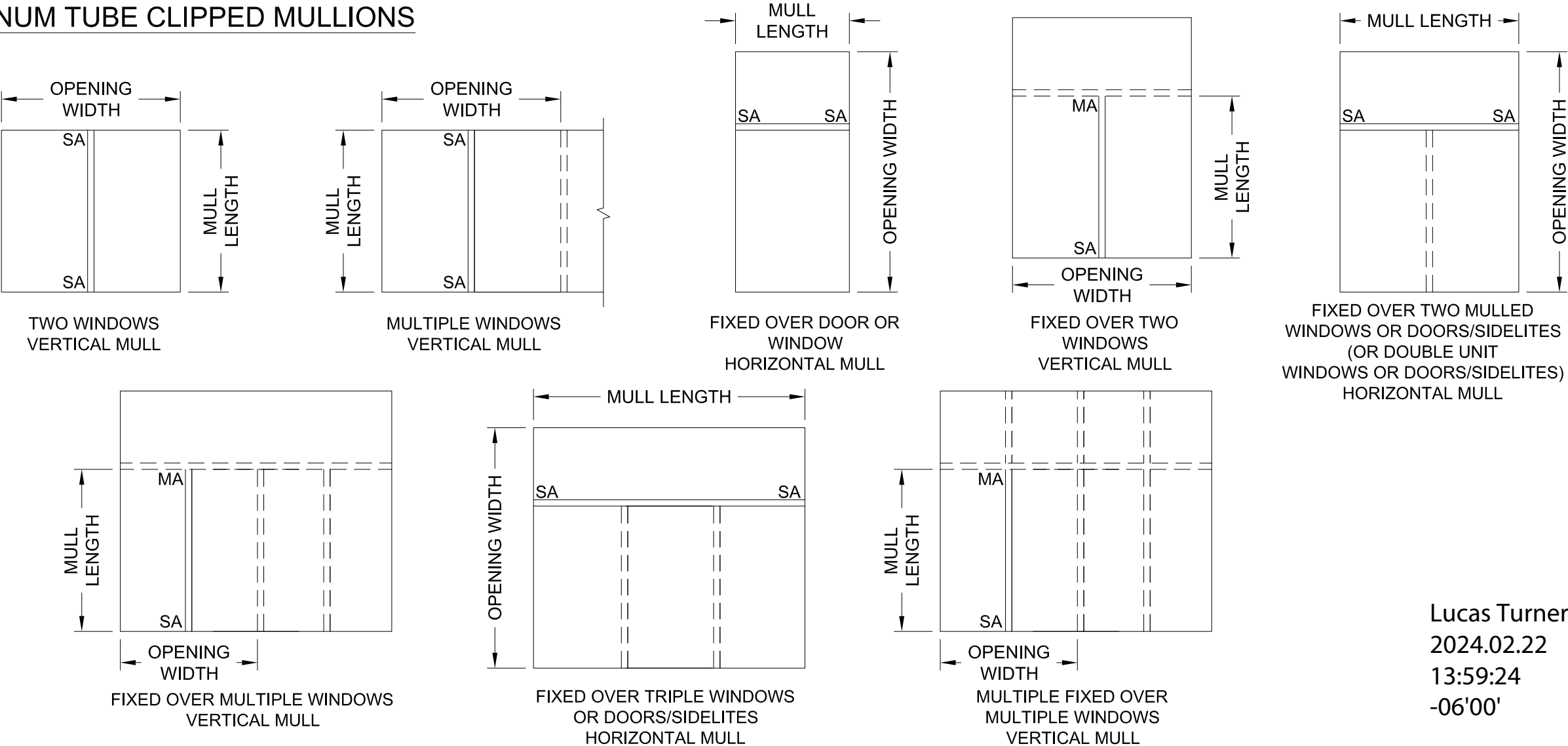


ALUMINUM TUBE CLIPPED MULLIONS



- NOTES:
- 1) MULLED PRODUCTS MAY BE MARVIN WINDOWS, DOORS, TRANSOMS, OR SIDELITES AS NOTED BELOW EACH ELEVATION. IN SAMPLE CONFIGURATIONS SHOWN, "FIXED" MAY REFER TO FIXED WINDOWS OR TRANSOMS/ SIDELITES, "WINDOW" MAY REFER TO ANY MARVIN OPERABLE OR FIXED WINDOW PRODUCT OR TRANSOMS/ SIDELITES, AND "DOORS/SIDELITES" MAY REFER TO ASSEMBLIES OF DOORS WITH OR WITHOUT SIDELITES.
- 2) "MULTIPLE" UNITS INDICATED IN SAMPLE ELEVATIONS MAY BE TRIPLES, QUADRUPLES, ETC. (ANY QUANTITY)
- 3) "SA" INDICATES SUBSTRATE ANCHORAGE OF THE MULLION TO THE OPENING
- 4) "MA" INDICATES MULLION ANCHORAGE TO ANOTHER MULLION

Lucas Turner
2024.02.22
13:59:24
-06'00'

SAMPLE ELEVATIONS - USE DESIGN PRESSURE CHARTS FOR LOAD CONDITION 1, SHEETS 6, 8, 10, AND 12

GENERAL NOTES

1. THE MULLIONS SHOWN IN THIS DOCUMENT ARE INTENDED TO JOIN MARVIN WINDOW AND DOOR PRODUCTS, SEE SEPARATE APPROVALS. DOOR AND WINDOW INSTALLATION TO THE MULLION SHALL BE IN ACCORDANCE WITH THE APPLICABLE SEPARATE PRODUCT APPROVALS FOR THOSE PRODUCTS FOR ATTACHMENT TO ALUMINUM SUBSTRATES. THE LEAST DESIGN PRESSURE OF THE MULLION OR ANY OF THE ASSEMBLED WINDOWS OR DOORS SHALL GOVERN FOR THE ENTIRE ASSEMBLY.

2. THIS DOCUMENT ADDRESSES PRODUCT ANCHORAGE TO ACHIEVE THE INDICATED DESIGN PRESSURES AT THE INDICATED SIZES, IN THE CONFIGURATIONS SHOWN IN THE ELEVATIONS. INSTALL MULLIONS WITH MAXIMUM SPACING BETWEEN MULL AND SUBSTRATE, MINIMUM ANCHOR EDGE DISTANCE AND EMBEDMENT, AND WITH FASTENER TYPES AS SHOWN IN THE DETAILS ON SHEETS 4 AND 5. SPECIFIED ANCHOR EMBEDMENT TO SUBSTRATE SHALL BE BEYOND WALL FINISH OR STUCCO. FOR FULL PRODUCT INSTALLATION INSTRUCTIONS SEE WWW.MARVIN.COM.

3. THESE MULLIONS ARE ACCEPTABLE FOR USE WITH BOTH IMPACT AND NON-IMPACT MARVIN WINDOWS AND DOORS.

4. THESE MULLIONS HAVE BEEN TESTED TO TAS 201/202/203 PROTOCOLS AS DOCUMENTED IN ATI REPORT 02-45131.01. THE DESIGN PRESSURE RATINGS IN THIS DRAWING ARE AS LIMITED BY MULLION STRESS, DEFLECTION, AND END REACTIONS, IN ACCORDANCE WITH THE FLORIDA BUILDING CODE INCLUDING THE HVHZ.

5. THE 4/3 ALLOWABLE STRESS INCREASE FACTOR (SHORT-TERM INCREASE FACTOR) HAS NOT BEEN USED IN THE ANCHOR ANALYSIS FOR THIS SYSTEM. THE 1.6 Cd FACTOR WAS USED IN THE ANALYSIS OF ANCHORAGE INTO WOOD SUBSTRATE.

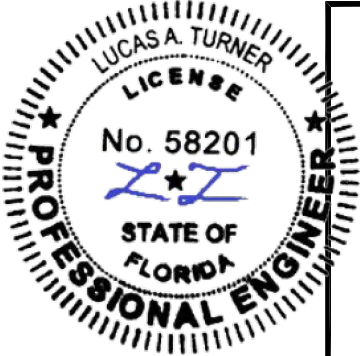
6. THE OPENING SUBSTRATE MATERIALS (FRAMING, MASONRY, BUCKS) AND ATTACHMENT OF BUCKS TO THE SUBSTRATE ARE BY OTHERS AND SHALL BE VERIFIED BY THE ARCHITECT OR ENGINEER OF RECORD OR AS APPROVED BY THE AUTHORITY HAVING JURISDICTION (AHJ). BUCKING, OPENINGS, & BUCKING FASTENERS MUST BE PROPERLY DESIGNED & INSTALLED BY OTHERS IN ACCORDANCE WITH THE FBC TO TRANSFER SUPERIMPOSED LOADS TO THE STRUCTURE. WHEN INSTALLING INTO CONCRETE/MASONRY WITH WOOD BUCKS LESS THAN 1-1/2" THICK, ANCHOR EMBEDMENT SHALL BE BEYOND THE BUCK INTO CONCRETE/MASONRY. WHEN INSTALLING INTO WOOD BUCKS 1-1/2" OR THICKER (WOOD FRAMING OR 2X BUCKS OVER CONCRETE/MASONRY), ANCHOR EMBEDMENT SHALL BE INTO THE WOOD.

7. DISSIMILAR MATERIALS THAT COME INTO CONTACT SHALL BE COATED OR OTHERWISE PROTECTED TO PREVENT GALVANIC REACTIONS. WOOD BUCKS, IF USED, SHALL BE PRESSURE TREATED, WITH EITHER A TREATMENT OR COATING COMPATIBLE WITH THIS PRODUCT. ALL ANCHORS USED SHALL BE OF A MATERIAL OR HAVE A COATING COMPATIBLE WITH THE PRESSURE TREATED WOOD BUCKS AND ALUMINUM AND TO PREVENT GALVANIC REACTIONS.

8. ALL CLIPS, ANGLES, FASTENERS, AND MULLIONS SHALL BE IN ACCORDANCE WITH THESE DRAWINGS, OR AS APPROVED, SIGNED, AND SEALED BY A FLORIDA-REGISTERED PROFESSIONAL ENGINEER ON A SITE-SPECIFIC BASIS. FASTENERS NOTED AS GRADE 5 (OR GR. 5) SHALL BE CARBON STEEL SAE GRADE 5 WITH CORROSION RESISTANT COATING, OR STAINLESS STEEL ALLOY GROUP 1 OR 2, CONDITION CW1 MIN.

9. SEALING AND FLASHING STRATEGIES FOR OVERALL WATER INFILTRATION RESISTANCE OF THE INSTALLED PRODUCT SHALL BE THE RESPONSIBILITY OF OTHERS AND ARE NOT ADDRESSED BY THIS DOCUMENT.

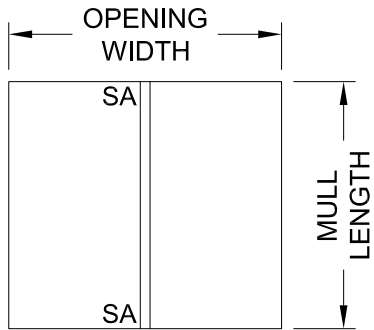
10. THESE MULLIONS ARE INTENDED TO RECEIVE WIND LOADS ONLY FROM ATTACHED WINDOWS AND DOORS AND ARE NOT INTENDED TO RESIST DEAD LOADS; THE MANUFACTURER/ INSTALLER SHALL ENSURE THAT STACKED ASSEMBLY DEAD LOADS DO NOT CAUSE UNDUE STRESS ON THE PRODUCTS BELOW.



