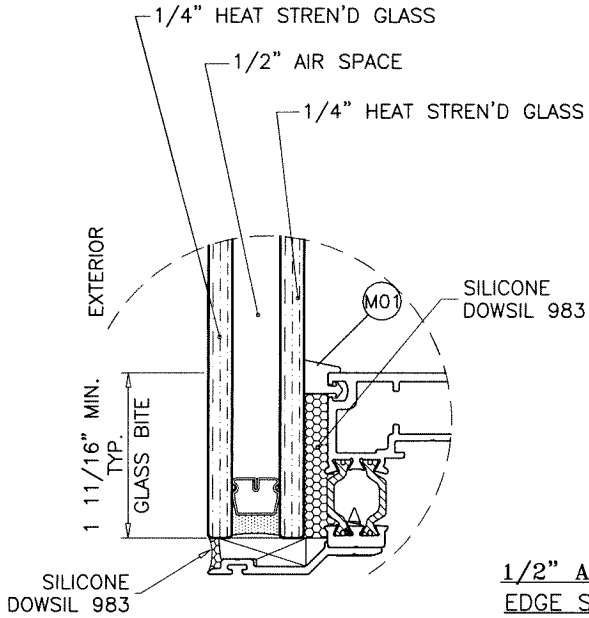


DESIGN LOAD CAPACITY - PSF FOR (X) SIZES

WINDOW DIMS.		1" OVERALL INSUL. GLASS	
WIDTH	HEIGHT	EXT.(+)	1NT.(-)
24"	36"	82.5	82.5
30"		82.5	82.5
34"		82.5	82.5
36"		82.5	82.5
39"		79.2	79.2
42"		73.5	73.5
24"	42"	82.5	82.5
30"		82.5	82.5
34"		82.5	82.5
36"		82.5	82.5
39"		82.5	82.5
42"		73.5	73.5
24"	48"	82.5	82.5
30"		82.5	82.5
34"		82.5	82.5
36"		82.5	82.5
39"		79.1	79.1
42"		73.5	73.5
24"	54"	82.5	82.5
30"		82.5	82.5
34"		80.7	80.7
36"		76.2	76.2
39"		70.3	70.3
42"		65.3	65.3
24"	60"	82.5	82.5
30"		82.3	82.3
34"		72.6	72.6
36"		68.6	68.6
39"		63.3	63.3
42"		58.8	58.8
24"	63"	82.5	82.5
30"		78.4	78.4
34"		69.1	69.1
36"		65.3	65.3
39"		60.3	60.3
42"		56.0	56.0
24"	66"	82.5	82.5
30"		74.8	74.8
34"		66.0	66.0
36"		62.3	62.3
39"		57.5	57.5
24"	72"	80.5	82.5
30"		67.7	68.6
34"		60.5	60.5
36"		57.1	57.1
24"	78"	73.1	77.2
30"		61.3	62.9
34"		55.8	55.8

NOTE:
GLASS CAPACITIES ON THIS SHEET ARE
BASED ON ASTM E1300-16 (3 SEC. GUSTS)
AND FLORIDA BUILDING COMMISSION
DECLARATORY STATEMENT DCA05-DEC-219



GLAZING DETAIL
1" OVERALL INSUL. GLASS

1/2" AIR SPACE CONSISTING OF:
EDGE SPACER:
'HELIMA' LOW PROFILE ALUMINUM SPACER
BY 'LINGERMANN GMBH'
AROUND THE PERIMETER OF THE GLASS.
EDGE SEALANT FOR SSG GLASS (W/O PRESS PLATE):
1/4" HIGH SILICONE MIN.
ULTIMATE TENSILE STRENGTH PER ASTM C1135=150 PSI MIN.
ALTERNATE CAN BE DESIGNED BY THE EOR.

SERIES ES-PA220 (N.I.)
ALUMINUM THERMALLY BROKEN CASEMENT WINDOW

DESIGN LOAD RATINGS FOR THESE WINDOWS TO BE AS PER
CHART SHOWN ABOVE.

APPROVAL APPLIES TO SINGLE UNITS OR SIDE BY SIDE
COMBINATIONS OF CASMT./CASMT. OR CASEMENT 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)/2026 (9TH 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.

