

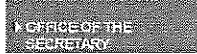


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Product Approval
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FL #

Application Type

Code Version

Application Status

FL5012-R26

Revision

2023

Approved

FL5012.2

5400 PW

Comments

Archived



Product Manufacturer

Address/Phone/Email

PGT Industries

1070 Technology Drive

North Venice, FL 34275

(941) 486-0100 Ext 21140

jrosowski@pgtindustries.com

Authorized Signature

Jens Rosowski

jrosowski@pgtindustries.com

Technical Representative

Address/Phone/Email

Lynn Miller, P.E.

1070 Technology Dr

N Venice, FL 34275

(941) 486-0100 Ext 21142

lmiller@pgtindustries.com

Quality Assurance Representative

Address/Phone/Email

Category

Subcategory

Windows

Fixed

Compliance Method

Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer

☐ Evaluation Report - Hardcopy Received

Florida Engineer or Architect Name who developed the Evaluation Report

A. Lynn Miller, P.E.

Florida License

PE-58705

Quality Assurance Entity

Keystone Certifications, Inc.

Quality Assurance Contract Expiration Date

12/31/2032

Validated By

Steven M. Ulrich, PE

☒ Validation Checklist - Hardcopy Received

Certificate of Independence

[FL5012_R26_COI_Cert of Independence.pdf](#)

Referenced Standard and Year (of Standard)

Standard

Year

AAMA/WDMA/CSA 101/IS2/A440

2017

ASTM E 1886

2013

ASTM E1996

2012

ASTM E283

2004

ASTM E330

2002

Equivalence of Product Standards
Certified By

Florida Licensed Professional Engineer or Architect

[FL5012_R26_Equiv_AAMA 101-97 and 05 to AAMA 101-17 Equivalency](#)

Sections from the Code

Product Approval Method

Method 1 Option D

Date Submitted 10/06/2023
 Date Validated 10/08/2023
 Date Pending FBC Approval 10/11/2023
 Date Approved 12/12/2023

Summary of Products

FL #	Model, Number or Name	Description
5012.1	PW - 640	Aluminum Casement Picture Window
Limits of Use Approved for use in HVHZ: No Approved for use outside HVHZ: Yes Impact Resistant: No Design Pressure: N/A Other: Please see the Installation Instructions for design pressure, size and anchorage information.		Installation Instructions FL5012 R26 II PW640FPA-NI-REV D.pdf Verified By: A. Lynn Miller, PE 58705 Created by Independent Third Party: No Evaluation Reports FL5012 R26 AE Eng Eval - PW640 - REV D.pdf Created by Independent Third Party: No
5012.2	PW-5420	EnergyVue Vinyl Picture Window
Limits of Use Approved for use in HVHZ: No Approved for use outside HVHZ: Yes Impact Resistant: No Design Pressure: N/A Other: Please see the Installation Instructions for design pressure, size and anchorage information.		Installation Instructions FL5012 R26 II PW5420FPA-NI-REV E.pdf Verified By: A. Lynn Miller, P.E. 58705 Created by Independent Third Party: No Evaluation Reports FL5012 R26 AE Eng Eval - PW5420 - REV E.pdf Created by Independent Third Party: No
5012.3	PW-5440	EnergyVue Vinyl Casement Picture Window
Limits of Use Approved for use in HVHZ: No Approved for use outside HVHZ: Yes Impact Resistant: No Design Pressure: N/A Other: Please see the Installation Instructions for design pressure, size and anchorage information.		Installation Instructions FL5012 R26 II PW5440FPA-NI-REV E.pdf Verified By: A. Lynn Miller, P.E. 58705 Created by Independent Third Party: No Evaluation Reports FL5012 R26 AE Eng Eval - PW5440 - REV E.pdf Created by Independent Third Party: No
5012.4	PW-5520	WinGuard Vinyl Picture Window
Limits of Use Approved for use in HVHZ: No Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: N/A Other: Please see the Installation Instructions for design pressure, size and anchorage information.		Installation Instructions FL5012 R26 II PW5520FPA-LM-REV D.pdf Verified By: A. Lynn Miller, P.E. 58705 Created by Independent Third Party: No Evaluation Reports FL5012 R26 AE Eng Eval - PW5520 - REV D.pdf Created by Independent Third Party: No
5012.5	PW-5540	WinGuard Vinyl Casement Picture Window
Limits of Use Approved for use in HVHZ: No Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: N/A Other: Please see the Installation Instructions for design pressure, size and anchorage information.		Installation Instructions FL5012 R26 II PW5540FPA-LM-REV D.pdf Verified By: A. Lynn Miller, P.E. 58705 Created by Independent Third Party: No Evaluation Reports FL5012 R26 AE Eng Eval - PW5540 - REV D.pdf Created by Independent Third Party: No

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TABLE 2: ANCHORS INSTALLED THROUGH FRAME

Anchor	Substrate	Min. Edge Distance	Min. Embedment
#10 SMS (steel, 18-8 S.S. or 410 S.S.) Max. DP of 50.0 psf	P.T. Southern Pine (SG=0.55)	7/16"	1-3/8"
	Steel Stud, A36	3/8"	0.050"
	Aluminum, 6063-T5	3/8"	0.0346" (20 Ga.)
	Aluminum, 6063-T5	3/8"	0.0713" (14 Ga.)
#12 SMS (steel, 18-8 S.S. or 410 S.S.)	P.T. Southern Pine (SG=0.55)	9/16"	1-3/8"
	Steel Stud, A36	3/8"	0.050"
	Aluminum, 6063-T5	3/8"	0.0346" (20 Ga.)
	Aluminum, 6063-T5	3/8"	0.0713" (14 Ga.)
3/16" Ultracon+ Max. DP of 50.0 psf	P.T. Southern Pine (SG=0.55)	7/16"	1-3/8"
	Concrete (min. 3 ksi)	1"	1-3/8"
1/4" Ultracon+	Ungrouted CMU (ASTM C-90)	1"	1-1/4"
	P.T. Southern Pine (SG=0.55)	1"	1-3/8"
	Concrete (min. 3 ksi)	1-3/16"	1-3/4"
	Ungrouted CMU (ASTM C-90)	1"	1-1/4"
1/4" Cret-Flex (410 S.S.)	P.T. Southern Pine (SG=0.55)	1"	1-3/8"
	Concrete (min. 3.35 ksi)	1"	1-3/4"
	Ungrouted CMU (ASTM C-90)	2-1/2"	1-1/4"
	Concrete (min. 3.275 ksi)	1-1/2"	1-3/8"
1/4" Aggre-Gator (18-8 S.S.)	P.T. Southern Pine (SG=0.55)	1"	1-3/8"
	Ungrouted CMU (ASTM C-90)	2"	1-1/4"

1) "UNGROUTED CMU" VALUES MAY BE USED FOR GROUTED CMU APPLICATIONS.

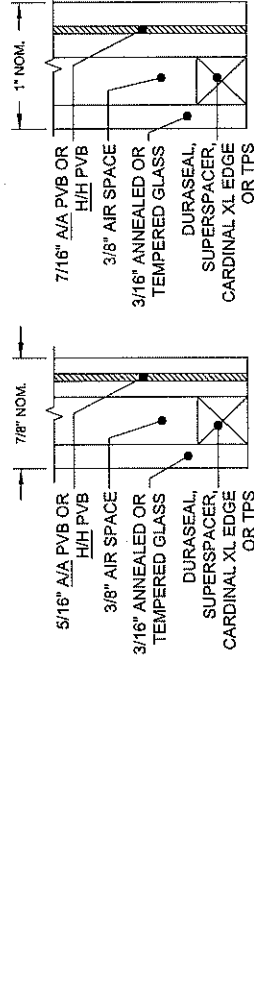
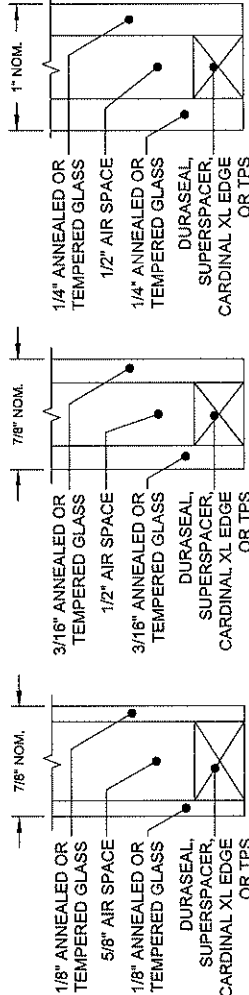
2) PANHEAD, FLATHEAD OR HEXHEAD ARE ACCEPTABLE.

3) ANCHOR LENGTH TO BE SO THAT A MIN. OF 3 THREADS EXTEND BEYOND THE METAL SUBSTRATE.

TABLE 3: ANCHORS INSTALLED THROUGH INTEGRAL FIN

Anchor	Substrate	Min. Edge Distance	Min. Embedment
2-1/2" x 131" Common Nail Max. DP of 50.0	P.T. Southern Pine (SG=0.55)	9/16"	2-7/16"
	P.T. Southern Pine (SG=0.55)	9/16"	2-7/16"
	P.T. Southern Pine (SG=0.55)	9/16"	2-7/16"
	P.T. Southern Pine (SG=0.55)	3/4"	1-3/8"
#10 SMS (steel, 18-8 S.S. or 410 S.S.)	Aluminum, 6063-T5	3/8"	0.050"
	Steel Stud, Gr. 33	3/8"	0.0346" (20 Ga.)
	Steel, A36	3/8"	0.050"
	Steel, A36	3/8"	0.050"

1) PANHEAD, FLATHEAD OR HEXHEAD ARE ACCEPTABLE.



GLASS TYPES

PVB = KURARAY TROSIFOL PVB INTERLAYER BY KURARAY AMERICA, INC.
 A = ANNEALED
 H = HEAT STRENGTHENED

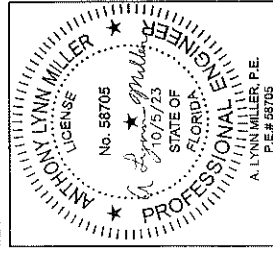
VISIBLE LIGHT FORMULAS

WIDTH: BUCK WIDTH - 4-5/16"

HEIGHT: BUCK HEIGHT - 4-3/16"

VISIBLE LIGHT WIDTH OR HEIGHT
 (ALSO REFERRED TO AS DAYLIGHT
 OPENING) IS MEASURED FROM
 BEADING TO BEADING.

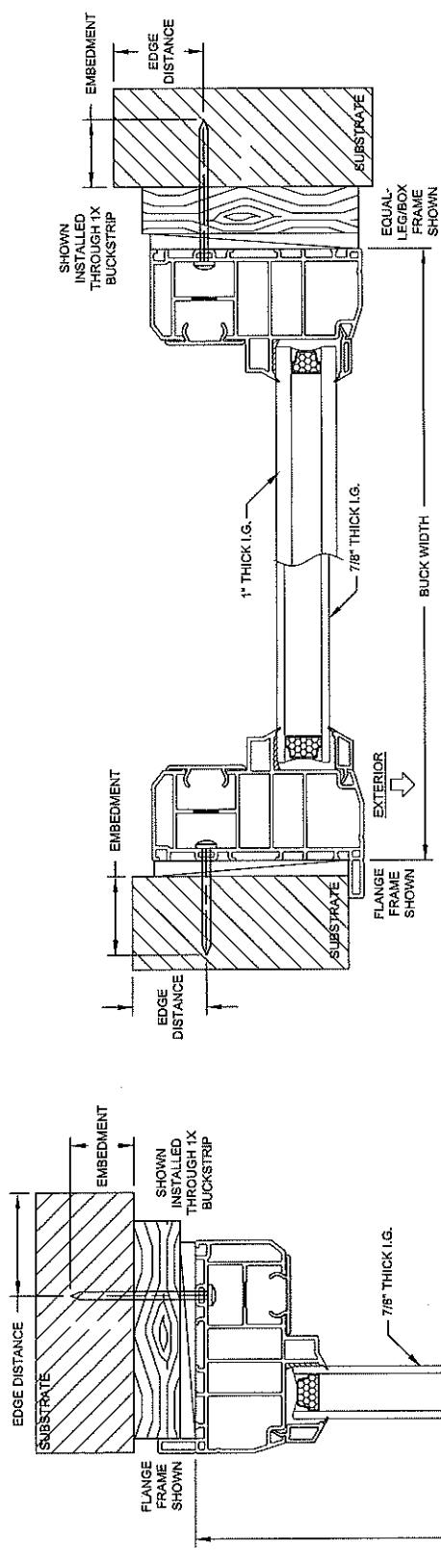
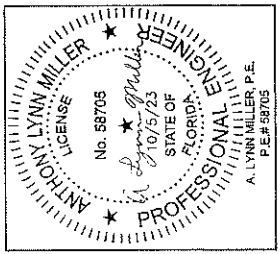
Prepared By PGT 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600	Registration # REGISTRATION #29296 (941) 480-1600	Copyright © 2023 PGT, INC., LIMITED LICENSE TO MAKE COPIES FOR PERMITTING
Project VINYL PICTURE WINDOW (N)	Drawn By JENS ROSOWSKI	Check By JENS ROSOWSKI
Sheet 2 OF 4	Drawn PWS420FPA-NI	Check E



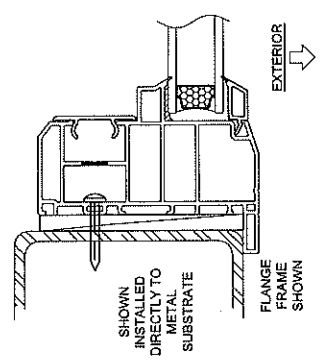
Rev. 10/4/23
 REMOVED ULTRACONS

Rev.	NO CHANGES THIS SHEET
Date	10/4/23
By	LMY

Series	PW5420	Sheet	3 OF 4	Drawn	JENS ROSOWSKI
Desc	FLANGE/EQUAL-LEG	Inst	INSTALLATION	By	JENS ROSOWSKI
Proj	VINYL PICTURE WINDOW (NI)	Date	06/12/11	Check	
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PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600					

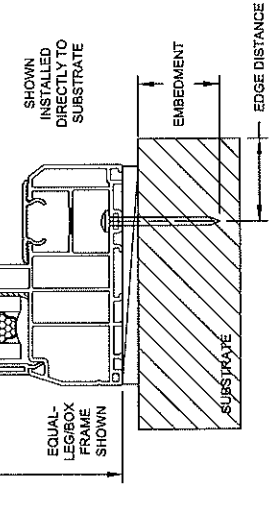


HORIZONTAL SECTION A-A



EXTERIOR

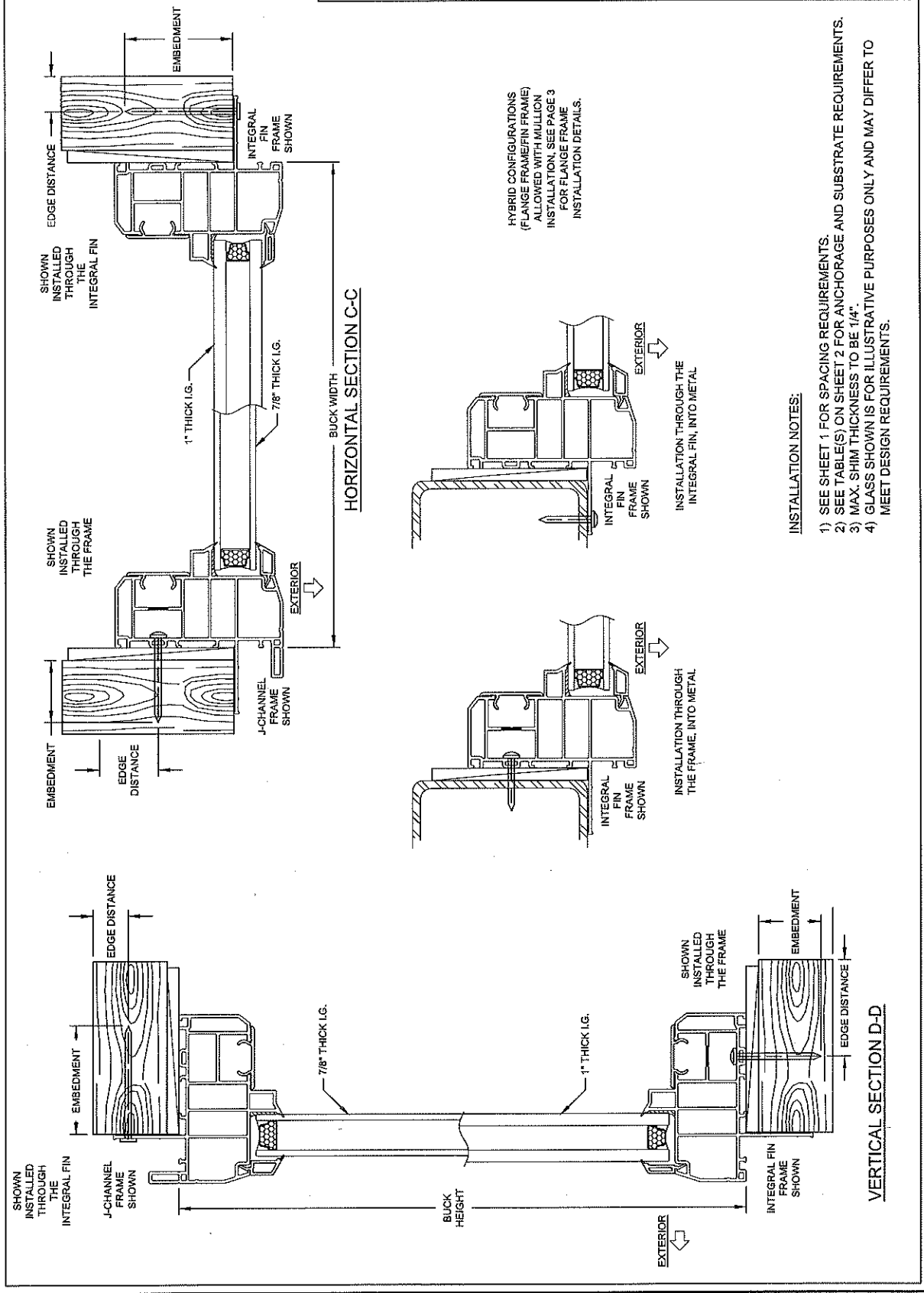
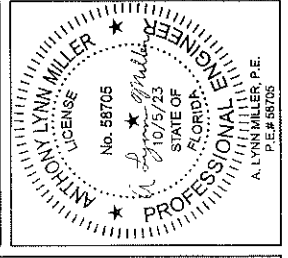
EXTERIOR



VERTICAL SECTION B-B

- INSTALLATION NOTES:
- 1) SEE SHEET 1 FOR SPACING REQUIREMENTS.
 - 2) SEE TABLE(S) ON SHEET 2 FOR ANCHORAGE AND SUBSTRATE REQUIREMENTS.
 - 3) MAX. SHIM THICKNESS TO BE 1/4".
 - 4) GLASS SHOWN IS FOR ILLUSTRATIVE PURPOSES ONLY AND MAY DIFFER TO MEET DESIGN REQUIREMENTS.

Series	PW5420	Sheet	4 OF 4
Desc.	FIN INSTALLATION	Drawn By	JENS ROSOWSKI
Title	VINYL PICTURE WINDOW (NI)	Date	06/12/11
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PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600			





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Product Approval
USER: Public User

[Product Approval Menu](#) > [Product or Application Search](#) > [Application List](#) > [Application Detail](#)



FL #
Application Type
Code Version
Application Status

FL261-R14
Revision
2023
Approved

FL261.1
NON-IMPACT MULLIONS

*Approved by DBPR. Approvals by DBPR shall be reviewed and ratified by the POC and/or the Commission if necessary.

