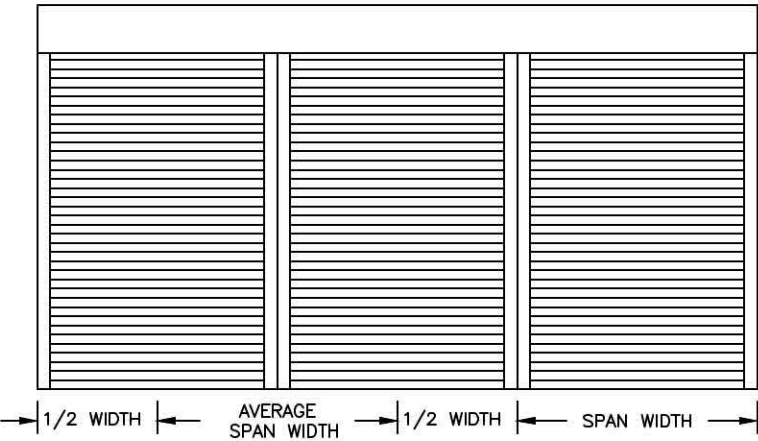
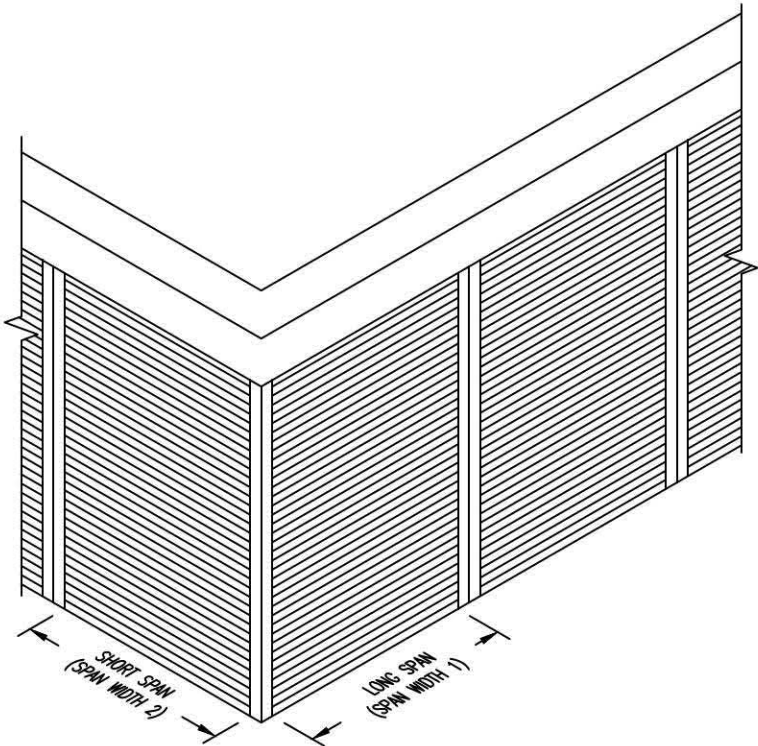




INTERMEDIATE AND END MULLION - ELEVATION
SINGLE OR MULTIPLE MULLION INSTALLATIONS - N.T.S.

NOTES:

- THE DIFFERENCE IN ADJCENT SLAT SPANS OF AN INTERMEDIATE MULLION SHALL NOT EXCEED 25% EXCEPT WHERE CORNER MULLION TABLES ARE USED FOR INTERMEDIATE MULLIONS
- SEE TABLES FOR MAXIMUM DESIGN PRESSURES FOR SLAT SPAN WIDTHS AND MULLION LENGTHS
- INTERMEDIATE MULLIONS ARE NOT REQUIRED WITH CORNER MULLIONS OR END MULLIONS



CORNER MULLION - ELEVATION
SINGLE OR MULTIPLE MULLION INSTALLATIONS - N.T.S.

GENERAL NOTES:

- TKJ ENGINEERING, LLC. HAS NO CONTROL OF THE MANUFACTURING, PERFORMANCE, OR INSTALLATION OF THIS PRODUCT. THESE GENERIC PLANS WERE ENGINEERED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICES AND TEST DATA PROVIDED BY THE MANUFACTURER.
- THE ROLL-UP SHUTTER MULLIONS SHOWN ON THIS PRODUCT EVALUATION DOCUMENT HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2023 (8TH EDITION) FLORIDA BUILDING CODE (FBC) AND THE 2021 INTERNATIONAL BUILDING CODE (IBC). THESE ROLL-UP SHUTTER MULLIONS CAN BE INSTALLED IN HIGH VELOCITY HURRICANE ZONES (MIAMI-DADE COUNTY/BROWARD COUNTY) AND IN WIND ZONE 4 (SEE FBC SECTION 1609.1.2.2). DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTION 1609 OF THE ABOVE REFERENCED CODES, IN ACCORDANCE WITH ASCE 7-22, AND FOR A BASIC WIND SPEED AS REQUIRED BY THE JURISDICTION WHERE THE ROLL-UP SHUTTER MULLIONS WILL BE INSTALLED. THE ROLL-UP SHUTTER MULLIONS ADEQUACY FOR IMPACT HAS BEEN VERIFIED IN ACCORDANCE WITH SECTION 1609.1.2 OF THE ABOVE REFERENCED CODES AND AS PER TAS 201 AT FENESTRATION TESTING LABORATORY, INC. PER THEIR REPORTS (SEE LIST OF REPORTS).
- LIMITATIONS OF USE:
 - THIS PRODUCT SHALL NOT BE USED IN HIGH VELOCITY HURRICANE ZONES (SEE FBC SECTION 202).
 - IN HIGH VELOCITY HURRICANE ZONE, WIND ZONE 4 REGIONS, AND ESSENTIAL FACILITIES THE DEFLECTION FROM THE MULLIONS SHALL BE ACCOUNTED FOR IN THE SEPARATION TO GLASS (PER FBC 1616.3) FOR THE MULLION AND SHUTTER. SEE EQUATIONS ON THIS SHEET FOR SHUTTER DEFLECTION ADJUSTMENTS.
 - THIS PRODUCT EVALUATION DOCUMENT IS FOR ROLL-UP SHUTTER MULLIONS ONLY. ALL SHUTTERS AND SHUTTER COMPONENTS SHOWN ARE FOR REFERENCE/ILLUSTRATION PURPOSES. ALL END-RETENTION AND NON RETENTION SHUTTERS USED IN COMBINATION WITH THESE MULLIONS SHALL HAVE A SEPARATE PRODUCT APPROVAL AND ALLOW THE USE OF MULLIONS. THESE ROLL-UP SHUTTER MULLIONS SHALL NOT BE USED WITH WINDOWS OR DOORS AND CAN BE USED TO SUPPLEMENT MULLIONS INCLUDED WITH THE ROLL-UP SHUTTERS PRODUCT APPROVAL.
 - INSTALLATIONS SHALL NOT EXCEED THE MAXIMUM ALLOWABLE STRESS DESIGN (ASD) DESIGN RATINGS AND MAXIMUM SIZE PROVIDED IN THESE DRAWINGS. ULTIMATE DESIGN WIND LOADS DETERMINED BY THE FBC AND ASCE 7-22 SHALL BE REDUCED TO ASD BY MULTIPLYING 0.6 (SEE FBC SECTION 1609.1.2.4).
 - SHUTTER SLAT LIMITS: MODULES OF ELASTICITY, $E < 11,000$ KSI
MOMENT OF INERTIA, $I > 0.045$ IN⁴/FT
SECTIONAL AREA, $A < 1.840$ IN²/FT
MINIMUM SLACK (SLIP), $Slack > 0.20$ IN
 - IMPACT LEVEL D; 9-1/4 LB LARGE MISSILE IMPACT.
 - ANCHORING OR LOADING CONDITIONS OTHER THAN THOSE SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL
 - THIS PRODUCT SHALL ONLY BE USED IN CONJUNCTION WITH ADVANCED HURRICANE TECHNOLOGY ROLL SHUTTER SYSTEMS. OTHER PRODUCTS REQUIRE WRITTEN AUTHORIZATION FROM ADVANCED HURRICANE TECHNOLOGY AND SHALL BE EVALUATED AS A SITE SPECIFIC PROJECT. SEE NOTE 4 OF PRODUCT EVALUATION NOTES.
 - INCREASE IN ALLOWABLE STRESS (1.33) HAS NOT BEEN INCORPORATED INTO THE DESIGN OF THIS PRODUCT.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT THE EXISTING STRUCTURE IS DESIGNED TO SUPPORT THE LOADS FROM THE SHUTTER SYSTEM AND MULLIONS. EXISTING STRUCTURES NOT ABLE TO SUPPORT THESE LOADS SHALL BE EVALUATED AS A SITE SPECIFIC PROJECT. SEE NOTE 4 OF PRODUCT EVALUATION NOTES.
- ALL ALUMINUM EXTRUSIONS SHALL BE 6063-T6 ALLOY (UNLESS OTHERWISE NOTED OR CAN BE REPLACED WITH 6061-T6 ALLOY).

PRODUCT EVALUATION NOTES:

- THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) PREPARED BY THIS ENGINEER IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT; I.E. WHERE THE SITE CONDITIONS DEVIATE FROM THE P.E.D.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE SELECTION, PURCHASE, AND INSTALLATION OF THIS PRODUCT BASED ON THIS PRODUCT EVALUATION PROVIDED AND SHALL NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT.
- THIS PRODUCT EVALUATION DOCUMENT WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.
- SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A FLORIDA REGISTERED ENGINEER OR ARCHITECT WHICH WILL BECOME THE ENGINEER OF RECORD (E.O.R.) FOR THE PROJECT AND WHO WILL BE RESPONSIBLE FOR THE PROPER USE OF THE P.E.D. THE ENGINEER OF RECORD, ACTING AS A DELEGATED ENGINEER TO THE P.E.D. ENGINEER, SHALL SUBMIT SITE SPECIFIC DRAWINGS FOR REVIEW.

ANCHOR & FASTENING NOTES:

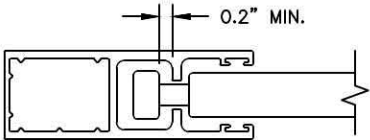
- ALL FASTENERS SHALL BE CORROSION RESISTANT COATED CARBON STEEL AS PER DIN 50018 OR STAINLESS STEEL 304 OR 316 SERIES WITH 50 KSI YIELD POINT AND 90 KSI ULTIMATE TENSILE STRENGTH.
- NO EMBEDMENT INTO NON-STRUCTURAL COMPONENTS SUCH AS, STUCCO, TILE, SIDING, ETC. SHALL BE CONSIDERED AS PART OF THE EMBEDMENT.
- THE ANCHOR SPACING AND DESIGN PRESSURES ARE VALID FOR EDGE DISTANCES AND MINIMUM EMBEDMENT BELOW.

ANCHOR	Concrete & Filled CMU (3500 PSI)		Hollow CMU (1800 PSI)		Wood (S.G. = .55)	
	Min. Edge	Min Emb.	Min. Edge	Min Emb.	Min. Edge	Min Emb.
1/4" ULTRACON HFH	2"	2"	2"	1 1/4"	2"	2"
5/16" ULTRACON HFH	3 1/2"	2"	3 1/2"	1 1/4"	2"	2"
3/8" CONFLEX	3 3/4"	3 1/2"	-	-	-	-
3/8" STAINLESS STEEL W/ RAMSET G5	3 1/2"	3 3/8"	-	-	-	-
1/2" STAINLESS STEEL W/ RAMSET G5	4"	4 1/2"	-	-	-	-

LIST OF REPORTS:

FENESTRATION TESTING LABORATORY, INC.

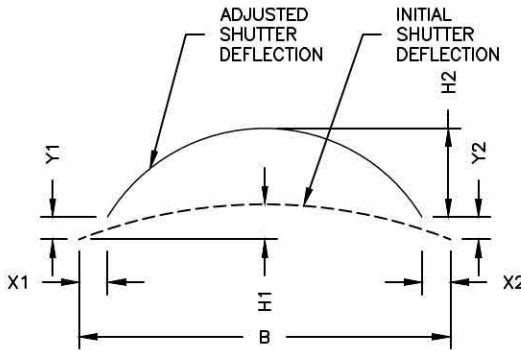
LABORATORY No. 5632
DATE: 5/19/2008
FILE No. 08-374
TEST PROTOCOL: TAS 201-94
MULLIONS: 3X4X1/8X288, 4X4X1/8X288,
4X4X1/4X288, 4X6X1/8X288, 4X6X1/4X240,



MINIMUM SLACK FOR END-RETENTION TRACKS



TYPICAL SLATS OR SIMILAR



ADJUSTED TOTAL DEFLECTION = $H2 + Y$

$H2 = \frac{\sqrt{4*H1^2 - 3*X^2} + 6*B*X}{2}$

$X = X1 + X2$

$Y = \frac{Y1 + Y2}{2}$

B = SHUTTER SPAN (INCHES)
X1 = LEFT MULLION DEFLECTION IN X DIRECTION
X2 = RIGHT MULLION DEFLECTION IN X DIRECTION
Y1 = LEFT MULLION DEFLECTION IN Y DIRECTION
Y2 = RIGHT MULLION DEFLECTION IN Y DIRECTION
H1 = INITIAL SHUTTER DEFLECTION
H2 = SHUTTER DEFLECTION WITH MULLION DEFLECTION

ADJUSTED DEFLECTION EQUATIONS NOTES

SEE MULLION TABLES FOR MULLION X AND Y DEFLECTIONS

SEE SHUTTER APPROVAL FOR MINIMUM SEPARATION TO GLASS FOR INITIAL SHUTTER DEFLECTION

REVISIONS

DATE

#

AHT
ADVANCED HURRICANE TECHNOLOGY
1601 OLD AIRPORT HALL RD. FORT MYERS, FL 33913
PHONE: 239.260.0020; SALES@AHT-USA.NET
AHTWORLDWIDE.COM

AHT 58MM SHUTTER

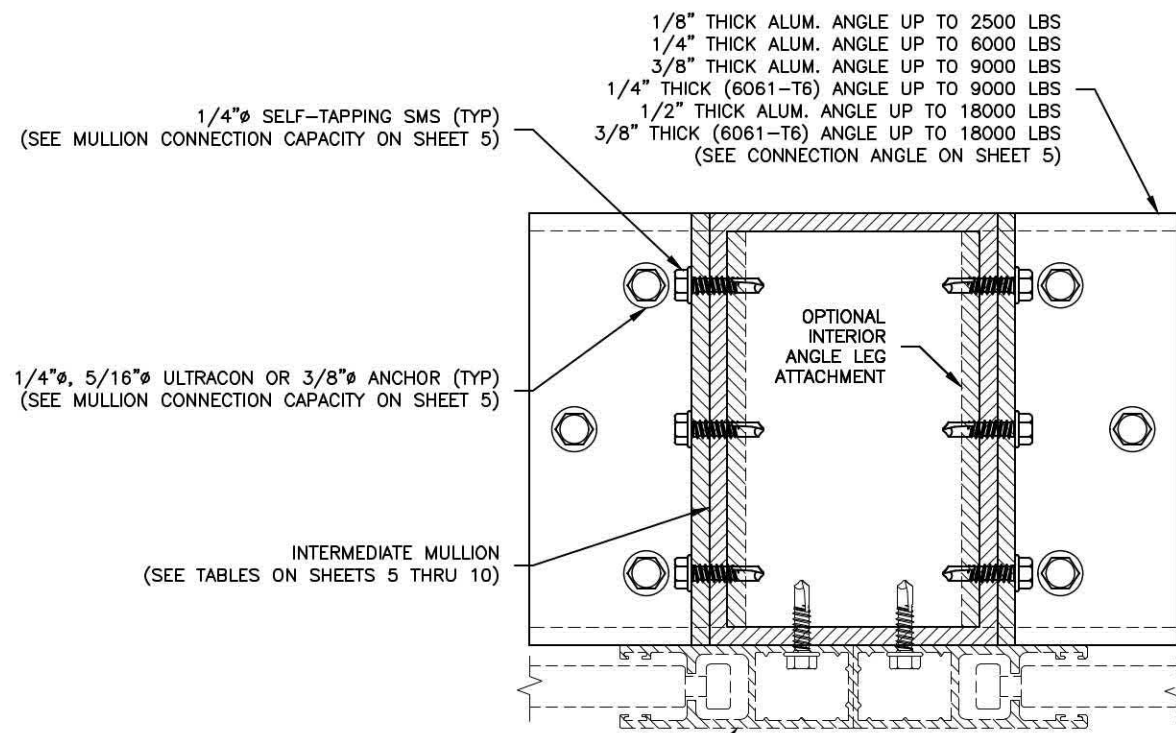
TKJ Engineering, LLC.

11332 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
TEL: 843.404.7646; FAX: 843.404.7646; EMAIL: TKJENGINEERING@VERIZON.NET
PROFESSIONAL ENGINEER CERTIFICATE OF AUTHORIZATION NUMBER: 28582

PROJ. #: 23-0802
SCALE: N.T.S.
DRAWN BY: TKJ
DATE: 5/23/20

THIS IS TO CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE BUILDING CODE REQUIREMENTS

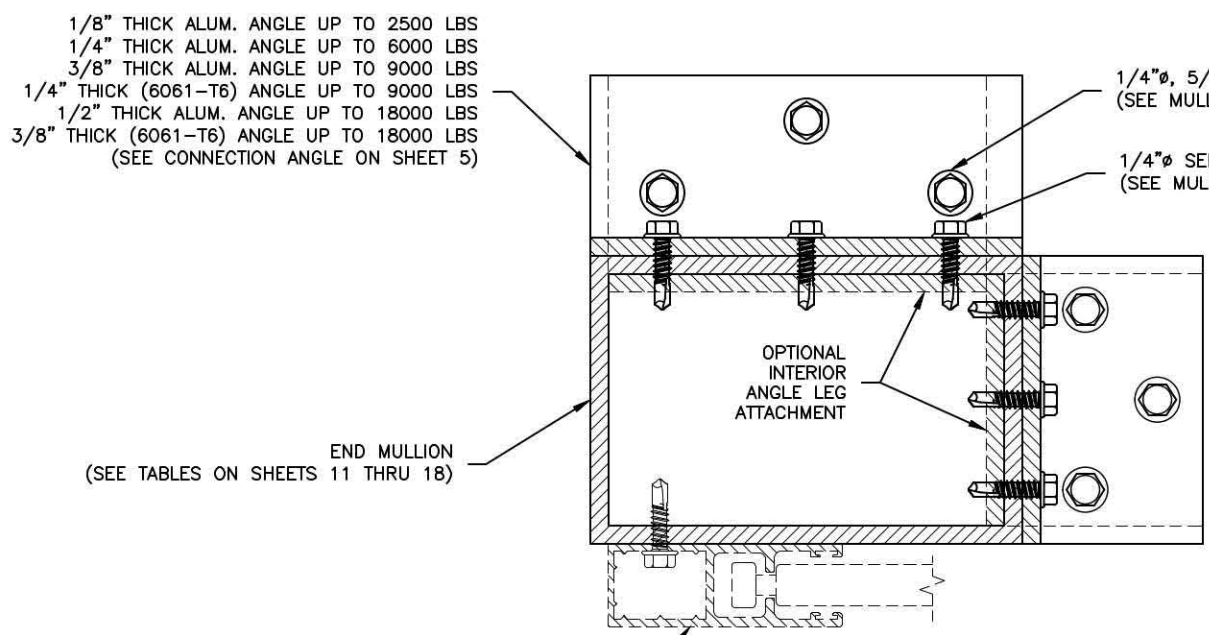
STATE OF FLORIDA
PROFESSIONAL ENGINEER
28582
TKJ ENGINEERING, LLC.
5/23/20



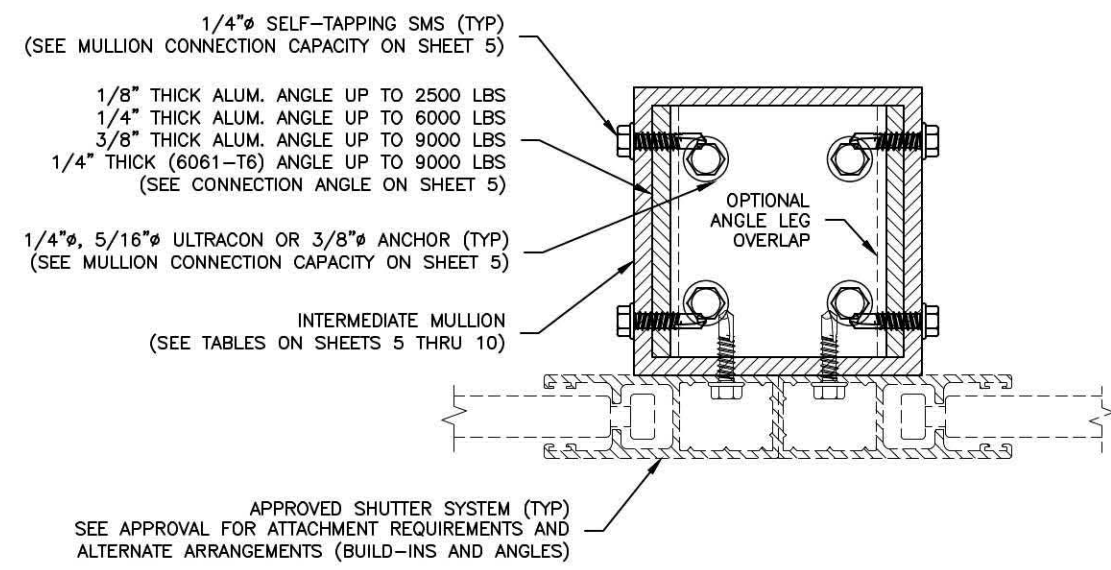
INTERMEDIATE MULLION CONNECTION
TYPICAL MULLION INSTALLATION - N.T.S.

