



**MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION**

11805 SW 26 Street, Room 208

Miami, FL 33175

T (786) 315-2590 F (786) 315-2599

www.miamidade.gov/economy

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

NOTICE OF ACCEPTANCE (NOA)

**CGI Windows and Doors, LLC
3780 W 104th Street
Hialeah, FL 33018**

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 "Sentinel" Unclipped, Extruded Aluminum Tube Mullion - L.M.I.

APPROVAL DOCUMENT: Drawing No. MD-SENMUL, titled "Alum. Unclipped Tube Mullions (LM)", sheets 1 through 6 of 6, dated 08/02/23, with revision C dated 03/12/25, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, 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, model/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 and renews** NOA No. 23-0913.02 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 **Manuel Perez, P.E.**




4/3/25

NOA No. 25-0319.04
Expiration Date: September 22, 2030
Approval Date: April 10, 2025
Page 1

CGI Windows and Doors, LLC

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS NOA's

A. DRAWINGS

1. Manufacturer's die drawings and sections.
(Submitted under NOA No.10-0510.14)
2. Drawing No. MD-SENMUL, titled "Alum. Unclipped Tube Mullions (LM)", sheets 1 through 6 of 6, dated 06/03/20, with revision **B** dated 08/02/23, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.
(Submitted under NOA No.23-0913.02)

B. TESTS

1. 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
along with marked-up drawings and installation diagram of an aluminum tube mullion, prepared by Hurricane test Laboratory, LLC, Test Report No. **HTL-0080-0303-11**, dated 03/24/11, signed and sealed by Vinu J. Abraham, P.E.
(Submitted under NOA No.11-0330.22)
2. 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) Large Missile Impact Test per FBC, TAS 201-94
5) Cyclic Wind Pressure Loading per FBC, TAS 203-94
along with marked-up drawings and installation diagram of an aluminum tube mullion, prepared by Hurricane test Laboratory, LLC, Test Report No. **HTL-0080-0301-10**, dated 03/30/10, signed and sealed by Vinu J. Abraham, P.E.
(Submitted under NOA No.10-0510.14)

C. CALCULATIONS

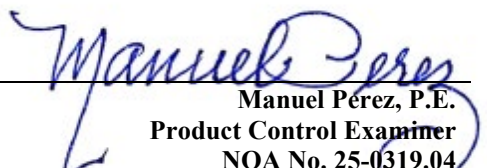
1. Anchor verification calculations and structural analysis, complying with FBC 7th Edition (2020) and FBC 8th Edition (2023) dated 08/08/23, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.
(Submitted under NOA No.20-0610.11)

D. QUALITY ASSURANCE

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

E. MATERIAL CERTIFICATIONS

1. None.


Manuel Perez, P.E.
Product Control Examiner
NOA No. 25-0319.04
Expiration Date: September 22, 2030
Approval Date: April 10, 2025

CGI Windows and Doors, LLC

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

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

F. STATEMENTS

1. Statement letter of conformance, complying with **FBC 7th Edition (2020)**, with **FBC 8th Edition (2023)**, and of no financial interest, dated August 23, 2023, signed and sealed by Anthony Lynn Miller, P.E.
(Submitted under NOA No.23-0913.02)
2. Statement letter of successor engineer per 61G15-27.001 Florida Administrative Code.
(Submitted under NOA No.20-0610.11)
3. Proposal No. **09-1942** issued by BCCO, dated November 05, 2009, signed by Manuel Perez, P.E.
(Submitted under NOA No.10-0510.14)

G. OTHERS

1. Notice of Acceptance No. **20-0610.11**, issued to CGI Windows and Doors, Inc. for their Series "Sentinel" Unclipped Mullion - L.M.I. approved on 09/10/20 and expiring on 09/22/25.


Manuel Perez, P.E.
Product Control Examiner
NOA No. 25-0319.04
Expiration Date: September 22, 2030
Approval Date: April 10, 2025

CGI Windows and Doors, LLC

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

2. NEW EVIDENCE SUBMITTED

A. DRAWINGS

1. Drawing No. **MD-SENMUL**, titled “Alum. Unclipped Tube Mullions (LM)”, sheets 1 through 6 of 6, dated 08/02/23, with revision **C** dated 03/12/25, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.

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 8th Edition (2023)**, dated March 13, 2025, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.
2. Statement letter of no financial interest, dated March 13, 2025, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.
3. Certificate of conversion for the formation of CGI Windows and Doors, LLC from CGI Windows and Doors, Inc. dated March 28, 2024, issued by the State of Delaware, signed by Mathew G. DeSoto.
4. Florida Department of State, Division of Corporation listing # M240000058609 of CGI Windows and Doors, LLC as active status since 07/08/24.
5. CGI Name change organization chart layout prepared by RER (for file use only).

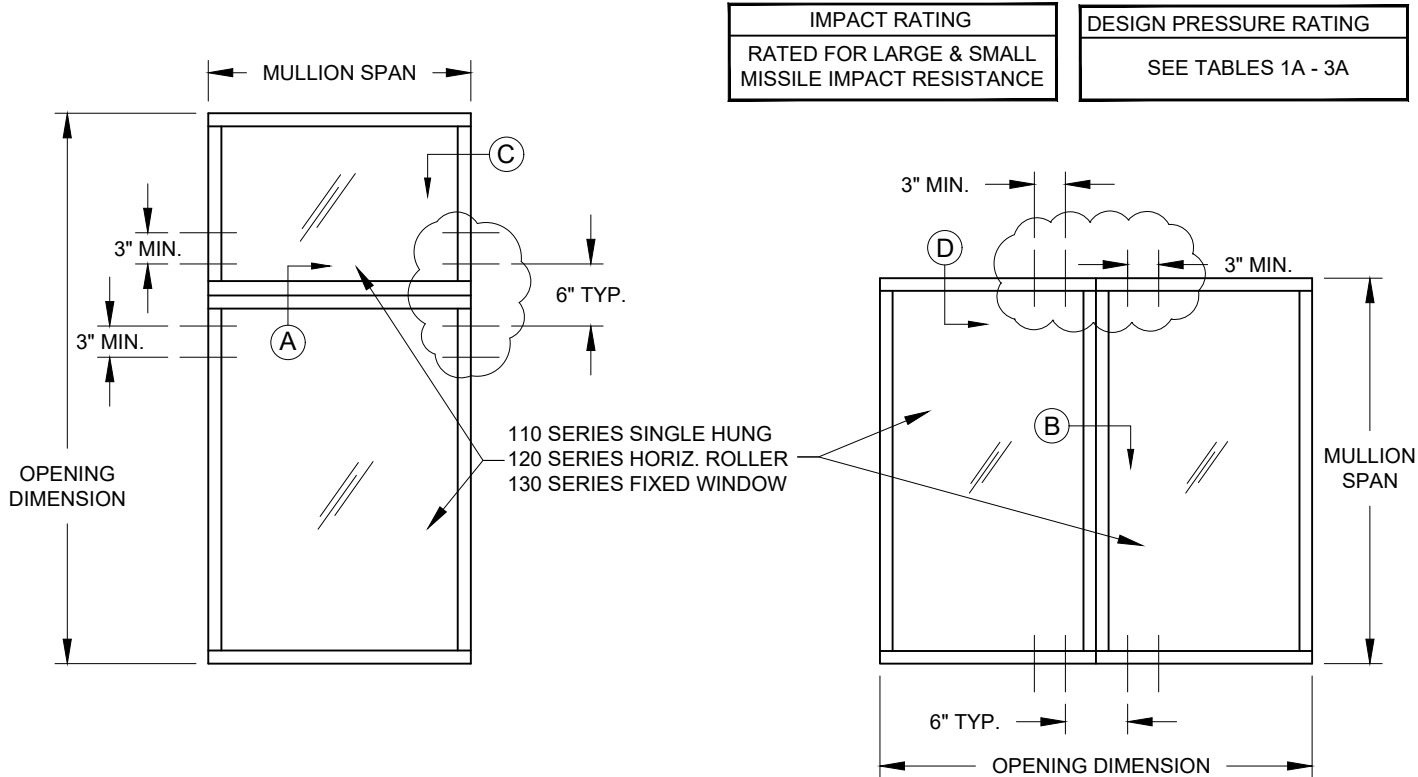
G. OTHERS

1. Notice of Acceptance No. **23-0913.02**, issued to CGI Windows and Doors, Inc. for their Series “Sentinel” Unclipped Mullion - L.M.I. approved on 10/26/23 and expiring on 09/22/25.

