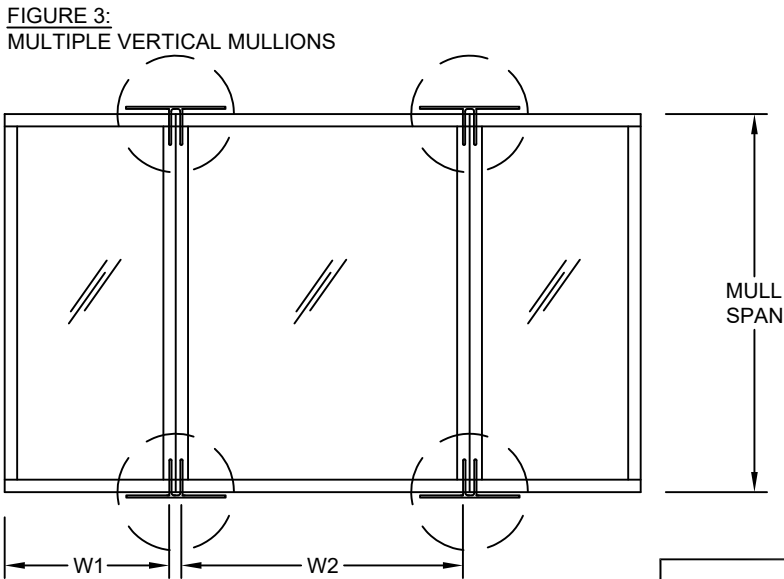
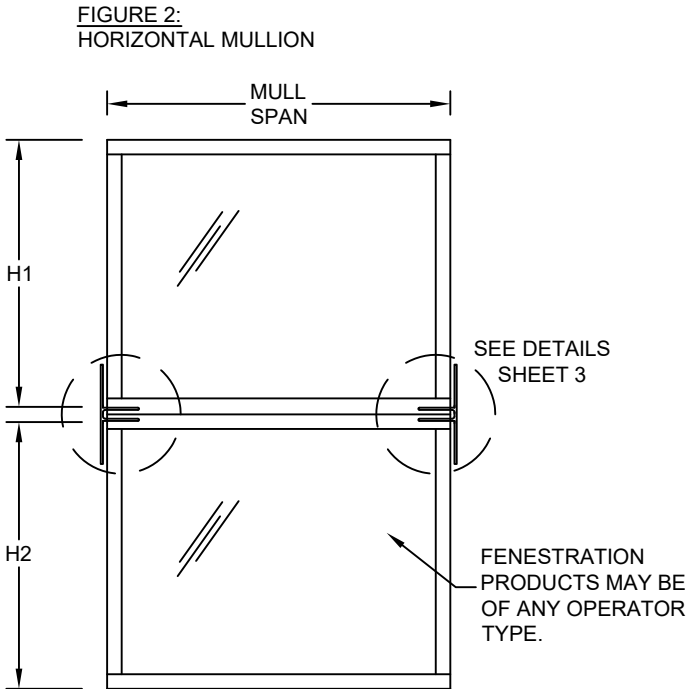
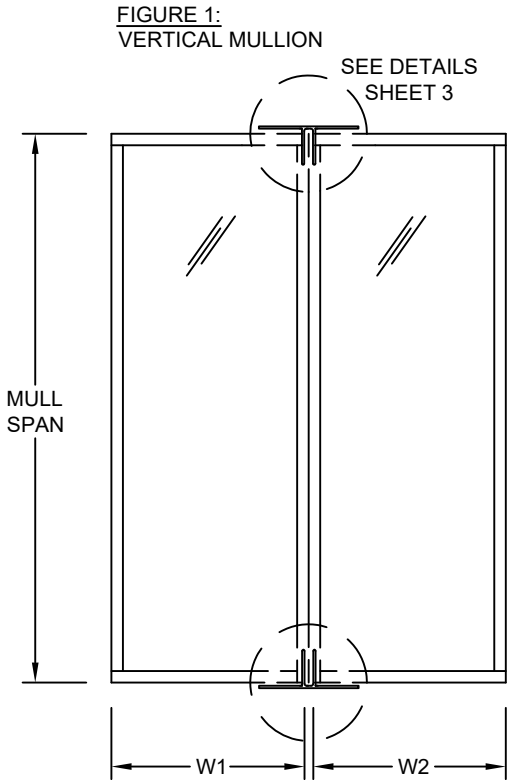


