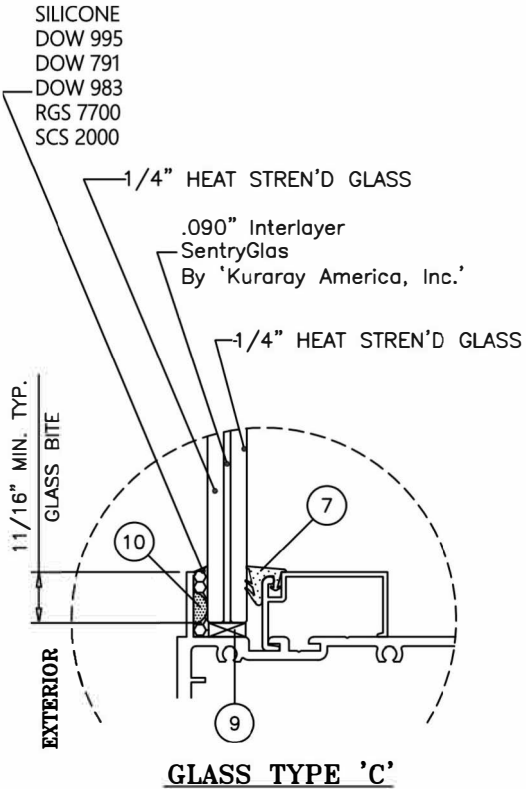
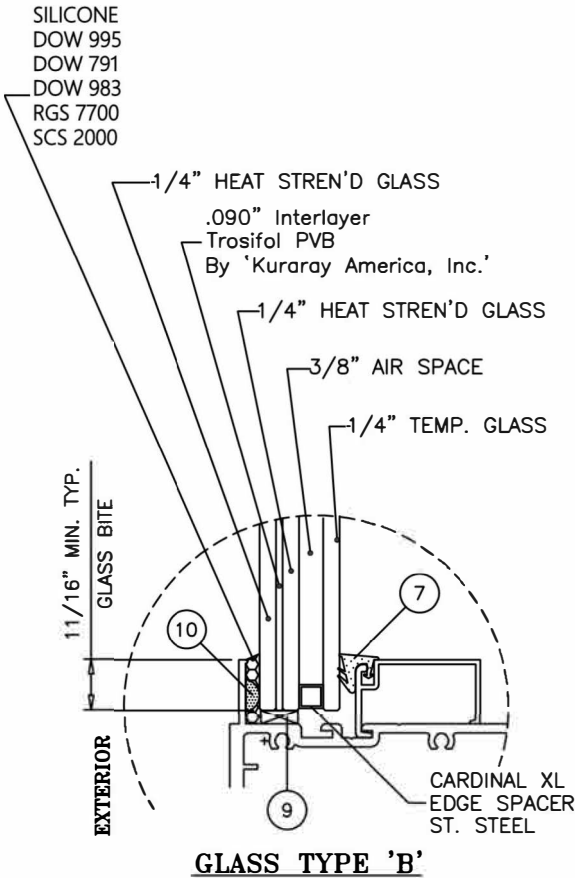
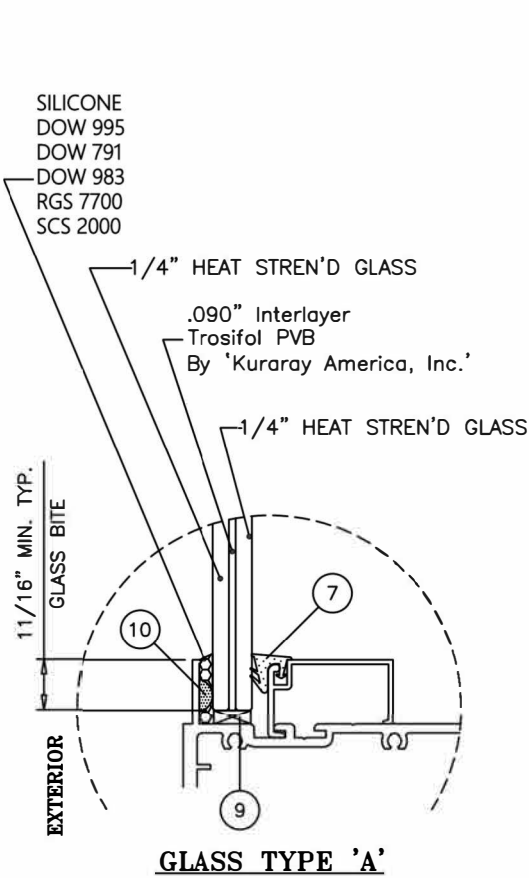


GLASS LOAD CAPACITY - PSF					
NOMINAL DIMS.		GLASS TYPES 'A' & 'B'		GLASS TYPE 'C'	
D.L.O. WIDTH	D.L.O. HEIGHT	POS. (+)	NEG. (-)	POS. (+)	NEG. (-)
30-3/4"	78-3/4"	70.0	75.0	80.0	90.0
33-3/4"		70.0	75.0	80.0	90.0
36-3/4"		70.0	75.0	80.0	90.0
39-3/4"		70.0	75.0	80.0	90.0
42-3/4"		70.0	75.0	80.0	90.0
45-3/4"		65.9	70.6	80.0	90.0
48-3/4"		62.2	66.7	80.0	90.0
51-3/4"		58.9	63.2	80.0	90.0
54-3/4"	84-3/4"	56.0	60.0	80.0	90.0
57-3/4"		-	-	76.2	85.7
60-3/4"		-	-	72.7	81.8
30-3/4"		70.0	75.0	80.0	90.0
33-3/4"		70.0	75.0	80.0	90.0
36-3/4"		70.0	75.0	80.0	90.0
39-3/4"		70.0	75.0	80.0	90.0
42-3/4"		70.0	75.0	80.0	90.0
45-3/4"		70.0	75.0	80.0	90.0
48-3/4"	90-3/4"	65.9	70.6	80.0	90.0
51-3/4"		62.2	66.7	80.0	90.0
54-3/4"		58.9	63.2	80.0	90.0
57-3/4"		-	-	80.0	90.0
60-3/4"		-	-	76.2	85.7
30-3/4"		70.0	75.0	80.0	90.0
33-3/4"		70.0	75.0	80.0	90.0
36-3/4"		70.0	75.0	80.0	90.0
39-3/4"	96-3/4"	70.0	75.0	-	-
42-3/4"		70.0	75.0	-	-
45-3/4"		70.0	75.0	-	-
48-3/4"		70.0	75.0	-	-
51-3/4"		70.0	75.0	-	-
54-3/4"	102-3/4"	70.0	75.0	-	-
57-3/4"		70.0	75.0	-	-
60-3/4"		70.0	75.0	-	-
63-3/4"		70.0	75.0	-	-
66-3/4"		70.0	75.0	-	-

NOTE:
GLASS CAPACITIES ON THIS SHEET ARE
BASED ON ASTM E1300-16 (3 SEC. GUSTS).

