

SERIES ENV-450 ALUMINUM WINDOW WALL SYSTEM

THIS SYSTEM MAY BE USED IN CONJUNCTION WITH F.B.C. APPR'D LARGE MISSILE IMPACT RESISTANT DOORS.
 LOWER DESIGN PRESSURE FROM STOREFRONT OR DOOR APPROVAL WILL APPLY TO ENTIRE SYSTEM.
 CODE REQUIREMENTS FOR SAFEGUARDS MUST BE OBSERVED.

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

WOOD BUCKS BY OTHERS, MUST BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE STRUCTURE.

ANCHORS SHALL BE AS LISTED, SPACED AS SHOWN ON DETAILS, ANCHORS EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.

ANCHORING OR LOADING CONDITIONS NOT SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL.

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 FLORIDA BUILDING CODE.

MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION IN ACCORDANCE WITH SECTION 1710.8.3 OF FLORIDA BUILDING CODE. LABELING TO COMPLY WITH SECTION 1710.8.2.

TYPICAL ELEVATIONS

INSTRUCTIONS:

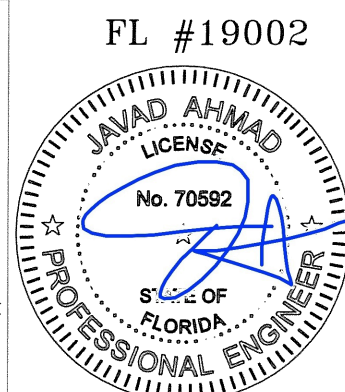
USE CHARTS AS FOLLOWS.

- STEP 1** DETERMINE DESIGN WIND LOAD REQUIREMENT BASED ON WIND VELOCITY, BLDG. HEIGHT, WIND ZONE USING APPLICABLE ASCE 7 STANDARD.
- STEP 2** SEE CHARTS ON SHEET 2 FOR DESIGN LOAD CAPACITY OF DESIRED GLASS SIZE.
- STEP 3** CHECK MULLION CAPACITY FOR A GIVEN SPACING AND HEIGHT USING CHARTS ON SHEET 3 & 4 FOR STOREFRONT MULLION AND SHEET 6 & 7 FOR DOOR MULLION. THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.
- STEP 4** USING CHART ON SHEETS 5 & 5.1 SELECT ANCHOR OPTION WITH DESIGN RATING MORE THAN DESIGN LOAD SPECIFIED IN STEP 1 ABOVE.
- STEP 5** THE LOWEST VALUE RESULTING FROM STEPS 2, 3 AND 4 SHALL APPLY TO ENTIRE SYSTEM.

PRODUCT COMPLIES WITH REQUIREMENTS OF ANSI Z97.1.

THIS SYSTEM IS RATED FOR LARGE & SMALL MISSILE IMPACT. SHUTTERS ARE NOT REQUIRED. WINDOW WALL FRAMES MAY BE WITH OR WITHOUT THERMAL BREAK.

A- THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) PREPARED BY THIS ENGINEER IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT; i.e. WHERE THE SITE CONDITIONS DEVIATE FROM THE P.E.D.
 B- 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.
 C- THIS PRODUCT EVALUATION DOCUMENT WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.
 D- 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.
 E- THIS P.E.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.



af c
AL-FAROOQ CORPORATION
 ENGINEERS & PRODUCT DEVELOPMENT
 1235 S.W. 87 AVE
 MIAMI, FLORIDA 33174
 TEL. (305) 264-8100 FAX. (305) 262-6978
 COMP-ANL\W15-74ENV

SERIES ENV-450 ALUM WINDOW WALL SYS. (L.M.I.)
ENVIRALUM INDUSTRIES INC.
 5100 N.W. 72 AVENUE BLDG. C
 MIAMI, FL. 33166
 TEL. (305) 752-4411 FAX. (305) 406-3877

no	date	description

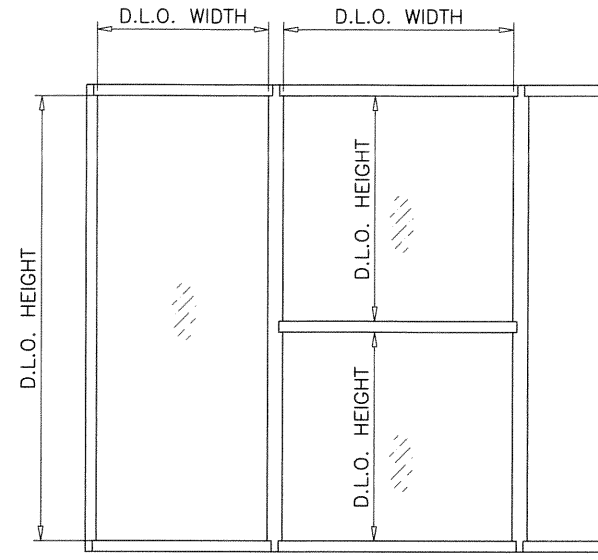
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 dr. by: HAMID
 chk. by:

drawing no.
W15-74
 sheet 1 of 12

GLASS LOAD CAPACITY - PSF					
NOMINAL DIMS.		GLASS TYPES 'A' & 'A1'		GLASS TYPES 'B' & 'B1'	
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
30"	78"	90.0	90.0	100.0	131.0
36"		90.0	90.0	100.0	131.0
42"		90.0	90.0	100.0	131.0
48"		90.0	90.0	100.0	131.0
54"		90.0	90.0	100.0	131.0
60"		90.0	90.0	100.0	131.0
66-1/2"		65.0	65.0	100.0	131.0
30"	84"	90.0	90.0	100.0	131.0
36"		90.0	90.0	100.0	131.0
42"		90.0	90.0	100.0	131.0
48"		90.0	90.0	100.0	131.0
54"		90.0	90.0	100.0	131.0
60"		90.0	90.0	100.0	131.0
66-1/2"		65.0	65.0	100.0	126.7
30"	90"	90.0	90.0	100.0	131.0
36"		90.0	90.0	100.0	131.0
42"		90.0	90.0	100.0	131.0
48"		90.0	90.0	100.0	131.0
54"		90.0	90.0	100.0	131.0
60"		65.0	65.0	100.0	126.0
66-1/2"		65.0	65.0	100.0	116.8
30"	96"	90.0	90.0	100.0	131.0
36"		90.0	90.0	100.0	131.0
42"		90.0	90.0	100.0	131.0
48"		90.0	90.0	100.0	131.0
54"		65.0	65.0	100.0	126.8
60"		65.0	65.0	100.0	116.4
30"		102"	90.0	90.0	100.0
36"	90.0		90.0	100.0	131.0
42"	90.0		90.0	100.0	131.0
48"	90.0		90.0	100.0	129.4
54"	65.0		65.0	100.0	118.5
60"	-		-	100.0	109.2
30"	108"		90.0	90.0	100.0
36"		90.0	90.0	100.0	131.0
42"		90.0	90.0	100.0	131.0
48"		65.0	65.0	100.0	125.6
54"		65.0	65.0	100.0	111.8
57"		-	-	100.0	106.4
30"		114"	90.0	90.0	100.0
36"	90.0		90.0	100.0	131.0
42"	90.0		90.0	100.0	131.0
48"	65.0		65.0	100.0	119.5
54"	-		-	100.0	105.6
30"	120"	90.0	90.0	100.0	131.0
36"		90.0	90.0	100.0	131.0
42"		90.0	90.0	100.0	131.0
48"		65.0	65.0	100.0	114.1
51"		-	-	100.0	106.6

GLASS LOAD CAPACITY - PSF					
NOMINAL DIMS.		GLASS TYPES 'A' & 'A1'		GLASS TYPES 'B' & 'B1'	
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
30"	126"	90.0	90.0	100.0	131.0
36"		90.0	90.0	100.0	131.0
42"		65.0	65.0	100.0	129.7
48"		65.0	65.0	100.0	109.7
49"		-	-	100.0	107.1
30"	132"	90.0	90.0	100.0	131.0
36"		90.0	90.0	100.0	131.0
42"		65.0	65.0	100.0	128.5
47"	-	-	100.0	108.9	
30"	138"	90.0	90.0	100.0	131.0
36"		90.0	90.0	100.0	131.0
42"		65.0	65.0	100.0	127.2
45"		-	-	100.0	112.5
30"	144"	90.0	90.0	100.0	131.0
36"		65.0	65.0	100.0	131.0
42"		65.0	65.0	100.0	126.1
43"		-	-	100.0	120.8

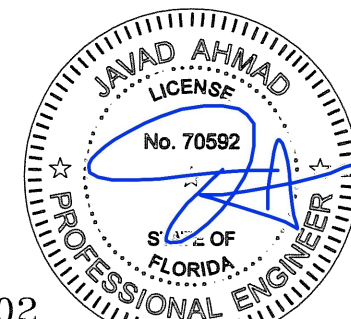
NOTE:
INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



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

GLASS

FL #19002



af c
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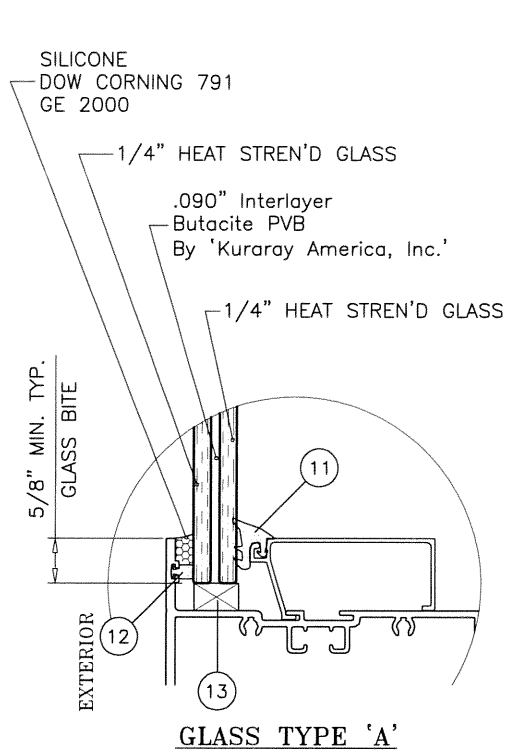
revisions:	no	date	description

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dr. by: HAMID
chk. by:

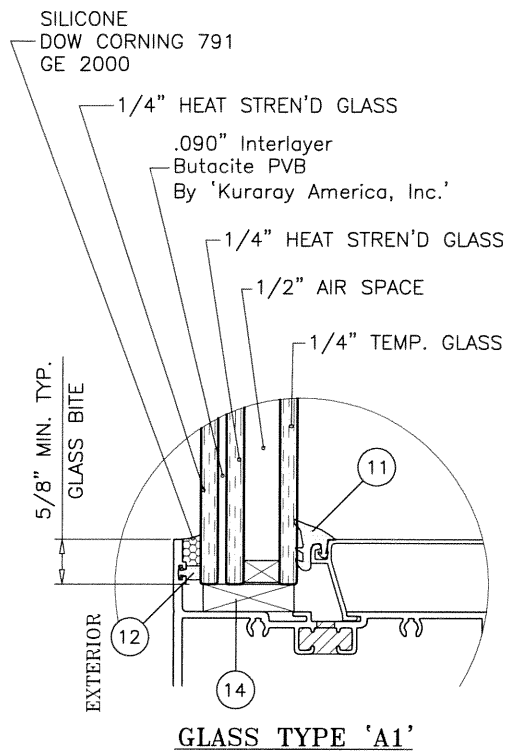
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W15-74

sheet 2 of 12

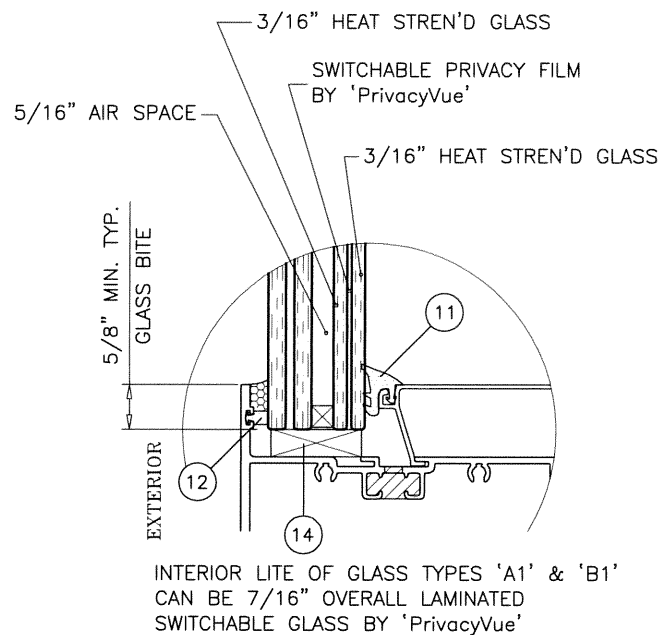
COMP-ANL\W15-74ENV



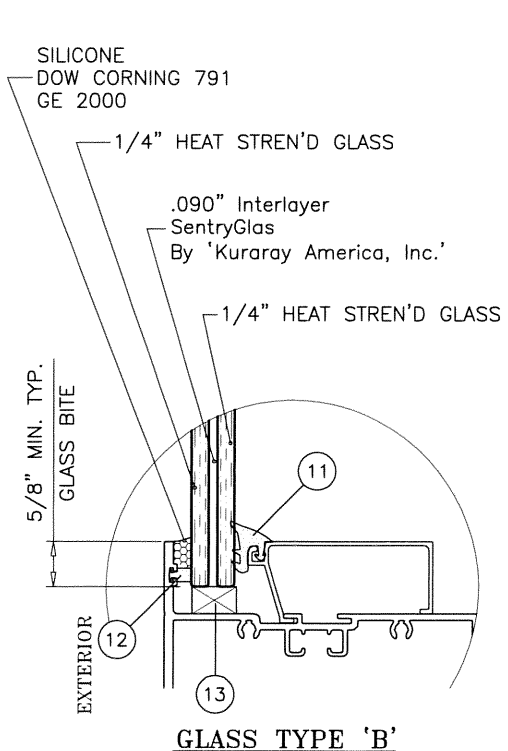
GLASS TYPE 'A'