SERIES M-9310 & M-9316
ALUMINUM STRUCTURAL MULLIONS
IMPACT RESISTANT

- 1) DETAILS SHOWN ARE FOR THE MULLION ONLY. ANCHORS SHOWN ARE IN ADDITION TO ANY ANCHORS REQUIRED FOR THE FENESTRATION PRODUCT INSTALLATION. TYPICAL APPLICATIONS ARE SHOWN. EACH SITUATION IS UNIQUE AND SHOULD BE EVALUATED BY AN EXPERIENCED INSTALLER FOR THE BEST INSTALLATION METHOD.
- 2) THE TYPE AND NUMBER OF ANCHORS IS CRITICAL TO THE STRUCTURAL PERFORMANCE OF THE MULLED UNITS. MULLIONS HAVE BEEN TESTED AS "FREE-FLOATING" AND DO NOT NEED TO BE DIRECTLY ATTACHED TO THE MULLION CLIPS, BUT SHALL NOT HAVE A GAP OF MORE THAN 1/4" FROM THE CLIP.
- 3) THE ANCHORAGE METHODS SHOWN HAVE BEEN DESIGNED TO RESIST THE WIND LOADS CORRESPONDING TO THE REQUIRED DESIGN PRESSURE. MULLIONS ARE CALCULATED TO DEFLECT NO MORE THAN L/175. THE 1/3 STRESS INCREASE WAS NOT USED IN THIS ANCHOR EVALUATION. THE 1.6 LOAD DURATION FACTOR WAS USED FOR THE EVALUATION OF WOOD SCREWS.
- 4) USE THE COMBINED WIDTH OR HEIGHT OF ONLY TWO ADJACENT FENESTRATION PRODUCTS TO DETERMINE PRESSURES AND ANCHORAGE FOR THE COMMON MULLION, SEE EXAMPLES ON THIS SHEET. FOR MULTIPLE UNITS, CONSIDER ONLY TWO ADJACENT UNITS AT A TIME WHEN USING THE DESIGN PRESSURE AND ANCHORAGE TABLES. THE LOWEST DESIGN PRESSURE OF MULTIPLE MULLIONS OR FENESTRATION PRODUCTS SHALL APPLY.
- 5) WHEN FINDING YOUR SIZE IN THE MULLION TABLES, ALWAYS ROUND UP TO THE NEXT SIZE SHOWN ON THE TABLE(S).
- 6) ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO. ANCHORS SHALL BE COATED OR CORROSION RESISTANT AS APPROPRIATE FOR SUBSTRATE MATERIAL. DISSIMILAR MATERIALS SHALL BE PROTECTED AS REQUIRED TO PREVENT REACTIONS.
- 7) MULLIONS AND CLIPS HAVE BEEN DESIGNED & TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE, AND ARE APPROVED FOR IMPACT AND NON-IMPACT APPLICATIONS. IMPACT APPLICATIONS ARE LIMITED TO WIND ZONES 1, 2 & 3 AS DEFINED BY ASTM E1996. MULLIONS ARE ONLY TO BE USED WITH MI-APPROVED FENESTRATION PRODUCTS HAVING CURRENT APPROVALS.
- 8) QUANTITY OF UNITS WITHIN A MULTIPLE VERTICAL MULLION ASSEMBLY IS UNLIMITED PROVIDED THAT THE SPAN AND TRIBUTARY WIDTH OF EACH INDIVIDUAL MULLION COMPLIES WITH THE REQUIREMENTS OF THIS APPROVAL. HORIZONTAL MULLIONS ARE LIMITED TO ONE MULLION PER OPENING.

FLORIDA PRODUCT APPROVAL #42087

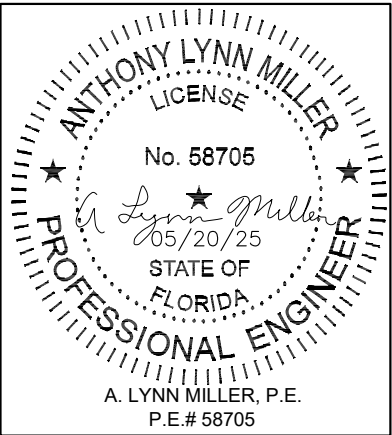


TRIBUTARY WIDTH = $\frac{W1 + W2}{2}$

TRIBUTARY HEIGHT = $\frac{H1 + H2}{2}$

IMPACT RATING	DESIGN PRESSURE RATING
LARGE MISSILE IMPACT RESISTANT (LEVEL D) - WZ 1,2 & 3	SEE TABLES 1 & 2 SHEET 2

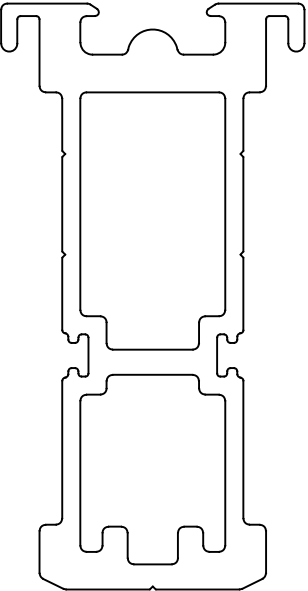
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ALUMINUM STRUCTURAL MULLIONS (LM)		Date	05/20/25	
ELEVATION & GENERAL NOTES		Drawn By	LOGAN YODER	
M-9310 M-9316		Sheet	1 OF 5	DWG No. M9310M9316FPA-LM
Series	Desc.			