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



GLAZING OPTIONS

GLASS

FL#21632.3



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drawing no.	date:	REVISION		MA	BS
		DATE	DESCRIPTION		

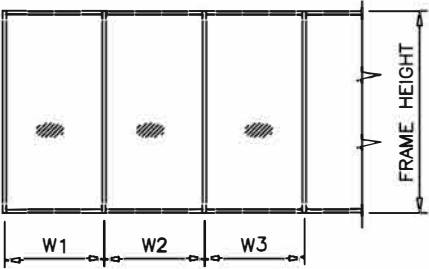
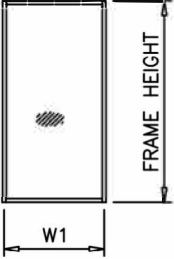
SERIES 450:ALUMINUM WINDOW WALL SYSTEM
(L.M.I.)
LARGE MISSILE IMPACT RATED

ECO WINDOW SYSTEMS, LLC.
8502 N.W. 80th ST., MEDLEY, FL 33166
TEL. (305) 885-5299 FAX. (305) 885-5902



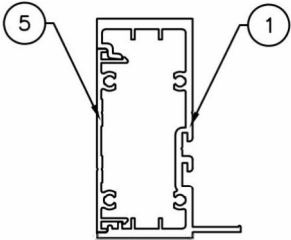
SEALED:12/30/2024

JAMB & MULLION LOAD CAPACITY - PSF							
JAMBS & MULLIONS WITHOUT INTERMEDIATE HORIZONTALS							
NOMINAL DIMS.		JAMB 'J1'		MULL 'M1'		MULL 'M2'	
WIDTH (W)	FRAME HEIGHT	POS. (+)	NEG. (-)	POS. (+)	NEG. (-)	POS. (+)	NEG. (-)
36"	84"	70.0	75.0	70.0	75.0	80.0	90.0
39"		70.0	75.0	70.0	75.0	80.0	90.0
42"		70.0	75.0	70.0	75.0	80.0	90.0
45"		70.0	75.0	70.0	75.0	80.0	90.0
48"		70.0	75.0	70.0	75.0	80.0	90.0
51"		70.0	75.0	70.0	75.0	80.0	90.0
54"		70.0	75.0	70.0	75.0	80.0	90.0
57"		70.0	75.0	-	-	80.0	90.0
60"	90"	70.0	75.0	-	-	80.0	90.0
63"		-	-	-	-	80.0	90.0
66"		-	-	-	-	80.0	90.0
36"		70.0	75.0	70.0	75.0	80.0	90.0
39"		70.0	75.0	70.0	75.0	80.0	90.0
42"		70.0	75.0	70.0	75.0	80.0	90.0
45"		70.0	75.0	70.0	75.0	80.0	90.0
48"		70.0	75.0	70.0	75.0	80.0	90.0
51"		70.0	75.0	70.0	75.0	80.0	90.0
54"		70.0	75.0	-	-	80.0	90.0
57"		70.0	75.0	-	-	80.0	90.0
60"		-	-	-	-	80.0	90.0
36"	96"	70.0	75.0	70.0	75.0	80.0	90.0
39"		70.0	75.0	70.0	75.0	80.0	90.0
42"		70.0	75.0	70.0	75.0	80.0	90.0
45"		70.0	75.0	70.0	74.5	80.0	90.0
48"		70.0	75.0	70.0	70.7	80.0	90.0
51"		70.0	75.0	-	-	80.0	90.0
54"		70.0	75.0	-	-	80.0	90.0
57"		-	-	-	-	80.0	86.9
58-3/4"		-	-	-	-	80.0	85.0
36"	102"	70.0	75.0	-	-	70.0	75.0
39"		70.0	75.0	-	-	70.0	75.0
42"		70.0	75.0	-	-	70.0	75.0
45"		70.0	75.0	-	-	70.0	75.0
48"		70.0	75.0	-	-	70.0	75.0
36"	108"	70.0	75.0	-	-	70.0	75.0
39"		70.0	75.0	-	-	70.0	75.0
42"		70.0	75.0	-	-	70.0	75.0
45"		70.0	75.0	-	-	70.0	75.0
48"		70.0	75.0	-	-	70.0	75.0

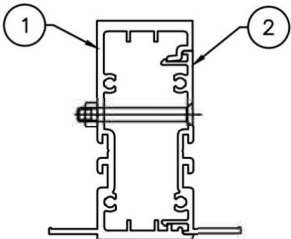


WIDTH (W) = W1
AT FRAME JAMB

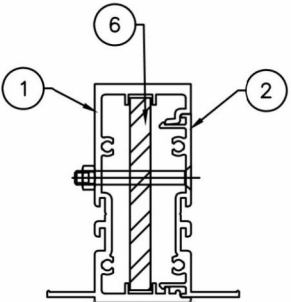
WIDTH (W) = $\frac{W2 + W3}{2}$
AT FRAME MULLION



UNSECURED JAMB 'J1'



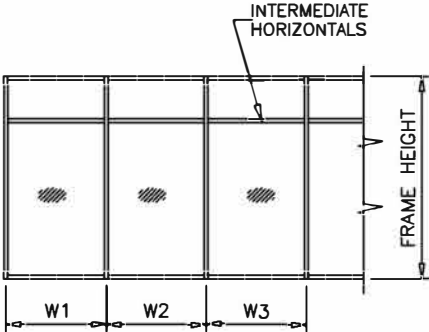
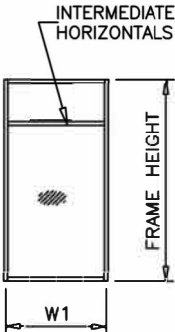
MULLION 'M1'



MULLION 'M2'

