



MIAMI-DADE COUNTY, FLORIDA  
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](http://www.miamidade.gov/building)

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

**NOTICE OF ACCEPTANCE (NOA)**

**Eco Window Systems, LLC**

**8502 NW 80<sup>th</sup> 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: Series "ECO-Guard" Clipped Aluminum Tube Mullion – L.M.I.**

**APPROVAL DOCUMENT:** Drawing No. **M14-01 Rev B**, titled "Aluminum Tube Mullions", sheets 1 through 9 of 9, dated 05/19/14 and last revised on 01/08/21, prepared by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P. E., bearing the Miami-Dade County Product Control Revision 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 **revises NOA No. 19-0405.09** and consists of this page 1 and evidence pages E-1, E-2 and E-3, as well as approval document mentioned above.

The submitted documentation was reviewed by **Ishaq I. Chanda, P.E.**

**NOA No. 21-0122.04**

**Expiration Date: October 23, 2024**

**Approval Date: March 18, 2021**

**Page 1**



*Ishaq I. Chanda*

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**1. EVIDENCE SUBMITTED UNDER PREVIOUS NOA's**

**A. DRAWINGS**

1. Manufacturer's die drawings and sections.  
*(Submitted under NOA# 14-0529.16)*
2. Drawing No. **M14-01**, titled "Aluminum Tube Mullions", sheets 1 through 9 of 9, dated 05/19/14, with revision **A** dated 11/15/17, prepared by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P.E.

**B. TESTS**

1. Test reports on: 1) Air Infiltration Test, per PA 202-94  
2) Uniform Static Air Pressure Test, Loading per PA 202-94  
3) Water Resistance Test, per PA 202-94  
along with marked-up drawings and installation diagram of a clipped aluminum mullion at fixed windows, prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-08-2192A**, dated 01/15/09, signed and sealed by Candido F. Font, P.E.  
*(Submitted under NOA# 14-0529.16)*
2. Test reports on: 1) Large Missile Impact Test per PA 201-94  
2) Cyclic Wind Pressure Loading per PA 203-94  
along with marked-up drawings and installation diagram of a clipped aluminum mullion at a fixed window/ a single hung window, prepared by Hurricane Engineering & Testing, Inc., Test Reports No. **HETI-08-2192B** and **HETI-08-2166C**, both dated 01/15/09, signed and sealed by Candido F. Font, P.E.  
*(Submitted under NOA# 14-0529.16)*
3. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94  
2) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94  
3) Water Resistance Test, per FBC, TAS 202-94  
4) Forced Entry Test, per FBC 2411.3.2.1, and TAS 202-94  
along with marked-up drawings and installation diagram of a clipped aluminum mullion at a fixed window/ a single hung window, prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-08-2166A**, dated 01/15/09, signed and sealed by Candido F. Font, P.E.  
*(Submitted under NOA# 14-0529.16)*

**C. CALCULATIONS**

1. Structural analysis, complying with **FBC 6<sup>th</sup> Edition (2017)**, prepared by Al-Farooq Corporation, dated 11/30/17, signed and sealed by Javad Ahmad, P. E.
2. Glazing complies with **ASTM E1300-04**.

*Ishaq I. Chanda*

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**Ishaq I. Chanda, P.E.**  
**Product Control Unit Supervisor**  
**NOA No. 21-0122.04**  
**Expiration Date: October 23, 2024**  
**Approval Date: March 18, 2021**

**Eco Window Systems, LLC**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**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 to **FBC 6<sup>th</sup> Edition (2017)** and of no financial interest, issued by Al-Farooq Corporation, dated November 14, 2017, signed and sealed by Javad Ahmad, P.E.  
*(Submitted under NOA# 17-1218.14)*
2. Department of State Certification of **Eco Window Systems, LLC** as a limited liability company, active and organized under the laws of the State of Florida, dated 03/21/13 and signed by Kurt S. Browning, Secretary of State.  
*(Submitted under NOA# 14-0529.16)*
3. Laboratory compliance letter for Test Reports No. **HETI-08-2192A, HETI-08-2192B, HETI-08-2166A and HETI-08-2166C**, all issued by Hurricane Engineering & Testing, Inc., dated 01/15/09, signed and sealed by Candido F. Font, P.E.  
*(Submitted under NOA# 14-0529.16)*
4. Proposal No. **08-0236** issued by the Product Control, dated 06/04/08, signed by Manuel Perez, P.E.  
*(Submitted under NOA# 14-0529.16)*

**G. OTHERS**

1. Notice of Acceptance No. **14-0529.16**, issued to Eco Window Systems, LLC for their Series "ECO-Guard Clipped" Aluminum Tube Mullion - L.M.I., approved on 10/23/14 and expiring on 10/23/19.

**2. EVIDENCE SUBMITTED under previous submittal**

**A. DRAWINGS**

1. None.

**B. TESTS**

1. None.

**C. CALCULATIONS**

1. None.

*Ishaq I. Chanda*

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**Ishaq I. Chanda, P.E.**  
**Product Control Unit Supervisor**  
**NOA No. 21-0122.04**  
**Expiration Date: October 23, 2024**  
**Approval Date: March 18, 2021**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**3. EVIDENCE SUBMITTED under previous submittal (conti:)**

**D. QUALITY ASSURANCE**

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

**E. MATERIAL CERTIFICATIONS**

1. None

**F. STATEMENTS**

1. Statement letter verifying conformance to **FBC 6<sup>th</sup> Edition (2017)**, issued by Al-Farooq Corporation, dated March 21, 2019, signed and sealed by Javad Ahmad, P.E.

**G. OTHERS**

1. Notice of Acceptance No. **17-1218.14**, issued to Eco Window Systems, LLC for their Series "ECO-Guard Clipped" Aluminum Tube Mullion - L.M.I., approved on 02/22/18 and expiring on 10/23/19.

**4. NEW EVIDENCE SUBMITTED**

**A. DRAWINGS**

1. Drawing No. **M14-01 Rev B**, titled "Aluminum Tube Mullions", sheets 1 through 9 of 9, dated 05/19/14 and last revised on 01/08/21, prepared by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P. E.

**B. TESTS**

1. None

**C. CALCULATIONS**

1. Anchor verification calculation, complying with **FBC 7<sup>th</sup> Edition (2020)**, prepared by Al-Farooq Corporation, dated 01/08/21, signed and sealed by Jalal Farooq, P. E.

**D. QUALITY ASSURANCE**

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

**E. MATERIAL CERTIFICATIONS**

1. None

**F. STATEMENTS**

1. Statement letter verifying conformance to **FBC 7<sup>th</sup> Edition (2020)**, issued by Al-Farooq Corporation, dated 01/08/21, signed and sealed by Jalal Farooq, P.E.

**G. OTHERS**

1. This NOA revises NOA No. **19-0405.09**, expiring **10/23/2024**.

*Ishaq I. Chanda*

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**Ishaq I. Chanda, P.E.**  
**Product Control Unit Supervisor**  
**NOA No. 21-0122.04**  
**Expiration Date: October 23, 2024**  
**Approval Date: March 18, 2021**

MULLION SYSTEM IS RATED FOR LARGE MISSILE IMPACT.  
AND CAN BE USED WITH ALL MIAMI-DADE COUNTY APPROVED  
IMPACT AND NON-IMPACT RESISTANT PRODUCTS.

### RECTANGULAR ALUMINUM TUBE MULLIONS USING MULLION PROPERTIES ONLY

#### NOTES:

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE  
REQUIREMENTS OF THE 2017 (6TH EDITION)/2020 (7TH EDITION) FLORIDA  
BUILDING CODE INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

ALL GLAZING PRODUCTS USED WITH THESE MULLIONS MUST MEET THE  
APPLICABLE BUILDING CODE REQUIREMENTS I.E: WIND LOAD, WATER  
INFILTRATION, FORCED ENTRY RESISTANCE, SAFEGUARDS ETC.

1BY OR 2BY WOOD BUCKS & BUCK FASTENERS BY OTHERS, MUST BE  
DESIGNED AND INSTALLED ADEQUATELY TO TRANSFER APPLIED PRODUCT LOADS  
TO THE BUILDING STRUCTURE.

ANCHORS SHALL BE CORROSION RESISTANT, SPACED AS SHOWN ON DETAILS  
AND INSTALLED PER MANUF'S INSTRUCTIONS. SPECIFIED EMBEDMENT TO BASE  
MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.

A LOAD DURATION INCREASE IS USED IN DESIGN OF ANCHORS INTO WOOD ONLY.

ALL SHIMS TO BE HIGH IMPACT, NON-METALLIC AND NON-COMPRESSIBLE.

MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT  
COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE  
REQUIREMENTS OF THE 2017/2020 FLORIDA BLDG. CODE & ADOPTED STANDARDS.

THIS PRODUCT APPROVAL IS GENERIC AND DOES NOT PROVIDE INFORMATION  
FOR A SITE SPECIFIC PROJECT, I.E. LIFE SAFETY OF THIS PRODUCT, ADEQUACY  
OF STRUCTURE RECEIVING THIS PRODUCT AND SEALING AROUND OPENING FOR  
WATER INFILTRATION RESISTANCE ETC.

