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)

WinDoor, Inc.
104 Triple Diamond Blvd.
North Venice, FL 34275

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 "1-¼" x 4" Thermally Broken" Clipped Extruded Aluminum Mullion - L.M.I.

APPROVAL DOCUMENT: Drawing No. **1-1/4TB-LMI-NOA**, titled "1-¼"x 4" Thermally Broken Mullion (LM)", sheets 1 through 13 of 13, dated 08/14/20, 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, 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# 16-0418.11** and consists of this page 1 and evidence pages E-1 and E-2, as well as approval document mentioned above.

The submitted documentation was reviewed by **Sifang Zhao, P.E.**

S.Z.

11/12/2020

WinDoor, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Manufacturer's die drawings and sections. ***(Submitted under NOA# 16-0418.11)***

2. Drawing No. 1-1/4TB-LMI-NOA, titled "1-¼"x 4" Thermally Broken Mullion (LM)", sheets 1 through 13 of 13, dated 08/14/20, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.

B. TESTS

1. Test reports on: 1) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94
2) Large Missile Impact Test per FBC, TAS 201-94
3) Cyclic Wind Pressure Loading per FBC, TAS 203-94
along with marked-up drawings and installation diagram of a series 9020 thermally broken aluminum fixed windows with 180° thermally broken field mullion, prepared by National Certified Testing Laboratories, Test Report No. **NCTL-210-4041-01**, dated 09/08/16, signed and sealed by Gerard J. Ferrara, P.E.
(Submitted under NOA# 16-0418.11)

2. Test reports on: 1) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94
2) Large Missile Impact Test per FBC, TAS 201-94
3) Cyclic Wind Pressure Loading per FBC, TAS 203-94
along with marked-up drawings and installation diagram of a series 9020 thermally broken aluminum fixed windows with 180° thermally broken field mullion with higher design pressure, prepared by National Certified Testing Laboratories, Test Report No. **NCTL-210-4041-02**, dated 09/08/16, signed and sealed by Gerard J. Ferrara, P.E.
(Submitted under NOA# 16-0418.11)

C. CALCULATIONS:

1. Anchor verification calculations and structural analysis, complying with **FBC 6th Edition (2017)**, dated 04/05/16, 01/25/17, 02/21/17 and revised on 12/04/17, prepared, signed and sealed by Luis R. Lomas, P.E.
(Submitted under NOA# 16-0418.11)

D. QUALITY ASSURANCE

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

E. MATERIAL CERTIFICATIONS

1. Test Report No. **ATI-60520.02-106-18**, prepared by Architectural Testing, Inc., dated 11/09/06 revised on 11/29/06, issued to **Ensinger, Inc.**, for their **Tecatherm® 66GF Insulbar material** comprised of Polyamide 66 with 25% glass fibers, per **ASTM G 155-00ae1**, *"Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of /Non-Metallic Materials"*, per **ASTM D638-03** *"Standard Test Methods for Tensile Properties of Plastics"*, for exposed & unexposed sample per

Sifang Zhao, P.E.
Product Control Examiner
NOA No.20-0826.04
Expiration Date: December 28, 2022
Approval Date: November 12, 2020

E. MATERIAL CERTIFICATIONS (CONTINUED)

1. Test Report No. **ATI-60520.02-106-18 (CONTINUED)**
Xenon Arc after 4500 Hours, **ASTM D635-98** *"Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position"*, **ASTM D1929–96** (2000)e01 *"Standard Test Method for Determining Ignition Properties of Plastics"* and **ASTM D2843-99** *"Standard Test Method for Density of Smoke from the Burning or Decomposition of Plastics"* and **ASTM D2843-99** *"Standard Test Method for Density of Smoke from the Burning or Decomposition of Plastics"*, signed and sealed by Joseph A. Reed, P.E.
(Submitted under NOA# 16-0418.11)

F. STATEMENTS

1. Statement letter of conformance, of complying with FBC 6th Edition (2017), and FBC 7th Edition (2020), and of no financial interest, dated August 17, 2020, issued by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.

2. Notification of Successor Engineer for manufacturer's NOA document per **Section 61G15-27.001** of the **Florida Administrative Code**, dated August 17, 2020, signed and sealed by Anthony Lynn Miller, P.E.

G. OTHERS

1. This NOA revises NOA #16-0418.11, expiring on 12/28/22.

Sifang Zhao, P.E.
Product Control Examiner
NOA No.20-0826.04
Expiration Date: December 28, 2022
Approval Date: November 12, 2020

NOTES:

1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH REQUIREMENTS OF THE FLORIDA BUILDING CODE 6TH EDITION (2017) AND 7TH EDITION (2020) INCLUDING THE HVHZ.
2. WOOD FRAMING TO BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO STRUCTURE. FRAMING IS THE RESPONSIBILITY OF THE ARCHITECT OR ENGINEER OF RECORD.
3. ALLOWABLE STRESS INCREASE OF 1/3 WAS NOT USED IN THE DESIGN OF THE PRODUCT SHOWN HEREIN. WIND LOAD DURATION FACTOR Cd=1.6 WAS USED FOR WOOD ANCHOR CALCULATIONS.
4. APPROVED IMPACT PROTECTIVE SYSTEM IS NOT REQUIRED FOR THIS PRODUCT IN WIND BORNE DEBRIS REGIONS.
5. DESIGN PRESSURE AND INSTALLATION DETAILS SHOWN IN THIS DOCUMENT APPLY ONLY TO MULLION. WINDOWS MUST BE APPROVED UNDER SEPARATE APPROVAL.
6. SINGLE WINDOWS TO BE MULLED ARE NOT LIMITED TO THOSE SHOWN IN THIS DRAWING. WINDOWS MUST BE MANUFACTURED BY WinDoor INC.
7. DESIGN PRESSURE OF MULLED UNIT SHALL BE CONTROLLED BY THE LESSER DESIGN PRESSURE OF THE MULLION OR THE INDIVIDUAL WINDOW OR DOOR UNIT.
8. UNITS MAY BE MULLED TOGETHER INDEFINITELY AS LONG AS SINGLE UNIT WIDTH AND HEIGHT ARE NOT EXCEEDED AND MULLION IS ANCHORED AS SHOWN HEREIN.
9. VERTICAL AND HORIZONTAL MULLION INSTALLATION IS SHOWN.

ANCHORING NOTES:

1. FOR ANCHORING INTO WOOD FRAMING OR 2X BUCK USE #14 WOOD SCREW WITH SUFFICIENT LENGTH TO ACHIEVE A 1 5/16" MINIMUM EMBEDMENT. LOCATE ANCHORS AS SHOWN IN INSTALLATION DETAILS.
2. FOR ANCHORING INTO CONCRETE USE 1/4" ELCO CRETE–FLEX TAPCON WITH SUFFICIENT LENGTH TO ACHIEVE A 1 3/4" MINIMUM EMBEDMENT WITH 2 1/2" MINIMUM EDGE DISTANCE. LOCATE ANCHORS AS SHOWN IN INSTALLATION DETAILS.
3. FOR ANCHORING INTO METAL STRUCTURE USE #14 SMS GRADE 5 OR SELF DRILLING SCREWS WITH SUFFICIENT LENGTH TO ACHIEVE 3 THREADS MINIMUM BEYOND STRUCTURE INTERIOR WALL. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
4. FOR ATTACHING WINDOW UNITS TO MULLION USE #12 GRADE 5 SELF DRILLING SCREWS WITH SUFFICIENT LENGTH TO ACHIEVE A MINIMUM EMBEDMENT OF THREE THREADS PAST THE MULLION WALL. LOCATE SCREWS IN ACCORDANCE WITH WINDOW ANCHORING SCHEDULE AS SHOWN IN WINDOW SEPARATE APPROVAL.
5. ALL FASTENERS TO BE CORROSION RESISTANT.
6. INSTALLATION ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ANCHOR MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND ANCHORS SHALL NOT BE USED IN SUBSTRATES WITH STRENGTHS LESS THAN THE MINIMUM STRENGTH SPECIFIED BELOW:
   A. WOOD – MINIMUM SPECIFIC GRAVITY OF G=0.42
   B. CONCRETE – MINIMUM COMPRESSIVE STRENGTH OF 3,350 PSI.
   C. NORMAL WEIGHT MASONRY HOLLOW FILLED BLOCK PER AS ASTM C90 WITH F'm= 2,000 PSI MINIMUM.
   D. METAL STRUCTURE: STEEL 18GA (.048"), Fy= 33KSI/ Fu= 52KSI OR ALUMINUM 6063–T5 Fu= 30KSI 1/8" THICK MINIMUM

TABLE OF CONTENTS

PRODUCT REVISED
as complying with the Florida Building Code
NOA–No. 20-0826.04
Expiration Date 12/28/2022
By
Miami–Dade Product Control

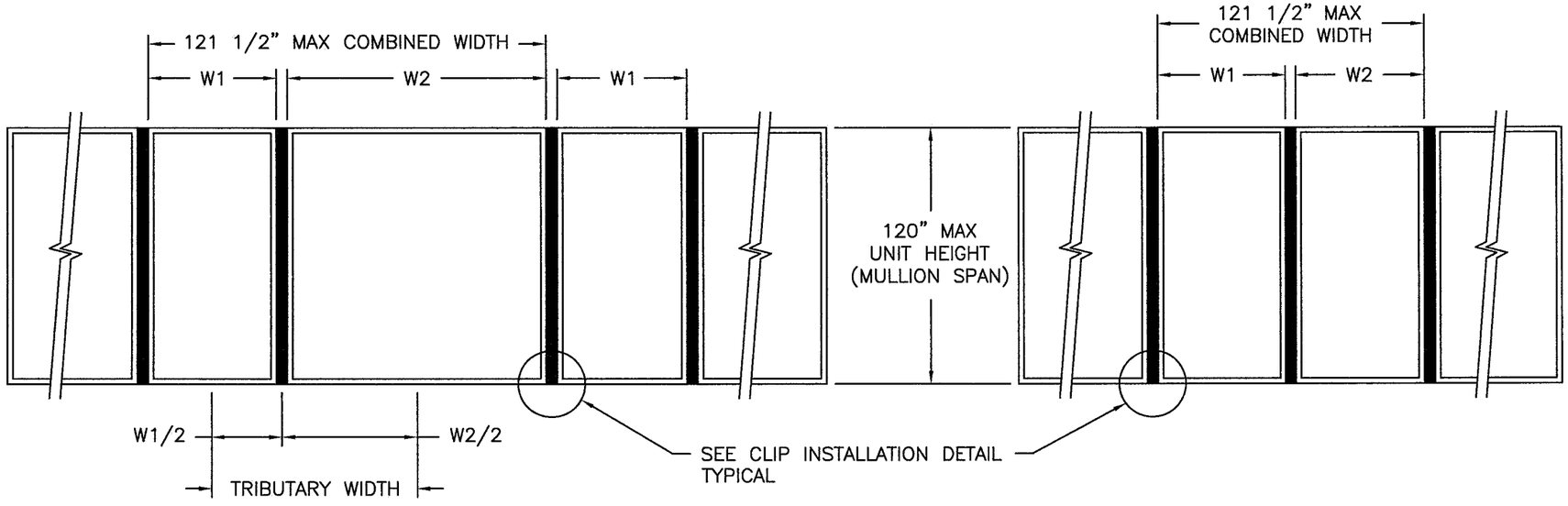
Revision:	Rev.
UPDATES FOR 2020 FBC. UPDATED MANUFACTURING ADDRESS.	

