

IMPACT-RESISTANT, CLIPPED, ALUMINUM TUBE MULLIONS

1) 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 IN THE HVHZ. MULLIONS ARE ONLY TO BE USED WITH THE MANUFACTURER'S FENESTRATION PRODUCTS.

2) INSTALLATION 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. OPTIONAL 1X OR 2X WOOD BUCKS IF USED, MUST BE ANCHORED PROPERLY TO TRANSFER LOADS AND ARE TO BE DESIGNED BY OTHERS.

3) 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.

4) THE ANCHORAGE METHODS SHOWN HAVE BEEN DESIGNED TO RESIST THE WINDLOADS CORRESPONDING TO THE REQUIRED DESIGN PRESSURE. MULLIONS ARE CALCULATED TO DEFLECT NO MORE THAN L/180. 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. DESIGN LOADS ARE BASED ON ALLOWABLE STRESS DESIGN, ASD.

5) PROPER SEALING OF ENTIRE ASSEMBLY IS THE RESPONSIBILITY OF OTHERS AND IS BEYOND THE SCOPE OF THESE INSTRUCTIONS.

6) USE THE COMBINED WIDTH OR HEIGHT OF ONLY TWO ADJACENT FENESTRATION PRODUCTS TO DETERMINE PRESSURES AND ANCHORAGE FOR THE COMMON MULLION. 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.

7) ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO. WOOD BUCKS BY OTHERS, MUST BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE STRUCTURE. ANCHORS SHALL BE COATED OR CORROSION RESISTANT AS APPROPRIATE FOR SUBSTRATE MATERIAL. DISSIMILAR MATERIALS SHALL BE PROTECTED AS REQUIRED TO PREVENT REACTIONS.

8) QUANTITY OF UNITS WITHIN A MULTIPLE MULLED ASSEMBLY IS UNLIMITED PROVIDED THAT THE SPAN AND OPENING WIDTH/HEIGHT OF EACH INDIVIDUAL MULLION COMPLIES WITH THE REQUIREMENTS OF THIS APPROVAL.

9) SUBSTRATES: CONCRETE SHALL CONFORM TO ACI 301 SPECIFICATIONS. HOLLOW AND GROUT-FILLED CONCRETE BLOCK UNIT (CMU) SHALL CONFORM TO ASTM C-90. WOOD SHALL HAVE A MIN. SG OF 0.55. ALUMINUM SHALL BE 6063-T5 AND BE A MINIMUM OF 0.125" THICK. STEEL STUDS TO BE A MINIMUM GRADE 33 AND .045" THICK (18 GAUGE). STRUCTURAL STEEL TO BE AT LEAST 0.125" THICK AND A36. ALL ANCHORS INTO METAL SHALL EXTEND AT LEAST 3 SCREW THREADS BEYOND THE MATERIAL. #10 & #12 ANCHORS INTO WOOD MAY BE STEEL, 18-8 S.S. OR 410 S.S.

10) SEE THE INSTRUCTIONS ON SHEET 2.

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**ANCHOR CAPACITY
ADJUSTMENT FORMULA:**

DESIGN
PRESSURE x
REQUIRED

$\left(\frac{\text{ANCHOR CAP. FROM TABLE}}{\text{MULLION CAP. FROM TABLE}} \right)$

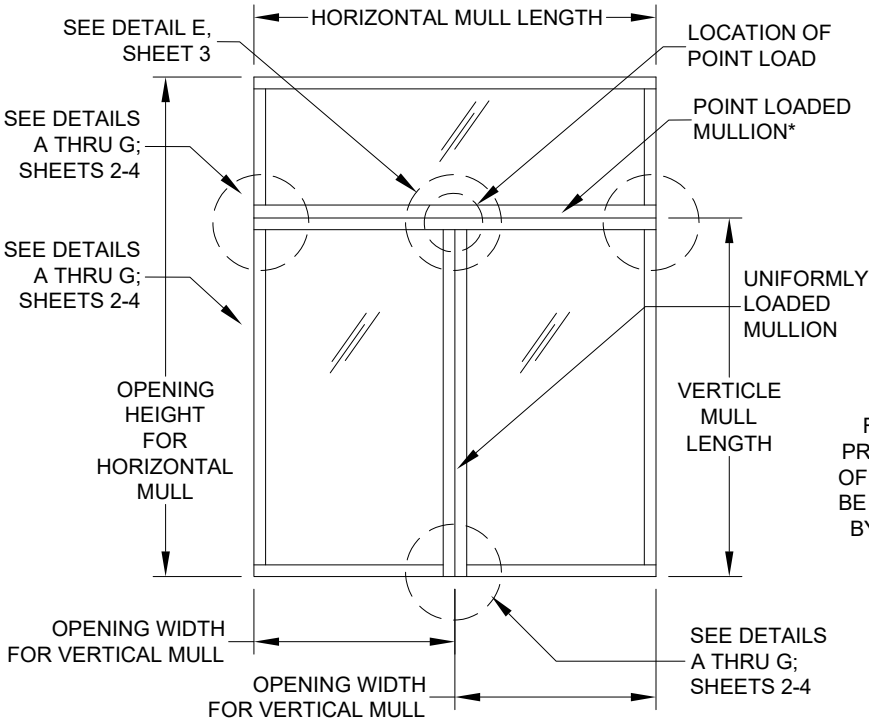
ANCHOR
CAPACITY
REQUIRED

USE THIS FORMULA TO OBTAIN THE "ANCHOR CAPACITY REQUIRED" CORRESPONDING TO AN ACTUAL PRESSURE REQUIREMENT FOR THE OPENING, WHEN IT IS LOWER THAN THE MULLION CAPACITY (FROM THE TABLE) OF THE SELECTED MULLION. IT WILL YIELD A MINIMUM ANCHOR CAPACITY WHICH MAY BE USED TO QUALIFY ADDITIONAL ANCHOR OPTIONS FROM THE ANCHOR CAPACITY TABLE.

WHERE THE PRODUCT WILL BE INSTALLED WITHIN 3,000 FEET OF A SALTWATER COASTLINE, IT MUST COMPLY WITH SECTION 1711 OF THE FBC, BUILDING OR R332 OF THE FBC, RESIDENTIAL.

FLORIDA PRODUCT APPROVAL #17519

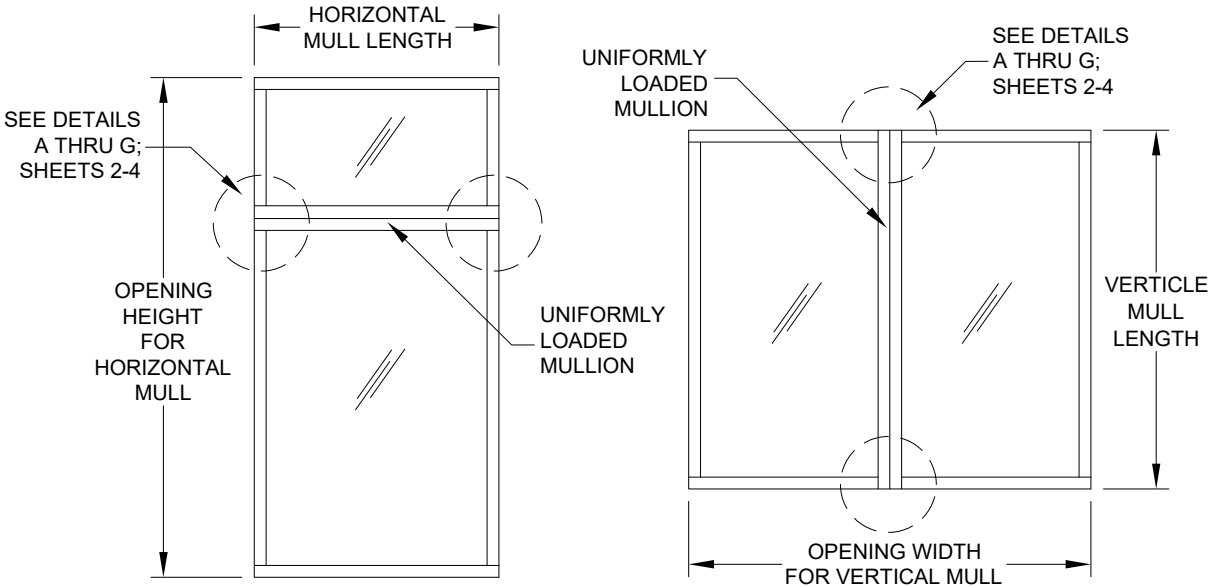
EXAMPLES OF MULL CONFIGURATIONS:



*A "POINT LOADED MULLION" IS A MULLION THAT IS LOADED AT A POINT BY ANOTHER MULLION ALONG ITS LENGTH.

FENESTRATION PRODUCTS MAY BE OF ANY TYPE. MUST BE MANUFACTURED BY MITERBRANDS

CROSSING "T" MULLION CONFIGURATION
(POINT AND UNIFORMLY LOADED MULLIONS)

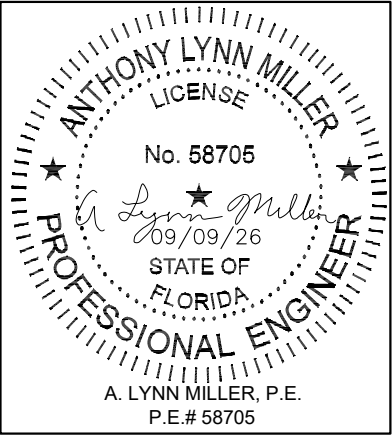


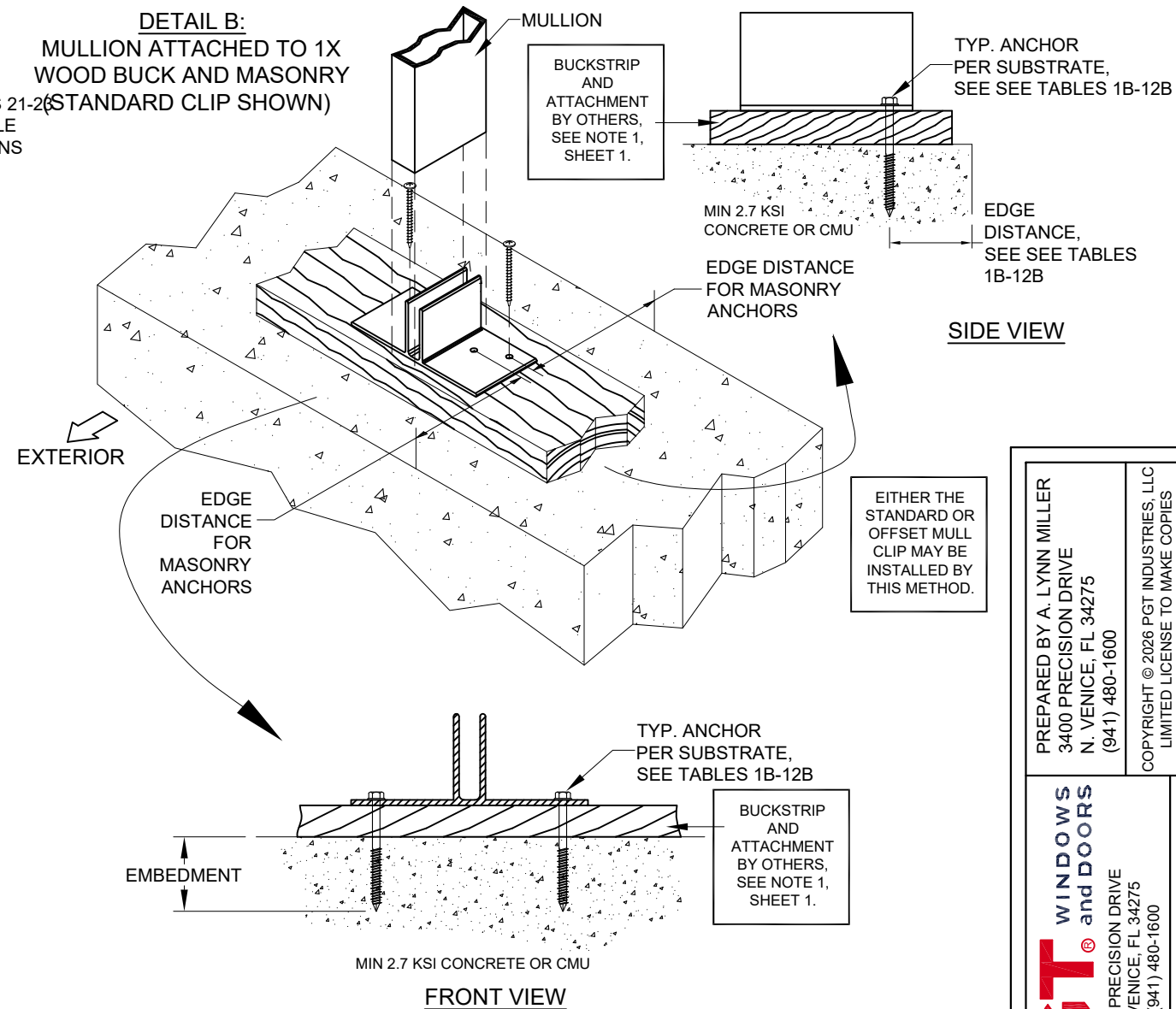
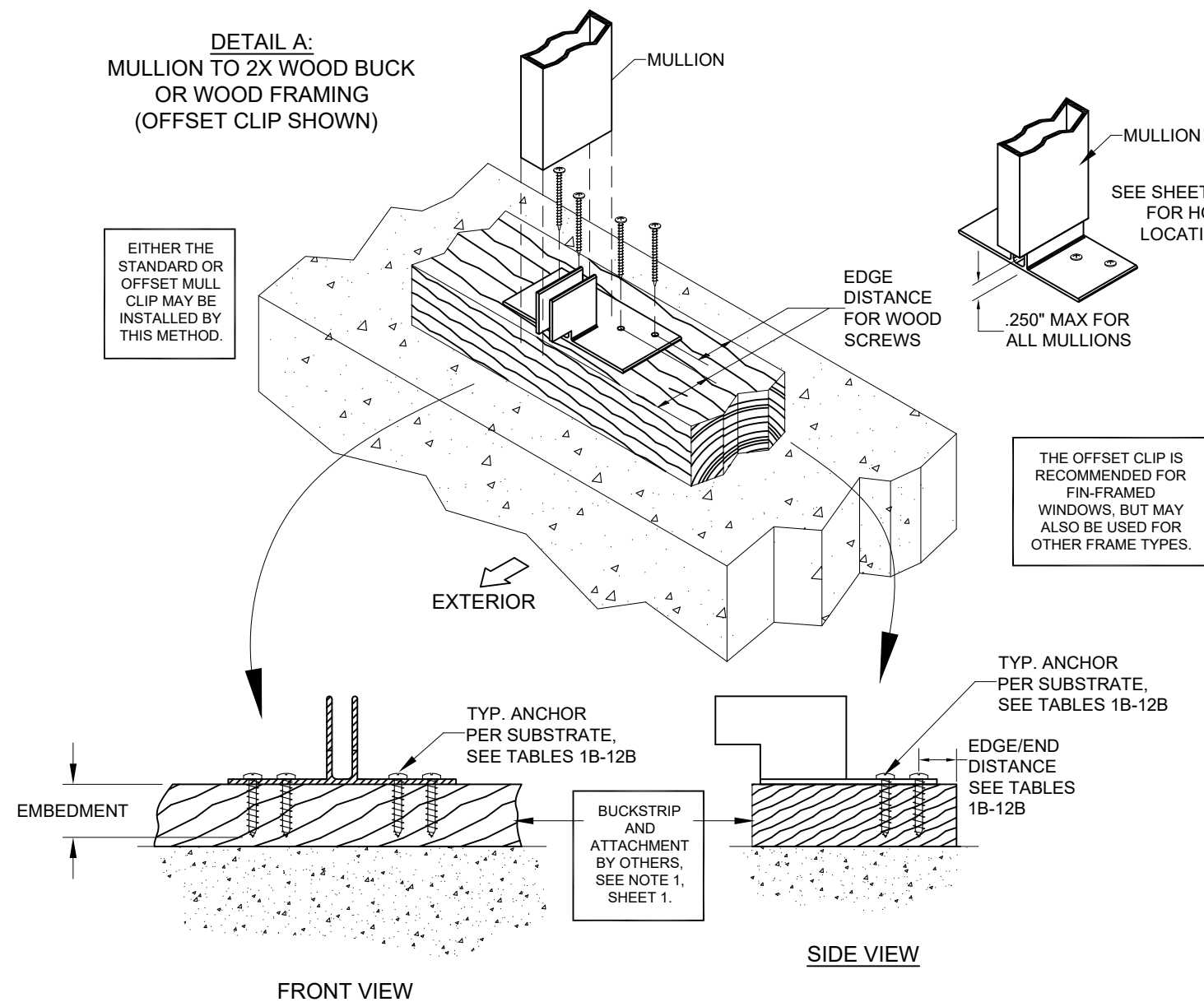
HORIZONTAL MULLION CONFIGURATION
(UNIFORMLY LOADED MULLION)

VERTICAL MULLION CONFIGURATION
(UNIFORMLY LOADED MULLION)

DESIGN PRESSURE RATING SEE TABLES 1-14
IMPACT RATING LARGE AND SMALL MISSILE IMPACT RESISTANT

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PGT [®] WINDOWS and DOORS	3400 PRECISION DRIVE N. VENICE, FL 34275 (941) 480-1600	ALUMINUM CLIPPED MULLIONS	ELEVATION & GENERAL NOTES	1 OF 23
REGISTRATION #29296				MULLIONS





INSTRUCTIONS:

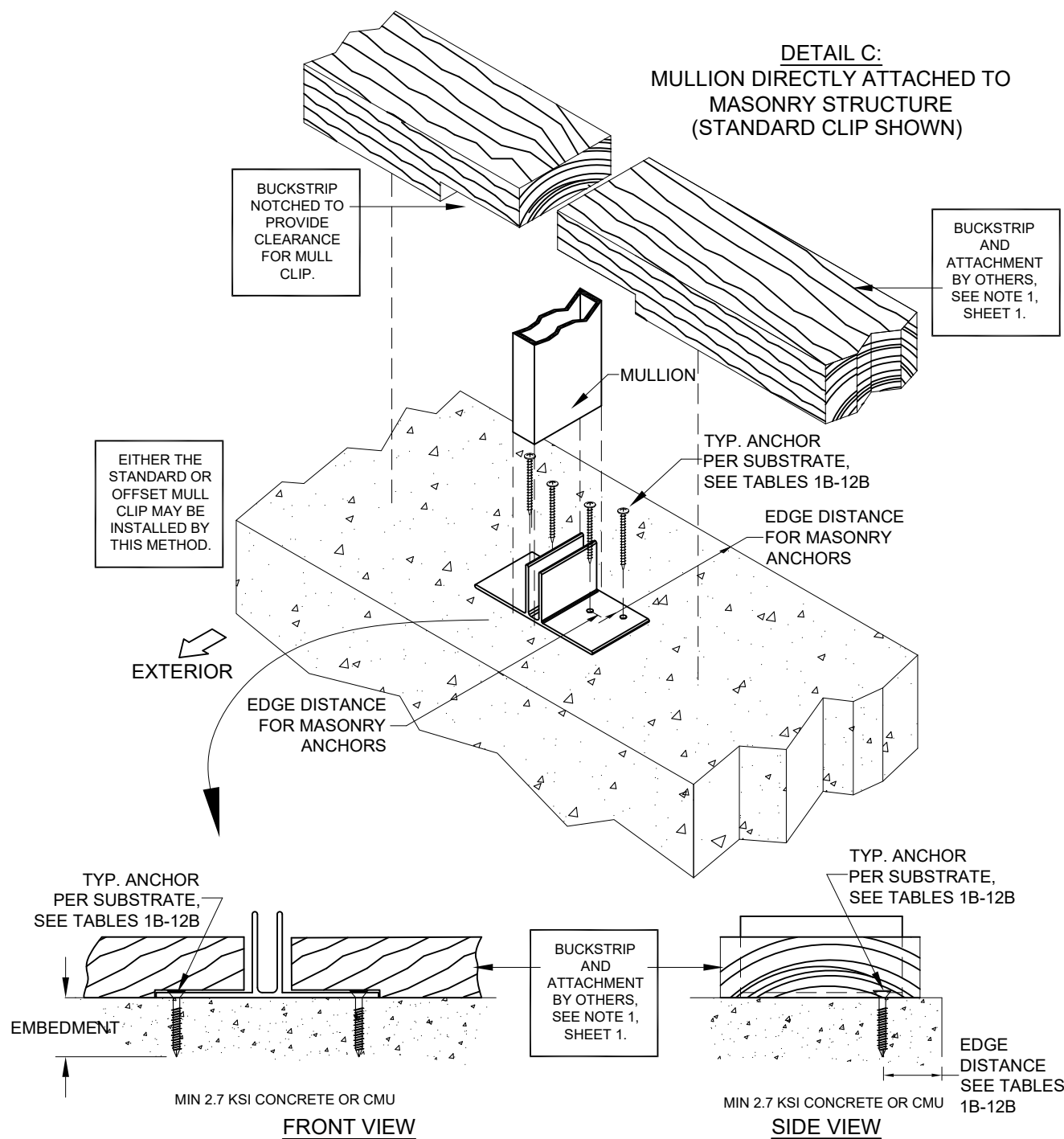
- 1) DETERMINE THE DESIGN PRESSURE REQUIREMENT (LBS/FT²) FOR THE OPENING USING THE **ASCE-7 STANDARD**.
- 2) CHOOSE A MULLION TYPE THAT WILL FIT THE DEPTH OF THE FENESTRATION PRODUCT'S FRAME DEPTH.
- 3) REFER TO SHEET 1 TO DETERMINE IF THE WIND LOADING IS UNIFORMLY LOADED OR POINT LOADED. IF UNSURE, USE POINT LOADED.
- 4) FROM THE **MULLION CAPACITY TABLE** (TABLES 1A THROUGH 14A) FIND THE MULLION CAPACITY (I.E. DP) USING THE MULLION'S LENGTH AND OPENING WIDTH OR HEIGHT. THE DESIGN PRESSURE (DP) OBTAINED SHALL MEET OR EXCEED THE DESIGN PRESSURE REQUIRED FOR THE OPENING OBTAINED IN STEP 1.
- 5) FROM THE SAME TABLE USED ABOVE, FIND THE ANCHOR CAPACITY REQUIRED (LBS). THIS VALUE REPRESENTS THE WINDLOAD TRANSFERRED TO THE SUBSTRATE BY THE ANCHORS AND MUST BE MET TO ATTAIN THE FULL MULLION CAPACITY.
- 6) FROM THE **ANCHOR CAPACITY TABLE** (TABLES 1B THROUGH 12B), USING YOUR SUBSTRATE CONDITION, SELECT A CLIP ANCHOR PATTERN AND VERIFY THAT THE REQUIRED ANCHOR CAPACITY FROM THE TOP TABLE IS MET OR EXCEEDED.
- 7) VERIFY THE DP OF THE WINDOW TO BE USED AND COMPARE WITH THE FINAL DP OBTAINED FOR THE MULLION SYSTEM. THE LOWER OF THE TWO SHALL APPLY FOR THE ENTIRE MULLED FENESTRATION PRODUCT ASSEMBLY.
- 8) OPTIONALLY, IF THE MULLION DESIGN PRESSURE OBTAINED IN THE TABLE IS MUCH HIGHER THAN THE DESIGN PRESSURE REQUIREMENT FOR THE OPENING, YOU MAY USE THE **"ANCHOR CAPACITY ADJUSTMENT FORMULA"** TO OBTAIN A LOWER ANCHOR/CLIP CAPACITY.

INSTALLATION NOTES:

- 1) ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.
- 2) QUANTITY OF ANCHORS AND MULLION SIZE SHOWN ABOVE ARE FOR PICTORIAL REPRESENTATION ONLY. BECAUSE THE ANCHOR CAPACITY IS BASED PARTLY ON THE ANCHOR TO ANCHOR DISTANCE, THE CORRECT QUANTITY AND LOCATION OF ANCHORS MUST BE FOLLOWED, REFER TO THE TABLES ON THE FOLLOWING SHEETS. FOR DETAILS A-D, EITHER THE STANDARD OR OFFSET CLIP MAY BE USED.
- 3) ANCHOR HEAD TYPE MAY BE PANHEAD, HEXHEAD OR FLATHEAD.
- 4) WOOD BUCKS ARE OPTIONAL, SEE DETAIL C, SHEET 3.

