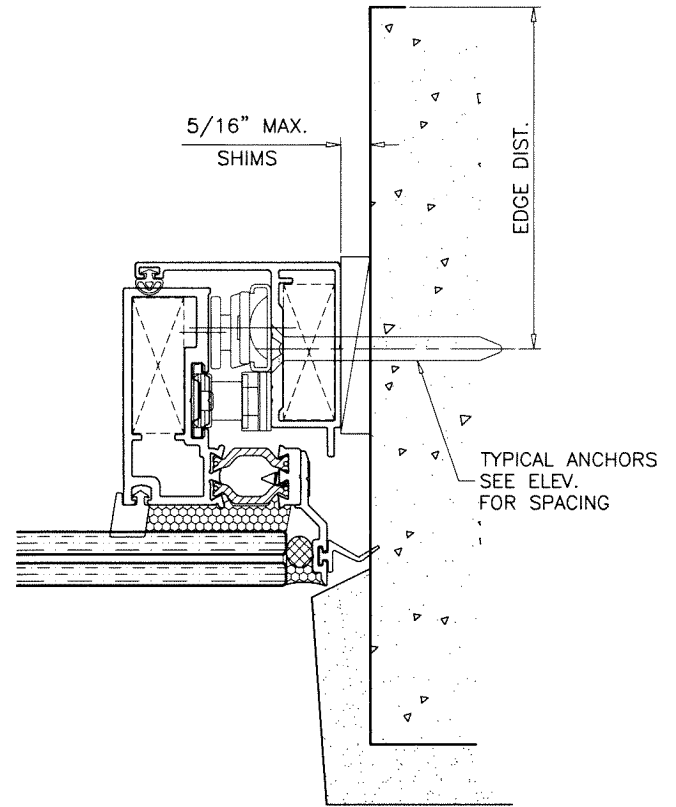
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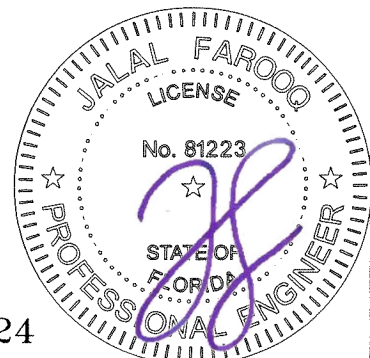
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sheet 4 of 6



FL #24524



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chk. by:			

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sheet 5 of 6

E1

FRAME HEAD/SILL/JAMB

E2

VENT

E3

FRONT TRIM

E4

EUROBAR

-

20MM OFFSET

TECATHERM® 66 GF INSULBAR
SCALE 1:1

MATERIAL = POLYAMIDE
TENSILE STRENGTH = 13031 PSI
RATE OF BURN = .752 IN./MIN.
SELF IGNITION TEMP. = 793° F
FLASH IGNITION TEMP. = 781°C
SMOKE DENSITY = 1.63

ITEM #	PART #	REQD.	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
E1	ES-PA220-001/ES-7531-001A	4	FRAME HEAD/SILL/JAMB	6063-T6	-
E2	ES-PA220-501/ES-7531-501A	4	VENT	6063-T6	-
E3	ES-PA220-412/ES-7531-412	4	FRONT TRIM	6063-T6	-
E4	ES-EUR-001	AS REQD.	EUROBAR	6063-T6	-
M1	ES-7530-G08	AS REQD.	INTERIOR SPACER	SILICONE	DUROMETER 70±5 SHORE A
M1.1	ES-W725-G06	AS REQD.	INTERIOR SPACER	SILICONE	DUROMETER 70±5 SHORE A
M2	ES-7531-G03	AS REQD.	INTERIOR W'STRIPPING	SILICONE	DUROMETER 60±5 SHORE A
M3	1355/1356	-	KEEPER SHIM	-	INTERLOCK
M4	ES-P7531-G02A	AS REQD.	WATER DEFLECTOR	SILICONE	DUROMETER 70±5 SHORE A
M5	1315-MC3	-	LOCK PLATE	ST. STEEL	-
M6	RH-1249R	-	EURO HANDLE OFFSET	-	-
M7	WPSA-N1	-	3/4" X 3/4" X 2" OPEN CELL FOAM	-	RETICULATED FOAM 30PPI
M8	0334	2/ CORNER	CORNER LOCK	CAST ALUMINUM	-
M11	-	AS REQD.	3/8" FOAM BACKER ROD	POLYETHYLENE	-
M12	80-334A	2	SETTING BLOCK	SILICONE	DUROMETER 80±5 SHORE A
M14	#10 X 1/2"	AS REQD.	BAR HINGE FASTENER	ST. STEEL	PH SMS
M15	#10 X 1/2"	AS REQD.	LOCK, HANDLE AND TRIM FASTENER	ST. STEEL	FH SMS
M16	SPT22W	-	AWNING PAIR	-	-
M17	8030-80	-	DRIVE ROD	-	AMC
M20	1409	-	FRICTION ADJUSTER	-	-
M21	8062	-	CORNER DRIVE	-	-
M22	8021	-	HANDLE CONNECTOR CENTER LOCKING	-	-
M23	1549	-	SNUBBER	-	-

SEALANT:
ALL JOINTS AND FRAME CONNECTIONS SEALED WITH
WHITE/ALUMINUM COLORED SILICONE.

Sealed: 10/23/2024

FL #24524



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W17-93

sheet 6 of 6