

WINDOWS NOT RATED FOR IMPACT.
INSTALLATION OF THIS SYSTEM OUTSIDE THE HVHZ AREA SHALL MEET
THE APPLICABLE REQUIREMENTS FOR WIND BORNE DEBRIS PROTECTION.

SERIES ES-P251 (N.I.)
ALUMINUM THERMALLY BROKEN FIXED WINDOW

DESIGN LOAD RATINGS FOR THESE WINDOWS TO BE AS PER
CHARTS SHOWN ON SHEET 2.

APPROVAL APPLIES TO SINGLE UNITS OR SIDE BY SIDE
COMBINATIONS OF FIX./FIX. OR FIXED 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 2020 (7TH EDITION)/2023 (8TH EDITION) FLORIDA
BUILDING CODE FOR NON HIGH VELOCITY HURRICANE ZONE.

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.

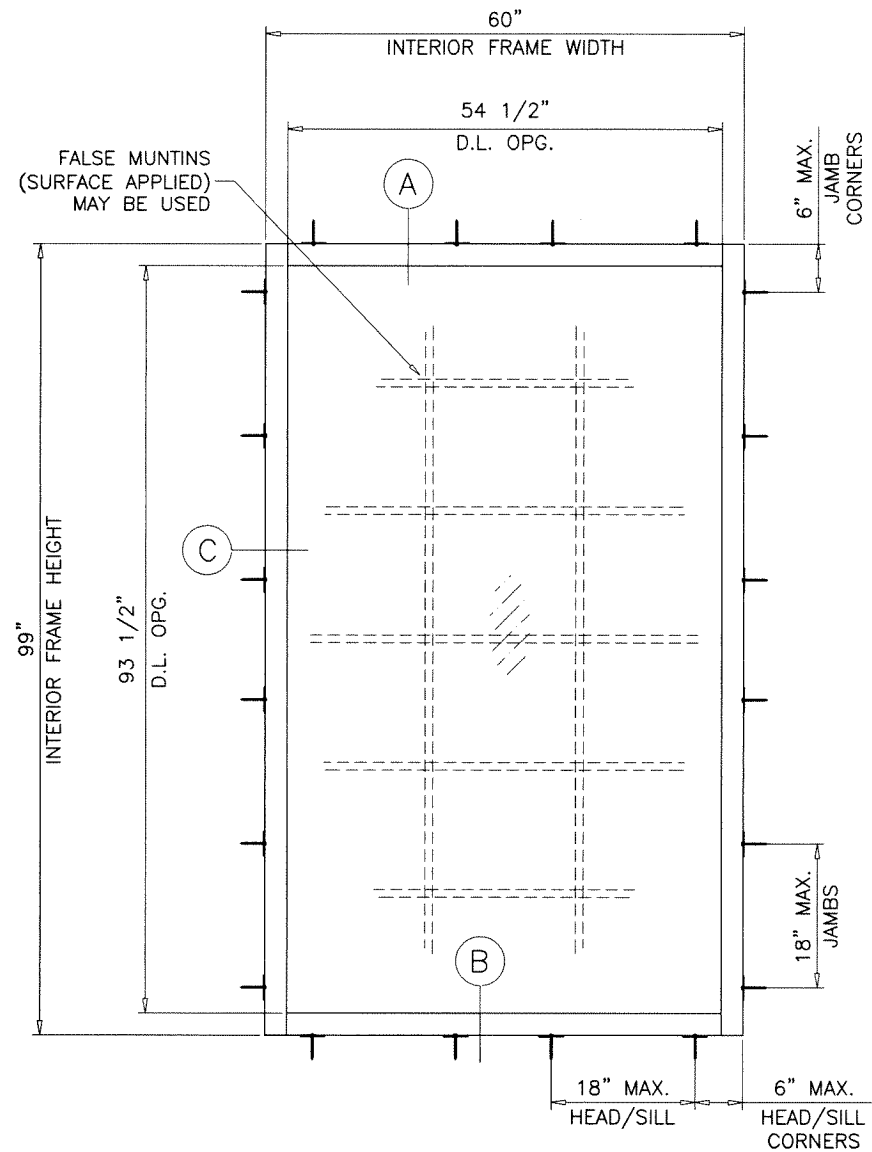
ALL SHIMS TO BE HIGH IMPACT, NON-METALLIC AND NON-COMPRESSIBLE.

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.