Rev.	LY	NO CHANGES THIS SHEET	Date	05/12/25	Rev. #	A
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TABLE 1: M-9310 MULLION DESIGN PRESSURE

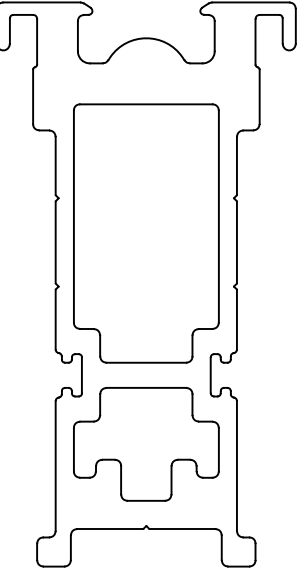
Mullion Design Pressure (lbs/ft²)																	
MI-9310 Aluminum Tube Mullion		Tributary Width (for vertically-spanning mullions) or Tributary Height (for horizontally-spanning mullions)															
		18 in	24 in	30 in	36 in	38 in	42 in	48 in	50 in	54 in	60 in	62 in	66 in	72 in	75 in	78 in	84 in
Mullion Span	70 in	120.0	120.0	111.7	98.5	94.7	88.1	80.8	79.0	76.0	73.0	72.4	71.5	71.1	71.1	71.1	71.1
	75 in	120.0	112.6	92.2	79.1	75.8	70.2	64.0	62.4	59.7	56.8	56.1	55.0	54.1	54.0	54.0	54.0
	79 in	120.0	95.9	78.4	67.1	64.2	59.3	53.8	52.4	49.9	47.2	46.5	45.4	44.3	44.0	43.9	43.8
	85 in	100.6	76.6	62.4	53.2	50.8	46.8	42.3	41.1	39.0	36.6	35.9	34.9	33.7	33.3	33.0	32.7
	91 in	81.8	62.2	50.5	43.0	41.0	37.7	33.9	32.9	31.1	29.0	28.4	27.4	26.3	25.9	25.6	25.1
	97 in	67.4	51.1	41.5	35.2	33.6	30.8	27.6	26.7	25.2	23.4	22.9	22.0	21.0	20.6	20.3	19.7
	103 in	56.2	42.6	34.5	29.2	27.8	25.5	22.8	22.0	20.7	19.2	18.7	18.0	17.1	16.7	16.4	15.8
	109 in	47.4	35.8	29.0	24.5	23.3	21.4	19.0	18.4	17.3	15.9	15.6					
	115 in	40.3	30.5	24.6	20.8	19.8	18.1	16.1	15.5								
	121 in	34.5	26.1	21.1	17.8	16.9	15.4										
	127 in	29.9	22.5	18.2	15.3												
	133 in	26.0	19.6	15.8													
	139 in	22.7	17.1														
	144 in	20.4	15.4														



M-9310 MULLION
ALUMINUM 6005-T5
OR 6105-T5

TABLE 2: M-9316 MULLION DESIGN PRESSURE

Mullion Design Pressure (lbs/ft²)																	
MI-9316 Aluminum Tube Mullion		Tributary Width (for vertically-spanning mullions) or Tributary Height (for horizontally-spanning mullions)															
		18 in	24 in	30 in	36 in	38 in	42 in	48 in	50 in	54 in	60 in	62 in	66 in	72 in	75 in	78 in	84 in
Mullion Span	67 in	120.0	120.0	109.3	94.5	90.7	84.6	78.1	76.4	73.9	71.4	71.0	70.5	70.4	70.4	70.4	70.4
	75 in	120.0	93.5	76.6	65.7	62.9	58.3	53.2	51.8	49.6	47.2	46.6	45.7	45.0	44.8	44.8	44.8
	79 in	104.5	79.7	65.1	55.7	53.3	49.3	44.7	43.5	41.5	39.2	38.6	37.7	36.8	36.6	36.4	36.4
	85 in	83.6	63.6	51.9	44.2	42.2	38.9	35.1	34.1	32.4	30.4	29.9	29.0	28.0	27.7	27.4	27.2
	91 in	68.0	51.6	42.0	35.7	34.1	31.3	28.2	27.3	25.8	24.1	23.6	22.8	21.9	21.5	21.2	20.9
	97 in	56.0	42.5	34.5	29.2	27.9	25.6	22.9	22.2	20.9	19.4	19.0	18.3	17.4	17.1	16.8	16.4
	103 in	46.7	35.4	28.7	24.3	23.1	21.2	18.9	18.3	17.2	15.9	15.6					
	109 in	39.4	29.8	24.1	20.4	19.4	17.7	15.8	15.3								
	115 in	33.5	25.3	20.5	17.3	16.4	15.0										
	121 in	28.7	21.7	17.5													
	127 in	24.8	18.7	15.1													
	133 in	21.6	16.3														
	139 in	18.9															
	144 in	17.0															

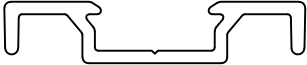


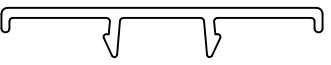
M-9316 MULLION
ALUMINUM 6005-T5
OR 6105-T5

INSTRUCTIONS:

- 1) DETERMINE THE ALLOWABLE STRESS DESIGN PRESSURE REQUIREMENT (LBS/FT²) FOR THE OPENING USING THE **ASCE-7 STANDARD**.
- 2) TO FIND THE DESIGN PRESSURE OF THE MULLION, USE TABLES 1 AND 2. THE MULLION DESIGN PRESSURE OBTAINED SHALL MEET OR EXCEED THE DESIGN PRESSURE REQUIREMENT FOR THE OPENING OBTAINED IN STEP 1.
- 3) VERIFY THE DESIGN PRESSURE OF THE FENESTRATION PRODUCT TO BE USED AND COMPARE WITH THE FINAL DESIGN PRESSURE FOR THIS MULLION SYSTEM. THE LOWER OF THE TWO SHALL APPLY FOR THE ENTIRE MULLED ASSEMBLY.
- 4) HIGHLIGHT OPTION USED AND TABLE VALUES USED IN A SPECIFIC APPLICATION WHEN USING THIS APPROVAL TO APPLY FOR A PERMIT.

USED WITH M-9310 AND M-9316 - SEE SHEETS 3 & 4 FOR DETAILS


M-9312 MULLION EXTERIOR COVER
ALUMINUM 6005-T5
OR 6105-T5


V-1085 MULLION COVER
RIGID PVC

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600

MI[®]
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650 WEST MARKET STREET
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ALUMINUM STRUCTURAL MULLIONS (LM)

DESIGN PRESSURE TABLES

M-9310
M-9316

05/20/25

LOGAN YODER

2 OF 5

M9310M9316FPA-LM

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No. 58705
05/20/25
STATE OF
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PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.# 58705

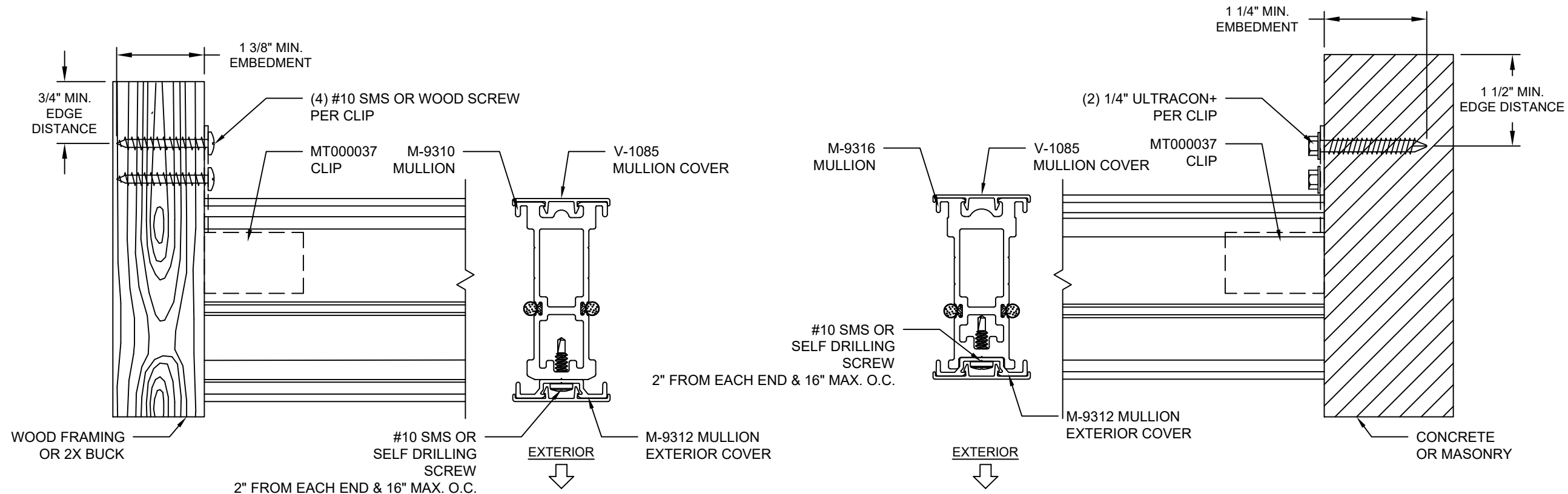
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05/12/25