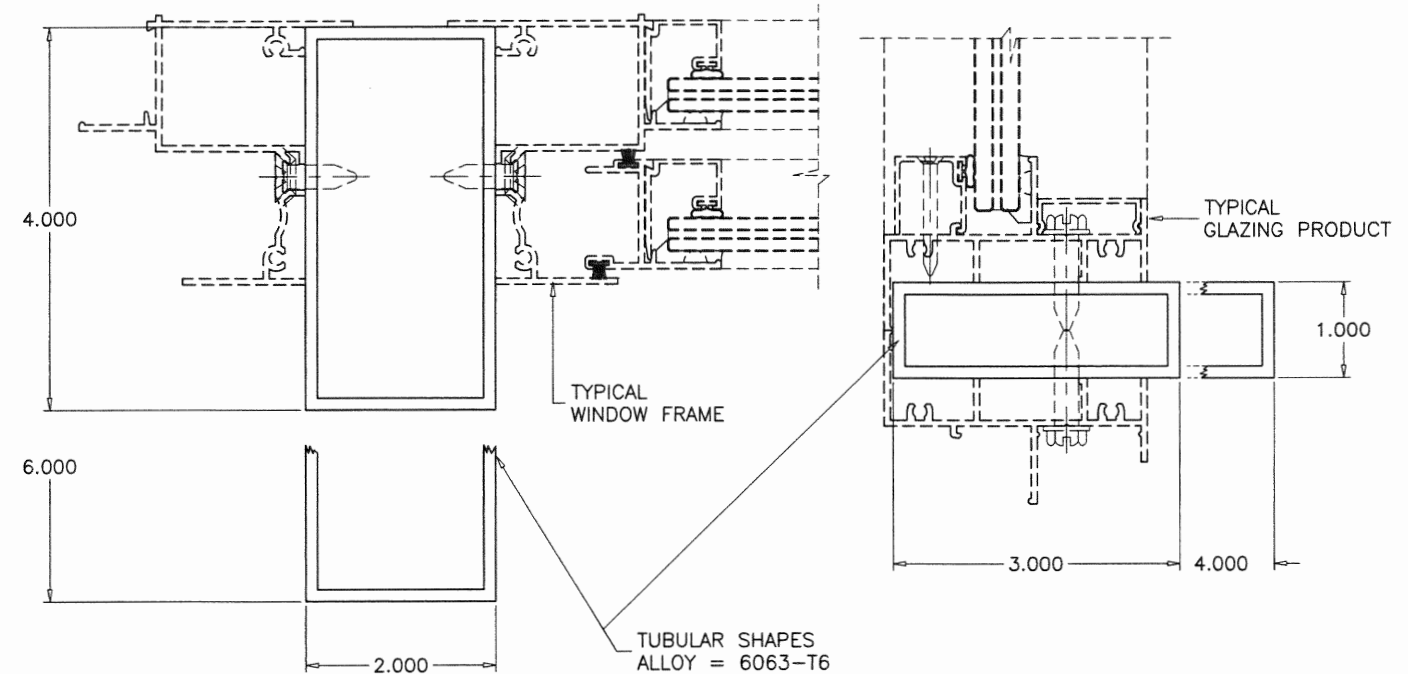
CONDITIONS NOT SHOWN IN THIS DRAWING ARE TO BE ANALYZED SEPARATELY,  
AND TO BE REVIEWED BY BUILDING OFFICIAL.

DESIGN LOADS SHOWN ARE BASED ON 'ALLOWABLE STRESS DESIGN (ASD)'.

#### INSTRUCTIONS:

USE CHARTS AND GRAPHS AS FOLLOWS.

- STEP 1** DETERMINE DESIGN LOAD REQUIRED PER ASCE 7  
FOR PARTICULAR OPENING.
- STEP 2** USE MIAMI-DADE COUNTY APPROVED GLAZING PRODUCTS  
MEETING ABOVE LOAD REQUIREMENTS.
- STEP 3** USE CONNECTION TO MULLION AS PER PRODUCT  
APPROVAL.
- STEP 4** USING CHARTS ON SHEET 3 SELECT MULLION SIZE WITH  
DESIGN RATING MORE THAN DESIGN LOAD SPECIFIED  
IN STEP 1 ABOVE.
- STEP 5** USING ANCHOR TYPES ON SHEETS 5 THRU 9 AND ANCHOR CHARTS  
ON SHEET 4, SELECT ANCHOR TYPE WITH DESIGN RATING  
MORE THAN THE DESIGN LOADS SPECIFIED IN STEP 1 ABOVE.



### MULLIONS CONTAINING TYPICAL GLAZING PRODUCTS HORIZONTAL OR VERTICAL

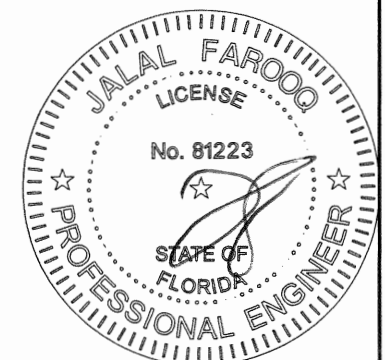
SEE WINDOW OR DOOR APPROVAL FOR FASTENERS SIZES AND SPACING

**PRODUCT REVISED**  
as complying with the Florida  
Building Code

NOA-No. 21-0122.04

Expiration Date 10/23/2024

By Ishaq I. Chandra  
Miami-Dade Product Control



JAN 08 2021

afC

**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
9360 SUNSET DRIVE, SUITE 220  
MIAMI, FLORIDA 33173 (C.A.N. 3538)  
TEL. (305) 264-8100 FAX. (305) 262-6978

MULLION\M14-01ESW

ALUMINUM TUBE MULLIONS

**ECO WINDOW SYSTEMS, LLC.**  
8502 N.W. 80th STREET  
MEDLEY, FL. 33166  
TEL. (305) 885-5299 FAX (305) 885-5902

revisions:				
	no	date	by	description
	A	11.15.17		UPDATED TO 2017 FBC
	B	11.05.20		UPDATED TO 2020 FBC

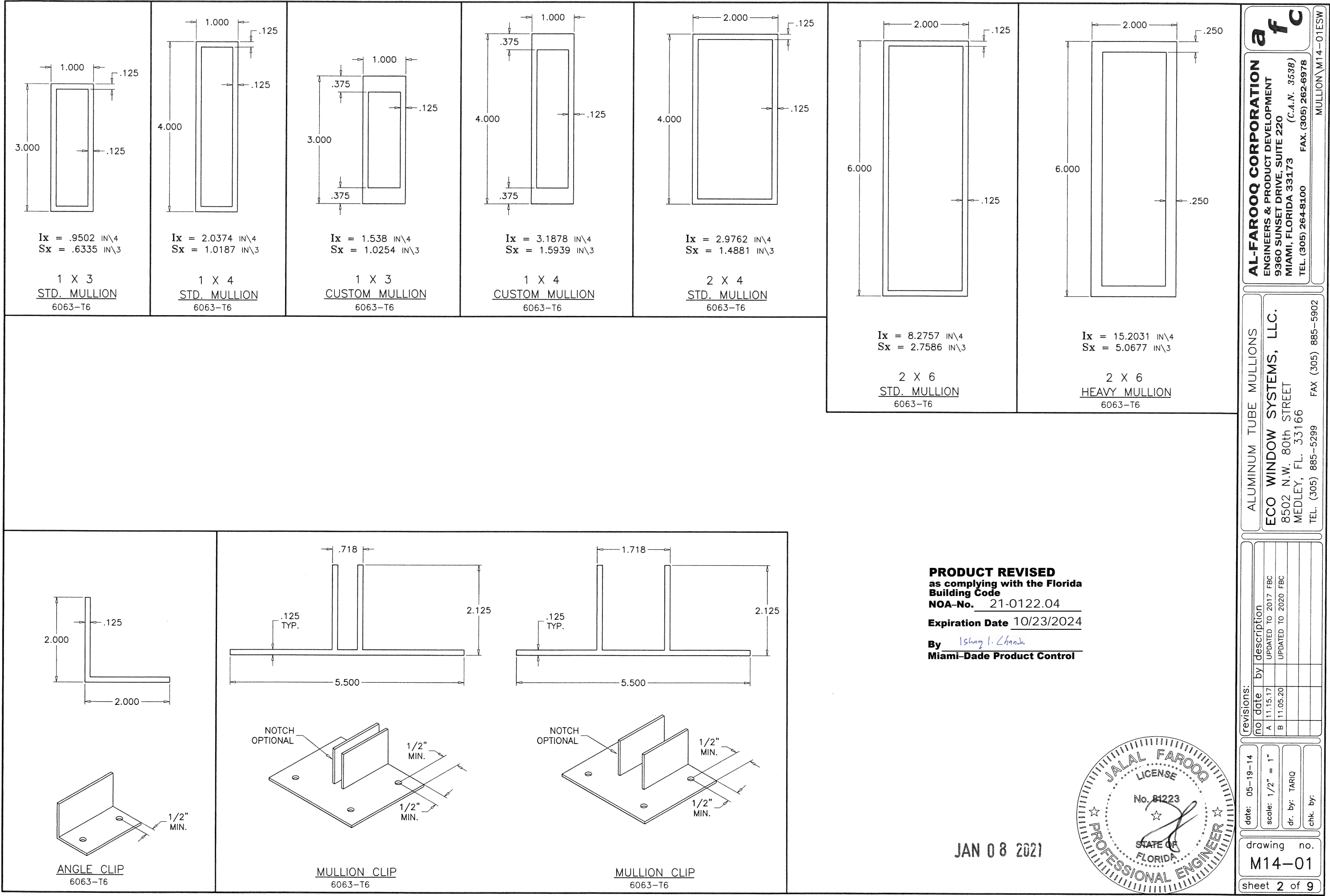
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drawing no.