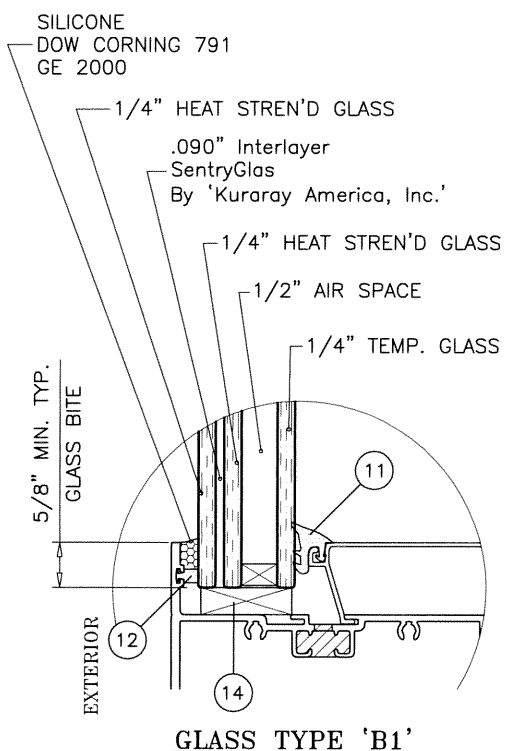
GLASS TYPE 'A1'



INTERIOR LITE OF GLASS TYPES 'A1' & 'B1'
CAN BE 7/16" OVERALL LAMINATED
SWITCHABLE GLASS BY 'PrivacyVue'



GLASS TYPE 'B'



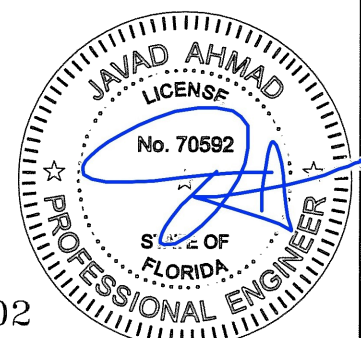
GLASS TYPE 'B1'

GLAZING OPTIONS

1/2" AIR SPACE CONSISTING OF:
SPACER:
ALUMINUM BOX SPACER AROUND
THE PERIMETER OF THE GLASS.
PERIMETER SEALANT:
SILICONE
DOW CORNING 791
GE 2000

GLASS

FL #19002



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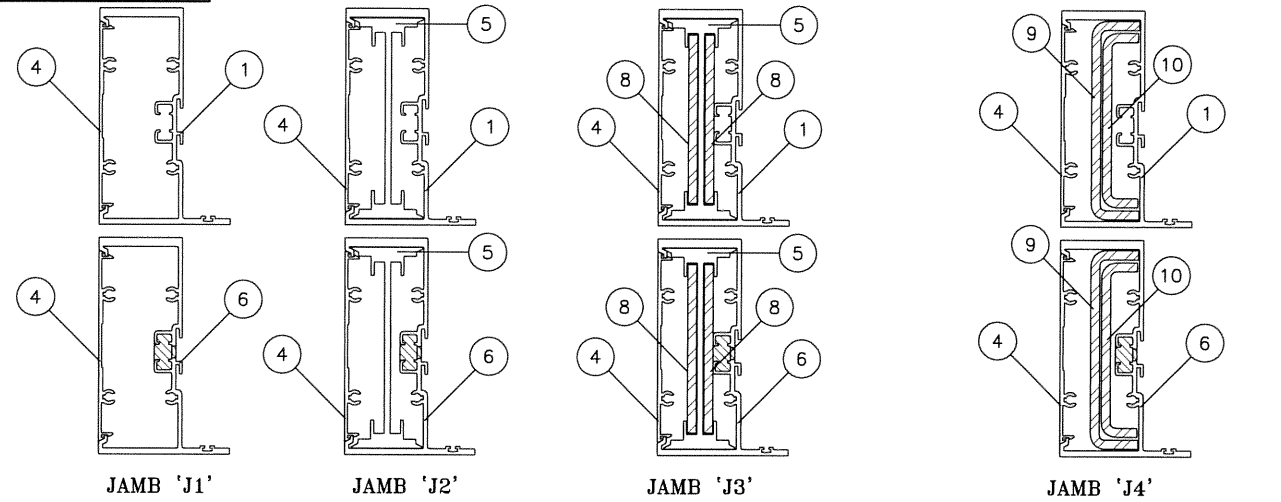
sheet 2.1 of 12

DESIGN LOAD CAPACITY - PSF UNSECURED JAMB/MULLION WITHOUT INTERMEDIATE HORIZONTALS									
NOMINAL DIMS.		JAMB 'J1'		JAMB 'J2'		JAMB 'J3'		JAMB 'J4'	
WIDTH (W)	FRAME HEIGHT	MULLION 'M1'	MULLION 'M2'	MULL 'M3'	MULL 'M4'	MULLION 'M1'	MULLION 'M2'	MULL 'M3'	MULL 'M4'
		EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
30"	72"	80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
36"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
42"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
48"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
54"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
60"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
66"		-	-	85.0	85.0	90.0	90.0	100.0	131.0
72"	-	-	85.0	85.0	90.0	90.0	100.0	131.0	
30"	78"	80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
36"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
42"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
48"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
54"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
60"	-	-	85.0	85.0	90.0	90.0	100.0	131.0	
30"	84"	80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
36"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
42"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
48"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
54"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
60"	-	-	85.0	85.0	90.0	90.0	100.0	131.0	
30"	90"	80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
36"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
42"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
48"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
54"		-	-	85.0	85.0	90.0	90.0	100.0	131.0
60"	-	-	-	-	90.0	90.0	100.0	131.0	
30"	96"	80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
36"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
42"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
48"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
54"		-	-	75.6	75.6	80.0	80.0	88.9	97.8
60"	-	-	-	-	72.0	72.0	80.0	88.0	
30"	102"	-	-	85.0	85.0	90.0	90.0	100.0	131.0
36"		-	-	85.0	85.0	90.0	90.0	100.0	131.0
42"		-	-	85.0	85.0	90.0	90.0	100.0	131.0
48"		-	-	85.0	85.0	90.0	90.0	100.0	131.0
54"		-	-	-	-	80.0	80.0	88.9	97.8
30"	108"	-	-	85.0	85.0	90.0	90.0	100.0	131.0
36"		-	-	85.0	85.0	90.0	90.0	100.0	131.0
42"		-	-	85.0	85.0	90.0	90.0	100.0	131.0
48"		-	-	85.0	85.0	90.0	90.0	100.0	121.9
54"		-	-	-	-	-	-	57.8	57.8
30"	114"	-	-	-	-	90.0	90.0	100.0	131.0
36"		-	-	-	-	90.0	90.0	100.0	131.0
42"		-	-	-	-	90.0	90.0	100.0	122.4
48"		-	-	-	-	90.0	90.0	100.0	108.6
54"		-	-	-	-	-	-	57.8	57.8
30"	120"	-	-	-	-	90.0	90.0	100.0	131.0
36"		-	-	-	-	90.0	90.0	100.0	126.9
42"		-	-	-	-	90.0	90.0	100.0	110.0
48"		-	-	-	-	87.9	87.9	97.4	97.4
54"		-	-	-	-	-	-	57.8	57.8
30"	126"	-	-	-	-	-	-	65.0	65.0
36"		-	-	-	-	-	-	65.0	65.0
42"		-	-	-	-	-	-	65.0	65.0
48"		-	-	-	-	-	-	65.0	65.0
54"		-	-	-	-	-	-	57.8	57.8
30"	132"	-	-	-	-	-	-	65.0	65.0
36"		-	-	-	-	-	-	65.0	65.0
42"		-	-	-	-	-	-	65.0	65.0
48"		-	-	-	-	-	-	65.0	65.0

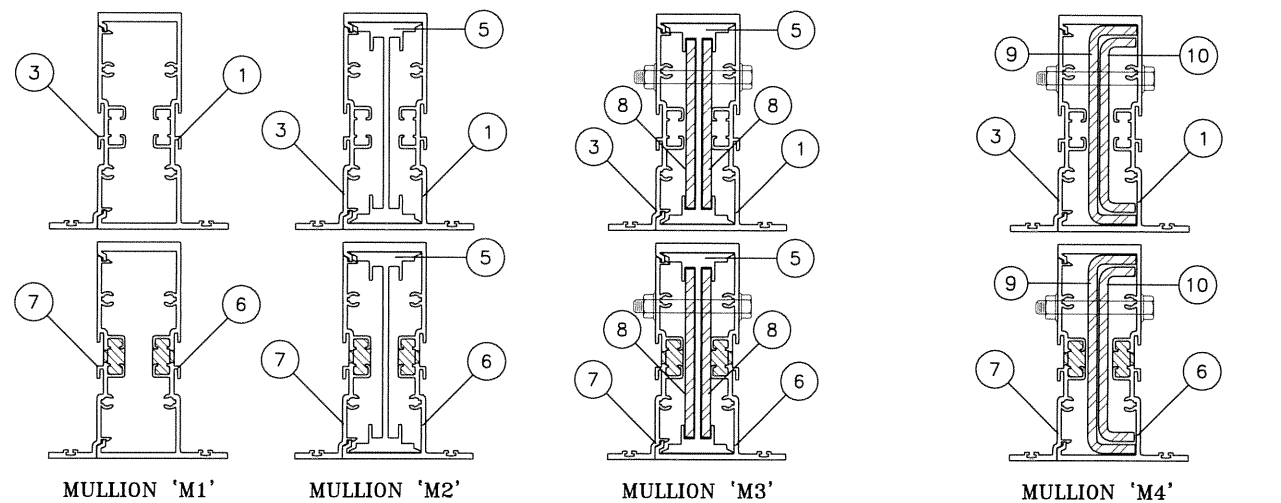
DESIGN LOAD CAPACITY - PSF UNSECURED JAMB/MULLION WITHOUT INTERMEDIATE HORIZONTALS									
NOMINAL DIMS.		JAMB 'J1'		JAMB 'J2'		JAMB 'J3'		JAMB 'J4'	
WIDTH (W)	FRAME HEIGHT	MULLION 'M1'	MULLION 'M2'	MULL 'M3'	MULL 'M4'	MULLION 'M1'	MULLION 'M2'	MULL 'M3'	MULL 'M4'
		EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
30"	138"	-	-	-	-	-	-	65.0	65.0
36"		-	-	-	-	-	-	65.0	65.0
42"		-	-	-	-	-	-	65.0	65.0
48"		-	-	-	-	-	-	65.0	65.0
30"	144"	-	-	-	-	-	-	65.0	65.0
36"		-	-	-	-	-	-	65.0	65.0
42"		-	-	-	-	-	-	65.0	65.0
48"		-	-	-	-	-	-	65.0	65.0

FOR SECURED JAMBS CONDITION
SEE SHEET 9 OF 12.

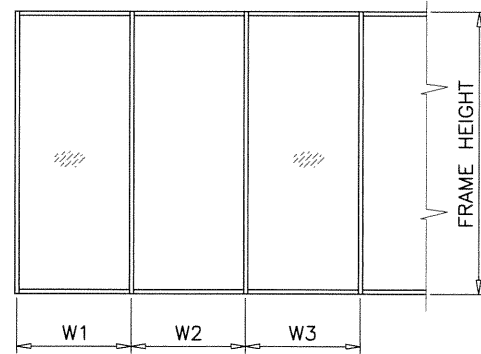
UNSECURED JAMBS



	Ix IN ⁴	Sx IN ³		Ix IN ⁴	Sx IN ³		Ix IN ⁴	Sx IN ³		Ix IN ⁴	Sx IN ³
JAMB 'J1'	4.5110	1.9537		6.2170	2.6925		6.2170	2.6925		4.5110	1.9537
JAMB 'J2'											
JAMB 'J3'			ALUMINUM	6.2170	2.6925		6.2170	2.6925		4.5110	1.9537
			STEEL	1.3650	.7746		1.3650	.7746		3.5210	1.7072
			TOTAL	10.1755			10.1755			14.7219	
			Ix ALUM + Ix STL X 2.9								
JAMB 'J4'											



	Ix IN ⁴	Sx IN ³		Ix IN ⁴	Sx IN ³		Ix IN ⁴	Sx IN ³		Ix IN ⁴	Sx IN ³
MULLION 'M1'	5.1380	2.1170		7.8700	3.2427		7.8700	3.2427		5.1380	2.1170
MULLION 'M2'											
MULLION 'M3'			ALUMINUM	7.8700	3.2427		7.8700	3.2427		5.1380	2.1170
			STEEL	1.3650	.7746		1.3650	.7746		3.5210	1.7072
			TOTAL	11.8285			11.8285			15.3489	
			Ix ALUM + Ix STL X 2.9								
MULLION 'M4'											