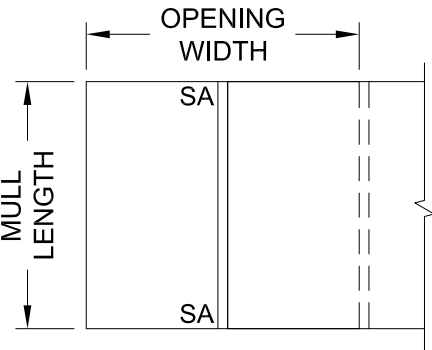
2/22/2024
LUCAS A. TURNER, P.E.
FL PE # 58201
TURNER ENGINEERING & CONSULTING, INC.
2428 OLD NATCHEZ TRC.
TRL., CAMDEN, TN 38320
PH. 941-380-1574

REVISIONS			
B	ADDED 1X3 MULLION OPTION		6/19/19
C	UPDATED FOR 8TH ED. 2023 FBC		2/22/24
MARVIN®WARROAD, MN, USA (218) 386-4021			
PRODUCT CATEGORY:		ALUMINUM TUBE CLIPPED MULLION MULLION	
UNIT TYPE:		ALUMINUM TUBE	
SHEET DESCRIPTION: NOTES, LOAD CONDITION 1 ELEVATIONS			
SIZE: B	CLASS: ANCHOR	DWG NO: MULL-FPA FL18596	
SCALE: NTS	DWG BY: LAT	DATE: 6/19/2019	SHEET: 1 of 12

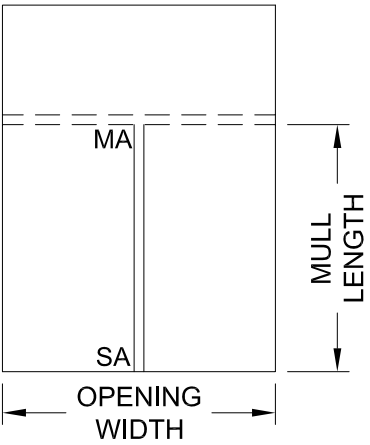
ALUMINUM TUBE CLIPPED MULLIONS



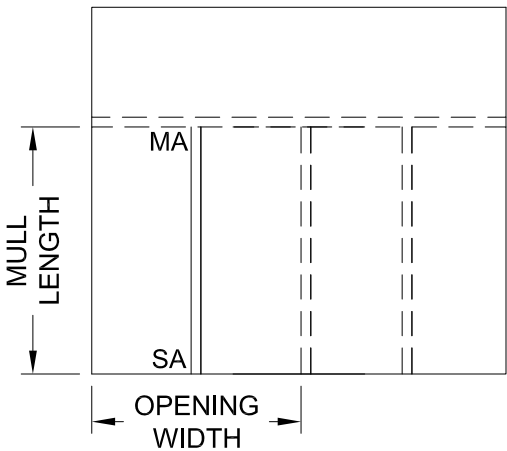
TWO DOORS/SIDELITES
VERTICAL MULL



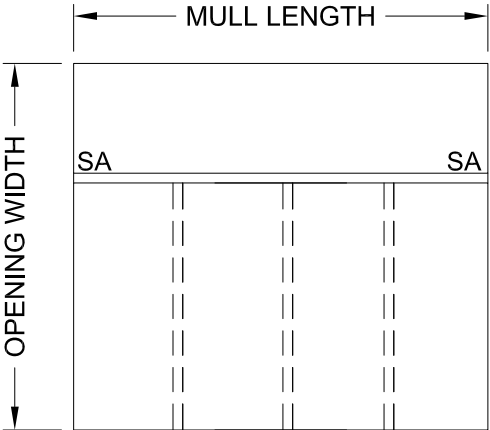
MULTIPLE
DOORS/SIDELITES
VERTICAL MULL



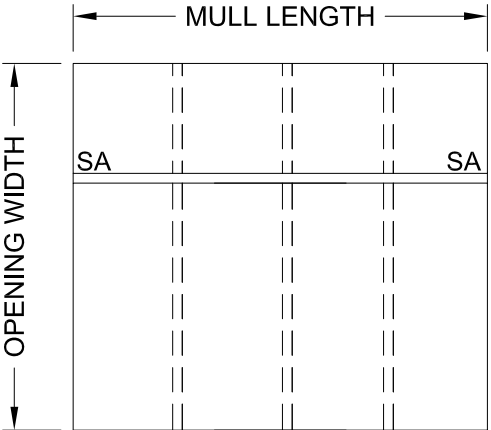
FIXED OVER TWO
DOORS/SIDELITES
VERTICAL MULL



FIXED OVER MULTIPLE
DOORS/SIDELITES
VERTICAL MULL



FIXED OVER QUADRUPLE OR
MORE WINDOWS OR DOORS
HORIZONTAL MULL



MULTIPLE FIXED OVER
MULTIPLE WINDOWS OR
DOORS/SIDELITES
HORIZONTAL MULL

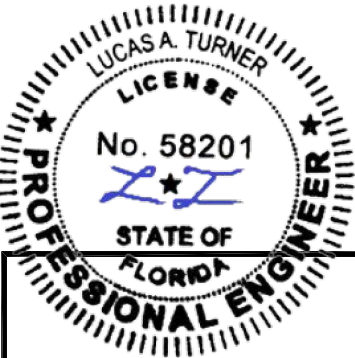
NOTES:

1) MULLED PRODUCTS MAY BE MARVIN WINDOWS, DOORS, TRANSOMS, OR SIDELITES AS NOTED BELOW EACH ELEVATION. IN SAMPLE CONFIGURATIONS SHOWN, "FIXED" MAY REFER TO FIXED WINDOWS OR TRANSOMS/ SIDELITES, "WINDOW" MAY REFER TO ANY MARVIN OPERABLE OR FIXED WINDOW PRODUCT OR TRANSOMS/ SIDELITES, AND "DOORS/SIDELITES" MAY REFER TO ASSEMBLIES OF DOORS WITH OR WITHOUT SIDELITES.

2) "MULTIPLE" UNITS INDICATED IN SAMPLE ELEVATIONS MAY BE TRIPLES, QUADRUPLES, ETC. (ANY QUANTITY)

3) "SA" INDICATES SUBSTRATE ANCHORAGE OF THE MULLION TO THE OPENING

4) "MA" INDICATES MULLION ANCHORAGE TO ANOTHER MULLION

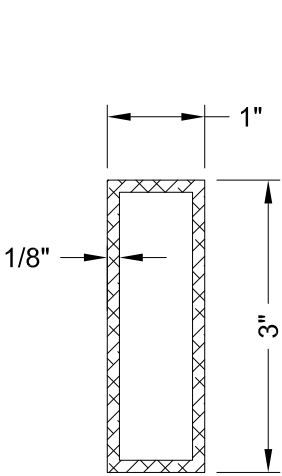


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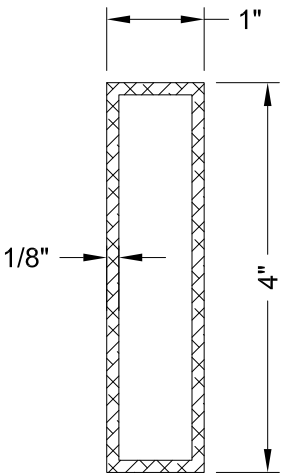
SAMPLE ELEVATIONS - USE DESIGN PRESSURE CHARTS FOR LOAD CONDITION 2, SHEETS 7, 9, 11, AND 12

REVISIONS			
B	ADDED 1X3 MULLION OPTION		6/19/19
C	UPDATED FOR 8TH ED. 2023 FBC		2/22/24
MARVIN® WARROAD, MN, USA (218) 386-4021			
PRODUCT CATEGORY:		ALUMINUM TUBE CLIPPED MULLION MULLION	
UNIT TYPE:		ALUMINUM TUBE	
SHEET DESCRIPTION: LOAD CONDITION 2 ELEVATIONS			
SIZE: B	CLASS: ANCHOR	DWG NO: MULL-FPA FL18596	
SCALE: NTS	DWG BY: LAT	DATE: 6/19/2019	SHEET: 2 of 12

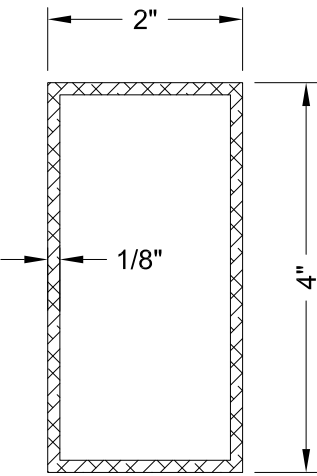
ALUMINUM TUBE CLIPPED MULLIONS



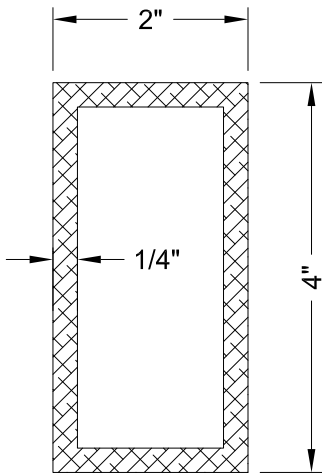
1x3x1/8" MULL
6063-T6 MIN.



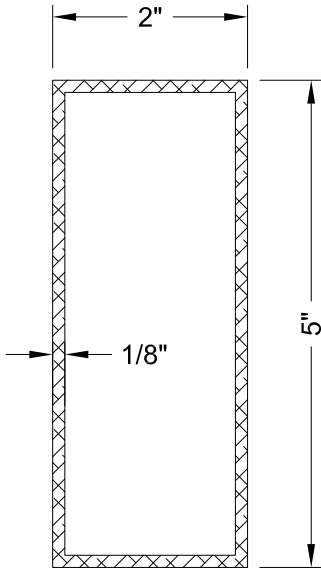
1x4x1/8" MULL
6063-T6 MIN.



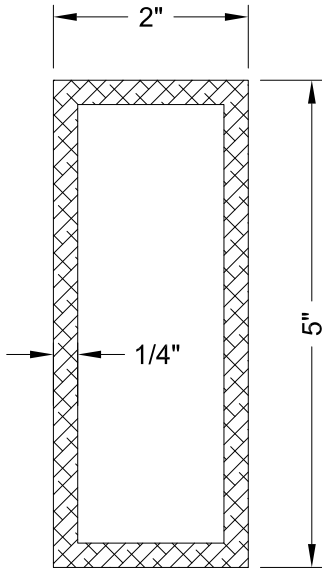
2x4x1/8" MULL
6063-T6 MIN.



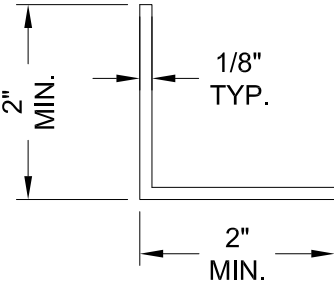
2x4x1/4" MULL
6063-T6 MIN.



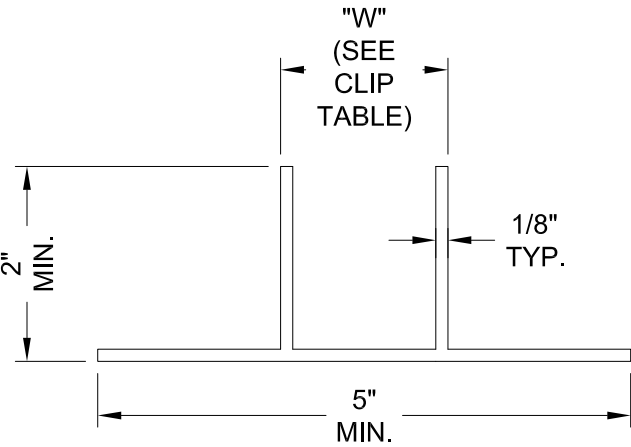
2x5x1/8" MULL
6063-T6 MIN.



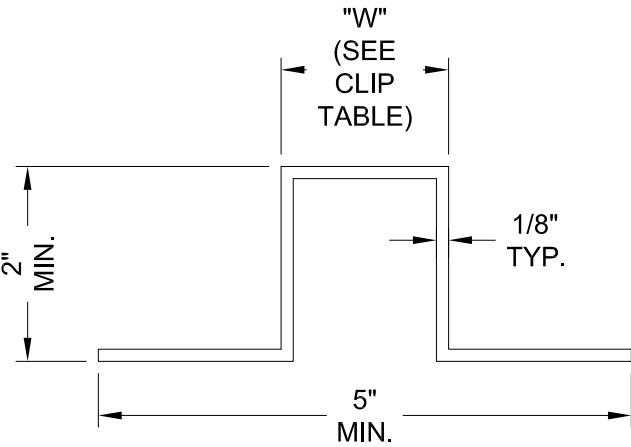
2x5x1/4" MULL
6063-T6 MIN.



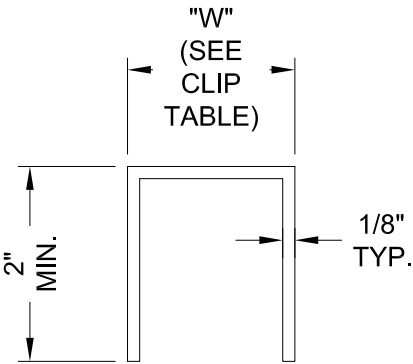
L-ANGLE
6063-T6 MIN.



