Product Approval
USER: Public User

FL #	FL40673-R3
Application Type	Revision
Code Version	2023
Application Status	Approved
Comments	
Archived	☐
Product Manufacturer	Mr-Glass Doors & Windows Manufacturing, LLC
Address/Phone/Email	8051 NW 79th Place Medley, FL 33166 (305) 470-8284 ulises@mrglasswindows.com
Authorized Signature	Ulises Senaris ulises@mrglasswindows.com
Technical Representative	Augusto Arias
Address/Phone/Email	8120 NW 84th St Medley, FL 33166 (305) 470-8284 aarias@mrglasswindows.com
Quality Assurance Representative	
Address/Phone/Email	
Category	Windows
Subcategory	Mullions
Compliance Method	Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer ☐ Evaluation Report - Hardcopy Received
Florida Engineer or Architect Name who developed the Evaluation Report	Jalal Farooq
Florida License	PE-81223
Quality Assurance Entity	Keystone Certifications, Inc.
Quality Assurance Contract Expiration Date	04/30/2035
Validated By	Abel Carrasco, PE ☑ Validation Checklist - Hardcopy Received
Certificate of Independence	FL40673_R3_COI_SS - Certificate of Independence 2022.pdf

Referenced Standard and Year (of Standard)

Standard	Year
TAS 201	1994
TAS 202	1994
TAS 203	1994

Equivalence of Product Standards Certified By

Sections from the Code

Product Approval Method	Method 1 Option D
Date Submitted	07/25/2023
Date Validated	07/25/2023
Date Pending FBC Approval	08/02/2023
Date Approved	10/18/2023

Summary of Products

FL #	Model, Number or Name	Description
40673.1	Extruded Aluminum Clipped Mullions	Large missile impact resistant clipped aluminum tube mullions.
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +150/-150 **Other:** See drawing 21-75F for span vs load combination and installation details.		**Installation Instructions** FL40673_R3_II_SS - Alum Clipped Mullions DWG 21-75F 2023.pdf Verified By: Jalal Farooq PE # 81223 Created by Independent Third Party: Yes **Evaluation Reports** FL40673_R3_AE_SS - Clipped Tube Mullion (LMI) - PAE 2023.pdf Created by Independent Third Party: Yes
40673.2	Series MG150 Extruded Aluminum Unclipped Mullions	Large missile impact resistant extruded aluminum unclipped mullions.
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +90/-120 **Other:** See drawing 22-08F for span vs load combination and installation details.		**Installation Instructions** FL40673_R3_II_SS - Alum Un-clipped Mullions DWG 22-08F 2023.pdf Verified By: Jalal Farooq PE # 81223 Created by Independent Third Party: Yes **Evaluation Reports** FL40673_R3_AE_SS - Unclipped Tube Mullion (LMI) - PAE 2023.pdf Created by Independent Third Party: Yes

Back Next

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Product Approval Accepts:

Credit Card Safe securityMETRICS

AL-FAROOQ CORPORATION

CONSULTING ENGINEERS & PRODUCT DEVELOPMENT

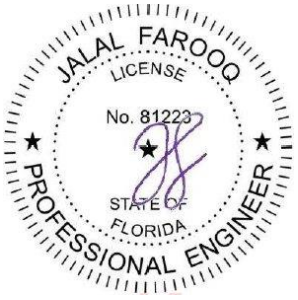
August 26, 2022

Product Approval Administrator
Building Codes & Standards Section
Department of Business & Professional Regulations
1940 North Monroe Street, Suite 90
Tallahassee, FL 32399-2100

To whom it may concern,

As the design engineer retained to prepare the product approval(s) associated with this letter as shown below on this same web page, I do hereby declare that I do not have and will not have any financial interest in any company manufacturing or distributing the referenced product(s), nor do I have or will have any financial interest with any other entity involved in the approval process of the referenced product(s).

Sincerely,



Sealed: 8/26/2022

Jalal Farooq, P.E.
CFO

9360 Sunset Drive, Suite 220 | Miami, FL 33173 | T: 305.264.8100 | F: 305.262.6978 | www.afceng.com | alfarooq@afceng.com

AL-FAROOQ CORPORATION

CONSULTING ENGINEERS & PRODUCT DEVELOPMENT

PRODUCT APPROVAL EVALUATION
RULE CHAPTER #61G20-3 • METHOD 1 OPTION D

FL 40673
Date: 07/20/2023

Detailed Product Description:
Manufacturer: MR-GLASS DOORS & WINDOWS MANUFACTURING, LLC
Manufacturer Address: 8051 N.W. 79TH PLACE. MEDLEY, FL 33166
Model Name: SERIES "MG150" EXTRUDED ALUMINUM UNCLIPPED MULLIONS
Maximum Load: +90 PSF, -120 PSF (Large Missile Impact)
Installation Drawings # 22-08F

This product complies with the High Velocity Hurricane Zone (HVHZ) testing requirements.

For maximum sizes, combination of span vs loads and anchor type refer to installation drawings.

Comparative analysis used __ Yes X No

Mandatory Tests (Tested in accordance with ANSI/AAMA 101/I.S.2/NAFS/TAS 202)

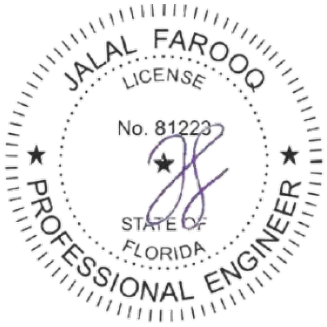
Test	Description	Test Location	Test Report Date	Test Report #	Test Sealed By
ASTM E283	Air Inflitration Leakage	Hurricane Engineering & Testing, Inc	2/8/2022 2/8/2022 2/8/2022	HETI-22-7149 HETI-22-7153 HETI-22-7155	Dr. Ram N. Tewari, PE
ASTM E331 OR ASTM 547 & TAS 202	Water Penetration	Hurricane Engineering & Testing, Inc	2/8/2022 2/8/2022 2/8/2022	HETI-22-7149 HETI-22-7153 HETI-22-7155	Dr. Ram N. Tewari, PE
ASTM E330 & TAS 202	Uniform Static Air Pressure	Hurricane Engineering & Testing, Inc	2/8/2022 2/8/2022 2/8/2022	HETI-22-7149 HETI-22-7153 HETI-22-7155	Dr. Ram N. Tewari, PE

Supplemental Tests (Tested in accordance with TAS-201 and TAS-203)

Test	Description	Test Location	Test Report Date	Test Report#	Test Sealed By
FBC 1626.2 (TAS 201 & 203) ASTM E1886/1996	Large Missile Impact & Cyclic	Hurricane Engineering & Testing, Inc	2/8/2022 2/8/2022 2/8/2022	HETI-22-7149 HETI-22-7153 HETI-22-7155	Dr. Ram N. Tewari, PE

Under the limitations of the attached installation drawings, to the best of my knowledge and ability, the above product conforms to the requirements of the 2023 Florida Building Code.

Evaluation Report Engineer:



Jalal Farooq PE # 81223
Al-Farooq Corporation EB # 3538

Sealed: 7/21/2023

9360 Sunset Drive STE 220 | Miami, FL 33173 | T: 305.264.8100 | F: 305.262.6978 | www.afceng.com | alfarooq@afceng.com

MG150 EXTRUDED ALUMINUM UNCLIPPED MULLION WINDOW FRAME MEMBERS INCLUDED IN PROPERTIES

MG150 MULLION TO BE USED WITH
SERIES MG400 ALUMINUM FIXED WINDOW
SERIES MG450 ALUMINUM FIXED WINDOW
SERIES MG200 ALUMINUM SINGLE HUNG WINDOW
SERIES MG300 ALUMINUM HORIZONTAL ROLLING WINDOW
OR ANY COMBINATIONS OF ABOVE IN SIDE BY SIDE
JOINING OR TOP AND BOTTOM JOINING.
FOR WINDOWS IMPACT AND LOAD RATINGS
SEE CORRESPONDING APPROVALS.
LOWER DESIGN PRESSURE FROM WINDOW APPROVALS
OR MULLION CHARTS WILL APPLY TO ENTIRE SYSTEM.
MULLION MAY BE USED FOR JOINING TWO OR MORE
WINDOWS TOGETHER.

INDEX OF DRAWING

SHEET NO.	DESCRIPTION
1	GENERAL NOTES, INSTRUCTIONS AND INDEX OF DRAWINGS
2 THRU 4	VERTICAL MULLION COMBINATIONS
5 THRU 8	HORIZONTAL MULLION COMBINATIONS
9	VERTICAL MULLION CAPACITY CHARTS
10	HORIZONTAL MULLION CAPACITY CHARTS
11	MULLION ANCHORS CAPACITY CHARTS
12 THRU 15	MULLION ANCHORING DETAIL
16	MULLION AND WINDOW FRAME EXTRUSIONS

NOTES:

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 2020 (7TH EDITION)/2023 (8TH EDITION) FLORIDA BUILDING CODE INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

ALL GLAZING PRODUCTS USED WITH THESE MULLIONS MUST MEET THE APPLICABLE BUILDING CODE REQUIREMENTS I.E: WIND LOAD, WATER INFILTRATION, FORCED ENTRY RESISTANCE, SAFEGUARDS ETC.

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 2020/2023 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 MULLIONS ARE RATED FOR LARGE & SMALL MISSILE IMPACT

INSTRUCTIONS:

USE CHARTS AS FOLLOWS.

STEP 1 DETERMINE DESIGN LOAD REQUIRED PER ASCE 7 FOR PARTICULAR OPENING.

STEP 2 USE CONNECTION OF WINDOWS TO MULLION AS PER PRODUCT APPROVAL.

STEP 3 USING CHARTS ON SHEETS 9 & 10 SELECT MULLION TYPE WITH DESIGN RATING MORE THAN THE DESIGN LOAD SPECIFIED IN STEP 1 ABOVE.

STEP 4 USING CHARTS ON SHEET 11 SELECT ANCHOR OPTION WITH DESIGN LOAD RATING MORE THAN THE DESIGN LOAD SPECIFIED IN STEP 1 ABOVE.

STEP 5 CAPACITY OF SELECTED MR-GLASS WINDOWS AND MULLION MUST EQUAL OR EXCEED REQUIRED LOADS.

Sealed: 7/21/2023

FL #40673

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.

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100
WWW.AFCENG.COM
FBPE #3538

MULLION\22-08F-MG

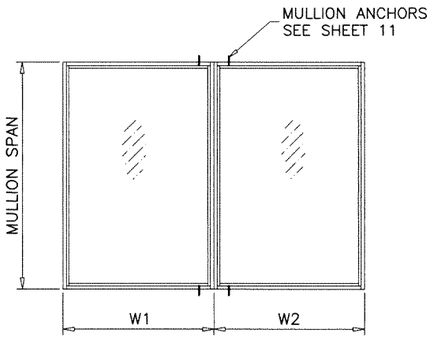
MG150 EXTRUDED ALUM UNCLIPPED MULLIONS

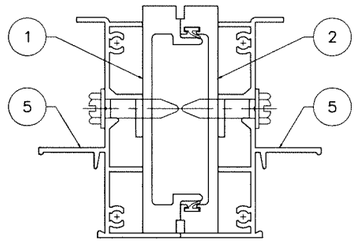
MR-GLASS DOORS & WINDOWS MANUFACTURING, LLC
8051 N.W. 79th Place
Medley, FL. 33166
Tel. (305) 764-3963
www.mrglasswindows.com

revisions:			
no	date	by	description
A	07.18.23		UPDATED TO 2023 FBC

date: 03-09-22
scale: 1/2" = 1"
dr. by: TARIQ
chk. by:

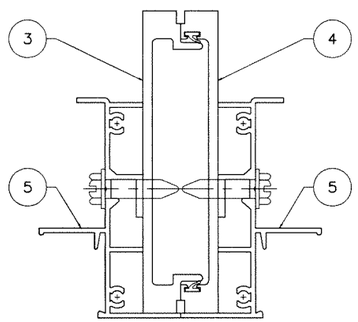
drawing no. 22-08F





TOTAL PRPERTIES
Ix = 2.396 IN^4
Sx = 1.560 IN^3

GROUP 'V1A'



TOTAL PRPERTIES
Ix = 4.041 IN^4
Sx = 2.018 IN^3

GROUP 'V1B'

SERIES MG400
FIX. TO FIX.