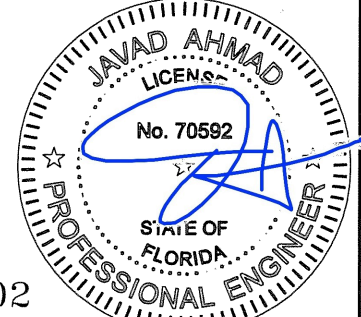


WIDTH (W) = W1
AT FRAME JAMB

WIDTH (W) = $\frac{W2 + W3}{2}$
AT FRAME MULLION

MULLIONS

FL #19002



af c
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W15-74

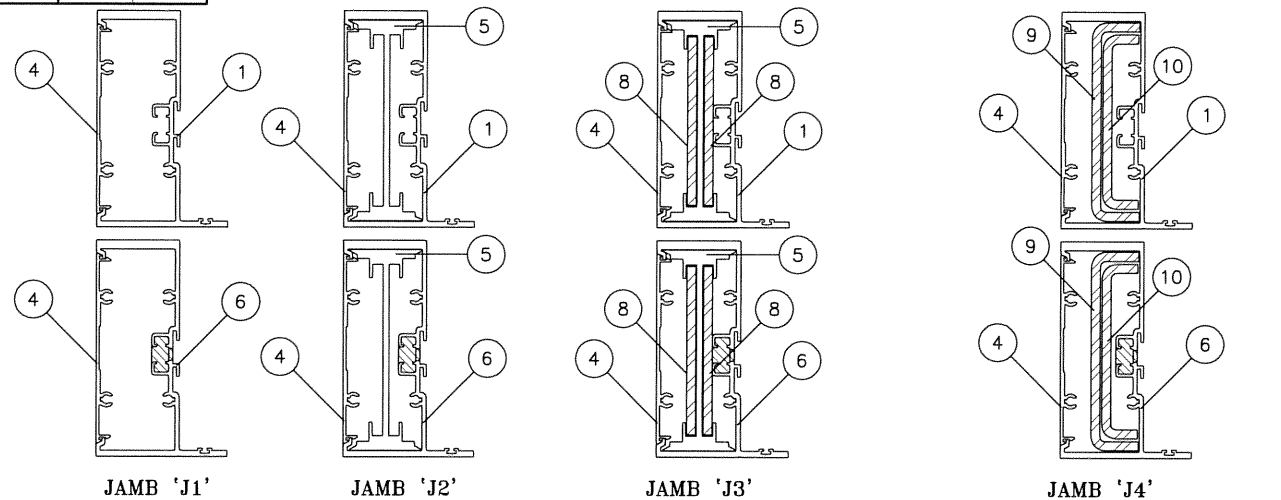
sheet 3 of 12

DESIGN LOAD CAPACITY - PSF UNSECURED JAMB/MULLION WITH INTERMEDIATE HORIZONTALS									
NOMINAL DIMS.		JAMB 'J1'		JAMB 'J2'		JAMB 'J3'		JAMB 'J4'	
WIDTH (W)	FRAME HEIGHT	MULLION 'M1'	MULLION 'M2'	MULL 'M3'	MULL 'M4'	MULL 'M3'	MULL 'M4'	MULL 'M3'	MULL 'M4'
		EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
30"	72"	80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
36"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
42"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
48"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
54"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
60"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
66"		-	-	85.0	85.0	90.0	90.0	100.0	131.0
72"	-	-	85.0	85.0	90.0	90.0	100.0	131.0	
30"	78"	80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
36"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
42"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
48"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
54"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
60"	-	-	85.0	85.0	90.0	90.0	100.0	131.0	
30"	84"	80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
36"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
42"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
48"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
54"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
60"	-	-	85.0	85.0	90.0	90.0	100.0	131.0	
30"	90"	80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
36"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
42"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
48"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
54"		-	-	85.0	85.0	90.0	90.0	100.0	131.0
60"	-	-	-	-	90.0	90.0	100.0	131.0	
30"	96"	80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
36"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
42"		80.0	80.0	85.0	85.0	90.0	90.0	100.0	131.0
48"		74.3	74.3	85.0	85.0	90.0	90.0	100.0	131.0
54"		-	-	75.6	75.6	80.0	80.0	88.9	97.8
60"	-	-	-	-	72.0	72.0	80.0	88.0	
30"	102"	-	-	85.0	85.0	90.0	90.0	100.0	131.0
36"		-	-	85.0	85.0	90.0	90.0	100.0	131.0
42"		-	-	85.0	85.0	90.0	90.0	100.0	131.0
48"		-	-	85.0	85.0	90.0	90.0	100.0	127.9
54"		-	-	-	-	80.0	80.0	88.9	97.8
30"	108"	-	-	85.0	85.0	90.0	90.0	100.0	131.0
36"		-	-	85.0	85.0	90.0	90.0	100.0	131.0
42"		-	-	85.0	85.0	90.0	90.0	100.0	130.3
48"		-	-	85.0	85.0	90.0	90.0	100.0	114.1
54"		-	-	-	-	-	-	57.8	57.8
30"	114"	-	-	-	-	90.0	90.0	100.0	131.0
36"		-	-	-	-	90.0	90.0	100.0	131.0
42"		-	-	-	-	90.0	90.0	100.0	117.0
48"		-	-	-	-	90.0	90.0	100.0	102.4
54"		-	-	-	-	-	-	57.8	57.8
30"	120"	-	-	-	-	90.0	90.0	100.0	131.0
36"		-	-	-	-	90.0	90.0	100.0	123.2
42"		-	-	-	-	90.0	90.0	100.0	105.6
48"		-	-	-	-	83.3	83.3	92.4	92.4
54"		-	-	-	-	-	-	57.8	57.8
30"	126"	-	-	-	-	-	-	65.0	65.0
36"		-	-	-	-	-	-	65.0	65.0
42"		-	-	-	-	-	-	65.0	65.0
48"		-	-	-	-	-	-	65.0	65.0
54"		-	-	-	-	-	-	57.8	57.8
30"	132"	-	-	-	-	-	-	65.0	65.0
36"		-	-	-	-	-	-	65.0	65.0
42"		-	-	-	-	-	-	65.0	65.0
48"		-	-	-	-	-	-	65.0	65.0

DESIGN LOAD CAPACITY - PSF UNSECURED JAMB/MULLION WITH INTERMEDIATE HORIZONTALS									
NOMINAL DIMS.		JAMB 'J1'		JAMB 'J2'		JAMB 'J3'		JAMB 'J4'	
WIDTH (W)	FRAME HEIGHT	MULLION 'M1'	MULLION 'M2'	MULL 'M3'	MULL 'M4'	MULL 'M3'	MULL 'M4'	MULL 'M3'	MULL 'M4'
		EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
30"	138"	-	-	-	-	-	-	65.0	65.0
36"		-	-	-	-	-	-	65.0	65.0
42"		-	-	-	-	-	-	65.0	65.0
48"		-	-	-	-	-	-	65.0	65.0
30"	144"	-	-	-	-	-	-	65.0	65.0
36"		-	-	-	-	-	-	65.0	65.0
42"		-	-	-	-	-	-	65.0	65.0
48"		-	-	-	-	-	-	64.2	64.2

FOR SECURED JAMBS CONDITION
SEE SHEET 9 OF 12.

UNSECURED JAMBS



JAMB 'J1'

Ix IN ⁴	Sx IN ³
4.5110	1.9537

JAMB 'J2'

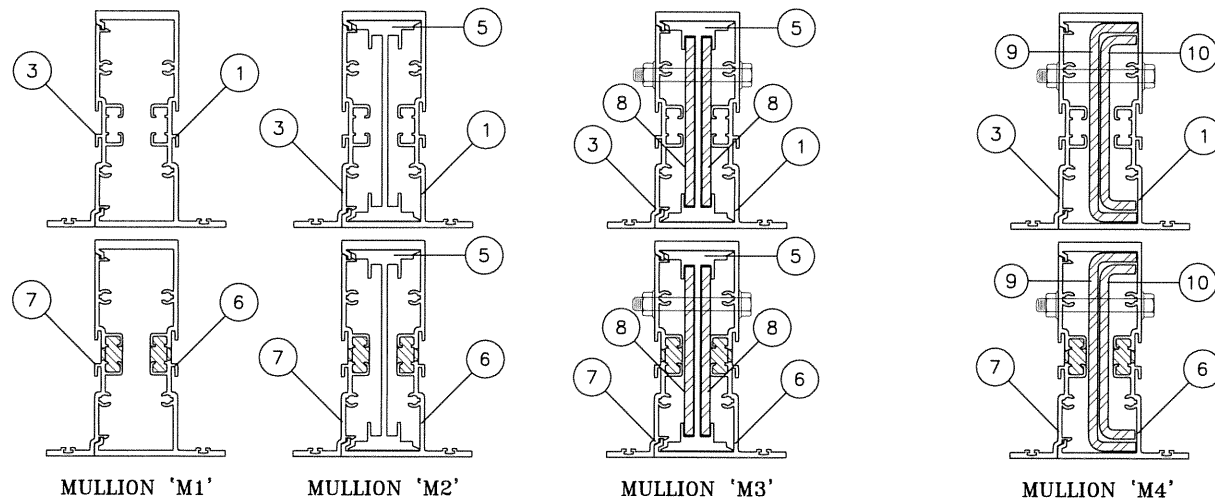
Ix IN ⁴	Sx IN ³
6.2170	2.6925

JAMB 'J3'

ALUMINUM	Ix IN ⁴	Sx IN ³
	6.2170	2.6925
STEEL	1.3650	.7746
TOTAL		
Ix ALUM + Ix STL X 2.9	10.1755	

JAMB 'J4'

ALUMINUM	Ix IN ⁴	Sx IN ³
	4.5110	1.9537
STEEL	3.5210	1.7072
TOTAL		
Ix ALUM + Ix STL X 2.9	14.7219	



MULLION 'M1'

Ix IN ⁴	Sx IN ³
5.1380	2.1170

MULLION 'M2'

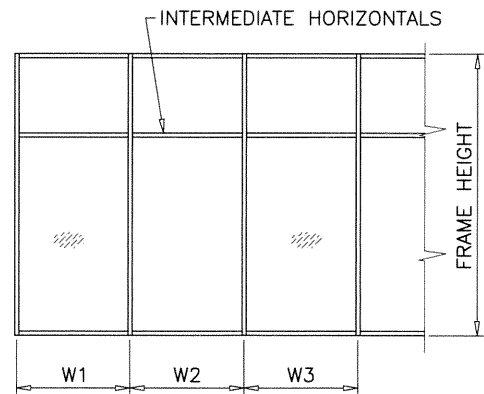
Ix IN ⁴	Sx IN ³
7.8700	3.2427

MULLION 'M3'

ALUMINUM	Ix IN ⁴	Sx IN ³
	7.8700	3.2427
STEEL	1.3650	.7746
TOTAL		
Ix ALUM + Ix STL X 2.9	11.8285	

MULLION 'M4'

ALUMINUM	Ix IN ⁴	Sx IN ³
	5.1380	2.1170
STEEL	3.5210	1.7072
TOTAL		
Ix ALUM + Ix STL X 2.9	15.3489	

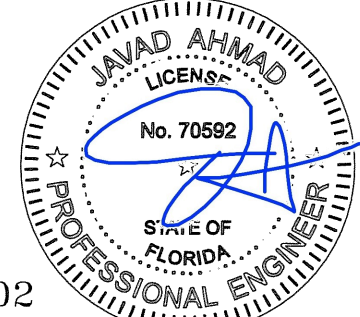


WIDTH (W) = W1
AT FRAME JAMB

WIDTH (W) = $\frac{W2 + W3}{2}$
AT FRAME MULLION

MULLIONS

FL #19002



af c
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 262-6978
FAX. (305) 264-8100

SERIES ENV-450 ALUM WINDOW WALL SYS. (L.M.I.)
ENVIRALUM INDUSTRIES INC.
5100 N.W. 72 AVENUE BLDG. C
MIAMI, FL. 33166
TEL. (305) 752-4411 FAX. (305) 406-3877

no	date	description

date:	09-28-15
scale:	-
dr. by:	HAMID
chk. by:	-

drawing no.
W15-74
sheet 4 of 12

ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)							
NOMINAL DIMS.		3/8" MAX. SHIM SPACE					
WIDTH (W)	FRAME HEIGHT	A2/B2	C2/D2	E2	A3/B3	C3/D3	E3
30"	72"	74.0	131.0	99.3	111.1	131.0	131.0
36"		61.7	116.0	82.8	92.6	131.0	124.2
42"		52.9	99.4	71.0	79.3	131.0	106.5
48"		46.3	87.0	62.1	69.4	130.6	93.2
54"		41.1	77.3	55.2	61.7	116.1	82.8
60"		37.0	69.6	49.7	55.5	104.5	74.5
66"		33.6	63.3	45.2	50.5	95.0	67.8
72"	30.8	58.0	41.4	46.3	87.1	62.1	
30"	78"	68.3	128.5	91.7	102.5	131.0	131.0
36"		56.9	107.1	76.4	85.4	131.0	114.7
42"		48.8	91.8	65.5	73.2	131.0	98.3
48"		42.7	80.3	57.3	64.1	120.5	86.0
54"		37.9	71.4	50.9	57.0	107.1	76.4
60"		34.2	64.2	45.8	51.3	96.4	68.8
66"		31.7	59.7	42.6	47.6	89.5	63.9
30"	84"	63.4	119.3	85.1	95.2	131.0	127.8
36"		52.9	99.4	71.0	79.3	131.0	106.5
42"		45.3	85.2	60.8	68.0	127.9	91.3
48"		39.6	74.6	53.2	59.5	111.9	79.9
54"		35.2	66.3	47.3	52.9	99.5	71.0
60"		31.7	59.7	42.6	47.6	89.5	63.9
66"		29.6	55.7	39.7	44.4	83.6	59.6
30"	90"	59.2	111.4	79.5	88.9	131.0	119.3
36"		49.3	92.8	66.2	74.0	131.0	99.4
42"		42.3	79.5	56.8	63.5	119.4	85.2
48"		37.0	69.6	49.7	55.5	104.5	74.5
54"		32.9	61.9	44.1	49.4	92.9	66.3
60"		29.6	55.7	39.7	44.4	83.6	59.6
66"		27.8	52.2	37.3	41.7	78.4	55.9
30"	96"	55.5	104.4	74.5	83.3	131.0	111.8
36"		46.3	87.0	62.1	69.4	130.6	93.2
42"		39.6	74.6	53.2	59.5	111.9	79.9
48"		34.7	65.3	46.6	52.1	97.9	69.9
54"		30.8	58.0	41.4	46.3	87.1	62.1
60"		27.8	52.2	37.3	41.7	78.4	55.9
66"		26.1	49.1	35.1	39.2	73.7	52.6
30"	102"	52.2	98.3	70.1	78.4	131.0	105.2
36"		43.5	81.9	58.4	65.3	122.9	87.7
42"		37.3	70.2	50.1	56.0	105.3	75.2
48"		32.6	61.4	43.8	49.0	92.2	65.8
54"		29.0	54.6	39.0	43.6	81.9	58.5
60"		26.1	49.1	35.1	39.2	73.7	52.6
66"		24.7	46.4	33.1	37.0	69.6	49.7
30"	108"	49.3	92.8	66.2	74.0	131.0	99.4
36"		41.1	77.3	55.2	61.7	116.1	82.8
42"		35.2	66.3	47.3	52.9	99.5	71.0
48"		30.8	58.0	41.4	46.3	87.1	62.1
54"		27.4	51.6	36.8	41.1	77.4	55.2
60"		24.7	46.4	33.1	37.0	69.6	49.7
66"		23.4	44.0	31.4	35.1	66.0	47.1
30"	114"	46.7	87.9	62.7	70.1	131.0	94.1
36"		38.9	73.3	52.3	58.5	110.0	78.5
42"		33.4	62.8	44.8	50.1	94.3	67.2
48"		29.2	54.9	39.2	43.8	82.5	58.8
54"		26.0	48.8	34.9	39.0	73.3	52.3
60"		23.4	44.0	31.4	35.1	66.0	47.1
66"		22.5	42.2	30.5	34.2	63.3	45.3
30"	120"	44.4	83.5	59.6	66.6	125.4	89.4
36"		37.0	69.6	49.7	55.5	104.5	74.5
42"		31.7	59.7	42.6	47.6	89.5	63.9
48"		27.8	52.2	37.3	41.7	78.4	55.9
54"		24.7	46.4	33.1	37.0	69.6	49.7
60"		23.4	44.0	31.4	35.1	66.0	47.1
66"		22.5	42.2	30.5	34.2	63.3	45.3
30"	126"	42.3	79.5	56.8	63.5	119.4	85.2
36"		35.2	66.3	47.3	52.9	99.5	71.0
42"		30.2	56.8	40.5	45.3	85.3	60.8
48"		26.4	49.7	35.5	39.7	74.6	53.2
54"		23.5	44.2	31.5	35.3	66.3	47.3
60"		22.5	42.2	30.5	34.2	63.3	45.3
66"		21.6	40.4	29.6	33.3	60.6	43.5

ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)							
NOMINAL DIMS.		3/8" MAX. SHIM SPACE					
WIDTH (W)	FRAME HEIGHT	A2/B2	C2/D2	E2	A3/B3	C3/D3	E3
30"	132"	40.4	75.9	54.2	60.6	114.0	81.3
36"		33.6	63.3	45.2	50.5	95.0	67.8
42"		28.8	54.2	38.7	43.3	81.4	58.1
48"		25.2	47.5	33.9	37.9	71.2	50.8
30"	138"	38.6	72.6	51.8	57.9	109.0	77.8
36"		32.2	60.5	43.2	48.3	90.8	64.8
42"		27.6	51.9	37.0	41.4	77.9	55.6
48"		24.1	45.4	32.4	36.2	68.1	48.6
30"	144"	37.0	69.6	49.7	55.5	104.5	74.5
36"		30.8	58.0	41.4	46.3	87.1	62.1
42"		26.4	49.7	35.5	39.7	74.6	53.2
48"		23.1	43.5	31.0	34.7	65.3	46.6

WOOD BUCKS AND METAL STRUCTURE NOT BY ENVIRALUM MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

TYPICAL ANCHORS: SEE ELEV. FOR SPACING

TYPE 'A'- 1/4" DIA ULTRACON BY 'ELCO' (Fu=177 KSI, Fy=155 KSI)
INTO 2BY WOOD BUCKS OR WOOD STRUCTURES WITH 1-1/2" MIN. PENETRATION INTO WOOD

THRU 1BY WOOD BUCKS INTO CONCRETE WITH 1-1/4" MIN. EMBED INTO CONCRETE

TYPE 'B'- 1/4" DIA ULTRACON BY 'ELCO' (Fu=177 KSI, Fy=155 KSI)
DIRECTLY INTO CONCRETE OR MASONRY WITH 1-1/4" MIN. EMBED INTO CONC. OR MASONRY

ANCHOR EDGE DISTANCES

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

TYPE 'C'- 5/16" DIA ULTRACON BY 'ELCO' (Fu=177 KSI, Fy=155 KSI)
INTO WOOD STRUCTURES WITH 1-7/8" MIN. PENETRATION INTO WOOD

THRU 1BY OR 2BY WOOD BUCKS INTO CONCRETE WITH 1-1/4" MIN. EMBED INTO CONCRETE

TYPE 'D'- 5/16" DIA ULTRACON BY 'ELCO' (Fu=177 KSI, Fy=155 KSI)
DIRECTLY INTO CONCRETE OR MASONRY WITH 1-1/4" MIN. EMBED INTO CONC. OR MASONRY

ANCHOR EDGE DISTANCES

INTO CONCRETE AND MASONRY = 3" MIN.
INTO WOOD STRUCTURE = 1-1/4" MIN.

TYPE 'E'- 1/4" DIA. TEKS OR SELF DRILLING SCREWS ST/ST (GRADE 5 CRS)

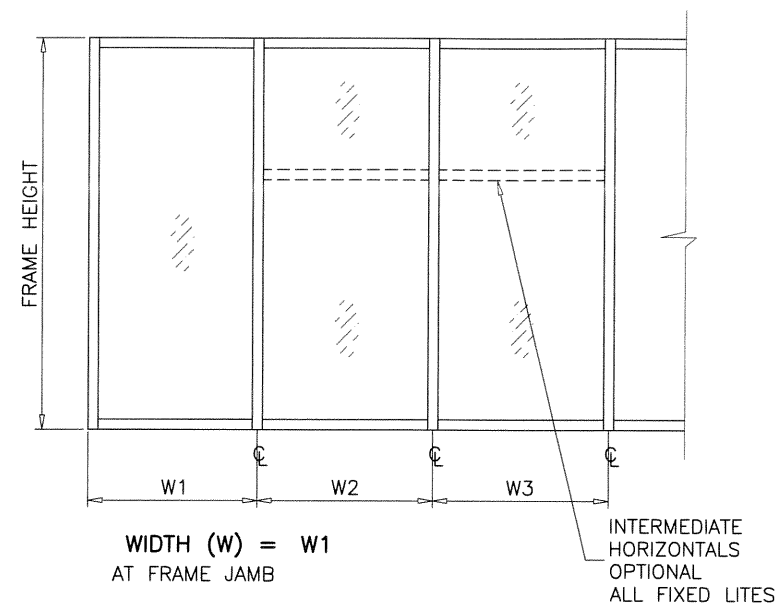
INTO METAL STRUCTURES

STEEL : 12 GA. MIN. (Fy = 36 KSI MIN.)
ALUMINUM : 1/8" THK. MIN. (6063-T5 MIN.)
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

ANCHOR EDGE DISTANCES

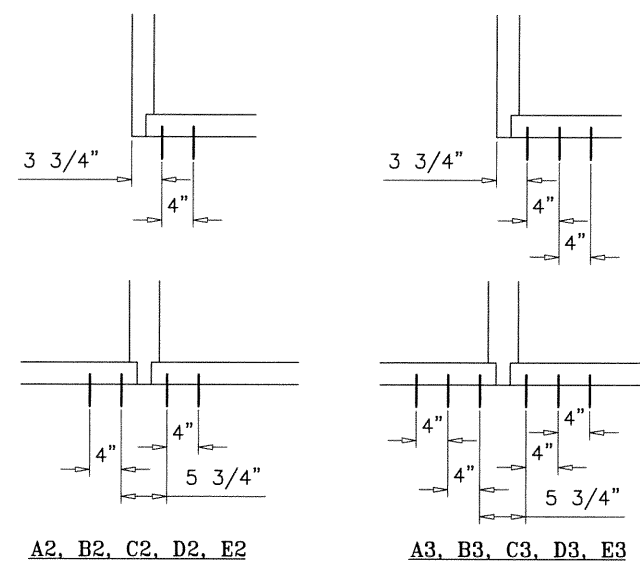
INTO METAL STRUCTURE = 1/2" MIN.

CONCRETE AT HEAD, SILL OR JAMBS f'c = 3000 PSI MIN.
C-90 HOLLOW/FILLED BLOCK AT JAMBS f'm = 2000 PSI MIN.



WIDTH (W) = W1
AT FRAME JAMB

WIDTH (W) = (W2 + W3) / 2
AT FRAME MULLION



A2, B2, C2, D2, E2

A3, B3, C3, D3, E3

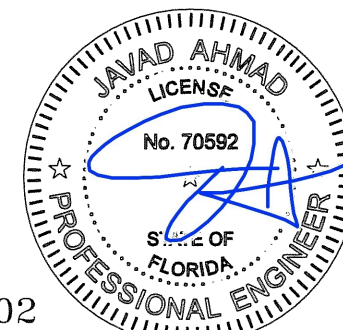
ANCHORS TYPES:

- A2 = (2) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
- B2 = (2) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
- C2 = (2) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION
- D2 = (2) ANCHORS TYPE 'D' AT EACH SIDE OF JAMB AND MULLION
- E2 = (2) ANCHORS TYPE 'E' AT EACH SIDE OF JAMB AND MULLION

- A3 = (3) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
- B3 = (3) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
- C3 = (3) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION
- D3 = (3) ANCHORS TYPE 'D' AT EACH SIDE OF JAMB AND MULLION
- E3 = (3) ANCHORS TYPE 'E' AT EACH SIDE OF JAMB AND MULLION

**ANCHORS
3/8" SHIMS**

FL #19002



af c
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\W15-74ENV

SERIES ENV-450 ALUM WINDOW WALL SYS. (L.M.I.)
ENVIRALUM INDUSTRIES INC.
5100 N.W. 72 AVENUE BLDG. C
MIAMI, FL. 33166
TEL. (305) 752-4411 FAX. (305) 406-3877

revisions:	no	date	description

date: 09-28-15
scale: -
dr. by: HAMID
chk. by:

drawing no.
W15-74

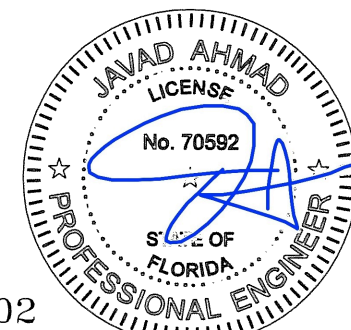
sheet 5 of 12

ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)							
NOMINAL DIMS.		1/4" MAX. SHIM SPACE					
WIDTH (W)	FRAME HEIGHT	A2/B2	C2/D2	E2	A3/B3	C3/D3	E3
30"	72"	131.0	131.0	131.0	131.0	131.0	131.0
36"		113.0	128.0	131.0	131.0	131.0	131.0
42"		97.5	109.7	131.0	131.0	131.0	131.0
48"		85.3	96.0	127.7	128.0	131.0	131.0
54"		75.9	85.3	113.5	113.8	128.0	131.0
60"		68.3	76.8	102.1	102.4	115.2	131.0
66"		62.1	69.8	92.8	93.1	104.7	131.0
72"	56.9	64.0	85.1	85.3	96.0	127.7	
30"	78"	126.0	131.0	131.0	131.0	131.0	131.0
36"		105.0	118.2	131.0	131.0	131.0	131.0
42"		90.0	101.3	131.0	131.0	131.0	131.0
48"		78.8	88.6	117.8	118.2	131.0	131.0
54"		70.0	78.8	104.8	105.0	118.2	131.0
60"		63.0	70.9	94.3	94.5	106.3	131.0
66"		56.9	64.0	85.1	85.3	96.0	127.7
30"	84"	117.0	131.0	131.0	131.0	131.0	131.0
36"		97.5	109.7	131.0	131.0	131.0	131.0
42"		83.6	94.0	125.1	125.4	131.0	131.0
48"		73.1	82.3	109.4	109.7	123.4	131.0
54"		65.0	73.1	97.3	97.5	109.7	131.0
60"		58.5	65.8	87.5	87.8	98.7	131.0
66"		51.2	57.6	76.6	76.8	86.4	114.9
30"	90"	109.2	122.9	131.0	131.0	131.0	131.0
36"		91.0	102.4	131.0	131.0	131.0	131.0
42"		78.0	87.8	116.7	117.0	131.0	131.0
48"		68.3	76.8	102.1	102.4	115.2	131.0
54"		60.7	68.3	90.8	91.0	102.4	131.0
60"		54.6	61.4	81.7	81.9	92.2	122.6
66"		47.5	54.2	72.1	72.3	81.3	108.1
30"	96"	102.4	115.2	131.0	131.0	131.0	131.0
36"		85.3	96.0	127.7	128.0	131.0	131.0
42"		73.1	82.3	109.4	109.7	123.4	131.0
48"		64.0	72.0	95.8	96.0	108.0	131.0
54"		56.9	64.0	85.1	85.3	96.0	127.7
60"		51.2	57.6	76.6	76.8	86.4	114.9
66"		44.5	50.1	66.6	66.8	75.1	99.9
30"	102"	96.4	108.4	131.0	131.0	131.0	131.0
36"		80.3	90.4	120.2	120.5	131.0	131.0
42"		68.8	77.4	103.0	103.3	116.2	131.0
48"		60.2	67.8	90.1	90.4	101.6	131.0
54"		53.5	60.2	80.1	80.3	90.4	120.2
60"		48.2	54.2	72.1	72.3	81.3	108.1
66"		41.5	48.2	64.5	64.7	72.8	96.8
30"	108"	91.0	102.4	131.0	131.0	131.0	131.0
36"		75.9	85.3	113.5	113.8	128.0	131.0
42"		65.0	73.1	97.3	97.5	109.7	131.0
48"		56.9	64.0	85.1	85.3	96.0	127.7
54"		50.6	56.9	75.7	75.9	85.3	113.5
60"		45.5	51.2	68.1	68.3	76.8	102.1
66"		38.8	45.5	57.6	57.8	66.6	99.9
30"	114"	86.2	97.0	129.0	129.3	131.0	131.0
36"		71.9	80.8	107.5	107.8	121.3	131.0
42"		61.6	69.3	92.2	92.4	103.9	131.0
48"		53.9	60.6	80.6	80.8	90.9	120.9
54"		47.9	53.9	71.7	71.9	80.8	107.5
60"		43.1	48.5	64.5	64.7	72.8	96.8
66"		36.4	43.1	56.0	56.2	65.0	102.1
30"	120"	81.9	92.2	122.6	122.9	131.0	131.0
36"		68.3	76.8	102.1	102.4	115.2	131.0
42"		58.5	65.8	87.5	87.8	98.7	131.0
48"		51.2	57.6	76.6	76.8	86.4	114.9
54"		45.5	51.2	68.1	68.3	76.8	102.1
60"		38.8	45.5	57.6	57.8	66.6	99.9
66"		32.1	38.8	49.1	49.3	58.5	96.8
30"	126"	78.0	87.8	116.7	117.0	131.0	131.0
36"		65.0	73.1	97.3	97.5	109.7	131.0
42"		55.7	62.7	83.4	83.6	94.0	125.1
48"		48.8	54.9	73.0	73.1	82.3	109.4
54"		43.3	48.8	64.8	65.0	73.1	97.3
60"		36.6	43.3	55.3	55.5	64.8	94.2
66"		30.0	36.6	46.8	47.0	56.7	91.1

ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)							
NOMINAL DIMS.		1/4" MAX. SHIM SPACE					
WIDTH (W)	FRAME HEIGHT	A2/B2	C2/D2	E2	A3/B3	C3/D3	E3
30"	132"	74.5	83.8	111.4	111.7	125.7	131.0
36"		62.1	69.8	92.8	93.1	104.7	131.0
42"		53.2	59.8	79.6	79.8	89.8	119.4
48"		46.5	52.4	69.6	69.8	78.5	104.5
30"	138"	71.2	80.1	106.6	106.9	120.2	131.0
36"		59.4	66.8	88.8	89.0	100.2	131.0
42"		50.9	57.2	76.1	76.3	85.9	114.2
48"		44.5	50.1	66.6	66.8	75.1	99.9
30"	144"	68.3	76.8	102.1	102.4	115.2	131.0
36"		56.9	64.0	85.1	85.3	96.0	127.7
42"		48.8	54.9	73.0	73.1	82.3	109.4
48"		42.7	48.0	63.8	64.0	72.0	95.8