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Series		Desc.		Title		Sheet		DWG No.	
MULLIONS								2 OF 23	
ELEVATION & GENERAL NOTES								JENS ROSOWSKI	
Date		09/09/26		By		JENS ROSOWSKI		MULL-LM-HVHZ	

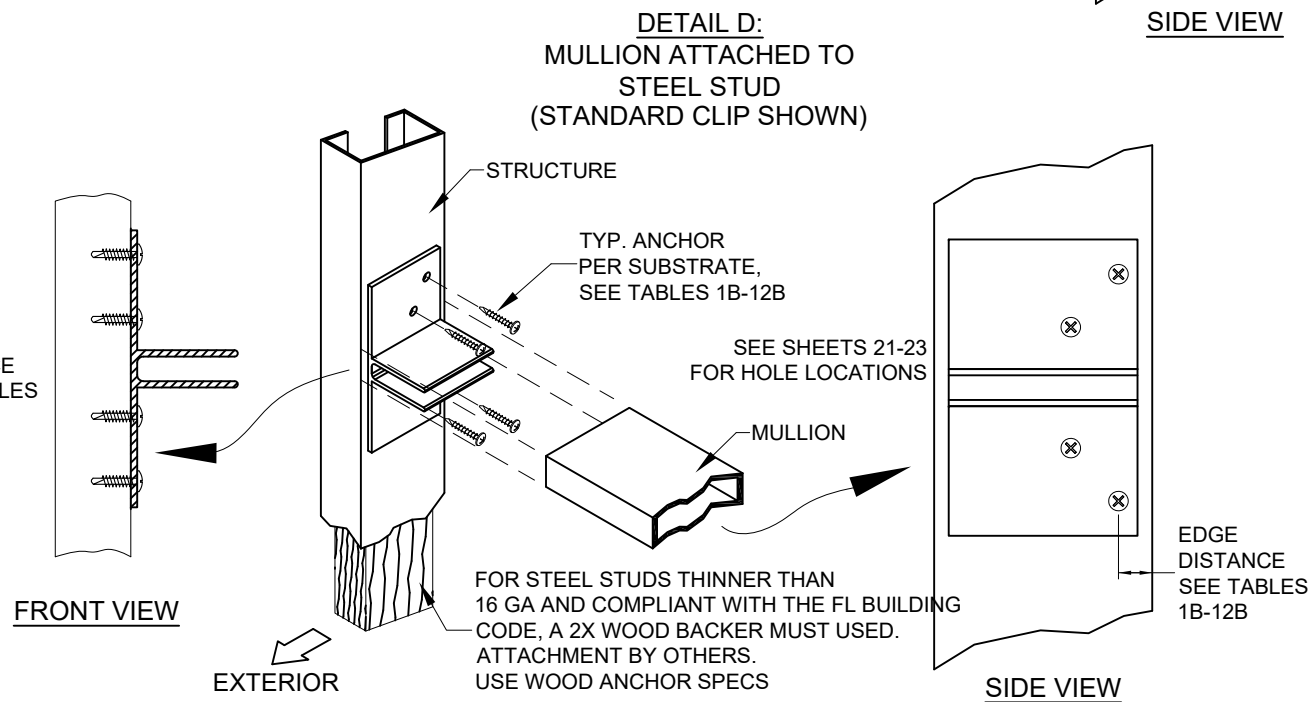
ANTHONY LYNN MILLER
LICENSE
No. 58705
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STATE OF
FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.# 58705



INSTALLATION NOTES:

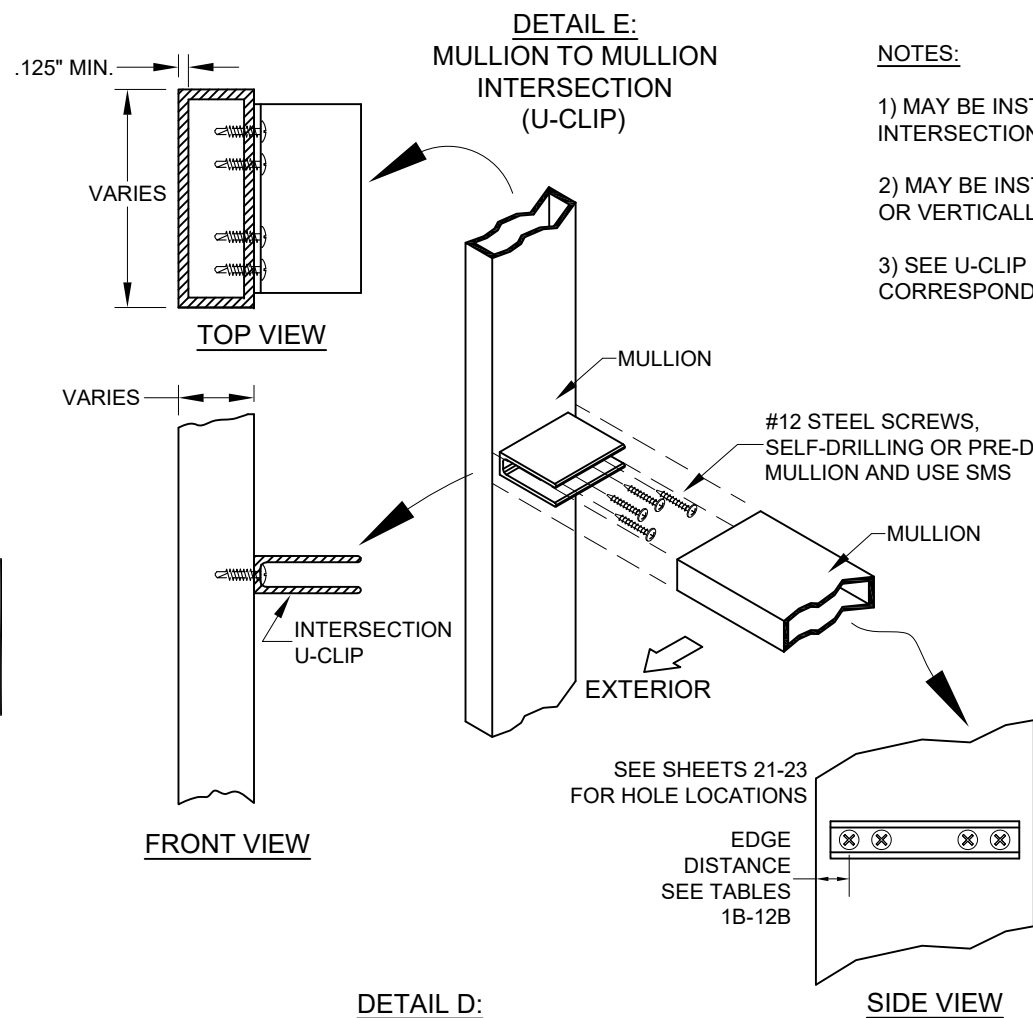
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- 3) ANCHOR HEAD TYPE MAY BE PANHEAD, HEXHEAD OR FLATHEAD.
- 4) WOOD BUCKS ARE OPTIONAL, SEE DETAIL C, SHEET 3.

THE OFFSET CLIP IS RECOMMENDED FOR FIN-FRAMED WINDOWS, BUT MAY ALSO BE USED FOR OTHER FRAME TYPES.



NOTES:

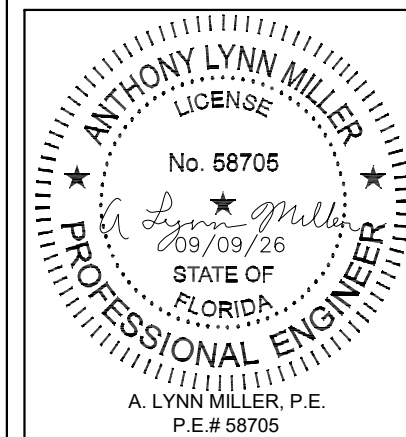
- 1) FOR 2X WOOD-BACKED STEEL STUDS, WOOD ANCHOR VALUES MAY BE USED.
- 2) SEE CORRESPONDING MULLION TABLES, SHEETS 5-18, FOR QUANTITY OF SCREWS.

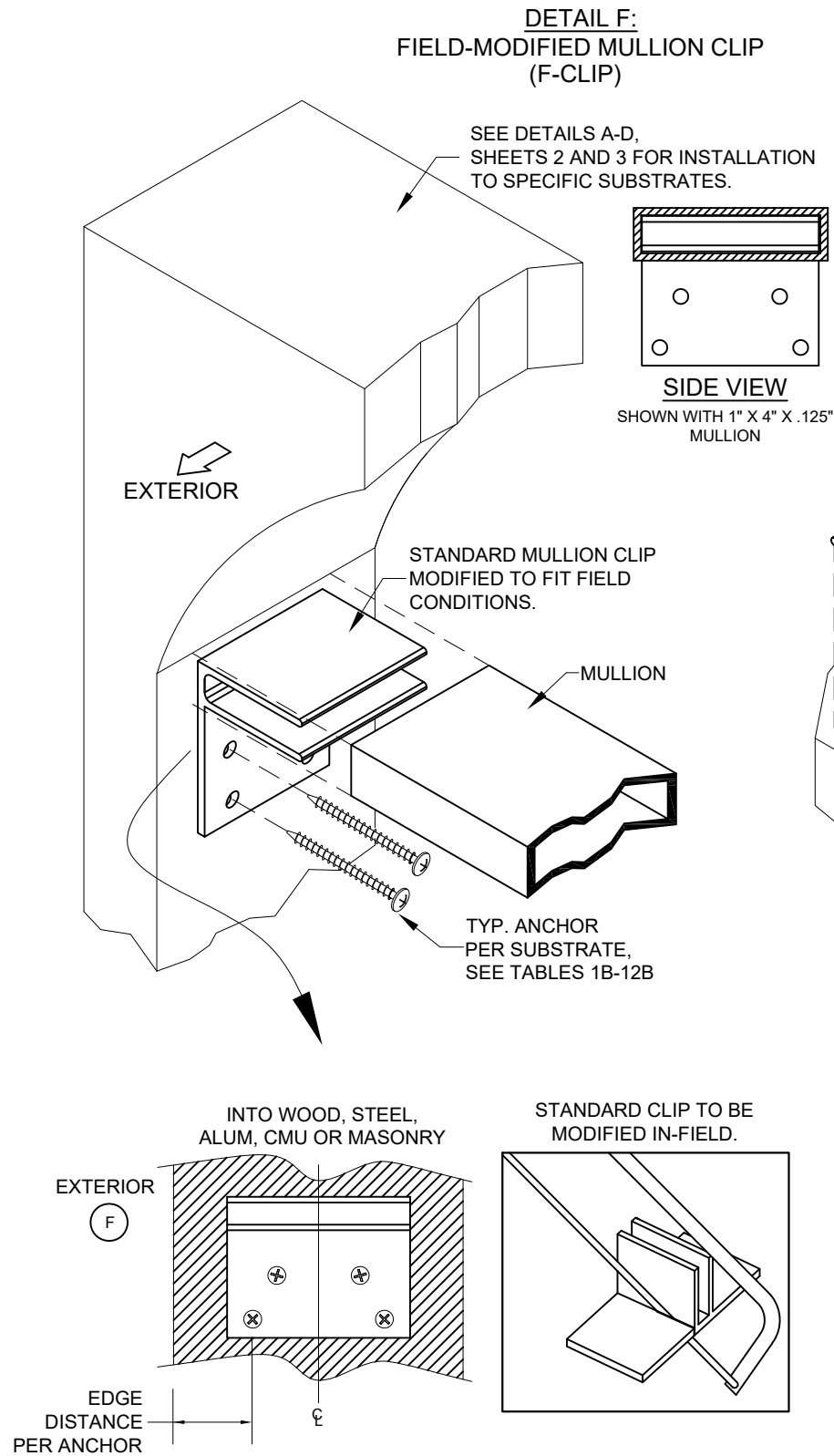


NOTES:

- 1) MAY BE INSTALLED IN "TEE" OR "CROSS" INTERSECTIONS.
- 2) MAY BE INSTALLED HORIZONTALLY (SHOWN) OR VERTICALLY.
- 3) SEE U-CLIP DRAWINGS, SHEETS 21-23 FOR CORRESPONDING MULLION.

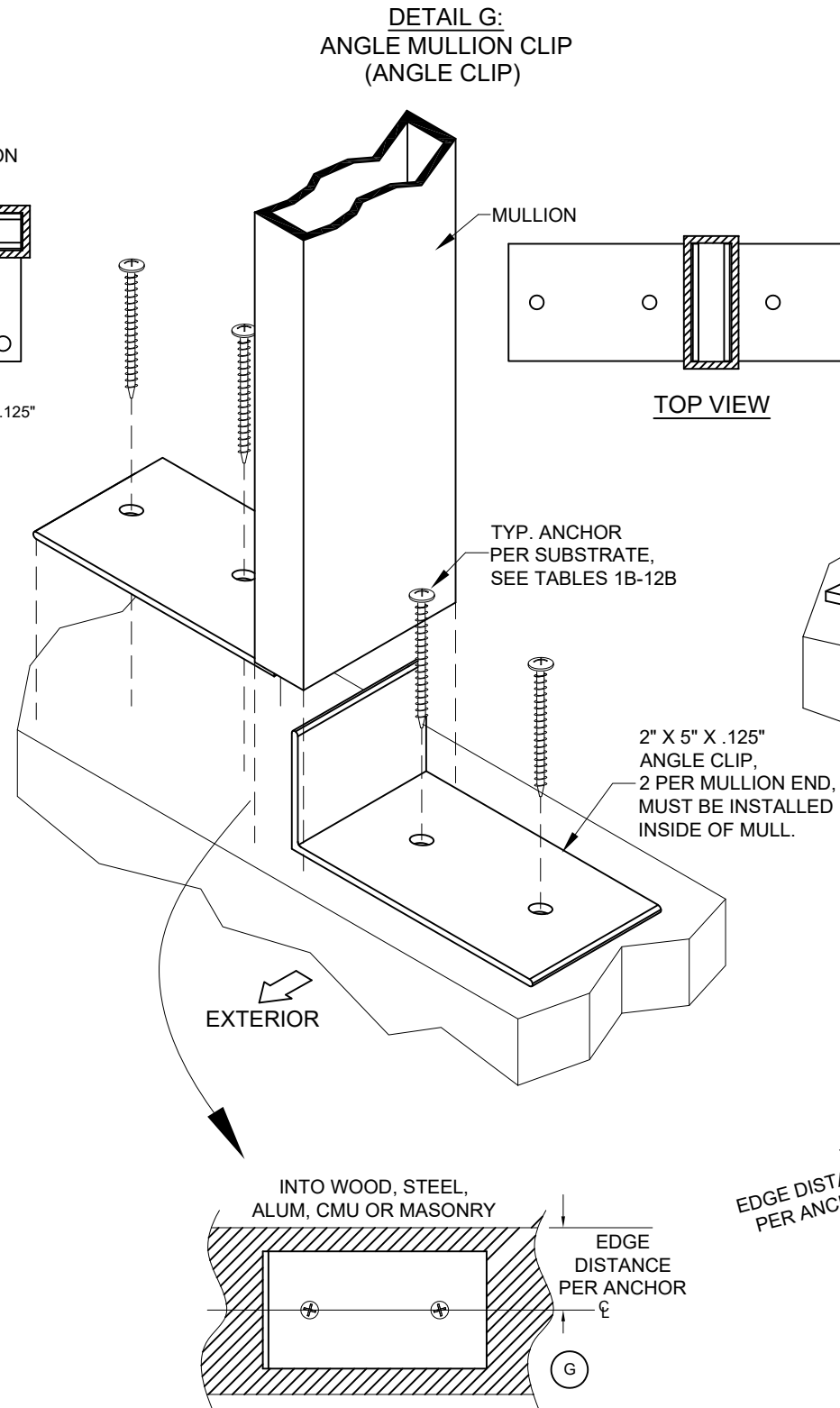
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Sheet		3 OF 23		DWG No.		MULLIONS			





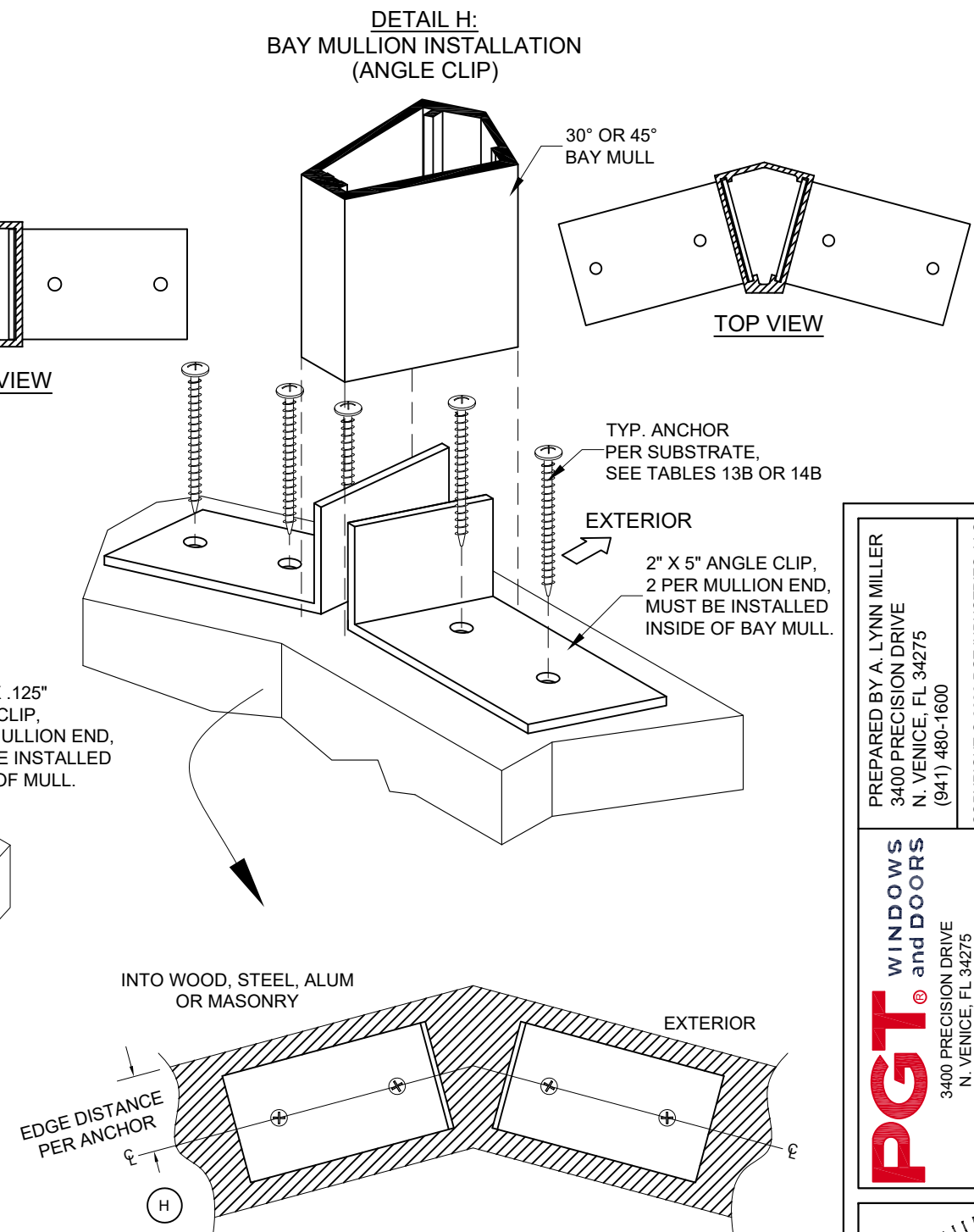
NOTES FOR INSTALLATION OPTIONS F:

- 1) DETAIL IS NOT APPLICABLE FOR THE BAY MULLION.
- 2) SEE TABLES 1B-12B FOR ANCHOR QUANTITIES AND SHEETS 21-23 FOR HOLE LOCATIONS.
- 3) THE 2X5 CLIP IS NOT SUITABLE FOR THIS APPLICATION.



NOTES FOR INSTALLATION OPTION G & H:

- 1) USE 2 ANGLE CLIPS PER MULLION END. CLIPS MUST BE INSERTED INSIDE OF MULLION.
- 2) DETAIL G: SEE TABLES 1B-12B FOR ANCHOR QUANTITIES AND SHEETS 19-21 FOR HOLE LOCATIONS.
- 3) DETAIL H: SEE TABLES 13B OR 14B FOR ANCHOR QUANTITIES AND SHEET 20 FOR HOLE LOCATIONS.



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	ALUMINUM CLIPPED MULLIONS		09/09/26	
	ELEVATION & GENERAL NOTES		JENS ROSOWSKI	
	MULLIONS		4 OF 23	

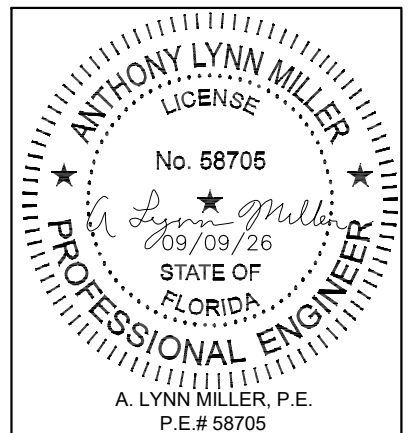


TABLE 1A

Mullion Capacity Table (lbs/ft ²)																																					
1 x 2 x .125 Alum. Tube Mullion		Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)																																			
		50 in				60 in				70 in				80 in				90 in				100 in				120 in				140 in				160 in			
		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded					
		Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)				
Mull Length	42 in	111.9	408	129.5	332	93.2	408	115.5	325	79.9	408	107.8	321	69.9	408	104.4	319	62.1	408	104.0	319	55.9	408	104.0	319	46.6	408	104.0	319	39.9	408	104.0	319	35.0	408	104.0	319
	48 in	74.9	312	83.8	258	62.4	312	73.4	252	53.5	312	67.0	248	46.8	312	63.2	246	41.6	312	61.3	244	37.5	312	61.0	244	31.2	312	61.0	244	26.8	312	61.0	244	23.4	312	61.0	244
	50.625 in	63.9	281	70.6	234	53.2	281	61.5	228	45.6	281	55.7	224	39.9	281	52.1	222	35.5	281	50.1	220	31.9	281	49.3	219	26.6	281	49.3	219	22.8	281	49.3	219	20.0	281	49.3	219
	54 in	52.6	247	57.5	207	43.9	247	49.8	202	37.6	247	44.8	199	32.9	247	41.5	196	29.2	247	39.4	194	26.3	247	38.4	193	21.9	247	38.1	193	18.8	247	38.1	193	16.4	247	38.1	193
	60 in	38.4	200	41.2	170	32.0	200	35.4	166	27.4	200	31.5	163	24.0	200	28.9	160	21.3	200	27.1	159	19.2	200	25.9	157	16.0	200	25.0	156								
	63 in	33.1	181	35.3	155	27.6	181	30.3	152	23.7	181	26.9	149	20.7	181	24.5	146	18.4	181	22.8	144	16.6	181	21.7	143												
	66 in	28.8	165	30.6	142	24.0	165	26.1	139	20.6	165	23.1	136	18.0	165	21.0	134																				
	72 in	22.2	139	23.3	120	18.5	139	19.9	118	15.9	139	17.5	116																								
	76 in	18.9	125	19.7	109	15.7	125	16.8	107																												
78 in	17.5	118	18.2	104																																	

TABLE 1B

Anchor Capacity (lbs)	Substrate:	3k Concrete				3.5k Conc.	Hollow or Filled CMU						Filled CMU					Wood		Metal		
	Anchor Type:	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		5/16" DeWalt Ultracon	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		1/4" SS DeWalt AggreGator		5/16" DeWalt Ultracon	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		1/4" SS DeWalt AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)	
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"		3-1/8"	1"	2-1/2"	1"	2-1/2"	2"		0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"		1-1/4"	1-3/4"	2-1/4"	1-3/4"	2-1/4"	2"		1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1):		310 lbs	630 lbs	220 lbs	870 lbs	1644 lbs	230 lbs	370 lbs	320 lbs	580 lbs	374 lbs	664 lbs	170 lbs	500 lbs	410 lbs	660 lbs	946 lbs	341 lbs	442 lbs	560 lbs		
4 Anchors @ 1.15" Min. O.C. / Standard (or Offset) Clip (Fig. 2):		320 lbs	1260 lbs	370 lbs	N/A	N/A	N/A	740 lbs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	682 lbs	885 lbs	1120 lbs		
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):		620 lbs	1260 lbs	440 lbs	1740 lbs	1896 lbs	460 lbs	740 lbs	640 lbs	1160 lbs	748 lbs	880 lbs	340 lbs	N/A	652 lbs	N/A	1892 lbs	682 lbs	885 lbs	1120 lbs		
2 Anchors @ 0.45" Min. O.C. / U-Clip, into .125" Alum. (Fig. 4):		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	715 lbs	
1 Anchor / F-Clip (Fig. 5):		155 lbs	315 lbs	110 lbs	435 lbs	822 lbs	115 lbs	185 lbs	160 lbs	290 lbs	187 lbs	332 lbs	85 lbs	250 lbs	205 lbs	330 lbs	473 lbs	170 lbs	221 lbs	280 lbs		
2 Anchors @ 1.15" Min. O.C. / F-Clip (Fig. 6):		160 lbs	630 lbs	185 lbs	N/A	N/A	N/A	370 lbs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	341 lbs	442 lbs	560 lbs	

NOTE: FOR THE OFFSET CLIP, USE THE SAME ANCHOR PATTERN AND ANCHOR VALUES AS THE STANDARD CLIP.

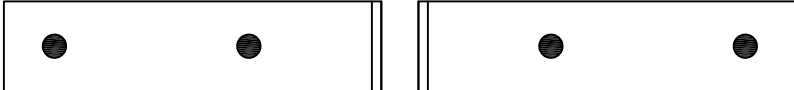
FIGURE 1:



FIGURE 2:



FIGURE 3:



ANGLE CLIP MUST BE USED IN PAIRS.

FIGURE 4:

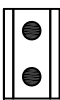


FIGURE 5:



FIGURE 6:



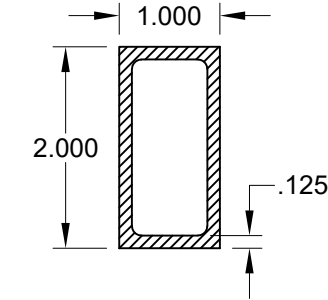
TABLE NOTES:

1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.

2) LINEAR INTERPOLATION BETWEEN MULL LENGTHS AND/OR OPENING WIDTHS IS ALLOWABLE.

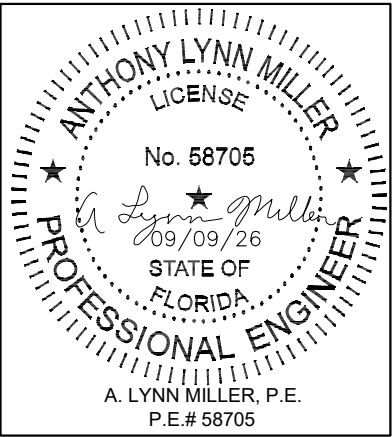
3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE PART DRAWINGS. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON FOLLOWING SHEETS. FIGURES SHOW SUGGESTED, APPROXIMATE HOLE LOCATIONS.

4) IF A LOWER DESIGN PRESSURE AND ANCHOR QUANTITY IS DESIRED, SEE THE ANCHOR CAPACITY ADJUSTMENT FORMULA ON SHEET 1.



1" X 2" X .125" MULLION

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PGT [®] WINDOWS and DOORS		3400 PRECISION DRIVE N. VENICE, FL 34275 (941) 480-1600		REGISTRATION #29296		ALUMINUM CLIPPED MULLIONS		MULL DETAILS - 1 X 2 X .125	
Series		Desc.		Title		By		No.	
MULLIONS		5 OF 23		Sheet		DWG		5 OF 23	



Rev.	
Date	
Rev.#	

TABLE 2A

1 x 2 x .375 Alum. Tube Mullion		Mullion Capacity Table (lbs/ft²)																																			
		Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)																																			
		50 in				60 in				70 in				80 in				90 in				100 in				120 in				140 in				160 in			
		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded					
Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)						
Mull Length	42 in	170.0	620	170.0	435	151.3	662	170.0	478	129.7	662	170.0	506	113.5	662	169.5	518	100.9	662	168.9	517	90.8	662	168.9	517	75.7	662	168.9	517	64.9	662	168.9	517				
	48 in	121.6	507	136.0	419	101.4	507	119.2	410	86.9	507	108.7	403	76.0	507	102.6	399	67.6	507	99.6	397	60.8	507	99.0	396	50.7	507	99.0	396	43.4	507	99.0	396				
	50.625 in	103.7	456	114.6	379	86.4	456	99.9	371	74.1	456	90.5	364	64.8	456	84.6	360	57.6	456	81.3	357	51.8	456	80.0	356	43.2	456	80.0	356	37.0	456	80.0	356				
	54 in	85.4	400	93.3	336	71.2	400	80.9	328	61.0	400	72.7	322	53.4	400	67.3	318	47.5	400	64.0	315	42.7	400	62.3	314	35.6	400	61.8	313	30.5	400	61.8	313				
	60 in	62.3	324	66.9	276	51.9	324	57.5	270	44.5	324	51.2	264	38.9	324	46.9	260	34.6	324	43.9	257	31.1	324	42.0	255	26.0	324	40.5	253	22.2	324	40.5	253				
	63 in	53.8	294	57.4	252	44.8	294	49.2	246	38.4	294	43.6	241	33.6	294	39.8	237	29.9	294	37.1	234	26.9	294	35.2	232	22.4	294	33.5	230	19.2	294	33.4	230				
	66 in	46.8	268	49.6	230	39.0	268	42.4	225	33.4	268	37.5	221	29.2	268	34.1	218	26.0	268	31.6	215	23.4	268	29.8	212	19.5	268	28.0	210	16.7	268	27.7	209				
	72 in	36.0	225	37.9	196	30.0	225	32.2	191	25.7	225	28.4	188	22.5	225	25.6	185	20.0	225	23.5	182	18.0	225	22.1	180	15.0	225	20.3	177	12.9	225	19.6	176				
	76 in	30.6	202	32.0	177	25.5	202	27.2	173	21.9	202	23.9	170	19.2	202	21.5	167	17.0	202	19.7	165	15.3	202	18.4	163	12.8	202	16.7	160	10.9	202	15.9	158				
	78 in	28.3	192	29.6	168	23.6	192	25.1	165	20.2	192	22.0	162	17.7	192	19.7	159	15.7	192	18.1	157	14.2	192	16.8	155	11.8	192	15.2	152	10.1	192	14.4	150				
90 in	18.5	144	19.0	128	15.4	144	16.1	126																													
96 in	15.2	127	15.6	113																																	

TABLE 2B

Anchor Capacity (lbs)	Substrate:	3k Concrete				3.5k Conc.	Hollow or Filled CMU						Filled CMU	Wood		Metal
	Anchor Type:	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		5/16" DeWalt Ultracon	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		1/4" SS DeWalt AggreGator	5/16" DeWalt Ultracon	1/4" SS DeWalt AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1):		310 lbs	630 lbs	220 lbs	870 lbs	1644 lbs	230 lbs	370 lbs	320 lbs	580 lbs	374 lbs	664 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 1.15" Min. O.C. / Standard (or Offset) Clip (Fig. 2):		320 lbs	1260 lbs	370 lbs	N/A	N/A	N/A	740 lbs	N/A	N/A	N/A	N/A	N/A	682 lbs	885 lbs	1120 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):		620 lbs	1260 lbs	440 lbs	1740 lbs	1896 lbs	460 lbs	740 lbs	640 lbs	1160 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
2 Anchors @ 0.45" Min. O.C. / U-Clip, into .125" Alum. (Fig. 4):		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	715 lbs
1 Anchor / F-Clip (Fig. 5):		155 lbs	315 lbs	110 lbs	435 lbs	822 lbs	115 lbs	185 lbs	160 lbs	290 lbs	187 lbs	332 lbs	473 lbs	170 lbs	221 lbs	280 lbs
2 Anchors @ 1.15" Min. O.C. / F-Clip (Fig. 6):		160 lbs	630 lbs	185 lbs	N/A	N/A	N/A	370 lbs	N/A	N/A	N/A	N/A	N/A	341 lbs	442 lbs	560 lbs

NOTE: FOR THE OFFSET CLIP, USE THE SAME ANCHOR PATTERN AND ANCHOR VALUES AS THE STANDARD CLIP.

