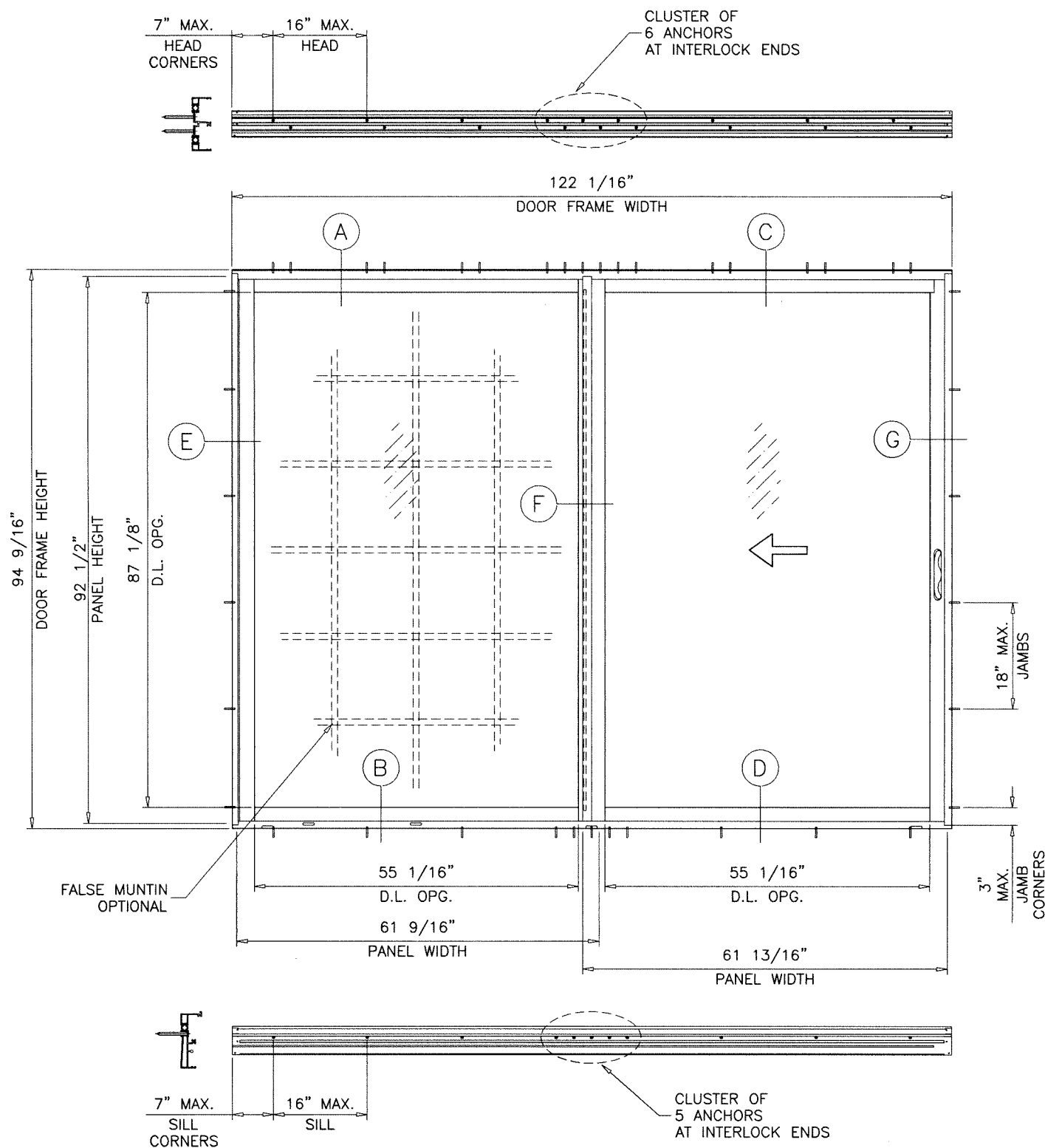




TYPICAL ELEVATION

OX
XO

DAYLITE OPENINGS WIDTHS:
FIX. PANEL WIDTH - 6.50"
MOV. PANEL WIDTH - 6.750"

DAYLITE OPENING HEIGHT:
PANEL HEIGHT - 5.375"

PANEL HEIGHT = DOOR FRAME HEIGHT - 2.0625"

DOORS NOT RATED FOR IMPACT.
INSTALLATION OF THIS PRODUCT IN THE HVHZ AREA REQUIRES THE USE OF APPROVED SHUTTERS OR EXTERNAL PROTECTION DEVICES COMPLYING WITH HVHZ REQUIREMENTS.
INSTALLATION OF THIS SYSTEM OUTSIDE THE HVHZ AREA SHALL MEET THE APPLICABLE REQUIREMENTS FOR WIND BORNE DEBRIS PROTECTION.

**SERIES ES-SD450 (N.I.)
ALUMINUM THERMALLY BROKEN SLIDING GLASS DOOR**

DESIGN LOAD RATING FOR DOORS TO BE AS PER CHARTS SHOWN ON SHEET 2.

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 2023 (8TH EDITION)/2026 (9TH 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 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)'.

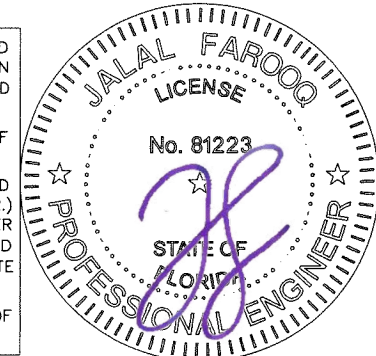
MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION IN ACCORDANCE WITH SECTION 1709.9.3 OF FLORIDA BUILDING CODE.
LABELING TO COMPLY WITH SECTION 1709.9.2.

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.

Sealed: 9/15/2026

FL #19073

- 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.



ES-SD450 ALUM THERMALLY BROKEN S.G.D. (N.I.)

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

no	date	by	description
A	02.02.18		UPDATED TO 2017 FBC
B	02.12.21		UPDATED TO 2020 FBC
C	09.27.23		UPDATED TO 2023 FBC
D	09.09.26		UPDATED TO 2026 FBC

date: 10-07-15
scale: 1/2"=1'-0"
dr. by: TARIQ
chk. by:

drawing no.