**M14-01**

sheet 1 of 9

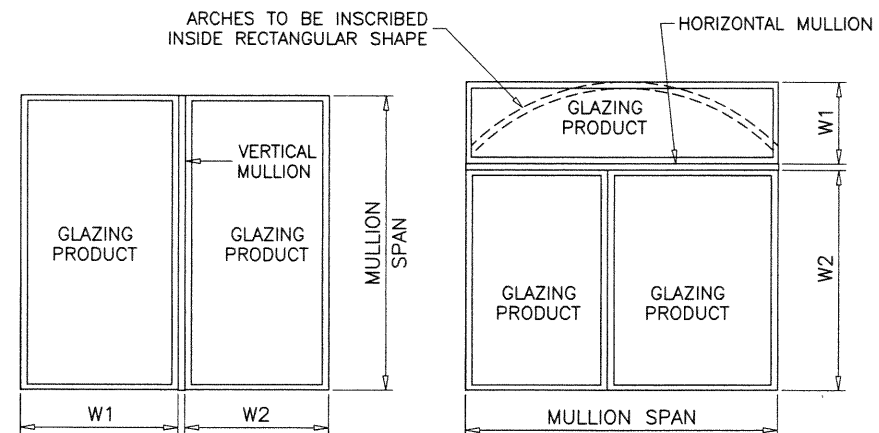




DESIGN LOAD CAPACITY - PSF (TUBE MULLIONS)								
WINDOW DIMS.		1 X 3	1 X 4	1 X 3	1 X 4	2 X 4	2 X 6	2 X 6
WIDTH (W)	MULL SPAN	STD.	STD.	CUSTOM	CUSTOM	STD.	STD.	HEAVY
19-1/8"	38-3/8"	120.0	120.0	120.0	120.0	120.0	120.0	120.0
26-1/2"		120.0	120.0	120.0	120.0	120.0	120.0	120.0
30"		120.0	120.0	120.0	120.0	120.0	120.0	120.0
37"		120.0	120.0	120.0	120.0	120.0	120.0	120.0
42"		120.0	120.0	120.0	120.0	120.0	120.0	120.0
48"		120.0	120.0	120.0	120.0	120.0	120.0	120.0
54"		120.0	120.0	120.0	120.0	120.0	120.0	120.0
60"		112.5	120.0	120.0	120.0	120.0	120.0	120.0
66"		102.3	120.0	120.0	120.0	120.0	120.0	120.0
72"		93.8	120.0	120.0	120.0	120.0	120.0	120.0
19-1/8"	42"	120.0	120.0	120.0	120.0	120.0	120.0	120.0
26-1/2"		120.0	120.0	120.0	120.0	120.0	120.0	120.0
30"		120.0	120.0	120.0	120.0	120.0	120.0	120.0
37"		120.0	120.0	120.0	120.0	120.0	120.0	120.0
42"		120.0	120.0	120.0	120.0	120.0	120.0	120.0
48"		116.8	120.0	120.0	120.0	120.0	120.0	120.0
54"		103.8	120.0	120.0	120.0	120.0	120.0	120.0
60"		93.4	120.0	120.0	120.0	120.0	120.0	120.0
66"		84.9	120.0	120.0	120.0	120.0	120.0	120.0
72"		77.9	120.0	120.0	120.0	120.0	120.0	120.0
19-1/8"	50-5/8"	120.0	120.0	120.0	120.0	120.0	120.0	120.0
26-1/2"		120.0	120.0	120.0	120.0	120.0	120.0	120.0
30"		120.0	120.0	120.0	120.0	120.0	120.0	120.0
37"		103.1	120.0	120.0	120.0	120.0	120.0	120.0
42"		90.8	120.0	120.0	120.0	120.0	120.0	120.0
48"		79.5	120.0	120.0	120.0	120.0	120.0	120.0
54"		70.6	112.5	111.6	120.0	120.0	120.0	120.0
60"		63.6	101.3	100.4	120.0	120.0	120.0	120.0
66"		57.8	92.1	91.3	120.0	120.0	120.0	120.0
72"		53.0	84.4	83.7	120.0	120.0	120.0	120.0
19-1/8"	63"	120.0	120.0	120.0	120.0	120.0	120.0	120.0
26-1/2"		89.0	120.0	120.0	120.0	120.0	120.0	120.0
30"		78.6	120.0	120.0	120.0	120.0	120.0	120.0
37"		63.7	104.3	103.2	120.0	120.0	120.0	120.0
42"		56.1	91.9	90.9	120.0	120.0	120.0	120.0
48"		49.1	80.4	79.5	120.0	120.0	120.0	120.0
54"		43.7	71.5	70.7	108.3	111.5	120.0	120.0
60"		39.3	64.3	63.6	97.5	100.3	120.0	120.0
66"		35.7	58.5	57.8	88.6	91.2	120.0	120.0
72"		32.7	53.6	53.0	81.3	83.6	120.0	120.0

DESIGN LOAD CAPACITY - PSF (TUBE MULLIONS)								
WINDOW DIMS.		1 X 3	1 X 4	1 X 3	1 X 4	2 X 4	2 X 6	2 X 6
WIDTH (W)	MULL SPAN	STD.	STD.	CUSTOM	CUSTOM	STD.	STD.	HEAVY
19-1/8"	74-1/4"	75.3	120.0	120.0	120.0	120.0	120.0	120.0
26-1/2"		54.3	103.4	88.0	120.0	120.0	120.0	120.0
30"		48.0	91.3	77.7	120.0	120.0	120.0	120.0
37"		38.9	74.0	63.0	111.9	116.3	120.0	120.0
42"		34.3	65.2	55.5	98.6	102.4	120.0	120.0
48"		30.0	57.1	48.6	86.3	89.6	120.0	120.0
54"		26.7	50.7	43.2	76.7	79.7	120.0	120.0
60"		24.0	45.7	38.9	69.0	71.7	120.0	120.0
66"		21.8	41.5	35.3	62.7	65.2	119.7	120.0
72"		-	38.0	32.4	57.5	59.7	109.7	120.0
19-1/8"	84"	52.0	110.6	84.2	120.0	120.0	120.0	120.0
26-1/2"		37.5	79.8	60.8	120.0	117.7	120.0	120.0
30"		33.2	70.5	53.7	106.3	104.0	120.0	120.0
37"		26.9	57.2	43.5	86.2	84.3	120.0	120.0
42"		23.7	50.4	38.3	76.0	74.3	120.0	120.0
48"		20.7	44.1	33.5	66.5	65.0	120.0	120.0
54"		-	39.2	29.8	59.1	57.8	113.5	120.0
60"		-	35.3	26.8	53.2	52.0	102.2	120.0
66"		-	32.1	24.4	48.3	47.3	92.9	120.0
72"		-	29.4	22.4	44.3	43.3	85.2	120.0
19-1/8"	96"	34.8	74.8	56.4	116.9	109.3	120.0	120.0
26-1/2"		25.1	54.0	40.7	84.4	78.9	120.0	120.0
30"		22.2	47.7	36.0	74.5	69.7	120.0	120.0
37"		-	38.7	29.2	60.4	56.5	120.0	120.0
42"		-	34.1	25.7	53.2	49.8	110.9	120.0
48"		-	29.8	22.5	46.6	43.5	97.0	120.0
54"		-	26.5	-	41.4	38.7	86.2	120.0
60"		-	23.8	-	37.3	34.8	77.6	120.0
66"		-	21.7	-	33.9	31.7	70.6	120.0
72"		-	-	-	31.1	29.0	64.7	118.3
19-1/8"	108"	-	-	-	82.1	76.8	120.0	120.0
26-1/2"		-	-	-	59.3	55.4	120.0	120.0
30"		-	-	-	52.3	48.9	120.0	120.0
37"		-	-	-	42.4	39.7	98.7	120.0
42"		-	-	-	37.4	35.0	87.0	120.0
48"		-	-	-	32.7	30.6	76.1	120.0
54"		-	-	-	29.1	27.2	67.6	120.0
60"		-	-	-	26.2	24.5	60.9	111.3
66"		-	-	-	23.8	22.2	55.3	101.2
72"		-	-	-	21.8	20.4	50.7	92.7

DESIGN LOAD CAPACITY - PSF (TUBE MULLIONS)								
WINDOW DIMS.		1 X 3	1 X 4	1 X 3	1 X 4	2 X 4	2 X 6	2 X 6
WIDTH (W)	MULL SPAN	STD.	STD.	CUSTOM	CUSTOM	STD.	STD.	HEAVY
19-1/8"	120"	-	-	-	59.9	56.0	120.0	120.0
26-1/2"		-	-	-	43.2	40.4	110.9	120.0
30"		-	-	-	38.2	35.7	97.9	120.0
37"		-	-	-	30.9	28.9	79.4	120.0
42"		-	-	-	27.3	25.5	69.9	120.0
48"		-	-	-	23.8	22.3	61.2	111.8
54"		-	-	-	21.2	-	54.4	99.4
60"		-	-	-	-	-	49.0	89.5
66"		-	-	-	-	-	44.5	81.3
72"		-	-	-	-	-	40.8	74.6
19-1/8"	132"	-	-	-	45.0	42.0	116.8	120.0
26-1/2"		-	-	-	32.5	30.3	84.3	120.0
30"		-	-	-	28.7	26.8	74.5	120.0
37"		-	-	-	23.2	21.7	60.4	110.8
42"		-	-	-	20.5	-	53.2	97.6
48"		-	-	-	-	-	46.5	85.4
54"		-	-	-	-	-	41.4	75.9
60"		-	-	-	-	-	37.2	68.4
66"		-	-	-	-	-	33.8	62.1
72"		-	-	-	-	-	31.0	57.0
19-1/8"	144"	-	-	-	34.6	32.4	90.0	120.0
26-1/2"		-	-	-	25.0	23.4	64.9	119.2
30"		-	-	-	22.1	20.6	57.4	105.3
37"		-	-	-	-	-	46.5	85.4
42"		-	-	-	-	-	41.0	75.2
48"		-	-	-	-	-	35.8	65.8
54"		-	-	-	-	-	31.9	58.5
60"		-	-	-	-	-	28.7	52.6
66"		-	-	-	-	-	26.1	47.9
72"		-	-	-	-	-	23.9	43.9



ALL LOADS ARE EXT.(+)/INT.(-).