T-CLIP
6063-T6 MIN.



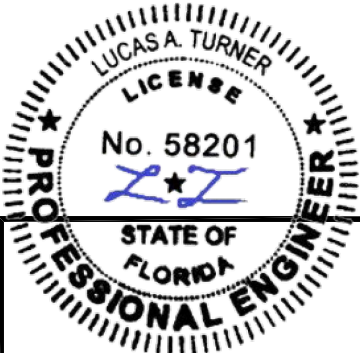
ALTERNATE T-CLIP
(BENT OR EXTRUDED)
6063-T6 MIN.



U-CLIP
(T OR U CLIP WITH
FLANGES REMOVED)
6063-T6 MIN.

CLIP TABLE		
MULL	"W" INSIDE TUBE *	"W" OUTSIDE TUBE *
1x3x1/8 & 1x4x1/8	11/16"	1-1/4"
2x4x1/8 & 2x5x1/8	1-11/16"	2-1/4"
2x4x1/4 & 2x5x1/4	1-7/16"	2-1/2"

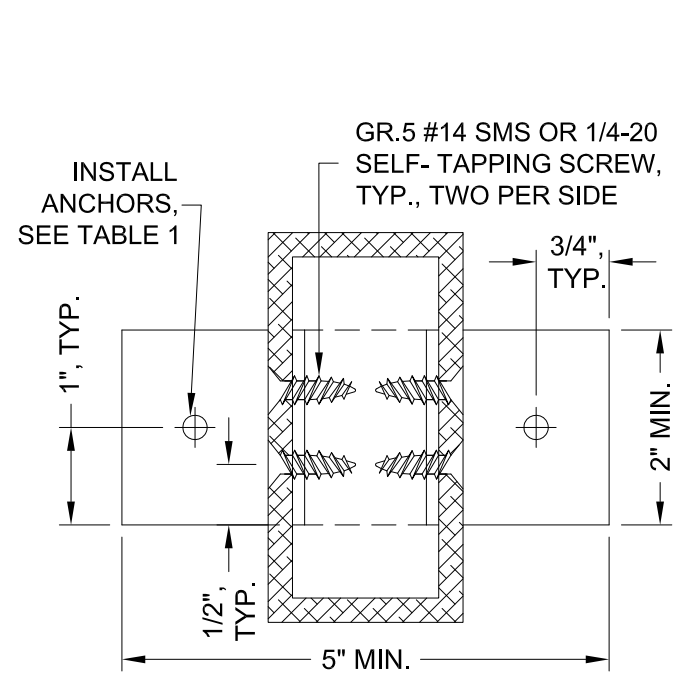
* CLIPS MAY BE LOCATED INSIDE TUBE OR
SNUGLY AROUND OUTSIDE OF TUBE;
ANCHORAGE IS UNCHANGED EITHER WAY.



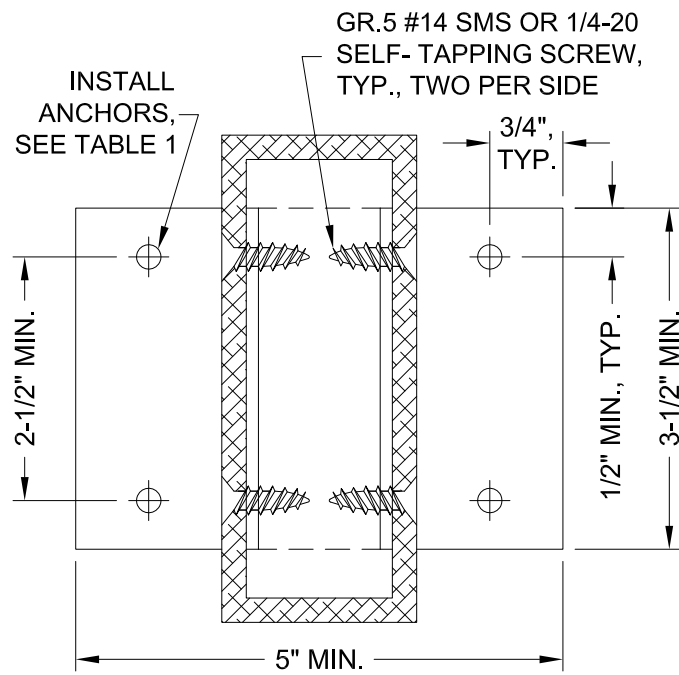
2/22/2024
LUCAS A. TURNER, P.E.
FL PE # 58201
TURNER ENGINEERING &
CONSULTING, INC.
2428 OLD NATCHEZ TRC.
TRL., CAMDEN, TN 38320
PH. 941-380-1574

REVISIONS			
B	ADDED 1X3 MULLION OPTION		6/19/19
C	UPDATED FOR 8TH ED. 2023 FBC		2/22/24
MARVIN®  WARROAD, MN, USA (218) 386-4021			
PRODUCT CATEGORY:		ALUMINUM TUBE CLIPPED MULLION MULLION	
UNIT TYPE:		ALUMINUM TUBE	
SHEET DESCRIPTION:			
PART DRAWINGS			
SIZE: B	CLASS: ANCHOR	DWG NO: MULL-FPA FL18596	
SCALE: NTS	DWG BY: LAT	DATE: 6/19/2019	SHEET: 3 of 12

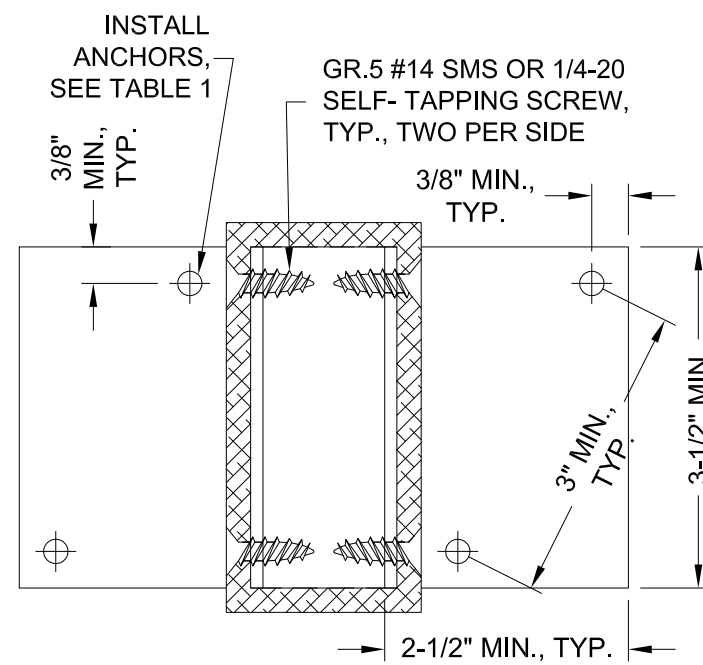
ALUMINUM TUBE CLIPPED MULLIONS



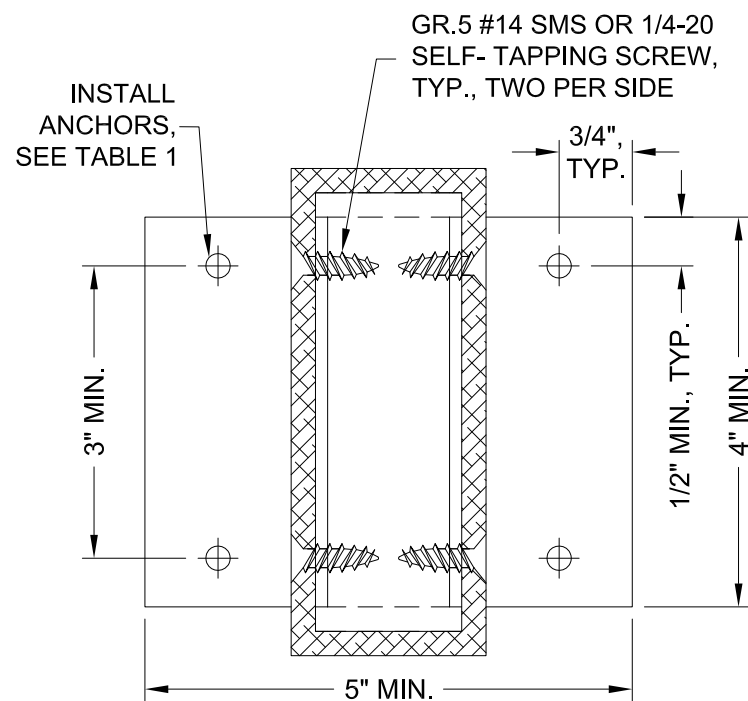
"SA" ANCHORAGE A, ANY MULL
2" CLIPS OR T-ANCHOR
WOOD, BLOCK, CONCRETE, METAL



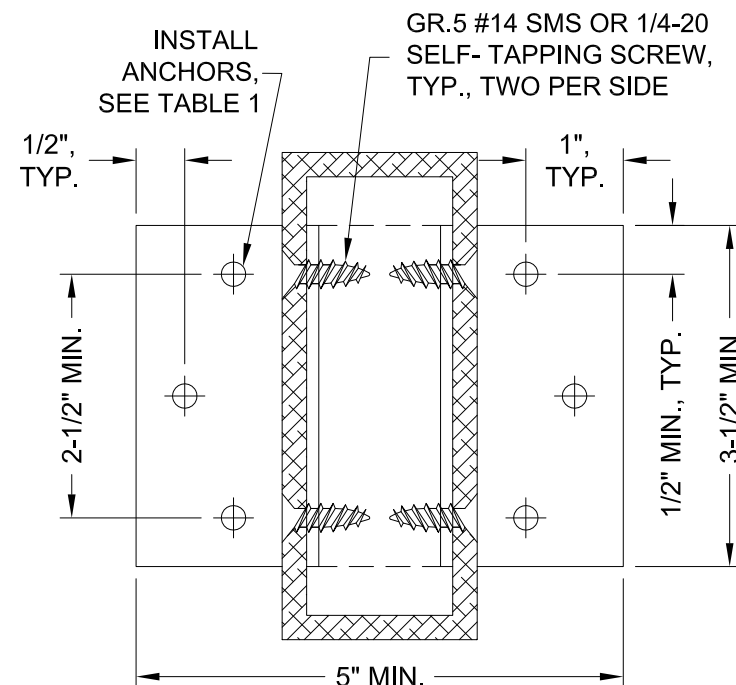
"SA" ANCHORAGE B, ANY 4" OR 5" MULL
2" CLIPS OR T-ANCHOR
WOOD, CONCRETE, METAL



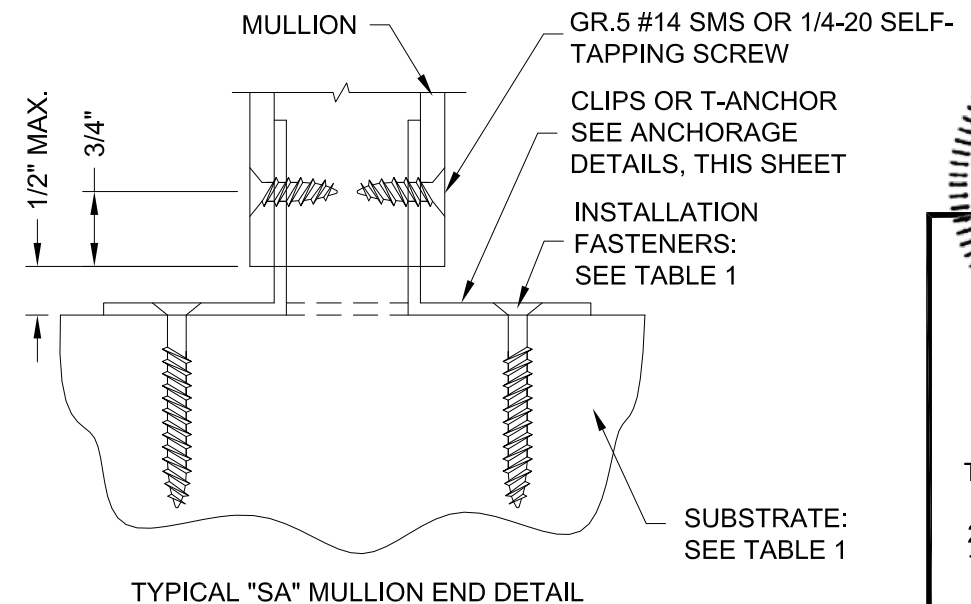
"SA" ANCHORAGE C, 4" MULLS
2-1/2" CLIPS
BLOCK