W15-75

sheet 1 of 8

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

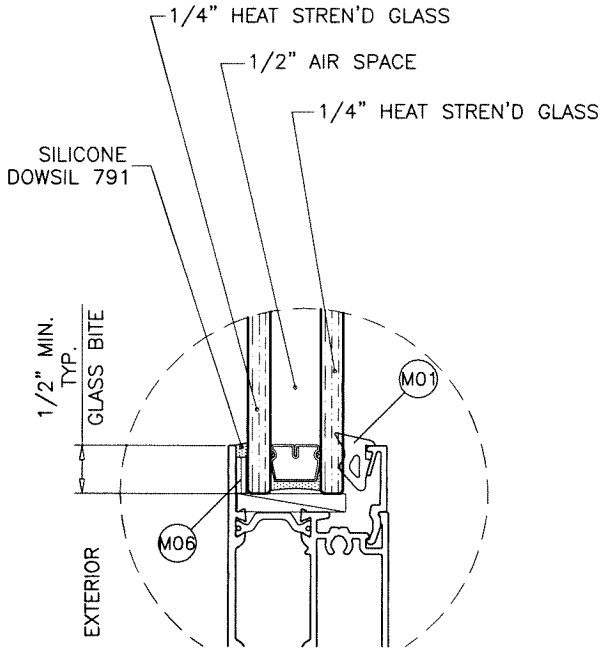
COMP-ANL\W15-75ESW

DESIGN LOAD CAPACITY - PSF			
AVERAGE PANEL WIDTH INCHES	DOOR FRAME HEIGHT INCHES	1" OVERALL INSUL. GLASS	
		EXT.(+)	INT.(-)
30	82	97.2	97.2
36		84.8	84.8
42		76.3	76.3
48		70.2	70.2
54		65.8	65.8
61-1/32		62.6	62.6
30	84	94.4	94.4
36		82.3	82.3
42		73.9	73.9
48		67.9	67.9
54		63.5	63.5
61-1/32		60.3	60.3
30	90	86.9	86.9
36		75.4	75.4
42		67.4	67.4
48		61.7	61.7
54		57.4	57.4
61-1/32		54.3	54.3
30	96	80.4	80.4
36		69.6	69.6
42		62.0	62.0
48		56.5	56.5
54		51.7	51.7
61-1/32		48.1	48.1

LOADS SHOWN IN CHART ABOVE ARE FOR INSTALLATIONS WHERE WATER INFILTRATION RESISTANCE IS NOT REQUIRED.

LIMIT ALL EXT.(+) LOADS TO 41.6 PSF FOR INSTALLATIONS WHERE WATER INFILTRATION RESISTANCE IS REQUIRED.

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



GLAZING DETAIL
1" OVERALL INSUL. GLASS

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: 9/15/2026

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



FL #19073

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revisions:	no	date	by	description