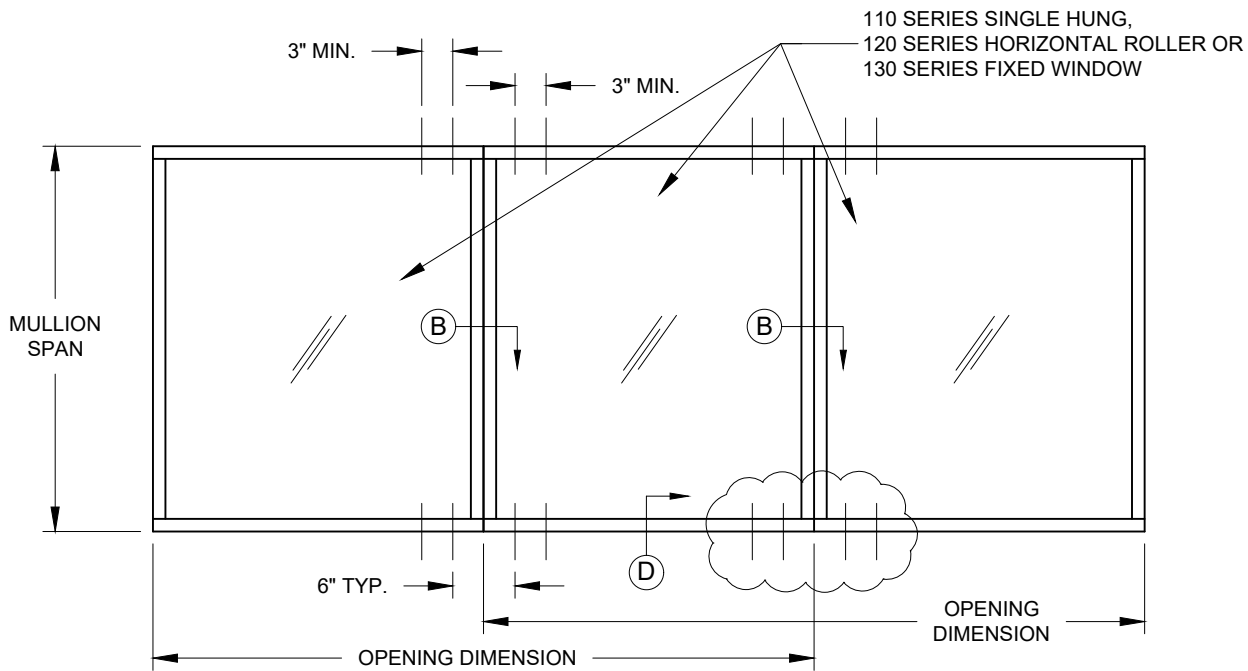

Manuel Perez, P.E.
Product Control Examiner
NOA No. 25-0319.04
Expiration Date: September 22, 2030
Approval Date: April 10, 2025

SENTINAL SERIES, IMPACT-RESISTANT, UNCLIPPED
ALUMINUM TUBE MULLIONS

- 1) MULLIONS HAVE BEEN DESIGNED & TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE, AND ARE APPROVED FOR IMPACT AND NON-IMPACT APPLICATIONS IN THE HVHZ. MULLIONS ARE ONLY TO BE USED WITH THE SENTINAL SERIES FENESTRATION PRODUCTS.
- 2) INSTALLATION DETAILS SHOWN ARE FOR THE MULLION ONLY. ANCHORS SHOWN ARE IN ADDITION TO ANY ANCHORS REQUIRED FOR THE FENESTRATION PRODUCT INSTALLATION. TYPICAL APPLICATIONS ARE SHOWN. EACH SITUATION IS UNIQUE AND SHOULD BE EVALUATED BY AN EXPERIENCED INSTALLER FOR THE BEST INSTALLATION METHOD. OPTIONAL 1X OR 2X WOOD BUCKS IF USED, MUST BE ANCHORED PROPERLY TO TRANSFER LOADS AND ARE TO BE DESIGNED BY OTHERS.
- 4) THE ANCHORAGE METHODS SHOWN HAVE BEEN DESIGNED TO RESIST THE WINDLOADS CORRESPONDING TO THE REQUIRED DESIGN PRESSURE. MULLIONS ARE CALCULATED TO DEFLECT NO MORE THAN L/180. THE 1/3 STRESS INCREASE WAS NOT USED IN THIS ANCHOR EVALUATION. THE 1.6 LOAD DURATION FACTOR WAS USED FOR THE EVALUATION OF WOOD SCREWS.
- 5) PROPER SEALING OF ENTIRE ASSEMBLY IS THE RESPONSIBILITY OF OTHERS AND IS BEYOND THE SCOPE OF THESE INSTRUCTIONS.
- 6) USE THE COMBINED WIDTH OR HEIGHT OF ONLY TWO ADJACENT FENESTRATION PRODUCTS TO DETERMINE PRESSURES AND ANCHORAGE FOR THE COMMON MULLION. FOR MULTIPLE UNITS, CONSIDER ONLY TWO ADJACENT UNITS AT A TIME WHEN USING THE DESIGN PRESSURE AND ANCHORAGE TABLES. THE LOWEST DESIGN PRESSURE OF MULTIPLE MULLIONS OR FENESTRATION PRODUCTS SHALL APPLY TO THE ENTIRE SYSTEM.
- 7) ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO. WOOD BUCKS BY OTHERS. MUST BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE STRUCTURE. ANCHORS SHALL BE COATED OR CORROSION RESISTANT AS APPROPRIATE FOR SUBSTRATE MATERIAL. DISSIMILAR MATERIALS SHALL BE PROTECTED AS REQUIRED TO PREVENT REACTIONS.
- 8) REFERENCE: DEWALT ULTRACON+, AGGRE-GATOR & CRETEFLEX NOA'S.
- 9) QUANTITY OF UNITS WITHIN A MULTIPLE MULLED ASSEMBLY IS UNLIMITED PROVIDED THAT THE SPAN AND OPENING WIDTH/HEIGHT OF EACH INDIVIDUAL MULLION COMPLIES WITH THE REQUIREMENTS OF THIS APPROVAL.
- 10) SUBSTRATES: CONCRETE SHALL CONFORM TO ACI 301 SPECIFICATIONS. HOLLOW AND GROUT-FILLED CONCRETE BLOCK UNIT (CMU) SHALL CONFORM TO ASTM C-90. WOOD SHALL HAVE A MIN. SG OF 0.55. ALUMINUM SHALL BE 6063-T5 AND BE A MINIMUM OF .125" THICK. STEEL STUDS TO BE A MINIMUM GRADE 33 AND 0.045" THICK (18 GAUGE). STRUCTURAL STEEL TO BE AT LEAST .125" THICK AND A36. ALL ANCHORS INTO METAL SHALL EXTEND AT LEAST 3 SCREW THREADS BEYOND THE MATERIAL. #12 & #14 ANCHORS INTO WOOD MAY BE STEEL, 18-8 S.S. OR 410 S.S.
- INSTRUCTIONS:**
- 1) DETERMINE THE ALLOWABLE STRESS DESIGN PRESSURE REQUIREMENT (LBS/FT²) FOR THE OPENING USING THE **ASCE-7 STANDARD**.
- 2) TO FIND THE DESIGN PRESSURE OF THE MULLION, USE TABLES 1A THROUGH 3A. THE MULLION DESIGN PRESSURE OBTAINED SHALL MEET OR EXCEED THE DESIGN PRESSURE REQUIREMENT FOR THE OPENING OBTAINED IN STEP 1.
- 3) AFTER OBTAINING THE MULLION'S DESIGN PRESSURE, FIND THE VALUE IN THE COLUMN TITLED "ANCHOR CAPACITY REQUIRED (LBS)". THIS VALUE REPRESENTS THE ANCHOR CAPACITY THAT MUST BE MET TO ATTAIN THE MULLION DESIGN PRESSURE.
- 4) FROM THE ANCHOR CAPACITY TABLE ON THE SAME SHEET, CHOOSE AN ANCHOR/SUBSTRATE CONDITION THAT MEETS OR EXCEEDS THE VALUE OBTAINED FROM STEP 3.
- 5) VERIFY THE DESIGN PRESSURE OF THE FENESTRATION PRODUCT TO BE USED AND COMPARE WITH THE FINAL DESIGN PRESSURE FOR THIS MULLION SYSTEM. THE LOWER OF THE TWO SHALL APPLY FOR THE ENTIRE MULLED ASSEMBLY.
- 6) HIGHLIGHT OPTION USED AND TABLE VALUES USED IN A SPECIFIC APPLICATION WHEN USING THIS APPROVAL TO APPLY FOR A PERMIT.
- 7) OPTIONALLY, IF THE MULLION DESIGN PRESSURE OBTAINED IN THE TABLE IS MUCH HIGHER THAN THE DESIGN PRESSURE REQUIREMENT FOR THE OPENING, YOU MAY USE THE "**ANCHOR CAPACITY ADJUSTMENT FORMULA**" TO OBTAIN A LOWER ANCHOR CAPACITY.