MULLION

JAMB & MULLION LOAD CAPACITY - PSF							
JAMBS & MULLIONS WITH INTERMEDIATE HORIZONTALS							
NOMINAL DIMS.		JAMB 'J1'		MULL 'M1'		MULL 'M2'	
WIDTH (W)	FRAME HEIGHT	POS. (+)	NEG. (-)	POS. (+)	NEG. (-)	POS. (+)	NEG. (-)
36"	84"	70.0	75.0	70.0	75.0	80.0	90.0
39"		70.0	75.0	70.0	75.0	80.0	90.0
42"		70.0	75.0	70.0	75.0	80.0	90.0
45"		70.0	75.0	70.0	75.0	80.0	90.0
48"		70.0	75.0	70.0	75.0	80.0	90.0
51"		70.0	75.0	70.0	75.0	80.0	90.0
54"		70.0	75.0	70.0	75.0	80.0	90.0
57"		70.0	75.0	-	-	80.0	90.0
60"	90"	70.0	75.0	-	-	80.0	90.0
63"		-	-	-	-	80.0	90.0
66"		-	-	-	-	80.0	86.7
36"		70.0	75.0	70.0	75.0	80.0	90.0
39"		70.0	75.0	70.0	75.0	80.0	90.0
42"		70.0	75.0	70.0	75.0	80.0	90.0
45"		70.0	75.0	70.0	75.0	80.0	90.0
48"		70.0	75.0	70.0	75.0	80.0	90.0
51"		70.0	75.0	70.0	73.0	80.0	90.0
54"		70.0	75.0	-	-	80.0	90.0
57"		70.0	75.0	-	-	80.0	87.5
60"		-	-	-	-	80.0	83.1
36"	96"	70.0	75.0	70.0	75.0	80.0	90.0
39"		70.0	75.0	70.0	75.0	80.0	90.0
42"		70.0	75.0	70.0	73.1	80.0	90.0
45"		70.0	75.0	68.2	68.2	80.0	90.0
48"		70.0	75.0	63.9	63.9	80.0	90.0
51"		70.0	75.0	-	-	80.0	85.9
54"		70.0	75.0	-	-	80.0	81.1
57"		-	-	-	-	76.9	76.9
58-3/4"		-	-	-	-	74.6	74.6
36"	102"	70.0	75.0	-	-	70.0	75.0
39"		70.0	75.0	-	-	70.0	75.0
42"		70.0	75.0	-	-	70.0	75.0
45"		70.0	75.0	-	-	70.0	75.0
48"		70.0	75.0	-	-	70.0	75.0
36"	108"	70.0	75.0	-	-	70.0	75.0
39"		70.0	75.0	-	-	70.0	75.0
42"		70.0	75.0	-	-	70.0	75.0
45"		70.0	75.0	-	-	70.0	75.0
48"		70.0	72.7	-	-	70.0	72.7



WIDTH (W) = W1
AT FRAME JAMB

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

FL#21632.3



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SERIES 450:ALUMINUM WINDOW WALL SYSTEM
(L.M.I.)
LARGE MISSILE IMPACT RATED

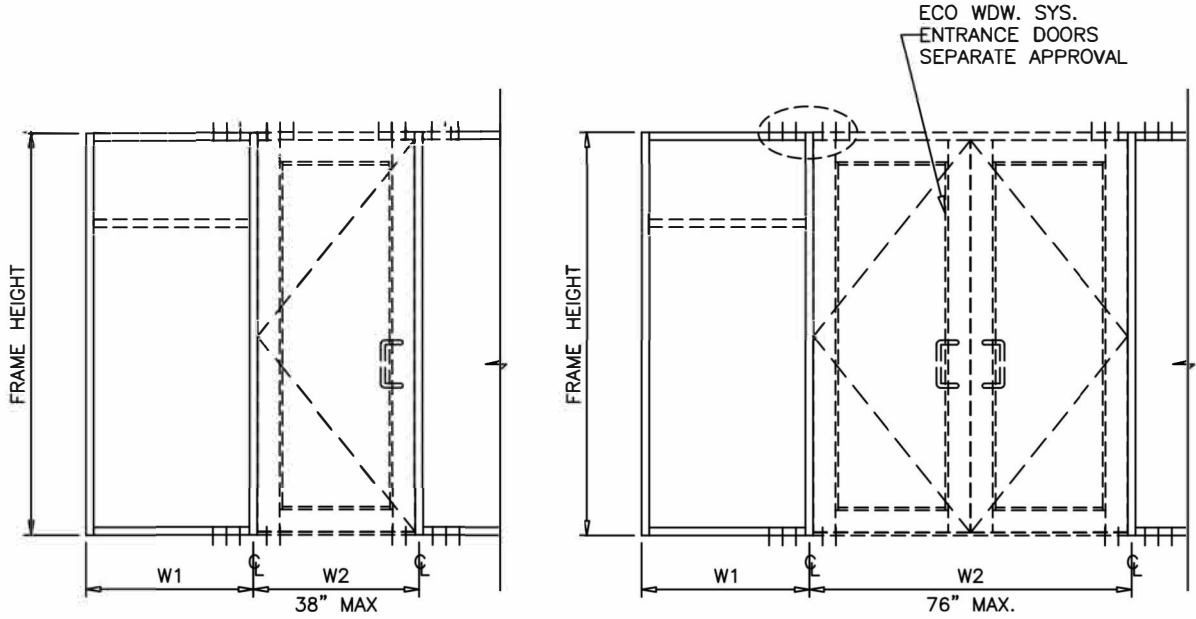


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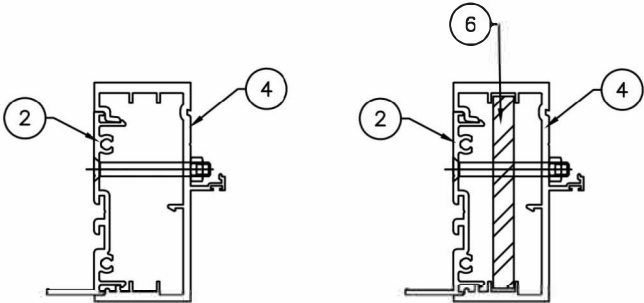
SEALED:12/30/2024

DOOR MULLION LOAD CAPACITY - PSF					
NOMINAL DIMS.		WITHOUT REINF.		WITH REINF.	
WIDTH (W)	FRAME HEIGHT	POS. (+)	NEG. (-)	POS. (+)	NEG. (-)
37"	84"	70.0	75.0	70.0	75.0
38-1/2"		70.0	75.0	70.0	75.0
40"		70.0	75.0	70.0	75.0
41-1/2"		70.0	75.0	70.0	75.0
43"		70.0	75.0	70.0	75.0
44-1/2"		70.0	75.0	70.0	75.0
46"		70.0	75.0	70.0	75.0
47-1/2"		70.0	75.0	70.0	75.0
49"		70.0	74.8	70.0	75.0
37"	90"	70.0	75.0	70.0	75.0
38-1/2"		70.0	75.0	70.0	75.0
40"		70.0	75.0	70.0	75.0
41-1/2"		70.0	75.0	70.0	75.0
43"		70.0	74.3	70.0	75.0
44-1/2"		70.0	71.8	70.0	75.0
46"		-	-	70.0	75.0
47-1/2"		-	-	70.0	75.0
49"		-	-	70.0	75.0
37"	96"	70.0	74.0	70.0	75.0
38-1/2"		70.0	71.1	70.0	75.0
40"		68.5	68.5	70.0	75.0
41-1/2"		66.0	66.0	70.0	75.0
43"		63.7	63.7	70.0	75.0
44-1/2"		-	-	70.0	75.0
46"		-	-	70.0	75.0
47-1/2"		-	-	70.0	75.0
37"	102"	-	-	70.0	75.0
38-1/2"		-	-	70.0	75.0
40"		-	-	70.0	75.0
41-1/2"		-	-	70.0	75.0
43"		-	-	70.0	75.0
44-1/2"		-	-	70.0	75.0
37"	108"	-	-	70.0	75.0
38-1/2"		-	-	70.0	75.0
40"		-	-	70.0	75.0
41-1/2"		-	-	70.0	75.0
43"		-	-	70.0	75.0



WIDTH (W) = $\frac{W1 + W2}{2}$

WIDTH (W) = $\frac{W1}{2} + \frac{W2}{4}$



DOOR MULLION
WITHOUT REINF.

