

**TYPICAL ELEVATIONS**  
(TESTED UNITS)

**SERIES MRG-400**  
**ALUMINUM 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) 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 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 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.

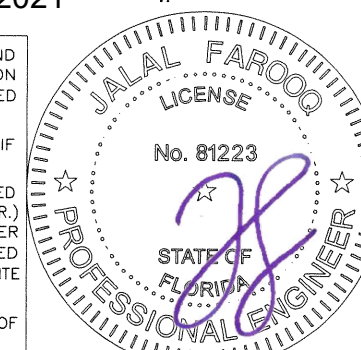
DESIGN LOADS SHOWN ARE BASED ON 'ALLOWABLE STRESS DESIGN (ASD)'.

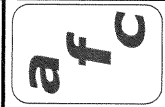
MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION IN ACCORDANCE WITH SECTION 1709.9.3 OF FLORIDA BUILDING CODE. LABELING TO COMPLY WITH SECTION 1709.9.2.

THESE WINDOWS ARE RATED FOR LARGE & SMALL MISSILE IMPACT. SHUTTERS ARE NOT REQUIRED.

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- 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 (C.A.N. 3538)  
TEL. (305) 264-8100 FAX. (305) 262-6978  
COMP-ANL\21-02F-MG

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MRG-400 ALUMINUM FIXED WDW. (L.M.I.)

**MR-GLASS DOORS & WINDOWS MANUFACTURING, LLC**  
8051 N.W. 79th Place  
Medley, FL. 33166  
Tel. (305) 764-3963 Fax. (305) 470-8285

revisions:	no	date	by	description

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date: 01-08-21

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dr. by: TARIQ

chk. by:

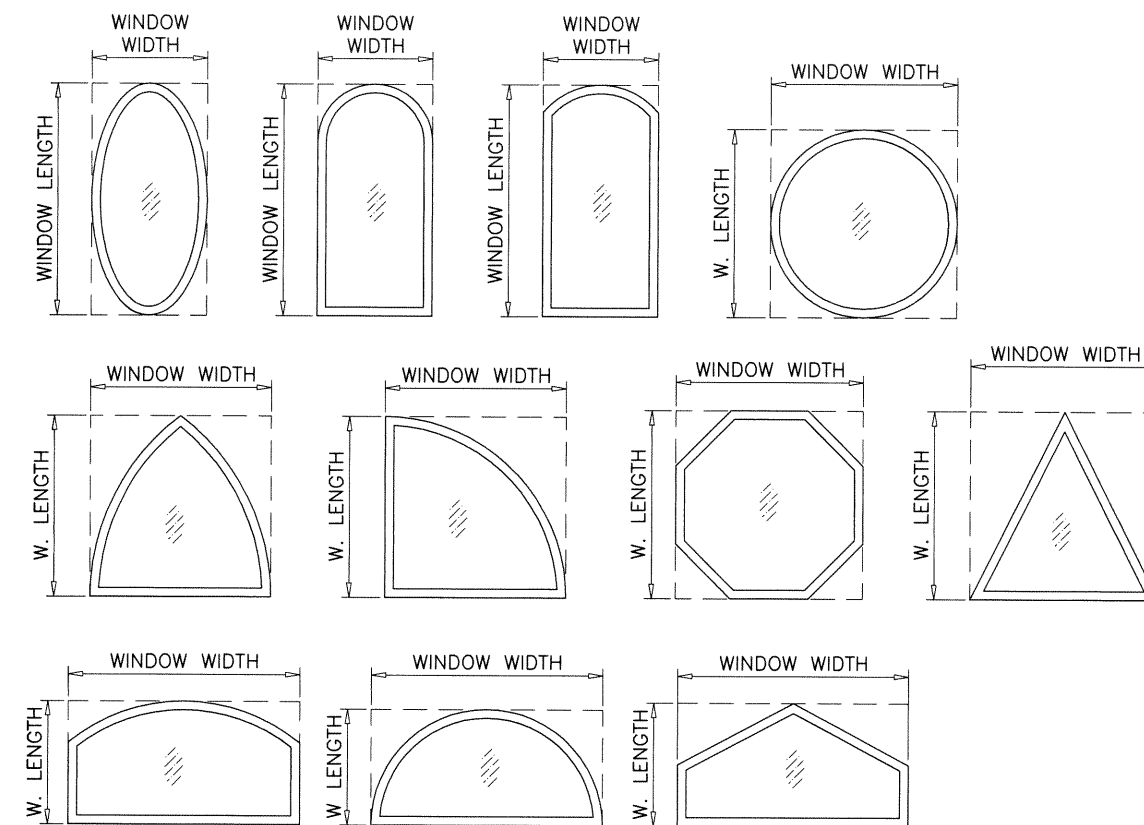
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21-02F