MULLION ANCHOR LOCATIONS
ADDITIONAL ANCHORS DUE TO MULLION SHOWN.
ALL OTHER ANCHORS TO BE AS PER
THE WINDOW'S APPROVAL.

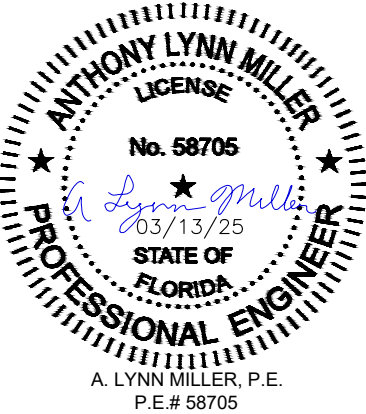


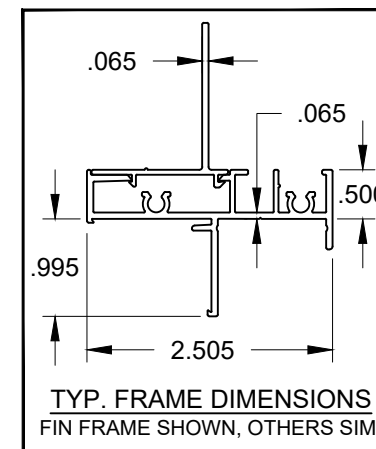
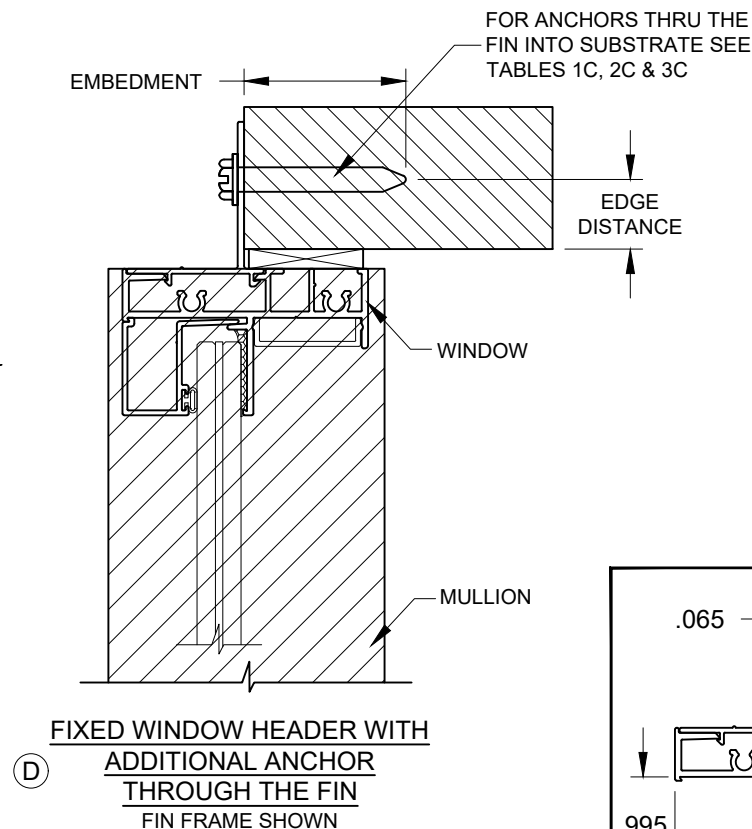
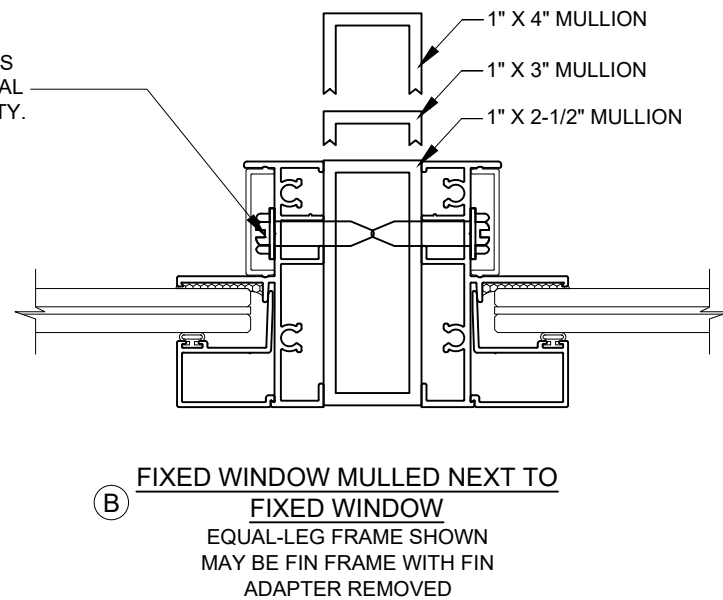
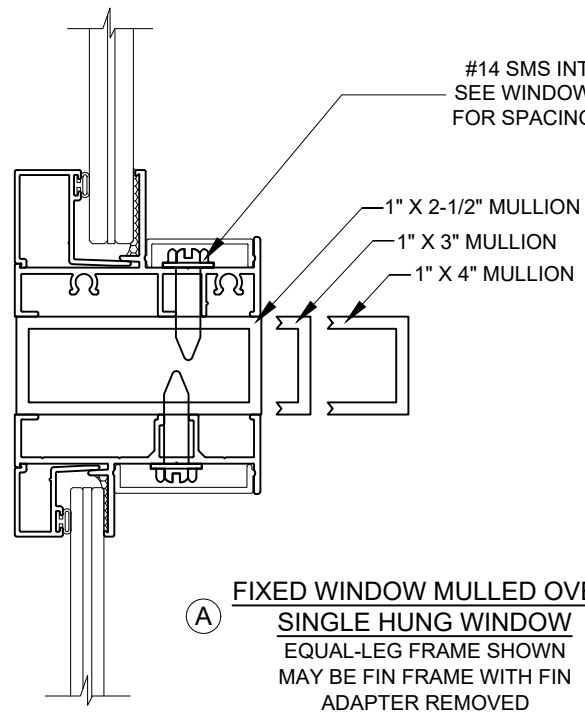
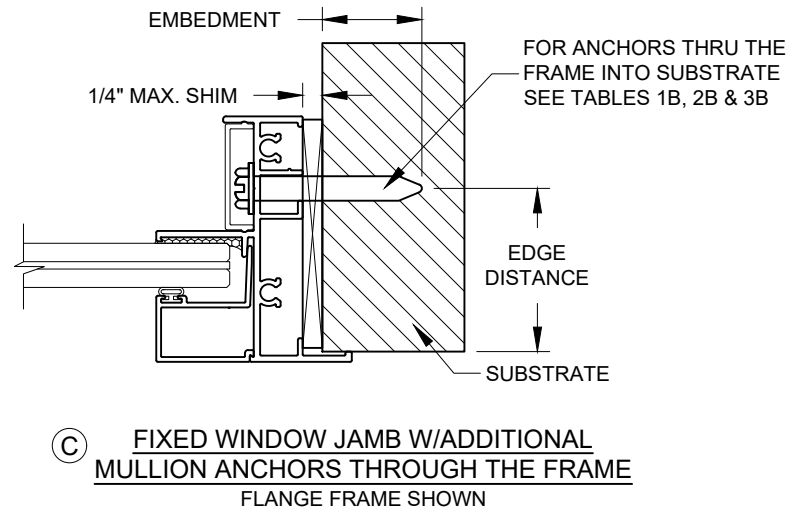
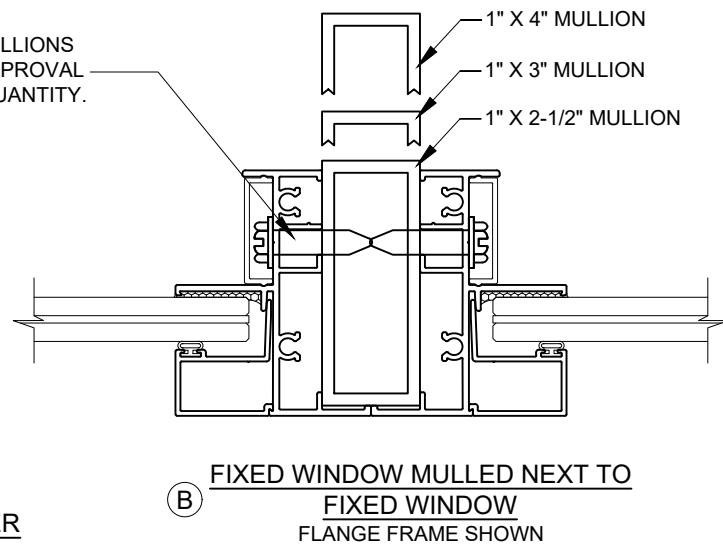
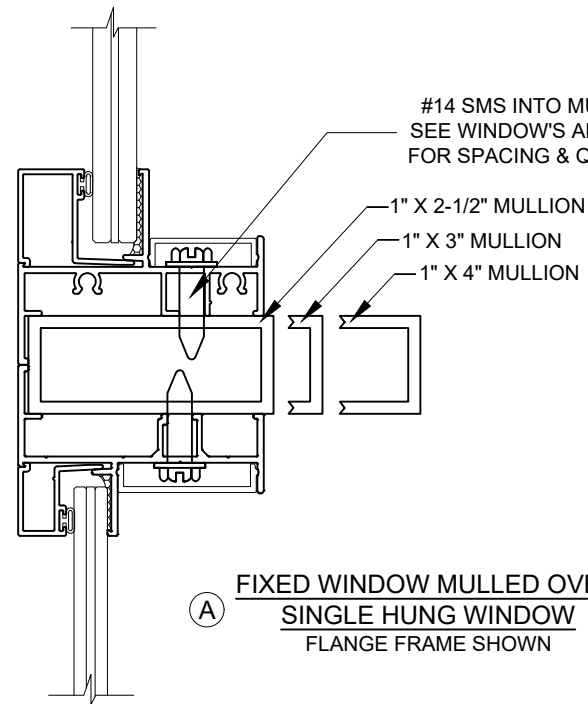
- CODES / STANDARDS USED:**
- 2023 FLORIDA BUILDING CODE (FBC), 8TH EDITION
 - ANSI/AF&PA NDS-2018 FOR WOOD CONSTRUCTION
 - ALUMINUM DESIGN MANUAL, ADM-2020
 - AISI S100-16
 - AISC 360-16

PRODUCT REVISED
As complying with the Florida
Building Code
NOA-No. **25-0319.04**
Expiration Date: **09/22/2030**
By: *Manuel Perez*
Miami-Dade Product Control

Revision: REMOVE 2020 FBC
REFERENCE - AM 3/12/25

PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600 REGISTRATION #29296	Impact Resistant Windows & Doors	3780 W 104TH STREET HIALEAH, FL 33018 (305) 593-6590	ALUM. UNCLIPPED TUBE MULLIONS (LM)	08/02/23 Date	JENS ROSOWSKI By	MD-SEN MUL	C
Impact Resistant Windows & Doors	3780 W 104TH STREET HIALEAH, FL 33018 (305) 593-6590	ALUM. UNCLIPPED TUBE MULLIONS (LM)	GENERAL NOTES & ELEVATIONS	1 OF 6	SENTINEL	1 OF 6	C





NOTES

- 1) EXAMPLE DETAILS SHOWN. MULLION ATTACHMENT MAY BE TO ANY COMBINATION OF FRAME TYPES AND TO ANY WINDOW TYPE.
- 2) FOR FIN FRAMES, REMOVE THE FIN ALONG THE WINDOW FRAME AT THE MULLION LOCATION. THE ENDS OF THE MULLION MUST BE SEALED AND WEATHERPROOFED BY INSTALLER.
- 3) SUBSTRATE MAY BE MASONRY, WOOD OR METAL, PER ANCHOR TYPE.

