



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

NOTICE OF ACCEPTANCE (NOA)

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

CGI Windows and Doors, Inc.

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 Mullion - L.M.I.

APPROVAL DOCUMENT: Drawing No. MD-SENMUL, titled "Series Sentinel Unclipped Mullions", sheets 1 through 7 of 7, dated 06/03/2020, 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# 18-0117.01 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.
09/10/2020

NOA No. 20-0610.11
Expiration Date: September 22, 2025
Approval Date: September 10, 2020
Page 1

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 M10-01, titled "Series Sentinel Unclipped Alum. Mullions", sheets 1 through 7 of 7, dated 04/02/10, with revision D dated 11/08/17, prepared by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P.E.

B. TESTS

1. Test reports on: 1) Air Infiltration Test, per 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 6th Edition (2017)**, dated 10/15/14 and updated on 09/25/17, prepared by Al-Farooq Corporation, signed and sealed by Javad Ahmad, 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 of conformance, complying with **FBC 5th Edition (2014)**, and of no financial interest, dated October 4, 2014, issued by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P.E.
2. Laboratory compliance letter for Test Report No. **HTL-0080-0303-11**, issued by Hurricane Test Laboratory, LLC, dated March 24, 2011, signed and sealed by Vinu J. Abraham, P.E. *(Submitted under NOA No.11-0330.22)*

Sifang Zhao, P.E.
Product Control Examiner
NOA No. 20-0610.11

Expiration Date: September 22, 2025
Approval Date: September 10, 2020

CGI Windows and Doors, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

F. STATEMENTS (CONTINUED)

3. Laboratory compliance letter for Test Report No. **HTL-0080-0301-10**, issued by Hurricane Test Laboratory, LLC, dated March 30, 2010, signed and sealed by Vinu J. Abraham, P.E. *(Submitted under NOA No. 10-0510.14)*
4. 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. **14-1103.09**, issued to CGI Windows & Doors for their Series "Sentinel" Unclipped, Extruded Aluminum Tube Mullion - L.M.I. approved on 03/05/15 and expiring on 09/22/20.

2. NEW EVIDENCE SUBMITTED

A. DRAWINGS

1. Drawing No. MD-SENMUL, titled "Series Sentinel Unclipped Mullions", sheets 1 through 7 of 7, dated 06/03/2020, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.

B. TESTS

1. None

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with **FBC-6th Edition (2017)** and **FBC-7th (2020)** dated 05/27/2020, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, 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 of conformance, complying with **FBC 6th Edition (2017)** and with **FBC 7th Edition (2020)**, and of no financial interest, dated June 03, 2020, signed and sealed by Anthony Lynn Miller, P.E.
2. Statement letter of successor engineer per 61G15-27.001 Florida Administrative Code.

G. OTHERS

1. Notice of Acceptance No. **18-0117.01**, issued to CGI Windows & Doors for their Series "Sentinel" Unclipped, Extruded Aluminum Tube Mullion - L.M.I. approved on 03/01/18 and expiring on 09/22/20.



Sifang Zhao, P.E.
Product Control Examiner
NOA No. 20-0610.11

Expiration Date: September 22, 2025
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SERIES SENTINEL UNCLIPPED ALUMINUM MULLIONS
WINDOW FRAME MEMBER INCLUDED IN PROPERTIES

THESE MULLIONS TO BE USED WITH
SERIES 130 SENTINEL FIXED WINDOW
SERIES 110 SENTINEL SINGLE HUNG WINDOW
SERIES 120 SENTINEL HORIZ. SLIDING WINDOW
FOR WINDOWS IMPACT AND LOAD RATINGS SEE
CORRESPONDING NOA'S.
LOWER DESIGN PRESSURE FROM WINDOW APPROVALS
OR MULLION CHARTS WILL APPLY TO ENTIRE SYSTEM.

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 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.

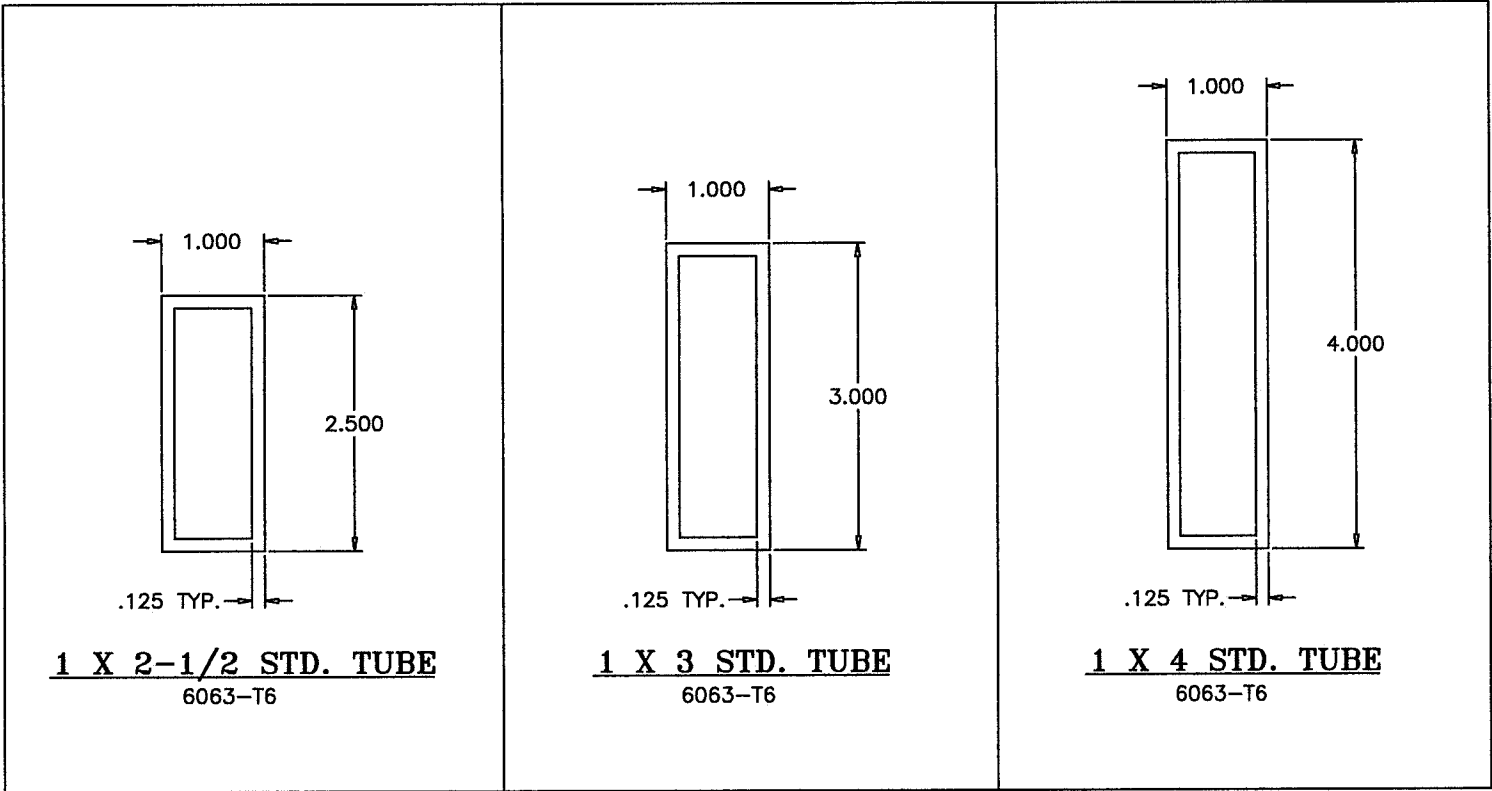
A LOAD DURATION INCREASE IS USED IN DESIGN OF ANCHORS INTO WOOD
ONLY.

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.

THESE MULLIONS ARE RATED FOR LARGE & SMALL MISSILE IMPACT



INSTRUCTIONS:

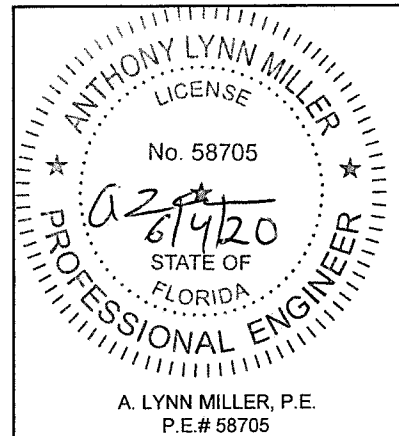
USE CHARTS AS FOLLOWS.