Comments
Archived



Product Manufacturer
Address/Phone/Email

PGT Industries
1070 Technology Drive
North Venice, FL 34275
(941) 486-0100 Ext 21140
jrosowski@pgtindustries.com

Authorized Signature

Jens Rosowski
jrosowski@pgtindustries.com

Technical Representative
Address/Phone/Email

Lynn Miller, P.E.
1070 Technology Dr
N Venice, FL 34275
(941) 486-0100 Ext 21142
lmiller@pgtindustries.com

Quality Assurance Representative
Address/Phone/Email

Category
Subcategory

Windows
Mullions

Compliance Method

Certification Mark or Listing

Certification Agency
Validated By

Miami-Dade BCCO - CER
Steven M. Urlich, PE
☒ Validation Checklist - Hardcopy Received

Referenced Standard and Year (of Standard)

Standard
TAS 201, 202, 203

Year
1994

Equivalence of Product Standards
Certified By

Product Approval Method

Method 1 Option A

Date Submitted
Date Validated

10/31/2023
11/01/2023

Date Pending FBC Approval

Date Approved

11/07/2023

Summary of Products

FL #	Model, Number or Name	Description
261.1	Mullions for All Doors and Windows	Aluminum Mullions
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: N/A Other: Please see Miami-Dade County Notice of Acceptance (NOA) for product performance information, and mullion clip anchorage details.		Certification Agency Certificate FL261_R14_C_CAC_23-0913.05.pdf Quality Assurance Contract Expiration Date 05/26/2026 Installation Instructions FL261_R14_II_23-0913.05.pdf Verified By: Miami-Dade BCCO - CER Created by Independent Third Party: Evaluation Reports Created by Independent Third Party:

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Product Approval Accepts:





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 33175-2474
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/economy

PGT Industries, Inc.
1070 Technology Drive
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 "PGT" Clipped Extruded Aluminum Tube Mullion – L.M.I.

APPROVAL DOCUMENT: Drawing No. 6300JR, titled "Impact-Resistant Aluminum Tube Mullions", sheets 1 through 25 of 25, prepared by manufacturer, dated 08/29/11, with revision E dated 08/28/23, 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.

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 NOA20-0406.03 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.



10/26/2023

NOA No. 23-0913.05
Expiration Date: May 26, 2026
Approval Date: October 26, 2023
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. 10-0819.05)*
2. Drawing No. **6300JR**, titled "Impact-Resistant Aluminum Tube Mullions", sheets 1 through 25 of 25, dated 08/29/11, with revision **D** dated 06/26/2020, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, 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
4) Large Missile Impact Test per FBC, TAS 201-94
5) Cyclic Wind Pressure Loading per FBC, TAS 203-94
6) Forced Entry Test, per FBC 2411.3.2.1, and TAS 202-94
along with marked-up drawings and installation diagram of clipped aluminum mullions, prepared by Fenestration Testing Lab, Inc., Test Report No. **FTL-6443** (samples A-1 thru E-1), dated 02/28/11, and addendum letter dated 05/05/11, signed and sealed by Marlin D. Brinson, P.E. *(Submitted under NOA No. 10-0819.05)*

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with **FBC 6th Edition (2017)** and with **FBC 7th Edition (2020)**, prepared by manufacturer, dated 04/01/2020, 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 to **FBC-6th Edition (2017)** and **FBC-7th Edition (2020)**, dated 03/30/2020, issued by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.
2. Statement letter of no financial interest, dated 03/30/2020, issued by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.

G. OTHERS

1. **Notice of Acceptance No. 17-0630.01**, issued to PGT Industries, Inc. for their Series "PGT" Clipped Extruded Aluminum Tube Mullion – L.M.I., approved on 11/09/17 and expiring on 05/26/21.PGT Industries, Inc.


Sifang Zhao, P.E.

Product Control Examiner

NOA No. 23-0913.05

Expiration Date: May 26, 2026

Approval Date: October 26, 2023

PGT Industries, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

2. NEW EVIDENCE SUBMITTED

A. DRAWINGS

1. Drawing No. **6300JR**, titled "Impact-Resistant Aluminum Tube Mullions", sheets 1 through 25 of 25, dated 08/29/11, with revision E dated 08/28/23, 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 to **FBC 7th Edition (2020)** and with **FBC 8th Edition (2023)**, issued by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.
2. Statement letter of no financial interest, dated 08/23/23, issued by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.

G. OTHERS

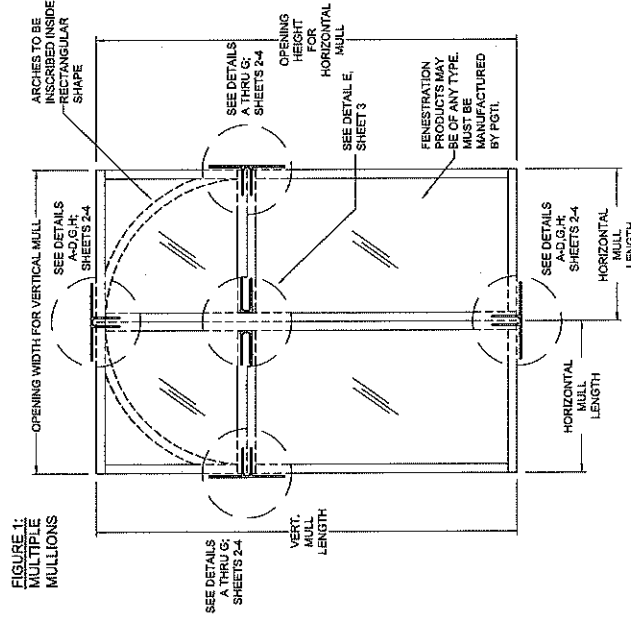
1. Notice of Acceptance No. **20-0406.03**, issued to PGT Industries, Inc. for their Series **"PGT" Clipped Extruded Aluminum Tube Mullion – L.M.I.**, approved on 08/20/20 and expiring on 05/26/26.



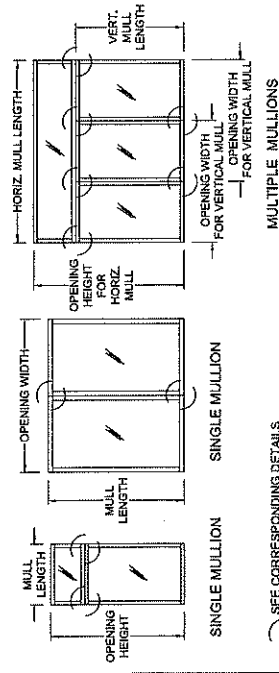
Sifang Zhao, P.E.
Product Control Examiner
NOA No. 23-0913.05
Expiration Date: May 26, 2026
Approval Date: October 26, 2023

GENERAL NOTES:

- 1) 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 BLOCKS IF USED, MUST BE ANCHORED PROPERLY TO TRANSFER LOADS AND ARE TO BE DESIGNED BY OTHERS.
- 2) THE TYPE AND NUMBER OF ANCHORS IS CRITICAL TO THE STRUCTURAL PERFORMANCE OF THE MULLED UNITS. MULLIONS HAVE BEEN TESTED AS "FREE-FLOATING" AND DO NOT NEED TO BE DIRECTLY ATTACHED TO THE MULLION CLIPS. BUT SHALL NOT HAVE A GAP OF MORE THAN 1/4" FROM THE CLIP.
- 3) 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.
- 4) PROPER SEALING OF ENTIRE ASSEMBLY IS THE RESPONSIBILITY OF OTHERS AND IS BEYOND THE SCOPE OF THESE INSTRUCTIONS.
- 5) USE THE COMBINED WIDTH OR HEIGHT OF ONLY TWO ADJACENT FENESTRATION PRODUCTS TO DETERMINE PRESSURES AND ANCHORAGE FOR THE COMMON MULLION. SEE EXAMPLES ON THIS SHEET AND SHEET 21. 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.
- 6) WHEN FINDING YOUR SIZE IN THE MULLION TABLES, ALWAYS ROUND UP TO THE NEXT SIZE SHOWN ON THE TABLE(S).
- 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: TEST REPORTS: FTL-6443; DEWALT AGGRE-GATOR & ULTRACON+ NOA'S.
- 9) MULLIONS AND CLIPS HAVE BEEN DESIGNED & TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE, AND ARE APPROVED FOR IMPACT AND NON-IMPACT APPLICATIONS. MULLIONS ARE ONLY TO BE USED WITH PGFI FENESTRATION PRODUCTS.
- 10) MULLIONS ARE IN COMPLIANCE FOR USE IN THE HVHZ.
- 11) QUANTITY OF UNITS WITHIN A MULTIPLE MULLED ASSEMBLY IS UNLIMITED PROVIDED THAT THE SPAN AND OPENING WITHIN/EACH OF EACH INDIVIDUAL MULLION COMPLIES WITH THE REQUIREMENTS OF THIS NOA.



ADDITIONAL EXAMPLES OF MULL CONFIGURATIONS:



SEE CORRESPONDING DETAILS
FROM FIGURE 1 ABOVE

CODES / STANDARDS USED:

2023 FLORIDA BUILDING CODE (FBC), 8TH EDITION
2020 FLORIDA BUILDING CODE (FBC), 7TH EDITION
ANSI/AF&PA NDS-2018 FOR WOOD CONSTRUCTION
ALUMINUM DESIGN MANUAL, ADM-2020

1	GENERAL NOTES.....	27
2	FINISHES.....	28
3	ELECTRICAL.....	29
4	MULL TO 2X WOOD.....	30
5	MULL TO 1X & MASONRY.....	31
6	INSTALLATION NOTES.....	32
7	MULL TO MASONRY.....	33
8	MULL TO STEEL STUD.....	34
9	MULL TO MULL.....	35
10	MULL TO MULL.....	36
11	ALTERNATE CLIPS.....	37
12	BAY MULL INSTALLATION.....	38
13	1 X 2 7/8 X 3 7/8 MULL SPECS.....	39
14	1 X 2 7/8 X 1 5/8 MULL SPECS.....	40
15	1 X 3/8 X 3/8 MULL SPECS.....	41
16	1 X 3/8 X 3/8 MULL SPECS.....	42
17	1 X 1/4 X 3/8 TUBE MULL SPECS.....	43
18	1 X 1/4 X 3/8 TUBE MULL SPECS.....	44
19	1 X 1/4 X 3/8 TUBE MULL SPECS.....	45
20	1 X 1/4 X 3/8 TUBE MULL SPECS.....	46
21	1 X 1/4 X 3/8 TUBE MULL SPECS.....	47
22	1 X 1/4 X 3/8 TUBE MULL SPECS.....	48
23	1 X 1/4 X 3/8 TUBE MULL SPECS.....	49
24	1 X 1/4 X 3/8 TUBE MULL SPECS.....	50
25	1 X 1/4 X 3/8 TUBE MULL SPECS.....	51
26	1 X 1/4 X 3/8 TUBE MULL SPECS.....	52
27	1 X 1/4 X 3/8 TUBE MULL SPECS.....	53
28	1 X 1/4 X 3/8 TUBE MULL SPECS.....	54
29	1 X 1/4 X 3/8 TUBE MULL SPECS.....	55
30	1 X 1/4 X 3/8 TUBE MULL SPECS.....	56
31	1 X 1/4 X 3/8 TUBE MULL SPECS.....	57
32	1 X 1/4 X 3/8 TUBE MULL SPECS.....	58
33	1 X 1/4 X 3/8 TUBE MULL SPECS.....	59
34	1 X 1/4 X 3/8 TUBE MULL SPECS.....	60
35	1 X 1/4 X 3/8 TUBE MULL SPECS.....	61
36	1 X 1/4 X 3/8 TUBE MULL SPECS.....	62
37	1 X 1/4 X 3/8 TUBE MULL SPECS.....	63
38	1 X 1/4 X 3/8 TUBE MULL SPECS.....	64
39	1 X 1/4 X 3/8 TUBE MULL SPECS.....	65
40	1 X 1/4 X 3/8 TUBE MULL SPECS.....	66
41	1 X 1/4 X 3/8 TUBE MULL SPECS.....	67
42	1 X 1/4 X 3/8 TUBE MULL SPECS.....	68
43	1 X 1/4 X 3/8 TUBE MULL SPECS.....	69
44	1 X 1/4 X 3/8 TUBE MULL SPECS.....	70
45	1 X 1/4 X 3/8 TUBE MULL SPECS.....	71
46	1 X 1/4 X 3/8 TUBE MULL SPECS.....	72
47	1 X 1/4 X 3/8 TUBE MULL SPECS.....	73
48	1 X 1/4 X 3/8 TUBE MULL SPECS.....	74
49	1 X 1/4 X 3/8 TUBE MULL SPECS.....	75
50	1 X 1/4 X 3/8 TUBE MULL SPECS.....	76
51	1 X 1/4 X 3/8 TUBE MULL SPECS.....	77
52	1 X 1/4 X 3/8 TUBE MULL SPECS.....	78
53	1 X 1/4 X 3/8 TUBE MULL SPECS.....	79
54	1 X 1/4 X 3/8 TUBE MULL SPECS.....	80
55	1 X 1/4 X 3/8 TUBE MULL SPECS.....	81
56	1 X 1/4 X 3/8 TUBE MULL SPECS.....	82
57	1 X 1/4 X 3/8 TUBE MULL SPECS.....	83
58	1 X 1/4 X 3/8 TUBE MULL SPECS.....	84
59	1 X 1/4 X 3/8 TUBE MULL SPECS.....	85
60	1 X 1/4 X 3/8 TUBE MULL SPECS.....	86
61	1 X 1/4 X 3/8 TUBE MULL SPECS.....	87
62	1 X 1/4 X 3/8 TUBE MULL SPECS.....	88
63	1 X 1/4 X 3/8 TUBE MULL SPECS.....	89
64	1 X 1/4 X 3/8 TUBE MULL SPECS.....	90
65	1 X 1/4 X 3/8 TUBE MULL SPECS.....	91
66	1 X 1/4 X 3/8 TUBE MULL SPECS.....	92
67	1 X 1/4 X 3/8 TUBE MULL SPECS.....	93
68	1 X 1/4 X 3/8 TUBE MULL SPECS.....	94
69	1 X 1/4 X 3/8 TUBE MULL SPECS.....	95
70	1 X 1/4 X 3/8 TUBE MULL SPECS.....	96
71	1 X 1/4 X 3/8 TUBE MULL SPECS.....	97
72	1 X 1/4 X 3/8 TUBE MULL SPECS.....	98
73	1 X 1/4 X 3/8 TUBE MULL SPECS.....	99
74	1 X 1/4 X 3/8 TUBE MULL SPECS.....	100

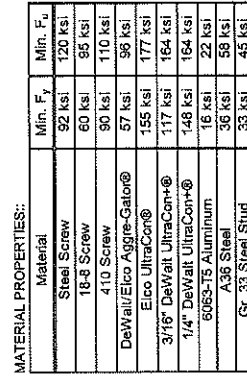
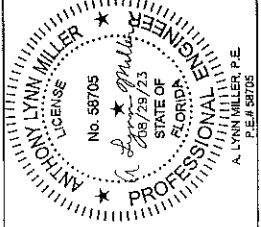
IMPACT-RESISTANT ALUMINUM TUBE MULLIONS	DESCRIPTION:	GENERAL NOTES AND ELEVATION				Scale: N/A Drawing No.: 6300JR Checked By: [Blank] Date: 08/29/11		Revision: 08/28/23 ANCHOR FROM TABLE 1B-13B, DEL. 2 MILLIONS REVISION: UPDATED TO FBC 2023 REMOVED	REGISTRATION #29296 (541) 450-1600 N7010 CANOE PL #2476 1070 TECHNOLOGY DRIVE Custom Windows and Doors
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as complying with the Florida
Building Code
NOA-No. **23-0913.05**
Expiration Date **05/26/2026**

By 
Miami-Dade Product Control



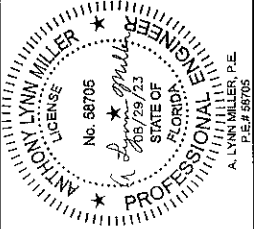
By  Miami-Dade Product Control



5) FOR MASONRY APPLICATIONS IN MIAMI-DADE COUNTY, USE ONLY MIAMI-DADE COUNTY APPROVED DEWALT ULTRACON, DEWALT ULTRACON+ OR DEWALT 1/4" S.S. AGGREGATOR MASONRY ANCHORS.

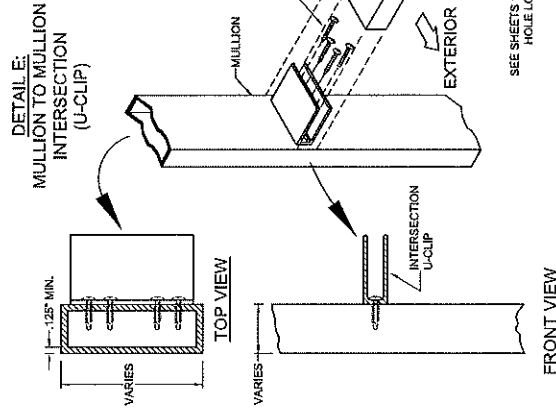
PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. **23-0913.05**
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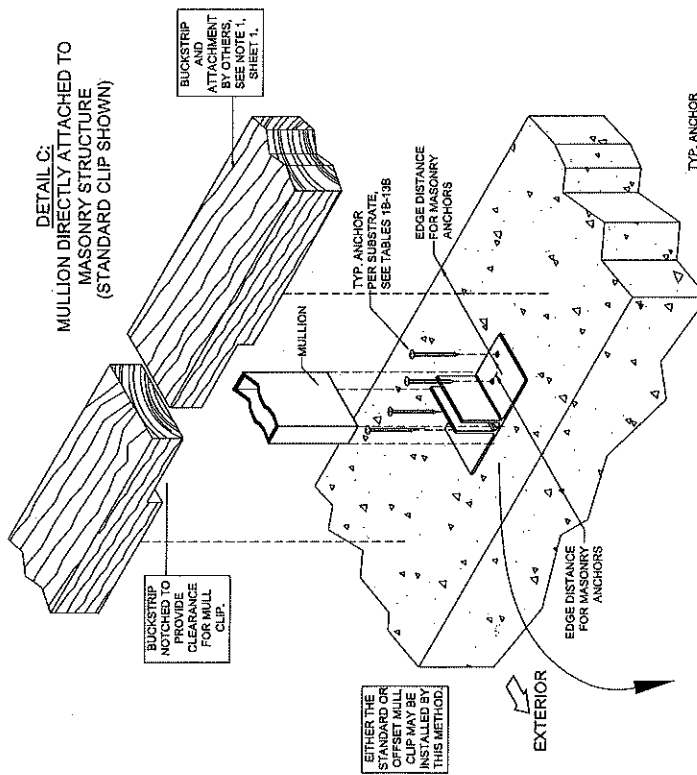


NOTES:

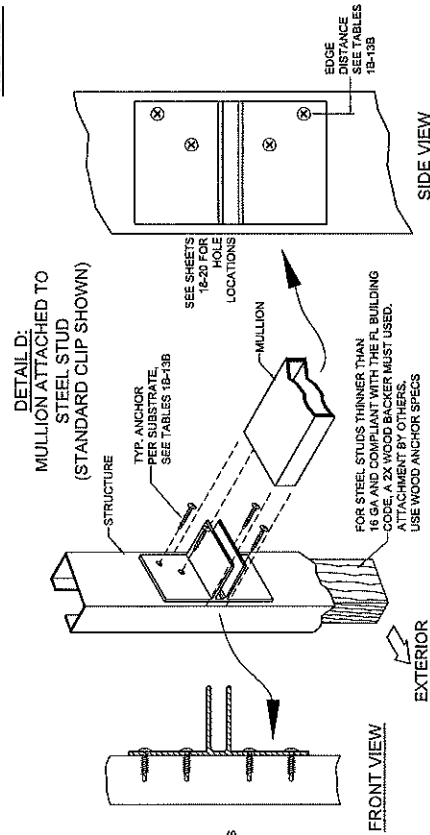
- 1) MAY BE INSTALLED IN "TEE" OR "CROSS" INTERSECTIONS.
- 2) MAY BE INSTALLED HORIZONTALLY (SHOWN) OR VERTICALLY.
- 3) SEE U-CLIP DRAWINGS, SHEETS 18-20 FOR CORRESPONDING MULLION.