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

**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. 21-0122.04

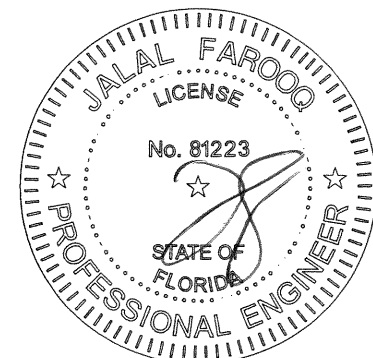
Expiration Date 10/23/2024

By Ismael L. Chank  
Miami-Dade Product Control

TYPICAL MULLION ARRANGEMENTS

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

JAN 08 2021



**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
9360 SUNSET DRIVE, SUITE 220  
MIAMI, FLORIDA 33173 (C.A.N. 3538)  
TEL. (305) 264-8100 FAX. (305) 262-6978

ALUMINUM TUBE MULLIONS

**ECO WINDOW SYSTEMS, LLC.**  
8502 N.W. 80th STREET  
MEDLEY, FL. 33166  
TEL. (305) 885-5299 FAX (305) 885-5902

no	date	by	description
A	11.15.17		UPDATED TO 2017 FBC
B	11.05.20		UPDATED TO 2020 FBC

date:	05-19-14
scale:	
dr. by:	TARIQ
chk. by:	

drawing no.  
**M14-01**  
sheet 3 of 9

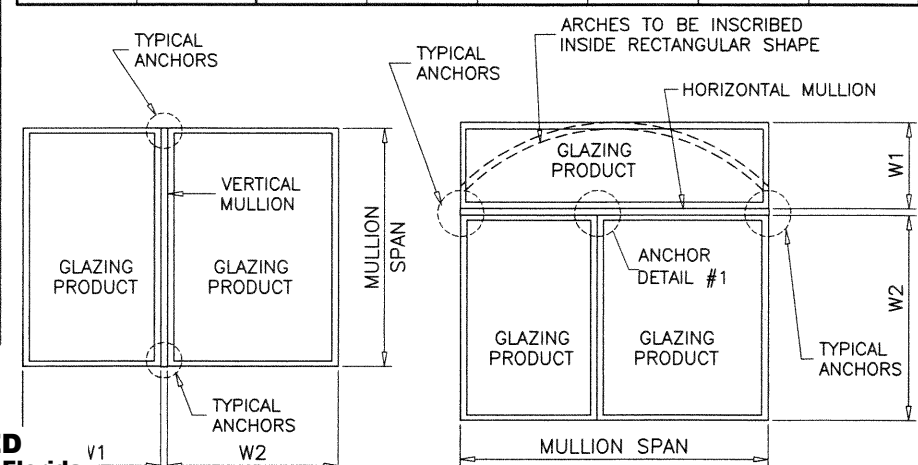
MULLIONS



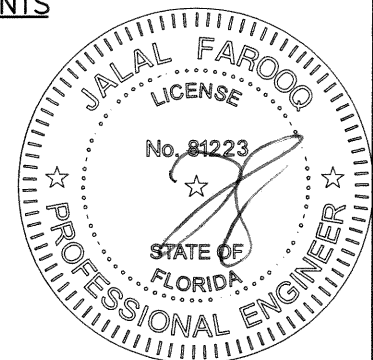
DESIGN LOAD CAPACITY - PSF							
WINDOW DIMS.		ANCHORS TYPE					
WIDTH (W)	MULL SPAN	A2	A4	A6	B2	B4a	B4b
19-1/8"	38-3/8"	120.0	120.0	120.0	120.0	120.0	120.0
26-1/2"		120.0	120.0	120.0	120.0	120.0	120.0
30"		120.0	120.0	120.0	120.0	120.0	120.0
37"		120.0	120.0	120.0	101.4	120.0	120.0
42"		120.0	120.0	120.0	89.3	120.0	120.0
48"		120.0	120.0	120.0	78.2	112.6	120.0
54"		108.4	120.0	120.0	69.5	100.1	120.0
60"		97.6	120.0	120.0	62.5	90.1	120.0
66"		88.7	120.0	120.0	56.9	81.9	113.7
72"		81.3	120.0	120.0	52.1	75.0	104.2
19-1/8"	42"	120.0	120.0	120.0	120.0	120.0	120.0
26-1/2"		120.0	120.0	120.0	120.0	120.0	120.0
30"		120.0	120.0	120.0	114.3	120.0	120.0
37"		120.0	120.0	120.0	92.7	120.0	120.0
42"		120.0	120.0	120.0	81.6	117.6	120.0
48"		111.4	120.0	120.0	71.4	102.9	120.0
54"		99.0	120.0	120.0	63.5	91.4	120.0
60"		89.1	120.0	120.0	57.1	82.3	114.3
66"		81.0	120.0	120.0	51.9	74.8	103.9
72"		74.3	120.0	120.0	47.6	68.6	95.2
19-1/8"	50-5/8"	120.0	120.0	120.0	120.0	120.0	120.0
26-1/2"		120.0	120.0	120.0	107.3	120.0	120.0
30"		120.0	120.0	120.0	94.8	120.0	120.0
37"		119.9	120.0	120.0	76.9	110.7	120.0
42"		105.7	120.0	120.0	67.7	97.5	120.0
48"		92.4	120.0	120.0	59.3	85.3	118.5
54"		82.2	120.0	120.0	52.7	75.9	105.3
60"		74.0	120.0	120.0	47.4	68.3	94.8
66"		67.2	117.2	120.0	43.1	62.1	86.2
72"		61.6	107.5	120.0	39.5	56.9	79.0
19-1/8"	63"	120.0	120.0	120.0	119.5	120.0	120.0
26-1/2"		120.0	120.0	120.0	86.3	120.0	120.0
30"		118.9	120.0	120.0	76.2	109.7	120.0
37"		96.4	120.0	120.0	61.8	89.0	120.0
42"		84.9	120.0	120.0	54.4	78.4	108.8
48"		74.3	120.0	120.0	47.6	68.6	95.2
54"		66.0	115.1	120.0	42.3	61.0	84.7
60"		59.4	103.6	120.0	38.1	54.9	76.2
66"		54.0	94.2	120.0	34.6	49.9	69.3
72"		49.5	86.3	120.0	31.7	45.7	63.5

DESIGN LOAD CAPACITY - PSF							
WINDOW DIMS.		ANCHORS TYPE					
WIDTH (W)	MULL SPAN	A2	A4	A6	B2	B4a	B4b
19-1/8"	74-1/4"	120.0	120.0	120.0	101.4	120.0	120.0
26-1/2"		114.2	120.0	120.0	73.2	105.4	120.0
30"		100.8	120.0	120.0	64.6	93.1	120.0
37"		81.8	120.0	120.0	52.4	75.5	104.8
42"		72.0	120.0	120.0	46.2	66.5	92.4
48"		63.0	109.9	120.0	40.4	58.2	80.8
54"		56.0	97.7	120.0	35.9	51.7	71.8
60"		50.4	87.9	120.0	32.3	46.5	64.6
66"		45.8	79.9	119.9	29.4	42.3	58.8
72"		42.0	73.3	109.9	26.9	38.8	53.9
19-1/8"	84"	120.0	120.0	120.0	89.6	120.0	120.0
26-1/2"		100.9	120.0	120.0	64.7	93.2	120.0
30"		89.1	120.0	120.0	57.1	82.3	114.3
37"		72.3	120.0	120.0	46.3	66.7	92.7
42"		63.7	111.0	120.0	40.8	58.8	81.6
48"		55.7	97.1	120.0	35.7	51.4	71.4
54"		49.5	86.3	120.0	31.7	45.7	63.5
60"		44.6	77.7	116.6	28.6	41.1	57.1
66"		40.5	70.6	106.0	26.0	37.4	51.9
72"		37.1	64.8	97.1	23.8	34.3	47.6
19-1/8"	96"	120.0	120.0	120.0	78.4	112.9	120.0
26-1/2"		88.3	120.0	120.0	56.6	81.5	113.2
30"		78.0	120.0	120.0	50.0	72.0	100.0
37"		63.2	110.3	120.0	40.5	58.4	81.1
42"		55.7	97.1	120.0	35.7	51.4	71.4
48"		48.8	85.0	120.0	31.3	45.0	62.5
54"		43.3	75.6	113.3	27.8	40.0	55.6
60"		39.0	68.0	102.0	25.0	36.0	50.0
66"		35.5	61.8	92.7	22.7	32.7	45.5
72"		32.5	56.7	85.0	20.8	30.0	41.7
19-1/8"	108"	108.8	120.0	120.0	69.7	100.4	120.0
26-1/2"		78.5	120.0	120.0	50.3	72.5	100.6
30"		69.3	120.0	120.0	44.4	64.0	88.9
37"		56.2	98.0	120.0	36.0	51.9	72.1
42"		49.5	86.3	120.0	31.7	45.7	63.5
48"		43.3	75.6	113.3	27.8	40.0	55.6
54"		38.5	67.2	100.7	24.7	35.6	49.4
60"		34.7	60.4	90.7	22.2	32.0	44.4
66"		31.5	54.9	82.4	20.2	29.1	40.4
72"		28.9	50.4	75.6	-	26.7	37.0