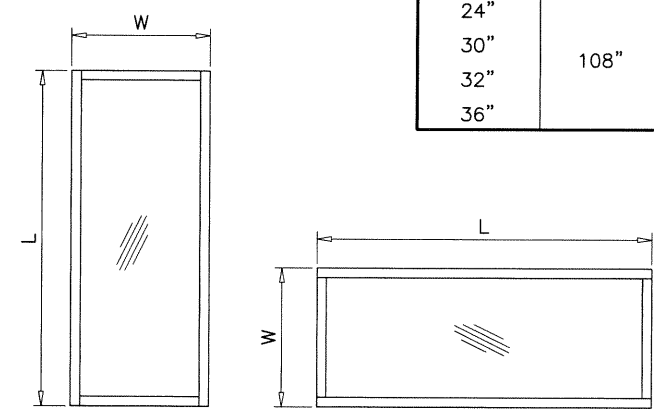
sheet 1 of 7

DESIGN LOAD CAPACITY - PSF					
FRAME DIMS.		GLASS TYPES 'A' & 'Ai'		GLASS TYPES 'B' & 'Bi'	
WIDTH	HEIGHT	EXT.(+)	1NT.(-)	EXT.(+)	1NT.(-)
19-1/8"	26"	65.0	65.0	100.0	100.0
26-1/2"		65.0	65.0	100.0	100.0
37"		65.0	65.0	100.0	100.0
53-1/8"		65.0	65.0	100.0	100.0
19-1/8"	38-3/8"	65.0	65.0	100.0	100.0
26-1/2"		65.0	65.0	100.0	100.0
37"		65.0	65.0	100.0	100.0
53-1/8"		65.0	65.0	100.0	100.0
19-1/8"	50-5/8"	65.0	65.0	100.0	100.0
26-1/2"		65.0	65.0	100.0	100.0
37"		65.0	65.0	100.0	100.0
53-1/8"		65.0	65.0	94.8	94.8
19-1/8"	56"	65.0	65.0	100.0	100.0
26-1/2"		65.0	65.0	100.0	100.0
37"		65.0	65.0	100.0	100.0
53-1/8"		65.0	65.0	90.4	90.4
19-1/8"	63"	65.0	65.0	100.0	100.0
26-1/2"		65.0	65.0	100.0	100.0
37"		65.0	65.0	100.0	100.0
53-1/8"		65.0	65.0	90.4	90.4
19-1/8"	72"	65.0	65.0	100.0	100.0
26-1/2"		65.0	65.0	100.0	100.0
37"		65.0	65.0	100.0	100.0
53-1/8"		65.0	65.0	90.4	90.4
19-1/8"	76"	65.0	65.0	100.0	100.0
26-1/2"		65.0	65.0	100.0	100.0
37"		65.0	65.0	100.0	100.0
53-1/8"		65.0	65.0	100.0	100.0

DESIGN LOAD CAPACITY - PSF						
FRAME DIMS.		GLASS TYPES 'A' & 'Ai'		GLASS TYPES 'B' & 'Bi'		
WIDTH	HEIGHT	EXT.(+)	1NT.(-)	EXT.(+)	1NT.(-)	
24"	48"	65.0	65.0	100.0	100.0	
30"		65.0	65.0	100.0	100.0	
32"		65.0	65.0	100.0	100.0	
36"		65.0	65.0	100.0	100.0	
42"		65.0	65.0	100.0	100.0	
48"		65.0	65.0	100.0	100.0	
54"		65.0	65.0	100.0	100.0	
24"		60"	65.0	65.0	100.0	100.0
30"	65.0		65.0	100.0	100.0	
32"	65.0		65.0	100.0	100.0	
36"	65.0		65.0	100.0	100.0	
42"	65.0		65.0	100.0	100.0	
48"	65.0		65.0	100.0	100.0	
54"	65.0		65.0	88.9	88.9	
24"	72"		65.0	65.0	100.0	100.0
30"		65.0	65.0	100.0	100.0	
32"		65.0	65.0	100.0	100.0	
36"		65.0	65.0	100.0	100.0	
42"		65.0	65.0	100.0	100.0	
48"		65.0	65.0	100.0	100.0	
54"		65.0	65.0	88.9	88.9	
24"		84"	65.0	65.0	100.0	100.0
30"	65.0		65.0	100.0	100.0	
32"	65.0		65.0	100.0	100.0	
36"	65.0		65.0	100.0	100.0	
42"	65.0		65.0	100.0	100.0	
48"	65.0		65.0	100.0	100.0	
24"	96"		65.0	65.0	100.0	100.0
30"			65.0	65.0	100.0	100.0
32"		65.0	65.0	100.0	100.0	
36"		65.0	65.0	100.0	100.0	
42"		65.0	65.0	100.0	100.0	
24"		108"	65.0	65.0	100.0	100.0
30"			65.0	65.0	100.0	100.0
32"			65.0	65.0	100.0	100.0
36"	65.0		65.0	100.0	100.0	



