

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.

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

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

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.

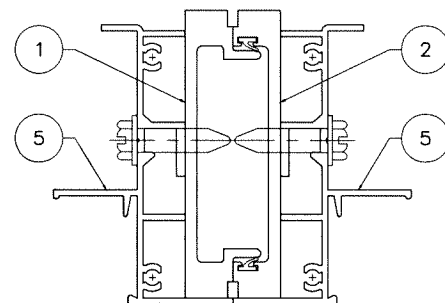
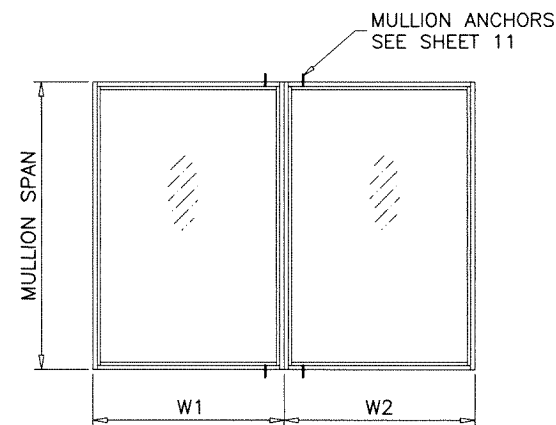


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MULLION 22–08F–MG

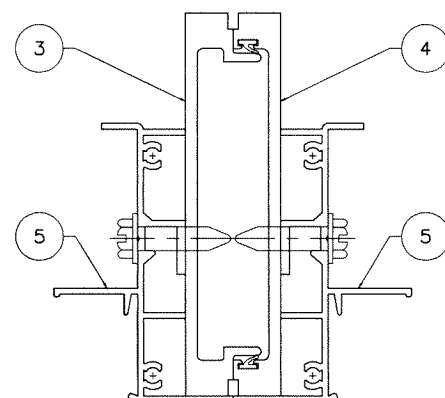
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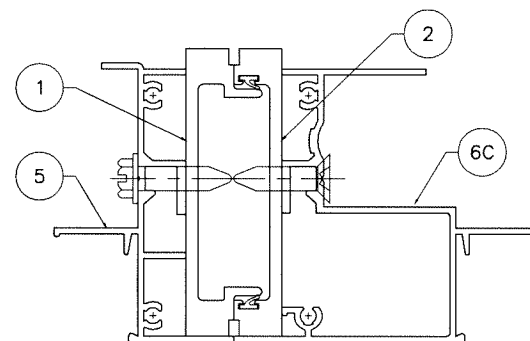
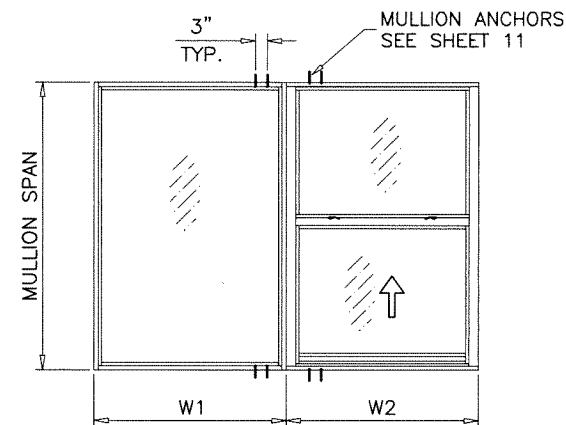
TOTAL PROPERTIES
 $I_x = 2.396 \text{ IN}^4$
 $S_x = 1.560 \text{ IN}^3$
GROUP 'V1A'



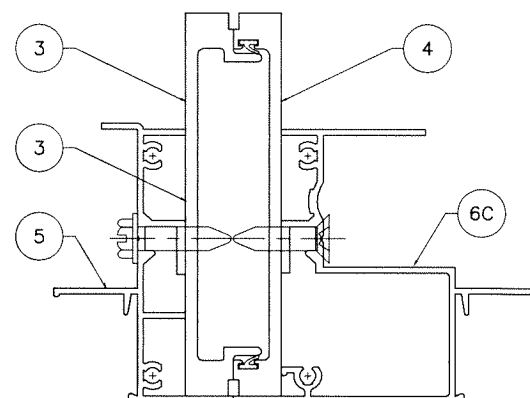
TOTAL PROPERTIES
 $I_x = 4.041 \text{ IN}^4$
 $S_x = 2.018 \text{ IN}^3$
GROUP 'V1B'

SERIES MG400
FIX. TO FIX.

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



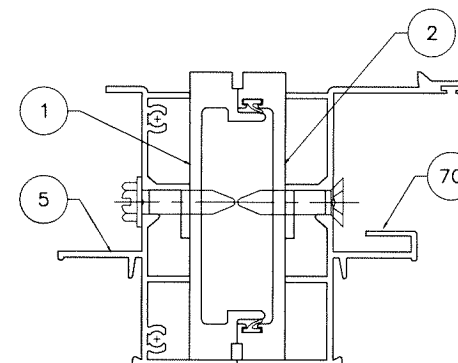
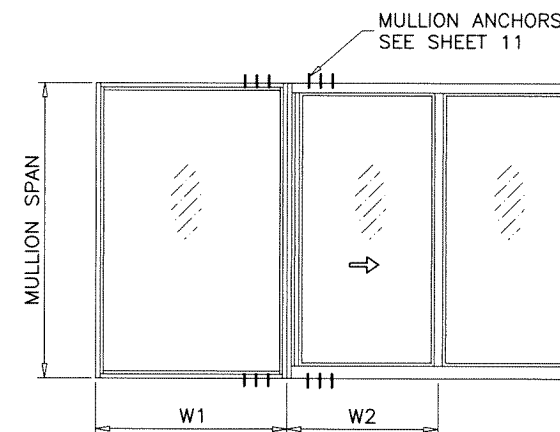
TOTAL PROPERTIES
 $I_x = 2.634 \text{ IN}^4$
 $S_x = 1.683 \text{ IN}^3$
GROUP 'V2A'



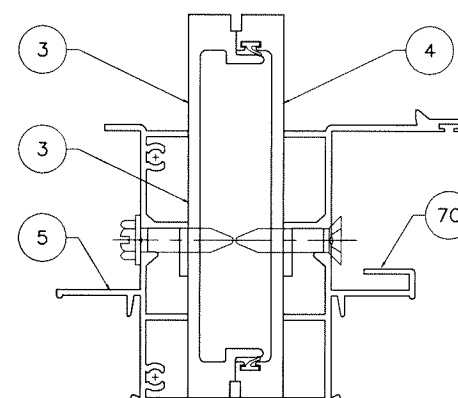
TOTAL PROPERTIES
 $I_x = 4.279 \text{ IN}^4$
 $S_x = 2.137 \text{ IN}^3$
GROUP 'V2B'

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

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



TOTAL PROPERTIES
 $I_x = 2.521 \text{ IN}^4$
 $S_x = 1.566 \text{ IN}^3$
GROUP 'V3A'

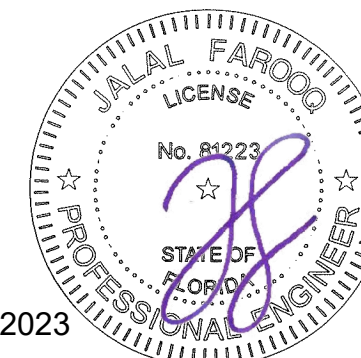


TOTAL PROPERTIES
 $I_x = 4.166 \text{ IN}^4$
 $S_x = 2.081 \text{ IN}^3$
GROUP 'V3B'

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

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

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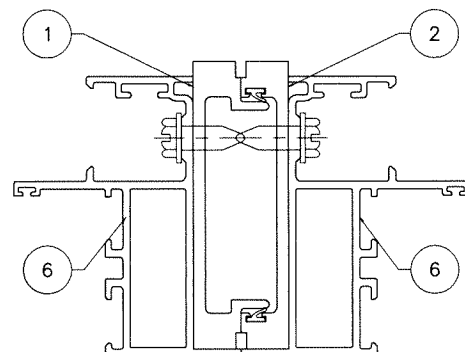
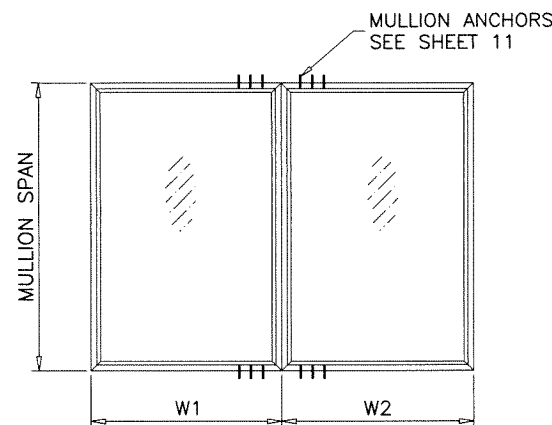
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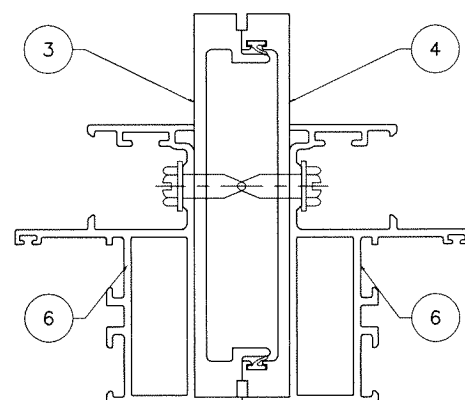
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 chk. by:

drawing no.
22-08F
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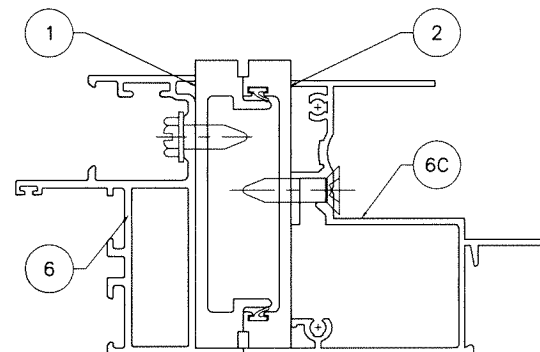
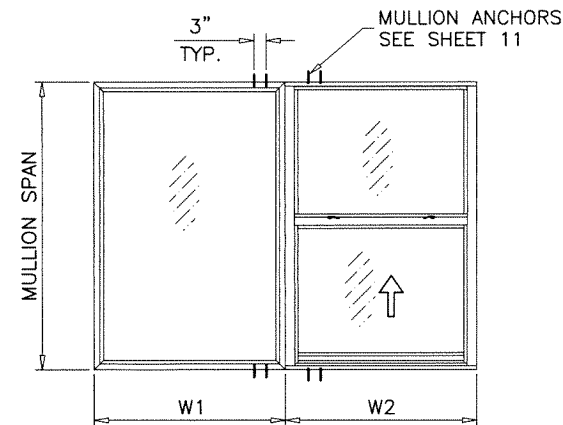
TOTAL PRPERTIES
 $I_x = 2.848 \text{ IN}^4$
 $S_x = 1.899 \text{ IN}^3$
GROUP 'V4A'



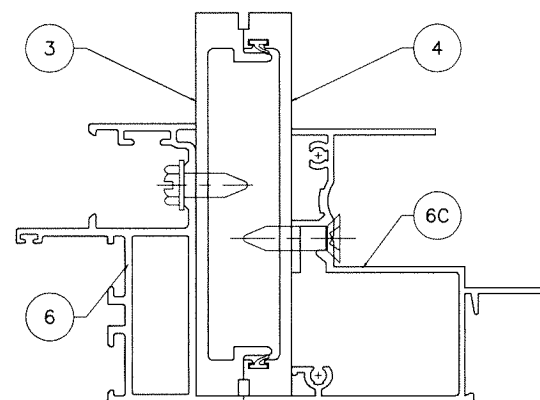
TOTAL PRPERTIES
 $I_x = 4.493 \text{ IN}^4$
 $S_x = 2.244 \text{ IN}^3$
GROUP 'V4B'

SERIES MG450
FIX. TO FIX.

