



MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
 11805 SW 26 Street, Room 208
 Miami, Florida 33175-2474
 T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/building

DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
 BOARD AND CODE ADMINISTRATION DIVISION
NOTICE OF ACCEPTANCE (NOA)

Lawson Industries, Inc.
8501 NW 90 Street
Medley, FL 33166

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami-Dade County) and/ or the AHJ (in areas other than Miami-Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: Clipped, Extruded Aluminum Tube Mullion w/ and w/o Steel Reinforcement – L.M.I.

APPROVAL DOCUMENT: Drawing No. **LAW-ML-1001**, titled “Aluminum Tube Mullions” sheets 1 through 10 of 10, dated 04/27/10, with revision **F** dated 08/10/20, prepared by manufacturer, signed and sealed by Thomas J. Sotos, P.E., bearing the Miami-Dade County Product Control Renewal stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state, series, and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/ or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

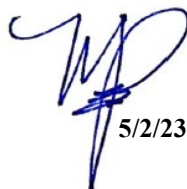
ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **renews NOA No. 20-0814.10** and consists of this page 1 and evidence pages E-1, E-2, E-3 and E-4, as well as approval document mentioned above.

The submitted documentation was reviewed by **Manuel Perez, P.E.**




 5/2/23

NOA No. 23-0404. 01
Expiration Date: May 30, 2028
Approval Date: May 11, 2023
 Page 1

Lawson Industries, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS NOA's

A. DRAWINGS

1. Manufacturer's die drawings and sections.
(Submitted under NOA's No. 02-0501.05 and 95-1212.09)
2. Drawing No. **LAW-ML-1001**, titled "Aluminum Tube Mullions", sheets 1 through 10 of 10, dated 04/27/10, with revision **F** dated 08/10/20, prepared by manufacturer, signed and sealed by Thomas J. Sotos, P.E.
(Submitted under NOA No. 20-0814.10)

B. TESTS

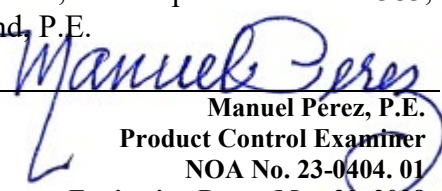
1. Test report on: 1) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94 along with marked-up drawings and installation diagram of 108-1/2" span aluminum 2" x 4" tube mullion with no reinforcement, prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-18-6036**, dated 05/04/18, signed and sealed by Rafael E. Droz-Seda, P.E.
(Submitted under NOA No. 18-0529.03)
2. Test reports on: 1) Large Missile Impact Test per FBC, TAS 201-94.
2) Cyclic Wind Pressure Loading per FBC, TAS 203-94 along with marked-up drawings and installation diagram of 108-1/2" span aluminum 2" x 4" tube mullions with no reinforcement, prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-18-6037**, dated 05/04/18, signed and sealed by Rafael E. Droz-Seda, P.E.
(Submitted under NOA No. 18-0529.03)
3. Test report on: 1) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94 along with marked-up drawings and installation diagram of 120" horizontal span and 74" vertical span, 2" x 6" aluminum tube mullions with C4 x 4.5 steel channel reinforcement, prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-18-6038**, dated 05/22/18, signed and sealed by Rafael E. Droz-Seda, P.E.
(Submitted under NOA No. 18-0529.03)
4. Test reports on: 1) Large Missile Impact Test per FBC, TAS 201-94.
2) Cyclic Wind Pressure Loading per FBC, TAS 203-94 along with marked-up drawings and installation diagram of 120" horizontal span and 74" vertical span, 2" x 6" aluminum tube mullions with C4 x 4.5 steel channel reinforcement, prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-18-6040**, dated 05/22/18, signed and sealed by Rafael E. Droz-Seda, P.E.
(Submitted under NOA No. 18-0529.03)


Manuel Perez, P.E.
Product Control Examiner
NOA No. 23-0404. 01
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NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS NOA's (CONTINUED)
B. TESTS (CONTINUED)

5. Tensile Test report on 0.10" thick wall aluminum tube mullion, prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-02-T071**, dated 09/16/02, tested per **ASTM E8**, signed and sealed by Rafael E. Droz-Seda, P.E.
(Submitted under NOA No. 02-0501.05)
6. Test report on: 1) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94 along with marked-up drawings and installation diagram of 120" span aluminum tube mullions with C4 x 4.5 steel channel reinforcement, prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-02-1714**, dated 08/27/02, signed and sealed by Rafael E. Droz-Seda, P.E.
(Submitted under NOA No. 02-0501.05)
7. Test reports on: 1) Large Missile Impact Test per FBC, TAS 201-94.
2) Cyclic Wind Pressure Loading per FBC, TAS 203-94 along with marked-up drawings and installation diagram of 120" span aluminum tube mullion with C4 x 4.5 steel channel reinforcement, prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-02-1716**, dated 8/27/02, signed and sealed by Rafael E. Droz-Seda, P.E. *(Submitted under NOA No. 02-0501.05)*
8. Test reports on: 1) Large Missile Impact Test per FBC, TAS 201-94.
2) Cyclic Wind Pressure Loading per FBC, TAS 203-94 along with marked-up drawings and installation diagram of an aluminum sliding glass door, prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-02-1718**, dated 8/27/02, signed and sealed by Rafael E. Droz-Seda, P.E.
(Submitted under NOA No. 02-0501.05)
9. Test report on: 1) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94 along with marked-up drawings and installation diagram of an aluminum sliding glass door, prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-02-1717**, dated 08/27/02, signed and sealed by Rafael E. Droz-Seda, P.E.
(Submitted under NOA No. 02-0501.05)
10. Test report on: 1) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94 along with marked-up drawings and installation diagram of an aluminum sliding glass door, prepared by Fenestration Testing Laboratory, Inc., Test Report No. **FTL-1376**, dated 01/31/96, signed and sealed by Gilbert Diamond, P.E.
(Submitted under NOA No. 95-1212.09)
11. Test report on: 1) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94 along with marked-up drawings and installation diagram of two aluminum horizontal sliding windows mulled at top with a 90" span mullion and a 45" high fixed window on top, prepared by Fenestration Testing Laboratory, Inc., Test Report No. **FTL-1383**, dated 02/13/96, signed and sealed by Gilbert Diamond, P.E.
(Submitted under NOA No. 95-1212.09)


Manuel Perez, P.E.
Product Control Examiner
NOA No. 23-0404.01
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Lawson Industries, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS NOA's (CONTINUED)

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with **FBC 6th Edition (2017)**, prepared by manufacturer, dated 05/24/18, signed and sealed by Thomas J. Sotos, P.E.
(Submitted under NOA No. 18-0529.03)

D. QUALITY ASSURANCE

1. Miami-Dade Department of Regulatory and Economic Resources (RER).

E. MATERIAL CERTIFICATIONS

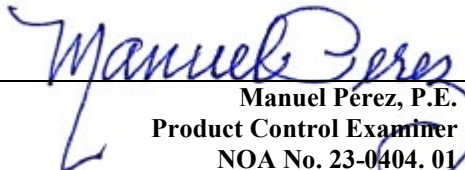
1. None.

F. STATEMENTS

1. Statement letter of conformance, complying with **FBC 7th Edition (2020)**, dated August 03, 2020, issued by manufacturer, signed and sealed by Thomas J. Sotos, P.E.
(Submitted under NOA No. 20-0814.10)
2. Laboratory compliance letter for Test Reports No.: **FTL-3619, FTL-3620, FTL-3621, FTL-3622, FTL-3623, FTL-3624, FTL-3625, FTL-3626, FTL-3627**, all dated 11/27/02, issued by Fenestration Testing Laboratory, Inc., and signed and sealed by Joseph C. Chan, P.E.
(Submitted under NOA No. 03-0128.06)
3. Laboratory compliance letter for Test Reports No. **HETI-02-1714, HETI-02-1716, HETI-02-1717, HETI-02-1718**, dated 8/27/02 and **HETI-02-T071**, dated 09/16/02, all issued by Hurricane Engineering & Testing, Inc., signed and sealed by Rafael E. Droz-Seda, P.E.
(Submitted under NOA No. 02-0501.05)
4. Laboratory compliance letter for Test Reports No. **FTL-1376**, dated 01/31/96, and **FTL-1383**, dated 02/13/96, both issued by Fenestration Testing Laboratory, Inc., signed and sealed by Gilbert Diamond, P.E.
(Submitted under NOA No. 02-0501.05)

G. OTHERS

1. Notice of Acceptance No. **18-0529.03** issued to Lawson Industries, Inc. for their Clipped Extruded Aluminum Tube Mullion w/ and w/o Steel Reinforcement – L.M.I., approved on 06/14/18 and expiring on 05/30/23.


Manuel Pérez, P.E.
Product Control Examiner
NOA No. 23-0404. 01
Expiration Date: May 30, 2028
Approval Date: May 11, 2023

Lawson Industries, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

2. NEW EVIDENCE SUBMITTED

A. DRAWINGS

1. None.

B. TESTS

1. None.

C. CALCULATIONS

1. None.

D. QUALITY ASSURANCE

1. Miami-Dade Department of Regulatory and Economic Resources (RER)

E. MATERIAL CERTIFICATIONS

1. None.

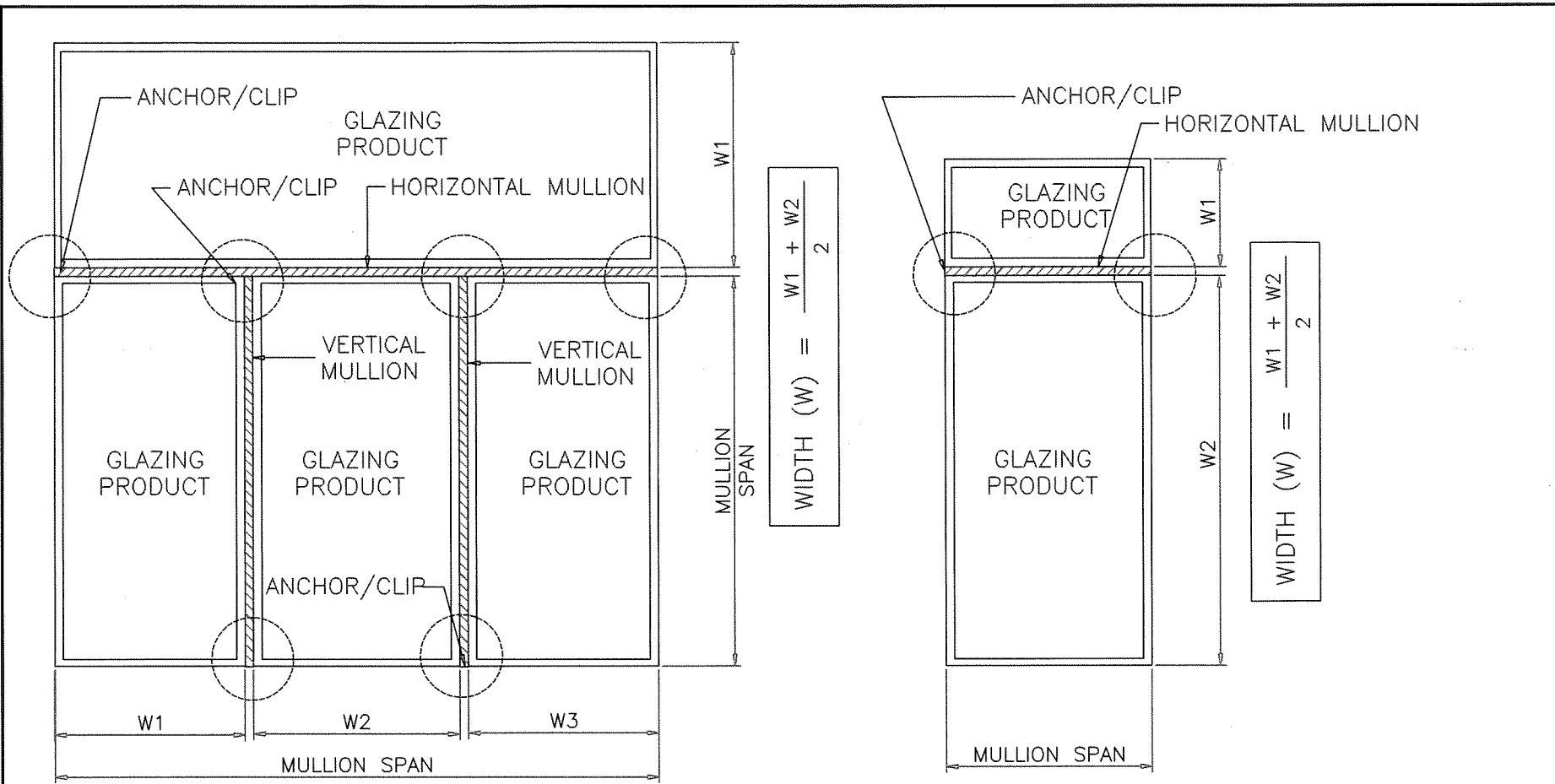
F. STATEMENTS

1. Statement letter of conformance, complying with **FBC 7th Edition (2020)**, dated March 30, 2023, issued by manufacturer, signed and sealed by Thomas J. Sotos, P.E.

G. OTHERS

1. Notice of Acceptance No. **20-0814.10** issued to Lawson Industries, Inc. for their Clipped Extruded Aluminum Tube Mullion w/ and w/o Steel Reinforcement – L.M.I., approved on 10/15/20 and expiring on 05/30/23.


Manuel Pérez, P.E.
Product Control Examiner
NOA No. 23-0404. 01
Expiration Date: May 30, 2028
Approval Date: May 11, 2023



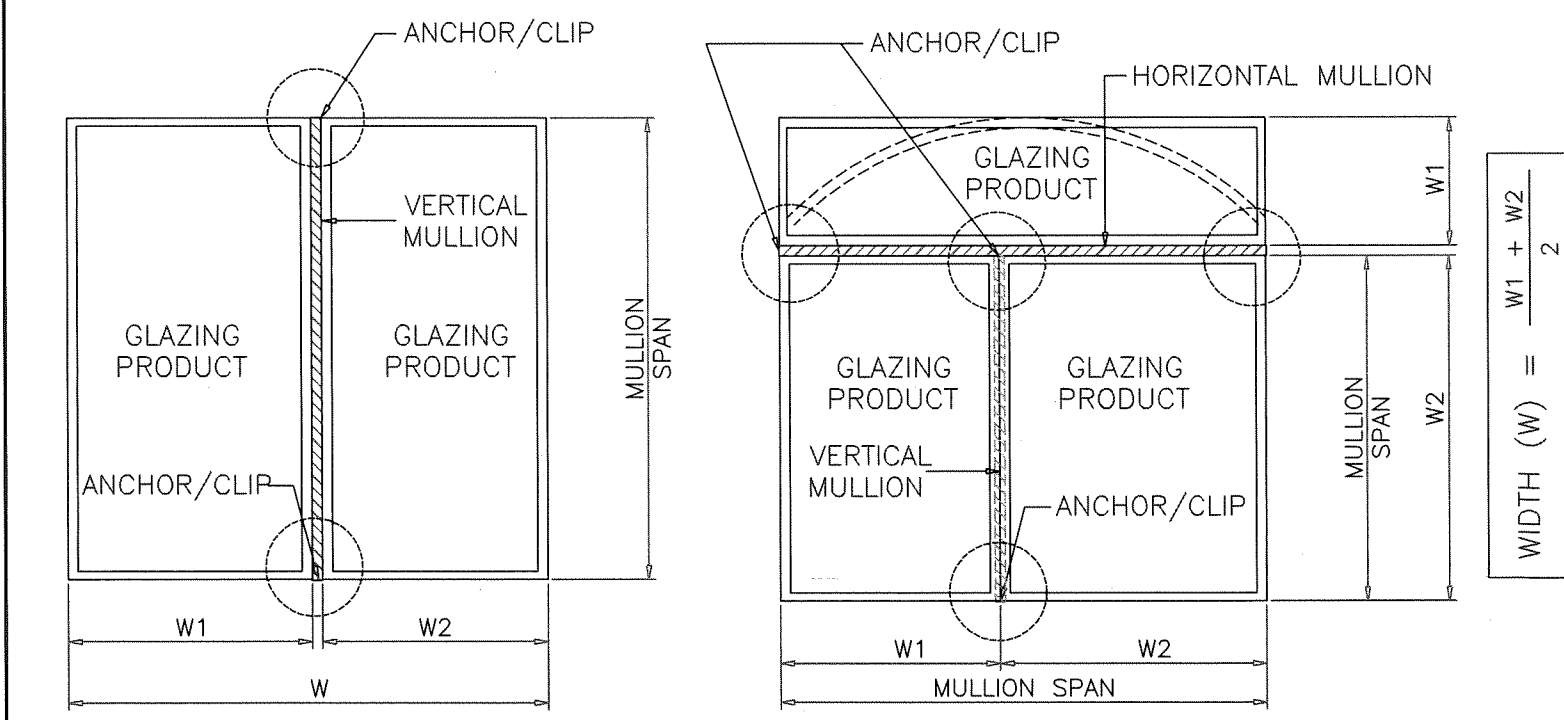
THESE MULLIONS ARE RATED FOR LARGE MISSILE IMPACT AND CAN BE USED WITH ALL LAWSON'S MIAMI-DADE COUNTY APPROVED IMPACT AND NON-IMPACT PRODUCTS.