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600
REGISTRATION #29296

WINDOOR® INCORPORATED
WINDOOR INCORPORATED
104 TRIPLE DIAMOND BLVD.
NORTH VENICE, FL 34275
(833) 554-5432

Date	08/14/20
Drawn By	ERIN KOSS
DWG No.	1-1/4 TB-LMI-NOA
Sheet	1 OF 13
Series	MULLION
Desc.	GENERAL NOTES
Title	1-1/4"x4" THERMALLY BROKEN MULLION (LM)

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
8/17/20
A. LYNN MILLER, P.E.
P.E.# 58705



VERTICAL MULLION

SINGLE UNITS

SEE CHART #1 FOR RATINGS

CHART #1

Maximum Design Pressure Capacity Chart (psf)					
Mullion Span (in)	***Tributary Width (in)***				
	36.00	***42.00***	***48.00***	***54.00***	***60.00***
48.00	150.0	150.0	150.0	150.0	150.0
54.00	150.0	150.0	150.0	150.0	150.0
60.00	150.0	150.0	150.0	150.0	150.0
66.00	150.0	150.0	150.0	150.0	150.0
72.00	150.0	150.0	150.0	150.0	150.0
78.00	150.0	150.0	142.8	132.0	124.4
84.00	150.0	134.2	120.7	110.9	103.7
90.00	132.0	115.5	103.6	94.7	88.0
96.00	109.6	95.9	86.0	78.6	73.1
102.00	90.8	79.2	70.9	64.6	59.8
108.00	76.0	66.3	59.1	53.7	49.5
114.00	64.3	56.0	49.8	45.2	41.6
120.00	55.0	47.7	42.4	38.4	35.2

LARGE & SMALL MISSILE IMPACT - HVHZ

DESIGN PRESSURE TABLE INSTRUCTIONS:

1. DEFINE REQUIRED DESIGN LOAD PER FLORIDA BUILDING CODE CHAPTER 16.
2. DETERMINE TRIBUTARY WIDTH AND MULLION SPAN BASED ON PRODUCT TO BE INSTALLED. SEE FORMULA FOR TRIBUTARY WIDTH.
3. LOCATE MULLION SPAN (UNIT HEIGHT) AND TRIBUTARY WIDTH. AT THE INTERSECTION OF ROW AND COLUMN CONTAINING THE MULLION SPAN AND TRIBUTARY WIDTH RESPECTIVELY IS THE MULLION RATING FOR PRODUCT IN STEP 2. MULLION RATING MUST BE EQUAL OR GREATER THAN REQUIRED DESIGN PRESSURE OBTAINED IN STEP 1.
4. TRIBUTARY WINDOW WIDTH (TW)= [WINDOW WIDTH (W1) + WINDOW WIDTH (W2)]/2. SEE FORMULA BELOW.

$$\text{TRIBUTARY WIDTH} = \frac{W1 + W2}{2}$$

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 20-0826.04
Expiration Date 12/28/2022
By CS
Miami-Dade Product Control

Revision: NO CHANGES THIS SHEET.

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
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REGISTRATION #29296

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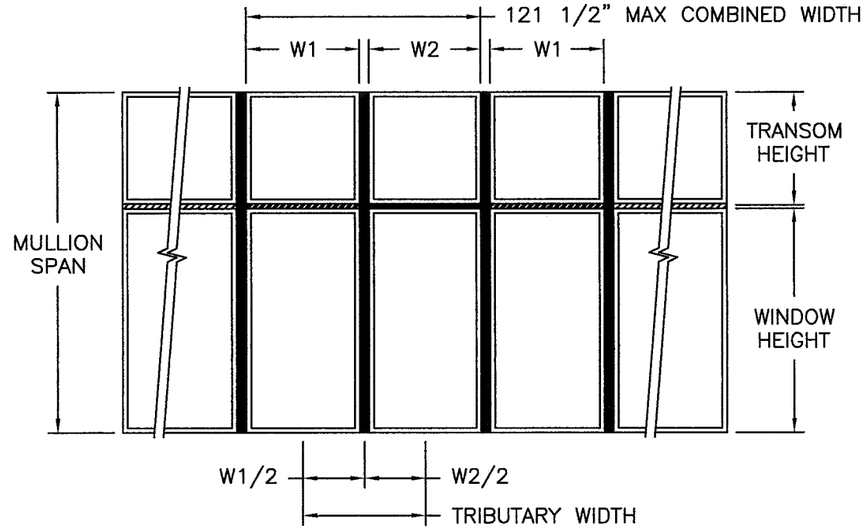
Rev.	Date	Drawn By	DWG No.	Sheet
	08/14/20	ERIN KOSS	1-1/4 TB-LMI-NOA	2 OF 13

Title: 1-1/4"x4" THERMALLY BROKEN MULLION (LM)
Desc.: SINGLE UNITS MULLED TO SINGLE UNITS
Series: MULLION

ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER
8/17/20
A. LYNN MILLER, P.E.
P.E.# 58705



VERTICAL MULLION

UNITS WITH INDIVIDUAL TRANSOMS

SEE CHARTS #2, #3, #4 AND #5 FOR RATINGS

DESIGN PRESSURE TABLE INSTRUCTIONS:

1. DEFINE REQUIRED DESIGN LOAD PER FLORIDA BUILDING CODE CHAPTER 16.
2. DETERMINE TRIBUTARY WIDTH AND MULLION SPAN BASED ON PRODUCT TO BE INSTALLED. SEE FORMULA FOR TRIBUTARY WIDTH.
3. LOCATE MULLION SPAN (UNIT HEIGHT) AND TRIBUTARY WIDTH. AT THE INTERSECTION OF ROW AND COLUMN CONTAINING THE MULLION SPAN AND TRIBUTARY WIDTH RESPECTIVELY IS THE MULLION RATING FOR PRODUCT IN STEP 2. MULLION RATING MUST BE EQUAL OR GREATER THAN REQUIRED DESIGN PRESSURE OBTAINED IN STEP 1.
4. TRIBUTARY WINDOW WIDTH (TW)= [WINDOW WIDTH (W1) + WINDOW WIDTH (W2)]/2. SEE FORMULA BELOW.

$$\text{TRIBUTARY WIDTH} = \frac{W1 + W2}{2}$$

CHART #2

Maximum design pressure chart (psf) *Units with 18" transom*								
Height (in)		Tributary width (in)						
Window	Transom	*24.00*	*30.00*	*36.00*	*42.00*	*48.00*	*54.00*	*60.00*
36.00	*18.00*	120.0	120.0	120.0	120.0	120.0	120.0	120.0
42.00	*18.00*	120.0	120.0	120.0	120.0	120.0	120.0	120.0
48.00	*18.00*	120.0	120.0	120.0	120.0	120.0	120.0	120.0
54.00	*18.00*	120.0	120.0	120.0	120.0	119.6	110.6	103.3
60.00	*18.00*	120.0	120.0	120.0	109.1	99.0	91.3	85.4
66.00	*18.00*	120.0	120.0	103.7	91.8	83.1	76.5	71.4
72.00	*18.00*	120.0	103.0	88.5	78.3	70.7	65.0	60.5
78.00	*18.00*	108.3	89.1	76.4	67.4	60.8	55.8	51.8
84.00	*18.00*	94.6	77.7	66.6	58.7	52.8	48.4	44.9

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #3

Maximum design pressure chart (psf) *Units with 24" transom*								
Height (in)		Tributary width (in)						
Window	Transom	*24.00*	*30.00*	*36.00*	*42.00*	*48.00*	*54.00*	*60.00*
36.00	*24.00*	120.0	120.0	120.0	120.0	120.0	120.0	120.0
42.00	*24.00*	120.0	120.0	120.0	120.0	120.0	120.0	120.0
48.00	*24.00*	120.0	120.0	120.0	120.0	120.0	111.4	102.7
54.00	*24.00*	120.0	120.0	120.0	111.9	101.0	92.7	85.9
60.00	*24.00*	120.0	120.0	106.9	94.3	85.0	77.9	72.3
66.00	*24.00*	120.0	106.6	91.3	80.5	72.5	66.3	61.5
72.00	*24.00*	112.2	92.1	78.8	69.4	62.4	57.0	52.8
78.00	*24.00*	98.0	80.4	68.7	60.4	54.2	49.5	45.8
84.00	*24.00*	86.3	70.7	60.4	53.0	47.5	43.3	40.0

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #4

Maximum design pressure chart (psf) *Units with 30" transom*								
Height (in)		Tributary width (in)						
Window	Transom	*24.00*	*30.00*	*36.00*	*42.00*	*48.00*	*54.00*	*60.00*
36.00	*30.00*	120.0	120.0	120.0	120.0	120.0	120.0	120.0
42.00	*30.00*	120.0	120.0	120.0	120.0	120.0	111.6	102.1
48.00	*30.00*	120.0	120.0	120.0	114.1	102.7	93.6	85.9
54.00	*30.00*	120.0	120.0	109.5	96.4	86.6	79.1	72.9
60.00	*30.00*	120.0	109.4	93.6	82.4	73.9	67.4	62.3
66.00	*30.00*	115.4	94.7	80.9	71.1	63.8	58.1	53.6
72.00	*30.00*	100.9	82.6	70.5	61.9	55.5	50.5	46.6
78.00	*30.00*	88.8	72.7	62.0	54.4	48.7	44.3	40.8
84.00	*30.00*	78.8	64.4	54.9	48.1	43.0	39.1	36.0

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #5

Maximum design pressure chart (psf) *Units with 36" transom*								
Height (in)		Tributary width (in)						
Window	Transom	*24.00*	*30.00*	*36.00*	*42.00*	*48.00*	*54.00*	*60.00*
36.00	*36.00*	120.0	120.0	120.0	120.0	120.0	111.6	101.9
42.00	*36.00*	120.0	120.0	120.0	115.5	103.6	93.9	85.9
48.00	*36.00*	120.0	120.0	111.1	97.8	87.8	79.8	73.2
54.00	*36.00*	120.0	111.4	95.3	83.8	75.1	68.4	62.9
60.00	*36.00*	117.8	96.5	82.5	72.4	64.9	59.0	54.3
66.00	*36.00*	103.1	84.4	72.0	63.2	56.5	51.4	47.3
72.00	*36.00*	90.9	74.3	63.3	55.5	49.6	45.1	41.4
78.00	*36.00*	80.7	65.9	56.1	49.1	43.9	39.8	36.6
84.00	*36.00*	72.0	58.8	50.0	43.7	38.9	35.3	32.4