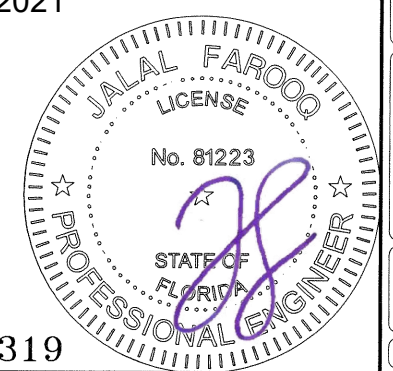
ALLOWABLE LOADS FOR ALTERNATE SHAPES AS SHOWN ABOVE OR SIMILAR CAN BE VERIFIED BY INSCRIBING PICTURE WINDOW SHAPE WITHIN SQUARE OR RECTANGLE AS SHOWN IN DOTTED LINES AND OBTAINING ALLOWABLE LOADS FROM THOSE SHAPES.



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

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

Sealed: 1/27/2021



FL #37319

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**AL-FAROOQ CORPORATION**  
 ENGINEERS & PRODUCT DEVELOPMENT  
 9360 SUNSET DRIVE, SUITE 220  
 MIAMI, FLORIDA 33173 (C.A.N. 3538)  
 TEL. (305) 264-8100 FAX. (305) 262-6978  
 COMP-ANL 21-02F-MG