TYPICAL ELEVATION

Sealed: 10/9/2023

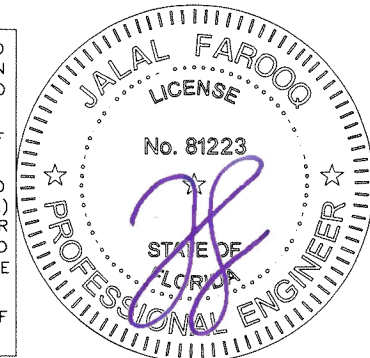
FL #19590

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

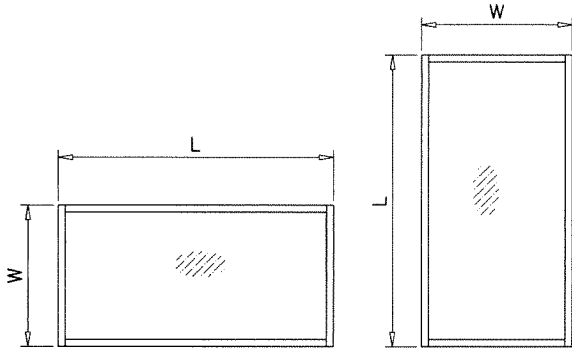
ES-P251 ALUM THERMALLY BROKEN FIXED W. (N.I.)
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:		by description	
no	date	no	date
A	10.30.20		UPDATED TO 2020 FBC
B	09.27.23		UPDATED TO 2023 FBC

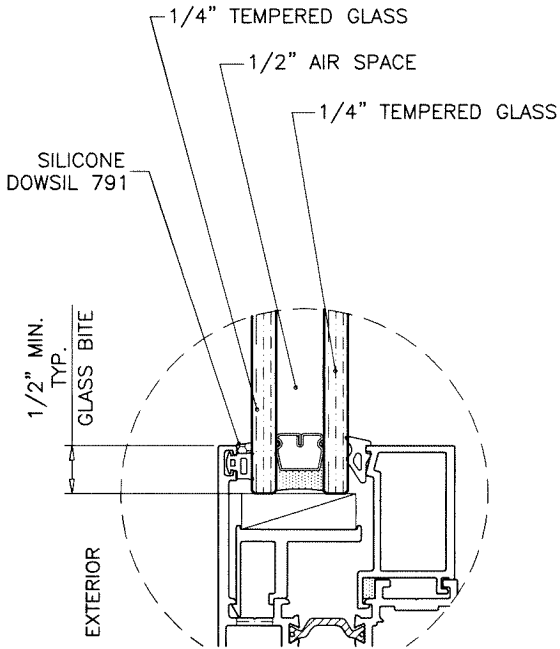
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dr. by: TARIQ
chk. by:
drawing no.
W15-107
sheet 1 of 6

DESIGN LOAD CAPACITY - PSF			
INTERIOR FRAME DIMS.		1" OVERALL INSUL. GLASS	
WIDTH	HEIGHT	EXT.(+)	INT.(-)
30"	48"	100.0	140.0
36"		100.0	116.7
42"		100.0	100.0
48"		87.5	87.5
54"		87.5	87.5
60"		87.5	87.5
66"		87.5	87.5
72"		87.5	87.5
30"	54"	100.0	135.1
36"		100.0	116.7
42"		100.0	100.0
48"		87.5	87.5
54"		77.8	77.8
60"		77.8	77.8
66"		77.8	77.8
72"		77.8	77.8
30"	60"	100.0	130.1
36"		100.0	116.2
42"		100.0	100.0
48"		87.5	87.5
54"		77.8	77.8
60"		70.0	70.0
66"		70.0	70.0
72"		70.0	70.0
30"	66"	100.0	126.3
36"		100.0	111.8
42"		100.0	100.0
48"		87.5	87.5
54"		77.8	77.8
60"		70.0	70.0
66"		63.6	63.6
72"		63.6	63.6
30"	72"	100.0	123.3
36"		100.0	108.4
42"		98.4	98.4
48"		87.5	87.5
54"		77.8	77.8
60"		70.0	70.0
66"		63.6	63.6
72"		58.3	58.3
30"	78"	100.0	120.8
36"		100.0	105.7
42"		95.4	95.4
48"		87.5	87.5
54"		77.8	77.8
60"		70.0	70.0
66"		63.6	63.6
72"		58.3	58.3

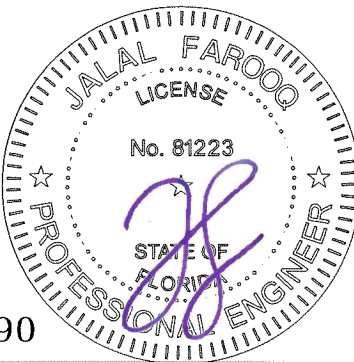
DESIGN LOAD CAPACITY - PSF			
INTERIOR FRAME DIMS.		1" OVERALL INSUL. GLASS	
WIDTH	HEIGHT	EXT.(+)	INT.(-)
30"	84"	100.0	118.8
36"		100.0	103.5
42"		92.9	92.9
48"		85.4	85.4
54"		77.8	77.8
60"		70.0	70.0
66"		63.6	63.6
30"	90"	100.0	117.1
36"		100.0	101.6
42"		90.9	90.9
48"		83.2	83.2
54"		77.4	77.4
60"		70.0	70.0
66"		63.6	63.6
30"	96"	100.0	115.6
36"		100.0	100.1
42"		89.2	89.2
48"		81.3	81.3
54"		75.4	75.4
60"		70.0	70.0
66"		70.0	70.0
30"	102"	100.0	114.4
36"		98.7	98.7
42"		87.8	87.8
48"		79.7	79.7
54"		73.7	73.7
60"		70.0	70.0
66"		70.0	70.0
30"	108"	100.0	113.3
36"		97.6	97.6
42"		86.5	86.5
48"		78.4	78.4
54"		72.3	72.3
60"		70.0	70.0
66"		70.0	70.0
30"	114"	100.0	112.4
36"		96.6	96.6
42"		85.4	85.4
48"		77.2	77.2
60"		70.0	70.0
66"		70.0	70.0
72"		70.0	70.0
30"	120"	100.0	111.5
36"		95.7	95.7
42"		84.5	84.5
48"		76.2	76.2
60"		70.0	70.0
66"		70.0	70.0
72"		70.0	70.0



NOTE:
WIDTH AND LENGTH DIMENSIONS CAN BE ORIENTED
VERTICALLY OR HORIZONTALLY AS SHOWN ABOVE.