LARGE & SMALL MISSILE IMPACT - HVHZ

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PREPARED BY A. LYNN MILLER
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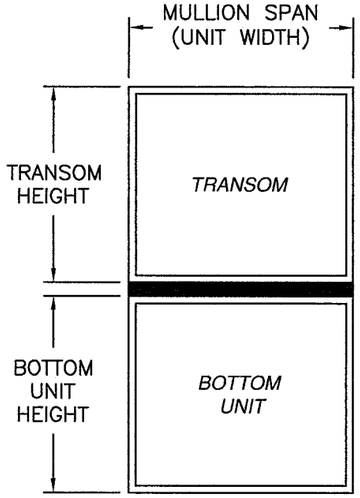
Rev.	Date	Drawn By	DWG No.	Sheet
	08/14/20	ERIN KOSS	1-1/4 TB-LMI-NOA	3 OF 13

Series: MULLION
Desc.: SINGLE w/TRANSOM
SINGLE w/TRANSOM MULLED TO
Title: 1-1/4"x4" THERMALLY BROKEN MULLION (LM)

ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER
8/17/20

A. LYNN MILLER, P.E.
P.E.# 58705



HORIZONTAL MULLION
SINGLE WITH TRANSOM
SEE CHARTS #6, #7, #8, #9 AND #10 FOR RATINGS

DESIGN PRESSURE TABLE INSTRUCTIONS:
1. DEFINE REQUIRED DESIGN LOAD PER FLORIDA BUILDING CODE CHAPTER 16.
2. DETERMINE MULLION SPAN BASED ON PRODUCT TO BE INSTALLED.
3. TO DETERMINE MULLION RATING LOCATE MULLION SPAN COLUMN AND BOTTOM UNIT HEIGHT ROW. RATING FOR MULLION IS LOCATED AT INTERSECTION OF COLUMN (MULLION SPAN) AND ROW (BOTTOM UNIT HEIGHT).
4. MULLION RATING MUST BE EQUAL OR GREATER THAN REQUIRED DESIGN PRESSURE OBTAINED IN STEP 1.
5. IF TRANSOM TO BE INSTALLED IS NOT LISTED IN THESE CHARTS GO TO NEXT HIGHER TRANSOM CHART. FOR EXAMPLE IF TRANSOM TO BE INSTALLED IS 20" HIGH THEN USE CHART FOR 24" TRANSOM.
6. WINDOW/DOOR AND TRANSOMS TO BE ANCHORED ON ALL FOUR SIDES.

CHART #8 (48" TRANSOM)

Maximum design pressure capacity chart (psf)

Height (in)		Mullion Span (Unit width) (in)							
Bottom	Transom	30.0	36.0	42.0	48.0	54.0	60.0	66.0	72.0
48.0	**48.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	171.9
54.0	**48.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	165.9
60.0	**48.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	161.6
66.0	**48.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	159.0
72.0	**48.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	158.2
78.0	**48.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	158.2
84.0	**48.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	158.2

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #6 (36" TRANSOM)

Maximum design pressure capacity chart (psf)

Height (in)		Mullion Span (Unit width) (in)							
Bottom	Transom	30.0	36.0	42.0	48.0	54.0	60.0	66.0	72.0
48.0	**36.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	175.0
54.0	**36.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	175.0
60.0	**36.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	175.0
66.0	**36.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	174.6
72.0	**36.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	173.6
78.0	**36.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	173.6
84.0	**36.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	173.6

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #7 (42" TRANSOM)

Maximum design pressure capacity chart (psf)

Height (in)		Mullion Span (Unit width) (in)							
Bottom	Transom	30.0	36.0	42.0	48.0	54.0	60.0	66.0	72.0
48.0	**42.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	175.0
54.0	**42.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	173.3
60.0	**42.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	168.7
66.0	**42.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	165.9
72.0	**42.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	165.0
78.0	**42.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	165.0
84.0	**42.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	165.0

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #9 (54" TRANSOM)

Maximum design pressure capacity chart (psf)

Height (in)		Mullion Span (Unit width) (in)							
Bottom	Transom	30.0	36.0	42.0	48.0	54.0	60.0	66.0	72.0
48.0	**54.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	165.9
54.0	**54.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	160.2
60.0	**54.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	156.2
66.0	**54.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	153.8
72.0	**54.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	153.0
78.0	**54.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	153.0
84.0	**54.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	153.0

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #10 (60" TRANSOM)

Maximum design pressure capacity chart (psf)

Height (in)		Mullion Span (Unit width) (in)							
Bottom	Transom	30.0	36.0	42.0	48.0	54.0	60.0	66.0	72.0
48.0	**60.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	161.6
54.0	**60.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	156.2
60.0	**60.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	152.5
66.0	**60.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	150.2
72.0	**60.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	149.4
78.0	**60.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	149.4
84.0	**60.0**	175.0	175.0	175.0	175.0	175.0	175.0	175.0	149.4

LARGE & SMALL MISSILE IMPACT - HVHZ

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 20-0826.04
Expiration Date 12/28/2022
By
Miami-Dade Product Control

Revision: NO CHANGES THIS SHEET.

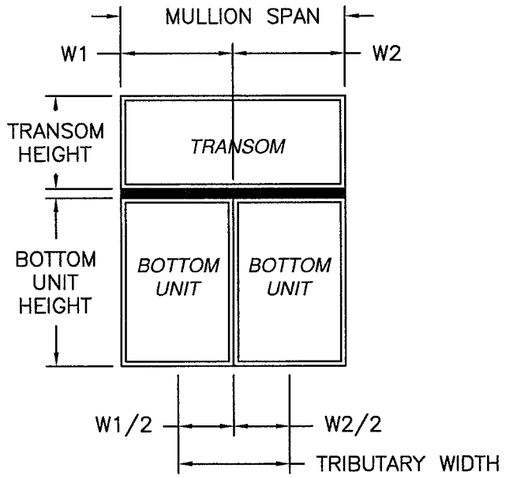
PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600
REGISTRATION #29296

WINDOOR® INCORPORATED
WINDOOR INCORPORATED
104 TRIPLE DIAMOND BLVD.
NORTH VENICE, FL 34275
(833) 554-5432

Rev.	Date	Drawn By	Title	Desc.	Series	Sheet	DWG No.	Rev.
	08/14/20	ERIN KOSS	1-1/4"x4" THERMALLY BROKEN MULLION (LM)	SINGLE w/TRANSOM	MULLION	4 OF 13	1-1/4 TB-LMI-NOA	

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
8/17/20

A. LYNN MILLER, P.E.
P.E.# 58705



HORIZONTAL MULLION

TWIN UNITS WITH SINGLE TRANSOM

SEE CHARTS #11, #12, #13, #14 AND #15 FOR RATINGS

DESIGN PRESSURE TABLE INSTRUCTIONS:

1. DEFINE REQUIRED DESIGN LOAD PER FLORIDA BUILDING CODE CHAPTER 16.
2. DETERMINE MULLION SPAN AND TRIBUTARY WIDTH OF PRODUCT TO BE INSTALLED BASED ON FORMULA FOR TRIBUTARY WIDTH BELOW.
3. TO DETERMINE MULLION RATING LOCATE COLUMN FOR MULLION SPAN AND TRIBUTARY WIDTH THEN LOCATE CORRESPONDING ROW FOR BOTTOM AND TRANSOM HEIGHTS. FIND THE INTERSECTION OF THIS COLUMN AND ROW. MULLION RATING IS LOCATED AT THIS INTERSECTION.
4. MULLION RATING MUST BE EQUAL OR GREATER THAN REQUIRED DESIGN PRESSURE OBTAINED IN STEP 1.
5. IF TRANSOM TO BE INSTALLED IS NOT LISTED IN THESE CHARTS GO TO NEXT HIGHER TRANSOM CHART. FOR EXAMPLE IF TRANSOM TO BE INSTALLED IS 20" HIGH THEN USE CHART FOR 24" TRANSOM.
6. WINDOW/DOOR AND TRANSOMS TO BE ANCHORED ON ALL FOUR SIDES.
7. TRIBUTARY WINDOW WIDTH (TW)= [WINDOW WIDTH (W1) + WINDOW WIDTH (W2)]/2. SEE FORMULA BELOW.

$$\text{TRIBUTARY WIDTH} = \frac{W1 + W2}{2}$$

CHART#13 (48" TRANSOM)

Maximum design pressure capacity chart (psf)

Height (in)		Mullion Span (in)						
		72.00	84.00	96.00	108.00	120.00	132.00	144.00
		Tributary width (in)						
Window	Transom	36.00	42.00	48.00	54.00	60.00	66.00	72.00
48.00	48.00	158.2	113.8	83.8	57.7	41.5	30.8	23.5
54.00	48.00	148.2	106.7	79.5	54.8	39.3	29.2	22.3
60.00	48.00	139.4	100.5	75.6	52.1	37.4	27.7	21.2
66.00	48.00	131.5	95.0	71.9	49.8	35.7	26.5	20.2
72.00	48.00	124.5	90.0	68.2	47.6	34.2	25.4	19.3
78.00	48.00	118.3	85.5	64.8	45.6	32.8	24.3	18.5
84.00	48.00	112.6	81.5	61.8	43.8	31.5	23.4	17.8

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #11 (36" TRANSOM)

Maximum design pressure capacity chart (psf)

Height (in)		Mullion Span (in)						
		72.00	84.00	96.00	108.00	120.00	132.00	144.00
		Tributary width (in)						
Window	Transom	36.00	42.00	48.00	54.00	60.00	66.00	72.00
48.00	36.00	173.6	126.3	93.6	64.8	46.7	34.7	26.6
54.00	36.00	161.6	117.7	88.3	61.1	43.9	32.7	25.0
60.00	36.00	151.2	110.1	83.5	57.8	41.6	30.9	23.6
66.00	36.00	142.0	103.5	78.8	54.9	39.5	29.4	22.4
72.00	36.00	133.9	97.6	74.4	52.3	37.7	28.0	21.3
78.00	36.00	126.7	92.4	70.4	49.9	36.0	26.7	20.4
84.00	36.00	120.2	87.7	66.8	47.7	34.4	25.6	19.5

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #12 (42" TRANSOM)

Maximum design pressure capacity chart (psf)

Height (in)		Mullion Span (in)						
		72.00	84.00	96.00	108.00	120.00	132.00	144.00
		Tributary width (in)						
Window	Transom	36.00	42.00	48.00	54.00	60.00	66.00	72.00
48.00	42.00	165.0	119.4	88.2	60.9	43.9	32.6	24.9
54.00	42.00	154.1	111.7	83.5	57.6	41.4	30.8	23.5
60.00	42.00	144.6	104.9	79.2	54.7	39.3	29.2	22.3
66.00	42.00	136.2	98.8	75.1	52.1	37.5	27.8	21.2
72.00	42.00	128.7	93.5	71.0	49.8	35.8	26.6	20.3
78.00	42.00	122.0	88.7	67.4	47.6	34.3	25.5	19.4
84.00	42.00	116.0	84.3	64.1	45.6	32.8	24.4	18.6

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #14 (54" TRANSOM)

Maximum design pressure capacity chart (psf)

Height (in)		Mullion Span (in)						
		72.00	84.00	96.00	108.00	120.00	132.00	144.00
		Tributary width (in)						
Window	Transom	36.00	42.00	48.00	54.00	60.00	66.00	72.00
48.00	54.00	153.0	109.2	80.1	55.0	39.4	29.2	22.3
54.00	54.00	143.7	102.7	76.2	52.3	37.5	27.8	21.2
60.00	54.00	135.4	96.9	72.6	49.9	35.8	26.5	20.2
66.00	54.00	128.0	91.8	69.2	47.7	34.2	25.3	19.3
72.00	54.00	121.3	87.1	65.7	45.7	32.8	24.3	18.5
78.00	54.00	115.4	82.9	62.6	43.9	31.5	23.4	17.8
84.00	54.00	110.0	79.1	59.8	42.2	30.3	22.5	17.1

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #15 (60" TRANSOM)

Maximum design pressure capacity chart (psf)

Height (in)		Mullion Span (in)						
		72.00	84.00	96.00	108.00	120.00	132.00	144.00
		Tributary width (in)						
Window	Transom	36.00	42.00	48.00	54.00	60.00	66.00	72.00
48.00	60.00	149.4	105.6	77.1	52.7	37.7	27.9	21.2
54.00	60.00	140.4	99.5	73.5	50.3	35.9	26.6	20.2
60.00	60.00	132.5	94.1	70.2	48.0	34.3	25.4	19.3
66.00	60.00	125.4	89.2	66.9	46.0	32.9	24.3	18.5
72.00	60.00	119.0	84.8	63.7	44.2	31.6	23.4	17.8
78.00	60.00	113.3	80.8	60.7	42.4	30.4	22.5	17.1
84.00	60.00	108.1	77.2	58.1	40.8	29.3	21.7	16.5

LARGE & SMALL MISSILE IMPACT - HVHZ

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 20-0826.04
Expiration Date 12/28/2022
By
Miami-Dade Product Control

Revision: NO CHANGES THIS SHEET.