ANCHORS
1/4" SHIMS

FL #19002



af c
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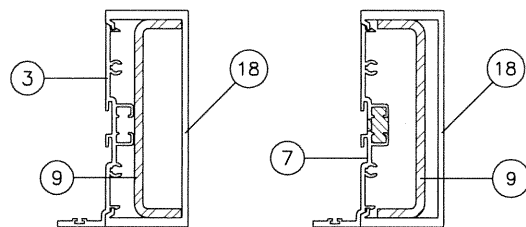
SERIES ENV-450 ALUM WINDOW WALL SYS. (L.M.I.)
ENVIRALUM INDUSTRIES INC.
5100 N.W. 72 AVENUE BLDG. C
MIAMI, FL. 33166
TEL. (305) 752-4411 FAX. (305) 406-3877

revisions:	no	date	description

date: 09-28-15
scale: -
dr. by: HAMID
chk. by:

drawing no.
W15-74
sheet 5.1 of 12

DOOR MULLION LOAD CAPACITY			
NOMINAL DIMS.		WITH REINF.	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)
40-3/4"	102"	75.0	75.0
43-3/4"		75.0	75.0
46-3/4"		75.0	75.0
49-3/4"		75.0	75.0
52-3/4"		75.0	75.0
55-3/4"		75.0	75.0
40-3/4"	108"	75.0	75.0
43-3/4"		75.0	75.0
46-3/4"		75.0	75.0
49-3/4"		75.0	75.0
52-3/4"		75.0	75.0
52-3/4"		75.0	75.0
40-3/4"	114"	75.0	75.0
43-3/4"		75.0	75.0
46-3/4"		75.0	75.0
49-3/4"		75.0	75.0
40-3/4"	120"	75.0	75.0
43-3/4"		75.0	75.0
46-3/4"		72.2	72.2
49-3/4"		67.9	67.9

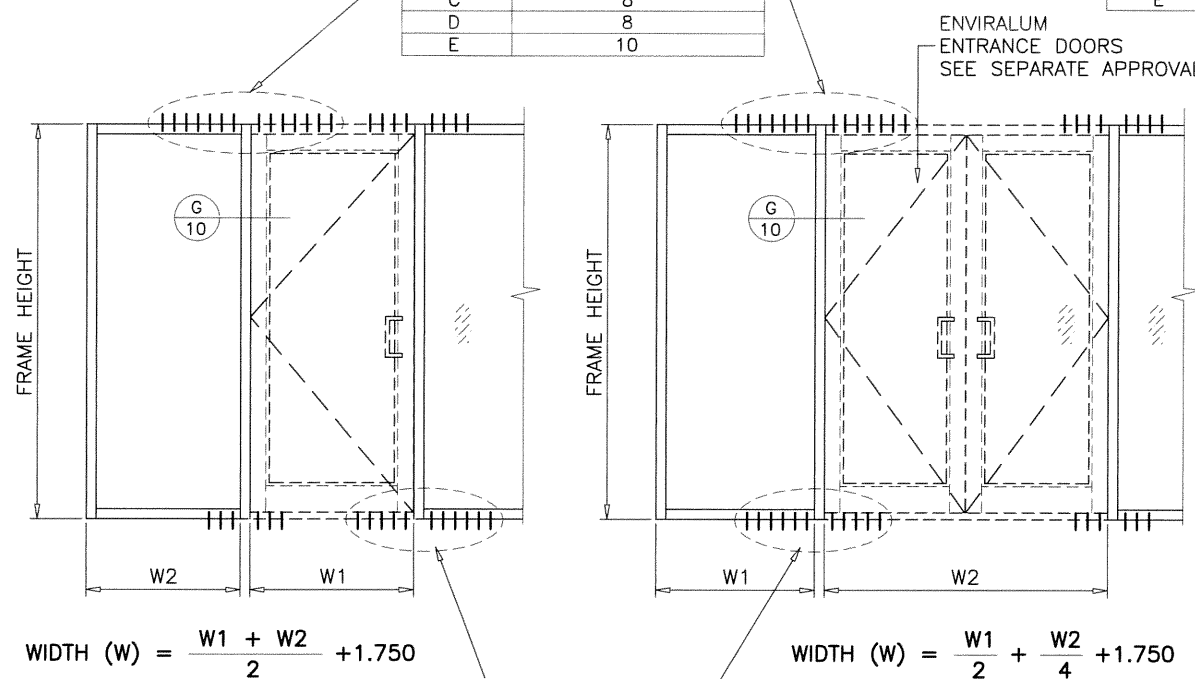


DOOR MULLION
WITH REINF.

	Ix IN ⁴	Sx IN ³
ALUMINUM	5.0950	2.0993
STEEL	2.2740	1.1025
TOTAL Ix ALUM + Ix STL X 2.9	11.6896	

ANCHOR TYPES	TOTAL NO. OF ANCHORS AT DOOR MULLION HEAD
A	14
B	8
C	8
D	8
E	10

ANCHOR TYPES	TOTAL NO. OF ANCHORS AT DOOR MULLION HEAD
A	14
B	8
C	8
D	8
E	10



ANCHOR TYPES	TOTAL NO. OF ANCHORS AT DOOR MULLION BOTTOM
B	11
D	6

ANCHOR TYPES	TOTAL NO. OF ANCHORS AT DOOR MULLION BOTTOM
B	11
D	6

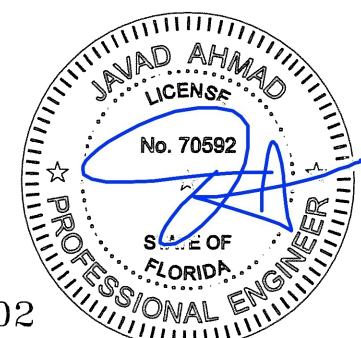
af c
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 MIAMI, FLORIDA 33174
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 5100 N.W. 72 AVENUE BLDG. C
 MIAMI, FL. 33166
 TEL. (305) 752-4411 FAX. (305) 406-3877

revisions:	no	date	by	description

date: 09-28-15	scale: -	dr. by: HAMID	chk. by:
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drawing no.
W15-74
 sheet 6 of 12



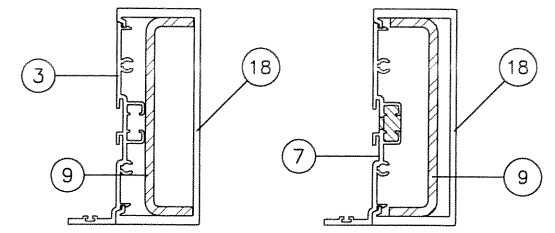
DOOR MULLION

FL #19002

Oct 22 2015 12:37 PM

DOOR MULLION LOAD CAPACITY - PSF					DOOR MULLION LOAD CAPACITY - PSF					DOOR MULLION LOAD CAPACITY - PSF					DOOR MULLION LOAD CAPACITY - PSF																																		
NOMINAL DIMS.					NOMINAL DIMS.					NOMINAL DIMS.					NOMINAL DIMS.																																		
FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	WIDTH (W1) INCHES	WIDTH (W2) INCHES	EXT. (+) INT. (-)	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	WIDTH (W1) INCHES	WIDTH (W2) INCHES	EXT. (+) INT. (-)	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	WIDTH (W1) INCHES	WIDTH (W2) INCHES	EXT. (+) INT. (-)	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	WIDTH (W1) INCHES	WIDTH (W2) INCHES	EXT. (+) INT. (-)																														
102	80	60	30	75.0	102	84	60	30	75.0	102	90	60	30	75.0	102	96	60	30	75.0	60	30	75.0																											
			36	75.0				36	75.0				36	75.0				36	75.0		36	75.0	36	75.0	36	75.0	36	75.0	36	75.0	36	75.0																	
			42	75.0				42	75.0				42	75.0				42	75.0		42	75.0	42	75.0	42	75.0	42	75.0	42	75.0	42	75.0	42	75.0															
			48	75.0				48	75.0				48	75.0				48	75.0		48	75.0	48	75.0	48	75.0	48	75.0	48	75.0	48	75.0	48	75.0	48	75.0													
		84	72	30			75.0	102	84			72	30	75.0			102	90	72	30	75.0	102	96	72	30	75.0	72	30	75.0	72	30	75.0																	
				36			75.0						36	75.0						36	75.0				36	75.0		36	75.0		36	75.0	36	75.0	36	75.0	36	75.0	36	75.0									
				42			75.0						42	75.0						42	75.0				42	75.0		42	75.0		42	75.0	42	75.0	42	75.0	42	75.0	42	75.0	42	75.0							
				48			75.0						48	75.0						48	75.0				48	75.0		48	75.0		48	75.0	48	75.0	48	75.0	48	75.0	48	75.0	48	75.0	48	75.0					
			96	84			30					75.0	102	84					84	30	75.0			102	90	84	30	75.0	102	96	84	30	75.0	84	30	75.0	84	30	75.0										
							36					75.0								36	75.0						36	75.0				36	75.0		36	75.0		36	75.0	36	75.0	36	75.0	36	75.0	36	75.0		
							42					75.0								42	75.0						42	75.0				42	75.0		42	75.0		42	75.0	42	75.0	42	75.0	42	75.0	42	75.0	42	75.0
							48					75.0								48	75.0						48	75.0				48	75.0		48	75.0		48	75.0	48	75.0	48	75.0	48	75.0	48	75.0	48	75.0

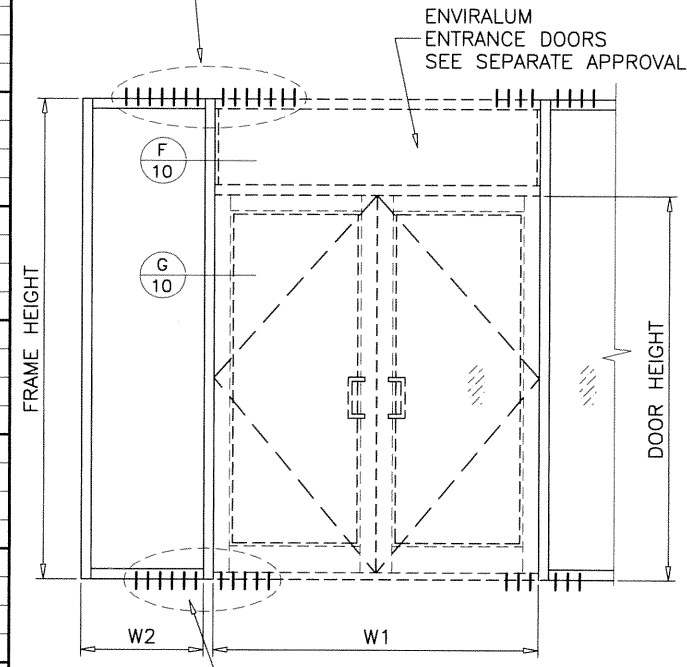
DOOR MULLION



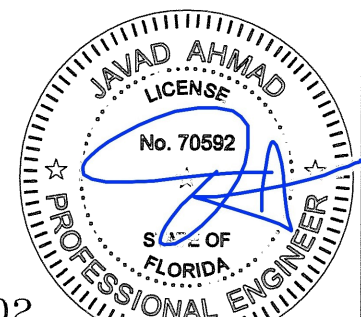
DOOR MULLION WITH REINF.

	Ix IN^4	Sx IN^3
ALUMINUM	5.0950	2.0993
STEEL	2.2740	1.1025
TOTAL		
Ix ALUM + Ix STL X 2.9	11.6896	

ANCHOR TYPES	TOTAL NO. OF ANCHORS AT DOOR MULLION HEAD
A	14
B	8
C	8
D	8
E	10



ANCHOR TYPES	TOTAL NO. OF ANCHORS AT DOOR MULLION BOTTOM
B	11
D	6



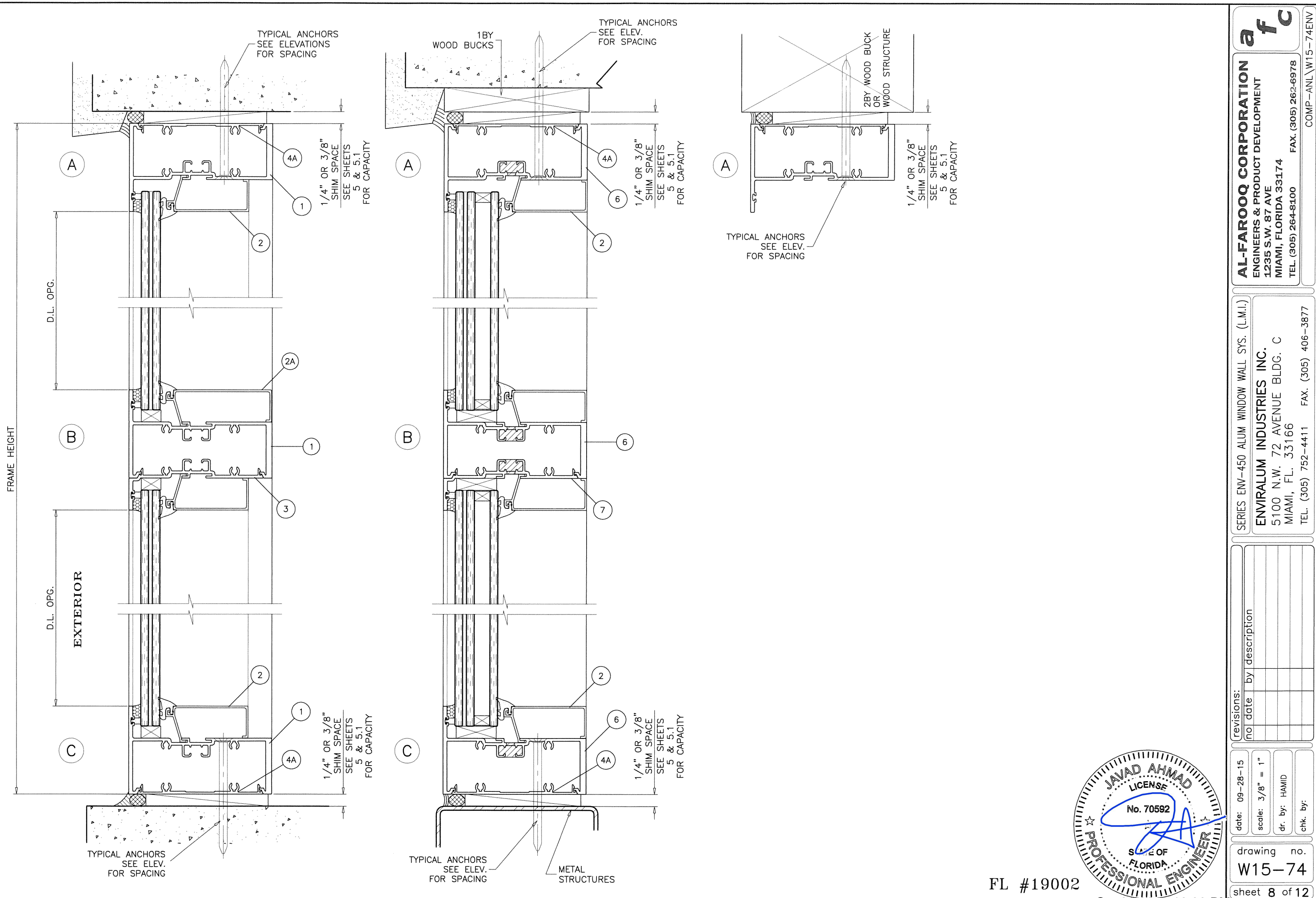
a f c
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revisions:
 no date by description

date: 09-28-15
 scale: -
 dr. by: HAMID
 chk. by:

drawing no. **W15-74**
 sheet 7 of 12



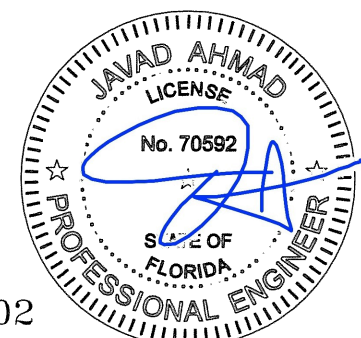
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no	date	by	description