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



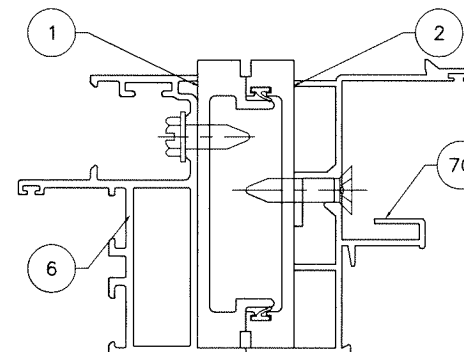
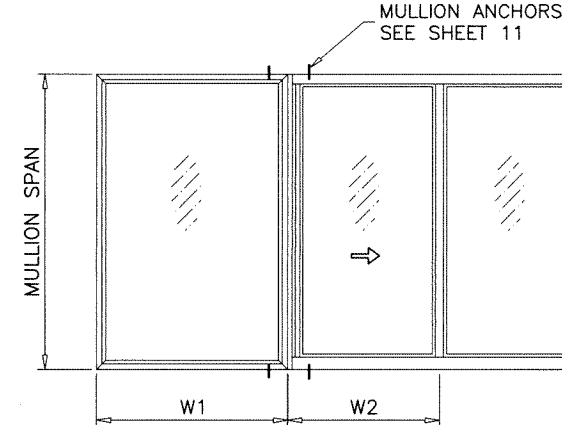
TOTAL PRPERTIES
 $I_x = 2.860 \text{ IN}^4$
 $S_x = 1.827 \text{ IN}^3$
GROUP 'V5A'



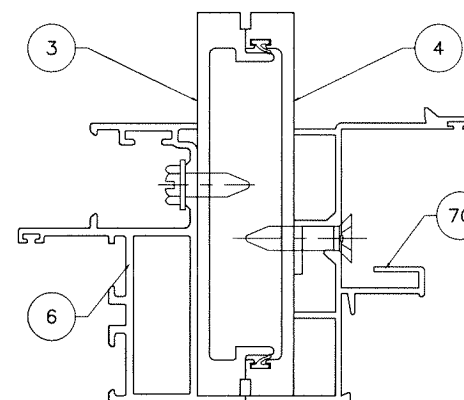
TOTAL PRPERTIES
 $I_x = 4.505 \text{ IN}^4$
 $S_x = 2.250 \text{ IN}^3$
GROUP 'V5B'

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

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



TOTAL PRPERTIES
 $I_x = 2.747 \text{ IN}^4$
 $S_x = 1.706 \text{ IN}^3$
GROUP 'V6A'

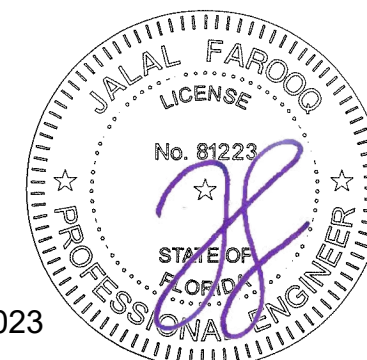


TOTAL PRPERTIES
 $I_x = 4.392 \text{ IN}^4$
 $S_x = 2.194 \text{ IN}^3$
GROUP 'V6B'

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

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

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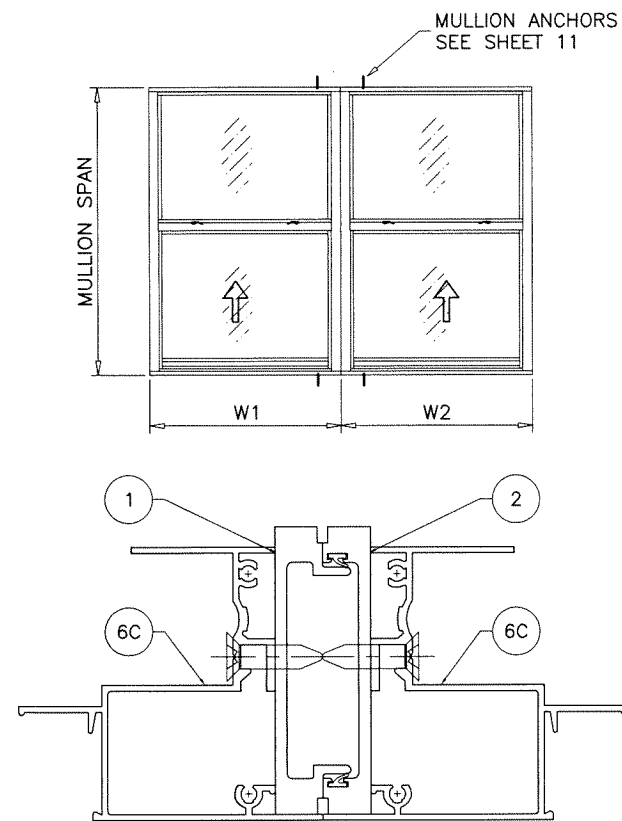
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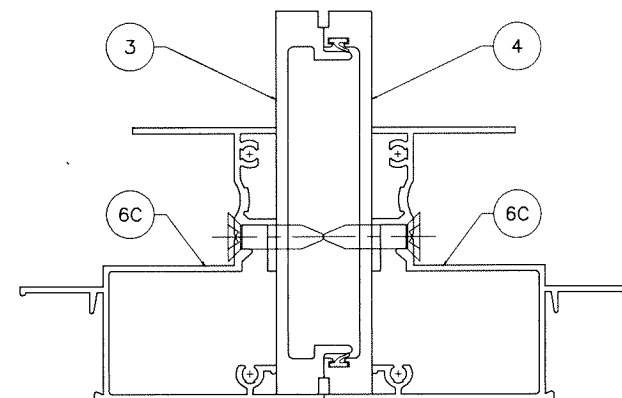
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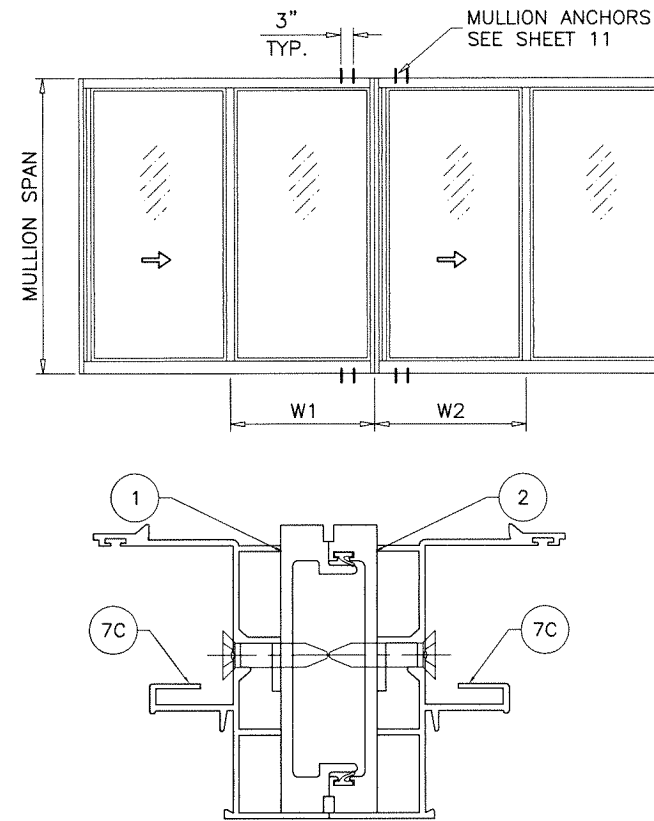
TOTAL PRPERTIES
 $I_x = 2.872 \text{ IN}^4$
 $S_x = 1.835 \text{ IN}^3$
GROUP 'V7A'



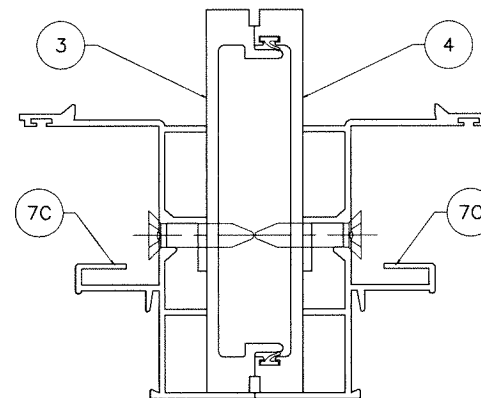
TOTAL PRPERTIES
 $I_x = 4.517 \text{ IN}^4$
 $S_x = 2.256 \text{ IN}^3$
GROUP 'V7B'

SERIES MG200
S.H. TO S.H.

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



TOTAL PRPERTIES
 $I_x = 2.646 \text{ IN}^4$
 $S_x = 1.643 \text{ IN}^3$
GROUP 'V8A'

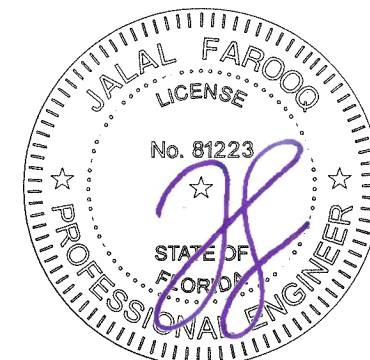


TOTAL PRPERTIES
 $I_x = 4.291 \text{ IN}^4$
 $S_x = 2.143 \text{ IN}^3$
GROUP 'V8B'

SERIES MG300
H.R. TO H.R.

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

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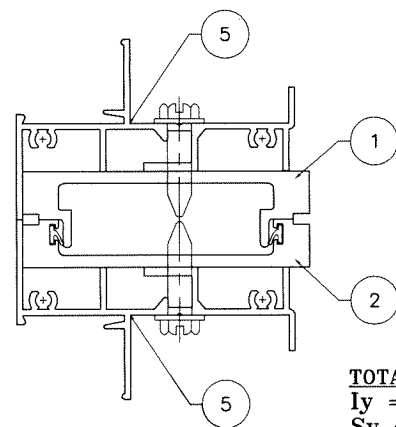
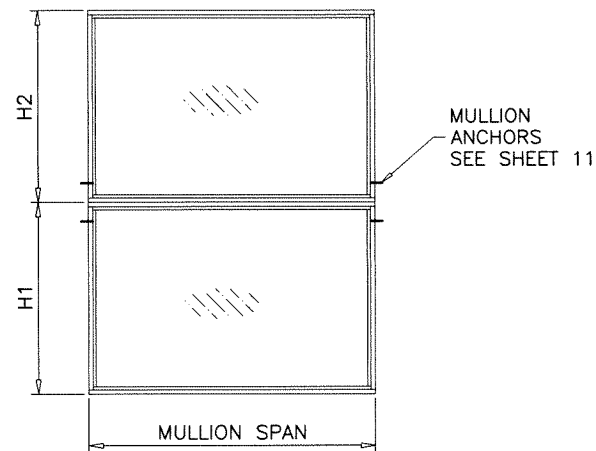
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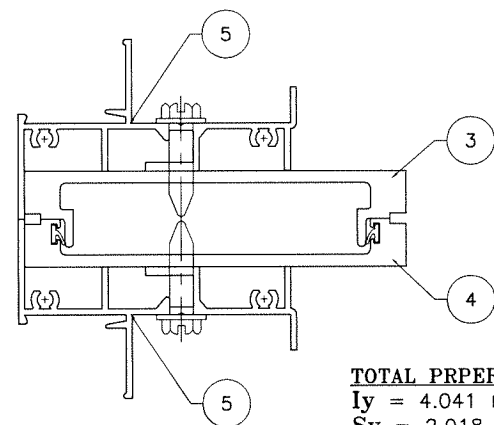
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chk. by:

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22-08F
sheet 4 of 16



TOTAL PROPERTIES
 $I_y = 2.396 \text{ IN}^4$
 $S_y = 1.560 \text{ IN}^3$

GROUP 'H1A'

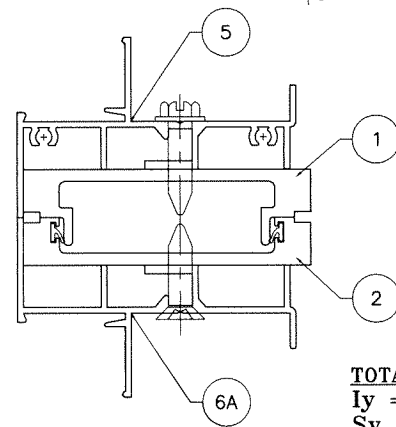
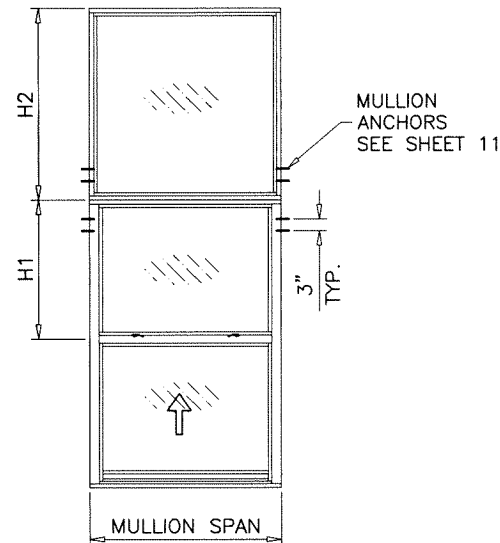


TOTAL PROPERTIES
 $I_y = 4.041 \text{ IN}^4$
 $S_y = 2.018 \text{ IN}^3$

GROUP 'H1B'

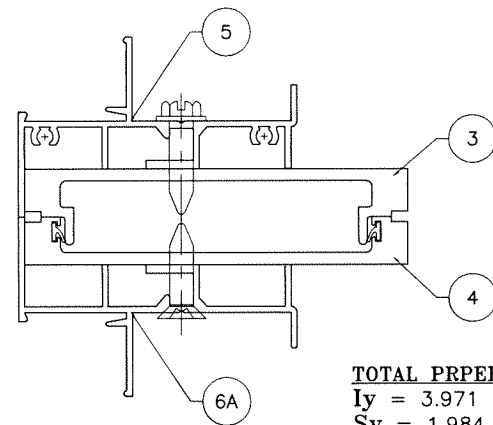
SERIES MG400
FIX. OVER FIX.