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600
REGISTRATION #29296

WINDOOR® INCORPORATED
WINDOOR INCORPORATED
104 TRIPLE DIAMOND BLVD.
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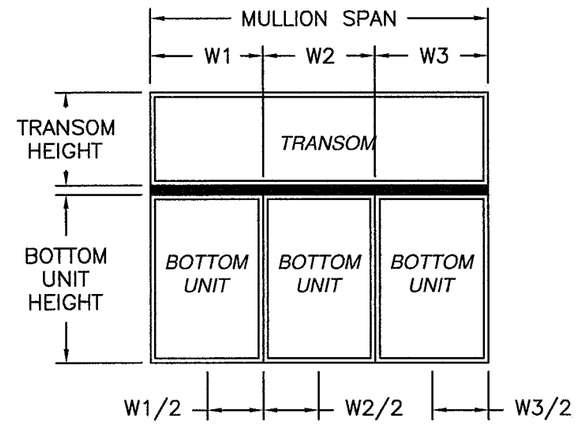
Rev.	Date	Drawn By	DWG No.	Sheet	Series	Desc.	Title
	08/14/20	ERIN KOSS	1-1/4 TB-LMI-NOA	5 OF 13	MULLION	HORIZONTAL TWIN UNIT w/TRANSOM	1-1/4"X4" THERMALLY BROKEN MULLION (LM)

ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER
8/17/20
A. LYNN MILLER, P.E.
P.E.# 58705



HORIZONTAL MULLION

TRIPLE UNITS WITH SINGLE TRANSOMS

SEE CHARTS #16, #17, #18, #19 AND #20 FOR RATINGS

CHART #16 (36" TRANSOM)

Maximum design pressure capacity chart (psf)

Height (in)		Mullion Span (in)				
		72.00	*84.00*	*96.00*	*108.00*	*120.00*
Bottom unit	Transom	Tributary width (in)				
		24.00	*28.00*	*32.00*	*36.00*	*40.00*
48.00	*36.00*	175.0	129.8	93.3	65.0	47.0
54.00	*36.00*	168.0	121.7	87.4	60.9	44.1
60.00	*36.00*	158.0	114.5	82.1	57.2	41.5
66.00	*36.00*	149.0	108.1	77.5	54.0	39.2
72.00	*36.00*	141.1	102.4	73.3	51.1	37.1
78.00	*36.00*	133.9	97.2	69.6	48.6	35.2
84.00	*36.00*	127.4	92.6	66.2	46.2	33.5

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #17 (42" TRANSOM)

Maximum design pressure capacity chart (psf)

Height (in)		Mullion Span (in)				
		72.00	*84.00*	*96.00*	*108.00*	*120.00*
Bottom unit	Transom	Tributary width (in)				
		24.00	*28.00*	*32.00*	*36.00*	*40.00*
48.00	*42.00*	170.3	122.6	88.0	61.1	44.2
54.00	*42.00*	159.9	115.3	82.7	57.5	41.6
60.00	*42.00*	150.8	108.8	78.0	54.2	39.2
66.00	*42.00*	142.6	103.0	73.8	51.3	37.1
72.00	*42.00*	135.3	97.8	70.0	48.7	35.3
78.00	*42.00*	128.7	93.1	66.6	46.4	33.6
84.00	*42.00*	122.7	88.8	63.5	44.2	32.0

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #18 (48" TRANSOM)

Maximum design pressure capacity chart (psf)

Height (in)		Mullion Span (in)				
		72.00	*84.00*	*96.00*	*108.00*	*120.00*
Bottom unit	Transom	Tributary width (in)				
		24.00	*28.00*	*32.00*	*36.00*	*40.00*
48.00	*48.00*	163.1	116.7	83.6	57.9	41.8
54.00	*48.00*	153.6	110.0	78.8	54.6	39.4
60.00	*48.00*	145.1	104.1	74.5	51.7	37.3
66.00	*48.00*	137.5	98.8	70.6	49.0	35.4
72.00	*48.00*	130.7	94.0	67.2	46.6	33.7
78.00	*48.00*	124.5	89.7	64.0	44.5	32.2
84.00	*48.00*	118.9	85.7	61.2	42.5	30.8

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #19 (54" TRANSOM)

Maximum design pressure capacity chart (psf)

Height (in)		Mullion Span (in)				
		72.00	*84.00*	*96.00*	*108.00*	*120.00*
Bottom unit	Transom	Tributary width (in)				
		24.00	*28.00*	*32.00*	*36.00*	*40.00*
48.00	*54.00*	157.6	111.9	79.9	55.2	39.7
54.00	*54.00*	148.7	105.8	75.5	52.2	37.6
60.00	*54.00*	140.8	100.3	71.6	49.5	35.7
66.00	*54.00*	133.6	95.3	68.0	47.1	33.9
72.00	*54.00*	127.2	90.9	64.8	44.9	32.4
78.00	*54.00*	121.3	86.8	61.9	42.9	30.9
84.00	*54.00*	116.0	83.1	59.2	41.0	29.6

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #20 (60" TRANSOM)

Maximum design pressure capacity chart (psf)

Height (in)		Mullion Span (in)				
		72.00	*84.00*	*96.00*	*108.00*	*120.00*
Bottom unit	Transom	Tributary width (in)				
		24.00	*28.00*	*32.00*	*36.00*	*40.00*
48.00	*60.00*	153.8	108.1	77.0	52.9	38.0
54.00	*60.00*	145.3	102.4	72.9	50.1	36.0
60.00	*60.00*	137.7	97.2	69.2	47.7	34.2
66.00	*60.00*	130.9	92.6	65.8	45.4	32.6
72.00	*60.00*	124.7	88.4	62.8	43.3	31.2
78.00	*60.00*	119.0	84.5	60.1	41.5	29.9
84.00	*60.00*	113.9	81.0	57.5	39.8	28.6

LARGE & SMALL MISSILE IMPACT - HVHZ

DESIGN PRESSURE TABLE INSTRUCTIONS:

1. DEFINE REQUIRED DESIGN LOAD PER FLORIDA BUILDING CODE CHAPTER 16.
2. DETERMINE MULLION SPAN AND TRIBUTARY WIDTH OF PRODUCT TO BE INSTALLED BASED ON FORMULA FOR TRIBUTARY WIDTH BELOW.
3. TO DETERMINE MULLION RATING LOCATE COLUMN FOR MULLION SPAN AND TRIBUTARY WIDTH THEN LOCATE CORRESPONDING ROW FOR BOTTOM AND TRANSOM HEIGHTS. FIND THE INTERSECTION OF THIS COLUMN AND ROW. MULLION RATING IS LOCATED AT THIS INTERSECTION.
4. MULLION RATING MUST BE EQUAL OR GREATER THAN REQUIRED DESIGN PRESSURE OBTAINED IN STEP 1.
5. IF TRANSOM TO BE INSTALLED IS NOT LISTED IN THESE CHARTS GO TO NEXT HIGHER TRANSOM CHART. FOR EXAMPLE IF TRANSOM TO BE INSTALLED IS 20" HIGH THEN USE CHART FOR 24" TRANSOM.
6. WINDOW/DOOR AND TRANSOMS TO BE ANCHORED ON ALL FOUR SIDES.
7. TRIBUTARY WINDOW WIDTH (TW)= [WINDOW WIDTH (W1) + WINDOW WIDTH (W2) + WINDOW WIDTH (W3)]/3. SEE FORMULA BELOW.

$$\text{TRIBUTARY WIDTH} = \frac{W1 + W2 + W3}{3}$$

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 20-0826.04
Expiration Date 12/28/2022
By
Miami-Dade Product Control

Revision: NO CHANGES THIS SHEET.

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
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REGISTRATION #29296

WINDOOR® INCORPORATED
WINDOOR INCORPORATED
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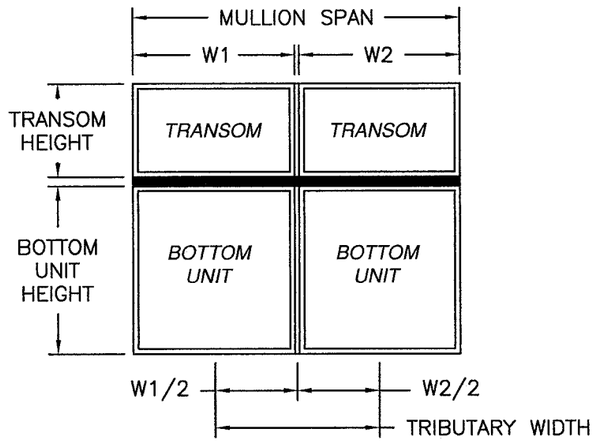
Series	Title	Date	Rev.
MULLION	1-1/4"x4" THERMALLY BROKEN MULLION (LM)	08/14/20	
Sheet	Desc.	Drawn By	
6 OF 13	HORIZONTAL TRIPLE UNIT w/TRANSOM	ERIN KOSS	
DWG No.			
1-1/4 TB-LMI-NOA			

ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER
8/17/20
A. LYNN MILLER, P.E.
P.E.# 58705



HORIZONTAL MULLION

TWIN UNITS WITH TWIN TRANSOMS

SEE CHARTS #21, #22, #23, #24 AND #25 FOR RATINGS

CHART #23 (48" TRANSOM)