RECTANGULAR ALUMINUM TUBE MULLIONS USING MULLION PROPERTIES ONLY

GENERAL NOTES:

1. THIS PRODUCT HAS BEEN DESIGNED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE (2017-6th Edition & 2020-7th Edition) INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).
2. ALL GLAZING PRODUCTS USED WITH THESE MULLIONS MUST MEET THE APPLICABLE FLORIDA BLDG. CODE REQUIREMENTS I.E: WIND LOAD, WATER INFILTRATION, FORCED ENTRY RESISTANCE, SAFEGUARDS ETC.
3. MULLIONS ARE APPROVED FOR IMPACT AND NON-IMPACT APPLICATIONS, INCLUDING WINDOWS, DOORS OR COMBINATIONS MAY BE MULLED.
4. WOOD BUCKS BY OTHERS, MUST BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE STRUCTURE.
5. ANCHORS SHALL BE AS LISTED, SPACED AS SHOWN ON DETAILS, ANCHORS EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.
6. ANCHORING OR LOADING CONDITIONS NOT SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL.
7. A LOAD DURATION INCREASE IN ALLOWABLE STRESS IS USED IN DESIGN OF WOOD ANCHORS ONLY.
8. MATERIALS INCLUDING BUT NOT LIMITED TO STEEL OR METAL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE FLORIDA BLDG. CODE - SECTION 2003.8.4.

$$\text{WIDTH (W)} = \frac{W1 + W2 + W3}{2}$$



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

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

MULLION & CLIP NOTES:

1. FOR MULLIONS WITHOUT REINFORCEMENT REFER TO SHEET 2 OF 10 FOR DETAILS AND NOTES.
* REFER TO SHEET 3 OF 10 FOR MAX. MULL DESIGN PRESSURE CHARTS
2. FOR MULLIONS WITH STEEL REINFORCEMENT REFER TO SHEET 4 OF 10 FOR DETAILS AND NOTES.
* REFER TO SHEET 5 OF 10 FOR MAX. MULL DESIGN PRESSURE CHARTS
3. FOR CLIP TYPES AND ANCHOR CONDITIONS REFER TO SHEETS 6, 7, 8, & 9 OF 10 FOR DETAILS AND NOTES.
* REFER TO SHEET 10 OF 10 FOR MAX. ANCHOR DESIGN PRESSURE CHARTS

LAWSON INDUSTRIES, INC.

MANUFACTURER OF QUALITY ALUMINUM WINDOWS AND GLASS DOORS

ALUMINUM TUBE MULLIONS

TYPICAL MULL ARRANGEMENTS, AND GENERAL NOTES

8501 N.W. 90 ST.
MEDLEY, FLORIDA 33166
PH No. (305) 696-8660

Product Reference Number: LAW-ML-1001

Sheet: 1 OF 10

Revision #: _____

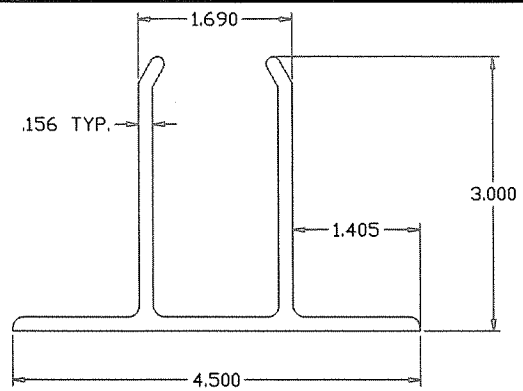
Revision Notes:	'A' - Revised date for the FBC-2010	Date Drawn:	N. ERAZO	04/27/10
	'B' - Revised date for the FBC-2014	Date Revised:	N. ERAZO	08/10/20
	C. Compliance w/ FBC 5th Edition (2014)	Scale:	F	
	D. Compliance w/ FBC 6th Edition (2017)			
	E. DP Loads capped at 125psf			
	F. Compliance w/ FBC 7th Edition (2020)			

THOMAS J. SOTOS
PROFESSIONAL ENGINEER
FL LIC. # 55225

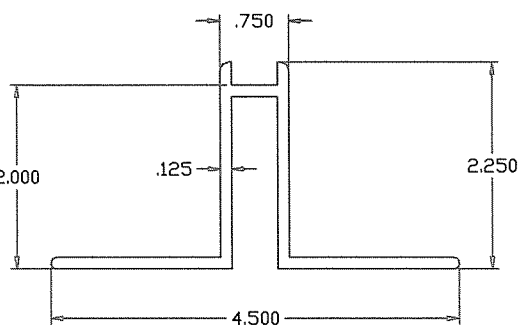
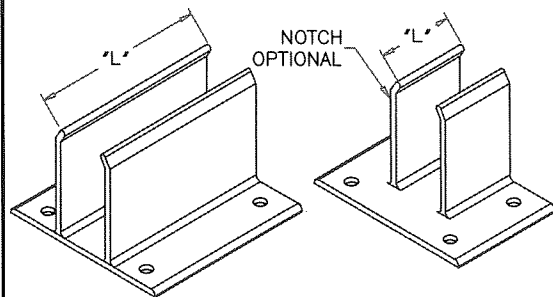
DATE: _____

PRODUCT RENEWED
as complying with the Florida Building Code
NOA-No. **23-0404.01**
Expiration Date: **05/30/2028**
By: *Manuel Perez*
Miami-Dade Product Control

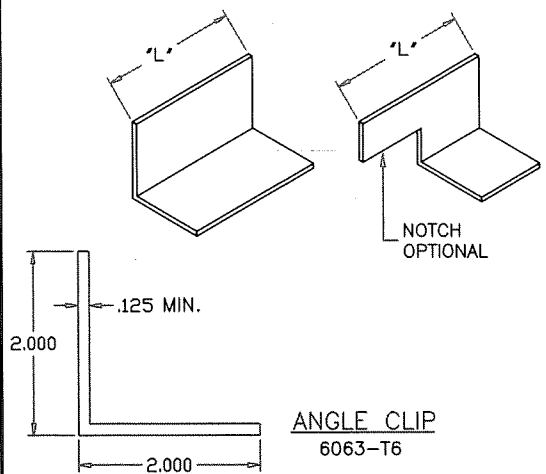
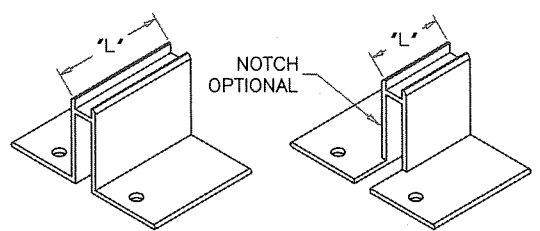
PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. **20-0814.10**
Expiration Date: **05/30/2023**
By: *Manuel Perez*
Miami-Dade Product Control



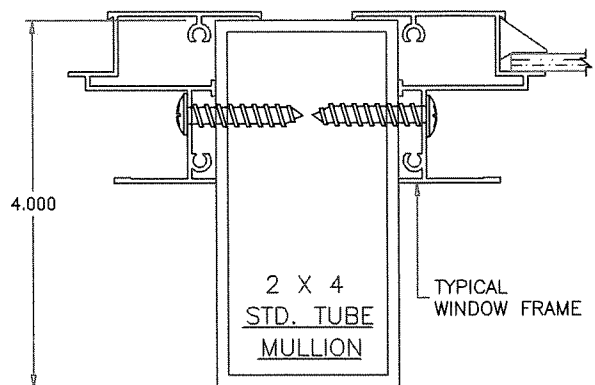
2X MULLION CLIP
6063-T6



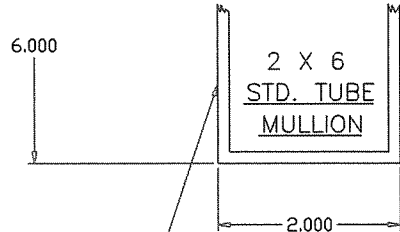
1X MULLION CLIP
6063-T6



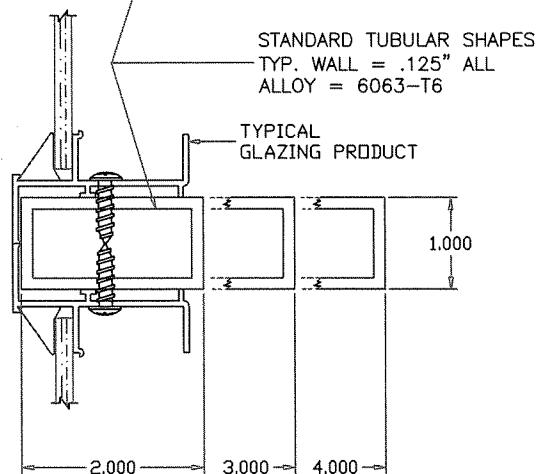
ANGLE CLIP
6063-T6



**2 X 4
STD. TUBE
MULLION**



**2 X 6
STD. TUBE
MULLION**

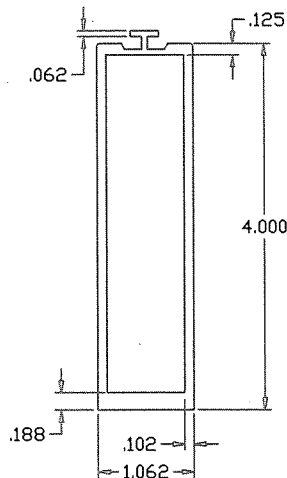


**MULLIONS CONTAINING
TYPICAL GLAZING PRODUCTS
HORIZONTAL OR VERTICAL**

SEE WINDOW OR DOOR APPROVAL FOR
FASTENERS SIZES AND SPACING

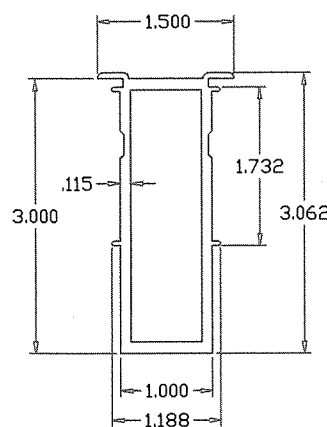
CLIP LENGTH	
MULL	"L"
1 X 2	1.688'
1 X 3	2.688'
1 X 4	3.688'
2 X 4	3.688'
2 X 6	5.688'

1. ALL CLIPS AND ANGLES ARE TO FIT SNUG INTO TUBE MULLIONS.
2. WHERE ANGLES ARE NOT FIT SNUG INTO TUBE MULLIONS, SEE OPTIONAL ANCHOR DETAIL AT SHEET 9 OF 10.



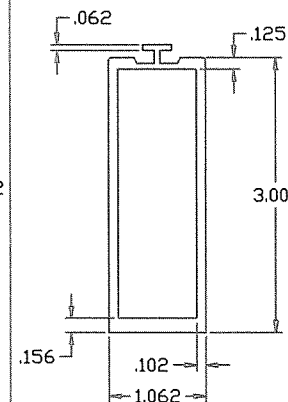
**1 X 4
CUSTOM MULLION**
6063-T6

lxx: 2.070 in.⁴
Sxx: 1.035 in.³
(FLANGE FRAME)



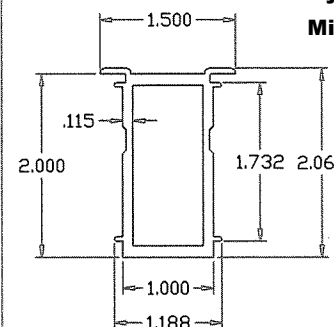
**1 X 3
CUSTOM MULLION**
6063-T6

lxx: 1.000 in.⁴
Sxx: 0.667 in.³
(FIN FRAME)



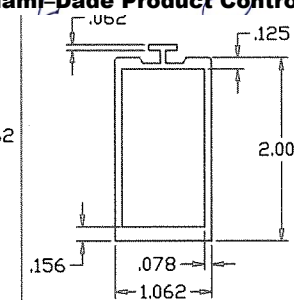
**1 X 3
CUSTOM MULLION**
6063-T6

lxx: 0.950 in.⁴
Sxx: 0.633 in.³
(FLANGE FRAME)



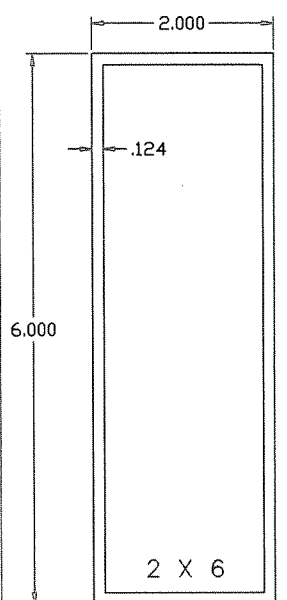
**1 X 2
CUSTOM MULLION**
6063-T6

lxx: 0.370 in.⁴
Sxx: 0.370 in.³
(FIN FRAME)



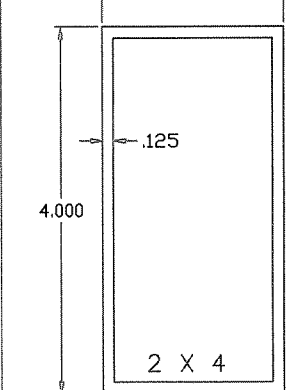
**1 X 2
CUSTOM MULLION**
6063-T6

lxx: 0.330 in.⁴
Sxx: 0.330 in.³
(FLANGE FRAME)



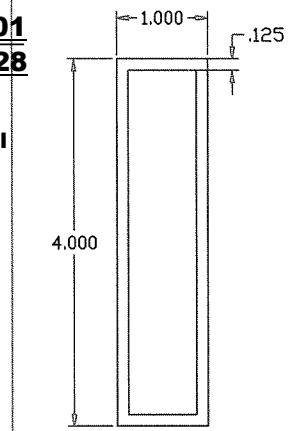
**2 X 6
STD. TUBE MULLION**
6063-T6

lxx: 8.280 in.⁴
Sxx: 2.760 in.³



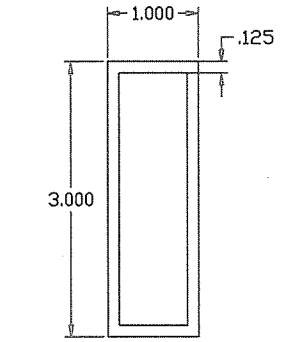
**2 X 4
STD. TUBE MULLION**
6063-T6

lxx: 2.980 in.⁴
Sxx: 1.490 in.³



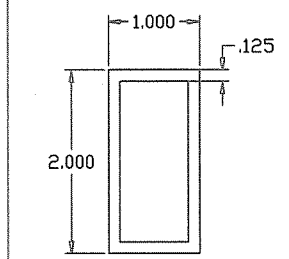
**1 X 4
STD. TUBE MULLION**
6063-T6

lxx: 2.070 in.⁴
Sxx: 1.035 in.³



**1 X 3
STD. TUBE MULLION**
6063-T6

lxx: 0.950 in.⁴
Sxx: 0.633 in.³



**1 X 2
STD. TUBE MULLION**
6063-T6

lxx: 0.330 in.⁴
Sxx: 0.330 in.³

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. **20-0814.10**
Expiration Date: **05/30/2023**
By: *Manuel Perez*
Miami-Dade Product Control

PRODUCT RENEWED
as complying with the Florida
Building Code
NOA-No. **23-0404.01**
Expiration Date: **05/30/2028**
By: *Manuel Perez*
Miami-Dade Product Control

Revision Notes:
 'A' - Revised date for the FBC-2010
 'B' - Revised date for the FBC-2014
 C. Compliance w/ FBC 5th Edition (2014)
 D. Compliance w/ FBC 6th Edition (2017)
 E. DP Loads capped at 125psf
 F. Compliance w/ FBC 7th Edition (2020)

Drawn By:	N. BRAZO	Date Drawn:	04/27/10
Revised By:	N. BRAZO	Date Revised:	08/10/20
Revision Level:	F	Scale:	

LAWSON INDUSTRIES, INC.
 MANUFACTURER OF QUALITY ALUMINUM WINDOWS AND GLASS DOORS
 8501 N.W. 90 ST.
 MEDLEY, FLORIDA 33166
 PH No. (305) 696-8660

ALUMINUM TUBE MULLIONS
 MULL AND CLIPS CROSS SECTIONS, AND GENERAL NOTES

Product Reference Number: LAW-ML-1001
 Drawing Number: LAW-ML-1001
 Sheet: 2 OF 10
 Revision #: 2 OF 10

INSTRUCTIONS:

- USE CHARTS AND GRAPHS AS FOLLOWS.
- STEP 1** DETERMINE DESIGN LOAD REQUIRED FOR PARTICULAR OPENING.
 - STEP 2** USE APPROVED GLAZING PRODUCTS MEETING ABOVE LOAD REQUIREMENTS.
 - STEP 3** USE CONNECTION TO MULLION AS PER PRODUCT APPROVAL.
 - STEP 4** SPECIFY MAXIMUM SHIM SPACING.
 - STEP 5** USING CHARTS ON SHEET 3 OF 10 SELECT MULLION SIZE WITH DESIGN RATING MORE THAN DESIGN LOAD SPECIFIED IN STEP 1 ABOVE.
 - STEP 6** USING ANCHOR TYPES ON SHEET 6 THRU 9 AND ANCHOR CHARTS ON SHEET 9, SELECT ANCHOR TYPE WITH DESIGN RATING MORE THAN THE DESIGN LOADS SPECIFIED IN STEP 1 ABOVE.