**THE OFFSET CLIP IS
RECOMMENDED FOR
FIN-FRAMED
WINDOWS, BUT MAY
ALSO BE USED FOR
OTHER FRAME TYPES.**



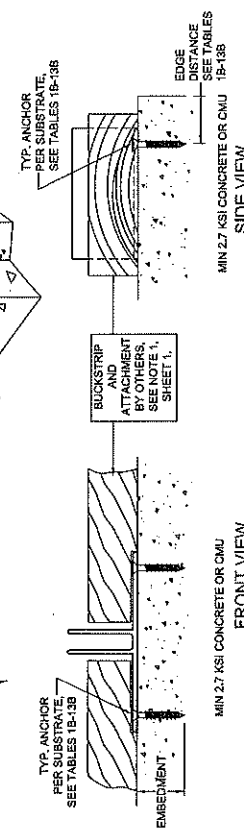
EITHER THE
STANDARD OR
OFFSET MULL
CLIP MAY BE
INSTALLED BY
THIS METHOD



NOTES:

1) FOR 2X WOOD-BACKED STEEL STUDS, WOOD ANCHOR VALUES MAY BE USED.

2) SEE CORRESPONDING MULLION TABLES, SHEETS 5-20, FOR QUANTITY OF SCREWS.



INSTALLATION NOTES:

1) ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.

2) QUANTITY OF ANCHORS AND MULLION SIZE SHOWN ABOVE ARE FOR PICTORIAL REPRESENTATION ONLY, BECAUSE THE ANCHOR CAPACITY IS BASED PARTLY ON THE ANCHOR TO ANCHOR DISTANCE, THE CORRECT QUANTITY AND LOCATION OF ANCHORS MUST BE FOLLOWED, REFER TO THE TABLES ON THE FOLLOWING SHEETS, FOR DETAILS A-D, EITHER THE STANDARD OR OFFSET CLIP MAY BE USED.

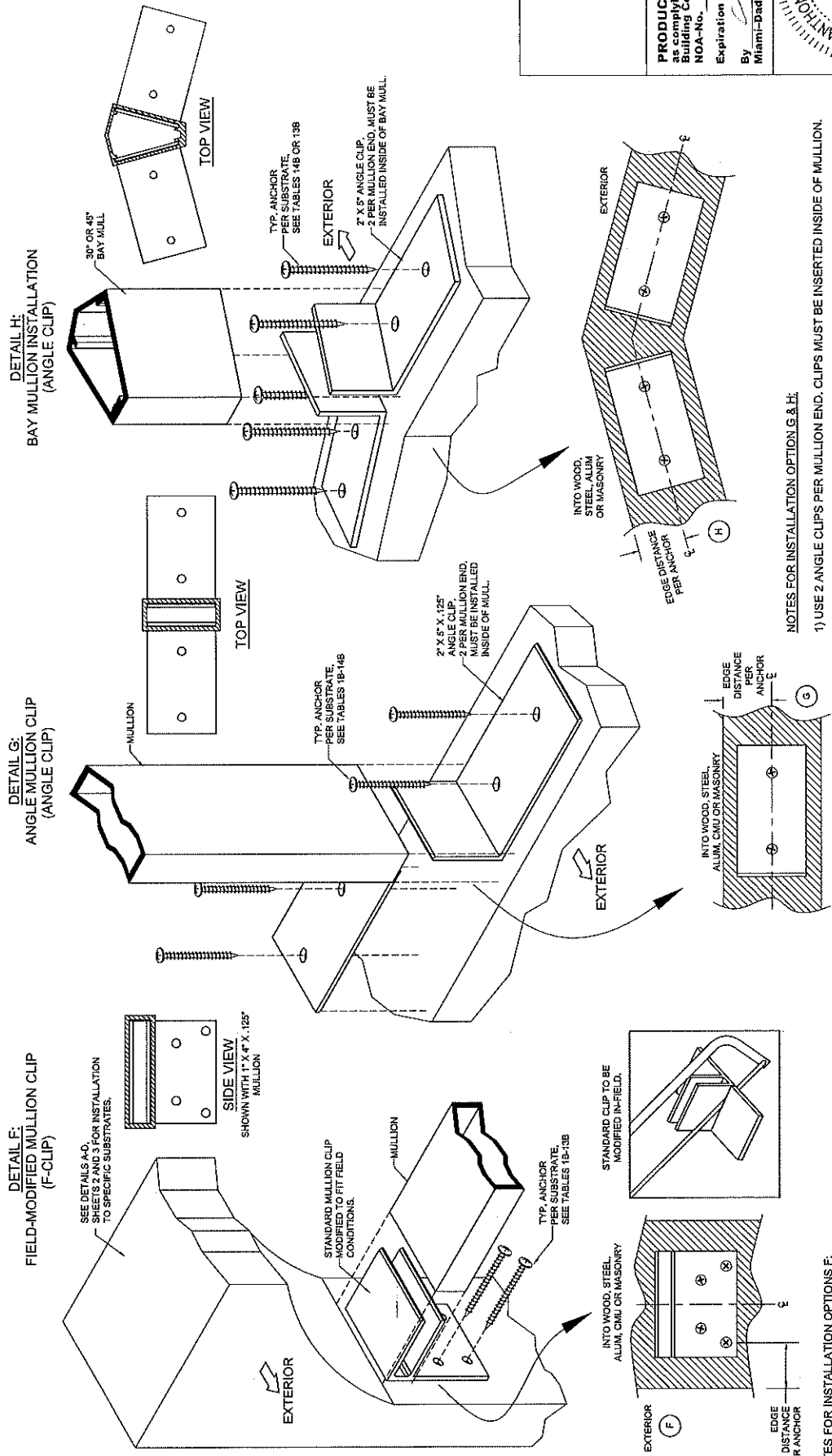
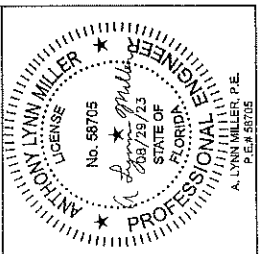
3) ANCHOR HEAD TYPE MAY BE PANHEAD, HEXHEAD OR FLATHEAD.

4) WOOD BUCKS ARE OPTIONAL. SEE DETAIL C SHEET 3.

5) FOR MASONRY APPLICATIONS IN MIAMI-DADE COUNTY, USE ONLY MIAMI-DADE COUNTY APPROVED DEWALT ULTRACON, DEWALT ULTRACON+ OR DEWALT 1/4" S.S. AGGREGATOR MASONRY ANCHORS.

PGT Custom Windows and Doors 1070 TECHNOLOGY DRIVE N. VENICE, FL 33429 (941) 480-1600 REGISTRATION #29296		Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS Description: INSTALLATION INSTRUCTIONS C Scale: N/A Drawing No.: 6300JR Sheet: 4 OF 22 Rev: E Date: 08/29/11 Checked By: J. ROSOWSKI Date: 08/28/23 Revision: NO CHANGES THIS SHEET.	
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 By **[Signature]**
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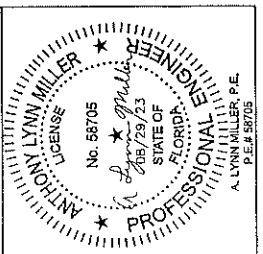
NOTES FOR INSTALLATION OPTION G & H:

- 1) USE 2 ANGLE CLIPS PER MULLION END. CLIPS MUST BE INSERTED INSIDE OF MULLION.
- 2) DETAIL G: SEE TABLES 1B-13B FOR ANCHOR QUANTITIES AND SHEETS 1B-20 FOR HOLE LOCATIONS.
- 3) DETAIL H: SEE TABLES 12B OR 13B FOR ANCHOR QUANTITIES AND SHEET 19 FOR HOLE LOCATIONS.

NOTES FOR INSTALLATION OPTIONS F:

- 1) DETAIL IS NOT APPLICABLE FOR THE BAY MULLION.
- 2) SEE TABLES 1B-13B FOR ANCHOR QUANTITIES AND SHEETS 1B-20 FOR HOLE LOCATIONS.
- 3) THE 2X5 CLIP IS NOT SUITABLE FOR THIS APPLICATION.

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**ANCHOR CAPACITY
ADJUSTMENT FORMULA:**
 $(DF_{req}) \times (ANCHOR CAP. \text{ (MINIMUM)})$
= 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.

Mullion Length		Opening Width (for vertically-spawning mullions) or Opening Height (for horizontally-spawning mullions)																																			
		50 in				60 in				70 in				80 in				90 in				100 in				120 in				140 in				160 in			
		Rectangular Loading (lbs/ft²)	Triangular Loading (lbs/ft²)	Anchor Capacity (lbs)	Required Capacity (lbs)	Rectangular Loading (lbs/ft²)	Triangular Loading (lbs/ft²)	Anchor Capacity (lbs)	Required Capacity (lbs)	Rectangular Loading (lbs/ft²)	Triangular Loading (lbs/ft²)	Anchor Capacity (lbs)	Required Capacity (lbs)	Rectangular Loading (lbs/ft²)	Triangular Loading (lbs/ft²)	Anchor Capacity (lbs)	Required Capacity (lbs)	Rectangular Loading (lbs/ft²)	Triangular Loading (lbs/ft²)	Anchor Capacity (lbs)	Required Capacity (lbs)	Rectangular Loading (lbs/ft²)	Triangular Loading (lbs/ft²)	Anchor Capacity (lbs)	Required Capacity (lbs)	Rectangular Loading (lbs/ft²)	Triangular Loading (lbs/ft²)	Anchor Capacity (lbs)	Required Capacity (lbs)	Rectangular Loading (lbs/ft²)	Triangular Loading (lbs/ft²)	Anchor Capacity (lbs)	Required Capacity (lbs)				
42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	888	170.0	506	170.0	922	170.0	519	170.0	1116	170.0	521	170.0	1240	170.0	521	158.7	1620	170.0	521	138.8	1620	170.0	521					
48 in	170.0	708	170.0	524	170.0	860	170.0	584	170.0	992	170.0	600	170.0	1133	170.0	600	170.0	1275	170.0	600	170.0	1417	170.0	680	141.7	1417	170.0	680	106.3	1417	170.0	680					
50.825 in	170.0	747	170.0	563	170.0	900	170.0	623	170.0	1046	170.0	634	170.0	1186	170.0	634	170.0	1328	170.0	634	170.0	1470	170.0	766	121.9	1266	170.0	766	91.4	1266	170.0	766					
54 in	170.0	797	170.0	612	170.0	959	170.0	669	170.0	1116	170.0	684	170.0	1263	170.0	684	170.0	1410	170.0	684	170.0	1557	170.0	851	86.1	1130	170.0	851	75.3	1130	170.0	851					
60 in	170.0	885	170.0	701	145.5	915	144.5	746	108.9	915	132.3	735	87.6	915	123.9	725	87.9	915	116.5	720	73.2	915	114.4	715	52.8	915	114.4	715	54.9	915	114.4	715					
63 in	151.8	890	161.9	710	126.5	930	138.9	684	108.5	890	132.2	681	94.8	890	112.2	670	84.4	890	104.6	662	75.9	890	88.4	656	63.3	890	54.2	830	64.9	47.4	830	94.1	649				
66 in	132.1	757	140.0	650	110.0	757	119.8	636	84.3	757	105.9	624	82.5	757	95.1	614	73.4	757	88.1	606	68.5	514	50.9	506	42.4	506	35.3	451	27.0	571	27.0	571					
72 in	101.7	696	106.6	552	84.8	636	91.0	540	72.7	636	80.1	530	63.6	636	72.2	521	56.5	636	66.5	514	50.9	506	42.4	506	35.3	451	27.0	571	27.0	571	27.0	571					
76 in	86.5	571	90.4	498	72.1	571	76.6	468	51.3	571	67.4	475	54.1	571	60.6	471	48.0	571	55.5	464	43.2	464	33.3	464	28.9	429	20.6	447	20.6	447	20.6	447					
80 in	80.0	542	83.4	474	66.7	542	70.8	465	57.1	542	62.1	459	50.0	542	55.7	449	44.4	542	51.0	442	40.0	442	33.3	442	28.9	429	20.6	447	20.6	447	20.6	447					
90 in	52.1	407	53.7	361	43.4	407	45.4	355	37.2	407	38.6	349	32.5	407	35.3	343	26.9	407	32.1	338	26.0	407	29.6	334	21.7	407	26.1	327	18.6	407	24.1	322					
96 in	42.8	358	44.1	320	35.8	358	37.2	314	30.7	358	32.4	309	26.8	358	28.8	304	23.8	358	26.1	300	21.5	358	24.0	296	17.8	358	15.3	358	15.3	358	15.3	358					
108 in	30.1	263	30.8	255	25.1	263	25.5	251	21.5	263	22.5	247	18.8	263	18.9	244	16.7	263	18.0	240	15.1	263	16.5	237													
111 in	27.8	267	28.3	242	23.1	267	23.6	238	19.8	267	20.6	235	17.3	267	18.3	231	15.4	267	16.5	228																	
120 in	22.0	228	22.3	208	18.3	228	18.6	205	15.7	228	18.2	202																									

Anchor Capacity (lbs)		Substrate	3x Concrete		5/8" Conc.		Follow or Filled CMU				Filled CMU		Wood		Metal
			3/16" DeWalt Ultracore+	1/4" DeWalt Ultracore+	3/16" DeWalt Ultracore+	1/4" DeWalt Ultracore+	1/4" SS DeWalt Aggregator	3/16" DeWalt Ultracore	1/4" SS DeWalt Aggregator	#10 Steel Screw (65)	#12 Steel Screw (65)				
2 Anchors @ 4.75' Min. O.C. / Standard or Offset Clip (Fig. 1)		1"	1-3/4"	1-3/4"	2"	3-7/8"	1"	2-1/2"	2"	2"	2"	3-1/8"	0.54"	0.324"	
4 Anchors @ 1.15' Min. O.C. / Standard or Offset Clip (Fig. 2)		3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	
4 Anchors @ 3' Min. O.C. / (2) 2x Angle Clips (Fig. 3)		3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	
2 Anchors @ 0.45' Min. O.C. / U-Clip, 125' Alum. 1 Anchor / F-Clip (Fig. 4)		3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	
2 Anchors @ 1.15' Min. O.C. / F-Clip (Fig. 5)		3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	
2 Anchors @ 1.15' Min. O.C. / F-Clip (Fig. 6)		3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	

NOTE: FOR THE OFFSET CLIP, USE THE SAME ANCHOR PATTERN AND ANCHOR VALUES AS THE STANDARD CLIP.

TABLE NOTES:

- SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEET 22 FOR INFORMATION ON LOADING. SEE SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.
- LINEAR INTERPOLATION BETWEEN MULL LENGTHS AND/OR OPENING WIDTHS IS ALLOWABLE.
- MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 18-20. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON SHEETS 18-20. FIGURES SHOW SUGGESTED, APPROXIMATE HOLE LOCATIONS.
- SUBSTRATE: 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 .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. #10 & #12 ANCHORS INTO WOOD MAY BE STEEL, 18-8 S.S. OR 410 S.S.

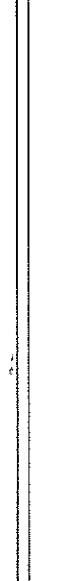
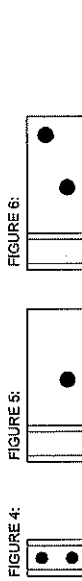
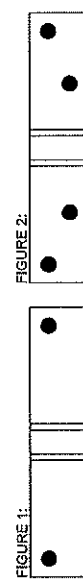
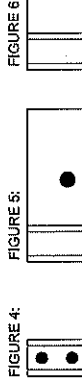
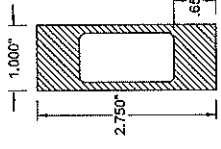


FIGURE 2:



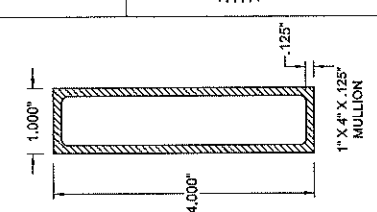
ANGLE CLIP MUST BE USED IN PAIRS.



1" X 2.75" X .650" MULLION

IMPACT-RESISTANT ALUMINUM TUBE MULLIONS	1 X 4 X .125 MULL SPECS	Scale: N/A	Drawing No.: N/A	Checked By: N/A	Date: 08/29/11	Revision: 08/28/23	Revised Anchor Table
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By _____
 Signature



USE THIS FORMULA TO OBTAIN THE "ANCHOR CAPACITY REQUIRED" CORRESPONDING TO AN ACTUAL PRESSURE REQUIREMENT FOR THE ANCHOR. 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 QUALIFIED ADDITIONAL ANCHOR OPTIONS FROM THE ANCHOR CAPACITY TABLE.

[illegible]

NOTE: FOR THE OFFSET CLIP, USE THE SAME ANCHOR PATTERN AND ANCHOR VALUES AS THE STANDARD CLIP.

FIGURE 1:

FIGURE 2:

FIGURE 3:

FIGURE 4:

FIGURE 8:

FIGURE 9:

TABLE NOTES:

PLEASE REFER TO THE INFORMATION ON LANDING SEE

1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEET 22 FOR INFORMATION ON LOADING. SEE SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.

2) LINEAR INTERPOLATION BETWEEN MULL LENGTHS AND/OR OPENING WIDTHS IS ALLOWABLE.

3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 18-20. HOLES

FIGURE 5:
FIGURE 6:
FIGURE 7:
TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON SHEETS 18-20. FIGURES SHOW
SUGGESTED, APPROXIMATE HOLE LOCATIONS.

FIGURE 9. 4) 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 .045" THICK.

ANCHOR CLO (ENCLOSURES) MUST BE USED IN RAIPS

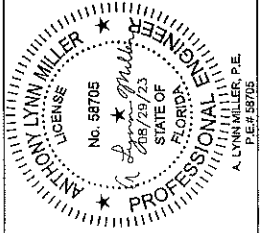
ANGLE CLIP (150000000) MUST BE USED IN FILING,
410 S.S.

PGT
Custom Windows and Doors
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 460-1600
REGISTRATION #29296

IMPACT-RESISTANT ALUMINUM TUBE MILLIONS	Description:	1 X 4 X .375 MULL SPECS
Quantity:	6300JR	9 OF 22
Shed:	Rev:	E
Date:	Dwg No:	6300JR
Drawn By:	N/A	Canceled By:
Scale:	N/A	Checked By:
Notes:	J ROSOWSKI	08/29/11
Revision:	J ROSOWSKI	08/28/23
Revised:	J ROSOWSKI	08/28/23
Revised Anchor TABLE.		

PRODUCT REVISED
as complying with the Florida
Building Code **23-0913.05**
NOA-No. _____

By ES
Miami-Dade Product Control
Expiration Date 05/26/2026



**ANCHOR CAPACITY
ADJUSTMENT FORMULA:**

$$(DP_{\text{ASD}}) \times \left(\frac{\text{ANCHOR CAP. FROM TABLE}}{\text{MULLION CAP. FROM TABLE}} \right) = \text{ANCHOR CAP.}_{\text{ASD}}$$

USE THIS FORMULA TO OBTAIN THE "ANCHOR CAPACITY REQUIREMENT" 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.