Design pressure chart (psf)								
Height (in)		Total Unit and Tributary width (in)						
		72.0	84.0	96.0	108.0	120.0	132.0	144.0
Window	Transom	36.0	42.0	48.0	54.0	60.0	66.0	72.0
36.0	48.0	150.0	123.0	91.8	63.5	45.7	34.0	26.0
42.0	48.0	150.0	114.8	86.4	59.7	43.0	31.9	24.4
48.0	48.0	146.5	107.6	81.7	56.4	40.6	30.1	23.0
54.0	48.0	137.8	101.3	77.5	53.6	38.5	28.6	21.8
60.0	48.0	130.2	95.6	73.2	51.1	36.7	27.2	20.7
66.0	48.0	123.3	90.6	69.4	48.8	35.1	26.0	19.8
72.0	48.0	117.2	86.1	65.9	46.7	33.6	24.9	19.0
78.0	48.0	111.6	82.0	62.8	44.8	32.2	23.9	18.2
84.0	48.0	106.5	78.3	59.9	43.0	31.0	23.0	17.5

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #21 (36" TRANSOM)

Design pressure chart (psf)								
Height (in)		Total Unit and Tributary width (in)						
		72.0	84.0	96.0	108.0	120.0	132.0	144.0
Window	Transom	36.0	42.0	48.0	54.0	60.0	66.0	72.0
36.0	36.0	150.0	143.5	104.8	72.7	52.5	39.1	29.9
42.0	36.0	150.0	132.4	97.7	67.7	48.8	36.4	27.8
48.0	36.0	150.0	123.0	91.8	63.5	45.7	34.0	26.0
54.0	36.0	150.0	114.8	86.7	60.0	43.1	32.1	24.5
60.0	36.0	146.5	107.6	82.1	56.8	40.9	30.3	23.1
66.0	36.0	137.8	101.3	77.5	54.0	38.9	28.9	22.0
72.0	36.0	130.2	95.6	73.2	51.5	37.1	27.5	21.0
78.0	36.0	123.3	90.6	69.4	49.1	35.4	26.3	20.1
84.0	36.0	117.2	86.1	65.9	47.0	33.9	25.2	19.2

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #22 (42" TRANSOM)

Design pressure chart (psf)								
Height (in)		Total Unit and Tributary width {in)						
		72.0	84.0	96.0	108.0	120.0	132.0	144.0
Window	Transom	36.0	42.0	48.0	54.0	60.0	66.0	72.0
36.0	42.0	150.0	132.4	97.7	67.7	48.8	36.4	27.8
42.0	42.0	150.0	123.0	91.6	63.4	45.6	34.0	26.0
48.0	42.0	150.0	114.8	86.4	59.7	43.0	31.9	24.4
54.0	42.0	146.5	107.6	81.8	56.5	40.6	30.2	23.0
60.0	42.0	137.8	101.3	77.5	53.7	38.6	28.7	21.9
66.0	42.0	130.2	95.6	73.2	51.2	36.8	27.3	20.8
72.0	42.0	123.3	90.6	69.4	48.9	35.2	26.1	19.9
78.0	42.0	117.2	86.1	65.9	46.8	33.7	25.0	19.1
84.0	42.0	111.6	82.0	62.8	44.9	32.3	24.0	18.3

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #24 (54" TRANSOM)

Design pressure chart (psf)								
Height (in)		Total Unit and Tributary width (in)						
		72.0	84.0	96.0	108.0	120.0	132.0	144.0
Window	Transom	36.0	42.0	48.0	54.0	60.0	66.0	72.0
36.0	54.0	150.0	114.8	86.7	60.0	43.1	32.1	24.5
42.0	54.0	146.5	107.6	81.8	56.5	40.6	30.2	23.0
48.0	54.0	137.8	101.3	77.5	53.6	38.5	28.6	21.8
54.0	54.0	130.2	95.6	73.2	51.0	36.6	27.2	20.7
60.0	54.0	123.3	90.6	69.4	48.7	35.0	25.9	19.7
66.0	54.0	117.2	86.1	65.9	46.6	33.5	24.8	18.9
72.0	54.0	111.6	82.0	62.8	44.7	32.1	23.8	18.1
78.0	54.0	106.5	78.3	59.9	43.0	30.9	22.9	17.5
84.0	54.0	101.9	74.9	57.3	41.3	29.7	22.1	16.8

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #25 (60" TRANSOM)

Design pressure chart (psf)								
Height (in)		Total Unit and Tributary width (in)						
		72.0	84.0	96.0	108.0	120.0	132.0	144.0
Window	Transom	36.0	42.0	48.0	54.0	60.0	66.0	72.0
36.0	60.0	146.5	107.6	82.1	56.8	40.9	30.3	23.1
42.0	60.0	137.8	101.3	77.5	53.7	38.6	28.7	21.9
48.0	60.0	130.2	95.6	73.2	51.1	36.7	27.2	20.7
54.0	60.0	123.3	90.6	69.4	48.7	35.0	25.9	19.7
60.0	60.0	117.2	86.1	65.9	46.6	33.5	24.8	18.9
66.0	60.0	111.6	82.0	62.8	44.7	32.1	23.8	18.1
72.0	60.0	106.5	78.3	59.9	43.0	30.9	22.9	17.4
78.0	60.0	101.9	74.9	57.3	41.3	29.7	22.0	16.8
84.0	60.0	97.6	71.7	54.9	39.8	28.6	21.2	16.2

LARGE & SMALL MISSILE IMPACT - HVHZ

DESIGN PRESSURE TABLE INSTRUCTIONS:

1. DEFINE REQUIRED DESIGN LOAD PER FLORIDA BUILDING CODE CHAPTER 16.
2. DETERMINE MULLION SPAN AND TRIBUTARY WIDTH OF PRODUCT TO BE INSTALLED BASED ON FORMULA FOR TRIBUTARY WIDTH BELOW.
3. TO DETERMINE MULLION RATING LOCATE COLUMN FOR MULLION SPAN AND TRIBUTARY WIDTH THEN LOCATE CORRESPONDING ROW FOR BOTTOM AND TRANSOM HEIGHTS. FIND THE INTERSECTION OF THIS COLUMN AND ROW. MULLION RATING IS LOCATED AT THIS INTERSECTION.
4. MULLION RATING MUST BE EQUAL OR GREATER THAN REQUIRED DESIGN PRESSURE OBTAINED IN STEP 1.
5. IF TRANSOM TO BE INSTALLED IS NOT LISTED IN THESE CHARTS GO TO NEXT HIGHER TRANSOM CHART. FOR EXAMPLE IF TRANSOM TO BE INSTALLED IS 20" HIGH THEN USE CHART FOR 24" TRANSOM.
6. WINDOW/DOOR AND TRANSOMS TO BE ANCHORED ON ALL FOUR SIDES.
7. TRIBUTARY WINDOW WIDTH (TW)= [WINDOW WIDTH (W1) + WINDOW WIDTH (W2)]/2. SEE FORMULA BELOW.

$$\text{TRIBUTARY WIDTH} = \frac{W1 + W2}{2}$$

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 20-0826.04
Expiration Date 12/28/2022
By
Miami-Dade Product Control

Revision: NO CHANGES THIS SHEET.

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600
REGISTRATION #29296

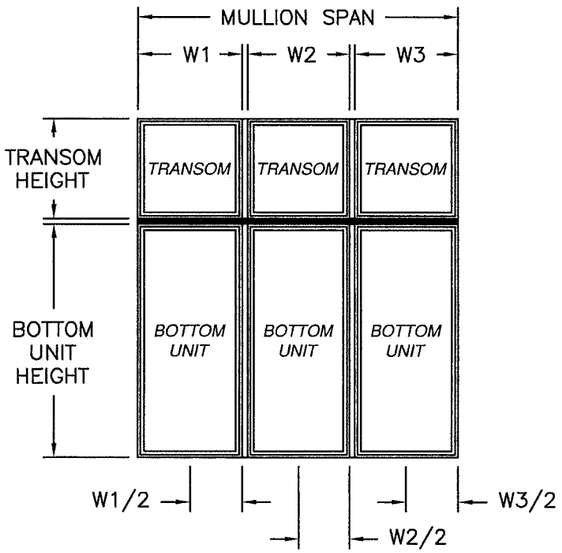
WINDOOR® INCORPORATED
WINDOOR INCORPORATED
104 TRIPLE DIAMOND BLVD.
NORTH VENICE, FL 34275
(833) 554-5432

Rev.	Date	Drawn By	DWG No.	Sheet
1-1/4 TB-LMI-NOA	08/14/20	ERIN KOSS		7 OF 13

Series	Desc.	Title
MULLION	HORIZONTAL TWIN UNIT w/TWIN TRANSOM	1-1/4"x4" THERMALLY BROKEN MULLION (LM)

ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER
8/17/20

A. LYNN MILLER, P.E.
P.E.# 58705



HORIZONTAL MULLION

TRIPLE UNIT WITH TRIPLE TRANSOM

SEE CHARTS #26, #27, #28 AND #29 FOR RATINGS

DESIGN PRESSURE TABLE INSTRUCTIONS:

1. DEFINE REQUIRED DESIGN LOAD PER FLORIDA BUILDING CODE CHAPTER 16.
2. DETERMINE MULLION SPAN AND TRIBUTARY WIDTH OF PRODUCT TO BE INSTALLED BASED ON FORMULA FOR TRIBUTARY WIDTH BELOW.
3. TO DETERMINE MULLION RATING LOCATE COLUMN FOR MULLION SPAN AND TRIBUTARY WIDTH THEN LOCATE CORRESPONDING ROW FOR BOTTOM AND TRANSOM HEIGHTS. FIND THE INTERSECTION OF THIS COLUMN AND ROW. MULLION RATING IS LOCATED AT THIS INTERSECTION.
4. MULLION RATING MUST BE EQUAL OR GREATER THAN REQUIRED DESIGN PRESSURE OBTAINED IN STEP 1.
5. IF TRANSOM TO BE INSTALLED IS NOT LISTED IN THESE CHARTS GO TO NEXT HIGHER TRANSOM CHART. FOR EXAMPLE IF TRANSOM TO BE INSTALLED IS 20" HIGH THEN USE CHART FOR 24" TRANSOM.
6. WINDOW/DOOR AND TRANSOMS TO BE ANCHORED ON ALL FOUR SIDES.
7. TRIBUTARY WINDOW WIDTH (TW)= [WINDOW WIDTH (W1) + WINDOW WIDTH (W2) + WINDOW WIDTH (W3)]/3. SEE FORMULA BELOW.

$$\text{TRIBUTARY WIDTH} = \frac{W1 + W2 + W3}{3}$$

CHART #26 (18" TRANSOM)

Design pressure (psf)							
Height (in)		Total Unit and Tributary width (in)					
		72.0	90.0	108.0	126.0	144.0	162.0
Window	Transom	24.0	30.0	36.0	42.0	48.0	54.0
36.0	18.0	150.0	150.0	98.0	61.2	40.7	28.5
42.0	18.0	150.0	150.0	88.9	55.5	36.9	25.8
48.0	18.0	150.0	138.9	81.4	50.8	33.8	23.6
54.0	18.0	150.0	128.3	75.0	46.9	31.2	21.8
60.0	18.0	150.0	119.2	69.6	43.5	29.0	20.2
66.0	18.0	150.0	111.4	64.9	40.6	27.0	18.9
72.0	18.0	150.0	104.5	60.8	38.0	25.3	17.7
78.0	18.0	150.0	98.4	57.1	35.8	23.9	16.7
84.0	18.0	146.7	93.0	53.9	33.8	22.5	15.7