PRODUCT REVISED
As complying with the Florida Building Code
NOA-No. **25-0319.04**
Expiration Date: **09/22/2030**
By: *Manuel Perez*
Miami-Dade Product Control

Revision: REMOVE 2020 FBC
REFERENCE - AM 3/12/25

PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275	REGISTRATION #29296 (941) 480-1600	Date	08/02/23	By	JENS ROSOWSKI	Rev.	C
Impact Resistant Windows & Doors	3780 W 104TH STREET HIALEAH, FL 33018 (305) 593-6590	ALUM. UNCLIPPED TUBE MULLIONS (LM)		CROSS SECTIONS		2 OF 6	
		SENTINEL		MD-SENMUL			

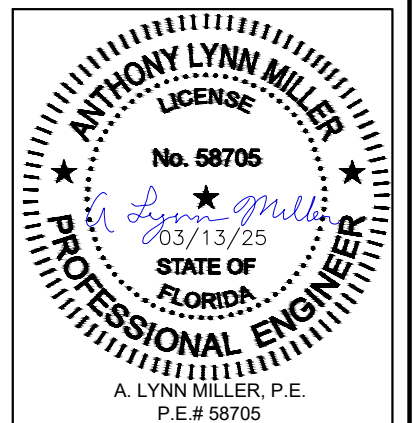


TABLE 1A:

Mullion Design Pressure (lbs/ft ²)																			
1" x 2-1/2" x 1/8" Alum. Tube Mullion		Opening Dimension																	
		50 in		60 in		70 in		80 in		90 in		100 in		120 in		140 in		160 in	
		Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)
Mullion Span	42 in	+/- 135.0	346	+/- 135.0	380	+/- 135.0	402	+/- 135.0	413	+/- 135.0	413	+/- 135.0	413	+/- 135.0	413	+/- 135.0	413	+/- 135.0	413
	48 in	+/- 135.0	416	+/- 135.0	464	+/- 135.0	500	+/- 135.0	525	+/- 135.0	538	+/- 135.0	540	+/- 135.0	540	+/- 135.0	540	+/- 135.0	540
	50-5/8 in	+/- 135.0	447	+/- 135.0	501	+/- 135.0	543	+/- 135.0	574	+/- 135.0	593	+/- 135.0	601	+/- 135.0	601	+/- 135.0	601	+/- 135.0	601
	54 in	+/- 135.0	486	+/- 135.0	548	+/- 135.0	599	+/- 132.5	626	+/- 126.0	620	+/- 122.5	617	+/- 121.6	616	+/- 121.6	616	+/- 121.6	616
	60 in	+/- 131.6	543	+/- 113.2	530	+/- 100.8	520	+/- 92.2	512	+/- 86.4	506	+/- 82.7	502	+/- 79.8	499	+/- 79.8	499	+/- 79.8	499
	63 in	+/- 112.9	495	+/- 96.8	484	+/- 85.9	475	+/- 78.2	467	+/- 72.9	461	+/- 69.3	457	+/- 65.9	453	+/- 65.6	452	+/- 65.6	452
	66 in	+/- 97.6	453	+/- 83.5	444	+/- 73.8	435	+/- 67.0	428	+/- 62.1	422	+/- 58.7	418	+/- 55.1	413	+/- 54.5	412	+/- 54.5	412
	72 in	+/- 74.5	385	+/- 63.5	377	+/- 55.8	370	+/- 50.3	364	+/- 46.3	358	+/- 43.4	354	+/- 39.9	349	+/- 38.5	347	+/- 38.5	346
	76 in	+/- 63.0	347	+/- 53.6	340	+/- 47.0	334	+/- 42.2	329	+/- 38.7	324	+/- 36.1	320	+/- 32.8	314	+/- 31.3	312	+/- 31.0	311
	78 in	+/- 58.2	331	+/- 49.4	324	+/- 43.3	318	+/- 38.8	313	+/- 35.6	308	+/- 33.1	304	+/- 29.9	299	+/- 28.3	296	+/- 27.9	295
	90 in	+/- 37.5	252	+/- 31.7	247	+/- 27.6	243	+/- 24.6	239	+/- 22.4	236	+/- 20.6	233	+/- 18.2	228	+/- 16.8	224	+/- 16.0	222
	96 in	+/- 30.7	223	+/- 25.9	219	+/- 22.6	215	+/- 20.1	212	+/- 18.2	209	+/- 16.7	206						
	108 in	+/- 21.5	178	+/- 18.1	175	+/- 15.7	172												
	111 in	+/- 19.7	169	+/- 16.6	166														
	120 in	+/- 15.6	145																

TABLE NOTES:

1) WHEN FINDING YOUR SIZE IN THE MULLION TABLE, ALWAYS ROUND UP TO THE NEXT SIZE SHOWN ON THE TABLE. LINEAR INTERPOLATION BETWEEN MULLSPANS AND/OR OPENING WIDTHS IS ALLOWABLE.

2) IF A LOWER ANCHOR CAPACITY IS DESIRED, USE THE ANCHOR CAPACITY ADJUSTMENT FORMULA ON THIS SHEET TO CALCULATE THE CORRESPONDING LOWER DESIGN PRESSURE OF THE ANCHOR/MULLION SYSTEM.

3) THIS APPROVAL IS NOT APPLICABLE FOR CROSSING MULLIONS.

4) MULLIONS RATED IN THESE TABLES WITH ANY COMBINATION OF FIXED, SINGLE HUNG OR HORIZONTAL SLIDING WINDOWS MAY BE ORIENTED VERTICALLY OR HORIZONTALLY.

TABLE 1B:

Anchor Capacity (lbs) for Flange & Equal-Leg Frames	Substrate:	3k Concrete				3.5k Conc.	Hollow or Filled CMU						Filled CMU	Wood		Metal
	Anchor Type:	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		5/16" Elco Ultracon	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		1/4" Elco CreteFlex	1/4" Elco AggreGator	1/4" Elco AggreGator	#12 Steel Screw	#14 Steel Screw	#12 Steel Screw
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2-1/2"	2"	2"	0.54"	0.60"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	0.045"
1 Additional Anchor @ each side of Mullion		310 lbs	488 lbs	220 lbs	650 lbs	813 lbs	230 lbs	370 lbs	320 lbs	580 lbs	494 lbs	374 lbs	650 lbs	416 lbs	513 lbs	561 lbs
2 Additional Anchors @ each side of Mullion		620 lbs	975 lbs	440 lbs	1300 lbs	1625 lbs	460 lbs	740 lbs	640 lbs	1160 lbs	988 lbs	748 lbs	1300 lbs	832 lbs	1026 lbs	1122 lbs
3 Additional Anchors @ each side of Mullion		930 lbs	1463 lbs	660 lbs	1950 lbs	2438 lbs	690 lbs	1110 lbs	960 lbs	1740 lbs	1482 lbs	1122 lbs	1950 lbs	1248 lbs	1539 lbs	1682 lbs
4 Additional Anchors @ each side of Mullion		1240 lbs	1950 lbs	880 lbs	2600 lbs	3250 lbs	920 lbs	1480 lbs	1280 lbs	2320 lbs	1976 lbs	1496 lbs	2600 lbs	1664 lbs	2052 lbs	2243 lbs

SEE SUBSTRATE PROPERTIES, SHEET 1.

TABLE 1C:

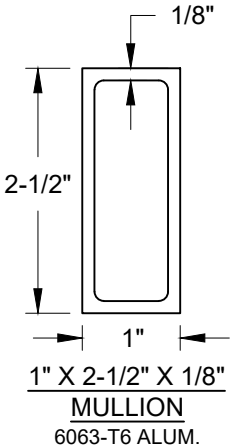
Anchor Capacity (lbs) for Fin Frames	Substrate:	Wood or 0.057" Metal (18 GA)		
	Anchor Type:	Steel, 410 SS or 18-8 SMS		
		#10	#12	#14
	Edge Distance (in):	0.47"	0.54"	0.60"
	Wood Embedment (in):	1-3/8"	1-3/8"	1-3/8"
1 Additional Anchor @ each side of Mullion		224 lbs	266 lbs	297 lbs
2 Additional Anchors @ each side of Mullion		448 lbs	531 lbs	593 lbs
3 Additional Anchors @ each side of Mullion		673 lbs	797 lbs	890 lbs
4 Additional Anchors @ each side of Mullion		897 lbs	1062 lbs	1186 lbs

SEE SUBSTRATE PROPERTIES, SHEET 1.