"SA" ANCHORAGE D, 5" MULLS
2" CLIPS OR T-ANCHOR
BLOCK



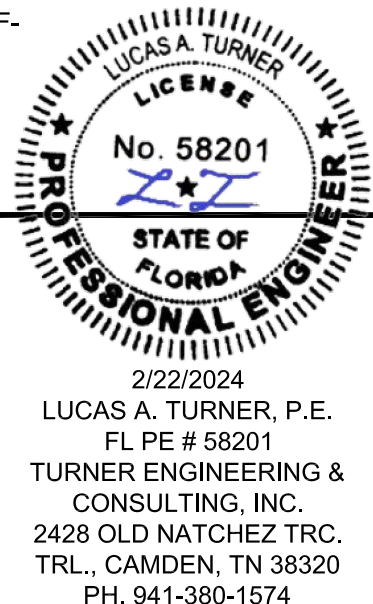
"SA" ANCHORAGE E, ANY 4" OR 5" MULL
2" CLIPS OR T-ANCHOR
WOOD, METAL



TYPICAL "SA" MULLION END DETAIL

TABLE 1: "SA" INSTALLATION ANCHORS		
ANCHOR TYPE	MINIMUM EMBEDMENT	MINIMUM EDGE DIST.
SOLID UNCRACKED CONCRETE (3.0 KSI MIN.)		
1/4" HILTI KWIK CON II+	1"	2-1/2"
1/4" DEWALT ULTRACON+	1-3/4"	2-1/2"
HOLLOW OR GROUT-FILLED CONCRETE BLOCK (ASTM C-90)		
1/4" HILTI KWIK CON II+	1"	2-1/2"
1/4" ELCO CRETE-FLEX SS4	1-1/4"	2-1/2"
METAL (ALUMINUM 1/8" MIN. 6063-T5 MIN., STEEL 1/8" MIN A-36 MIN.)		
#12 SELF-DRILLING SCREW GRADE 5 * MIN.	FULL THREAD THRU 0.125"	1/2"
METAL (STEEL STUD 16-GAUGE MIN., 33 KSI MIN.)		
#12 DEWALT DRIL-FLEX OR #12 HILTI KWIK-FLEX	FULL THREAD THRU 0.060"	1/2"
WOOD (SOUTHERN PINE G=0.55 MIN.)		
#14 SCREW, GRADE 5 * MIN.	1-3/8"	1"

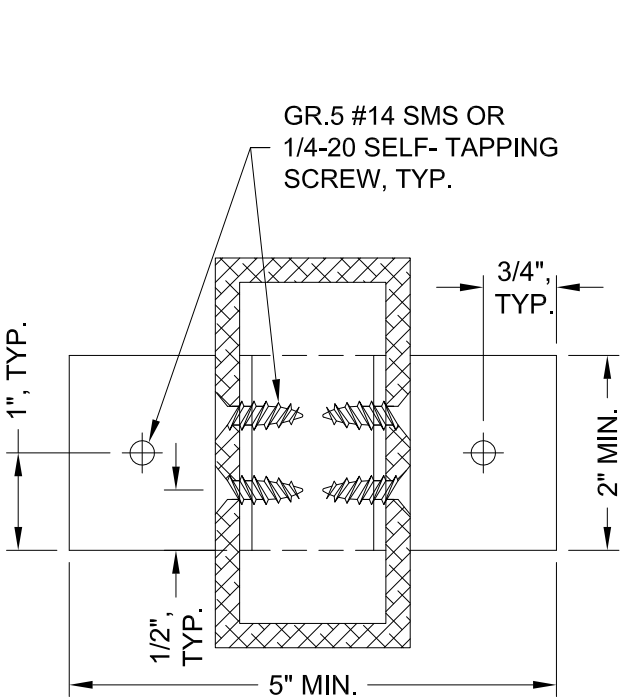
* FASTENERS NOTED AS GRADE 5 SHALL BE CARBON STEEL SAE GRADE 5 WITH CORROSION RESISTANT COATING, OR STAINLESS STEEL ALLOY GROUP 1 OR 2, CONDITION CW1 MIN.



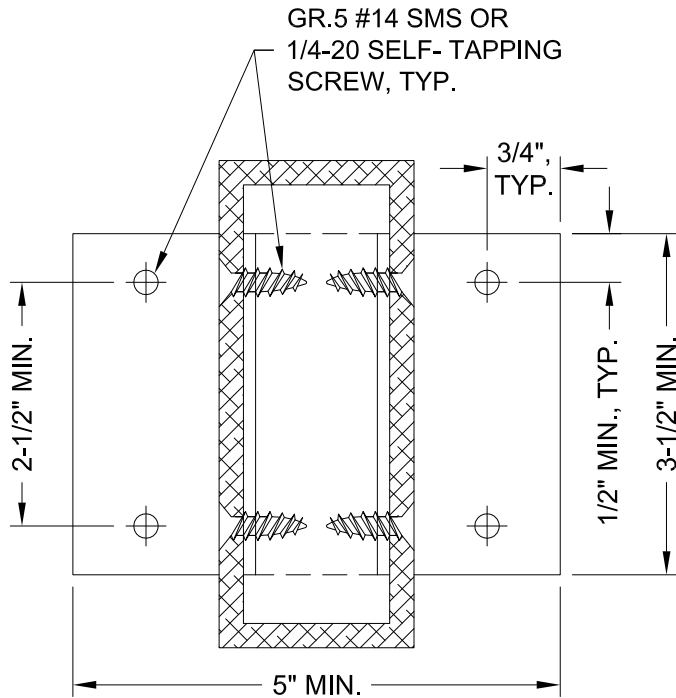
REVISIONS		
B	ADDED 1X3 MULLION OPTION	6/19/19
C	UPDATED FOR 8TH ED. 2023 FBC	2/22/24

 		WARROAD, MN, USA (218) 386-4021	
PRODUCT		ALUMINUM TUBE CLIPPED MULLION	
CATEGORY:		MULLION	
UNIT TYPE:		ALUMINUM TUBE	
SHEET DESCRIPTION:			
"SA" ANCHORAGE DETAILS			
SIZE: B	CLASS: ANCHOR	DWG NO: MULL-FPA FL18596	
SCALE: NTS	DWG BY: LAT	DATE: 6/19/2019	SHEET: 4 of 12

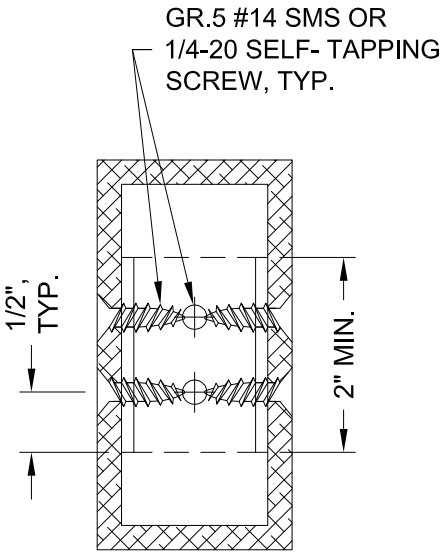
ALUMINUM TUBE CLIPPED MULLIONS



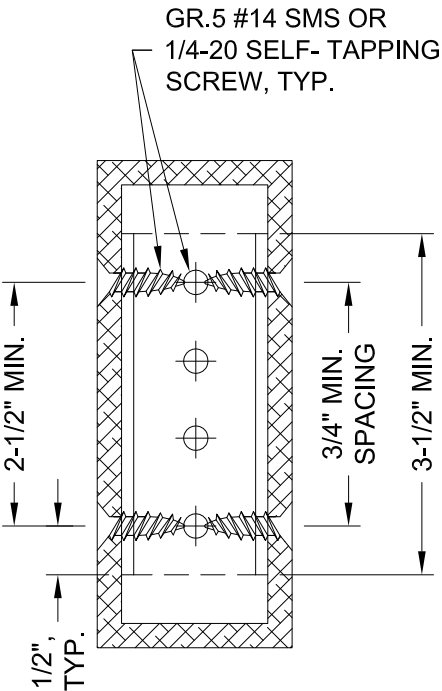
"MA" ANCHORAGE A, ANY MULL MEETS OR EXCEEDS "SA" ANCHORAGE A 2" CLIPS OR T-ANCHOR MULL ATTACHMENT TO ANOTHER MULL



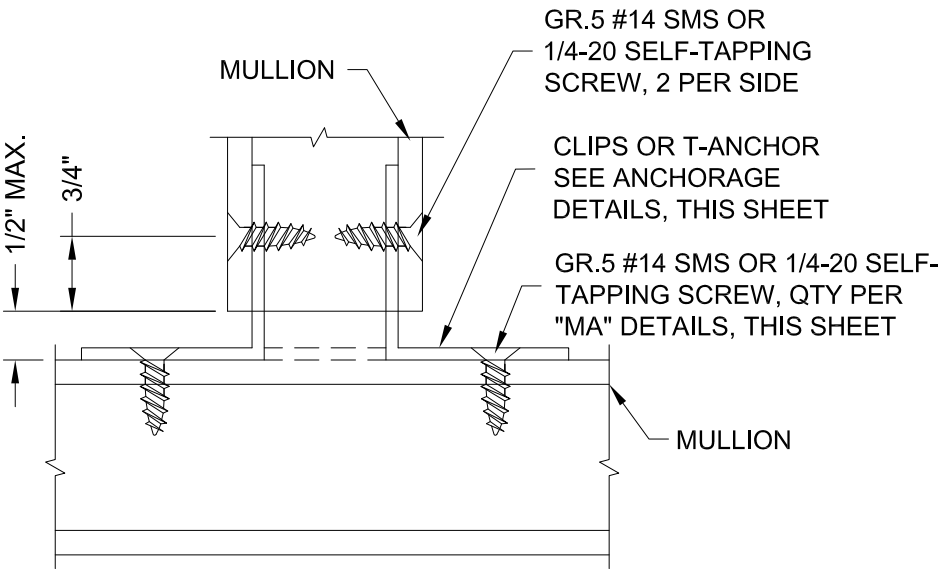
"MA" ANCHORAGE B, C, D, & E, ANY 4" OR 5" MULL MEETS OR EXCEEDS "SA" ANCHORAGE B, C, D, & E 2" CLIPS OR T-ANCHOR MULL ATTACHMENT TO ANOTHER MULL



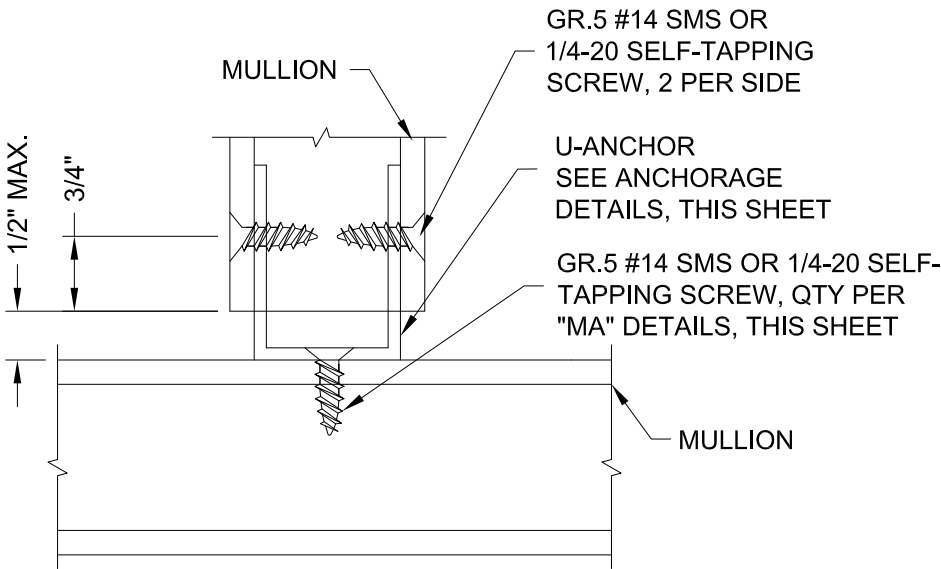
ALT. "MA" ANCHORAGE A, ANY MULL MEETS OR EXCEEDS "SA" ANCHORAGE A U-ANCHOR MULL ATTACHMENT TO ANOTHER MULL