NOTES:

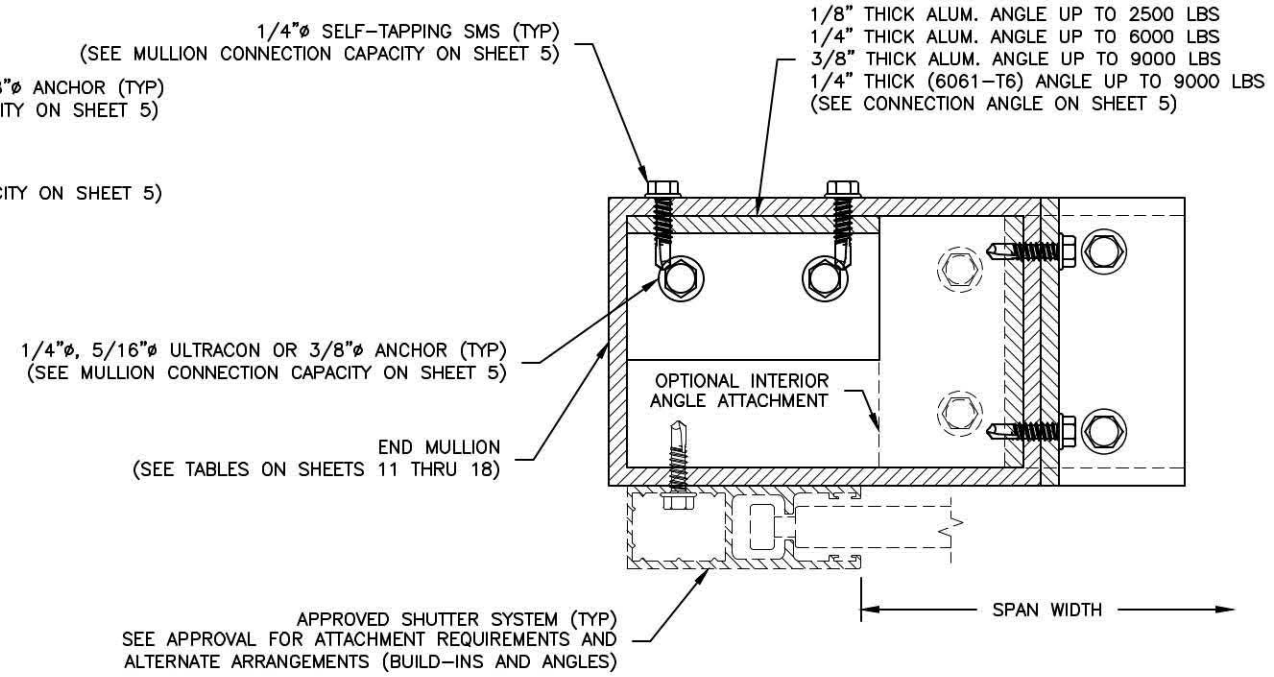
1. ANCHOR AND FASTENER SPACING MUST MEET THE REQUIREMENTS SHOWN ON THE CONNECTION ANGLE DETAIL ON SHEET 5. THE CONNECTIONS AND OPTIONAL CONNECTIONS SHOWN ARE NOT APPLICABLE WHERE THE MINIMUM SPACING REQUIREMENTS ARE EXCEEDED
2. INTERIOR ANGLE LEG ATTACHMENT CAN BE USED IN COMBINATION WITH INTERIOR ATTACHMENT



END MULLION CONNECTION
TYPICAL MULLION INSTALLATION - N.T.S.



INTERMEDIATE MULLION CONNECTION
INTERIOR ATTACHMENT MULLION INSTALLATION - N.T.S.



END MULLION CONNECTION
INTERIOR ATTACHMENT MULLION INSTALLATION - N.T.S.

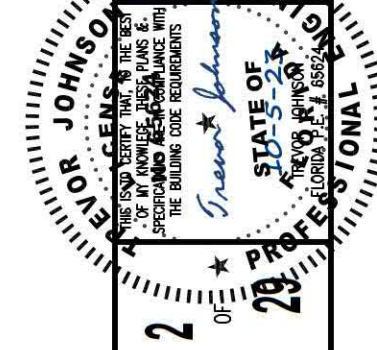
#	DATE	REVISIONS

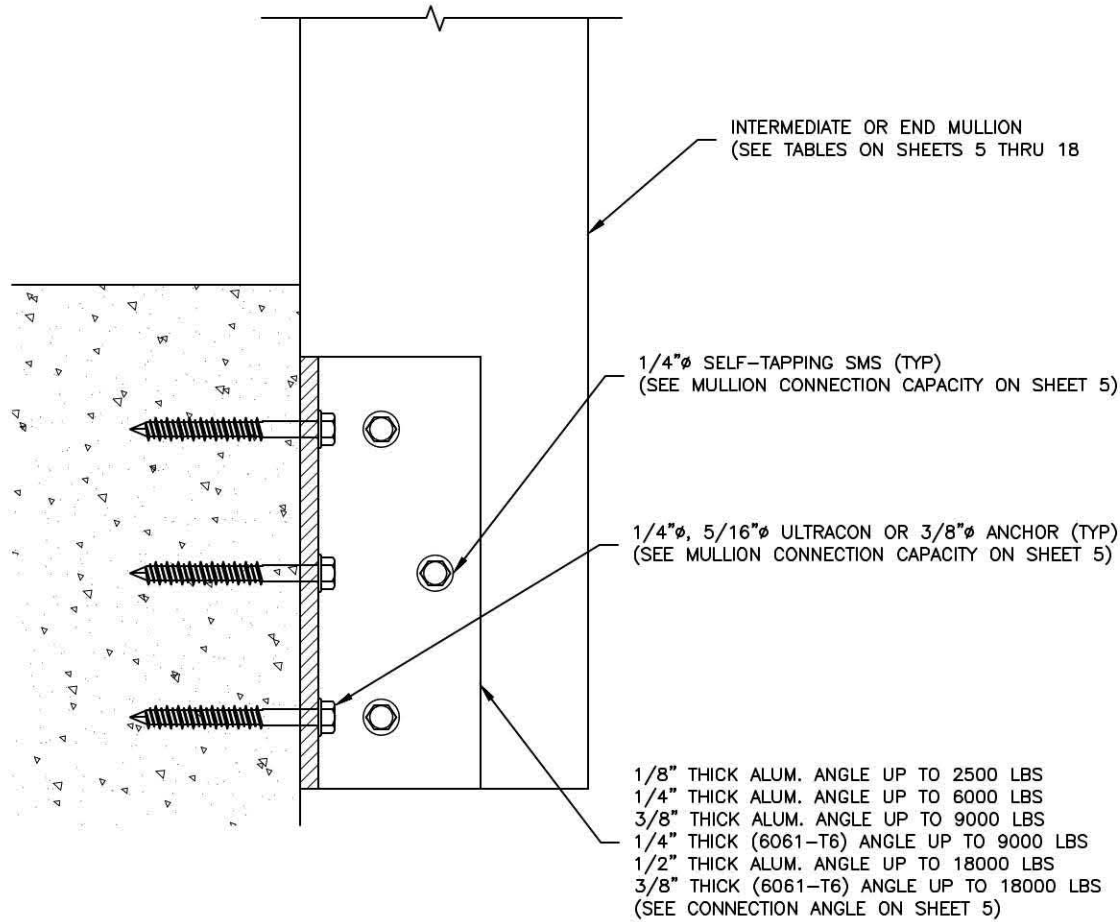


AHT 58MM SHUTTER

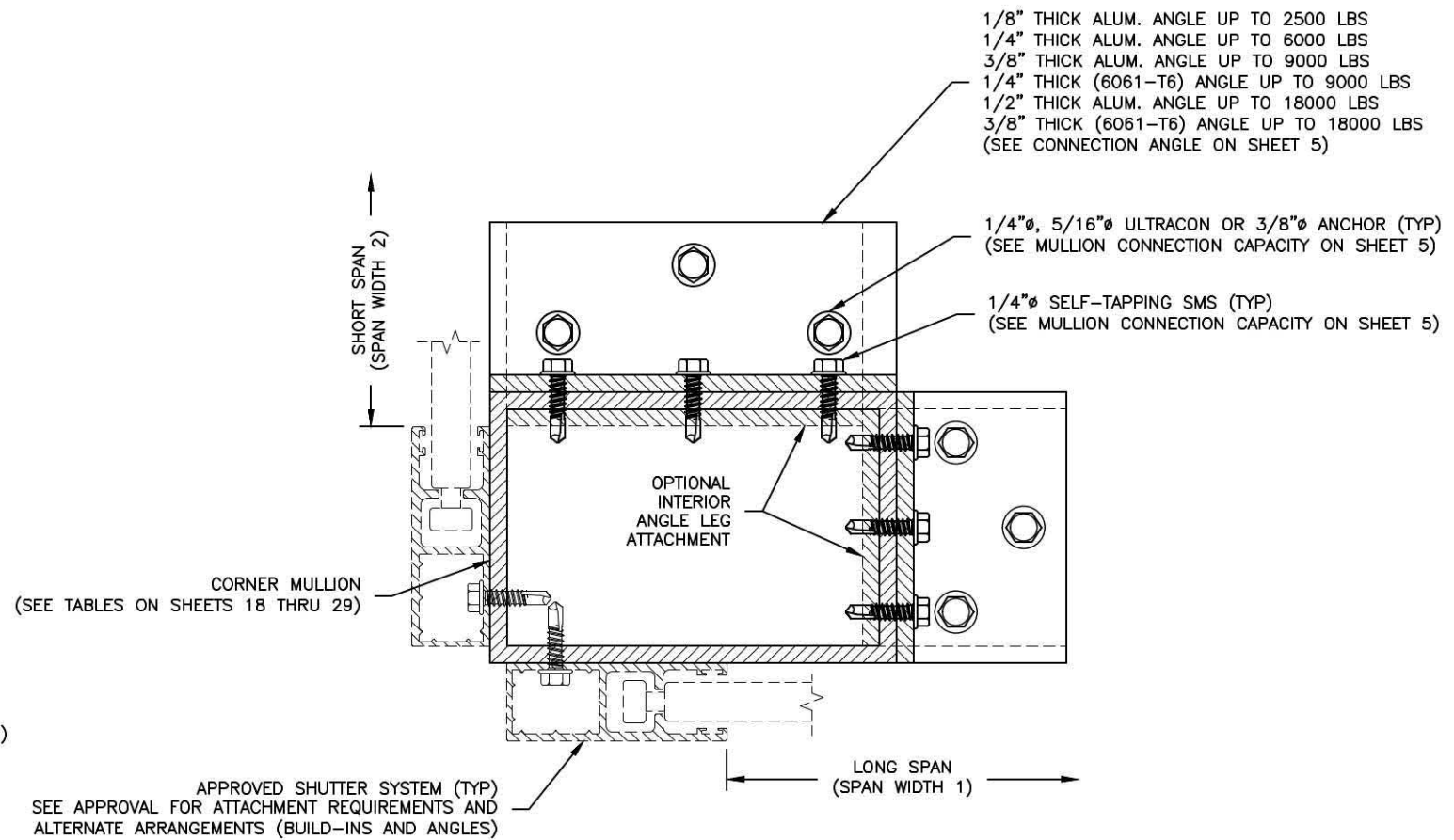
TKJ Engineering, LLC.
11833 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
TEL: 813.404.7649; FAX: 813.404.7649; E-MAIL: TKJENGINEERING@VERIZON.NET
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 28582

DATE: 09/05/23
DRAWN BY: TKJ
SCALE: N.T.S.
PROJ. #: 23-0802

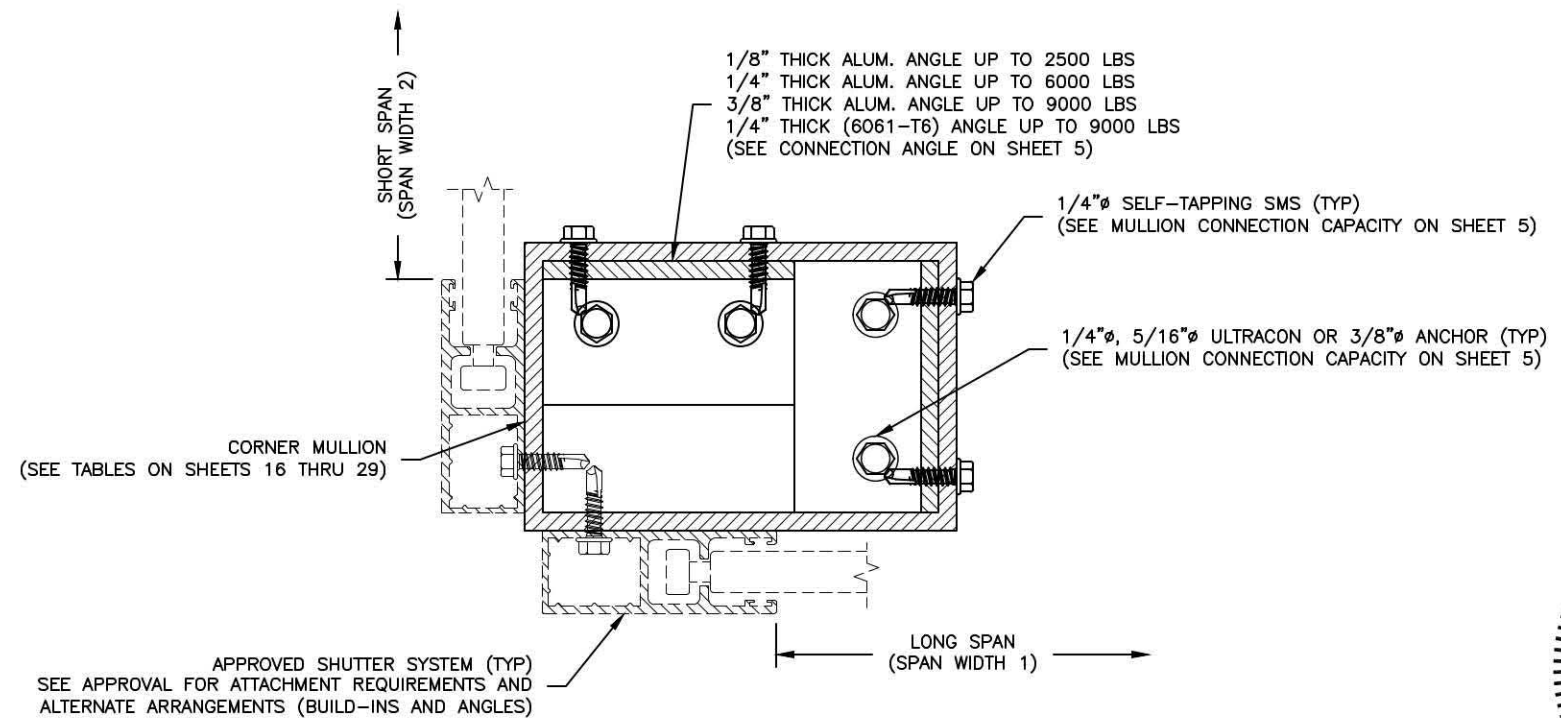




WALL MOUNTED CONNECTION
OPTIONAL MULLION INSTALLATION - N.T.S.



END MULLION CONNECTION
TYPICAL MULLION INSTALLATION - N.T.S.



END MULLION CONNECTION
INTERIOR ATTACHMENT MULLION INSTALLATION - N.T.S.

NOTE: INTERIOR ANGLE LEG ATTACHMENT CAN BE USED IN COMBINATION WITH INTERIOR ATTACHMENT

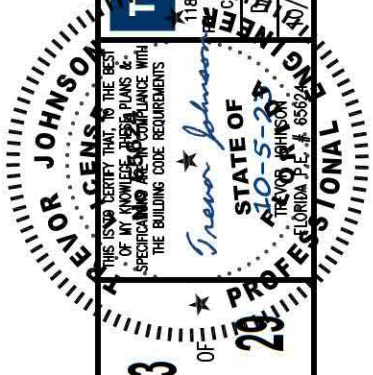
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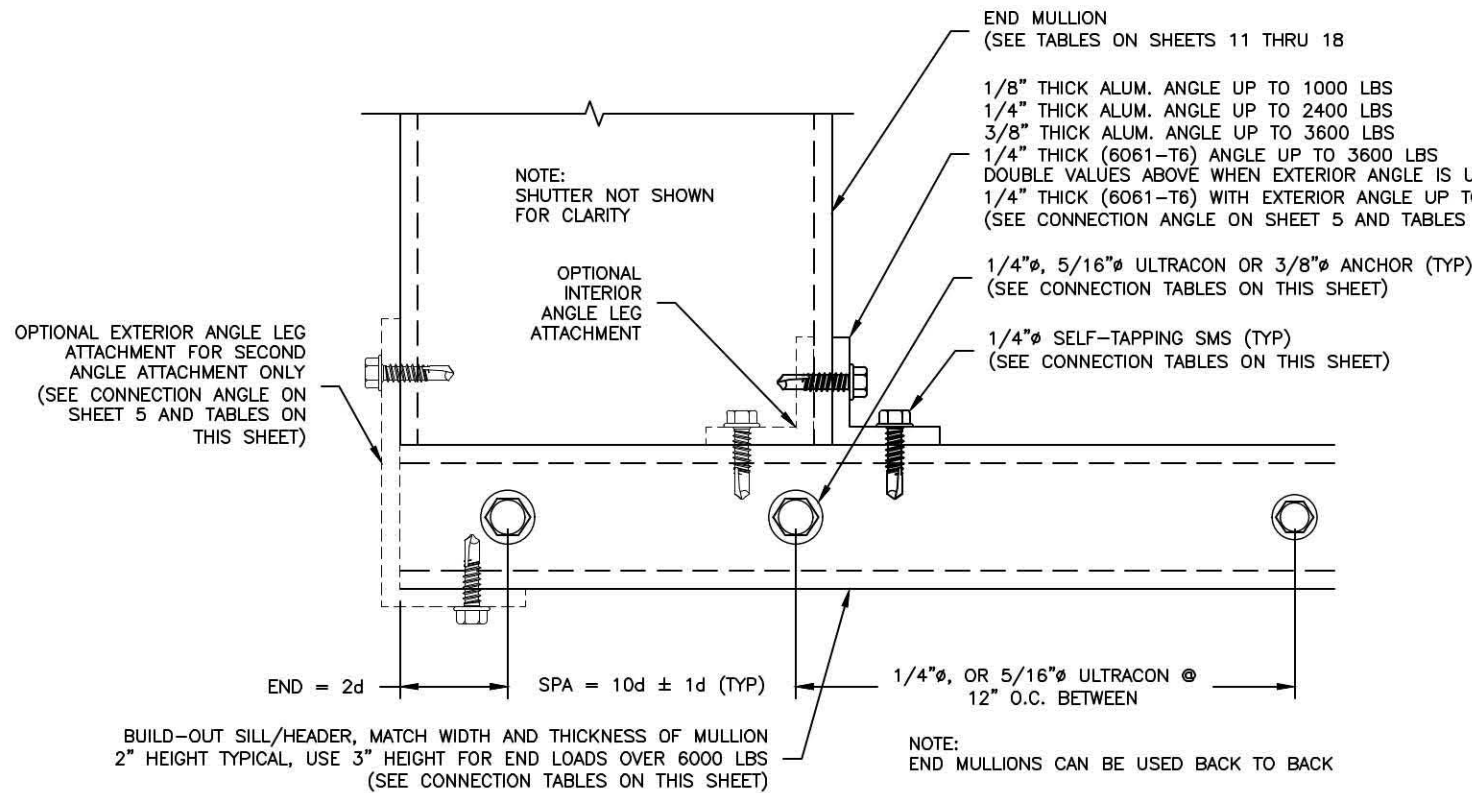


AHT 58MM SHUTTER

TKJ Engineering, LLC.

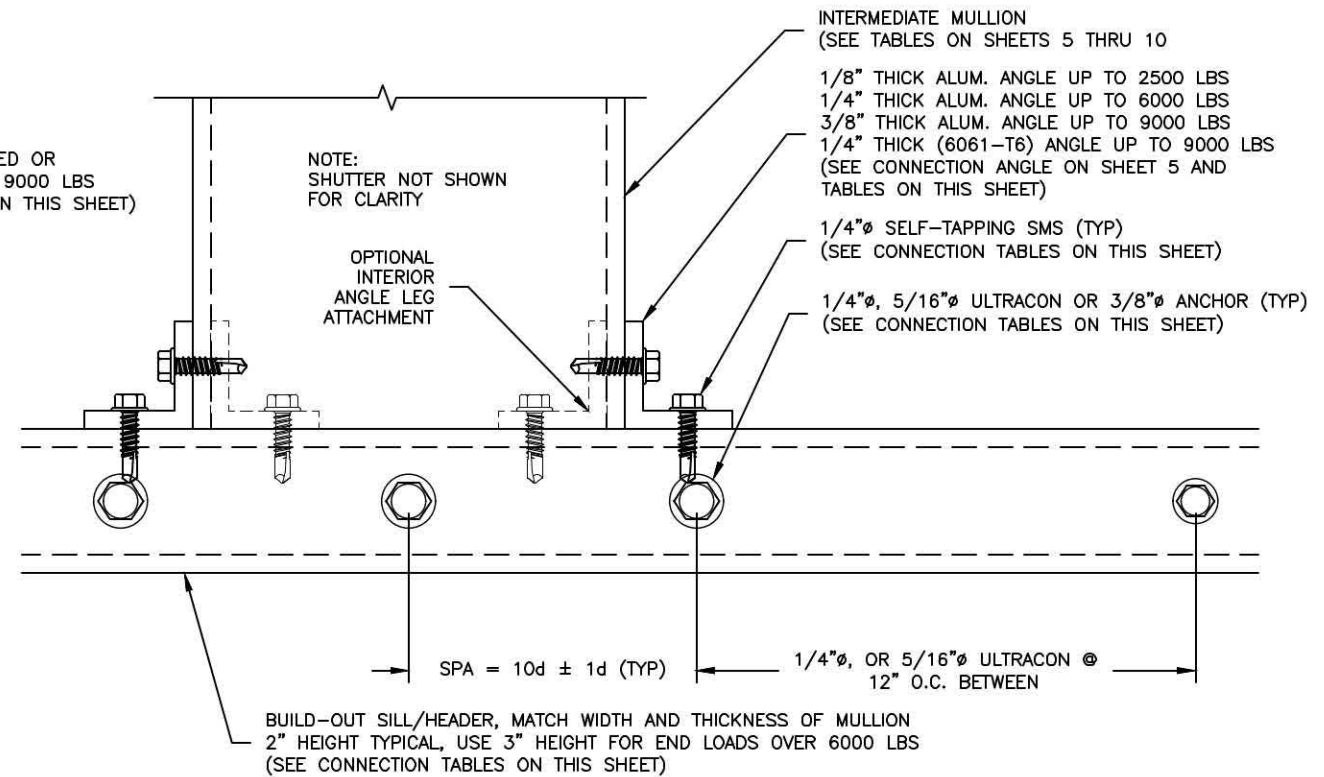
11635 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569	PROJ. #:	23-0802
TEL: 813-404-7649; FAX: 813-404-7649; E-MAIL: TKJENGINEERING@VERIZON.NET	SCALE:	N.T.S.
TKJ CERTIFICATE OF AUTHORIZATION NUMBER: 28582	DRAWN BY:	TKJ
DATE: 10/5/23	CHECKED BY:	TKJ





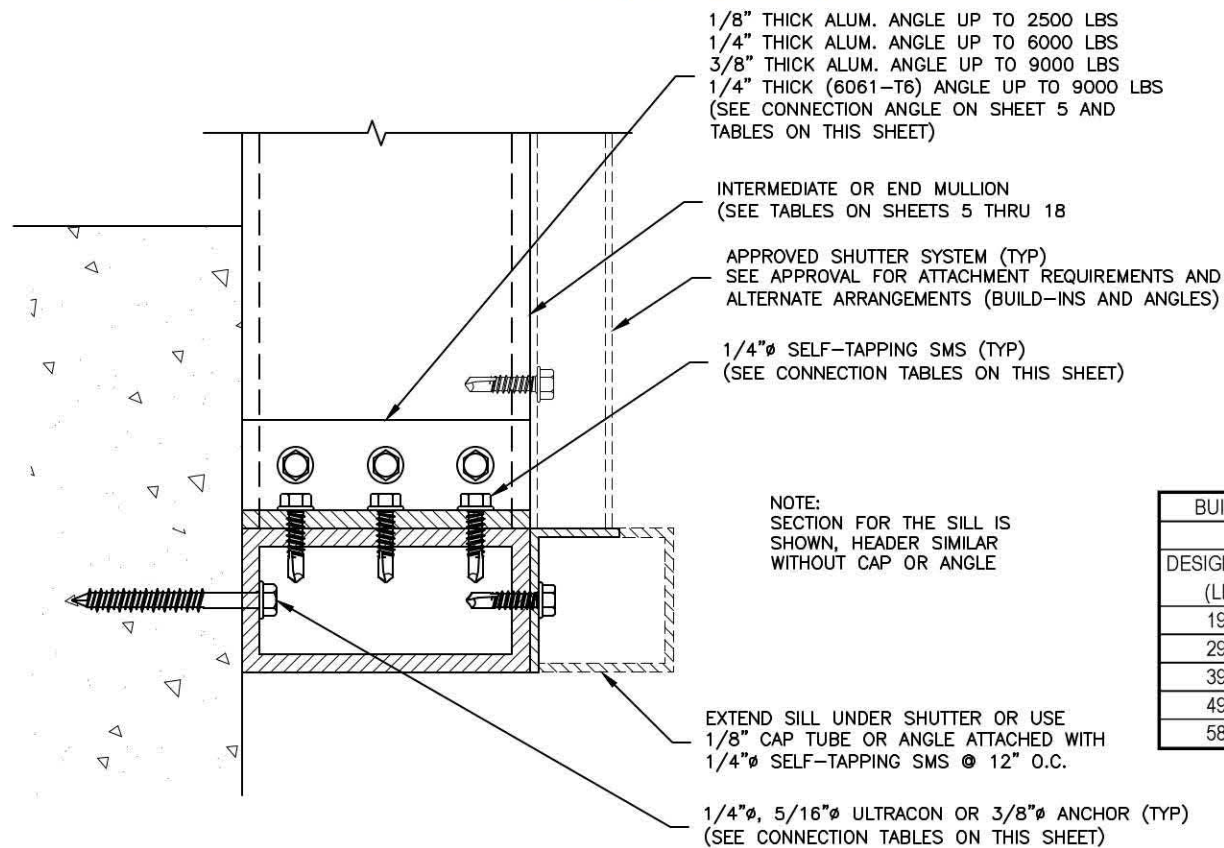
BUILD-OUT SILL/HEADER CONNECTION

OPTIONAL END MULLION INSTALLATION - N.T.S.