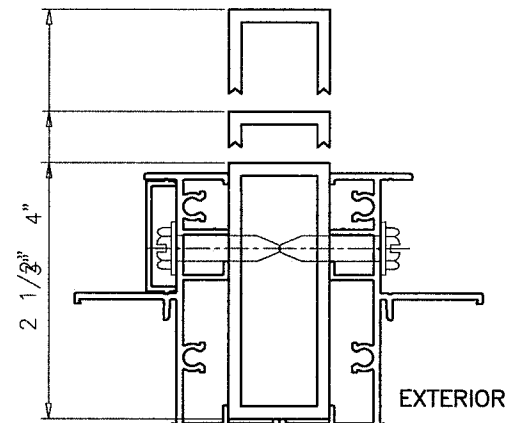
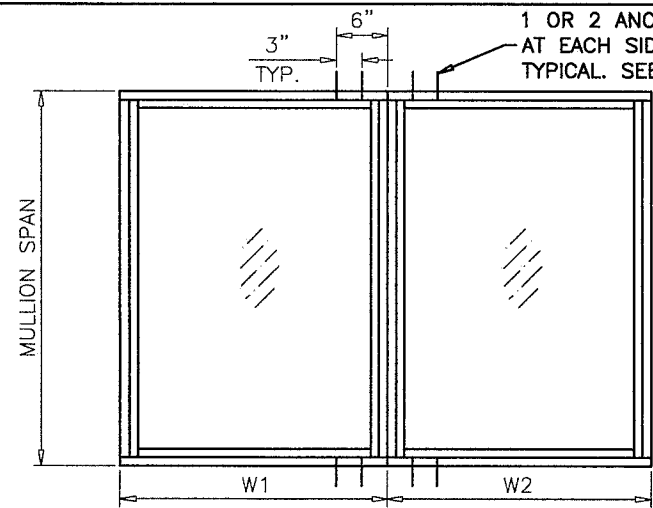
- STEP 1** DETERMINE DESIGN LOAD REQUIRED PER ASCE 7
FOR PARTICULAR OPENING.
- STEP 2** USE CONNECTION OF WINDOWS TO MULLION AS PER
PRODUCT APPROVAL.
- STEP 3** USING CHARTS ON SHEETS 3 THRU 5 SELECT MULLION TYPE
AND ANCHOR QUANTITIES WITH DESIGN RATING MORE THAN
THE DESIGN LOAD SPECIFIED IN STEP 1 ABOVE.
- STEP 4** CAPACITY OF SELECTED CGI'S WINDOWS AND MULLION
MUST EQUAL OR EXCEED REQUIRED LOADS.

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. **20-0610.11**
Expiration Date **09/22/2025**
By
Miami-Dade Product Control

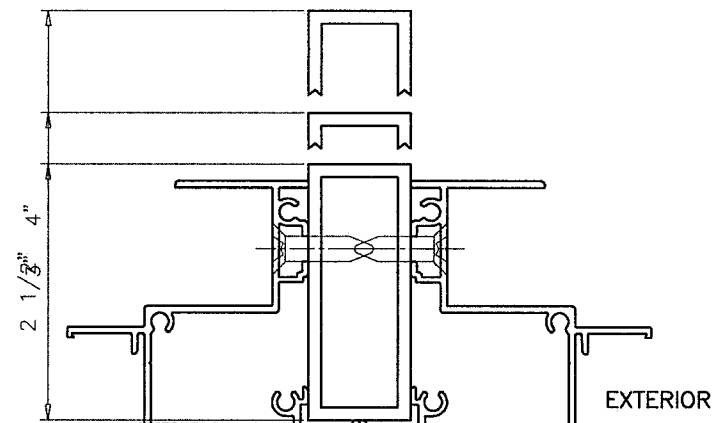
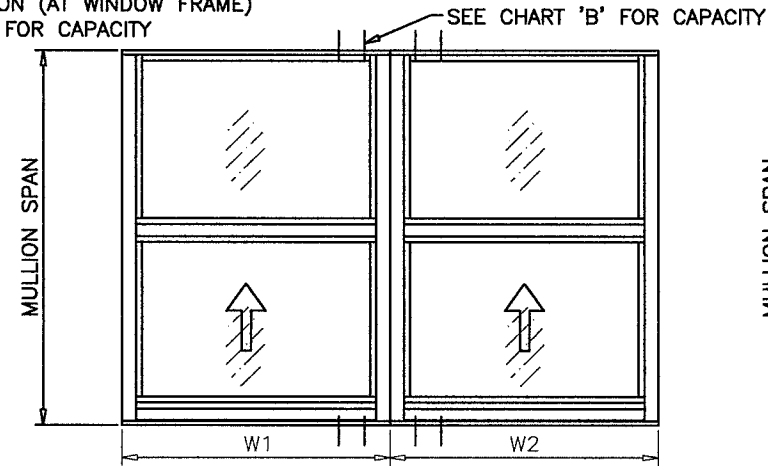
Revision: A) UPDATED TO FBC 2020.
AK - 06/03/20

PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600	REGISTRATION #29296	DATE 06/03/20	BY AGK	MD-SENMUL	A
Impact Resistant Windows & Doors WE'RE STRONGER™ CGI DOORS AND WINDOWS, INC. 3780 W 104TH STREET HIALEAH, FL 33018 (305) 593-6590	MULLIONS, INSTRUCTIONS, NOTES	SENTINEL UNCLIPPED MULLION	DWC	1 OF 7	NTS
CGI DOORS AND WINDOWS, INC. 3780 W 104TH STREET HIALEAH, FL 33018 (305) 593-6590	SENTINEL UNCLIPPED MULLION	SENTINEL UNCLIPPED MULLION	DWC	1 OF 7	NTS
CGI DOORS AND WINDOWS, INC. 3780 W 104TH STREET HIALEAH, FL 33018 (305) 593-6590	SENTINEL UNCLIPPED MULLION	SENTINEL UNCLIPPED MULLION	DWC	1 OF 7	NTS

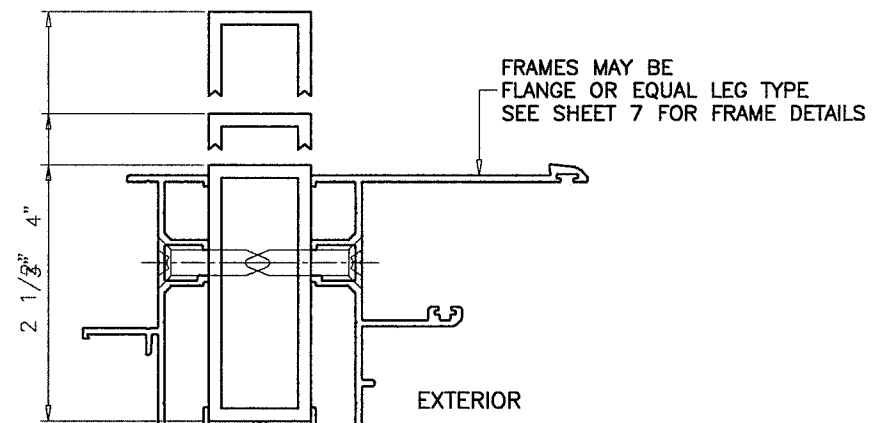
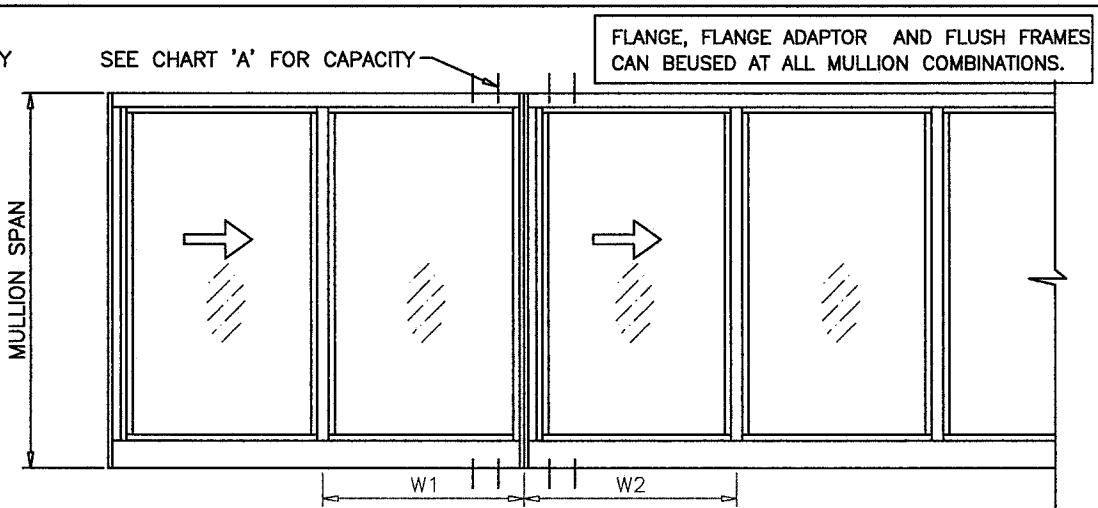




FIXED TO FIXED

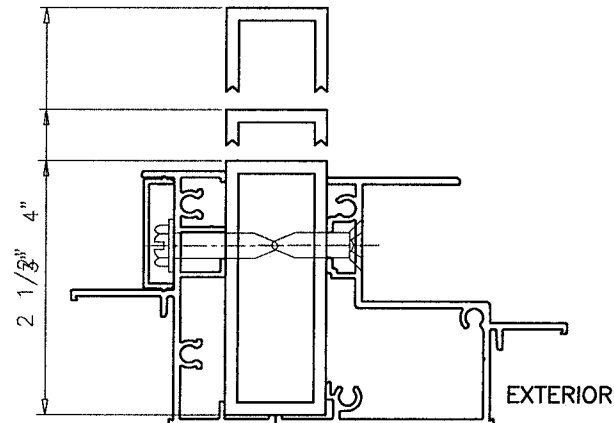
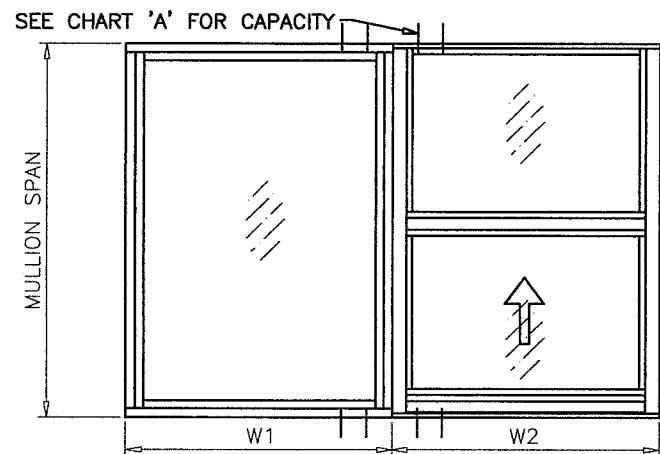


S.H. TO S.H.