ANCHOR CAPACITY ADJUSTMENT FORMULA:

$$(DP_{REQ}) \times \left(\frac{ANCHOR\ CAP. \text{ *FROM TABLE 1A}}{MULLION\ CAP. \text{ *FROM TABLE 1A}} \right) = ANCHOR\ CAP. \text{ *REQ.}$$

USE THIS FORMULA TO OBTAIN THE "ANCHOR CAPACITY REQUIRED" CORRESPONDING TO AN ACTUAL PRESSURE REQUIREMENT FOR THE OPENING, WHEN IT IS LOWER THAN THE MULLION CAPACITY (FROM THE TABLE) OF THE SELECTED MULLION. IT WILL YIELD A MINIMUM ANCHOR CAPACITY WHICH MAY BE USED TO QUALIFY ADDITIONAL ANCHOR OPTIONS FROM THE ANCHOR CAPACITY TABLE. FOR DP_{REQ} USE THE GREATEST DP VALUE WHETHER IT'S + OR -



PRODUCT REVISED
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By: *Manuel Perez*
Miami-Dade Product Control

Revision: REMOVE 2020 FBC REFERENCE - AM 3/12/25

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275

REGISTRATION #29296
(941) 480-1600

Impact Resistant Windows & Doors

3780 W 104TH STREET
HIALEAH, FL 33018
(305) 593-6590

ALUM. UNCLIPPED TUBE MULLIONS (LM)

08/02/23

JENS ROSOWSKI

By

MD-SEN MUL

C

Rev.

1 X 2-1/2 X 1/8 CAPACITIES

3 OF 6

3

Sheet

Desc. Title

ANTHONY LYNN MILLER

LICENSE

No. 58705

03/13/25

STATE OF FLORIDA

PROFESSIONAL ENGINEER

A. LYNN MILLER, P.E.

P.E.# 58705

TABLE 2A:

Mullion Design Pressure (lbs/ft ²)																			
1" x 3" x 1/8" Alum. Tube Mullion		Opening Dimension																	
		50 in		60 in		70 in		80 in		90 in		100 in		120 in		140 in		160 in	
		Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)
Mullion Span	42 in	+/- 135.0	346	+/- 135.0	380	+/- 135.0	402	+/- 135.0	413	+/- 135.0	413	+/- 135.0	413	+/- 135.0	413	+/- 135.0	413	+/- 135.0	413
	48 in	+/- 135.0	416	+/- 135.0	464	+/- 135.0	500	+/- 135.0	525	+/- 135.0	538	+/- 135.0	540	+/- 135.0	540	+/- 135.0	540	+/- 135.0	540
	50-5/8 in	+/- 135.0	447	+/- 135.0	501	+/- 135.0	543	+/- 135.0	574	+/- 135.0	593	+/- 135.0	601	+/- 135.0	601	+/- 135.0	601	+/- 135.0	601
	54 in	+/- 135.0	486	+/- 135.0	548	+/- 135.0	599	+/- 135.0	638	+/- 135.0	664	+/- 135.0	680	+/- 135.0	683	+/- 135.0	683	+/- 135.0	683
	60 in	+/- 135.0	557	+/- 135.0	633	+/- 134.4	694	+/- 123.0	684	+/- 115.3	676	+/- 110.3	670	+/- 106.5	665	+/- 106.5	665	+/- 106.5	665
	63 in	+/- 135.0	592	+/- 129.2	646	+/- 114.6	634	+/- 104.4	623	+/- 97.3	616	+/- 92.4	610	+/- 87.9	604	+/- 87.6	603	+/- 87.6	603
	66 in	+/- 130.3	605	+/- 111.4	592	+/- 98.5	581	+/- 89.4	571	+/- 82.9	564	+/- 78.4	558	+/- 73.5	551	+/- 72.7	550	+/- 72.7	550
	72 in	+/- 99.4	513	+/- 84.7	503	+/- 74.5	493	+/- 67.2	485	+/- 61.8	478	+/- 57.9	473	+/- 53.2	465	+/- 51.4	462	+/- 51.3	462
	76 in	+/- 84.1	463	+/- 71.5	454	+/- 62.7	446	+/- 56.4	438	+/- 51.7	432	+/- 48.2	427	+/- 43.7	419	+/- 41.7	416	+/- 41.4	415
	78 in	+/- 77.6	441	+/- 65.9	432	+/- 57.7	424	+/- 51.8	417	+/- 47.4	411	+/- 44.2	406	+/- 39.9	399	+/- 37.8	395	+/- 37.3	394
	90 in	+/- 50.0	336	+/- 42.2	330	+/- 36.8	324	+/- 32.8	319	+/- 29.8	315	+/- 27.5	310	+/- 24.3	304	+/- 22.4	299	+/- 21.4	297
	96 in	+/- 41.0	297	+/- 34.6	292	+/- 30.1	287	+/- 26.8	283	+/- 24.3	279	+/- 22.3	275	+/- 19.6	269	+/- 17.8	265	+/- 16.8	262
	108 in	+/- 28.6	237	+/- 24.1	234	+/- 20.9	230	+/- 18.5	227	+/- 16.7	223	+/- 15.3	221						
	111 in	+/- 26.3	225	+/- 22.2	222	+/- 19.2	218	+/- 17.0	215	+/- 15.3	212								
120 in	+/- 20.8	194	+/- 17.5	191	+/- 15.1	188													

TABLE NOTES:

- 1) WHEN FINDING YOUR SIZE IN THE MULLION TABLE, ALWAYS ROUND UP TO THE NEXT SIZE SHOWN ON THE TABLE. LINEAR INTERPOLATION BETWEEN MULLSPANS AND/OR OPENING WIDTHS IS ALLOWABLE.
- 2) IF A LOWER ANCHOR CAPACITY IS DESIRED, USE THE ANCHOR CAPACITY ADJUSTMENT FORMULA ON THIS SHEET TO CALCULATE THE CORRESPONDING LOWER DESIGN PRESSURE OF THE ANCHOR/MULLION SYSTEM.
- 3) THIS APPROVAL IS NOT APPLICABLE FOR CROSSING MULLIONS.
- 4) MULLIONS RATED IN THESE TABLES WITH ANY COMBINATION OF FIXED, SINGLE HUNG OR HORIZONTAL SLIDING WINDOWS MAY BE ORIENTED VERTICALLY OR HORIZONTALLY.

TABLE 2B:

Anchor Capacity (lbs) for Flange & Equal-Leg Frames	Substrate:	3k Concrete				3.5k Conc.	Hollow or Filled CMU						Filled CMU	Wood		Metal
	Anchor Type:	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		5/16" Elco Ultracon	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		1/4" Elco CreteFlex	1/4" Elco AggreGator	1/4" Elco AggreGator	#12 Steel Screw	#14 Steel Screw	#12 Steel Screw
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2-1/2"	2"	2"	0.54"	0.60"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	0.045"
1 Additional Anchor @ each side of Mullion		310 lbs	488 lbs	220 lbs	650 lbs	813 lbs	230 lbs	370 lbs	320 lbs	580 lbs	494 lbs	374 lbs	650 lbs	416 lbs	513 lbs	561 lbs
2 Additional Anchors @ each side of Mullion		620 lbs	975 lbs	440 lbs	1300 lbs	1625 lbs	460 lbs	740 lbs	640 lbs	1160 lbs	988 lbs	748 lbs	1300 lbs	832 lbs	1026 lbs	1122 lbs
3 Additional Anchors @ each side of Mullion		930 lbs	1463 lbs	660 lbs	1950 lbs	2438 lbs	690 lbs	1110 lbs	960 lbs	1740 lbs	1482 lbs	1122 lbs	1950 lbs	1248 lbs	1539 lbs	1682 lbs
4 Additional Anchors @ each side of Mullion		1240 lbs	1950 lbs	880 lbs	2600 lbs	3250 lbs	920 lbs	1480 lbs	1280 lbs	2320 lbs	1976 lbs	1496 lbs	2600 lbs	1664 lbs	2052 lbs	2243 lbs

SEE SUBSTRATE PROPERTIES, SHEET 1.