1 x 4 x .375 Alum. Tube & "M" Mullion		Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)																																			
		50 in				60 in				70 in				80 in				90 in				100 in				120 in				140 in				160 in			
		Rectangular Loading	Time/Flange Loading	Rectangular Loading	Time/Flange Loading	Rectangular Loading	Time/Flange Loading	Rectangular Loading	Time/Flange Loading	Rectangular Loading	Time/Flange Loading	Rectangular Loading	Time/Flange Loading	Rectangular Loading	Time/Flange Loading	Rectangular Loading	Time/Flange Loading	Rectangular Loading	Time/Flange Loading	Rectangular Loading	Time/Flange Loading	Rectangular Loading	Time/Flange Loading	Rectangular Loading	Time/Flange Loading	Rectangular Loading	Time/Flange Loading	Rectangular Loading	Time/Flange Loading	Rectangular Loading	Time/Flange Loading						
Mullion Capacity (lbs/in ²)	Anchor Capacity (lbs/in ²)	Mullion Capacity (lbs/in ²)	Anchor Capacity (lbs/in ²)	Mullion Capacity (lbs/in ²)	Anchor Capacity (lbs/in ²)	Mullion Capacity (lbs/in ²)	Anchor Capacity (lbs/in ²)	Mullion Capacity (lbs/in ²)	Anchor Capacity (lbs/in ²)	Mullion Capacity (lbs/in ²)	Anchor Capacity (lbs/in ²)	Mullion Capacity (lbs/in ²)	Anchor Capacity (lbs/in ²)	Mullion Capacity (lbs/in ²)	Anchor Capacity (lbs/in ²)	Mullion Capacity (lbs/in ²)	Anchor Capacity (lbs/in ²)	Mullion Capacity (lbs/in ²)	Anchor Capacity (lbs/in ²)	Mullion Capacity (lbs/in ²)	Anchor Capacity (lbs/in ²)	Mullion Capacity (lbs/in ²)	Anchor Capacity (lbs/in ²)	Mullion Capacity (lbs/in ²)	Anchor Capacity (lbs/in ²)	Mullion Capacity (lbs/in ²)	Anchor Capacity (lbs/in ²)	Mullion Capacity (lbs/in ²)	Anchor Capacity (lbs/in ²)	Mullion Capacity (lbs/in ²)	Anchor Capacity (lbs/in ²)						
42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	869	170.0	506	170.0	992	170.0	519	170.0	1118	170.0	521	170.0	1240	170.0	521	170.0	1468	170.0	521	170.0	1735	170.0	521	170.0	1983	170.0	521	
48 in	170.0	700	170.0	524	170.0	850	170.0	594	170.0	982	170.0	630	170.0	1133	170.0	651	170.0	1275	170.0	677	170.0	1417	170.0	680	170.0	1793	170.0	680	170.0	1983	170.0	680	170.0	1983	170.0	680	
50.625 in	170.0	747	170.0	563	170.0	895	170.0	631	170.0	1046	170.0	684	170.0	1195	170.0	703	170.0	1345	170.0	747	170.0	1484	170.0	748	170.0	1793	170.0	748	170.0	1983	170.0	748	170.0	1983	170.0	748	
54 in	170.0	797	170.0	612	170.0	958	170.0	681	170.0	1116	170.0	754	170.0	1275	170.0	803	170.0	1434	170.0	837	170.0	1584	170.0	856	170.0	1793	170.0	856	170.0	1983	170.0	856	170.0	1983	170.0	856	
60 in	170.0	885	170.0	701	170.0	1083	170.0	787	170.0	1240	170.0	828	170.0	1417	170.0	944	170.0	1584	170.0	986	170.0	1655	170.0	1033	170.0	1793	170.0	1033	170.0	1983	170.0	1033	170.0	1983	170.0	1033	
63 in	170.0	930	170.0	745	170.0	1116	170.0	830	170.0	1302	170.0	840	170.0	1486	170.0	1015	170.0	1587	170.0	1076	170.0	1641	170.0	1122	170.0	1793	170.0	1122	170.0	1983	170.0	1122	170.0	1983	170.0	1122	
68 in	170.0	974	170.0	788	170.0	1169	170.0	863	170.0	1364	170.0	1022	170.0	1608	170.0	1085	170.0	1688	170.0	1148	170.0	1635	170.0	1158	170.0	1793	170.0	1158	170.0	1983	170.0	1158	170.0	1983	170.0	1158	
72 in	170.0	1063	170.0	878	170.0	1275	170.0	1009	170.0	1508	170.0	1320	170.0	1682	170.0	1173	170.0	1793	170.0	1266	170.0	1793	170.0	1266	170.0	1793	170.0	1266	170.0	1983	170.0	1266	170.0	1983	170.0	1266	
76 in	170.0	1122	170.0	907	170.0	1406	170.0	1032	170.0	1684	170.0	1383	170.0	1793	170.0	1266	170.0	1793	170.0	1383	170.0	1793	170.0	1383	170.0	1793	170.0	1383	170.0	1983	170.0	1383	170.0	1983	170.0	1383	
78 in	166.1	1124	170.0	907	136.4	1124	147.0	965	118.6	1124	126.8	947	103.8	1124	116.6	931	92.3	1124	105.8	918	83.0	1124	98.5	905	89.2	1124	89.0	890	59.3	1124	84.3	891	51.9	1124	83.2	878	
80 in	108.1	844	111.5	963	74.2	74.2	94.1	844	94.3	736	77.2	844	82.1	724	67.6	844	71.3	691	68.5	702	51.8	844	69.3	693	45.0	844	64.0	640	45.6	844	50.0	866	33.8	844	47.7	862	
90 in	88.1	742	91.5	963	74.2	74.2	74.2	74.2	67.6	742	67.6	671	55.7	742	59.6	631	49.5	742	54.5	742	44.9	614	37.1	742	43.6	600	31.8	742	39.8	590	27.2	742	37.5	594			
100 in	62.6	586	63.9	530	52.1	586	53.8	521	44.7	586	46.6	513	39.1	589	41.4	505	34.8	586	37.3	498	31.3	589	34.2	492	26.1	589	29.6	481	22.3	586	26.6	472	19.5	586	24.7	466	
110 in	57.6	555	54.8	503	48.0	555	48.5	485	41.2	555	42.9	481	36.0	556	38.0	460	32.0	556	34.2	479	28.8	555	31.3	467	24.0	555	27.1	457	20.0	555	24.3	446	18.0	555	22.4	442	
120 in	45.6	475	46.4	38.0	475	39.0	426	32.6	475	32.7	420	26.5	475	29.8	414	25.3	475	26.8	479	24.5	479	22.8	479	24.5	479	21.1	465	20.0	555	21.7	437	18.3	446	17.2	381		
144 in	26.4	330	26.7	305	22.0	330	22.4	301	18.9	330	19.3	297	16.5	330	17.0	293																					

TABLE 5B

Anchor Capacity (lbs)	Substrate	3k Concrete	5k Conc.	1/4" DeWalt UltraCut®	3/16" DeWalt UltraCut®	3/8" DeWalt UltraCut®	1/4" DeWalt UltraCut®	5/16" DeWalt UltraCut®	Filled CMU	Wood
Anchor Distance (in)	Anchor Type	1" 2-1/2" 3-1/4"	1" 2-1/2" 3-1/8"	1" 1-3/4" 1-3/4"	1" 2-1/2" 1-1/4"	1" 2-1/2" 1-1/4"	1" 2-1/2" 1-1/4"	1" 2-1/2" 1-1/4"	1" 2-1/2" 1-1/4"	1" 2-1/2" 1-1/4"
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Pig. 182)	2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Pig. 182)	316 lbs	630 lbs	220 lbs	870 lbs	240 lbs	370 lbs	650 lbs	341 lbs	442 lbs
4 Anchors @ 2.15" Min. O.C. / Standard or Offset Clip (Pig. 41)	4 Anchors @ 2.15" Min. O.C. / Standard or Offset Clip (Pig. 41)	640 lbs	1280 lbs	470 lbs	1720 lbs	390 lbs	740 lbs	1060 lbs	341 lbs	442 lbs
8 Anchors @ 1.15" Min. O.C. / Standard or Offset Clip (Pig. 41)	8 Anchors @ 1.15" Min. O.C. / Standard or Offset Clip (Pig. 41)	640 lbs	1280 lbs	470 lbs	1720 lbs	390 lbs	740 lbs	1060 lbs	341 lbs	442 lbs
4 Anchors @ 3" Min. O.C. / 2" 2x4 Angle Clip / (Pig. 51)	4 Anchors @ 3" Min. O.C. / 2" 2x4 Angle Clip / (Pig. 51)	520 lbs	1040 lbs	440 lbs	1740 lbs	460 lbs	740 lbs	1060 lbs	341 lbs	442 lbs
8 Anchors @ 2" Min. O.C. / 2" 2x4 Angle Clip / (Pig. 51)	8 Anchors @ 2" Min. O.C. / 2" 2x4 Angle Clip / (Pig. 51)	520 lbs	1040 lbs	440 lbs	1740 lbs	460 lbs	740 lbs	1060 lbs	341 lbs	442 lbs
6 Anchors @ 0.45" Min. O.C. / U-Clip / (Pig. 61)	6 Anchors @ 0.45" Min. O.C. / U-Clip / (Pig. 61)	N/A	N/A	N/A	N/A	560 lbs	1110 lbs	960 lbs	1470 lbs	1920 lbs
4 Anchors @ 0.45" Min. O.C. / F-Clip (Pig. 61)	4 Anchors @ 0.45" Min. O.C. / F-Clip (Pig. 61)	N/A	N/A	N/A	N/A	105 lbs	370 lbs	255 lbs	550 lbs	440 lbs
2 Anchors @ 1.15" Min. O.C. / F-Clip (Pig. 61)	2 Anchors @ 1.15" Min. O.C. / F-Clip (Pig. 61)	320 lbs	1600 lbs	370 lbs	N/A	740 lbs	N/A	N/A	341 lbs	442 lbs
2 Anchors @ 1.15" Min. O.C. / F-Clip (Pig. 61)	2 Anchors @ 1.15" Min. O.C. / F-Clip (Pig. 61)	320 lbs	1600 lbs	370 lbs	N/A	740 lbs	N/A	N/A	341 lbs	442 lbs

NOTE: FOR THE OFFSET CLIP, USE THE SAME ANCHOR PATTERN AND ANCHOR VALUES AS THE STANDARD CLIP.

TABLE NOTES:
1) SEE SHEET

FIGURE 8:  ON LOADING. S

2) LINEAR INTE

3) MILLION AND SHEETS 18 20

SHEETS 16-20:
SHOWN ON SH

FIGURE 7:

**GROUT-FILLED
HAVE A MIN. 50**

 STEEL STUDS
BE AT LEAST .1

SCREW THREAD
S.S. OR 410 S.S.

[illegible]

TABLE NOTES:
1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEET 22 FOR INFORMATION

ON LOADING. SEE SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.

2) LINEAR INTERPOLATION BETWEEN MULL LENGTHS AND/OR OPENING WIDTHS IS ALLOWABLE

3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 18-20. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS

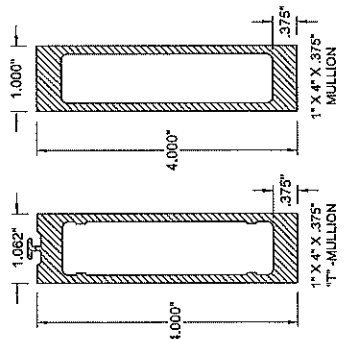
SHOWN ON SHEETS 18-20. FIGURES SHOW SUGGESTED, APPROXIMATE HOLE LOCATIONS.

4) SUBSTRATES: CONCRETE SHALL CONFORM TO ACI 301 SPECIFICATIONS. HOLLOW AND

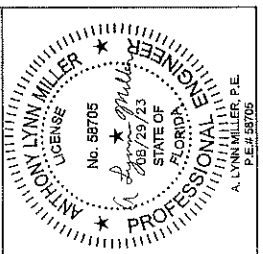
GRAUT-FILLED CONCRETE BLOCK UNIT (CMBU) SHALL CONFORM TO ASTM C-90. WOOD SHALL HAVE A MIN. SG OF 0.55. ALUMINUM SHALL BE 6063-T5 AND BE A MINIMUM OF .125" THICK.

STEEL STUDS TO BE A MINIMUM GRADE 33 AND .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, #10 & #12 ANCHORS INTO WOOD MAY BE STEEL, 18-8 S.S. OR 410 S.S.

[illegible]

PRODUCT REVISED
as complying with the Florida
Building Code
NDA-No. 23-0913.05
Expiration Date 05/26/2026
By [Signature]
Miami-Dade Product Control



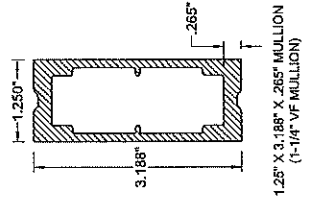
ANCHOR CAPACITY ADJUSTMENT FORMULA:
 $(DP_{AN}) \times \left(\frac{\text{ANCHOR CAP.}}{\text{MULLION CAP.}} \right)^{1.5}$
= ANCHOR CAP.

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.

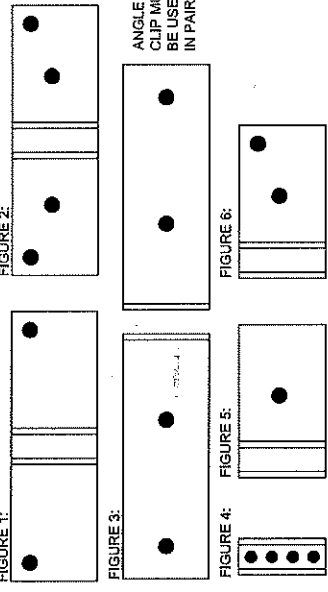
TABLE 6A		Mullion Capacity Table (lbs/ft ²)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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Mullion Length	1.25" x 3.188" x .265" Alum Tube Mull	50 in		60 in		70 in		80 in		90 in		100 in		120 in		140 in		160 in																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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TABLE 6B
Anchor Capacity Table (lbs)

Anchor Capacity (lbs)	3K Conc.		3K Concrete		Substrate	
	5/16" DeWalt Ultracon+	5/16" DeWalt Ultracon	3/16" DeWalt Ultracon+	3/16" DeWalt Ultracon	Anchor Type	Edge Distance (in)
2 Anchors @ 4.25" Min. O.C. / Standard or Offset Clip (Fig. 1)	1" 2-1/2"	1" 1-3/4"	1" 2-1/2"	1" 1-3/4"	Embedment (in)	1-3/4"
4 Anchors @ 1.15" Min. O.C. / Standard or Offset Clip (Fig. 2)	1" 2-1/2"	1" 1-3/4"	1" 2-1/2"	1" 1-3/4"	Embedment (in)	1-3/4"
4 Anchors @ 3" Min. O.C. / 2x2 Angle Clips / (Fig. 3)	1" 2-1/2"	1" 1-3/4"	1" 2-1/2"	1" 1-3/4"	Embedment (in)	1-3/4"
4 Anchors @ 0.45" Min. O.C. / U-Clip, n/a. / 2x5 Alum. / (Fig. 4)	1" 2-1/2"	1" 1-3/4"	1" 2-1/2"	1" 1-3/4"	Embedment (in)	1-3/4"
2 Anchors @ 1.15" Min. O.C. / F-Clip (Fig. 5)	1" 2-1/2"	1" 1-3/4"	1" 2-1/2"	1" 1-3/4"	Embedment (in)	1-3/4"
2 Anchors @ 1.15" Min. O.C. / F-Clip (Fig. 6)	1" 2-1/2"	1" 1-3/4"	1" 2-1/2"	1" 1-3/4"	Embedment (in)	1-3/4"

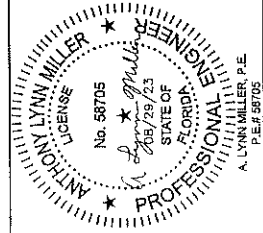


- TABLE NOTES:**
- SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEET 22 FOR INFORMATION ON LOADING. SEE SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.
 - LINEAR INTERPOLATION BETWEEN MULL LENGTHS AND/OR OPENING WIDTHS IS ALLOWABLE.
 - MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 18-20. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON SHEETS 18-20. FIGURES SHOW SUGGESTED, APPROXIMATE HOLE LOCATIONS.
 - 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 .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. #10 & #12 ANCHORS INTO WOOD MAY BE STEEL, 18-8 S.S. OR 410 S.S.



NOTE: FOR THE OFFSET CLIP, USE THE SAME ANCHOR PATTERN AND ANCHOR VALUES AS THE STANDARD CLIP.

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. 23-0913.05
Expiration Date 05/26/2026
By: [Signature]
Miami-Dade Product Control



**ANCHOR CAPACITY
ADJUSTMENT FORMULA:**
 $(DP_{an}) \times (\text{ANCHOR CAP.}_{\text{ANCHOR}}) = \text{ANCHOR CAP.}_{\text{MULLION}}$

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.

Mullion Capacity Table (lbs/ft²)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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	Rectangular Loading		Trap/Trip Loading		Mullion Capacity		Rectangular Loading		Trap/Trip Loading		Mullion Capacity		Rectangular Loading		Trap/Trip Loading		Mullion Capacity		Rectangular Loading		Trap/Trip Loading		Mullion Capacity		Rectangular Loading		Trap/Trip Loading		Mullion Capacity		Rectangular Loading		Trap/Trip Loading		Mullion Capacity		Rectangular Loading		Trap/Trip Loading		Mullion Capacity		Rectangular Loading		Trap/Trip Loading		Mullion Capacity		Rectangular Loading		Trap/Trip Loading		Mullion Capacity		Rectangular Loading		Trap/Trip Loading		Mullion Capacity		Rectangular Loading		Trap/Trip Loading		Mullion Capacity		Rectangular Loading		Trap/Trip Loading		Mullion Capacity		Rectangular Loading		Trap/Trip Loading		Mullion Capacity		Rectangular Loading		Trap/Trip Loading		Mullion Capacity		Rectangular Loading		Trap/Trip Loading		Mullion Capacity		Rectangular Loading		Trap/Trip Loading		Mullion Capacity		Rectangular Loading		Trap/Trip Loading		Mullion Capacity		Rectangular 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ANCHOR CAPACITY ADJUSTMENT FORMULA:

$$(DF_{min}) \times \left(\frac{\text{ANCHOR CAP.}}{\text{MULLION CAP.}} \right)^{1.5} = \text{ANCHOR CAP.}$$

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.