**RECTANGULAR ALUMINUM TUBE MULLIONS
USING MULLION PROPERTIES ONLY**

THESE MULLIONS ARE RATED FOR LARGE MISSILE IMPACT AND CAN BE USED WITH ALL LAWSON'S MIAMI-DADE COUNTY APPROVED IMPACT AND NON-IMPACT PRODUCTS.

NOTES:

1. REFER TO THE GENERAL NOTES ON SHEET 1 OF 10 FOR BUILDING CODE COMPLIANCE.
2. MULLIONS MAY BE ORIENTED VERTICALLY OR HORIZONTALLY.
3. REFER TO SHEET 1 OF 10 FOR TYPICAL MULLION ARRANGEMENTS OR STACK CONFIGURATIONS.

THOMAS J. SOTOS
 PROFESSIONAL ENGINEER
 FL LIC. # 55225

Professional Engineer Seal: No. 55225, State of Florida, License Expires 08/2020.

DATE

		TUBE MULLIONS							TUBE MULLIONS							TUBE MULLIONS				
Width (w)	MULL SPAN	1 X 2	1 X 3	1 X 4	2 X 4	2 X 6	Width (w)	MULL SPAN	1 X 2	1 X 3	1 X 4	2 X 4	2 X 6	Width (w)	MULL SPAN	1 X 2	1 X 3	1 X 4	2 X 4	2 X 6
18	38- 3/8"	125.0	125.0	125.0	125.0	125.0	18	74-1/4"	28.3	81.5	125.0	125.0	125.0	18	120"	-	19.3	42.1	60.5	125.0
24		125.0	125.0	125.0	125.0	125.0	24		21.2	61.1	133.2	125.0	125.0	24		-	-	31.5	45.4	126.2
30		123.0	125.0	125.0	125.0	125.0	30		17.0	48.9	106.5	125.0	125.0	30		-	-	25.2	36.3	100.9
36		102.5	125.0	125.0	125.0	125.0	36		-	40.7	88.8	127.8	125.0	36		-	-	21.0	30.3	84.1
42		87.9	125.0	125.0	125.0	125.0	42		-	34.9	76.1	109.5	125.0	42		-	-	18.0	25.9	72.1
48		76.9	125.0	125.0	125.0	125.0	48		-	30.6	66.6	95.8	125.0	48		-	-	15.8	22.7	63.1
54		68.3	137.6	125.0	125.0	125.0	54		-	27.2	59.2	85.2	125.0	54		-	-	-	20.2	56.1
60		61.5	123.9	125.0	125.0	125.0	60		-	24.4	53.3	76.7	144.2	60		-	-	-	18.2	50.5
66		55.9	112.6	125.0	125.0	125.0	66		-	22.2	48.4	69.7	131.1	66		-	-	-	16.5	45.9
72		51.3	103.2	125.0	125.0	125.0	72		-	20.4	44.4	63.9	120.2	72		-	-	-	15.1	42.1
78	47.3	95.3	125.0	125.0	125.0	78	-	18.8	41.0	59.0	110.9	78	-	-	-	-	38.8			
18	50-5/8"	89.3	125.0	125.0	125.0	125.0	18	84"	-	56.3	122.6	125.0	125.0	18	132"	-	-	31.6	45.5	126.4
24		67.0	125.0	125.0	125.0	125.0	24		-	42.2	92.0	132.4	125.0	24		-	-	23.7	34.1	94.8
30		53.6	142.3	125.0	125.0	125.0	30		-	33.8	73.6	105.9	125.0	30		-	-	19.0	27.3	75.8
36		44.6	118.6	125.0	125.0	125.0	36		-	28.1	61.3	88.3	125.0	36		-	-	15.8	22.7	63.2
42		38.3	101.7	125.0	125.0	125.0	42		-	24.1	52.6	75.7	125.0	42		-	-	-	19.5	54.2
48		33.5	89.0	145.4	125.0	125.0	48		-	21.1	46.0	66.2	140.8	48		-	-	-	17.1	47.4
54		29.8	79.1	129.2	125.0	125.0	54		-	18.8	40.9	58.8	125.2	54		-	-	-	15.2	42.1
60		26.8	71.2	116.3	125.0	125.0	60		-	16.9	36.8	53.0	112.7	60		-	-	-	-	37.9
66		24.4	64.7	105.7	125.0	125.0	66		-	15.3	33.4	48.1	102.4	66		-	-	-	-	34.5
72		22.3	59.3	96.9	139.5	125.0	72		-	-	30.7	44.1	93.9	72		-	-	-	-	31.6
78	20.6	54.7	89.5	128.8	125.0	78	-	-	28.3	40.7	86.7	78	-	-	-	-	29.2			
18	57"	62.6	125.0	125.0	125.0	125.0	18	96"	-	37.7	82.1	118.3	125.0	18	144"	-	-	24.3	35.0	97.4
24		46.9	135.1	125.0	125.0	125.0	24		-	28.3	61.6	88.7	125.0	24		-	-	18.3	26.3	73.0
30		37.5	108.1	125.0	125.0	125.0	30		-	22.6	49.3	71.0	125.0	30		-	-	-	21.0	58.4
36		31.3	90.1	125.0	125.0	125.0	36		-	18.8	41.1	59.1	143.8	36		-	-	-	17.5	48.7
42		26.8	77.2	131.1	125.0	125.0	42		-	16.2	35.2	50.7	123.2	42		-	-	-	15.0	41.7
48		23.5	67.5	114.7	125.0	125.0	48		-	-	30.8	44.3	107.8	48		-	-	-	-	36.5
54		20.9	60.0	101.9	146.8	125.0	54		-	-	27.4	39.4	95.8	54		-	-	-	-	32.5
60		18.8	54.0	91.7	132.1	125.0	60		-	-	24.6	35.5	86.3	60		-	-	-	-	29.2
66		17.1	49.1	83.4	120.1	125.0	66		-	-	22.4	32.3	78.4	66		-	-	-	-	26.6
72		15.6	45.0	76.5	110.1	125.0	72		-	-	20.5	29.6	71.9	72		-	-	-	-	24.3
78	-	41.6	70.6	101.6	125.0	78	-	-	19.0	27.3	66.3	78	-	-	-	-	22.5			
18	63"	46.3	133.4	125.0	125.0	125.0	18	108"	-	26.5	57.7	83.1	125.0	18	150"	-	-	-	31.0	86.1
24		34.8	100.0	125.0	125.0	125.0	24		-	19.9	43.3	62.3	125.0	24		-	-	-	23.3	64.6
30		27.8	80.0	125.0	125.0	125.0	30		-	15.9	34.6	49.8	136.3	30		-	-	-	18.6	51.7
36		23.2	66.7	125.2	125.0	125.0	36		-	-	28.8	41.5	113.6	36		-	-	-	15.5	43.1
42		19.9	57.2	107.3	125.0	125.0	42		-	-	24.7	35.6	97.4	42		-	-	-	-	36.9
48		17.4	50.0	93.9	135.1	125.0	48		-	-	21.6	31.1	85.2	48		-	-	-	-	32.3
54		15.4	44.5	83.4	120.1	125.0	54		-	-	19.2	27.7	75.7	54		-	-	-	-	28.7
60		-	40.0	75.1	108.1	125.0	60		-	-	17.3	24.9	68.1	60		-	-	-	-	25.8
66		-	36.4	68.3	98.3	125.0	66		-	-	15.7	22.7	62.0	66		-	-	-	-	23.5
72		-	33.3	62.6	90.1	125.0	72		-	-	-	20.8	56.8	72		-	-	-	-	21.5
78	-	30.8	57.8	83.2	125.0	78	-	-	-	19.2	52.4	78	-	-	-	-	19.9			

8501 N.W. 90 ST.
MEDLEY, FLORIDA 33166
PH No. (305) 696-8660

LAWSON INDUSTRIES, INC.

MANUFACTURER OF QUALITY ALUMINUM WINDOWS AND GLASS DOORS

ALUMINUM TUBE MULLIONS

UNREINFORCED TUBE MULLIONS DESIGN PRESSURE CHARTS AND GENERAL NOTES

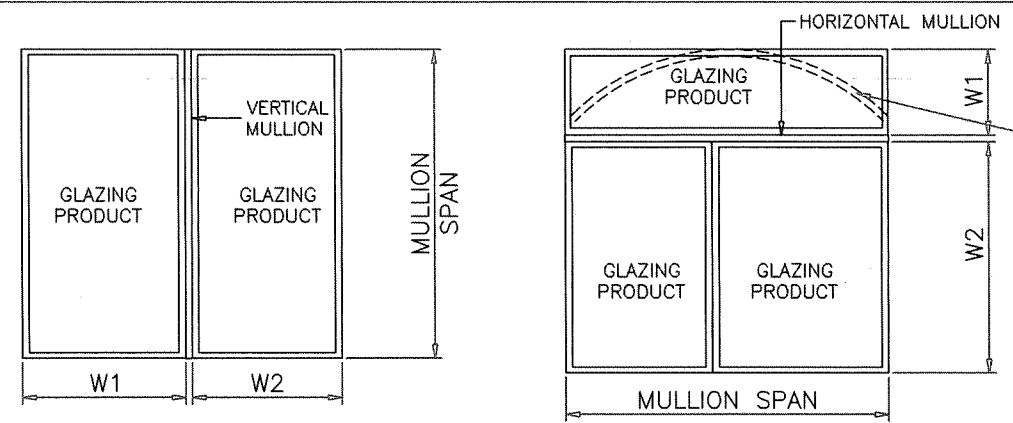
Product Reference Number: LAW-ML-1001

Drawing Number: 3 OF 10

Revision #: 3 OF 10

Revision Notes:
 'A' - Revised date for the FBC-2010
 'B' - Revised date for the FBC-2014
 C. Compliance w/ FBC 5th Edition (2014)
 D. Compliance w/ FBC 6th Edition (2017)
 E. DP Loads capped at 125psf
 F. Compliance w/ FBC 7th Edition (2020)

Drawn By: N. ERAZO Date Drawn: 04/27/10
 Revised By: N. ERAZO Date Revised: 08/10/20
 Revision Level: F Scale:



TYPICAL MULLION ARRANGEMENTS

ARCHES TO BE INSCRIBED INSIDE RECTANGULAR SHAPE

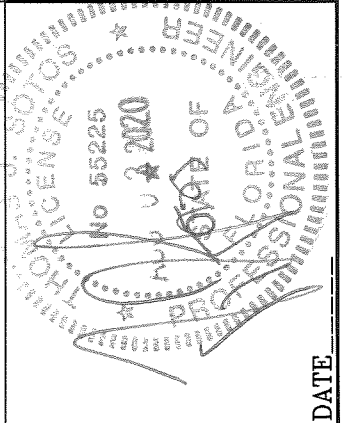
NOTE:
MULLIONS RATED IN THESE CHARTS MAY BE ORIENTED VERTICALLY OR HORIZONTALLY.
(INTERPOLATION BETWEEN WIDTHS ALLOWED)

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

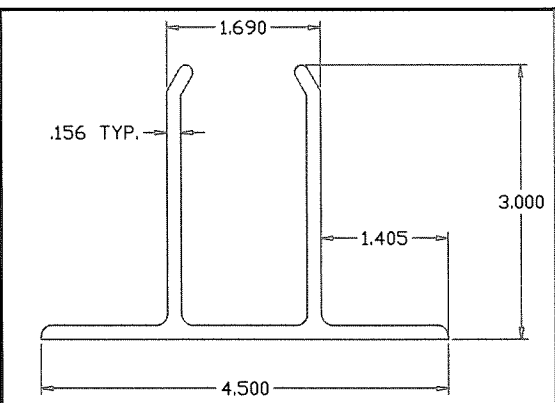
PRODUCT RENEWED
 as complying with the Florida Building Code
 NOA-No. **23-0404.01**
 Expiration Date: **05/30/2028**
 By: *Manuel Perez*
 Miami-Dade Product Control

PRODUCT REVISED
 as complying with the Florida Building Code
 NOA-No. **20-0814.10**
 Expiration Date: **05/30/2023**
 By: *Manuel Perez*
 Miami-Dade Product Control

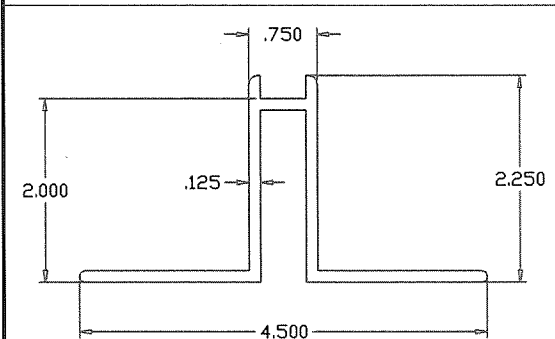
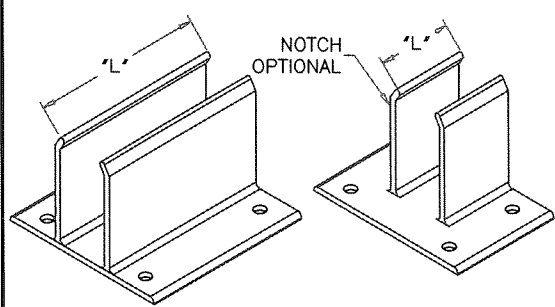
THOMAS J. SOTOS
 PROFESSIONAL ENGINEER
 FL LIC. # 55225



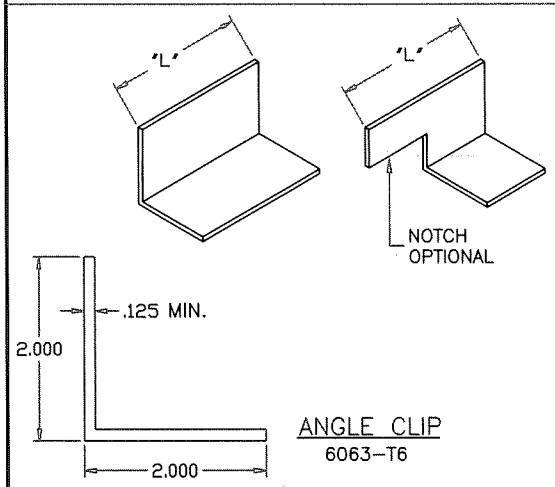
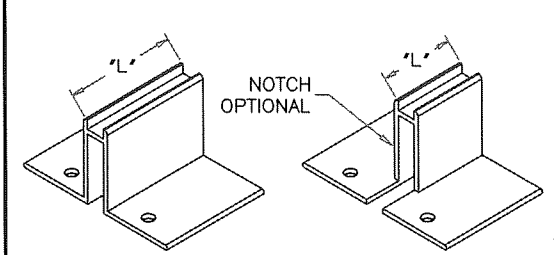
DATE