TABLE 2C:

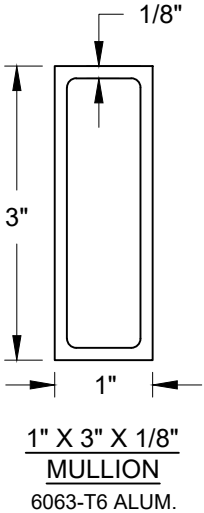
Anchor Capacity (lbs) for Fin Frames	Substrate:	Wood or 0.057" Metal (18 GA)		
	Anchor Type:	Steel, 410 SS or 18-8 SMS		
		#10	#12	#14
	Edge Distance (in):	0.47"	0.54"	0.60"
	Wood Embedment (in):	1-3/8"	1-3/8"	1-3/8"
	1 Additional Anchor @ each side of Mullion	224 lbs	266 lbs	297 lbs
	2 Additional Anchors @ each side of Mullion	448 lbs	531 lbs	593 lbs
	3 Additional Anchors @ each side of Mullion	673 lbs	797 lbs	890 lbs
	4 Additional Anchors @ each side of Mullion	897 lbs	1062 lbs	1186 lbs

SEE SUBSTRATE PROPERTIES, SHEET 1.

ANCHOR CAPACITY ADJUSTMENT FORMULA:

$$(DP_{REQ}) \times \left(\frac{\text{ANCHOR CAP.}^{*FROM\ TABLE\ 2A}}{\text{MULLION CAP.}^{*FROM\ TABLE\ 2A}} \right) = \text{ANCHOR CAP.}_{REQ.}$$

USE THIS FORMULA TO OBTAIN THE "ANCHOR CAPACITY REQUIRED" CORRESPONDING TO AN ACTUAL PRESSURE REQUIREMENT FOR THE OPENING, WHEN IT IS LOWER THAN THE MULLION CAPACITY (FROM THE TABLE) OF THE SELECTED MULLION. IT WILL YIELD A MINIMUM ANCHOR CAPACITY WHICH MAY BE USED TO QUALIFY ADDITIONAL ANCHOR OPTIONS FROM THE ANCHOR CAPACITY TABLE. FOR DP_{REQ} USE THE GREATEST DP VALUE WHETHER IT'S + OR -



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ALUM. UNCLIPPED TUBE MULLIONS (LM)

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JENS ROSOWSKI

1 X 3 X 1/8 CAPACITIES

MD-SENMUL

C

Rev.

4 OF 6

DWG

No.

SENTINEL

Sheet

Series

Desc.

Title

ANTHONY LYNN MILLER
LICENSE
No. 58705
03/13/25
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.# 58705

1" X 3" X 1/8"
MULLION
6063-T6 ALUM.

TABLE 3A:

Mullion Design Pressure (lbs/ft ²)																			
1" x 4" x 1/8" Alum. Tube Mullion		Opening Dimension																	
		50 in		60 in		70 in		80 in		90 in		100 in		120 in		140 in		160 in	
		Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft ²)	Anchor Capacity Required (lbs)
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	48 in	+/- 135.0	416	+/- 135.0	464	+/- 135.0	500	+/- 135.0	525	+/- 135.0	538	+/- 135.0	540	+/- 135.0	540	+/- 135.0	540	+/- 135.0	540
	50-5/8 in	+/- 135.0	447	+/- 135.0	501	+/- 135.0	543	+/- 135.0	574	+/- 135.0	593	+/- 135.0	601	+/- 135.0	601	+/- 135.0	601	+/- 135.0	601
	54 in	+/- 135.0	486	+/- 135.0	548	+/- 135.0	599	+/- 135.0	638	+/- 135.0	664	+/- 135.0	680	+/- 135.0	683	+/- 135.0	683	+/- 135.0	683
	60 in	+/- 135.0	557	+/- 135.0	633	+/- 135.0	697	+/- 135.0	750	+/- 135.0	791	+/- 135.0	820	+/- 135.0	844	+/- 135.0	844	+/- 135.0	844
	63 in	+/- 135.0	592	+/- 135.0	675	+/- 135.0	746	+/- 135.0	806	+/- 135.0	854	+/- 135.0	891	+/- 135.0	928	+/- 135.0	930	+/- 135.0	930
	66 in	+/- 135.0	627	+/- 135.0	717	+/- 135.0	796	+/- 135.0	863	+/- 135.0	918	+/- 135.0	961	+/- 129.1	969	+/- 127.7	966	+/- 127.7	966
	72 in	+/- 135.0	697	+/- 135.0	802	+/- 130.8	866	+/- 118.0	852	+/- 108.6	840	+/- 101.7	830	+/- 93.4	817	+/- 90.3	812	+/- 90.2	812
	76 in	+/- 135.0	744	+/- 125.5	798	+/- 110.1	783	+/- 99.0	770	+/- 90.8	759	+/- 84.6	749	+/- 76.8	736	+/- 73.3	730	+/- 72.6	728
	78 in	+/- 135.0	768	+/- 115.7	760	+/- 101.4	746	+/- 91.0	733	+/- 83.3	723	+/- 77.6	714	+/- 70.1	701	+/- 66.4	694	+/- 65.5	692
	90 in	+/- 87.8	591	+/- 74.2	580	+/- 64.7	570	+/- 57.7	561	+/- 52.4	553	+/- 48.3	545	+/- 42.7	534	+/- 39.3	526	+/- 37.5	521
	96 in	+/- 72.1	522	+/- 60.8	513	+/- 52.9	505	+/- 47.1	497	+/- 42.6	490	+/- 39.2	483	+/- 34.4	472	+/- 31.3	465	+/- 29.6	460
	108 in	+/- 50.3	417	+/- 42.3	410	+/- 36.7	404	+/- 32.6	398	+/- 29.4	392	+/- 26.9	387	+/- 23.3	379	+/- 21.0	372	+/- 19.4	367
	111 in	+/- 46.3	396	+/- 38.9	389	+/- 33.7	383	+/- 29.9	378	+/- 27.0	373	+/- 24.6	368	+/- 21.3	360	+/- 19.1	353	+/- 17.6	348
	120 in	+/- 36.5	341	+/- 30.7	336	+/- 26.5	331	+/- 23.5	326	+/- 21.1	322	+/- 19.3	318	+/- 16.6	311				
144 in	+/- 21.0	240	+/- 17.6	237	+/- 15.2	234													

CIRCLED VALUES ARE USED IN THE EXAMPLE ON SHEETS 6.

TABLE 3B:

Anchor Capacity (lbs) for Flange & Equal-Leg Frames	Substrate:	3k Concrete				3.5k Conc.	Hollow or Filled CMU						Filled CMU	Wood		Metal
	Anchor Type:	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		5/16" Elco Ultracon	3/16" DeWalt Ultracon+		1/4" DeWalt Ultracon+		1/4" Elco CreteFlex	1/4" Elco AggreGator	1/4" Elco AggreGator	#12 Steel Screw	#14 Steel Screw	#12 Steel Screw
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2-1/2"	2"	2"	0.54"	0.60"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	0.045"
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SEE SUBSTRATE PROPERTIES, SHEET 1.