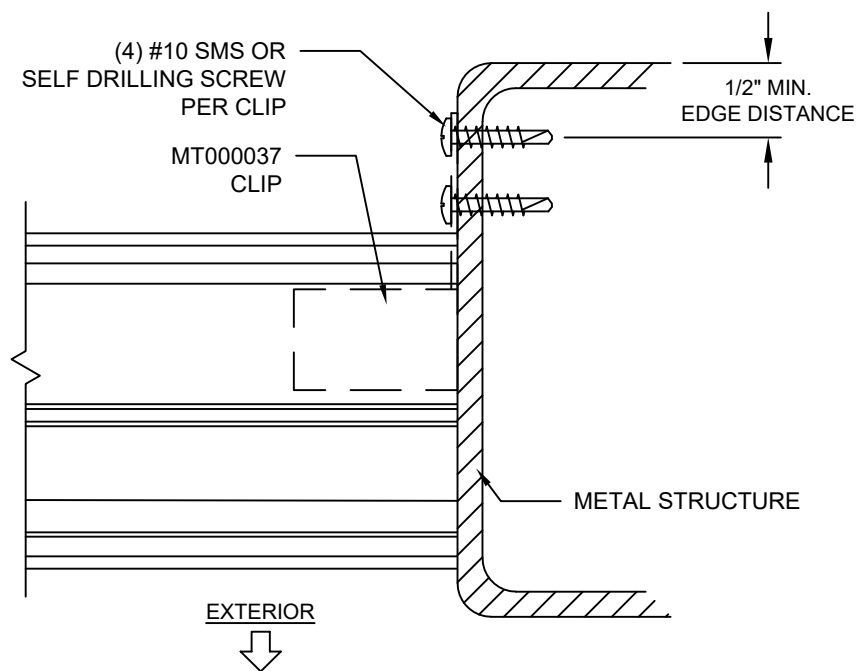
DATE

Rev.

UPDATED DP TABLES

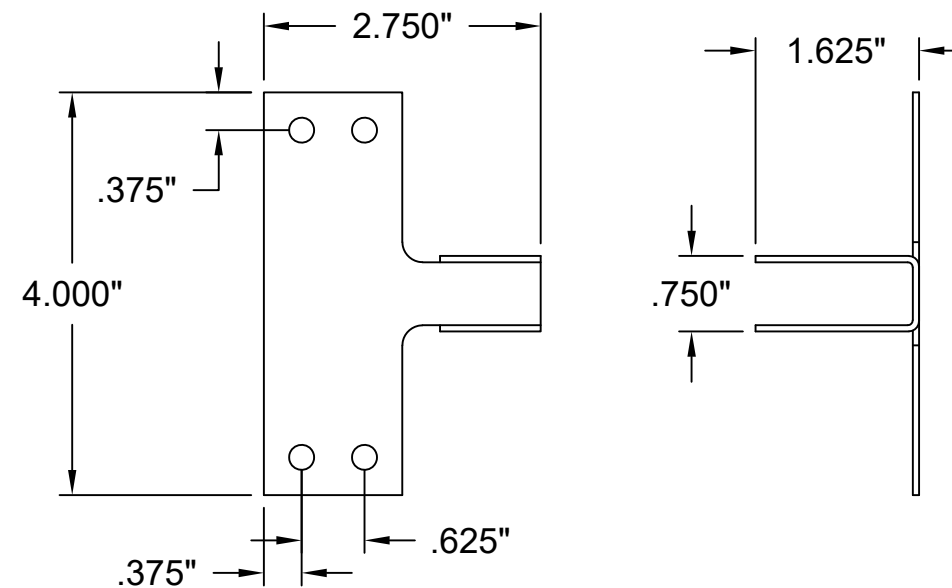


MULLION INSTALLATION DETAIL
WOOD AND CONCRETE



MULLION INSTALLATION DETAIL
METAL STRUCTURE

NOTE: ANCHOR LENGTH TO BE SO THAT A MINIMUM OF 3 THREADS EXTEND PAST THE METAL SUBSTRATE

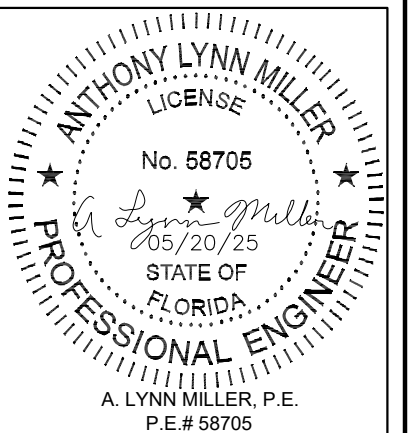


MT000037 CLIP
16GA (0.063") GALVANIZED STEEL

NOTE: BOTH M-9310 AND M-9316 MULLION TYPES CAN BE USED WITH ALL SUBSTRATE TYPES.