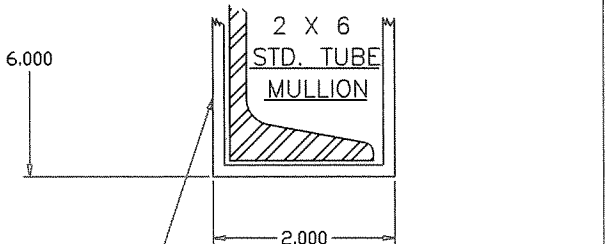
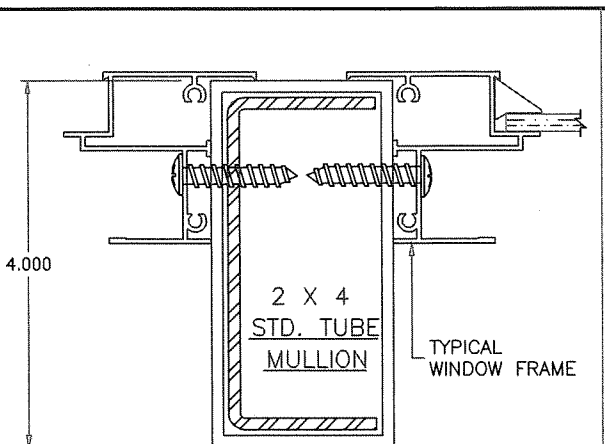
2X MULLION CLIP
6063-T6



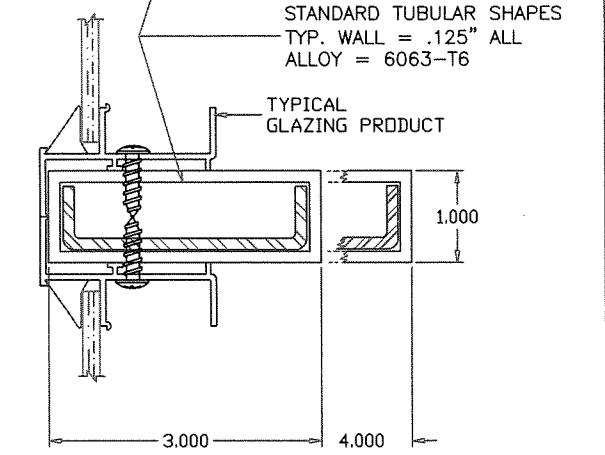
1X MULLION CLIP
6063-T6



ANGLE CLIP
6063-T6



STANDARD TUBULAR SHAPES
TYP. WALL = .125" ALL
ALLOY = 6063-T6

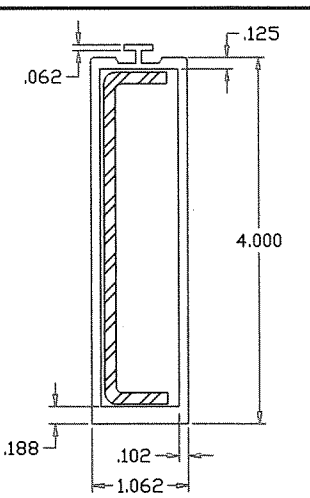


**MULLIONS CONTAINING
TYPICAL GLAZING PRODUCTS
HORIZONTAL OR VERTICAL**

SEE WINDOW OR DOOR APPROVAL FOR
FASTENERS SIZES AND SPACING

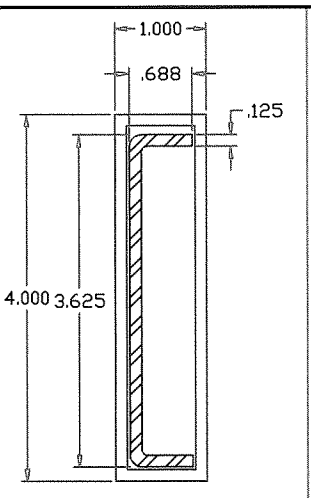
MULL	"L"
1 X 2	1.688"
1 X 3	2.688"
1 X 4	3.688"
2 X 4	3.688"
2 X 6	5.688"

- ALL CLIPS AND ANGLES ARE TO FIT SNUG INTO TUBE MULLIONS.
- WHERE ANGLES ARE NOT FIT SNUG INTO TUBE MULLIONS, SEE OPTIONAL ANCHOR DETAIL AT SHEET 9 OF 10.



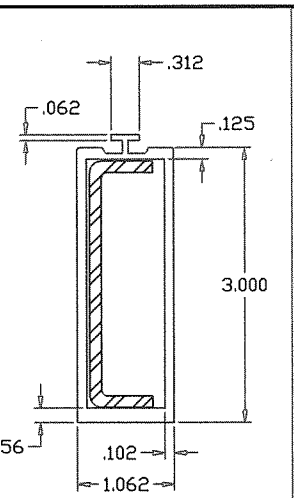
**1 X 4
CUSTOM MULLION**
6063-T6

Ixx: 4.709 in.⁴
Sxx: 2.355 in.³
(FLANGE FRAME)



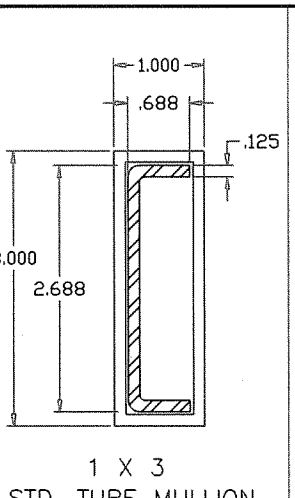
**1 X 4
STD. TUBE MULLION**
6063-T6

Ixx: 4.709 in.⁴
Sxx: 2.355 in.³



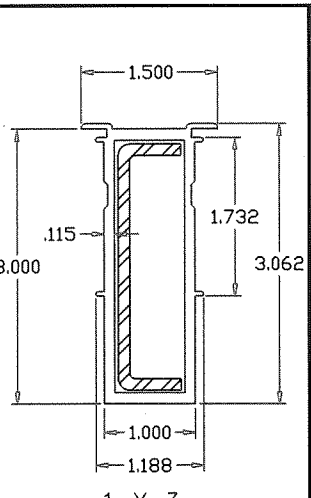
**1 X 3
CUSTOM MULLION**
6063-T6

Ixx: 2.168 in.⁴
Sxx: 1.445 in.³
(FLANGE FRAME)



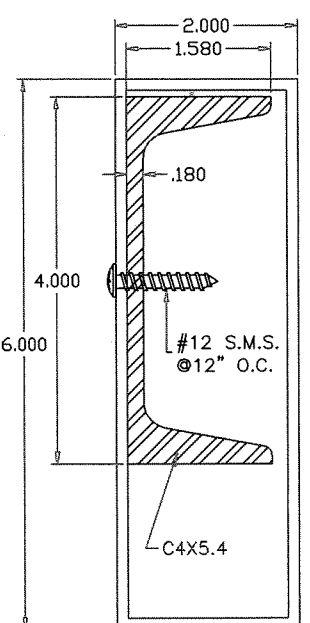
**1 X 3
STD. TUBE MULLION**
6063-T6

Ixx: 2.168 in.⁴
Sxx: 1.445 in.³



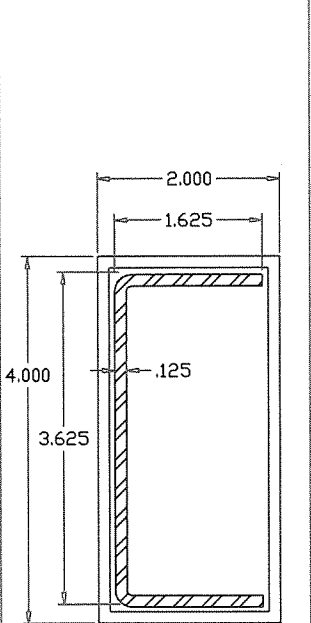
**1 X 3
CUSTOM MULLION**
6063-T6

Ixx: 2.218 in.⁴
Sxx: 1.479 in.³
(FIN FRAME)



**2 X 6
STD. TUBE MULLION**
6063-T6

Ixx: 19.648 in.⁴
Sxx: 6.549 in.³



**2 X 4
STD. TUBE MULLION**
6063-T6

Ixx: 7.649 in.⁴
Sxx: 3.825 in.³

INSTRUCTIONS:

USE CHARTS AND GRAPHS AS FOLLOWS.

- DETERMINE DESIGN LOAD REQUIRED FOR PARTICULAR OPENING.
- USE APPROVED GLAZING PRODUCTS MEETING ABOVE LOAD REQUIREMENTS.
- USE CONNECTION TO MULLION AS PER PRODUCT APPROVAL.
- SPECIFY MAXIMUM SHIM SPACING.
- USING CHARTS ON SHEET 5 OF 10 SELECT MULLION SIZE WITH DESIGN RATING MORE THAN DESIGN LOAD SPECIFIED IN STEP 1 ABOVE.
- USING ANCHOR TYPES ON SHEET 6 THRU 9 AND ANCHOR CHARTS ON SHEET 9, SELECT ANCHOR TYPE WITH DESIGN RATING MORE THAN THE DESIGN LOADS SPECIFIED IN STEP 1 ABOVE.

PRODUCT RENEWED
as complying with the Florida
Building Code
NOA-No. **23-0404.01**
Expiration Date: **05/30/2028**
By: *Manuel Perez*
Miami-Dade Product Control

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. **20-0814.10**
Expiration Date: **05/30/2023**
By: *Manuel Perez*
Miami-Dade Product Control

**RECTANGULAR ALUMINUM TUBE MULLIONS
USING MULLION PROPERTIES ONLY**

THESE MULLIONS ARE RATED FOR LARGE MISSILE IMPACT
AND CAN BE USED WITH ALL LAWSON'S MIAMI-DADE
COUNTY APPROVED IMPACT AND NON-IMPACT PRODUCTS.

NOTES:

- REFER TO THE GENERAL NOTES ON SHEET 1 OF 10 FOR BUILDING CODE COMPLIANCE.
- MULLIONS MAY BE ORIENTED VERTICALLY OR HORIZONTALLY.
- REFER TO SHEET 1 OF 10 FOR TYPICAL MULLION ARRANGEMENTS OR STACK CONFIGURATIONS.

**LAWSON
INDUSTRIES, INC.**

8501 N.W. 90 ST.
MEDLEY, FLORIDA 33166
PH No. (305) 696-8660

MANUFACTURER OF QUALITY ALUMINUM WINDOWS AND GLASS DOORS

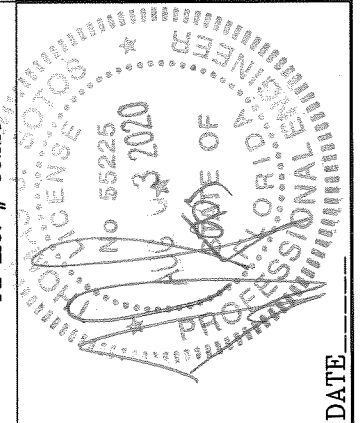
ALUMINUM TUBE MULLIONS

MULL & CLIPS CROSS SECTIONS, REINFORCEMENTS AND GENERAL NOTES

Product Reference Number: LAW-ML-1001 Drawing Number: 4 OF 10 Sheet: 4 OF 10 Revision #:

Revision Notes:	'A' - Revised date for the FBC-2010	Date Drawn:	04/27/10
	'B' - Revised date for the FBC-2014	Date Revised:	08/10/20
	C. Compliance w/ FBC 5th Edition (2014)	Scale:	F
	D. Compliance w/ FBC 6th Edition (2017)		
	E. DP Loads capped at 125psf		
	F. Compliance w/ FBC 7th Edition (2020)		

THOMAS J. SOTOS
PROFESSIONAL ENGINEER
FL LIC. # 55225



DATE

		STEEL REINFORCED TUBE MULLIONS								STEEL REINFORCED TUBE MULLIONS								STEEL REINFORCED TUBE MULLIONS						
Width (w)	MULL SPAN	1 X 3	1 X 4	2 X 4	2 X 6	Width (w)	MULL SPAN	1 X 3	1 X 4	2 X 4	2 X 6	Width (w)	MULL SPAN	1 X 3	1 X 4	2 X 4	2 X 6	Width (w)	MULL SPAN	1 X 3	1 X 4	2 X 4	2 X 6	
18	38- 3/8"	125.0	125.0	125.0	125.0	18	74-1/4"	125.0	125.0	125.0	125.0	18	120"	44.0	95.7	125.0	125.0	18	132"	33.1	71.9	116.8	125.0	
24		125.0	125.0	125.0	125.0	24		139.5	125.0	125.0	125.0	24		33.0	71.8	116.6	125.0	24		24.8	53.9	87.6	125.0	
30		125.0	125.0	125.0	125.0	30		111.6	125.0	125.0	125.0	30		19.9	43.1	70.1	125.0	30		16.5	35.9	58.4	125.0	
36		125.0	125.0	125.0	125.0	36		93.0	125.0	125.0	125.0	36		16.5	35.9	58.4	125.0	36		-	30.8	50.0	128.5	
42		125.0	125.0	125.0	125.0	42		79.7	125.0	125.0	125.0	42		-	27.0	43.8	112.5	42		-	27.0	43.8	112.5	
48		125.0	125.0	125.0	125.0	48		69.7	125.0	125.0	125.0	48		-	24.0	38.9	100.0	48		-	24.0	38.9	100.0	
54		125.0	125.0	125.0	125.0	54		62.0	134.6	125.0	125.0	54		-	21.6	35.0	90.0	54		-	19.6	31.8	81.8	
60		125.0	125.0	125.0	125.0	60		55.8	121.2	125.0	125.0	60		-	18.0	29.2	75.0	60		-	16.6	26.9	69.2	
66		125.0	125.0	125.0	125.0	66		50.7	110.1	125.0	125.0	66		-	-	15.1	24.5	63.0		66	-	15.1	24.5	63.0
72		125.0	125.0	125.0	125.0	72		46.5	101.0	125.0	125.0	72		-	-	-	22.5	57.8		72	-	-	22.5	57.8
78	125.0	125.0	125.0	125.0	78	42.9	93.2	125.0	125.0	78	-	-	-	20.8	53.3	78	-	-	20.8	53.3				
18	50-5/8"	125.0	125.0	125.0	125.0	18	84"	128.4	125.0	125.0	125.0	18	144"	25.5	55.4	89.9	125.0	18	150"	22.6	49.0	79.6	125.0	
24		125.0	125.0	125.0	125.0	24		96.3	125.0	125.0	125.0	24		19.1	41.5	67.5	125.0	24		16.9	36.7	59.7	125.0	
30		125.0	125.0	125.0	125.0	30		77.1	125.0	125.0	125.0	30		15.3	33.2	54.0	138.6	30		-	29.4	47.7	122.6	
36		125.0	125.0	125.0	125.0	36		64.2	139.5	125.0	125.0	36		-	27.7	45.0	115.5	36		-	24.5	39.8	102.2	
42		125.0	125.0	125.0	125.0	42		55.0	119.5	125.0	125.0	42		-	23.7	38.5	99.0	42		-	21.0	34.1	87.6	
48		125.0	125.0	125.0	125.0	48		48.2	104.6	125.0	125.0	48		-	20.8	33.7	86.6	48		-	18.4	29.8	76.6	
54		125.0	125.0	125.0	125.0	54		42.8	93.0	125.0	125.0	54		-	18.5	30.0	77.0	54		-	16.3	26.5	68.1	
60		125.0	125.0	125.0	125.0	60		38.5	83.7	135.9	125.0	60		-	-	16.6	27.0	69.3		60	-	-	23.9	61.3
66		147.7	125.0	125.0	125.0	66		35.0	76.1	123.6	125.0	66		-	-	15.1	24.5	63.0		66	-	-	21.7	55.7
72		135.3	125.0	125.0	125.0	72		32.1	69.7	113.3	125.0	72		-	-	-	22.5	57.8		72	-	-	19.9	51.1
78	124.9	125.0	125.0	125.0	78	29.6	64.4	104.6	125.0	78	-	-	-	20.8	53.3	78	-	-	18.4	47.2				
18	57"	125.0	125.0	125.0	125.0	18	96"	86.0	125.0	125.0	125.0	18	144"	25.5	55.4	89.9	125.0	18	150"	22.6	49.0	79.6	125.0	
24		125.0	125.0	125.0	125.0	24		64.5	140.1	125.0	125.0	24		19.1	41.5	67.5	125.0	24		16.9	36.7	59.7	125.0	
30		125.0	125.0	125.0	125.0	30		51.6	112.1	125.0	125.0	30		15.3	33.2	54.0	138.6	30		-	29.4	47.7	122.6	
36		125.0	125.0	125.0	125.0	36		43.0	93.4	125.0	125.0	36		-	27.7	45.0	115.5	36		-	24.5	39.8	102.2	
42		125.0	125.0	125.0	125.0	42		36.9	80.1	130.1	125.0	42		-	23.7	38.5	99.0	42		-	21.0	34.1	87.6	
48		125.0	125.0	125.0	125.0	48		32.3	70.1	113.8	125.0	48		-	20.8	33.7	86.6	48		-	18.4	29.8	76.6	
54		137.0	125.0	125.0	125.0	54		28.7	62.3	101.2	125.0	54		-	18.5	30.0	77.0	54		-	16.3	26.5	68.1	
60		123.3	125.0	125.0	125.0	60		25.8	56.1	91.1	125.0	60		-	-	16.6	27.0	69.3		60	-	-	23.9	61.3
66		112.1	125.0	125.0	125.0	66		23.5	51.0	82.8	125.0	66		-	-	15.1	24.5	63.0		66	-	-	21.7	55.7
72		102.8	125.0	125.0	125.0	72		21.5	46.7	75.9	125.0	72		-	-	-	22.5	57.8		72	-	-	19.9	51.1
78	94.8	125.0	125.0	125.0	78	19.9	43.1	70.0	125.0	78	-	-	-	20.8	53.3	78	-	-	18.4	47.2				
18	63"	125.0	125.0	125.0	125.0	18	108"	60.4	131.2	125.0	125.0	18	150"	22.6	49.0	79.6	125.0	18	150"	22.6	49.0	79.6	125.0	
24		125.0	125.0	125.0	125.0	24		45.3	98.4	125.0	125.0	24		16.9	36.7	59.7	125.0	24		16.9	36.7	59.7	125.0	
30		125.0	125.0	125.0	125.0	30		36.3	78.7	127.9	125.0	30		-	29.4	47.7	122.6	30		-	29.4	47.7	122.6	
36		125.0	125.0	125.0	125.0	36		30.2	65.6	106.6	125.0	36		-	24.5	39.8	102.2	36		-	24.5	39.8	102.2	
42		130.5	125.0	125.0	125.0	42		25.9	56.2	91.4	125.0	42		-	21.0	34.1	87.6	42		-	21.0	34.1	87.6	
48		114.2	125.0	125.0	125.0	48		22.7	49.2	79.9	125.0	48		-	18.4	29.8	76.6	48		-	18.4	29.8	76.6	
54		101.5	125.0	125.0	125.0	54		20.1	43.7	71.1	125.0	54		-	16.3	26.5	68.1	54		-	16.3	26.5	68.1	
60		91.3	125.0	125.0	125.0	60		18.1	39.4	64.0	125.0	60		-	-	23.9	61.3	60		-	-	23.9	61.3	
66		83.0	125.0	125.0	125.0	66		16.5	35.8	58.1	147.0	66		-	-	21.7	55.7	66		-	-	21.7	55.7	
72		76.1	142.4	125.0	125.0	72		15.1	32.8	53.3	134.8	72		-	-	19.9	51.1	72		-	-	19.9	51.1	
78	70.2	131.4	125.0	125.0	78	-	30.3	49.2	124.4	78	-	-	18.4	47.2	78	-	-	18.4	47.2					