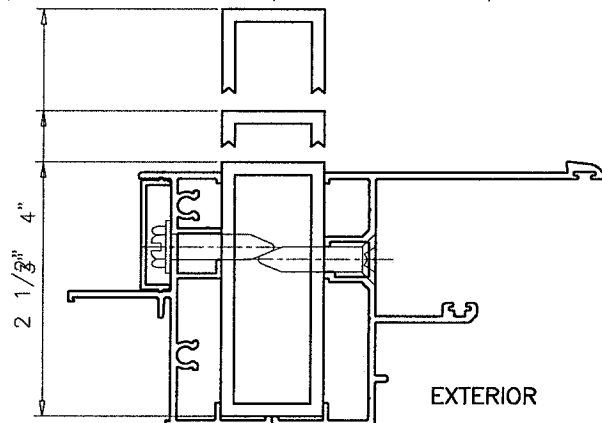
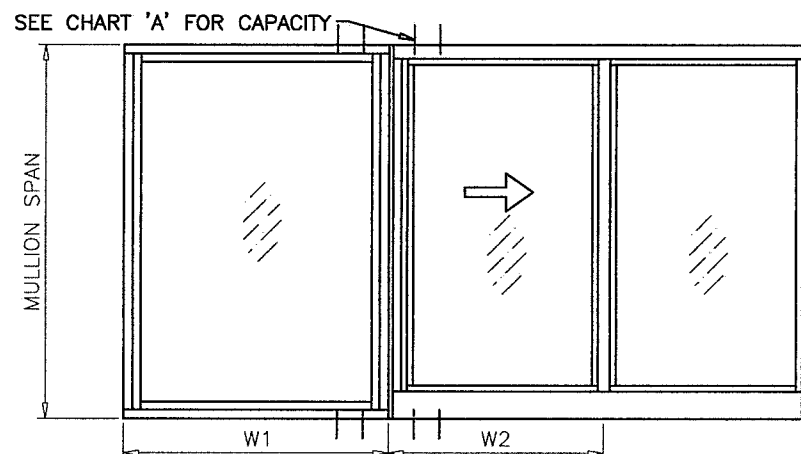


H.R. TO H.R.

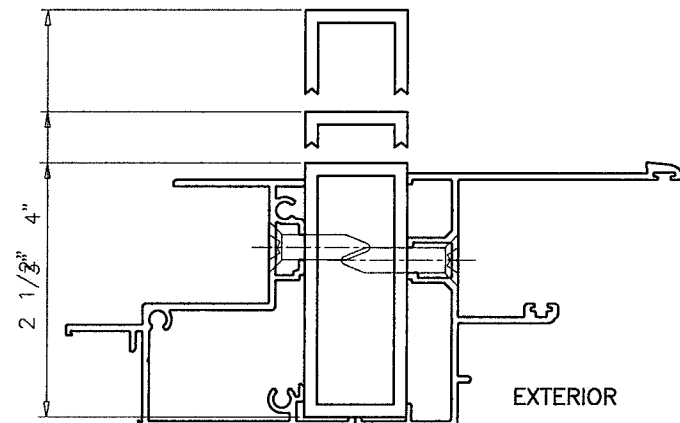
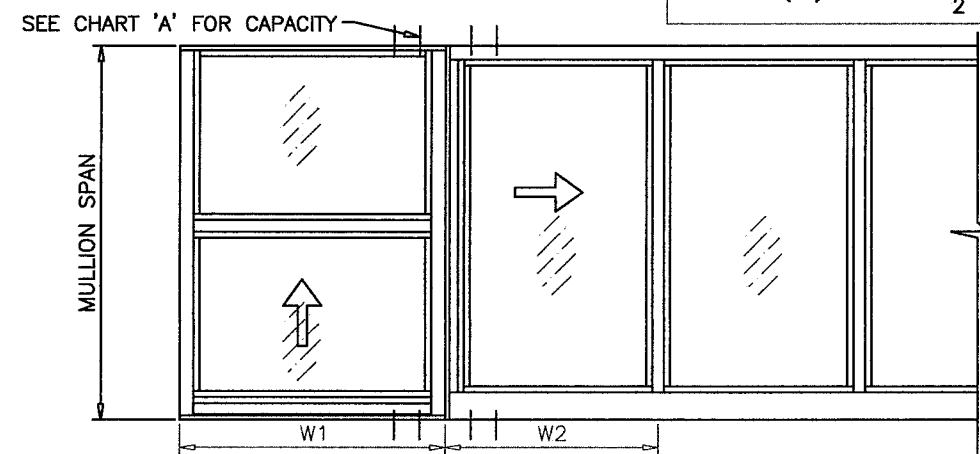
$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$



FIXED TO S.H.




FIXED TO H.R.



S.H. TO H.R.

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. **20-0610.11**
Expiration Date **09/22/2025**
By
Miami-Dade Product Control

Revision: A) NO CHANGES THIS SHEET.
AK - 06/03/20

 Impact Resistant Windows & Doors WE'RE STRONGER™			PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600		
CGI DOORS AND WINDOWS, INC. 3780 W 104TH STREET HIALEAH, FL 33018 (305) 593-6590			REGISTRATION #29296		
CONFIGURATIONS			Date		06/03/20
SENTINEL UNCLIPPED MULLION			Drawn	By	AGK
Series	Title	Desc.			
SEN MUL	Scale	NTS	Sheet	2 OF 7	DWG No.
			MD-SEN MUL		Rev.
					A

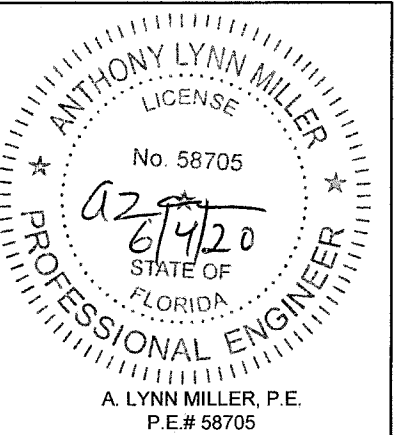
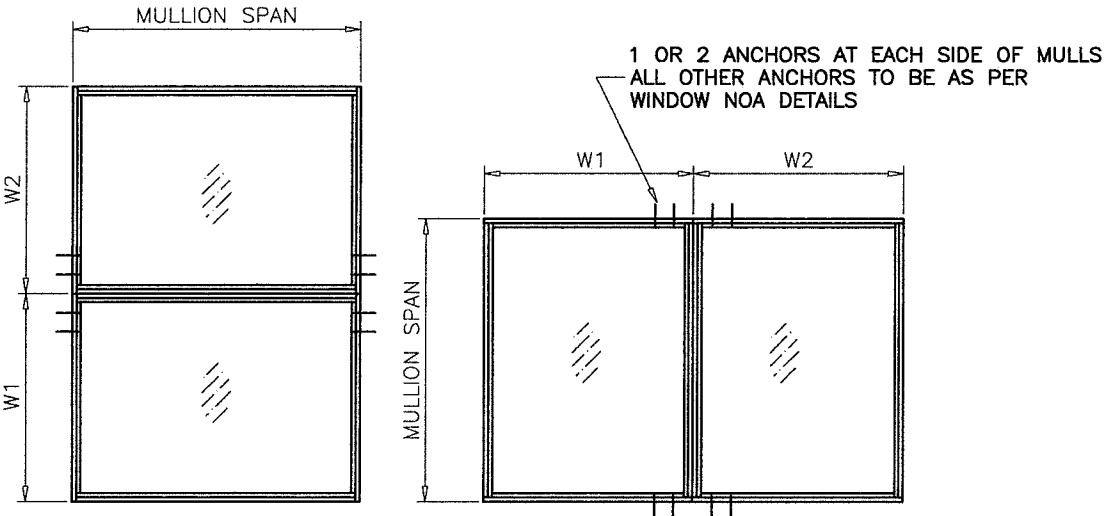


CHART 'A' DESIGN LOAD CAPACITY - PSF
MULLION WITH ANY COMBINATION OF SERIES SENTINEL
FIXED, HORIZONTAL SLIDING OR SINGLE HUNG WINDOWS