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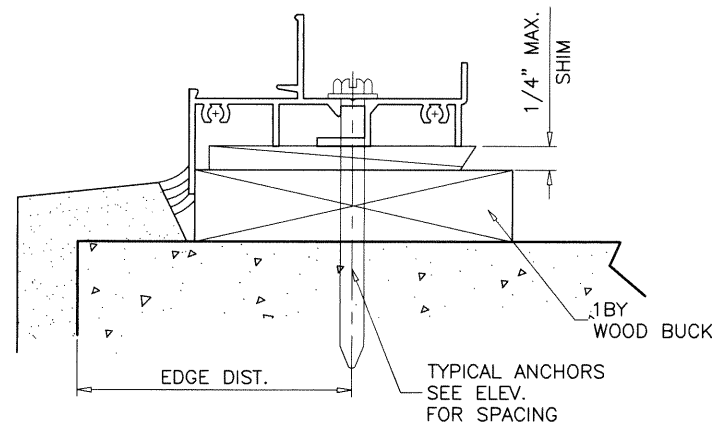
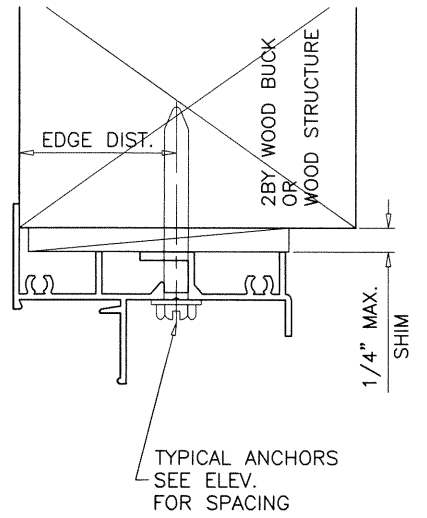
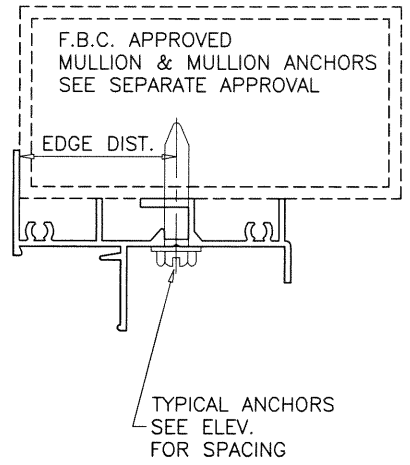
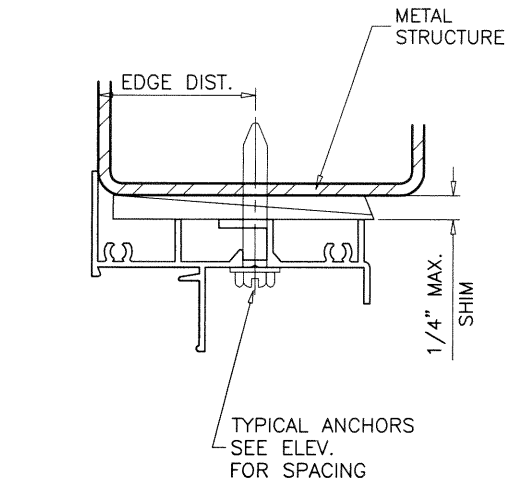
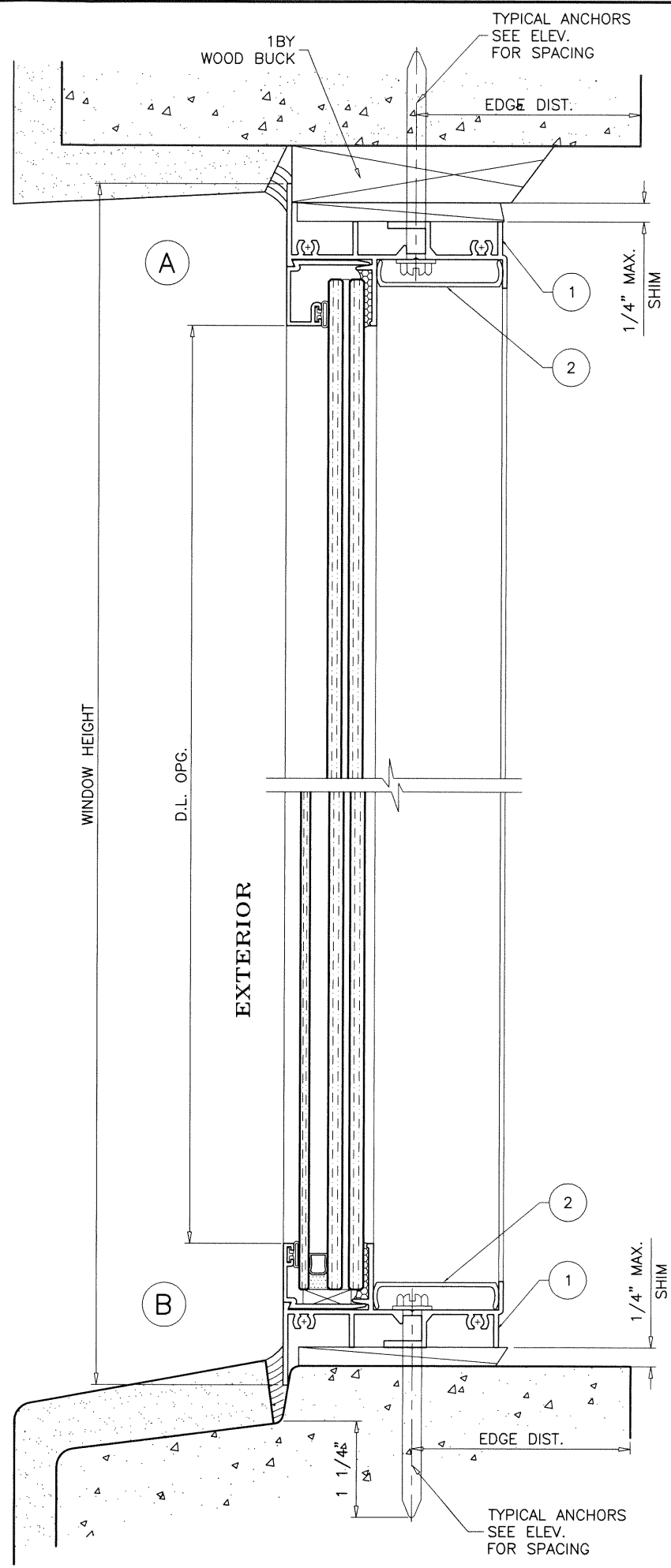
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**21-02F**  
 sheet 2 of 7