LAWSON INDUSTRIES, INC.

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MEDLEY, FLORIDA 33166
PH No. (305) 696-8660

MANUFACTURER OF QUALITY ALUMINUM WINDOWS AND GLASS DOORS

ALUMINUM TUBE MULLIONS

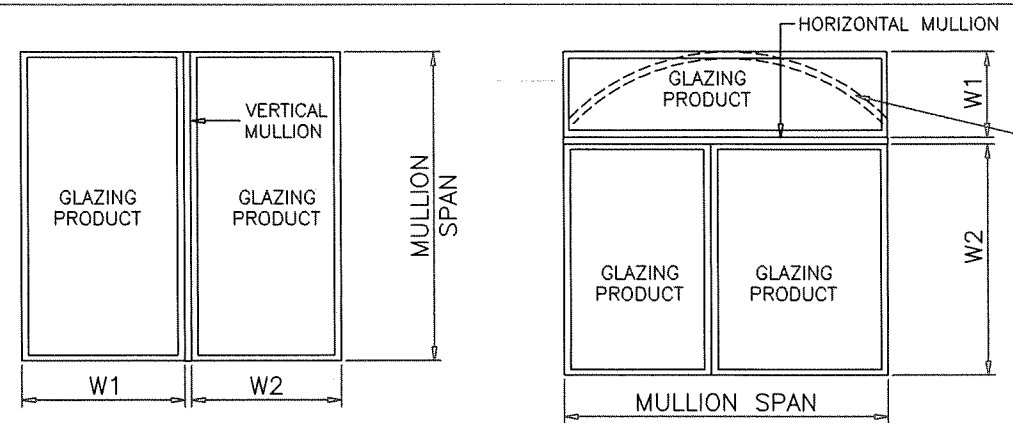
REINFORCED TUBE MULLIONS DESIGN PRESSURE CHARTS AND GENERAL NOTES

Product Reference Number: LAW-ML-1001

Sheet: 5 OF 10

Revision #:

Revision Notes:	Date Drawn:	Date Revised:	Scale:
'A' - Revised date for the FBC-2010	N. ERAZO	04/27/10	
'B' - Revised date for the FBC-2014	N. ERAZO	08/10/20	
C. Compliance w/ FBC 5th Edition (2014)			
D. Compliance w/ FBC 6th Edition (2017)			
E. DP Loads capped at 125psf			
F. Compliance w/ FBC 7th Edition (2020)			



TYPICAL MULLION ARRANGEMENTS

NOTE:
MULLIONS RATED IN THESE CHARTS MAY BE ORIENTED VERTICALLY OR HORIZONTALLY.
(INTERPOLATION BETWEEN WIDTHS ALLOWED)

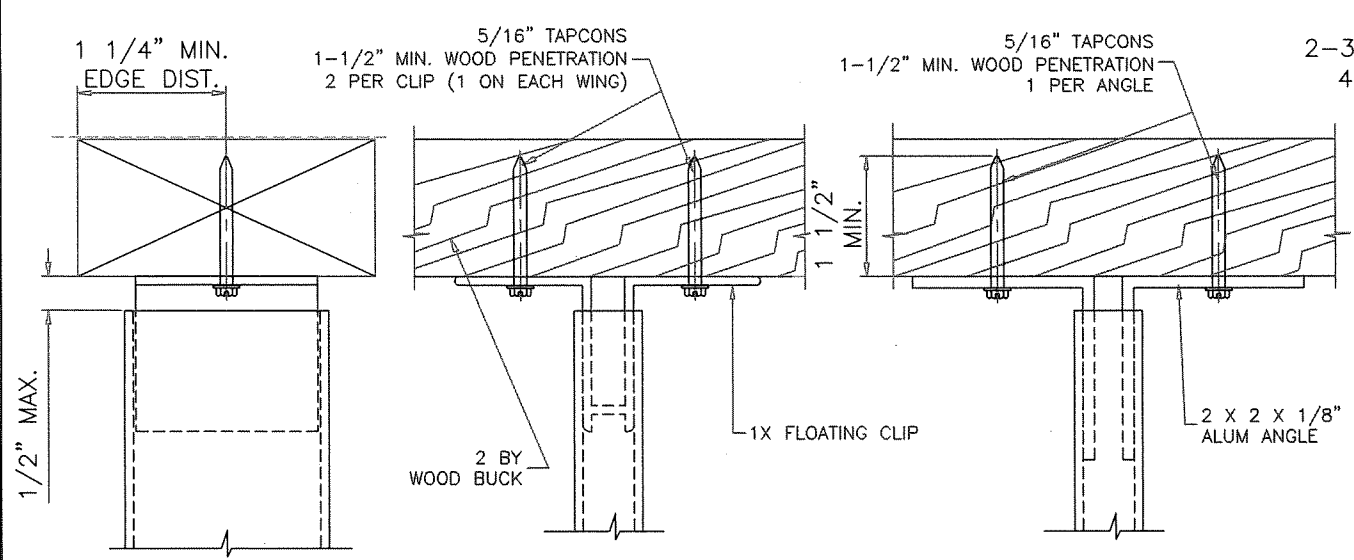
$$WIDTH (W) = \frac{W1 + W2}{2}$$

PRODUCT RENEWED
as complying with the Florida Building Code
NOA-No. **23-0404.01**
Expiration Date: **05/30/2028**
By: *Manuel Perez*
Miami-Dade Product Control

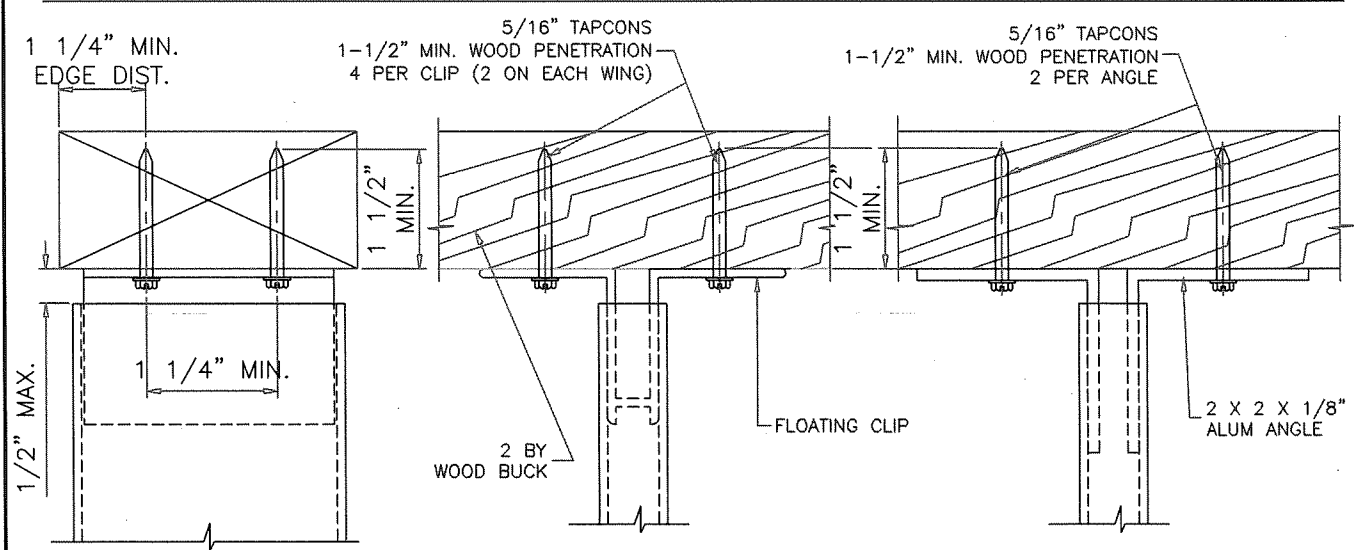
PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. **20-0814.10**
Expiration Date: **05/30/2023**
By: *Manuel Perez*
Miami-Dade Product Control

THOMAS J. SOTOS
PROFESSIONAL ENGINEER
FL LIC. # 55225

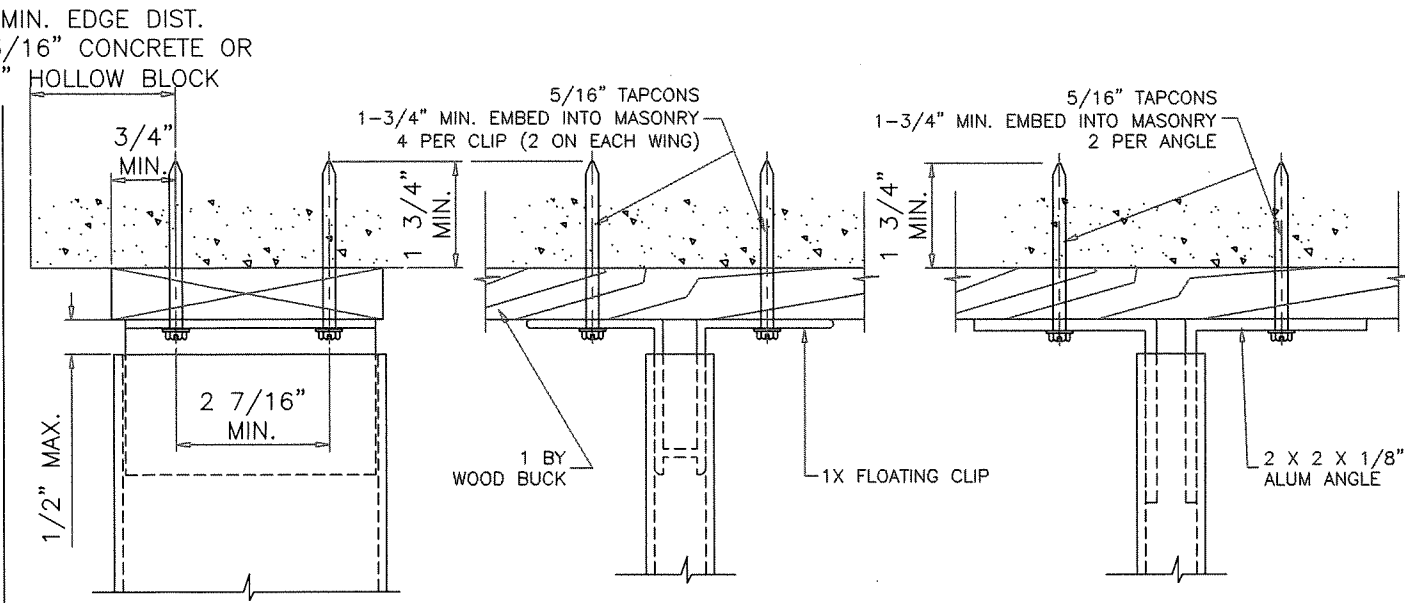
DATE



ANCHORS TYPE 'A'
2 ANCHORS INTO WOOD



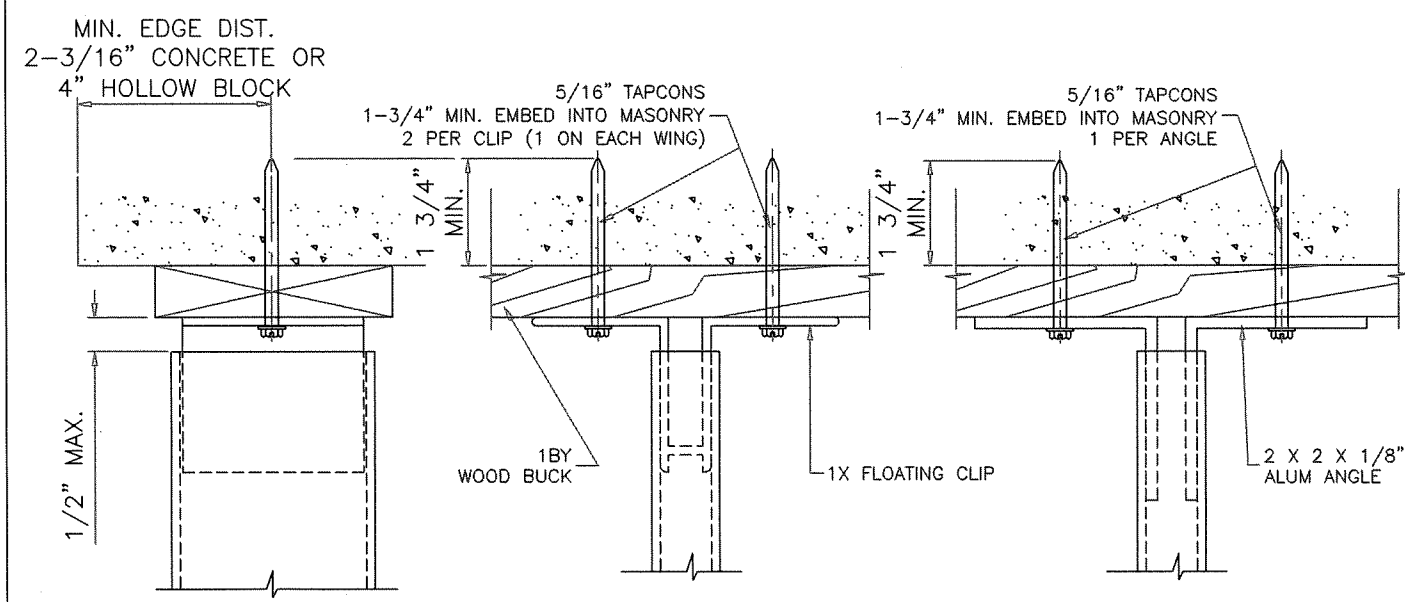
ANCHORS TYPE 'B'
4 ANCHORS INTO WOOD



ANCHORS TYPE 'D' (INTO BLOCK)
ANCHORS TYPE 'G' (INTO CONCRETE)

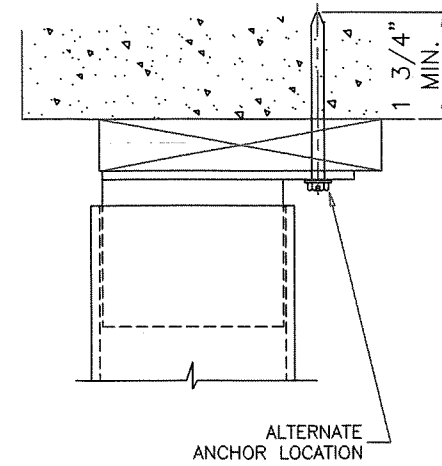
ALL CLIPS AND ANGLES TO FIT SNUG INTO TUBE MULLIONS. TAPCONS MAY BE HEX OR FLAT HEAD.