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



TOTAL PROPERTIES
 $I_y = 2.326 \text{ IN}^4$
 $S_y = 1.508 \text{ IN}^3$

GROUP 'H2A'

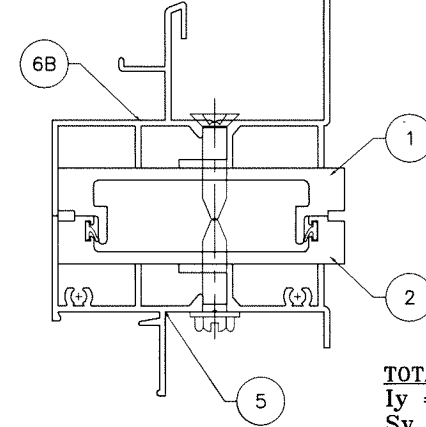
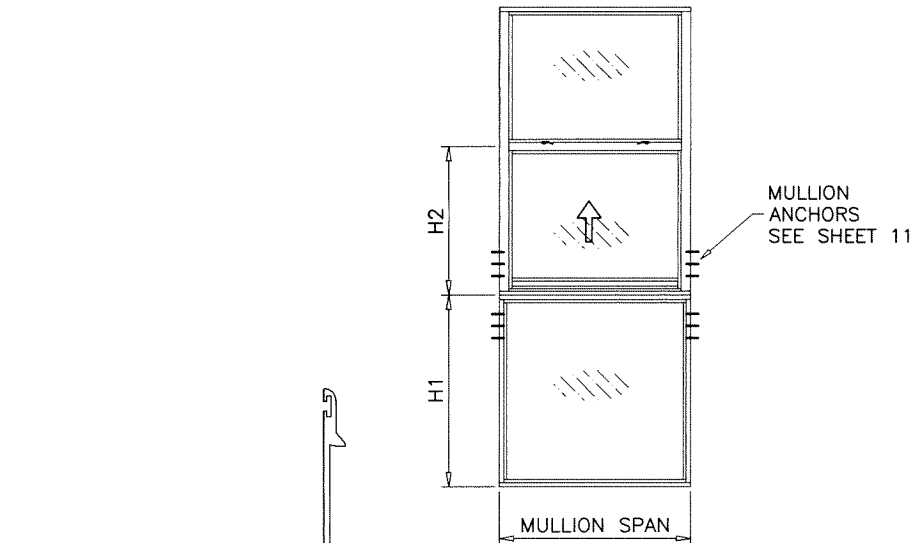


TOTAL PROPERTIES
 $I_y = 3.971 \text{ IN}^4$
 $S_y = 1.984 \text{ IN}^3$

GROUP 'H2B'

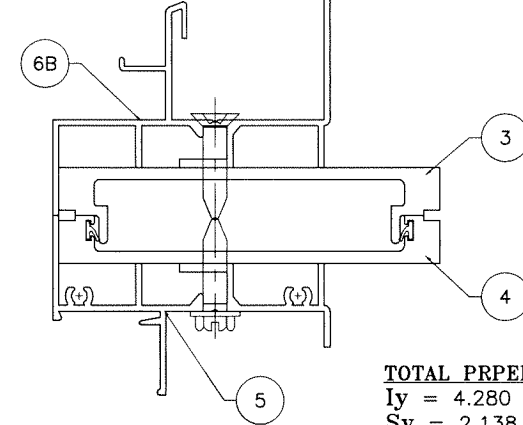
SERIES MG400 & SERIES MG200
FIX. OVER S.H.

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



TOTAL PROPERTIES
 $I_y = 2.635 \text{ IN}^4$
 $S_y = 1.494 \text{ IN}^3$

GROUP 'H3A'



TOTAL PROPERTIES
 $I_y = 4.280 \text{ IN}^4$
 $S_y = 2.138 \text{ IN}^3$

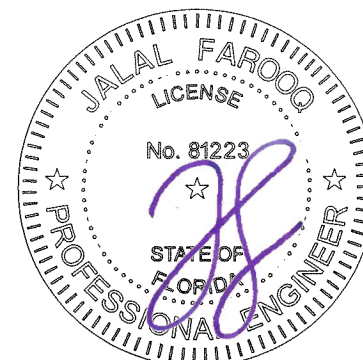
GROUP 'H3B'

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

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

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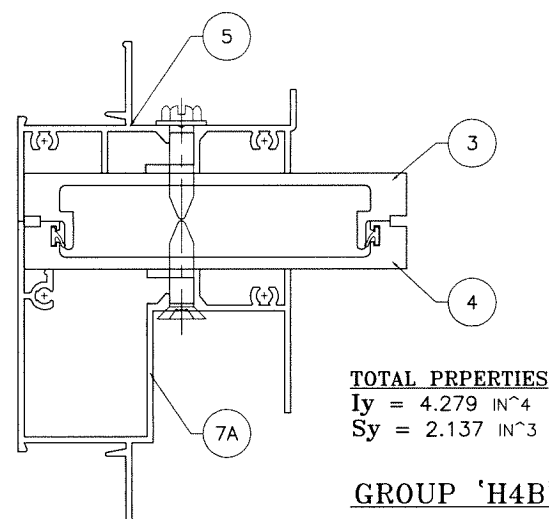
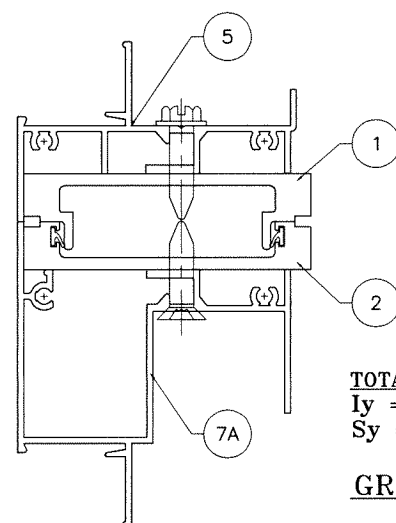
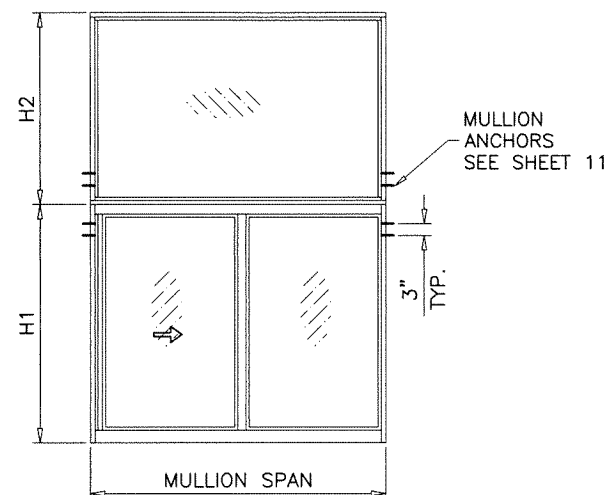
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chk. by:

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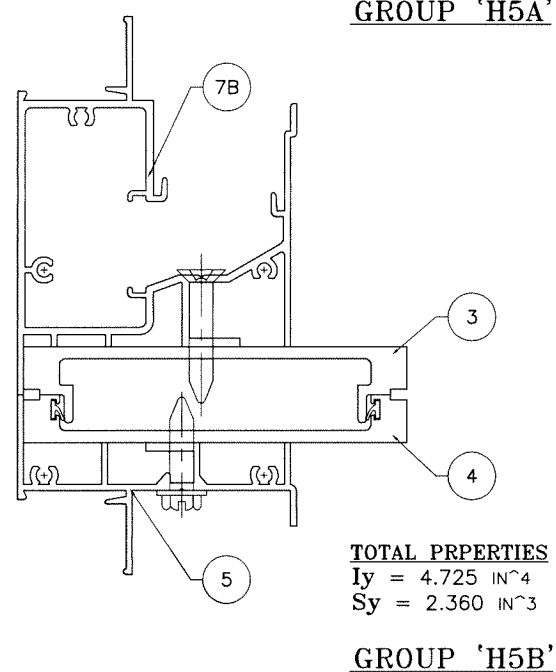
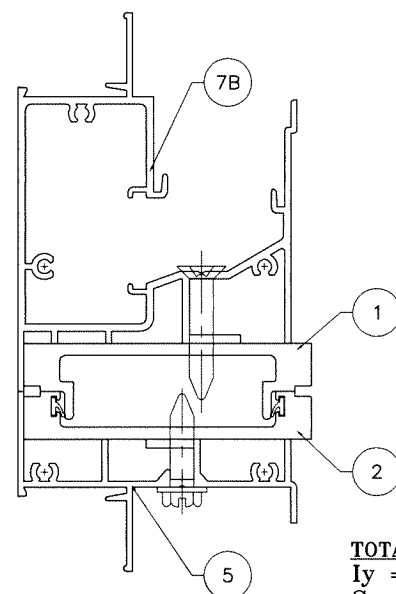
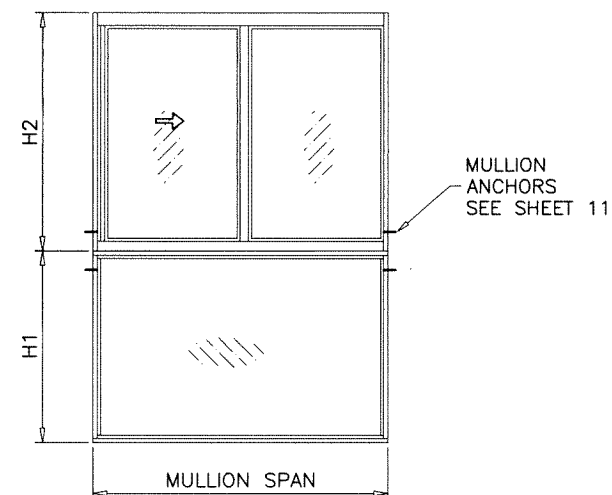
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SERIES MG400 & SERIES MG300
FIX. OVER H.R.