Rev. # 05/12/25
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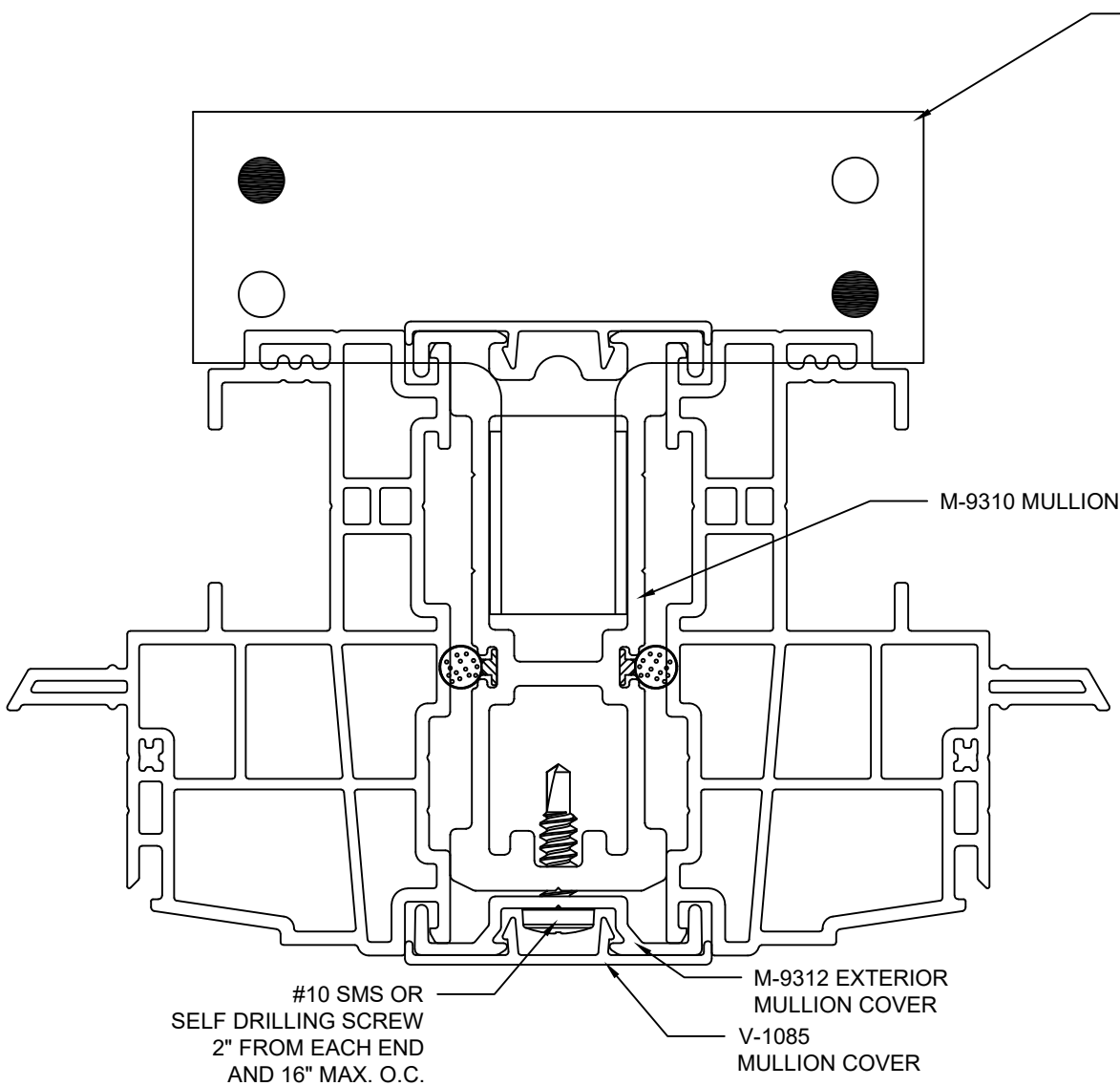
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M-9310/CLIP INSTALL. DETAILS		LOGAN YODER			
M-9310 M-9316		3 OF 5		DWG No.	
Sheet					



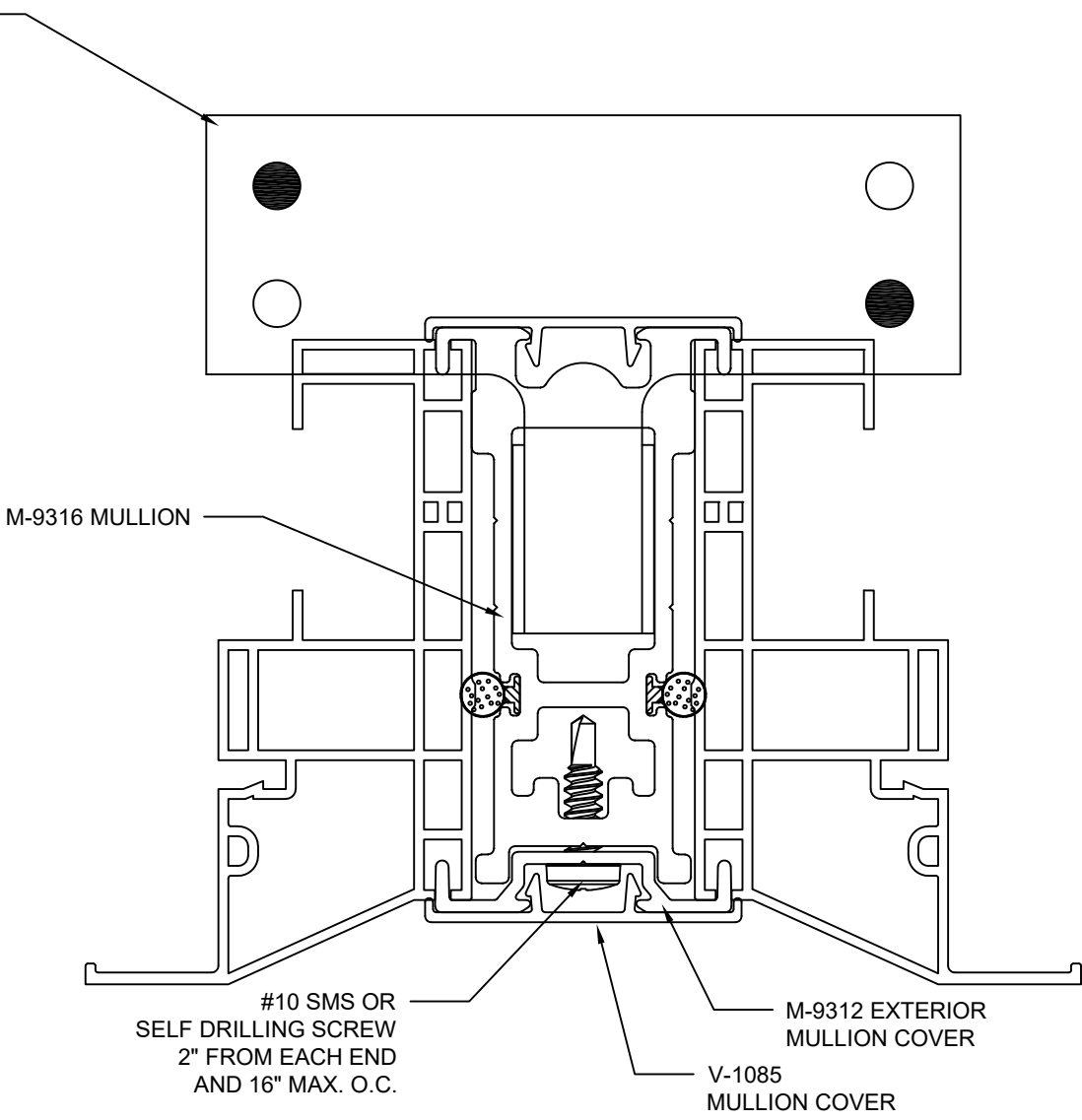
NOTE:

FOR #10 SCREWS, FILL ALL (4) HOLES IN MT000037 CLIP.

FOR 1/4" ULTRACON+ ANCHORS, ONLY FILL (2) SHADED HOLES IN MT000037 CLIP.

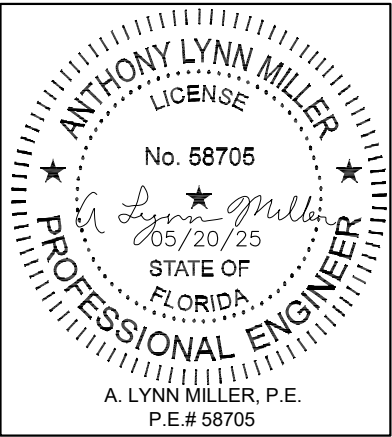


WINDOW AND M-9310 MULLION ASSEMBLY
MULLION CAN BE USED WITH VARIOUS WINDOW PROFILES



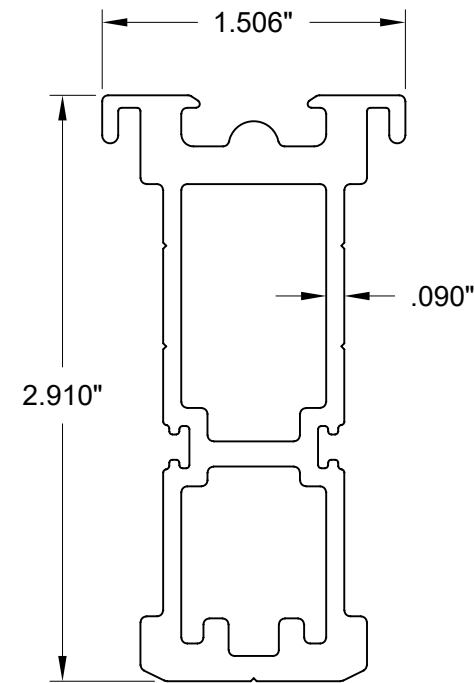
WINDOW AND M-9316 MULLION ASSEMBLY
MULLION CAN BE USED WITH VARIOUS WINDOW PROFILES

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WINDOW ASSEMBLY DETAILS		LOGAN YODER		M9310M9316FPA-LM	
M-9310		4 OF 5		M-9316	
Series		Desc.		Title	