TABLE 3C:

Anchor Capacity (lbs) for Fin Frames	Substrate:	Wood or 0.057" Metal (18 GA)		
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ANCHOR CAPACITY ADJUSTMENT FORMULA:

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TABLE NOTES:

- 1) WHEN FINDING YOUR SIZE IN THE MULLION TABLE, ALWAYS ROUND UP TO THE NEXT SIZE SHOWN ON THE TABLE. LINEAR INTERPOLATION BETWEEN MULLSPANS AND/OR OPENING WIDTHS IS ALLOWABLE.
- 2) IF A LOWER ANCHOR CAPACITY IS DESIRED, USE THE ANCHOR CAPACITY ADJUSTMENT FORMULA ON THIS SHEET TO CALCULATE THE CORRESPONDING LOWER DESIGN PRESSURE OF THE ANCHOR/MULLION SYSTEM.
- 3) THIS APPROVAL IS NOT APPLICABLE FOR CROSSING MULLIONS.
- 4) MULLIONS RATED IN THESE TABLES WITH ANY COMBINATION OF FIXED, SINGLE HUNG OR HORIZONTAL SLIDING WINDOWS MAY BE ORIENTED VERTICALLY OR HORIZONTALLY.

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08/02/23
Date

JENS ROSOWSKI
By

ALUM. UNCLIPPED TUBE MULLIONS (LM)

1 X 4 X 1/8 CAPACITIES

MD-SENMUL

5 OF 6

SENTINEL

Rev.

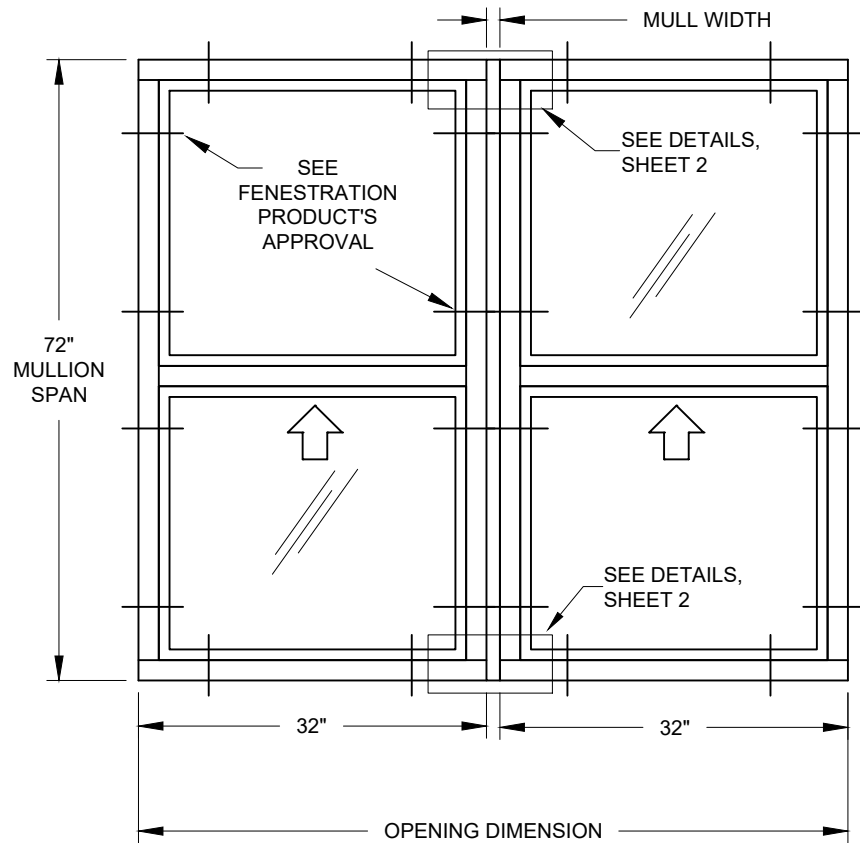
DWG

Sheet

Series

Title

ANTHONY LYNN MILLER
LICENSE
No. 58705
03/13/25
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.# 58705



EXAMPLE 2: SINGLE VERTICAL MULLION

THE BUILDING SUBSTRATE IS KNOWN TO BE WOOD ON ALL FOUR SIDES. THE WINDOW FRAME DEPTH IS 2-3/4". THE OPENING REQUIRES A DESIGN PRESSURE OF +80.0/-95.0 PSF.

1) THE MULLION SPAN IS 72" AND THE OPENING DIMENSION IS 32"+32"+1" = 65" (WIDTH OF 2 WINDOWS AND A MULLION). SCAN THE MULLION TABLES FOR A MULLION THAT IS AT LEAST THE WINDOW FRAME DEPTH OF 2-1/2" AND WILL MEET OR EXCEED THE REQUIRED DESIGN PRESSURE OF +60.0/-60.0 PSF. IF THE TABLE DOES NOT SHOW THE EXACT SIZE, USE THE NEXT LARGER SIZE AVAILABLE.

FROM TABLE 1A, SHEET 3, THE 1" X 2-1/2" X 1/8" MULLION (SPAN = 72", OPENING DIMENSION = 70") HAS A DESIGN PRESSURE OF ONLY +/-55.8 PSF AND WOULD NOT BE SUITABLE FOR THIS APPLICATION.

FROM TABLE 2A, SHEET 4, THE 1" X 3" X 1/8" MULLION (SPAN = 72", OPENING DIMENSION = 70") HAS A DESIGN PRESSURE OF ONLY +/-74.5 PSF AND WOULD NOT BE SUITABLE FOR THIS APPLICATION.

FROM TABLE 3A, SHEET 5, THE 1" X 4" X 1/8" MULLION (SPAN = 72", OPENING DIMENSION = 70") HAS A DESIGN PRESSURE OF +/-130.8 PSF WHICH EXCEEDS THE REQUIREMENTS FOR THE OPENING AND MAY BE USED IN THIS APPLICATION. NOTE THE ANCHOR CAPACITY REQUIRED FOR THIS DESIGN PRESSURE IS 866 LBS.

2) USE TABLE 3B TO FIND THE ANCHOR TYPE AND ANCHOR QUANTITY REQUIRED FOR THE WOOD SUBSTRATE. THREE (3) #12 ANCHORS ON EACH SIDE OF THE MULLION END HAVE A CAPACITY OF 1248 LBS AND CAN BE USED SINCE THEY EXCEED THE REQUIRED ANCHOR CAPACITY OF 866 LBS.

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

IN THIS EXAMPLE, THE DESIGN PRESSURE REQUIRED WAS +80.0/-95.0 PSF. THE OVERALL MULLION SYSTEM WAS DETERMINED TO BE 130.8 PSF WITH AN ANCHOR CAPACITY OF 866 LBS. COMPARE WITH THE DESIGN PRESSURE OF THE WINDOW THE LOWEST DESIGN PRESSURE OF THE MULLION OR WINDOW WILL DETERMINE THE OVERALL DESIGN PRESSURE. ALTERNATIVELY, THE ANCHOR CAPACITY ADJUSTMENT FORMULA COULD HAVE BEEN USED TO CALCULATE THE ANCHOR CAPACITY REQUIRED FOR THE EXACT DESIGN PRESSURE OF +80.0/-95.0 PSF:

$$(95 \text{ PSF}) \times \left(\frac{885 \text{ LBS}}{130.8 \text{ PSF}} \right) = 642.8 \text{ LBS}$$

(I.E. YOU COULD USE A LOWER CAPACITY ANCHORAGE OPTION OF 642.8 LBS FROM TABLE 3B SINCE YOU ONLY REQUIRE A MAX. DESIGN PRESSURE OF 95 PSF. IN THIS CASE YOU COULD HAVE USED ONE #14 ANCHORS ON EACH SIDE OF THE MULLION END SINCE THAT ANCHOR OPTION CAPACITY IS 513 LBS.)

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	By	JENS ROSOWSKI	DWG	MD-SENMUL
	Sheet	6 OF 6		
Impact Resistant Windows & Doors	3780 W 104TH STREET HIALEAH, FL 33018 (305) 593-6590	ALUM. UNCLIPPED TUBE MULLIONS (LM)	EXAMPLE 2	SENTINEL

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