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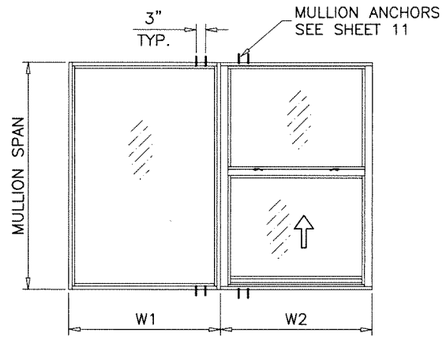
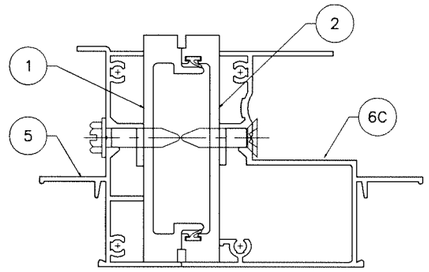
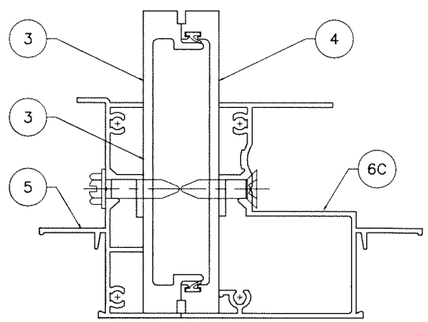




TOTAL PRPERTIES
Ix = 2.634 IN^4
Sx = 1.683 IN^3

GROUP 'V2A'

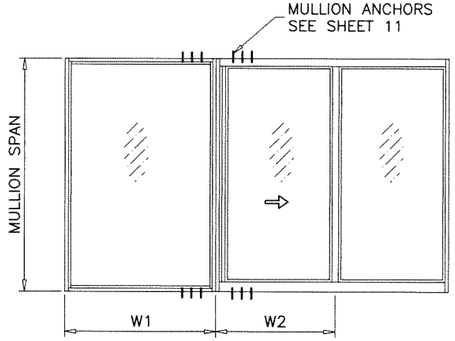


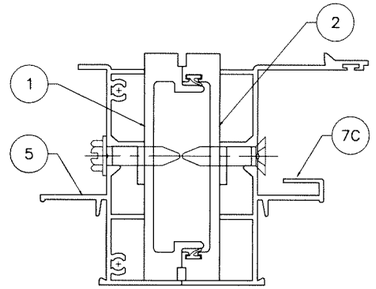
TOTAL PRPERTIES
Ix = 4.279 IN^4
Sx = 2.137 IN^3

GROUP 'V2B'

SERIES MG400 & SERIES MG200
FIX. TO S.H.

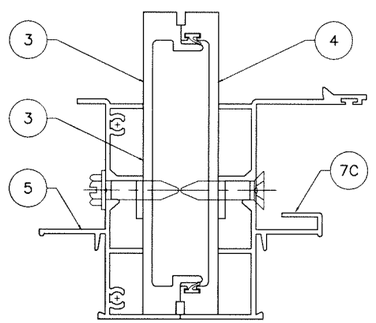
$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$





TOTAL PRPERTIES
Ix = 2.521 IN^4
Sx = 1.566 IN^3

GROUP 'V3A'



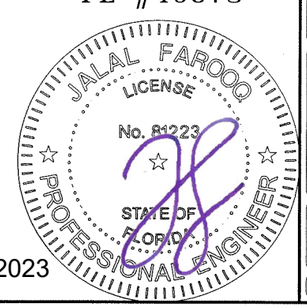
TOTAL PRPERTIES
Ix = 4.166 IN^4
Sx = 2.081 IN^3

GROUP 'V3B'

SERIES MG 400 & SERIES MG300
FIX. TO H.R.

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

FL #40673



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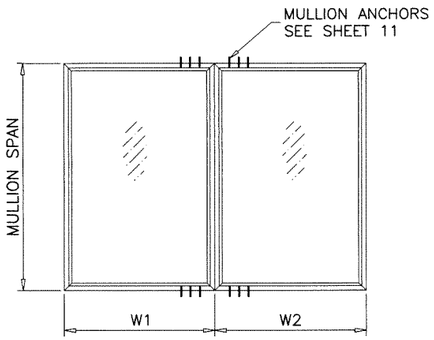
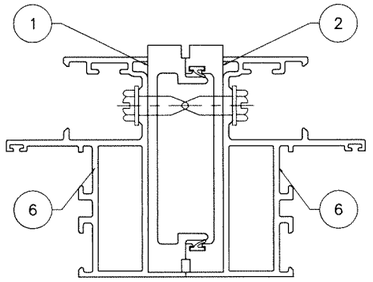
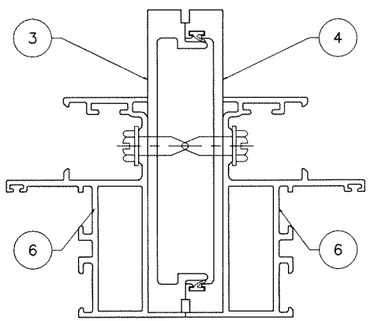




TOTAL PRPERTIES
Ix = 2.848 IN^4
Sx = 1.899 IN^3

GROUP 'V4A'

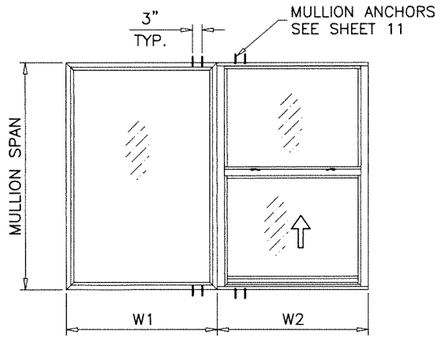


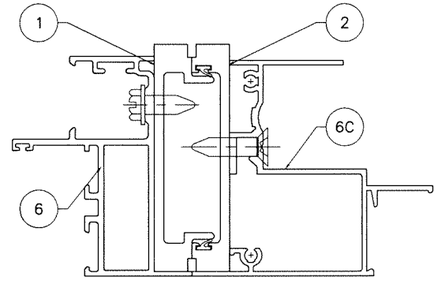
TOTAL PRPERTIES
Ix = 4.493 IN^4
Sx = 2.244 IN^3

GROUP 'V4B'

SERIES MG450
FIX. TO FIX.

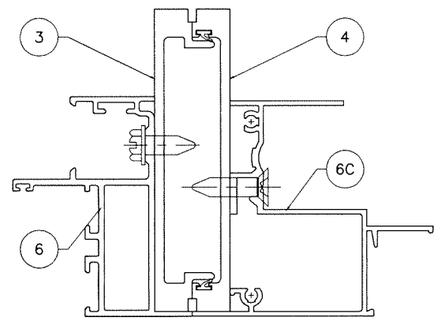
$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$





TOTAL PRPERTIES
Ix = 2.860 IN^4
Sx = 1.827 IN^3

GROUP 'V5A'

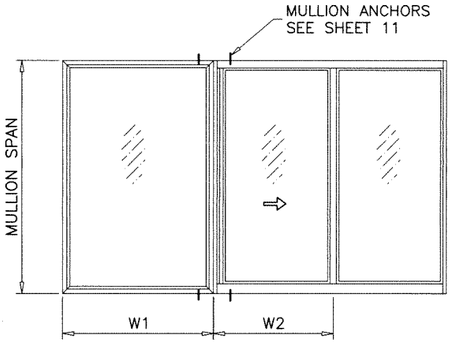


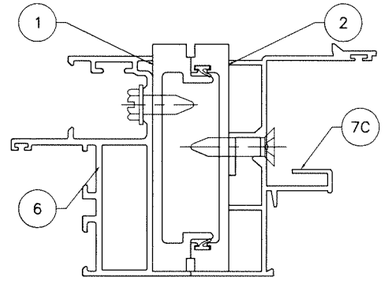
TOTAL PRPERTIES
Ix = 4.505 IN^4
Sx = 2.250 IN^3

GROUP 'V5B'

SERIES MG450 & SERIES MG200
FIX. TO S.H.

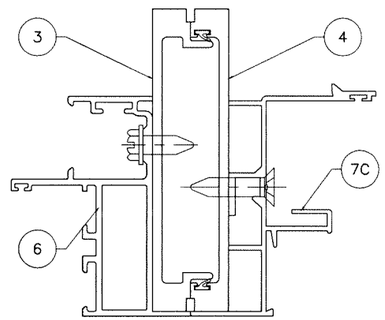
$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$





TOTAL PRPERTIES
Ix = 2.747 IN^4
Sx = 1.706 IN^3

GROUP 'V6A'



TOTAL PRPERTIES
Ix = 4.392 IN^4
Sx = 2.194 IN^3

GROUP 'V6B'

SERIES MG450 & SERIES MG300
FIX. TO H.R.

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

Sealed: 7/21/2023

FL #40673

JALAL FAROOQ LICENSE No. 61223 STATE OF FLORIDA PROFESSIONAL ENGINEER

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
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MULLION\22-08F-MG

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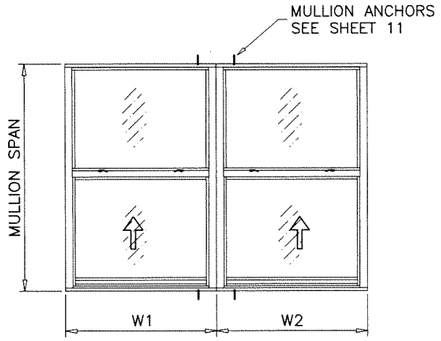
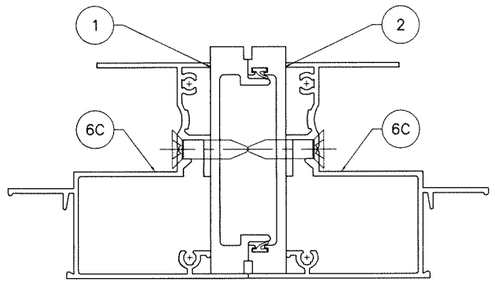
chk. by:

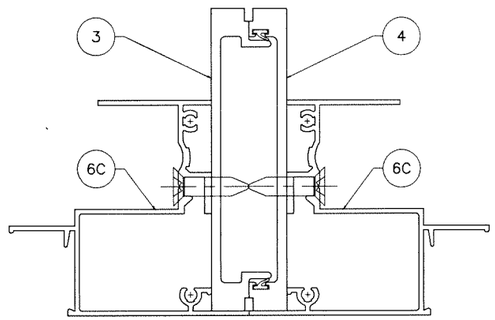
drawing no. 22-08F





TOTAL PRPERTIES
Ix = 2.872 IN^4
Sx = 1.835 IN^3

GROUP 'V7A'

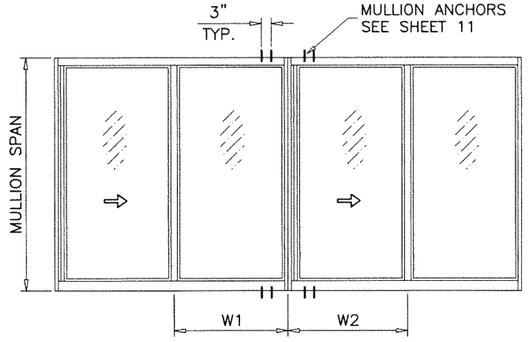


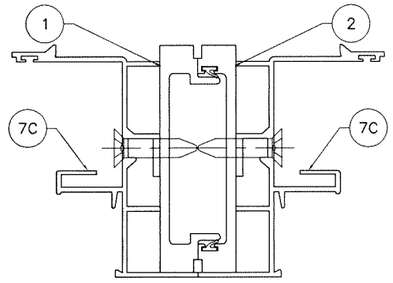
TOTAL PRPERTIES
Ix = 4.517 IN^4
Sx = 2.256 IN^3

GROUP 'V7B'

SERIES MG200
S.H. TO S.H.

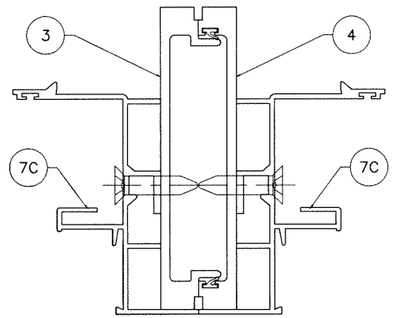
$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$





TOTAL PRPERTIES
Ix = 2.646 IN^4
Sx = 1.643 IN^3

GROUP 'V8A'



TOTAL PRPERTIES
Ix = 4.291 IN^4
Sx = 2.143 IN^3

GROUP 'V8B'

SERIES MG300
H.R. TO H.R.