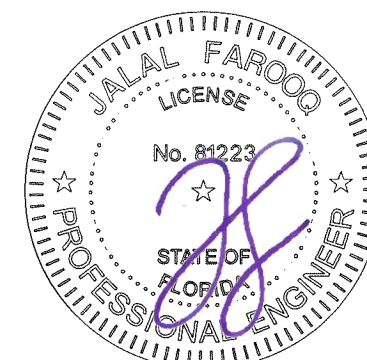
$$\text{HEIGHT (H)} = \frac{H_1 + H_2}{2}$$



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

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

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date: 03-09-22

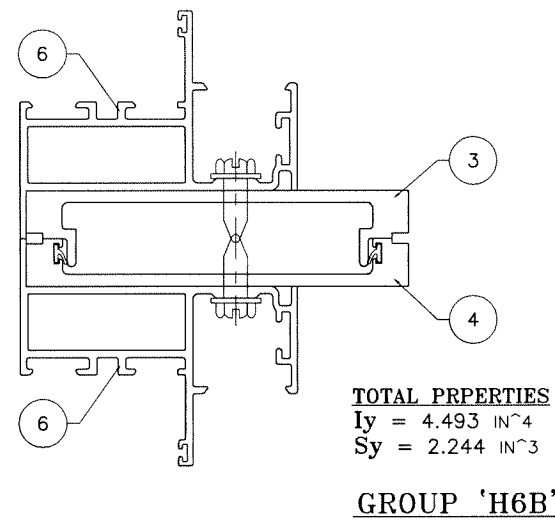
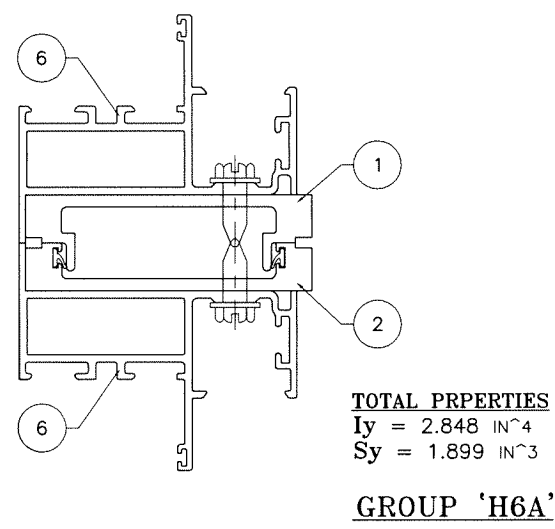
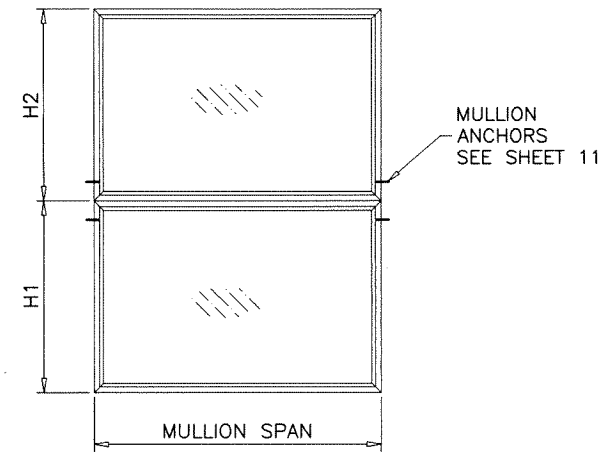
dr. by: TARIQ

chk. by:

drawing no.

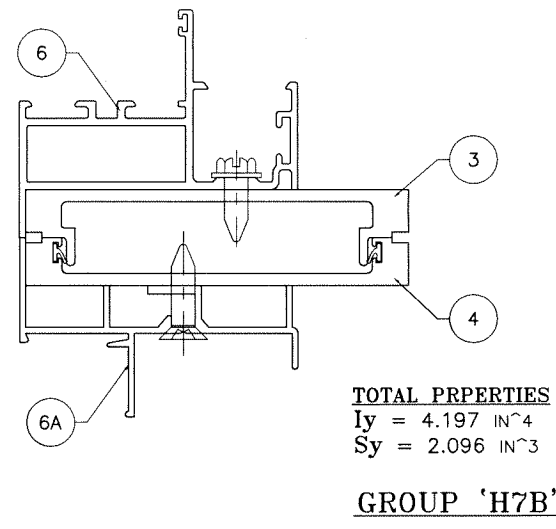
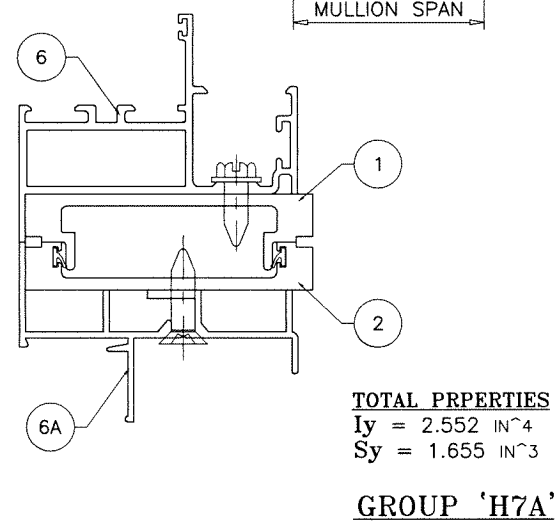
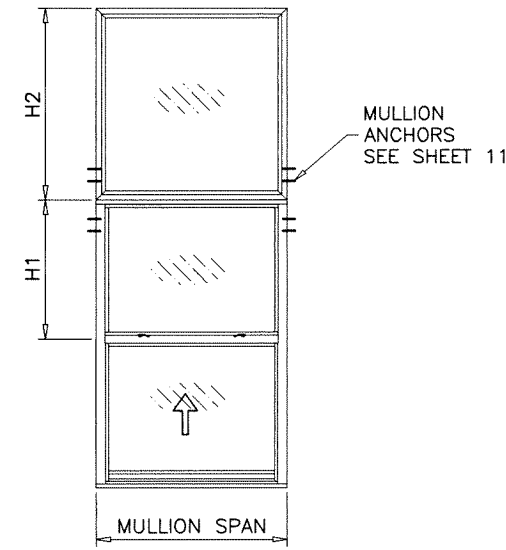
22-08F

sheet 6 of 16



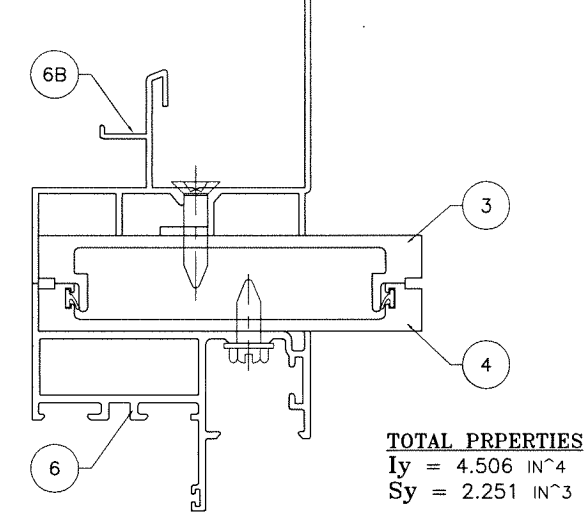
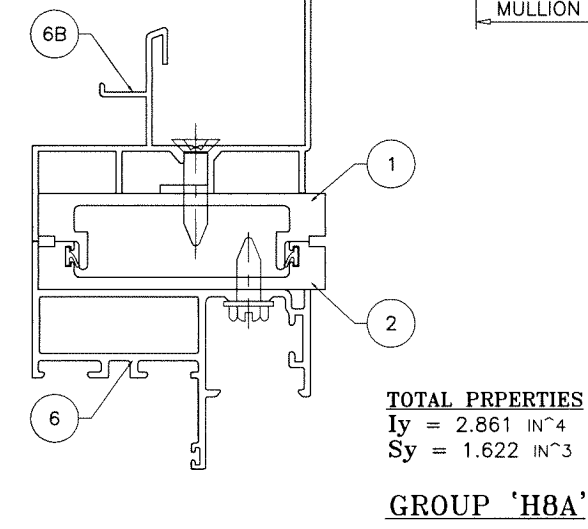
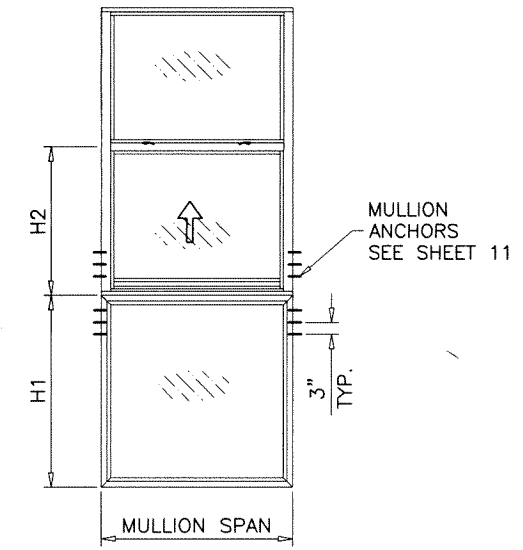
**SERIES MG450
 FIX. OVER FIX.**

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



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

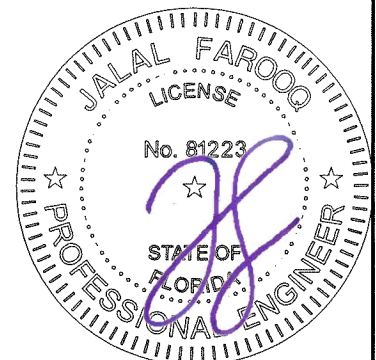
$$\text{HEIGHT (H)} = \frac{H1 + H2}{2}$$



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

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

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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

date: 03-09-22

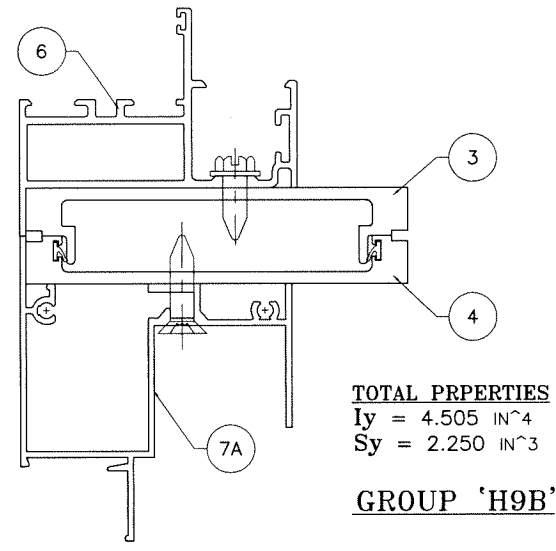
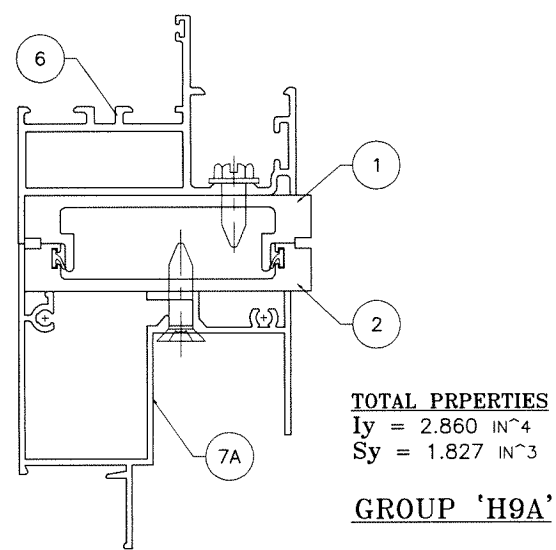
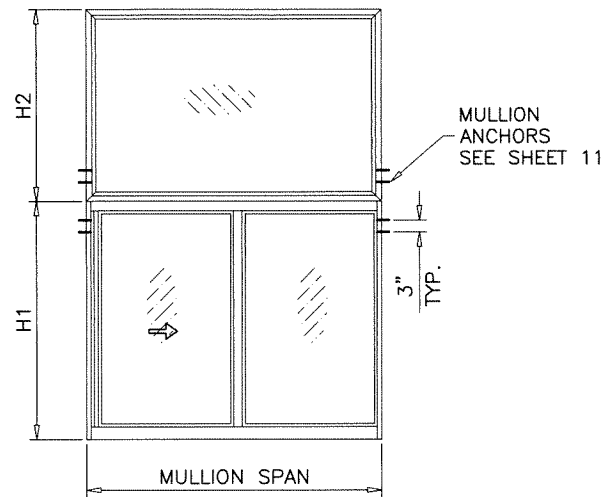
scale: 1/2" = 1"

dr. by: TARIQ

drawing no.