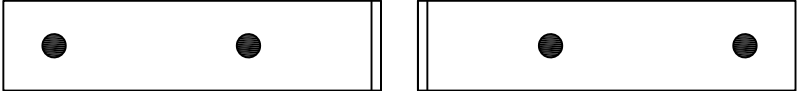
FIGURE 1:



FIGURE 2:



FIGURE 3:



ANGLE CLIP MUST BE USED IN PAIRS.

FIGURE 4:

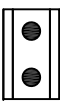


FIGURE 5:

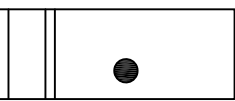


FIGURE 6:

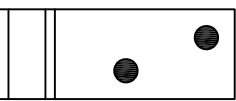


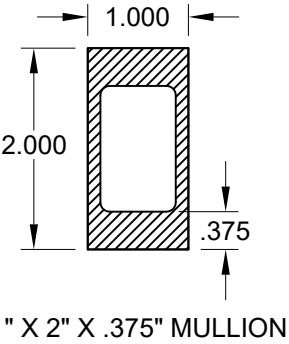
TABLE NOTES:

1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.

2) LINEAR INTERPOLATION BETWEEN MULL LENGTHS AND/OR OPENING WIDTHS IS ALLOWABLE.

3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE PART DRAWINGS. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON FOLLOWING SHEETS. FIGURES SHOW SUGGESTED, APPROXIMATE HOLE LOCATIONS.

4) IF A LOWER DESIGN PRESSURE AND ANCHOR QUANTITY IS DESIRED, SEE THE ANCHOR CAPACITY ADJUSTMENT FORMULA ON SHEET 1.



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PGT [®] WINDOWS and DOORS 3400 PRECISION DRIVE N. VENICE, FL 34275 (941) 480-1600 REGISTRATION #29296		PREPARED BY A. LYNN MILLER 3400 PRECISION DRIVE N. VENICE, FL 34275 (941) 480-1600 COPYRIGHT © 2026 PGT INDUSTRIES, LLC LIMITED LICENSE TO MAKE COPIES FOR PERMITTING.	
ALUMINUM CLIPPED MULLIONS		09/09/26	
MULL DETAILS - 1 X 2 X .375		JENS ROSOWSKI	
MULLIONS		MULL-LM-HVHZ	

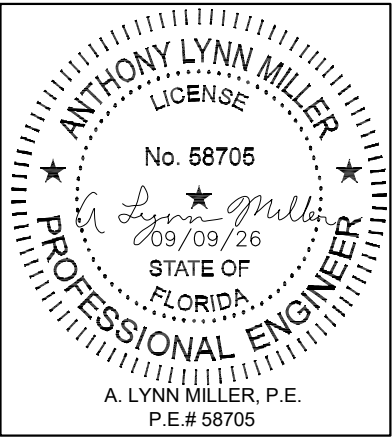


TABLE 3A

1 x 2.75 x .375 Alum. Tube Mullion		Mullion Capacity Table (lbs/ft²)																																									
		Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)																																									
		50 in				60 in				70 in				80 in				90 in				100 in				120 in				140 in				160 in									
		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded											
Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)				
Mull Length	42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519	170.0	1116	170.0	521	170.0	1240	170.0	521	148.7	1301	170.0	521	127.5	1301	170.0	521	111.5	1301	170.0	521						
	48 in	170.0	708	170.0	524	170.0	850	170.0	584	170.0	992	170.0	630	170.0	1133	170.0	661	151.8	1139	170.0	677	136.6	1139	170.0	680	113.9	1139	170.0	680	97.6	1139	170.0	680	85.4	1139	170.0	680						
	50.625 in	170.0	747	170.0	563	170.0	896	170.0	631	167.8	1032	170.0	684	146.8	1032	170.0	723	130.5	1032	170.0	747	117.4	1032	170.0	756	97.9	1032	170.0	756	83.9	1032	170.0	756	73.4	1032	170.0	756						
	54 in	170.0	797	170.0	612	161.3	907	170.0	691	138.2	907	164.7	730	120.9	907	152.5	720	107.5	907	145.0	714	96.8	907	141.1	710	80.6	907	140.0	709	69.1	907	140.0	709	60.5	907	140.0	709						
	60 in	141.1	735	151.5	625	117.6	735	130.3	611	100.8	735	116.0	599	88.2	735	106.2	590	78.4	735	99.5	583	70.5	735	95.1	578	58.8	735	91.8	574	50.4	735	91.8	574	44.1	735	91.8	574						
	63 in	121.9	666	130.0	570	101.6	666	111.5	557	87.0	666	98.9	547	76.2	666	90.1	538	67.7	666	83.9	531	60.9	666	79.8	526	50.8	666	75.8	521	43.5	666	75.6	521	38.1	666	75.6	521						
	66 in	106.0	607	112.4	522	88.3	607	96.1	511	75.7	607	85.0	501	66.2	607	77.1	493	58.9	607	71.5	486	53.0	607	67.6	481	44.2	607	63.4	476	37.9	607	62.7	474	33.1	607	62.7	474						
	72 in	81.6	510	85.8	443	68.0	510	73.0	434	58.3	510	64.3	426	51.0	510	57.9	419	45.4	510	53.3	413	40.8	510	50.0	408	34.0	510	45.9	402	29.2	510	44.4	399	25.5	510	44.3	399						
	76 in	69.4	458	72.5	400	57.8	458	61.7	392	49.6	458	54.1	385	43.4	458	48.6	378	38.6	458	44.6	373	34.7	458	41.6	368	28.9	458	37.7	362	24.8	458	36.0	359	21.7	458	35.7	358						
	78 in	64.2	435	67.0	381	53.5	435	56.8	373	45.9	435	49.8	366	40.1	435	44.7	360	35.7	435	40.9	355	32.1	435	38.1	351	26.8	435	34.4	344	22.9	435	32.6	341	20.1	435	32.2	340						
	90 in	41.8	327	43.1	290	34.8	327	36.4	285	29.9	327	31.8	280	26.1	327	28.3	275	23.2	327	25.7	271	20.9	327	23.7	268	17.4	327	21.0	262	14.9	327	19.3	258										
	96 in	34.4	287	35.4	257	28.7	287	29.9	252	24.6	287	26.0	248	21.5	287	23.1	244	19.1	287	20.9	240	17.2	287	19.3	237			16.9	232														
108 in	24.2	227	24.7	205	20.2	227	20.8	201	17.3	227	18.0	198	15.1	227	16.0	195																											
111 in	22.3	215	22.7	194	18.6	215	19.1	191	15.9	215	16.6	188																															
120 in	17.6	184	17.9	167																																							

TABLE 3B

Anchor Capacity (lbs)	Substrate:	3k Concrete				3.5k Conc.	Hollow or Filled CMU						Filled CMU	Wood		Metal
	Anchor Type:	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		5/16" DeWalt Ultracon	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		1/4" SS DeWalt AggreGator	5/16" DeWalt Ultracon	1/4" SS DeWalt AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1):		310 lbs	630 lbs	220 lbs	870 lbs	1644 lbs	230 lbs	370 lbs	320 lbs	580 lbs	374 lbs	664 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 1.15" Min. O.C. / Standard (or Offset) Clip (Fig. 2):		320 lbs	1260 lbs	370 lbs	N/A	N/A	N/A	740 lbs	N/A	N/A	N/A	N/A	N/A	682 lbs	885 lbs	1120 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):		620 lbs	1260 lbs	440 lbs	1740 lbs	1896 lbs	460 lbs	740 lbs	640 lbs	1160 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
2 Anchors @ 0.45" Min. O.C. / U-Clip, into .125" Alum. (Fig. 4):		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	715 lbs
1 Anchor / F-Clip (Fig. 5):		155 lbs	315 lbs	110 lbs	435 lbs	822 lbs	115 lbs	185 lbs	160 lbs	290 lbs	187 lbs	332 lbs	473 lbs	170 lbs	221 lbs	280 lbs
2 Anchors @ 1.15" Min. O.C. / F-Clip (Fig. 6):		160 lbs	630 lbs	185 lbs	N/A	N/A	N/A	370 lbs	N/A	N/A	N/A	N/A	N/A	341 lbs	442 lbs	560 lbs

NOTE: FOR THE OFFSET CLIP, USE THE SAME ANCHOR PATTERN AND ANCHOR VALUES AS THE STANDARD CLIP.

CIRCLED VALUES ARE USED IN THE EXAMPLE ON SHEET 22.

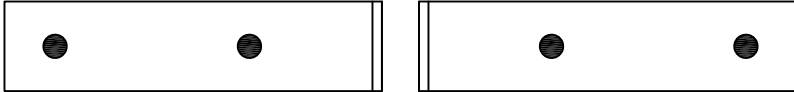
FIGURE 1:



FIGURE 2:



FIGURE 3:



ANGLE CLIP MUST BE USED IN PAIRS.

FIGURE 4:



FIGURE 5:



FIGURE 6:



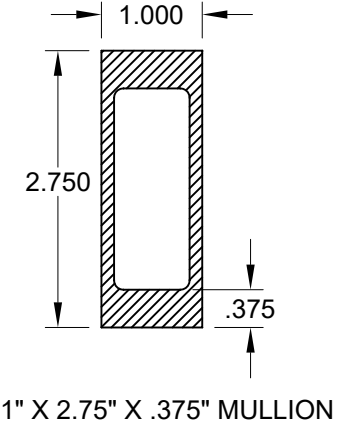
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PREPARED BY A LYNN MILLER
3400 PRECISION DRIVE
N. VENICE, FL 34275
(941) 480-1600

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PGT[®] WINDOWS and DOORS

3400 PRECISION DRIVE
N. VENICE, FL 34275
(941) 480-1600

REGISTRATION #29296

09/09/26

By

JENS ROSOWSKI

DATE

09/09/26

DATE

09/09/26

MULL-1M-HVHZ

7 OF 23

MULLIONS

ANTHONY LYNN MILLER
LICENSE
No. 58705
09/09/26
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.# 58705

TABLE 4A

1 x 2.75 x .650 Alum. Tube Mullion		Mullion Capacity Table (lbs/ft²)																																			
		Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)																																			
		50 in				60 in				70 in				80 in				90 in				100 in				120 in				140 in				160 in			
		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded					
Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)				
Mull Length	42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519	170.0	1116	170.0	521	170.0	1240	170.0	521	170.0	1488	170.0	521	158.7	1620	170.0	521	138.8	1620	170.0	521
	48 in	170.0	708	170.0	524	170.0	850	170.0	584	170.0	992	170.0	630	170.0	1133	170.0	661	170.0	1275	170.0	677	170.0	1417	170.0	680	141.7	1417	170.0	680	121.5	1417	170.0	680	106.3	1417	170.0	680
	50.625 in	170.0	747	170.0	563	170.0	896	170.0	631	170.0	1046	170.0	684	170.0	1195	170.0	723	162.6	1286	170.0	747	146.3	1286	170.0	756	121.9	1286	170.0	756	104.5	1286	170.0	756	91.4	1286	170.0	756
	54 in	170.0	797	170.0	612	170.0	956	170.0	691	170.0	1116	170.0	754	150.7	1130	170.0	803	133.9	1130	170.0	837	120.6	1130	170.0	856	100.5	1130	170.0	861	86.1	1130	170.0	861	75.3	1130	170.0	861
	60 in	170.0	885	170.0	701	146.5	915	162.3	761	125.5	915	144.5	746	109.9	915	132.3	735	97.6	915	123.9	726	87.9	915	118.5	720	73.2	915	114.4	715	62.8	915	114.4	715	54.9	915	114.4	715
	63 in	151.8	830	161.9	710	126.5	830	138.9	694	108.5	830	123.2	681	94.9	830	112.2	670	84.4	830	104.6	662	75.9	830	99.4	656	63.3	830	94.5	649	54.2	830	94.1	649	47.4	830	94.1	649
	66 in	132.1	757	140.0	650	110.0	757	119.8	636	94.3	757	105.9	624	82.5	757	96.1	614	73.4	757	89.1	606	66.0	757	84.2	600	55.0	757	79.0	593	47.2	757	78.2	591	41.3	757	78.2	591
	72 in	101.7	636	106.8	552	84.8	636	91.0	540	72.7	636	80.1	530	63.6	636	72.2	521	56.5	636	66.5	514	50.9	636	62.3	508	42.4	636	57.2	500	36.3	636	55.3	497	31.8	636	55.2	497
	76 in	86.5	571	90.4	498	72.1	571	76.8	488	61.8	571	67.4	479	54.1	571	60.6	471	48.0	571	55.5	464	43.2	571	51.8	459	36.0	571	47.0	451	30.9	571	44.8	447	27.0	571	44.5	446
	78 in	80.0	542	83.4	474	66.7	542	70.8	465	57.1	542	62.1	456	50.0	542	55.7	449	44.4	542	51.0	442	40.0	542	47.5	437	33.3	542	42.9	429	28.6	542	40.6	425	25.0	542	40.1	423
	90 in	52.1	407	53.7	361	43.4	407	45.4	355	37.2	407	39.6	349	32.5	407	35.3	343	28.9	407	32.1	338	26.0	407	29.6	334	21.7	407	26.1	327	18.6	407	24.1	322	16.3	407	23.0	319
	96 in	42.9	358	44.1	320	35.8	358	37.2	314	30.7	358	32.4	309	26.8	358	28.8	304	23.8	358	26.1	300	21.5	358	24.0	296	17.9	358	21.0	289	15.3	358	19.2	284				
108 in	30.1	283	30.8	255	25.1	283	25.9	251	21.5	283	22.5	247	18.8	283	19.9	244	16.7	283	18.0	240	15.1	283	16.5	237													
111 in	27.8	267	28.3	242	23.1	267	23.8	238	19.8	267	20.6	235	17.3	267	18.3	231	15.4	267	16.5	228																	
120 in	22.0	229	22.3	209	18.3	229	18.8	205	15.7	229	16.2	202																									

TABLE 4B

Anchor Capacity (lbs)	Substrate:	3k Concrete				3.5k Conc.	Hollow or Filled CMU						Filled CMU	Wood		Metal
	Anchor Type:	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		5/16" DeWalt Ultracon	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		1/4" SS DeWalt AggreGator	5/16" DeWalt Ultracon	1/4" SS DeWalt AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1):		310 lbs	630 lbs	220 lbs	870 lbs	1644 lbs	230 lbs	370 lbs	320 lbs	580 lbs	374 lbs	664 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 1.15" Min. O.C. / Standard (or Offset) Clip (Fig. 2):		320 lbs	1260 lbs	370 lbs	N/A	N/A	N/A	740 lbs	N/A	N/A	N/A	N/A	N/A	682 lbs	885 lbs	1120 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):		620 lbs	1260 lbs	440 lbs	1740 lbs	1896 lbs	460 lbs	740 lbs	640 lbs	1160 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
2 Anchors @ 0.45" Min. O.C. / U-Clip, into .125" Alum. (Fig. 4):		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	715 lbs
1 Anchor / F-Clip (Fig. 5):		155 lbs	315 lbs	110 lbs	435 lbs	822 lbs	115 lbs	185 lbs	160 lbs	290 lbs	187 lbs	332 lbs	473 lbs	170 lbs	221 lbs	280 lbs
2 Anchors @ 1.15" Min. O.C. / F-Clip (Fig. 6):		160 lbs	630 lbs	185 lbs	N/A	N/A	N/A	370 lbs	N/A	N/A	N/A	N/A	N/A	341 lbs	442 lbs	560 lbs

NOTE: FOR THE OFFSET CLIP, USE THE SAME ANCHOR PATTERN AND ANCHOR VALUES AS THE STANDARD CLIP. CIRCLED VALUES ARE USED IN THE EXAMPLE ON SHEET 22.

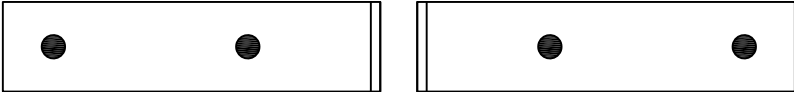
FIGURE 1:



FIGURE 2:



FIGURE 3:



ANGLE CLIP MUST BE USED IN PAIRS.

FIGURE 4:

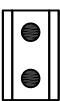


FIGURE 5:

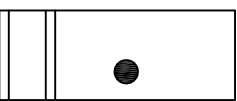


FIGURE 6:

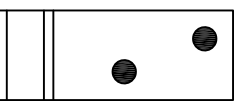


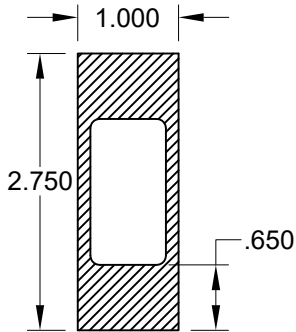
TABLE NOTES:

1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.

2) LINEAR INTERPOLATION BETWEEN MULL LENGTHS AND/OR OPENING WIDTHS IS ALLOWABLE.

3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE PART DRAWINGS. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON FOLLOWING SHEETS. FIGURES SHOW SUGGESTED, APPROXIMATE HOLE LOCATIONS.

4) IF A LOWER DESIGN PRESSURE AND ANCHOR QUANTITY IS DESIRED, SEE THE ANCHOR CAPACITY ADJUSTMENT FORMULA ON SHEET 1.



1" X 2.75" X .650" MULLION

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09/09/26

By JENS ROSOWSKI

ALUMINUM CLIPPED MULLIONS

MULL DETAILS - 1 X 2.75 X .650

MULLIONS

8 OF 23

MULL-LM-HVHZ

ANTHONY LYNN MILLER
LICENSE
No. 58705
09/09/26
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.# 58705

TABLE 5A

Mullion Capacity Table (lbs/ft²)																																					
1 x 4 x .125 Alum. Tube Mullion		Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)																																			
		50 in				60 in				70 in				80 in				90 in				100 in				120 in				140 in				160 in			
		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded					
		Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)				
Mull Length	42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519	170.0	1116	170.0	521	170.0	1240	170.0	521	170.0	1488	170.0	521	145.8	1489	170.0	521	127.6	1489	170.0	521
	48 in	170.0	708	170.0	524	170.0	850	170.0	584	170.0	992	170.0	630	170.0	1133	170.0	661	170.0	1275	170.0	677	156.3	1303	170.0	680	130.3	1303	170.0	680	111.7	1303	170.0	680	97.7	1303	170.0	680
	50.625 in	170.0	747	170.0	563	170.0	896	170.0	631	170.0	1046	170.0	684	170.0	1195	170.0	723	156.1	1235	170.0	747	140.5	1235	170.0	756	117.1	1235	170.0	756	100.4	1235	170.0	756	87.8	1235	170.0	756
	54 in	170.0	797	170.0	612	170.0	956	170.0	691	170.0	1116	170.0	754	154.4	1158	170.0	803	137.2	1158	170.0	837	123.5	1158	170.0	856	102.9	1158	170.0	861	88.2	1158	170.0	861	77.2	1158	170.0	861
	60 in	170.0	885	170.0	701	166.7	1042	170.0	797	142.9	1042	161.1	832	125.1	1042	146.7	815	111.2	1042	136.8	801	100.0	1042	130.2	791	83.4	1042	125.1	782	71.5	1042	125.1	782	62.5	1042	125.1	782
	63 in	170.0	930	170.0	745	151.2	992	163.6	818	129.6	992	144.4	799	113.4	992	131.0	782	100.8	992	121.4	768	90.7	992	114.8	758	75.6	992	108.4	745	64.8	992	108.0	744	56.7	992	108.0	744
	66 in	165.4	947	170.0	789	137.8	947	148.0	786	118.1	947	130.3	768	103.4	947	117.7	752	91.9	947	108.7	738	82.7	947	102.2	727	68.9	947	95.1	713	59.1	947	94.0	711	51.7	947	94.0	711
	72 in	135.9	849	142.7	737	113.2	849	121.6	722	97.0	849	106.9	708	84.9	849	96.4	696	75.5	849	88.7	686	67.9	849	82.7	675	56.6	849	75.3	659	48.5	849	72.5	652	42.5	849	72.4	651
	76 in	115.5	762	120.7	665	96.3	762	102.6	652	82.5	762	90.0	640	72.2	762	80.9	629	64.2	762	74.2	620	57.8	762	69.2	613	48.1	762	62.8	602	41.3	762	59.9	597	36.1	762	59.4	595
	78 in	106.9	724	111.4	634	89.0	724	94.6	621	76.3	724	82.9	609	66.8	724	74.4	599	59.4	724	68.1	591	53.4	724	63.4	583	44.5	724	57.3	573	38.2	724	54.3	567	33.4	724	53.5	565
	90 in	69.6	543	71.8	483	58.0	543	60.7	474	49.7	543	52.9	466	43.5	543	47.1	458	38.6	543	42.8	452	34.8	543	39.5	446	29.0	543	34.9	436	24.8	543	32.1	430	21.7	543	30.7	426
	96 in	57.3	478	58.9	427	47.8	478	49.7	419	40.9	478	43.2	412	35.8	478	38.5	406	31.8	478	34.8	400	28.7	478	32.0	395	23.9	478	28.1	386	20.5	478	25.6	380	17.9	478	24.2	376
108 in	40.3	377	41.1	341	33.5	377	34.6	335	28.8	377	30.0	330	25.2	377	26.6	325	22.4	377	24.0	321	20.1	377	22.0	317	16.8	377	19.0	310	14.4	377	17.1	304					
111 in	37.1	357	37.8	323	30.9	357	31.8	318	26.5	357	27.6	313	23.2	357	24.4	309	20.6	357	22.0	305	18.5	357	20.1	301	15.4	357	17.4	294									
120 in	29.3	306	29.8	279	24.5	306	25.1	274	21.0	306	21.7	270	18.3	306	19.2	267	16.3	306	17.3	263																	
144 in	17.0	212	17.2	196																																	

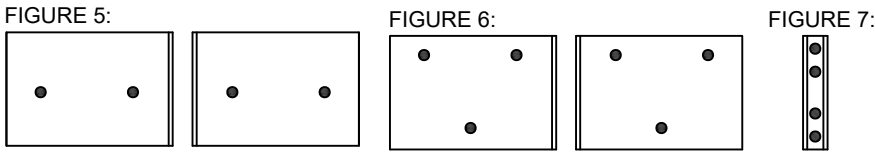
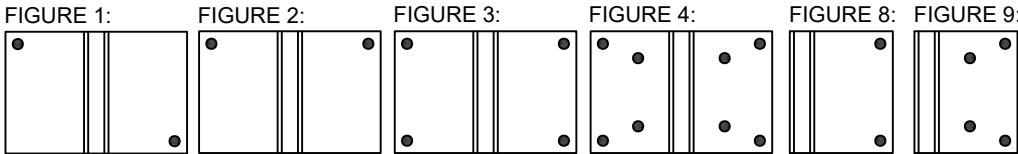
TABLE 5B

Anchor Capacity (lbs)	Substrate:	3k Concrete				3.5k Conc.	Hollow or Filled CMU						Filled CMU	Wood		Metal
	Anchor Type:	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		5/16" DeWalt Ultracon	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		1/4" SS DeWalt AggreGator	5/16" DeWalt Ultracon	1/4" SS DeWalt AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
	2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1&2):	310 lbs	630 lbs	220 lbs	870 lbs	1644 lbs	230 lbs	370 lbs	320 lbs	580 lbs	374 lbs	664 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 2.25" Min. O.C. / Standard (or Offset) Clip (Fig. 3):		620 lbs	1260 lbs	420 lbs	1720 lbs	952 lbs	390 lbs	740 lbs	510 lbs	1060 lbs	N/A	880 lbs	N/A	682 lbs	885 lbs	1120 lbs
8 Anchors @ 1.15" Min. O.C. / Standard (or Offset) Clip (Fig. 4):		640 lbs	2520 lbs	740 lbs	N/A	N/A	N/A	1480 lbs	N/A	N/A	N/A	N/A	N/A	1363 lbs	1770 lbs	2240 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 5):		620 lbs	1260 lbs	440 lbs	1740 lbs	1896 lbs	460 lbs	740 lbs	640 lbs	1160 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
6 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 6):		930 lbs	1890 lbs	660 lbs	2610 lbs	2844 lbs	690 lbs	1110 lbs	960 lbs	1740 lbs	1122 lbs	1320 lbs	2838 lbs	1022 lbs	1327 lbs	1680 lbs
4 Anchors @ 0.45" Min. O.C. / U-Clip, into .125" Alum. (Fig. 7):		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1430 lbs
2 Anchors @ 2.25" Min. O.C./ F-Clip (Fig. 8):		310 lbs	630 lbs	210 lbs	860 lbs	476 lbs	195 lbs	370 lbs	255 lbs	530 lbs	N/A	440 lbs	N/A	341 lbs	442 lbs	560 lbs
4 Anchors @ 1.15" Min. O.C./ F-Clip (Fig. 9):		320 lbs	1260 lbs	370 lbs	N/A	N/A	N/A	740 lbs	N/A	N/A	N/A	N/A	N/A	682 lbs	885 lbs	1120 lbs

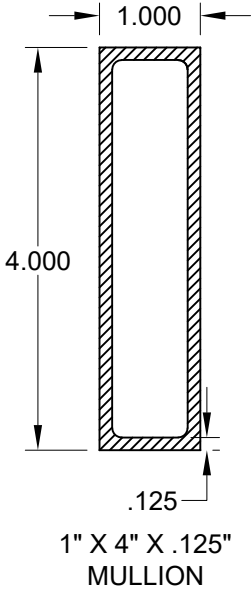
NOTE: FOR THE OFFSET CLIP, USE THE SAME ANCHOR PATTERN AND ANCHOR VALUES AS THE STANDARD CLIP.