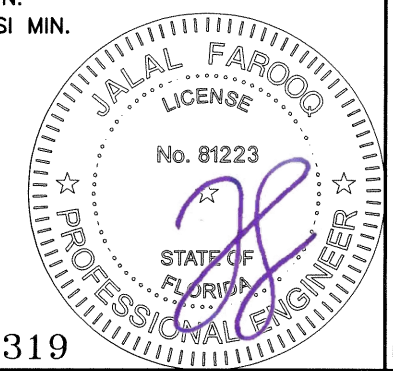
WOOD BUCKS AND METAL STRUCTURE NOT BY 'MR. GLASS' MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

**TYPICAL ANCHORS:** SEE ELEV. FOR SPACING  
**1/4" DIA. ULTRACON+ BY 'DEWALT'** ( $F_u=164$  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  
 1-1/4" 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 F.B.C. APPROVED MULLIONS  
 OR  
 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)

**TYPICAL EDGE DISTANCE**  
 INTO CONCRETE AND BLOCKS = 1-1/2" 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.

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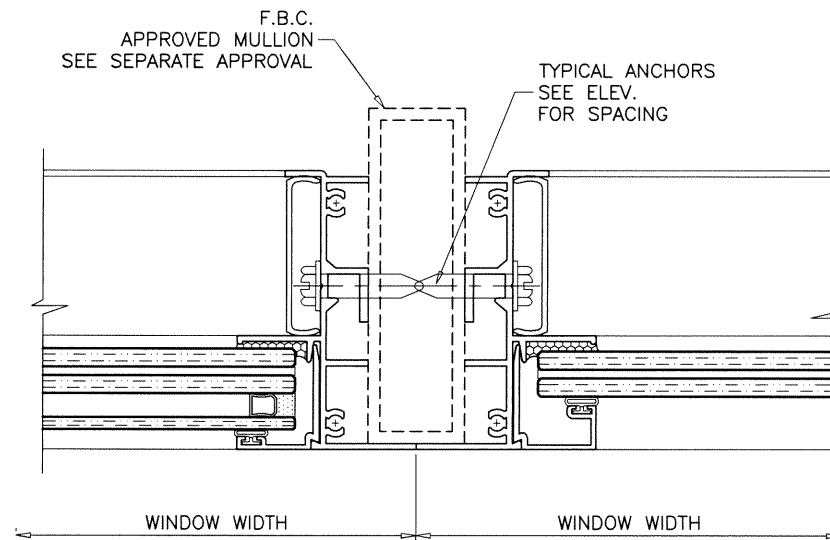
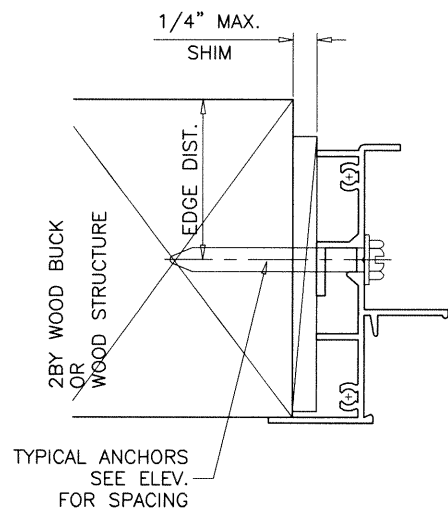
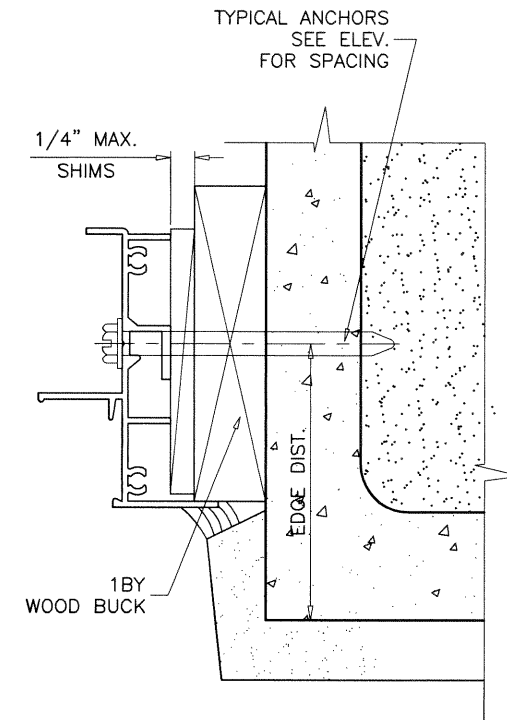
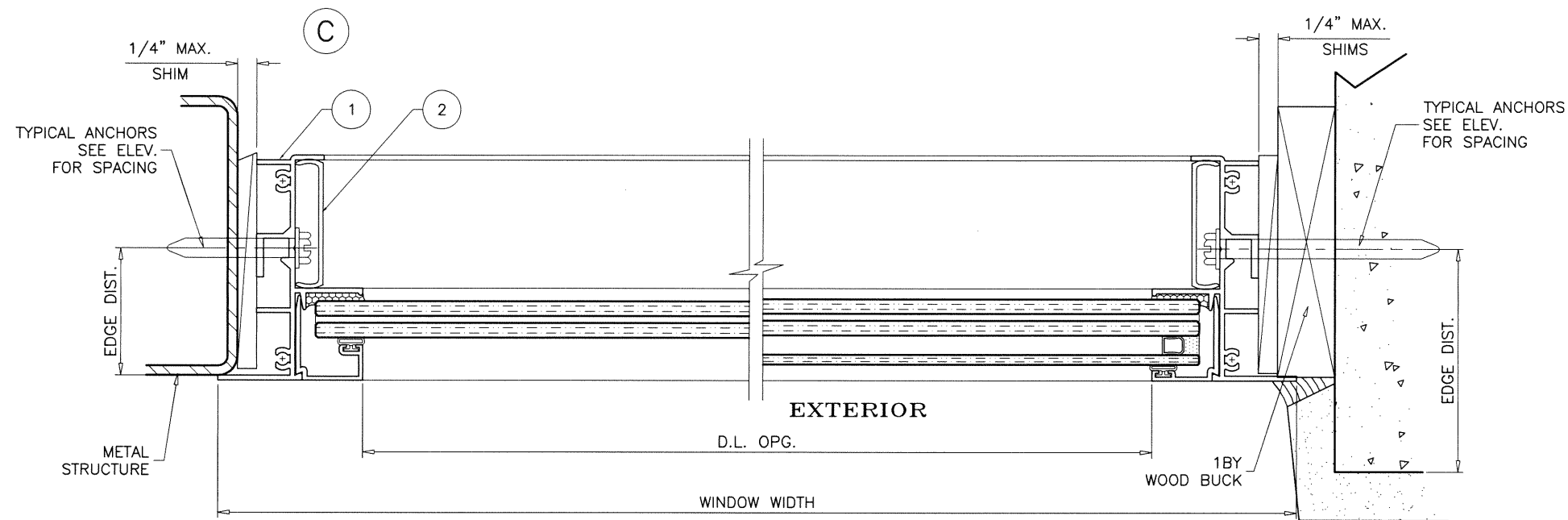
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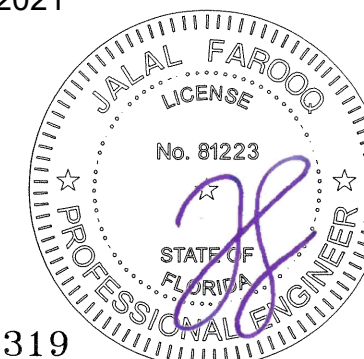
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FL #37319