4 ANCHORS THRU 1X BUCK INTO CONCRETE OR BLOCK
1"x4" & 2"x4" MULL



ANCHORS TYPE 'C' (INTO BLOCK)
ANCHORS TYPE 'F' (INTO CONCRETE)

2 ANCHORS THRU 1X BUCK INTO CONCRETE OR BLOCK



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Miami-Dade Product Control

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PH No. (305) 696-8660

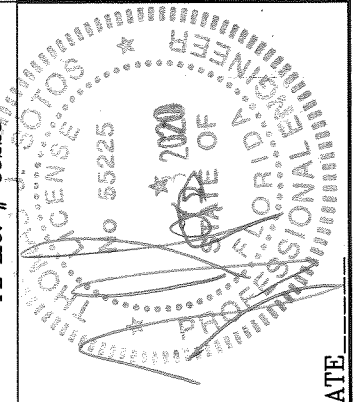
MANUFACTURER OF QUALITY ALUMINUM WINDOWS AND GLASS DOORS

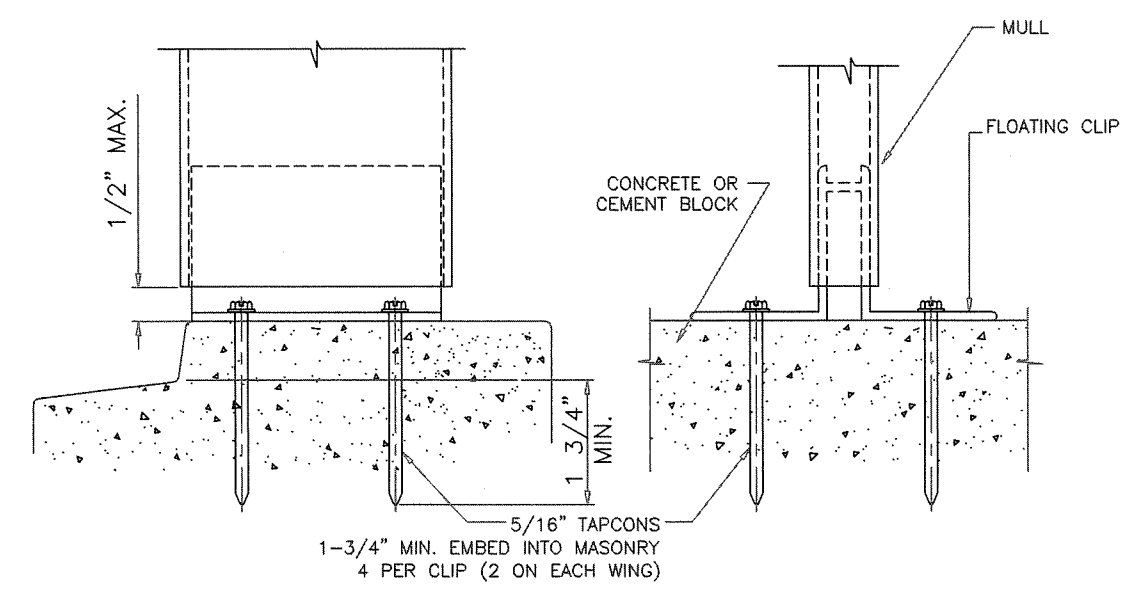
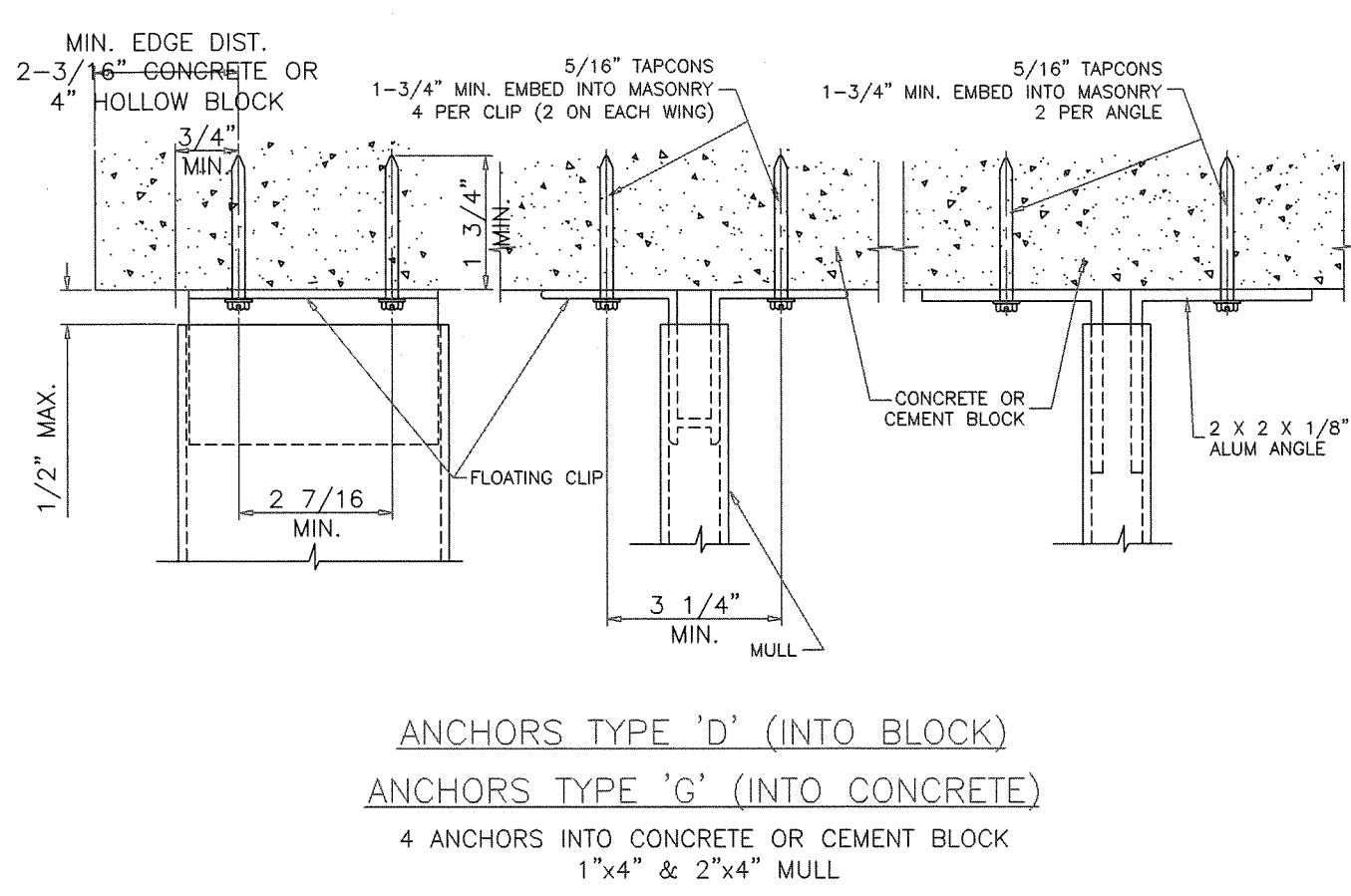
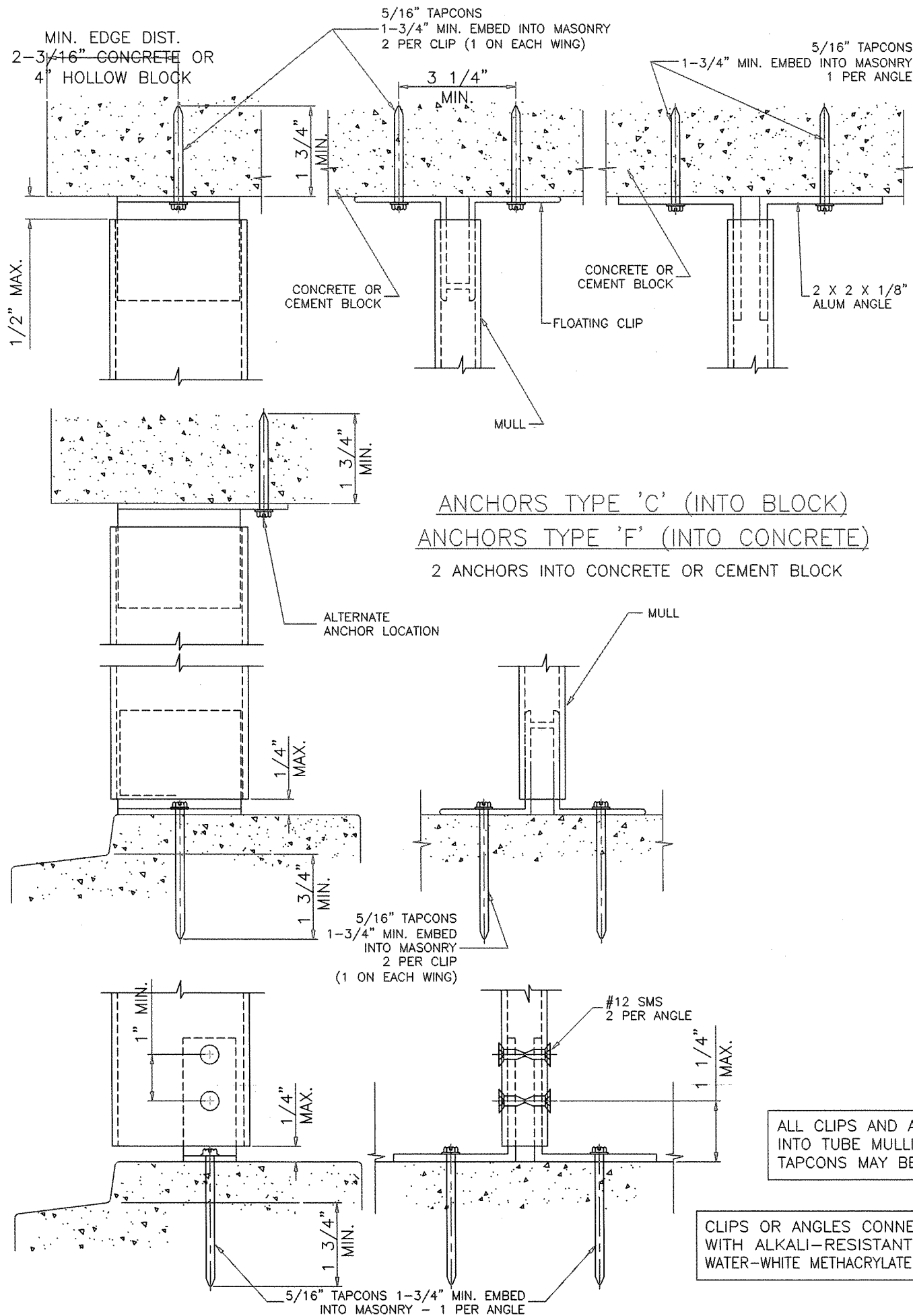
ALUMINUM TUBE MULLIONS

ANCHOR/CLIP TYPES, INSTALLATION DETAILS, AND GENERAL NOTES

Revision Notes:	'A' - Revised date for the FBC-2010
	'B' - Revised date for the FBC-2014
	C. Compliance w/ FBC 5th Edition (2014)
	D. Compliance w/ FBC 6th Edition (2017)
	E. DP Loads capped at 125psf
	F. Compliance w/ FBC 7th Edition (2020)
Drawn By:	N. ERAZO
Revised By:	N. ERAZO
Revision Level:	F
Date Drawn:	04/27/10
Date Revised:	08/10/20
Scale:	

THOMAS J. SOTOS
PROFESSIONAL ENGINEER
FL LIC. # 55225





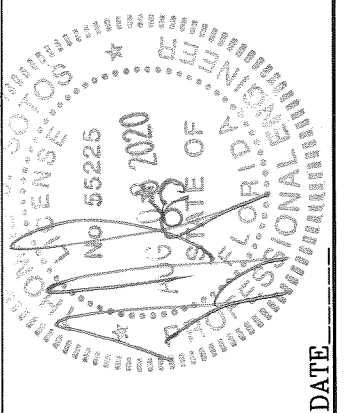
ALL CLIPS AND ANGLES TO FIT SNUG INTO TUBE MULLIONS. TAPCONS MAY BE HEX OR FLAT HEAD.

CLIPS OR ANGLES CONNECTED DIRECTLY TO MASONRY TO BE PROTECTED WITH ALKALI-RESISTANT COATINGS, SUCH AS BITUMINOUS PAINT OR WATER-WHITE METHACRYLATE LACQUER.