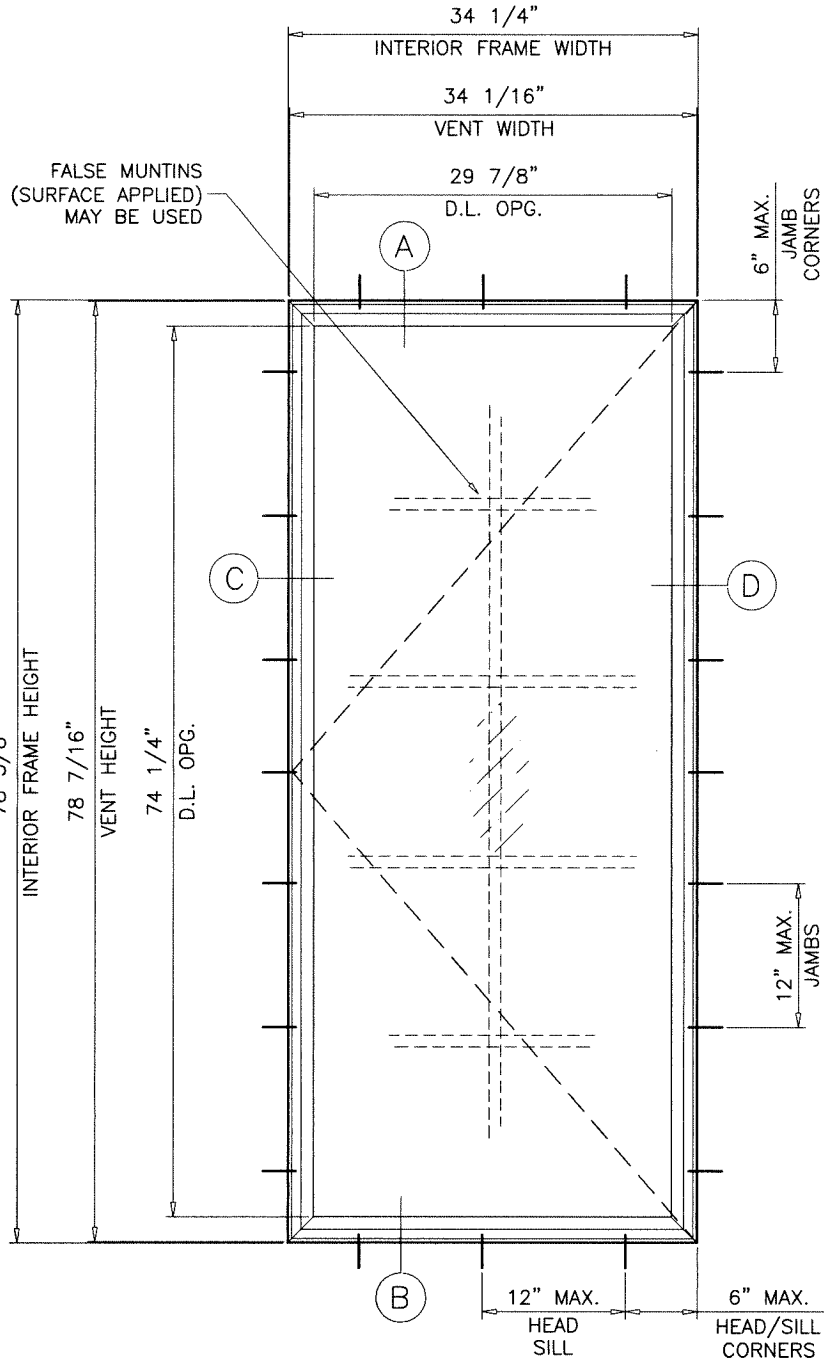
ALL SHIMS TO BE LOAD-BEARING, (HIGH DENSITY PLASTIC/COMPOSITE, METAL
OR OTHER RIGID MATERIALS).

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)'.

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: 9/24/2026

TYPICAL ELEVATION
TESTED UNIT

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.

WINDOWS NOT RATED FOR IMPACT.

INSTALLATION OF THIS SYSTEM OUTSIDE THE HVHZ AREA SHALL MEET
THE APPLICABLE REQUIREMENTS FOR WIND BORNE DEBRIS PROTECTION.

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.