TABLE 8A Mullion Capacity Table (lbs/ft)

Mullion Length	Opening Width (for vertically-sparring mullions) or Opening Height (for horizontally-sparring mullions)											
	50 in	70 in	80 in	90 in	100 in	120 in	140 in	160 in	180 in	200 in	220 in	240 in
1.25 x 3.25 x .624 Alum. Tube Mullion	Rectangular Loading	Triangular Loading	Rectangular Loading	Triangular Loading	Rectangular Loading	Triangular Loading	Rectangular Loading	Triangular Loading	Rectangular Loading	Triangular Loading	Rectangular Loading	Triangular Loading
	Anchor Capacity (lbs/ft)	Anchor Capacity (lbs/ft)	Anchor Capacity (lbs/ft)	Anchor Capacity (lbs/ft)	Anchor Capacity (lbs/ft)	Anchor Capacity (lbs/ft)	Anchor Capacity (lbs/ft)	Anchor Capacity (lbs/ft)	Anchor Capacity (lbs/ft)	Anchor Capacity (lbs/ft)	Anchor Capacity (lbs/ft)	Anchor Capacity (lbs/ft)
42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	688	170.0	521
48 in	170.0	708	170.0	563	170.0	850	170.0	584	170.0	770	170.0	680
54 in	170.0	797	170.0	632	170.0	968	170.0	661	170.0	870	170.0	756
60 in	170.0	885	170.0	701	170.0	1083	170.0	727	170.0	950	170.0	831
66 in	170.0	970	170.0	769	170.0	1198	170.0	793	170.0	1063	170.0	903
72 in	170.0	1058	170.0	838	170.0	1313	170.0	860	170.0	1178	170.0	975
78 in	170.0	1146	170.0	906	170.0	1428	170.0	926	170.0	1293	170.0	1063
84 in	170.0	1234	170.0	975	170.0	1543	170.0	995	170.0	1408	170.0	1151
90 in	170.0	1322	170.0	1043	170.0	1658	170.0	1063	170.0	1523	170.0	1239
96 in	170.0	1410	170.0	1112	170.0	1773	170.0	1132	170.0	1638	170.0	1327
102 in	170.0	1498	170.0	1180	170.0	1888	170.0	1201	170.0	1753	170.0	1415
108 in	170.0	1586	170.0	1249	170.0	2003	170.0	1270	170.0	1868	170.0	1503
114 in	170.0	1674	170.0	1317	170.0	2118	170.0	1339	170.0	1983	170.0	1591
120 in	170.0	1762	170.0	1386	170.0	2233	170.0	1408	170.0	2098	170.0	1679
126 in	170.0	1850	170.0	1454	170.0	2348	170.0	1477	170.0	2213	170.0	1767
132 in	170.0	1938	170.0	1523	170.0	2463	170.0	1546	170.0	2328	170.0	1855
138 in	170.0	2026	170.0	1591	170.0	2578	170.0	1615	170.0	2443	170.0	1943
144 in	170.0	2114	170.0	1660	170.0	2693	170.0	1684	170.0	2558	170.0	2031

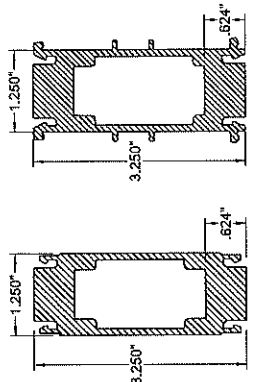
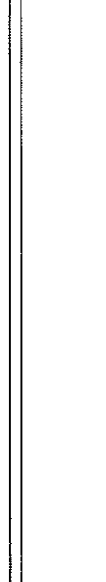
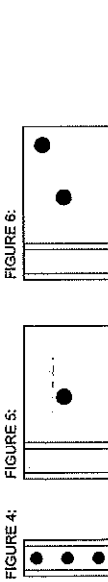
TABLE 8B

Anchor Capacity (lbs)	Substrates											
	3K Concrete	5/8" DeWalt Ultrason	1/4" DeWalt Ultrason	3/16" DeWalt Ultrason	1/2" DeWalt Ultrason	1/4" SS DeWalt Aggr. Rebar	5/16" DeWalt Aggr. Rebar	1/4" SS DeWalt Aggr. Rebar	1/4" SS DeWalt Aggr. Rebar	1/4" SS DeWalt Aggr. Rebar	1/4" SS DeWalt Aggr. Rebar	1/4" SS DeWalt Aggr. Rebar
Anchor Type	Anchor Type	Anchor Type	Anchor Type	Anchor Type	Anchor Type	Anchor Type	Anchor Type	Anchor Type	Anchor Type	Anchor Type	Anchor Type	Anchor Type
	Edge Diameter (in)	Embedment (in)	Embedment (in)	Embedment (in)	Embedment (in)	Embedment (in)	Embedment (in)	Embedment (in)	Embedment (in)	Embedment (in)	Embedment (in)	Embedment (in)
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 2)	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"
4 Anchors @ 1.15" Min. O.C. / Standard or Offset Clip (Fig. 2)	310 lbs	310 lbs	310 lbs	310 lbs	310 lbs	310 lbs	310 lbs	310 lbs	310 lbs	310 lbs	310 lbs	310 lbs
4 Anchors @ 3" Min. O.C. / 20.25 Angle Clips (Fig. 3)	620 lbs	620 lbs	620 lbs	620 lbs	620 lbs	620 lbs	620 lbs	620 lbs	620 lbs	620 lbs	620 lbs	620 lbs
3 Anchors @ 0.54" Min. O.C. / L-Clip, 100" Alum. (Fig. 4)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1 Anchor / F-Clip (Fig. 5)	155 lbs	315 lbs	315 lbs	315 lbs	315 lbs	315 lbs	315 lbs	315 lbs	315 lbs	315 lbs	315 lbs	315 lbs
2 Anchors @ 1.15" Min. O.C. / F-Clip (Fig. 6)	180 lbs	360 lbs	360 lbs	360 lbs	360 lbs	360 lbs	360 lbs	360 lbs	360 lbs	360 lbs	360 lbs	360 lbs

NOTE: FOR THE OFFSET CLIP, USE THE SAME ANCHOR PATTERN AND ANCHOR VALUES AS THE STANDARD CLIP.

TABLE NOTES:

- SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEET 22 FOR INFORMATION ON LOADING. SEE SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.
- LINEAR INTERPOLATION BETWEEN MULL LENGTHS AND/OR OPENING WIDTHS IS ALLOWABLE.
- MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 18-20. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON SHEETS 18-20. FIGURES SHOW SUGGESTED, APPROXIMATE HOLE LOCATIONS.
- 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 .100" THICK. STEEL STUDS TO BE A MINIMUM GRADE 33 AND .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. #10 & #12 ANCHORS INTO WOOD MAY BE STEEL, 18-9 S.S. OR 410 S.S.



1.25" X 3.25" X .624" MULLION FOR FACTORY-MULLED UNITS

1.25" X 3.25" X .624" MULLION FOR FIELD-MULLED UNITS

PROFESSIONAL ENGINEER
No. 58705
18/28/23
STATE OF FLORIDA
ANTHONY LYNN MILLER
P.E.# 58705

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 23-0913.05
Expiration Date 05/26/2026
By: [Signature]
Miami-Dade Product Control

TABLE 9A

Mullion Length	Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)											
	50 in			60 in			70 in			80 in		
	Rectangular Loading	Trap/Hang. Loading	Trap/Hang. Loading	Rectangular Loading	Trap/Hang. Loading	Trap/Hang. Loading	Rectangular Loading	Trap/Hang. Loading	Trap/Hang. Loading	Rectangular Loading	Trap/Hang. Loading	Trap/Hang. Loading
1.25 x 3.94 Alum. Tube Mullion												
42 in	170.0	620	170.0	405	170.0	744	170.0	478	170.0	868	170.0	506
48 in	170.0	708	170.0	524	170.0	850	170.0	594	170.0	962	170.0	630
40-605 in	170.0	747	170.0	563	170.0	898	170.0	631	170.0	1048	170.0	684
54 in	170.0	787	170.0	602	170.0	936	170.0	669	170.0	1116	170.0	728
60 in	170.0	865	170.0	701	170.0	1053	170.0	797	170.0	1240	170.0	878
63 in	170.0	930	170.0	745	170.0	1116	170.0	850	170.0	1302	170.0	940
72 in	170.0	1088	170.0	878	170.0	1275	170.0	983	170.0	1488	170.0	1128
78 in	170.0	1122	170.0	937	170.0	1346	170.0	1080	170.0	1558	170.0	1209
86 in	170.0	1110	170.0	967	170.0	1381	170.0	1116	170.0	1559	170.0	1245
90 in	170.0	1120	170.0	988	170.0	1394	170.0	1129	170.0	1568	170.0	1269
96 in	170.0	1170	170.0	1023	170.0	1465	170.0	1184	170.0	1652	170.0	1341
108 in	170.0	1220	170.0	1067	170.0	1516	170.0	1235	170.0	1708	170.0	1400
111 in	170.0	1230	170.0	1077	170.0	1526	170.0	1245	170.0	1718	170.0	1410
120 in	170.0	1280	170.0	1121	170.0	1570	170.0	1289	170.0	1762	170.0	1454
144 in	170.0	1433	170.0	1351	170.0	1809	170.0	1519	170.0	2001	170.0	1684

Mullion Length

TABLE 9B

Anchor Capacity (lbs)	Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)											
	50 in			60 in			70 in			80 in		
	Rectangular Loading	Trap/Hang. Loading	Trap/Hang. Loading	Rectangular Loading	Trap/Hang. Loading	Trap/Hang. Loading	Rectangular Loading	Trap/Hang. Loading	Trap/Hang. Loading	Rectangular Loading	Trap/Hang. Loading	Trap/Hang. Loading
1.25 x 3.94 Alum. Tube Mullion												
42 in	170.0	620	170.0	405	170.0	744	170.0	478	170.0	868	170.0	506
48 in	170.0	708	170.0	524	170.0	850	170.0	594	170.0	962	170.0	630
40-605 in	170.0	747	170.0	563	170.0	898	170.0	631	170.0	1048	170.0	684
54 in	170.0	787	170.0	602	170.0	936	170.0	669	170.0	1116	170.0	728
60 in	170.0	865	170.0	701	170.0	1053	170.0	797	170.0	1240	170.0	878
63 in	170.0	930	170.0	745	170.0	1116	170.0	850	170.0	1302	170.0	940
72 in	170.0	1088	170.0	878	170.0	1275	170.0	983	170.0	1488	170.0	1128
78 in	170.0	1122	170.0	937	170.0	1346	170.0	1080	170.0	1558	170.0	1209
86 in	170.0	1110	170.0	967	170.0	1381	170.0	1116	170.0	1559	170.0	1245
90 in	170.0	1120	170.0	988	170.0	1394	170.0	1129	170.0	1568	170.0	1269
96 in	170.0	1170	170.0	1023	170.0	1465	170.0	1184	170.0	1652	170.0	1341
108 in	170.0	1220	170.0	1067	170.0	1516	170.0	1235	170.0	1708	170.0	1400
111 in	170.0	1230	170.0	1077	170.0	1526	170.0	1245	170.0	1718	170.0	1410
120 in	170.0	1280	170.0	1121	170.0	1570	170.0	1289	170.0	1762	170.0	1454
144 in	170.0	1433	170.0	1351	170.0	1809	170.0	1519	170.0	2001	170.0	1684

Mullion Length

ANCHOR CAPACITY ADJUSTMENT FORMULA:

$$(D_p) \times \left(\frac{\text{ANCHOR CAP. (lbs)}}{\text{MULLION CAP. (lbs)}} \right) = \text{ANCHOR CAP. (lbs)}$$

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.

TABLE 9B

Anchor Capacity (lbs)	Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)											
	50 in			60 in			70 in			80 in		
	Rectangular Loading	Trap/Hang. Loading	Trap/Hang. Loading	Rectangular Loading	Trap/Hang. Loading	Trap/Hang. Loading	Rectangular Loading	Trap/Hang. Loading	Trap/Hang. Loading	Rectangular Loading	Trap/Hang. Loading	Trap/Hang. Loading
1.25 x 3.94 Alum. Tube Mullion												
42 in	170.0	620	170.0	405	170.0	744	170.0	478	170.0	868	170.0	506
48 in	170.0	708	170.0	524	170.0	850	170.0	594	170.0	962	170.0	630
40-605 in	170.0	747	170.0	563	170.0	898	170.0	631	170.0	1048	170.0	684
54 in	170.0	787	170.0	602	170.0	936	170.0	669	170.0	1116	170.0	728
60 in	170.0	865	170.0	701	170.0	1053	170.0	797	170.0	1240	170.0	878
63 in	170.0	930	170.0	745	170.0	1116	170.0	850	170.0	1302	170.0	940
72 in	170.0	1088	170.0	878	170.0	1275	170.0	983	170.0	1488	170.0	1128
78 in	170.0	1122	170.0	937	170.0	1346	170.0	1080	170.0	1558	170.0	1209
86 in	170.0	1110	170.0	967	170.0	1381	170.0	1116	170.0	1559	170.0	1245
90 in	170.0	1120	170.0	988	170.0	1394	170.0	1129	170.0	1568	170.0	1269
96 in	170.0	1170	170.0	1023	170.0	1465	170.0	1184	170.0	1652	170.0	1341
108 in	170.0	1220	170.0	1067	170.0	1516	170.0	1235	170.0	1708	170.0	1400
111 in	170.0	1230	170.0	1077	170.0	1526	170.0	1245	170.0	1718	170.0	1410
120 in	170.0	1280	170.0	1121	170.0	1570	170.0	1289	170.0	1762	170.0	1454
144 in	170.0	1433	170.0	1351	170.0	1809	170.0	1519	170.0	2001	170.0	1684

NOTE: FOR THE OFFSET CLIP, USE THE SAME ANCHOR PATTERN AND ANCHOR VALUES AS THE STANDARD CLIP.

FIGURE 1:



FIGURE 2:



FIGURE 3:



FIGURE 4:



FIGURE 5:

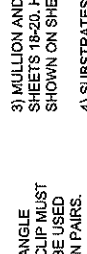
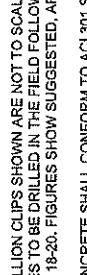


FIGURE 6:

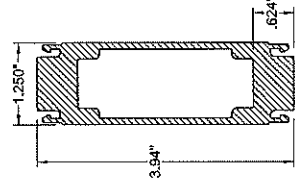


1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEET 22 FOR INFORMATION ON LOADING. SEE SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.

2) LINEAR INTERPOLATION BETWEEN MULL LENGTHS AND/OR OPENING WIDTHS IS ALLOWABLE.

3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 18-20. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON SHEETS 18-20. FIGURES SHOW SUGGESTED, APPROXIMATE HOLE LOCATIONS.

4) 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 .100" THICK. STEEL STUDS TO BE A MINIMUM GRADE 33 AND .045" THICK (16 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. #10 & #12 ANCHORS INTO WOOD MAY BE STEEL, 18-8 S.S. OR 410 S.S.



1.25" X 3.94" X .624" MULLION

1070 TECHNOLOGY DRIVE
N. VANCE, FL 32216
(351) 489-1808

REGISTRATION #29296
PCT

IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
1.25 X 3.94 X .624 MULL SPECS
Drawing No. 6300JR
Checked By: N/A
Date: 08/29/11
J. ROSOWSKI
08/29/11
J. ROSOWSKI
08/29/11
Revision: 08/28/23
REVISED ANCHOR TABLE

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. 23-0913.05
Expiration Date 05/26/2026
BY
Miami-Dade Product Control

ANTHONY LYNN MILLER
No. 58705
186/29/23
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.# 58705

TABLE 10A

2 x 4 x 25 Alum. Tube Mullion	Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)											
	50 in.			60 in.			70 in.			80 in.		
	Rectangular Loading	Triangular Loading	Trap/Rising Loading	Rectangular Loading	Triangular Loading	Trap/Rising Loading	Rectangular Loading	Triangular Loading	Trap/Rising Loading	Rectangular Loading	Triangular Loading	Trap/Rising Loading
Mullion Capacity (lbs/#12)	Mullion Capacity (lbs/#12)	Mullion Capacity (lbs/#12)	Mullion Capacity (lbs/#12)	Mullion Capacity (lbs/#12)	Mullion Capacity (lbs/#12)	Mullion Capacity (lbs/#12)	Mullion Capacity (lbs/#12)	Mullion Capacity (lbs/#12)	Mullion Capacity (lbs/#12)	Mullion Capacity (lbs/#12)	Mullion Capacity (lbs/#12)	Mullion Capacity (lbs/#12)
42 in.	170.0	620	170.0	435	170.0	744	170.0	869	170.0	519	170.0	521
48 in.	170.0	708	170.0	524	170.0	850	170.0	982	170.0	611	170.0	617
50.825 in.	170.0	747	170.0	553	170.0	896	170.0	1046	170.0	631	170.0	637
54 in.	170.0	797	170.0	612	170.0	995	170.0	1166	170.0	754	170.0	760
60 in.	170.0	885	170.0	701	170.0	1063	170.0	1240	170.0	878	170.0	884
63 in.	170.0	930	170.0	745	170.0	1116	170.0	1302	170.0	940	170.0	946
66 in.	170.0	974	170.0	789	170.0	1169	170.0	1364	170.0	1002	170.0	1008
72 in.	170.0	1083	170.0	878	170.0	1275	170.0	1488	170.0	1128	170.0	1134
75 in.	170.0	1122	170.0	937	170.0	1348	170.0	1570	170.0	1205	170.0	1211
78 in.	170.0	1151	170.0	987	170.0	1381	170.0	1611	170.0	1250	170.0	1256
80 in.	170.0	1180	170.0	1036	170.0	1414	170.0	1652	170.0	1295	170.0	1301
84 in.	170.0	1228	170.0	1095	170.0	1478	170.0	1728	170.0	1361	170.0	1367
108 in.	170.0	1535	170.0	1368	170.0	1828	170.0	2128	170.0	1661	170.0	1667
111 in.	170.0	1564	170.0	1394	170.0	1854	170.0	2154	170.0	1687	170.0	1693
120 in.	170.0	1652	170.0	1482	170.0	1942	170.0	2242	170.0	1775	170.0	1781
144 in.	170.0	1877	170.0	1657	170.0	2117	170.0	2417	170.0	1950	170.0	1956

TABLE 10B

Anchor Capacity (lbs)	Substrate	Anchor Type											
		3K Conc.			Hollow or Filled CMU			Filled CMU			Wood		
		5/8" DeWalt Ultracon	1/4" DeWalt Ultracon	3/16" DeWalt Ultracon	5/8" DeWalt Ultracon	1/4" DeWalt Ultracon	3/16" DeWalt Ultracon	5/8" DeWalt Ultracon	1/4" DeWalt Ultracon	3/16" DeWalt Ultracon	5/8" DeWalt Ultracon	1/4" DeWalt Ultracon	3/16" DeWalt Ultracon
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clips (Fig. 13.2)	Embedment (in)	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"
4 Anchors @ 2.88" Min. O.C. / Standard or Offset Clips (Fig. 13.1)	Embedment (in)	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"
8 Anchors @ 1.71" Min. O.C. / Standard or Offset Clips (Fig. 13.3)	Embedment (in)	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"
4 Anchors @ 3" Min. O.C. / 2x4 Angle Clips (Fig. 13.4)	Embedment (in)	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"
8 Anchors @ 3" Min. O.C. / 2x4 Angle Clips (Fig. 13.5)	Embedment (in)	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"
3 Anchors @ 1.34" Min. O.C. / U-clip, int. 125° Alum. (Fig. 7)	Embedment (in)	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"
6 Anchors @ 0.64" Min. O.C. / U-clip, int. 125° Alum. (Fig. 8)	Embedment (in)	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"
2 Anchors @ 2.68" Min. O.C. / F-clip (Fig. 10)	Embedment (in)	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"
3 Anchors @ 1.77" Min. O.C. / F-clip (Fig. 10)	Embedment (in)	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"

NOTE: FOR THE OFFSET CLIP, USE THE SAME ANCHOR PATTERN AND ANCHOR VALUES AS THE STANDARD CLIP.

FIGURE 1: FIGURE 2: FIGURE 3: FIGURE 4: FIGURE 5: FIGURE 6: FIGURE 7: FIGURE 8: FIGURE 9: FIGURE 10:

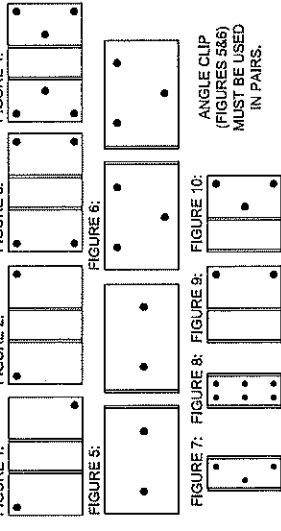


TABLE NOTES:

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ANCHOR CAPACITY ADJUSTMENT FORMULA:

$$(DP_{adj}) \times (ANCHOR CAP. (lbs/#12)) \\ = ANCHOR CAP. (lbs/#12)$$

USE THIS FORMULA TO OBTAIN
THE "ANCHOR CAPACITY
REQUIRED" CORRESPONDING
TO AN ACTUAL PRESSURE
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.