DOOR MULLION
WITH REINF.

DOOR MULLION

FL#21632.3



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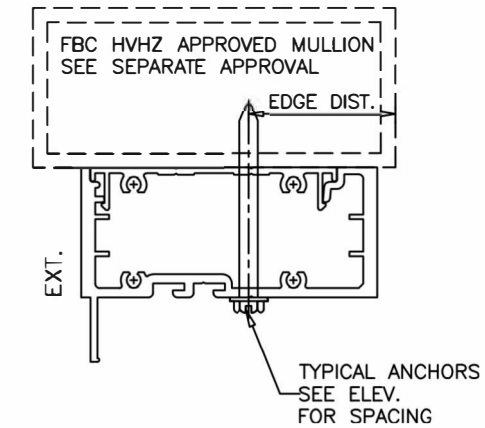
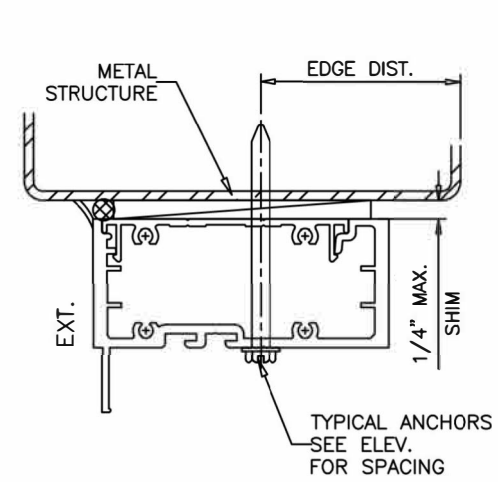
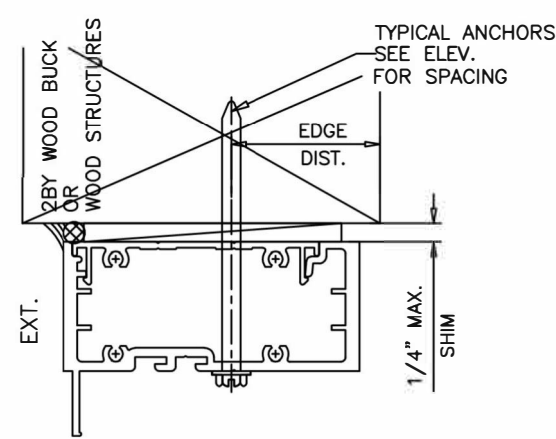
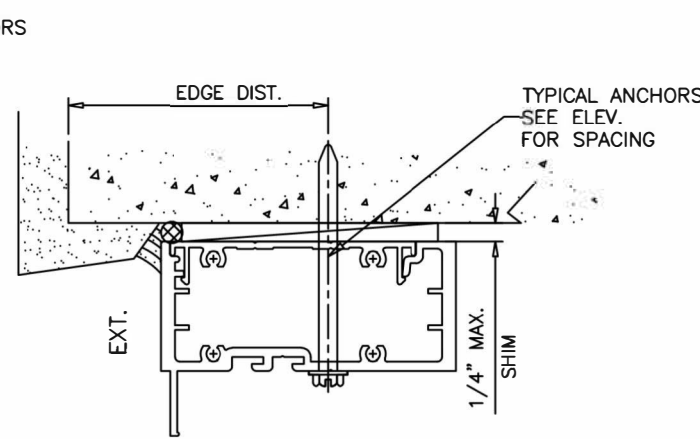
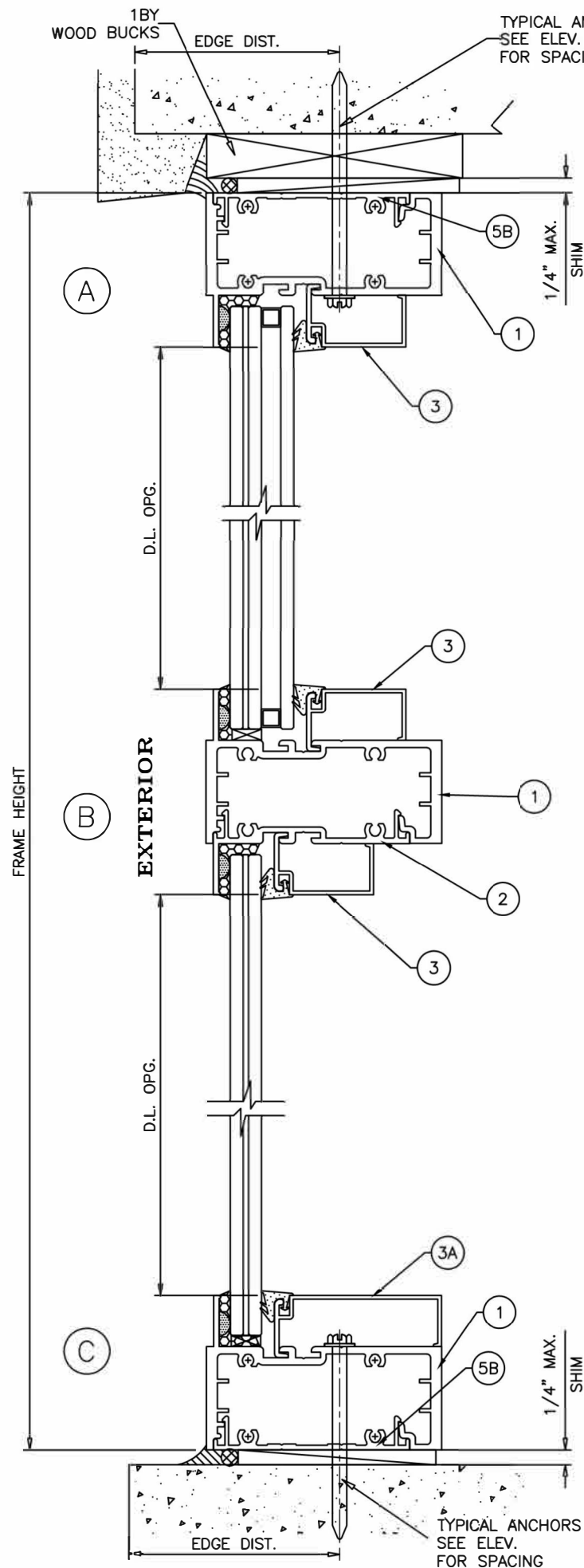
drawing no.	date:	JA-1844-24	12/30/2024	REVISION	
				DESCRIPTION	BY
MA	BS				

SERIES 450:ALUMINUM WINDOW WALL SYSTEM
(L.M.I.)
LARGE MISSILE IMPACT RATED

ECO WINDOW SYSTEMS, LLC.
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TEL. (305) 885-5299 FAX. (305) 885-5902



SEALED:12/30/2024



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

TYPICAL ANCHORS: SEE ELEV. FOR SPACING

1/4" DIA ULTRACON+ BY 'DEWALT' (Fu=164 KSI, Fy=148 KSI)
INTO 2BY WOOD BUCKS OR WOOD STRUCTURES
1-1/2" MIN. PENETRATION INTO WOOD (HEAD/SILL/JAMBS)
THRU 1BY WOOD BUCKS INTO CONCRETE 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
1-1/4" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)
1-1/4" MIN. EMBED INTO BLOCKS (JAMBS)

#14 SMS OR SELF DRILLING SCREWS (GRADE 2 CRS)
INTO FBC APPROVED MULLIONS
OR
INTO METAL STRUCTURES
(3) THREADS MIN. PENETRATION BEYOND SUBSTRATE
STEEL : 1/8" THK. MIN. (Fy = 36 KSI MIN.)
ALUMINUM : 1/8" THK. MIN. (6063-T5 MIN.)
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

TYPICAL 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.