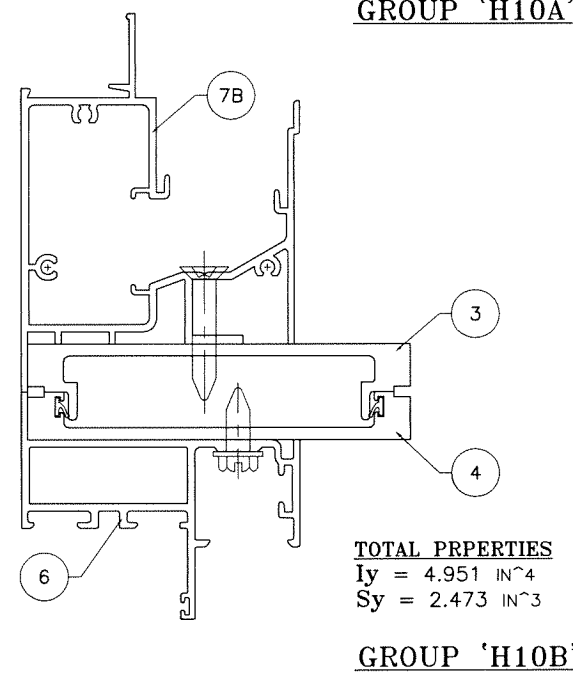
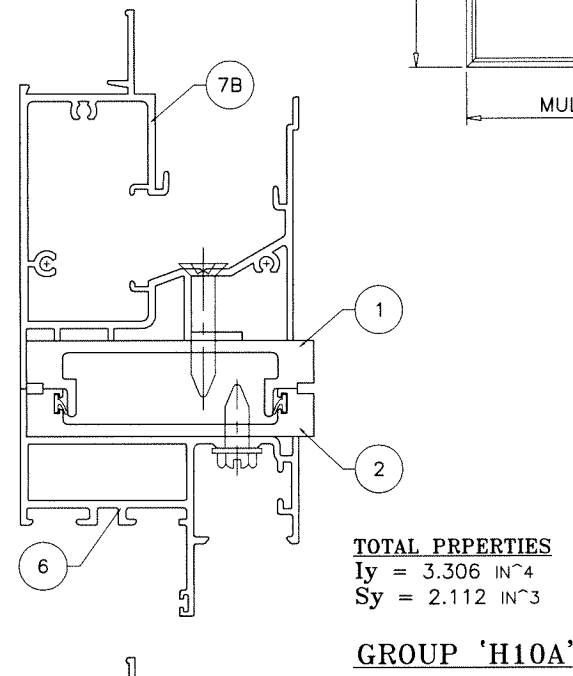
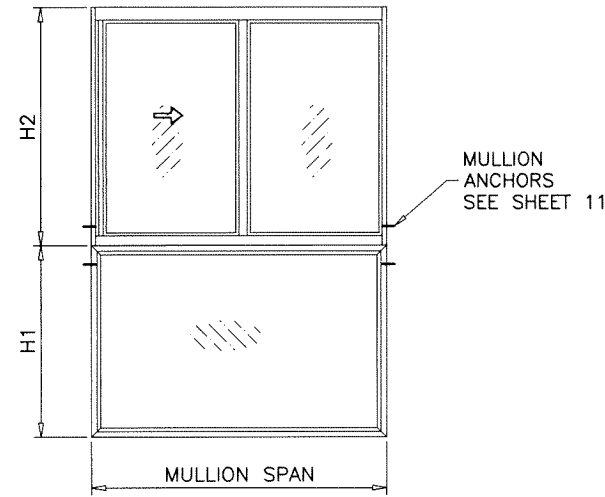
22-08F

sheet 7 of 16



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

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



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

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

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revisions:	
no	date by description

date: 03-09-22

scale: 1/2" = 1"

dr. by: TARIQ

chk. by:

drawing no.

22-08F

sheet **8** of **16**

VERTICAL MULLION DESIGN LOAD CAPACITY – PSF									
WINDOW DIMS.		3" MULLION GROUPS				4" MULLION GROUPS			
		'V1A', 'V3A'	'V2A', 'V8A'	'V4A', 'V6A', 'V7A'		'V1B', 'V3B', 'V8B'	'V2B', 'V8B'	'V4B', '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', 'V3A', 'V8A'	'V2A', 'V8A'	'V4A', 'V6A', 'V7A'		'V1B', 'V3B', 'V8B'	'V2B', 'V8B'	'V4B', '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.

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revisions:
no date by description

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

drawing no.
22-08F
sheet 9 of 16

HORIZONTAL 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'	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

HORIZONTAL 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'	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.

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22-08F
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MULLION 22-08F-MG

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"	48"	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"		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"	60"	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"		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"	72"	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"		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"	84"	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"		–	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"	96"	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"		–	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
66"		–	–	–	–	–	–	–	–	–
30"	108"	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"		–	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"	120"	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"		–	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
60"		–	–	–	–	–	–	–	–	–

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.

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"	26"	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
26–1/2"		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"	38–3/8"	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
26–1/2"		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"	50–5/8"	91.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
26–1/2"		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"	56"	82.3	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
26–1/2"		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"	63"	73.1	110.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
26–1/2"		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"	72"	64.0	96.2	110.4	120.0	120.0	120.0	120.0	120.0	120.0
26–1/2"		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"	76"	60.6	91.1	104.6	120.0	120.0	120.0	120.0	120.0	120.0
26–1/2"		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

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:

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.

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Medley, FL. 33166
Tel. (305) 764–3963
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revisions:

no	date	by	description

date: 03–09–22

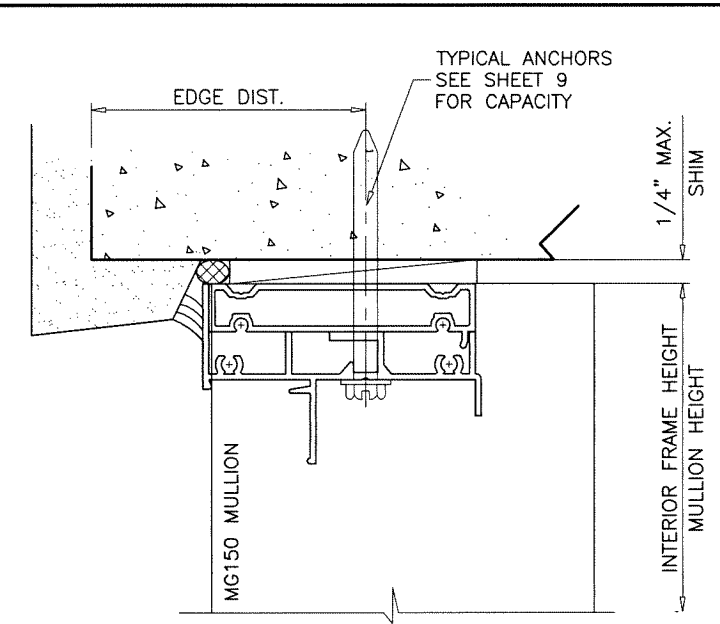
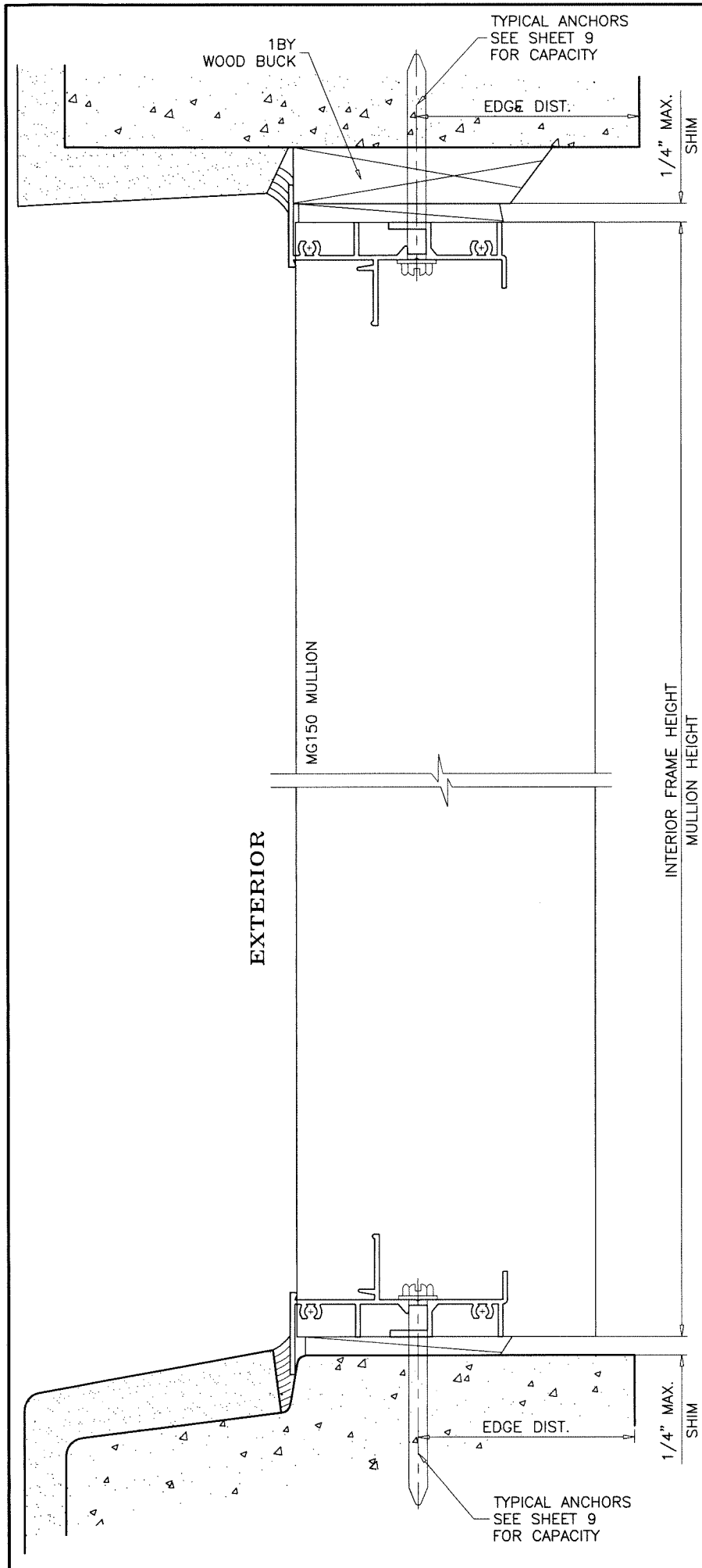
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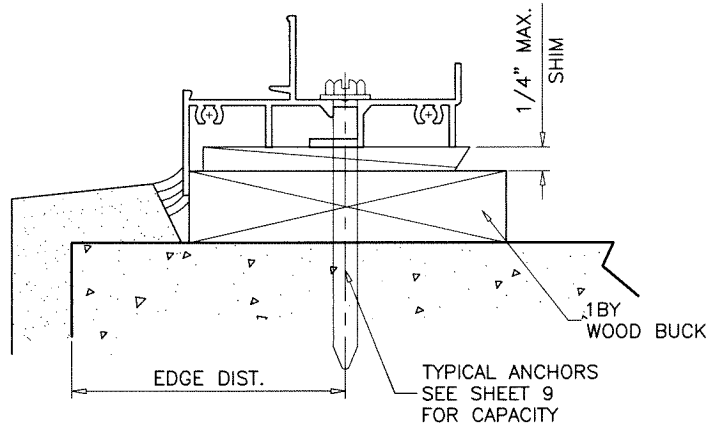
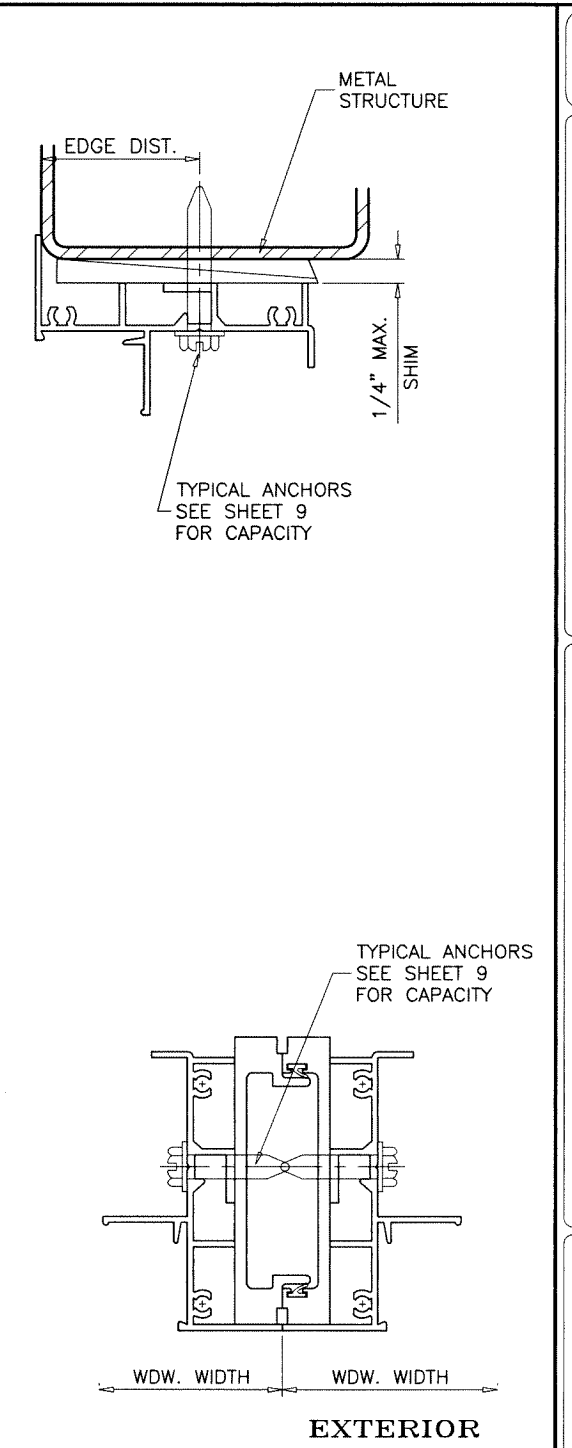
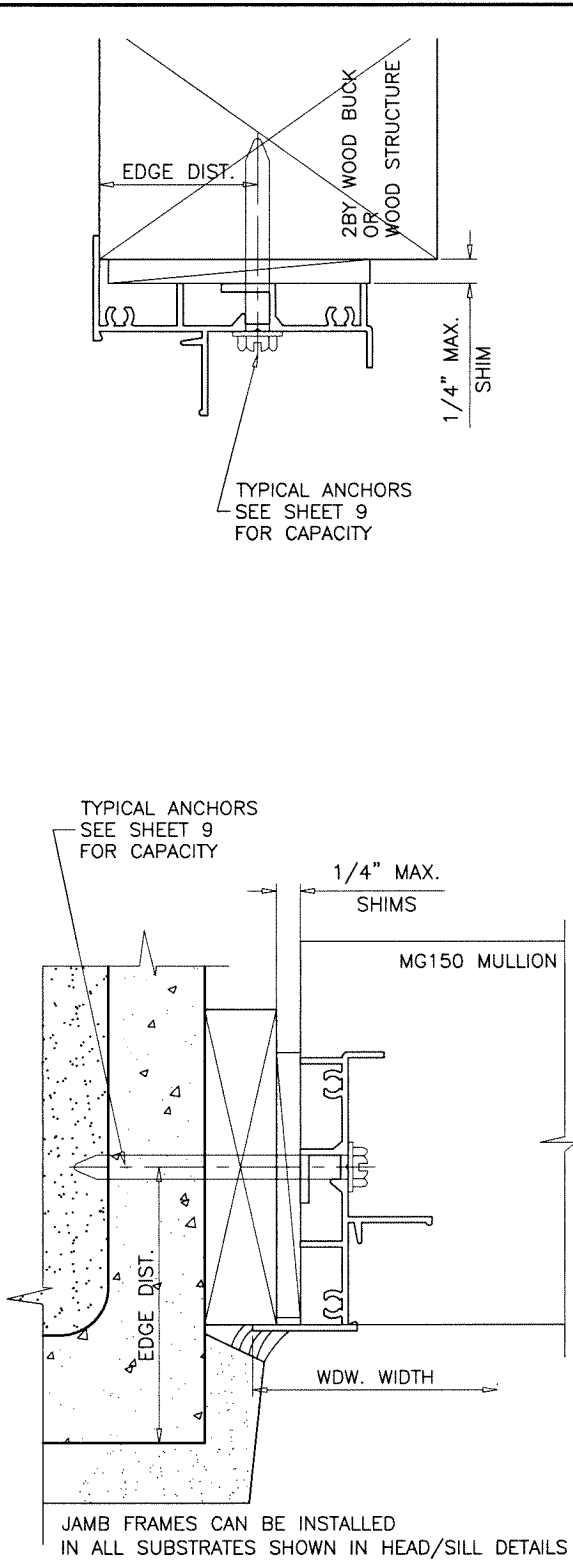
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22–08F