WINDOW DIMS.		1 ANCHOR AT EACH SIDE OF MULLION			2 ANCHORS AT EACH SIDE OF MULLION		
WIDTH (W)	MULL SPAN	MULL TUBE 1 X 2-1/2	MULL TUBE 1 X 3	MULL TUBE 1 X 4	MULL TUBE 1 X 2-1/2	MULL TUBE 1 X 3	MULL TUBE 1 X 4
19-1/8"	50-5/8"	90.0	90.0	90.0	90.0	90.0	90.0
26-1/2"		90.0	90.0	90.0	90.0	90.0	90.0
37"		82.9	82.9	82.9	90.0	90.0	90.0
49"		76.9	76.9	76.9	90.0	90.0	90.0
53-1/8"		76.9	76.9	76.9	90.0	90.0	90.0
19-1/8"	63"	90.0	90.0	90.0	90.0	90.0	90.0
26-1/2"		74.7	74.7	74.7	90.0	90.0	90.0
37"		59.8	59.8	59.8	83.3	90.0	90.0
49"		52.2	52.2	52.2	70.7	90.0	90.0
53-1/8"		50.9	50.9	50.9	68.5	90.0	90.0
19-1/8"	76"	77.5	77.5	77.5	81.5	90.0	90.0
26-1/2"		59.2	59.2	59.2	60.2	80.3	90.0
37"		45.3	46.3	46.3	45.3	60.4	90.0
49"		37.0	39.0	39.0	37.0	49.3	77.3
53-1/8"		35.2	37.5	37.5	35.2	47.0	73.4
19-1/8"	85"	57.9	68.3	68.3	57.9	77.3	90.0
26-1/2"		42.6	51.8	51.8	42.6	56.8	90.0
37"		31.7	40.0	40.0	31.7	42.3	74.3
49"		25.5	33.2	33.2	25.5	34.0	59.3
53-1/8"		24.1	31.7	31.7	24.1	32.2	55.9
19-1/8"	90"	48.7	64.0	64.0	48.7	65.0	90.0
26-1/2"		35.7	47.7	48.4	35.7	47.7	83.7
37"		26.5	35.3	37.2	26.5	35.3	62.1
49"		21.1	28.2	30.7	21.1	28.2	49.5
53-1/8"		20.0	28.2	30.7	20.0	28.2	49.5
19-1/8"	96"	40.0	53.4	59.6	40.0	53.4	90.0
26-1/2"		29.3	39.1	44.9	29.3	39.1	68.7
37"		21.6	28.9	34.3	21.6	28.9	50.7

NOTE:
MULLIONS RATED IN THESE CHARTS WITH ANY COMBINATION
OF FIXED, SINGLE HUNG OR HORIZ. SLIDING WINDOWS
MAY BE ORIENTED VERTICALLY OR HORIZONTALLY.
(INTERPOLATION BETWEEN WIDTHS ALLOWED)

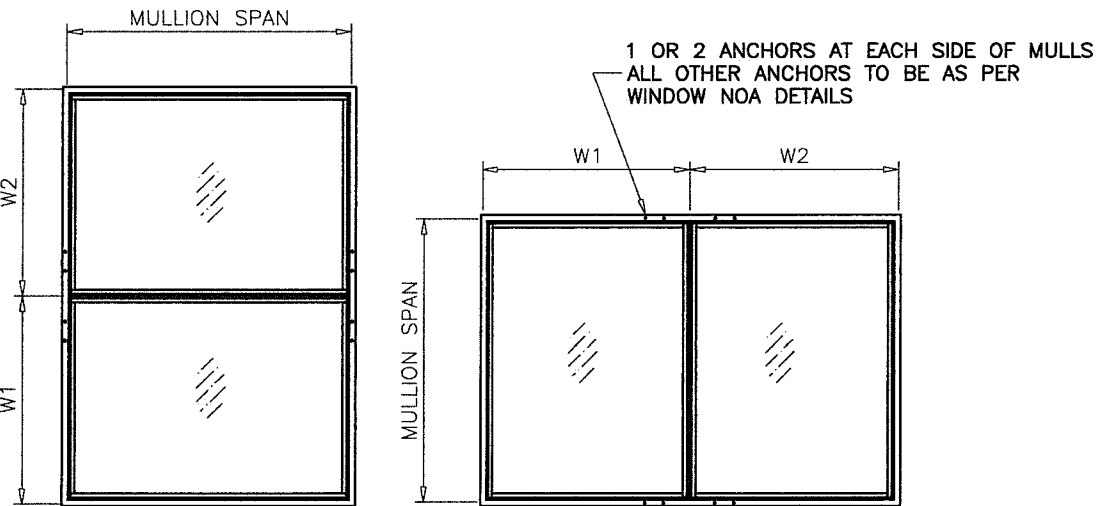


$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$

FLANGE OR FLUSH FRAMES

CHART 'A' DESIGN LOAD CAPACITY - PSF
MULLION WITH ANY COMBINATION OF SERIES SENTINEL
FIXED, HORIZONTAL SLIDING OR SINGLE HUNG WINDOWS


WINDOW DIMS.		1 ANCHOR AT EACH SIDE OF MULLION			2 ANCHORS AT EACH SIDE OF MULLION		
WIDTH (W)	MULL SPAN	MULL TUBE 1 X 2-1/2	MULL TUBE 1 X 3	MULL TUBE 1 X 4	MULL TUBE 1 X 2-1/2	MULL TUBE 1 X 3	MULL TUBE 1 X 4
24"	48"	90.0	90.0	90.0	90.0	90.0	90.0
30"		90.0	90.0	90.0	90.0	90.0	90.0
36"		90.0	90.0	90.0	90.0	90.0	90.0
42"		86.9	86.9	86.9	90.0	90.0	90.0
48"		85.5	85.5	85.5	90.0	90.0	90.0
54"	60"	85.5	85.5	85.5	90.0	90.0	90.0
60"		85.5	85.5	85.5	90.0	90.0	90.0
24"	60"	85.5	85.5	85.5	90.0	90.0	90.0
30"		73.0	73.0	73.0	90.0	90.0	90.0
36"		65.1	65.1	65.1	90.0	90.0	90.0
42"	72"	60.1	60.1	60.1	90.0	90.0	90.0
48"		57.0	57.0	57.0	84.9	90.0	90.0
54"		55.3	55.3	55.3	81.7	90.0	90.0
60"		54.7	54.7	54.7	80.6	90.0	90.0
24"	72"	68.4	68.4	68.4	77.8	90.0	90.0
30"		57.6	57.6	57.6	63.9	85.3	90.0
36"		50.7	50.7	50.7	55.0	73.4	90.0
42"	84"	46.0	46.0	46.0	49.0	65.4	90.0
48"		42.8	42.8	42.8	45.0	60.0	85.5
54"		40.5	40.5	40.5	42.2	56.2	81.1
60"		39.1	39.1	39.1	40.3	53.8	78.2
24"	84"	48.4	57.0	57.0	48.4	64.6	90.0
30"		39.5	47.6	47.6	39.5	52.7	90.0
36"		33.7	41.5	41.5	33.7	44.9	78.4
42"	96"	29.7	37.2	37.2	29.7	39.6	68.8
48"		26.9	34.2	34.2	26.9	35.8	61.9
54"		24.8	32.0	32.0	24.8	33.1	56.9
24"	96"	32.2	43.0	48.9	32.2	43.0	75.5
30"		26.1	34.9	40.5	26.1	34.9	61.2
36"		22.2	29.6	35.1	22.2	29.6	51.9
42"		-	25.9	31.3	-	25.9	45.5
48"		-	23.2	28.5	-	23.2	40.8



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

FIN FRAMES

NOTE:
REFER TO PAGE 2 FOR OTHER COMBINATIONS.

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. **20-0610.11**
Expiration Date **09/22/2025**
By 
Miami-Dade Product Control

Revision: A) NO CHANGES THIS SHEET.
AK - 06/03/20

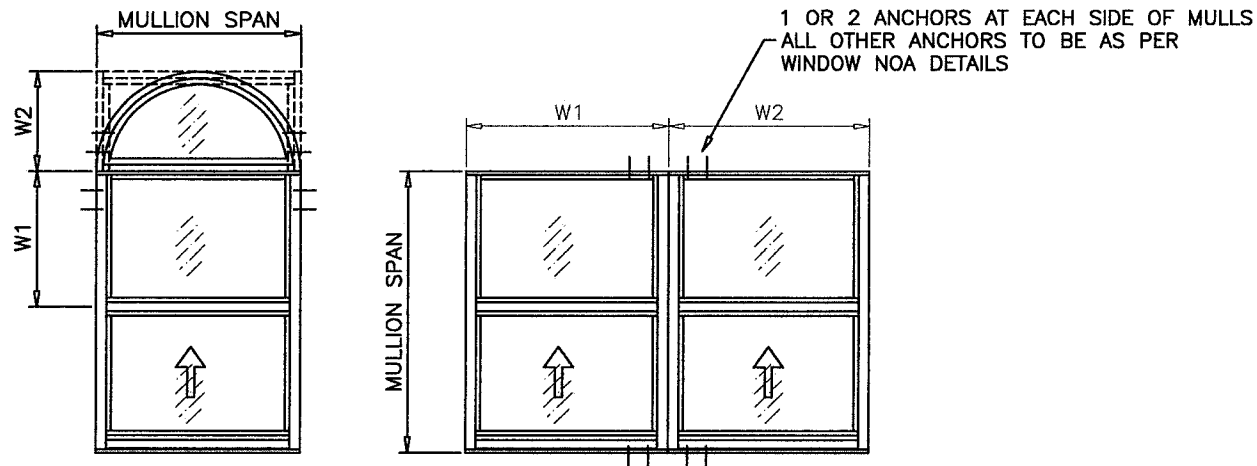
PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600		REGISTRATION #29296 06/03/20		AGK		MD-SENMUL		A	
Impact Resistant Windows & Doors WE'RE STRONGER™		CGI DOORS AND WINDOWS, INC. 3780 W 104TH STREET HIALEAH, FL 33018 (305) 593-6590		LOAD CHARTS		SENTINEL UNCLIPPED MULLION		3 OF 7	
SEN MUL		NTS		Scale		Sheet		DWG	
SEN MUL		NTS		Scale		Sheet		DWG	
SEN MUL		NTS		Scale		Sheet		DWG	