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

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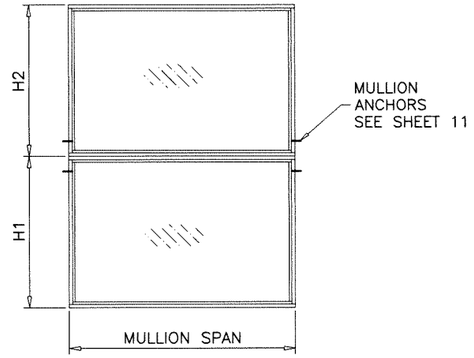
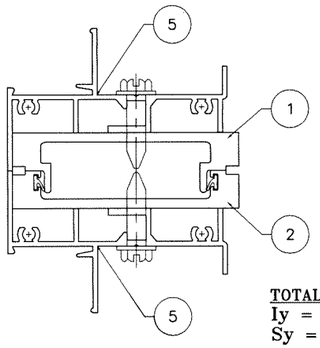
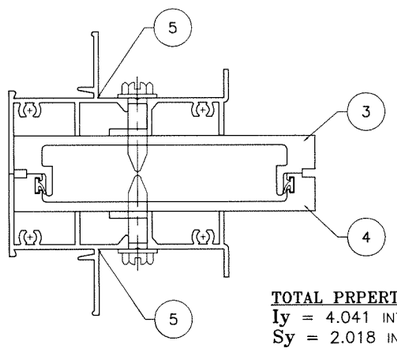




TOTAL PRPERTIES
Iy = 2.396 IN^4
Sy = 1.560 IN^3

GROUP 'H1A'

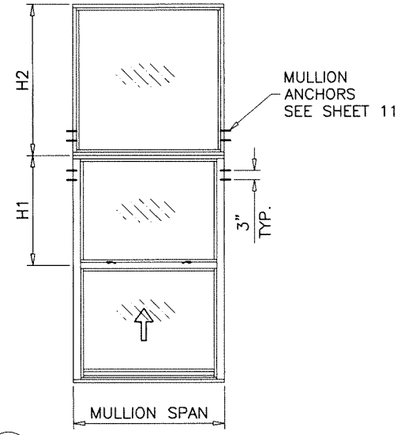


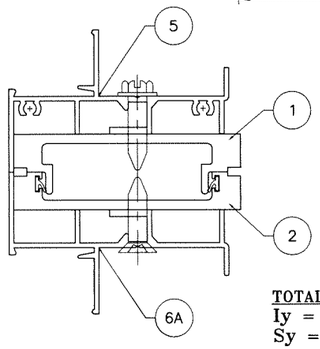
TOTAL PRPERTIES
Iy = 4.041 IN^4
Sy = 2.018 IN^3

GROUP 'H1B'

SERIES MG400
FIX. OVER FIX.

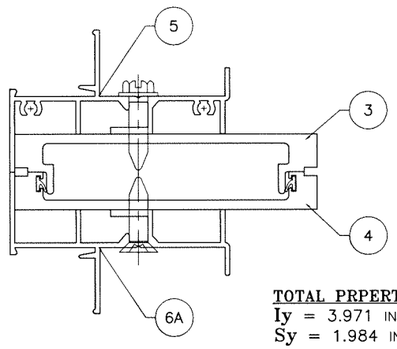
$$\text{HEIGHT (H)} = \frac{H1 + H2}{2}$$





TOTAL PRPERTIES
Iy = 2.326 IN^4
Sy = 1.508 IN^3

GROUP 'H2A'

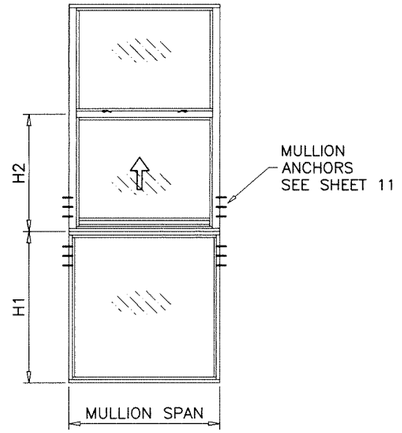


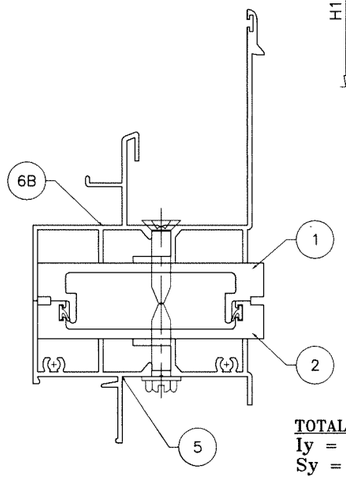
TOTAL PRPERTIES
Iy = 3.971 IN^4
Sy = 1.984 IN^3

GROUP 'H2B'

SERIES MG400 & SERIES MG200
FIX. OVER S.H.

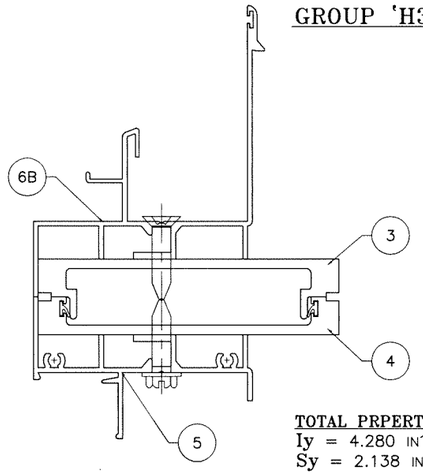
$$\text{HEIGHT (H)} = \frac{H1 + H2}{2}$$





TOTAL PRPERTIES
Iy = 2.635 IN^4
Sy = 1.494 IN^3

GROUP 'H3A'



TOTAL PRPERTIES
Iy = 4.280 IN^4
Sy = 2.138 IN^3

GROUP 'H3B'

SERIES MG200 & SERIES MG400
S.H. OVER FIX.

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

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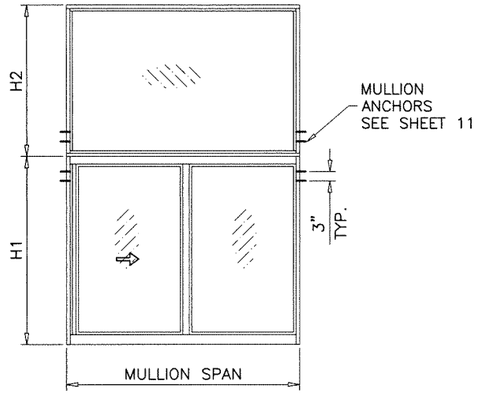
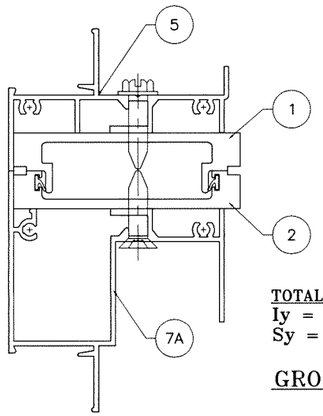
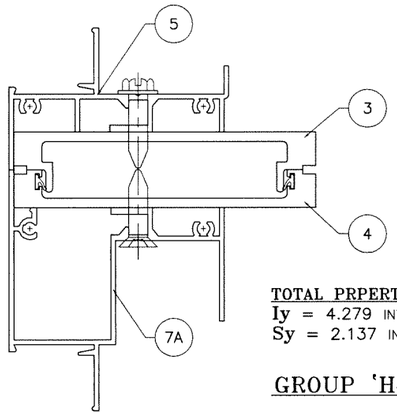




TOTAL PRPERTIES
Iy = 2.634 IN^4
Sy = 1.683 IN^3

GROUP 'H4A'

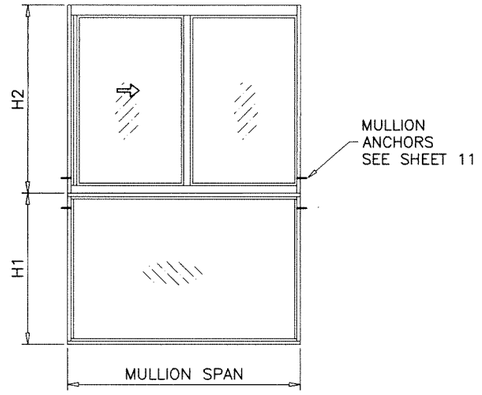


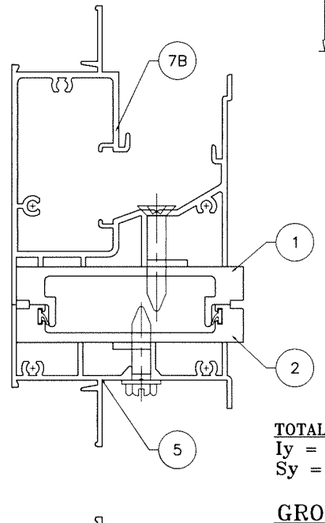
TOTAL PRPERTIES
Iy = 4.279 IN^4
Sy = 2.137 IN^3

GROUP 'H4B'

SERIES MG400 & SERIES MG300
FIX. OVER H.R.

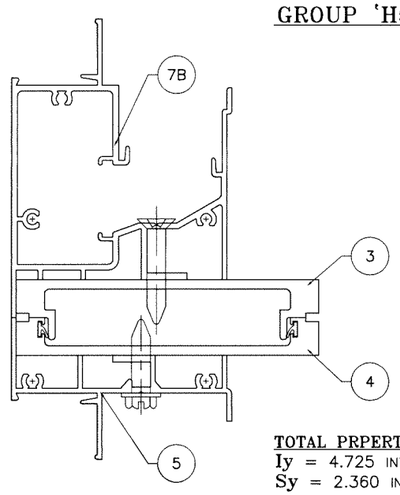
$$\text{HEIGHT (H)} = \frac{H1 + H2}{2}$$





TOTAL PRPERTIES
Iy = 3.080 IN^4
Sy = 1.888 IN^3

GROUP 'H5A'



TOTAL PRPERTIES
Iy = 4.725 IN^4
Sy = 2.360 IN^3

GROUP 'H5B'

SERIES MG300 & SERIES MG400
H.R. OVER FIX.

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

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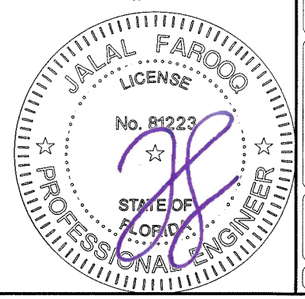

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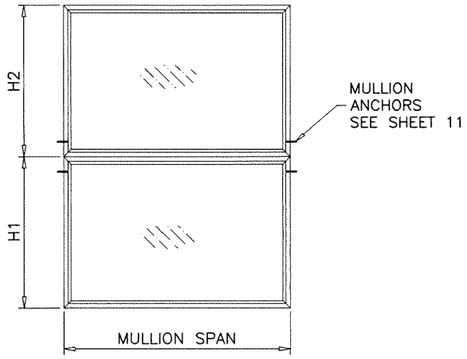
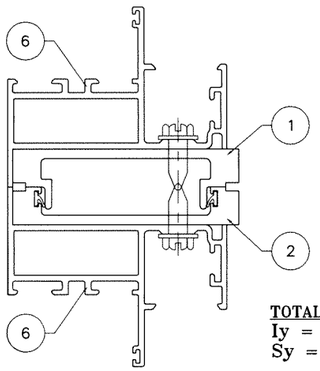
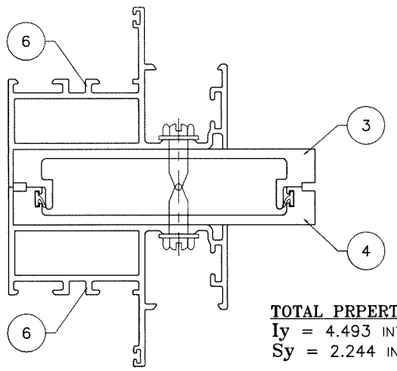




TOTAL PRPERTIES
Iy = 2.848 IN^4
Sy = 1.899 IN^3

GROUP 'H6A'

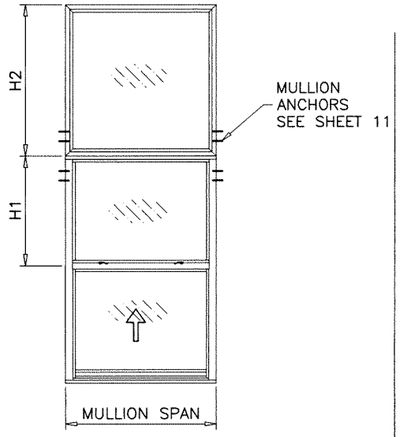


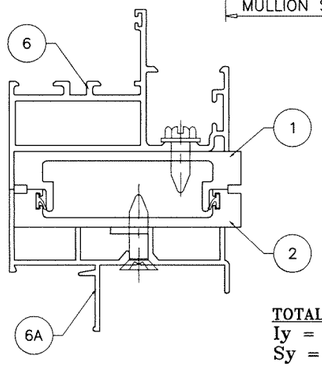
TOTAL PRPERTIES
Iy = 4.493 IN^4
Sy = 2.244 IN^3

GROUP 'H6B'

SERIES MG450
FIX. OVER FIX.