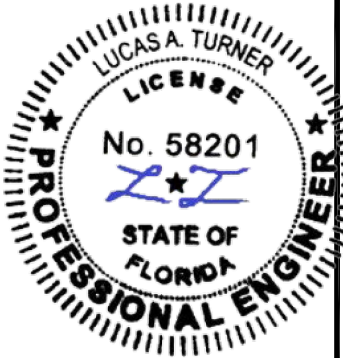
ALT. "MA" ANCHORAGE B, C, D, & E, ANY 4" OR 5" MULL MEETS OR EXCEEDS "SA" ANCHORAGE B, C, D, & E U-ANCHOR MULL ATTACHMENT TO ANOTHER MULL



TYPICAL "MA" MULLION END DETAIL



ALTERNATE "MA" MULLION END DETAIL

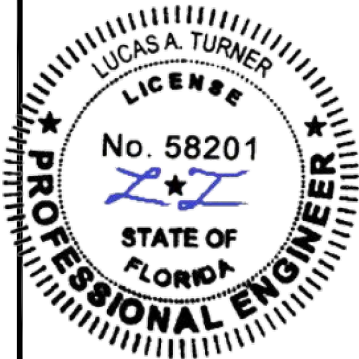


2/22/2024
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2428 OLD NACHEZ TRC.
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REVISIONS			
B	ADDED 1X3 MULLION OPTION		6/19/19
C	UPDATED FOR 8TH ED. 2023 FBC		2/22/24
MARVIN® WARROAD, MN, USA (218) 386-4021			
PRODUCT CATEGORY:		ALUMINUM TUBE CLIPPED MULLION MULLION	
UNIT TYPE:		ALUMINUM TUBE	
SHEET DESCRIPTION:			
"MA" ANCHORAGE DETAILS			
SIZE: B	CLASS: ANCHOR	DWG NO: MULL-FPA FL18596	
SCALE: NTS	DWG BY: LAT	DATE: 6/19/2019	SHEET: 5 of 12

DESIGN PRESSURES (PSF), LOAD CONDITION 1 (SEE ELEVATIONS SHEET 1), "SA", "MA", AND ALT. "MA" ANCHORAGE A, WOOD, BLOCK, CONCRETE, METAL																																	
1x4x1/8" ALUM. TUBE, 6063-T6 MIN.				OPENING WIDTH, IN.												2x4x1/4" & 2x5x1/8" ALUM. TUBE, 6063-T6 MIN.						OPENING WIDTH, IN.											
				48	60	72	84	96	108	120	132	144	156	168	180							48	60	72	84	96	108	120	132	144	156	168	180
MULL LENGTH, IN.		36	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	78.8	73.0	68.0	63.5	MULL LENGTH, IN.		36	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	78.8	73.0	68.0	63.5				
		42	85.0	85.0	85.0	85.0	85.0	85.0	85.0	79.7	72.8	67.0	62.1	57.9			54.2	42	85.0	85.0	85.0	85.0	85.0	85.0	85.0	79.7	72.8	67.0	62.1	57.9	54.2		
		48	85.0	85.0	85.0	85.0	85.0	85.0	76.3	69.2	63.3	58.3	54.0	50.3			47.1	48	85.0	85.0	85.0	85.0	85.0	85.0	76.3	69.2	63.3	58.3	54.0	50.3	47.1		
		54	85.0	85.0	85.0	84.7	75.0	67.3	61.0	55.8	51.5	47.7	44.5	41.7			54	85.0	85.0	85.0	84.7	75.0	67.3	61.0	55.8	51.5	47.7	44.5	41.7				
		54	85.0	85.0	85.0	84.7	75.0	67.3	61.0	55.8	51.5	47.7	44.5	41.7			54	85.0	85.0	85.0	84.7	75.0	67.3	61.0	55.8	51.5	47.7	44.5	41.7				
		60	85.0	85.0	85.0	75.4	66.8	60.1	54.5	49.9	46.0	42.7	39.8	37.3			60	85.0	85.0	85.0	75.4	66.8	60.1	54.5	49.9	46.0	42.7	39.8	37.3				
		66	85.0	85.0	77.6	67.8	60.2	54.1	49.2	45.1	41.6	38.6	36.0	33.8			66	85.0	85.0	77.6	67.8	60.2	54.1	49.2	45.1	41.6	38.6	36.0	33.8				
		72	85.0	82.0	70.3	61.5	54.7	49.2	44.7	41.0	37.9	35.1	32.8	30.8			72	85.0	82.0	70.3	61.5	54.7	49.2	44.7	41.0	37.9	35.1	32.8	30.8				
		78	85.0	74.7	64.1	56.2	50.0	45.0	41.0	37.6	34.7	32.3	30.1	28.2			78	85.0	74.7	64.1	56.2	50.0	45.0	41.0	37.6	34.7	32.3	30.1	28.2				
		84	82.0	68.4	58.8	51.6	46.0	41.5	37.8	34.7	32.0	29.8	27.7	25.8			84	82.0	68.4	58.8	51.6	46.0	41.5	37.8	34.7	32.0	29.8	27.8	26.1				
		90	75.7	61.7	51.6	44.4	39.0	34.7	31.3	28.5	26.2	24.2	22.5	21.0			90	75.7	63.0	54.3	47.7	42.6	38.4	35.0	32.1	29.7	27.6	25.8	24.2				
		96	62.9	50.7	42.5	36.6	32.1	28.6	25.8	23.5	21.5	20.1	20.1	20.1			96	70.3	58.3	50.3	44.3	39.5	35.7	32.6	29.9	27.7	25.7	24.1	22.6				
		102	52.3	42.2	35.4	30.4	26.7	23.8	21.5	20.3	20.2	20.1	20.1	20.1			102	65.6	54.3	46.8	41.3	36.9	33.3	30.4	28.0	25.9	24.1	22.5	21.2				
		108	43.9	35.5	29.7	25.6	22.5	20.0	20.0	20.0	20.0	20.0	20.0	20.0			108	61.5	50.8	43.7	38.6	34.5	31.2	28.5	26.3	24.3	22.6	21.2	20.1				
		114	37.2	30.1	25.2	21.7	20.1	20.0	20.0	20.0	20.0	20.0	20.0	20.0			114	57.9	47.7	41.0	36.2	32.4	29.4	26.8	24.7	22.9	21.3	20.0	20.0				
		120	31.9	25.7	21.6	20.3	20.1	20.0	20.0	20.0	20.0	20.0	20.0	20.0			120	54.7	45.0	38.6	34.1	30.5	27.7	25.3	23.3	21.6	20.1	20.0	20.0				
132	23.8	20.2	20.3										132	49.2	40.4	34.5	30.4	27.3	24.8	22.7	20.9	20.3	20.1	20.0	20.0								
144	20.1												144	44.7	36.6	31.2	27.3	24.0	21.4	20.1	20.1	20.1	20.1	20.0	20.0								
152													152	39.7	32.0	26.9	23.2	20.4	20.3	20.1	20.1	20.1	20.1	20.0	20.0								
164													164	31.5	25.4	21.3	20.1	20.0															
2x4x1/8" ALUM. TUBE, 6063-T6 MIN.				OPENING WIDTH, IN.												2x5x1/4" ALUM. TUBE, 6063-T6 MIN.						OPENING WIDTH, IN.											
				48	60	72	84	96	108	120	132	144	156	168	180							48	60	72	84	96	108	120	132	144	156	168	180
MULL LENGTH, IN.		36	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	78.8	73.0	68.0	63.5	MULL LENGTH, IN.		36	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	78.8	73.0	68.0	63.5				
		42	85.0	85.0	85.0	85.0	85.0	85.0	85.0	79.7	72.8	67.0	62.1	57.9			54.2	42	85.0	85.0	85.0	85.0	85.0	85.0	85.0	79.7	72.8	67.0	62.1	57.9	54.2		
		48	85.0	85.0	85.0	85.0	85.0	85.0	76.3	69.2	63.3	58.3	54.0	50.3			47.1	48	85.0	85.0	85.0	85.0	85.0	85.0	76.3	69.2	63.3	58.3	54.0	50.3	47.1		
		54	85.0	85.0	85.0	84.7	75.0	67.3	61.0	55.8	51.5	47.7	44.5	41.7			54	85.0	85.0	85.0	84.7	75.0	67.3	61.0	55.8	51.5	47.7	44.5	41.7				
		54	85.0	85.0	85.0	84.7	75.0	67.3	61.0	55.8	51.5	47.7	44.5	41.7			54	85.0	85.0	85.0	84.7	75.0	67.3	61.0	55.8	51.5	47.7	44.5	41.7				
		60	85.0	85.0	85.0	75.4	66.8	60.1	54.5	49.9	46.0	42.7	39.8	37.3			60	85.0	85.0	85.0	75.4	66.8	60.1	54.5	49.9	46.0	42.7	39.8	37.3				
		66	85.0	85.0	77.6	67.8	60.2	54.1	49.2	45.1	41.6	38.6	36.0	33.8			66	85.0	85.0	77.6	67.8	60.2	54.1	49.2	45.1	41.6	38.6	36.0	33.8				
		72	85.0	82.0	70.3	61.5	54.7	49.2	44.7	41.0	37.9	35.1	32.8	30.8			72	85.0	82.0	70.3	61.5	54.7	49.2	44.7	41.0	37.9	35.1	32.8	30.8				
		78	85.0	74.7	64.1	56.2	50.0	45.0	41.0	37.6	34.7	32.3	30.1	28.2			78	85.0	74.7	64.1	56.2	50.0	45.0	41.0	37.6	34.7	32.3	30.1	28.2				
		84	82.0	68.4	58.8	51.6	46.0	41.5	37.8	34.7	32.0	29.8	27.8	26.1			84	82.0	68.4	58.8	51.6	46.0	41.5	37.8	34.7	32.0	29.8	27.8	26.1				
		90	75.7	63.0	54.3	47.7	42.6	38.4	35.0	32.1	29.7	27.6	25.8	24.2			90	75.7	63.0	54.3	47.7	42.6	38.4	35.0	32.1	29.7	27.6	25.8	24.2				
		96	70.3	58.3	50.3	44.3	39.5	35.7	32.6	29.9	27.7	25.7	24.1	22.6			96	70.3	58.3	50.3	44.3	39.5	35.7	32.6	29.9	27.7	25.7	24.1	22.6				
		102	65.6	54.3	46.8	41.3	36.9	33.3	30.4	28.0	25.9	24.1	22.5	21.0			102	65.6	54.3	46.8	41.3	36.9	33.3	30.4	28.0	25.9	24.1	22.5	21.2				
		108	61.5	50.8	43.4	37.4	32.8	29.3	26.4	24.0	22.1	20.4	20.4	20.4			108	61.5	50.8	43.7	38.6	34.5	31.2	28.5	26.3	24.3	22.6	21.2	20.1				
		114	54.4	44.0	36.9	31.8	27.9	24.8	22.4	20.4	20.2	20.2	20.2	20.2			114	57.9	47.7	41.0	36.2	32.4	29.4	26.8	24.7	22.9	21.3	20.0	20.0				
		120	46.5	37.6	31.6	27.2	23.9	21.3	20.2	20.1	20.1	20.1	20.1	20.1			120	54.7	45.0	38.6	34.1	30.5	27.7	25.3	23.3	21.6	20.1	20.0	20.0				
132	34.8	28.1	23.6	20.4	20.1	20.1	20.0	20.0	20.0	20.0	20.0	20.0	132	49.2	40.4	34.5	30.4	27.3	24.8	22.7	20.9	20.3	20.1	20.0	20.0								
144	26.7	21.6	20.1										144	44.7	36.6	31.2	27.4	24.6	22.4	20.5	20.1	20.3	20.1	20.0	20.0								
152	22.7	20.1											152	42.2	34.5	29.4	25.8	23.1	21.0	20.2	20.0	20.0	20.0	20.0	20.0								
164	20.1												164	38.8	31.7	27.0	23.6	21.1	20.1	20.2	20.0												

2/22/2024
LUCAS A. TURNER, P.E.
FL PE # 58201
TURNER ENGINEERING &
CONSULTING, INC.
2428 OLD NATCHEZ TRC.
TRL., CAMDEN, TN 38320
PH. 941-380-1574



MARVIN

WARROAD, MN, USA (218) 386-4021

PRODUCT

ALUMINUM TUBE CLIPPED MULLION

CATEGORY:

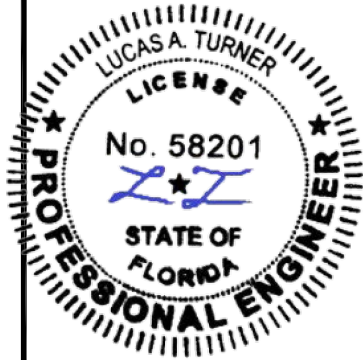
MULLION

UNIT TYPE:

ALUMINUM TUBE

REVISIONS		
B	ADDED 1X3 MULLION OPTION	6/19/19
C	UPDATED FOR 8TH ED. 2023 FBC	2/22/24
SHEET DESCRIPTION:		
4"×5" MULLS LOAD CONDITION 1, ANCHORAGE A		
SIZE: B	CLASS: ANCHOR	DWG NO: MULL-FPA FL18596
SCALE: NTS	DWG BY: LAT	DATE: 6/19/2019
		SHEET: 6 of 12

DESIGN PRESSURES (PSF), LOAD CONDITION 2 (SEE ELEVATIONS SHEET 2), "SA", "MA", AND ALT. "MA" ANCHORAGE A, WOOD, BLOCK, CONCRETE, METAL																																	
				OPENING WIDTH, IN.																OPENING WIDTH, IN.													
				48	60	72	84	96	108	120	132	144	156							168	180	48	60	72	84	96	108	120	132	144	156	168	180
1x4x1/8" ALUM. TUBE, 6063-T6 MIN.		MULL LENGTH, IN.		36	85.0	85.0	85.0	85.0	82.0	72.9	65.6	59.6	54.7	50.5	46.9	43.7	2x4x1/4" & 2x5x1/8" ALUM. TUBE, 6063-T6 MIN.		MULL LENGTH, IN.		36	85.0	85.0	85.0	85.0	82.0	72.9	65.6	59.6	54.7	50.5	46.9	43.7
				42	85.0	85.0	85.0	80.3	70.3	62.5	56.2	51.1	46.9	43.3	40.2	37.5					42	85.0	85.0	85.0	80.3	70.3	62.5	56.2	51.1	46.9	43.3	40.2	37.5
				48	85.0	85.0	82.0	70.3	61.5	54.7	49.2	44.7	41.0	37.8	35.1	32.8					48	85.0	85.0	82.0	70.3	61.5	54.7	49.2	44.7	41.0	37.8	35.1	32.8
				54	85.0	85.0	72.9	62.5	54.7	48.6	43.7	39.8	36.4	33.6	31.2	29.2					54	85.0	85.0	72.9	62.5	54.7	48.6	43.7	39.8	36.4	33.6	31.2	29.2
				54	85.0	85.0	72.9	62.5	54.7	48.6	43.7	39.8	36.4	33.6	31.2	29.2					54	85.0	85.0	72.9	62.5	54.7	48.6	43.7	39.8	36.4	33.6	31.2	29.2
				60	85.0	78.7	65.6	56.2	49.2	43.7	39.4	35.8	32.8	30.3	28.1	26.2					60	85.0	78.7	65.6	56.2	49.2	43.7	39.4	35.8	32.8	30.3	28.1	26.2
				66	85.0	71.6	59.6	51.1	44.7	39.8	35.8	32.5	29.8	27.5	25.6	23.9					66	85.0	71.6	59.6	51.1	44.7	39.8	35.8	32.5	29.8	27.5	25.6	23.9
				72	82.0	65.6	54.7	46.9	41.0	36.4	32.8	29.8	27.3	25.2	23.4	21.9					72	82.0	65.6	54.7	46.9	41.0	36.4	32.8	29.8	27.3	25.2	23.4	21.9
				78	75.7	60.6	50.5	43.3	37.8	33.6	30.3	27.5	25.2	23.3	21.6	20.2					78	75.7	60.6	50.5	43.3	37.8	33.6	30.3	27.5	25.2	23.3	21.6	20.2
				84	70.3	56.2	46.9	40.2	35.1	31.2	28.1	25.6	23.4	21.6	20.1						84	70.3	56.2	46.9	40.2	35.1	31.2	28.1	25.6	23.4	21.6	20.1	
				90	65.6	52.5	43.7	37.5	32.8	29.2	26.2	23.9	21.9	20.2							90	65.6	52.5	43.7	37.5	32.8	29.2	26.2	23.9	21.9	20.2		
				96	59.5	47.6	39.7	34.0	29.8	26.5	23.8	21.7									96	61.5	49.2	41.0	35.1	30.8	27.3	24.6	22.4	20.5			
				102	49.6	39.7	33.1	28.4	24.8	22.1											102	57.9	46.3	38.6	33.1	28.9	25.7	23.2	21.0				
				108	41.8	33.5	27.9	23.9	20.9												108	54.7	43.7	36.4	31.2	27.3	24.3	21.9					
				114	35.6	28.4	23.7	20.3													114	51.8	41.4	34.5	29.6	25.9	23.0	20.7					
				120	30.5	24.4	20.3														120	49.2	39.4	32.8	28.1	24.6	21.9						
132	22.9												132	44.7	35.8	29.8	25.6	22.4															
144													144	41.0	32.8	27.3	23.4	20.5															
152													152	38.3	30.7	25.5	21.9																
164													164	30.5	24.4	20.3																	
2x4x1/8" ALUM. TUBE, 6063-T6 MIN.		MULL LENGTH, IN.		OPENING WIDTH, IN.										2x5x1/4" ALUM. TUBE, 6063-T6 MIN.		MULL LENGTH, IN.		OPENING WIDTH, IN.															
				48	60	72	84	96	108	120	132	144	156					168	180	48	60	72	84	96	108	120	132	144	156	168	180		
				36	85.0	85.0	85.0	85.0	82.0	72.9	65.6	59.6	54.7					50.5	46.9	43.7	36	85.0	85.0	85.0	85.0	82.0	72.9	65.6	59.6	54.7	50.5	46.9	43.7
				42	85.0	85.0	85.0	80.3	70.3	62.5	56.2	51.1	46.9					43.3	40.2	37.5	42	85.0	85.0	85.0	80.3	70.3	62.5	56.2	51.1	46.9	43.3	40.2	37.5
				48	85.0	85.0	82.0	70.3	61.5	54.7	49.2	44.7	41.0					37.8	35.1	32.8	48	85.0	85.0	82.0	70.3	61.5	54.7	49.2	44.7	41.0	37.8	35.1	32.8
				54	85.0	85.0	72.9	62.5	54.7	48.6	43.7	39.8	36.4					33.6	31.2	29.2	54	85.0	85.0	72.9	62.5	54.7	48.6	43.7	39.8	36.4	33.6	31.2	29.2
				54	85.0	85.0	72.9	62.5	54.7	48.6	43.7	39.8	36.4					33.6	31.2	29.2	54	85.0	85.0	72.9	62.5	54.7	48.6	43.7	39.8	36.4	33.6	31.2	29.2
				60	85.0	78.7	65.6	56.2	49.2	43.7	39.4	35.8	32.8					30.3	28.1	26.2	60	85.0	78.7	65.6	56.2	49.2	43.7	39.4	35.8	32.8	30.3	28.1	26.2
				66	85.0	71.6	59.6	51.1	44.7	39.8	35.8	32.5	29.8					27.5	25.6	23.9	66	85.0	71.6	59.6	51.1	44.7	39.8	35.8	32.5	29.8	27.5	25.6	23.9
				72	82.0	65.6	54.7	46.9	41.0	36.4	32.8	29.8	27.3					25.2	23.4	21.9	72	82.0	65.6	54.7	46.9	41.0	36.4	32.8	29.8	27.3	25.2	23.4	21.9
				78	75.7	60.6	50.5	43.3	37.8	33.6	30.3	27.5	25.2					23.3	21.6	20.2	78	75.7	60.6	50.5	43.3	37.8	33.6	30.3	27.5	25.2	23.3	21.6	20.2
				84	70.3	56.2	46.9	40.2	35.1	31.2	28.1	25.6	23.4					21.6	20.1		84	70.3	56.2	46.9	40.2	35.1	31.2	28.1	25.6	23.4	21.6	20.1	
				90	65.6	52.5	43.7	37.5	32.8	29.2	26.2	23.9	21.9					20.2			90	65.6	52.5	43.7	37.5	32.8	29.2	26.2	23.9	21.9	20.2		
				96	61.5	49.2	41.0	35.1	30.8	27.3	24.6	22.4	20.5								96	61.5	49.2	41.0	35.1	30.8	27.3	24.6	22.4	20.5			
				102	57.9	46.3	38.6	33.1	28.9	25.7	23.2	21.0									102	57.9	46.3	38.6	33.1	28.9	25.7	23.2	21.0				
				108	54.7	43.7	36.4	31.2	27.3	24.3	21.9										108	54.7	43.7	36.4	31.2	27.3	24.3	21.9					
114	51.8	41.4	34.5	29.6	25.9	23.0	20.7						114	51.8	41.4	34.5	29.6	25.9	23.0	20.7													
120	44.5	35.6	29.7	25.4	22.3								120	49.2	39.4	32.8	28.1	24.6	21.9														
132	33.5	26.8	22.3										132	44.7	35.8	29.8	25.6	22.4															
144	25.8	20.6											144	41.0	32.8	27.3	23.4	20.5															
152	21.9												152	38.8	31.1	25.9	22.2																
164													164	36.0	28.8	24.0	20.6																



2/22/2024
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2428 OLD NATCHEZ TRC.
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PH. 941-380-1574

MARVIN

WARROAD, MN, USA (218) 386-4021

PRODUCT

ALUMINUM TUBE CLIPPED MULLION

CATEGORY:

MULLION

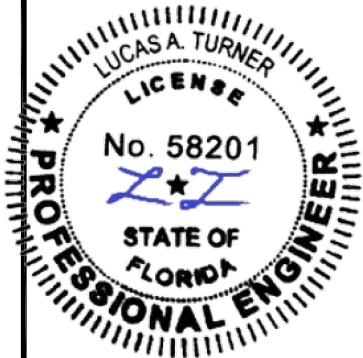
UNIT TYPE:

ALUMINUM TUBE

REVISIONS		
B	ADDED 1X3 MULLION OPTION	6/19/19
C	UPDATED FOR 8TH ED. 2023 FBC	2/22/24
SHEET DESCRIPTION:		
4"&5" MULLS LOAD CONDITION 2, ANCHORAGE A		
SIZE: B	CLASS: ANCHOR	DWG NO: MULL-FPA FL18596
SCALE: NTS	DWG BY: LAT	DATE: 6/19/2019
		SHEET: 7 of 12

DESIGN PRESSURES (PSF), LOAD CONDITION 1 (SEE ELEVATIONS SHEET 1), "SA", "MA", AND ALT. "MA" ANCHORAGE B, C, & D, WOOD, BLOCK, METAL																																															
1x4x1/8" ALUM. TUBE, 6063-T6 MIN.							OPENING WIDTH, IN.														2x4x1/4" & 2x5x1/8" ALUM. TUBE, 6063-T6 MIN.																										
							48	60	72	84	96	108	120	132	144	156	168	180																													
MULL LENGTH, IN.					36	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0																					
						42	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0																		
							48	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0																	
								54	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0																
									54	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0															
										60	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0														
											66	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0													
												72	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0												
													78	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0											
														84	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0										
															90	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0									
																96	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0								
																	102	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0							
																		108	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0						
																			114	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0					
																				120	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
																					132	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0			
																						144	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0		
																							152	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	
																								164	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0
2x4x1/8" ALUM. TUBE, 6063-T6 MIN.							OPENING WIDTH, IN.														2x5x1/4" ALUM. TUBE, 6063-T6 MIN.																										
							48	60	72	84	96	108	120	132	144	156	168	180																													
MULL LENGTH, IN.					36	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0																				
						42	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0																	
							48	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0																
								54	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0															
									54	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0														
										60	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0													
											66	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0												
												72	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0											
													78	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0										
														84	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0									
															90	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0								
																96	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0							
																	102	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0						
																		108	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0					
																			114	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
																				120	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0			
																					132	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0		
																						144	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	
																							152	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0
																								164	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0

2/22/2024
LUCAS A. TURNER, P.E.
FL PE # 58201
TURNER ENGINEERING &
CONSULTING, INC.
2428 OLD NATCHEZ TRC.
TRL., CAMDEN, TN 38320
PH. 941-380-1574



MARVIN

WARROAD, MN, USA (218) 386-4021

PRODUCT

ALUMINUM TUBE CLIPPED MULLION

CATEGORY:

MULLION

UNIT TYPE:

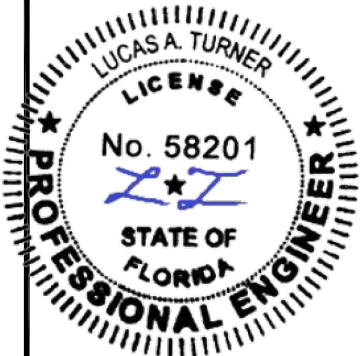
ALUMINUM TUBE

REVISIONS		
B	ADDED 1X3 MULLION OPTION	6/19/19
C	UPDATED FOR 8TH ED. 2023 FBC	2/22/24
SHEET DESCRIPTION:		
4" & 5" LOAD COND. 1, ANCHORAGE B/C/D WOOD/BLOCK/METAL		
SIZE: B	CLASS: ANCHOR	DWG NO: MULL-FPA FL18596
SCALE: NTS	DWG BY: LAT	DATE: 6/19/2019
		SHEET: 8 of 12

DESIGN PRESSURES (PSF), LOAD CONDITION 2 (SEE ELEVATIONS SHEET 2), "SA", "MA", AND ALT. "MA" ANCHORAGE B, C, & D, WOOD, BLOCK, METAL																															
1x4x1/8" ALUM. TUBE, 6063-T6 MIN.		MULL LENGTH, IN.		OPENING WIDTH, IN.												2x4x1/4" & 2x5x1/8" ALUM. TUBE, 6063-T6 MIN.		MULL LENGTH, IN.		OPENING WIDTH, IN.											
				48	60	72	84	96	108	120	132	144	156	168	180					48	60	72	84	96	108	120	132	144	156	168	180
			36	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
			42	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0			
			48	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	82.0	75.7	70.3	65.6														
			54	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	79.5	72.9	67.3	62.5	58.3														
			54	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	79.5	72.9	67.3	62.5	58.3														
			60	85.0	85.0	85.0	85.0	85.0	85.0	85.0	78.7	71.6	65.6	60.6	56.2	52.5															
			66	85.0	85.0	85.0	85.0	85.0	84.2	74.8	67.4	61.2	56.1	51.8	48.1	44.9															
			72	85.0	85.0	85.0	85.0	80.6	70.6	62.7	56.5	51.3	47.0	43.4	40.3	37.6															
			78	85.0	85.0	74.0	63.4	55.5	49.3	44.4	40.4	37.0	34.2	31.7	29.6																
			84	85.0	71.1	59.3	50.8	44.4	39.5	35.6	32.3	29.6	27.3	25.4	23.7																
			90	72.3	57.8	48.2	41.3	36.1	32.1	28.9	26.3	24.1	22.2	20.6																	
			96	59.5	47.6	39.7	34.0	29.8	26.5	23.8	21.7																				
			102	49.6	39.7	33.1	28.4	24.8	22.1																						
			108	41.8	33.5	27.9	23.9	20.9																							
			114	35.6	28.4	23.7	20.3																								
			120	30.5	24.4	20.3																									
			132	22.9																											
144																															
152																															
164																															

2x4x1/8" ALUM. TUBE, 6063-T6 MIN.		MULL LENGTH, IN.		OPENING WIDTH, IN.												2x5x1/4" ALUM. TUBE, 6063-T6 MIN.		MULL LENGTH, IN.		OPENING WIDTH, IN.											
				48	60	72	84	96	108	120	132	144	156	168	180					48	60	72	84	96	108	120	132	144	156	168	180
			36	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
			42	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
			48	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	82.0	75.7	70.3	65.6															
			54	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	79.5	72.9	67.3	62.5	58.3															
			54	85.0	85.0	85.0	85.0	85.0	85.0	85.0	79.5	72.9	67.3	62.5	58.3																
			60	85.0	85.0	85.0	85.0	85.0	85.0	78.7	71.6	65.6	60.6	56.2	52.5																
			66	85.0	85.0	85.0	85.0	85.0	79.5	71.6	65.1	59.6	55.0	51.1	47.7																
			72	85.0	85.0	85.0	85.0	82.0	72.9	65.6	59.6	54.7	50.5	46.9	43.7																
			78	85.0	85.0	85.0	85.0	75.7	67.3	60.6	55.0	50.5	46.6	43.3	40.4																
			84	85.0	85.0	85.0	74.2	64.9	57.7	51.9	47.2	43.3	39.9	37.1	34.6																
			90	85.0	84.4	70.4	60.3	52.8	46.9	42.2	38.4	35.2	32.5	30.2	28.1																
			96	85.0	69.6	58.0	49.7	43.5	38.7	34.8	31.6	29.0	26.8	24.9	23.2																
			102	72.5	58.0	48.3	41.4	36.3	32.2	29.0	26.4	24.2	22.3	20.7																	
			108	61.1	48.9	40.7	34.9	30.5	27.1	24.4	22.2	20.4																			
			114	51.9	41.6	34.6	29.7	26.0	23.1	20.8																					
			120	44.5	35.6	29.7	25.4	22.3																							
			132	33.5	26.8	22.3																									
144	25.8	20.6																													
152	21.9																														
164																															

2/22/2024
LUCAS A. TURNER, P.E.
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2428 OLD NATCHEZ TRC.
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PH. 941-380-1574



MARVIN

WARROAD, MN, USA (218) 386-4021

PRODUCT

ALUMINUM TUBE CLIPPED MULLION

CATEGORY:

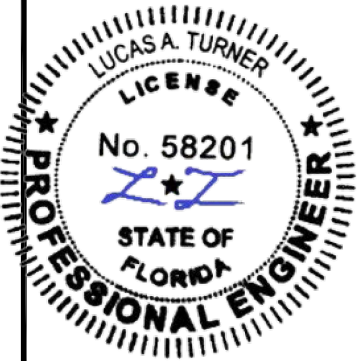
MULLION

UNIT TYPE:

ALUMINUM TUBE

REVISIONS		
B	ADDED 1X3 MULLION OPTION	6/19/19
C	UPDATED FOR 8TH ED. 2023 FBC	2/22/24
SHEET DESCRIPTION:		
4"&5" LOAD COND. 2, ANCHORAGE B/C/D WOOD/BLOCK/METAL		
SIZE: B	CLASS: ANCHOR	DWG NO: MULL-FPA FL18596
SCALE: NTS	DWG BY: LAT	DATE: 6/19/2019
		SHEET: 9 of 12

DESIGN PRESSURES (PSF), LOAD CONDITION 1 (SEE ELEVATIONS SHEET 1), "SA", "MA", AND ALT. "MA", ANCHORAGE B SOLID CONCRETE, OR ANCHORAGE E WOOD/METAL																															
			OPENING WIDTH, IN.																	OPENING WIDTH, IN.											
			48	60	72	84	96	108	120	132	144	156	168	180						48	60	72	84	96	108	120	132	144	156	168	180
1x4x1/8" ALUM. TUBE, 6063-T6 MIN.		MULL LENGTH, IN.		36	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0						
				42	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
				48	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0			
				54	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0			
				54	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0			
				60	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	82.3	75.5	69.8	64.9	60.6														
				66	85.0	85.0	85.0	85.0	85.0	82.8	74.6	67.9	62.3	57.6	53.5	50.0															
				72	85.0	85.0	85.0	85.0	76.5	68.1	61.3	55.8	51.2	47.3	44.0	41.1															
				78	85.0	85.0	79.6	68.5	60.1	53.5	48.2	43.9	40.3	37.2	34.6	32.3															
				84	85.0	76.0	63.6	54.7	48.0	42.8	38.6	35.1	32.2	29.8	27.7	25.8															
				90	76.5	61.7	51.6	44.4	39.0	34.7	31.3	28.5	26.2	24.2	22.5	21.0															
				96	62.9	50.7	42.5	36.6	32.1	28.6	25.8	23.5	21.5	20.1	20.2	20.7															
				102	52.3	42.2	35.4	30.4	26.7	23.8	21.5	20.3	20.2	20.7	21.0	20.2															
				108	43.9	35.5	29.7	25.6	22.5	20.0	20.2	20.1	21.2	20.4	21.4	20.8															
				114	37.2	30.1	25.2	21.7	20.1	20.2	20.5	20.7	20.1	21.4	21.0	20.5															
				120	31.9	25.7	21.6	20.3	20.6	20.2	20.5	20.0	21.8	21.6	21.4	21.2															
132	23.8	20.2	20.3																												
144	20.1																														
152																															
164																															
2x4x1/8" ALUM. TUBE, 6063-T6 MIN.		MULL LENGTH, IN.		36	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0						
				42	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0					
				48	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
				54	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
				54	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
				60	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
				66	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	84.2	78.2	73.1															
				72	85.0	85.0	85.0	85.0	85.0	85.0	85.0	81.6	74.8	69.1	64.3	60.0															
				78	85.0	85.0	85.0	85.0	85.0	78.1	70.4	64.1	58.8	54.3	50.5	47.2															
				84	85.0	85.0	85.0	79.9	70.2	62.5	56.3	51.3	47.0	43.5	40.4	37.7															
				90	85.0	85.0	75.4	64.9	57.0	50.7	45.7	41.6	38.2	35.3	32.8	30.7															
				96	85.0	74.0	62.1	53.4	46.9	41.8	37.7	34.3	31.5	29.1	27.0	25.2															
				102	76.3	61.6	51.6	44.5	39.0	34.8	31.4	28.6	26.2	24.2	22.5	21.0															
				108	64.1	51.8	43.4	37.4	32.8	29.3	26.4	24.0	22.1	20.4	20.4	20.4															
				114	54.4	44.0	36.9	31.8	27.9	24.8	22.4	20.4	20.2	20.1	20.1	20.1															
				120	46.5	37.6	31.6	27.2	23.9	21.3	20.2	20.1	20.1	20.1	20.1	20.1															
132	34.8	28.1	23.6	20.4	20.1	20.1	20.0	20.0	20.0	20.0	20.0	20.0																			
144	26.7	21.6	20.1																												
152	22.7	20.1																													
164	20.1																														
2x4x1/4" & 2x5x1/8" ALUM. TUBE, 6063-T6 MIN.		MULL LENGTH, IN.		36	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0						
				42	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0					
				48	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
				54	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
				54	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
				60	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
				66	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	84.2	78.2	73.1															
				72	85.0	85.0	85.0	85.0	85.0	85.0	85.0	81.6	74.8	69.1	64.3	60.0															
				78	85.0	85.0	85.0	85.0	85.0	78.1	70.4	64.1	58.8	54.3	50.5	47.2															
				84	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
				90	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
				96	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
				102	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
				108	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
				114	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
				120	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
132	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0								
144	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0								
152	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0								
164	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0								
2x5x1/4" ALUM. TUBE, 6063-T6 MIN.		MULL LENGTH, IN.		36	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0						
				42	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0					
				48	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
				54	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.														