GLAZING DETAIL
1" OVERALL INSUL. GLASS



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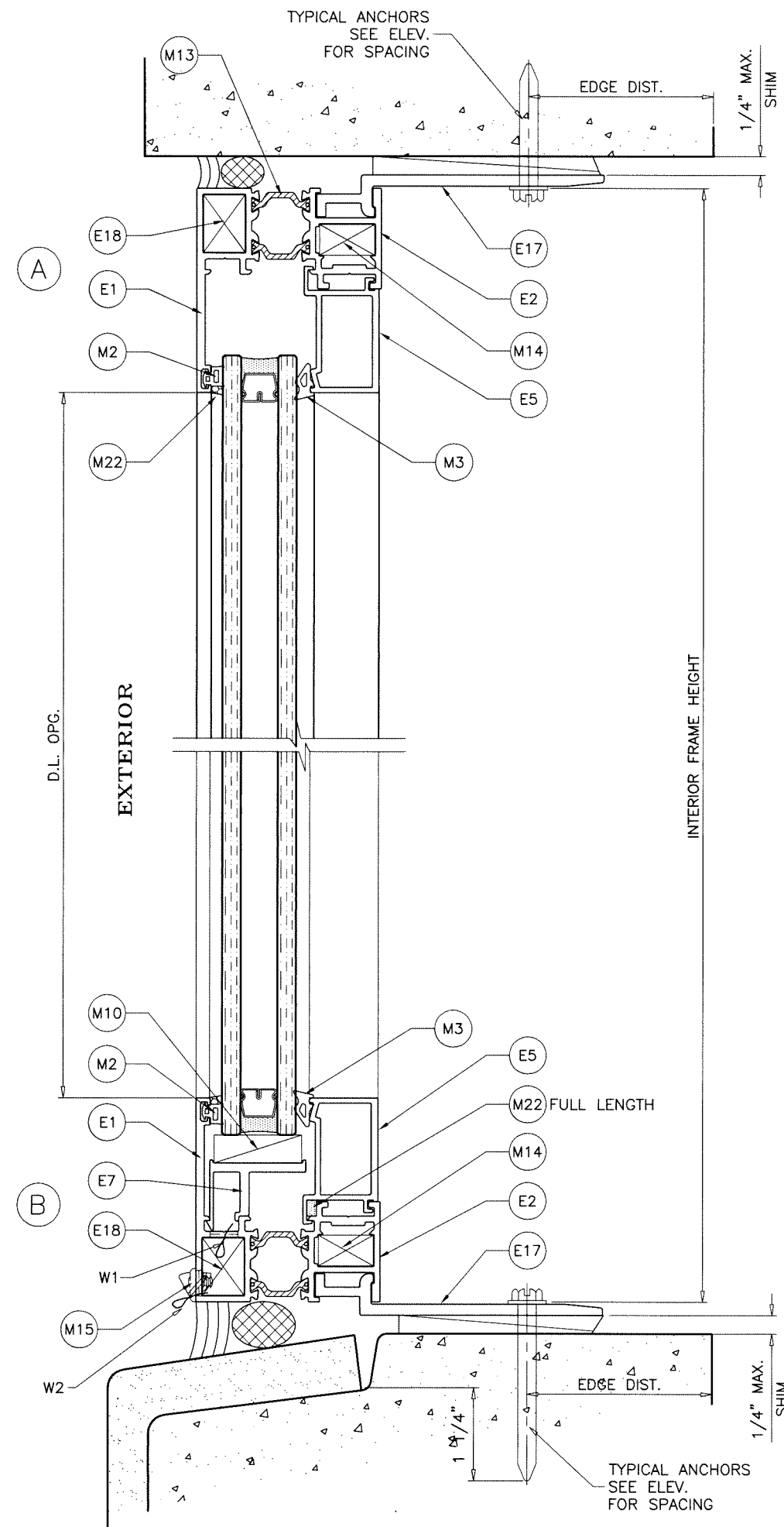
NOTE:
GLASS CAPACITIES ON THIS SHEET ARE
BASED ON ASTM E1300-09 (3 SEC. GUSTS).