FL#21632.3



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drawing no.	MA	drawn by:	BS	check by:
JA-1844-24				
date:	REVISION	DESCRIPTION	BY	DATE
12/30/2024				

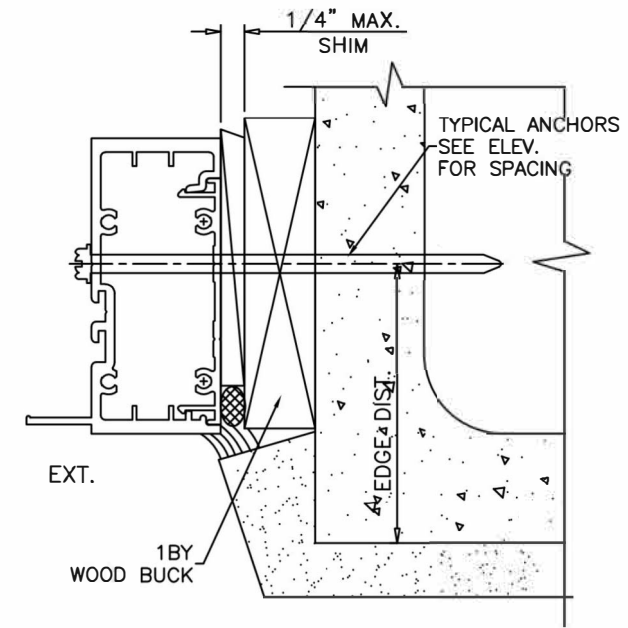
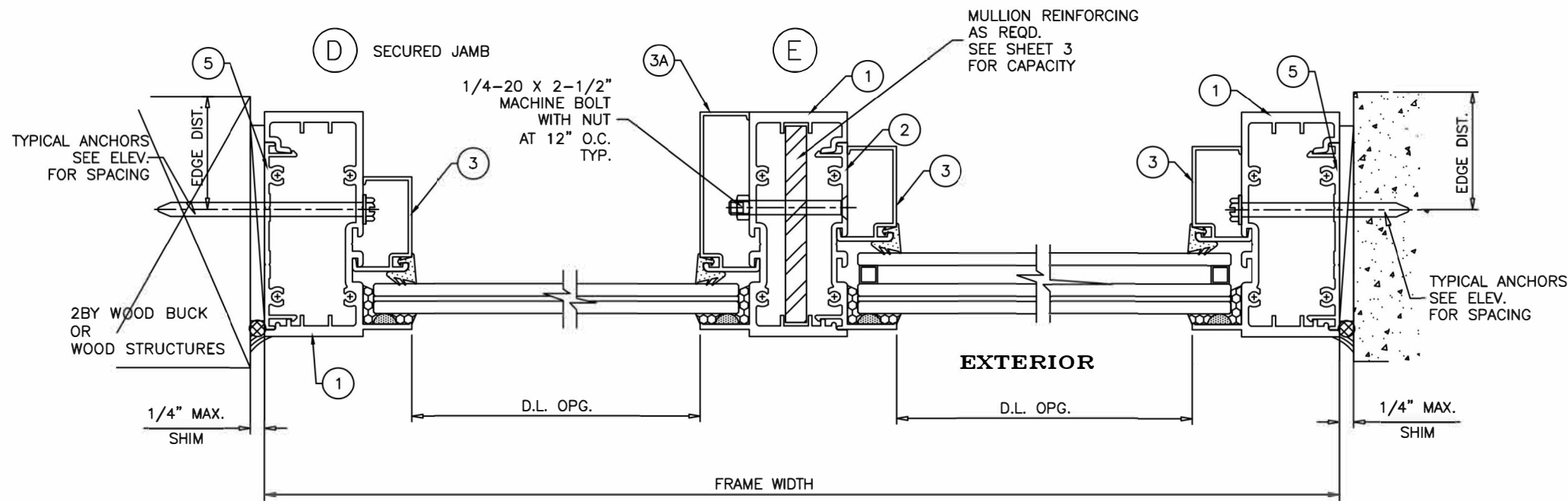
SERIES 450: ALUMINUM WINDOW WALL SYSTEM
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LARGE MISSILE IMPACT RATED



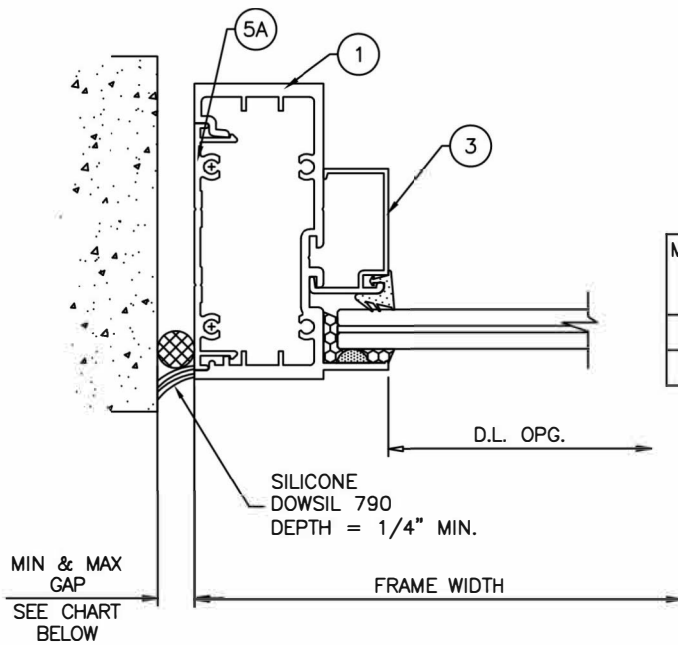
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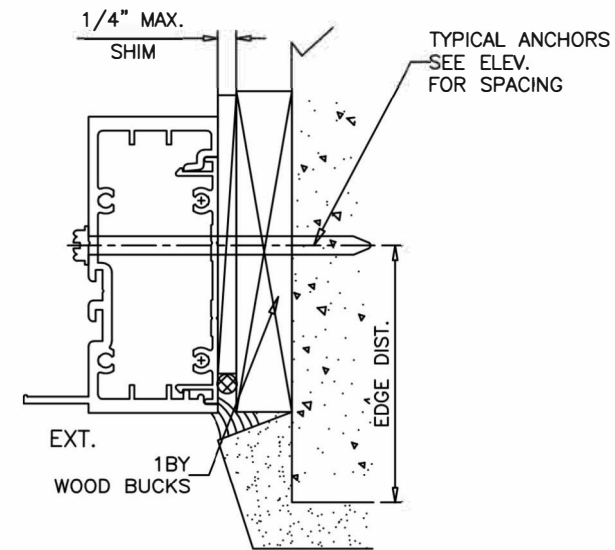
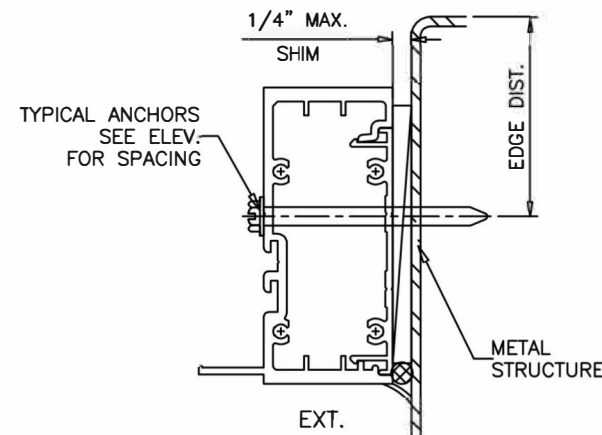
SEALED: 12/30/2024