TABLE NOTES:

- 1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.
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- 4) IF A LOWER DESIGN PRESSURE AND ANCHOR QUANTITY IS DESIRED, SEE THE ANCHOR CAPACITY ADJUSTMENT FORMULA ON SHEET 1.



ANGLE CLIP (FIGURES 5&6) MUST BE USED IN PAIRS.



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ALUMINUM CLIPPED MULLIONS

MULL DETAILS - 1 X 4 X .125

MULLIONS

By JENS ROSOWSKI

No. DWG 9 OF 23

Sheet

Date 09/09/26

Series

ANTHONY LYNN MILLER
LICENSE
No. 58705
09/09/26
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.# 58705

Rev.

Date

Rev.#

TABLE6A

1 x 4 x .375 Alum. Tube & "T" Mullion		Mullion Capacity Table (lbs/ft²)																																			
		Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)																																			
		50 in				60 in				70 in				80 in				90 in				100 in				120 in				140 in				160 in			
		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded					
Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)				
Mull Length	42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519	170.0	1116	170.0	521	170.0	1240	170.0	521	170.0	1488	170.0	521	170.0	1735	170.0	521	170.0	1983	170.0	521
	48 in	170.0	708	170.0	524	170.0	850	170.0	584	170.0	992	170.0	630	170.0	1133	170.0	661	170.0	1275	170.0	677	170.0	1417	170.0	680	170.0	1700	170.0	680	170.0	1983	170.0	680	151.8	2024	170.0	680
	50.625 in	170.0	747	170.0	563	170.0	896	170.0	631	170.0	1046	170.0	684	170.0	1195	170.0	723	170.0	1345	170.0	747	170.0	1494	170.0	756	170.0	1793	170.0	756	156.0	1919	170.0	756	136.5	1919	170.0	756
	54 in	170.0	797	170.0	612	170.0	956	170.0	691	170.0	1116	170.0	754	170.0	1275	170.0	803	170.0	1434	170.0	837	170.0	1594	170.0	856	159.9	1799	170.0	861	137.1	1799	170.0	861	120.0	1799	170.0	861
	60 in	170.0	885	170.0	701	170.0	1063	170.0	797	170.0	1240	170.0	878	170.0	1417	170.0	944	170.0	1594	170.0	996	155.5	1619	170.0	1033	129.6	1619	170.0	1063	111.0	1619	170.0	1063	97.2	1619	170.0	1063
	63 in	170.0	930	170.0	745	170.0	1116	170.0	850	170.0	1302	170.0	940	170.0	1488	170.0	1015	156.7	1542	170.0	1076	141.0	1542	170.0	1122	117.5	1542	168.5	1158	100.7	1542	167.9	1157	88.1	1542	167.9	1157
	66 in	170.0	974	170.0	789	170.0	1169	170.0	903	170.0	1364	170.0	1002	160.6	1472	170.0	1086	142.8	1472	170.0	1148	128.5	1472	158.8	1130	107.1	1472	147.8	1108	91.8	1472	146.0	1104	80.3	1472	146.0	1104
	72 in	170.0	1063	170.0	878	170.0	1275	170.0	1009	150.8	1320	166.2	1101	132.0	1320	149.9	1082	117.3	1320	137.8	1066	105.6	1320	128.6	1049	88.0	1320	117.0	1024	75.4	1320	112.6	1013	66.0	1320	112.5	1012
	76 in	170.0	1122	170.0	937	149.6	1184	159.4	1013	128.2	1184	139.9	994	112.2	1184	125.7	978	99.7	1184	115.3	964	89.8	1184	107.5	952	74.8	1184	97.6	935	64.1	1184	93.1	927	56.1	1184	92.3	925
	78 in	166.1	1124	170.0	967	138.4	1124	147.0	965	118.6	1124	128.8	947	103.8	1124	115.6	931	92.3	1124	105.8	918	83.0	1124	98.5	906	69.2	1124	89.0	890	59.3	1124	84.3	881	51.9	1124	83.2	878
	90 in	108.1	844	111.5	750	90.1	844	94.3	736	77.2	844	82.1	724	67.6	844	73.3	712	60.1	844	66.5	702	54.0	844	61.4	693	45.0	844	54.2	678	38.6	844	50.0	668	33.8	844	47.7	662
	96 in	89.1	742	91.5	663	74.2	742	77.2	652	63.6	742	67.2	641	55.7	742	59.8	631	49.5	742	54.1	622	44.5	742	49.8	614	37.1	742	43.6	600	31.8	742	39.8	590	27.8	742	37.5	584
	108 in	62.6	586	63.9	530	52.1	586	53.8	521	44.7	586	46.6	513	39.1	586	41.4	505	34.8	586	37.3	498	31.3	586	34.2	492	26.1	586	29.6	481	22.3	586	26.6	472	19.5	586	24.7	466
	111 in	57.6	555	58.8	503	48.0	555	49.5	495	41.2	555	42.9	487	36.0	555	38.0	480	32.0	555	34.2	473	28.8	555	31.3	467	24.0	555	27.1	457	20.6	555	24.3	448	18.0	555	22.4	442
120 in	45.6	475	46.4	433	38.0	475	39.0	426	32.6	475	33.7	420	28.5	475	29.8	414	25.3	475	26.8	409	22.8	475	24.5	404	19.0	475	21.1	395	16.3	475	18.7	387	14.3	475	17.2	381	
144 in	26.4	330	26.7	305	22.0	330	22.4	301	18.9	330	19.3	297	16.5	330	17.0	293																					

TABLE 6B

Anchor Capacity (lbs)	Substrate:	3k Concrete				3.5k Conc.	Hollow or Filled CMU						Filled CMU	Wood		Metal
	Anchor Type:	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		5/16" DeWalt Ultracon	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+	1/4" SS DeWalt AggreGator	5/16" DeWalt Ultracon	1/4" SS DeWalt AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)	
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1&2):		310 lbs	630 lbs	220 lbs	870 lbs	1644 lbs	230 lbs	370 lbs	320 lbs	580 lbs	374 lbs	664 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 2.25" Min. O.C. / Standard (or Offset) Clip (Fig. 3):		620 lbs	1260 lbs	420 lbs	1720 lbs	952 lbs	390 lbs	740 lbs	510 lbs	1060 lbs	N/A	880 lbs	N/A	682 lbs	885 lbs	1120 lbs
8 Anchors @ 1.15" Min. O.C. / Standard (or Offset) Clip (Fig. 4):		640 lbs	2520 lbs	740 lbs	N/A	N/A	N/A	1480 lbs	N/A	N/A	N/A	N/A	N/A	1363 lbs	1770 lbs	2240 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 5):		620 lbs	1260 lbs	440 lbs	1740 lbs	1896 lbs	460 lbs	740 lbs	640 lbs	1160 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
6 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 6):		930 lbs	1890 lbs	660 lbs	2610 lbs	2844 lbs	690 lbs	1110 lbs	960 lbs	1740 lbs	1122 lbs	1320 lbs	2838 lbs	1022 lbs	1327 lbs	1680 lbs
4 Anchors @ 0.45" Min. O.C. / U-Clip, into .125" Alum. (Fig. 7):		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1430 lbs
2 Anchors @ 2.25" Min. O.C. / F-Clip (Fig. 8):		310 lbs	630 lbs	210 lbs	860 lbs	476 lbs	195 lbs	370 lbs	255 lbs	530 lbs	N/A	440 lbs	N/A	341 lbs	442 lbs	560 lbs
4 Anchors @ 1.15" Min. O.C. / F-Clip (Fig. 9):		320 lbs	1260 lbs	370 lbs	N/A	N/A	N/A	740 lbs	N/A	N/A	N/A	N/A	N/A	682 lbs	885 lbs	1120 lbs

NOTE: FOR THE OFFSET CLIP, USE THE SAME ANCHOR PATTERN AND ANCHOR VALUES AS THE STANDARD CLIP.

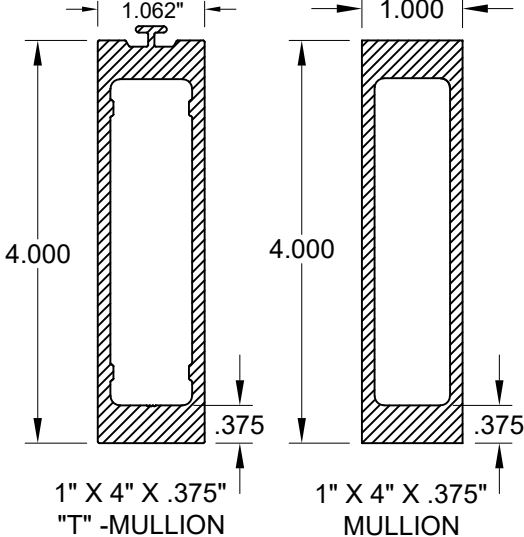
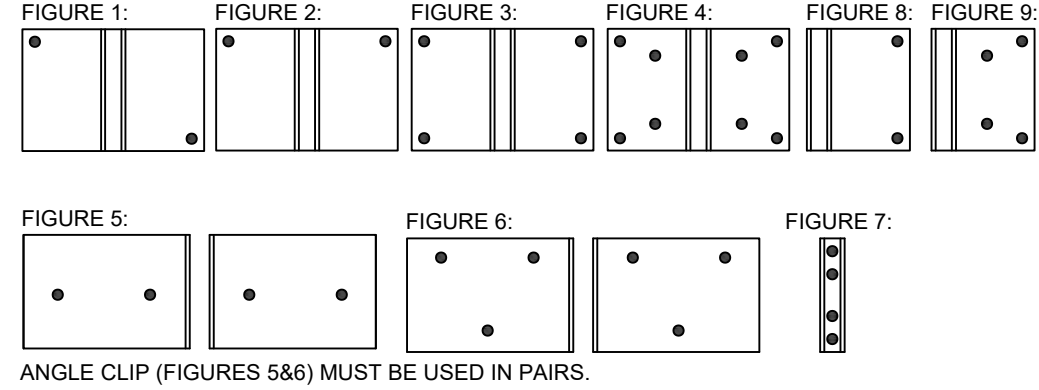
TABLE NOTES:

1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.

2) LINEAR INTERPOLATION BETWEEN MULL LENGTHS AND/OR OPENING WIDTHS IS ALLOWABLE.

3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE PART DRAWINGS. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON FOLLOWING SHEETS. FIGURES SHOW SUGGESTED, APPROXIMATE HOLE LOCATIONS.

4) IF A LOWER DESIGN PRESSURE AND ANCHOR QUANTITY IS DESIRED, SEE THE ANCHOR CAPACITY ADJUSTMENT FORMULA ON SHEET 1.



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ALUMINUM CLIPPED MULLIONS

MULL DETAILS - 1 X 4 X .375

MULLIONS

09/09/26

JENS ROSOWSKI

MULL-LM-HVHZ

ANTHONY LYNN MILLER
LICENSE
No. 58705
09/09/26
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.# 58705

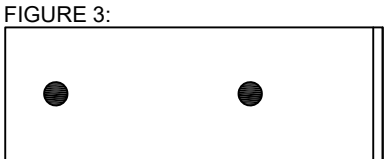
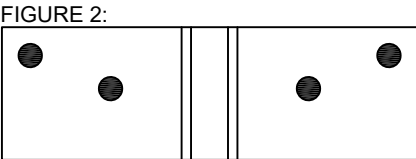
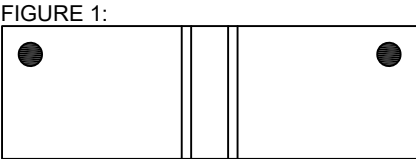
TABLE 7A

Mullion Capacity Table (lbs/ft ²)																																					
1.25 x 3.25 x .100 Alum. Tube Mullion		Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)																																			
		50 in				60 in				70 in				80 in				90 in				100 in				120 in				140 in				160 in			
		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded	
		Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)
Mullion Length	42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519	170.0	1116	170.0	521	153.3	1118	170.0	521	127.7	1118	170.0	521	109.5	1118	170.0	521	95.8	1118	170.0	521
	48 in	170.0	708	170.0	524	170.0	850	170.0	584	167.6	978	170.0	630	146.7	978	170.0	661	130.4	978	170.0	677	117.3	978	170.0	680	97.8	978	170.0	680	83.8	978	170.0	680	73.3	978	170.0	680
	50.625 in	170.0	747	170.0	563	170.0	896	170.0	631	150.7	927	170.0	684	131.9	927	166.5	708	117.2	927	159.1	699	105.5	927	156.3	696	87.9	927	156.3	695	75.4	927	156.3	695	65.9	927	156.3	695
	54 in	170.0	797	170.0	612	154.5	869	170.0	691	132.5	869	153.9	683	115.9	869	141.8	669	103.0	869	134.0	660	92.7	869	129.8	654	77.3	869	128.8	652	66.2	869	128.8	652	57.9	869	128.8	652
	60 in	143.2	746	153.8	634	119.4	746	132.3	620	102.3	746	117.8	608	89.5	746	107.8	599	79.6	746	101.0	592	71.6	746	96.6	587	59.7	746	93.3	583	51.2	746	93.3	583	44.8	746	93.3	583
	63 in	123.7	677	132.0	579	103.1	677	113.2	566	88.4	677	100.4	555	77.3	677	91.4	546	68.7	677	85.2	539	61.9	677	81.0	534	51.6	677	77.0	529	44.2	677	76.7	529	38.7	677	76.7	529
	66 in	107.6	617	114.1	530	89.7	617	97.6	519	76.9	617	86.3	509	67.3	617	78.3	500	59.8	617	72.6	494	53.8	617	68.7	489	44.8	617	64.4	483	38.4	617	63.7	482	33.6	617	63.7	482
	72 in	82.9	518	87.1	450	69.1	518	74.2	440	59.2	518	65.2	432	51.8	518	58.8	425	46.1	518	54.2	419	41.4	518	50.7	414	34.5	518	46.6	408	29.6	518	45.0	405	25.9	518	45.0	405
	76 in	70.5	465	73.7	406	58.7	465	62.6	398	50.3	465	54.9	390	44.1	465	49.4	384	39.2	465	45.3	378	35.2	465	42.2	374	29.4	465	38.3	367	25.2	465	36.5	364	22.0	465	36.2	363
	78 in	65.2	441	68.0	387	54.3	441	57.7	379	46.6	441	50.6	372	40.8	441	45.4	366	36.2	441	41.6	360	32.6	441	38.7	356	27.2	441	34.9	349	23.3	441	33.1	346	20.4	441	32.7	345
	90 in	42.4	332	43.8	295	35.4	332	37.0	289	30.3	332	32.3	284	26.5	332	28.8	280	23.6	332	26.1	276	21.2	332	24.1	272	17.7	332	21.3	266	15.2	332	19.6	262	13.3	332	18.7	260
	96 in	35.0	291	35.9	260	29.1	291	30.3	256	25.0	291	26.4	252	21.9	291	23.5	248	19.4	291	21.3	244	17.5	291	19.5	241	14.6	291	17.1	236	12.5	291	15.6	232				
	108 in	24.6	230	25.1	208	20.5	230	21.1	205	17.5	230	18.3	201	15.4	230	16.2	198																				
	111 in	22.6	218	23.1	197	18.9	218	19.4	194	16.2	218	16.8	191	14.1	218	14.9	188																				
	120 in	17.9	187	18.2	170	14.9	187	15.3	167																												

TABLE 7B

Anchor Capacity (lbs)	Substrate:	3k Concrete				3.5k Conc.	Hollow or Filled CMU						Filled CMU	Wood		Metal
	Anchor Type:	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		5/16" DeWalt Ultracon	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		1/4" SS DeWalt AggreGator	5/16" DeWalt Ultracon	1/4" SS DeWalt AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1):		310 lbs	630 lbs	220 lbs	870 lbs	1644 lbs	230 lbs	370 lbs	320 lbs	580 lbs	374 lbs	664 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 1.15" Min. O.C. / Standard (or Offset) Clip (Fig. 2):		320 lbs	1260 lbs	370 lbs	N/A	N/A	N/A	740 lbs	N/A	N/A	N/A	N/A	N/A	682 lbs	885 lbs	1120 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):		620 lbs	1260 lbs	440 lbs	1740 lbs	1896 lbs	460 lbs	740 lbs	640 lbs	1160 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
3 Anchors @ 0.54" Min. O.C. / U-Clip, into .100" Alum. (Fig. 4):		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	950 lbs
1 Anchor / F-Clip (Fig. 5):		155 lbs	315 lbs	110 lbs	435 lbs	822 lbs	115 lbs	185 lbs	160 lbs	290 lbs	187 lbs	332 lbs	473 lbs	170 lbs	221 lbs	280 lbs
2 Anchors @ 1.15" Min. O.C./ F-Clip (Fig. 6):		160 lbs	630 lbs	185 lbs	N/A	N/A	N/A	370 lbs	N/A	N/A	N/A	N/A	N/A	341 lbs	442 lbs	560 lbs

NOTE: FOR THE OFFSET CLIP, USE THE SAME ANCHOR PATTERN AND ANCHOR VALUES AS THE STANDARD CLIP.



ANGLE CLIP MUST BE USED IN PAIRS.

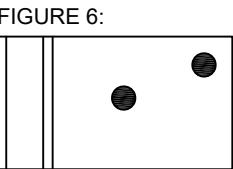
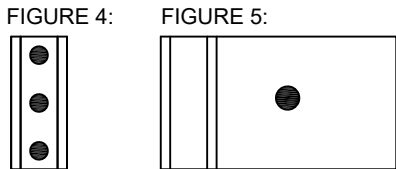
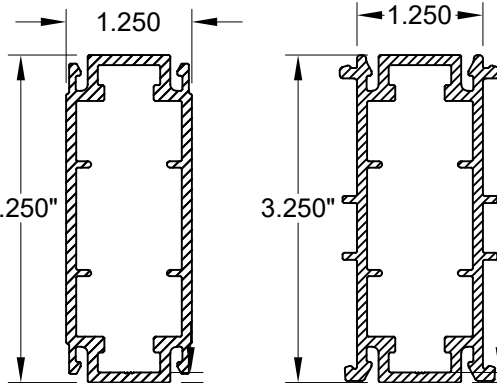


TABLE NOTES:

- 1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.
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MULLION TO BE USED IN 5000 SERIES WINDOWS ONLY. SEE SHEET 23 FOR ADDITIONAL INSTALLATION INSTRUCTIONS.



1.25" X 3.25" X .100"
MULLION FOR
FIELD-MULLED
UNITS

1.25" X 3.25" X .100"
MULLION FOR
FACTORY-MULLED
UNITS

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09/09/26

JENS ROSOWSKI

11 OF 23

MULLIONS

Rev.

Date

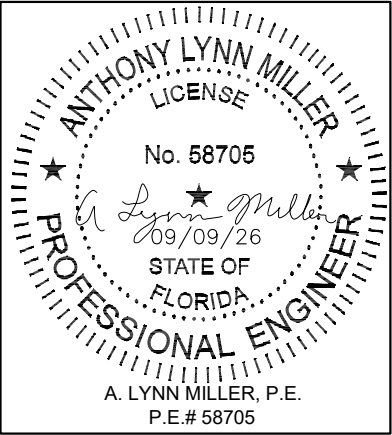


TABLE 8A

1.25 x 3.25 x .624 Alum. Tube Mullion		Mullion Capacity Table (lbs/ft ²)																																			
		Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)																																			
		50 in				60 in				70 in				80 in				90 in				100 in				120 in				140 in				160 in			
		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded					
Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)				
Mullion Length	42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519	170.0	1116	170.0	521	170.0	1240	170.0	521	170.0	1488	170.0	521	170.0	1735	170.0	521	170.0	1983	170.0	521
	48 in	170.0	708	170.0	524	170.0	850	170.0	584	170.0	992	170.0	630	170.0	1133	170.0	661	170.0	1275	170.0	677	170.0	1417	170.0	680	170.0	1700	170.0	680	169.7	1979	170.0	680	148.5	1979	170.0	680
	50.625 in	170.0	747	170.0	563	170.0	896	170.0	631	170.0	1046	170.0	684	170.0	1195	170.0	723	170.0	1345	170.0	747	170.0	1494	170.0	756	170.0	1793	170.0	756	152.5	1877	170.0	756	133.5	1877	170.0	756
	54 in	170.0	797	170.0	612	170.0	956	170.0	691	170.0	1116	170.0	754	170.0	1275	170.0	803	170.0	1434	170.0	837	170.0	1594	170.0	856	156.4	1759	170.0	861	134.1	1759	170.0	861	117.3	1759	170.0	861
	60 in	170.0	885	170.0	701	170.0	1063	170.0	797	170.0	1240	170.0	878	170.0	1417	170.0	944	161.1	1511	170.0	996	145.0	1511	170.0	1033	120.8	1511	170.0	1063	103.6	1511	170.0	1063	90.6	1511	170.0	1063
	63 in	170.0	930	170.0	745	170.0	1116	170.0	850	170.0	1302	170.0	940	156.6	1370	170.0	1015	139.2	1370	170.0	1076	125.3	1370	164.0	1082	104.4	1370	155.9	1072	89.5	1370	155.3	1070	78.3	1370	155.3	1070
	66 in	170.0	974	170.0	789	170.0	1169	170.0	903	155.6	1248	170.0	1002	136.2	1248	158.6	1013	121.1	1248	147.1	1000	108.9	1248	139.0	989	90.8	1248	130.4	978	77.8	1248	129.0	975	68.1	1248	129.0	975
	72 in	167.8	1049	170.0	878	139.9	1049	150.2	892	119.9	1049	132.1	875	104.9	1049	119.1	860	93.2	1049	109.7	848	83.9	1049	102.7	838	69.9	1049	94.3	825	59.9	1049	91.2	820	52.4	1049	91.1	820
	76 in	142.7	941	149.1	822	118.9	941	126.8	805	101.9	941	111.2	791	89.2	941	100.0	777	79.3	941	91.7	766	71.4	941	85.5	757	59.5	941	77.6	744	51.0	941	74.0	737	44.6	941	73.3	736
	78 in	132.0	894	137.6	783	110.0	894	116.9	767	94.3	894	102.4	753	82.5	894	91.9	740	73.3	894	84.1	730	66.0	894	78.3	721	55.0	894	70.7	707	47.1	894	67.0	701	41.3	894	66.1	698
	90 in	85.9	671	88.7	596	71.6	671	74.9	585	61.4	671	65.3	575	53.7	671	58.2	566	47.7	671	52.9	558	43.0	671	48.8	551	35.8	671	43.1	539	30.7	671	39.7	531	26.9	671	37.9	526
	96 in	70.8	590	72.8	527	59.0	590	61.4	518	50.6	590	53.4	509	44.3	590	47.5	502	39.3	590	43.0	494	35.4	590	39.6	488	29.5	590	34.7	477	25.3	590	31.6	469	22.1	590	29.8	464
	108 in	49.7	466	50.8	421	41.4	466	42.8	414	35.5	466	37.1	408	31.1	466	32.9	402	27.6	466	29.7	396	24.9	466	27.1	391	20.7	466	23.5	382	17.8	466	21.2	375	15.5	466	19.6	370
	111 in	45.8	441	46.7	400	38.2	441	39.3	393	32.7	441	34.1	387	28.6	441	30.2	382	25.4	441	27.2	376	22.9	441	24.9	372	19.1	441	21.5	363	16.4	441	19.3	356	14.3	441	17.8	351
	120 in	36.3	378	36.9	344	30.2	378	31.0	339	25.9	378	26.8	334	22.7	378	23.7	329	20.1	378	21.3	325	18.1	378	19.5	321	15.1	378	16.7	314								
	144 in	21.0	262	21.2	242	17.5	262	17.8	239	15.0	262	15.3	236																								

TABLE 8B

Anchor Capacity (lbs)	Substrate:	3k Concrete				3.5k Conc.	Hollow or Filled CMU						Filled CMU	Wood		Metal
	Anchor Type:	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		5/16" DeWalt Ultracon	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		1/4" SS DeWalt AggreGator	5/16" DeWalt Ultracon	1/4" SS DeWalt AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1):		310 lbs	630 lbs	220 lbs	870 lbs	1644 lbs	230 lbs	370 lbs	320 lbs	580 lbs	374 lbs	664 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 1.15" Min. O.C. / Standard (or Offset) Clip (Fig. 2):		320 lbs	1260 lbs	370 lbs	N/A	N/A	N/A	740 lbs	N/A	N/A	N/A	N/A	N/A	682 lbs	885 lbs	1120 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):		620 lbs	1260 lbs	440 lbs	1740 lbs	1896 lbs	460 lbs	740 lbs	640 lbs	1160 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
3 Anchors @ 0.54" Min. O.C. / U-Clip, into .100" Alum. (Fig. 4):		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	950 lbs
1 Anchor / F-Clip (Fig. 5):		155 lbs	315 lbs	110 lbs	435 lbs	822 lbs	115 lbs	185 lbs	160 lbs	290 lbs	187 lbs	332 lbs	473 lbs	170 lbs	221 lbs	280 lbs
2 Anchors @ 1.15" Min. O.C./ F-Clip (Fig. 6):		160 lbs	630 lbs	185 lbs	N/A	N/A	N/A	370 lbs	N/A	N/A	N/A	N/A	N/A	341 lbs	442 lbs	560 lbs

NOTE: FOR THE OFFSET CLIP, USE THE SAME ANCHOR PATTERN AND ANCHOR VALUES AS THE STANDARD CLIP.

FIGURE 1:

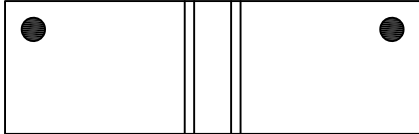


FIGURE 2:

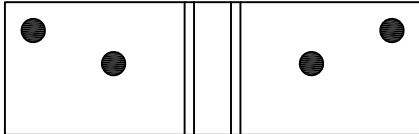
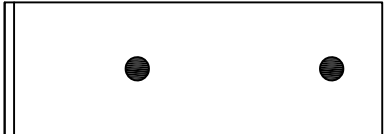


FIGURE 3:



ANGLE
CLIP MUST
BE USED
IN PAIRS.

FIGURE 4:

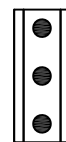


FIGURE 5:

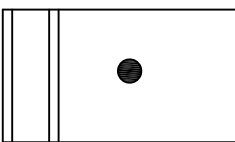


FIGURE 6:

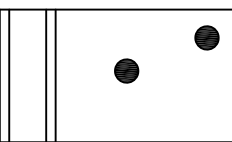
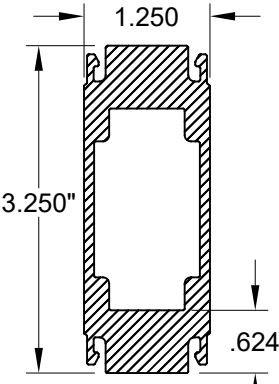


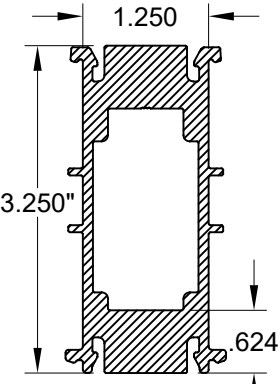
TABLE NOTES:

- 1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.
- 2) LINEAR INTERPOLATION BETWEEN MULL LENGTHS AND/OR OPENING WIDTHS IS ALLOWABLE.
- 3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE PART DRAWINGS. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON FOLLOWING SHEETS. FIGURES SHOW SUGGESTED, APPROXIMATE HOLE LOCATIONS.
- 4) IF A LOWER DESIGN PRESSURE AND ANCHOR QUANTITY IS DESIRED, SEE THE ANCHOR CAPACITY ADJUSTMENT FORMULA ON SHEET 1.