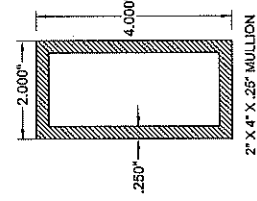


TABLE 11A

2 x 6 x 25 Alum. Tube Mullion	Mullion Capacity Table (lbs/ft ²)											
	Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)											
	50 in	60 in	70 in	80 in	90 in	100 in	120 in	140 in	160 in	180 in	200 in	220 in
Mullion Length	Rectangular Loading	Tripart. Loading	Rectangular Loading	Tripart. Loading	Rectangular Loading	Tripart. Loading	Rectangular Loading	Tripart. Loading	Rectangular Loading	Tripart. Loading	Rectangular Loading	Tripart. Loading
	Required (lbs)	Required (lbs)	Required (lbs)	Required (lbs)	Required (lbs)	Required (lbs)	Required (lbs)	Required (lbs)	Required (lbs)	Required (lbs)	Required (lbs)	Required (lbs)
42 in	170.0	435	170.0	479	170.0	505	170.0	519	170.0	1115	170.0	521
48 in	170.0	705	170.0	524	170.0	692	170.0	691	170.0	1133	170.0	680
50.625 in	170.0	747	170.0	583	170.0	684	170.0	723	170.0	1046	170.0	756
54 in	170.0	797	170.0	612	170.0	754	170.0	803	170.0	1034	170.0	861
60 in	170.0	885	170.0	701	170.0	878	170.0	944	170.0	1064	170.0	1063
63 in	170.0	930	170.0	745	170.0	930	170.0	1002	170.0	1083	170.0	1171
66 in	170.0	974	170.0	782	170.0	1002	170.0	1068	170.0	1122	170.0	1286
72 in	170.0	1053	170.0	878	170.0	1059	170.0	1128	170.0	1160	170.0	1389
76 in	170.0	1122	170.0	937	170.0	1116	170.0	1228	170.0	1228	170.0	1530
80 in	170.0	1228	170.0	1144	170.0	1228	170.0	1322	170.0	1322	170.0	1705
86 in	170.0	1409	170.0	1313	170.0	1313	170.0	1487	170.0	1487	170.0	2081
108 in	170.0	1594	170.0	1454	170.0	1594	170.0	1682	170.0	1682	170.0	2180
111 in	170.0	1638	170.0	1464	170.0	1638	170.0	1703	170.0	1703	170.0	2096
120 in	170.0	1771	170.0	1586	170.0	1771	170.0	1859	170.0	1859	170.0	1808
144 in	125.1	1564	125.1	1445	104.3	1564	108.1	1425	1564	108.1	1425	1283

ANCHOR CAPACITY
ADJUSTMENT FORMULA:

$$(DP_{min}) \times \left(\frac{\text{ANCHOR CAP.}}{\text{MULLION CAP.}} \right)^{1.5}$$

= ANCHOR CAP.

USE THIS FORMULA TO OBTAIN THE ANCHOR CAPACITY REQUIRED CORRESPONDING TO AN ACTUAL PRESSURE 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.

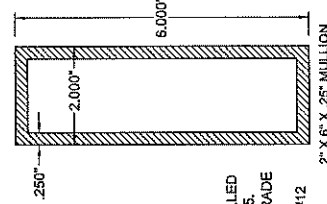
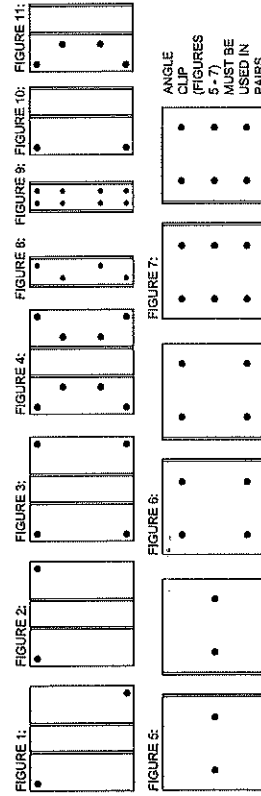
TABLE 11B

Anchor Capacity (lbs)	Substrate											
	3K Concrete			3K Concrete			3K Concrete			3K Concrete		
Anchor Type	3K Concrete			3K Concrete			3K Concrete			3K Concrete		
	Edge Distance (in)	Embedment (in)	Edge Distance (in)	Embedment (in)	Edge Distance (in)	Embedment (in)	Edge Distance (in)	Embedment (in)	Edge Distance (in)	Embedment (in)	Edge Distance (in)	Embedment (in)
2 Anchors @ 1.75" Min. O.C. / Standard or Offset Clip (Fig. 12)	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"	1.34"
4 Anchors @ 4.95" Min. O.C. / Standard or Offset Clip (Fig. 3)	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
8 Anchors @ 1.71" Min. O.C. / Standard or Offset Clip (Fig. 4)	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
4 Anchors @ 3" Min. O.C. / 2x2x Angle Clips (Fig. 5)	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
8 Anchors @ 1.54" Min. O.C. / 2x2x Angle Clips (Fig. 6)	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
12 Anchors @ 1.54" Min. O.C. / 2x2x Angle Clips (Fig. 7)	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
4 Anchors @ 1.54" Min. O.C. / U-Clip, Int. 125" Alum. (Fig. 8)	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
8 Anchors @ 0.64" Min. O.C. / U-Clip, Int. 125" Alum. (Fig. 9)	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
2 Anchors @ 4.68" Min. O.C. / F-Clip (Fig. 10)	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
4 Anchors @ 1.77" Min. O.C. / F-Clip (Fig. 11)	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10

NOTE: FOR THE OFFSET CLIP, USE THE SAME ANCHOR PATTERN AND ANCHOR VALUES AS THE STANDARD CLIP.

TABLE NOTES:

- SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEET 22 FOR INFORMATION ON LOADING. SEE SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.
- LINEAR INTERPOLATION BETWEEN MULL LENGTHS AND/OR OPENING WIDTHS IS ALLOWABLE.
- MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 18-20. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON SHEETS 18-20. FIGURES SHOW SUGGESTED, APPROXIMATE HOLE LOCATIONS.
- 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 .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. #10 & #12 ANCHORS INTO WOOD MAY BE STEEL, 18-8 S.S. OR 410 S.S.

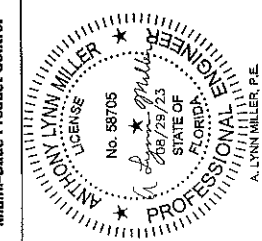


Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
 Description: 2 X 6 X .25 MULL SPECS
 Scale: N/A
 Date: 08/29/11
 Checked By: N/A
 Drawing No.: 6300JR
 Date: 15 OF 22
 Revision: 08/28/23
 Project: 1070 TECHNOLOGY DRIVE
 N. VANCE, FL 32778
 (351) 489-1600
 REGISTRATION #29296

Project: 2 X 6 X .25 MULL SPECS
 Scale: N/A
 Date: 08/29/11
 Checked By: N/A
 Drawing No.: 6300JR
 Date: 15 OF 22
 Revision: 08/28/23
 Project: 1070 TECHNOLOGY DRIVE
 N. VANCE, FL 32778
 (351) 489-1600
 REGISTRATION #29296

PRODUCT REVISED
 as complying with the Florida
 Building Code
 NOA-No. 23-0913.05
 Expiration Date 05/26/2026

By: Miami-Dade Product Control
 Expiration Date 05/26/2026



ANCHOR CAPACITY ADJUSTMENT FORMULA:

$(DP) \times (ANCHOR CAP) = ANCHOR CAP$

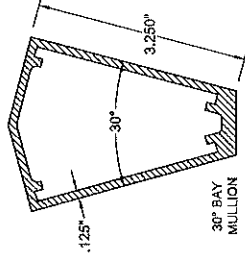
USE THIS FORMULA TO OBTAIN THE "ANCHOR CAPACITY REQUIRED" CORRESPONDING TO AN ACTUAL PRESSURE REQUIREMENT FOR THE OPENING. WHEN IT IS LOWER THAN THE MULLION CAPACITY (FROM THE TABLE) IT WILL SELECTED MULLION. IT WILL YIELD A MINIMUM ANCHOR CAPACITY WHICH MAY BE USED TO QUALIFY ADDITIONAL ANCHOR OPTIONS FROM THE ANCHOR CAPACITY TABLE.

3.25" 30 DEG. AL BAY MULL	Mullion Capacity Table (lbs/ft²)											
	Opening Width (for vertically-spawning mullions) or Opening Height (for horizontally-spawning mullions)											
	50 in	60 in	70 in	80 in	90 in	100 in	120 in	140 in	160 in	180 in	200 in	220 in
Mullion Length	Rectangular Loading	Triangular Loading	Rectangular Loading	Triangular Loading	Rectangular Loading	Triangular Loading	Rectangular Loading	Triangular Loading	Rectangular Loading	Triangular Loading	Rectangular Loading	Triangular Loading
	Anchor Capacity (lbs/ft²)	Anchor Capacity (lbs/ft²)	Anchor Capacity (lbs/ft²)	Anchor Capacity (lbs/ft²)	Anchor Capacity (lbs/ft²)	Anchor Capacity (lbs/ft²)	Anchor Capacity (lbs/ft²)	Anchor Capacity (lbs/ft²)	Anchor Capacity (lbs/ft²)	Anchor Capacity (lbs/ft²)	Anchor Capacity (lbs/ft²)	Anchor Capacity (lbs/ft²)
42 in	170.0	820	170.0	435	170.0	744	170.0	478	170.0	556	170.0	521
48 in	170.0	708	170.0	524	170.0	682	170.0	630	170.0	682	170.0	630
50.625 in	170.0	747	170.0	559	170.0	631	170.0	604	170.0	654	170.0	604
54 in	170.0	797	170.0	592	170.0	681	170.0	646	170.0	696	170.0	646
60 in	170.0	895	170.0	701	170.0	803	170.0	797	170.0	803	170.0	797
66 in	170.0	974	170.0	789	170.0	881	170.0	850	170.0	881	170.0	850
72 in	170.0	1048	170.0	860	170.0	954	170.0	914	170.0	954	170.0	914
78 in	170.0	1108	170.0	914	170.0	1008	170.0	968	170.0	1008	170.0	968
84 in	170.0	1155	170.0	954	170.0	1054	170.0	1014	170.0	1054	170.0	1014
90 in	170.0	1188	170.0	989	170.0	1089	170.0	1049	170.0	1089	170.0	1049
96 in	170.0	1212	170.0	1014	170.0	1114	170.0	1074	170.0	1114	170.0	1074
102 in	170.0	1228	170.0	1039	170.0	1139	170.0	1099	170.0	1139	170.0	1099
108 in	170.0	1244	170.0	1064	170.0	1164	170.0	1124	170.0	1164	170.0	1124
114 in	170.0	1259	170.0	1089	170.0	1189	170.0	1149	170.0	1189	170.0	1149
120 in	170.0	1274	170.0	1114	170.0	1214	170.0	1174	170.0	1214	170.0	1174
126 in	170.0	1288	170.0	1139	170.0	1239	170.0	1199	170.0	1239	170.0	1199
132 in	170.0	1302	170.0	1164	170.0	1264	170.0	1224	170.0	1264	170.0	1224
138 in	170.0	1315	170.0	1189	170.0	1289	170.0	1249	170.0	1289	170.0	1249
144 in	170.0	1328	170.0	1214	170.0	1314	170.0	1269	170.0	1314	170.0	1269

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 23-0913.05
Expiration Date 05/26/2026

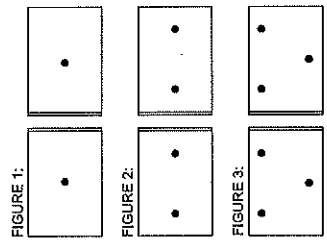
By: *[Signature]*
Miami-Dade Product Control

ANTHONY LYNN MILLER
No. 58705
08/28/23
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.# 58705



Anchor Capacity (lbs)	TABLE 128											
	Substrate											
	Anchor Type	Embedment (in)	Edge Distance (in)	3" Concrete	5" Concrete	3" Concrete	5" Concrete	3" Concrete	5" Concrete	3" Concrete	5" Concrete	3" Concrete
2 Anchors @ 5" Min. O.C. / (2) 25 Angle Clips / (Fig. 1)	3/16" DeWalt Ultracore	1-3/4"	1-3/4"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"
	3/16" DeWalt Ultracore	1-3/4"	1-3/4"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"
4 Anchors @ 3.5" Min. O.C. / (2) 25 Angle Clips / (Fig. 2)	3/16" DeWalt Ultracore	1-3/4"	1-3/4"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"
	3/16" DeWalt Ultracore	1-3/4"	1-3/4"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"
6 Anchors @ 2.71" Min. O.C. / (2) 25 Angle Clips / (Fig. 3)	3/16" DeWalt Ultracore	1-3/4"	1-3/4"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"
	3/16" DeWalt Ultracore	1-3/4"	1-3/4"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"	1" 2-1/2"

- TABLE NOTES:**
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NOA-No.
Expiration Date 05/26/2026
By: [Signature]
Miami-Dade Product Control

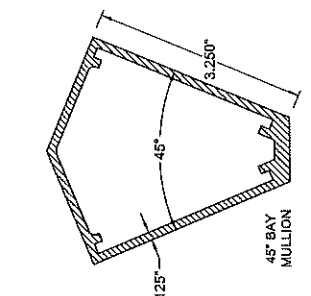
ANTHONY LYNN MILLER
No. 39705
08/29/23
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.# 59705

ANCHOR CAPACITY ADJUSTMENT FORMULA:
 $(DP_{req}) \times (ANCHOR CAP_{req}) = ANCHOR CAP_{req}$
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.

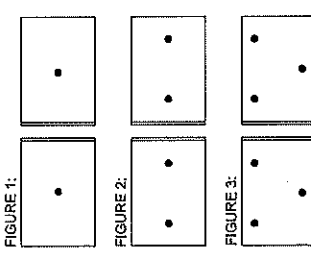
		Mullion Capacity Table (lbs/ft²)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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Mullion Length	32.5" x 45" DEG. AL BAY MULL	50 in				60 in				70 in				80 in				90 in				100 in				120 in				140 in				160 in																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
		Rectangular Loading	Triangular Loading	Anchor Capacity (lbs/ft²)	Mullion Capacity (lbs/ft²)	Rectangular Loading	Triangular Loading	Anchor Capacity (lbs/ft²)	Mullion Capacity (lbs/ft²)	Rectangular Loading	Triangular Loading	Anchor Capacity (lbs/ft²)	Mullion Capacity (lbs/ft²)	Rectangular Loading	Triangular Loading	Anchor Capacity (lbs/ft²)	Mullion Capacity (lbs/ft²)	Rectangular Loading	Triangular Loading	Anchor Capacity (lbs/ft²)	Mullion Capacity (lbs/ft²)	Rectangular Loading	Triangular Loading	Anchor Capacity (lbs/ft²)	Mullion Capacity (lbs/ft²)	Rectangular Loading	Triangular Loading	Anchor Capacity (lbs/ft²)	Mullion Capacity (lbs/ft²)	Rectangular Loading	Triangular Loading	Anchor Capacity (lbs/ft²)	Mullion Capacity (lbs/ft²)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
42 in		170.0	820	170.0	435	170.0	744	170.0	478	170.0	888	170.0	505	170.0	630	170.0	519	170.0	644	170.0	821	170.0	1048	170.0	521	170.0	1785	170.0	521	170.0	1603	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	170.0	1785	170.0	521	

TABLE 13B

Anchor Capacity (lbs)	3 in Conc.				Hollow or Filled CMU				Wood				Metal			
	5/16" DeWall	3/8" DeWall	1/2" DeWall	3/4" DeWall	5/16" DeWall	3/8" DeWall	1/2" DeWall	3/4" DeWall	5/16" DeWall	3/8" DeWall	1/2" DeWall	3/4" DeWall	5/16" DeWall	3/8" DeWall	1/2" DeWall	3/4" DeWall
2 Anchors @ 5" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 1)	330 lbs	330 lbs	330 lbs	330 lbs	330 lbs	330 lbs	330 lbs	330 lbs	330 lbs	330 lbs	330 lbs	330 lbs	330 lbs	330 lbs	330 lbs	330 lbs
4 Anchors @ 3.5" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 2)	660 lbs	660 lbs	660 lbs	660 lbs	660 lbs	660 lbs	660 lbs	660 lbs	660 lbs	660 lbs	660 lbs	660 lbs	660 lbs	660 lbs	660 lbs	660 lbs
6 Anchors @ 2.75" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3)	990 lbs	990 lbs	990 lbs	990 lbs	990 lbs	990 lbs	990 lbs	990 lbs	990 lbs	990 lbs	990 lbs	990 lbs	990 lbs	990 lbs	990 lbs	990 lbs



- TABLE NOTES:**
- SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEET 22 FOR INFORMATION ON LOADING. SEE SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.
 - LINEAR INTERPOLATION BETWEEN MULL LENGTHS AND/OR OPENING WIDTHS IS ALLOWABLE.
 - MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 18-20. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON SHEETS 18-20. FIGURES SHOW SUGGESTED, APPROXIMATE HOLE LOCATIONS.
 - 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 .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. #10 & #12 ANCHORS INTO WOOD MAY BE STEEL, 18-9 S.S. OR 410 S.S.



ANGLE CLIP (FIGURES 1-3) MUST BE USED IN PAIRS.

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NOA-No. **23-0913.05**
Expiration Date **05/26/2026**

By
Miami-Dade Product Control

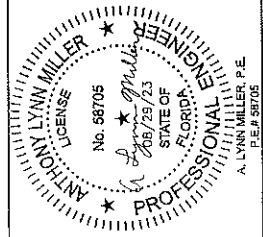


TABLE A

Dimension	Value (in)	For Multiton:
A	1.875	1" X 2.75" X
B	3.000	.375 Aluminum
C	0.757	Tube Multiton
D	1.118	
A	1.312	1" X 2.75" X
B	3.000	.650" Aluminum
C	0.476	Tube Multiton
D	0.836	
A	2.000	1" X 3.125" X
B	2.637	.500" Alum
C	0.863	Tube Mult
D	1.137	
A	2.625	1.25" X 3.188"
B	3.262	X .265" Alum
C	0.862	Tube Mult
D	1.762	

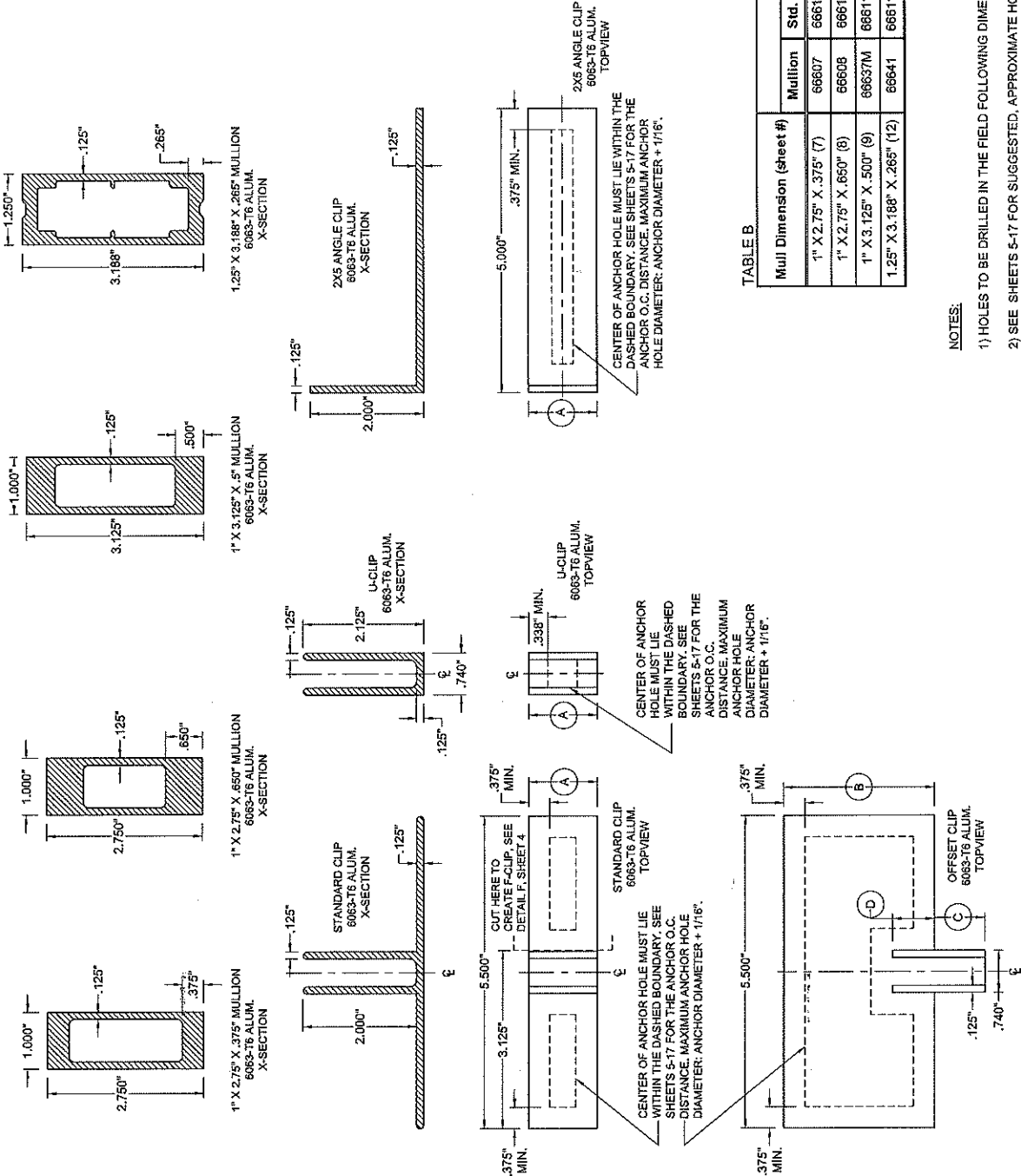


TABLE B

Mull Dimension (sheet #)	PGT Part #				
	Mullion	Std. Clip	Offset Clip	U-Clip	Angle Clip
1" X 2.75" X .375" (7)	66607	666115M	6661120M	666245M	666513M
1" X 2.75" X .600" (6)	66608	666116M	6661121M	666246M	666514M
1" X 3.125" X .500" (9)	66637M	6661116M	6661114M	666242M	666515M
1.25" X 3.188" X .265" (12)	66641	6661117M	6661113M	666241M	666516M

NOTES:

- 1) HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS GIVEN ON THIS SHEET.
- 2) SEE SHEETS 5-17 FOR SUGGESTED, APPROXIMATE HOLE LOCATIONS & ANCHOR O.C. DISTANCE.
- 3) SEE SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.