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #27 (24" TRANSOM)

Design pressure (psf)							
Height (in)		Total Unit and Tributary width (in)					
		72.0	90.0	108.0	126.0	144.0	162.0
Window	Transom	24.0	30.0	36.0	42.0	48.0	54.0
36.0	24.0	150.0	150.0	88.4	55.2	36.7	25.7
42.0	24.0	150.0	138.0	80.9	50.5	33.6	23.5
48.0	24.0	150.0	127.6	74.6	46.6	31.0	21.6
54.0	24.0	150.0	118.6	69.3	43.3	28.8	20.1
60.0	24.0	150.0	110.8	64.6	40.4	26.9	18.8
66.0	24.0	150.0	104.0	60.5	37.9	25.2	17.6
72.0	24.0	150.0	98.0	56.9	35.6	23.7	16.6
78.0	24.0	146.5	92.6	53.7	33.6	22.4	15.7
84.0	24.0	138.8	87.8	50.9	31.9	21.2	-

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #28 (30" TRANSOM)

Design pressure (psf)							
Height (in)		Total Unit and Tributary width (in)					
		72.0	90.0	108.0	126.0	144.0	162.0
Window	Transom	24.0	30.0	36.0	42.0	48.0	54.0
36.0	30.0	150.0	137.7	80.7	50.3	33.5	23.4
42.0	30.0	150.0	127.3	74.4	46.4	30.9	21.5
48.0	30.0	150.0	118.4	69.1	43.1	28.7	20.0
54.0	30.0	150.0	110.6	64.4	40.2	26.8	18.7
60.0	30.0	150.0	103.8	60.4	37.7	25.1	17.5
66.0	30.0	150.0	97.8	56.8	35.5	23.6	16.5
72.0	30.0	146.5	92.4	53.6	33.5	22.3	15.6
78.0	30.0	138.8	87.6	50.8	31.8	21.2	-
84.0	30.0	131.8	83.3	48.2	30.2	20.1	-

LARGE & SMALL MISSILE IMPACT - HVHZ

CHART #29 (36" TRANSOM)

Design pressure (psf)							
Height (in)		Total Unit and Tributary width (in)					
		72.0	90.0	108.0	126.0	144.0	162.0
Window	Transom	24.0	30.0	36.0	42.0	48.0	54.0
36.0	36.0	150.0	127.3	74.3	46.3	30.8	21.5
42.0	36.0	150.0	118.4	69.0	43.0	28.6	19.9
48.0	36.0	150.0	110.6	64.4	40.2	26.7	18.6
54.0	36.0	150.0	103.8	60.3	37.7	25.0	17.5
60.0	36.0	150.0	97.8	56.8	35.4	23.6	16.4
66.0	36.0	146.5	92.4	53.6	33.5	22.3	15.5
72.0	36.0	138.8	87.6	50.8	31.7	21.1	-
78.0	36.0	131.8	83.3	48.2	30.1	20.1	-
84.0	36.0	125.5	79.4	45.9	28.7	19.1	-

LARGE & SMALL MISSILE IMPACT - HVHZ

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 20-0826.04
Expiration Date 12/28/2022
By
Miami-Dade Product Control

Revision:	NO CHANGES THIS SHEET.

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600
REGISTRATION #29296

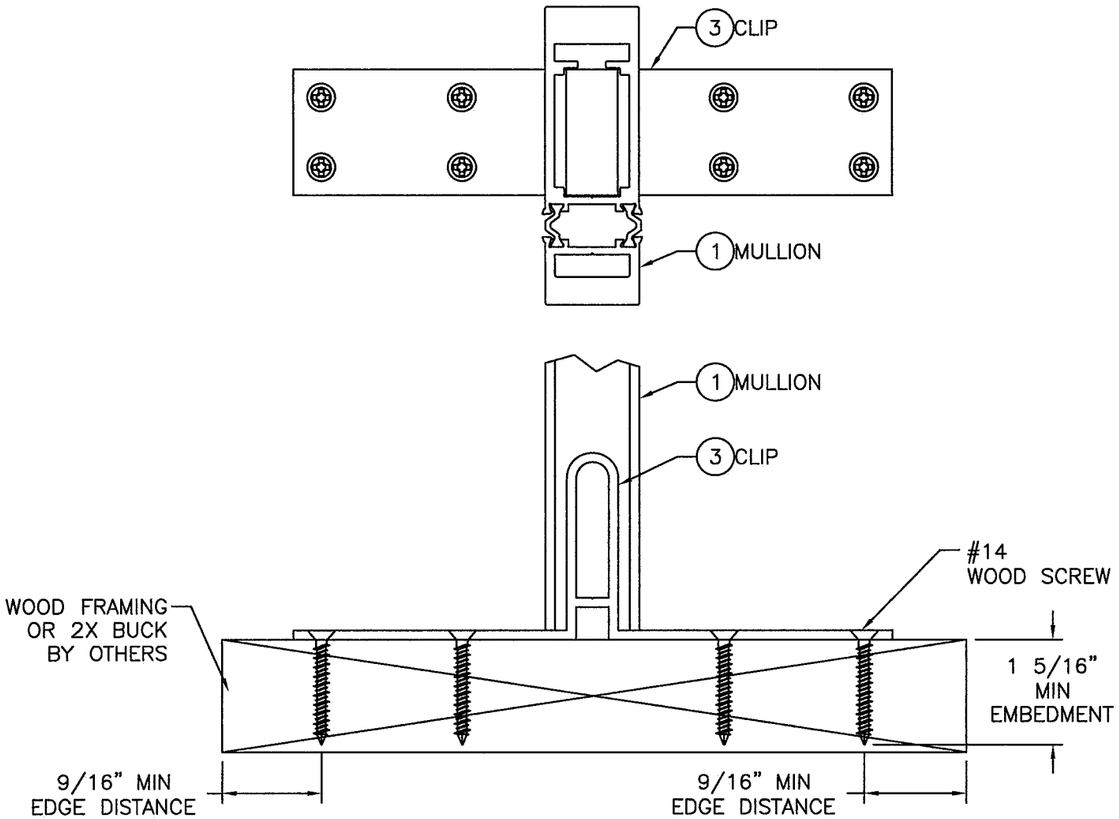
WINDOOR® INCORPORATED
WINDOOR INCORPORATED
104 TRIPLE DIAMOND BLVD.
NORTH VENICE, FL 34275
(833) 554-5432

Rev.	Date	Drawn By	DWG No.	Sheet
	08/14/20	ERIN KOSS		8 OF 13

Series: MULLION
Desc.: HORIZONTAL TRIPLE UNIT w/TRIPLE TRANSOM
Title: 1-1/4"x4" THERMALLY BROKEN MULLION (LM)
1-1/4 TB-LMI-NOA

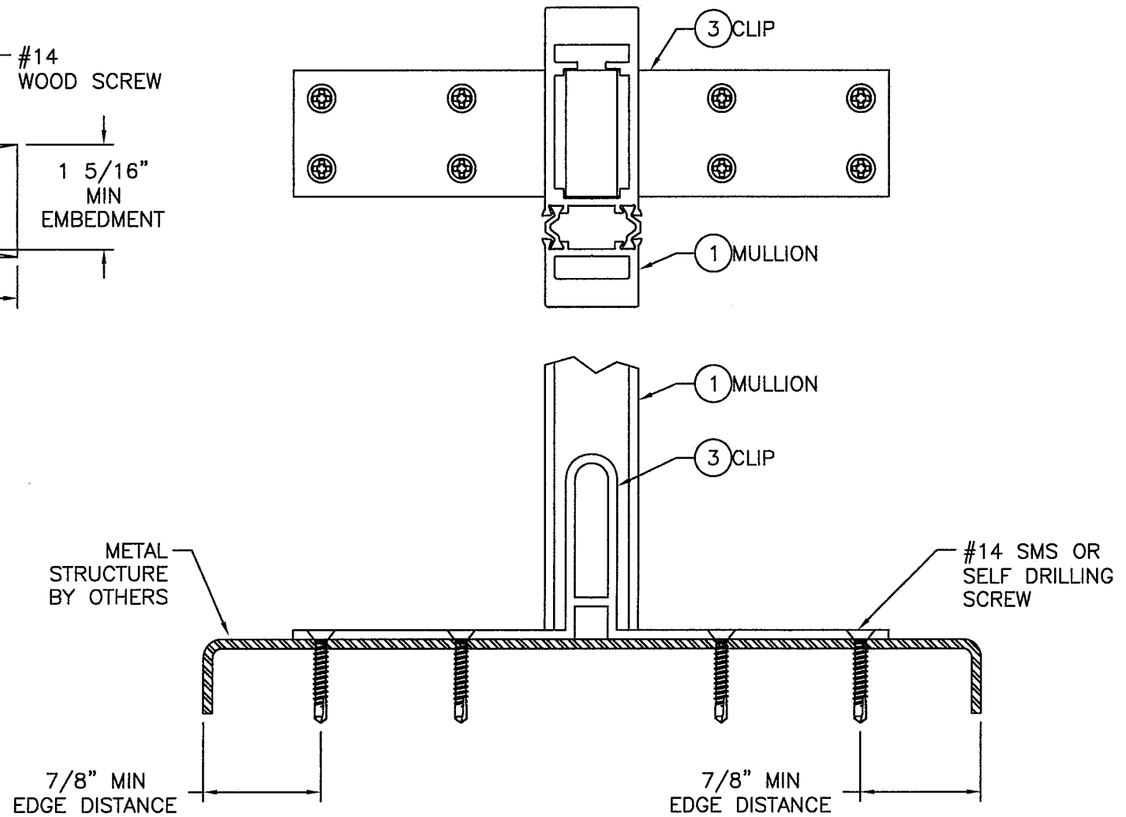
ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER
8/17/20

A. LYNN MILLER, P.E.
P.E.# 58705



VERTICAL MULLION INSTALLATION DETAIL

WOOD FRAMING OR 2X BUCK INSTALLATION
SILL SHOWN HEAD SIMILAR
HORIZONTAL MULLION SIMILAR



VERTICAL MULLION INSTALLATION DETAIL

METAL STRUCTURE INSTALLATION
SILL SHOWN HEAD SIMILAR
HORIZONTAL MULLION SIMILAR

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 20-0826.04
Expiration Date 12/28/2022
By
Miami-Dade Product Control

Revision: NO CHANGES THIS SHEET.