DESIGN LOAD CAPACITY - PSF							
WINDOW DIMS.		ANCHORS TYPE					
WIDTH (W)	MULL SPAN	A2	A4	A6	B2	B4a	B4b
19-1/8"	120"	97.9	120.0	120.0	62.7	90.4	120.0
26-1/2"		70.6	120.0	120.0	45.3	65.2	90.6
30"		62.4	108.8	120.0	40.0	57.6	80.0
37"		50.6	88.2	120.0	32.4	46.7	64.9
42"		44.6	77.7	116.6	28.6	41.1	57.1
48"		39.0	68.0	102.0	25.0	36.0	50.0
54"		34.7	60.4	90.7	22.2	32.0	44.4
60"		31.2	54.4	81.6	20.0	28.8	40.0
66"		28.4	49.5	74.2	-	26.2	36.4
72"		26.0	45.3	68.0	-	24.0	33.3
19-1/8"	132"	89.0	120.0	120.0	57.0	82.1	114.1
26-1/2"		64.2	112.0	120.0	41.2	59.3	82.3
30"		56.7	98.9	120.0	36.4	52.4	72.7
37"		46.0	80.2	120.0	29.5	42.5	59.0
42"		40.5	70.6	106.0	26.0	37.4	51.9
48"		35.5	61.8	92.7	22.7	32.7	45.5
54"		31.5	54.9	82.4	20.2	29.1	40.4
60"		28.4	49.5	74.2	-	26.2	36.4
66"		25.8	45.0	67.4	-	23.8	33.1
72"		23.6	41.2	61.8	-	21.8	30.3
19-1/8"	144"	81.6	120.0	120.0	52.3	75.3	104.6
26-1/2"		58.9	102.6	120.0	37.7	54.3	75.5
30"		52.0	90.7	120.0	33.3	48.0	66.7
37"		42.2	73.5	110.3	27.0	38.9	54.1
42"		37.1	64.8	97.1	23.8	34.3	47.6
48"		32.5	56.7	85.0	20.8	30.0	41.7
54"		28.9	50.4	75.6	-	26.7	37.0
60"		26.0	45.3	68.0	-	24.0	33.3
66"		23.6	41.2	61.8	-	21.8	30.3
72"		21.7	37.8	56.7	-	20.0	27.8



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



JAN 08 2021

ALL LOADS ARE EXT.(+)/INT.(-).

**NOTE:**

ANY ANCHOR CONDITION SHOWN HEREIN MAY COVER LOCATIONS AT HEAD, SILL OR JAMB ENDS.

FOR ANCHORS DESCRIPTION SEE SHEETS 5 THRU 9. (INTERPOLATION BETWEEN WIDTHS OR SPANS ALLOWED)

**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. 21-0122.04  
Expiration Date 10/23/2024  
By *Ishtaq I. Chaudhry*  
Miami-Dade Product Control

ANCHORS

**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
9360 SUNSET DRIVE, SUITE 220  
MIAMI, FLORIDA 33173  
TEL. (305) 264-8100 FAX. (305) 262-6978  
(C.A.N. 3538)

ALUMINUM TUBE MULLIONS

**ECO WINDOW SYSTEMS, LLC.**

8502 N.W. 80th STREET  
MEDLEY, FL. 33166

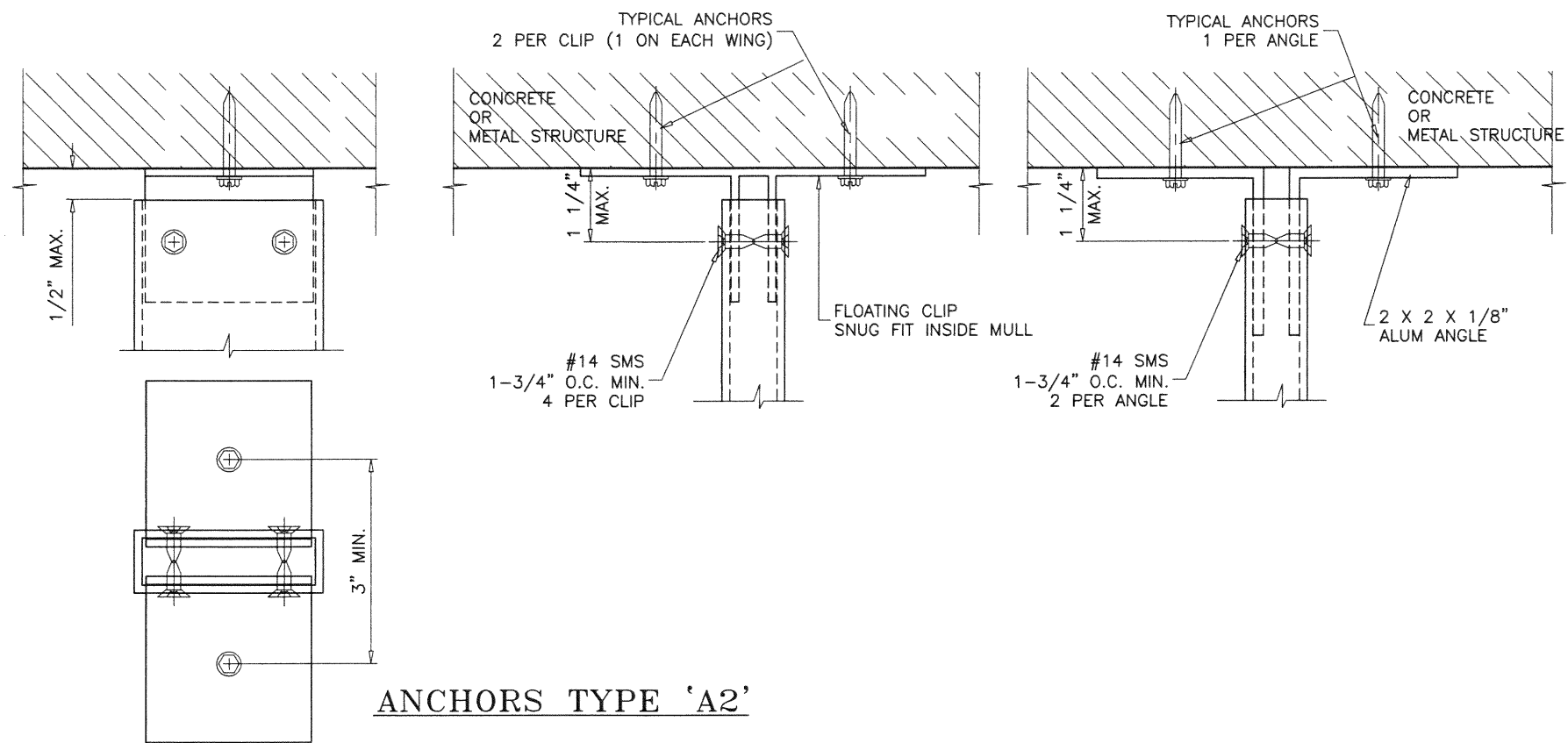
TEL. (305) 885-5299 FAX (305) 885-5902

no.	date	by	description
A	11.15.17		UPDATED TO 2017 FBC
B	11.05.20		UPDATED TO 2020 FBC