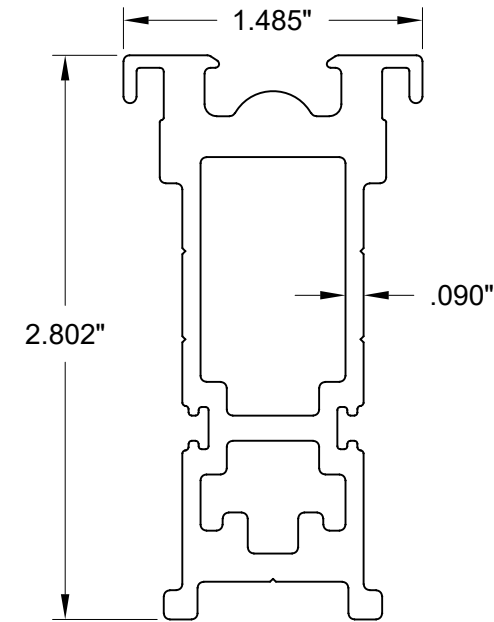


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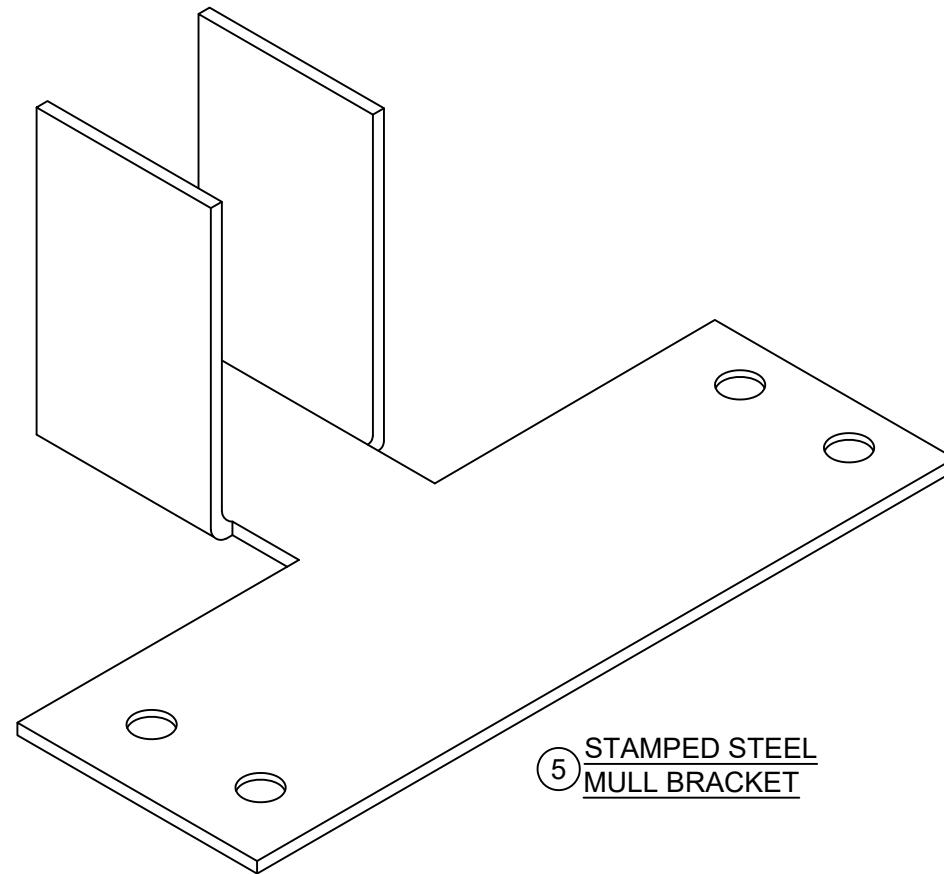
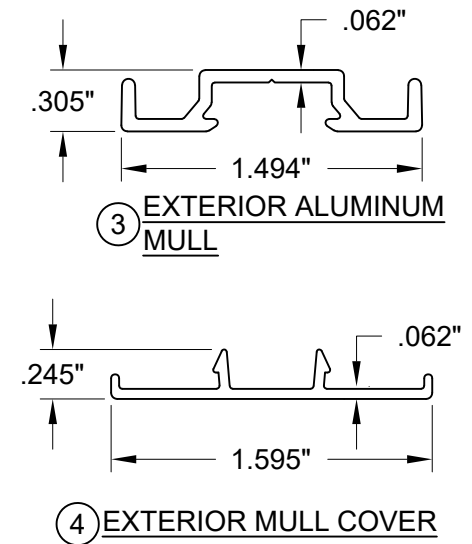
#	Part #	Description	Material
1	M-9310	Interior Aluminum Mull	6005-T5 or 6105-T5
2	M-9316	Interior Aluminum Mull	6005-T5 or 6105-T5
3	M9312000	Exterior Aluminum Mull	6005-T5 or 6105-T5
4	V108500	Exterior Mull Cover	PVC
5	MT000037	Stamped Steel Mull Bracket	16 Ga. Galvanized Steel
6	MS20000C	.187" x .300" Bulb Seal	
7	FS001900	#10-16 x 3/4" PH SDS	



① M-9310 MULLION

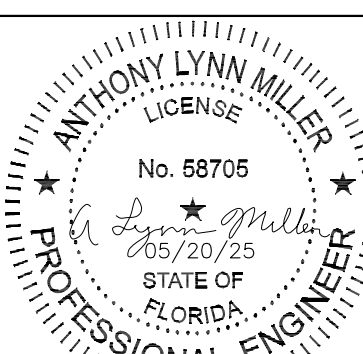


② M-9316 MULLION



⑤ STAMPED STEEL
MULL BRACKET

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	BOM/EXTRUSIONS	By <u>Logan Yoder</u>	05/20/25
M-9310 M-9316	5 OF 5	DWG No.	M9310M9316FPA-LM
Series	Sheet	Desc.	



A. LYNN MILLER, P.E.
 P.E.# 58705