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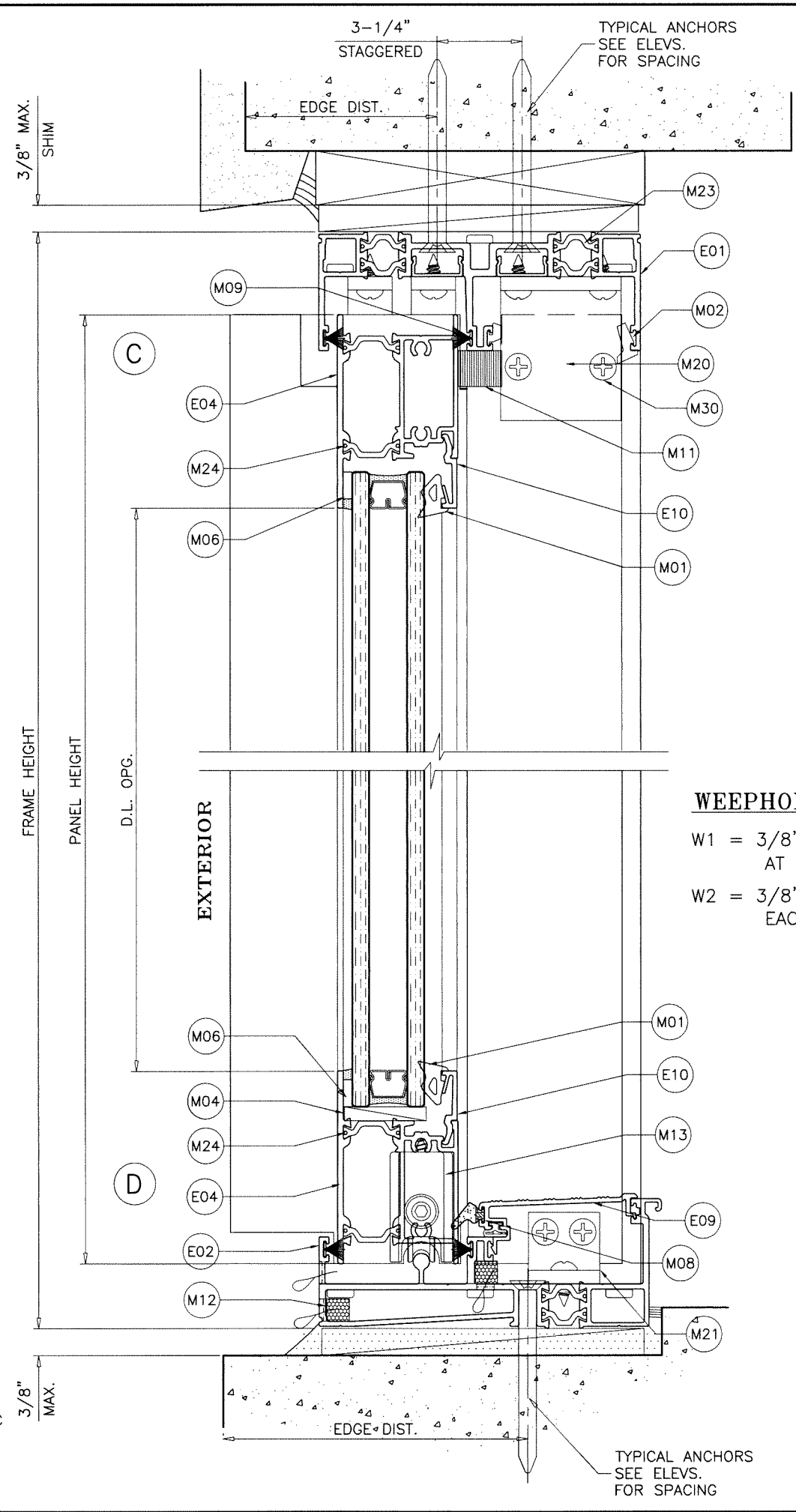
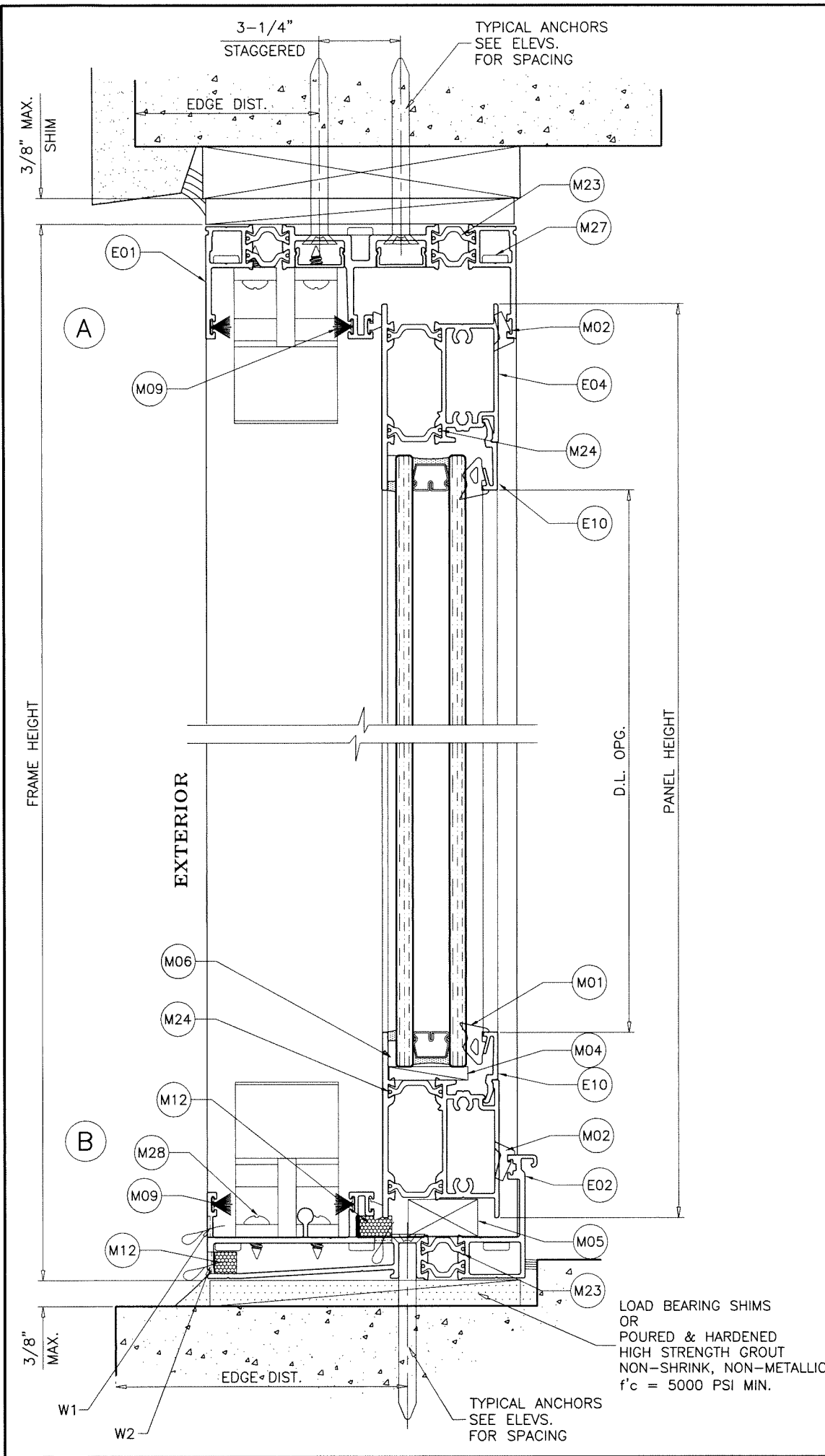
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drawing no.
W15-75

sheet 2 of 8



WEEPHOLES:

W1 = 3/8" X 2" LONG WEEP NOTCH AT FIXED PANEL AT 12" FROM SIDE AND CENTER OF D.L.O.

W2 = 3/8" X 2" LONG WEEP NOTCH AT 6" FROM EACH SIDE AND CENTER FRAME SILL

Sealed: 9/15/2026



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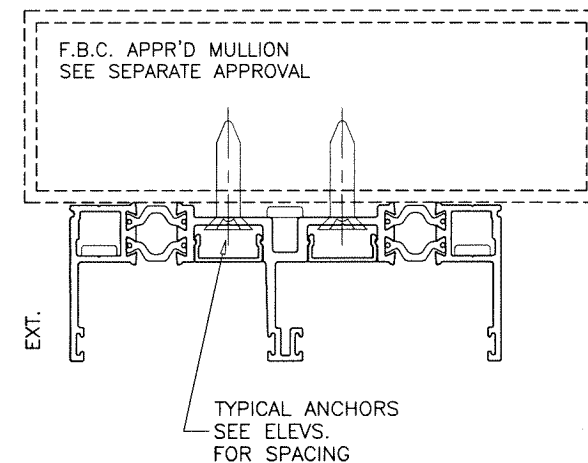
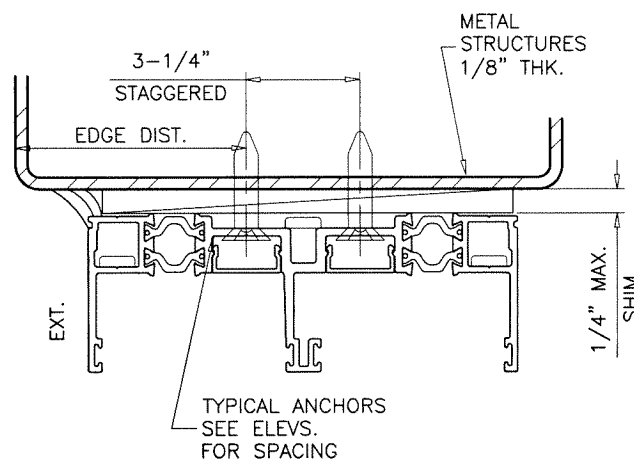
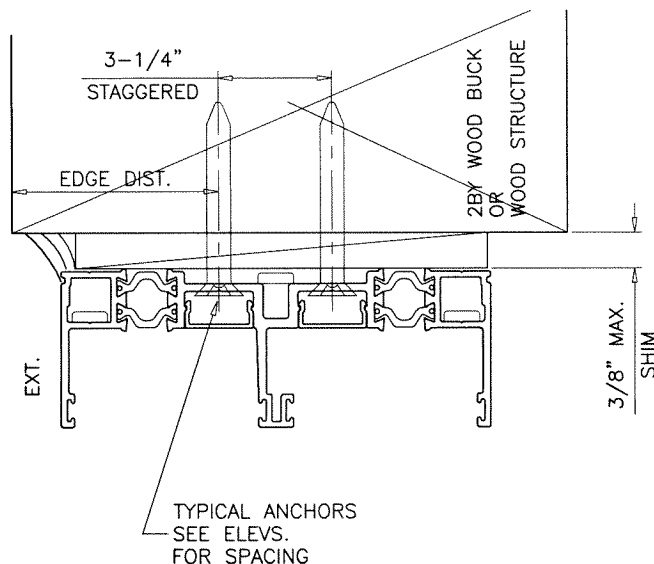
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revisions:	
no	description