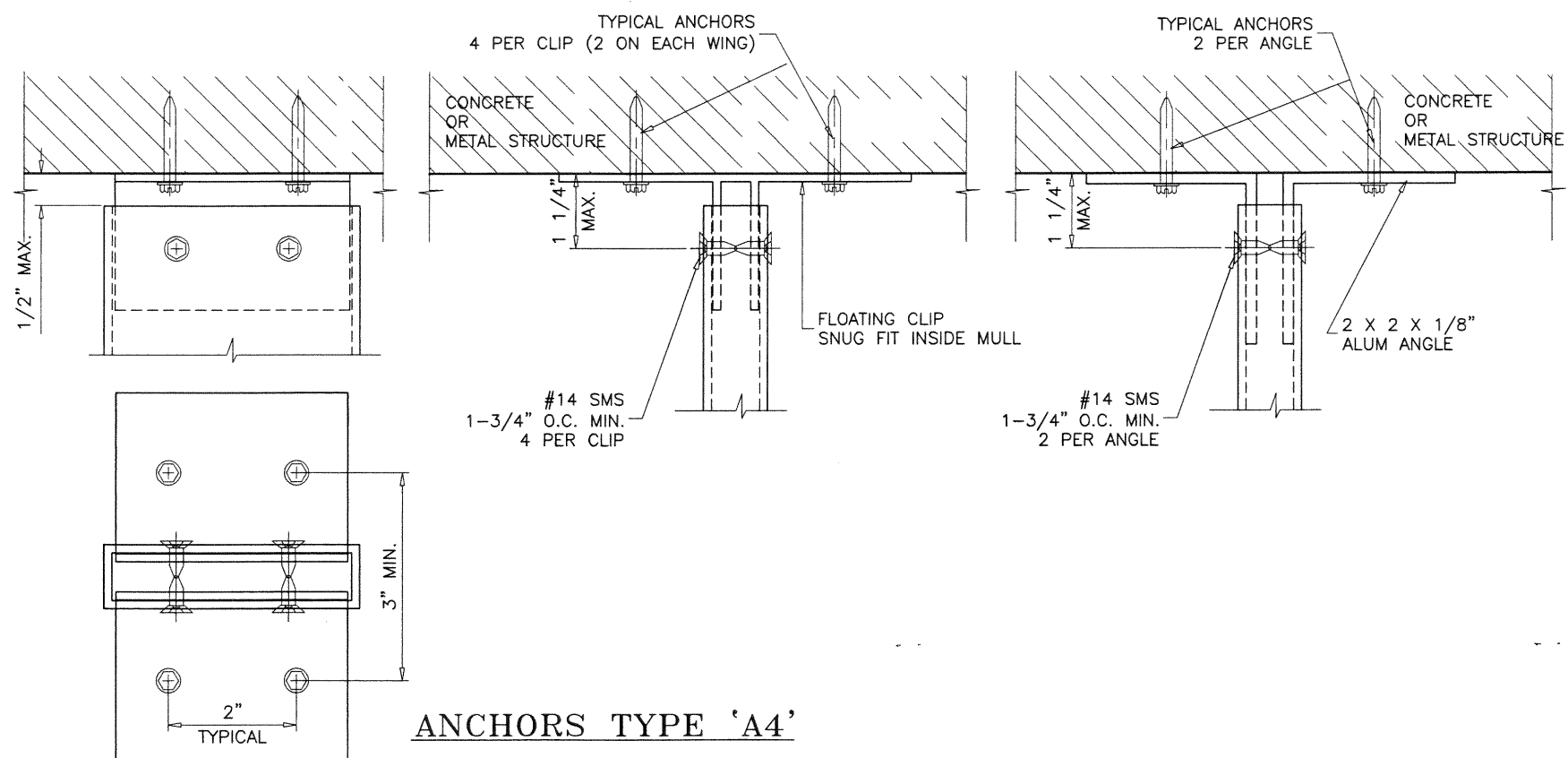
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scale:	
dr. by:	TARIQ
chk. by:	

drawing no.  
**M14-01**  
sheet 4 of 9





ANCHORS TYPE 'A2'



ANCHORS TYPE 'A4'

#### TYPICAL ANCHORS:

ANCHOR TYPES	SUBSTRATE	MIN. EMBED.	MIN. EDGE DIST.
1/4" DIA. ULTRACON+ BY 'DEWALT' (Fu=164 KSI, Fy=148 KSI)	CONCRETE	1-3/4"	2-1/2"
1/4" DIA. SELF DRILLING SCREWS (GRADE 5 CRS)	METAL	1/8"	3/4"

CONCRETE =  $f'_c$  = 3000 PSI MIN.  
 METAL = 1/8" MIN. THK. STEEL  $F_y$  = 36 KSI MIN.  
 1/8" MIN. THK. ALUMINUM (6063-T5 MIN.)

ANCHORS MAY BE HEX OR FLAT HEAD.

ALL CLIPS AND ANGLES TO FIT SNUG INTO TUBE MULLIONS.  
 CLIPS OR ANGLES CONNECTED DIRECTLY TO MASONRY TO BE PROTECTED  
 WITH ALKALI-RESISTANT COATINGS, SUCH AS BITUMINOUS PAINT OR  
 WATER-WHITE METHACRYLATE LACQUER.

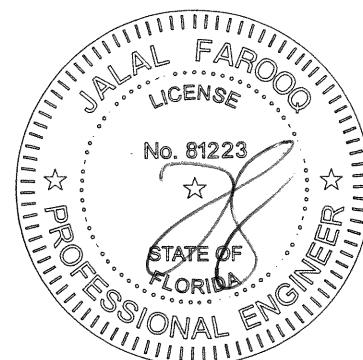
**PRODUCT REVISED**  
 as complying with the Florida  
 Building Code

NOA-No. 21-0122.04

Expiration Date 10/23/2024

By Ishaq I. Chank  
 Miami-Dade Product Control

JAN 08 2021



**AL-FAROOQ CORPORATION**  
 ENGINEERS & PRODUCT DEVELOPMENT  
 9360 SUNSET DRIVE, SUITE 220  
 MIAMI, FLORIDA 33173 (C.A.N. 3538)  
 TEL. (305) 264-8100 FAX. (305) 262-6978  
 MULLION\M14-01ESW

ALUMINUM TUBE MULLIONS

**ECO WINDOW SYSTEMS, LLC.**

8502 N.W. 80th STREET  
 MEDLEY, FL. 33166

TEL. (305) 885-5299 FAX (305) 885-5902

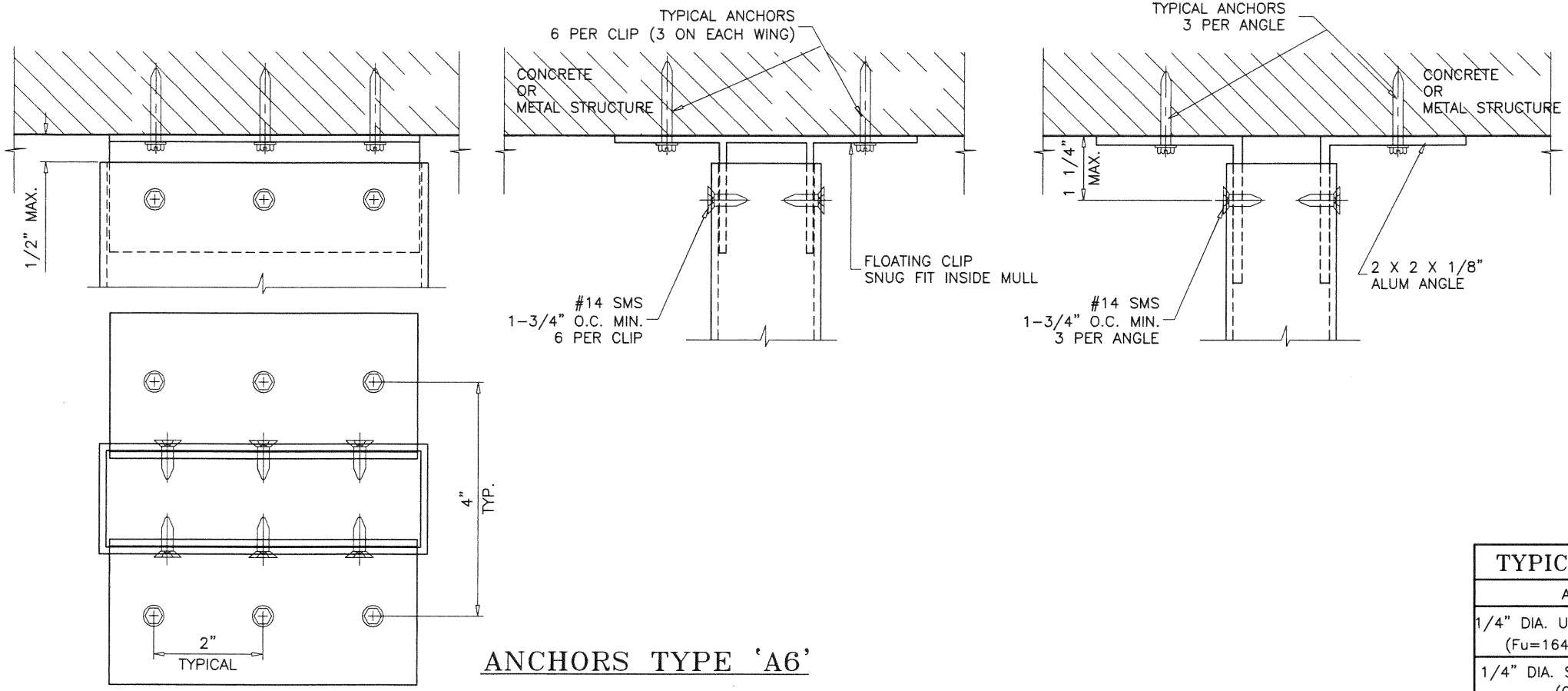
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date:	05-19-14
scale:	3/8" = 1"
dr. by:	TARIQ
chk. by:	

drawing no.

**M14-01**

sheet 5 of 9



**ANCHORS TYPE 'A6'**

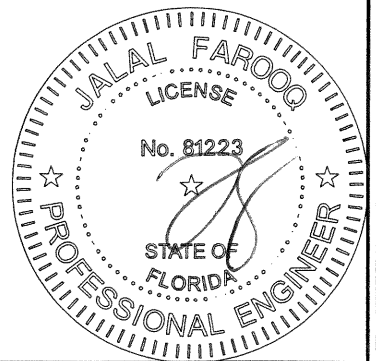
TYPICAL ANCHORS:			
ANCHOR TYPES	SUBSTRATE	MIN. EMBED.	MIN. EDGE DIST.
1/4" DIA. ULTRACON+ BY 'DEWALT' (Fu=164 KSI, Fy=148 KSI)	CONCRETE	1-3/4"	2-1/2"
1/4" DIA. SELF DRILLING SCREWS (GRADE 5 CRS)	METAL	1/8"	3/4"

CONCRETE = f'c = 3000 PSI MIN.  
 METAL = 1/8" MIN. THK. STEEL Fy = 36 KSI MIN.  
 1/8" MIN. THK. ALUMINUM (6063-T5 MIN.)