FL #19590

afcc
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COMP-ANL\W15-107ESW

ES-P251 ALUM THERMALLY BROKEN FIXED W. (N.I.)
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W15-107
sheet 2 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' ($F_u=190$ KSI, $F_y=127$ KSI)
1/4" DIA. ULTRA-CON+ BY 'DEWALT' ($F_u=164$ KSI, $F_y=148$ KSI)
 INTO 2BY WOOD BUCKS OR WOOD STRUCTURES
 1-1/2" MIN. PENETRATION INTO WOOD (HEAD/SILL/JAMBS)
 THRU 1BY BUCKS INTO CONC. OR MASONRY
 1-1/4" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)
 1-1/4" MIN. EMBED INTO MASONRY (JAMBS)
 DIRECTLY INTO CONC. OR MASONRY
 1-1/4" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)
 1-3/4" MIN. EMBED INTO FILLED BLOCKS (JAMBS)

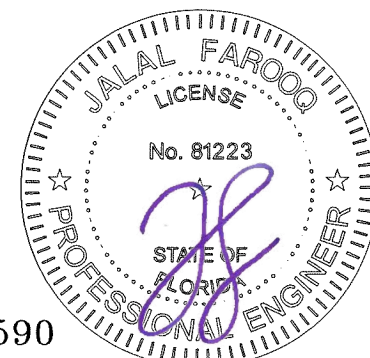
1/4" DIA. BI-FLEX 300 SELF DRILLING SCREWS BY 'DEWALT'
1/4" DIA. DRIL-FLEX SELF DRILLING SCREWS BY 'DEWALT' (GRADE 5 CRS)
 INTO F.B.C. APPROVED MULLIONS (MIN. THK. = 1/8")
 INTO METAL STRUCTURES
 STEEL : 1/8" THK. MIN. ($F_y = 36$ KSI MIN.)
 ALUMINUM : 1/8" THK. MIN. (6063-T5 MIN.)
 (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

ANCHOR EDGE DISTANCES
 INTO CONCRETE AND MASONRY = 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 GROUT FILLED BLOCK AT JAMBS $f'_m = 2000$ PSI MIN.

WEEPHOLES:
 W1 = 1/4" X 1-1/4" WEEPHOLES AT 6" FROM EACH END
 W2 = 1/4" X 1-1/4" WEEPHOLES WITH PLASTIC BAFFLE
 AT 6" FROM EACH END