ANTHONY LYNN MILLER
LICENSE
No. 58705
6/4/20
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.# 58705

CHART 'B' DESIGN LOAD CAPACITY - PSF
MULLION WITH COMBINATION OF SERIES SENTINEL
SINGLE HUNG WINDOWS OR FIXED TRANSOM

WINDOW DIMS.		1 ANCHOR AT EACH SIDE OF MULLION			2 ANCHORS AT EACH SIDE OF MULLION		
WIDTH (W)	MULL SPAN	MULL TUBE 1 X 2-1/2	MULL TUBE 1 X 3	MULL TUBE 1 X 4	MULL TUBE 1 X 2-1/2	MULL TUBE 1 X 3	MULL TUBE 1 X 4
19-1/8"	50-5/8"	90.0	90.0	90.0	90.0	90.0	90.0
26-1/2"		90.0	90.0	90.0	90.0	90.0	90.0
37"		82.9	82.9	82.9	90.0	90.0	90.0
49"		76.9	76.9	76.9	90.0	90.0	90.0
53-1/8"		76.9	76.9	76.9	90.0	90.0	90.0
19-1/8"	63"	90.0	90.0	90.0	90.0	90.0	90.0
26-1/2"		74.7	74.7	74.7	90.0	90.0	90.0
37"		59.8	59.8	59.8	90.0	90.0	90.0
49"		52.2	52.2	52.2	90.0	90.0	90.0
53-1/8"		50.9	50.9	50.9	89.4	90.0	90.0
19-1/8"	76"	77.5	77.5	77.5	90.0	90.0	90.0
26-1/2"		59.2	59.2	59.2	78.5	90.0	90.0
37"		46.3	46.3	46.3	59.0	74.2	90.0
49"		39.0	39.0	39.0	48.2	60.6	78.1
53-1/8"		37.5	37.5	37.5	46.0	57.7	75.0
19-1/8"	85"	68.3	68.3	68.3	75.6	90.0	90.0
26-1/2"		51.8	51.8	51.8	55.6	69.8	90.0
37"		40.0	40.0	40.0	41.4	52.0	80.1
49"		33.2	33.2	33.2	33.2	41.7	66.5
53-1/8"		31.4	31.7	31.7	31.4	39.5	63.5
19-1/8"	90"	63.5	64.0	64.0	63.5	79.8	90.0
26-1/2"		46.6	48.4	48.4	46.6	58.6	90.0
37"		34.5	37.2	37.2	34.5	43.4	70.1
49"		27.5	30.7	30.7	27.5	34.6	55.9
19-1/8"	96"	52.2	59.6	59.6	52.2	65.6	90.0
26-1/2"		38.2	44.9	44.9	38.2	48.1	77.6
37"		28.2	34.3	34.3	28.2	35.4	57.3


NOTE:
MULLIONS RATED IN THESE CHARTS WITH SINGLE HUNG FRAMES
MAY BE ORIENTED VERTICALLY OR HORIZONTALLY AS SHOWN BELOW.
(INTERPOLATION BETWEEN WIDTHS ALLOWED)



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

CHART 'B' DESIGN LOAD CAPACITY - PSF
MULLION WITH COMBINATION OF SERIES SENTINEL
SINGLE HUNG WINDOWS OR FIXED TRANSOM

WINDOW DIMS.		1 ANCHOR AT EACH SIDE OF MULLION			2 ANCHORS AT EACH SIDE OF MULLION		
WIDTH (W)	MULL SPAN	MULL TUBE 1 X 2-1/2	MULL TUBE 1 X 3	MULL TUBE 1 X 4	MULL TUBE 1 X 2-1/2	MULL TUBE 1 X 3	MULL TUBE 1 X 4
24"	48"	90.0	90.0	90.0	90.0	90.0	90.0
30"		90.0	90.0	90.0	90.0	90.0	90.0
36"		90.0	90.0	90.0	90.0	90.0	90.0
42"		86.9	86.9	86.9	90.0	90.0	90.0
48"		85.5	85.5	85.5	90.0	90.0	90.0
54"		85.5	85.5	85.5	90.0	90.0	90.0
60"		85.5	85.5	85.5	90.0	90.0	90.0
24"	60"	85.5	85.5	85.5	90.0	90.0	90.0
30"		73.0	73.0	73.0	90.0	90.0	90.0
36"		65.1	65.1	65.1	90.0	90.0	90.0
42"		60.1	60.1	60.1	90.0	90.0	90.0
48"		57.0	57.0	57.0	90.0	90.0	90.0
54"		55.3	55.3	55.3	90.0	90.0	90.0
60"		54.7	54.7	54.7	90.0	90.0	90.0
24"	72"	68.4	68.4	68.4	90.0	90.0	90.0
30"		57.6	57.6	57.6	83.4	90.0	90.0
36"		50.7	50.7	50.7	71.8	90.0	90.0
42"		46.0	46.0	46.0	64.0	80.4	90.0
48"		42.8	42.8	42.8	58.6	73.7	85.5
54"		40.5	40.5	40.5	55.0	69.1	81.1
60"		39.1	39.1	39.1	52.6	66.1	78.2
24"	84"	57.0	57.0	57.0	63.2	79.4	90.0
30"		47.6	47.6	47.6	51.5	64.7	90.0
36"		41.5	41.5	41.5	43.9	55.2	82.9
42"		37.2	37.2	37.2	38.7	48.7	74.4
48"		34.2	34.2	34.2	35.0	44.0	68.4
54"		32.0	32.0	32.0	32.4	40.7	64.0
60"		32.0	32.0	32.0	32.4	40.7	64.0
24"	96"	42.0	48.9	48.9	42.0	52.8	85.3
30"		34.1	40.5	40.5	34.1	42.8	69.2
36"		28.9	35.1	35.1	28.9	36.3	58.7
42"		25.3	31.3	31.3	25.3	31.8	51.4
48"		22.7	28.5	28.5	22.7	28.5	46.1
60"		22.7	28.5	28.5	22.7	28.5	46.1

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. **20-0610.11**
Expiration Date **09/22/2025**
By 
Miami-Dade Product Control

Revision: A) NO CHANGES THIS SHEET.
AK - 06/03/20

PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600 REGISTRATION #29296 LOAD CHARTS SENTINEL UNCLIPPED MULLION		Date	06/03/20	Rev.	A
		By	AGK	MD-SENMUL	
		No.			
		DWG			
Impact Resistant Windows & Doors WERE STRONGER™ CGI DOORS AND WINDOWS, INC. 3780 W 104TH STREET HIALEAH, FL 33018 (305) 593-6590		SENTINEL UNCLIPPED MULLION		4 OF 7	
				NTS	
				Scale	
				SEN MUL	
Series	Title	Desc.			