BUILD-OUT SILL/HEADER CONNECTION

OPTIONAL INTERMEDIATE MULLION INSTALLATION - N.T.S.



BUILD-OUT SILL/HEADER SECTION

OPTIONAL END AND INTERMEDIATE MULLION INSTALLATION - N.T.S.

BUILD-OUT SILL/HEADER CONNECTION CAPACITY					
CONCRETE & FILLED CMU		HOLLOW CMU		WOOD	
DESIGN LOAD (LBS)	ANCHORS REQUIRED EACH ANGLE	DESIGN LOAD (LBS)	ANCHORS REQUIRED EACH ANGLE	DESIGN LOAD (LBS)	ANCHORS REQUIRED EACH ANGLE
2080	(2) 5/16" ULTRACON	1050	(3) 1/4" ULTRACON	900	(3) 1/4" ULTRACON
3120	(3) 5/16" ULTRACON	1400	(4) 1/4" ULTRACON	1200	(4) 1/4" ULTRACON
4160	(4) 5/16" ULTRACON	1290	(3) 5/16" ULTRACON	1770	(3) 5/16" ULTRACON
6240	(6) 5/16" ULTRACON	1720	(4) 5/16" ULTRACON	2360	(4) 5/16" ULTRACON
4500	(2) 3/8" ANCHOR	2150	(5) 5/16" ULTRACON	2950	(5) 5/16" ULTRACON
6750	(3) 3/8" ANCHOR	2580	(6) 5/16" ULTRACON	3540	(6) 5/16" ULTRACON
9000	(4) 3/8" ANCHOR	3440	(8) 5/16" ULTRACON	4720	(8) 5/16" ULTRACON

BUILD-OUT SILL/HEADER CONNECTION ANGLE CAPACITY (2 REQUIRED)			
1/8" MIN. ALUMINUM		1/4" MIN. ALUMINUM	
DESIGN LOAD (LBS)	ANCHORS REQUIRED EACH ANGLE	DESIGN LOAD (LBS)	ANCHORS REQUIRED EACH ANGLE
1960	(2) 1/4-14 DRIL-FLEX	3200	(2) 1/4-14 DRIL-FLEX
2940	(3) 1/4-14 DRIL-FLEX	4800	(3) 1/4-14 DRIL-FLEX
3920	(4) 1/4-14 DRIL-FLEX	6400	(4) 1/4-14 DRIL-FLEX
4900	(5) 1/4-14 DRIL-FLEX	9600	(6) 1/4-14 DRIL-FLEX
5880	(6) 1/4-14 DRIL-FLEX	12800	(8) 1/4-14 DRIL-FLEX

BUILD-OUT SILL/HEADER CONNECTION ANGLE CAPACITY (1 REQUIRED)			
1/8" MIN. ALUMINUM		1/4" MIN. ALUMINUM	
DESIGN LOAD (LBS)	ANCHORS REQUIRED EACH ANGLE	DESIGN LOAD (LBS)	ANCHORS REQUIRED EACH ANGLE
490	(2) 1/4-14 DRIL-FLEX	800	(2) 1/4-14 DRIL-FLEX
735	(3) 1/4-14 DRIL-FLEX	1200	(3) 1/4-14 DRIL-FLEX
980	(4) 1/4-14 DRIL-FLEX	1600	(4) 1/4-14 DRIL-FLEX
1225	(5) 1/4-14 DRIL-FLEX	2400	(6) 1/4-14 DRIL-FLEX
1470	(6) 1/4-14 DRIL-FLEX	3200	(8) 1/4-14 DRIL-FLEX
1960	(8) 1/4-14 DRIL-FLEX	4000	(10) 1/4-14 DRIL-FLEX

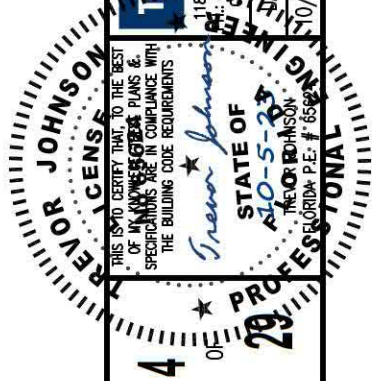
NOTE:
ADD MULLION END LOADS TOGETHER FROM BOTH MULLIONS
(ABOVE AND BELOW) WHEN A SHARED SILL/HEADER IS USED

REVISONS	DATE	#



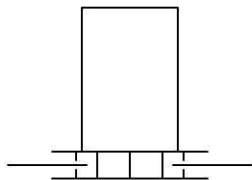
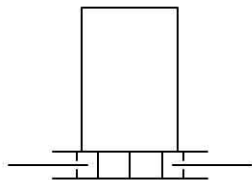
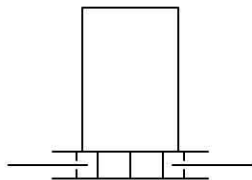
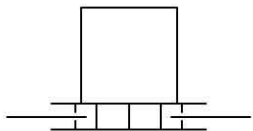
AHT 58MM SHUTTER

TKJ Engineering, LLC.		PROJ. #:	SCALE:	DRAWN BY:	DATE:	TKJ	N.T.S.
11005 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569 P.O. BOX 13, 404, 7649; E.M.: TKJENGINEERING@VERIZON.NET CERTIFICATE OF AUTHORIZATION NUMBER: 28582		23-0802			10/5/23		





NOTE: USE DEFLECTIONS PROVIDED WHEN DETERMINING
MINIMUM SEPARATION TO GLASS

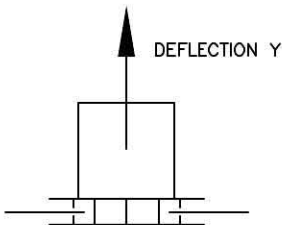


MAXIMUM DESIGN PRESSURE OF A INTERMEDIATE 4"X4"X1/4" MULLION (6063-T6)				
AVERAGE SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)
60"	96"	138	2760	0.72
	108"	109	2453	0.91
	120"	88	2200	1.12
	132"	73	2008	1.36
	144"	61	1830	1.61
72"	96"	115	2760	0.72
	108"	91	2457	0.91
	120"	74	2220	1.13
	132"	61	2013	1.37
	144"	51	1836	1.62
84"	96"	99	2772	0.72
	108"	78	2457	0.91
	120"	63	2205	1.12
	132"	52	2002	1.36
	144"	44	1848	1.63
96"	96"	86	2752	0.72
	108"	68	2448	0.91
	120"	55	2200	1.12
	132"	46	2024	1.37
	144"	38	1824	1.61
108"	96"	77	2772	0.72
	108"	61	2471	0.92
	120"	49	2205	1.12
	132"	41	2030	1.38
	144"	34	1836	1.62
120"	84"	90	3150	0.55
	96"	69	2760	0.72
	108"	54	2430	0.90
	120"	44	2200	1.12
	132"	36	1980	1.34
132"	84"	82	3157	0.55
	96"	63	2772	0.72
	108"	50	2475	0.92
	120"	40	2200	1.12
	132"	33	1997	1.35

MAXIMUM DESIGN PRESSURE OF A INTERMEDIATE 4"X6"X1/8" MULLION (6063-T6)				
AVERAGE SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)
60"	96"	131	2620	0.48
	108"	104	2340	0.61
	120"	84	2100	0.75
	132"	69	1898	0.90
	144"	58	1740	1.07
72"	96"	109	2616	0.48
	108"	86	2322	0.60
	120"	70	2100	0.75
	132"	58	1914	0.91
	144"	49	1764	1.09
84"	96"	94	2632	0.48
	108"	74	2331	0.61
	120"	60	2100	0.75
	132"	50	1925	0.92
	144"	42	1764	1.09
96"	96"	82	2624	0.48
	108"	65	2340	0.61
	120"	52	2080	0.74
	132"	43	1892	0.90
	144"	36	1728	1.07
108"	96"	73	2628	0.48
	108"	58	2349	0.61
	120"	47	2115	0.76
	132"	39	1931	0.92
	144"	32	1728	1.07
120"	84"	86	3010	0.37
	96"	66	2640	0.48
	108"	52	2340	0.61
	120"	42	2100	0.75
	132"	35	1925	0.92
132"	84"	78	3003	0.37
	96"	60	2640	0.48
	108"	47	2327	0.61
	120"	38	2090	0.75
	132"	32	1936	0.92

MAXIMUM DESIGN PRESSURE OF A INTERMEDIATE 4"X6"X1/4" MULLION (6063-T6)				
AVERAGE SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)
120"	96"	122	4880	0.48
	108"	97	4365	0.61
	120"	78	3900	0.75
	132"	65	3575	0.91
	144"	54	3240	1.07
132"	96"	111	4884	0.48
	108"	88	4356	0.61
	120"	71	3905	0.75
	132"	59	3570	0.91
	144"	49	3234	1.07
144"	96"	102	4896	0.48
	108"	81	4374	0.61
	120"	65	3900	0.75
	132"	54	3564	0.91
	144"	45	3240	1.07
156"	96"	94	4888	0.48
	108"	74	4329	0.60
	120"	60	3900	0.75
	132"	50	3575	0.91
	144"	42	3276	1.09
180"	96"	82	4920	0.48
	108"	64	4320	0.60
	120"	52	3900	0.75
	132"	43	3548	0.91
	144"	36	3240	1.07
192"	96"	76	4864	0.48
	108"	60	4320	0.60
	120"	49	3920	0.75
	132"	40	3520	0.90
	144"	34	3264	1.08
204"	96"	72	4896	0.48
	108"	57	4361	0.61
	120"	46	3910	0.75
	132"	38	3553	0.91
	144"	32	3264	1.08

MAXIMUM DESIGN PRESSURE OF A INTERMEDIATE 4"X6"X1/4" MULLION (6063-T6)				
AVERAGE SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)
216"	96"	68	4896	0.48
	108"	54	4374	0.61
	120"	43	3870	0.74
	132"	36	3564	0.91
	144"	30	3240	1.07
228"	96"	64	4864	0.48
	108"	51	4361	0.61
	120"	41	3895	0.75
	132"	34	3553	0.91
	144"	29	3306	1.10
240"	96"	61	4880	0.48
	108"	48	4320	0.60
	120"	39	3900	0.75
	132"	32	3520	0.90
	144"	27	3240	1.07
252"	84"	76	5586	0.37
	96"	58	4872	0.48
	108"	46	4347	0.61
	120"	37	3885	0.74
	132"	31	3581	0.91
264"	84"	73	5621	0.37
	96"	56	4928	0.48
	108"	44	4356	0.61
	120"	36	3960	0.76
	132"	29	3509	0.90
276"	84"	69	5555	0.37
	96"	53	4876	0.48
	108"	42	4347	0.61
	120"	34	3910	0.75
	132"	28	3542	0.90
288"	84"	67	5628	0.37
	96"	51	4896	0.48
	108"	40	4320	0.60
	120"	33	3960	0.76
	132"	27	3564	0.91



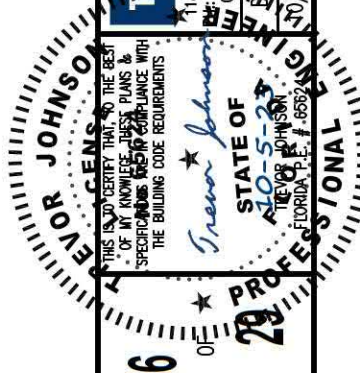
NOTE: USE DEFLECTIONS PROVIDED WHEN DETERMINING MINIMUM SEPARATION TO GLASS

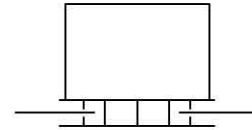
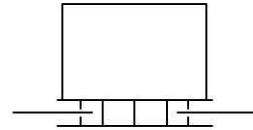
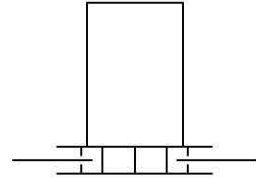
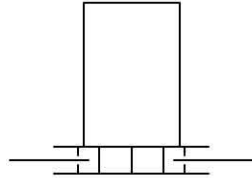
#	DATE	REVISIONS



AHT 58MM SHUTTER

TKJ Engineering, LLC.		11835 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569	PROJ. #:	23-0802
TELEPHONE: 813.404.7646; FAX: 813.404.7649; E-MAIL: TKJENGINEERING@VERIZON.NET		PROJ. #:	23-0802	
PROJ. #:		CERTIFICATE OF AUTHORIZATION NUMBER: 28582	DATE:	10/5/23
DRAWN BY:		SCALE:	TKJ	N.T.S.



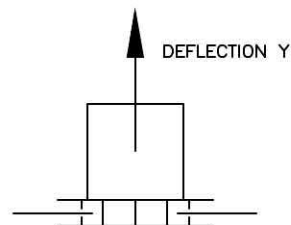


MAXIMUM DESIGN PRESSURE OF A INTERMEDIATE 4"x8"x1/4" MULLION (6063-T6)				
AVERAGE SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)
132"	96"	150	6600	0.32
	108"	134	6633	0.46
	120"	108	5940	0.56
	132"	89	5385	0.68
	144"	75	4950	0.81
144"	96"	150	7200	0.35
	108"	122	6588	0.45
	120"	99	5940	0.56
	132"	82	5412	0.68
	144"	69	4968	0.81
156"	96"	143	7436	0.36
	108"	113	6611	0.46
	120"	92	5980	0.57
	132"	76	5434	0.68
	144"	64	4992	0.82
168"	96"	133	7448	0.36
	108"	105	6615	0.46
	120"	85	5950	0.56
	132"	70	5390	0.68
	144"	59	4956	0.81
180"	96"	124	7440	0.36
	108"	98	6615	0.46
	120"	79	5925	0.56
	132"	66	5445	0.68
	144"	55	4950	0.81
192"	96"	116	7424	0.36
	108"	92	6624	0.46
	120"	74	5920	0.56
	132"	61	5368	0.68
	144"	52	4992	0.82
204"	96"	109	7412	0.36
	108"	86	6579	0.45
	120"	70	5950	0.56
	132"	58	5423	0.68
	144"	49	4998	0.82

MAXIMUM DESIGN PRESSURE OF A INTERMEDIATE 4"x8"x1/4" MULLION (6063-T6)				
AVERAGE SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)
216"	96"	103	7416	0.36
	108"	82	6642	0.46
	120"	66	5940	0.56
	132"	55	5445	0.68
	144"	46	4968	0.81
228"	96"	98	7448	0.36
	108"	77	6584	0.45
	120"	63	5985	0.57
	132"	52	5434	0.68
	144"	44	5016	0.82
240"	96"	93	7440	0.36
	108"	73	6570	0.45
	120"	60	6000	0.57
	132"	49	5390	0.68
	144"	41	4920	0.80
252"	96"	89	7476	0.36
	108"	70	6615	0.46
	120"	57	5985	0.57
	132"	47	5429	0.68
	144"	39	4914	0.80
264"	96"	85	7480	0.36
	108"	67	6633	0.46
	120"	54	5940	0.56
	132"	45	5445	0.68
	144"	38	5016	0.82
276"	96"	81	7452	0.36
	108"	64	6624	0.46
	120"	52	5980	0.57
	132"	43	5440	0.68
	144"	36	4968	0.81
288"	96"	78	7488	0.36
	108"	61	6588	0.45
	120"	50	6000	0.57
	132"	41	5412	0.68
	144"	34	4896	0.80

MAXIMUM DESIGN PRESSURE OF A INTERMEDIATE 4"x6"x1/8" MULLION (6063-T6)				
AVERAGE SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)
60"	96"	105	2100	0.72
	108"	83	1868	0.91
	120"	67	1675	1.12
	132"	56	1540	1.37
	144"	47	1410	1.63
72"	96"	88	2112	0.72
	108"	69	1863	0.91
	120"	56	1680	1.12
	132"	46	1518	1.35
	144"	39	1404	1.62
84"	96"	75	2100	0.72
	108"	59	1859	0.91
	120"	48	1680	1.12
	132"	40	1540	1.37
	144"	33	1386	1.60
96"	96"	66	2112	0.72
	108"	52	1872	0.91
	120"	42	1680	1.12
	132"	35	1540	1.37
	144"	29	1392	1.61
108"	84"	76	2394	0.55
	96"	58	2088	0.71
	108"	46	1863	0.91
	120"	37	1665	1.11
	132"	31	1535	1.37
120"	84"	69	2415	0.55
	96"	53	2120	0.73
	108"	42	1890	0.92
	120"	34	1700	1.14
	132"	28	1540	1.37
132"	72"	85	2805	0.41
	84"	62	2387	0.55
	96"	48	2112	0.72
	108"	38	1881	0.92
	120"	31	1705	1.14

MAXIMUM DESIGN PRESSURE OF A INTERMEDIATE 4"x6"x1/4" MULLION (6063-T6)				
AVERAGE SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)
96"	96"	121	3872	0.72
	108"	95	3420	0.91
	120"	77	3080	1.12
	132"	64	2816	1.37
	144"	54	2592	1.63
108"	96"	107	3852	0.72
	108"	85	3443	0.91
	120"	69	3105	1.13
	132"	57	2822	1.37
	144"	48	2592	1.63
120"	96"	96	3840	0.72
	108"	76	3420	0.91
	120"	62	3100	1.13
	132"	51	2805	1.36
	144"	43	2580	1.62
132"	96"	88	3872	0.72
	108"	69	3416	0.91
	120"	56	3080	1.12
	132"	46	2783	1.35
	144"	39	2574	1.62
144"	96"	80	3840	0.72
	108"	64	3456	0.92
	120"	51	3060	1.12
	132"	43	2838	1.38
	144"	36	2592	1.63
156"	96"	74	3848	0.72
	108"	59	3452	0.92
	120"	47	3055	1.11
	132"	39	2789	1.35
	144"	33	2574	1.62
168"	96"	69	3864	0.72
	108"	54	3402	0.90
	120"	44	3080	1.12
	132"	36	2772	1.34
	144"	31	2604	1.64



NOTE: USE DEFLECTIONS PROVIDED WHEN DETERMINING MINIMUM SEPARATION TO GLASS

#	DATE	REVISIONS



ADVANCED HURRICANE TECHNOLOGY
16501 OLD AIRPORT HALL RD., FORT MYERS, FL 33913
PHONE: 239.260.0020; SALES@AHT-USA.NET
AHTWORLDWIDE.COM

AHT 58MM SHUTTER



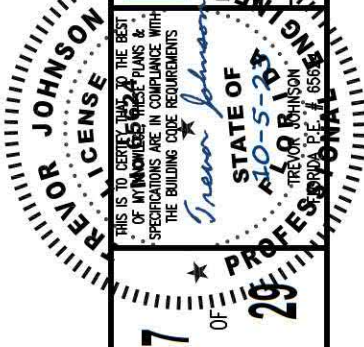
TJ Engineering, LLC.
14335 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
TEL: 813.404.7646; EML: TJENGINEERING@VERIZON.NET
FEDERAL REGISTERED PROFESSIONAL ENGINEER
CERTIFICATE OF AUTHORIZATION NUMBER: 28582

DATE: 10/5/23

DRAWN BY: TKJ

SCALE: N.T.S.