date: 10-07-15	scale: 1/2" = 1"	dr. by: TARIQ	chk. by:	drawing no. W15-75
				sheet 3 of 8



1BY OR 2BY WOOD BUCKS AND METAL STRUCTURE NOT BY 'E.S. WDW.' 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. ULTRACON SS4 410 BY 'DEWALT' ($F_u=190$ KSI, $F_y=164$ KSI)

1/4\" DIA. ULTRACON+ 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 BLOCKS

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

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

DIRECTLY INTO CONCRETE OR BLOCKS

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

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

1/4\" DIA. BI-FLEX 300 SELF DRILLING SCREWS BY 'DEWALT'

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

INTO F.B.C. APPROVED MULLIONS

AND

INTO METAL STRUCTURES (HEAD/SILL/JAMBS)

(3) THREADS MIN. TO EXTEND BEYOND METAL THICKNESS

ALUMINUM: 1/8\" 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)

CRITICAL EDGE DISTANCE

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: 9/15/2026



FL #19073

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ES-SD450 ALUM THERMALLY BROKEN S.G.D. (N.I.)

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3550 N.W. 49 STREET

MIAMI, FL. 33142

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revisions:	
no	date by description

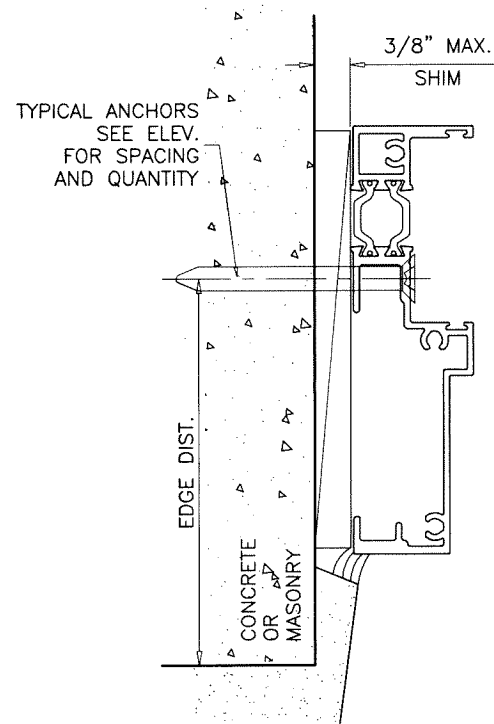
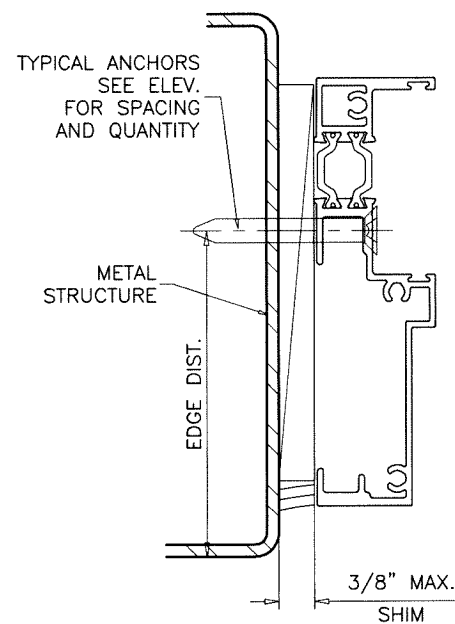
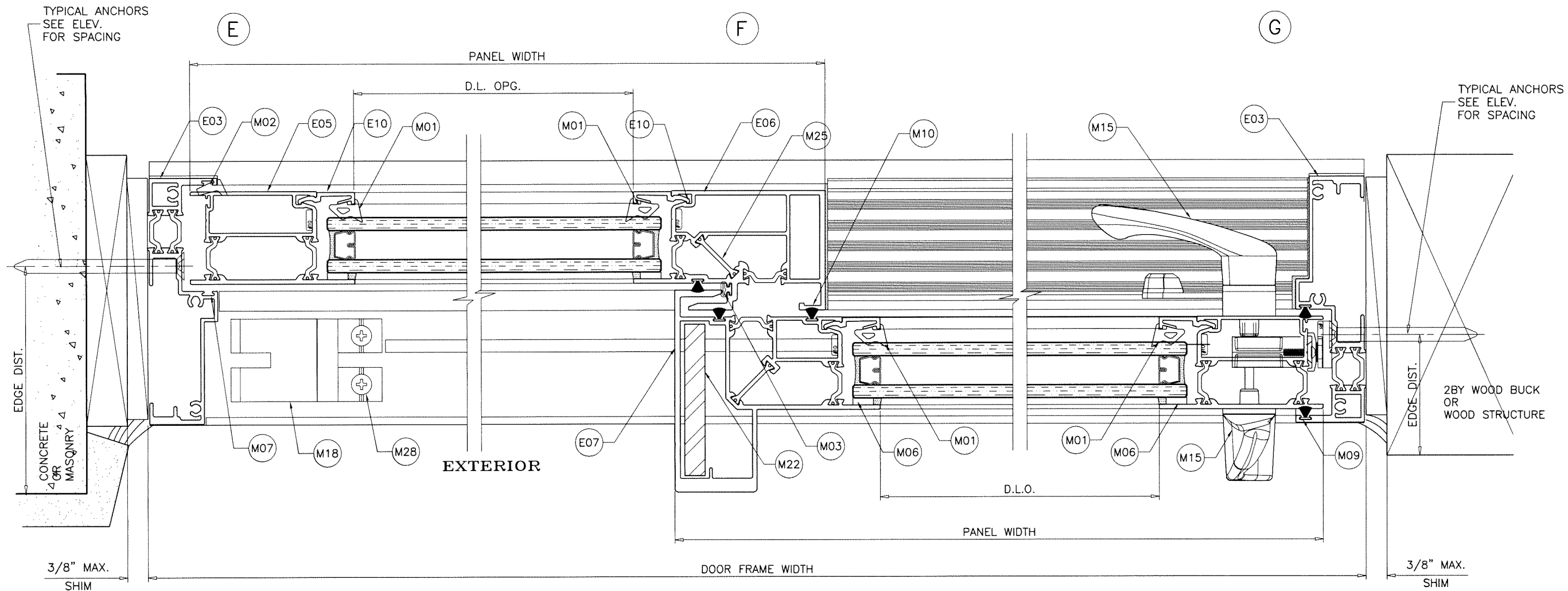
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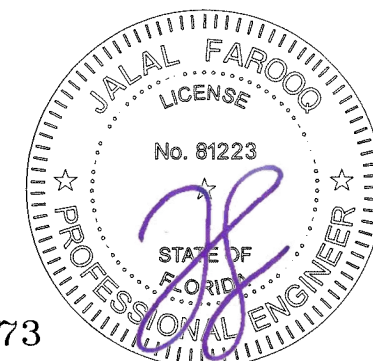
W15-75