PRODUCT REVISED
as complying with the Florida
Building Code 23-0913.05
NOA-No. 23-0913.05
Expiration Date 05/26/2026
By: [Signature]
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 59705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.# 59705

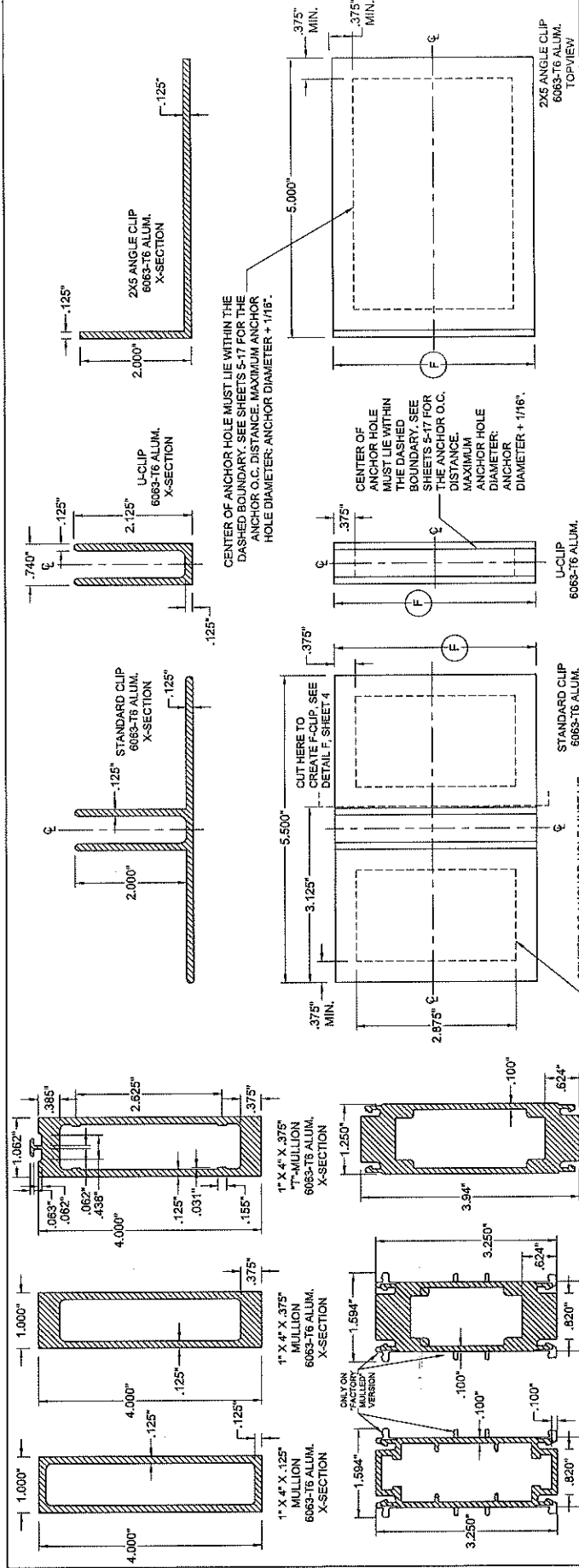


TABLE C. CONT.

Dimension	Value (in)	For Mullion:	For Mullion:
F	1.938	1.25" X 3.25"	1.25" X 3.25"
G	0.500	Aluminum	Aluminum
H	1.438	Tube Mullion	Tube Mullion
I	3.250	1.25" X 3.94"	1.25" X 3.94"
F	2.625	1.25" X 3.94"	1.25" X 3.94"
G	1.125	Aluminum	Aluminum
H	1.500	Tube Mullion	Tube Mullion
I	3.250	30° Bay Mull	30° Bay Mull
F	2.813	45° Bay Mull	45° Bay Mull
F	2.875		

TABLE C

Dimension	Value (in)	For Mullion:	For Mullion:
F	3.687	1" X 4" X .125"	1" X 4" X .125"
G	1.000	Aluminum	Aluminum
H	2.690	Tube Mullion	Tube Mullion
I	3.000	1" X 4" X .375"	1" X 4" X .375"
F	3.187	1" X 4" X .375"	1" X 4" X .375"
G	0.757	Aluminum	Aluminum
H	2.430	Tube & T	Tube & T
I	3.000	1.25" X 3.25"	1.25" X 3.25"
F	2.250	X .100"	X .100"
G	0.750		
H	1.500		
I	3.250		

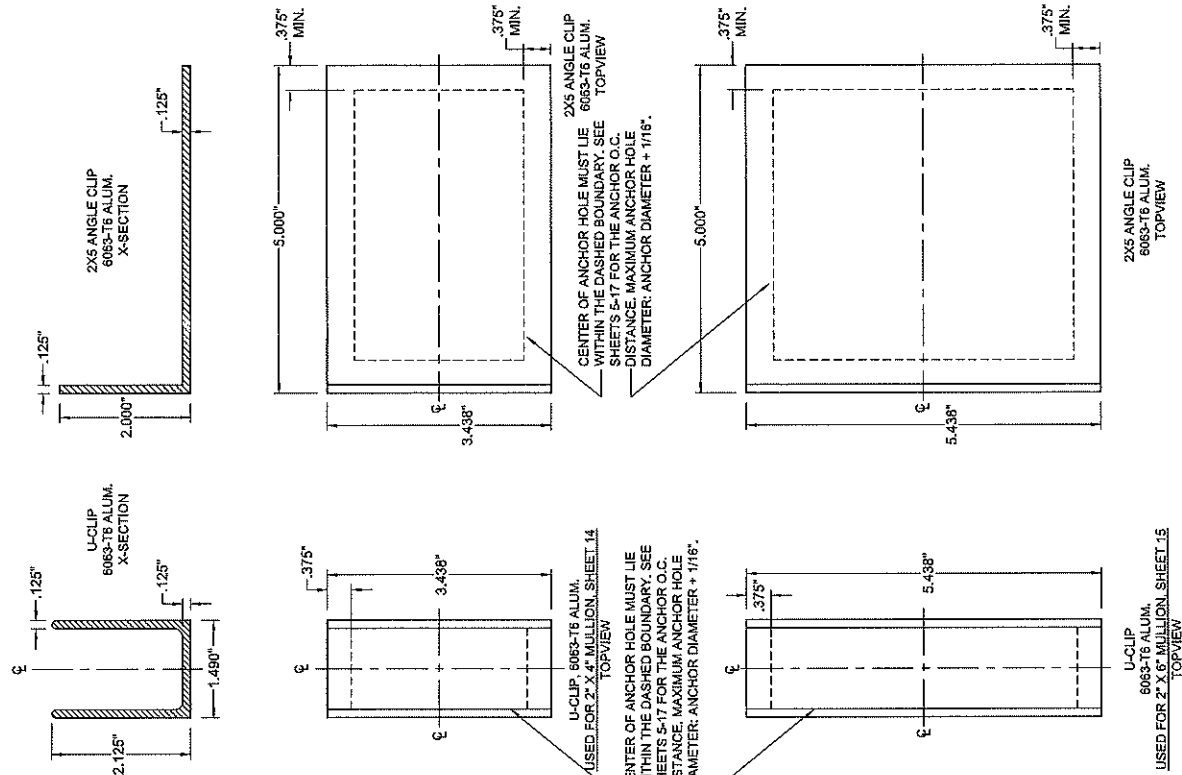
TABLE D

Mull Dimension (sheet #)	Mullion	Std. Clip	Offset Clip	U-Clip	Angle Clip
1" X 4" X .125" (10)	6384	66511M	66512M	66524M	66551M
1" X 4" X .375" (11)	66510	66511M	66512M	66524M	66551M
1" X 4" X .375" (11)	66553	66511M	66512M	66524M	66551M
1.25" X 3.25" X .100" (13)	20160/20312	665112M	665112M	6652410M	665511M
1.25" X 3.25" X .100" (14)	20161/20315	665112M	665112M	6652411M	665511M
1.25" X 3.25" X .624" (15)	20162	665117M	665112M	665241M	665517M
30 Degree (19)	66549	N/A	N/A	N/A	665510M
45 Degree (20)	66550	N/A	N/A	N/A	665511M

- NOTES:**
- HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS GIVEN ON THIS SHEET.
 - SEE SHEETS 5-17 FOR SUGGESTED, APPROXIMATE HOLE LOCATIONS.
 - SEE SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.

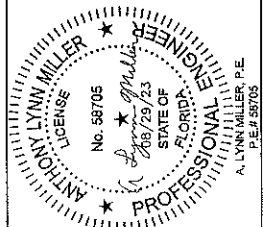
NOTES:

- 1) HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS GIVEN ON THIS SHEET.
- 2) SEE SHEETS 5-17 FOR SUGGESTED, APPROXIMATE HOLE LOCATIONS.
- 3) SEE SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.



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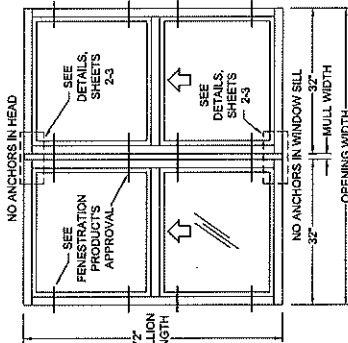
By 
Miami-Dade Product Control



PGT
Custom Windows and Doors
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600
REGISTRATION #29296

IMPACT-RESISTANT ALUMINUM TUBE MULLIONS	DESCRIPTION:	MULLION AND CLIP DIMENSIONS C	Sheet
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EXAMPLE 1: SINGLE VERTICAL MULLION



THE BUILDING SUBSTRATE IS KNOWN TO BE WOOD ON ALL FOUR SIDES. THE WINDOW FRAME DEPTH IS 2-1/4". THE OPENING REQUIRES A DESIGN PRESSURE OF +80.0/-60.0 PSF.

- INITIALLY ASSUMING THAT A 1" WIDE MULLION IS SUITABLE, THE MULLION LENGTH IS 72" AND THE OPENING WIDTH IS 32" X 32" X 1" = 85". REFERENCING SHEET 22, THE COLUMN USING RECTANGULAR LOADING MUST BE USED. SCAN THE MULLION TABLES FOR A MULLION THAT IS AT LEAST THE WINDOW FRAME DEPTH OF 2-1/4" AND WILL MEET OR EXCEED THE REQUIRED DESIGN PRESSURE OF +80.0/-60.0 PSF. IF THE TABLE DOES NOT SHOW THE EXACT SIZE, USE THE NEXT LARGER SIZE AVAILABLE.

FROM TABLE 1A, SHEET 5, THE 1" X 2-7/8" X 3/16" MULLION (LENGTH = 72", OPENING WIDTH = 70") MEETS THE DESIGN PRESSURE IS +458.3 PSF AND WOULD NOT BE SUITABLE FOR THIS APPLICATION.

FROM TABLE 2A, SHEET 6, THE 1" X 2-7/8" X 3/16" MULLION (LENGTH = 72", OPENING WIDTH = 70") HAS A DESIGN PRESSURE OF +72.7 PSF WHICH EXCEEDS THE REQUIREMENTS FOR THE OPENING AND MAY BE USED IN THIS APPLICATION. NOTE THE ANCHOR CAPACITY REQUIRED OF 636 LBS.

- USE TABLE 2B TO FIND THE ANCHOR TYPE, ANCHOR QUANTITY AND CLIP TYPE REQUIRED FOR THE WOOD SUBSTRATE. BOTH THE STANDARD CLIP WITH (4) #12 ANCHORS AND THE 2X5 ANGLE CLIPS WITH (4) #12 ANCHORS HAVE A CAPACITY OF 885 LBS. THOUGH EITHER ONE COULD BE USED, THE STANDARD CLIP IS EASIER TO INSTALL.

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 +480.0 PSF. THE OVERALL MULLION SYSTEM WAS DETERMINED TO BE 72.7 PSF WITH AN ANCHOR CAPACITY OF 636 LBS. ALTERNATIVELY, THE ANCHOR CAPACITY ADJUSTMENT FORMULA COULD HAVE BEEN USED TO CALCULATE THE ANCHOR CAPACITY REQUIRED FOR THE EXACT DESIGN PRESSURE OF 60 PSF:

$$(60 \text{ PSF}) \times \left(\frac{636 \text{ LBS}}{72.7 \text{ PSF}} \right) = 524.9 \text{ LBS} \quad (\text{MAY BE USED TO QUALIFY \# 10 STEEL SCREWS FROM TABLE 2B})$$

THE BUILDING SUBSTRATE IS KNOWN TO BE CMU ON THE JAMBS AND USES A CONCRETE HEADER AND SILL. THE WINDOW FRAME DEPTH IS 2-3/8". THE OPENING REQUIRES A DESIGN PRESSURE OF +80.0/-55.0 PSF.

FOR THE VERTICAL MULLION:

- INITIALLY ASSUMING THAT A 1" WIDE MULLION IS SUITABLE, THE MULLION LENGTH IS 32" X 72" X 1" = 105" AND THE OPENING WIDTH IS 35" X 35" X 1" = 73". REFERENCING SHEET 22, THE COLUMN USING RECTANGULAR LOADING SHALL BE USED. SCAN THE MULLION TABLES FOR A MULLION THAT IS AT LEAST THE WINDOW FRAME DEPTH OF 2-3/8" AND WILL MEET OR EXCEED THE REQUIRED DESIGN PRESSURE OF +80.0/-55.0 PSF. IF THE TABLE DOES NOT SHOW THE EXACT SIZE, USE THE NEXT LARGER SIZE AVAILABLE.

FROM TABLE 1A, SHEET 5, THE 1" X 2-7/8" X 3/16" MULLION (LENGTH = 105", OPENING WIDTH = 80") MEETS THE DESIGN PRESSURE IS +415.1 PSF AND WOULD NOT BE SUITABLE FOR THIS APPLICATION.

FROM TABLE 10A, SHEET 14, THE 2" X 4" X 250" MULLION (LENGTH = 105", OPENING WIDTH = 80") HAS A DESIGN PRESSURE OF +84.7 PSF WHICH EXCEEDS THE REQUIREMENTS FOR THE OPENING AND MAY BE USED IN THIS APPLICATION. NOTE THE ANCHOR CAPACITY REQUIRED OF 971 LBS.

BECAUSE IT IS NOW KNOWN THAT THE MULLION WILL ADD 2" TO THE WIDTH OF THE MULLED UNIT, THE ADJUSTED OPENING WIDTH IS 35" X 35" X 2" = 74"; NOT 73" AS PREVIOUSLY ASSUMED. VERIFY THAT THE DESIGN PRESSURE IS STILL APPLICABLE FOR THE ADJUSTED OPENING. ALTERNATIVELY, THE WINDOW WIDTHS MAY BE REDUCED TO MAINTAIN THE 73" DIMENSION (35-1/2" X 35-1/2" X 2" = 73").

- USE TABLE 10B TO FIND THE ANCHOR TYPE, ANCHOR QUANTITY AND CLIP TYPE REQUIRED FOR THE CONCRETE SUBSTRATE. IN THIS EXAMPLE, ASSUME THE POURED CONCRETE HEADER AND SILL ARE 8" WIDE. IF THE MULLION CLIP WERE TO BE CENTERED WITHIN THE 8", CARE MUST BE TAKEN TO MAINTAIN THE FASTENER'S EDGE DISTANCE. USING THE STANDARD CLIP WITH (6) 3/16" ULTRACON+ ANCHORS AT AN EDGE DISTANCE OF 2-1/2" GIVES AN ANCHOR CAPACITY OF 1890 LBS WHICH IS GREATER, AND THEREFORE SUITABLE, FOR THE REQUIRED ANCHOR CAPACITY OF 971 LBS.

FOR THE HORIZONTAL MULLIONS:

BECAUSE THE VERTICAL MULL WILL BE A 2" X 4" X 250" MULLION, IN THIS EXAMPLE WE WILL MATCH THE HORIZONTAL AND VERTICAL MULLIONS. ALTERNATIVELY, ANOTHER MULLION TYPE COULD BE CHOSEN.

- THE MULLION LENGTH IS 36" AND THE OPENING HEIGHT IS 32" X 72" X 2" = 106". REFERENCING SHEET 22, THE COLUMN USING TRAPEZOIDAL TRIANGULAR LOADING MAY BE USED. FROM TABLE 10A, SHEET 14, THE 2" X 4" X 250" MULLION (@ LENGTH = 42", OPENING HEIGHT = 120") HAS A DESIGN PRESSURE OF +470.0 PSF WHICH EXCEEDS THE REQUIREMENTS FOR THE OPENING AND MAY BE USED IN THIS APPLICATION. NOTE THE ANCHOR CAPACITY REQUIRED OF 521 LBS.

- USE TABLE 10B TO FIND THE ANCHOR TYPE, ANCHOR QUANTITY AND CLIP TYPE REQUIRED FOR THE CMU SUBSTRATE. IN THIS EXAMPLE, ASSUME THE CMU JAMBS ARE 8" WIDE. IF THE MULLION CLIP WERE TO BE CENTERED WITHIN THE 8", CARE MUST BE TAKEN TO MAINTAIN THE FASTENER'S EDGE DISTANCE. USING THE 2X5 ANGLE CLIPS WITH (4) 3/16" ULTRACON+ ANCHORS AT AN EDGE DISTANCE OF 2-1/2" GIVES AN ANCHOR CAPACITY OF 740 LBS WHICH IS GREATER, AND THEREFORE SUITABLE, FOR THE REQUIRED ANCHOR CAPACITY OF 521 LBS.