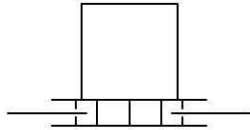
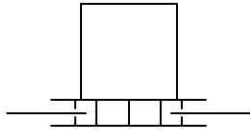
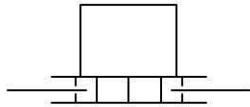
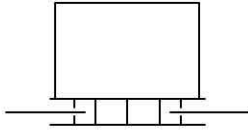
PROJ. #: 23-0802



THIS IS TO CERTIFY THAT THE BEST
OF MY KNOWLEDGE THESE PLANS &
SPECIFICATIONS ARE IN COMPLIANCE WITH
THE BUILDING CODE REQUIREMENTS

Trevor Johnson
STATE OF FLORIDA
PROFESSIONAL ENGINEER
10555

7 OF 29

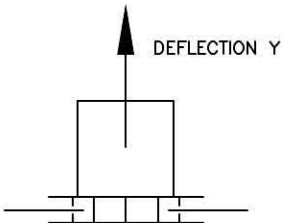


MAXIMUM DESIGN PRESSURE OF A INTERMEDIATE 4"x8"x1/4" MULLION (6063-T6)				
AVERAGE SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)
120"	96"	124	4960	0.72
	108"	98	4410	0.91
	120"	79	3950	1.12
	132"	66	3630	1.37
	144"	55	3300	1.62
132"	96"	113	4972	0.72
	108"	89	4406	0.91
	120"	72	3960	1.12
	132"	60	3630	1.37
	144"	50	3300	1.62
144"	96"	103	4944	0.72
	108"	82	4428	0.92
	120"	66	3960	1.12
	132"	55	3630	1.37
	144"	46	3312	1.62
156"	96"	95	4940	0.72
	108"	75	4388	0.91
	120"	61	3965	1.12
	132"	50	3575	1.35
	144"	42	3276	1.61
168"	96"	89	4984	0.72
	108"	70	4410	0.91
	120"	57	3990	1.13
	132"	47	3619	1.37
	144"	39	3276	1.61
180"	96"	83	4980	0.72
	108"	65	4388	0.91
	120"	53	3975	1.13
	132"	44	3630	1.37
	144"	37	3330	1.63
192"	96"	77	4928	0.72
	108"	61	4392	0.91
	120"	50	4000	1.13
	132"	41	3608	1.36
	144"	34	3264	1.60

MAXIMUM DESIGN PRESSURE OF A INTERMEDIATE 3"x4"x1/8" MULLION (6061-T6)				
AVERAGE SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)
60"	72"	130	1950	0.76
	84"	93	1628	1.00
	96"	62	1240	1.14
	108"	44	990	1.30
	120"	32	800	1.44
72"	60"	150	2250	0.51
	72"	108	1944	0.76
	84"	77	1617	1.00
	96"	52	1248	1.15
	108"	36	972	1.27
84"	60"	133	2328	0.52
	72"	93	1953	0.76
	84"	66	1617	1.00
	96"	44	1232	1.13
	108"	31	977	1.28
96"	48"	150	2400	0.28
	60"	117	2340	0.53
	72"	81	1944	0.76
	84"	58	1624	1.00
	96"	39	1248	1.15
108"	48"	150	2700	0.31
	60"	104	2340	0.53
	72"	72	1944	0.76
	84"	51	1607	0.99
	96"	34	1224	1.13
120"	48"	146	2920	0.34
	60"	93	2325	0.52
	72"	65	1950	0.76
	84"	46	1610	0.99
	96"	31	1240	1.14
132"	48"	133	2926	0.34
	60"	85	2338	0.53
	72"	59	1947	0.76
	84"	42	1617	1.00
	96"	28	1232	1.13

MAXIMUM DESIGN PRESSURE OF A INTERMEDIATE 4"x4"x1/8" MULLION (6061-T6)				
AVERAGE SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)
60"	96"	106	2120	1.01
	108"	84	1890	1.28
	120"	62	1550	1.44
	132"	46	1265	1.56
	144"	36	1080	1.73
72"	96"	88	2112	1.00
	108"	70	1890	1.28
	120"	51	1530	1.42
	132"	39	1287	1.59
	144"	30	1080	1.73
84"	84"	99	2426	0.77
	96"	76	2128	1.01
	108"	60	1890	1.28
	120"	44	1540	1.43
	132"	33	1271	1.57
96"	84"	87	2436	0.77
	96"	66	2112	1.00
	108"	52	1872	1.27
	120"	39	1560	1.45
	132"	29	1276	1.57
108"	72"	105	2835	0.57
	84"	77	2426	0.77
	96"	59	2124	1.01
	108"	47	1904	1.29
	120"	34	1530	1.42
120"	72"	94	2820	0.56
	84"	69	2415	0.77
	96"	53	2120	1.01
	108"	42	1890	1.28
	120"	31	1550	1.44
132"	72"	86	2838	0.57
	84"	63	2426	0.77
	96"	48	2112	1.00
	108"	38	1881	1.27
	120"	28	1540	1.43

MAXIMUM DESIGN PRESSURE OF A INTERMEDIATE 4"x4"x1/4" MULLION (6061-T6)				
AVERAGE SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)
60"	96"	150	3000	0.78
	108"	150	3375	1.25
	120"	112	2800	1.43
	132"	84	2310	1.57
	144"	65	1950	1.72
72"	96"	150	3600	0.94
	108"	127	3429	1.27
	120"	93	2790	1.42
	132"	70	2310	1.57
	144"	54	1944	1.71
84"	96"	138	3864	1.01
	108"	109	3434	1.28
	120"	80	2800	1.43
	132"	60	2310	1.57
	144"	46	1932	1.70
96"	96"	121	3872	1.01
	108"	95	3420	1.27
	120"	70	2800	1.43
	132"	53	2332	1.58
	144"	41	1968	1.73
108"	96"	107	3852	1.01
	108"	85	3443	1.28
	120"	62	2790	1.42
	132"	47	2327	1.58
	144"	36	1944	1.71
120"	96"	97	3880	1.01
	108"	76	3420	1.27
	120"	56	2800	1.43
	132"	42	2310	1.57
	144"	32	1920	1.69
132"	96"	88	3872	1.01
	108"	69	3416	1.27
	120"	51	2805	1.43
	132"	38	2299	1.56
	144"	29	1914	1.69



NOTE: USE DEFLECTIONS PROVIDED WHEN DETERMINING MINIMUM SEPARATION TO GLASS

REVISIONS

DATE

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AHT 58MM SHUTTER

TKJ Engineering, LLC.

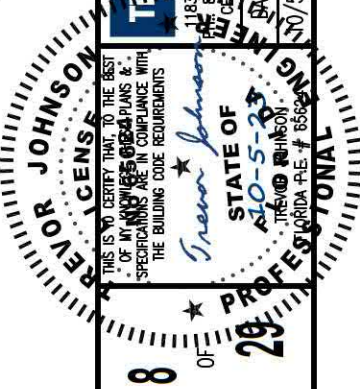
11332 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569

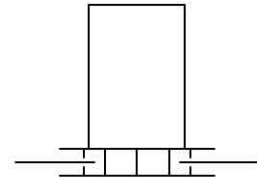
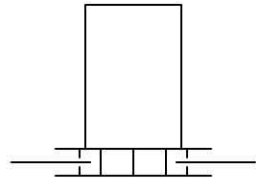
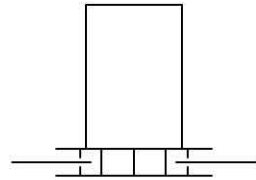
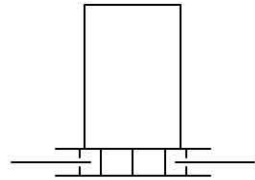
TEL: 863.404.7646; FAX: TKJENGINEERING@VERIZON.NET

PROFESSIONAL ENGINEER CERTIFICATE OF AUTHORIZATION NUMBER: 28582

DATE: SCALE: PROJ. #:

20/5/23 TKJ N.T.S. 23-0802



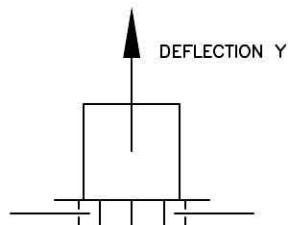


MAXIMUM DESIGN PRESSURE OF A INTERMEDIATE 4"X6"X1/8" MULLION (6061-T6)				
AVERAGE SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)
60"	96"	150	3000	0.55
	108"	145	3263	0.85
	120"	118	2950	1.05
	132"	97	2668	1.27
	144"	82	2460	1.52
72"	96"	150	3600	0.66
	108"	121	3267	0.85
	120"	98	2940	1.05
	132"	81	2673	1.27
	144"	68	2448	1.51
84"	96"	131	3668	0.67
	108"	104	3276	0.85
	120"	84	2940	1.05
	132"	69	2657	1.26
	144"	58	2436	1.50
96"	96"	115	3680	0.67
	108"	91	3276	0.85
	120"	73	2920	1.04
	132"	61	2684	1.28
	144"	51	2448	1.51
108"	96"	102	3672	0.67
	108"	81	3281	0.85
	120"	65	2925	1.05
	132"	54	2673	1.27
	144"	45	2430	1.50
120"	96"	92	3680	0.67
	108"	73	3285	0.86
	120"	59	2950	1.05
	132"	49	2695	1.28
	144"	41	2460	1.52
132"	96"	83	3652	0.67
	108"	66	3267	0.85
	120"	53	2915	1.04
	132"	44	2662	1.27
	144"	37	2442	1.51

MAXIMUM DESIGN PRESSURE OF A INTERMEDIATE 4"X6"X1/4" MULLION (6061-T6)				
AVERAGE SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)
132"	96"	150	6600	0.65
	108"	123	6089	0.85
	120"	100	5500	1.05
	132"	82	4961	1.27
	144"	69	4554	1.51
144"	96"	143	6864	0.67
	108"	113	6102	0.85
	120"	91	5460	1.05
	132"	75	4950	1.26
	144"	63	4536	1.50
156"	96"	132	6864	0.67
	108"	104	6084	0.85
	120"	84	5460	1.05
	132"	70	5005	1.28
	144"	59	4602	1.52
168"	96"	122	6832	0.67
	108"	97	6111	0.85
	120"	78	5460	1.05
	132"	65	5005	1.28
	144"	54	4536	1.50
180"	96"	114	6840	0.67
	108"	90	6075	0.85
	120"	73	5475	1.05
	132"	60	4950	1.26
	144"	51	4590	1.52
192"	96"	107	6848	0.67
	108"	85	6120	0.86
	120"	68	5440	1.04
	132"	57	5016	1.28
	144"	48	4608	1.53
204"	96"	101	6868	0.67
	108"	80	6120	0.86
	120"	64	5440	1.04
	132"	53	4956	1.26
	144"	45	4590	1.52

MAXIMUM DESIGN PRESSURE OF A INTERMEDIATE 4"X6"X1/4" MULLION (6061-T6)				
AVERAGE SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)
216"	96"	95	6840	0.67
	108"	75	6075	0.85
	120"	61	5490	1.05
	132"	50	4950	1.26
	144"	42	4536	1.50
228"	96"	90	6840	0.67
	108"	71	6071	0.85
	120"	58	5510	1.06
	132"	48	5016	1.28
	144"	40	4560	1.51
240"	96"	86	6880	0.68
	108"	68	6120	0.86
	120"	55	5500	1.05
	132"	45	4950	1.26
	144"	38	4560	1.51
252"	96"	82	6888	0.68
	108"	64	6048	0.85
	120"	52	5460	1.05
	132"	43	4967	1.27
	144"	36	4536	1.50
264"	96"	78	6864	0.67
	108"	61	6039	0.84
	120"	50	5500	1.05
	132"	41	4961	1.27
	144"	35	4620	1.53
276"	96"	74	6808	0.67
	108"	59	6107	0.85
	120"	48	5520	1.06
	132"	39	4934	1.26
	144"	33	4554	1.51
288"	96"	71	6816	0.67
	108"	56	6048	0.85
	120"	46	5520	1.06
	132"	38	5016	1.28
	144"	32	4608	1.53

MAXIMUM DESIGN PRESSURE OF A INTERMEDIATE 4"X8"X1/4" MULLION (6061-T6)				
AVERAGE SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)
132"	96"	150	6600	0.32
	108"	150	7425	0.51
	120"	150	8250	0.78
	132"	125	7563	0.95
	144"	105	6930	1.13
144"	96"	150	7200	0.35
	108"	150	8100	0.56
	120"	139	8340	0.79
	132"	115	7590	0.95
	144"	96	6912	1.13
156"	96"	150	7800	0.38
	108"	150	8775	0.60
	120"	128	8320	0.79
	132"	106	7579	0.95
	144"	89	6942	1.13
168"	96"	150	8400	0.41
	108"	147	9261	0.64
	120"	119	8330	0.79
	132"	98	7546	0.95
	144"	83	6972	1.14
180"	96"	150	9000	0.44
	108"	137	9248	0.64
	120"	111	8325	0.79
	132"	92	7590	0.95
	144"	77	6930	1.13
192"	96"	150	9600	0.46
	108"	129	9288	0.64
	120"	104	8320	0.79
	132"	86	7568	0.95
	144"	72	6912	1.13
204"	96"	150	10200	0.49
	108"	121	9257	0.64
	120"	98	8330	0.79
	132"	81	7574	0.95
	144"	68	6936	1.13



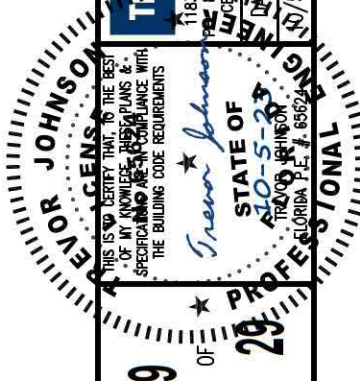
NOTE: USE DEFLECTIONS PROVIDED WHEN DETERMINING MINIMUM SEPARATION TO GLASS

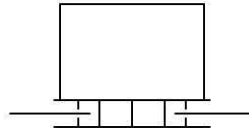
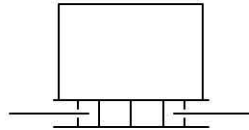
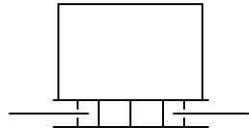
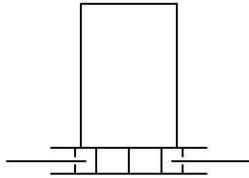
#	DATE	REVISIONS



AHT 58MM SHUTTER

TKJ Engineering, LLC.		11635 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569	
PROJ. #:		23-0802	
SCALE:		N.T.S.	
DRAWN BY:		TKJ	
DATE:		10/5/23	
PROF. #:		23-0802	



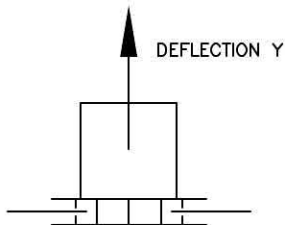


MAXIMUM DESIGN PRESSURE OF A INTERMEDIATE 4"x8"x1/4" MULLION (6061-T6)				
AVERAGE SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)
216"	96"	145	10440	0.51
	108"	114	9234	0.64
	120"	93	8370	0.79
	132"	77	7623	0.96
	144"	64	6912	1.13
228"	96"	137	10412	0.50
	108"	108	9234	0.64
	120"	88	8360	0.79
	132"	72	7524	0.95
	144"	61	6954	1.14
240"	96"	130	10400	0.50
	108"	103	9270	0.64
	120"	83	8300	0.78
	132"	69	7590	0.95
	144"	58	6960	1.14
252"	96"	124	10416	0.50
	108"	98	9261	0.64
	120"	79	8295	0.78
	132"	66	7623	0.96
	144"	55	6930	1.13
264"	96"	118	10384	0.50
	108"	94	9306	0.64
	120"	76	8360	0.79
	132"	63	7623	0.96
	144"	53	6996	1.14
276"	96"	113	10396	0.50
	108"	89	9212	0.63
	120"	72	8280	0.78
	132"	60	7590	0.95
	144"	50	6900	1.13
288"	96"	109	10464	0.51
	108"	86	9288	0.64
	120"	69	8280	0.78
	132"	57	7524	0.95
	144"	48	6912	1.13

MAXIMUM DESIGN PRESSURE OF A INTERMEDIATE 4"x6"x1/8" MULLION (6061-T6)				
AVERAGE SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)
60"	96"	147	2940	1.01
	108"	116	2610	1.27
	120"	85	2125	1.42
	132"	64	1760	1.57
	144"	49	1470	1.70
72"	96"	123	2952	1.01
	108"	97	2619	1.28
	120"	71	2130	1.42
	132"	54	1782	1.59
	144"	41	1476	1.71
84"	96"	105	2940	1.01
	108"	83	2615	1.27
	120"	61	2135	1.43
	132"	46	1771	1.58
	144"	35	1470	1.70
96"	96"	92	2944	1.01
	108"	73	2628	1.28
	120"	53	2120	1.42
	132"	40	1760	1.57
	144"	31	1488	1.72
108"	96"	82	2952	1.01
	108"	65	2633	1.28
	120"	47	2115	1.41
	132"	36	1782	1.59
	144"	27	1458	1.68
120"	84"	96	3360	0.77
	96"	74	2960	1.01
	108"	58	2610	1.27
	120"	43	2150	1.44
	132"	32	1760	1.57
132"	84"	87	3350	0.77
	96"	67	2948	1.01
	108"	53	2624	1.28
	120"	39	2145	1.43
	132"	29	1755	1.56

MAXIMUM DESIGN PRESSURE OF A INTERMEDIATE 4"x6"x1/4" MULLION (6061-T6)				
AVERAGE SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)
96"	96"	150	4800	0.90
	108"	133	4788	1.27
	120"	98	3920	1.43
	132"	74	3256	1.58
	144"	57	2736	1.72
108"	96"	150	5400	1.01
	108"	119	4820	1.28
	120"	87	3915	1.43
	132"	65	3218	1.56
	144"	50	2700	1.70
120"	96"	135	5400	1.01
	108"	107	4815	1.28
	120"	78	3900	1.42
	132"	59	3245	1.57
	144"	45	2700	1.70
132"	96"	123	5412	1.01
	108"	97	4802	1.28
	120"	71	3905	1.42
	132"	54	3267	1.58
	144"	41	2706	1.70
144"	96"	113	5424	1.01
	108"	89	4806	1.28
	120"	65	3900	1.42
	132"	49	3234	1.57
	144"	38	2736	1.72
156"	96"	104	5408	1.01
	108"	82	4797	1.27
	120"	60	3900	1.42
	132"	45	3218	1.56
	144"	35	2730	1.72
168"	96"	96	5376	1.00
	108"	76	4788	1.27
	120"	56	3920	1.43
	132"	42	3234	1.57
	144"	32	2688	1.69

MAXIMUM DESIGN PRESSURE OF A INTERMEDIATE 4"x8"x1/4" MULLION (6061-T6)				
AVERAGE SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)
120"	96"	150	6000	0.87
	108"	137	6165	1.27
	120"	101	5050	1.43
	132"	76	4180	1.58
	144"	58	3480	1.71
132"	96"	150	6600	0.96
	108"	125	6188	1.28
	120"	92	5060	1.43
	132"	69	4175	1.58
	144"	53	3498	1.71
144"	96"	145	6960	1.01
	108"	114	6156	1.27
	120"	84	5040	1.43
	132"	63	4158	1.57
	144"	49	3528	1.73
156"	96"	134	6968	1.01
	108"	105	6143	1.27
	120"	78	5070	1.44
	132"	58	4147	1.57
	144"	45	3510	1.72
168"	96"	124	6944	1.01
	108"	98	6174	1.28
	120"	72	5040	1.43
	132"	54	4158	1.57
	144"	42	3528	1.73
180"	96"	116	6960	1.01
	108"	91	6143	1.27
	120"	67	5025	1.42
	132"	50	4125	1.56
	144"	39	3510	1.72
192"	96"	108	6912	1.00
	108"	86	6192	1.28
	120"	63	5040	1.43
	132"	47	4136	1.56
	144"	36	3456	1.69



NOTE: USE DEFLECTIONS PROVIDED WHEN DETERMINING MINIMUM SEPARATION TO GLASS

REVISIONS

DATE

#

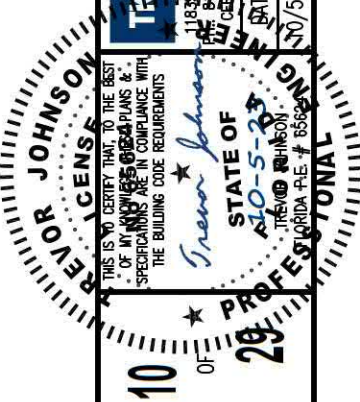


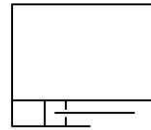
AHT 58MM SHUTTER

TKJ Engineering, LLC.

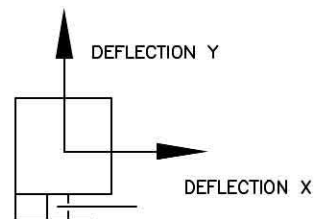
11332 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
TEL: 863.404.7646; FAX: TKJENGINEERING@VERIZON.NET
PROFESSIONAL ENGINEER'S CERTIFICATE OF AUTHORIZATION NUMBER: 28582

DATE: 10/5/23
DRAWN BY: TKJ
SCALE: N.T.S.
PROJ. #: 23-0802





MAXIMUM DESIGN PRESSURE OF AN END 4"X6"X1/8" MULLION (6063-T6)					
SPAN WDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
72"	96"	102	2698	0.42	0.37
	108"	91	2313	0.61	0.38
	120"	85	2082	0.86	0.41
	132"	78	1834	1.16	0.39
	144"	57	1657	1.21	0.22
84"	96"	73	2845	0.35	0.42
	108"	65	2466	0.51	0.47
	120"	59	2153	0.70	0.50
	132"	55	1928	0.96	0.56
	144"	52	1775	1.29	0.58
96"	96"	55	2929	0.31	0.45
	108"	48	2529	0.43	0.50
	120"	45	2324	0.62	0.62
	132"	40	2008	0.80	0.62
	144"	39	1912	1.11	0.74
108"	96"	43	2946	0.27	0.48
	108"	38	2646	0.38	0.54
	120"	34	2338	0.53	0.62
	132"	32	2157	0.73	0.76
	144"	30	1988	0.97	0.85
120"	84"	42	3544	0.17	0.39
	96"	35	3017	0.25	0.48
	108"	31	2705	0.35	0.59
	120"	28	2451	0.48	0.71
	132"	25	2116	0.64	0.83
132"	78"	39	3837	0.13	0.34
	84"	35	3528	0.16	0.39
	90"	32	3297	0.19	0.44
	96"	29	3037	0.23	0.49
	102"	27	2852	0.27	0.54
144"	60"	50	5010	0.06	0.21
	66"	43	4533	0.08	0.26
	72"	38	4213	0.10	0.30
	78"	34	3912	0.13	0.35
	84"	30	3562	0.15	0.40

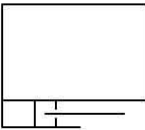
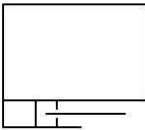
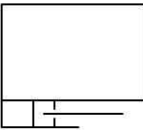


THE DEFLECTION IN THE X DIRECTION CAN BE NEGLECTED ON NON-RETENSION SHUTTERS AND WHEN STORM-BARS ARE USED TO REDUCE SHUTTER DEFLECTIONS.

THIS IS TO CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE SPECIFICATIONS ARE IN COMPLIANCE WITH THE BUILDING CODE REQUIREMENTS.



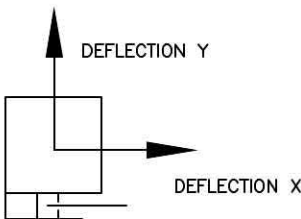
TKJ Engineering, LLC.	11655 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569	PROJ. #:	23-0802
	TEL: 413.404.7649; EM: TKJENGINEERING@GMAIL.COM	SCALE:	
	FL STATE CERTIFICATE OF AUTHORIZATION NUMBER: 28582	DRAWN BY:	TKJ
		DATE:	10/05/23
			N.T.S.