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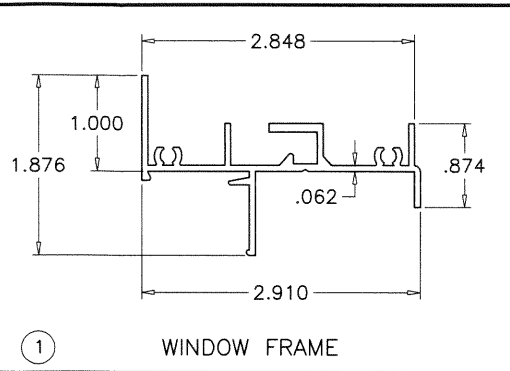
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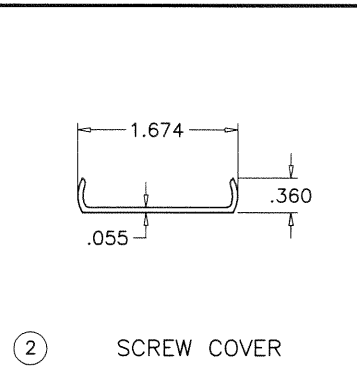
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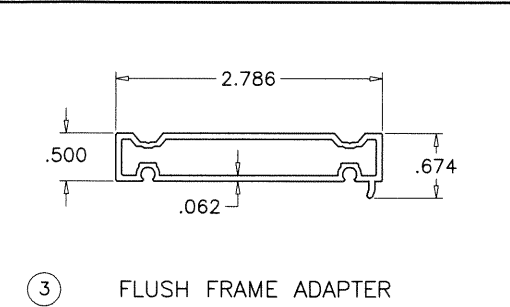