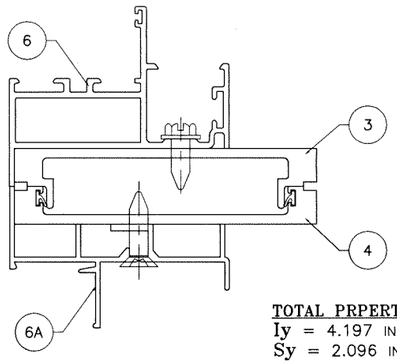
$$\text{HEIGHT (H)} = \frac{H1 + H2}{2}$$





TOTAL PRPERTIES
Iy = 2.552 IN^4
Sy = 1.655 IN^3

GROUP 'H7A'

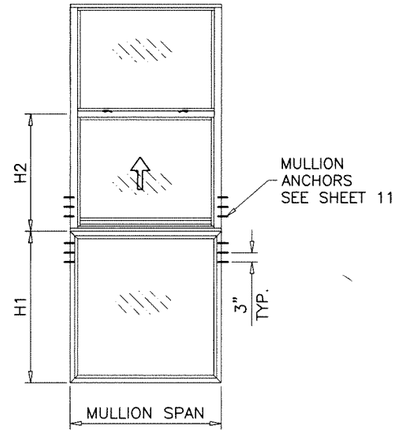


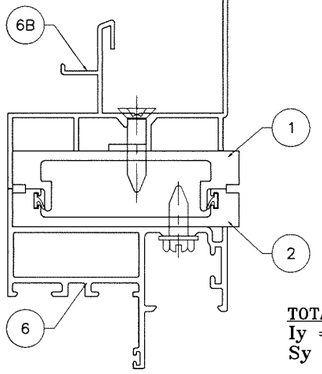
TOTAL PRPERTIES
Iy = 4.197 IN^4
Sy = 2.096 IN^3

GROUP 'H7B'

SERIES MG450 & SERIES MG200
FIX. OVER S.H.

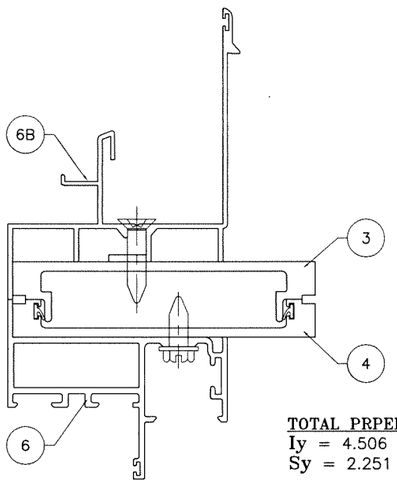
$$\text{HEIGHT (H)} = \frac{H1 + H2}{2}$$





TOTAL PRPERTIES
Iy = 2.861 IN^4
Sy = 1.622 IN^3

GROUP 'H8A'



TOTAL PRPERTIES
Iy = 4.506 IN^4
Sy = 2.251 IN^3

GROUP 'H8B'

SERIES MG200 & SERIES MG450
S.H. OVER FIX.

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

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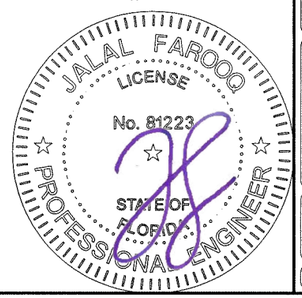

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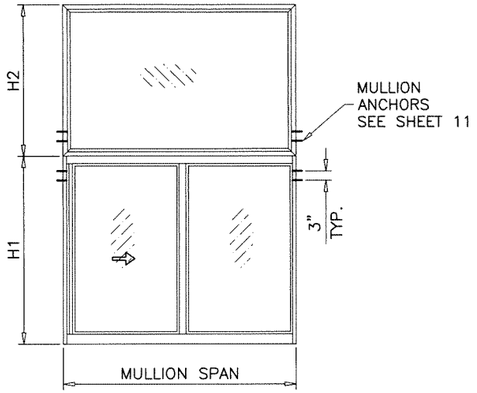
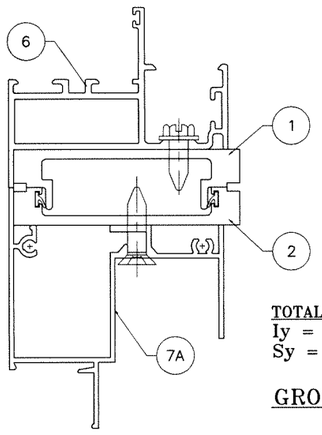
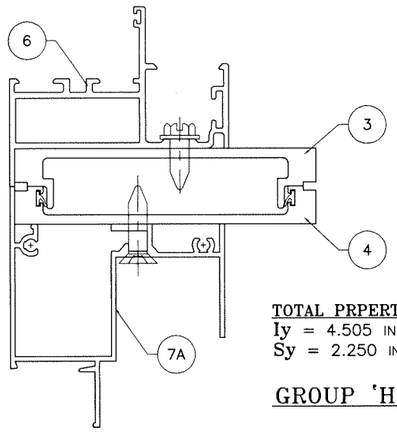




TOTAL PRPERTIES
Iy = 2.860 IN^4
Sy = 1.827 IN^3

GROUP 'H9A'

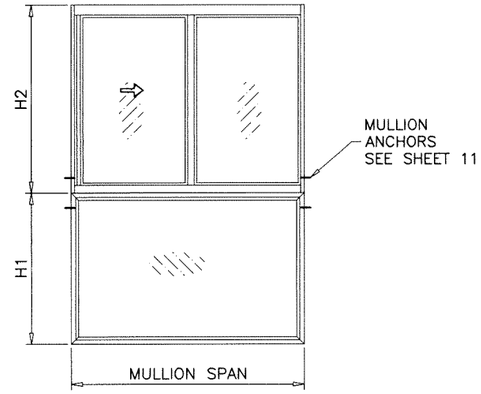


TOTAL PRPERTIES
Iy = 4.505 IN^4
Sy = 2.250 IN^3

GROUP 'H9B'

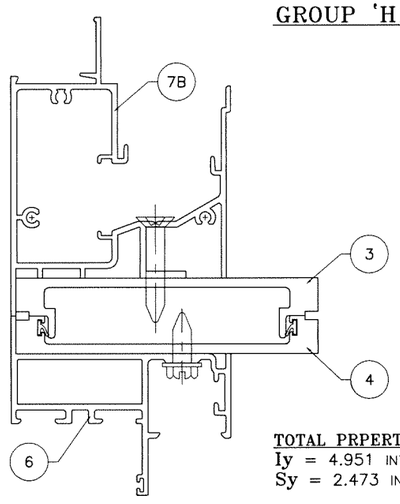
SERIES MG450 & SERIES MG300
FIX. OVER H.R.

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



TOTAL PRPERTIES
Iy = 3.306 IN^4
Sy = 2.112 IN^3

GROUP 'H10A'



TOTAL PRPERTIES
Iy = 4.951 IN^4
Sy = 2.473 IN^3

GROUP 'H10B'

SERIES MG300 & SERIES MG450
H.R. OVER FIX.

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

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VERTICAL MULLION DESIGN LOAD CAPACITY – PSF

WINDOW DIMS.		3" MULLION GROUPS				4" MULLION GROUPS			
		'V1A', 'V2A' 'V3A', 'V8A'		'V4A', 'V5A' 'V6A', 'V7A'		'V1B', 'V2B' 'V3B', 'V8B'		'V4B', 'V5B' 'V6B', 'V7B'	
WIDTH (W)	MULL SPAN	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)
30"	48"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
54"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
60"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
66"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
72"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
30"	60"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
54"		90.0	108.0	90.0	120.0	90.0	120.0	90.0	120.0
60"		90.0	97.2	90.0	118.1	90.0	120.0	90.0	120.0
66"		88.4	88.4	90.0	107.4	90.0	110.2	90.0	120.0
72"		81.0	81.0	90.0	98.4	90.0	101.0	90.0	120.0
30"	72"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	109.3	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	93.7	90.0	108.7	90.0	116.3	90.0	120.0
48"		82.0	82.0	90.0	95.1	90.0	101.8	90.0	120.0
54"		72.9	72.9	84.6	84.6	90.0	90.5	90.0	112.6
60"		65.6	65.6	76.1	76.1	81.4	81.4	90.0	101.4
66"		59.6	59.6	69.2	69.2	74.0	74.0	90.0	92.1
72"		54.7	54.7	63.4	63.4	65.0	65.0	65.0	65.0
30"	84"	83.6	83.6	90.0	95.9	90.0	115.9	90.0	120.0
36"		69.7	69.7	79.9	79.9	90.0	96.6	90.0	120.0
42"		59.7	59.7	68.5	68.5	82.8	82.8	90.0	104.5
48"		52.3	52.3	59.9	59.9	72.4	72.4	90.0	91.5
54"		46.5	46.5	53.3	53.3	64.4	64.4	81.3	81.3
60"		41.8	41.8	47.9	47.9	57.9	57.9	70.0	70.0
66"		–	–	–	–	52.7	52.7	55.0	55.0
72"		–	–	–	–	48.3	48.3	55.0	55.0
30"	96"	56.0	56.0	64.2	64.2	86.1	86.1	90.0	102.7
36"		46.7	46.7	53.5	53.5	71.7	71.7	85.6	85.6
42"		40.0	40.0	45.9	45.9	61.5	61.5	73.3	73.3
48"		35.0	35.0	40.1	40.1	53.8	53.8	64.2	64.2
54"		31.1	31.1	35.7	35.7	47.8	47.8	57.0	57.0
60"		–	–	–	–	43.0	43.0	51.3	51.3
66"		–	–	–	–	39.1	39.1	46.7	46.7
30"	108"	39.3	39.3	45.1	45.1	66.0	66.0	72.1	72.1
36"		32.8	32.8	37.6	37.6	55.0	55.0	60.1	60.1
42"		28.1	28.1	32.2	32.2	47.2	47.2	51.5	51.5
48"		24.6	24.6	28.2	28.2	41.3	41.3	45.1	45.1
54"		–	–	–	–	36.7	36.7	40.1	40.1
60"		–	–	–	–	33.0	33.0	36.1	36.1
30"	120"	28.7	28.7	32.9	32.9	48.4	48.4	52.6	52.6
36"		23.9	23.9	27.4	27.4	40.3	40.3	43.8	43.8
42"		20.5	20.5	23.5	23.5	34.6	34.6	37.6	37.6
48"		–	–	–	–	30.2	30.2	32.9	32.9
54"		–	–	–	–	26.9	26.9	29.2	29.2

VERTICAL MULLION DESIGN LOAD CAPACITY – PSF

WINDOW DIMS.		3" MULLION GROUPS				4" MULLION GROUPS			
		'V1A', 'V2A' 'V3A', 'V8A'		'V4A', 'V5A' 'V6A', 'V7A'		'V1B', 'V2B' 'V3B', 'V8B'		'V4B', 'V5B' 'V6B', 'V7B'	
WIDTH (W)	MULL SPAN	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)
19–1/8"	26"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
26–1/2"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
37"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
53–1/8"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
19–1/8"	38–3/8"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
26–1/2"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
37"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
53–1/8"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
19–1/8"	50–5/8"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
26–1/2"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
37"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
53–1/8"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
19–1/8"	56"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
26–1/2"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
37"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
53–1/8"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
19–1/8"	63"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
26–1/2"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
37"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
53–1/8"		90.0	98.8	90.0	120.0	90.0	120.0	90.0	120.0
19–1/8"	72"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
26–1/2"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
37"		90.0	106.4	90.0	120.0	90.0	120.0	90.0	120.0
53–1/8"		74.1	74.1	86.0	86.0	90.0	92.0	90.0	114.5
19–1/8"	76"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
26–1/2"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
37"		90.0	91.5	90.0	105.0	90.0	117.2	90.0	120.0
53–1/8"		63.8	63.8	73.1	73.1	81.6	81.6	90.0	102.1

SEE VERTICAL MULLION CHART ABOVE FOR MULLION DESIGN LOAD CAPACITY.
SEE ANCHOR CHART ON SHEET 11 FOR MULLION ANCHOR LOAD CAPACITY.
LOWER DESIGN PRESSURE FROM ABOVE WILL APPLY.

INTERPOLATION BETWEEN WIDTHS AND HEIGHTS ALLOWED.