MAXIMUM DESIGN PRESSURE OF AN END 4"x6"x1/4" MULLION (6063-T6)					
SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
72"	96"	150	5436	0.34	0.45
	108"	135	4765	0.49	0.52
	120"	122	4255	0.67	0.58
	132"	113	3844	0.91	0.65
	144"	105	3499	1.20	0.69
84"	96"	113	5617	0.30	0.47
	108"	99	4950	0.42	0.56
	120"	88	4390	0.57	0.65
	132"	81	4003	0.77	0.74
	144"	75	3682	1.00	0.80
96"	96"	88	5729	0.27	0.48
	108"	77	5107	0.37	0.60
	120"	68	4552	0.50	0.71
	132"	62	4125	0.67	0.84
	144"	57	3797	0.88	0.93
108"	96"	72	5856	0.25	0.52
	108"	62	5196	0.34	0.64
	120"	55	4710	0.46	0.75
	132"	49	4239	0.60	0.87
	144"	45	3912	0.78	1.00
120"	96"	60	5951	0.23	0.51
	108"	51	5271	0.31	0.62
	120"	45	4734	0.42	0.79
	132"	40	4327	0.55	0.87
	144"	36	3934	0.70	0.99
132"	96"	51	5966	0.21	0.53
	108"	44	5396	0.30	0.66
	120"	38	4827	0.39	0.79
	132"	34	4421	0.51	0.94
	144"	31	4104	0.66	1.09
144"	84"	54	6867	0.14	0.42
	96"	44	5997	0.20	0.53
	108"	38	5429	0.28	0.69
	120"	32	4772	0.36	0.79
	132"	29	4417	0.48	0.98

MAXIMUM DESIGN PRESSURE OF AN END 4"x8"x1/4" MULLION (6063-T6)					
SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
84"	96"	144	8261	0.29	0.35
	108"	124	7307	0.41	0.44
	120"	109	6509	0.55	0.51
	132"	97	5780	0.71	0.59
	144"	88	5222	0.92	0.67
96"	96"	115	8459	0.27	0.37
	108"	98	7515	0.37	0.45
	120"	86	6744	0.49	0.55
	132"	75	5987	0.63	0.62
	144"	69	5505	0.82	0.74
108"	96"	95	8642	0.25	0.38
	108"	80	7626	0.34	0.47
	120"	70	6906	0.45	0.57
	132"	62	6262	0.59	0.67
	144"	55	5633	0.74	0.76
120"	96"	81	8850	0.24	0.39
	108"	67	7751	0.32	0.48
	120"	58	6937	0.42	0.59
	132"	51	6292	0.54	0.70
	144"	46	5814	0.69	0.80
132"	96"	69	8866	0.22	0.39
	108"	58	7890	0.30	0.49
	120"	50	7109	0.40	0.61
	132"	44	6494	0.51	0.71
	144"	39	5886	0.65	0.84
144"	96"	60	8915	0.21	0.40
	108"	51	8011	0.29	0.51
	120"	43	7104	0.37	0.61
	132"	38	6539	0.49	0.74
	144"	34	6068	0.62	0.85
156"	84"	67	10393	0.15	0.32
	96"	54	9076	0.21	0.41
	108"	45	8120	0.28	0.51
	120"	38	7196	0.36	0.62
	132"	33	6559	0.46	0.72

MAXIMUM DESIGN PRESSURE OF AN END 4"x6"x3/8" MULLION (6063-T6)					
SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
84"	96"	150	8143	0.29	0.50
	108"	129	7160	0.40	0.60
	120"	114	6407	0.53	0.71
	132"	103	5841	0.71	0.82
	144"	95	5363	0.92	0.94
96"	96"	119	8296	0.26	0.51
	108"	102	7362	0.36	0.64
	120"	89	6614	0.48	0.73
	132"	79	5961	0.62	0.84
	144"	73	5522	0.81	1.01
108"	96"	98	8451	0.24	0.53
	108"	83	7460	0.33	0.66
	120"	72	6714	0.44	0.77
	132"	65	6186	0.58	0.93
	144"	58	5601	0.73	1.06
120"	96"	83	8569	0.23	0.54
	108"	70	7601	0.31	0.68
	120"	60	6807	0.40	0.78
	132"	53	6194	0.52	0.92
	144"	48	5717	0.67	1.10
132"	96"	71	8599	0.21	0.55
	108"	60	7720	0.29	0.68
	120"	52	6980	0.39	0.82
	132"	45	6250	0.49	0.96
	144"	41	5861	0.63	1.14
144"	96"	62	8690	0.21	0.55
	108"	52	7750	0.28	0.68
	120"	45	6998	0.37	0.85
	132"	39	6334	0.47	0.98
	144"	35	5865	0.59	1.15
156"	84"	67	9876	0.14	0.43
	96"	55	8796	0.20	0.56
	108"	46	7853	0.27	0.68
	120"	39	6957	0.34	0.85
	132"	35	6534	0.45	1.02



NOTE: USE DEFLECTIONS PROVIDED WHEN DETERMINING MINIMUM SEPARATION TO GLASS

THE DEFLECTION IN THE X DIRECTION CAN BE NEGLECTED ON NON-RETENSION SHUTTERS
AND WHEN STORM-BARS ARE USED TO REDUCE SHUTTER DEFLECTIONS.

#	DATE	REVISIONS



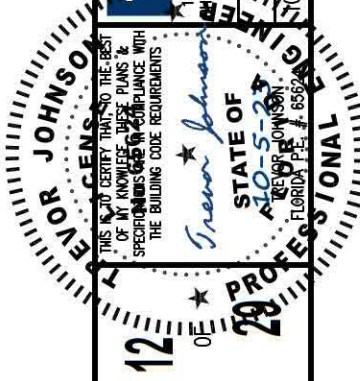
ADVANCED HURRICANE TECHNOLOGY
16501 OLD AIRPORT HALL RD. FORT MYERS, FL 33913
PHONE: 239.260.0020; SALES@AHT-USA.NET
AHTWORLDWIDE.COM

AHT 58MM SHUTTER

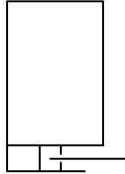
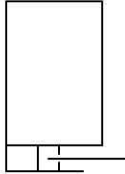
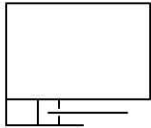


TKJ Engineering, LLC.
11235 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
TEL: 215.404.7646; EMAIL: TKJENGINEERING@VERIZON.NET
CERTIFICATE OF AUTHORIZATION NUMBER: 28582

DATE: 10/5/23
DRAWN BY: TKJ
SCALE: N.T.S.
PROJ. #: 23-0802



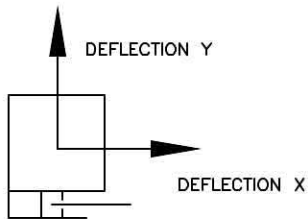
THIS I CERTIFY THAT TO THE BEST
OF MY KNOWLEDGE AND BELIEF
THESE PLANS & SPECIFICATIONS
COMPLY WITH THE BUILDING CODE REQUIREMENTS
OF THE STATE OF FLORIDA
TREVOR JOHNSON
PROFESSIONAL ENGINEER
FLORIDA P.E. # 85524



MAXIMUM DESIGN PRESSURE OF AN END 4"X6"X1/2" MULLION (6063-T6)					
SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
96"	96"	147	10578	0.26	0.53
	108"	124	9363	0.36	0.65
	120"	109	8490	0.48	0.78
	132"	96	7622	0.62	0.93
	144"	87	7063	0.79	1.05
108"	96"	121	10675	0.24	0.54
	108"	102	9505	0.33	0.66
	120"	89	8629	0.44	0.80
	132"	78	7769	0.56	0.95
	144"	70	7168	0.72	1.09
120"	96"	103	10849	0.23	0.55
	108"	86	9627	0.31	0.67
	120"	75	8776	0.41	0.82
	132"	66	7994	0.53	0.99
	144"	59	7367	0.67	1.13
132"	96"	89	10951	0.22	0.56
	108"	74	9701	0.29	0.69
	120"	64	8812	0.39	0.84
	132"	56	8006	0.50	1.02
	144"	50	7401	0.63	1.17
144"	96"	77	10946	0.21	0.56
	108"	65	9799	0.28	0.71
	120"	56	8939	0.37	0.86
	132"	49	8164	0.48	1.02
	144"	43	7431	0.59	1.18
156"	96"	69	11126	0.20	0.57
	108"	57	9821	0.27	0.70
	120"	49	8900	0.35	0.88
	132"	43	8203	0.45	1.03
	144"	38	7506	0.57	1.24
168"	84"	76	12600	0.14	0.45
	96"	62	11172	0.20	0.58
	108"	51	9882	0.26	0.71
	120"	44	8998	0.34	0.89
	132"	38	8209	0.43	1.04

MAXIMUM DESIGN PRESSURE OF AN END 4"X6"X1/8" MULLION (6063-T6)					
SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
60"	108"	150	2467	0.47	0.52
	120"	118	1999	0.53	0.21
	132"	113	1927	0.75	0.30
	144"	76	1760	0.71	0.45
	156"	66	1534	0.85	0.36
72"	96"	109	2645	0.24	0.61
	108"	100	2421	0.36	0.64
	120"	97	2303	0.53	0.77
	132"	73	1825	0.58	0.27
	144"	77	1893	0.87	0.63
84"	96"	75	2625	0.19	0.65
	108"	70	2415	0.29	0.79
	120"	64	2190	0.41	0.80
	132"	62	2112	0.58	0.95
	144"	58	1946	0.77	0.94
96"	96"	56	2682	0.17	0.70
	108"	51	2382	0.24	0.88
	120"	46	2165	0.34	0.87
	132"	44	2040	0.47	1.04
	144"	41	1906	0.62	1.02
108"	84"	49	2981	0.10	0.58
	96"	43	2664	0.14	0.71
	108"	38	2341	0.21	0.83
	120"	36	2234	0.30	1.01
	132"	33	2012	0.40	1.10
120"	60"	61	4132	0.03	0.32
	66"	53	3729	0.04	0.38
	72"	48	3484	0.06	0.46
	78"	43	3193	0.07	0.51
	84"	39	2959	0.09	0.56
132"	48"	72	5118	0.02	0.21
	54"	60	4557	0.02	0.26
	60"	52	4176	0.03	0.32
	66"	45	3757	0.04	0.39
	72"	40	3467	0.05	0.45

MAXIMUM DESIGN PRESSURE OF AN END 4"X6"X1/4" MULLION (6063-T6)					
SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
72"	96"	150	4997	0.19	0.72
	108"	141	4484	0.27	0.83
	120"	132	4169	0.38	0.98
	132"	124	3922	0.53	1.08
	144"	118	3713	0.71	1.20
84"	96"	113	4989	0.16	0.75
	108"	102	4557	0.23	0.91
	120"	93	4138	0.32	1.07
	132"	87	3900	0.43	1.23
	144"	82	3666	0.58	1.38
96"	96"	87	5037	0.14	0.79
	108"	77	4565	0.20	0.94
	120"	70	4155	0.27	1.16
	132"	64	3868	0.36	1.26
	144"	61	3669	0.49	1.54
108"	96"	70	5125	0.13	0.80
	108"	61	4578	0.18	0.98
	120"	55	4200	0.24	1.19
	132"	50	3905	0.32	1.32
	144"	46	3558	0.42	1.58
120"	84"	68	5785	0.08	0.63
	96"	57	5103	0.11	0.79
	108"	50	4611	0.16	1.01
	120"	44	4171	0.22	1.17
	132"	41	3939	0.29	1.46
132"	78"	63	6120	0.06	0.55
	84"	57	5754	0.07	0.62
	90"	52	5364	0.09	0.73
	96"	48	5068	0.11	0.83
	102"	45	4899	0.13	0.90
144"	78"	55	6178	0.06	0.57
	84"	49	5747	0.07	0.62
	90"	45	5416	0.08	0.73
	96"	41	5056	0.10	0.84
	102"	38	4822	0.12	0.92



NOTE: USE DEFLECTIONS PROVIDED WHEN DETERMINING MINIMUM SEPARATION TO GLASS

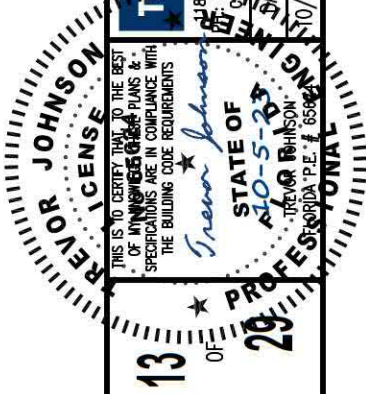
THE DEFLECTION IN THE X DIRECTION CAN BE NEGLECTED ON NON-RETENSION SHUTTERS
AND WHEN STORM-BARS ARE USED TO REDUCE SHUTTER DEFLECTIONS.

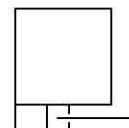
#	DATE	REVISIONS



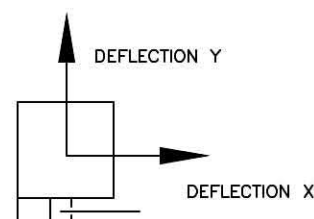
AHT 58MM SHUTTER

TKJ Engineering, LLC.		11525 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569	PROJ. #:	23-0802
OFF: 23.3.404.7646; FAX: TKJENGINEERING@VERIZON.NET		CERTIFICATE OF AUTHORIZATION NUMBER: 28582	SCALE:	N.T.S.
DATE: 10/5/23		DRAWN BY: TKJ	DATE: 10/5/23	DATE: 10/5/23





MAXIMUM DESIGN PRESSURE OF AN END 4"x4"x1/8" MULLION (6061-T6)					
SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
72"	96"	110	2510	0.63	0.75
	108"	101	2278	0.93	0.79
	120"	75	1800	1.06	0.26
	132"	61	1693	1.26	0.45
	144"	59	1587	2.05	0.67
84"	96"	78	2587	0.52	0.86
	108"	70	2298	0.76	0.91
	120"	65	2088	1.07	1.01
	132"	62	1992	1.50	1.09
	144"	50	1724	1.85	1.08
96"	96"	58	2617	0.45	0.93
	108"	52	2310	0.64	1.07
	120"	48	2156	0.91	1.13
	132"	44	1910	1.22	1.22
	144"	42	1863	1.65	1.25
108"	96"	45	2608	0.39	0.99
	108"	39	2301	0.55	1.03
	120"	37	2145	0.79	1.34
	132"	33	2022	1.10	1.54
	144"	32	1846	1.43	1.52
120"	72"	50	3451	0.15	0.60
	84"	42	2988	0.24	0.82
	96"	37	2709	0.36	1.02
	108"	32	2371	0.50	1.15
	120"	29	2222	0.72	1.46
132"	66"	48	3837	0.11	0.53
	72"	42	3468	0.14	0.61
	78"	38	3214	0.18	0.71
	84"	35	3018	0.22	0.81
	90"	32	2806	0.27	0.91
144"	54"	55	4623	0.06	0.37
	60"	48	4259	0.09	0.45
	66"	42	3899	0.11	0.54
	72"	37	3563	0.14	0.63
	78"	33	3258	0.17	0.74



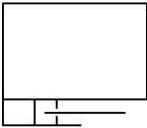
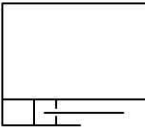
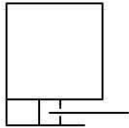
NOTE: USE DEFLECTIONS PROVIDED WHEN DETERMINING MINIMUM SEPARATION TO GLASS

THE DEFLECTION IN THE X DIRECTION CAN BE NEGLECTED ON NON-RETENSION SHUTTERS
AND WHEN STORM-BARS ARE USED TO REDUCE SHUTTER DEFLECTIONS.

[illegible]

AHT 58MM SHUTTER

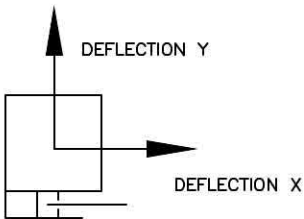
	 Engineering, LLC.	41815 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569 TEL: 33-404-7649; EMAIL: TKJENGINEERING@VERIZON.NET CERTIFICATE OF AUTHORIZATION NUMBER: 28582	PROJ. #: 23-0802
	DATE: 10/5/23	SCALE: TKJ	N.T.S.



MAXIMUM DESIGN PRESSURE OF AN END 4"x4"x1/4" MULLION (6061-T6)					
SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
84"	96"	116	4853	0.43	0.97
	108"	104	4373	0.61	1.18
	120"	94	3980	0.85	1.31
	132"	87	3655	1.15	1.49
	144"	82	3423	1.54	1.69
96"	96"	90	4944	0.38	1.03
	108"	79	4430	0.54	1.23
	120"	68	4062	0.74	1.48
	132"	61	3717	1.00	1.74
	144"	55	3502	1.31	1.80
108"	96"	73	5054	0.35	1.07
	108"	62	4508	0.48	1.25
	120"	52	4117	0.67	1.56
	132"	44	3713	0.87	1.78
	144"	40	3494	1.14	1.90
120"	96"	60	5077	0.32	1.07
	108"	49	4555	0.44	1.31
	120"	40	4081	0.60	1.63
	132"	35	3734	0.78	1.79
	144"	31	3486	1.03	2.14
132"	84"	61	5788	0.21	0.89
	96"	51	5112	0.30	1.11
	108"	40	4507	0.40	1.31
	120"	32	4104	0.55	1.57
	132"	28	3848	0.74	1.95
144"	84"	52	5737	0.19	0.87
	90"	48	5436	0.24	1.02
	96"	44	5117	0.28	1.15
	102"	38	4904	0.34	1.27
	108"	33	4670	0.39	1.37
156"	78"	51	6217	0.15	0.75
	84"	46	5777	0.19	0.90
	90"	42	5447	0.23	1.03
	96"	38	5104	0.26	1.13
	102"	33	4826	0.31	1.26

MAXIMUM DESIGN PRESSURE OF AN END 4"x6"x1/8" MULLION (6061-T6)					
SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
84"	96"	96	4121	0.46	0.60
	108"	85	3627	0.66	0.70
	120"	77	3229	0.91	0.80
	132"	71	2952	1.23	0.85
	144"	66	2672	1.63	0.93
96"	96"	74	4209	0.41	0.65
	108"	65	3729	0.58	0.77
	120"	59	3379	0.80	0.91
	132"	52	2965	1.04	0.92
	144"	49	2745	1.39	1.06
108"	96"	59	4295	0.37	0.65
	108"	52	3843	0.52	0.82
	120"	46	3413	0.71	0.95
	132"	41	3052	0.92	1.03
	144"	38	2817	1.22	1.16
120"	96"	49	4363	0.34	0.69
	108"	42	3853	0.47	0.81
	120"	38	3555	0.65	0.98
	132"	34	3177	0.86	1.16
	144"	31	2928	1.11	1.25
132"	84"	50	5063	0.23	0.55
	96"	42	4475	0.32	0.71
	108"	36	3970	0.45	0.87
	120"	32	3613	0.61	1.05
	132"	28	3193	0.78	1.19
144"	84"	43	5057	0.21	0.57
	90"	39	4723	0.25	0.65
	96"	36	4486	0.30	0.72
	102"	33	4178	0.36	0.82
	108"	31	4027	0.42	0.89
156"	78"	42	5460	0.17	0.50
	84"	38	5120	0.20	0.58
	90"	35	4878	0.25	0.65
	96"	31	4455	0.28	0.71
	102"	29	4258	0.34	0.81

MAXIMUM DESIGN PRESSURE OF AN END 4"x6"x1/4" MULLION (6061-T6)					
SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
84"	96"	150	8030	0.41	0.66
	108"	135	7125	0.57	0.80
	120"	119	6372	0.77	0.93
	132"	108	5783	1.02	1.10
	144"	99	5286	1.32	1.26
96"	96"	124	8191	0.37	0.69
	108"	107	7337	0.52	0.84
	120"	94	6601	0.69	1.00
	132"	84	5967	0.91	1.18
	144"	77	5525	1.18	1.36
108"	96"	102	8323	0.35	0.71
	108"	87	7435	0.47	0.87
	120"	75	6646	0.62	1.01
	132"	68	6118	0.83	1.24
	144"	61	5549	1.05	1.44
120"	96"	86	8435	0.32	0.72
	108"	73	7519	0.44	0.90
	120"	63	6762	0.58	1.06
	132"	56	6163	0.76	1.27
	144"	51	5753	0.98	1.49
132"	96"	74	8528	0.31	0.74
	108"	63	7661	0.42	0.92
	120"	54	6846	0.55	1.10
	132"	47	6198	0.70	1.26
	144"	43	5836	0.91	1.49
144"	96"	65	8618	0.30	0.76
	108"	54	7618	0.39	0.92
	120"	47	6910	0.52	1.14
	132"	41	6263	0.67	1.35
	144"	36	5740	0.84	1.48
156"	96"	57	8615	0.28	0.75
	108"	48	7693	0.38	0.95
	120"	42	7099	0.51	1.15
	132"	36	6358	0.64	1.34
	144"	32	5848	0.81	1.57



NOTE: USE DEFLECTIONS PROVIDED WHEN DETERMINING MINIMUM SEPARATION TO GLASS

THE DEFLECTION IN THE X DIRECTION CAN BE NEGLECTED ON NON-RETENSION SHUTTERS
AND WHEN STORM-BARS ARE USED TO REDUCE SHUTTER DEFLECTIONS.

TKJ Engineering, LLC.