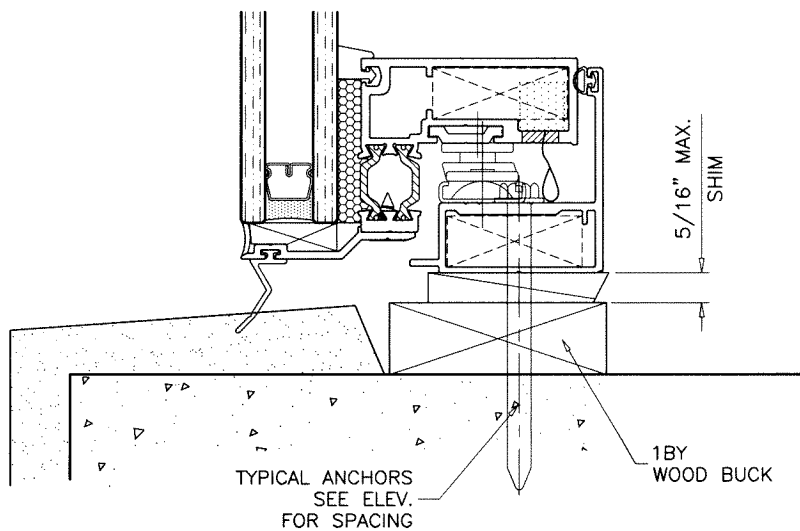
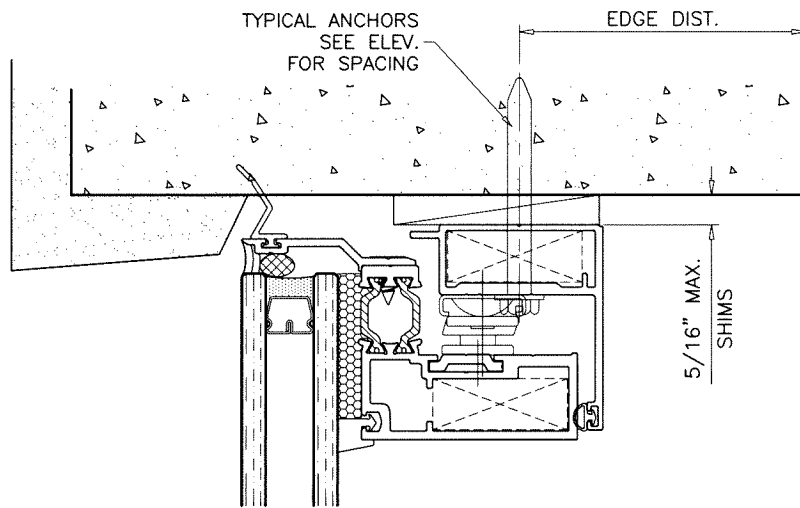
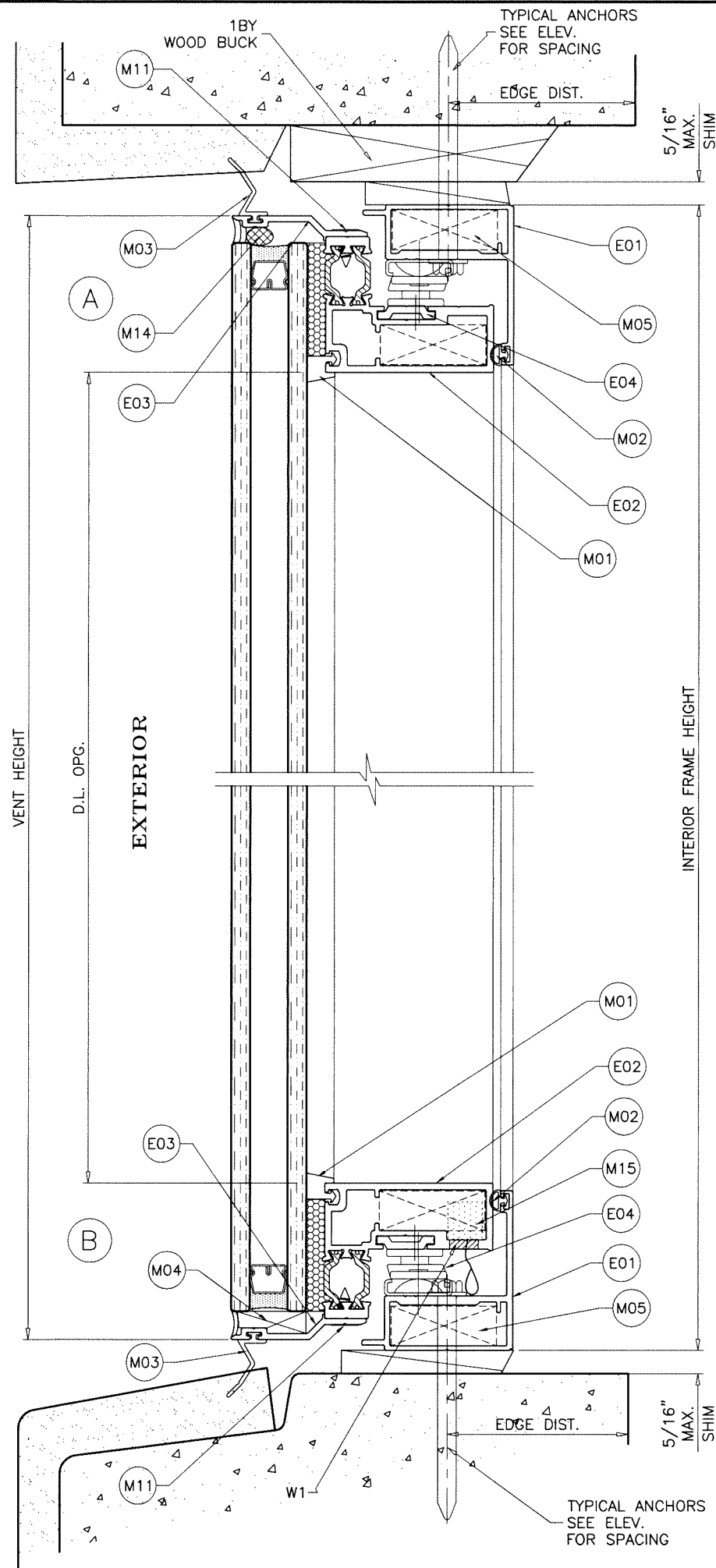
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\W15-101ESW