FL #40673

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Sealed: 7/21/2023

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revisions:

no	date	by	description

date: 03–09–22
scale: –
dr. by: TARIQ
chk. by:

drawing no. 22–08F

HORIZONAL MULLION DESIGN LOAD CAPACITY – PSF

WINDOW DIMS.		3" MULLION GROUPS				4" MULLION GROUPS			
		'H1A', 'H2A' 'H3A', 'H4A' 'H7A'		'H5A', 'H6A' 'H8A', 'H9A' 'H10A'		'H1B', 'H2B' 'H3B', 'H4B' 'H7B'		'H5B', 'H6B' 'H8B', 'H9B' 'H10B'	
HEIGHT (H)	MULL SPAN	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
30"	48"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
54"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
60"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
66"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
72"		90.0	115.2	90.0	120.0	90.0	120.0	90.0	120.0
30"	60"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	105.9	90.0	120.0	90.0	120.0	90.0	120.0
54"		90.0	91.4	90.0	117.4	90.0	116.3	90.0	120.0
60"		79.7	79.7	90.0	104.1	90.0	101.6	90.0	120.0
66"		70.2	70.2	90.0	93.2	89.6	89.6	90.0	120.0
72"		62.2	62.2	84.1	84.1	79.5	79.5	90.0	113.5
30"	72"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	95.3	90.0	120.0	90.0	120.0	90.0	120.0
42"		77.7	77.7	90.0	102.2	90.0	98.5	90.0	120.0
48"		64.5	64.5	87.2	87.2	81.9	81.9	90.0	117.3
54"		54.2	54.2	75.6	75.6	69.1	69.1	90.0	101.7
60"		41.1	41.1	66.2	66.2	58.7	58.7	89.2	89.2
66"		26.5	26.5	58.6	58.6	50.0	50.0	79.0	79.0
72"		–	–	52.3	52.3	–	–	65.0	65.0
30"	84"	76.3	76.3	98.7	98.7	90.0	102.6	90.0	120.0
36"		56.4	56.4	81.4	81.4	79.5	79.5	90.0	114.2
42"		37.5	37.5	68.6	68.6	63.0	63.0	90.0	94.3
48"		–	–	58.6	58.6	28.7	28.7	79.4	79.4
54"		–	–	50.4	50.4	–	–	67.8	67.8
60"		–	–	43.5	43.5	–	–	58.5	58.5
66"		–	–	–	–	–	–	50.9	50.9
72"		–	–	–	–	–	–	44.6	44.6
30"	96"	43.3	43.3	65.2	65.2	71.4	71.4	90.0	102.8
36"		–	–	52.6	52.6	32.0	32.0	82.0	82.0
42"		–	–	42.9	42.9	–	–	66.5	66.5
48"		–	–	34.9	34.9	–	–	55.0	55.0
54"		–	–	27.9	27.9	–	–	44.3	44.3
60"		–	–	–	–	–	–	34.0	34.0
66"		–	–	–	–	–	–	23.2	23.2
30"	108"	–	–	44.2	44.2	22.5	22.5	69.8	69.8
36"		–	–	33.8	33.8	–	–	53.5	53.5
42"		–	–	25.0	25.0	–	–	39.7	39.7
48"		–	–	–	–	–	–	26.2	26.2
30"	120"	–	–	29.7	29.7	–	–	47.0	47.0
36"		–	–	–	–	–	–	31.1	31.1

HORIZONAL MULLION DESIGN LOAD CAPACITY – PSF

WINDOW DIMS.		3" MULLION GROUPS				4" MULLION GROUPS			
		'H1A', 'H2A' 'H3A', 'H4A' 'H7A'		'H5A', 'H6A' 'H8A', 'H9A' 'H10A'		'H1B', 'H2B' 'H3B', 'H4B' 'H7B'		'H5B', 'H6B' 'H8B', 'H9B' 'H10B'	
HEIGHT (H)	MULL SPAN	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
26"	19–1/8"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
38–3/8"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
50–5/8"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
53–1/8"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
63"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
72"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
76"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
26"	26–1/2"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
38–3/8"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
50–5/8"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
53–1/8"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
63"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
72"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
76"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
26"	37"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
38–3/8"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
50–5/8"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
53–1/8"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
63"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
72"		90.0	92.0	90.0	118.4	90.0	116.4	90.0	120.0
76"		79.7	79.7	90.0	104.5	90.0	100.9	90.0	120.0
26"	53–1/8"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
38–3/8"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
50–5/8"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
53–1/8"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
63"		81.8	81.8	90.0	106.6	90.0	104.1	90.0	120.0
72"		55.5	55.5	77.1	77.1	70.7	70.7	90.0	103.8
76"		38.5	38.5	67.2	67.2	59.7	59.7	90.0	90.4

SEE HORIZONTAL MULLION CHART ABOVE FOR MULLION DESIGN LOAD CAPACITY.
SEE ANCHOR CHART ON SHEET 11 FOR MULLION ANCHOR LOAD CAPACITY.
LOWER DESIGN PRESSURE FROM ABOVE WILL APPLY.

INTERPOLATION BETWEEN WIDTHS AND HEIGHTS ALLOWED.

FL #40673

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Sealed: 7/21/2023

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revisions:

no	date	by	description

date: 03–09–22
scale: –
dr. by: TARIQ
chk. by:

drawing no. 22–08F

MULLION ANCHORS DESIGN LOAD CAPACITY – PSF

WINDOW DIMS.		2 ANCHORS AT MULL			4 ANCHORS AT MULL			6 ANCHORS AT MULL		
		A2	AA2	B2	A4	AA4	B4	A6	AA6	B6
WIDTH (W) HEIGHT (H)	MULL SPAN	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)
30"		61.2	92.0	105.6	120.0	120.0	120.0	120.0	120.0	120.0
36"		51.0	76.7	88.0	102.0	120.0	120.0	120.0	120.0	120.0
42"		43.7	65.7	75.4	87.4	120.0	120.0	120.0	120.0	120.0
48"		38.2	57.5	66.0	76.5	115.0	120.0	114.7	120.0	120.0
54"	48"	34.0	51.1	58.7	68.0	102.2	117.3	102.0	120.0	120.0
60"		30.6	46.0	52.8	61.2	92.0	105.6	91.8	120.0	120.0
66"		27.8	41.8	48.0	55.6	83.6	96.0	83.4	120.0	120.0
72"		25.4	38.3	44.0	51.0	76.6	88.0	76.5	115.0	120.0
30"		49.0	73.6	84.5	97.9	120.0	120.0	120.0	120.0	120.0
36"		40.8	61.3	70.4	81.6	120.0	120.0	120.0	120.0	120.0
42"		34.9	52.6	60.3	69.9	105.1	120.0	104.9	120.0	120.0
48"		30.6	46.0	52.8	61.2	92.0	105.6	91.8	120.0	120.0
54"	60"	27.1	40.8	46.9	54.4	81.8	93.8	81.6	120.0	120.0
60"		24.4	36.7	42.2	48.9	73.6	84.5	73.4	110.4	120.0
66"		22.1	33.4	38.3	44.5	66.9	76.8	66.7	100.3	115.2
72"		20.3	30.6	35.1	40.7	61.3	70.4	61.2	92.0	105.6
30"		40.8	61.3	70.4	81.6	120.0	120.0	120.0	120.0	120.0
36"		34.0	51.1	58.6	68.0	102.2	117.3	102.0	120.0	120.0
42"		29.1	43.8	50.2	58.3	87.6	100.6	87.4	120.0	120.0
48"		25.4	38.3	43.9	51.0	76.6	88.0	76.5	115.0	120.0
54"	72"	22.5	34.0	39.0	45.3	68.1	78.2	68.0	102.2	117.3
60"		20.2	30.6	35.1	40.7	61.3	70.4	61.1	92.0	105.6
66"		–	27.7	31.9	37.0	55.7	63.9	55.6	83.6	96.0
72"		–	25.4	29.2	33.9	51.0	58.6	50.9	76.6	88.0
30"		34.9	52.6	60.3	69.9	105.1	120.0	104.9	120.0	120.0
36"		29.1	43.8	50.2	58.3	87.6	100.6	87.4	120.0	120.0
42"		24.9	37.5	43.0	49.9	75.1	86.2	74.9	112.6	120.0
48"		21.7	32.8	37.6	43.6	65.7	75.4	65.5	98.5	113.1
54"	84"	–	29.1	33.4	38.8	58.3	67.0	58.2	87.6	100.5
60"		–	26.1	30.0	34.8	52.5	60.3	52.4	78.8	90.5
66"		–	23.7	27.3	31.6	47.7	54.8	47.6	71.6	82.2
72"		–	21.7	24.9	29.0	43.7	50.2	43.6	65.6	75.4
30"		30.6	46.0	52.8	61.2	92.0	105.6	91.8	120.0	120.0
36"		25.4	38.3	43.9	51.0	76.6	88.0	76.5	115.0	120.0
42"		21.7	32.8	37.6	43.6	65.7	75.4	65.5	98.5	113.1
48"	96"	–	28.6	32.9	38.1	57.4	65.9	57.3	86.2	99.0
54"		–	25.4	29.2	33.9	51.0	58.6	50.9	76.6	87.9
60"		–	22.8	26.2	30.4	45.9	52.7	45.8	68.9	79.1
66"		–	20.6	23.8	27.6	41.7	47.9	41.6	62.6	71.9
30"		27.1	40.8	46.9	54.4	81.8	93.8	81.6	120.0	120.0
36"		22.5	34.0	39.0	45.3	68.1	78.2	68.0	102.2	117.3
42"	108"	–	29.1	33.4	38.8	58.3	67.0	58.2	87.6	100.5
48"		–	25.4	29.2	33.9	51.0	58.6	50.9	76.6	87.9
54"		–	22.5	25.9	30.0	45.3	52.0	45.2	68.1	78.2
60"		–	20.2	23.2	27.0	40.7	46.8	40.7	61.2	70.3
30"		24.4	36.7	42.2	48.9	73.6	84.5	73.4	110.4	120.0
36"		20.2	30.6	35.1	40.7	61.3	70.4	61.1	92.0	105.6
42"	120"	–	26.1	30.0	34.8	52.5	60.3	52.4	78.8	90.5
48"		–	22.8	26.2	30.4	45.9	52.7	45.8	68.9	79.1
54"		–	20.2	23.2	27.0	40.7	46.8	40.7	61.2	70.3

MULLION ANCHORS DESIGN LOAD CAPACITY – PSF

WINDOW DIMS.		2 ANCHORS AT MULL			4 ANCHORS AT MULL			6 ANCHORS AT MULL		
		A2	AA2	B2	A4	AA4	B4	A6	AA6	B6
WIDTH (W) HEIGHT (H)	MULL SPAN	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)
19–1/8"		120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
26–1/2"	26"	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
37"		91.6	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
53–1/8"		63.8	95.9	110.1	120.0	120.0	120.0	120.0	120.0	120.0
19–1/8"		120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
26–1/2"	38–3/8"	86.7	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
37"		62.1	93.3	107.1	120.0	120.0	120.0	120.0	120.0	120.0
53–1/8"		43.2	65.0	74.6	86.5	120.0	120.0	120.0	120.0	120.0
19–1/8"		91.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
26–1/2"	50–5/8"	65.7	98.8	113.3	120.0	120.0	120.0	120.0	120.0	120.0
37"		47.0	70.7	81.2	94.1	120.0	120.0	120.0	120.0	120.0
53–1/8"		32.7	49.2	56.5	65.5	98.5	113.1	98.3	120.0	120.0
19–1/8"		82.3	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
26–1/2"	56"	59.4	89.3	102.5	118.8	120.0	120.0	120.0	120.0	120.0
37"		42.5	63.9	73.4	85.1	120.0	120.0	120.0	120.0	120.0
53–1/8"		29.6	44.5	51.1	59.2	89.0	102.2	88.9	120.0	120.0
19–1/8"		73.1	110.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
26–1/2"	63"	52.8	79.4	91.1	105.6	120.0	120.0	120.0	120.0	120.0
37"		37.8	56.8	65.2	75.6	113.7	120.0	113.4	120.0	120.0
53–1/8"		26.3	39.5	45.4	52.7	79.1	90.8	79.0	118.7	120.0
19–1/8"		64.0	96.2	110.4	120.0	120.0	120.0	120.0	120.0	120.0
26–1/2"	72"	46.2	69.4	79.7	92.4	120.0	120.0	120.0	120.0	120.0
37"		33.0	49.7	57.1	66.2	99.4	114.1	99.2	120.0	120.0
53–1/8"		22.9	34.6	39.7	46.1	69.2	79.5	69.1	103.9	119.2
19–1/8"		60.6	91.1	104.6	120.0	120.0	120.0	120.0	120.0	120.0
26–1/2"	76"	43.7	65.8	75.5	87.5	120.0	120.0	120.0	120.0	120.0
37"		31.3	47.1	54.0	62.7	94.2	108.1	94.0	120.0	120.0
53–1/8"		21.7	32.7	37.6	43.7	65.6	75.3	65.5	98.4	113.0

A2 = (2) ANCHORS TYPE 'A' AT MULLION ENDS
AA2 = (2) ANCHORS TYPE 'AA' AT MULLION ENDS
B2 = (2) ANCHORS TYPE 'B' AT MULLION ENDS

A4 = (4) ANCHORS TYPE 'A' AT MULLION ENDS
AA4 = (4) ANCHORS TYPE 'AA' AT MULLION ENDS
B4 = (4) ANCHORS TYPE 'B' AT MULLION ENDS

A6 = (6) ANCHORS TYPE 'A' AT MULLION ENDS
AA6 = (6) ANCHORS TYPE 'AA' AT MULLION ENDS
B6 = (6) ANCHORS TYPE 'B' AT MULLION ENDS

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

SEE CHART ON SHEET 9 FOR VERTICAL MULLION LOAD CAPACITY.
SEE CHART ON SHEET 10 FOR HORIZONTAL MULLION LOAD CAPACITY.
SEE CHART ABOVE FOR MULLION ANCHOR LOAD CAPACITY.
LOWER DESIGN PRESSURE FROM ABOVE WILL APPLY.

INTERPOLATION BETWEEN WIDTHS AND HEIGHTS ALLOWED.