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600
REGISTRATION #29296

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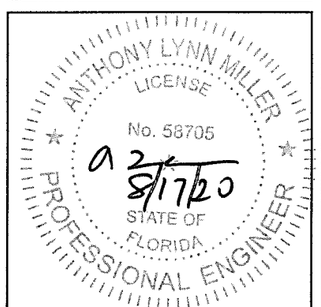
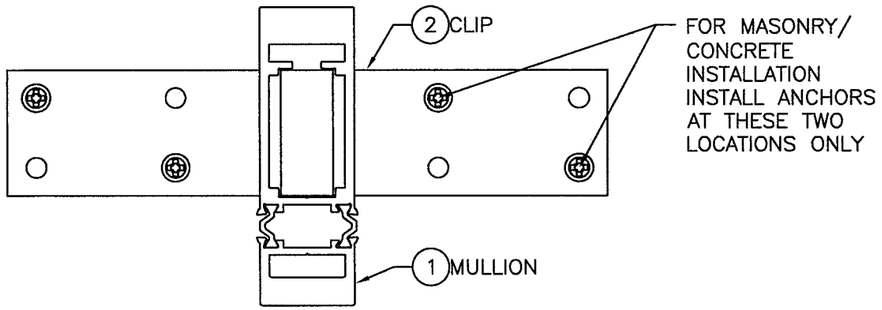
(833) 554-5432

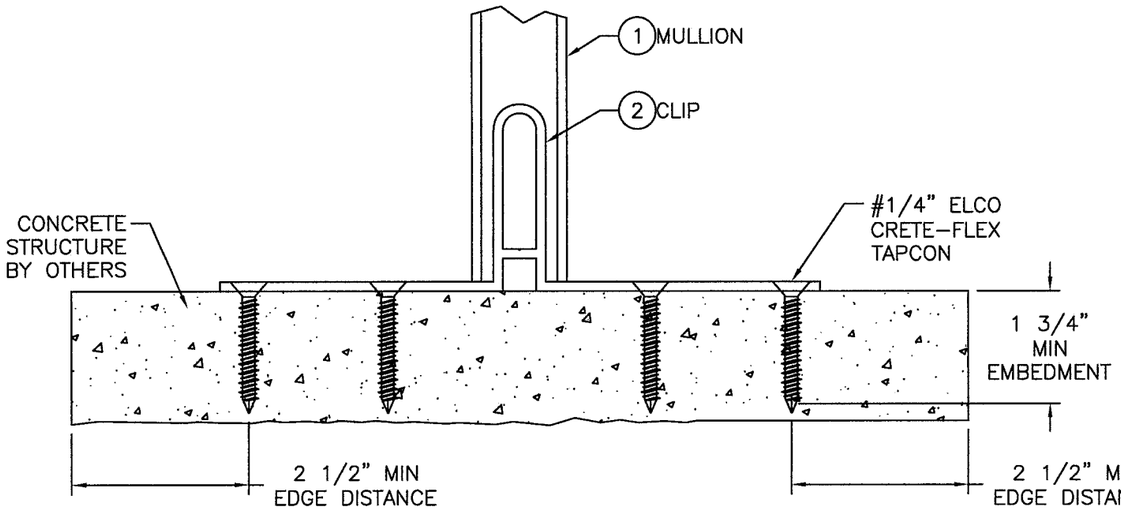
Title	Series	Sheet	DWG No.	Rev.
1-1/4"X4" THERMALLY BROKEN MULLION (LM)	MULLION	9 OF 13	1-1/4 TB-LMI-NOA	

Desc.	Drawn By	Date
INSTALLATION DETAILS - WOOD & METAL	ERIN KOSS	08/14/20



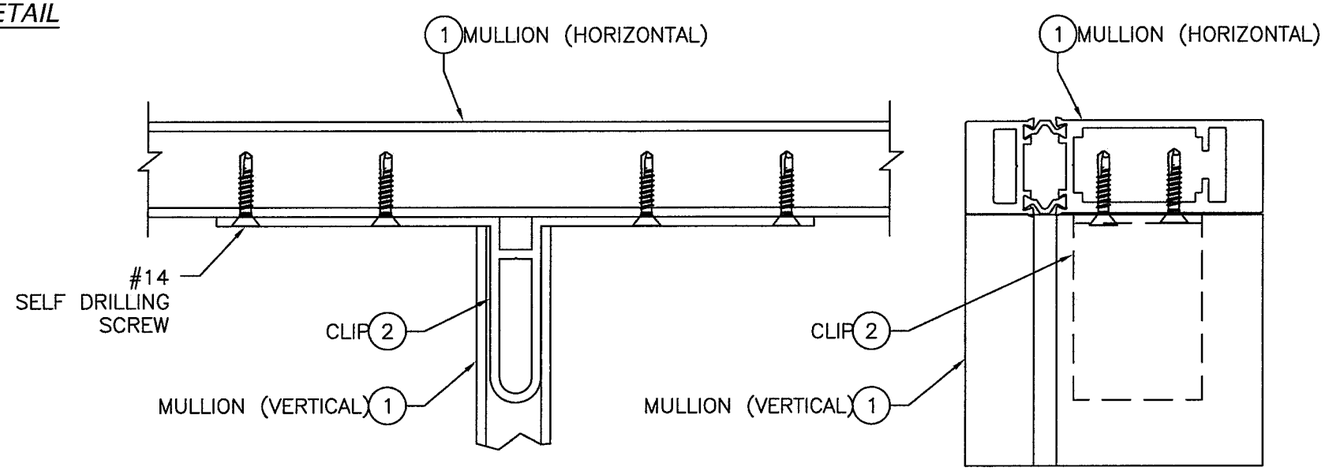
A. LYNN MILLER, P.E.
P.E.# 58705





VERTICAL MULLION ISNTALLATION DETAIL

CONCRETE/MASONRY INSTALLATION
SILL SHOWN HEAD SIMILAR
HORIZONTAL MULLION SIMILAR



VERTICAL TO HORIZONTAL MULLION CONNECTION DETAIL

HORIZONTAL TO VERTICAL MULLION SIMILAR

PRODUCT REVISED
as complying with the Florida Building Code
NOA–No. 20-0826.04
Expiration Date 12/28/2022
By
Miami–Dade Product Control

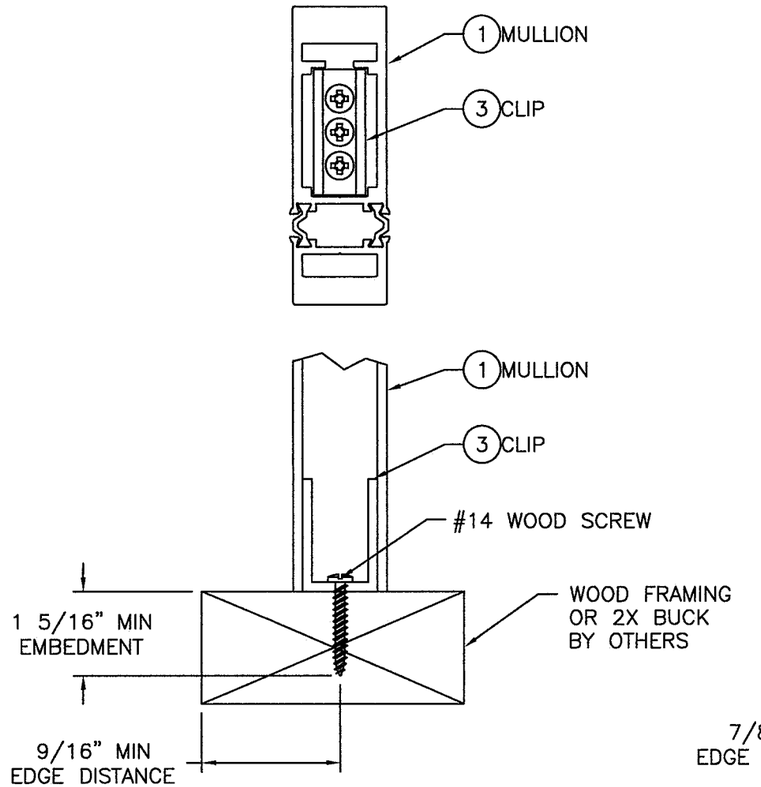
Revision: NO CHANGES THIS SHEET.

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600
REGISTRATION #29296

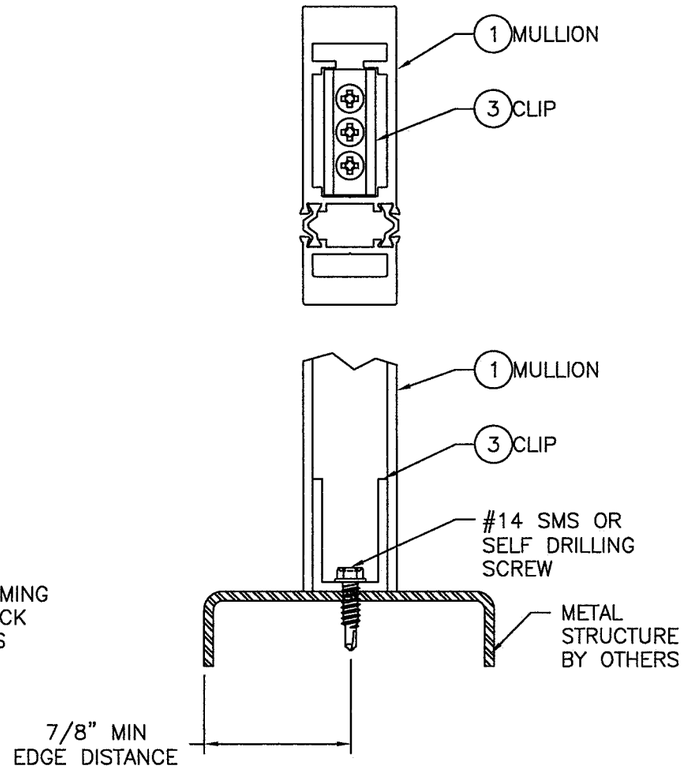
WINDOOR® INCORPORATED
WINDOOR INCORPORATED
104 TRIPLE DIAMOND BLVD.
NORTH VENICE, FL 34275
(833) 554-5432

Date: 08/14/20
Drawn By: ERIN KOSS
Rev.
Title: 1-1/4"x4" THERMALLY BROKEN MULLION (LM)
Desc.: INSTALLATION DETAILS - MASONRY & MULL-MULL CONNECTION
DWG No.: 1-1/4 TB-LMI-NOA
Sheet: 10 OF 13
Series: MULLION

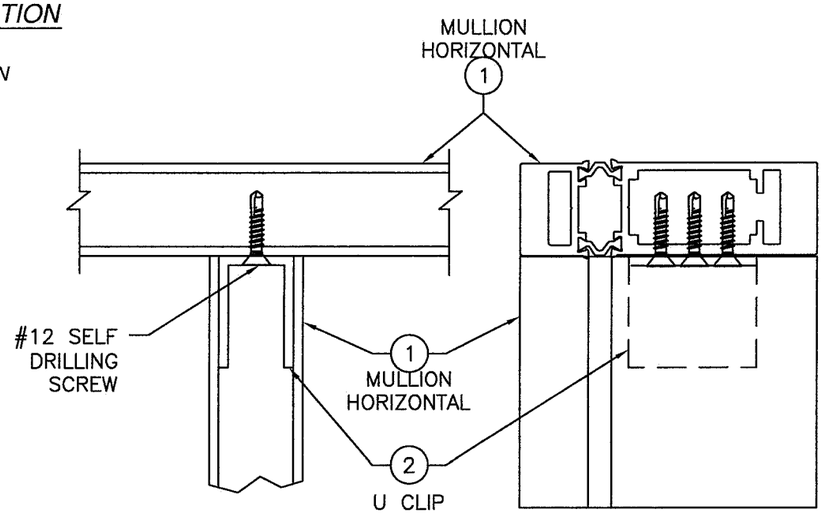
ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER
8/17/20
A. LYNN MILLER, P.E.
P.E.# 58705



VERTICAL MULLION INSTALLATION
WITH U CLIP DETAIL
WOOD FRAMING OR 2X BUCK INSTALLATION
SILL SHOWN HEAD SIMILAR
HORIZONTAL MULLION SIMILAR



VERTICAL MULLION INSTALLATION
WITH U CLIP DETAIL
METAL STRUCTURE INSTALLATION
SILL SHOWN HEAD SIMILAR
HORIZONTAL MULLION SIMILAR



VERTICAL TO HORIZONTAL MULLION CONNECTION DETAIL
W/U CLIP
HORIZONTAL TO VERTICAL MULLION SIMILAR

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 20-0826.04
Expiration Date 12/28/2022
By
Miami-Dade Product Control

Revision: NO CHANGES THIS SHEET.