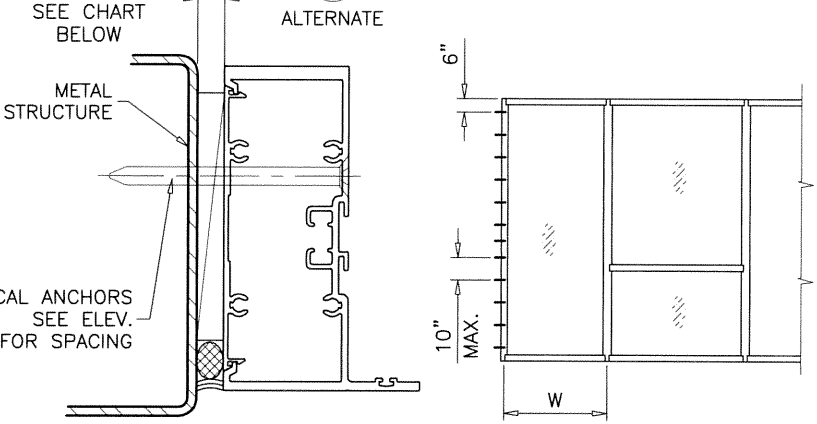
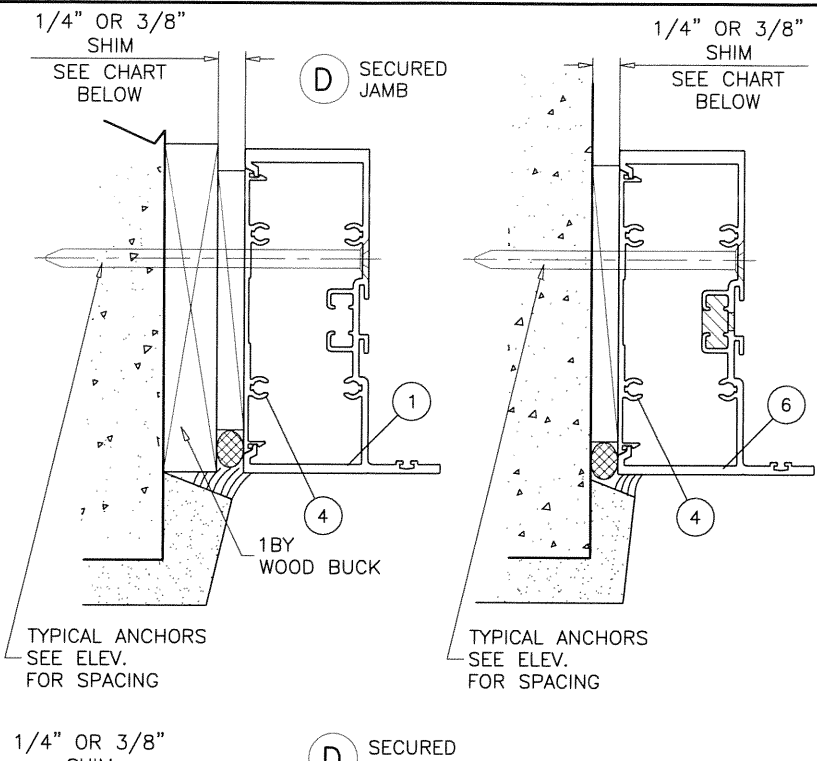
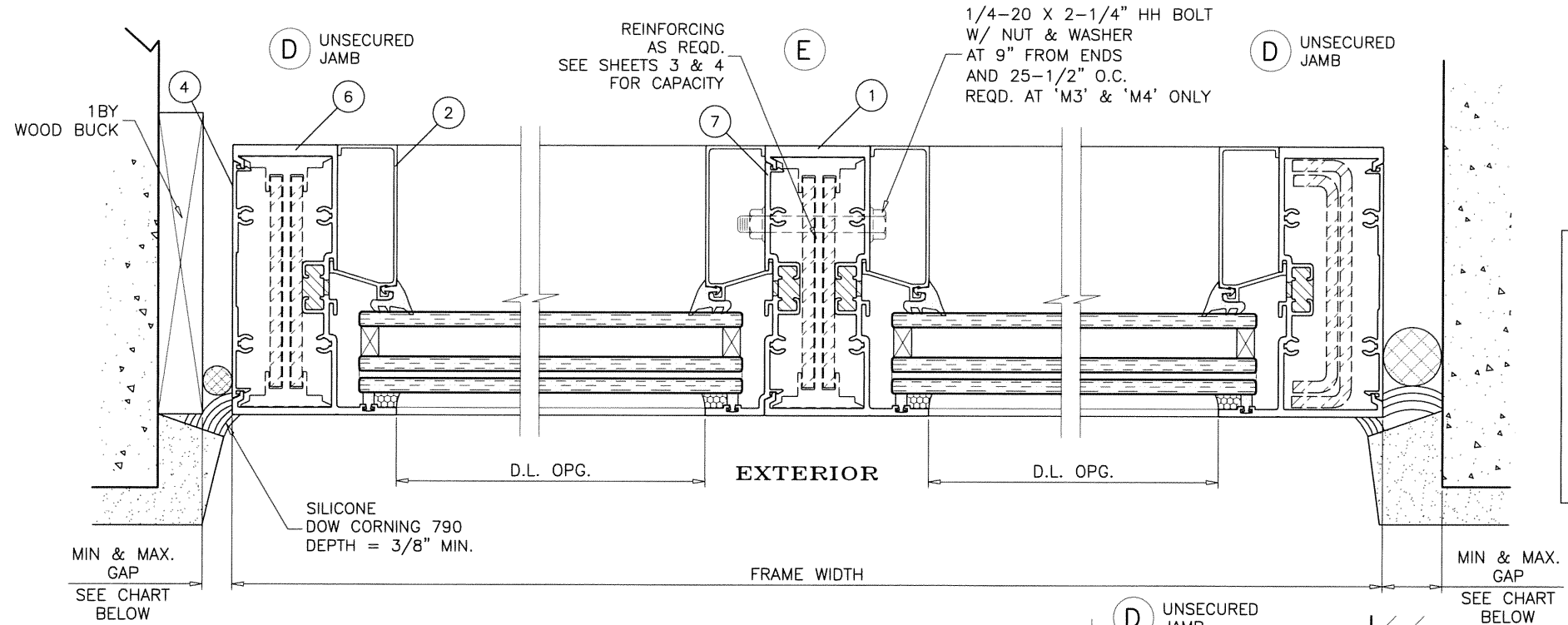
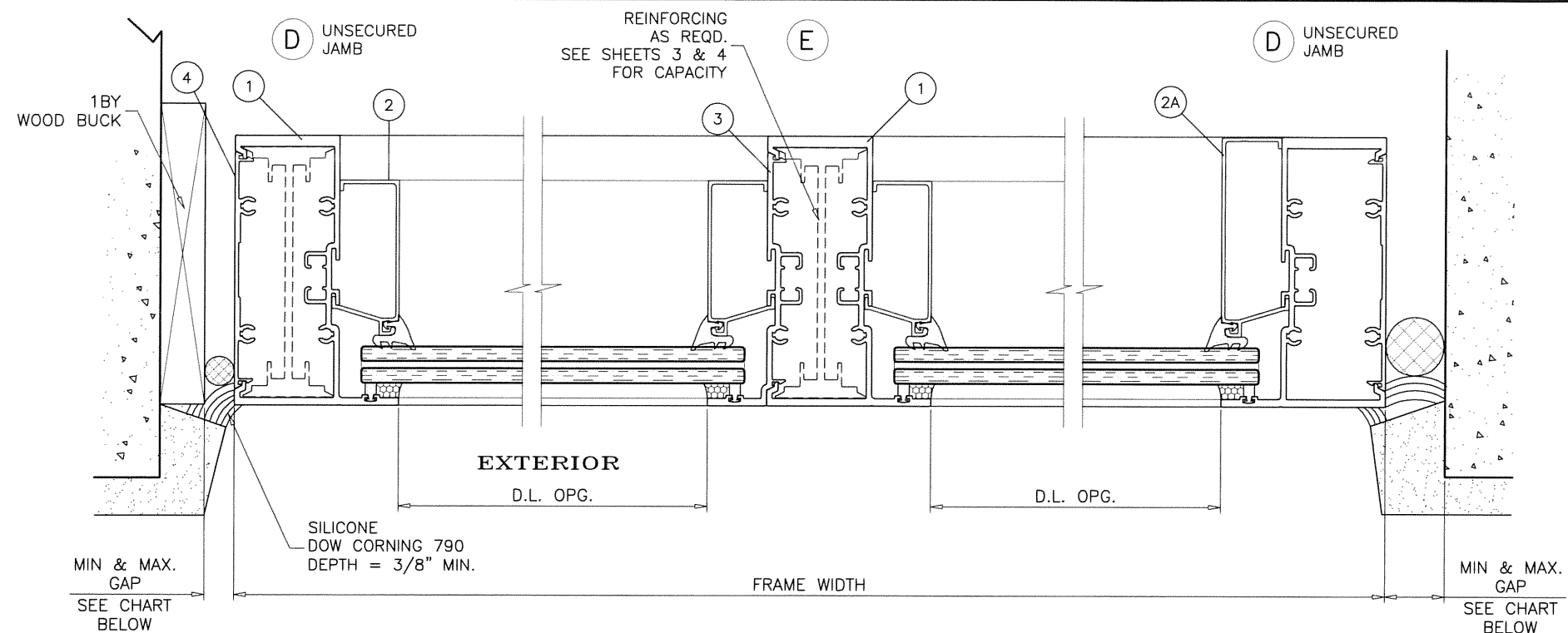
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 scale: 3/8" = 1"
 dr. by: HAMID
 chk. by:

drawing no.
W15-74
 sheet 8 of 12



FL #19002

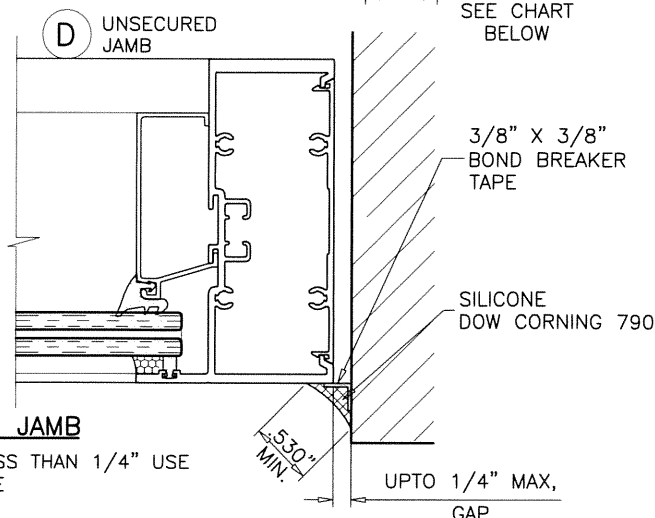
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JAMB ANCHORS DESIGN LOAD CAPACITY - PSF

WIDTH (W)	3/8" MAX. SHIM			1/4" MAX. SHIM		
	TYPE 'A' & 'B'	TYPE 'C' & 'D'	TYPE 'E'	TYPE 'A' & 'B'	TYPE 'C' & 'D'	TYPE 'E'
	EXT.(+) INT.(-)	EXT.(+) INT.(-)	EXT.(+) INT.(-)	EXT.(+) INT.(-)	EXT.(+) INT.(-)	EXT.(+) INT.(-)
30"	131.0	131.0	131.0	131.0	131.0	131.0
36"	111.0	131.0	131.0	131.0	131.0	131.0
42"	95.2	131.0	127.7	131.0	131.0	131.0
48"	83.3	131.0	111.8	131.0	131.0	131.0
54"	74.0	131.0	99.4	131.0	131.0	131.0
60"	66.6	125.3	89.4	122.9	131.0	131.0
66"	60.6	113.9	81.3	111.7	121.3	131.0
72"	55.5	104.4	74.5	102.4	111.2	131.0

SECURED JAMBS
(REINFORCING NOT REQUIRED)



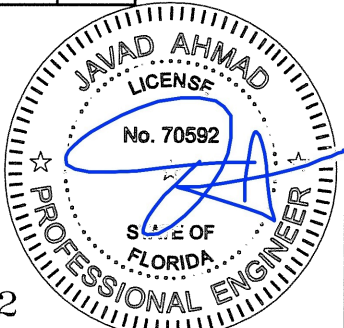
FREE STANDING JAMB

FOR JOINTS GAP LESS THAN 1/4" USE BOND BREAKER TAPE SEE DETAIL ABOVE

MAX. FRAME HEIGHT	GAP	
	MIN.	MAX.
84"	1/4"	1"
96"	5/16"	1"
120"	3/8"	1"
144"	1/2"	1"

ALTERNATE SEALANTS AT JAMB GAPS CAN BE DESIGNED BY ENGINEER OF RECORD BASED ON MANUFACTURER GUIDE LINES.