TYPICAL ANCHORS:

TYPE 'A' & 'AA'– 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

THRU 1BY BUCKS INTO CONC. OR BLOCKS
1–1/4" MIN. EMBED INTO CONCRETE OR BLOCKS

DIRECTLY INTO CONCRETE OR BLOCKS
1–1/4" MIN. EMBED INTO CONCRETE OR BLOCKS

TYPE 'B'– #14 SMS OR SELF DRILLING SCREWS (GRADE 2 CRS)
INTO METAL STRUCTURES
(3) THREADS MIN. TO EXTEND BEYOND METAL THICKNESS
ALUMINUM: 1/8" THK. MIN. (6063–T5 MIN.)
STEEL: 1/8" THK. MIN. (Fy = 36 KSI MIN.)
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

TYPICAL EDGE DISTANCE
INTO CONCRETE AND BLOCKS = 1–1/2" MIN. (TYPE 'A' ANCHORS)
INTO CONCRETE AND BLOCKS = 2–1/2" MIN. (TYPE 'AA' ANCHORS)
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 #40673

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

Sealed: 7/21/2023

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100
WWW.AFCENG.COM
FBPE #3538

MULLION\22–08F–MG

MG150 EXTRUDED ALUM UNCLIPPED MULLIONS

MR–GLASS DOORS & WINDOWS MANUFACTURING, LLC
8051 N.W. 79th Place
Medley, FL. 33166
Tel. (305) 764–3963 www.mrglasswindows.com

revisions:			
no	date	by	description

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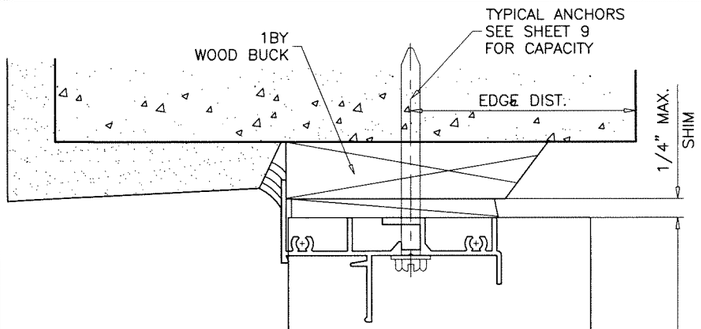
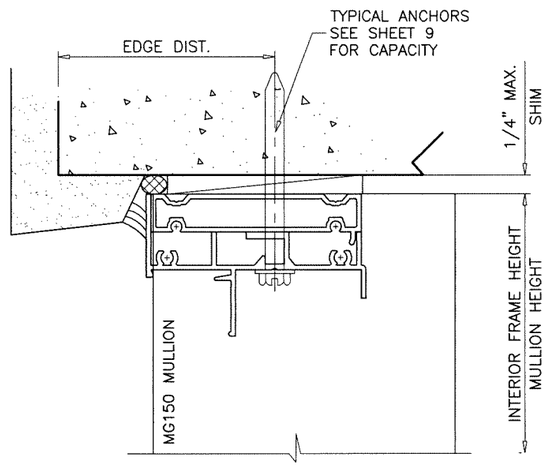
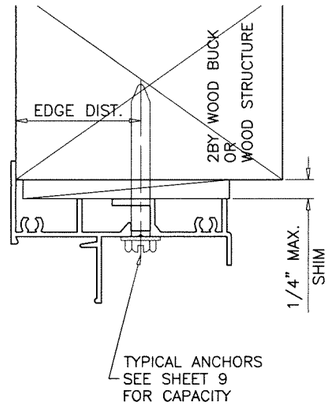
scale: –
dr. by: TARIQ
chk. by:

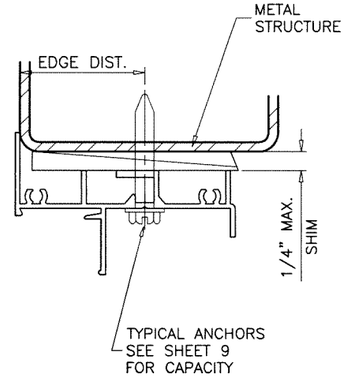
drawing no. 22–08F

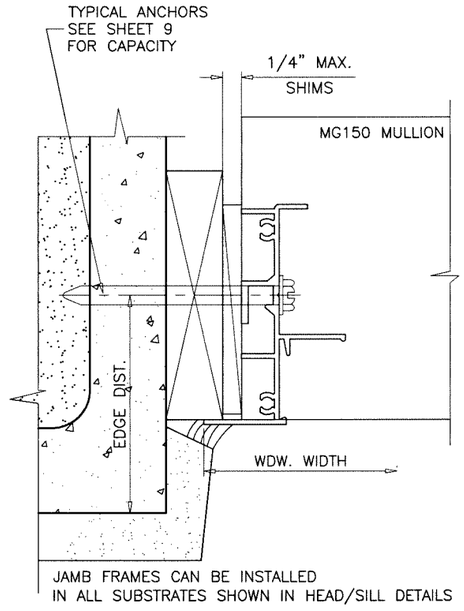




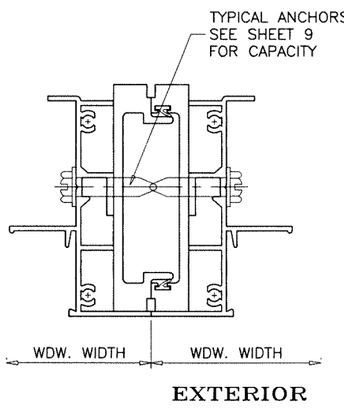
FLANGE FRAMES WITH FLUSH FRAME ADAPTERS CAN BE USED AT ALL ANCHORAGE CONDITIONS.

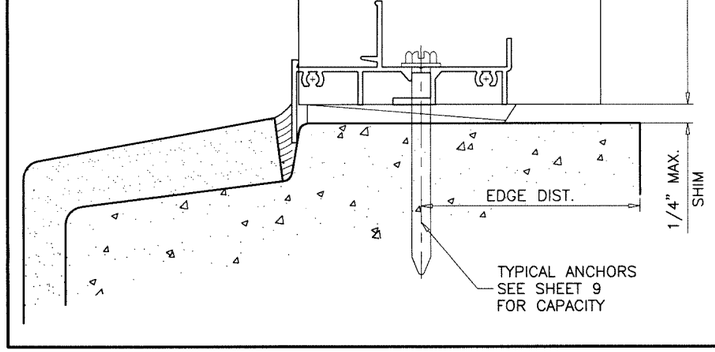


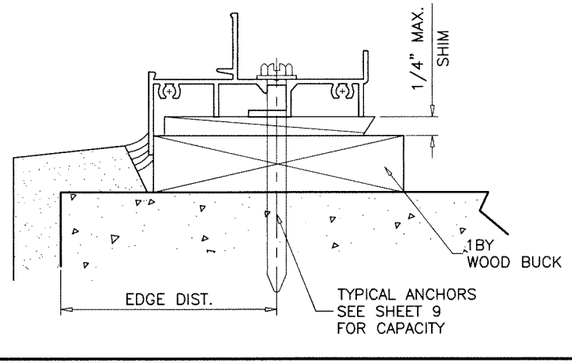




JAMB FRAMES CAN BE INSTALLED
IN ALL SUBSTRATES SHOWN IN HEAD/SILL DETAILS







FL #40673

Sealed: 7/21/2023

MG150 MULLION
MG400 FIXED FRAMES

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100
WWW.AFCENG.COM
FBPE #3538

MULLION\22-08F-MG

MG150 EXTRUDED ALUM UNCLIPPED MULLIONS

MR-GLASS DOORS & WINDOWS MANUFACTURING, LLC
8051 N.W. 79th Place
Medley, FL. 33166
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www.mrglasswindows.com

revisions:			
no	date	by	description

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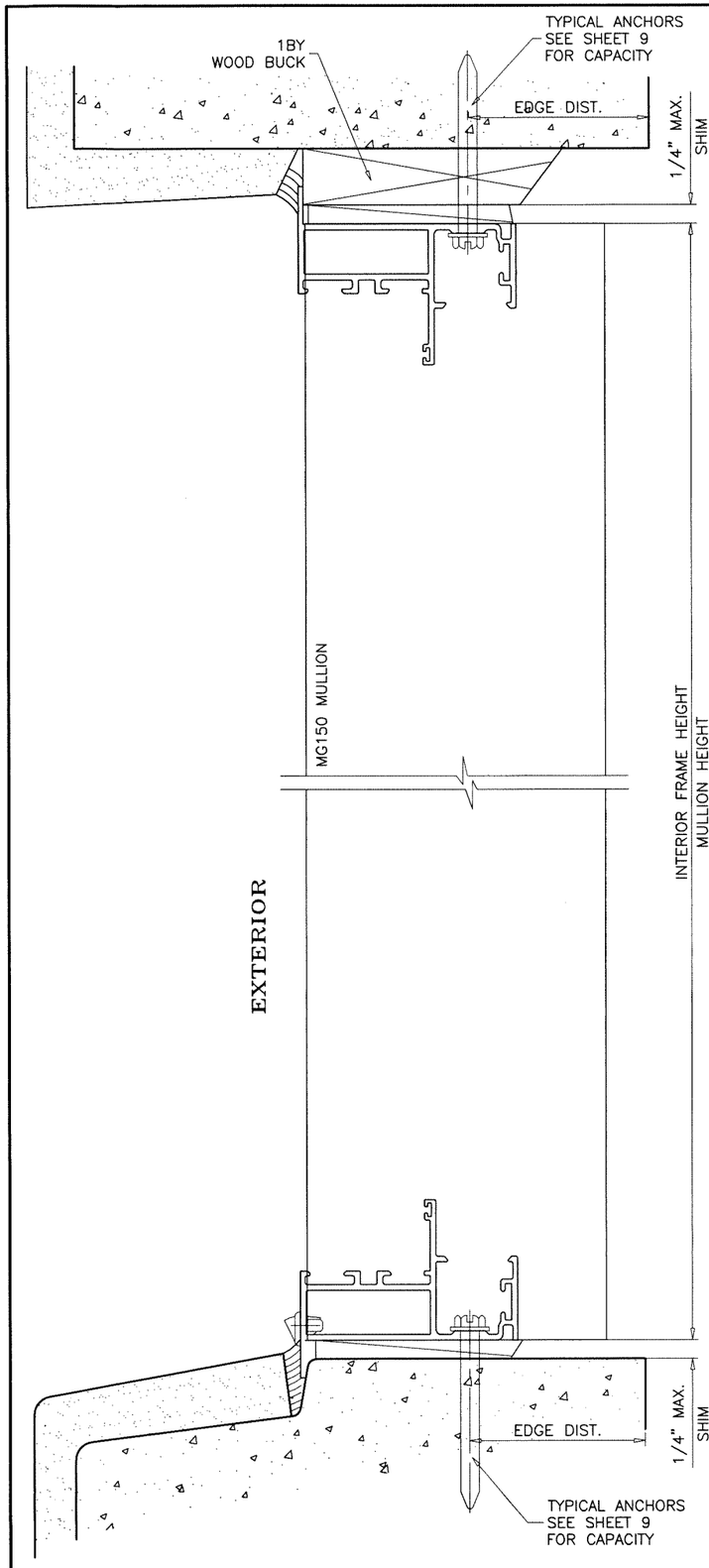
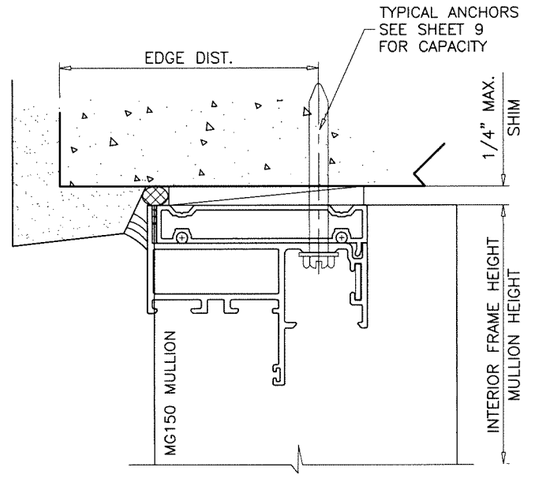
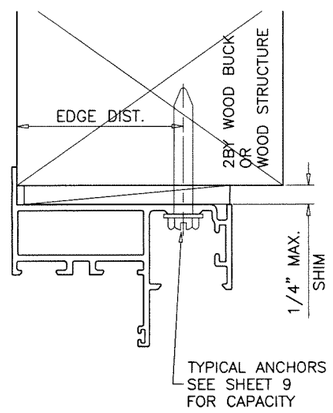
dr. by: TARIQ
chk. by:

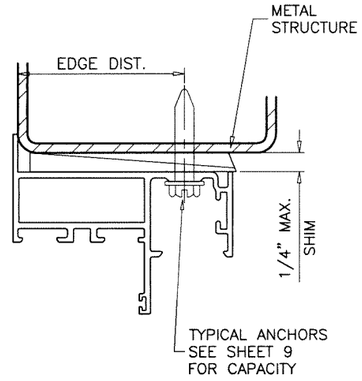
drawing no. 22-08F

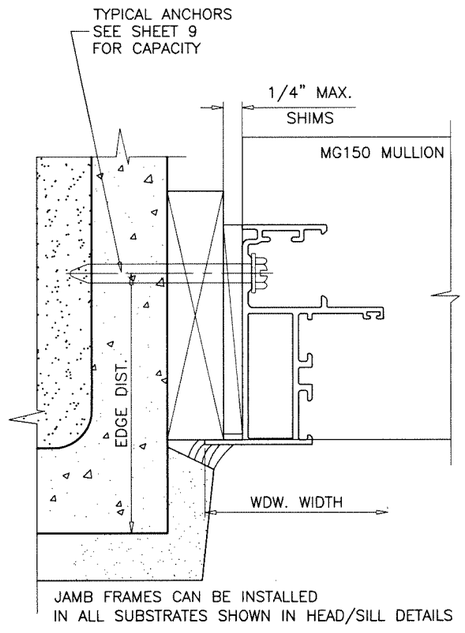




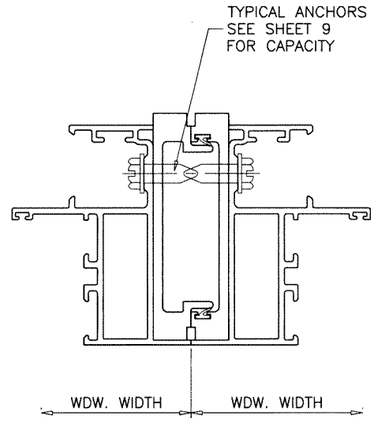
FLANGE FRAMES WITH FLUSH FRAME ADAPTERS CAN BE USED AT ALL ANCHORAGE CONDITIONS.