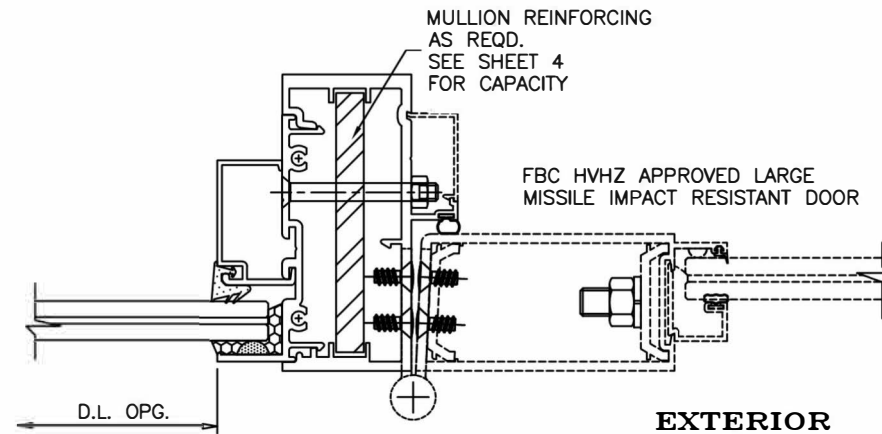
D UNSECURED JAMB



MAX. FRAME HEIGHT UP TO	GAP	
	MIN.	MAX.
96	5/16"	3/4"
120	3/8"	3/4"



F



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

LOWER VALUES FROM DOOR APPROVALS OR WINDOW WALL SYSTEM CAPACITY CHARTS WILL APPLY TO ENTIRE SYSTEM.

NOTE:
MAX. MOVEMENT CONSIDERED = 100% STRETCH.
PLEASE REFER TO SEALANT MANUFACTURER'S DATA AND APPLICATION MANUAL FOR COMPATIBILITY OF SEALANT TO SUBSTRATE & WINDOW WALL MATERIAL/FINISH AND COMPLIANCE FOR WARRANTY.
REFER TO ACI-117.1R-14 FOR CONSTRUCTION TOLERANCES.

ALTERNATIVE SEALANTS AT JAMB GAPS CAN BE DESIGNED BY ENGINEER OR RECORD BASED ON MANUFACTURER GUIDELINES.

GAP LESS THAN 1/4" MAY BE DESIGNED BY ENGINEER OR RECORD BY THE USE OF BOND BREAKER TAPE OR 15% OF GAP ALLOWED MOVEMENT.