sheet 11 of 16

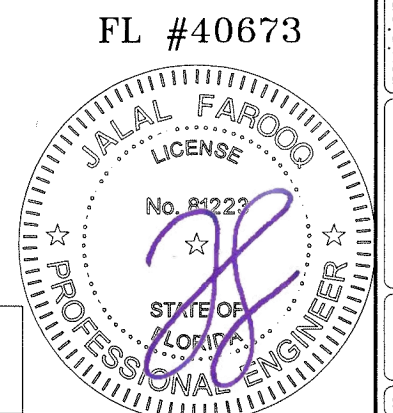


FLANGE FRAMES WITH FLUSH FRAME ADAPTERS CAN BE USED AT ALL ANCHORAGE CONDITIONS.



MG150 MULLION
MG400 FIXED FRAMES

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MULLION 22-08F-MG

MG150 EXTRUDED ALUM UNCLIPPED MULLIONS

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no	date	no	date	no	date

date: 03-09-22

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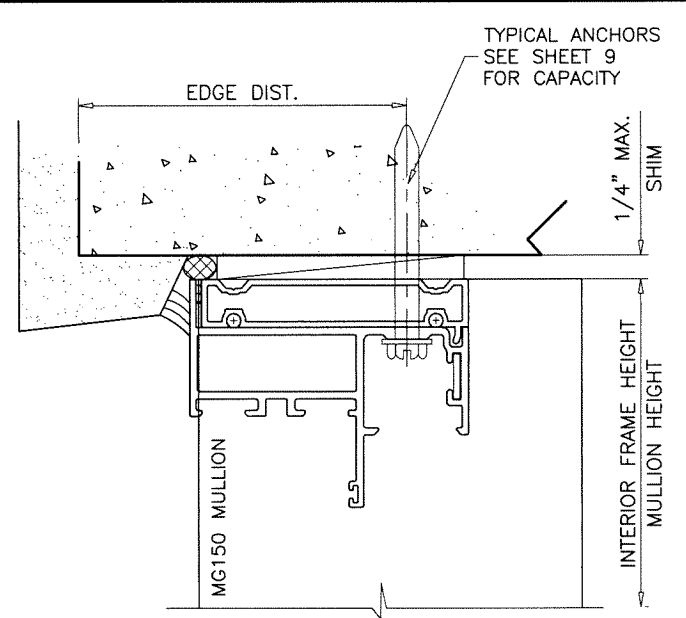
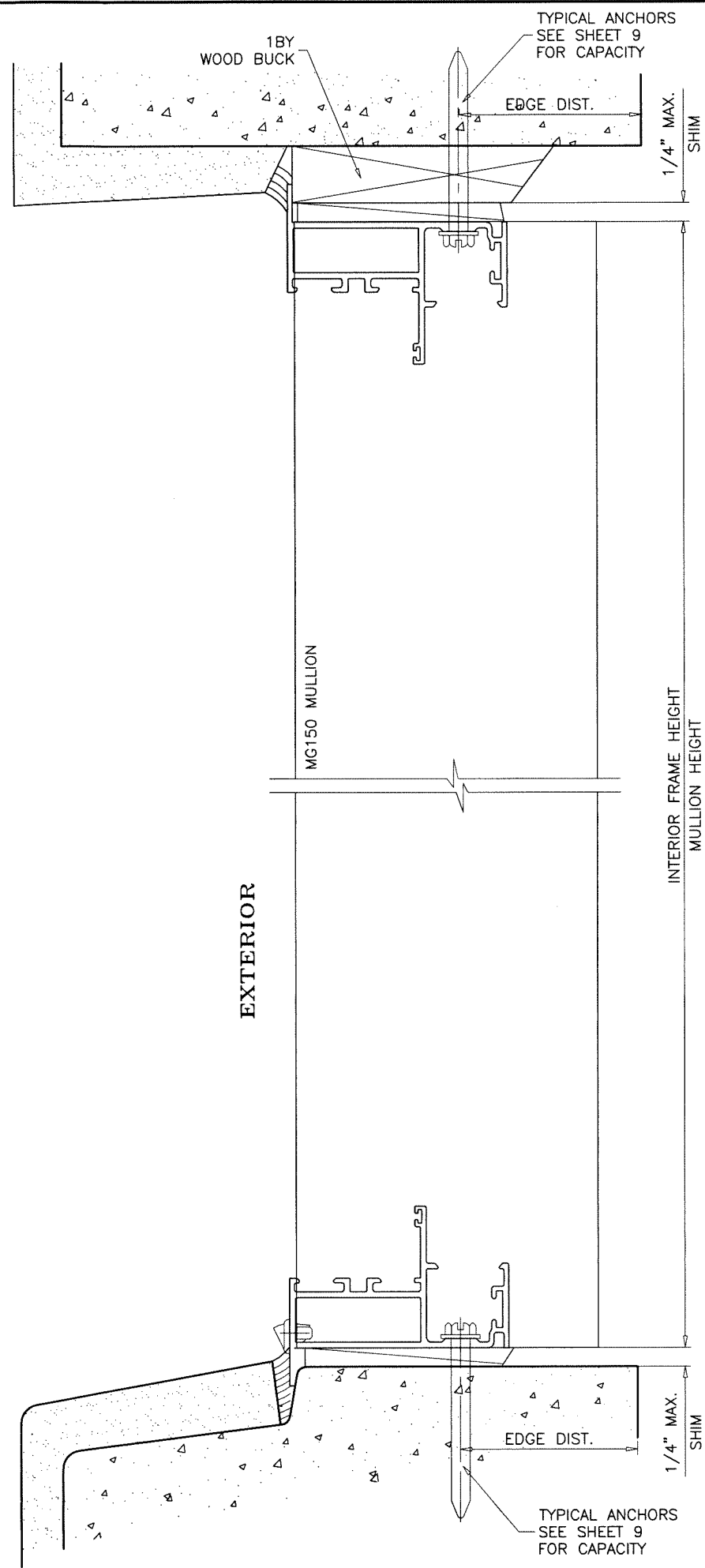
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chk. by:

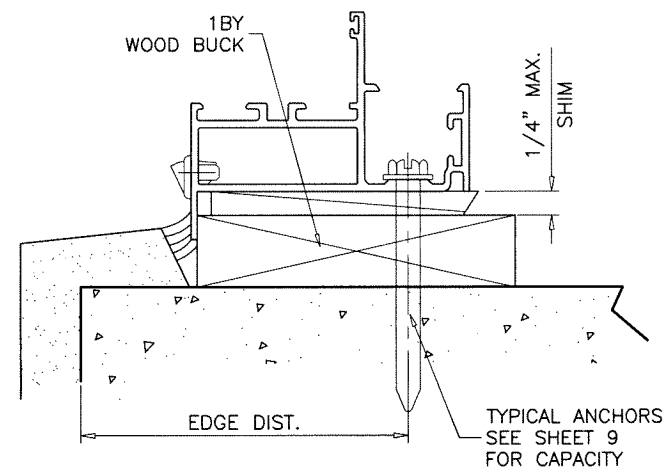
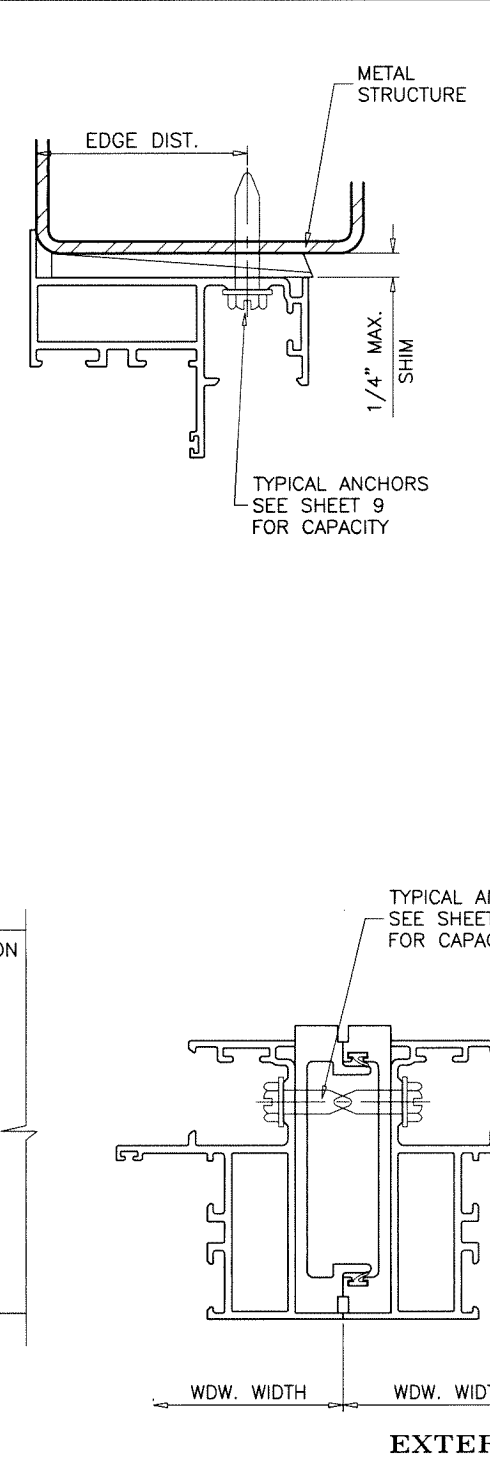
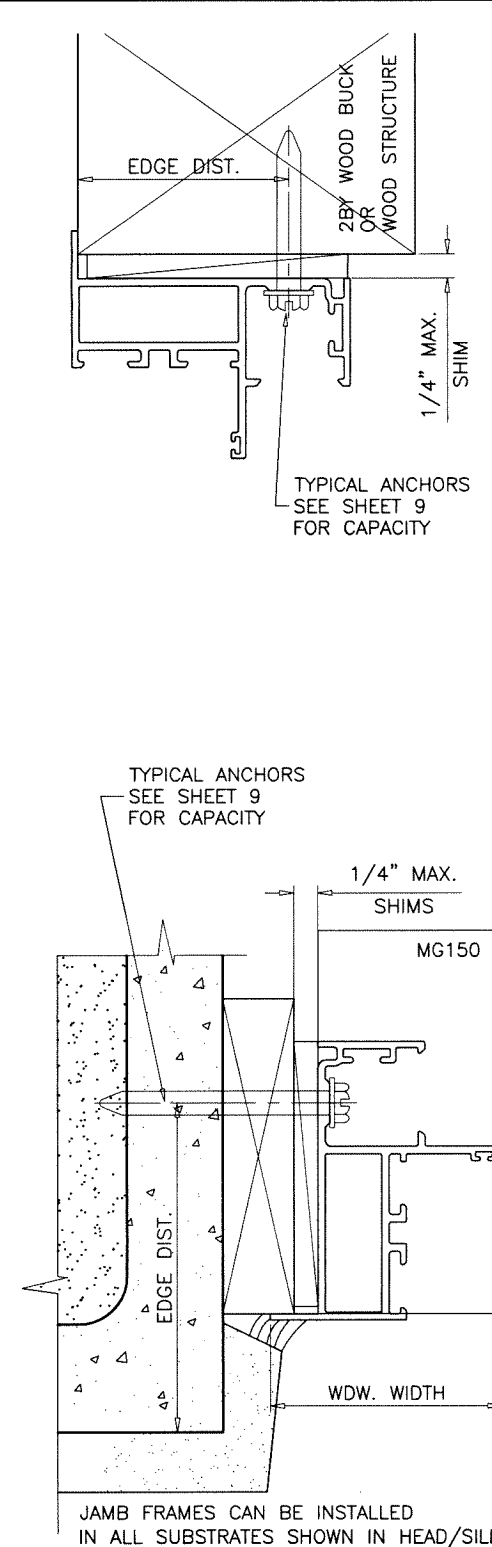
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sheet 12 of 16