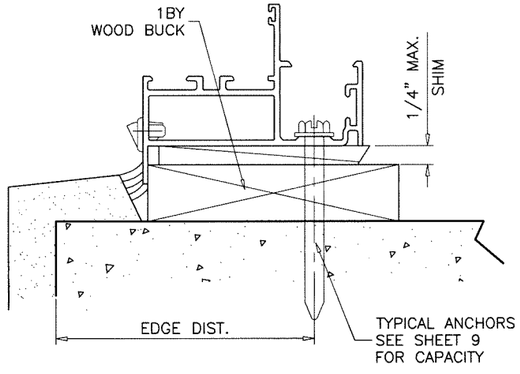






JAMB FRAMES CAN BE INSTALLED
IN ALL SUBSTRATES SHOWN IN HEAD/SILL DETAILS





FL #40673

Sealed: 7/21/2023

JALAL FAROOQ
LICENSE
No. 81223
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

MG150 MULLION
MG450 FIXED FRAMES

afc
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
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revisions:		
no	date	by description

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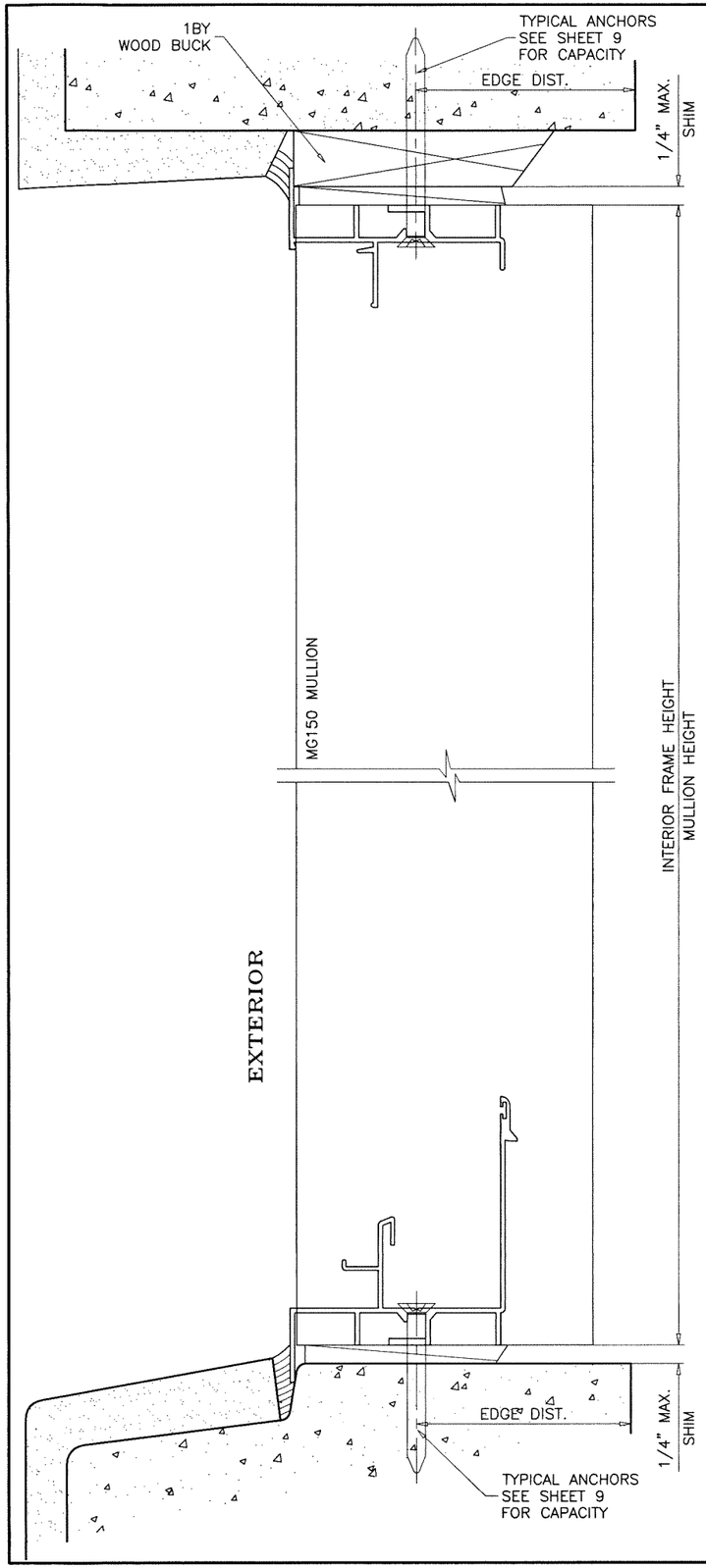
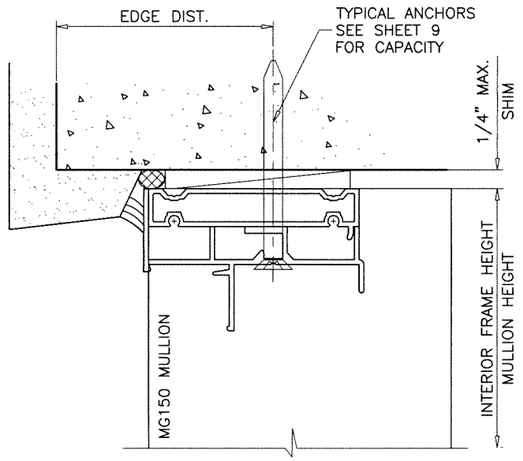
dr. by: TARIQ
chk. by:

drawing no.
22-08F

sheet 13 of 16





FLANGE FRAMES WITH FLUSH FRAME ADAPTERS
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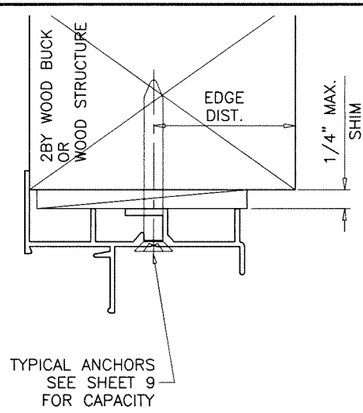

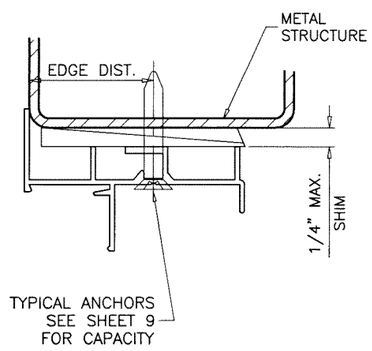

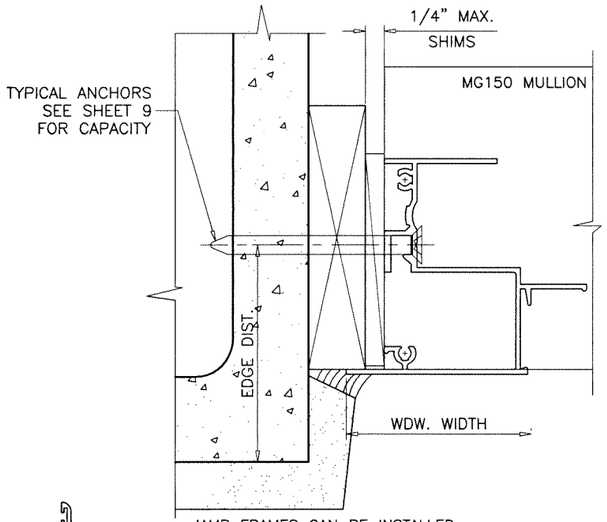

JAMB FRAMES CAN BE INSTALLED
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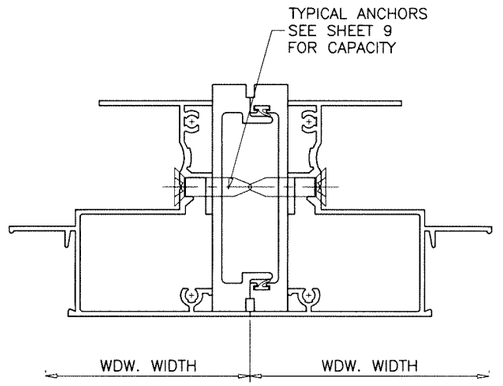

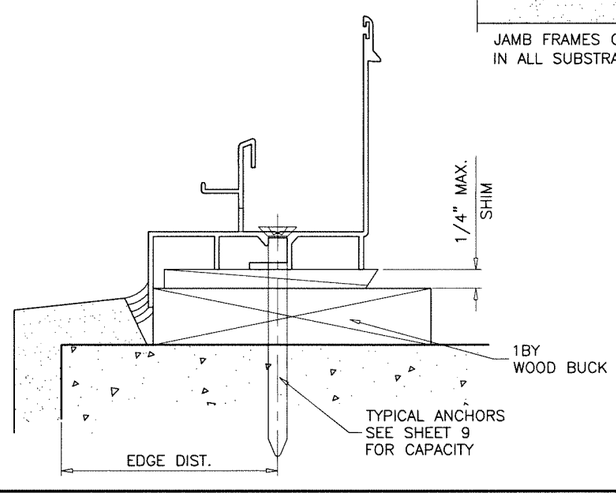

FL #40673

Sealed: 7/21/2023

JALAL FAROOQ LICENSE No. 84223 STATE OF FLORIDA PROFESSIONAL ENGINEER

MG150 MULLION
MG200 S.H. FRAMES

AL-FAROOQ CORPORATION
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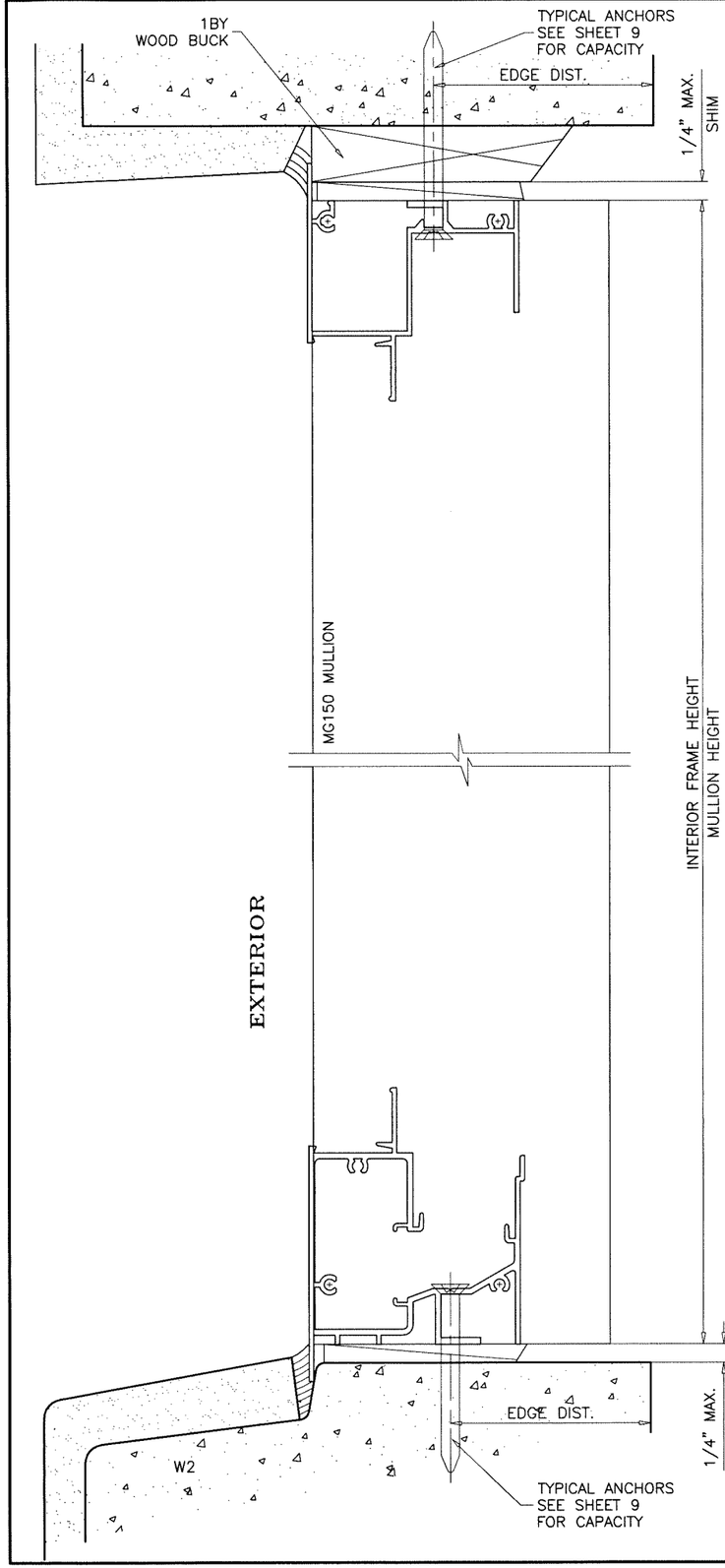
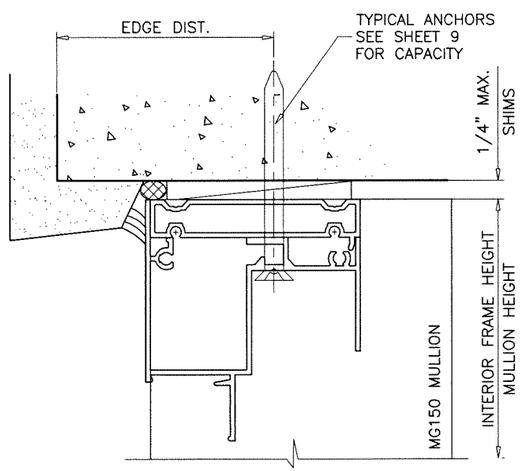
sheet 14 of 16