FL#21632.3



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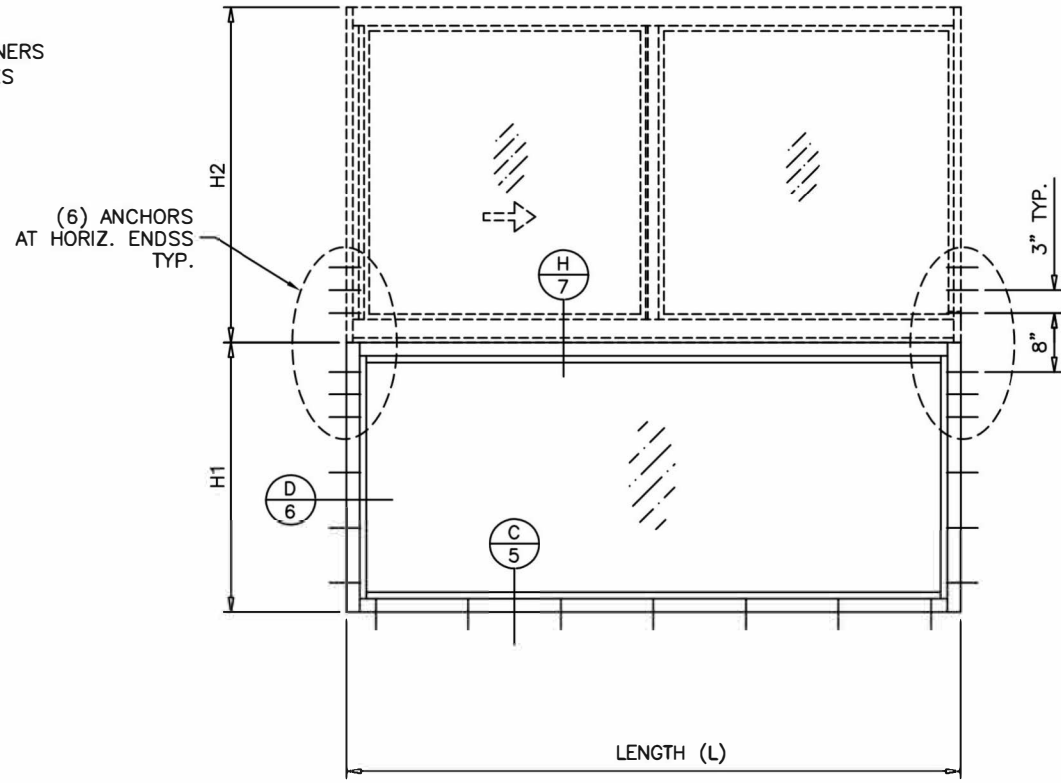
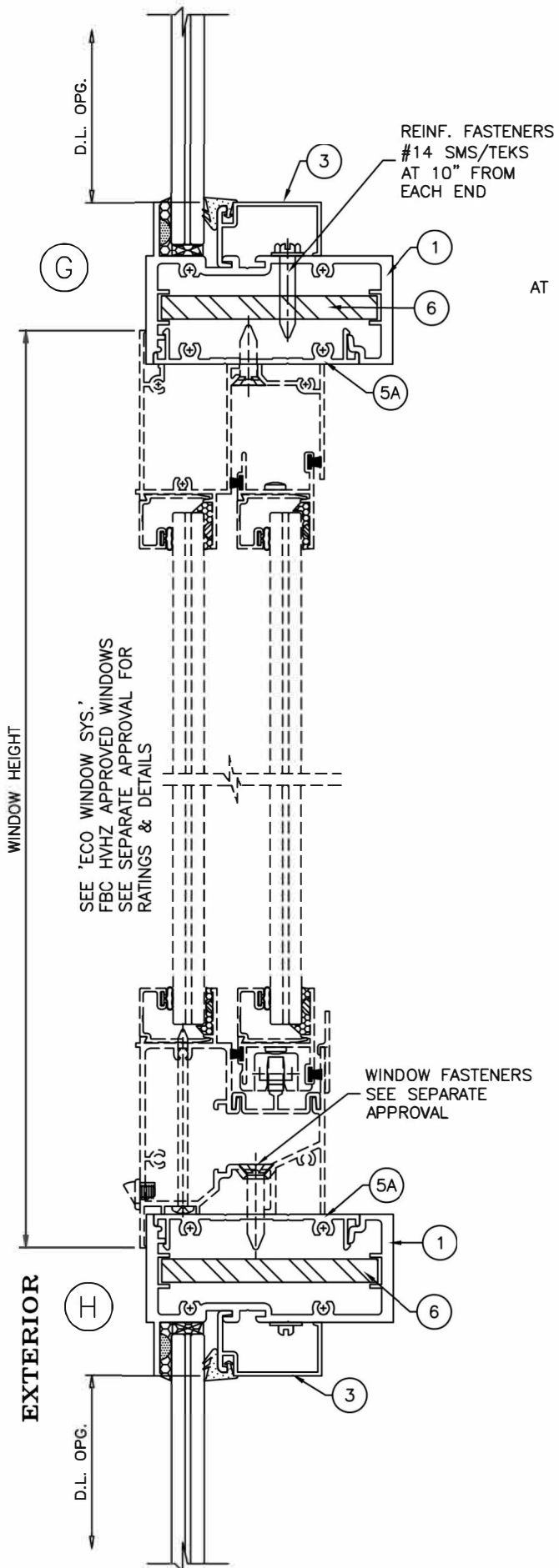
drawing no.	date:	MA	BS
JA-1844-24	12/30/2024		
drawn by:		check by:	
revision		description	
No.	DATE	BY	

SERIES 450: ALUMINUM WINDOW WALL SYSTEM (L.M.I.)
LARGE MISSILE IMPACT RATED

ECO window systems
ECO WINDOW SYSTEMS, LLC.
8502 N.W. 80th ST., MEDLEY, FL 33166
TEL. (305) 885-5299 FAX. (305) 885-5902

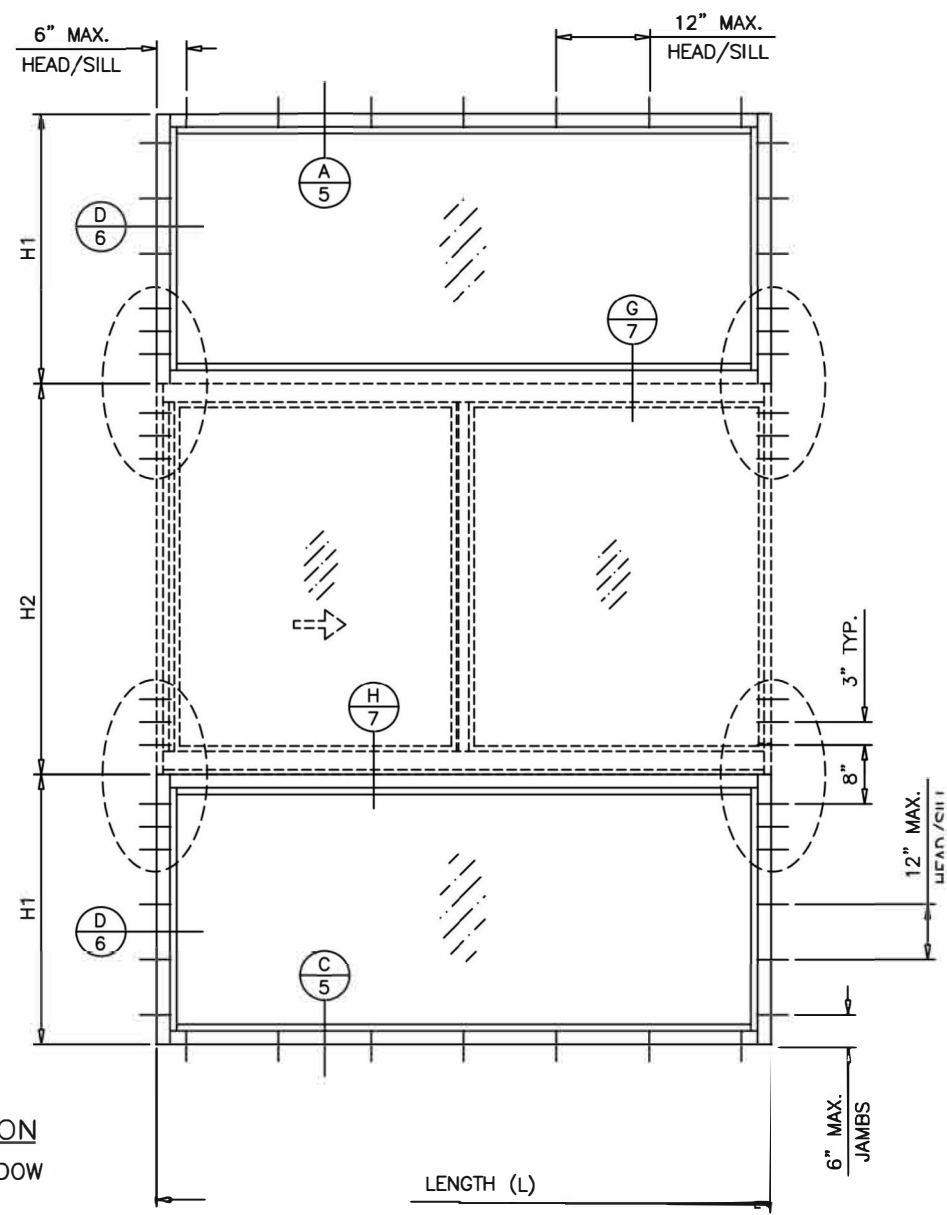


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TYPICAL ELEVATION
TOP OR BOTTOM WINDOW

$$\text{HEIGHT (H)} = \frac{H1 + H2}{2}$$



HORIZONTAL LOAD CAPACITY - PSF			
NOMINAL DIMS.		HORIZONTAL MULLION	
HEIGHT (H)	LENGTH (L)	POS. (+)	NEG. (-)
57"	84"	80.0	90.0
60"		80.0	90.0
63"		80.0	90.0
66"		80.0	90.0
69"		80.0	90.0
54"	90"	80.0	90.0
57"		80.0	90.0
60"		80.0	90.0
63"		80.0	90.0
54"	96"	80.0	90.0
57"		80.0	88.9
60"		80.0	85.0