sheet 4 of 8

COMP-ANL\W15-75ESW



Sealed: 9/15/2026



FL #19073

al-farooq
AL-FAROOQ CORPORATION
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9360 SUNSET DRIVE, SUITE 220 (C.A.N. 3538)
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COMP-ANL\W15-75ESW

ES-SD450 ALUM THERMALLY BROKEN S.G.D. (N.I.)
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chk. by:

drawing no.
W15-75
sheet 5 of 8

ITEM #	PART #	QUANTITY	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
E01	ES-SD450-002-001	1	FRAME HEAD	6063-T6	-
E02	ES-SD450-002-003	1	FRAME SILL	6063-T6	-
E03	ES-SD450-005-006	2	FRAME JAMB	6063-T6	-
E04	ES-SD450-009-010	2/ PANEL	TOP AND BOTTOM RAIL	6063-T6	-
E05	ES-SD450-007-008	2	JAMB STILE	6063-T6	-
E06	ES-SD450-012-013	1	INTERIOR INTERLOCK	6063-T6	-
E07	ES-SD450-014-015	1	EXTERIOR INTERLOCK	6063-T6	-
E08	ES-6011	AS REQD.	FRAME COVER	6063-T6	-
E09	ES-SD450-004	1	THRESHOLD	6063-T6	-
E10	ES-SD450-011	4/ PANEL	GLASS STOP	6063-T6	-
M01	TR-02943E-4	AS REQD.	GLAZING SPACER	EPDM	DUROMETER 70±5 SHORE A
M02	27-420	AS REQD.	FIX. PANEL INTERIOR WEDGE	EPDM	DUROMETER 70±5 SHORE A
M03	27-425	AS REQD.	BULB GASKET	EPDM	DUROMETER 70±5 SHORE A
M04	NP-200-M41	AS REQD.	SETTING BLOCK	EPDM	DUROMETER 80±5 SHORE A
M05	ES-21-B02	AS REQD.	SETTING BLOCK	EPDM	DUROMETER 80±5 SHORE A
M06	-	4/ PANEL	1/8" X 3/8" SINGLE FACE GLAZING TAPE	POLYURETHANE	-
M07	27-448	AS REQD.	FIX PANEL EXTERIOR WEDGE	EPDM	DUROMETER 75±5 SHORE A
M08	QLON 52109	AS REQD.	COMPRESSION SEAL FOR ASTRAGAL	FOAM CELL	-
M09	W23291NK	AS REQD.	FRAME W'STRIPPING, PILE WITH INTEGRAL FIN	PILE	-
M10	W22252NK	AS REQD.	INTERLOCK W'STRIPPING, PILE WITH INTEGRAL FIN	PILE	-
M11	P6304 AFK	AS REQD.	4" X 1" ADHESIVE PILE PAD	PILE	-
M12	ES-SD450-F01	AS REQD.	5/8" X 5/8" X 2" RETICULATED FOAM 30PPI	OPEN CELL FOAM	-
M13	GTT-R34/3-01-A	2/ MOV. PANEL	ROLLER ASSEMBLY (ZAMAK WITH ACETAL WHEELS)	-	-
M14	PS01-1020	1	2 POINT MORTISE LOCK	CAST ALUMINUM	-
M15	PS01-0014-117	1	2 POINT LOCK HANDLE KIT	CAST ALUMINUM	-
M16	191036	1	SBML STRIKER	ST/ST	-
M17	ES-SD450-P01	1	3/16" PLATE FOR STRIKE ASSEMBLY	ALUMINUM	-
M18	SGD 1600	AS REQD.	BUMPER	ALUMINUM	-
M19	PLUG 2-500	AS REQD.	ROLLER SCREW PLUG	PVC	-
M20	ALU-A-028	1	FIXED PANEL CLIP AT TOP RAIL	ALUMINUM	-
M21	ALU-A-028	1	FIXED PANEL CLIP AT BOTTOM RAIL	ALUMINUM	-
M22	-	1	INTERLOCK REINFORCING	GALV. STEEL	-
M23	1945	AS REQD.	INSULBAR 16MM OFFSET	POLYAMIDE	ENSINGER
M24	1673	AS REQD.	INSULBAR 20MM OFFSET	POLYAMIDE	ENSINGER
M25	1175	AS REQD.	INSULBAR 24MM FLAT	POLYAMIDE	ENSINGER
M27	#10 X 1-1/4"	AS REQD.	FRAME AND PANEL ASSEMBLY FASTENERS	ST/ST	PH SMS
M28	#10 X 1/2"	AS REQD.	BUMPER AND ROLLER ASSEMBLY FASTENERS	ST/ST	PH SMS
M29	#8 X 5/8"	AS REQD.	ALUMINUM PLATE ASSEMBLY FASTENERS	ST/ST	PH SMS
M30	#8 X 1/2"	AS REQD.	BUMPER ASSEMBLY FASTENERS	ST/ST	PH SMS
M31	#8 X 1/2"	AS REQD.	ASSEMBLY FASTENER AT STRIKE PLATE	ST/ST	FH SMS

LOCK:

SURFACE MOUNT METALLIC HANDLE AT 43" FROM BOTTOM
FASTENED TO LOCK STILE WITH
(2) 8-32 X 2" FH MS

SURFACE MOUNT METALLIC 3 PLY DUAL HOOK LOCK
43" FROM BOTTOM
FASTENED TO LOCK STILE WITH
(2) #10 X 1" FH SMS

SURFACE MOUNT METALLIC KEEPER AT 44" FROM BOTTOM
FASTENED TO FRAME JAMB WITH
(3) #8 X 1/2" PH SMS

SEALANT:

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

Sealed: 9/15/2026



FL #19073



AL-FAROOQ CORPORATION
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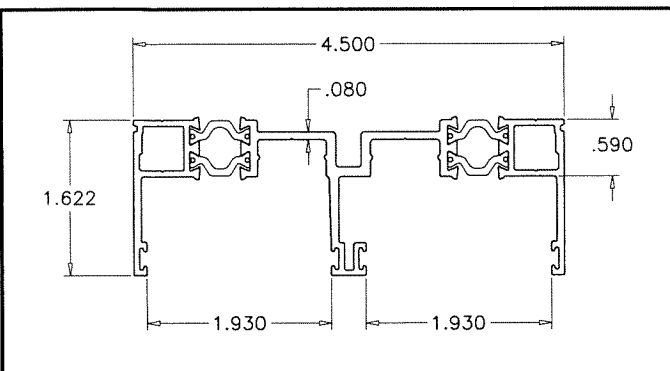
ES-SD450 ALUM THERMALLY BROKEN S.G.D. (N.I.)

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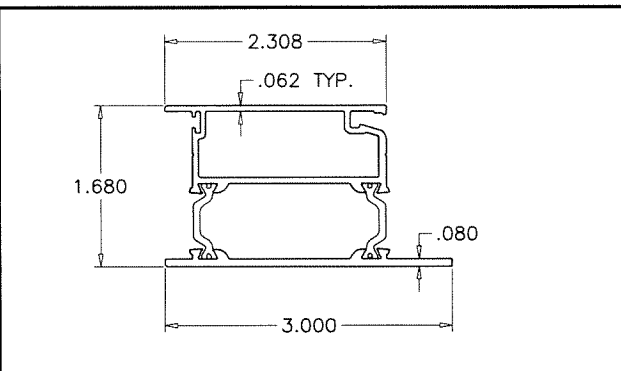
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chk. by:	

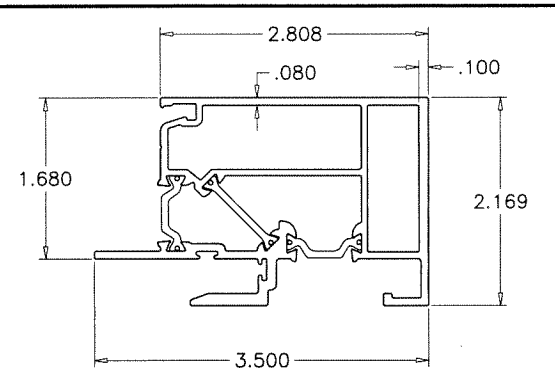
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sheet	6 of 8