ANCHORS MAY BE HEX OR FLAT HEAD.

ALL CLIPS AND ANGLES TO FIT SNUG INTO TUBE MULLIONS.  
 CLIPS OR ANGLES CONNECTED DIRECTLY TO MASONRY TO BE PROTECTED  
 WITH ALKALI-RESISTANT COATINGS, SUCH AS BITUMINOUS PAINT OR  
 WATER-WHITE METHACRYLATE LACQUER.

**PRODUCT REVISED**  
 as complying with the Florida  
 Building Code  
 NOA-No. 21-0122.04  
 Expiration Date 10/23/2024  
 By Ishag I. Chande  
 Miami-Dade Product Control



JAN 08 2021

**AL-FAROOQ CORPORATION**  
 ENGINEERS & PRODUCT DEVELOPMENT  
 9360 SUNSET DRIVE, SUITE 220  
 MIAMI, FLORIDA 33173 (C.A.N. 35.38)  
 TEL. (305) 264-8100 FAX. (305) 262-6978

MULLION M14-01ESW

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**ALUMINUM TUBE MULLIONS**  
**ECO WINDOW SYSTEMS, LLC.**  
 8502 N.W. 80th STREET  
 MEDLEY, FL. 33166  
 TEL. (305) 885-5299 FAX (305) 885-5902

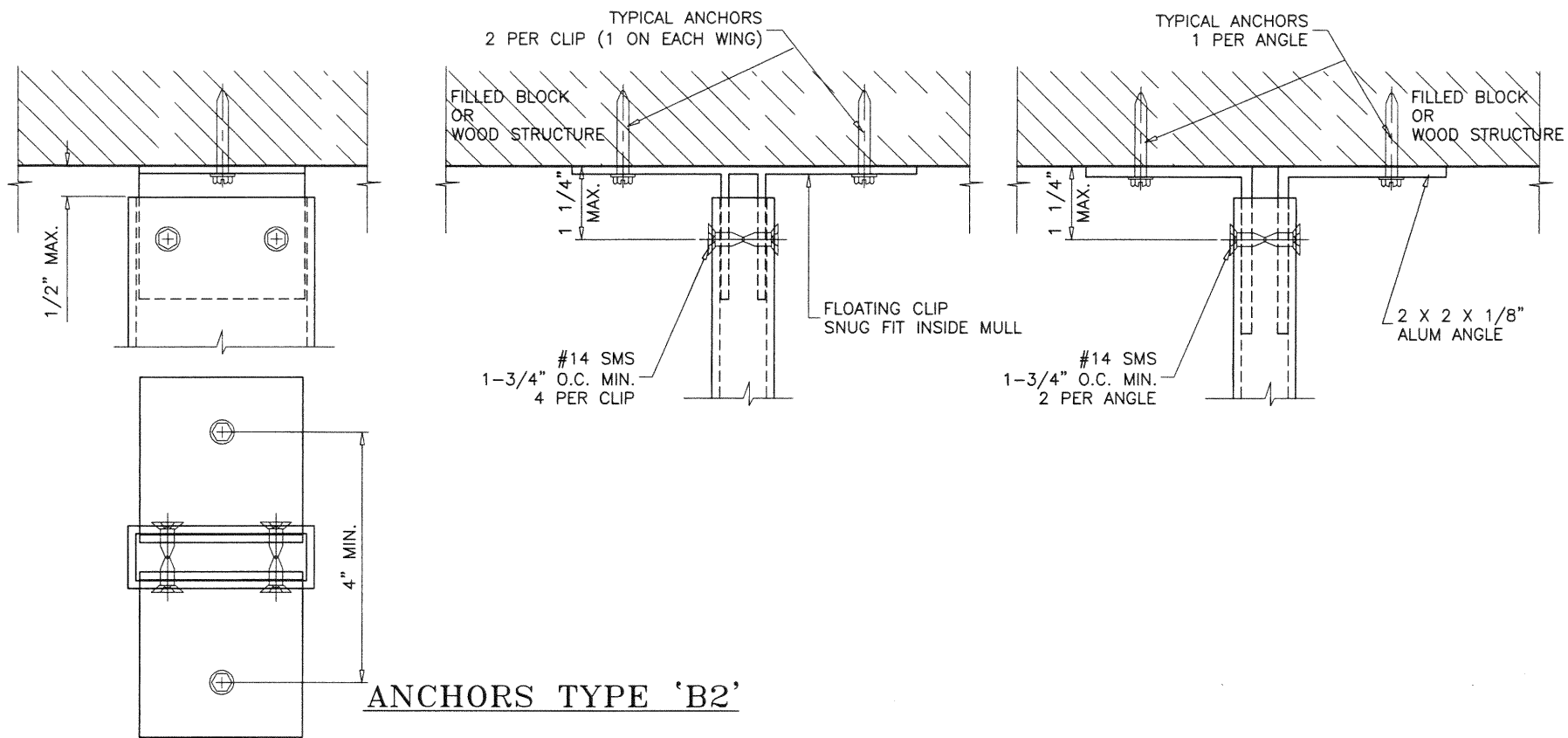
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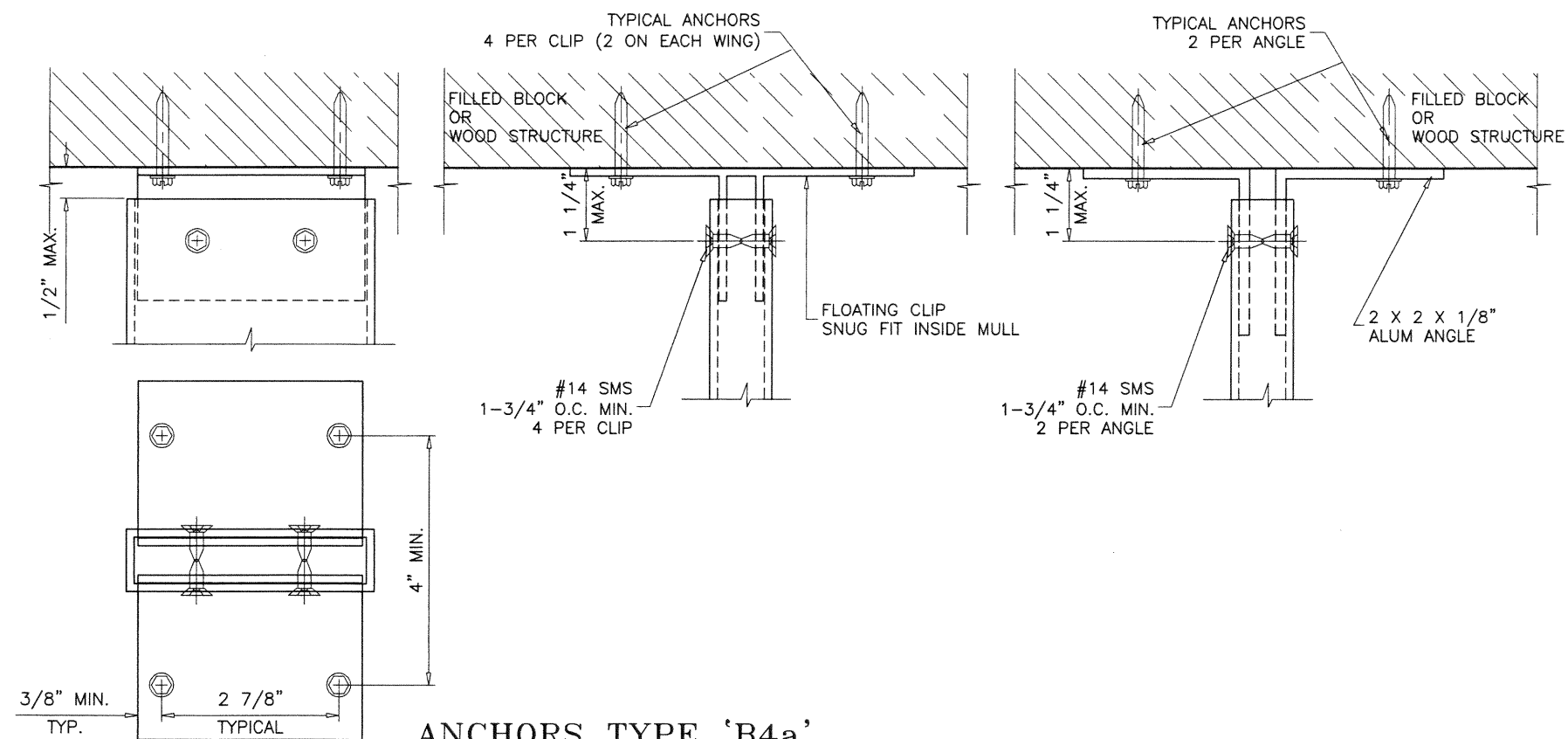
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date: 05-19-14  
 scale: 3/8" = 1"  
 dr. by: TARIQ  
 chk. by:

drawing no.  
**M14-01**  
 sheet 6 of 9



ANCHORS TYPE 'B2'



ANCHORS TYPE 'B4a'

TYPICAL ANCHORS:

ANCHOR TYPES	SUBSTRATE	MIN. EMBED.	MIN. EDGE DIST.
1/4" DIA. ULTRACON+ BY 'DEWALT' (Fu=164 KSI, Fy=148 KSI)	MASONRY	1-3/4"	2-1/2"
	WOOD	1-1/2"	1"

WOOD = 2BY WOOD BUCKS OR WOOD STRUCTURE S.G. = 0.55 MIN.  
MASONRY = C-90 HOLLOW/FILLED BLOCK f'm = 2000 PSI MIN.