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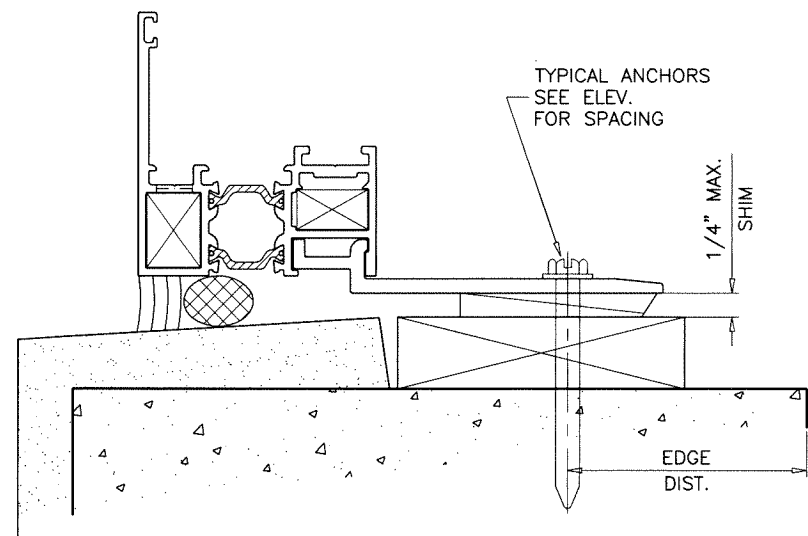
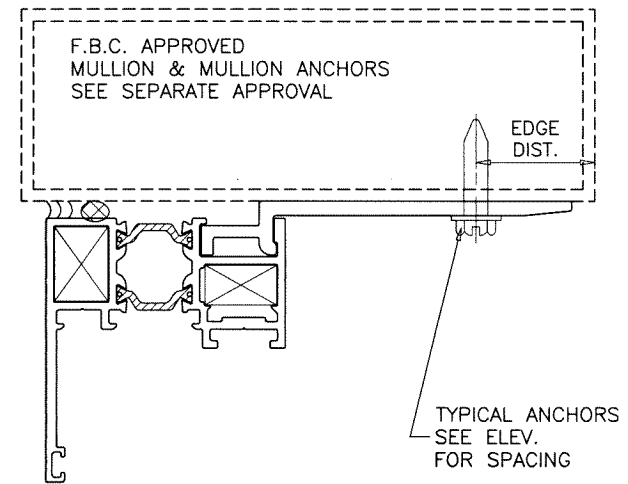
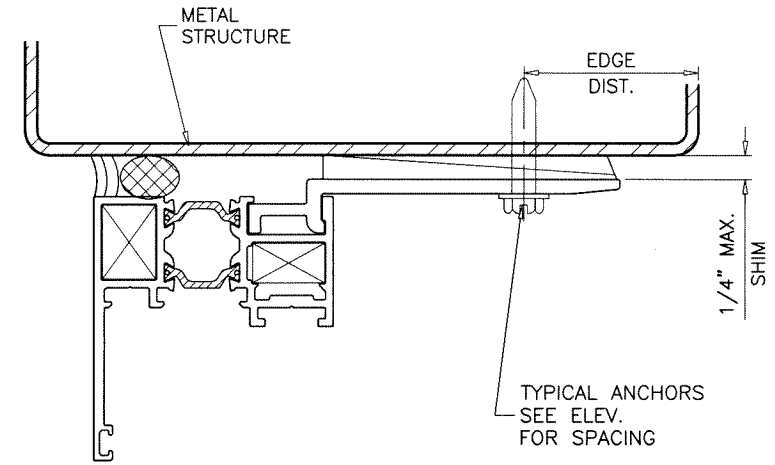
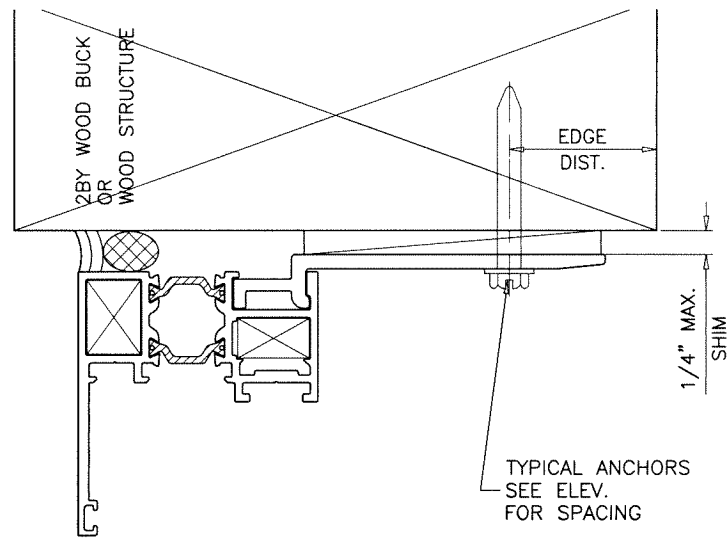
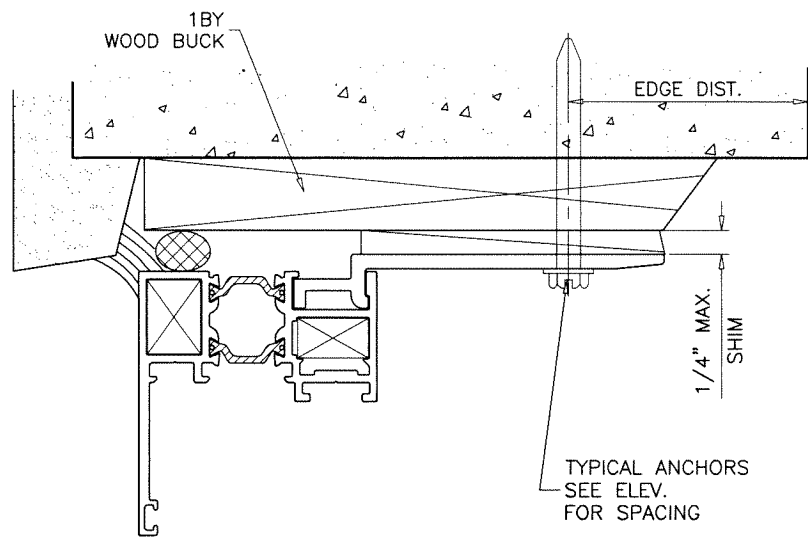
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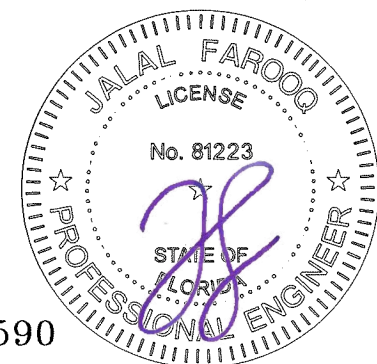
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drawing no.
W15-107
 sheet 3 of 6