MULLION TO BE USED IN 5000
SERIES WINDOWS ONLY. SEE
SHEET 23 FOR ADDITIONAL
INSTALLATION INSTRUCTIONS.



1.25" X 3.25" X .624"
MULLION FOR
FIELD-MULLED
UNITS



1.25" X 3.25" X .624"
MULLION FOR
FACTORY-MULLED
UNITS

PREPARED BY A LYNN MILLER
3400 PRECISION DRIVE
N. VENICE, FL 34275
(941) 480-1600

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REGISTRATION #29296

ALUMINUM CLIPPED MULLIONS

MULL DETAILS - 1.25 X 3.25 X .624

MULLIONS

12 OF 23

12 OF 23

MULL-LM-HVHZ

09/09/26

JENS ROSOWSKI

PGT[®] WINDOWS and DOORS

3400 PRECISION DRIVE
N. VENICE, FL 34275
(941) 480-1600

ANTHONY LYNN MILLER

LICENSE

No. 58705

09/09/26

STATE OF FLORIDA

PROFESSIONAL ENGINEER

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

TABLE 9A

1.25 x 3.94 x .624 Alum. Tube Mullion		Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)																																			
		50 in				60 in				70 in				80 in				90 in				100 in				120 in				140 in				160 in			
		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded					
		Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)						
Mullion Length	42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519	170.0	1116	170.0	521	170.0	1240	170.0	521	170.0	1488	170.0	521	170.0	1735	170.0	521	170.0	1983	170.0	521
	48 in	170.0	708	170.0	524	170.0	850	170.0	584	170.0	992	170.0	630	170.0	1133	170.0	661	170.0	1275	170.0	677	170.0	1417	170.0	680	170.0	1700	170.0	680	170.0	1983	170.0	680	170.0	2267	170.0	680
	50.625 in	170.0	747	170.0	563	170.0	896	170.0	631	170.0	1046	170.0	684	170.0	1195	170.0	723	170.0	1345	170.0	747	170.0	1494	170.0	756	170.0	1793	170.0	756	170.0	2092	170.0	756	170.0	2391	170.0	756
	54 in	170.0	797	170.0	612	170.0	956	170.0	691	170.0	1116	170.0	754	170.0	1275	170.0	803	170.0	1434	170.0	837	170.0	1594	170.0	856	170.0	1913	170.0	861	170.0	2231	170.0	861	160.2	2403	170.0	861
	60 in	170.0	885	170.0	701	170.0	1063	170.0	797	170.0	1240	170.0	878	170.0	1417	170.0	944	170.0	1594	170.0	996	170.0	1771	170.0	1033	170.0	2125	170.0	1063	148.3	2163	170.0	1063	129.8	2163	170.0	1063
	63 in	170.0	930	170.0	745	170.0	1116	170.0	850	170.0	1302	170.0	940	170.0	1488	170.0	1015	170.0	1673	170.0	1076	170.0	1859	170.0	1122	156.9	2060	170.0	1169	134.5	2060	170.0	1171	117.7	2060	170.0	1171
	66 in	170.0	974	170.0	789	170.0	1169	170.0	903	170.0	1364	170.0	1002	170.0	1558	170.0	1086	170.0	1753	170.0	1155	170.0	1948	170.0	1210	143.0	1966	170.0	1275	122.6	1966	170.0	1286	107.2	1966	170.0	1286
	72 in	170.0	1063	170.0	878	170.0	1275	170.0	1009	170.0	1488	170.0	1126	170.0	1700	170.0	1228	154.1	1734	170.0	1315	138.7	1734	169.8	1386	115.6	1734	155.9	1364	99.1	1734	150.4	1352	86.7	1734	150.2	1352
	76 in	170.0	1122	170.0	937	170.0	1346	170.0	1080	168.5	1556	170.0	1209	147.4	1556	165.2	1285	131.1	1556	151.5	1266	117.9	1556	141.3	1251	98.3	1556	128.3	1229	84.2	1556	122.3	1219	73.7	1556	121.2	1216
	78 in	170.0	1151	170.0	967	170.0	1381	170.0	1116	155.9	1477	169.3	1245	136.4	1477	152.0	1224	121.2	1477	139.1	1206	109.1	1477	129.5	1191	90.9	1477	116.9	1169	77.9	1477	110.8	1158	68.2	1477	109.3	1154
	90 in	142.0	1110	146.5	986	118.4	1110	123.9	968	101.5	1110	107.9	951	88.8	1110	96.3	936	78.9	1110	87.5	922	71.0	1110	80.7	910	59.2	1110	71.3	891	50.7	1110	65.6	878	44.4	1110	62.7	870
	96 in	117.0	975	120.3	872	97.5	975	101.5	856	83.6	975	88.3	842	73.2	975	78.5	829	65.0	975	71.2	817	58.5	975	65.4	807	48.8	975	57.4	789	41.8	975	52.3	776	36.6	975	49.3	767
	108 in	82.2	771	84.0	696	68.5	771	70.7	685	58.7	771	61.3	674	51.4	771	54.3	664	45.7	771	49.0	655	41.1	771	44.9	647	34.3	771	38.9	632	29.4	771	35.0	621	25.7	771	32.4	612
	111 in	75.7	730	77.3	661	63.1	730	65.0	650	54.1	730	56.3	640	47.3	730	49.9	631	42.1	730	45.0	622	37.9	730	41.1	614	31.5	730	35.6	600	27.0	730	31.9	589	23.7	730	29.5	581
	120 in	59.9	624	61.0	569	49.9	624	51.2	560	42.8	624	44.3	552	37.5	624	39.2	544	33.3	624	35.3	537	30.0	624	32.2	531	25.0	624	27.7	519	21.4	624	24.6	509	18.7	624	22.5	501
	144 in	34.7	433	35.1	400	28.9	433	29.4	395	24.8	433	25.4	390	21.7	433	22.4	385	19.3	433	20.0	381	17.3	433	18.2	376												

TABLE 9B

Anchor Capacity (lbs)	Substrate:	3k Concrete				3.5k Conc.	Hollow or Filled CMU						Filled CMU	Wood		Metal
	Anchor Type:	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		5/16" DeWalt Ultracon	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		1/4" SS DeWalt AggreGator	5/16" DeWalt Ultracon	1/4" SS DeWalt AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1):		310 lbs	630 lbs	220 lbs	870 lbs	1644 lbs	230 lbs	370 lbs	320 lbs	580 lbs	374 lbs	664 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 1.15" Min. O.C. / Standard (or Offset) Clip (Fig. 2):		320 lbs	1260 lbs	370 lbs	N/A	N/A	N/A	740 lbs	N/A	N/A	N/A	N/A	N/A	682 lbs	885 lbs	1120 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):		620 lbs	1260 lbs	440 lbs	1740 lbs	1896 lbs	460 lbs	740 lbs	640 lbs	1160 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
4 Anchors @ 0.54" Min. O.C. / U-Clip, into .100" Alum. (Fig. 4):		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1267 lbs
1 Anchor / F-Clip (Fig. 5):		155 lbs	315 lbs	110 lbs	435 lbs	822 lbs	115 lbs	185 lbs	160 lbs	290 lbs	187 lbs	332 lbs	473 lbs	170 lbs	221 lbs	280 lbs
2 Anchors @ 1.15" Min. O.C. / F-Clip (Fig. 6):		160 lbs	630 lbs	185 lbs	N/A	N/A	N/A	370 lbs	N/A	N/A	N/A	N/A	N/A	341 lbs	442 lbs	560 lbs

NOTE: FOR THE OFFSET CLIP, USE THE SAME ANCHOR PATTERN AND ANCHOR VALUES AS THE STANDARD CLIP.

FIGURE 1:

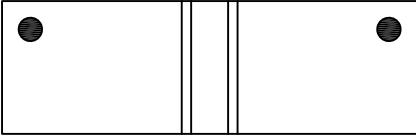


FIGURE 2:

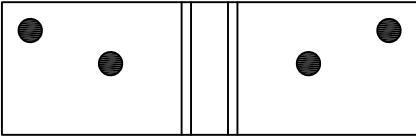
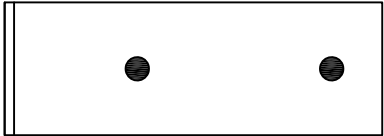
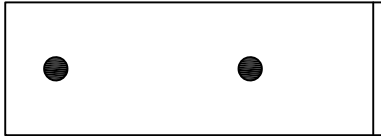


FIGURE 3:



ANGLE CLIP MUST BE USED IN PAIRS.

FIGURE 4:

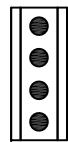


FIGURE 5:

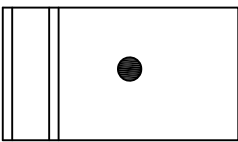


FIGURE 6:

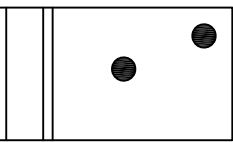
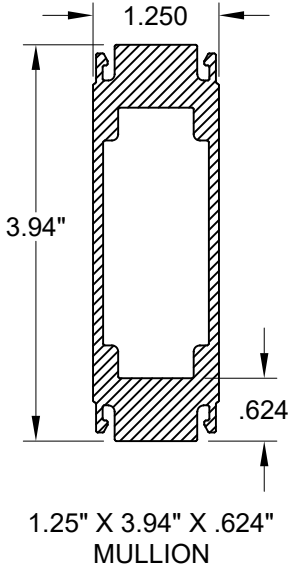


TABLE NOTES:

- 1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.
- 2) LINEAR INTERPOLATION BETWEEN MULL LENGTHS AND/OR OPENING WIDTHS IS ALLOWABLE.
- 3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE PART DRAWINGS. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON FOLLOWING SHEETS. FIGURES SHOW SUGGESTED, APPROXIMATE HOLE LOCATIONS.
- 4) IF A LOWER DESIGN PRESSURE AND ANCHOR QUANTITY IS DESIRED, SEE THE ANCHOR CAPACITY ADJUSTMENT FORMULA ON SHEET 1.

MULLION TO BE USED IN 5000 SERIES WINDOWS ONLY. SEE SHEET 23 FOR ADDITIONAL INSTALLATION INSTRUCTIONS.



PREPARED BY A. LYNN MILLER
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MULLIONS

13 OF 23

MULL-LM-HVHZ

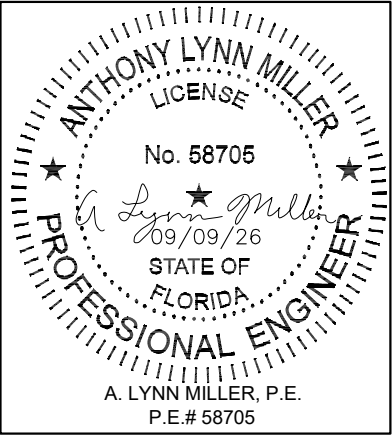


TABLE 10A

2 x 4 x .25 Alum. Tube Mullion		Mullion Capacity Table (lbs/ft²)																																			
		Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)																																			
		50 in				60 in				70 in				80 in				90 in				100 in				120 in				140 in				160 in			
		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded					
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)					
	42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519	170.0	1116	170.0	521	170.0	1240	170.0	521	170.0	1488	170.0	521	170.0	1735	170.0	521	170.0	1983	170.0	521
	48 in	170.0	708	170.0	524	170.0	850	170.0	584	170.0	992	170.0	630	170.0	1133	170.0	661	170.0	1275	170.0	677	170.0	1417	170.0	680	170.0	1700	170.0	680	170.0	1983	170.0	680	170.0	2267	170.0	680
	50.625 in	170.0	747	170.0	563	170.0	896	170.0	631	170.0	1046	170.0	684	170.0	1195	170.0	723	170.0	1345	170.0	747	170.0	1494	170.0	756	170.0	1793	170.0	756	170.0	2092	170.0	756	170.0	2391	170.0	756
	54 in	170.0	797	170.0	612	170.0	956	170.0	691	170.0	1116	170.0	754	170.0	1275	170.0	803	170.0	1434	170.0	837	170.0	1594	170.0	856	170.0	1913	170.0	861	170.0	2231	170.0	861	170.0	2550	170.0	861
	60 in	170.0	885	170.0	701	170.0	1063	170.0	797	170.0	1240	170.0	878	170.0	1417	170.0	944	170.0	1594	170.0	996	170.0	1771	170.0	1033	170.0	2125	170.0	1063	170.0	2479	170.0	1063	160.8	2680	170.0	1063
	63 in	170.0	930	170.0	745	170.0	1116	170.0	850	170.0	1302	170.0	940	170.0	1488	170.0	1015	170.0	1673	170.0	1076	170.0	1859	170.0	1122	170.0	2231	170.0	1169	166.7	2553	170.0	1171	145.9	2553	170.0	1171
	66 in	170.0	974	170.0	789	170.0	1169	170.0	903	170.0	1364	170.0	1002	170.0	1558	170.0	1086	170.0	1753	170.0	1155	170.0	1948	170.0	1210	170.0	2338	170.0	1275	151.9	2437	170.0	1286	132.9	2437	170.0	1286
	72 in	170.0	1063	170.0	878	170.0	1275	170.0	1009	170.0	1488	170.0	1126	170.0	1700	170.0	1228	170.0	1913	170.0	1315	170.0	2125	170.0	1387	145.6	2184	170.0	1488	124.8	2184	170.0	1529	109.2	2184	170.0	1530
	76 in	170.0	1122	170.0	937	170.0	1346	170.0	1080	170.0	1570	170.0	1209	170.0	1794	170.0	1322	165.1	1960	170.0	1421	148.6	1960	170.0	1505	123.8	1960	161.6	1548	106.1	1960	154.0	1535	92.9	1960	152.7	1531
	78 in	170.0	1151	170.0	967	170.0	1381	170.0	1116	170.0	1611	170.0	1250	170.0	1842	170.0	1369	152.7	1861	170.0	1474	137.4	1861	163.1	1500	114.5	1861	147.3	1473	98.2	1861	139.6	1459	85.9	1861	137.6	1454
	90 in	170.0	1328	170.0	1144	149.1	1398	156.0	1219	127.8	1398	136.0	1198	111.8	1398	121.3	1179	99.4	1398	110.2	1162	89.5	1398	101.6	1147	74.5	1398	89.8	1122	63.9	1398	82.7	1105	55.9	1398	78.9	1096
	96 in	147.4	1229	151.5	1098	122.9	1229	127.8	1079	105.3	1229	111.2	1061	92.1	1229	98.9	1044	81.9	1229	89.6	1029	73.7	1229	82.4	1016	61.4	1229	72.2	993	52.7	1229	65.9	977	46.1	1229	62.1	967
	108 in	103.5	971	105.8	877	86.3	971	89.0	862	74.0	971	77.2	849	64.7	971	68.4	837	57.5	971	61.8	825	51.8	971	56.5	815	43.1	971	49.0	796	37.0	971	44.0	782	32.4	971	40.8	771
	111 in	95.4	919	97.3	832	79.5	919	81.9	819	68.1	919	70.9	806	59.6	919	62.9	794	53.0	919	56.7	784	47.7	919	51.8	774	39.7	919	44.8	756	34.1	919	40.2	742	29.8	919	37.1	732
	120 in	75.5	786	76.8	716	62.9	786	64.5	705	53.9	786	55.8	695	47.2	786	49.4	686	41.9	786	44.4	677	37.7	786	40.5	668	31.5	786	34.9	653	27.0	786	31.0	641	23.6	786	28.4	631
	144 in	43.7	546	44.2	504	36.4	546	37.0	498	31.2	546	31.9	491	27.3	546	28.2	485	24.3	546	25.3	479	21.8	546	22.9	474	18.2	546	19.5	464	15.6	546	17.2	455	13.7	546	15.5	448

TABLE 10B

Anchor Capacity (lbs)	Substrate:	3k Concrete				3.5k Conc.	Hollow or Filled CMU						Filled CMU	Wood		Metal
	Anchor Type:	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		5/16" DeWalt Ultracon	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		1/4" SS DeWalt AggreGator	5/16" DeWalt Ultracon	1/4" SS DeWalt AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1&2):		310 lbs	630 lbs	220 lbs	870 lbs	1644 lbs	230 lbs	370 lbs	320 lbs	580 lbs	374 lbs	664 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 2.68" Min. O.C. / Standard (or Offset) Clip (Fig. 3):		620 lbs	1260 lbs	430 lbs	1730 lbs	1424 lbs	425 lbs	740 lbs	575 lbs	1110 lbs	N/A	880 lbs	N/A	682 lbs	885 lbs	1120 lbs
6 Anchors @ 1.71" Min. O.C. / Standard (or Offset) Clip (Fig. 4):		705 lbs	1890 lbs	608 lbs	2558 lbs	N/A	506 lbs	1110 lbs	619 lbs	1478 lbs	N/A	N/A	N/A	1022 lbs	1327 lbs	1680 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 5):		620 lbs	1260 lbs	440 lbs	1740 lbs	1896 lbs	460 lbs	740 lbs	640 lbs	1160 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
6 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 6):		930 lbs	1890 lbs	660 lbs	2610 lbs	2844 lbs	690 lbs	1110 lbs	960 lbs	1740 lbs	1122 lbs	1320 lbs	2838 lbs	1022 lbs	1327 lbs	1680 lbs
3 Anchors @ 1.34" Min. O.C. / U-Clip, into .125" Alum. (Fig. 7):		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1073 lbs
6 Anchors @ 0.64" Min. O.C. / U-Clip, into .125" Alum. (Fig. 8):		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2146 lbs
2 Anchors @ 2.68" Min. O.C./ F-Clip (Fig. 9):		310 lbs	630 lbs	215 lbs	865 lbs	712 lbs	213 lbs	370 lbs	288 lbs	555 lbs	N/A	440 lbs	N/A	341 lbs	442 lbs	560 lbs
3 Anchors @ 1.71" Min. O.C. / F-Clip (Fig. 10):		353 lbs	945 lbs	304 lbs	1279 lbs	N/A	253 lbs	555 lbs	309 lbs	739 lbs	N/A	N/A	N/A	511 lbs	664 lbs	840 lbs

NOTE: FOR THE OFFSET CLIP, USE THE SAME ANCHOR PATTERN AND ANCHOR VALUES AS THE STANDARD CLIP.

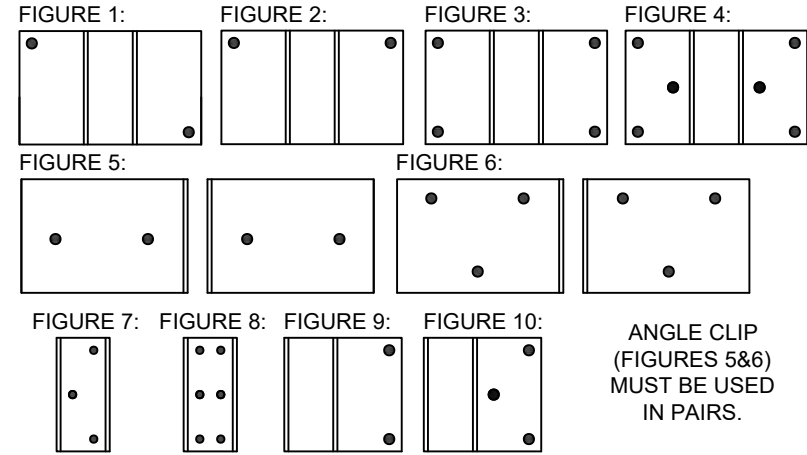


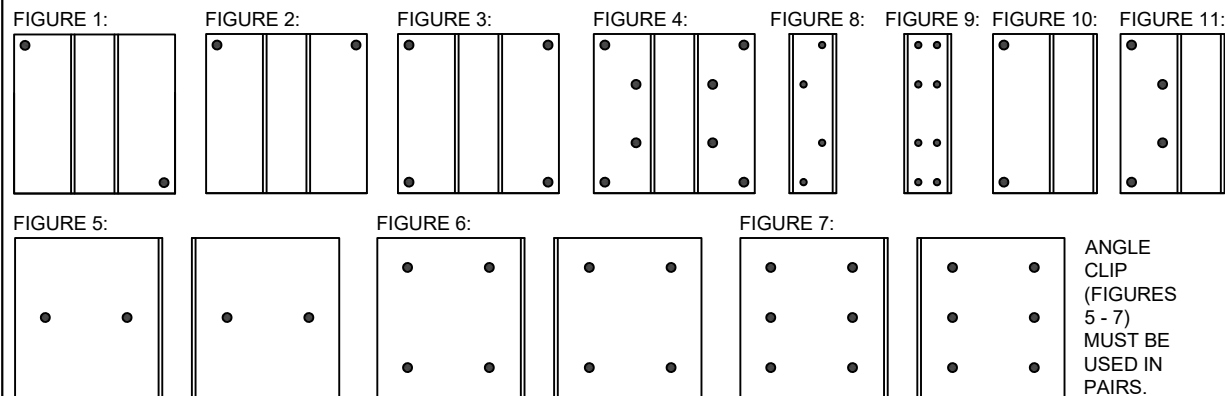
TABLE 11A

Mullion Capacity Table (lbs/ft ²)																																					
2 x 6 x .25 Alum. Tube Mullion		Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)																																			
		50 in				60 in				70 in				80 in				90 in				100 in				120 in				140 in				160 in			
		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded					
		Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)				
Mull Length	42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519	170.0	1116	170.0	521	170.0	1240	170.0	521	170.0	1488	170.0	521	170.0	1735	170.0	521	170.0	1983	170.0	521
	48 in	170.0	708	170.0	524	170.0	850	170.0	584	170.0	992	170.0	630	170.0	1133	170.0	661	170.0	1275	170.0	677	170.0	1417	170.0	680	170.0	1700	170.0	680	170.0	1983	170.0	680	170.0	2267	170.0	680
	50.625 in	170.0	747	170.0	563	170.0	896	170.0	631	170.0	1046	170.0	684	170.0	1195	170.0	723	170.0	1345	170.0	747	170.0	1494	170.0	756	170.0	1793	170.0	756	170.0	2092	170.0	756	170.0	2391	170.0	756
	54 in	170.0	797	170.0	612	170.0	956	170.0	691	170.0	1116	170.0	754	170.0	1275	170.0	803	170.0	1434	170.0	837	170.0	1594	170.0	856	170.0	1913	170.0	861	170.0	2231	170.0	861	170.0	2550	170.0	861
	60 in	170.0	885	170.0	701	170.0	1063	170.0	797	170.0	1240	170.0	878	170.0	1417	170.0	944	170.0	1594	170.0	996	170.0	1771	170.0	1033	170.0	2125	170.0	1063	170.0	2479	170.0	1063	170.0	2833	170.0	1063
	63 in	170.0	930	170.0	745	170.0	1116	170.0	850	170.0	1302	170.0	940	170.0	1488	170.0	1015	170.0	1673	170.0	1076	170.0	1859	170.0	1122	170.0	2231	170.0	1169	170.0	2603	170.0	1171	170.0	2975	170.0	1171
	66 in	170.0	974	170.0	789	170.0	1169	170.0	903	170.0	1364	170.0	1002	170.0	1558	170.0	1086	170.0	1753	170.0	1155	170.0	1948	170.0	1210	170.0	2338	170.0	1275	170.0	2727	170.0	1286	170.0	3117	170.0	1286
	72 in	170.0	1063	170.0	878	170.0	1275	170.0	1009	170.0	1488	170.0	1126	170.0	1700	170.0	1228	170.0	1913	170.0	1315	170.0	2125	170.0	1387	170.0	2550	170.0	1488	170.0	2975	170.0	1529	170.0	3400	170.0	1530
	76 in	170.0	1122	170.0	937	170.0	1346	170.0	1080	170.0	1570	170.0	1209	170.0	1794	170.0	1322	170.0	2019	170.0	1421	170.0	2243	170.0	1505	170.0	2692	170.0	1629	170.0	3140	170.0	1694	170.0	3589	170.0	1705
	78 in	170.0	1151	170.0	967	170.0	1381	170.0	1116	170.0	1611	170.0	1250	170.0	1842	170.0	1369	170.0	2072	170.0	1474	170.0	2302	170.0	1564	170.0	2763	170.0	1700	170.0	3223	170.0	1777	170.0	3683	170.0	1796
	90 in	170.0	1328	170.0	1144	170.0	1594	170.0	1328	170.0	1859	170.0	1498	170.0	2125	170.0	1653	170.0	2391	170.0	1793	170.0	2656	170.0	1918	170.0	3188	170.0	2125	156.0	3413	170.0	2273	136.5	3413	170.0	2361
	96 in	170.0	1417	170.0	1232	170.0	1700	170.0	1434	170.0	1983	170.0	1622	170.0	2267	170.0	1794	170.0	2550	170.0	1952	170.0	2833	170.0	2095	160.0	3199	170.0	2338	137.1	3199	166.6	2470	120.0	3199	156.1	2428
	108 in	170.0	1594	170.0	1409	170.0	1913	170.0	1647	170.0	2231	170.0	1870	170.0	2550	170.0	2078	164.8	2781	170.0	2271	148.3	2781	161.9	2333	123.6	2781	140.4	2281	105.9	2781	125.9	2234	92.7	2781	116.0	2190
	111 in	170.0	1638	170.0	1454	170.0	1966	170.0	1700	170.0	2293	170.0	1932	170.0	2621	170.0	2149	151.8	2632	162.3	2245	136.6	2632	148.4	2216	113.8	2632	128.4	2166	97.6	2632	115.1	2126	85.4	2632	106.3	2096
	120 in	170.0	1771	170.0	1586	170.0	2125	170.0	1859	154.4	2252	159.9	1991	135.1	2252	141.4	1964	120.1	2252	127.2	1938	108.1	2252	116.1	1915	90.1	2252	99.8	1872	77.2	2252	88.9	1836	67.6	2252	81.4	1808
144 in	125.1	1564	126.6	1445	104.3	1564	106.1	1425	89.4	1564	91.5	1407	78.2	1564	80.7	1390	69.5	1564	72.3	1373	62.6	1564	65.7	1358	52.1	1564	56.0	1330	44.7	1564	49.2	1305	39.1	1564	44.4	1283	

TABLE 11B

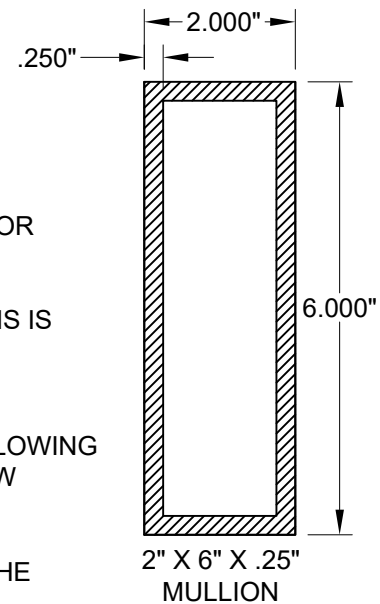
Anchor Capacity (lbs)	Substrate:	3k Concrete				3.5k Conc.	Hollow or Filled CMU						Filled CMU	Wood		Metal
	Anchor Type:	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		5/16" DeWalt Ultracon	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		1/4" SS DeWalt AggreGator	5/16" DeWalt Ultracon	1/4" SS DeWalt AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1&2):		310 lbs	630 lbs	220 lbs	870 lbs	1644 lbs	230 lbs	370 lbs	320 lbs	580 lbs	374 lbs	664 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 4.68" Min. O.C. / Standard (or Offset) Clip (Fig. 3):		620 lbs	1260 lbs	440 lbs	1740 lbs	3232 lbs	460 lbs	740 lbs	640 lbs	1160 lbs	748 lbs	1272 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
8 Anchors @ 1.71" Min. O.C. / Standard (or Offset) Clip (Fig. 4):		940 lbs	2520 lbs	810 lbs	3410 lbs	N/A	675 lbs	1480 lbs	825 lbs	1970 lbs	N/A	N/A	N/A	1363 lbs	1770 lbs	2240 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 5):		620 lbs	1260 lbs	440 lbs	1740 lbs	1896 lbs	460 lbs	740 lbs	640 lbs	1160 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
8 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 6):		1240 lbs	2520 lbs	880 lbs	3480 lbs	3792 lbs	920 lbs	1480 lbs	1280 lbs	2320 lbs	1496 lbs	1760 lbs	3784 lbs	1363 lbs	1770 lbs	2240 lbs
12 Anchors @ 1.5" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 7):		1260 lbs	3780 lbs	1200 lbs	5100 lbs	N/A	960 lbs	2220 lbs	1140 lbs	2880 lbs	N/A	N/A	N/A	2045 lbs	2654 lbs	3360 lbs
4 Anchors @ 1.34" Min. O.C. / U-Clip, into .125" Alum. (Fig. 8):		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1430 lbs
8 Anchors @ 0.64" Min. O.C. / U-Clip, into .125" Alum. (Fig. 9):		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2861 lbs
2 Anchors @ 4.68" Min. O.C. / F-Clip (Fig. 10):		310 lbs	630 lbs	220 lbs	870 lbs	1616 lbs	230 lbs	370 lbs	320 lbs	580 lbs	374 lbs	636 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 1.71" Min. O.C. / F-Clip (Fig. 11):		470 lbs	1260 lbs	405 lbs	1705 lbs	N/A	338 lbs	740 lbs	413 lbs	985 lbs	N/A	N/A	N/A	682 lbs	885 lbs	1120 lbs

NOTE: FOR THE OFFSET CLIP, USE THE SAME ANCHOR PATTERN AND ANCHOR VALUES AS THE STANDARD CLIP.