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
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(941) 480-1600
REGISTRATION #29296

WINDOOR® INCORPORATED
WINDOOR INCORPORATED
104 TRIPLE DIAMOND BLVD.
NORTH VENICE, FL 34275
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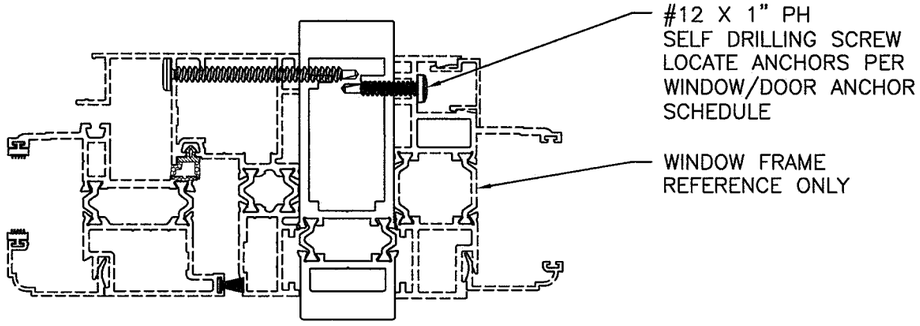
Title	Desc.	Series	Sheet	DWG No.	Rev.
1-1/4"x4" THERMALLY BROKEN MULLION (LM)	INSTALLATION DETAILS - U-CLIP	MULLION	11 OF 13	1-1/4 TB-LMI-NOA	

Date	Drawn By
08/14/20	ERIN KOSS

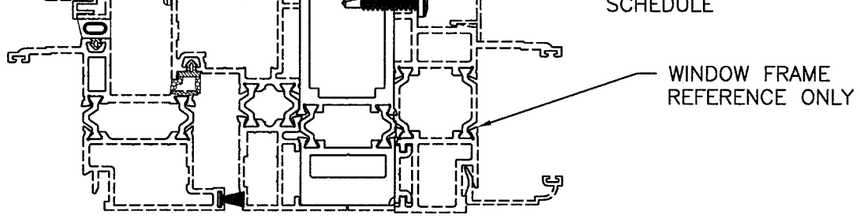
ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
8/17/20
A. LYNN MILLER, P.E.
P.E.# 58705



EXTERIOR

WINDOW TO MULLION FLUSH INSTALLATION DETAIL

WINDOW FRAME SHOWN FOR DETAIL PURPOSES ONLY, MULLION IS NOT LIMITED TO THIS PRODUCT

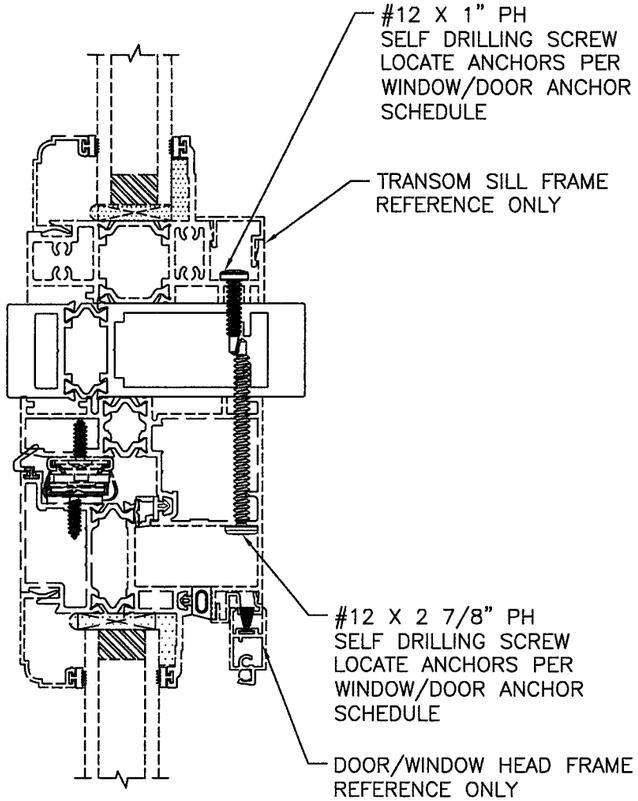


EXTERIOR

WINDOW TO MULLION FLANGE INSTALLATION DETAIL

WINDOW FRAME SHOWN FOR DETAIL PURPOSES ONLY, MULLION IS NOT LIMITED TO THIS PRODUCT

EXTERIOR



HORIZONTAL MULLION CONNECTION DETAIL

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 20-0826.04
Expiration Date 12/28/2022
By
Miami-Dade Product Control

Revision: NO CHANGES THIS SHEET.

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
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REGISTRATION #29296

WINDOOR® INCORPORATED
WINDOOR INCORPORATED
104 TRIPLE DIAMOND BLVD.
NORTH VENICE, FL 34275
(833) 554-5432

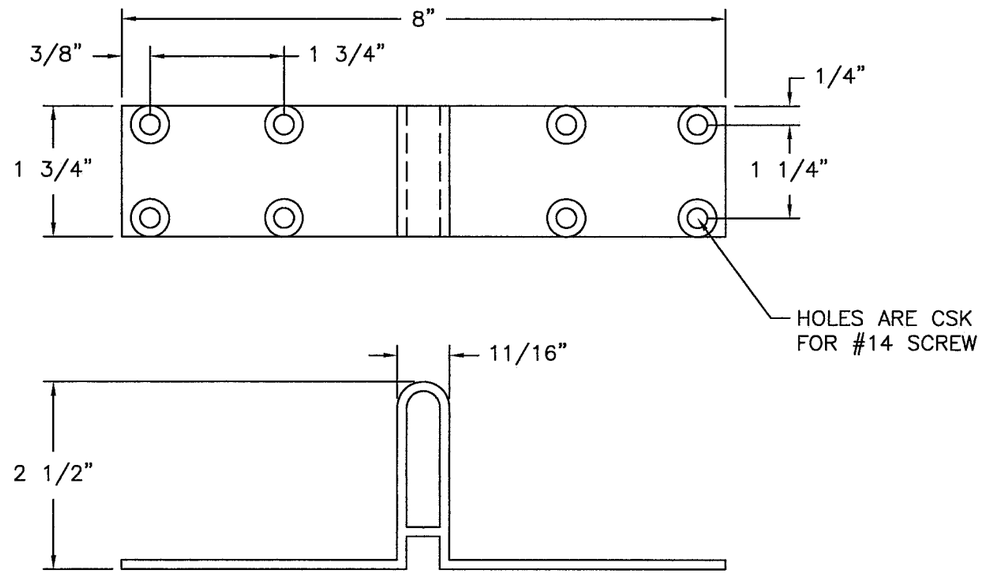
Title:	1-1/4"x4" THERMALLY BROKEN MULLION (LM)	Date	08/14/20
Desc.:	INSTALLATION DETAILS - WINDOW OR DOOR TO MULLION	Drawn By	ERIN KOSS
Series	MULLION	Sheet	12 OF 13
		DWG No.	1-1/4 TB-LMI-NOA
		Rev.	

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
8/17/20

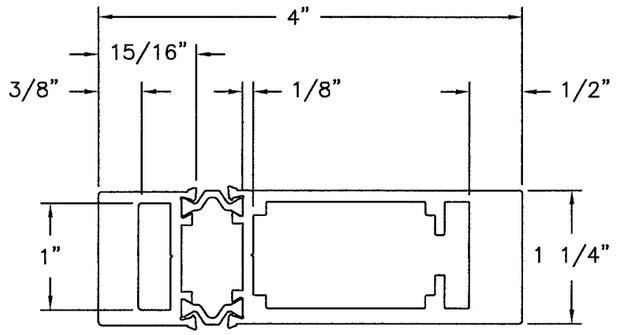
A. LYNN MILLER, P.E.
P.E.# 58705

BILL OF MATERIALS

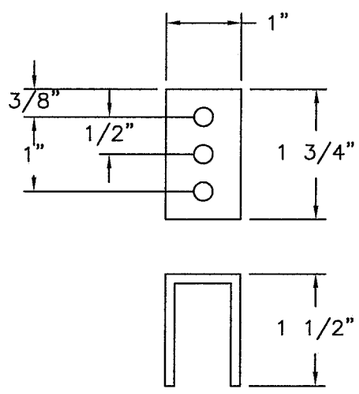
ITEM NO.:	PART NUMBER	DESCRIPTION	MANUFACTURER	MATERIAL
1	13902A06	1 1/4" X 4" THERMALLY BROKEN MULLION ASSEMBLY	KEYMARK	ALUMINUM 6063-T6
2	15305	CLIP	KEYMARK	ALUMINUM 6063-T6
3	15306	U CLIP	KEYMARK	ALUMINUM 6063-T6
4		TECATHERM 66F-INSULBAR	ENSINGER INC	NYLON POLYAMIDE



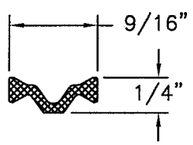
(2) *CLIP*
ALUMINUM 6063-T6 .125" THICK



(1) *MULLION ASSEMBLY 13902A06*
ALUMINUM 6063-T6 .100" THICK
MOMENT OF INERTIA: 4.9998 IN^4
SECTION MODULUS: 2.2958 IN^3
EFFECTIVE MOMENT OF INERTIA: 5.3122 IN^4
EFFECTIVE SECTION MODULUS: 2.1090 IN^3
(EFFECTIVE VALUES BASED ON TESTING)



(3) *U CLIP*
ALUMINUM 6063-T6 .125" THICK



(4) *14.6MM THERMAL STRUT*
NYLON POLYAMIDE .070" THICK

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 20-0826.04
Expiration Date 12/28/2022
By
Miami-Dade Product Control

Revision: NO CHANGES THIS SHEET.

PREPARED BY A. LYNN MILLER
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REGISTRATION #29296

WINDOOR® INCORPORATED
WINDOOR INCORPORATED
104 TRIPLE DIAMOND BLVD.
NORTH VENICE, FL 34275
(833) 554-5432

Rev.	Date	Drawn By	DWG No.	Sheet
	08/14/20	ERIN KOSS	1-1/4 TB-LMI-NOA	13 OF 13

Title: 1-1/4"x4" THERMALLY BROKEN MULLION (LM)
Desc.: BOM & EXTRUSIONS
Series: MULLION

ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER
8/17/20
A. LYNN MILLER, P.E.
P.E.# 58705