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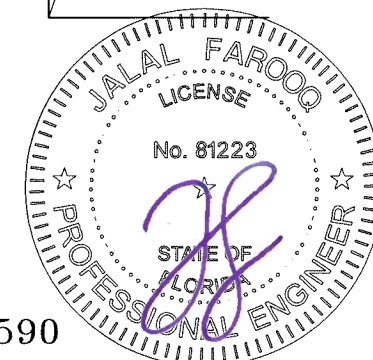
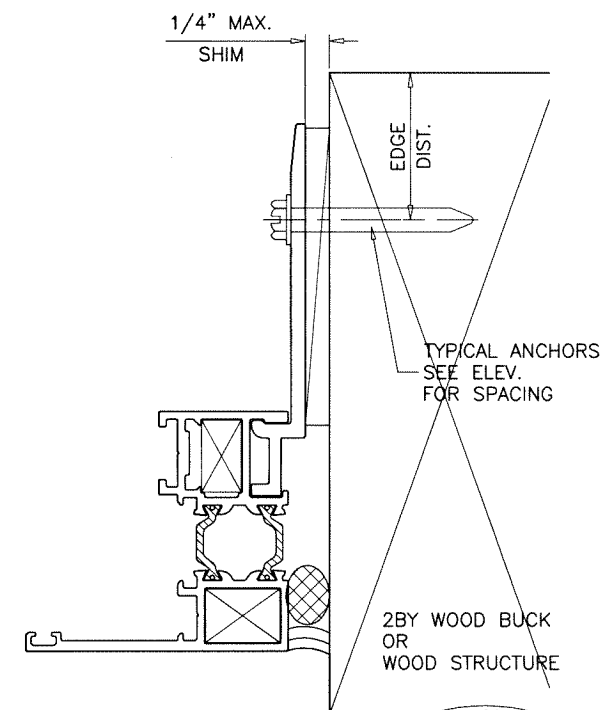
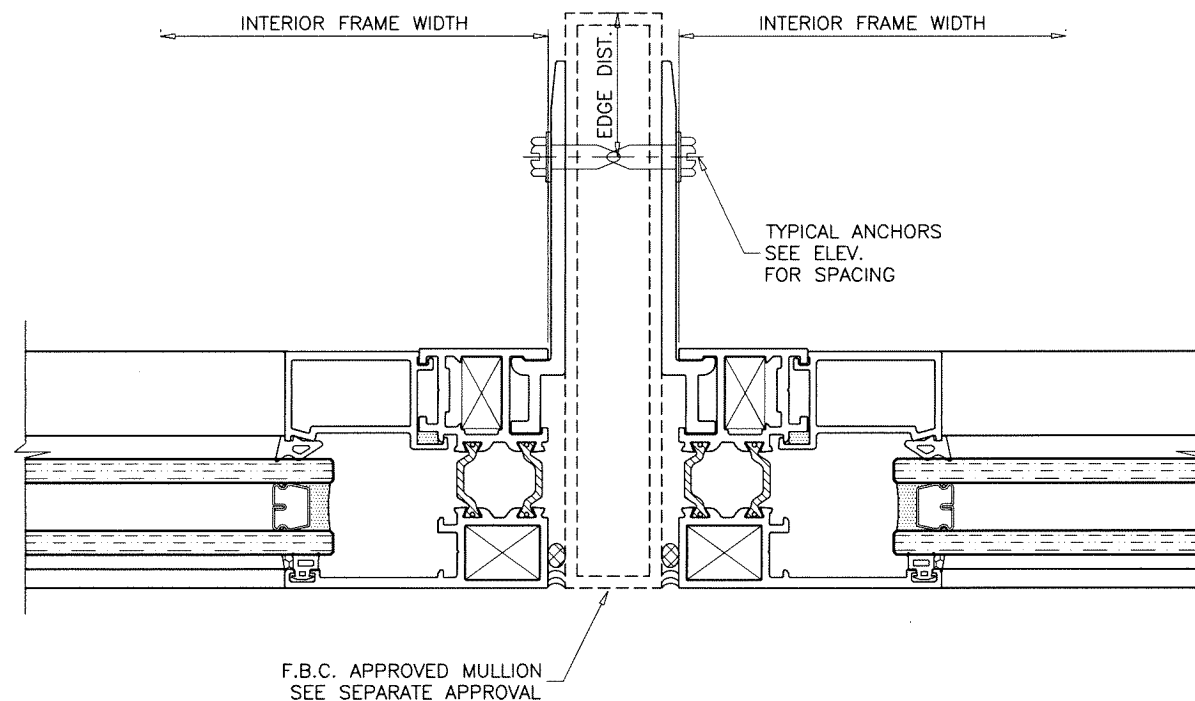
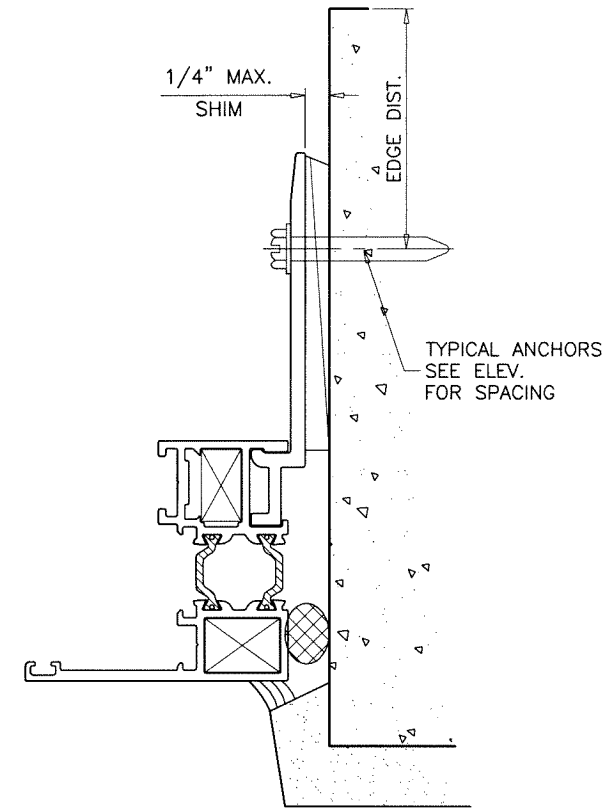
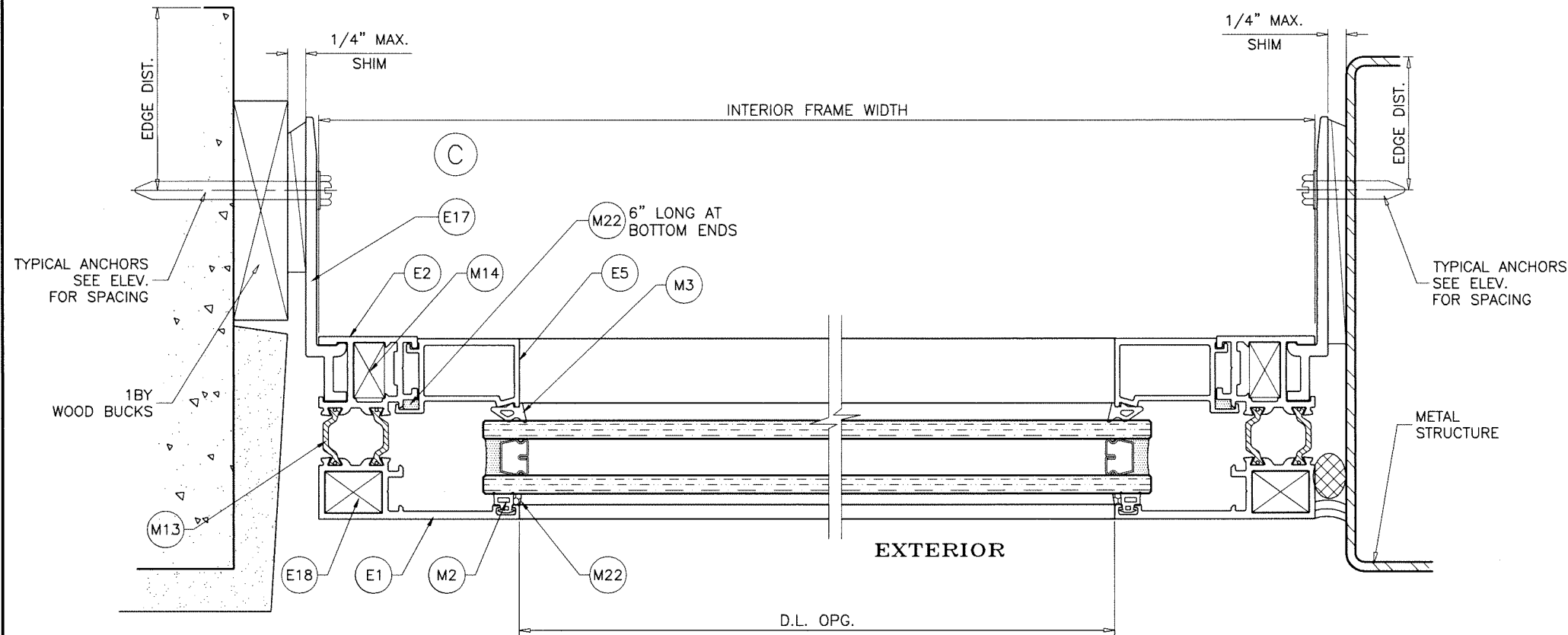
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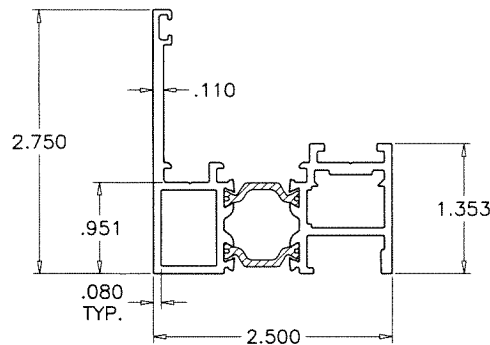
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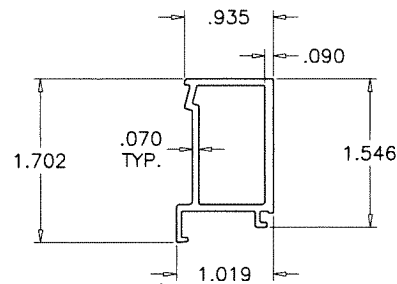
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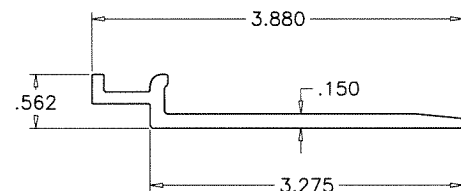
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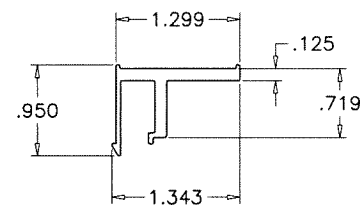
E1 WINDOW FRAME