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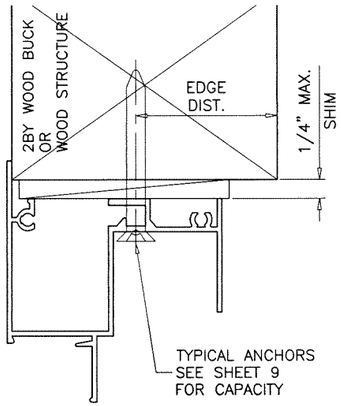
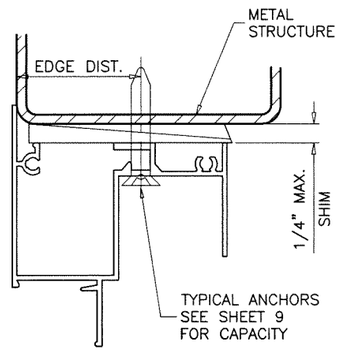
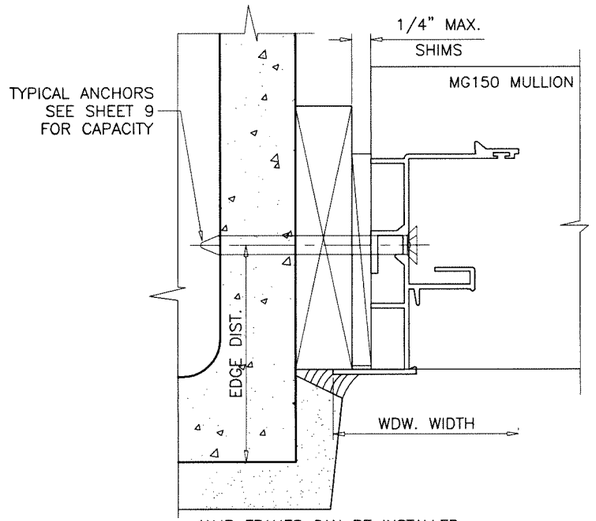
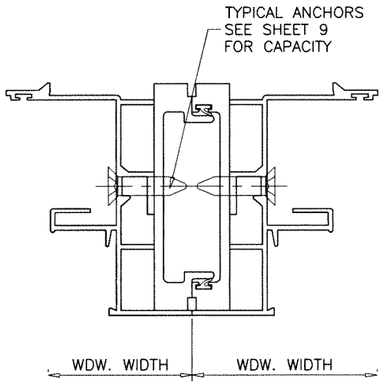
CAN BE USED AT ALL ANCHORAGE CONDITIONS.

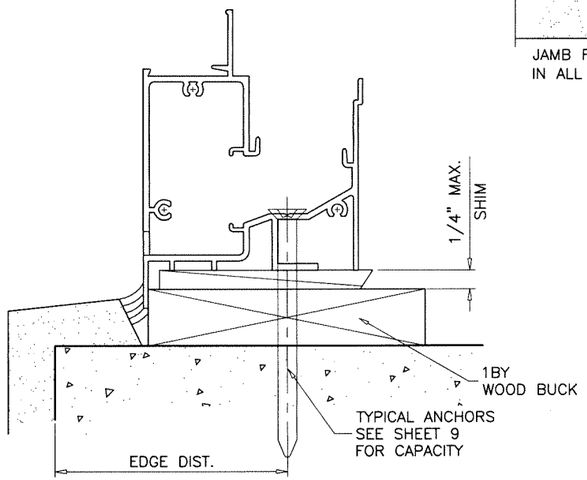






JAMB FRAMES CAN BE INSTALLED
IN ALL SUBSTRATES SHOWN IN HEAD/SILL DETAILS





MG150 MULLION
MG300 H.R. FRAMES

FL #40673

Sealed: 7/21/2023

JALAL FAROOQ
LICENSE
No. 81223
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100
WWW.AFCENG.COM
FBPE #3538

MULLION\22-08F-MG

MG150 EXTRUDED ALUM UNCLIPPED MULLIONS

MR-GLASS DOORS & WINDOWS MANUFACTURING, LLC
8051 N.W. 79th Place
Medley, FL. 33166
Tel. (305) 764-3963
www.mrglasswindows.com

revisions:

no	date	by	description

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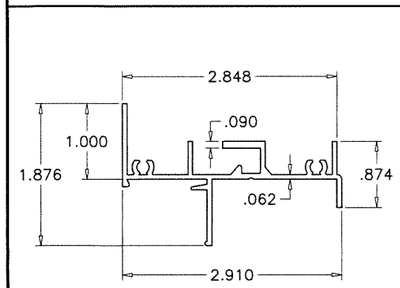
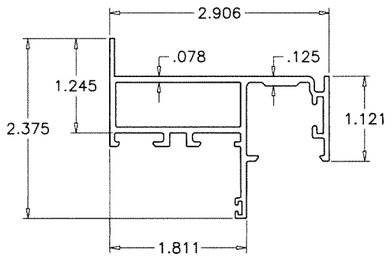
scale: 1/2" = 1"
dr. by: TARIQ
chk. by:

drawing no.
22-08F

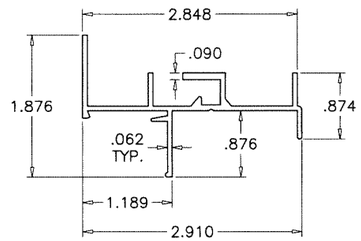
sheet 15 of 16



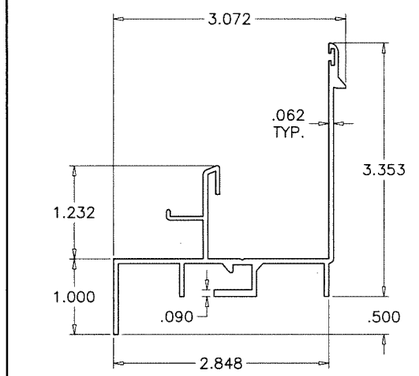
5 MG400 FIXED WDW.
FRAME HEAD/SIIL/JAMB



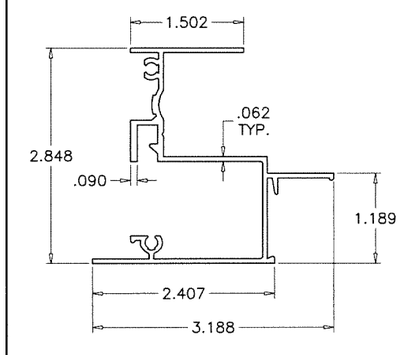
6 MG450 FIXED WDW.
FRAME HEAD/SILL/JAMB



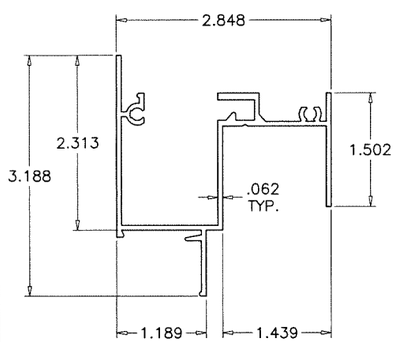
6A MG200 S.H. WDW.
FRAME HEAD



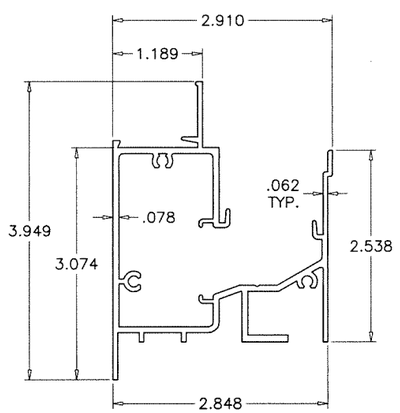
6B MG200 S.H. WDW.
FRAME SILL



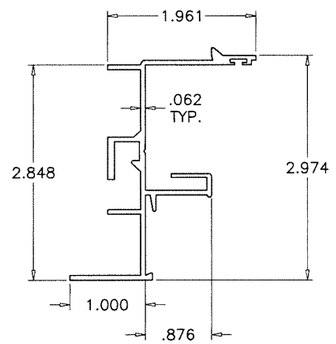
6C MG200 S.H. WDW.
FRAME JAMB



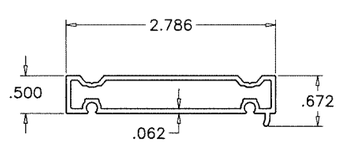
7A MG300 H.R. WDW.
FRAME HEAD



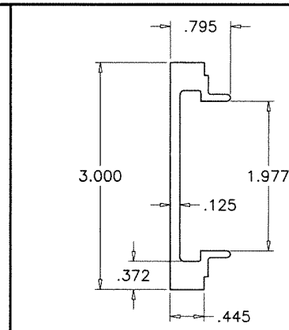
7B MG300 H.R. WDW.
FRAME SILL



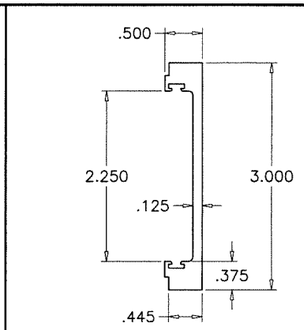
7C MG300 H.R. WDW.
FRAME JAMB



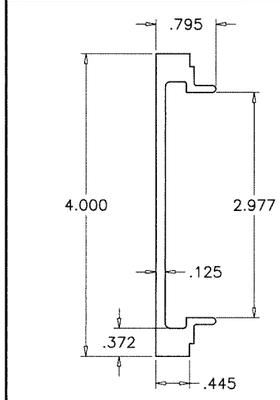
8 FLUSH FRAME ADAPTER



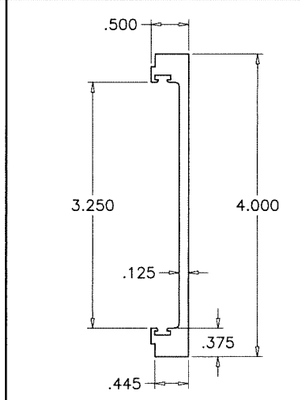
1 3" MALE MULLION



2 3" FEMALE MULLION



3 4" MALE MULLION



4 4" FEMALE MULLION

ITEM	PART #	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
1	E-154	3" MALE MULLION	6063-T6	-
2	E-155	3" FEMALE MULLION	6063-T6	-
3	E-156	4" MALE MULLION	6063-T6	-
4	E-157	4" FEMALE MULLION	6063-T6	-
5	MRG-201	MG400 FIXED WDW. FRAME HEAD/SILL/JAMB	6063-T6	-
6	E-451	MG450 FIXED WDW. FRAME HEAD/SILL/JAMB	6063-T6	-
6A	MG201	MG200 S.H. WDW. FRAME HEAD	6063-T6	-
6B	MG202	MG200 S.H. WDW. FRAME SILL	6063-T6	-
6C	MG203	MG200 S.H. WDW. FRAME JAMB	6063-T6	-
7A	MG203	MG300 H.R. WDW. FRAME HEAD	6063-T6	-
7B	MG301	MG 300 H.R. WDW. FRAME SILL	6063-T6	-
7C	MG303	MG300 H.R. WDW. FRAME JAMB	6063-T6	-
8	MG212	FLUSH FRAME ADAPTER	6063-T6	-

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MULLION\22-08F-MG

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