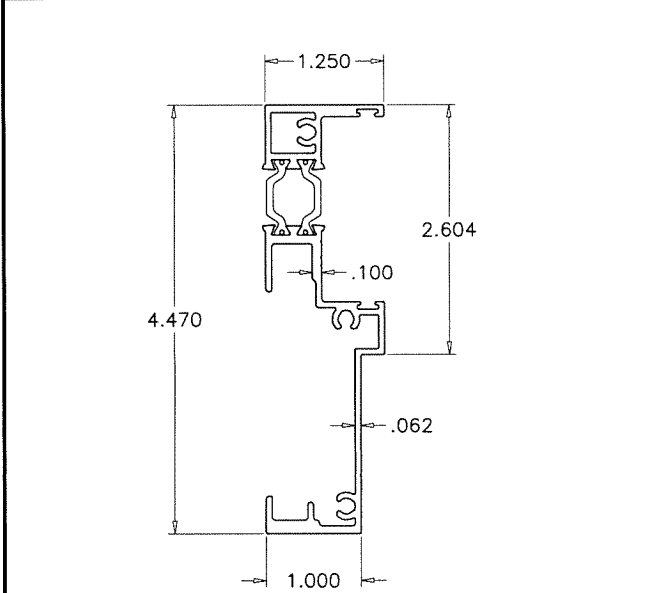
E01 FRAME HEAD



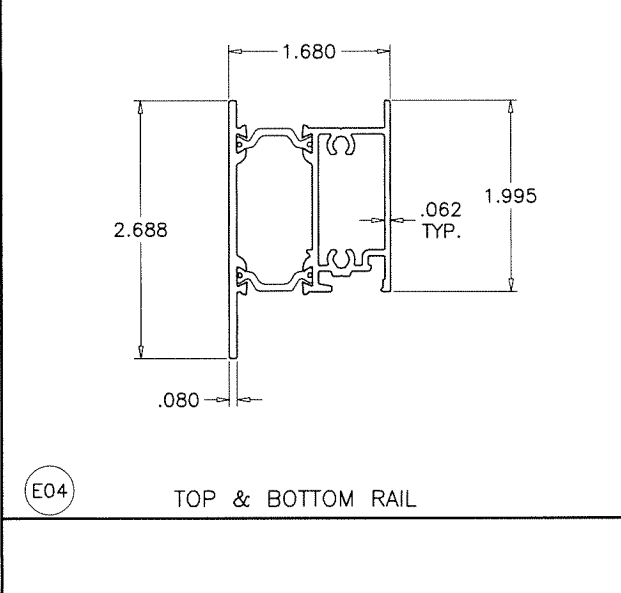
E05 JAMB STILE



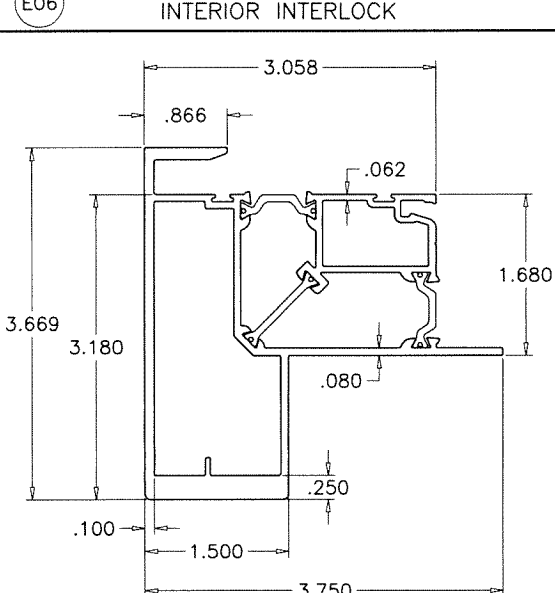
E06 INTERIOR INTERLOCK



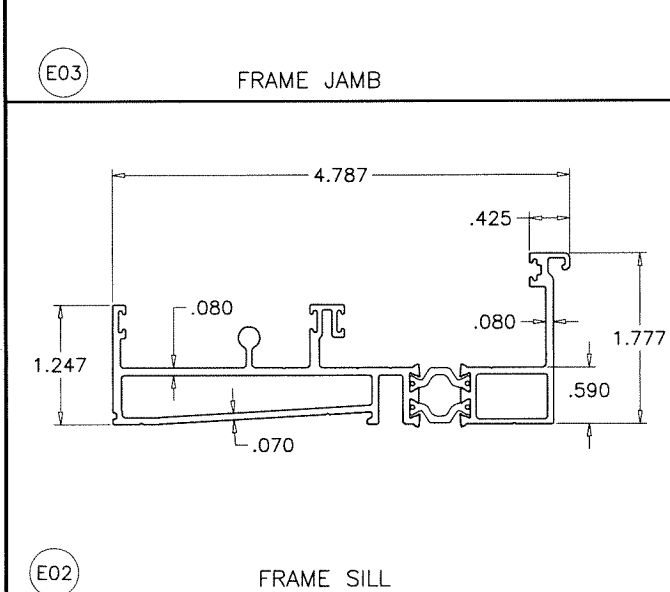
E03 FRAME JAMB



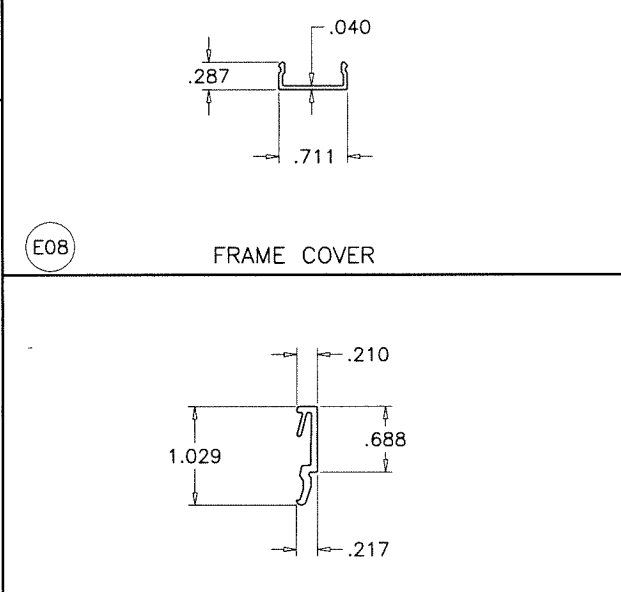
E04 TOP & BOTTOM RAIL



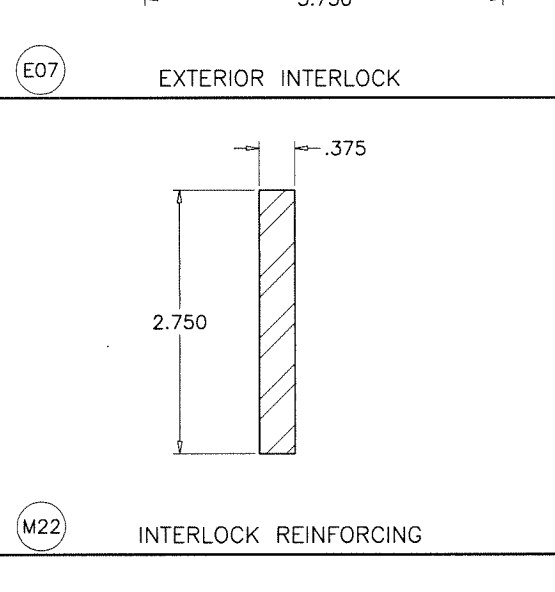
E07 EXTERIOR INTERLOCK



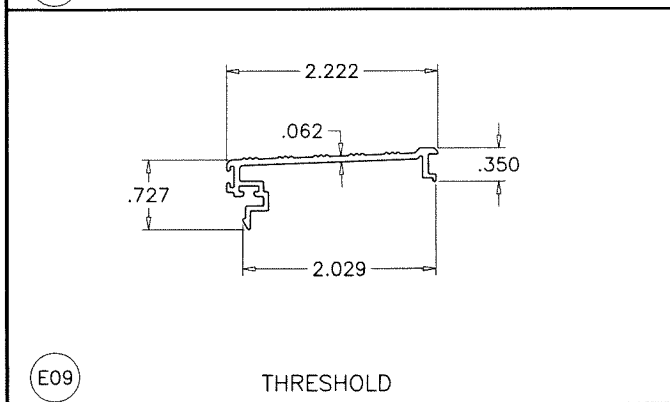
E02 FRAME SILL



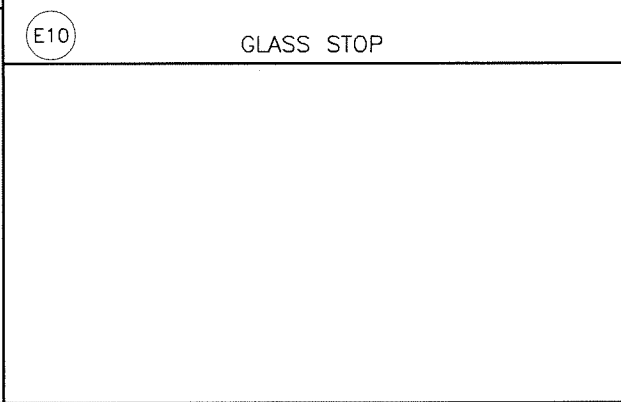
E08 FRAME COVER



M22 INTERLOCK REINFORCING



E09 THRESHOLD



E10 GLASS STOP

M23 16MM OFFSET