- TABLE NOTES:

- 1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.
- 2) LINEAR INTERPOLATION BETWEEN MULL LENGTHS AND/OR OPENING WIDTHS IS ALLOWABLE.
- 3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE PART DRAWINGS. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON FOLLOWING SHEETS. FIGURES SHOW SUGGESTED, APPROXIMATE HOLE LOCATIONS.
- 4) IF A LOWER DESIGN PRESSURE AND ANCHOR QUANTITY IS DESIRED, SEE THE ANCHOR CAPACITY ADJUSTMENT FORMULA ON SHEET 1.



PGT[®] WINDOWS 3400 PRECISION DRIVE N. VENICE, FL 34275 (941) 480-1600		PREPARED BY A. LYNN MILLER 3400 PRECISION DRIVE N. VENICE, FL 34275 (941) 480-1600	
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ALUMINUM CLIPPED MULLIONS	By	Date	09/09/26
MULL DETAILS - 2 X 6 X .25	JENS ROSOWSKI		
MULLIONS	15 OF 23		MULL-LM-HVHZ
Series	Desc.	Sheet	DWG No.

ANTHONY LYNN MILLER
 LICENSE
 No. 58705
 09/09/26
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER

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

TABLE 12A:

2" x 8" x 3/8" Tube Mullion Design Pressure & Clip/Anchor Capacity Requirement		Opening Dimension																																			
		50 in				60 in				80 in				100 in				120 in				140 in				160 in				180 in				200 in			
		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded					
		Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)				
Mullion Span	42 in	150.0	547	150.0	384	150.0	656	150.0	422	150.0	875	150.0	458	150.0	1094	150.0	459	150.0	1313	150.0	459	150.0	1531	150.0	459	150.0	1750	150.0	459	150.0	1969	150.0	459	150.0	2188	150.0	459
	48 in	150.0	625	150.0	462	150.0	750	150.0	516	150.0	1000	150.0	583	150.0	1250	150.0	600	150.0	1500	150.0	600	150.0	1750	150.0	600	150.0	2000	150.0	600	150.0	2250	150.0	600	150.0	2500	150.0	600
	50.625 in	150.0	659	150.0	496	150.0	791	150.0	557	150.0	1055	150.0	638	150.0	1318	150.0	667	150.0	1582	150.0	667	150.0	1846	150.0	667	150.0	2109	150.0	667	150.0	2373	150.0	667	150.0	2637	150.0	667
	54 in	150.0	703	150.0	540	150.0	844	150.0	609	150.0	1125	150.0	708	150.0	1406	150.0	755	150.0	1688	150.0	759	150.0	1969	150.0	759	150.0	2250	150.0	759	150.0	2531	150.0	759	150.0	2813	150.0	759
	60 in	150.0	781	150.0	618	150.0	938	150.0	703	150.0	1250	150.0	833	150.0	1563	150.0	911	150.0	1875	150.0	938	150.0	2188	150.0	938	150.0	2500	150.0	938	150.0	2813	150.0	938	150.0	3125	150.0	938
	63 in	150.0	820	150.0	658	150.0	984	150.0	750	150.0	1313	150.0	896	150.0	1641	150.0	990	150.0	1969	150.0	1031	150.0	2297	150.0	1034	150.0	2625	150.0	1034	150.0	2953	150.0	1034	150.0	3281	150.0	1034
	66 in	150.0	859	150.0	697	150.0	1031	150.0	797	150.0	1375	150.0	958	150.0	1719	150.0	1068	150.0	2063	150.0	1125	150.0	2406	150.0	1134	150.0	2750	150.0	1134	150.0	3094	150.0	1134	150.0	3438	150.0	1134
	72 in	150.0	938	150.0	775	150.0	1125	150.0	891	150.0	1500	150.0	1083	150.0	1875	150.0	1224	150.0	2250	150.0	1313	150.0	2625	150.0	1349	150.0	3000	150.0	1350	150.0	3375	150.0	1350	150.0	3750	150.0	1350
	84 in	150.0	1094	150.0	931	150.0	1313	150.0	1078	150.0	1750	150.0	1333	150.0	2188	150.0	1536	150.0	2625	150.0	1688	150.0	3063	150.0	1786	150.0	3500	150.0	1833	150.0	3938	150.0	1838	150.0	4375	150.0	1838
	96 in	150.0	1250	150.0	1087	150.0	1500	150.0	1266	150.0	2000	150.0	1583	150.0	2500	150.0	1849	150.0	3000	150.0	2063	150.0	3500	150.0	2224	150.0	4000	150.0	2333	150.0	4500	150.0	2391	150.0	5000	150.0	2400
	108 in	150.0	1406	150.0	1243	150.0	1688	150.0	1453	150.0	2250	150.0	1833	150.0	2813	150.0	2161	150.0	3375	150.0	2438	150.0	3938	150.0	2661	150.0	4500	150.0	2833	150.0	5063	150.0	2953	150.0	5625	150.0	3021
	126 in	150.0	1641	150.0	1478	150.0	1969	150.0	1734	150.0	2625	150.0	2208	150.0	3281	150.0	2630	150.0	3938	150.0	3000	144.3	4418	150.0	3318	126.2	4418	149.3	3566	112.2	4418	139.1	3521	101.0	4418	132.2	3488
	144 in	150.0	1875	150.0	1712	150.0	2250	150.0	2016	150.0	3000	150.0	2583	135.3	3383	142.1	2937	112.8	3383	121.1	2875	96.7	3383	106.5	2821	84.6	3383	96.0	2775	75.2	3383	88.4	2735	67.7	3383	82.8	2703
162 in	150.0	2109	150.0	1947	150.0	2531	150.0	2297	118.8	2673	121.7	2401	95.0	2673	98.8	2350	79.2	2673	83.8	2304	67.9	2673	73.3	2262	59.4	2673	65.7	2225	52.8	2673	60.0	2192	47.5	2673	55.7	2164	
180 in	138.6	2165	139.5	2028	115.5	2165	116.7	2005	86.6	2165	88.3	1962	69.3	2165	71.5	1923	57.7	2165	60.4	1888	49.5	2165	52.6	1855	43.3	2165	47.0	1826	38.5	2165	42.7	1799	34.6	2165	39.3	1776	
198 in	104.1	1789	104.7	1685	86.8	1789	87.5	1667	65.1	1789	66.1	1634	52.1	1789	53.4	1604	43.4	1789	45.0	1576	37.2	1789	39.1	1550	32.5	1789	34.8	1527	28.9	1789	31.5	1505	26.0	1789	28.9	1485	

TABLE 12B:

2" x 8" x 3/8" Tube Mullion Clip/Anchor Capacity	Substrate:	3k Concrete				3.5k Conc.	Hollow CMU						Filled CMU			Wood		Metal
	Anchor Type:	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		5/16" Elco Ultracon	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		1/4" Elco CreteFlex	1/4" Elco AggreGator	3/16" DeWalt Ultracon+	1/4" DeWalt Ultracon+	1/4" Elco AggreGator	#12 Steel Screw	#14 Steel Screw	#12 Steel Screw
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2-1/2"	2"	1"	1"	2"	0.54"	0.60"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-3/4"	1-3/4"	2"	1-3/8"	1-3/8"	See Sheet 1
8 Anchors @ 3" Min. O.C. / Mullion Clip (Fig. 1):		1240 lbs	2520 lbs	880 lbs	3480 lbs	3792 lbs	920 lbs	1480 lbs	1280 lbs	2320 lbs	1976 lbs	1496 lbs	680 lbs	1304 lbs	3784 lbs	1770 lbs	2146 lbs	2146 lbs
16 Anchors @ 1.75" Min. O.C. / Mullion Clip (Fig. 2):		1947 lbs	5040 lbs	1627 lbs	6827 lbs	N/A	1373 lbs	2960 lbs	1693 lbs	3973 lbs	3499 lbs	N/A	1360 lbs	1768 lbs	N/A	3539 lbs	4293 lbs	4291 lbs
6 Anchors @ 1.219" Min. O.C. / U-Clip (Fig. 3):		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1609 lbs
8 Anchors @ 1.75" Min. O.C. / Modified Clip (Fig. 4):		973 lbs	2520 lbs	813 lbs	3413 lbs	N/A	687 lbs	1480 lbs	847 lbs	1987 lbs	1749 lbs	N/A	680 lbs	884 lbs	N/A	1770 lbs	2146 lbs	2146 lbs

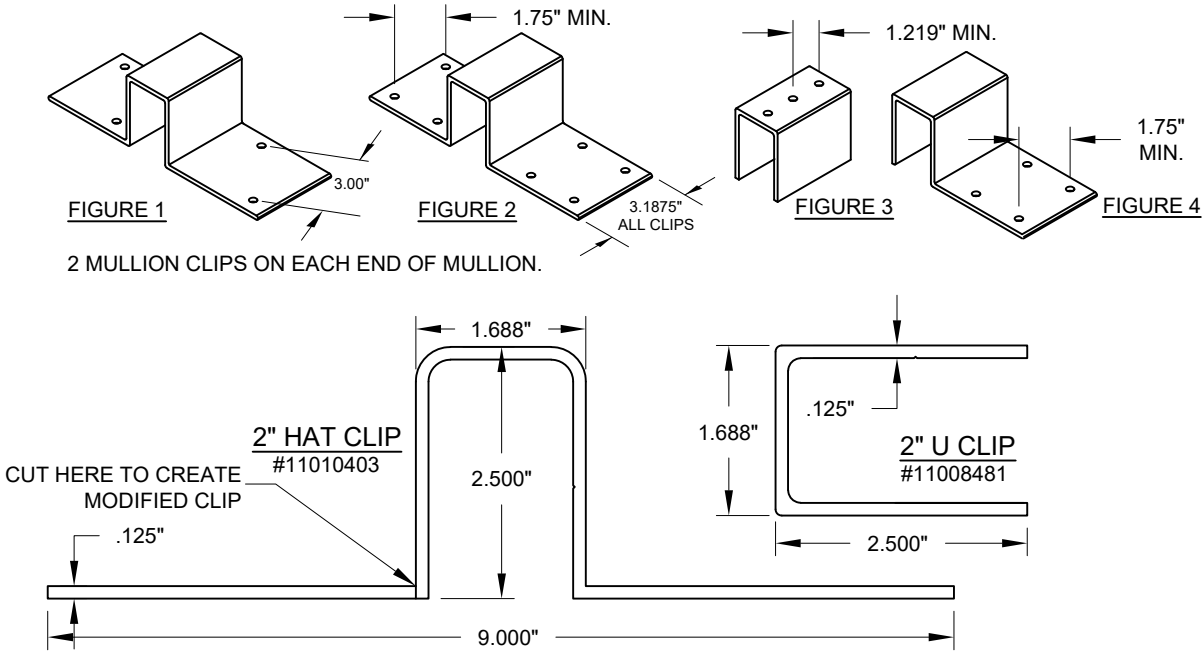
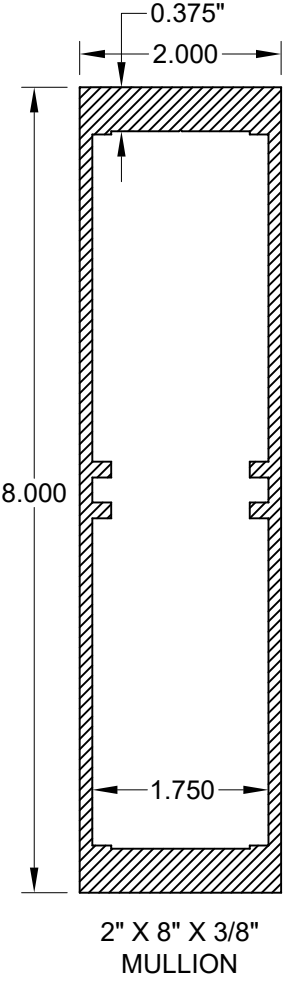


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PGT[®] WINDOWS and DOORS

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REGISTRATION #29296

PREPARED BY A LYNN MILLER
3400 PRECISION DRIVE
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ALUMINUM CLIPPED MULLIONS

MULL DETAILS - 2 X 8 X .375

MULLIONS

09/09/26

By JENS ROSOWSKI

16 OF 23

MULL-LM-HVHZ

Rev.

ANTHONY LYNN MILLER
LICENSE
No. 58705
09/09/26
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.# 58705

TABLE 13A

3.25" 30 DEG. AL BAY MULL		Mullion Capacity Table (lbs/ft²)																																			
		Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)																																			
		50 in				60 in				70 in				80 in				90 in				100 in				120 in				140 in				160 in			
		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded					
Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)				
Mull Length	42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519	170.0	1116	170.0	521	170.0	1240	170.0	521	170.0	1488	170.0	521	170.0	1735	170.0	521	149.1	1740	170.0	521
	48 in	170.0	708	170.0	524	170.0	850	170.0	584	170.0	992	170.0	630	170.0	1133	170.0	661	170.0	1275	170.0	677	170.0	1417	170.0	680	152.2	1522	170.0	680	130.5	1522	170.0	680	114.2	1522	170.0	680
	50.625 in	170.0	747	170.0	563	170.0	896	170.0	631	170.0	1046	170.0	684	170.0	1195	170.0	723	170.0	1345	170.0	747	164.2	1443	170.0	756	136.9	1443	170.0	756	117.3	1443	170.0	756	102.6	1443	170.0	756
	54 in	170.0	797	170.0	612	170.0	956	170.0	691	170.0	1116	170.0	754	170.0	1275	170.0	803	160.4	1353	170.0	837	144.3	1353	170.0	856	120.3	1353	170.0	861	103.1	1353	170.0	861	90.2	1353	170.0	861
	60 in	170.0	885	170.0	701	170.0	1063	170.0	797	167.0	1218	170.0	878	146.1	1218	170.0	944	129.9	1218	159.8	936	116.9	1218	152.1	924	97.4	1218	146.1	913	83.5	1218	146.1	913	73.1	1218	146.1	913
	63 in	170.0	930	170.0	745	170.0	1116	170.0	850	150.2	1150	168.8	933	131.4	1150	153.0	914	116.8	1150	141.9	898	105.1	1150	134.2	885	87.6	1150	126.7	871	75.1	1150	126.2	870	65.7	1150	126.2	870
	66 in	170.0	974	170.0	789	152.4	1048	165.8	881	130.6	1048	146.6	864	114.3	1048	133.1	850	101.6	1048	123.4	839	91.4	1048	116.6	830	76.2	1048	109.4	821	65.3	1048	108.2	818	57.1	1048	108.2	818
	72 in	140.8	880	147.9	764	117.4	880	126.0	748	100.6	880	110.8	734	88.0	880	100.0	722	78.2	880	92.0	712	70.4	880	86.2	703	58.7	880	79.2	693	50.3	880	76.5	688	44.0	880	76.4	688
	76 in	119.7	790	125.1	690	99.8	790	106.4	676	85.5	790	93.3	663	74.8	790	83.9	652	66.5	790	76.9	643	59.9	790	71.7	635	49.9	790	65.1	624	42.8	790	62.1	619	37.4	790	61.5	617
	78 in	110.8	750	115.5	657	92.3	750	98.1	644	79.1	750	85.9	632	69.2	750	77.1	621	61.5	750	70.6	612	55.4	750	65.7	605	46.2	750	59.4	594	39.6	750	56.2	588	34.6	750	55.5	586
	90 in	72.1	563	74.4	500	60.1	563	62.9	491	51.5	563	54.8	483	45.1	563	48.9	475	40.1	563	44.4	468	36.1	563	40.9	462	30.0	563	36.2	452	25.8	563	33.3	445	22.5	563	31.8	442
	96 in	59.4	495	61.1	443	49.5	495	51.5	435	42.4	495	44.8	427	37.1	495	39.9	421	33.0	495	36.1	415	29.7	495	33.2	409	24.8	495	29.1	400	21.2	495	26.6	394	18.6	495	25.0	390
	108 in	41.7	391	42.6	353	34.8	391	35.9	348	29.8	391	31.1	342	26.1	391	27.6	337	23.2	391	24.9	333	20.9	391	22.8	328	17.4	391	19.7	321	14.9	391	17.8	315				
	111 in	38.4	370	39.2	335	32.0	370	33.0	330	27.5	370	28.6	325	24.0	370	25.3	320	21.4	370	22.8	316	19.2	370	20.9	312	16.0	370	18.1	305								
120 in	30.4	317	30.9	289	25.3	317	26.0	284	21.7	317	22.5	280	19.0	317	19.9	276	16.9	317	17.9	273																	
144 in	17.6	220	17.8	203																																	

TABLE 13B

Anchor Capacity (lbs)	Substrate:	3k Concrete				3.5k Conc.	Hollow or Filled CMU						Filled CMU	Wood		Metal
	Anchor Type:	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		5/16" DeWalt Ultracon	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		1/4" SS DeWalt AggreGator	5/16" DeWalt Ultracon	1/4" SS DeWalt AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
	2 Anchors @ 5" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 1):	310 lbs	630 lbs	220 lbs	870 lbs	1700 lbs	230 lbs	370 lbs	320 lbs	580 lbs	374 lbs	720 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 3.5" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 2):	620 lbs	1260 lbs	440 lbs	1740 lbs	2525 lbs	460 lbs	740 lbs	640 lbs	1160 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs	
6 Anchors @ 2.71" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):	930 lbs	1890 lbs	648 lbs	2598 lbs	2254 lbs	646 lbs	1110 lbs	879 lbs	1678 lbs	N/A	1320 lbs	N/A	1022 lbs	1327 lbs	1680 lbs	

FIGURE 1:

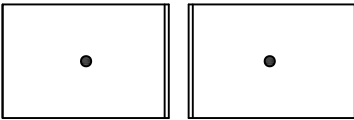


FIGURE 2:

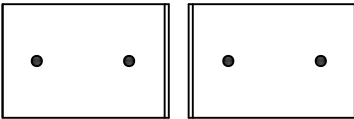
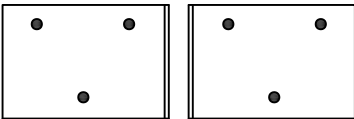


FIGURE 3:



ANGLE CLIP (FIGURES 1-3) MUST BE USED IN PAIRS.

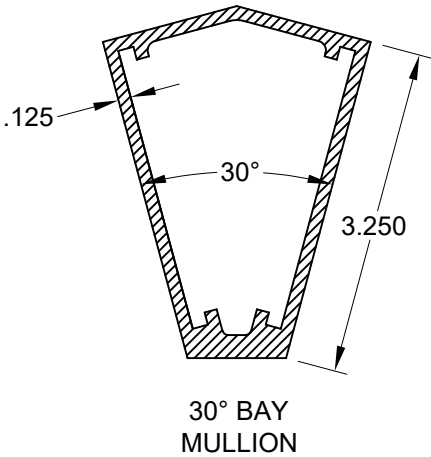
TABLE NOTES:

1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.

2) LINEAR INTERPOLATION BETWEEN MULL LENGTHS AND/OR OPENING WIDTHS IS ALLOWABLE.

3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE PART DRAWINGS. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON FOLLOWING SHEETS. FIGURES SHOW SUGGESTED, APPROXIMATE HOLE LOCATIONS.

4) IF A LOWER DESIGN PRESSURE AND ANCHOR QUANTITY IS DESIRED, SEE THE ANCHOR CAPACITY ADJUSTMENT FORMULA ON SHEET 1.



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REGISTRATION #29296

By: JENS ROSOWSKI
Date: 09/09/26

ALUMINUM CLIPPED MULLIONS

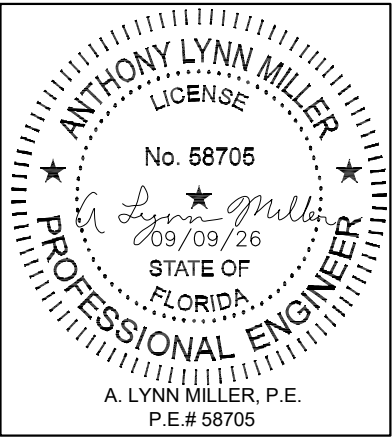
MULL DETAILS - 30 DEGREE BAY

MULLIONS

DWG No. 17 OF 23

SHEET

MULL-LM-HVHZ



Rev. #

Date

Rev.

TABLE 14A

Mullion Capacity Table (lbs/ft ²)																									
3.25" 45 DEG. AL BAY MULL		Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)																							
		50 in				60 in				70 in				80 in				90 in				100 in			
		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded		Point Loaded		Uniformly Loaded	
		Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
Mull Length	42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519	170.0	1116	170.0	521	170.0	1240	170.0	521
	48 in	170.0	708	170.0	524	170.0	850	170.0	584	170.0	992	170.0	630	170.0	1133	170.0	661	170.0	1275	170.0	677	170.0	1417	170.0	680
	50.625 in	170.0	747	170.0	563	170.0	896	170.0	631	170.0	1046	170.0	684	170.0	1195	170.0	723	170.0	1345	170.0	747	170.0	1494	170.0	756
	54 in	170.0	797	170.0	612	170.0	956	170.0	691	170.0	1116	170.0	754	170.0	1275	170.0	803	170.0	1434	170.0	837	155.2	1455	170.0	856
	60 in	170.0	885	170.0	701	170.0	1063	170.0	797	170.0	1240	170.0	878	157.1	1309	170.0	944	139.7	1309	170.0	996	125.7	1309	163.5	994
	63 in	170.0	930	170.0	745	170.0	1116	170.0	850	162.9	1247	170.0	940	142.5	1247	164.5	983	126.7	1247	152.6	965	114.0	1247	144.3	952
	66 in	170.0	974	170.0	789	170.0	1169	170.0	903	148.4	1190	163.7	965	129.9	1190	147.9	945	115.4	1190	136.5	928	103.9	1190	128.4	914
	72 in	161.6	1010	169.8	877	134.7	1010	144.6	859	115.4	1010	127.2	842	101.0	1010	114.7	828	89.8	1010	105.6	817	80.8	1010	98.9	807
	76 in	137.4	906	143.6	792	114.5	906	122.0	775	98.1	906	107.1	761	85.9	906	96.2	749	76.3	906	88.2	738	68.7	906	82.3	729
	78 in	127.1	861	132.5	754	105.9	861	112.5	738	90.8	861	98.6	725	79.4	861	88.5	713	70.6	861	81.0	703	63.6	861	75.4	694
	90 in	82.7	646	85.4	574	68.9	646	72.1	564	59.1	646	62.9	554	51.7	646	56.1	545	46.0	646	50.9	537	41.4	646	47.0	530
	96 in	68.2	568	70.1	508	56.8	568	59.1	499	48.7	568	51.4	491	42.6	568	45.8	483	37.9	568	41.4	476	34.1	568	38.1	470
	108 in	47.9	449	48.9	405	39.9	449	41.2	399	34.2	449	35.7	393	29.9	449	31.7	387	26.6	449	28.6	382	23.9	449	26.1	377
	111 in	44.1	425	45.0	385	36.8	425	37.9	379	31.5	425	32.8	373	27.6	425	29.1	367	24.5	425	26.2	362	22.1	425	24.0	358
	120 in	34.9	364	35.5	331	29.1	364	29.8	326	24.9	364	25.8	321	21.8	364	22.8	317	19.4	364	20.5	313	17.5	364	18.7	309
	144 in	20.2	253	20.4	233	16.8	253	17.1	230																

TABLE 14B

Anchor Capacity (lbs)	Substrate:	3k Concrete				3.5k Conc.	Hollow or Filled CMU						Filled CMU	Wood		Metal
	Anchor Type:	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		5/16" DeWalt Ultracon	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		1/4" SS DeWalt AggreGator	5/16" DeWalt Ultracon	1/4" SS DeWalt AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 5" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 1):		310 lbs	630 lbs	220 lbs	870 lbs	1700 lbs	230 lbs	370 lbs	320 lbs	580 lbs	374 lbs	720 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 3.5" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 2):		620 lbs	1260 lbs	440 lbs	1740 lbs	2525 lbs	460 lbs	740 lbs	640 lbs	1160 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
6 Anchors @ 2.71" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):		930 lbs	1890 lbs	648 lbs	2598 lbs	2254 lbs	646 lbs	1110 lbs	879 lbs	1678 lbs	N/A	1320 lbs	N/A	1022 lbs	1327 lbs	1680 lbs

FIGURE 1:

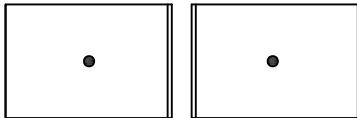


FIGURE 2:

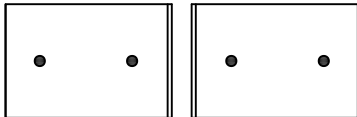
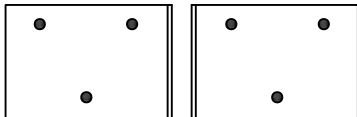


FIGURE 3:



ANGLE CLIP (FIGURES 1-3) MUST BE USED IN PAIRS.

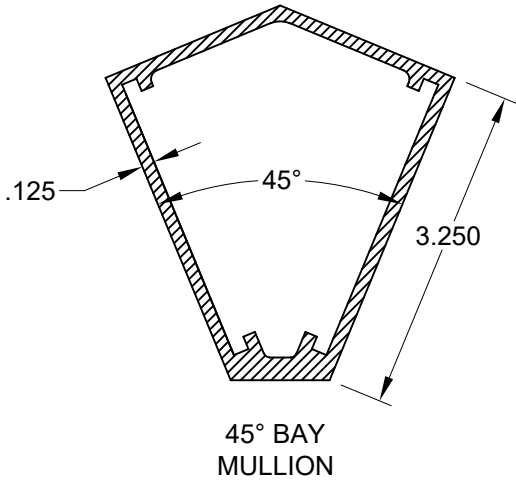
TABLE NOTES:

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4) IF A LOWER DESIGN PRESSURE AND ANCHOR QUANTITY IS DESIRED, SEE THE ANCHOR CAPACITY ADJUSTMENT FORMULA ON SHEET 1.