ES-PA220 ALUM THERMALLY BROKEN CASEMENT W. (N.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
	C	09/27/23		UPDATED TO 2023 FBC
	D	04/26/24		EXTRUSIONS WALL THK. REV.
	E	10/01/24		SERIES NUMBER REV.
	F	09/23/26		UPDATED TO 2026 FBC

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scale: 3/4"=1'-0"
dr. by: TARIQ
chk. by:

drawing no.
W15-101
sheet 1 of 5

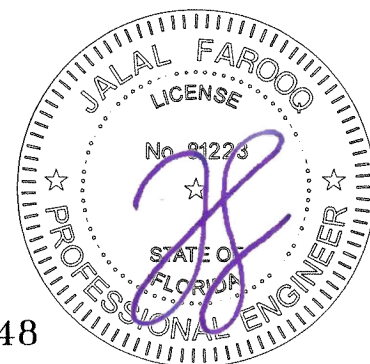


WEEPHOLES:

W1 = 3/8" DIA. WEEPHOLE AT 10" FROM EACH END

Sealed: 9/24/2026

FL #20348



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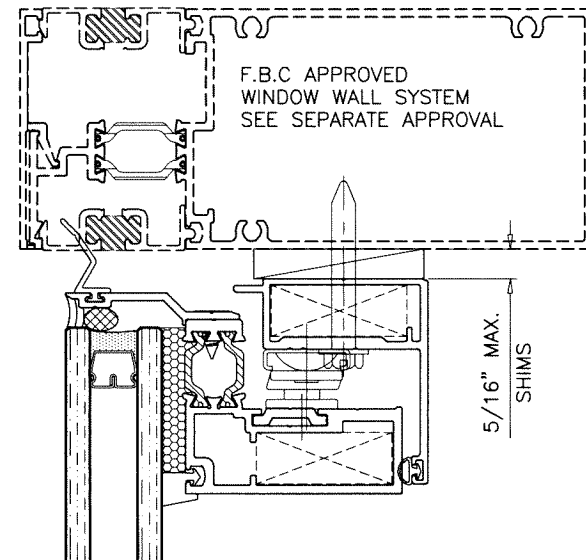
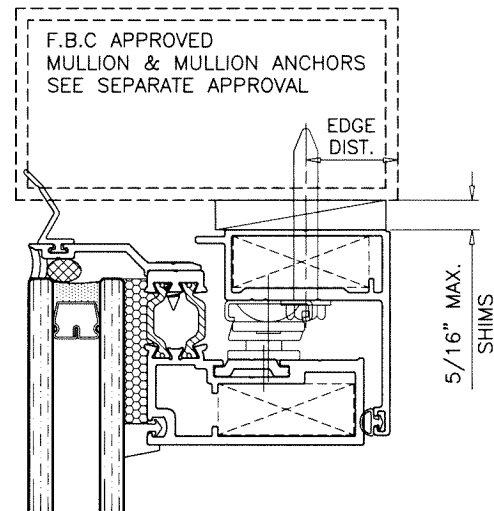
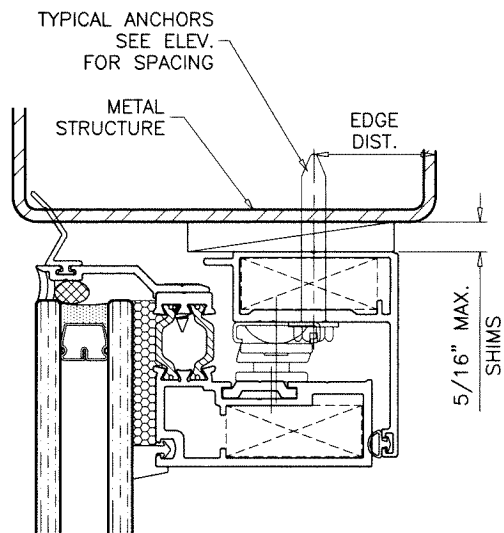
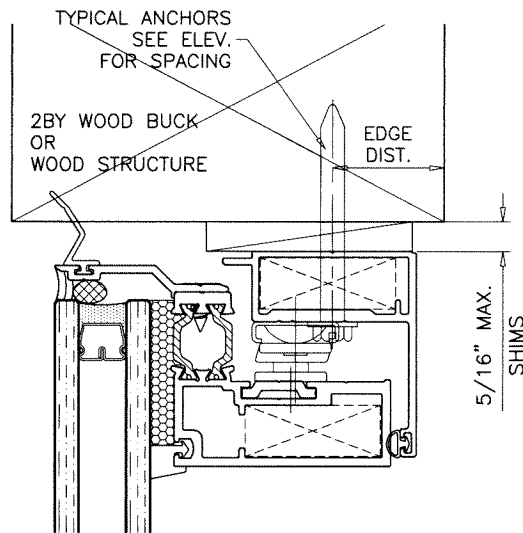
revisions:
 no date by description

date: 11-16-15
 scale: 1/2" = 1"
 dr. by: TARIQ
 chk. by:

drawing no.

W15-101

sheet 2 of 5



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

2" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)

2" MIN. EMBED INTO 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.)

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.

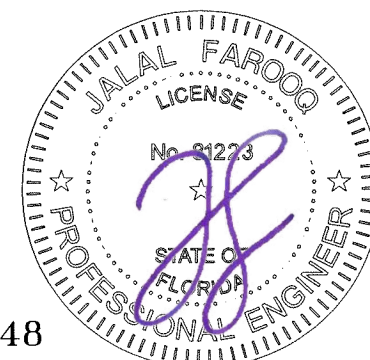
INTO METAL STRUCTURE = 3/4" MIN.

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: 9/24/2026



FL #20348

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MIAMI, FL. 33142

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MIAMI, FLORIDA 33173
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(C.A.N. 3538)