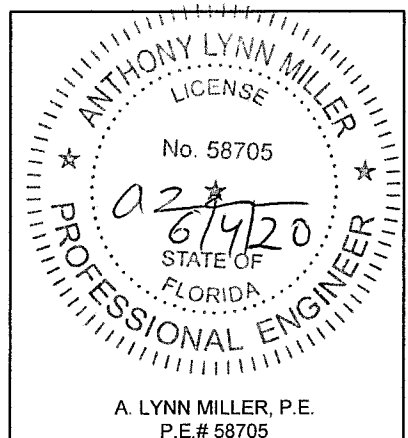
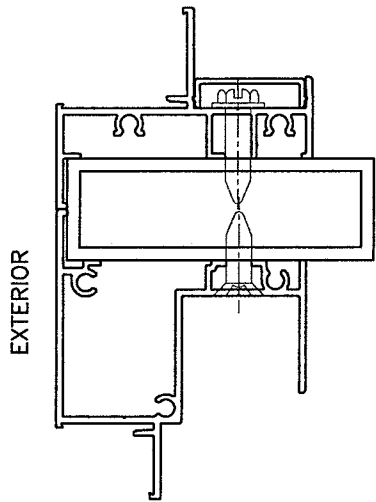
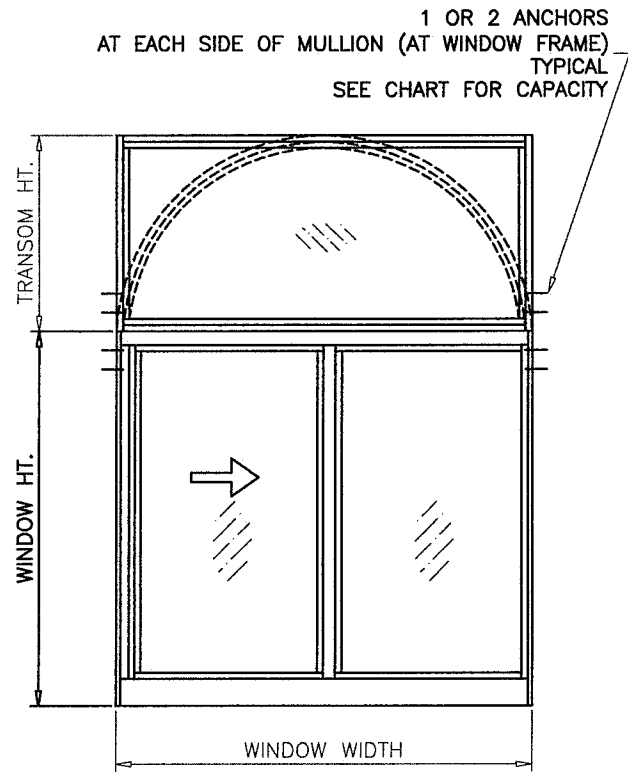


CHART 'C' DESIGN LOAD CAPACITY - PSF						
HORIZONTAL MULLION WITH COMBINATION OF SERIES SENTINEL						
FIXED OVER HORIZ. SLIDING WINDOW						
WINDOW DIMS.			1 ANCHOR AT EACH SIDE OF MULLION		2 ANCHORS AT EACH SIDE OF MULLION	
WINDOW WIDTH	WINDOW HEIGHT	TRANSOM HEIGHT	MULL TUBE 1 X 2-1/2	MULL TUBES 1 X 3 1 X 4	MULL TUBE 1 X 3	MULL TUBE 1 X 4
52-1/8"	25"	12"	90.0	90.0	90.0	90.0
		18"	90.0	90.0	90.0	90.0
		24"	90.0	90.0	90.0	90.0
		30"	90.0	90.0	90.0	90.0
		36"	90.0	90.0	90.0	90.0
		42"	90.0	90.0	90.0	90.0
		48"	90.0	90.0	90.0	90.0
73"		12"	90.0	90.0	90.0	90.0
		18"	90.0	90.0	90.0	90.0
		24"	82.9	82.9	90.0	90.0
		30"	74.3	74.3	90.0	90.0
		36"	68.1	68.1	90.0	90.0
		42"	63.6	63.6	85.0	90.0
		48"	60.3	60.3	77.5	90.0
52-1/8"	37-3/8"	12"	90.0	90.0	90.0	90.0
		18"	90.0	90.0	90.0	90.0
		24"	90.0	90.0	90.0	90.0
		30"	90.0	90.0	90.0	90.0
		36"	89.4	89.4	90.0	90.0
		42"	86.3	86.3	90.0	90.0
		48"	84.8	84.8	90.0	90.0
73"		12"	90.0	90.0	90.0	90.0
		18"	78.3	78.3	90.0	90.0
		24"	69.7	69.7	90.0	90.0
		30"	63.5	63.5	88.0	90.0
		36"	58.9	58.9	80.0	90.0
		42"	55.5	55.5	73.3	90.0
		48"	52.9	53.0	67.6	90.0
36"	49-5/8"	12"	90.0	90.0	90.0	90.0
		18"	90.0	90.0	90.0	90.0
		24"	90.0	90.0	90.0	90.0
		30"	90.0	90.0	90.0	90.0
		36"	90.0	90.0	90.0	90.0
		42"	90.0	90.0	90.0	90.0
		48"	90.0	90.0	90.0	90.0
52-1/8"		12"	90.0	90.0	90.0	90.0
		18"	90.0	90.0	90.0	90.0
		24"	87.3	87.3	90.0	90.0
		30"	81.8	81.8	90.0	90.0
		36"	78.1	78.1	90.0	90.0
		42"	75.7	75.7	90.0	90.0
		48"	74.5	74.5	90.0	90.0
73"		12"	75.3	75.3	90.0	90.0
		18"	66.5	66.5	90.0	90.0
		24"	60.1	60.1	82.7	90.0
		30"	55.5	55.5	75.6	90.0
		36"	52.0	52.0	69.6	90.0
		42"	49.3	49.3	64.5	85.9
		48"	47.0	47.3	60.1	80.6

CHART 'C' DESIGN LOAD CAPACITY - PSF HORIZONTAL MULLION WITH COMBINATION OF SERIES SENTINEL FIXED OVER HORIZ. SLIDING WINDOW						
WINDOW DIMS.			1 ANCHOR AT EACH SIDE OF MULLION		2 ANCHORS AT EACH SIDE OF MULLION	
WINDOW WIDTH	WINDOW HEIGHT	TRANSOM HEIGHT	MULL TUBE 1 X 2-1/2	MULL TUBES 1 X 3 1 X 4	MULL TUBE 1 X 3	MULL TUBE 1 X 4
36"	62"	12"	90.0	90.0	90.0	90.0
		18"	90.0	90.0	90.0	90.0
		24"	90.0	90.0	90.0	90.0
		30"	90.0	90.0	90.0	90.0
		36"	90.0	90.0	90.0	90.0
		42"	90.0	90.0	90.0	90.0
		48"	90.0	90.0	90.0	90.0
52-1/8"		12"	90.0	90.0	90.0	90.0
		18"	82.4	82.4	90.0	90.0
		24"	76.4	76.4	90.0	90.0
		30"	72.2	72.2	90.0	90.0
		36"	69.3	69.3	90.0	90.0
		42"	67.4	67.4	90.0	90.0
		48"	66.4	66.4	90.0	90.0
73"		12"	64.2	64.2	85.5	90.0
		18"	57.7	57.7	77.9	90.0
		24"	52.9	52.9	71.6	90.0
		30"	49.2	49.2	66.2	85.5
		36"	46.4	46.4	61.6	80.3
		42"	44.3	44.3	57.5	75.7
		48"	42.2	42.7	54.0	71.5



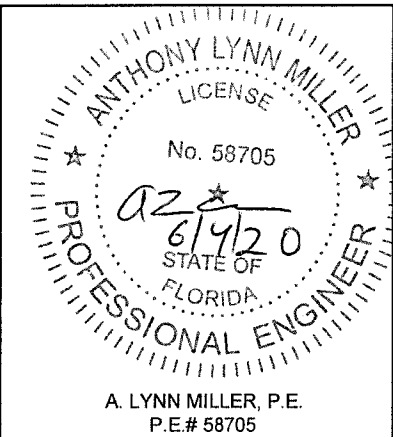
FIXED OVER H.R.



PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. **20-0610.11**
Expiration Date **09/22/2025**
By
Miami-Dade Product Control

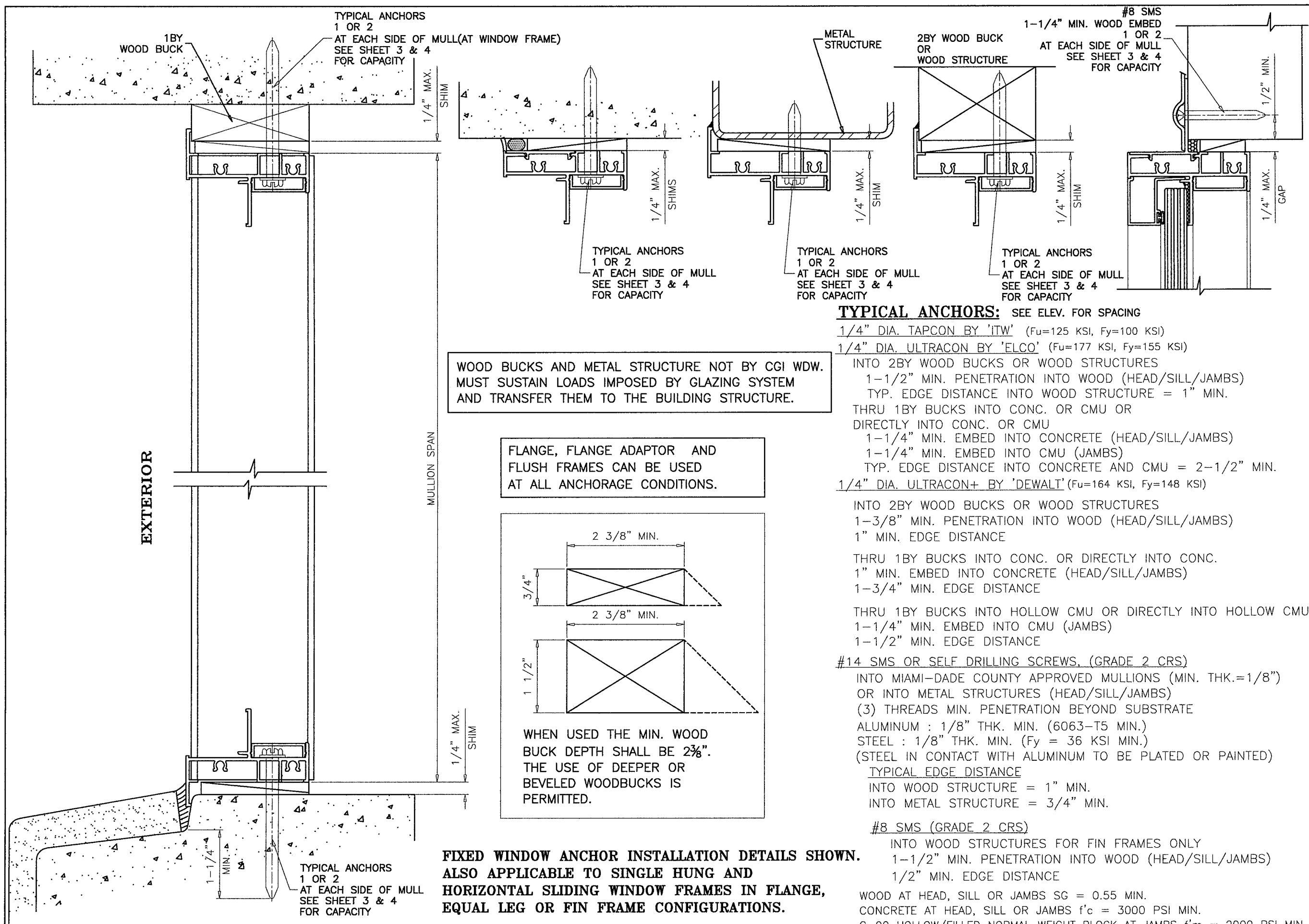
Revision: A) NO CHANGES THIS SHEET.
AK - 06/03/20

PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600		REGISTRATION #29296		Date	06/03/20	AGK	MD-SENMUL	A	
Impact Resistant Windows & Doors WE'RE STRONGER™ CGI DOORS AND WINDOWS, INC. 3780 W 104TH STREET HIALEAH, FL 33018 (305) 593-6590		LOAD CHARTS		Drawn By					
SENTINEL UNCLIPPED MULLION		SENTINEL UNCLIPPED MULLION		No.		5 OF 7			
SEN MUL		SEN MUL		Scale		NTS			
Series		Title		Desc.		Sheet			



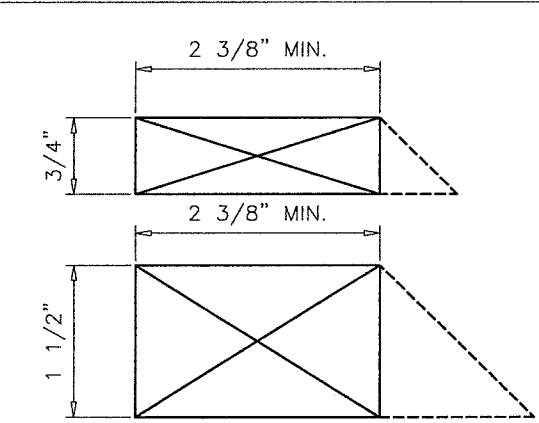
A. LYNN MILLER, P.E.
P.E.# 58705

EXTERIOR



WOOD BUCKS AND METAL STRUCTURE NOT BY CGI WDW. MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

FLANGE, FLANGE ADAPTOR AND FLUSH FRAMES CAN BE USED AT ALL ANCHORAGE CONDITIONS.



WHEN USED THE MIN. WOOD BUCK DEPTH SHALL BE 2 3/8". THE USE OF DEEPER OR BEVELED WOODBUCKS IS PERMITTED.

FIXED WINDOW ANCHOR INSTALLATION DETAILS SHOWN. ALSO APPLICABLE TO SINGLE HUNG AND HORIZONTAL SLIDING WINDOW FRAMES IN FLANGE, EQUAL LEG OR FIN FRAME CONFIGURATIONS.

TYPICAL ANCHORS: SEE ELEV. FOR SPACING

1/4" DIA. TAPCON BY 'ITW' (Fu=125 KSI, Fy=100 KSI)

1/4" DIA. ULTRACON BY 'ELCO' (Fu=177 KSI, Fy=155 KSI)

INTO 2BY WOOD BUCKS OR WOOD STRUCTURES

1-1/2" MIN. PENETRATION INTO WOOD (HEAD/SILL/JAMBS)

TYP. EDGE DISTANCE INTO WOOD STRUCTURE = 1" MIN.

THRU 1BY BUCKS INTO CONC. OR CMU OR DIRECTLY INTO CONC. OR CMU

1-1/4" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)

1-1/4" MIN. EMBED INTO CMU (JAMBS)

TYP. EDGE DISTANCE INTO CONCRETE AND CMU = 2-1/2" MIN.

1/4" DIA. ULTRACON+ BY 'DEWALT' (Fu=164 KSI, Fy=148 KSI)

INTO 2BY WOOD BUCKS OR WOOD STRUCTURES

1-3/8" MIN. PENETRATION INTO WOOD (HEAD/SILL/JAMBS)

1" MIN. EDGE DISTANCE

THRU 1BY BUCKS INTO CONC. OR DIRECTLY INTO CONC.

1" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)

1-3/4" MIN. EDGE DISTANCE

THRU 1BY BUCKS INTO HOLLOW CMU OR DIRECTLY INTO HOLLOW CMU

1-1/4" MIN. EMBED INTO CMU (JAMBS)

1-1/2" MIN. EDGE DISTANCE

#14 SMS OR SELF DRILLING SCREWS, (GRADE 2 CRS)

INTO MIAMI-DADE COUNTY APPROVED MULLIONS (MIN. THK.=1/8")

OR INTO METAL STRUCTURES (HEAD/SILL/JAMBS)

(3) THREADS MIN. PENETRATION BEYOND SUBSTRATE

ALUMINUM : 1/8" THK. MIN. (6063-T5 MIN.)

STEEL : 1/8" THK. MIN. (Fy = 36 KSI MIN.)

(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

TYPICAL EDGE DISTANCE

INTO WOOD STRUCTURE = 1" MIN.

INTO METAL STRUCTURE = 3/4" MIN.

#8 SMS (GRADE 2 CRS)

INTO WOOD STRUCTURES FOR FIN FRAMES ONLY

1-1/2" MIN. PENETRATION INTO WOOD (HEAD/SILL/JAMBS)

1/2" MIN. EDGE DISTANCE

WOOD AT HEAD, SILL OR JAMBS SG = 0.55 MIN.

CONCRETE AT HEAD, SILL OR JAMBS f'c = 3000 PSI MIN.

C-90 HOLLOW/FILLED NORMAL WEIGHT BLOCK AT JAMBS f'm = 2000 PSI MIN.

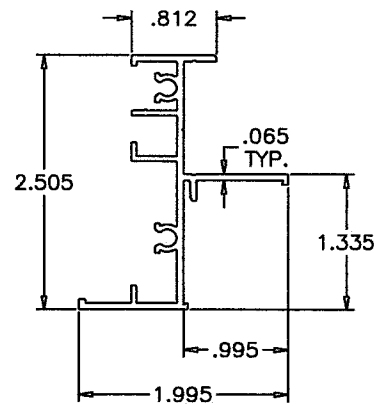
PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. **20-0610.11**
Expiration Date **09/22/2025**
By
Miami-Dade Product Control

Revision: A) ADDED ULTRACON+ ANCHORS.
AK - 06/03/20

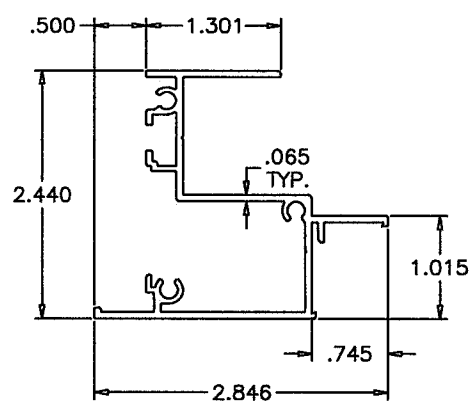
PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600	REGISTRATION #29296	Date	06/03/20	Rev.	A				
		By	AGK						
		Drawn	MD-SEN MUL						
		No.							
 Impact Resistant Windows & Doors WE'RE STRONGER™ CGI DOORS AND WINDOWS, INC. 3780 W 104TH STREET HIALEAH, FL 33018 (305) 593-6590	INSTALLATION DETAILS, ANCHORS	SENTINEL UNCLIPPED MULLION	6 OF 7	Sheet	NTS				
						SEN MUL	Scale		
								SEN MUL	Title

ANTHONY LYNN MILLER
LICENSE
No. 58705

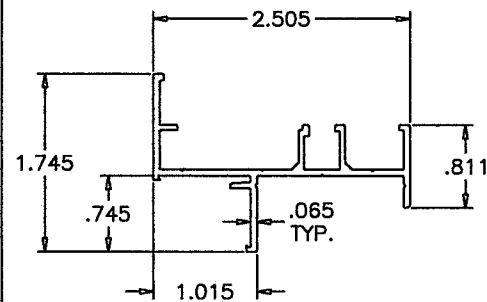
6/4/20
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.# 58705