**UNSECURED JAMBS
FREE STANDING**



FL #19002

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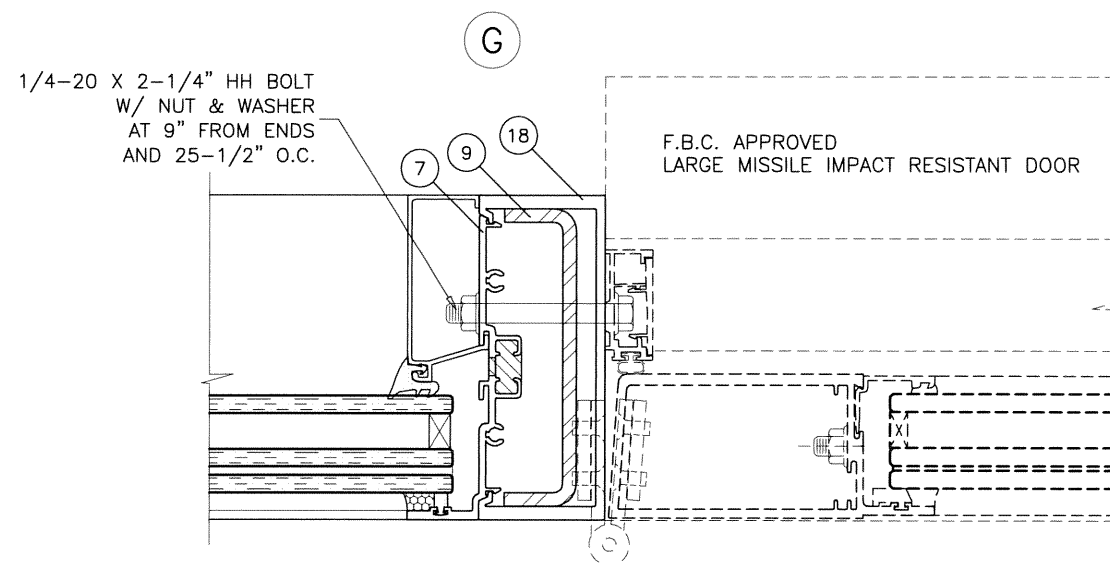
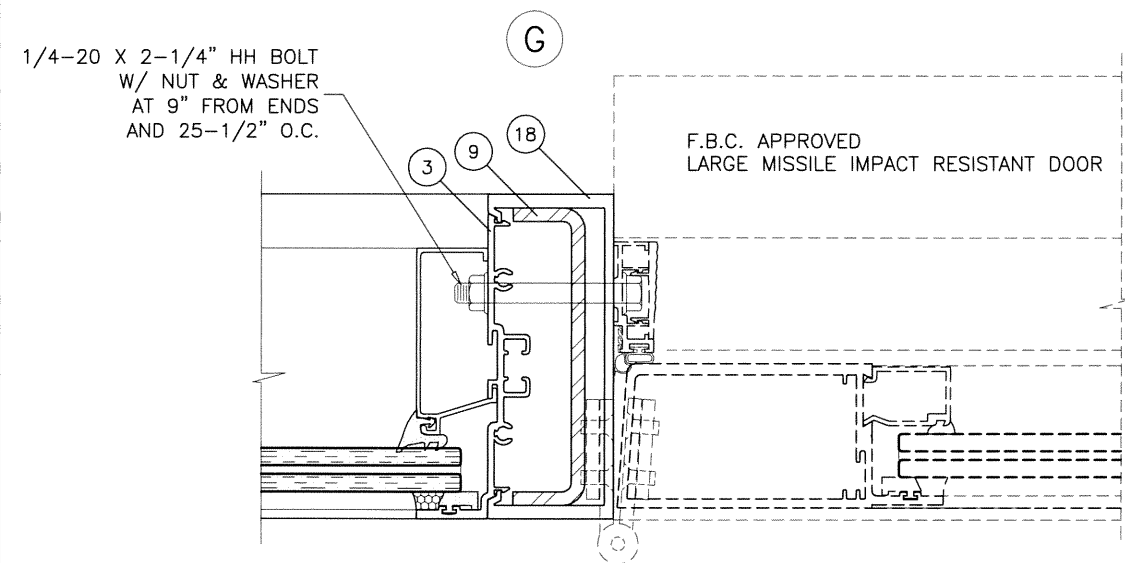
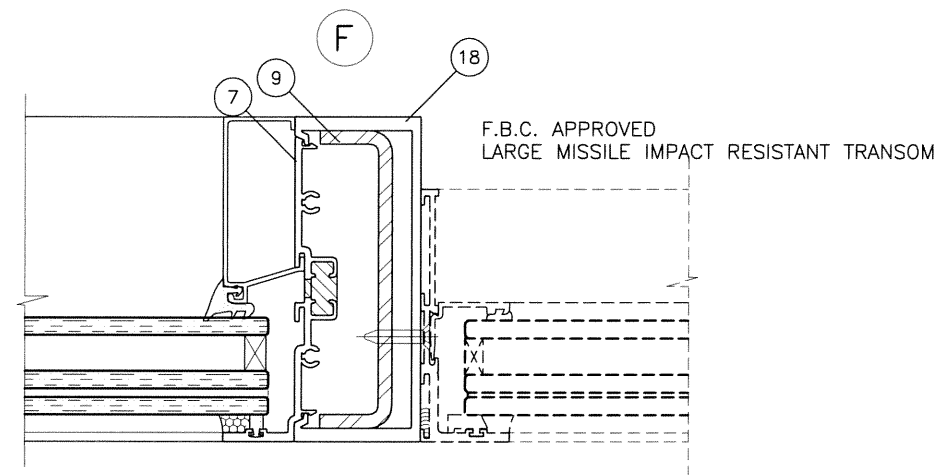
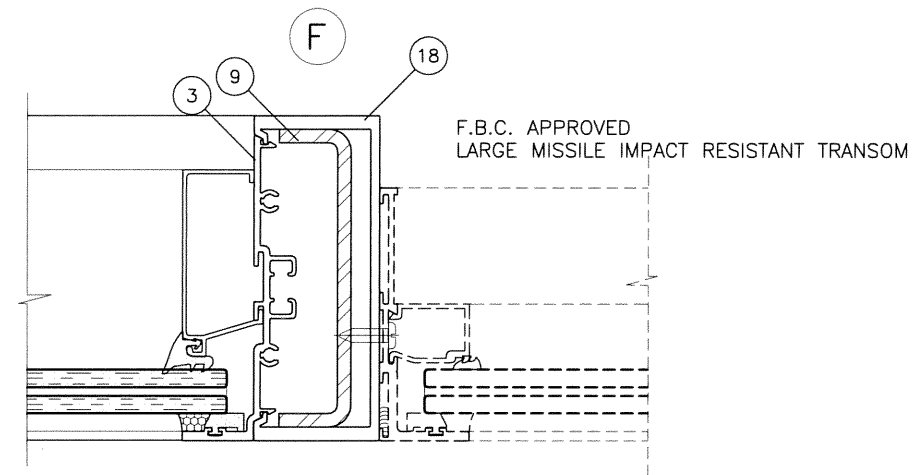
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revisions:	no	date	by	description
date:	09-28-15	scale:	3/8" = 1"	
dr. by:	HAMID	chk. by:		
drawing no.	W15-74			
sheet	9 of 12			

SEE SEPARATE APPROVAL FOR DESIGN LOAD CAPACITY OF DOORS AND DOOR ANCHORS.

LOWER VALUES FROM DOORS APPROVAL OR STOREFRONT SYSTEM CAPACITY CHARTS WILL APPLY TO ENTIRE SYSTEM.



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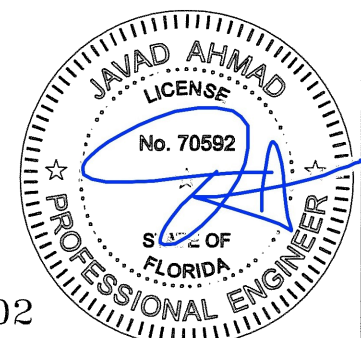
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no	date	by	description

date: 09-28-15
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chk. by:

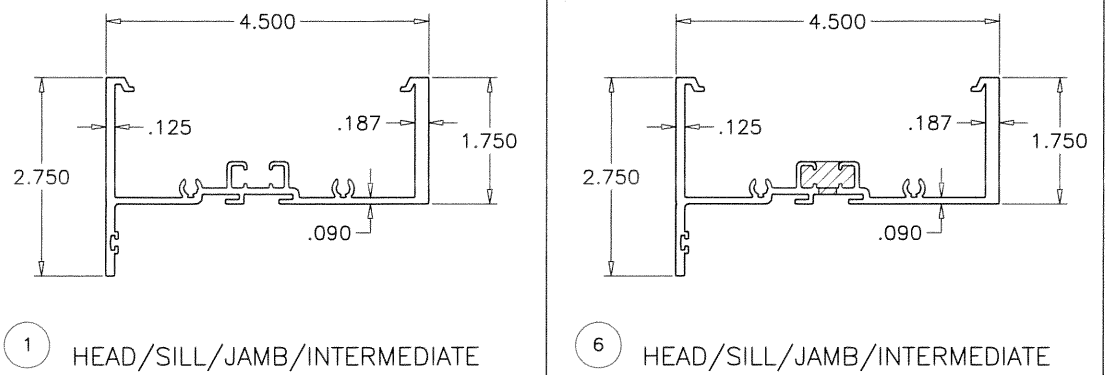
drawing no.
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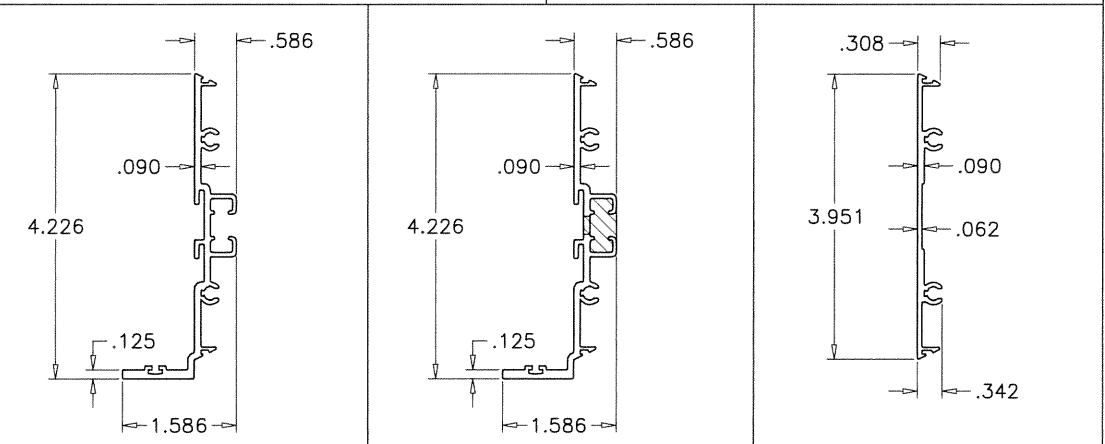
FL #19002

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1 HEAD/SILL/JAMB/INTERMEDIATE

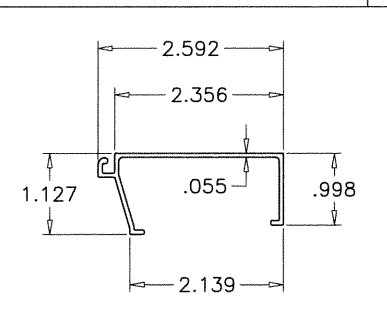
6 HEAD/SILL/JAMB/INTERMEDIATE



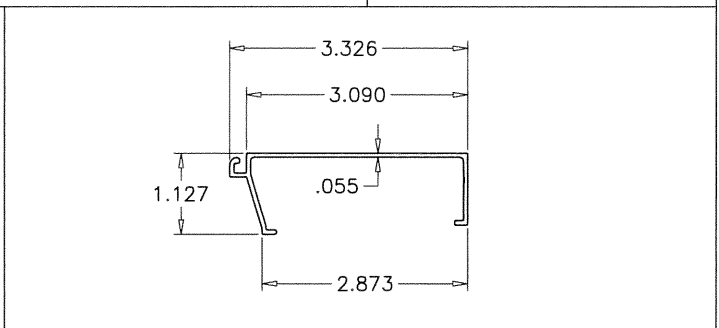
3 FIN SNAP

7 FIN SNAP

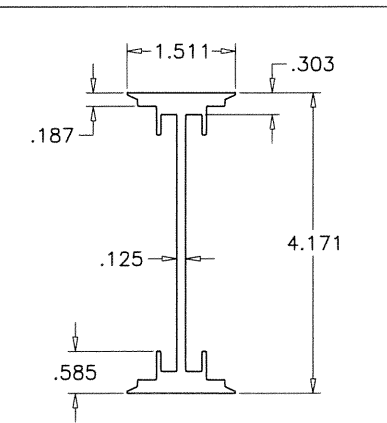
4 FLAT SNAP



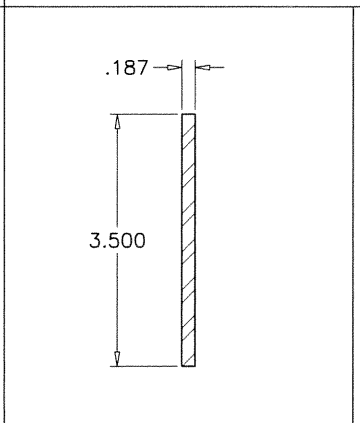
2 GLASS STOP



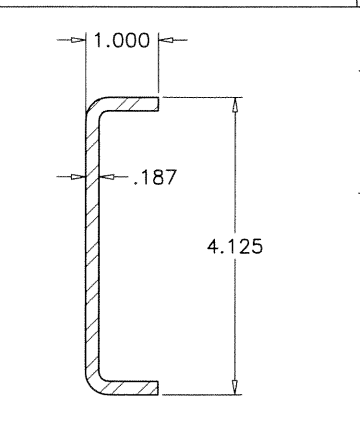
2A EXTENDED GLASS STOP



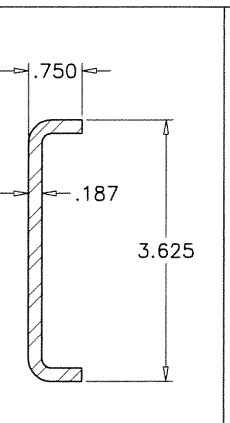
5 ALUM REINF.



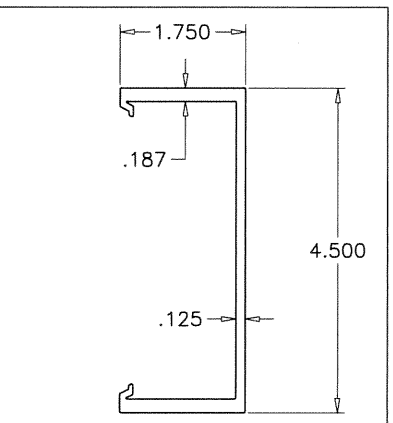
8 STEEL BAR REINF.