COMP-ANL\W15-101ESW

revisions:

date: 11-16-15

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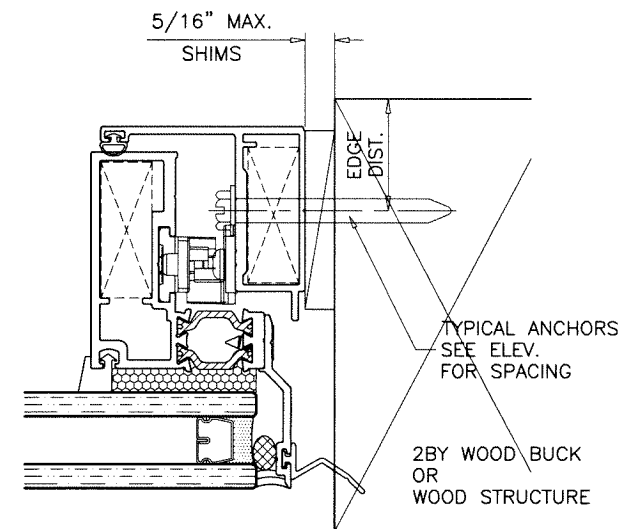
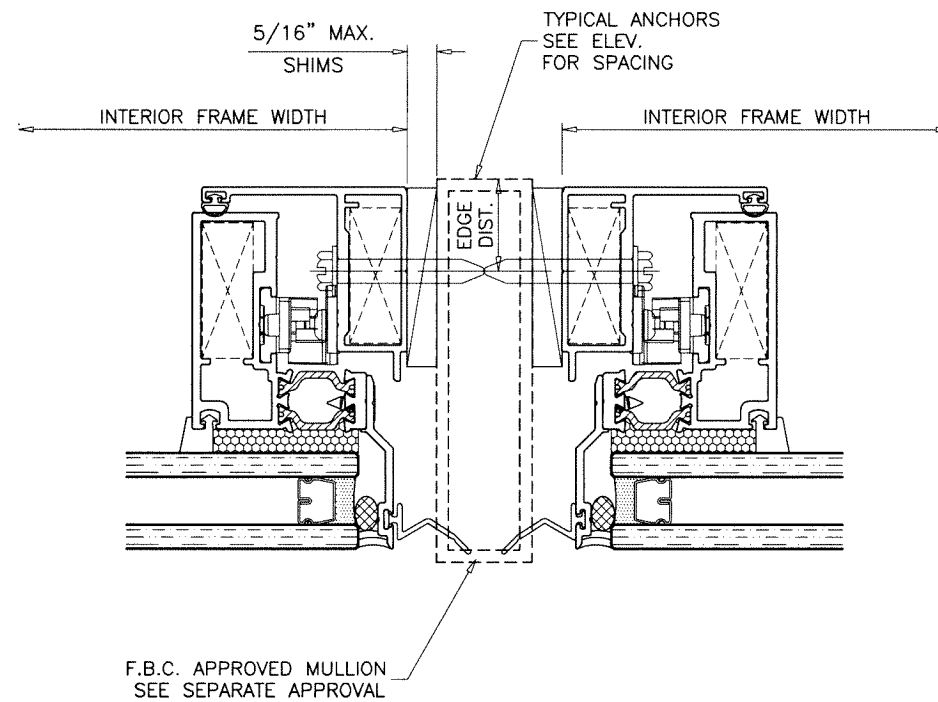