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By JENS ROSOWSKI

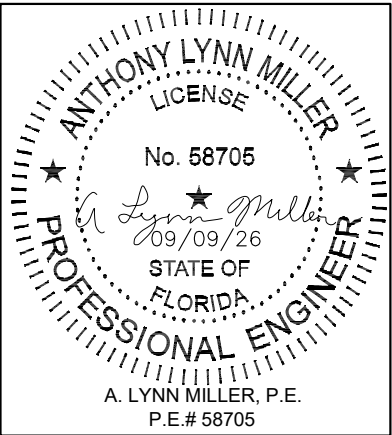
ALUMINUM CLIPPED MULLIONS

MULL DETAILS - 45 DEGREE BAY

MULLIONS

18 OF 23

MULL-LM-HVHZ



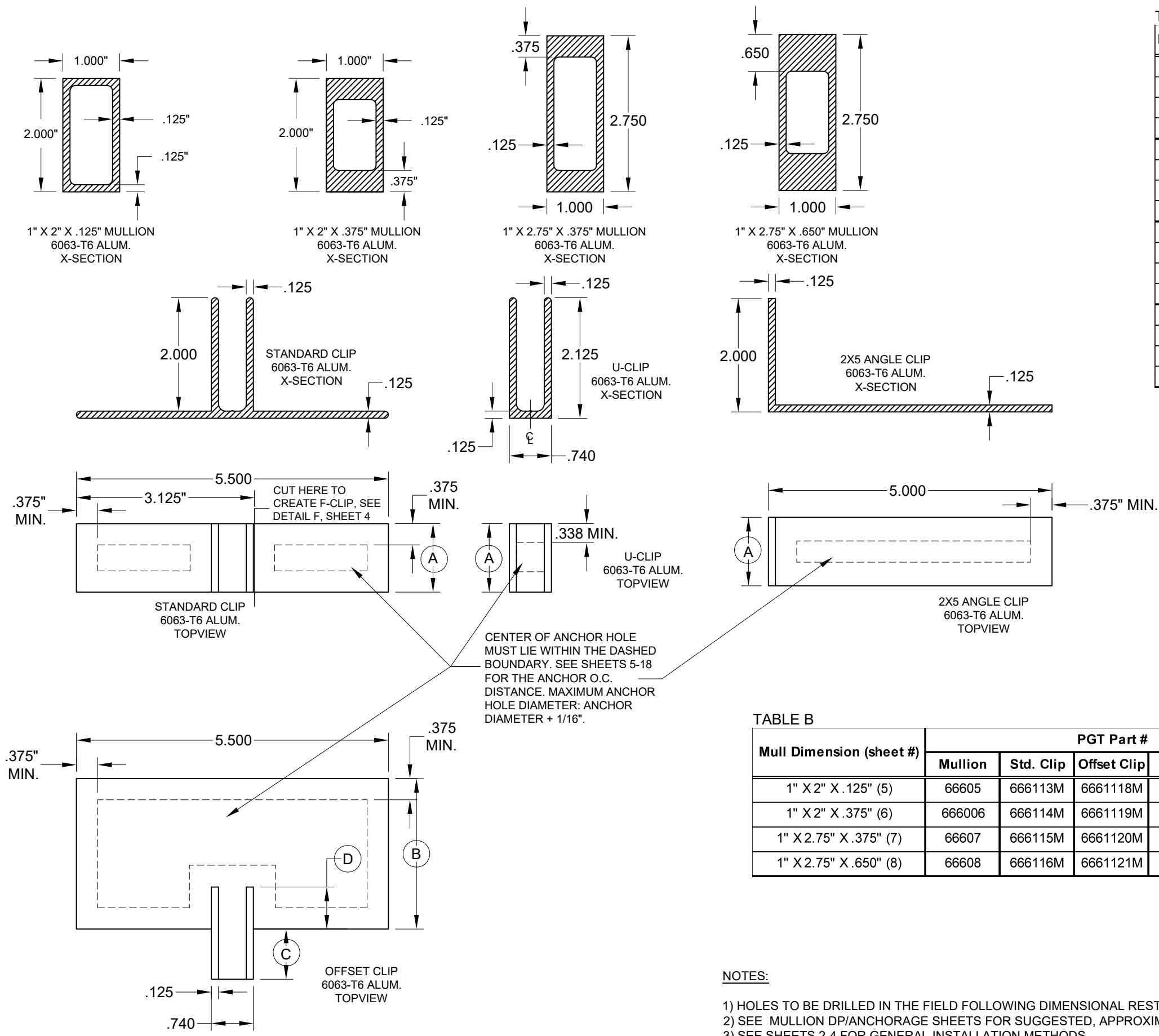


TABLE A		
Dimension	Value (in)	For Mullion:
A	1.625	1" X 2" X .125" Aluminum Tube Mullion
B	2.654	
C	0.895	
D	0.740	
A	1.125	1" X 2" X .375" Aluminum Tube Mullion
B	2.404	
C	0.635	
D	0.490	
A	1.875	1" X 2.75" X .375 Aluminum Tube Mullion
B	3.000	
C	0.757	
D	1.118	
A	1.312	1" X 2.75" X .650" Aluminum Tube Mullion
B	3.000	
C	0.476	
D	0.836	

Mull Dimension (sheet #)	PGT Part #				
	Mullion	Std. Clip	Offset Clip	U-Clip	Angle Clip
1" X 2" X .125" (5)	66605	666113M	6661118M	666243M	666511M
1" X 2" X .375" (6)	666006	666114M	6661119M	666244M	666512M
1" X 2.75" X .375" (7)	66607	666115M	6661120M	666245M	666513M
1" X 2.75" X .650" (8)	66608	666116M	6661121M	666246M	666514M

- NOTES:
- HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS GIVEN ON THIS SHEET.
 - SEE MULLION DP/ANCHORAGE SHEETS FOR SUGGESTED, APPROXIMATE HOLE LOCATIONS & ANCHOR O.C. DISTANCE.
 - SEE SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.

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ALUMINUM CLIPPED MULLIONS

CLIP DETAILS

MULLIONS

19 OF 23

19 OF 23

19 OF 23

DATE: 09/09/26

BY: JENS ROSOWSKI

TITLE: MULL-LM-HVHZ

ANTHONY LYNN MILLER

LICENSE

No. 58705

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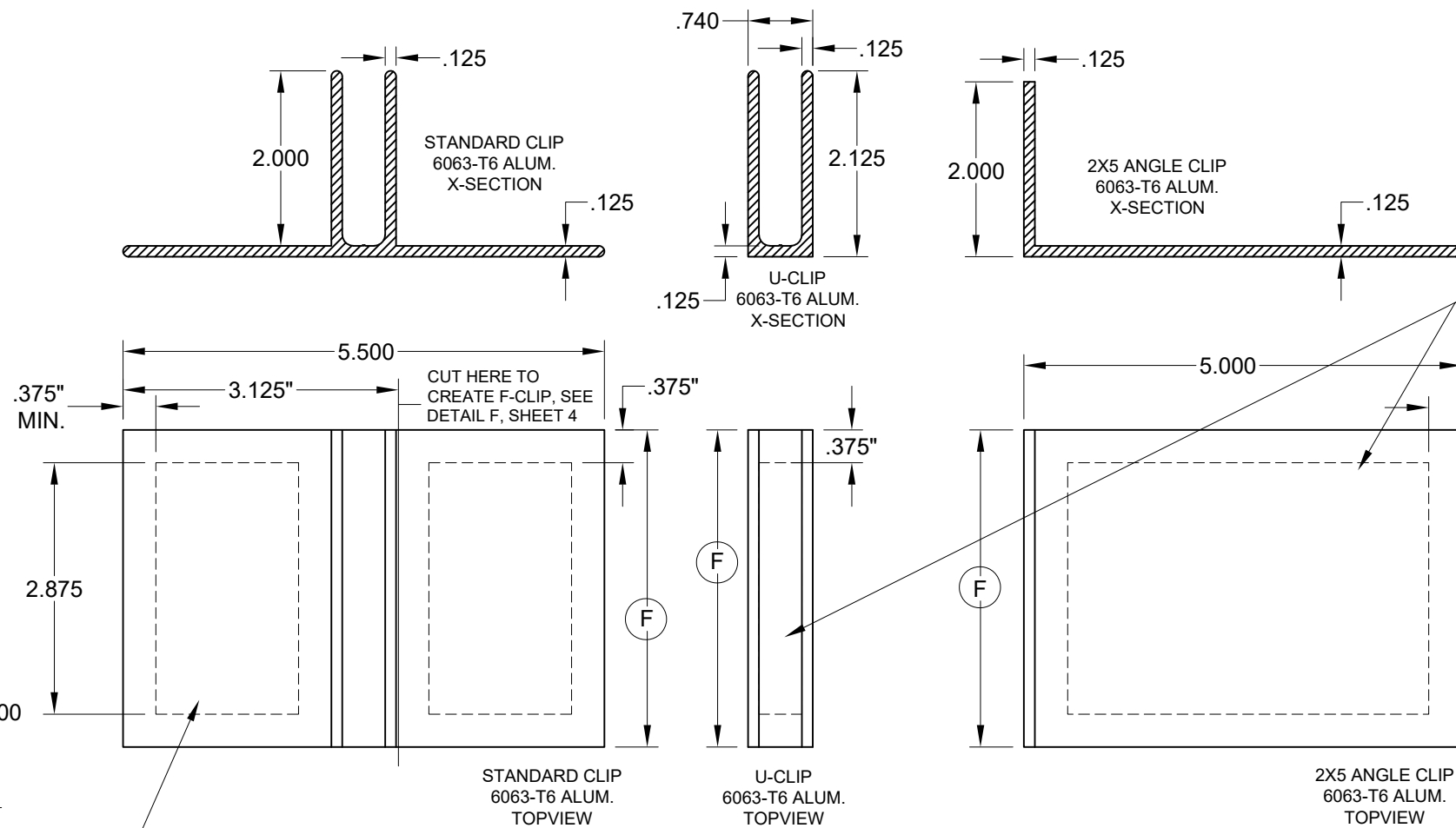
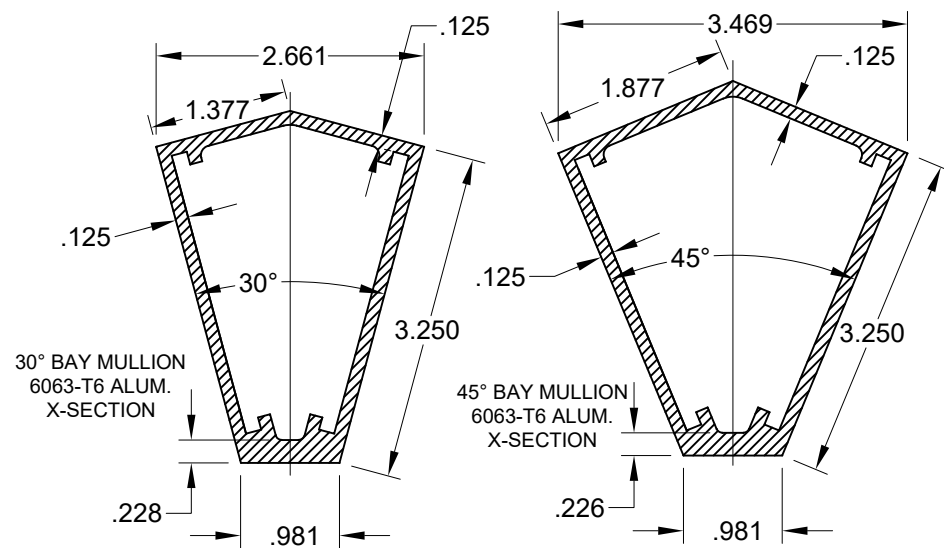
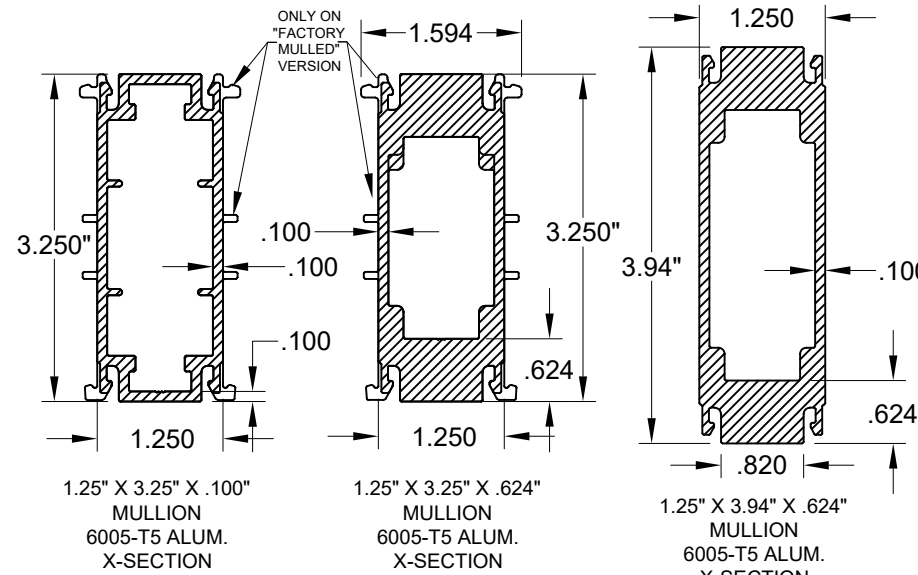
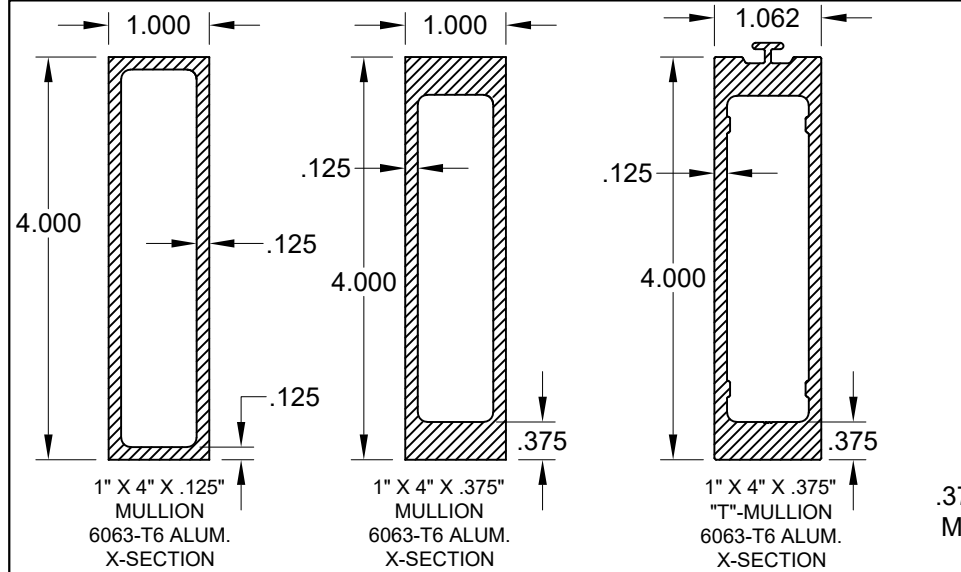
STATE OF FLORIDA

PROFESSIONAL ENGINEER

A. LYNN MILLER, P.E.

P.E.# 58705

Rev.	Date	Rev.



CENTER OF ANCHOR HOLE MUST LIE WITHIN THE DASHED BOUNDARY. SEE SHEETS 5-18 FOR THE ANCHOR O.C. DISTANCE. MAXIMUM ANCHOR HOLE DIAMETER: ANCHOR DIAMETER + 1/16".

CENTER OF ANCHOR HOLE MUST LIE WITHIN THE DASHED BOUNDARY. SEE SHEETS 5-18 FOR THE ANCHOR O.C. DISTANCE. MAXIMUM ANCHOR HOLE DIAMETER: ANCHOR DIAMETER + 1/16".

TABLE C

Dimension	Value (in)	For Mullion:
F	3.687	1" X 4" X
G	1.000	.125"
H	2.680	Aluminum
I	3.000	Tube Mullion
F	3.187	1" X 4" X
G	0.757	.375"
H	2.430	Aluminum
I	3.000	Tube & "T"
F	2.250	1.25" X 3.25"
G	0.750	X .100"
H	1.500	Aluminum
I	3.250	Tube Mullion

TABLE C, CONT.

Dimension	Value (in)	For Mullion:
F	1.938	1.25" X 3.25"
G	0.500	X .624"
H	1.438	Aluminum
I	3.250	Tube Mullion
F	2.625	1.25" X 3.94"
G	1.125	X .624"
H	1.500	Aluminum
I	3.250	Tube Mullion
F	2.813	30° Bay Mull
F	2.875	45° Bay Mull

TABLE D

Mull Dimension (sheet #)	PGT Part #				
	Mullion	Std. Clip	Offset Clip	U-Clip	Angle Clip
1" X 4" X .125" (10)	69364	666111M	6661122M	666241M	666518M
1" X 4" X .375" (11)	66610	666112M	6661123M	666242M	666519M
1" X 4" X .375" "T" (11)	66653	666112M	6661123M	666242M	666519M
1.25" X 3.25" X .100" (13)	20160/20312	6661127M	6661124M	6662410M	6665115M
1.25" X 3.25" X .624" (14)	20161/20315	6661128M	6661125M	6662411M	6665116M
1.25" X 3.94" X .624" (15)	20162	6661117M	6661126M	666241M	666517M
30 Degree (19)	66649	N/A	N/A	N/A	6665110M
45 Degree (20)	66650	N/A	N/A	N/A	6665111M

NOTES:

- HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS GIVEN ON THIS SHEET.
- SEE MULLION DP/ANCHORAGE SHEETS FOR SUGGESTED, APPROXIMATE HOLE LOCATIONS.
- SEE SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.

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ALUMINUM CLIPPED MULLIONS

CLIP DETAILS

MULLIONS

20 OF 23

JENS ROSOWSKI

MULL-LM-HVHZ

09/09/26

Rev. #

Date

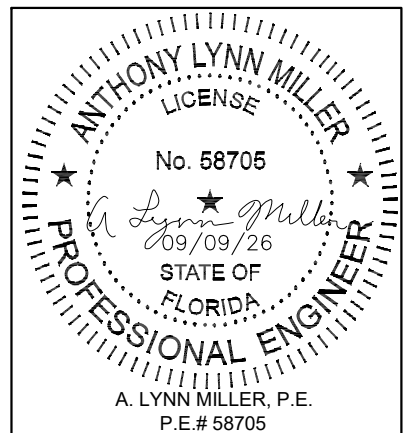
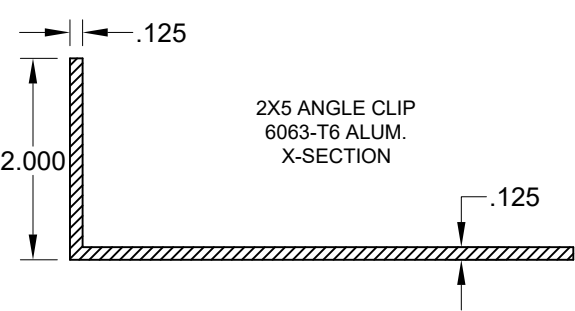
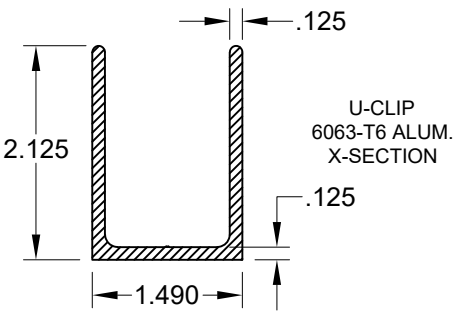
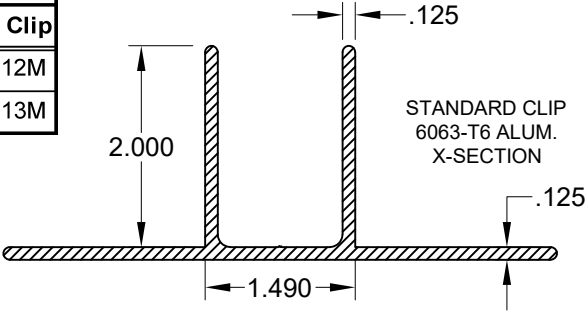
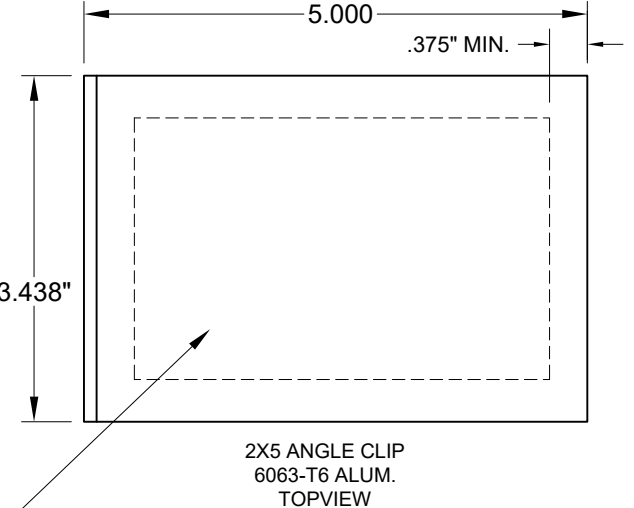
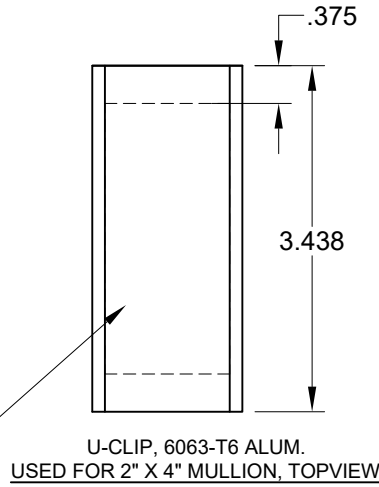
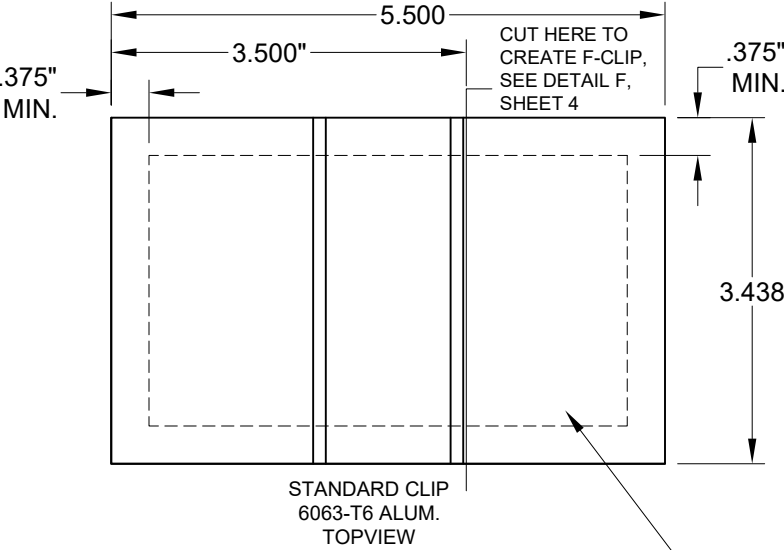
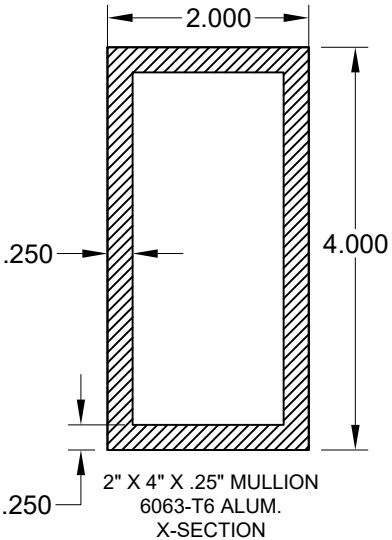


TABLE E

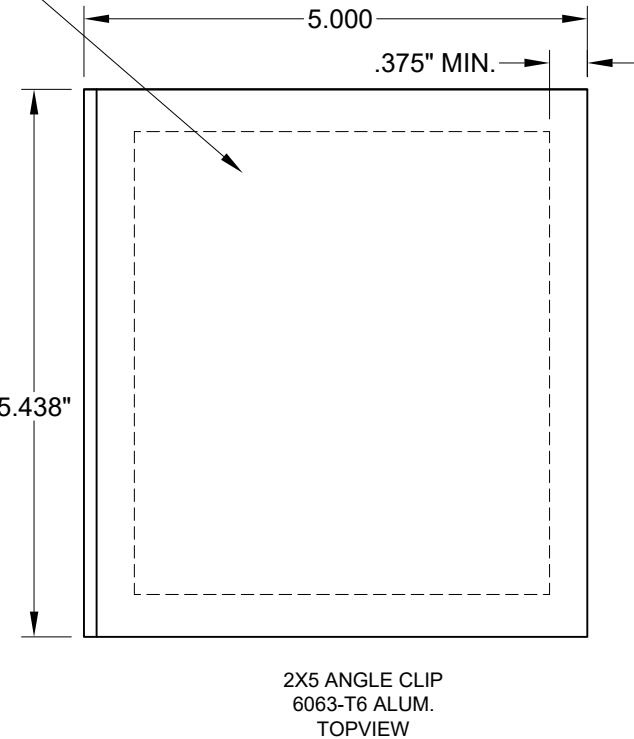
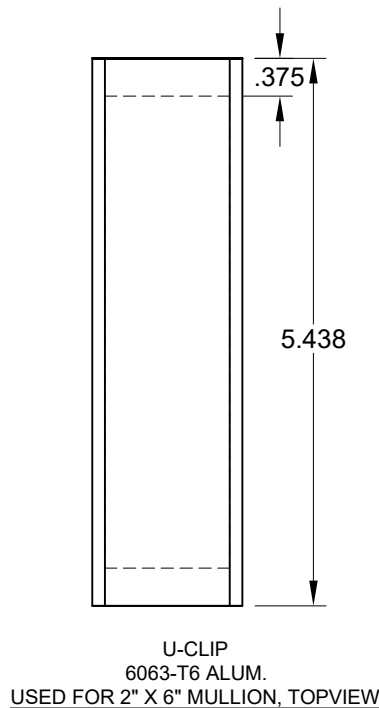
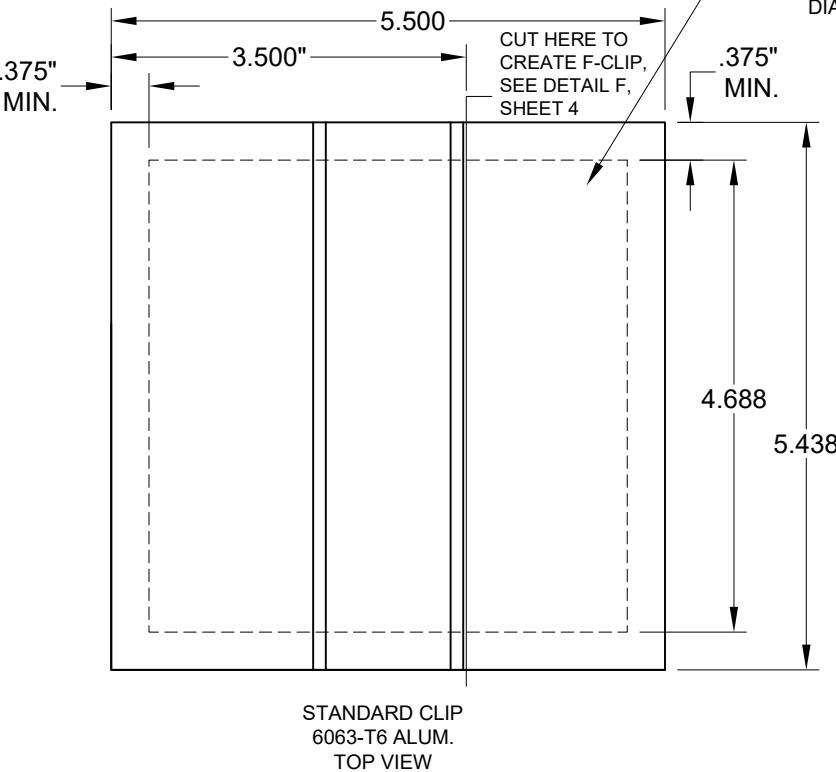
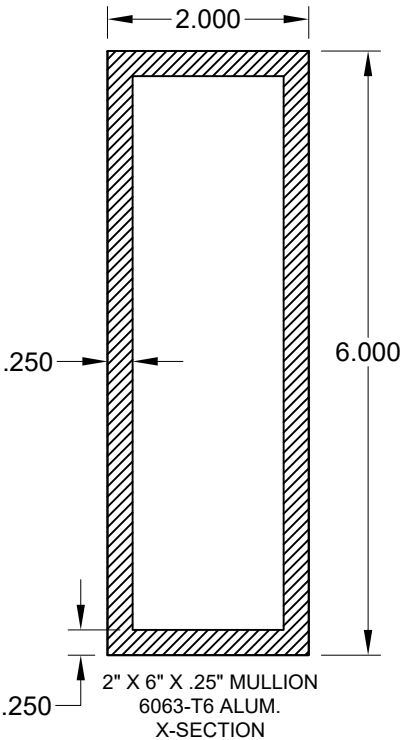
Mull Dimension (sheet #)	PGT Part #			
	Mullion	Std. Clip	U-Clip	Angle Clip
2" X 4" X .25" (16)	66602	666261M	666271M	6665112M
2" X 6" X .25" (17)	66604	666262M	666272M	6665113M



- NOTES:
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 - 4) FOR 2" X 8" CLIP DETAILS SEE MULLION DP/ANCHORAGE SHEET.