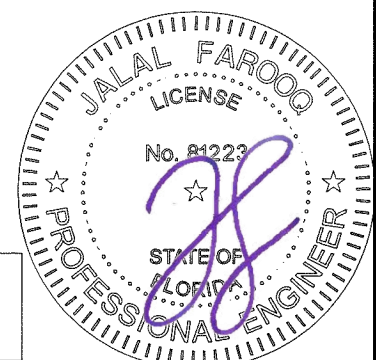


FLANGE FRAMES WITH FLUSH FRAME ADAPTERS
CAN BE USED AT ALL ANCHORAGE CONDITIONS.



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MG150 MULLION
MG450 FIXED FRAMES



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MULLION 22-08F-MG

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no	date	no	date	no	description

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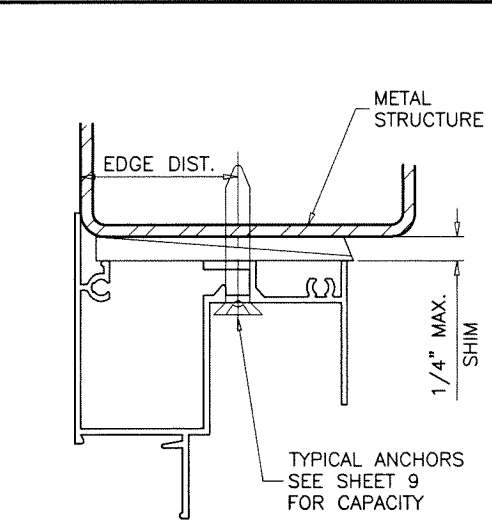
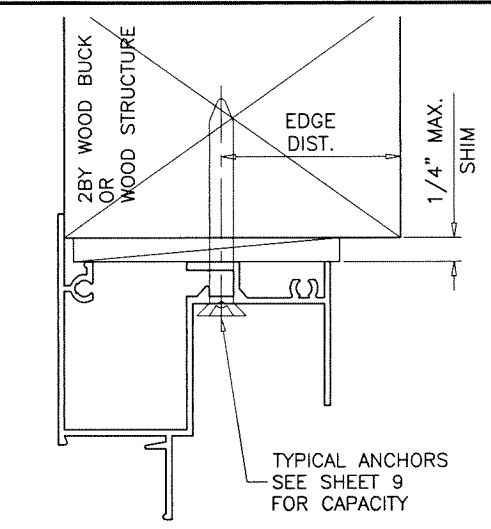
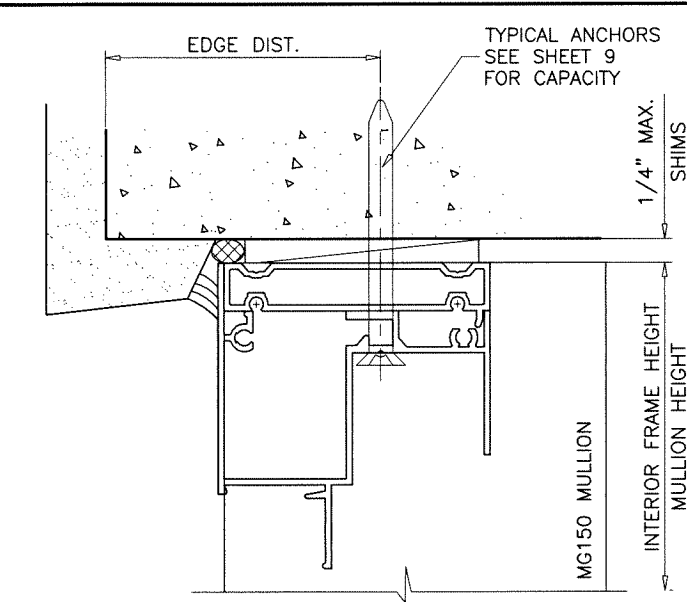
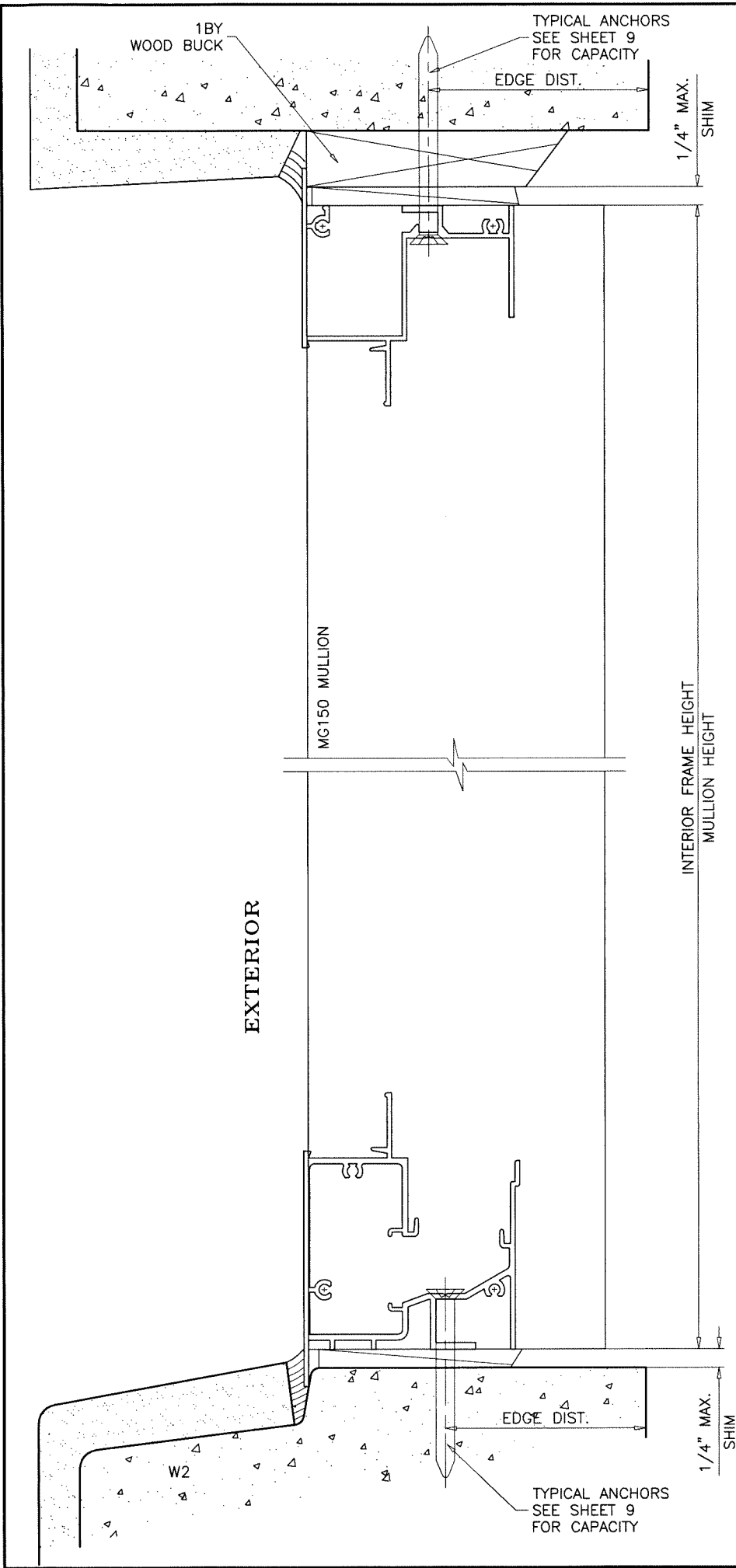
dr. by: TARIQ

chk. by:

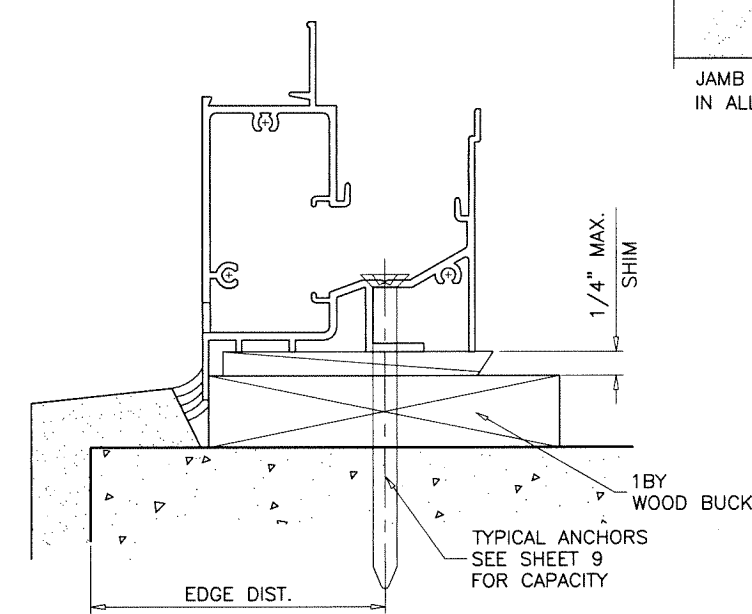
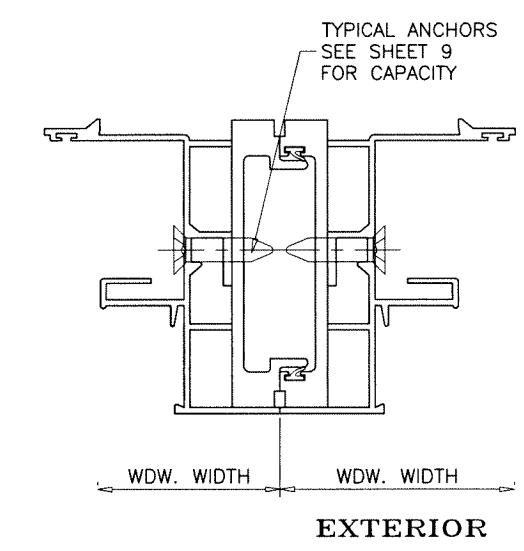
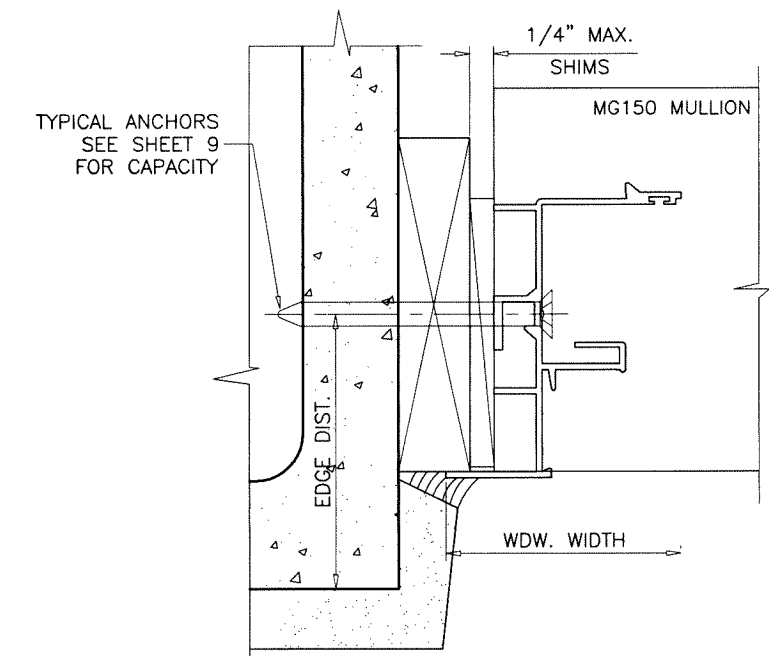
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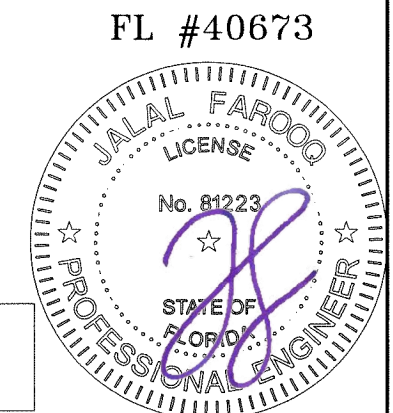
FLANGE FRAMES WITH FLUSH FRAME ADAPTERS CAN BE USED AT ALL ANCHORAGE CONDITIONS.