NOTES:

1. USE CHART ON THIS SHEET FOR WINDOW WALL HORIZONTAL LOAD CAPACITY.
2. FOR WINDOW WALL GLASS CAPACITY, SEE CHART ON SHEET 2.
3. FOR HORIZONTAL SLIDING WINDOW LOAD CAPACITY, SEE SEPARATE APPROVAL.

LOWER VALUE FROM STEP 1, 2, OR 3 WILL APPLY TO ENTIRE SYSTEM.

FL#21632.3



JAVAD AHMAD PE, inc
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FL 33126
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ITEM #	PART #	REQD.	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
1	451	AS REQD.	FRAME HEAD/SILL/JAMB/MULLION	6063 – T6	–
2	452	AS REQD.	SNAP-IN MATE	6063 – T6	–
3	UW-404	AS REQD.	GLAZING BEAD	6063 – T6	–
3A	E458	AS REQD.	GLAZING BEAD	6063 – T6	–
4	454	AS REQD.	DOOR FRAME JAMB	6063 – T6	–
5	453	AS REQD.	SHEAR CLIP. 3-3/4" LONG AT JAMB ANCHORS	6063 – T6	–
5A	453	AS REQD.	SHEAR CLIP. FULL LENGTH	6063 – T6	–
5B	453	AS REQD.	SHEAR CLIP. LENGTH VARIES TO COVER ANCHOR SPACINGS	6063 – T6	–
6	–	AS REQD.	STIFFENER BAR	GALV. STEEL	–
7	UW-406	AS REQD.	GLAZING GASKET	NEOPRENE	DUROMETER 55±5 SHORE A
8	#12 X 1-1/4"	4/ CORNER	FRAME ASSEMBLY SCREW	–	PH SMS
9	–	2/ LITE	SETTING BLOCKS AT 1/4 POINTS (3/16" X 1/2" X 2" LONG)	EPDM	DUROMETER 80±5 SHORE A
10	–	AS REQD.	GLASS SPACER	SILICONE	FRANK LOWE

SEALANTS:

ALL FRAME JOINTS AND SEAMS SEALED WITH
SCHNEE-MOREHEAD SM5504 ACRYL-R SEAM SEALER.



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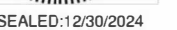
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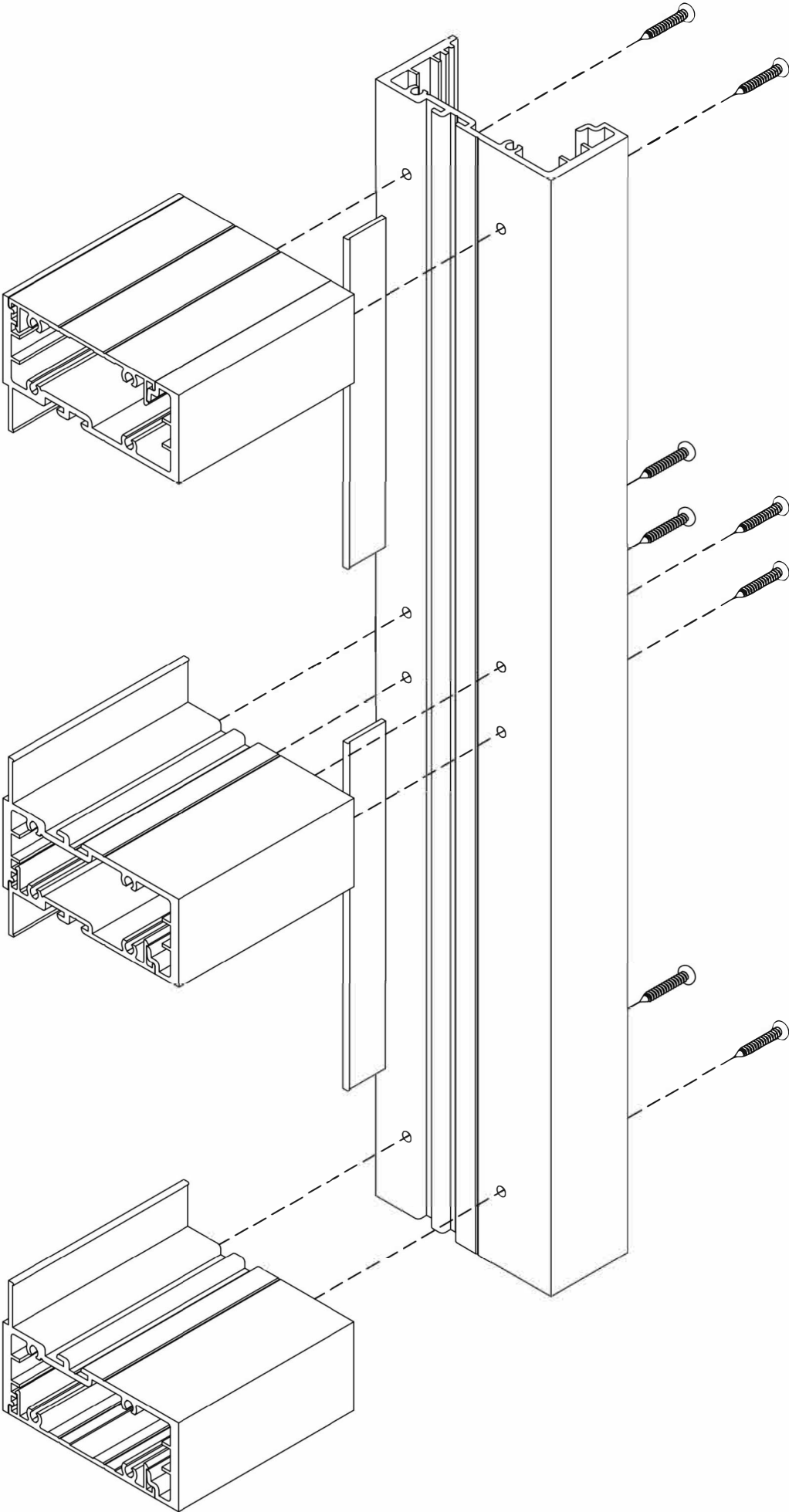
08

08 of 09

FRAME TOP CORNER

HORIZONTAL CORNER

FRAME BOTTOM CORNER



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