11855 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
TEL: 413.404.7646; FAX: TKJENGINEERING@VERIZON.NET
PROFESSIONAL ENGINEER CERTIFICATE OF AUTHORIZATION NUMBER: 28582

DATE: 10/5/23
DRAWN BY: TKJ
SCALE: N.T.S.
PROJ. #: 23-0802

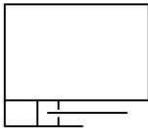
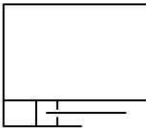
AHT 58MM SHUTTER

AHT
ADVANCED HURRICANE TECHNOLOGY
16501 OLD AIRPORT HALL RD. FORT MYERS, FL 33913
PHONE: 239.260.0020; SALES@AHT-USA.NET
AHTWORLDWIDE.COM

REVISIONS

DATE

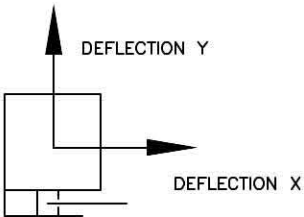
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MAXIMUM DESIGN PRESSURE OF AN END 4"x8"x1/4" MULLION (6061-T6)					
SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
96"	96"	150	12005	0.38	0.51
	108"	138	10646	0.52	0.64
	120"	119	9535	0.68	0.76
	132"	105	8620	0.88	0.91
	144"	94	7884	1.12	1.02
108"	96"	137	12297	0.36	0.53
	108"	114	10837	0.48	0.65
	120"	98	9728	0.63	0.78
	132"	87	8932	0.82	0.93
	144"	77	8079	1.03	1.09
120"	96"	116	12378	0.34	0.54
	108"	97	11035	0.46	0.66
	120"	83	9907	0.60	0.80
	132"	73	9043	0.77	0.96
	144"	64	8205	0.96	1.09
132"	96"	101	12565	0.33	0.55
	108"	84	11162	0.43	0.68
	120"	72	10075	0.57	0.84
	132"	63	9220	0.73	0.99
	144"	55	8347	0.91	1.14
144"	96"	89	12738	0.31	0.55
	108"	74	11356	0.42	0.69
	120"	63	10191	0.54	0.84
	132"	55	9285	0.70	1.02
	144"	48	8466	0.86	1.16
156"	96"	79	12792	0.30	0.56
	108"	65	11316	0.40	0.70
	120"	56	10322	0.53	0.85
	132"	49	9482	0.67	1.02
	144"	43	8642	0.84	1.22
168"	96"	71	12911	0.29	0.57
	108"	59	11510	0.39	0.71
	120"	50	10350	0.51	0.88
	132"	43	9433	0.64	1.00
	144"	38	8638	0.80	1.23

MAXIMUM DESIGN PRESSURE OF AN END 4"x6"x3/8" MULLION (6061-T6)					
SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
96"	96"	150	11772	0.37	0.72
	108"	144	10472	0.50	0.88
	120"	125	9411	0.67	1.06
	132"	111	8596	0.87	1.25
	144"	100	7878	1.11	1.45
108"	96"	141	11945	0.35	0.73
	108"	119	10649	0.47	0.90
	120"	103	9630	0.62	1.09
	132"	90	8706	0.79	1.27
	144"	81	8049	1.01	1.48
120"	96"	120	12107	0.33	0.75
	108"	101	10797	0.44	0.92
	120"	87	9761	0.58	1.11
	132"	76	8887	0.75	1.31
	144"	68	8178	0.95	1.55
132"	96"	104	12228	0.31	0.76
	108"	87	10874	0.42	0.94
	120"	75	9876	0.55	1.14
	132"	66	9071	0.71	1.37
	144"	58	8261	0.89	1.58
144"	96"	91	12275	0.30	0.76
	108"	76	10918	0.40	0.96
	120"	65	9873	0.52	1.17
	132"	57	9055	0.68	1.40
	144"	50	8316	0.84	1.57
156"	96"	81	12376	0.29	0.77
	108"	68	11131	0.39	0.97
	120"	58	10051	0.51	1.17
	132"	50	9079	0.64	1.41
	144"	45	8536	0.82	1.65
168"	96"	73	12499	0.28	0.78
	108"	61	11218	0.38	0.98
	120"	52	10136	0.49	1.19
	132"	45	9239	0.62	1.42
	144"	40	8580	0.79	1.67

MAXIMUM DESIGN PRESSURE OF AN END 4"x6"x1/2" MULLION (6061-T6)					
SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
108"	96"	150	15125	0.35	0.75
	108"	148	13508	0.48	0.94
	120"	127	12190	0.62	1.11
	132"	111	11089	0.80	1.32
	144"	99	10197	1.01	1.55
120"	96"	150	15257	0.34	0.77
	108"	126	13656	0.45	0.96
	120"	108	12326	0.59	1.16
	132"	94	11257	0.75	1.35
	144"	84	10446	0.96	1.58
132"	96"	131	15449	0.32	0.78
	108"	109	13752	0.43	0.97
	120"	93	12431	0.56	1.18
	132"	81	11396	0.72	1.37
	144"	72	10493	0.90	1.65
144"	96"	115	15551	0.31	0.78
	108"	96	13935	0.41	0.98
	120"	82	12631	0.54	1.19
	132"	71	11496	0.69	1.41
	144"	63	10625	0.86	1.68
156"	96"	102	15578	0.30	0.79
	108"	85	13946	0.40	0.99
	120"	73	12735	0.52	1.22
	132"	63	11574	0.66	1.45
	144"	56	10795	0.83	1.69
168"	96"	92	15712	0.29	0.80
	108"	77	14193	0.39	1.00
	120"	65	12795	0.50	1.19
	132"	56	11594	0.63	1.46
	144"	50	10863	0.80	1.71
180"	96"	83	15782	0.28	0.80
	108"	69	14145	0.37	1.00
	120"	59	12884	0.49	1.22
	132"	51	11764	0.62	1.46
	144"	44	10883	0.78	1.76



NOTE: USE DEFLECTIONS PROVIDED WHEN DETERMINING MINIMUM SEPARATION TO GLASS

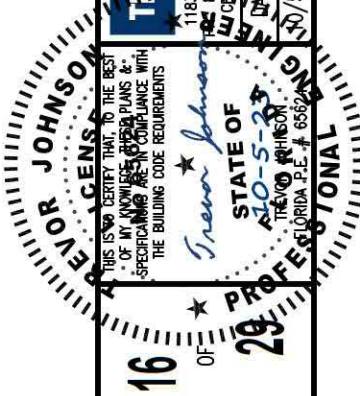
THE DEFLECTION IN THE X DIRECTION CAN BE NEGLECTED ON NON-RETENSION SHUTTERS
AND WHEN STORM-BARS ARE USED TO REDUCE SHUTTER DEFLECTIONS.

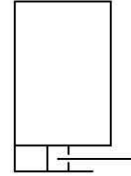
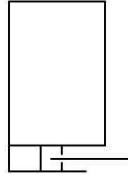
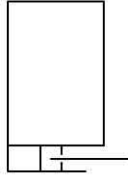
#	DATE	REVISIONS



AHT 58MM SHUTTER

T&J Engineering, LLC.		11635 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569	PROJ. #:	23-0802
TEL: 813.404.7646; FAX: 813.404.7649; E-MAIL: T&JENGINEERING@VERIZON.NET		FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 28582	SCALE:	N.T.S.
DATE: 10/5/23		DRAWN BY: TKJ	DATE: 10/5/23	DATE: 10/5/23

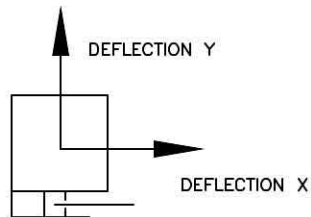




MAXIMUM DESIGN PRESSURE OF AN END 4"x6"x1/8" MULLION (6061-T6)					
SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
72"	96"	140	3811	0.31	0.91
	108"	129	3495	0.46	1.07
	120"	120	3257	0.65	1.14
	132"	114	3076	0.90	1.30
	144"	99	2737	1.11	1.16
84"	96"	99	3791	0.26	0.97
	108"	90	3432	0.37	1.18
	120"	82	3148	0.52	1.26
	132"	79	2999	0.73	1.56
	144"	75	2886	0.99	1.62
96"	96"	75	3810	0.22	1.03
	108"	67	3443	0.32	1.23
	120"	59	3192	0.45	1.46
	132"	54	2949	0.61	1.60
	144"	50	2775	0.82	1.84
108"	96"	59	3815	0.20	1.07
	108"	52	3502	0.28	1.30
	120"	45	3198	0.39	1.53
	132"	39	2962	0.53	1.71
	144"	34	2767	0.70	1.91
120"	72"	68	4958	0.08	0.63
	84"	56	4332	0.12	0.82
	96"	48	3854	0.18	1.04
	108"	41	3522	0.26	1.34
	120"	34	3150	0.35	1.56
132"	72"	57	4932	0.07	0.63
	78"	52	4623	0.09	0.75
	84"	47	4290	0.11	0.86
	90"	43	4019	0.14	0.98
	96"	40	3810	0.17	1.11
144"	72"	50	4987	0.07	0.65
	78"	45	4655	0.09	0.76
	84"	41	4391	0.11	0.87
	90"	37	4065	0.13	0.97
	96"	34	3819	0.15	1.09

MAXIMUM DESIGN PRESSURE OF AN END 4"x6"x1/4" MULLION (6061-T6)					
SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
84"	96"	150	7151	0.21	1.05
	108"	134	6448	0.30	1.26
	120"	115	5956	0.42	1.52
	132"	102	5581	0.57	1.80
	144"	92	5237	0.75	2.04
96"	96"	121	7181	0.19	1.09
	108"	100	6558	0.27	1.36
	120"	84	5955	0.37	1.62
	132"	73	5573	0.49	1.89
	144"	65	5189	0.64	2.16
108"	96"	99	7288	0.18	1.12
	108"	78	6504	0.24	1.38
	120"	64	5996	0.33	1.68
	132"	55	5594	0.44	1.96
	144"	48	5156	0.57	2.34
120"	96"	82	7283	0.16	1.12
	108"	63	6591	0.23	1.42
	120"	51	6056	0.31	1.73
	132"	43	5541	0.40	2.03
	144"	38	5135	0.52	2.41
132"	84"	84	8234	0.11	0.89
	96"	68	7301	0.15	1.15
	108"	52	6618	0.21	1.41
	120"	42	5952	0.28	1.72
	132"	35	5529	0.37	2.11
144"	84"	73	8260	0.10	0.90
	93"	63	7508	0.13	1.09
	102"	51	6942	0.17	1.32
	111"	42	6454	0.21	1.52
	120"	36	6036	0.26	1.72
156"	84"	64	8225	0.10	0.90
	93"	55	7479	0.13	1.09
	102"	44	6942	0.16	1.33
	111"	36	6533	0.21	1.51
	120"	30	6128	0.26	1.80

MAXIMUM DESIGN PRESSURE OF AN END 4"x8"x1/4" MULLION (6061-T6)					
SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
84"	96"	150	9421	0.13	1.11
	108"	150	8564	0.19	1.35
	120"	133	7891	0.25	1.64
	132"	116	7378	0.34	1.92
	144"	104	6863	0.44	2.16
96"	96"	150	9424	0.12	1.13
	108"	120	8573	0.17	1.41
	120"	99	7851	0.22	1.72
	132"	83	7272	0.30	1.96
	144"	73	6870	0.39	2.29
108"	96"	123	9441	0.11	1.14
	108"	95	8569	0.15	1.40
	120"	77	7819	0.20	1.69
	132"	64	7266	0.27	2.06
	144"	56	6764	0.34	2.37
120"	96"	102	9408	0.10	1.14
	108"	77	8564	0.14	1.43
	120"	61	7829	0.19	1.73
	132"	52	7285	0.25	2.07
	144"	43	6843	0.32	2.49
132"	96"	86	9501	0.10	1.17
	108"	65	8562	0.13	1.48
	120"	52	7923	0.18	1.80
	132"	42	7235	0.23	2.16
	144"	36	6867	0.30	2.54
144"	96"	74	9464	0.09	1.17
	108"	56	8613	0.12	1.48
	120"	44	7827	0.16	1.79
	132"	36	7330	0.22	2.13
	144"	30	6692	0.27	2.51
156"	84"	82	10649	0.06	0.90
	96"	65	9500	0.09	1.18
	108"	48	8606	0.12	1.51
	120"	38	7883	0.16	1.78
	132"	30	7196	0.20	2.20



NOTE: USE DEFLECTIONS PROVIDED WHEN DETERMINING MINIMUM SEPARATION TO GLASS

THE DEFLECTION IN THE X DIRECTION CAN BE NEGLECTED ON NON-RETENSION SHUTTERS
AND WHEN STORM-BARS ARE USED TO REDUCE SHUTTER DEFLECTIONS.

#	DATE	REVISIONS



AHT 58MM SHUTTER

TJ Engineering, LLC.

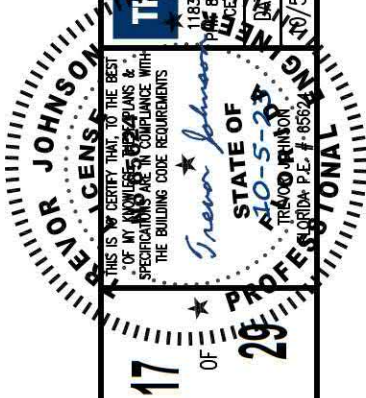
11835 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
PH: 863.404.7646; EMAIL: TJENGINEERING@VERIZON.NET
LICENSE CERTIFICATE OF AUTHORIZATION NUMBER: 28582

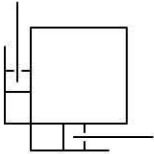
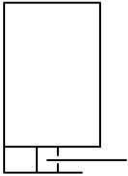
DATE: 10/5/23

DRAWN BY: TKJ

SCALE: N.T.S.

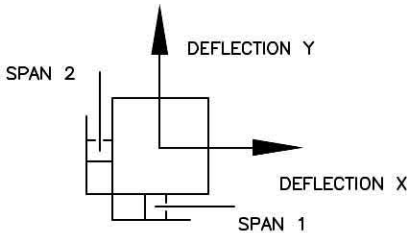
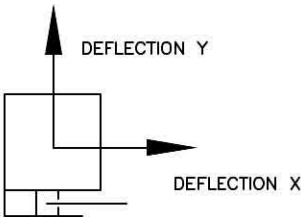
PROJ. #: 23-0802





MAXIMUM DESIGN PRESSURE OF AN END 4"x6"x3/8" MULLION (6061-T6)					
SPAN WIDTH UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
84"	96"	150	10170	0.20	1.11
	108"	150	9162	0.29	1.39
	120"	139	8445	0.39	1.66
	132"	120	7801	0.52	1.96
	144"	105	7338	0.68	2.27
96"	96"	150	10189	0.18	1.14
	108"	127	9209	0.26	1.41
	120"	103	8408	0.34	1.68
	132"	88	7787	0.45	2.00
	144"	76	7280	0.59	2.26
108"	96"	131	10268	0.17	1.16
	108"	100	9331	0.24	1.46
	120"	81	8469	0.31	1.76
	132"	67	7815	0.41	2.06
	144"	59	7288	0.53	2.44
120"	96"	108	10262	0.16	1.16
	108"	82	9296	0.22	1.45
	120"	66	8469	0.29	1.81
	132"	54	7908	0.38	2.08
	144"	45	7301	0.48	2.40
132"	96"	92	10388	0.15	1.18
	108"	69	9292	0.21	1.50
	120"	54	8599	0.28	1.80
	132"	45	7818	0.35	2.15
	144"	38	7357	0.45	2.50
144"	96"	79	10325	0.14	1.21
	108"	59	9435	0.20	1.49
	120"	46	8528	0.26	1.86
	132"	37	7957	0.34	2.17
	144"	31	7322	0.43	2.63
156"	84"	90	11647	0.10	0.93
	96"	69	10474	0.14	1.21
	108"	51	9369	0.19	1.53
	120"	40	8652	0.25	1.86
	132"	32	7806	0.31	2.14

MAXIMUM DESIGN PRESSURE OF A CORNER 4"x4"x1/8" MULLION (6063-T6)							
SPAN WIDTH 1 UP TO	SPAN WDTH 2 UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE 1 (PSF)	DESIGN PRESSURE 2 (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
60"	48"	96"	76	80	1760	0.42	0.46
		108"	61	64	1424	0.48	0.46
		120"	40	42	1432	0.56	0.68
		132"	31	33	1180	0.47	0.71
		144"	28	29	1067	0.75	0.71
72"	48"	96"	69	75	1665	0.44	0.40
		108"	46	50	1480	0.57	0.35
		120"	40	43	1319	0.66	0.41
		132"	26	28	1171	0.39	0.60
		144"	17	19	1055	0.57	0.25
72"	60"	96"	60	63	1774	0.45	0.45
		108"	46	48	1385	0.40	0.41
		120"	31	32	1404	0.54	0.68
		132"	26	27	1251	0.63	0.71
		144"	19	20	1013	0.46	0.43
96"	48"	84"	41	46	1925	0.21	0.48
		96"	37	42	1710	0.35	0.56
		108"	34	38	1556	0.46	0.64
		120"	27	31	1241	0.45	0.45
		132"	27	31	1270	0.74	0.71
96"	72"	84"	40	43	1911	0.21	0.50
		96"	36	38	1680	0.26	0.58
		108"	27	29	1433	0.47	0.35
		120"	26	28	1380	0.67	0.61
		132"	17	18	1109	0.45	0.55
96"	96"	72"	35	35	2032	0.25	0.25
		84"	33	33	1842	0.39	0.39
		96"	31	31	1672	0.47	0.47
		108"	26	26	1354	0.40	0.40
		120"	20	20	1481	0.56	0.56
120"	48"	48"	57	66	3558	0.03	0.20
		54"	46	53	3087	0.05	0.24
		60"	41	47	2849	0.07	0.30
		66"	36	42	2569	0.09	0.37
		72"	33	38	2420	0.11	0.42



NOTE: USE DEFLECTIONS PROVIDED WHEN DETERMINING MINIMUM SEPARATION TO GLASS

THE DEFLECTION IN THE X DIRECTION CAN BE NEGLECTED ON NON-RETENSION SHUTTERS
AND WHEN STORM-BARS ARE USED TO REDUCE SHUTTER DEFLECTIONS.

#	DATE	REVISIONS



ADVANCED HURRICANE TECHNOLOGY
16501 OLD AIRPORT HALL RD., FORT MYERS, FL 33913
PHONE: 239.260.0020; SALES@AHT-USA.NET
AHTWORLDWIDE.COM

AHT 58MM SHUTTER

T&J Engineering, LLC.

11835 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
TEL: 813.404.7649; EMAIL: T&JENGINEERING@VERIZON.NET
AHT CERTIFICATE OF AUTHORIZATION NUMBER: 28582

DATE: 10/5/23

PROJ. #: 23-0802

DRAWN BY: TKJ

SCALE: N.T.S.

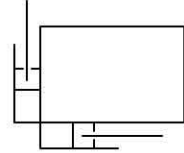
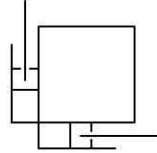
FOR JOHNSON

THIS IS TO CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE SPECIFICATIONS ARE IN COMPLIANCE WITH THE BUILDING CODE REQUIREMENTS

STATE OF FLORIDA

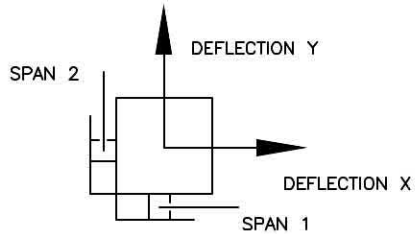
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18 OF 29



MAXIMUM DESIGN PRESSURE OF A CORNER 4"X4"X1/4" MULLION (6063-T6)							
SPAN WIDTH 1 UP TO	SPAN WIDTH 2 UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE 1 (PSF)	DESIGN PRESSURE 2 (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
96"	48"	96"	57	64	3321	0.23	0.68
		108"	51	58	2931	0.41	0.87
		120"	45	51	2736	0.60	0.94
		132"	42	47	2566	0.75	1.06
		144"	33	37	2045	0.55	0.76
96"	72"	96"	53	56	3338	0.29	0.67
		108"	48	51	2981	0.43	0.85
		120"	43	46	2693	0.52	0.91
		132"	38	40	2296	0.49	0.97
		144"	37	39	2238	0.81	1.14
96"	96"	96"	41	41	3088	0.50	0.50
		108"	39	39	2905	0.64	0.64
		120"	37	37	2691	0.78	0.78
		132"	29	29	2142	0.53	0.53
		144"	29	29	2200	0.80	0.80
120"	48"	72"	55	63	4518	0.08	0.46
		84"	44	51	3883	0.16	0.60
		96"	37	43	3411	0.21	0.71
		108"	33	38	3104	0.30	0.88
		120"	28	32	2617	0.28	1.06
120"	72"	66"	57	63	4735	0.10	0.36
		75"	49	54	4283	0.12	0.48
		84"	42	46	3825	0.15	0.56
		93"	38	42	3537	0.19	0.71
		102"	34	38	3209	0.21	0.86
120"	96"	60"	48	50	4499	0.16	0.23
		69"	41	43	4011	0.20	0.32
		78"	36	38	3662	0.24	0.39
		87"	32	34	3254	0.28	0.51
		96"	30	32	3073	0.37	0.62
120"	120"	60"	40	40	4423	0.20	0.20
		69"	34	34	3981	0.26	0.26
		78"	29	29	3518	0.31	0.31
		87"	26	26	3148	0.42	0.42
		96"	24	24	2921	0.51	0.51

MAXIMUM DESIGN PRESSURE OF A CORNER 4"X6"X1/8" MULLION (6063-T6)							
SPAN WIDTH 1 UP TO	SPAN WIDTH 2 UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE 1 (PSF)	DESIGN PRESSURE 2 (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
96"	48"	96"	46	52	2775	0.33	0.41
		108"	41	46	2483	0.43	0.46
		120"	35	40	2056	0.51	0.47
		132"	31	35	1810	0.48	0.46
		144"	32	36	1780	1.06	0.64
96"	72"	96"	45	48	2815	0.31	0.41
		108"	38	40	2310	0.30	0.44
		120"	37	39	2246	0.52	0.53
		132"	35	37	2045	0.72	0.64
		144"	26	28	1686	1.11	0.42
96"	96"	96"	35	35	2426	0.45	0.32
		108"	34	34	2317	0.61	0.42
		120"	29	29	1941	0.47	0.37
		132"	27	27	1763	0.74	0.35
		144"	21	21	1784	0.90	0.55
120"	48"	60"	60	69	4764	0.06	0.20
		72"	46	53	3994	0.12	0.28
		84"	36	42	3292	0.15	0.37
		96"	31	36	2894	0.23	0.48
		108"	26	30	2485	0.24	0.50
120"	72"	66"	50	55	4304	0.10	0.24
		75"	42	46	3782	0.12	0.31
		84"	37	41	3464	0.16	0.38
		93"	32	35	3038	0.19	0.45
		102"	27	30	2663	0.35	0.51
120"	96"	60"	41	43	3801	0.16	0.14
		69"	35	37	3401	0.21	0.20
		78"	31	33	3080	0.24	0.26
		87"	29	31	2939	0.32	0.35
		96"	27	28	2732	0.35	0.42
120"	120"	54"	38	38	3936	0.16	0.09
		63"	31	31	3414	0.21	0.13
		72"	27	27	3101	0.28	0.17
		81"	24	24	2800	0.38	0.22
		90"	22	22	2597	0.44	0.27



NOTE: USE DEFLECTIONS PROVIDED WHEN DETERMINING MINIMUM SEPARATION TO GLASS

THE DEFLECTION IN THE X DIRECTION CAN BE NEGLECTED ON NON-RETENSION SHUTTERS
AND WHEN STORM-BARS ARE USED TO REDUCE SHUTTER DEFLECTIONS.

#	DATE	REVISIONS



ADVANCED HURRICANE TECHNOLOGY
16501 OLD AIRPORT HALL RD., FORT MYERS, FL 33913
PHONE: 239.260.0020; SALES@AHT-USA.NET
AHTWORLDWIDE.COM

AHT 58MM SHUTTER

TKJ Engineering, LLC.

11825 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
TEL: 313.404.7646; FAX: TKJENGINEERING@VERIZON.NET
CERTIFICATE OF AUTHORIZATION NUMBER: 28582

DATE: 10/5/23

PROJ. #: 23-0802

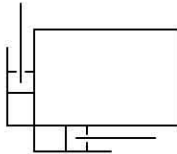
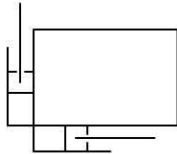
DRAWN BY: TKJ

SCALE: N.T.S.