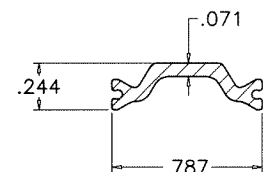
E5 GLASS STOP



E17 STRAP ANCHOR



E7 SETTING CHAIR



M13 20MM OFFSET

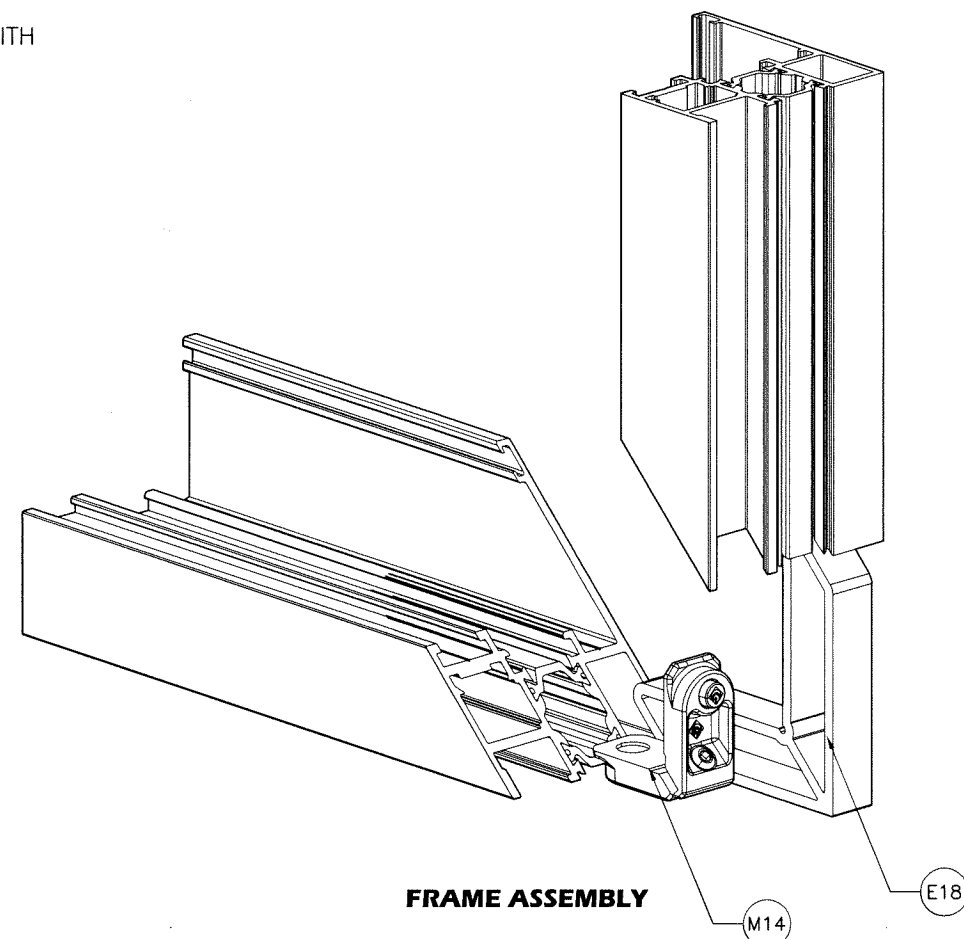
TECATHERM® 66 GF INSULBARS
SCALE 1:1

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

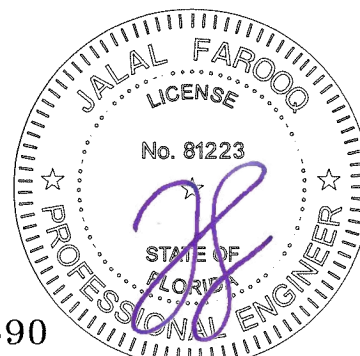
ITEM #	PART #	REQD.	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
E1	ES-P251-001	4	WINDOW FRAME	6063-T6	-
E2	ES-P251-002	4	WINDOW FRAME	6063-T6	-
E5	ES-P251-005	4	GLASS STOP	6063-T5	-
E7	ES-P251-007	1	SETTING CHAIR	6063-T5	-
E17	ES-P251-017	AS REQD.	STRAP ANCHOR, 4" LONG	6005-T5	-
E18	ES-P251-018	AS REQD.	CORNER KEY	6063-T6	-
M01	ES-P251-G02	AS REQD.	GLAZING GASKET (EXTERIOR)	EPDM	TREMCO TR-19619SW, DUROMETER 70±5 SHORE A
M02	ES-P251-G03	AS REQD.	GLAZING GASKET (INTERIOR)	EPDM	TREMCO TR-3234E, DUROMETER 70±5 SHORE A
M10	ES-P251-B02	AS REQD.	SETTING BLOCK, 4" LONG, AT 1/4 POINTS	EPDM	SOLUCIONES EN CAUCHO, DUROMETER 80±5 SHORE A
M13	2479	AS REQD.	INSULBAR 20MM OFFSET	POLYAMIDE	ENSINGER
M14	0337	1/ CORNER	CORNER JOINT	CAST ALUMINUM	MASTER
M15	WA2L	2	WEEP COVER	PLASTIC	-
M22	791	-	GLAZING COMPOUND	SILICONE	DOW CORNING

SEALANT:

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



FRAME ASSEMBLY



Sealed: 10/9/2023

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