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

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MG150 MULLION
MG300 H.R. FRAMES



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MULLION 22-08F-MG

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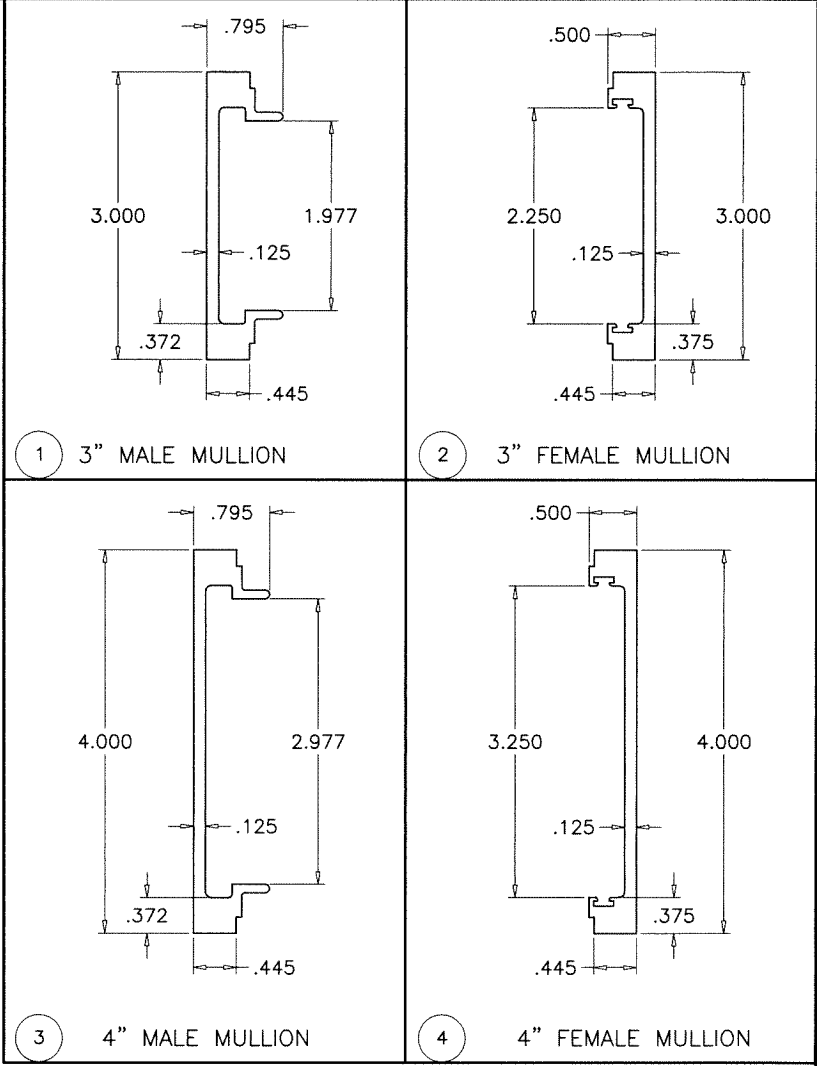
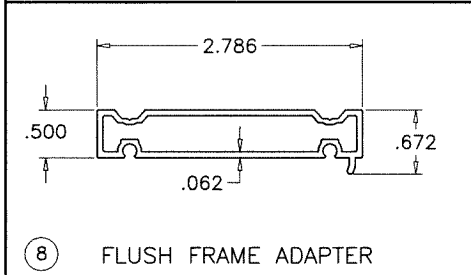
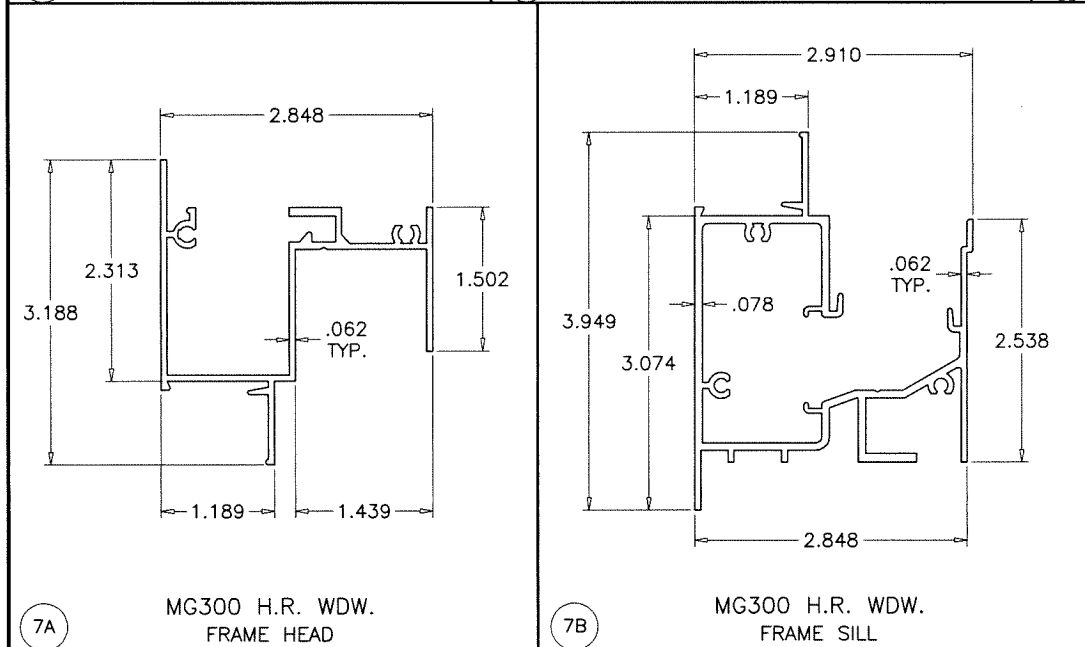
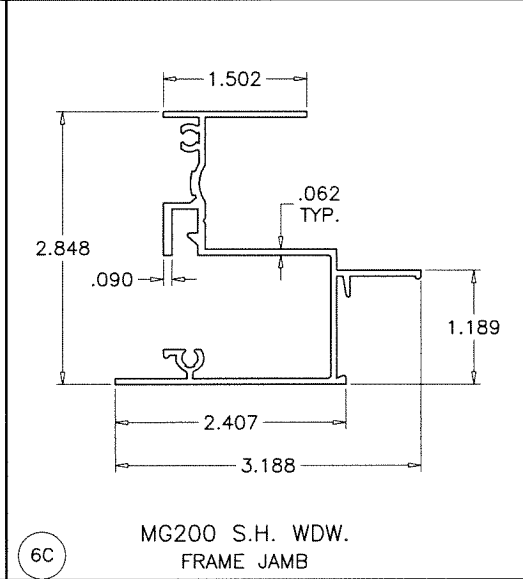
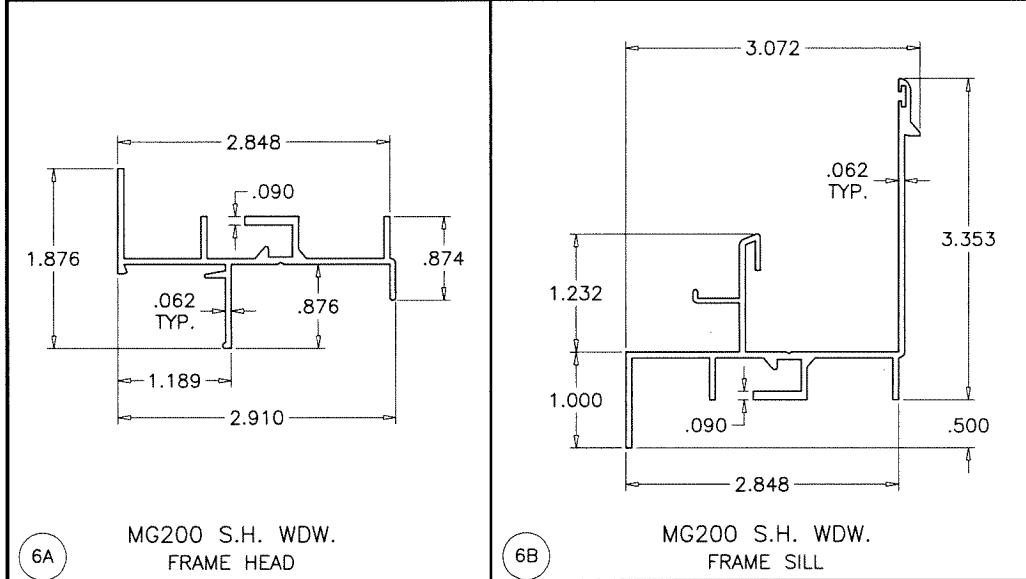
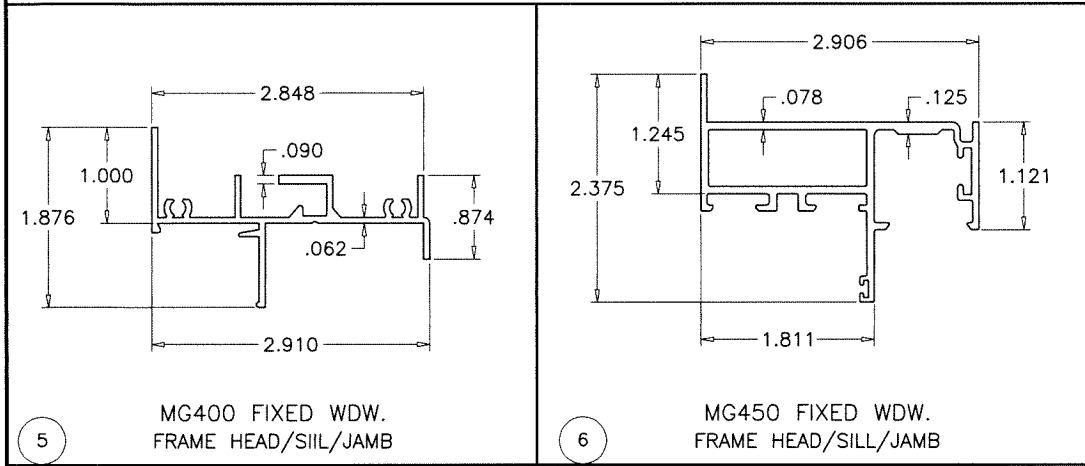
dr. by: TARIQ

chk. by:

drawing no.

22-08F

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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	-

Sealed: 7/21/2023

FL #40673



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MG150 EXTRUDED ALUM UNCLIPPED MULLIONS

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www.mrglasswindows.com

revisions:

no	date	by	description

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

drawing no.
22-08F
sheet 16 of 16