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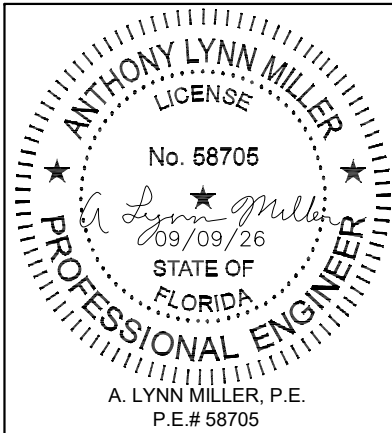
DATE: 09/09/26
BY: JENS ROSOWSKI
DRAWN: JENS ROSOWSKI

ALUMINUM CLIPPED MULLIONS
CLIP DETAILS
MULLIONS

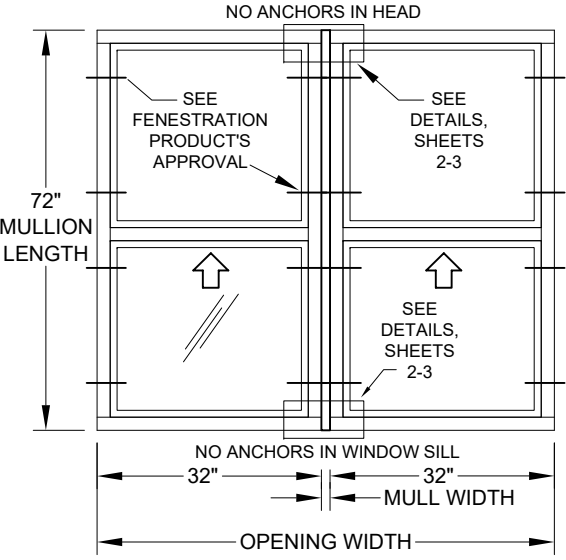
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21 OF 23

MULL-LM-HVHZ



EXAMPLE 1: SINGLE VERTICAL MULLION



THE BUILDING SUBSTRATE IS KNOWN TO BE WOOD ON ALL FOUR SIDES. THE WINDOW FRAME DEPTH IS 2-1/4". THE OPENING REQUIRES A DESIGN PRESSURE OF +65.0/-65.0 PSF.

1) INITIALLY ASSUMING THAT A 1" WIDE MULLION IS SUITABLE,THE MULLION LENGTH IS 72" AND THE OPENING WIDTH IS 32"+32+1" =65". REFERENCING SHEET 1, THE DP TABLE COLUMN USING UNIFORM LOADING BE USED. SCAN THE MULLION TABLES FOR A MULLION THAT IS AT LEAST THE WINDOW FRAME DEPTH OF 2-1/4" AND WILL MEET OR EXCEED THE REQUIRED DESIGN PRESSURE OF +65.0/-65.0 PSF. IF THE TABLE DOES NOT SHOW THE EXACT SIZE, USE THE NEXT LARGER SIZE AVAILABLE.

FROM TABLE 3A, SHEET 7, THE 1" X 2.75" X .375" MULLION (LENGTH = 72", OPENING WIDTH = 70") MEETS THE DEPTH REQUIRED, HOWEVER THE DESIGN PRESSURE IS +/-64.3 PSF AND WOULD NOT BE SUITABLE FOR THIS APPLICATION.

FROM TABLE 4A, SHEET 8, THE 1" X 2.75" X .650" MULLION (LENGTH = 72", OPENING WIDTH = 70") HAS A DESIGN PRESSURE OF +/-80.1 PSF WHICH EXCEEDS THE REQUIREMENTS FOR THE OPENING AND MAY BE USED IN THIS APPLICATION. NOTE THE ANCHOR CAPACITY REQUIRED OF 530 LBS.

2) USE TABLE 4B TO FIND THE ANCHOR TYPE, ANCHOR QUANTITY AND CLIP TYPE REQUIRED FOR THE WOOD SUBSTRATE. BOTH THE STANDARD CLIP WITH (4) #10 ANCHORS AND THE 2X5 ANGLE CLIPS WITH (4) #10 ANCHORS HAVE A CAPACITY OF 682 LBS. THOUGH EITHER ONE COULD BE USED, THE STANDARD CLIP IS EASIER TO INSTALL.

3) VERIFY THE DESIGN PRESSURE OF THE FENESTRATION PRODUCTS USED WITH THIS MULLION SYSTEM. THE LOWER DESIGN PRESSURE, OF MULLIONS OR FENESTRATION PRODUCTS, WILL APPLY TO THE OVERALL ASSEMBLY. FINAL DESIGN PRESSURE REQUIRES THAT THE BOTH THE MULLION AND THE FENESTRATION PRODUCT BE INSTALLED IN ACCORDANCE WITH THE INSTALLATION SPECIFICATIONS INTO RESPECTIVE SUBSTRATES AND FENESTRATION PRODUCTS TO MULLION.

IN THIS EXAMPLE, THE DESIGN PRESSURE REQUIRED WAS +/-65.0 PSF. THE OVERALL MULLION SYSTEM WAS DETERMINED TO BE 80.1 PSF WITH AN ANCHOR CAPACITY OF 530 LBS. ALTERNATIVELY, THE ANCHOR CAPACITY ADJUSTMENT FORMULA COULD HAVE BEEN USED TO CALCULATE THE ANCHOR CAPACITY REQUIRED FOR THE EXACT DESIGN PRESSURE OF 65 PSF:

$$(65 \text{ PSF}) \times \left(\frac{530 \text{ LBS}}{80.1 \text{ PSF}} \right) = 430.1 \text{ LBS} \quad (\text{MAY BE USED TO QUALIFY (2) \#12 STEEL SCREWS FROM TABLE 4B INSTEAD, SINCE THAT CAPACITY IS 442 LBS AND EXCEEDS THE REQUIREMENT OF 430.1 LBS.})$$

THE BUILDING SUBSTRATE IS KNOWN TO BE CMU ON THE JAMBS AND USES A CONCRETE HEADER AND SILL. THE WINDOW FRAME DEPTH IS 2-3/8". THE OPENING REQUIRES A DESIGN PRESSURE OF +50.0/-55.0 PSF.

FOR THE VERTICAL MULLION:

1) INITIALLY ASSUMING THAT A 1" WIDE MULLION IS SUITABLE, THE MULLION LENGTH IS 32"+72"+1"=105" AND THE OPENING WIDTH IS 36"+36"+1" =73". REFERENCING SHEET 1, THE DP TABLE COLUMN USING POINT LOADING SHALL BE USED. SCAN THE MULLION TABLES FOR A MULLION THAT IS AT LEAST THE WINDOW FRAME DEPTH OF 2-3/8" AND WILL MEET OR EXCEED THE REQUIRED DESIGN PRESSURE OF +50.0/-55.0 PSF. IF THE TABLE DOES NOT SHOW THE EXACT SIZE, USE THE NEXT LARGER SIZE AVAILABLE.

FROM TABLE 3A, SHEET 7, THE 1" X 2.75" X .375" MULLION (LENGTH = 108", OPENING WIDTH = 80") MEETS THE DEPTH REQUIRED, HOWEVER THE DESIGN PRESSURE IS +/-15.1 PSF AND WOULD NOT BE SUITABLE FOR THIS APPLICATION.

FROM TABLE 10A, SHEET 14, THE 2" X 4" X .250" MULLION (LENGTH = 108", OPENING WIDTH = 80") HAS A DESIGN PRESSURE OF +/-64.7 PSF WHICH EXCEEDS THE REQUIREMENTS FOR THE OPENING AND MAY BE USED IN THIS APPLICATION. NOTE THE ANCHOR CAPACITY REQUIRED OF 971 LBS.

BECAUSE IT IS NOW KNOWN THAT THE MULLION WILL ADD 2" TO THE WIDTH OF THE MULLED UNIT, THE ADJUSTED OPENING WIDTH IS 36"+36"+2"=74", NOT 73" AS PREVIOUSLY ASSUMED. VERIFY THAT THE DESIGN PRESSURE IS STILL APPLICABLE FOR THE ADJUSTED OPENING. ALTERNATIVELY, THE WINDOW WIDTHS MAY BE REDUCED TO MAINTAIN THE 73" DIMENSION (35-1/2"+35-1/2"+2"=73").

2) USE TABLE 10B TO FIND THE ANCHOR TYPE, ANCHOR QUANTITY AND CLIP TYPE REQUIRED FOR THE CONCRETE SUBSTRATE. IN THIS EXAMPLE, ASSUME THE POURED CONCRETE HEADER AND SILL ARE 8" WIDE. IF THE MULLION CLIP WERE TO BE CENTERED WITHIN THE 8", CARE MUST BE TAKEN TO MAINTAIN THE FASTENER'S EDGE DISTANCE. USING THE STANDARD CLIP WITH (6) 3/16" ULTRACON+ ANCHORS AT AN EDGE DISTANCE OF 2-1/2" GIVES AN ANCHOR CAPACITY OF 1890 LBS WHICH IS GREATER, AND THEREFORE SUITABLE, FOR THE REQUIRED ANCHOR CAPACITY OF 971 LBS.

FOR THE HORIZONTAL MULLIONS:

BECAUSE THE VERTICAL MULL WILL BE A 2" X 4" X .250" MULLION, IN THIS EXAMPLE WE WILL MATCH THE HORIZONTAL AND VERTICAL MULLIONS, ALTERNATIVELY, ANOTHER MULLION TYPE COULD BE CHOSEN.

1) THE MULLION LENGTH IS 36" AND THE OPENING HEIGHT IS 32"+72"+2" =106". REFERENCING SHEET 1, THE DP TABLE COLUMN USING UNIFORM LOADING MAY BE USED. FROM TABLE 10A, SHEET 14, THE 2" X 4" X .250" MULLION (@ LENGTH = 42", OPENING HEIGHT = 120") HAS A DESIGN PRESSURE OF +/-170.0 PSF WHICH EXCEEDS THE REQUIREMENTS FOR THE OPENING AND MAY BE USED IN THIS APPLICATION. NOTE THE ANCHOR CAPACITY REQUIRED OF 521 LBS.

2) USE TABLE 10B TO FIND THE ANCHOR TYPE, ANCHOR QUANTITY AND CLIP TYPE REQUIRED FOR THE CMU SUBSTRATE. IN THIS EXAMPLE, ASSUME THE CMU JAMBS ARE 8" WIDE. IF THE MULLION CLIP WERE TO BE CENTERED WITHIN THE 8", CARE MUST BE TAKEN TO MAINTAIN THE FASTENER'S EDGE DISTANCE. USING THE 2X5 ANGLE CLIPS WITH (4) 3/16" ULTRACON+ ANCHORS AT AN EDGE DISTANCE OF 2-1/2" GIVES AN ANCHOR CAPACITY OF 740 LBS WHICH IS GREATER, AND THEREFORE SUITABLE, FOR THE REQUIRED ANCHOR CAPACITY OF 521 LBS.

4) FOR THE U-CLIP IN THE HORIZONTAL MULLION TO VERTICAL MULLION, USE THE SAME ANCHOR CAPACITY OF 521 LBS. TABLE 10B FOR THE U-CLIP SHOWS THE ANCHOR CAPACITY IS 1074 LBS WHEN USING 3 ANCHORS, WHICH IS GREATER, AND THEREFORE SUITABLE, FOR THE REQUIRED ANCHOR CAPACITY REQUIREMENT OF 521 LBS. THE ANCHOR TYPE IS A #12 STEEL SCREW.

FROM THE ABOVE STEPS, OUR MULLION DESIGN PRESSURE IS:

+/-64.7 PSF FROM THE VERTICAL MULLION;

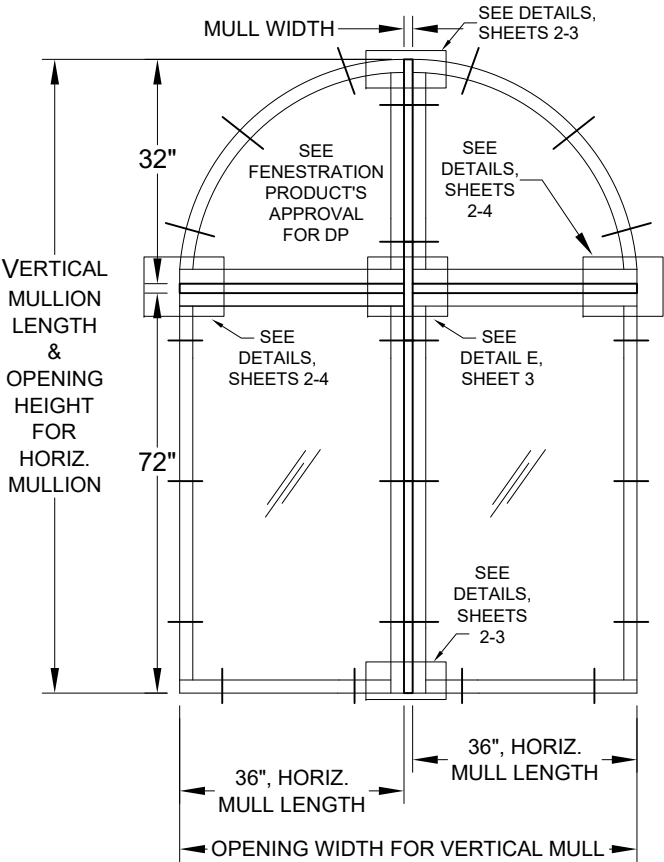
+/-170.0 PSF FROM THE 36" HORIZONTAL MULLION ATTACHING TO CMU;

+/-170.0 PSF FROM THE 36" HORIZONTAL MULLION ATTACHING TO THE VERTICAL MULLION (INTERSECTION).

THE LOWEST DESIGN PRESSURE IS +/-64.7 PSF AND WOULD APPLY TO ALL OF THE MULLIONS.

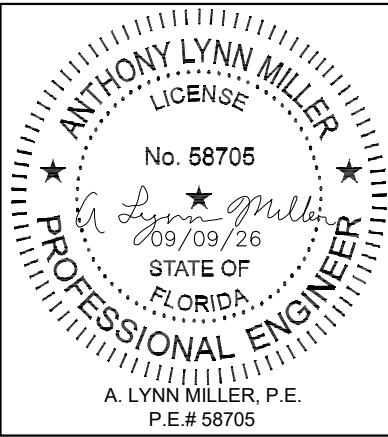
VERIFY THE DESIGN PRESSURE OF THE FENESTRATION PRODUCTS USED WITH THIS MULLION SYSTEM. THE LOWER DESIGN PRESSURE, OF MULLIONS OR FENESTRATION PRODUCTS, WILL APPLY TO THE OVERALL ASSEMBLY. FINAL DESIGN PRESSURE REQUIRES THAT THE BOTH THE MULLION AND THE FENESTRATION PRODUCT BE INSTALLED IN ACCORDANCE WITH THE INSTALLATION SPECIFICATIONS INTO RESPECTIVE SUBSTRATES AND FENESTRATION PRODUCTS TO MULLION.

EXAMPLE 2: MULTIPLE MULLIONS

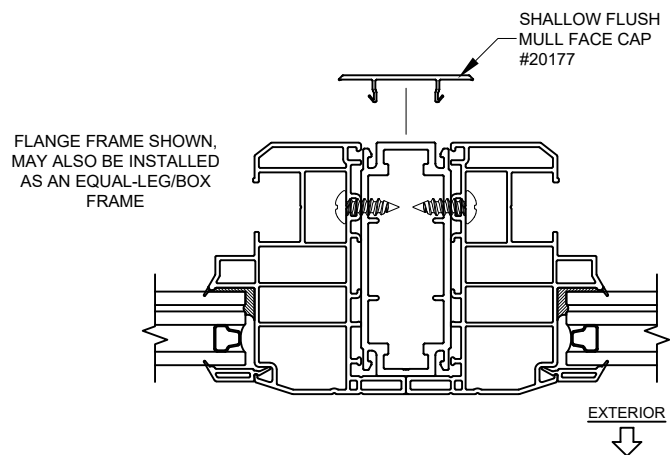


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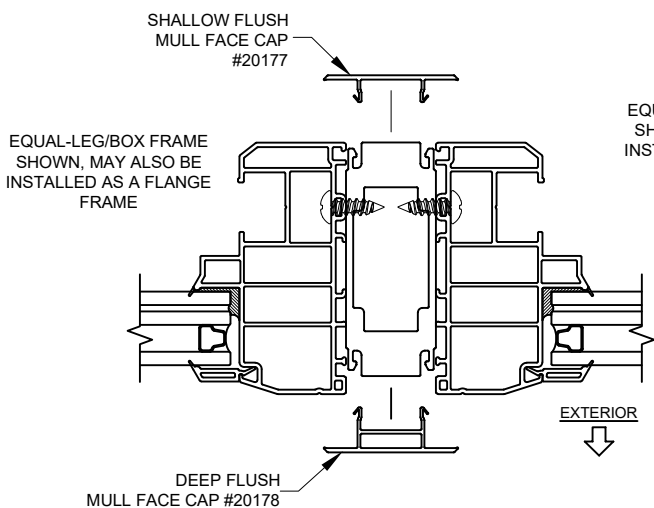
PGT® WINDOWS and DOORS 3400 PRECISION DRIVE N. VENICE, FL 34275 (941) 480-1600		PREPARED BY A. LYNN MILLER 3400 PRECISION DRIVE N. VENICE, FL 34275 (941) 480-1600		COPYRIGHT © 2026 PGT INDUSTRIES, LLC LIMITED LICENSE TO MAKE COPIES FOR PERMITTING.	
REGISTRATION #29296				ALUMINUM CLIPPED MULLIONS	
Title		Date		09/09/26	
EXAMPLES		Drawn By		JENS ROSOWSKI	
Series		Desc.		MULL-LM-HVHZ	
MULLIONS		Sheet		22 OF 23	
DWG		No.		MULL-LM-HVHZ	



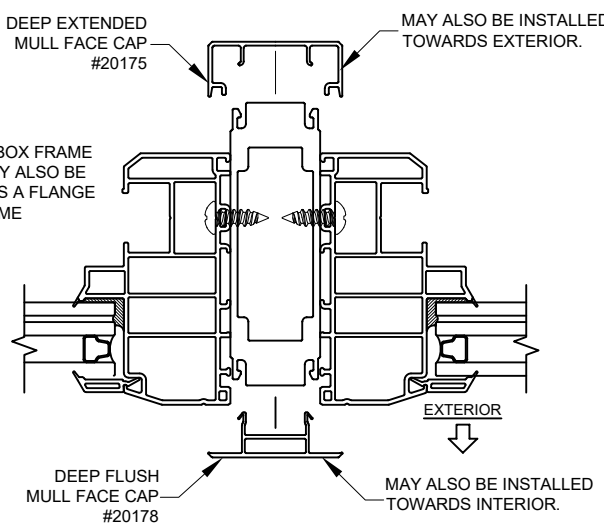
MULLIONS ON THIS SHEET
TO BE USED IN 5000
SERIES WINDOWS ONLY.



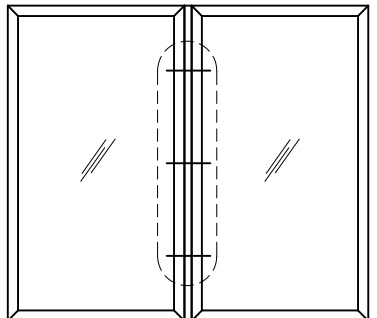
1.25" X 3.25" X .100"
MULLION & FACE CAPS



1.25" X 3.25" X .624"
MULLION & FACE CAPS

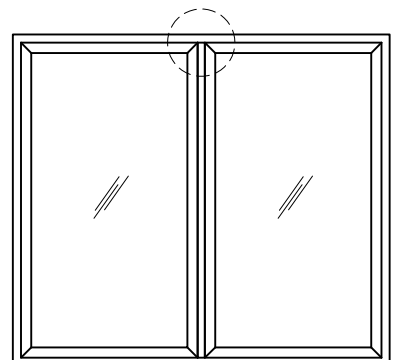
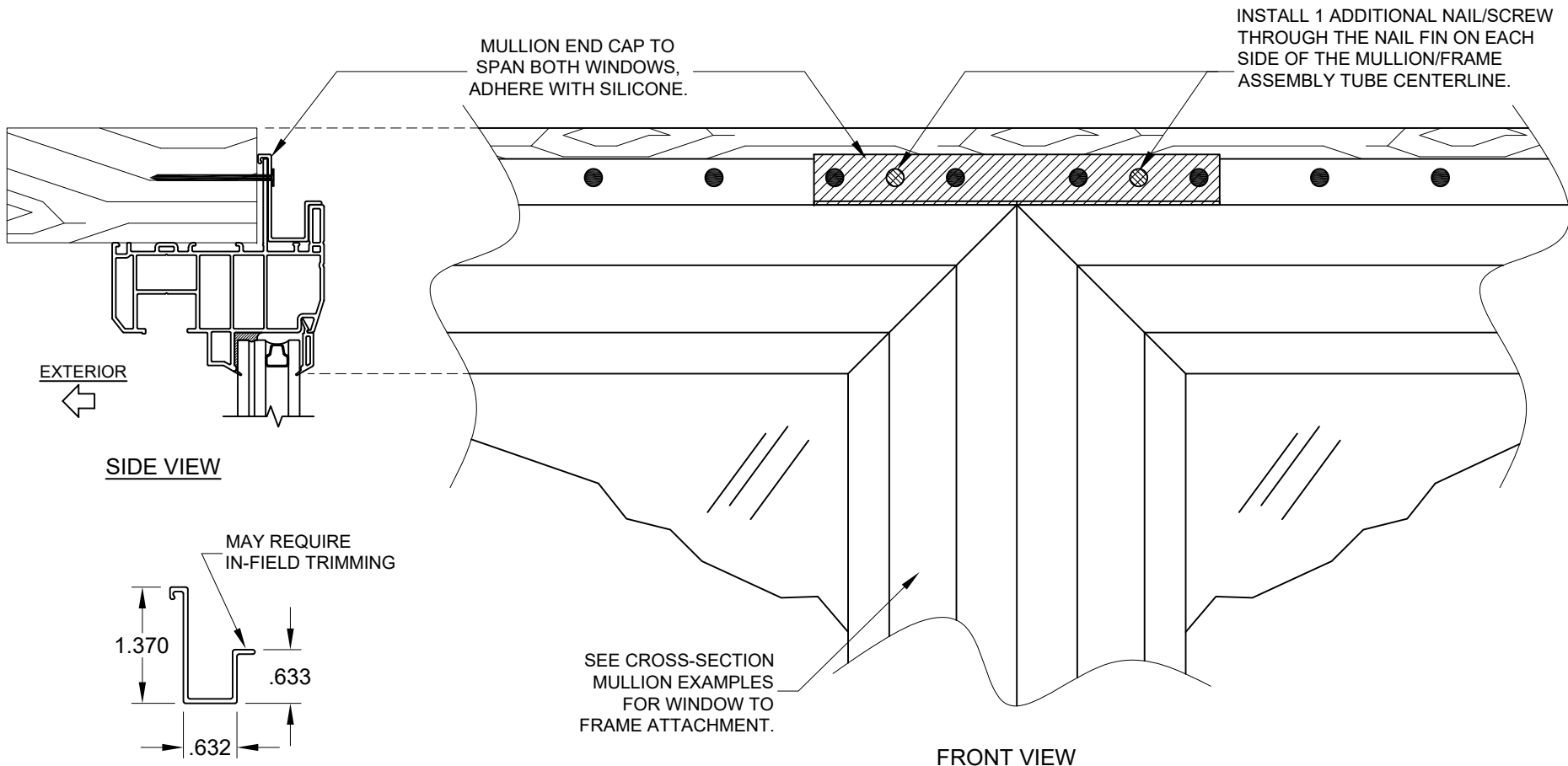


1.25" X 3.94" X .624"
MULLION & FACE CAPS



NOTES FOR MULLION TO WINDOW ATTACHMENT:

- 1) APPLIES TO ALL FRAME TYPES. MINIMUM ANCHOR LENGTH = 3/4".
- 2) USE ANCHOR TYPE AND SPACING AS PER THE WINDOW'S APPROVAL.
- 3) PICTURE WINDOW WITH VERTICAL MULLION SHOWN, ALL WINDOW TYPES AND MULLION ORIENTATIONS APPLICABLE.
- 4) IF APPLICABLE, NAIL FIN AND/OR FLANGE MAY BE REMOVED FROM THE WINDOW FRAME MEMBER BEING MULLED.



NOTES FOR MULLION END CAP:

- 1) APPLIES TO FIN OR J-CHANNEL FRAMES ONLY.
- 2) REQUIRED AT HEADER AND JAMBS.
- 3) PICTURE WINDOW WITH VERTICAL MULLION SHOWN, ALL WINDOW TYPES AND MULLION ORIENTATIONS APPLICABLE.

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