PRODUCT RENEWED
as complying with the Florida Building Code
NOA-No. **23-0404.01**
Expiration Date: **05/30/2028**
By: *Manuel Perez*
Miami-Dade Product Control

PRODUCT REVISED
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Expiration Date: **05/30/2023**
By: *Manuel Perez*
Miami-Dade Product Control

THOMAS J. SOTOS
PROFESSIONAL ENGINEER
FL LIC. # 55225



Revised date for the FBC-2010	'A' - Revised date for the FBC-2010
Revised date for the FBC-2014	'B' - Revised date for the FBC-2014
Compliance w/ FBC 5th Edition (2014)	C. Compliance w/ FBC 5th Edition (2014)
Compliance w/ FBC 6th Edition (2017)	D. Compliance w/ FBC 6th Edition (2017)
DP Loads capped at 125psf	E. DP Loads capped at 125psf
Compliance w/ FBC 7th Edition (2020)	F. Compliance w/ FBC 7th Edition (2020)
Date Drawn:	N. ERAZO 04/27/10
Date Revised:	N. ERAZO 08/10/20
Scale:	F

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MEDLEY, FLORIDA 33166
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MANUFACTURER OF QUALITY ALUMINUM WINDOWS AND GLASS DOORS

ALUMINUM TUBE MULLIONS

ANCHOR/CLIP TYPES, INSTALLATION DETAILS, AND GENERAL NOTES

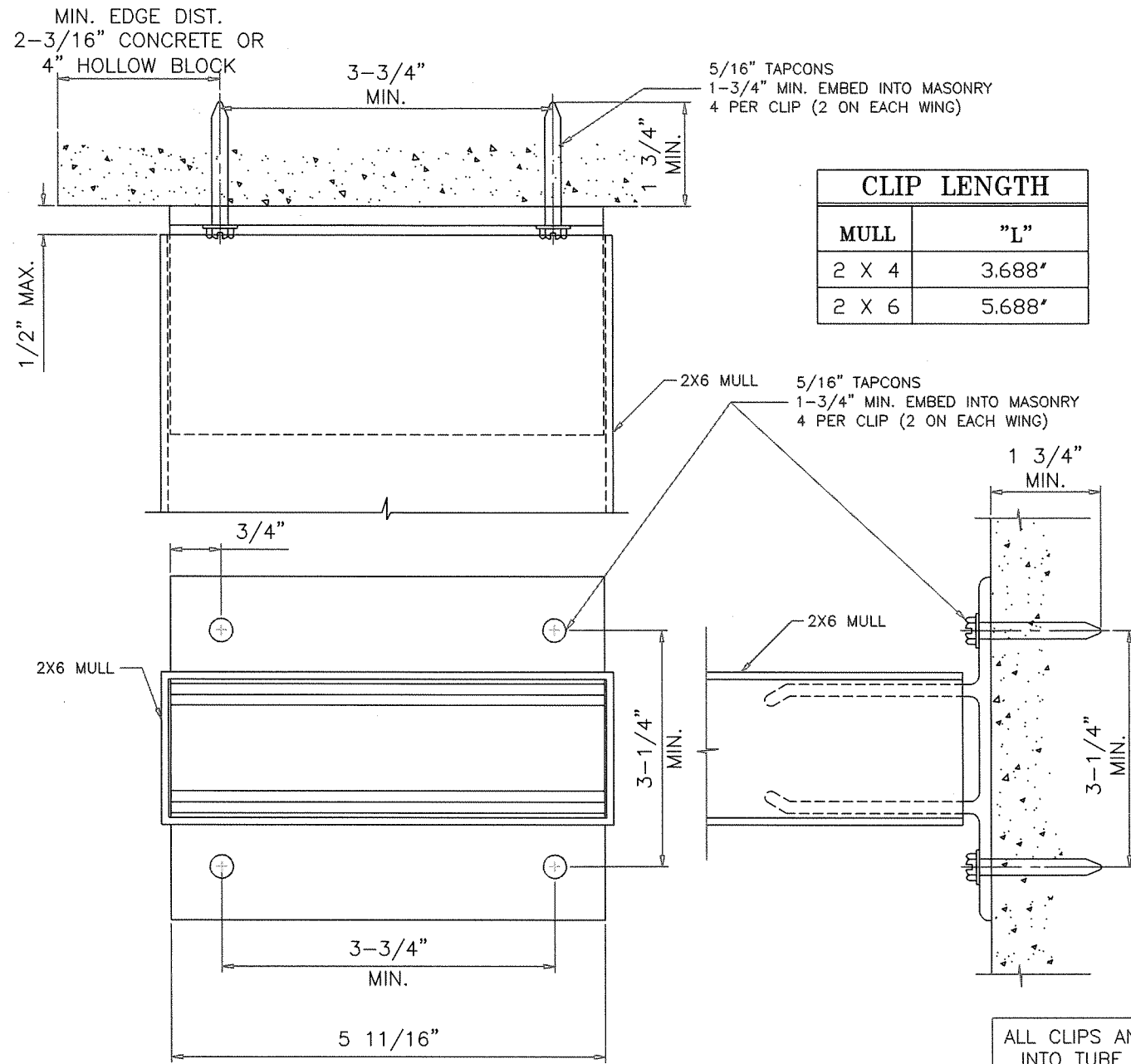
Product Reference Number: LAW-ML-1001

Drawing Number: LAW-ML-1001

Sheet: 7 OF 10

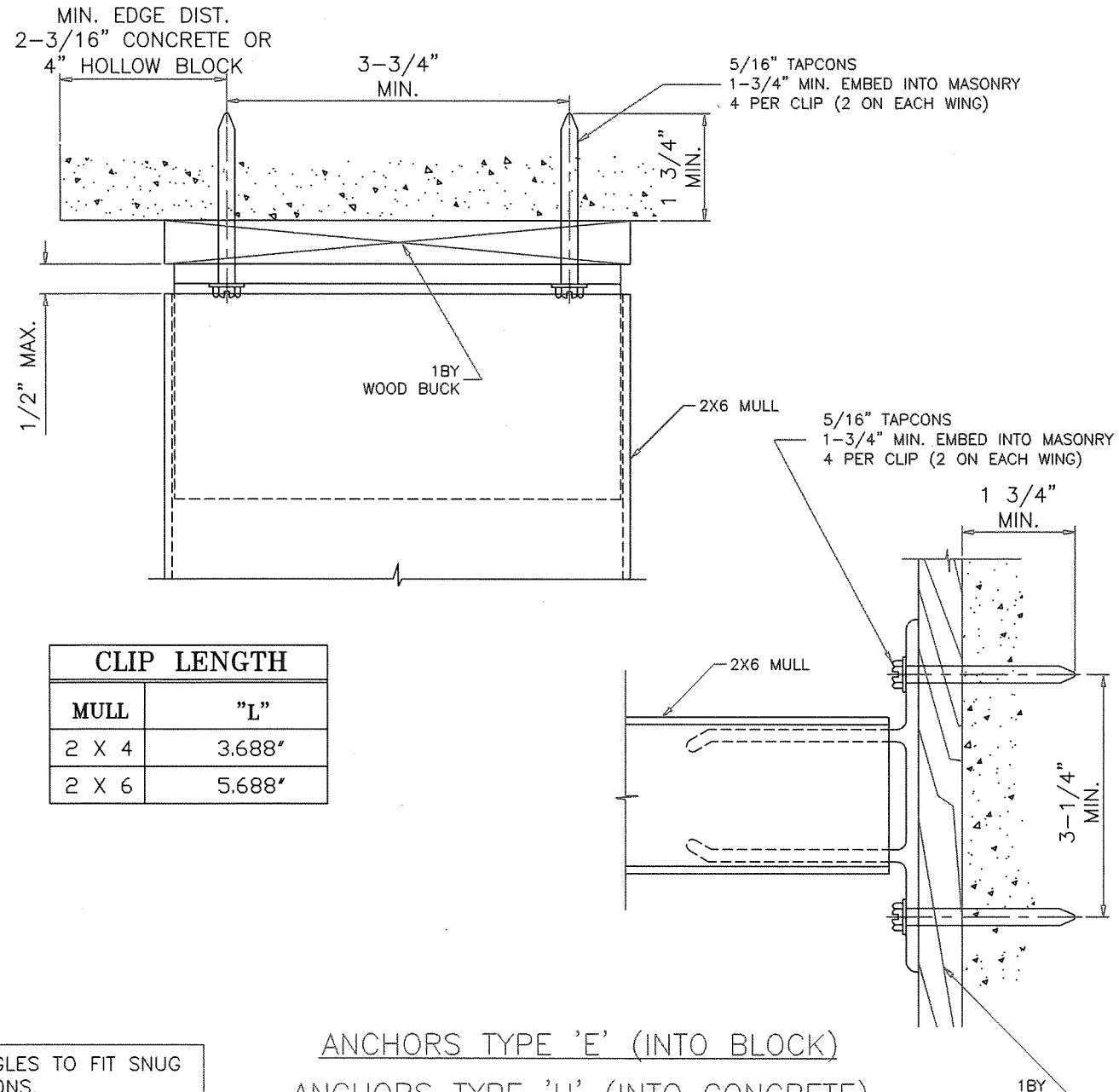
Revision #:

DATE



ANCHORS TYPE 'E' (INTO BLOCK)
ANCHORS INTO CONCRETE or BLOCK
2"x6" MULL SHOWN

CLIPS OR ANGLES CONNECTED DIRECTLY TO MASONRY TO BE PROTECTED WITH ALKALI-RESISTANT COATINGS, SUCH AS BITUMINOUS PAINT OR WATER-WHITE METHACRYLATE LACQUER.



ANCHORS TYPE 'E' (INTO BLOCK)
ANCHORS TYPE 'H' (INTO CONCRETE)

4 ANCHORS THRU 1X BUCK INTO CONCRETE OR BLOCK
2"x6" MULL SHOWN

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LAWSON
INDUSTRIES, INC.

MANUFACTURER OF QUALITY ALUMINUM WINDOWS AND GLASS DOORS

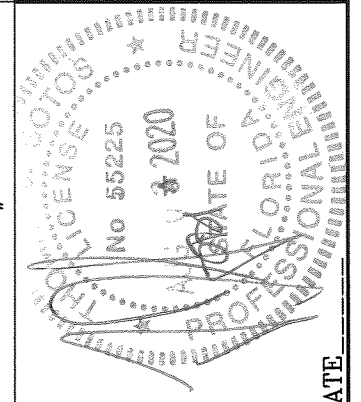
ALUMINUM TUBE MULLIONS

ANCHOR/CLIP TYPES, INSTALLATION DETAILS, AND GENERAL NOTES

Product Reference Number: LAW-ML-1001 Sheet: 8 OF 10 Revision #: 8

Revision Notes:	
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'B' - Revised date for the FBC-2014	
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D. Compliance w/ FBC 6th Edition (2017)	
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F. Compliance w/ FBC 7th Edition (2020)	
Drawn By:	N. ERAZO
Date Drawn:	04/27/10
Revised By:	N. ERAZO
Date Revised:	08/10/20
Revision Level:	F
Scale:	F

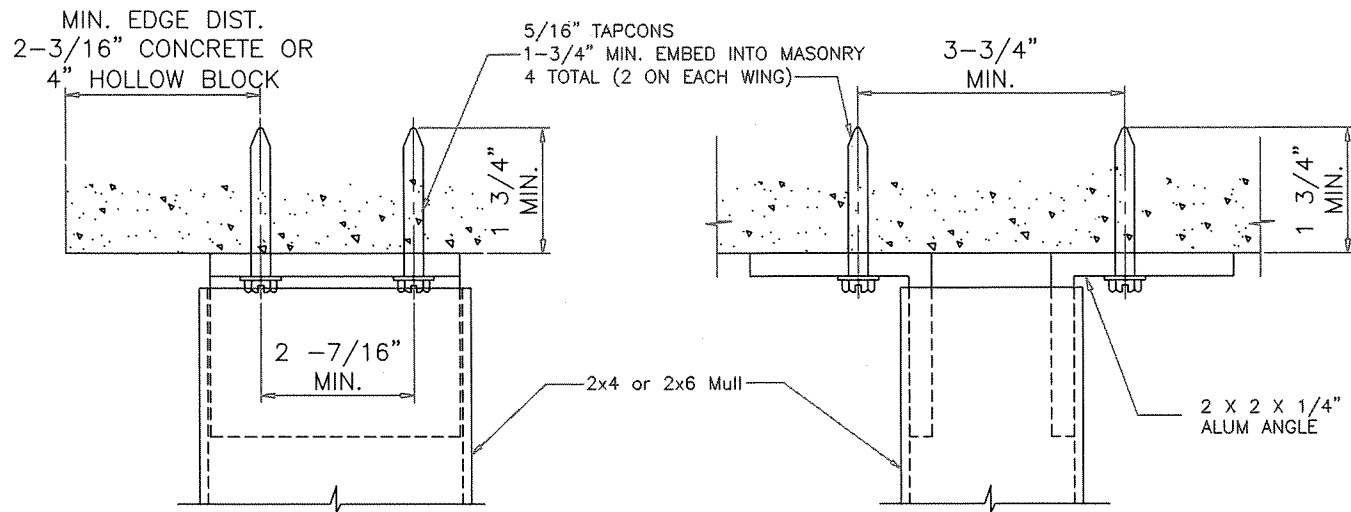
THOMAS J. SOTOS
PROFESSIONAL ENGINEER
FL LIC. # 55225



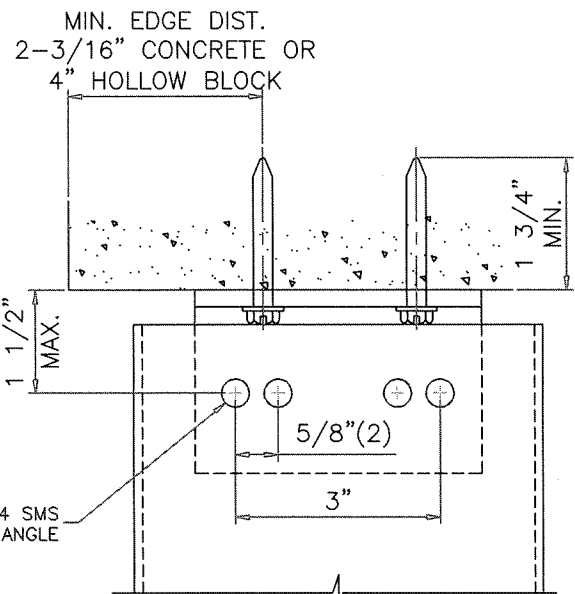
PRODUCT RENEWED
as complying with the Florida Building Code
NOA-No. **23-0404.01**
Expiration Date: **05/30/2028**
By: *Manuel Perez*
Miami-Dade Product Control

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. **20-0814.10**
Expiration Date: **05/30/2023**
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Miami-Dade Product Control

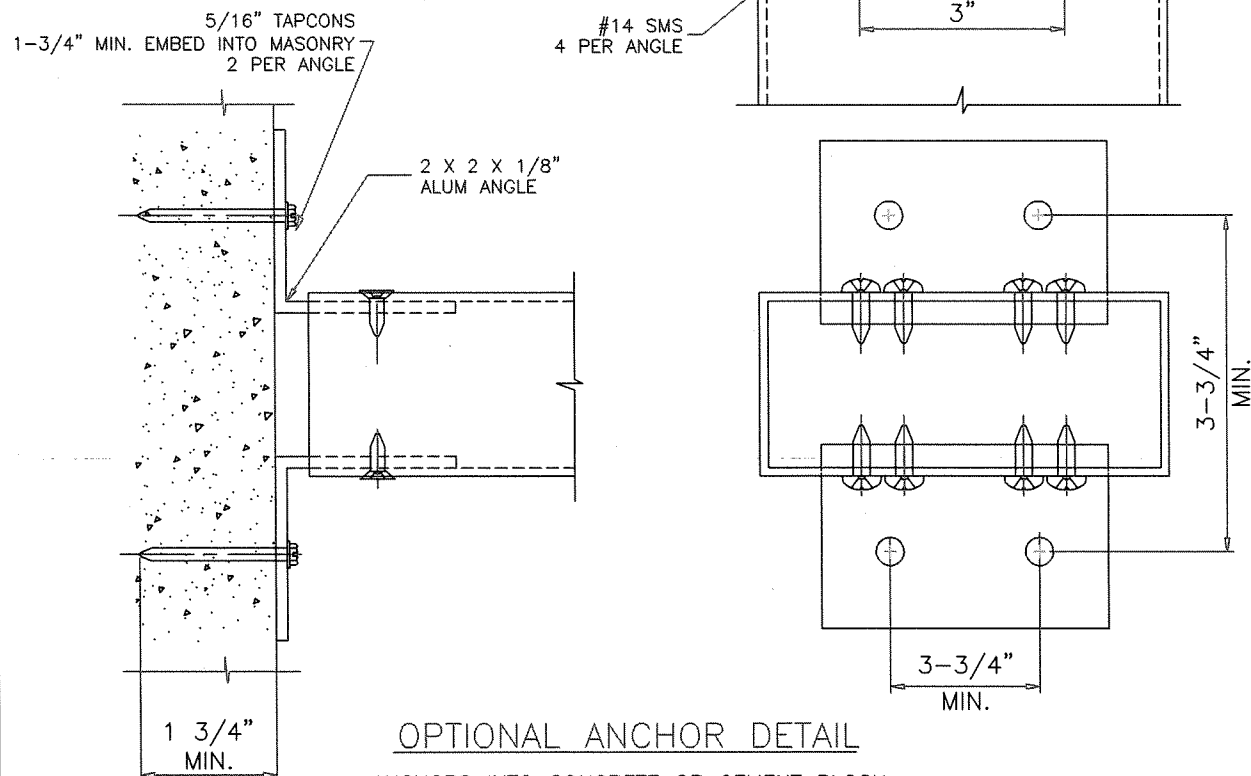
DATE



CLIPS OR ANGLES CONNECTED DIRECTLY TO MASONRY TO BE PROTECTED WITH ALKALI-RESISTANT COATINGS, SUCH AS BITUMINOUS PAINT OR WATER-WHITE METHACRYLATE LACQUER.