2/22/2024
LUCAS A. TURNER, P.E.
FL PE # 58201
TURNER ENGINEERING &
CONSULTING, INC.
2428 OLD NATCHEZ TRC.
TRL., CAMDEN, TN 38320
PH. 941-380-1574

MARVIN

WARROAD, MN, USA (218) 386-4021

PRODUCT

ALUMINUM TUBE CLIPPED MULLION

CATEGORY:

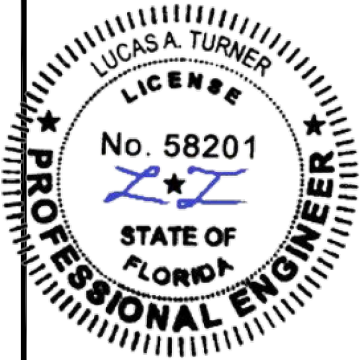
MULLION

UNIT TYPE:

ALUMINUM TUBE

REVISIONS			
B	ADDED 1X3 MULLION OPTION		6/19/19
C	UPDATED FOR 8TH ED. 2023 FBC		2/22/24
SHEET DESCRIPTION: 4"&5" LOAD COND. 1, ANCHORAGE B SOLID CONC., E WOOD/METAL			
SIZE: B	CLASS: ANCHOR	DWG NO: MULL-FPA FL18596	
SCALE: NTS	DWG BY: LAT	DATE: 6/19/2019	SHEET: 10 of 12

DESIGN PRESSURES (PSF), LOAD CONDITION 2 (SEE ELEVATIONS SHEET 2), "SA", "MA", AND ALT. "MA", ANCHORAGE B SOLID CONCRETE, OR ANCHORAGE E WOOD/METAL																																	
1x4x1/8" ALUM. TUBE, 6063-T6 MIN.				OPENING WIDTH, IN.												2x4x1/4" & 2x5x1/8" ALUM. TUBE, 6063-T6 MIN.								OPENING WIDTH, IN.									
				48	60	72	84	96	108	120	132	144	156											168	180	48	60	72	84	96	108	120	132
MULL LENGTH, IN.		36	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
		42	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	82.8				
		48	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	83.6	77.6	72.5	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	82.8			
		54	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	80.5	74.3	69.0	64.4	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	82.8			
		54	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	80.5	74.3	69.0	64.4	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	82.8			
		60	85.0	85.0	85.0	85.0	85.0	85.0	85.0	81.5	74.1	67.9	62.7	58.2	54.3	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	82.8			
		66	85.0	85.0	85.0	85.0	84.2	74.8	67.4	61.2	56.1	51.8	48.1	44.9	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	82.8			
		72	85.0	85.0	85.0	80.6	70.6	62.7	56.5	51.3	47.0	43.4	40.3	37.6	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	82.8			
		78	85.0	85.0	74.0	63.4	55.5	49.3	44.4	40.4	37.0	34.2	31.7	29.6	85.0	85.0	85.0	85.0	83.6	74.3	66.9	60.8	55.7	51.4	47.8	44.6	85.0	85.0	85.0	82.8			
		84	85.0	71.1	59.3	50.8	44.4	39.5	35.6	32.3	29.6	27.3	25.4	23.7	85.0	85.0	85.0	85.0	77.6	69.0	62.1	56.5	51.8	47.8	44.4	41.4	85.0	85.0	85.0	82.8			
		90	72.3	57.8	48.2	41.3	36.1	32.1	28.9	26.3	24.1	22.2	20.6		85.0	85.0	85.0	82.8	72.5	64.4	58.0	52.7	48.3	44.6	41.4	38.6	85.0	85.0	85.0	82.8			
		96	59.5	47.6	39.7	34.0	29.8	26.5	23.8	21.7					85.0	85.0	85.0	77.6	67.9	60.4	54.3	49.4	45.3	41.8	38.8	36.2	85.0	85.0	85.0	82.8			
		102	49.6	39.7	33.1	28.4	24.8	22.1							85.0	85.0	84.5	72.5	63.4	56.4	50.7	46.1	42.3	39.0	36.2	33.8	85.0	85.0	85.0	82.8			
		108	41.8	33.5	27.9	23.9	20.9								85.0	85.0	71.2	61.0	53.4	47.5	42.7	38.8	35.6	32.9	30.5	28.5	85.0	85.0	85.0	82.8			
		114	35.6	28.4	23.7	20.3									85.0	72.7	60.5	51.9	45.4	40.4	36.3	33.0	30.3	27.9	25.9	24.2	85.0	85.0	85.0	82.8			
		120	30.5	24.4	20.3										85.0	62.3	51.9	44.5	38.9	34.6	31.1	28.3	26.0	24.0	22.2	20.8	85.0	85.0	85.0	82.8			
		132	22.9												85.0	46.8	39.0	33.4	29.3	26.0	23.4	21.3					85.0	85.0	85.0	82.8			
144													85.0	36.1	30.0	25.8	22.5	20.0							85.0	85.0	85.0	82.8					
152													85.0	30.7	25.5	21.9										85.0	85.0	85.0	82.8				
164													85.0	24.4	20.3												85.0	85.0	85.0	82.8			
2x4x1/8" ALUM. TUBE, 6063-T6 MIN.				OPENING WIDTH, IN.																OPENING WIDTH, IN.													
				48	60	72	84	96	108	120	132	144	156							168	180	48	60	72	84	96	108	120	132	144	156	168	180
MULL LENGTH, IN.		36	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0				
		42	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	82.8				
		48	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	83.6	77.6	72.5	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	82.8				
		54	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	80.5	74.3	69.0	64.4	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	82.8				
		54	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	80.5	74.3	69.0	64.4	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	82.8				
		60	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	79.0	72.5	66.9	62.1	58.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	82.8			
		66	85.0	85.0	85.0	85.0	85.0	85.0	85.0	79.0	71.9	65.9	60.8	56.5	52.7	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	82.8				
		72	85.0	85.0	85.0	85.0	85.0	80.5	72.5	65.9	60.4	55.7	51.8	48.3	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	82.8				
		78	85.0	85.0	85.0	85.0	81.1	72.1	64.9	59.0	54.1	49.9	46.3	43.2	85.0	85.0	85.0	85.0	83.6	74.3	66.9	60.8	55.7	51.4	47.8	44.6	85.0	85.0	85.0	82.8			
		84	85.0	85.0	85.0	74.2	64.9	57.7	51.9	47.2	43.3	39.9	37.1	34.6	85.0	85.0	85.0	85.0	77.6	69.0	62.1	56.5	51.8	47.8	44.4	41.4	85.0	85.0	85.0	82.8			
		90	85.0	84.4	70.4	60.3	52.8	46.9	42.2	38.4	35.2	32.5	30.2	28.1	85.0	85.0	85.0	82.8	72.5	64.4	58.0	52.7	48.3	44.6	41.4	38.6	85.0	85.0	85.0	82.8			
		96	85.0	69.6	58.0	49.7	43.5	38.7	34.8	31.6	29.0	26.8	24.9	23.2	85.0	85.0	85.0	77.6	67.9	60.4	54.3	49.4	45.3	41.8	38.8	36.2	85.0	85.0	85.0	82.8			
		102	72.5	58.0	48.3	41.4	36.3	32.2	29.0	26.4	24.2	22.3	20.7		85.0	85.0	85.0	73.1	63.9	56.8	51.1	46.5	42.6	39.3	36.5	34.1	85.0	85.0	85.0	82.8			
		108	61.1	48.9	40.7	34.9	30.5	27.1	24.4	22.2	20.4				85.0	85.0	80.5	69.0	60.4	53.7	48.3	43.9	40.3	37.2	34.5	32.2	85.0	85.0	85.0	82.8			
		114	51.9	41.6	34.6	29.7	26.0	23.1	20.8						85.0	85.0	76.3	65.4	57.2	50.8	45.8	41.6	38.1	35.2	32.7	30.5	85.0	85.0	85.0	82.8			
		120	44.5	35.6	29.7	25.4	22.3								85.0	85.0	72.5	62.1	54.3	48.3	43.5	39.5	36.2	33.4	31.1	29.0	85.0	85.0	85.0	82.8			
		132	33.5	26.8	22.3										85.0	79.0	65.9	56.5	49.4	43.9	39.5	35.9	32.9	30.4	28.2	26.3	85.0	85.0	85.0	82.8			
144	25.8	20.6											85.0	65.4	54.5	46.7	40.9	36.3	32.7	29.7	27.3	25.2	23.4	21.8	85.0	85.0	85.0	82.8					
152	21.9												85.0	55.6	46.3	39.7	34.8	30.9	27.8	25.3	23.2	21.4			85.0	85.0	85.0	82.8					
164													85.0	44.3	36.9	31.6	27.7	24.6	22.1	20.1					85.0	85.0	85.0	82.8					



2/22/2024
LUCAS A. TURNER, P.E.
FL PE # 58201
TURNER ENGINEERING &
CONSULTING, INC.
2428 OLD NATCHEZ TRC.
TRL., CAMDEN, TN 38320
PH. 941-380-1574

MARVIN

WARROAD, MN, USA (218) 386-4021

PRODUCT

ALUMINUM TUBE CLIPPED MULLION

CATEGORY:

MULLION

UNIT TYPE:

ALUMINUM TUBE

REVISIONS		
B	ADDED 1X3 MULLION OPTION	6/19/19
C	UPDATED FOR 8TH ED. 2023 FBC	2/22/24
SHEET DESCRIPTION: 4"×5" LOAD COND. 2, ANCHORAGE B SOLID CONC., E WOOD/METAL		
SIZE: B	CLASS: ANCHOR	DWG NO: MULL-FPA FL18596
SCALE: NTS	DWG BY: LAT	DATE: 6/19/2019
		SHEET: 11 of 12

DESIGN PRESSURES (PSF), LOAD CONDITION 1 (SEE ELEVATIONS SHEET 1),
"SA", "MA", AND ALT. "MA" ANCHORAGE A, WOOD, BLOCK, CONCRETE, METAL

1x3x1/8" ALUM. TUBE, 6063-T6 MIN.			OPENING WIDTH, IN.											
			48	60	72	84	96	108	120	132	144	156	168	180
	MULL LENGTH, IN.	36	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	78.8	73.0	68.0	63.5
		42	85.0	85.0	85.0	85.0	85.0	85.0	79.7	72.8	67.0	62.1	57.9	54.2
		48	85.0	85.0	85.0	85.0	85.0	76.3	69.2	63.3	58.3	54.0	50.3	47.1
		54	85.0	85.0	85.0	84.7	75.0	67.3	61.0	55.8	51.5	47.7	44.5	41.7
		54	85.0	85.0	85.0	84.7	75.0	67.3	61.0	55.8	51.5	47.7	44.5	41.7
		60	85.0	85.0	82.0	70.5	61.8	55.0	49.5	45.1	41.4	38.2	35.5	33.2
		66	85.0	73.5	61.5	52.9	46.3	41.3	37.2	33.8	31.0	28.7	26.7	24.9
		72	70.2	56.5	47.3	40.7	35.7	31.7	28.6	26.0	23.9	22.1	20.5	20.4
		78	55.1	44.4	37.1	31.9	28.0	24.9	22.5	20.5	20.0	20.1	20.0	20.4
		84	44.0	35.4	29.7	25.5	22.4	20.0	20.3	20.6	20.8	21.4	20.6	21.5
		90	35.7	28.8	24.1	20.7	20.2	20.6	20.5	21.2	20.5	21.6	21.0	20.5
		96	29.3	23.6	20.1	20.5	20.6	20.9	20.3	21.9	21.5	21.1	20.7	20.3
		102	24.4	20.0	20.0	21.1	20.1							
		108	20.5	20.2										
		114	20.0											

DESIGN PRESSURES (PSF), LOAD CONDITION 2 (SEE ELEVATIONS SHEET 2),
"SA", "MA", AND ALT. "MA" ANCHORAGE A, WOOD, BLOCK, CONCRETE, METAL

1x3x1/8" ALUM. TUBE, 6063-T6 MIN.			OPENING WIDTH, IN.											
			48	60	72	84	96	108	120	132	144	156	168	180
	MULL LENGTH, IN.	36	85.0	85.0	85.0	85.0	82.0	72.9	65.6	59.6	54.7	50.5	46.9	43.7
		42	85.0	85.0	85.0	80.3	70.3	62.5	56.2	51.1	46.9	43.3	40.2	37.5
		48	85.0	85.0	82.0	70.3	61.5	54.7	49.2	44.7	41.0	37.8	35.1	32.8
		54	85.0	85.0	72.9	62.5	54.7	48.6	43.7	39.8	36.4	33.6	31.2	29.2
		54	85.0	85.0	72.9	62.5	54.7	48.6	43.7	39.8	36.4	33.6	31.2	29.2
		60	85.0	78.7	65.6	56.2	49.2	43.7	39.4	35.8	32.8	30.3	28.1	26.2
		66	85.0	68.4	57.0	48.8	42.7	38.0	34.2	31.1	28.5	26.3	24.4	22.8
		72	65.8	52.7	43.9	37.6	32.9	29.3	26.3	23.9	21.9	20.3		
		78	51.8	41.4	34.5	29.6	25.9	23.0	20.7					
		84	41.5	33.2	27.6	23.7	20.7							
		90	33.7	27.0	22.5									
		96	27.8	22.2										
		102	23.2											
		108												
		114												



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PRODUCT

ALUMINUM TUBE CLIPPED MULLION

CATEGORY:

MULLION

UNIT TYPE:

ALUMINUM TUBE

REVISIONS		
B	ADDED 1X3 MULLION OPTION	6/19/19
C	UPDATED FOR 8TH ED. 2023 FBC	2/22/24

SHEET DESCRIPTION:
1X3 MULL LOAD CONDITIONS 1 AND 2, ANCHORAGE A

SIZE:

B

CLASS:

ANCHOR

DWG NO:

MULL-FPA FL18596

SCALE:

NTS

DWG BY:

LAT

DATE:

6/19/2019

SHEET:

12 of 12