REVOR JOHNSON
LICENSE
19 OF 29 PROFESSIONAL

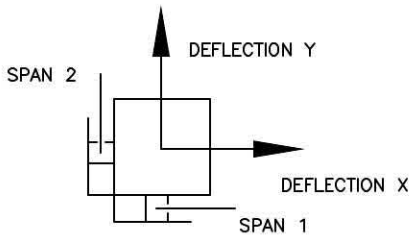
THIS IS TO CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE BUILDING CODE REQUIREMENTS

STATE OF FLORIDA
REVOR JOHNSON
P.E. # 65232



MAXIMUM DESIGN PRESSURE OF A CORNER 4"x6"x1/4" MULLION (6063-T6)							
SPAN WIDTH 1 UP TO	SPAN WIDTH 2 UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE 1 (PSF)	DESIGN PRESSURE 2 (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
96"	96"	96"	50	50	4583	0.52	0.31
		108"	46	46	4252	0.65	0.40
		120"	43	43	3947	0.79	0.50
		132"	41	41	3720	0.95	0.64
		144"	39	39	3460	1.10	0.75
120"	48"	96"	55	63	5887	0.19	0.52
		108"	45	52	5068	0.34	0.62
		120"	39	45	4532	0.40	0.75
		132"	35	40	4162	0.49	0.86
		144"	32	37	3857	0.69	0.96
120"	72"	96"	51	56	5696	0.25	0.50
		108"	43	47	4986	0.30	0.62
		120"	38	42	4522	0.39	0.73
		132"	34	38	4161	0.45	0.84
		144"	28	31	3570	0.72	0.89
120"	96"	96"	39	41	4900	0.39	0.39
		105"	36	38	4567	0.47	0.49
		114"	34	36	4404	0.52	0.57
		123"	32	34	4111	0.64	0.70
		132"	31	33	4055	0.69	0.81
120"	120"	84"	36	36	5083	0.38	0.23
		93"	32	32	4652	0.48	0.28
		102"	29	29	4253	0.57	0.36
		111"	27	27	4012	0.71	0.42
		120"	25	25	3718	0.82	0.48
144"	48"	84"	51	60	6874	0.14	0.42
		93"	42	49	6078	0.19	0.49
		102"	36	42	5401	0.22	0.58
		111"	32	38	4981	0.26	0.68
		120"	29	34	4644	0.35	0.76
144"	72"	78"	53	60	7144	0.14	0.35
		87"	43	49	6205	0.13	0.42
		96"	39	44	5829	0.20	0.53
		105"	33	37	5148	0.19	0.59
		114"	31	35	4974	0.26	0.72

MAXIMUM DESIGN PRESSURE OF A CORNER 4"x8"x1/4" MULLION (6063-T6)							
SPAN WIDTH 1 UP TO	SPAN WIDTH 2 UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE 1 (PSF)	DESIGN PRESSURE 2 (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
96"	96"	96"	61	61	6395	0.53	0.23
		108"	54	54	5723	0.67	0.29
		120"	50	50	5341	0.82	0.37
		132"	46	46	4914	0.93	0.45
		144"	44	44	4741	1.06	0.53
120"	48"	96"	73	84	8633	0.24	0.38
		108"	62	71	7722	0.30	0.49
		120"	54	62	7000	0.38	0.59
		132"	43	50	5893	0.49	0.63
		144"	40	46	5583	0.69	0.76
120"	72"	96"	66	73	8197	0.29	0.36
		108"	59	65	7605	0.33	0.48
		120"	49	54	6683	0.45	0.54
		132"	43	47	6017	0.51	0.65
		144"	37	41	5324	0.52	0.70
120"	96"	96"	48	50	6735	0.43	0.27
		108"	43	45	6257	0.53	0.35
		120"	39	41	5836	0.63	0.45
		132"	36	38	5451	0.69	0.57
		144"	34	36	5220	0.87	0.68
120"	120"	96"	39	39	6282	0.54	0.22
		108"	34	34	5657	0.68	0.29
		120"	31	31	5313	0.84	0.36
		132"	28	28	4856	0.94	0.45
		144"	26	26	4523	1.10	0.54
144"	48"	84"	69	81	10047	0.15	0.31
		96"	56	66	8836	0.19	0.39
		108"	46	54	7816	0.31	0.48
		120"	38	45	6788	0.34	0.58
		132"	34	40	6278	0.50	0.71
144"	72"	84"	63	71	9505	0.20	0.29
		96"	53	60	8633	0.24	0.39
		108"	45	51	7855	0.31	0.48
		120"	38	43	6904	0.37	0.60
		132"	34	38	6391	0.44	0.73



NOTE: USE DEFLECTIONS PROVIDED WHEN DETERMINING MINIMUM SEPARATION TO GLASS

THE DEFLECTION IN THE X DIRECTION CAN BE NEGLECTED ON NON-RETENSION SHUTTERS
AND WHEN STORM-BARS ARE USED TO REDUCE SHUTTER DEFLECTIONS.

REVISIONS

DATE

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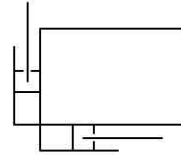
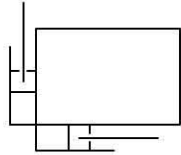
AHT 58MM SHUTTER

TKJ Engineering, LLC.

11332 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
TEL: 863.404.7646; FAX: TKJENGINEERING@VERIZON.NET
PROFESSIONAL ENGINEER CERTIFICATE OF AUTHORIZATION NUMBER: 28582

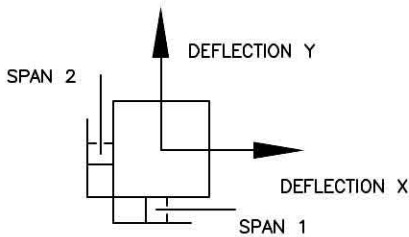
DATE: 10/5/23
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SCALE: N.T.S.
PROJ. #: 23-0802





MAXIMUM DESIGN PRESSURE OF A CORNER 4\"X6\"X3/8\" MULLION (6063-T6)							
SPAN WDTH 1 UP TO	SPAN WDTH 2 UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE 1 (PSF)	DESIGN PRESSURE 2 (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
96"	48"	96"	106	119	8169	0.22	0.52
		108"	88	99	7175	0.36	0.62
		120"	77	87	6403	0.47	0.74
		132"	69	78	5802	0.59	0.87
		144"	61	69	5177	0.60	0.95
96"	72"	96"	86	91	7312	0.38	0.43
		108"	78	83	6784	0.44	0.56
		120"	72	77	6327	0.52	0.72
		132"	64	68	5674	0.61	0.84
		144"	57	61	5253	0.88	0.93
96"	96"	96"	63	63	6497	0.52	0.32
		108"	57	57	5982	0.66	0.42
		120"	52	52	5454	0.84	0.52
		132"	49	49	5161	1.00	0.64
		144"	46	46	4804	1.16	0.76
120"	48"	96"	74	85	8305	0.22	0.53
		108"	63	73	7441	0.28	0.66
		120"	55	63	6771	0.34	0.78
		132"	46	53	5934	0.55	0.89
		144"	41	47	5416	0.64	1.03
120"	72"	96"	68	75	8039	0.29	0.50
		108"	60	66	7360	0.32	0.66
		120"	50	55	6467	0.42	0.75
		132"	44	49	5901	0.48	0.89
		144"	38	42	5139	0.48	1.02
120"	96"	96"	49	52	6716	0.42	0.37
		108"	44	46	6173	0.55	0.49
		120"	41	43	5904	0.67	0.63
		132"	37	39	5367	0.78	0.76
		144"	35	37	5184	0.87	0.91
120"	120"	96"	41	41	6504	0.54	0.32
		108"	36	36	5894	0.68	0.42
		120"	32	32	5324	0.86	0.52
		132"	29	29	4886	0.98	0.62
		144"	27	27	4607	1.21	0.68

MAXIMUM DESIGN PRESSURE OF A CORNER 4\"X6\"X3/8\" MULLION (6063-T6)							
SPAN WDTH 1 UP TO	SPAN WDTH 2 UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE 1 (PSF)	DESIGN PRESSURE 2 (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
144"	72"	84"	63	71	9128	0.19	0.40
		96"	54	61	8399	0.22	0.53
		108"	46	52	7590	0.29	0.67
		120"	40	45	6864	0.37	0.84
		132"	35	40	6272	0.41	1.01
144"	96"	84"	48	52	7823	0.29	0.31
		96"	41	45	7091	0.39	0.42
		108"	37	40	6668	0.44	0.56
		120"	33	36	6161	0.51	0.70
		132"	30	33	5688	0.63	0.89
144"	120"	84"	40	42	7400	0.37	0.27
		96"	34	35	6620	0.47	0.36
		108"	29	30	5872	0.60	0.45
		120"	26	27	5401	0.73	0.59
		132"	24	25	5144	0.80	0.74
144"	144"	72"	44	44	8344	0.31	0.17
		84"	35	35	7227	0.42	0.25
		96"	29	29	6380	0.54	0.31
		108"	25	25	5740	0.70	0.40
		120"	22	22	5209	0.82	0.51
168"	48"	78"	63	74	10500	0.10	0.37
		87"	53	63	9480	0.13	0.46
		96"	45	53	8599	0.21	0.55
		105"	39	46	7842	0.24	0.64
		114"	34	40	7115	0.28	0.76
168"	72"	72"	65	74	10668	0.13	0.29
		81"	56	64	9816	0.15	0.39
		90"	48	55	9000	0.17	0.49
		99"	41	47	8170	0.19	0.57
		108"	37	42	7697	0.23	0.69
168"	96"	72"	51	57	9263	0.20	0.24
		81"	44	49	8524	0.26	0.32
		90"	38	42	7760	0.30	0.40
		99"	34	38	7261	0.35	0.50
		108"	31	34	6875	0.40	0.60



NOTE: USE DEFLECTIONS PROVIDED WHEN DETERMINING MINIMUM SEPARATION TO GLASS

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AND WHEN STORM-BARS ARE USED TO REDUCE SHUTTER DEFLECTIONS.

#	DATE	REVISIONS



ADVANCED HURRICANE TECHNOLOGY
16501 OLD AIRPORT HALL RD., FORT MYERS, FL 33913
PHONE: 239.260.0020; SALES@AHT-USA.NET
AHTWORLDWIDE.COM

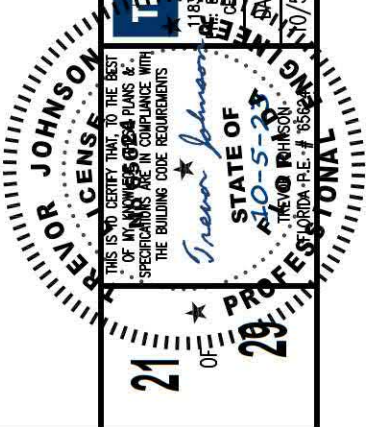
AHT 58MM SHUTTER



TKJ Engineering, LLC.
11339 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
PH: 813.404.7646; EML: TKJENGINEERING@VERIZON.NET
CERTIFICATE OF AUTHORIZATION NUMBER: 28582

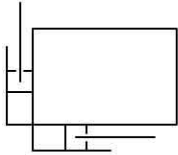
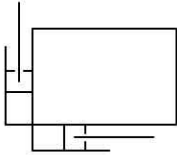
DATE: 10/5/23
DRAWN BY: TKJ
SCALE: N.T.S.
PROJ. #: 23-0802

THIS IS TO CERTIFY THAT, TO THE BEST
OF MY KNOWLEDGE AND BELIEF, THE
SPECIFICATIONS ARE IN COMPLIANCE WITH
THE BUILDING CODE REQUIREMENTS



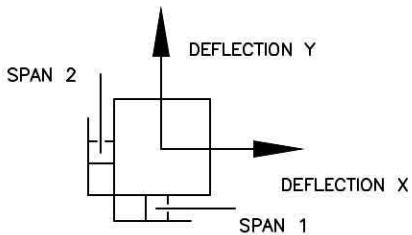
Trevor Johnson
STATE OF FLORIDA
P.E. # 85522

21 OF 29



MAXIMUM DESIGN PRESSURE OF A CORNER 4"x6"x1/2" MULLION (6063-T6)							
SPAN WIDTH 1 UP TO	SPAN WDTH 2 UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE 1 (PSF)	DESIGN PRESSURE 2 (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
96"	48"	96"	130	146	10456	0.25	0.52
		108"	109	123	9146	0.30	0.65
		120"	92	104	8141	0.48	0.75
		132"	81	91	7331	0.57	0.86
		144"	75	85	6891	0.78	1.04
96"	72"	96"	100	106	9049	0.41	0.43
		108"	90	96	8355	0.51	0.56
		120"	83	88	7809	0.59	0.71
		132"	76	81	7338	0.64	0.85
		144"	68	72	6604	0.72	1.00
96"	96"	96"	75	75	8179	0.56	0.33
		108"	66	66	7419	0.68	0.40
		120"	60	60	6830	0.87	0.50
		132"	55	55	6339	0.96	0.60
		144"	53	53	6131	1.24	0.76
120"	48"	96"	91	105	10514	0.23	0.54
		108"	78	90	9489	0.32	0.68
		120"	68	78	8643	0.40	0.84
		132"	58	67	7665	0.44	0.95
		144"	53	61	7208	0.58	1.12
120"	72"	96"	78	86	9626	0.31	0.48
		108"	71	78	9101	0.38	0.65
		120"	62	68	8248	0.39	0.80
		132"	54	60	7560	0.57	0.92
		144"	48	53	6926	0.66	1.05
120"	96"	96"	60	63	8592	0.46	0.37
		108"	52	55	7704	0.59	0.50
		120"	47	49	7140	0.69	0.61
		132"	44	46	6850	0.83	0.78
		144"	40	42	6320	0.93	0.89
120"	120"	96"	49	49	8074	0.55	0.33
		108"	42	42	7224	0.69	0.40
		120"	38	38	6703	0.88	0.52
		132"	34	34	6150	0.98	0.63
		144"	32	32	5864	1.28	0.74

MAXIMUM DESIGN PRESSURE OF A CORNER 4"x6"x1/2" MULLION (6063-T6)							
SPAN WIDTH 1 UP TO	SPAN WDTH 2 UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE 1 (PSF)	DESIGN PRESSURE 2 (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
144"	72"	96"	66	74	10435	0.26	0.54
		108"	58	65	9678	0.29	0.69
		120"	48	54	8537	0.39	0.82
		132"	42	47	7760	0.45	1.00
		144"	35	40	6755	0.39	1.11
144"	96"	96"	50	54	8923	0.41	0.42
		108"	43	47	8047	0.49	0.55
		120"	39	42	7540	0.58	0.71
		132"	35	38	7009	0.66	0.85
		144"	33	36	6729	0.81	1.08
144"	120"	96"	41	43	8287	0.50	0.37
		108"	35	37	7480	0.60	0.45
		120"	31	32	6826	0.71	0.57
		132"	28	29	6314	0.84	0.72
		144"	26	27	6009	1.04	0.85
144"	144"	96"	36	36	8145	0.56	0.32
		108"	30	30	7168	0.71	0.39
		120"	27	27	6705	0.90	0.51
		132"	24	24	6109	1.08	0.64
		144"	22	22	5755	1.23	0.77
156"	48"	96"	65	76	11064	0.20	0.58
		108"	54	64	9904	0.24	0.70
		120"	43	51	8467	0.33	0.81
		132"	39	46	7970	0.48	1.03
		144"	34	40	7261	0.58	1.16
156"	72"	96"	60	68	10613	0.24	0.54
		108"	50	57	9509	0.29	0.68
		120"	43	49	8671	0.34	0.81
		132"	38	43	7916	0.43	1.03
		144"	34	39	7372	0.51	1.23
156"	96"	96"	46	51	9119	0.40	0.44
		108"	40	44	8305	0.45	0.58
		120"	36	40	7782	0.57	0.74
		132"	33	36	7343	0.62	0.93
		144"	30	33	6869	0.68	1.13



NOTE: USE DEFLECTIONS PROVIDED WHEN DETERMINING MINIMUM SEPARATION TO GLASS

THE DEFLECTION IN THE X DIRECTION CAN BE NEGLECTED ON NON-RETENSION SHUTTERS
AND WHEN STORM-BARS ARE USED TO REDUCE SHUTTER DEFLECTIONS.

TKJ Engineering, LLC.

11339 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
TEL: 813.404.7646; FAX: TKJENGINEERING@VERIZON.NET

PROFESSIONAL ENGINEER
FLORIDA P.E. # 85522

DATE: 10/5/23

DRAWN BY: TKJ

SCALE: N.T.S.

PROJ. #: 23-0802

AHT 58MM SHUTTER

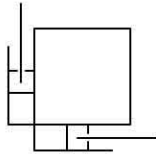
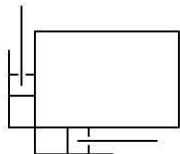


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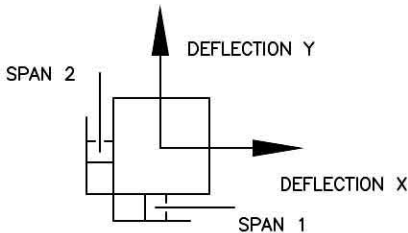
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MAXIMUM DESIGN PRESSURE OF A CORNER 4\"X6\"X1/2\" MULLION (6063-T6)							
SPAN WIDTH 1 UP TO	SPAN WIDTH 2 UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE 1 (PSF)	DESIGN PRESSURE 2 (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
156"	120"	84"	46	49	9502	0.37	0.28
		96"	38	40	8379	0.48	0.37
		108"	33	35	7693	0.61	0.49
		120"	29	31	7050	0.74	0.61
		132"	25	27	6325	0.74	0.71
168"	48"	84"	72	85	12569	0.14	0.45
		96"	58	69	11033	0.19	0.58
		108"	49	58	9972	0.25	0.72
		120"	40	47	8736	0.34	0.86
		132"	35	41	8070	0.41	1.02
168"	72"	84"	65	74	11850	0.18	0.41
		96"	56	64	10933	0.21	0.57
		108"	45	52	9541	0.25	0.68
		120"	40	46	8887	0.35	0.88
		132"	33	38	7769	0.33	0.99
168"	96"	84"	51	57	10344	0.30	0.34
		96"	43	48	9342	0.37	0.46
		108"	37	41	8488	0.43	0.59
		120"	33	37	7926	0.50	0.75
		132"	30	33	7399	0.55	0.95
168"	120"	72"	54	58	10980	0.26	0.22
		84"	43	46	9624	0.35	0.30
		96"	35	38	8471	0.45	0.39
		108"	31	33	7855	0.58	0.51
		120"	27	29	7184	0.67	0.63
180"	48"	72"	84	100	14511	0.10	0.33
		84"	66	78	12697	0.14	0.45
		96"	52	62	10966	0.16	0.58
		108"	43	51	9842	0.27	0.71
		120"	37	44	8980	0.35	0.87
180"	72"	72"	74	85	13414	0.14	0.30
		84"	60	69	11989	0.17	0.43
		96"	50	58	10872	0.20	0.57
		108"	42	48	9736	0.26	0.72
		120"	35	40	8674	0.27	0.85

MAXIMUM DESIGN PRESSURE OF A CORNER 4\"X4\"X1/8\" MULLION (6061-T6)							
SPAN WIDTH 1 UP TO	SPAN WIDTH 2 UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE 1 (PSF)	DESIGN PRESSURE 2 (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
60"	48"	96"	117	123	2280	0.52	0.63
		108"	90	95	2026	0.87	0.59
		120"	68	71	1865	0.72	0.96
		132"	49	52	1672	1.09	0.60
		144"	35	37	1591	0.75	1.00
72"	48"	96"	89	97	2506	0.63	0.70
		108"	70	76	2045	0.58	0.64
		120"	51	55	1920	1.01	0.62
		132"	45	49	1752	1.07	0.84
		144"	37	40	1510	1.56	0.80
72"	72"	96"	71	71	2305	0.49	0.49
		108"	56	56	2122	0.70	0.70
		120"	49	49	1888	0.85	0.85
		132"	40	40	1507	0.76	0.76
		144"	29	29	1740	1.29	1.29
96"	48"	84"	57	64	2838	0.24	0.75
		96"	47	53	2475	0.43	0.82
		108"	44	50	2282	0.71	1.04
		120"	40	45	2094	0.88	1.11
		132"	34	38	1813	1.04	1.03
96"	72"	84"	52	55	2800	0.31	0.69
		96"	46	49	2469	0.43	0.88
		108"	40	43	2142	0.47	0.94
		120"	38	40	2024	0.68	1.00
		132"	27	29	1723	1.09	0.70
96"	96"	72"	45	45	2938	0.38	0.38
		84"	40	40	2561	0.50	0.50
		96"	38	38	2407	0.67	0.67
		108"	36	36	2221	0.83	0.83
		120"	29	29	1844	0.70	0.70
120"	48"	72"	45	52	3426	0.16	0.59
		78"	40	46	3108	0.19	0.67
		84"	37	43	2942	0.23	0.77
		90"	34	39	2750	0.26	0.83
		96"	32	37	2548	0.35	1.00



NOTE: USE DEFLECTIONS PROVIDED WHEN DETERMINING MINIMUM SEPARATION TO GLASS

THE DEFLECTION IN THE X DIRECTION CAN BE NEGLECTED ON NON-RETENSION SHUTTERS
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#	DATE	REVISIONS



ADVANCED HURRICANE TECHNOLOGY
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AHT 58MM SHUTTER

TKJ Engineering, LLC.

1125 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
TEL: 313.404.7646; EMAIL: TKJENGINEERING@VERIZON.NET
CERTIFICATE OF AUTHORIZATION NUMBER: 28582

DATE: 10/5/23

DRAWN BY: TKJ

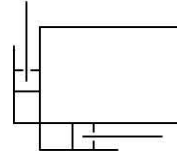
SCALE: N.T.S.