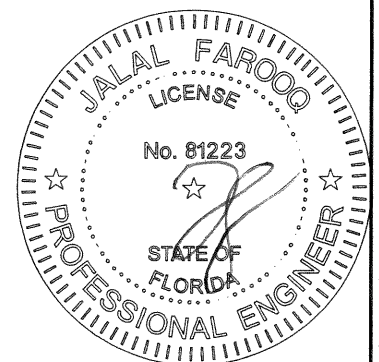
1BY OR 2BY WOOD BUCKS NOT BY 'ECO WINDOW'  
MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO BUILDING STRUCTURE.

ANCHORS MAY BE HEX OR FLAT HEAD.

**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. 21-0122.04

Expiration Date 10/23/2024

By Ishtaq I. Chaudhry  
Miami-Dade Product Control



JAN 03 2021

**af c**  
**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
9360 SUNSET DRIVE, SUITE 220  
MIAMI, FLORIDA 33173 (C.A.N. 3538)  
TEL. (305) 264-8100 FAX. (305) 262-6978

ALUMINUM TUBE MULLIONS

**ECO WINDOW SYSTEMS, LLC.**

8502 N.W. 80th STREET  
MEDLEY, FL. 33166

TEL. (305) 885-5299 FAX (305) 885-5902

revisions:	no.	date	by	description
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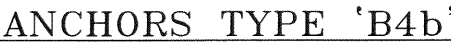
date: 05-19-14	scale: 3/8" = 1"	dr. by: TARIQ	chk. by:
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drawing no.

**M14-01**

sheet 7 of 9





TYPICAL ANCHORS:			
ANCHOR TYPES	SUBSTRATE	MIN. EMBED.	MIN. EDGE DIST.
1/4" DIA. ULTRACON+ BY 'DEWALT' (Fu=164 KSI, Fy=148 KSI)	MASONRY	1-3/4"	2-1/2"
	WOOD	1-1/2"	1"

WOOD = 2BY WOOD BUCKS OR WOOD STRUCTURE S.G. = 0.55 MIN.  
MASONRY = C-90 HOLLOW/FILLED BLOCK  $f'_m$  = 2000 PSI MIN.

1BY OR 2BY WOOD BUCKS NOT BY 'ECO WINDOW'  
MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER  
THEM TO BUILDING STRUCTURE.

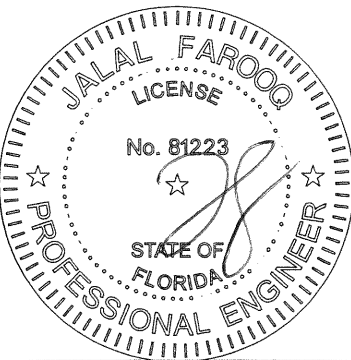
ANCHORS MAY BE HEX OR FLAT HEAD.

**PRODUCT REVISED**  
as complying with the Florida  
Building Code

**NOA-No.** 21-0122.04

**Expiration Date** 10/23/2024

By Ishaq I. Chande  
Miami-Dade Product Control



JAN 03 2021

af c

**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
9360 SUNSET DRIVE, SUITE 220  
MIAMI, FLORIDA 33173 (C.A.N. 3538)  
TEL. (305) 264-8100 FAX. (305) 262-6978

MULLION\M14-01ESW

FAX (305) 885-5902

TEL. (305) 885-5299

FAX (305) 885-5902

no	date	by	description
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B	11.05.20		UPDATED TO 2020 FBC

date: 05-19-14

scale:  $3/8" = 1"$

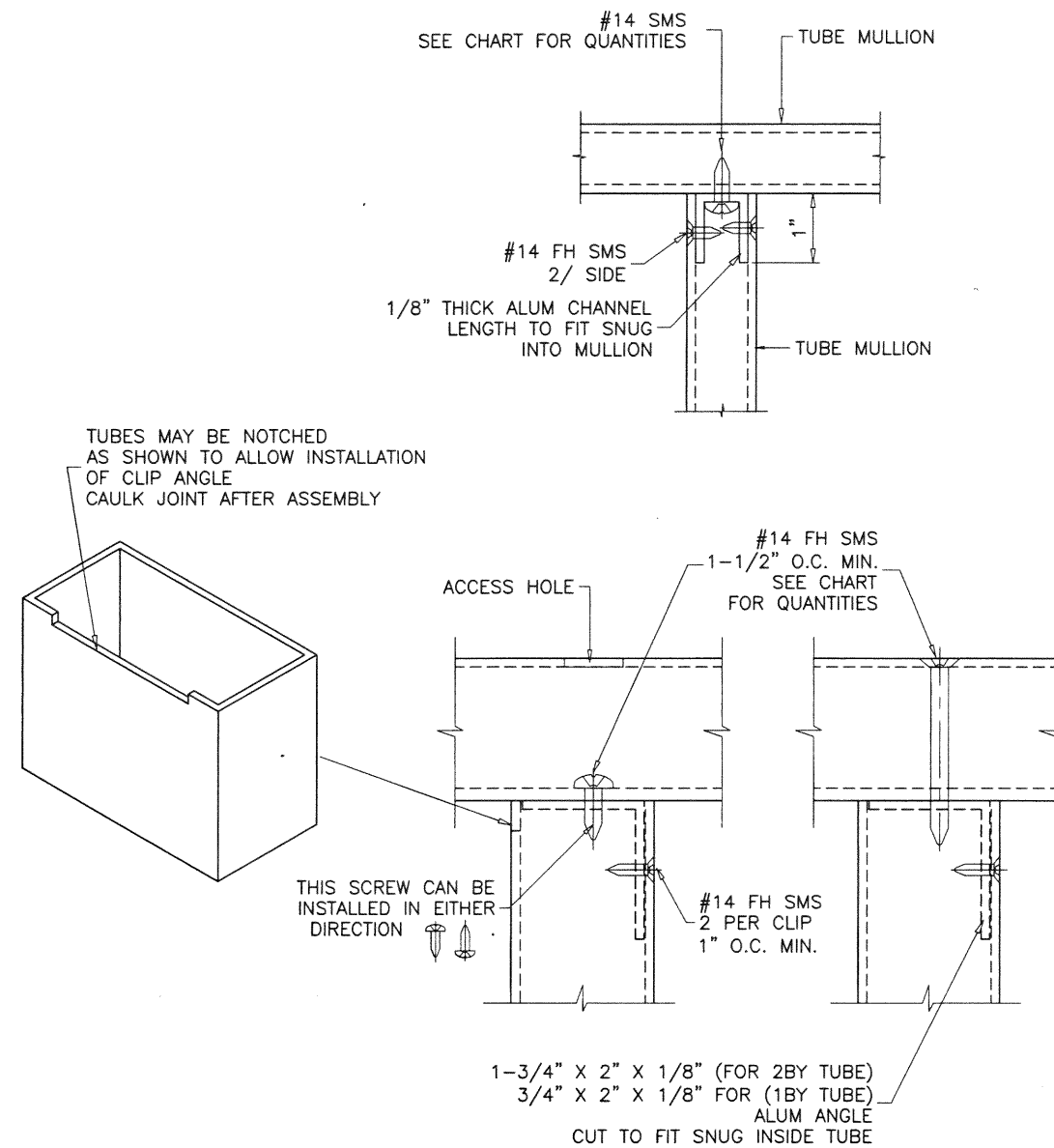
dr. by: TARIQ

chk. by:

drawing no.

M14-01

sheet 8 of 9



ANCHOR CHART	NO. OF SCREWS
TYPE A2	2
TYPE A4	3
TYPE A6	4

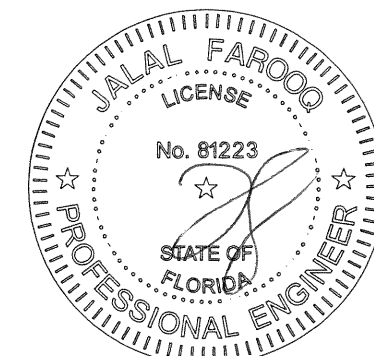
**ANCHORS DETAIL #1**  
METAL TO METAL CONNECTION

#14 SMS		
SUBSTRATE	Ed. = MIN. EDGE DIST.	MIN. CL TO CL SPACING
ALUMINUM	5/8"	1/2"

**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. 21-0122.04

Expiration Date 10/23/2024

By *Ishag I. Chanki*  
Miami-Dade Product Control



JAN 03 2021

**af c**  
**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
9360 SUNSET DRIVE, SUITE 220  
MIAMI, FLORIDA 33173 (C.A.N. 3538)  
TEL. (305) 264-8100 FAX. (305) 262-6978

**ALUMINUM TUBE MULLIONS**  
**ECO WINDOW SYSTEMS, LLC.**  
8502 N.W. 80th STREET  
MEDLEY, FL. 33166  
TEL. (305) 885-5299 FAX (305) 885-5902

revisions:	no	date	by	description
	A	11.15.17		UPDATED TO 2017 FBC
	B	11.05.20		UPDATED TO 2020 FBC

date: 05-19-14	scale: 3/8" = 1"	dr. by: TARIQ	chk. by:
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drawing no.  
**M14-01**  
sheet 9 of 9