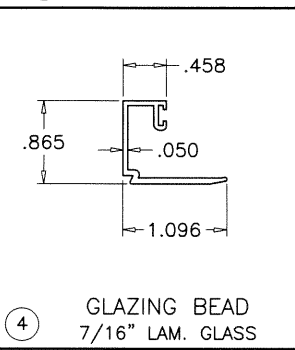
① WINDOW FRAME



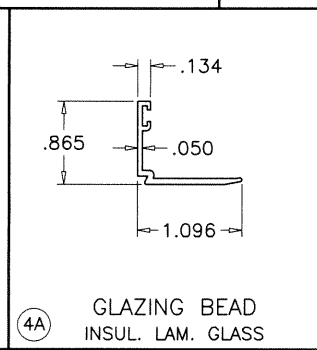
② SCREW COVER



③ FLUSH FRAME ADAPTER



④ GLAZING BEAD  
7/16" LAM. GLASS

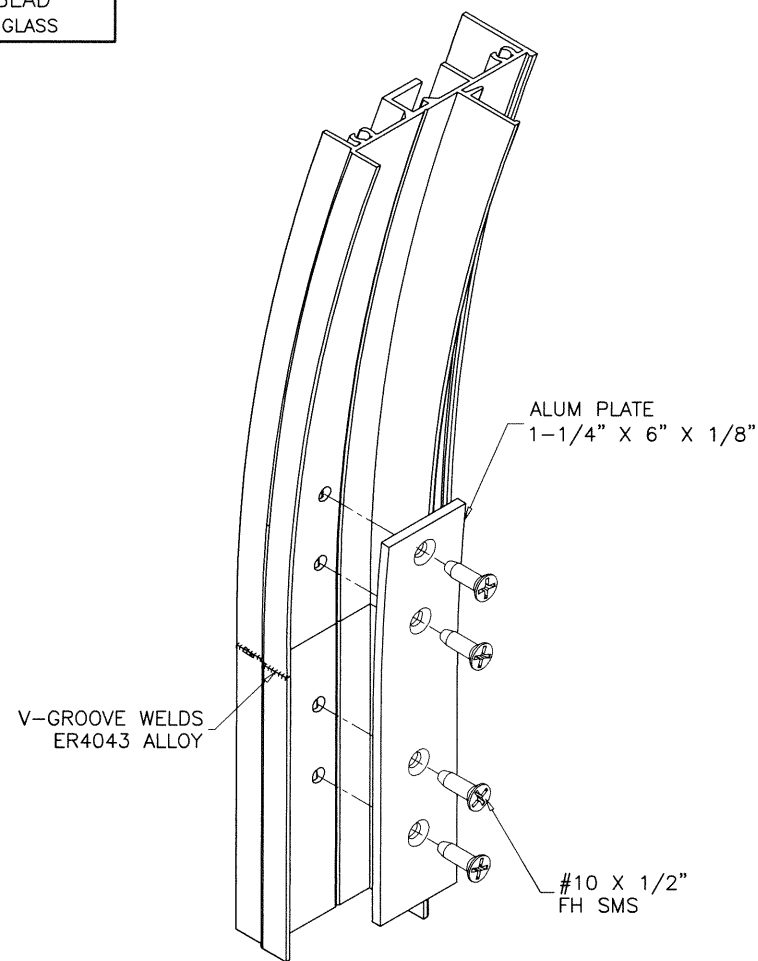


④A GLAZING BEAD  
INSUL. LAM. GLASS

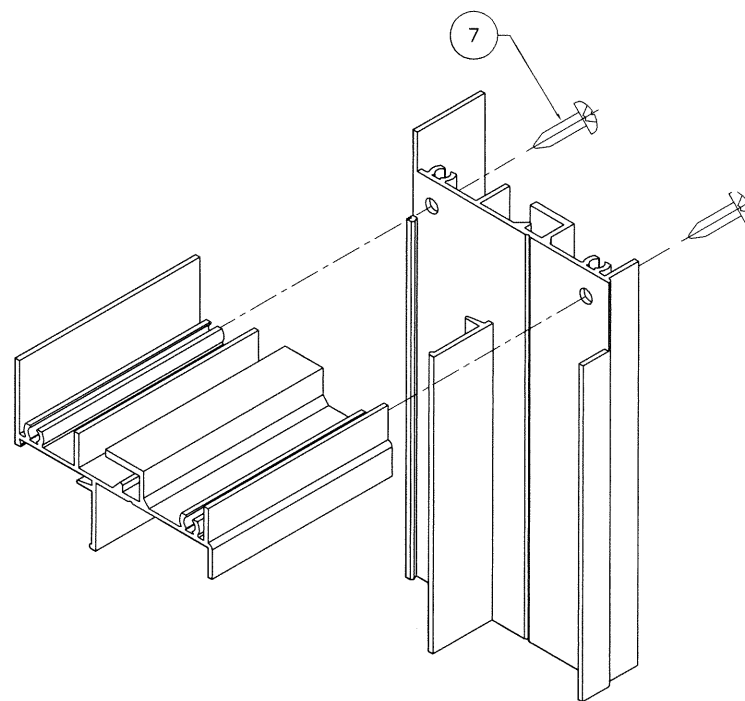
ITEM	PART #	QUANTITY	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
1	MRG-201	4	WINDOW FRAME	6063-T6	-
2	MRG-215	4	SCREW COVER	6063-T6	-
3	MRG-212	4	FLUSH FRAME ADAPTER	6063-T6	-
4	MRG-209	4	GLAZING BEAD (7/16" LAM. GLASS)	6063-T6	-
4A	MRG-210	4	GLAZING BEAD (INSUL. LAM. GLASS)	6063-T6	-