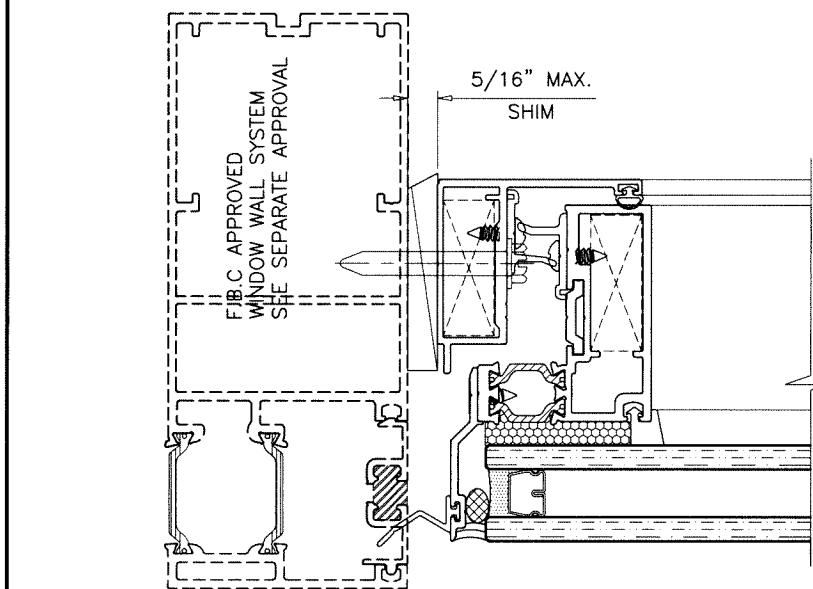
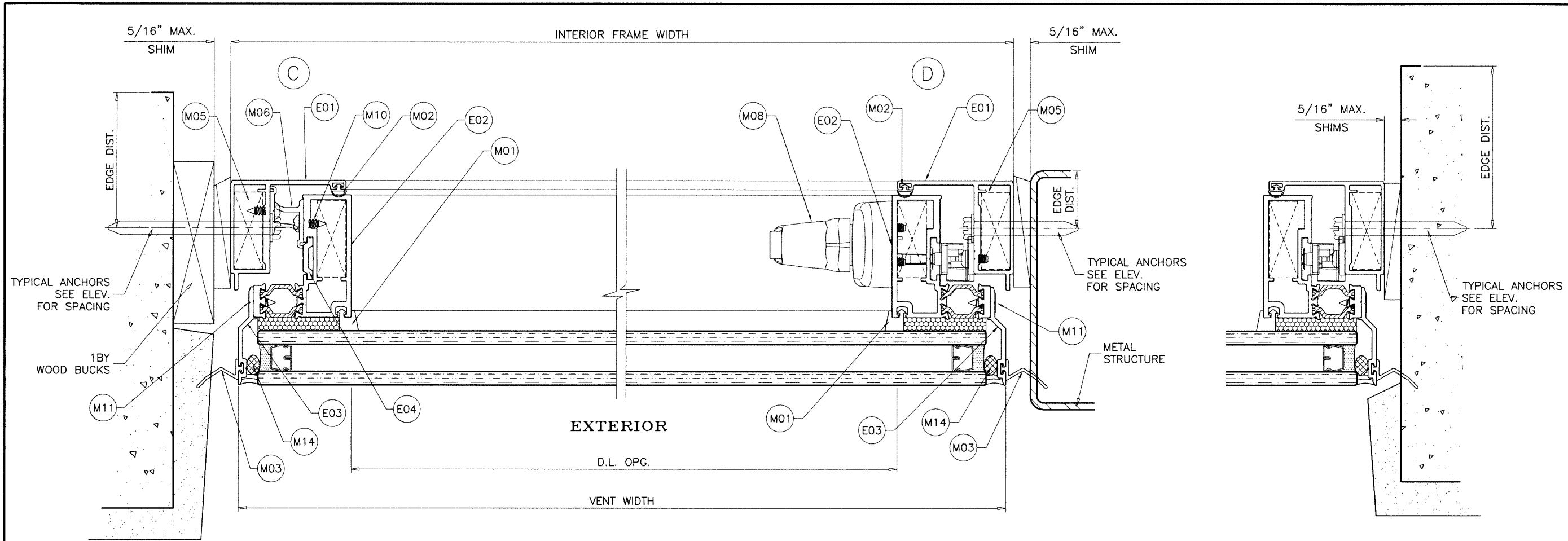
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chk. by:

drawing no.

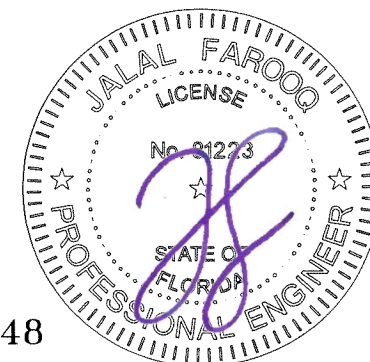
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sheet 3 of 5



Sealed: 9/24/2026

FL #20348



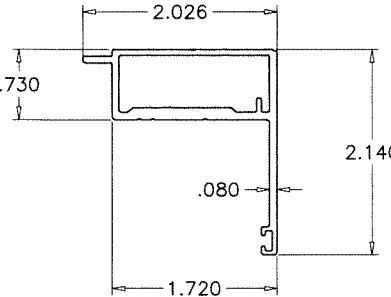
af c
AL-FAROOQ CORPORATION
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 9360 SUNSET DRIVE, SUITE 220 (C.A.N. 3538)
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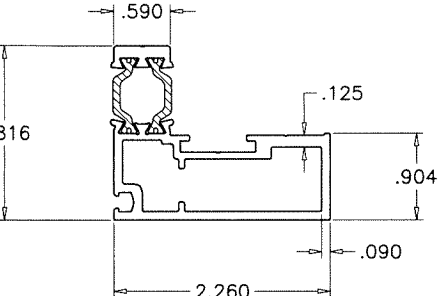
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 dr. by: TARIQ
 chk. by:

drawing no.
W15-101
 sheet 4 of 5



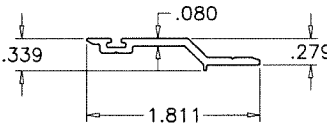
E01

FRAME HEAD/SILL/JAMB



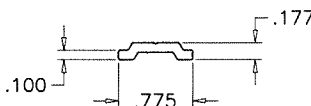
E02

VENT



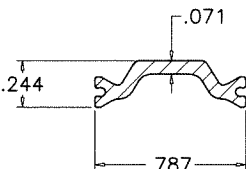
E03

FRONT TRIM



E04

EUROBAR



—

20MM OFFSET

TECATHERM® 66 GF INSULBAR
SCALE 1:1

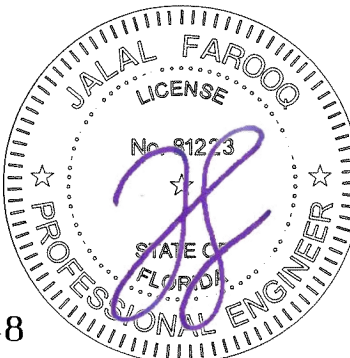
MATERIAL = POLYAMIDE
TENSILE STRENGTH = 13031 PSI
RATE OF BURN = .752 IN./MIN.
SELF IGNITION TEMP. = 793° F
FLASH IGNITION TEMP. = 781°C
SMOKE DENSITY = 1.63

ITEM #	PART #	REQD.	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
E01	ES-PA220-001/ES-7531-001A	4	FRAME HEAD/SILL/JAMB	6063-T6	—
E02	ES-PA220-501/ES-7531-501A	4	VENT	6063-T6	—
E03	ES-PA220-003/ES-7531-003	4	FRONT TRIN	6063-T6	—
E04	ES-EUR-001	AS REQD.	EUROBAR	6063-T6	—
M01	ES-U3525-G08A	AS REQD.	INTERIOR SPACER	SILICONE	DUROMETER 70±5 SHORE A
M02	ES-7530-G10	AS REQD.	BULB SSG	EPDM	DUROMETER 60±5 SHORE A
M2B	ES-P7531-G01	AS REQD.	WIPER BLADE	SILICONE	DUROMETER 60±5 SHORE A
M03	ES-P7531-G02	AS REQD.	WATER DEFLECTOR	SILICONE	DUROMETER 70±5 SHORE A
M04	ES-P7531-B01	2	SETTING BLOCK	SILICONE	—
M05	0334	2/ CORNER	CORNER LOCK	CAST ALUMINUM	—
M06	WS-100	AS REQD.	SNUBBERS, AT 1/4 POINT OF FRAME	CAST ALUMINUM	—
M07	—	2	4 BAR HINGE	ST. STEEL	—
M08	—	—	4 POINT LOCK	—	INTERLOCK
M09	220SS 5" TKBAR	—	LIMIT DEVICE	ST. STEEL	—
M10	#8 X 1/2"	AS REQD.	SNUBBER AND WINDOW RESTRICTOR FASTENER	ST. STEEL	PH SMS
M11	#10 X 1/2"	AS REQD.	LOCK, HANDLE AND TRIM FASTENER	ST. STEEL	FH SMS
M12	#10 X 1/2"	AS REQD.	BAR HINGE AND LOCK FASTENER	ST. STEEL	PH SMS
M14	—	AS REQD.	1/4" FOAM BACKER ROD	POLYETHYLENE	—
M15	WPSA-N1	—	3/4" X 3/4" X 2" OPEN CELL FOAM	—	—
M16	#12 X 1-1/2"	—	ASSEMBLY FASTENERS	ST. STEEL	HWH SMS

SEALANT:

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

Sealed: 9/24/2026



FL #20348



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revisions:

no	date	by	description

date: 11-16-15

scale: 1/2" = 1"

dr. by: TARIQ

chk. by:

drawing no.

W15-101

sheet 5 of 5