PROJ. #: 23-0802

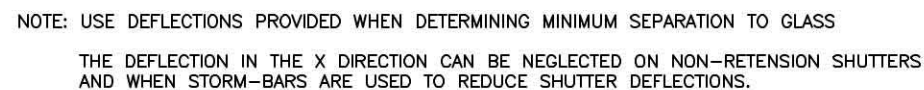
REVOR JOHNSON
LICENSE
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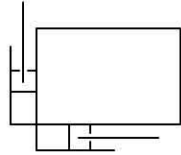
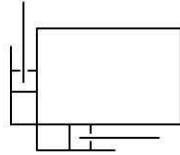
THIS IS TO CERTIFY THAT TO THE BEST
OF MY KNOWLEDGE AND BELIEF, THE
SPECIFICATIONS ARE IN COMPLIANCE WITH
THE BUILDING CODE REQUIREMENTS

Trevor Johnson
STATE OF
FLORIDA
PROFESSIONAL
ENGINEER
10-5-23
REVOR JOHNSON
FLORIDA P.E. # 65523



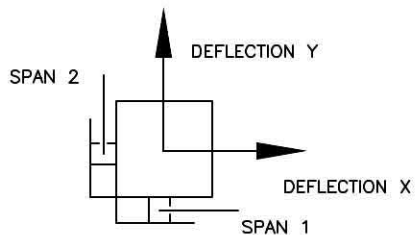
MAXIMUM DESIGN PRESSURE OF A CORNER 4"X6"X1/8" MULLION (6061-T6)							
SPAN WIDTH 1 UP TO	SPAN WIDTH 2 UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE 1 (PSF)	DESIGN PRESSURE 2 (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
96"	48"	96"	64	72	4075	0.37	0.61
		108"	57	64	3662	0.47	0.74
		120"	48	54	3195	0.78	0.81
		132"	44	50	2934	1.02	0.92
		144"	41	46	2688	1.40	1.02
96"	72"	96"	61	65	4103	0.41	0.61
		108"	51	54	3509	0.58	0.68
		120"	47	50	3225	0.83	0.82
		132"	40	43	2661	0.72	0.89
		144"	38	40	2504	0.86	0.97
96"	96"	96"	45	45	3568	0.69	0.44
		108"	42	42	3300	0.84	0.58
		120"	40	40	3088	1.06	0.73
		132"	37	37	2825	1.20	0.80
		144"	34	34	2732	1.51	0.90
120"	48"	84"	53	61	4884	0.20	0.53
		96"	43	50	4244	0.33	0.65
		108"	36	42	3663	0.40	0.75
		120"	33	38	3378	0.61	0.96
		132"	29	34	3027	0.69	1.03
120"	72"	84"	49	54	4744	0.24	0.51
		96"	42	46	4222	0.34	0.66
		108"	35	39	3602	0.35	0.81
		120"	33	36	3426	0.59	1.00
		132"	26	29	2910	0.83	0.94
120"	96"	72"	45	47	4660	0.32	0.30
		84"	38	40	4092	0.41	0.40
		96"	34	36	3710	0.54	0.56
		108"	31	33	3441	0.61	0.71
		120"	28	29	3138	0.58	0.85
120"	120"	72"	36	36	4347	0.39	0.24
		81"	31	31	3865	0.49	0.28
		90"	28	28	3532	0.60	0.38
		99"	26	26	3315	0.76	0.45
		108"	24	24	3082	0.85	0.53

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MAXIMUM DESIGN PRESSURE OF A CORNER 4"x6"x1/4" MULLION (6061-T6)							
SPAN WIDTH 1 UP TO	SPAN WIDTH 2 UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE 1 (PSF)	DESIGN PRESSURE 2 (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
96"	96"	96"	67	67	6642	0.72	0.44
		108"	60	60	6068	0.90	0.54
		120"	55	55	5558	1.14	0.68
		132"	52	52	5321	1.36	0.81
		144"	49	49	4925	1.59	1.04
120"	48"	96"	78	90	8369	0.33	0.71
		108"	65	75	7325	0.40	0.88
		120"	57	66	6652	0.51	1.07
		132"	48	55	5940	0.76	1.18
		144"	43	50	5480	0.88	1.35
120"	72"	96"	71	78	8001	0.39	0.68
		108"	62	68	7313	0.44	0.85
		120"	52	57	6436	0.60	1.01
		132"	46	51	5891	0.73	1.17
		144"	43	47	5595	1.00	1.41
120"	96"	96"	52	55	6803	0.59	0.52
		108"	47	49	6296	0.74	0.68
		120"	43	45	5874	0.89	0.88
		132"	40	42	5568	1.05	1.07
		144"	37	39	5254	1.07	1.24
120"	120"	96"	43	43	6530	0.73	0.44
		108"	38	38	5959	0.93	0.56
		120"	34	34	5428	1.17	0.69
		132"	31	31	5006	1.40	0.83
		144"	29	29	4722	1.60	1.04
144"	48"	96"	59	69	8412	0.24	0.73
		108"	50	59	7544	0.40	0.91
		120"	42	49	6727	0.53	1.11
		132"	36	42	6006	0.65	1.26
		144"	32	38	5571	0.73	1.42
144"	72"	96"	57	64	8355	0.30	0.74
		108"	48	54	7509	0.43	0.92
		120"	40	45	6588	0.48	1.07
		132"	35	40	6069	0.46	1.23
		144"	32	36	5610	0.69	1.52

MAXIMUM DESIGN PRESSURE OF A CORNER 4"x6"x1/4" MULLION (6061-T6)							
SPAN WIDTH 1 UP TO	SPAN WIDTH 2 UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE 1 (PSF)	DESIGN PRESSURE 2 (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
144"	96"	96"	43	47	7069	0.51	0.59
		108"	38	41	6504	0.60	0.75
		120"	35	38	6163	0.76	0.99
		132"	32	35	5802	0.86	1.20
		144"	29	32	5416	0.90	1.47
144"	120"	84"	42	44	7426	0.50	0.37
		96"	35	37	6586	0.62	0.49
		108"	31	32	5992	0.82	0.63
		120"	28	29	5580	0.97	0.83
		132"	26	27	5338	1.18	1.00
144"	144"	72"	45	45	8186	0.42	0.24
		84"	36	36	7117	0.57	0.33
		96"	30	30	6288	0.72	0.44
		108"	26	26	5714	0.94	0.52
		120"	23	23	5244	1.05	0.67
168"	48"	72"	75	89	11289	0.13	0.43
		84"	59	70	9805	0.19	0.59
		96"	46	54	8344	0.27	0.74
		108"	39	46	7566	0.38	0.92
		120"	34	40	6981	0.49	1.10
168"	72"	72"	67	77	10536	0.19	0.40
		84"	57	65	9711	0.22	0.58
		96"	45	52	8398	0.26	0.73
		108"	38	44	7577	0.33	0.90
		120"	33	38	6889	0.38	1.13
168"	96"	72"	53	59	9252	0.29	0.33
		81"	45	50	8386	0.34	0.43
		90"	40	44	7794	0.40	0.56
		99"	36	40	7314	0.47	0.69
		108"	32	36	6764	0.50	0.83
168"	120"	72"	45	48	8679	0.33	0.29
		81"	38	41	7836	0.42	0.38
		90"	33	35	7152	0.52	0.47
		99"	29	31	6581	0.60	0.57
		108"	26	28	6083	0.69	0.70



NOTE: USE DEFLECTIONS PROVIDED WHEN DETERMINING MINIMUM SEPARATION TO GLASS

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#	DATE	REVISIONS



ADVANCED HURRICANE TECHNOLOGY
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AHT 58MM SHUTTER



TKJ Engineering, LLC.
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TEL: 813.404.7649; EMAIL: TKJENGINEERING@VERIZON.NET
CERTIFICATE OF AUTHORIZATION NUMBER: 28582

DATE: 10/5/23

DRAWN BY: TKJ

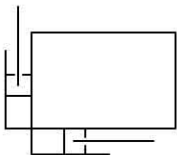
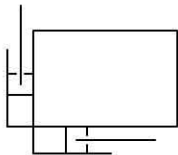
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PROJ. #: 23-0802

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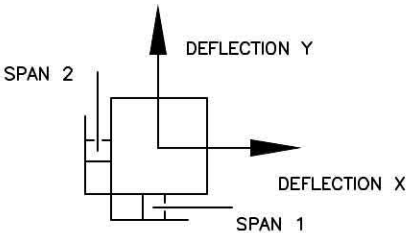
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MAXIMUM DESIGN PRESSURE OF A CORNER 4"X8"X1/4" MULLION (6061-T6)							
SPAN WIDTH 1 UP TO	SPAN WIDTH 2 UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE 1 (PSF)	DESIGN PRESSURE 2 (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
96"	96"	96"	82	82	9014	0.73	0.32
		108"	73	73	8274	0.95	0.40
		120"	66	66	7649	1.17	0.50
		132"	61	61	7162	1.40	0.61
		144"	57	57	6707	1.61	0.76
120"	48"	96"	106	122	12231	0.30	0.54
		108"	87	100	10834	0.47	0.65
		120"	74	85	9630	0.57	0.80
		132"	65	75	8811	0.71	0.94
		144"	57	66	7975	0.78	1.09
120"	72"	96"	88	97	11040	0.48	0.47
		108"	79	87	10362	0.55	0.62
		120"	70	77	9533	0.64	0.79
		132"	62	68	8795	0.78	0.92
		144"	53	58	7861	0.96	1.05
120"	96"	96"	66	69	9467	0.64	0.37
		108"	58	61	8726	0.81	0.48
		120"	52	55	8066	0.95	0.61
		132"	48	50	7568	1.17	0.77
		144"	45	47	7279	1.29	0.92
120"	120"	96"	54	54	8880	0.74	0.31
		108"	47	47	8101	0.95	0.40
		120"	41	41	7310	1.12	0.48
		132"	38	38	6899	1.45	0.62
		144"	35	35	6499	1.73	0.73
144"	48"	96"	80	94	12321	0.30	0.54
		108"	68	80	11137	0.41	0.69
		120"	57	67	9949	0.46	0.81
		132"	50	59	9081	0.71	0.99
		144"	42	49	8094	0.88	1.08
144"	72"	96"	74	83	11882	0.39	0.52
		108"	64	72	10882	0.43	0.67
		120"	54	61	9754	0.60	0.82
		132"	47	53	8909	0.69	0.96
		144"	42	47	8250	0.89	1.14

MAXIMUM DESIGN PRESSURE OF A CORNER 4"X8"X1/4" MULLION (6061-T6)							
SPAN WIDTH 1 UP TO	SPAN WIDTH 2 UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE 1 (PSF)	DESIGN PRESSURE 2 (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
144"	96"	96"	55	60	9902	0.56	0.41
		108"	49	53	9277	0.71	0.55
		120"	43	47	8501	0.83	0.67
		132"	40	43	8108	1.00	0.87
		144"	37	40	7708	1.14	1.06
144"	120"	96"	46	48	9270	0.70	0.35
		108"	39	41	8313	0.87	0.44
		120"	35	37	7836	1.00	0.56
		132"	31	32	7054	1.16	0.70
		144"	29	30	6789	1.44	0.84
144"	144"	84"	48	48	10028	0.59	0.24
		96"	39	39	8746	0.75	0.31
		108"	34	34	8062	0.96	0.41
		120"	29	29	7170	1.15	0.50
		132"	26	26	6644	1.38	0.61
168"	48"	96"	67	79	12842	0.29	0.57
		108"	55	65	11347	0.32	0.70
		120"	45	53	9991	0.52	0.83
		132"	39	46	9150	0.67	0.97
		144"	35	41	8540	0.79	1.18
168"	72"	96"	63	72	12477	0.33	0.55
		108"	52	60	11093	0.41	0.69
		120"	45	52	10204	0.52	0.85
		132"	39	45	9287	0.62	1.01
		144"	34	39	8438	0.72	1.18
168"	96"	84"	57	63	11579	0.42	0.33
		96"	48	53	10438	0.51	0.45
		108"	42	47	9698	0.63	0.59
		120"	37	41	8974	0.74	0.73
		132"	34	38	8589	0.84	0.92
168"	120"	84"	48	52	10741	0.49	0.29
		96"	40	43	9610	0.63	0.39
		108"	34	37	8719	0.74	0.50
		120"	30	32	7980	0.96	0.63
		132"	27	29	7525	1.05	0.76



NOTE: USE DEFLECTIONS PROVIDED WHEN DETERMINING MINIMUM SEPARATION TO GLASS

THE DEFLECTION IN THE X DIRECTION CAN BE NEGLECTED ON NON-RETENSION SHUTTERS
AND WHEN STORM-BARS ARE USED TO REDUCE SHUTTER DEFLECTIONS.

#	DATE	REVISIONS



ADVANCED HURRICANE TECHNOLOGY
16501 OLD AIRPORT HALL RD., FORT MYERS, FL 33913
PHONE: 239.260.0020; SALES@AHT-USA.NET
AHTWORLDWIDE.COM

AHT 58MM SHUTTER



11333 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
TEL: 813.404.7646; FAX: TKJENGINEERING@VERIZON.NET
PROFESSIONAL ENGINEER CERTIFICATE OF AUTHORIZATION NUMBER: 28582

DATE: 10/5/23

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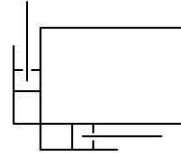
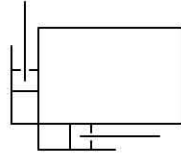
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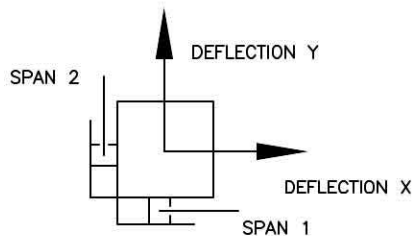
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MAXIMUM DESIGN PRESSURE OF A CORNER 4"X6"X3/8" MULLION (6061-T6)							
SPAN WIDTH 1 UP TO	SPAN WIDTH 2 UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE 1 (PSF)	DESIGN PRESSURE 2 (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
96"	48"	96"	147	150	11513	0.36	0.70
		108"	123	139	10133	0.40	0.86
		120"	109	123	9230	0.54	1.05
		132"	94	106	8359	0.92	1.21
		144"	84	95	7639	1.06	1.39
96"	72"	96"	114	121	10150	0.57	0.57
		108"	102	108	9355	0.69	0.74
		120"	94	100	8823	0.80	0.93
		132"	86	91	8188	0.94	1.16
		144"	77	82	7466	1.12	1.33
96"	96"	96"	86	86	9235	0.75	0.45
		108"	76	76	8442	0.93	0.57
		120"	69	69	7850	1.15	0.69
		132"	64	64	7351	1.42	0.85
		144"	60	60	6911	1.68	1.06
120"	48"	96"	110	127	12034	0.30	0.75
		108"	89	103	10511	0.44	0.90
		120"	77	89	9552	0.56	1.08
		132"	67	77	8601	0.66	1.29
		144"	60	69	7956	0.72	1.52
120"	72"	96"	90	99	10768	0.46	0.65
		108"	80	88	9999	0.54	0.85
		120"	72	79	9337	0.60	1.07
		132"	63	69	8475	0.73	1.25
		144"	55	61	7741	1.03	1.45
120"	96"	96"	69	73	9623	0.66	0.53
		108"	61	64	8857	0.81	0.68
		120"	54	57	8105	0.92	0.84
		132"	49	52	7546	1.11	1.00
		144"	47	49	7341	1.35	1.25
120"	120"	96"	57	57	9175	0.75	0.44
		108"	49	49	8232	0.94	0.56
		120"	44	44	7637	1.20	0.70
		132"	40	40	7098	1.46	0.88
		144"	37	37	6753	1.64	1.03

MAXIMUM DESIGN PRESSURE OF A CORNER 4"X6"X3/8" MULLION (6061-T6)							
SPAN WIDTH 1 UP TO	SPAN WIDTH 2 UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE 1 (PSF)	DESIGN PRESSURE 2 (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
144"	72"	96"	75	85	11503	0.38	0.71
		108"	67	76	10797	0.44	0.93
		120"	58	65	9788	0.54	1.17
		132"	48	54	8611	0.65	1.33
		144"	43	49	8005	0.83	1.59
		96"	57	62	9885	0.55	0.58
144"	96"	108"	50	54	9105	0.70	0.73
		120"	45	49	8540	0.79	0.94
		132"	41	45	8067	0.89	1.16
		144"	37	40	7421	0.96	1.39
		96"	48	50	9399	0.68	0.50
144"	120"	108"	41	43	8454	0.87	0.63
		120"	36	38	7757	1.03	0.78
		132"	33	34	7252	1.26	0.97
		144"	30	31	6747	1.43	1.20
		96"	41	41	8987	0.76	0.44
144"	144"	108"	35	35	8116	0.94	0.55
		120"	31	31	7478	1.20	0.69
		132"	28	28	6986	1.41	0.88
		144"	25	25	6443	1.58	0.99
		96"	67	79	12189	0.27	0.76
168"	48"	108"	56	66	10909	0.30	0.97
		120"	48	57	9888	0.49	1.19
		132"	41	49	9059	0.63	1.38
		144"	35	41	8090	0.73	1.58
		96"	63	72	11856	0.29	0.74
168"	72"	108"	54	62	10877	0.41	0.96
		120"	45	52	9677	0.48	1.14
		132"	39	45	8806	0.58	1.36
		144"	35	40	8235	0.64	1.62
		96"	50	55	10418	0.51	0.63
168"	96"	108"	43	48	9531	0.61	0.80
		120"	39	43	8999	0.73	1.03
		132"	35	39	8388	0.80	1.29
		144"	32	36	7967	0.90	1.53



NOTE: USE DEFLECTIONS PROVIDED WHEN DETERMINING MINIMUM SEPARATION TO GLASS

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16001 OLD AIRPORT HALL RD., FORT MYERS, FL 33913
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AHTWORLDWIDE.COM

AHT 58MM SHUTTER

TKJ Engineering, LLC.

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WWW.TKJENGINEERINGVERIZON.NET
PROFESSIONAL ENGINEER
FLORIDA P.E. # 55622

STATE OF FLORIDA

PROFESSIONAL ENGINEER

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DATE: 10/5/23

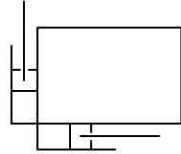
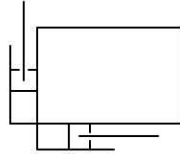
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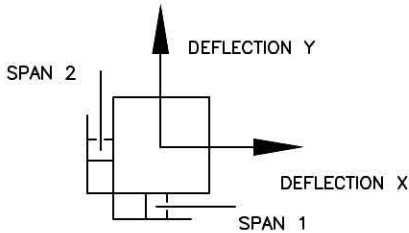
REVIEWED BY: TKJ

APPROVED BY: TKJ



MAXIMUM DESIGN PRESSURE OF A CORNER 4"X6"X1/2" MULLION (6061-T6)							
SPAN WIDTH 1 UP TO	SPAN WIDTH 2 UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE 1 (PSF)	DESIGN PRESSURE 2 (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
96"	48"	96"	150	150	14763	0.33	0.73
		108"	150	150	12990	0.50	0.89
		120"	134	150	11836	0.65	1.10
		132"	119	134	10854	0.80	1.30
		144"	107	121	9974	0.95	1.54
96"	72"	96"	135	144	12633	0.62	0.57
		108"	119	127	11515	0.75	0.73
		120"	108	115	10728	0.86	0.93
		132"	101	107	10230	1.06	1.14
		144"	92	98	9523	1.18	1.38
96"	96"	96"	103	103	11602	0.77	0.45
		108"	90	90	10534	0.96	0.57
		120"	81	81	9748	1.19	0.71
		132"	74	74	9061	1.47	0.86
		144"	67	67	8594	1.73	1.01
120"	48"	96"	135	150	15046	0.32	0.76
		108"	114	131	13511	0.42	0.95
		120"	95	109	12082	0.59	1.11
		132"	82	94	10895	0.72	1.31
		144"	74	85	10167	0.89	1.57
120"	72"	96"	108	119	13370	0.52	0.64
		108"	95	105	12338	0.63	0.83
		120"	86	95	11588	0.71	1.07
		132"	77	85	10762	0.81	1.30
		144"	67	74	9771	0.84	1.47
120"	96"	96"	84	88	12091	0.67	0.53
		108"	72	76	10905	0.83	0.67
		120"	65	68	10198	1.01	0.83
		132"	59	62	9548	1.21	1.02
		144"	54	57	8928	1.40	1.25
120"	120"	96"	70	70	11597	0.77	0.45
		108"	60	60	10449	1.00	0.57
		120"	53	53	9620	1.24	0.70
		132"	47	47	8812	1.41	0.85
		144"	41	41	8247	1.72	1.02

MAXIMUM DESIGN PRESSURE OF A CORNER 4"X6"X1/2" MULLION (6061-T6)							
SPAN WDTH 1 UP TO	SPAN WIDTH 2 UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE 1 (PSF)	DESIGN PRESSURE 2 (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
144"	72"	96"	89	100	13941	0.43	0.69
		108"	78	88	12914	0.49	0.90
		120"	71	80	12254	0.59	1.17
		132"	61	69	11126	0.65	1.37
		144"	52	59	10009	0.88	1.56
144"	96"	96"	70	76	12438	0.59	0.57
		108"	61	66	11411	0.74	0.75
		120"	53	58	10449	0.83	0.92
		132"	49	53	9922	1.06	1.18
		144"	44	48	9253	1.16	1.35
144"	120"	96"	59	62	11888	0.69	0.49
		108"	50	52	10582	0.86	0.64
		120"	44	46	9788	1.05	0.79
		132"	39	41	8997	1.25	0.98
		144"	36	38	8555	1.54	1.20
144"	144"	96"	51	51	11388	0.77	0.45
		108"	44	44	10422	1.01	0.57
		120"	38	38	9485	1.24	0.69
		132"	34	34	8774	1.51	0.88
		144"	30	30	8337	1.70	1.04
168"	48"	96"	85	100	15477	0.29	0.78
		108"	71	84	13912	0.39	0.98
		120"	61	72	12676	0.48	1.23
		132"	53	63	11661	0.56	1.45
		144"	44	52	10317	0.73	1.66
168"	72"	96"	77	88	14728	0.38	0.74
		108"	67	77	13564	0.43	0.97
		120"	57	65	12311	0.53	1.15
		132"	50	57	11444	0.67	1.42
		144"	43	49	10292	0.72	1.67
168"	96"	96"	60	67	12807	0.54	0.62
		108"	52	58	11752	0.67	0.80
		120"	46	51	10919	0.81	1.00
		132"	41	46	10181	0.89	1.22
		144"	38	42	9725	1.08	1.50



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AHT 58MM SHUTTER

TKJ Engineering, LLC.

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TEL: 813.404.7646; E-MAIL: TKJENGINEERING@VERIZON.NET
PROF. CERTIFICATE OF AUTHORIZATION NUMBER: 28582

DRAWN BY: TKJ

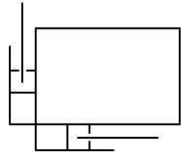
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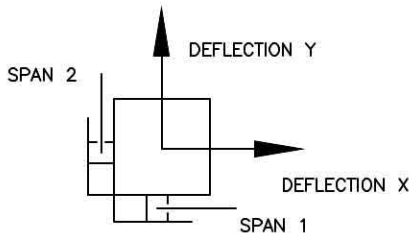
PROJ. #: 23-0802

REVOR JOHNSON
LICENSED PROFESSIONAL ENGINEER
STATE OF FLORIDA
P.E. # 65628
P.L.O.-5-23

28 OF 29



MAXIMUM DESIGN PRESSURE OF A CORNER 4"X6"X1/2" MULLION (6061-T6)							
SPAN WIDTH 1 UP TO	SPAN WIDTH 2 UP TO	MULLION LENGTH UP TO	DESIGN PRESSURE 1 (PSF)	DESIGN PRESSURE 2 (PSF)	MULLION END LOAD (LB)	MULLION DEFLECTION Y (IN)	MULLION DEFLECTION X (IN)
168"	120"	96"	51	55	12082	0.66	0.54
		108"	44	47	11048	0.80	0.71
		120"	38	41	10049	0.96	0.88
		132"	34	37	9405	1.22	1.06
		144"	31	33	8824	1.36	1.28
192"	48"	96"	71	85	15646	0.26	0.79
		108"	59	70	14006	0.34	0.99
		120"	51	61	12915	0.42	1.23
		132"	42	50	11457	0.64	1.39
		144"	37	44	10589	0.68	1.68
192"	72"	96"	67	78	15248	0.32	0.77
		108"	57	66	13892	0.36	0.99
		120"	48	56	12529	0.50	1.22
		132"	41	48	11388	0.55	1.42
		144"	35	41	10264	0.54	1.64
192"	96"	96"	53	60	13301	0.50	0.65
		108"	46	52	12247	0.62	0.86
		120"	40	45	11211	0.70	1.07
		132"	36	41	10573	0.81	1.33
		144"	33	37	10083	0.90	1.59
192"	120"	96"	45	49	12328	0.61	0.57
		108"	38	42	11135	0.74	0.74
		120"	33	36	10217	0.85	0.90
		132"	30	33	9682	1.04	1.16
		144"	27	30	9087	1.30	1.36
216"	48"	84"	75	90	17785	0.19	0.62
		96"	61	73	15848	0.25	0.81
		108"	51	61	14315	0.33	1.02
		120"	42	50	12688	0.46	1.24
		132"	36	43	11561	0.60	1.48
216"	72"	84"	69	81	16980	0.24	0.59
		96"	58	68	15452	0.25	0.80
		108"	48	56	13831	0.36	1.00
		120"	41	48	12665	0.43	1.21
		132"	35	41	11511	0.44	1.44



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STATE OF FLORIDA

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