5	E201	AS REQD.	GLAZING BEAD BULB	NEOPRENE	ULTRAFAB
6	-	AS REQD.	SETTING BLOCKS AT 1/4 POINTS (3/16" X 1/2" X 1")	EPDM	DUROMETER 80±5 SHORE A
7	#10 X 1"	AS REQD.	FRAME ASSEMBLY FASTENERS	ST/ST	P.H. SMS
8	#8 X 1"	AS REQD.	ADAPTER ASSEMBLY FASTENERS	ST/ST	F.H. SMS
9	-	-	-	-	-

**SEALANT:**

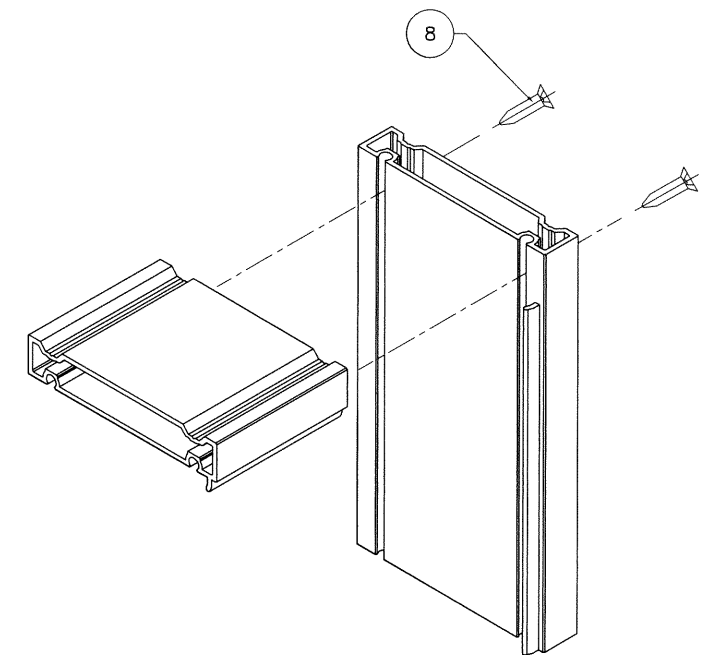
ALL JOINTS AND FRAME CONNECTIONS SEALED WITH SILICONE.



**CIRCULAR WINDOWS**

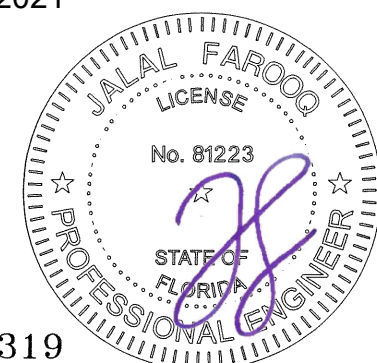


**RECT. OR SQUARE WINDOWS**



**ADAPTER CORNERS**

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**af c**  
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