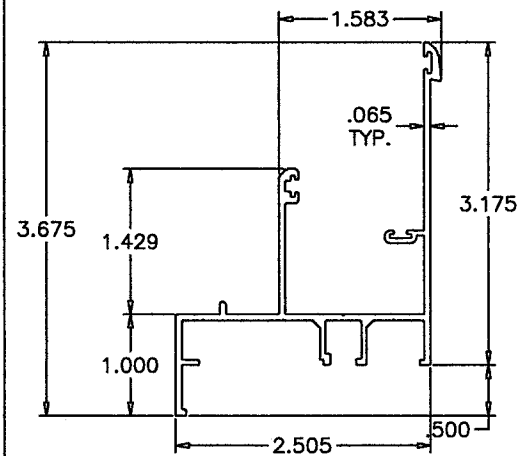
SERIES 130 SENTINEL
FIX. WDW. FLANGE FRAME
CGI-118



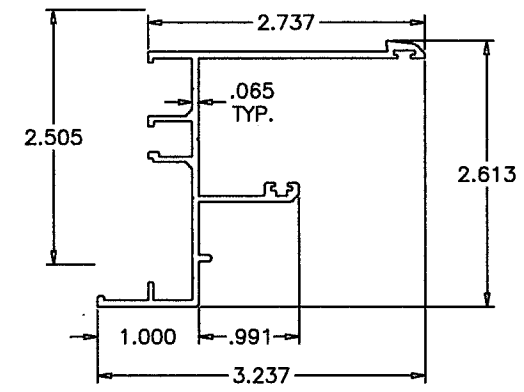
H.R. WDW. FLANGE FRAME HEAD
S.H. WDW. FLANGE FRAME JAMB
CGI-136



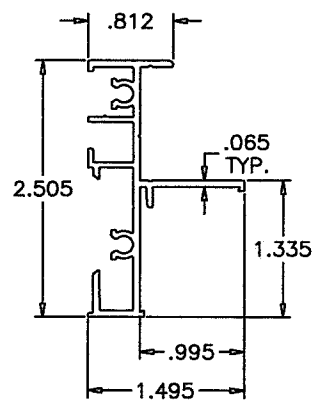
H.R. WDW. FLANGE FRAME JAMB
S.H. WDW. FLANGE FRAME HEAD
CGI-135



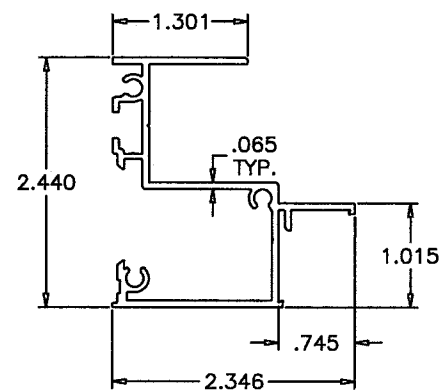
SERIES 110 SENTINEL
S.H. WDW. FLANGE FRAME SILL
CGI-137



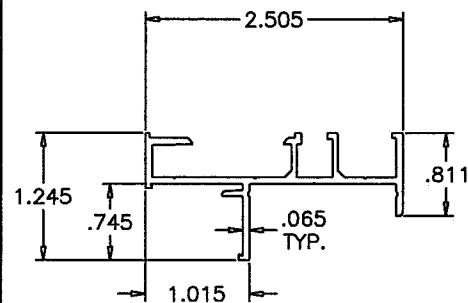
SERIES 120 SENTINEL
H.R. WDW. FLANGE FRAME JAMB
CGI-139



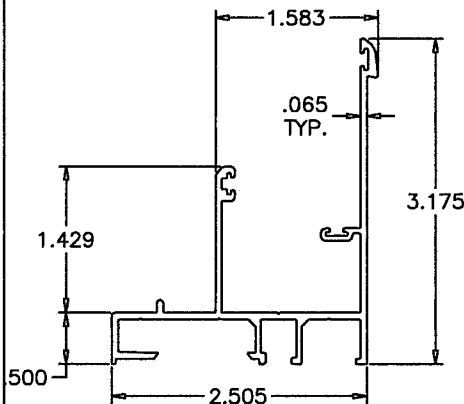
SERIES 130 SENTINEL
FIX. WDW. FLUSH FRAME
CGI-119



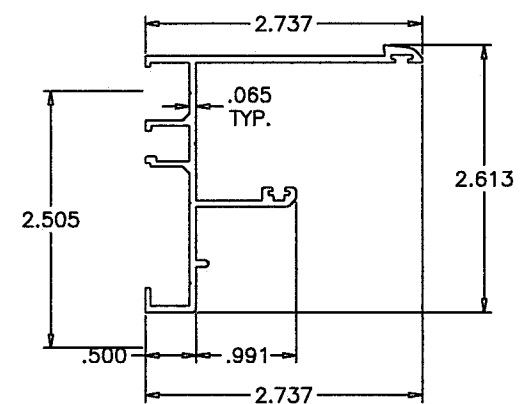
H.R. WDW. FLUSH FRAME HEAD
S.H. WDW. FLUSH FRAME JAMB
CGI-102



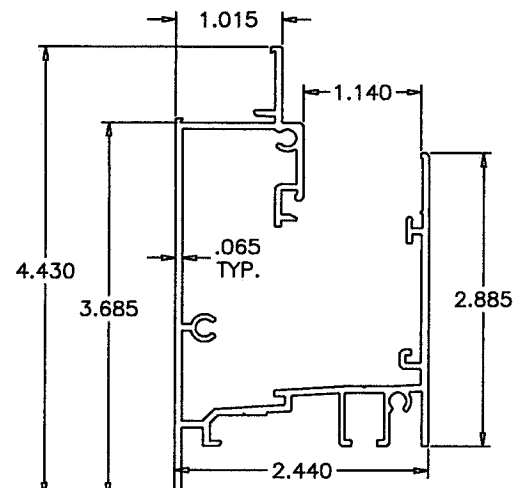
H.R. WDW. FLUSH FRAME JAMB
S.H. WDW. FLUSH FRAME HEAD
CGI-100



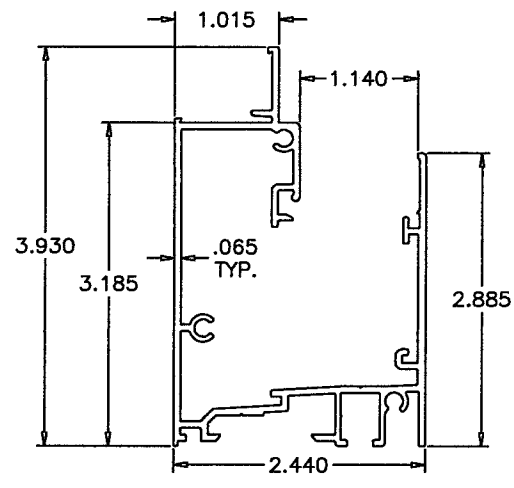
SERIES 110 SENTINEL
S.H. WDW. FLUSH FRAME SILL
CGI-101



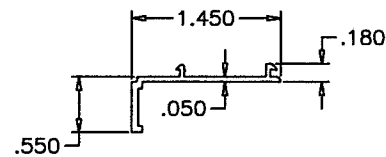
SERIES 120 SENTINEL
H.R. WDW. FLUSH FRAME JAMB
CGI-116



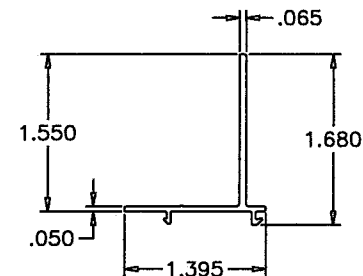
SERIES 120 SENTINEL
H.R. WDW. FLANGE FRAME SILL
CGI-138



SERIES 120 SENTINEL
H.R. WDW. FLUSH FRAME SILL
CGI-113



FLANGE ADAPTOR
CGI-109



FIN ADAPTOR
CGI-110

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. **20-0610.11**
Expiration Date **09/22/2025**
By 
Miami-Dade Product Control

Revision: A) NO CHANGES THIS SHEET.
AK - 06/03/20

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

REGISTRATION #29296

Date 06/03/20

By AGK

Drawn MD-SENMUL

Rev. A

Impact Resistant
Windows & Doors
WE'RE STRONGER™
CGI DOORS AND WINDOWS, INC.
3780 W 104TH STREET
HIALEAH, FL 33018
(305) 593-6590

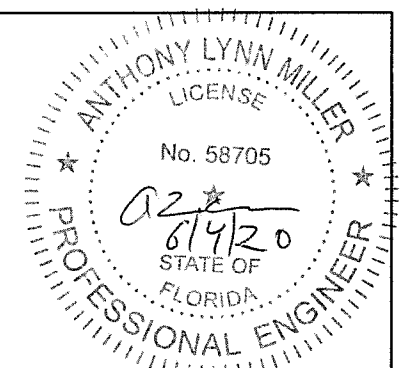
EXTRUSIONS

SERIES TITLE SENTINEL UNCLIPPED MULLION

Sheet 7 OF 7

Scale NTS

Series Title Desc SENMUL



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