M24 20MM OFFSET

M25 24MM FLAT

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

Sealed: 9/15/2026



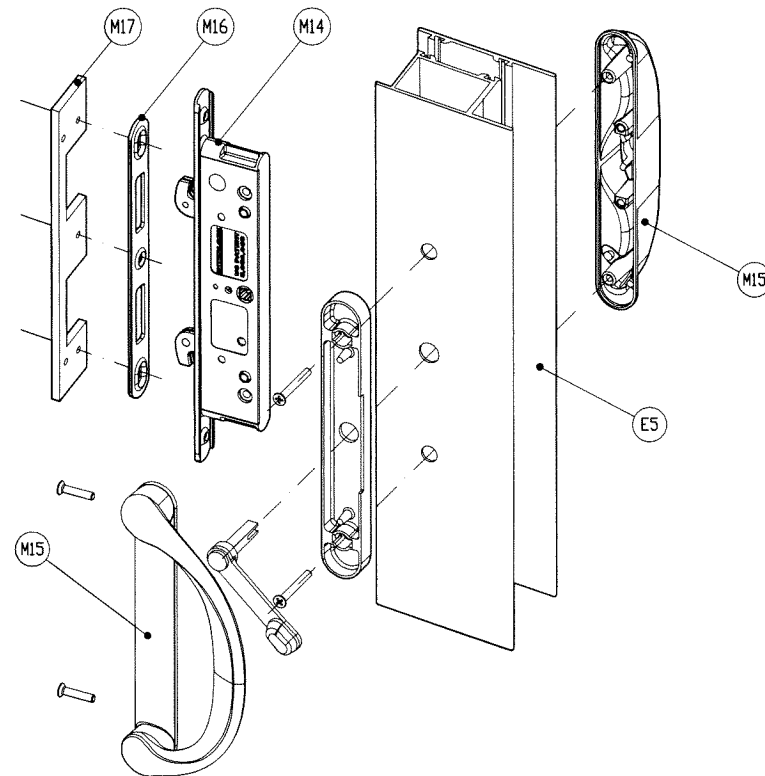
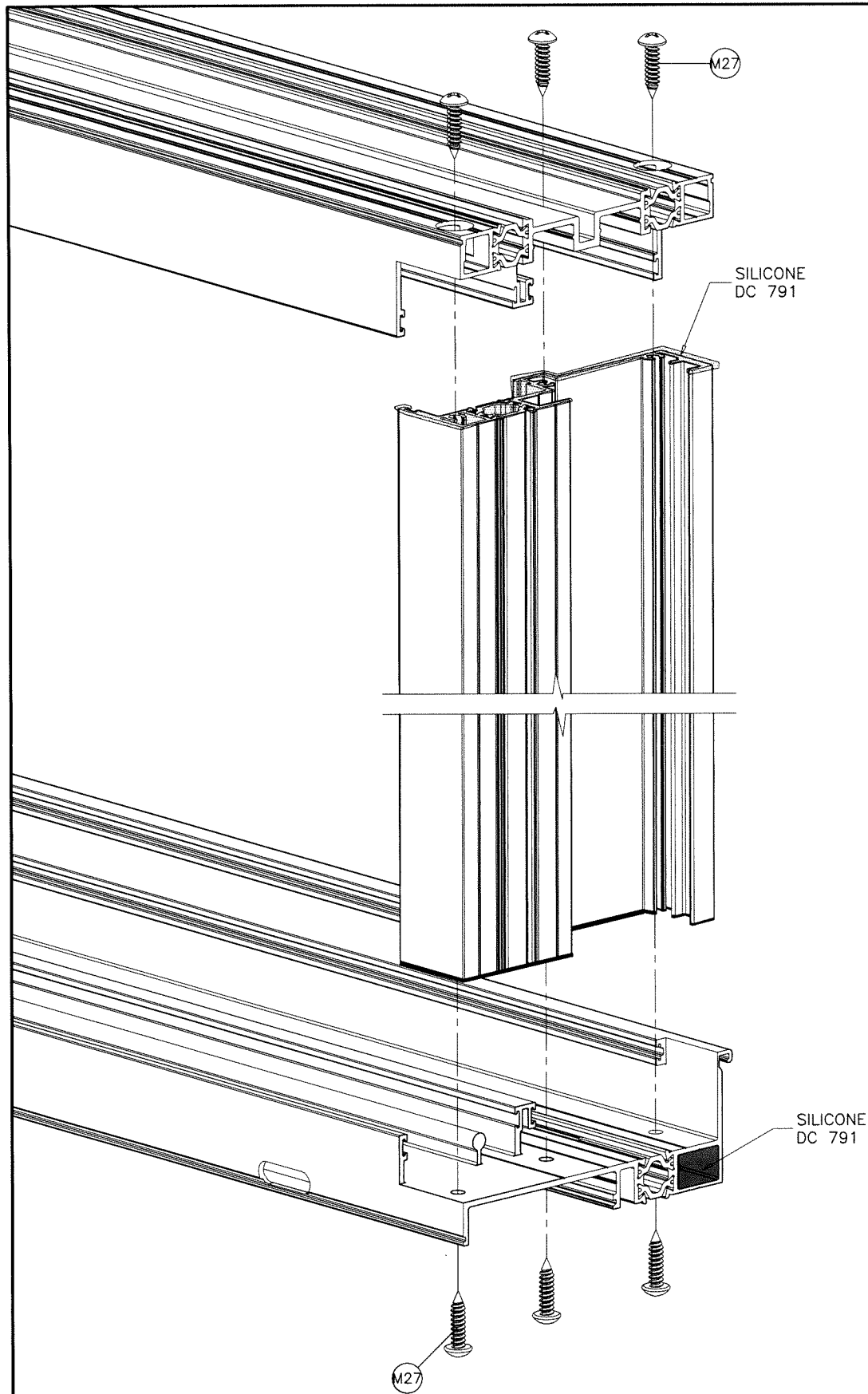
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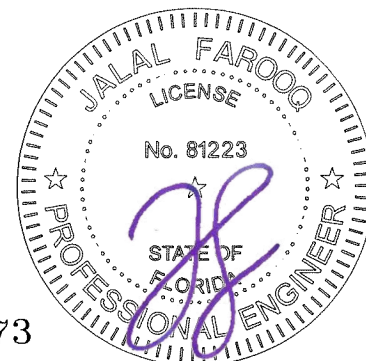
ES-SD450 ALUM THERMALLY BROKEN S.C.D. (N.I.)
E.S. WINDOWS, LLC
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revisions:	
no	date by description

date: 10-07-15	scale: 1/2" = 1"	dr. by: TARIQ	chk. by:
drawing no. W15-75			
sheet 7 of 8			



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