9 STEEL CHANNEL REINF.



10



18 DOOR MULLION

ITEM NO.	PART NUMBER	QUANTITY	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
1	ENV-451	AS REQD.	HEAD/SILL/JAMB & INTERMEDIATE	6063-T6	ENVIRALUM
2	ENV-452	AS REQD.	GLASS STOP	6063-T6	ENVIRALUM
2A	ENV-458	AS REQD.	EXTENDED GLASS STOP (OPTION TO ENV-452)	6063-T6	ENVIRALUM
3	ENV-453	AS REQD.	FIN SNAP	6063-T6	ENVIRALUM
4	ENV-454	1/ FREE STANDING JAMB	FLAT SNAP FULL LENGTH OF VERTICAL	6063-T6	ENVIRALUM
4A	ENV-454-3	1/ INSTALL SCREW	FLAT SNAP, 3" LONG	6063-T6	ENVIRALUM
4B	ENV-454-7	1/ CORNER	FLAT SNAP, 7" LONG	6063-T6	ENVIRALUM
5	ENV-455	AS REQD.	ALUMINUM REINFORCEMENT	6063-T6	ENVIRALUM
6	ENV-451T	AS REQD.	HEAD/SILL/JAMB & INTERMEDIATE (THERMAL)	6063-T6	ENVIRALUM
7	ENV-453T	AS REQD.	FIN SNAP (THERMAL)	6063-T6	ENVIRALUM
8	ENV-ST1	AS REQD.	3/16" X 3-1/2' BAR	STEEL	ENVIRALUM
9	ENV-ST2	AS REQD.	1" X 4-1/8" X 1" X 3/16" THK. CHANNEL	STEEL	ENVIRALUM
10	ENV-ST3	AS REQD.	3/4" X 3-5/8" X 3/4" X 3/16" THK. CHANNEL	STEEL	ENVIRALUM
11	ENV-G01	AS REQD.	INTERIOR GASKET	EPDM	GLAZING RUBBER PRODUCTS
12	ENV-G03	AS REQD.	SPACER GASKET	EPDM	GLAZING RUBBER PRODUCTS
13	ENV-SB01	1/ QUARTER POINT	3/8" X 1/2" X 2" SETTING BLOCKS, DUROMETER 70±5	EPDM	FRANK LOWE RUBBER
14	ENV-SB02	1/ QUARTER POINT	3/8" X 1-1/4" X 2" SETTING BLOCKS, DUROMETER 70±5	EPDM	FRANK LOWE RUBBER
15	DOW 791	AS REQD.	GLAZING COMPOUND	SILICONE	DOW CORNING
16	GE SCS2000	AS REQD.	GLAZING COMPOUND	SILICONE	GE MOMENTIVE
17	#12 X 1-1/2	4/ CORNER	FRAME ASSEMBLY SCREWS	ST. STEEL	HWH SMS
18	ENV-355	AS REQD.	DOOR MULLION	6063-T6	-

SEALANTS:

ALL FRAME CORNERS, JOINTS, MULLION SEAMS AND PERIMETER OF GLAZING BEAD TO FRAME SEALED WITH SILICONE SEALANT.

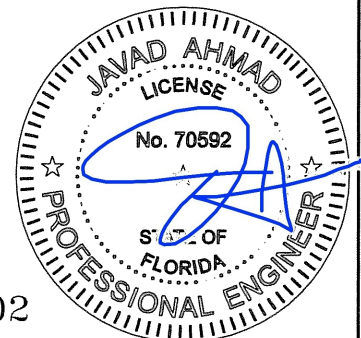
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AL-FAROOQ CORPORATION
 ENGINEERS & PRODUCT DEVELOPMENT
 1235 S.W. 87 AVE
 MIAMI, FLORIDA 33174
 TEL. (305) 264-8100 FAX. (305) 262-6978
 COMP-ANL\W15-74ENV

SERIES ENV-450 ALUM WINDOW WALL SYS. (L.M.I.)
ENVIRALUM INDUSTRIES INC.
 5100 N.W. 72 AVENUE BLDG. C
 MIAMI, FL. 33166
 TEL. (305) 752-4411 FAX. (305) 406-3877

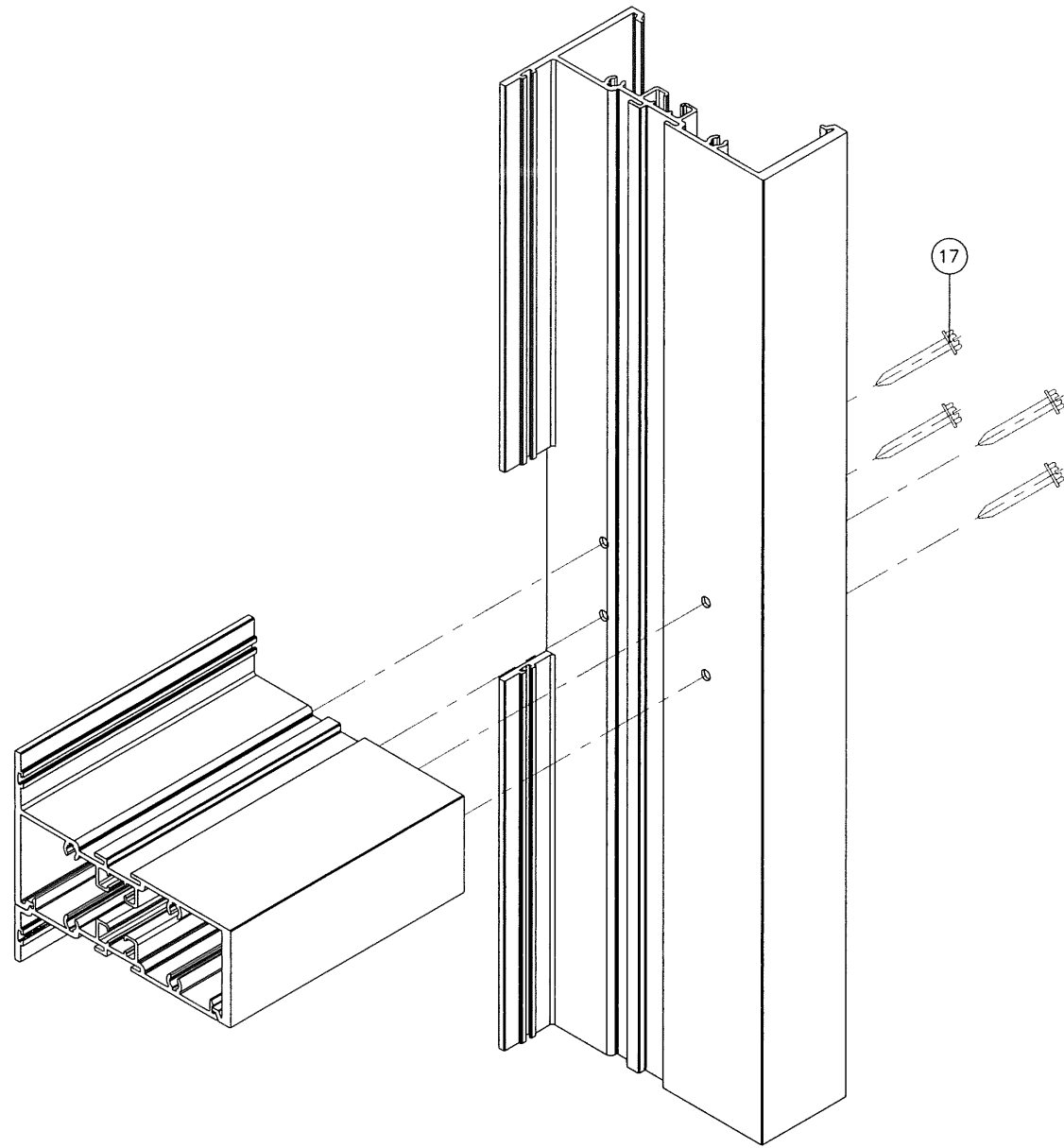
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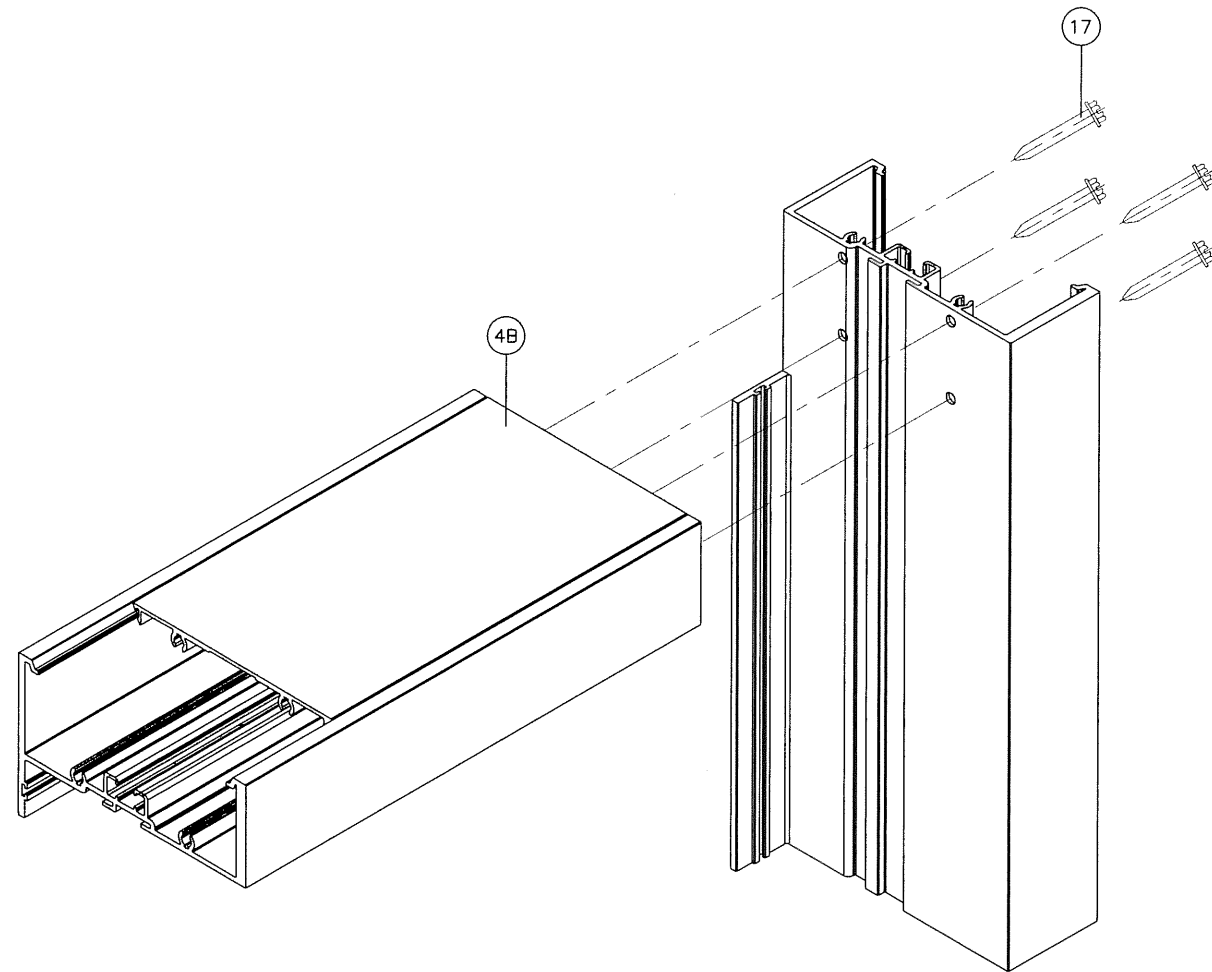
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W15-74
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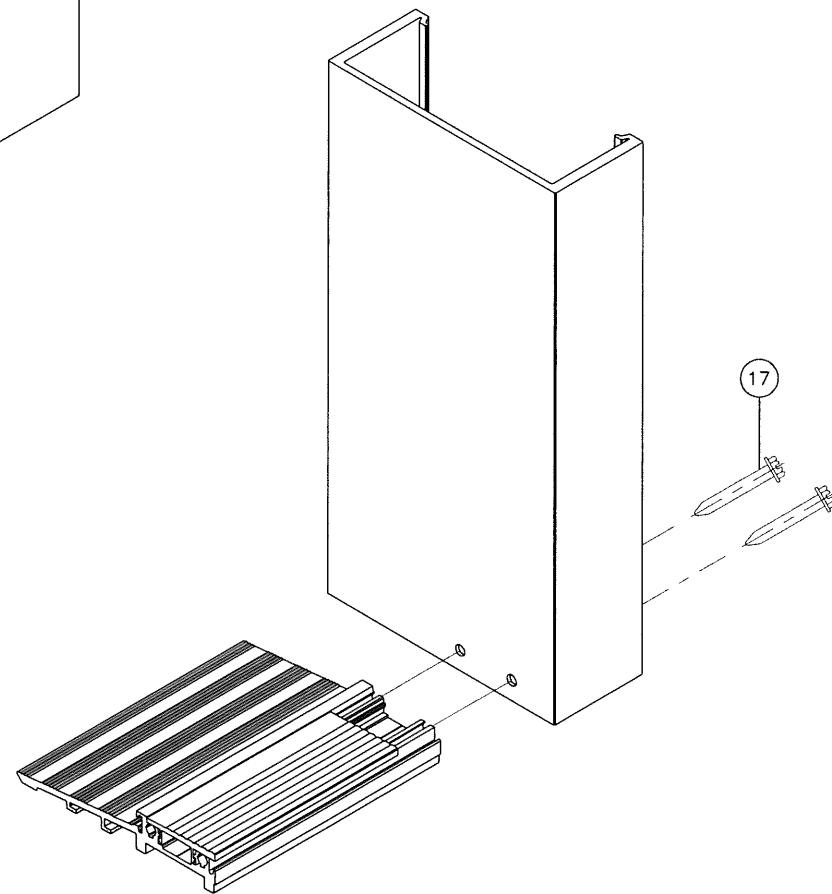
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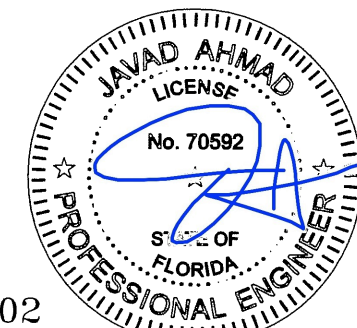
INTERMEDIATE CORNERS



TOP/BOTTOM CORNERS



DOOR MULLION BOTTOM CORNER



FL #19002

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sheet 12 of 12