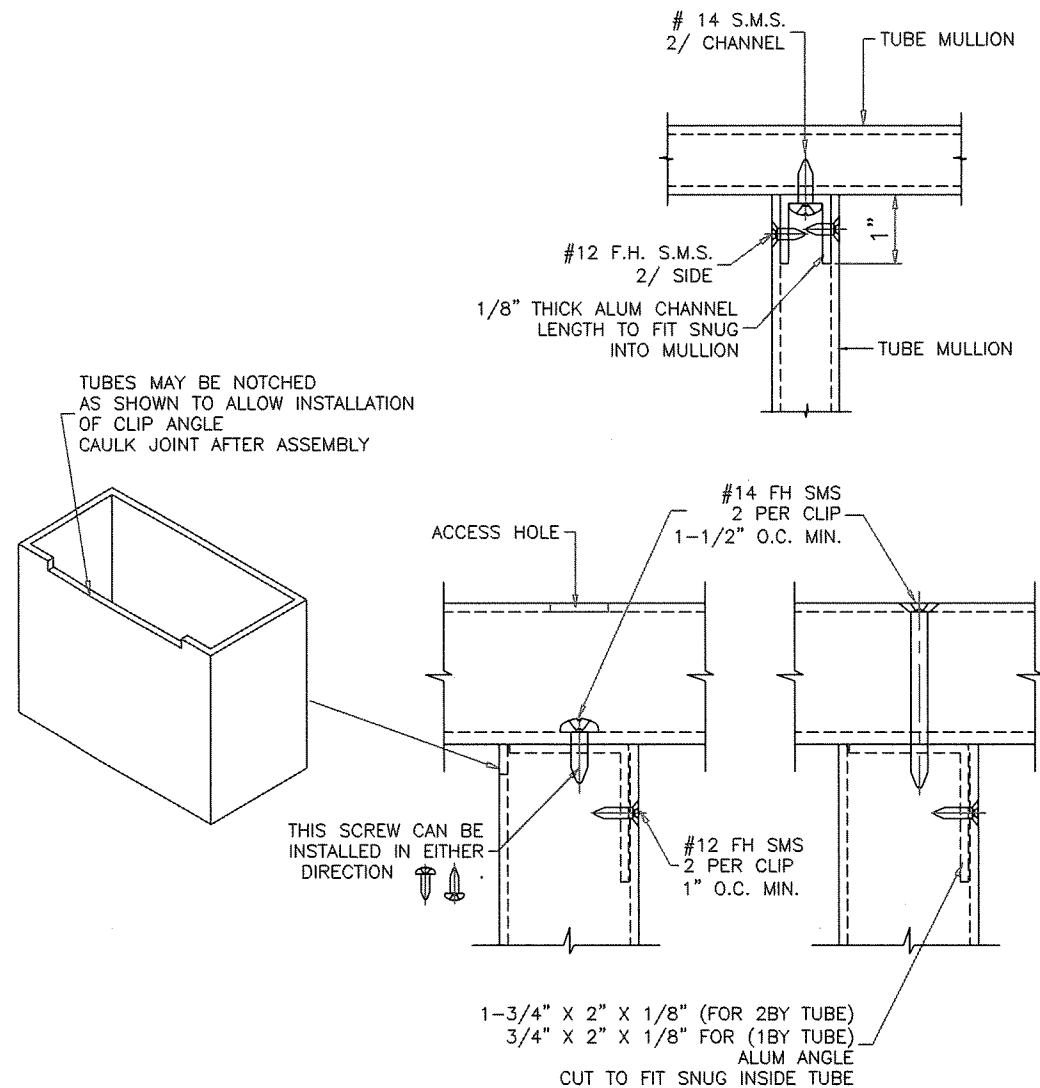
LOCATION OF SCREWS CONNECTING ANGLES TO TUBES WHERE ANGLES ARE NOT FIT SNUG INTO TUBE MULLIONS.



OPTIONAL ANCHOR DETAIL
ANCHORS INTO CONCRETE OR CEMENT BLOCK

MULL	"L"
1 X 2	1.688"
1 X 3	2.688"
1 X 4	3.688"
2 X 4	3.688"
2 X 6	5.688"

1. ALL CLIPS AND ANGLES ARE TO FIT SNUG INTO TUBE MULLIONS.
2. WHERE ANGLES ARE NOT FIT SNUG INTO TUBE MULLIONS, SEE OPTIONAL ANCHOR DETAIL AT SHEET 9 OF 10.



ANCHORS TYPE 'I'

METAL TO METAL CONNECTION
USE CHARTS FOR ANCHOR TYPE 'I' TO VERIFY CAPACITY OF CONNECTION

ALL CLIPS AND ANGLES TO FIT SNUG INTO TUBE MULLIONS.
TAPCONS MAY BE HEX OR FLAT HEAD.

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as complying with the Florida Building Code
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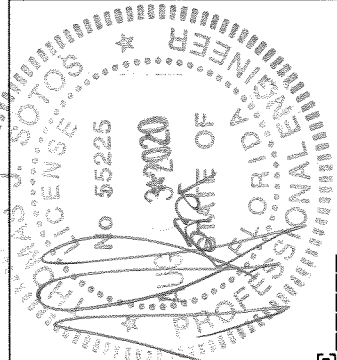
MANUFACTURER OF QUALITY ALUMINUM WINDOWS AND GLASS DOORS

ALUMINUM TUBE MULLIONS

ANCHOR/CLIP TYPES, INSTALLATION DETAILS, AND GENERAL NOTES

Revision Notes:	'A' - Revised date for the FBC-2010	Date Drawn:	04/27/10
	'B' - Revised date for the FBC-2014	Date Revised:	08/10/20
	C. Compliance w/ FBC 5th Edition (2014)	Scale:	F
	D. Compliance w/ FBC 6th Edition (2017)		
	E. DP Loads capped at 125psf		
	F. Compliance w/ FBC 7th Edition (2020)		
Drawn By:	N. ERAZO		
Revised By:	N. ERAZO		
Revision Level:	F		

THOMAS J. SOTOS
PROFESSIONAL ENGINEER
FL LIC. # 55225



DATE

		ANCHOR TYPES												ANCHOR TYPES												ANCHOR TYPES									
Width (w)	MULL SPAN	A	B	C	D	E	F	G	H	I	Width (w)	MULL SPAN	A	B	C	D	E	F	G	H	I	Width (w)	MULL SPAN	A	B	C	D	E	F	G	H	I			
18	38 3/8	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	18	74 1/4	90.72	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	18	120	56.13	112.27	129.07	125.00	125.00	144.27	125.00	125.00	125.00			
24		131.65	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	24		68.04	136.08	125.00	125.00	125.00	125.00	125.00	125.00	125.00	24		42.10	84.20	96.80	145.60	125.00	108.20	125.00	125.00	115.70			
30		105.32	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	30		54.43	108.86	125.16	125.00	125.00	139.89	125.00	125.00	149.59	30		33.68	67.36	77.44	116.48	125.00	86.56	130.24	125.00	92.56			
36		87.77	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	36		45.36	90.72	104.30	125.00	125.00	116.58	125.00	125.00	124.66	36		28.07	56.13	64.53	97.07	129.00	72.13	108.53	144.20	77.13			
42		75.23	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	42		38.88	77.76	89.40	134.46	125.00	99.92	125.00	125.00	106.85	42		24.06	48.11	55.31	83.20	110.57	61.83	93.03	123.60	66.11			
48		65.82	131.65	125.00	125.00	125.00	125.00	125.00	125.00	125.00	48		34.02	68.04	78.22	117.66	125.00	87.43	131.56	125.00	93.49	48		21.05	42.10	48.40	72.80	96.75	54.10	81.40	108.15	57.85			
54		58.51	117.02	134.53	125.00	125.00	125.00	125.00	125.00	125.00	54		30.24	60.48	69.53	104.58	138.99	77.72	116.94	125.00	83.11	54		18.71	37.42	43.02	64.71	86.00	48.09	72.36	96.13	51.42			
60		52.66	105.32	121.08	125.00	125.00	125.00	125.00	125.00	144.72	60		27.22	54.43	62.58	94.13	125.09	69.95	105.24	139.83	74.80	60		16.84	33.68	38.72	58.24	77.40	43.28	65.12	86.52	46.28			
66		47.87	95.74	110.07	125.00	125.00	125.00	125.00	125.00	131.56	66		24.74	49.48	56.89	85.57	113.72	63.59	95.68	127.12	68.00	66		15.31	30.62	35.20	52.95	70.36	39.35	59.20	78.65	42.07			
72		43.88	87.77	100.90	125.00	125.00	125.00	125.00	125.00	120.60	72		22.68	45.36	52.15	78.44	104.24	58.29	87.70	116.53	62.33	72		14.03	28.07	32.27	48.53	64.50	36.07	54.27	72.10	38.57			
78	40.51	81.01	93.14	140.09	125.00	104.11	125.00	125.00	111.32	78	20.94	41.87	48.14	72.40	96.22	53.81	80.96	107.56	57.54	78	12.95	25.91	29.78	44.80	59.54	33.29	50.09	66.55	35.60						
18	50 5/8	133.06	125.00	125.00	125.00	125.00	125.00	125.00	125.00	18	80.19	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	18	51.03	102.06	117.33	125.00	125.00	131.15	125.00	125.00	140.24						
24		99.79	125.00	125.00	125.00	125.00	125.00	125.00	125.00	24	60.14	120.29	138.29	125.00	125.00	125.00	125.00	125.00	125.00	24	38.27	76.55	88.00	132.36	125.00	98.36	148.00	125.00	105.18						
30		79.83	125.00	125.00	125.00	125.00	125.00	125.00	125.00	30	48.11	96.23	110.63	125.00	125.00	123.66	125.00	125.00	132.23	30	30.62	61.24	70.40	105.89	140.73	78.69	118.40	125.00	84.15						
36		66.53	133.06	125.00	125.00	125.00	125.00	125.00	125.00	36	40.10	80.19	92.19	138.67	125.00	103.05	125.00	125.00	110.19	36	25.52	51.03	58.67	88.24	117.27	65.58	98.67	131.09	70.12						
42		57.02	114.05	131.12	125.00	125.00	146.56	125.00	125.00	42	34.37	68.73	79.02	118.86	125.00	88.33	132.90	125.00	94.45	42	21.87	43.74	50.29	75.64	100.52	56.21	84.57	112.36	60.10						
48		49.90	99.79	114.73	125.00	125.00	128.24	125.00	125.00	48	30.07	60.14	69.14	104.00	138.21	77.29	116.29	125.00	82.64	48	19.14	38.27	44.00	66.18	87.95	49.18	74.00	98.32	52.59						
54		44.35	88.70	101.98	125.00	125.00	113.99	125.00	125.00	54	26.73	53.46	61.46	92.44	122.86	68.70	103.37	137.33	73.46	54	17.01	34.02	39.11	58.83	78.18	43.72	65.78	87.39	46.75						
60		39.92	79.83	91.78	138.05	125.00	102.59	125.00	125.00	60	24.06	48.11	55.31	83.20	110.57	61.83	93.03	123.60	66.11	60	15.31	30.62	35.20	52.95	70.36	39.35	59.20	78.65	42.07						
66		36.29	72.58	83.44	125.50	125.00	93.26	140.33	125.00	66	21.87	43.74	50.29	75.64	100.52	56.21	84.57	112.36	60.10	66	13.92	27.83	32.00	48.13	63.97	35.77	53.82	71.50	38.25						
72		33.26	66.53	76.48	115.04	125.00	85.49	128.63	125.00	72	20.05	40.10	46.10	69.33	92.14	51.52	77.52	103.00	55.10	72	12.76	25.52	29.33	44.12	58.64	32.79	49.33	65.55	35.06						
78	30.71	61.41	70.60	106.19	141.13	78.92	118.74	125.00	78	18.51	37.01	42.55	64.00	85.05	47.56	71.56	95.08	50.86	78	11.78	23.55	27.08	40.73	54.13	30.27	45.54	60.50	32.36							
18	57	118.18	125.00	125.00	125.00	125.00	125.00	125.00	125.00	18	70.17	140.33	125.00	125.00	125.00	125.00	125.00	125.00	125.00	18	46.78	93.56	107.56	125.00	125.00	120.22	125.00	125.00	128.56						
24		88.63	125.00	125.00	125.00	125.00	125.00	125.00	125.00	24	52.63	105.25	121.00	125.00	125.00	135.25	125.00	125.00	144.63	24	35.08	70.17	80.67	121.33	125.00	90.17	135.67	125.00	96.42						
30		70.91	141.81	125.00	125.00	125.00	125.00	125.00	125.00	30	42.10	84.20	96.80	145.60	125.00	108.20	125.00	125.00	115.70	30	28.07	56.13	64.53	97.07	129.00	72.13	108.53	144.20	77.13						
36		59.09	118.18	135.86	125.00	125.00	125.00	125.00	125.00	36	35.08	70.17	80.67	121.33	125.00	90.17	135.67	125.00	96.42	36	23.39	46.78	53.78	80.89	107.50	60.11	90.44	120.17	64.28						
42		50.65	101.29	116.45	125.00	125.00	130.17	125.00	125.00	42	30.07	60.14	69.14	104.00	138.21	77.29	116.29	125.00	82.64	42	20.05	40.10	46.10	69.33	92.14	51.52	77.52	103.00	55.10						
48		44.32	88.63	101.89	125.00	125.00	113.89	125.00	125.00	48	26.31	52.63	60.50	91.00	120.94	67.63	101.75	135.19	72.31	48	17.54	35.08	40.33	60.67	80.63	45.08	67.83	90.13	48.21						
54		39.39	78.78	90.57	136.23	125.00	101.24	125.00	125.00	54	23.39	46.78	53.78	80.89	107.50	60.11	90.44	120.17	64.28	54	15.59	31.19	35.85	53.93	71.67	40.07	60.30	80.11	42.85						
60		35.45	70.91	81.52	122.61	125.00	91.12	137.09	125.00	60	21.05	42.10	48.40	72.80	96.75	54.10	81.40	108.15	57.85	60	14.03	28.07	32.27	48.53	64.50	36.07	54.27	72.10	38.57						
66		32.23	64.46	74.11	111.46	148.13	82.83	124.63	125.00	66	19.14	38.27	44.00	66.18	87.95	49.18	74.00	98.32	52.59	66	12.76	25.52	29.33	44.12	58.64	32.79	49.33	65.55	35.06						
72		29.54	59.09	67.93	102.18	135.79	75.93	114.25	125.00	72	17.54	35.08	40.33	60.67	80.63	45.08	67.83	90.13	48.21	72	11.69	23.39	26.89	40.44	53.75	30.06	45.22	60.08	32.14						
78	27.27	54.54	62.70	94.32	125.34	70.09	105.46	140.11	78	16.19	32.38	37.23	56.00	74.42	41.62	62.62	83.19	44.50	78	10.79	21.59	24.82	37.33	49.62	27.74	41.74	55.46	29.67							
18	63	106.92	125.00	125.00	125.00	125.00	125.00	125.00	125.00	18	62.37	124.74	143.41	125.00	125.00	125.00	125.00	125.00	125.00	18	44.91	89.81	103.25	125.00	125.00	115.41	173.65	125.00	123.41						
24		80.19	125.00	125.00	125.00	125.00	125.00	125.00	125.00	24	46.78	93.56	107.56	125.00	125.00	120.22	125.00	125.00	128.56	24	33.68	67.36	77.44	116.48	125.00	86.56	130.24	125.00	92.56						
30		64.15	128.30	147.50	125.00	125.00	125.00	125.00	125.00	30	37.42	74.84	86.04	129.42	125.00	96.18	144.71	125.00	102.84	30	26.94	53.89	61.95	93.18	123.84	69.25	104.19	138.43	74.05						
36		53.46	106.92	122.92	125.00	125.00	137.40	125.00	125.00	36	31.19	62.37	71.70	107.85	143.33	80.15	120.59	125.00	85.70	36	22.45	44.91	51.63	77.65	103.20	57.71	86.83	115.36	61.71						
42		45.82	91.65	105.36	125.00	125.00	117.77	125.00	125.00	42	26.73	53.46	61.46	92.44	122.86	68.70	103.37	137.33	73.46	42	19.25	38.49	44.25	66.56	88.46	49.46	74.42	98.88	52.89						
48		40.10	80.19	92.19	138.67	125.00	103.05	125.00	125.00	48	23.39	46.78	53.78	80.89	107.50	60.11	90.44	120.17	64.28	48	16.84	33.68	38.72	58.24	77.40	43.28	65.12	86.52	46.28						
54		35.64	71.28	81.95</																															