- FOR THE U-CLIP IN THE HORIZONTAL MULLION TO VERTICAL MULLION, USE THE SAME ANCHOR CAPACITY OF 521 LBS. TABLE 10B FOR THE U-CLIP SHOWS THE ANCHOR CAPACITY IS 1074 LBS WHEN USING 3 ANCHORS, WHICH IS GREATER, AND THEREFORE SUITABLE, FOR THE REQUIRED ANCHOR CAPACITY REQUIREMENT OF 521 LBS. THE ANCHOR TYPE IS A #12 STEEL SCREW.

FROM THE ABOVE STEPS, OUR MULLION DESIGN PRESSURE IS:

- +484.7 PSF FROM THE VERTICAL MULLION;
- +470.0 PSF FROM THE 36" HORIZONTAL MULLION ATTACHING TO CMU;
- +1700.0 PSF FROM THE 36" HORIZONTAL MULLION ATTACHING TO THE VERTICAL MULLION (INTERSECTION).

THE LOWEST DESIGN PRESSURE IS +464.7 PSF AND WOULD APPLY TO ALL OF THE MULLIONS.

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.

PGT

Customer Windows and Doors
10707 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600

REGISTRATION #29296

IMPACT-RESISTANT ALUMINUM TUBE MULLIONS

Examples

Scale: N/A

Date: 08/29/11

Checked By: 6300JR

Sheet: 21 OF 22

Revision: 08/28/23

NO CHANGES THIS SHEET.

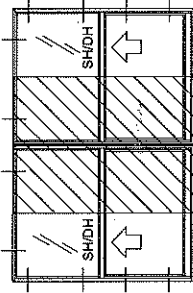
PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. 23-0913.05
Expiration Date 05/26/2026

By: *[Signature]*
Miami-Date Product Control

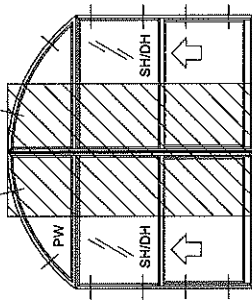
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.# 58705

STATE OF FLORIDA
No. 58705
08/29/11

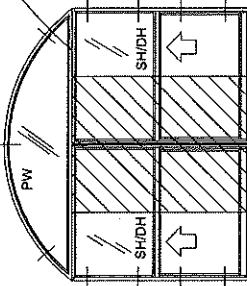
EXAMPLES OF RECTANGULAR LOADING:



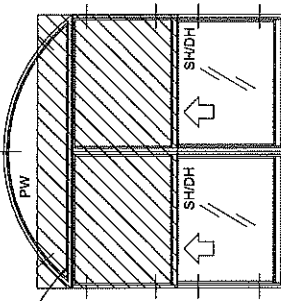
LOADING OF VERTICAL MULLION
SILL OF WINDOWS NOT ANCHORED



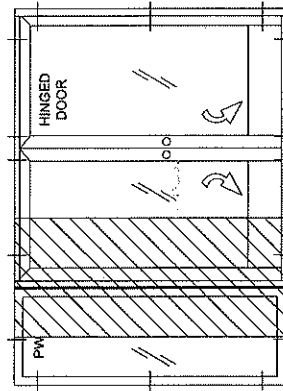
LOADING OF VERTICAL MULLION
WITH INTERSECTING HORIZONTAL MULLIONS



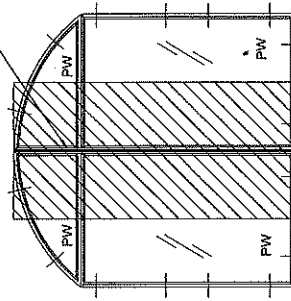
LOADING OF VERTICAL MULLION
SILL OF WINDOWS NOT ANCHORED



LOADING OF HORIZONTAL MULLION
WITH INTERSECTING VERTICAL MULLIONS

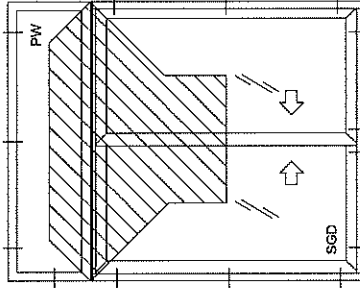


LOADING OF VERTICAL MULLION
PANEL OF HINGED DOOR IS NOT CAPTURED OR ANCHORED

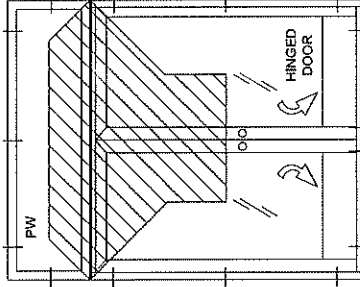


LOADING OF VERTICAL MULLION
WITH INTERSECTING HORIZONTAL MULLIONS

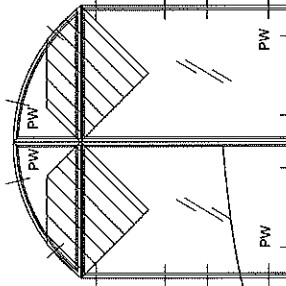
EXAMPLES OF TRAPEZOIDAL/TRIANGULAR LOADING:



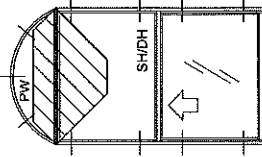
LOADING OF HORIZONTAL MULLION



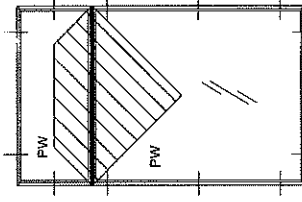
LOADING OF HORIZONTAL MULLION



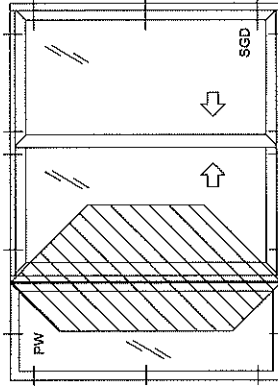
LOADING OF (2) HORIZONTAL MULLIONS



LOADING OF HORIZONTAL MULLION



LOADING OF HORIZONTAL MULLION



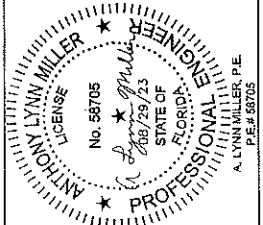
LOADING OF VERTICAL MULLION

NOTES:

- 1) DRAWINGS ARE REPRESENTATIONS OF TYPICAL CONFIGURATIONS NOT SHOWN MAY BE EXTRAPOLATED FROM THOSE SHOWN.
- 2) IF THE LOADING TYPE CANNOT BE DETERMINED, USE RECTANGULAR LOADING.
- 3) SEE PRODUCTS' APPROVAL FOR ACTUAL ANCHOR LOCATIONS.

PGT Custom Windows and Doors 1070 TECHNOLOGY DRIVE N. VENICE, FL 33425 (941) 480-1600 REGISTRATION #28296		Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS Description: LOADING EXAMPLES Series: N/A Drawn By: J ROSOWSKI Date: 08/29/11 Checked By: N/A Drawing No.: 6300JR Sheet: 22 OF 22 Rev: E Date: 08/28/23 Revision: NO CHANGES THIS SHEET.	
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PRODUCT REVISED
 as complying with the Florida
 Building Code
 NOA-No. **23-0913.05**
 Expiration Date **05/26/2026**
 By: *[Signature]*
 Miami-Dade Product Control





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Product Approval
USER: Public User

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FL #

Application Type

Code Version

Application Status

FL331-R20

Revision

2023

Approved

FL331.2

5400 PD-F

Comments

Archived



Product Manufacturer

Address/Phone/Email

PGT Industries

1070 Technology Drive

North Venice, FL 34275

(941) 486-0100 Ext 21140

jrosowski@pgtindustries.com

Authorized Signature

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Quality Assurance Representative

Address/Phone/Email

Category

Subcategory

Exterior Doors

Swinging Exterior Door Assemblies

Compliance Method

Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer

☐ Evaluation Report - Hardcopy Received

Florida Engineer or Architect Name who developed the Evaluation Report

A. Lynn Miller, P.E.

Florida License

PE-58705

Quality Assurance Entity

Keystone Certifications, Inc.

Quality Assurance Contract Expiration Date

12/31/2032

Validated By

Steven M. Urlich, PE

☒ Validation Checklist - Hardcopy Received

Certificate of Independence

[FL331_R20_COI_Cert of Independence.pdf](#)

Referenced Standard and Year (of Standard)

Standard

AAMA 450

AAMA/WDMA/CSA 101/I.S.2/A440

ASTM E-1886

ASTM E-1996

Year

2010

2008

2013

2012

Equivalence of Product Standards Certified By

Florida Licensed Professional Engineer or Architect

[FL331_R20_Equiv_ASTM E1886-04-05 to E1886-13a and E1996-05-06-09-12 to E1996-17 Equivalency Letter 2020-09-09.pdf](#)

Sections from the Code

Product Approval Method

Method 1 Option D

Date Submitted

10/19/2023

Date Validated

10/20/2023

Date Pending FBC Approval

10/27/2023

Date Approved

12/12/2023

Summary of Products

FL #	Model, Number or Name	Description
331.1	CD-290	Aluminum Hinged Cabana Door
Limits of Use Approved for use in HVHZ: No Approved for use outside HVHZ: Yes Impact Resistant: No Design Pressure: N/A Other: Please see the Installation Instructions for design pressure, size and anchorage information.		Installation Instructions FL331_R20_II_CD290_NI_Rev_C.pdf Verified By: A. Lynn Miller, P.E. 58705 Created by Independent Third Party: No Evaluation Reports FL331_R20_AE_Eng_Eval - CD290 - REV C.pdf Created by Independent Third Party: No
331.2	FD-5455	Vinyl French Door & Sidelite/Transom
Limits of Use Approved for use in HVHZ: No Approved for use outside HVHZ: Yes Impact Resistant: No Design Pressure: N/A Other: Please see the Installation Instructions for design pressure, size and anchorage information.		Installation Instructions FL331_R20_II_FD5455FPA-NI - REV E.pdf Verified By: A. Lynn Miller, P.E. 58705 Created by Independent Third Party: No Evaluation Reports FL331_R20_AE_Eng_Eval - FD5455 - REV E.pdf Created by Independent Third Party: No
331.3	FD-5555	Vinyl French Door & Sidelite/Transom
Limits of Use Approved for use in HVHZ: No Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: N/A Other: Please see the Installation Instructions for design pressure, size and anchorage information.		Installation Instructions FL331_R20_II_FD5555FPA-LM - REV D.pdf Verified By: A. Lynn Miller, P.E. 58705 Created by Independent Third Party: No Evaluation Reports FL331_R20_AE_Eng_Eval - FD5555 - REV D1.pdf Created by Independent Third Party: No

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Product Approval Accepts:



SERIES FD5455, NON-IMPACT-RESISTANT, VINYL, REINFORCED, OUTSWING FRENCH DOOR & SIDELITE/TRANSOM (SL/TR)

FLORIDA PRODUCT APPROVAL #331

IMPACT RATING
NOT RATED FOR IMPACT
RESISTANCE

DESIGN PRESSURE RATING
VARIES, SEE SHEETS 4 & 5

1) THIS PRODUCT HAS BEEN DESIGNED & TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE.

2) SHUTTERS ARE REQUIRED WHEN USED IN WIND-BORNE DEBRIS REGIONS.

3) MATERIALS USED FOR ANCHOR EVALUATIONS WERE SOUTHERN PINE, ASTM C90 CONCRETE MASONRY UNITS AND CONCRETE WITH MIN. KSI PER ANCHOR TYPE.

4) MASONRY ANCHORS MAY BE USED INTO WOOD AS PER TABLE 1, THIS SHEET. ALL WOOD BUCKS LESS THAN 1-1/2" THICK ARE TO BE CONSIDERED 1X INSTALLATIONS. 1X WOOD BUCKS ARE OPTIONAL IF UNIT IS INSTALLED DIRECTLY TO SUBSTRATE. WOOD BUCKS DEPICTED AS 2X ARE 1-1/2" THICK OR GREATER. 1X AND 2X BUCKS (WHEN USED) SHALL BE DESIGNED TO PROPERLY TRANSFER LOADS TO THE STRUCTURE. WOOD BUCK DESIGN AND INSTALLATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD.

5) IF SILL IS TIGHT TO SUBSTRATE, GROUT IS NOT REQUIRED. IF USED, NON-SHRINK, NON-METALLIC GROUT, 3400 PSI MIN. (DONE BY OTHERS) (MAX. 1/4" SHIM SPACE FOR GROUT) MUST FULLY SUPPORT THE ENTIRE LENGTH OF THE SILL THAT IS NOT TIGHT TO THE SUBSTRATE, AND TRANSFER SHEAR LOAD TO SUBSTRATE. IF SUBSTRATE IS WOOD, 30# FELT PAPER OR MASTIC IS REQUIRED BETWEEN THE GROUT AND WOOD SUBSTRATE, OR AS APPROVED BY THE AUTHORITY HAVING JURISDICTION, COMPLYING WITH THE FBC.

6) ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO. USE ANCHORS OF SUFFICIENT LENGTH TO ACHIEVE THE EMBEDMENT SHOWN ON TABLE 1. THIS SHEET. NARROW JOINT SEALANT IS USED ON ALL FOUR CORNERS OF THE FRAME. EXTERIOR INSTALLATION ANCHORS SHOULD BE SEALED. OVERALL SEALING/FLASHING STRATEGY FOR WATER RESISTANCE OF INSTALLATION SHALL BE DONE BY OTHERS AND IS BEYOND THE SCOPE OF THESE INSTRUCTIONS.

7) SHIMS ARE REQUIRED AT EACH ANCHOR LOCATION WHERE THE PRODUCT IS NOT FLUSH TO THE SUBSTRATE. USE SHIMS CAPABLE OF TRANSFERRING APPLIED LOADS. WOOD BUCKS, BY OTHERS, MUST BE SUFFICIENTLY ANCHORED TO RESIST LOADS IMPOSED ON THEM BY THE DOOR, SIDELITE OR TRANSOM.

8) DESIGN PRESSURES:

- NEGATIVE DESIGN LOADS BASED ON STRUCTURAL TEST PRESSURE, FRAME ANALYSIS AND GLASS PER ASTM E1300.
- POSITIVE DESIGN LOADS BASED ON WATER TEST PRESSURE, STRUCTURAL TEST PRESSURE, FRAME ANALYSIS AND GLASS PER ASTM E1300.

9) THE ANCHORAGE METHODS SHOWN HAVE BEEN DESIGNED TO RESIST THE WIND LOADS CORRESPONDING TO THE REQUIRED DESIGN PRESSURE. THE 33-1/3% STRESS INCREASE HAS NOT BEEN USED IN THE DESIGN OF THIS PRODUCT. THE 1.6 LOAD DURATION FACTOR WAS USED FOR THE EVALUATION OF ANCHORS INTO WOOD. ANCHORS THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE FLORIDA BUILDING CODE FOR CORROSION RESISTANCE.

10) ALL RIGID AND CELLULAR P/V/C MANUFACTURED BY ENERGI FENESTRACION SOLUTIONS USA, INC. OR VISION EXTRUSION, LTD. HAS BEEN TESTED TO COMPLY WITH THE FLORIDA BUILDING CODE FOR PLASTICS.

11) REFERENCES: TEST REPORTS FTL-7401, 7416 & 7417.

TABLE 2:

Glass Type	Description
1	7/8" IG (1/8" TP Cap - Airspace - 1/8" TP)
2	7/8" IG (3/16" TP Cap - Airspace - 3/16" TP)
3	1-3/16" LG (1/8" TP Cap - Airspace - 1/8" AN - .090" PVB - 1/8" AN)
4	1-3/16" LG (3/16" TP Cap - Airspace - 1/8" AN - .090" PVB - 1/8" AN)
5	1-3/16" LG (1/8" TP Cap - Airspace - 3/16" AN - .090" PVB - 3/16" AN)

PVB = KURARAY TROSIFOL PVB INTERLAYER BY KURARAY AMERICA, INC.
AN = ANNEALED
TP = TEMPERED

TABLE 1:

Group	Anchor	Substrate	Min. Edge Distance	Min. Embedment
A	3/16" Ultracon+	Concrete (min. 3 ksi)	1-1/8"	1-3/4"
		Ungrouted CMU, (ASTM C90)	1"	1-1/4"
		P.T. Southern Pine (SG=0.55)	1/2"	1-3/8"
		Aluminum, 6063-T5	5/16"	0.063"
B	#10 Steel SMS (G5) #10 410 S.S. SMS #10 18-8 S.S. SMS	Steel, A36*	5/16"	0.063"
		Steel Stud, A663 Gr. 33*	5/16"	0.063"
		P.T. Southern Pine (SG=0.55)	1/2"	1-3/8"
		Ungrouted CMU, (ASTM C90)	2-1/2"	1-1/4"
C	1/4" Ultracon+	Ungrouted CMU, (ASTM C90)	1-1/16"	1-1/4"
		P.T. Southern Pine (SG=0.55)	9/16"	1-3/8"
		Aluminum, 6063-T5*	3/8"	0.071"
		Steel, A36*	3/8"	0.071"
D	1/4" 410 S.S. CreteFlex	Steel Stud, A663 Gr. 33*	3/8"	0.071" (14 Ga)
		P.T. Southern Pine (SG=0.55)	1"	1-3/8"
		GROUTED CMU, (ASTM C-90)	1-1/8"	1-3/4"
		Concrete (min. 3 ksi)	1-1/4"	1-3/8"
E	1/4" 410 S.S. Aggre-Gator	Concrete (min. 3.35 ksi)	1"	1-3/4"
		Ungrouted CMU, (ASTM C-90)	2-1/2"	1-1/4"
		P.T. Southern Pine (SG=0.55)	1"	1-3/8"
		Concrete (min. 3.27 ksi)	1-1/2"	1-3/8"
F	1/4" Ultracon+	Ungrouted CMU, (ASTM C-90)	4"	1-1/4"
		Concrete (min. 3 ksi)	2-1/2"	1-3/8"
		Concrete (min. 3.35 ksi)	2-1/2"	1-3/4"
		Concrete (min. 3.35 ksi)	2-1/2"	1-3/4"

- 1) * MIN. OF 3 THREADS BEYOND THE METAL SUBSTRATE.
- 2) UNROUTED CMU VALUES MAY BE USED FOR GROUTED CMU APPLICATIONS.
- 3) ALL ANCHOR HEAD TYPES ARE ACCEPTABLE.

TABLE A:

Product	Size	DP	Product Rating
Mullion	96"	+/-70 psf	DP +/-70
Door	38-3/4" x 96" (X) 76" x 96" (XX)	+/-70 psf	R-PG70
Sidelite or Transom	40" x 111" 111" x 40"	+/-70 psf	R-PG70

GUIDE TO SHEETS:

GENERAL NOTES.....	1
ELEVATIONS.....	2
GLAZING DETAILS.....	3
DESIGN PRESSURES.....	4-5
ANCHORAGE.....	4-5
INSTALLATION.....	6-8
EXTRUSION PROFILES.....	9
PARTS LIST.....	10
CORNER DETAILS.....	10
HARDWARE DETAILS.....	11

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 460-1600

PGT
Custom Windows and Doors
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 460-1600

REGISTRATION #29296

DATE: 06/12/11

DESIGNER: A. MORLESIN

1 OF 11

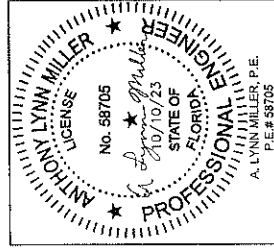
FD5455

GENERAL NOTES.

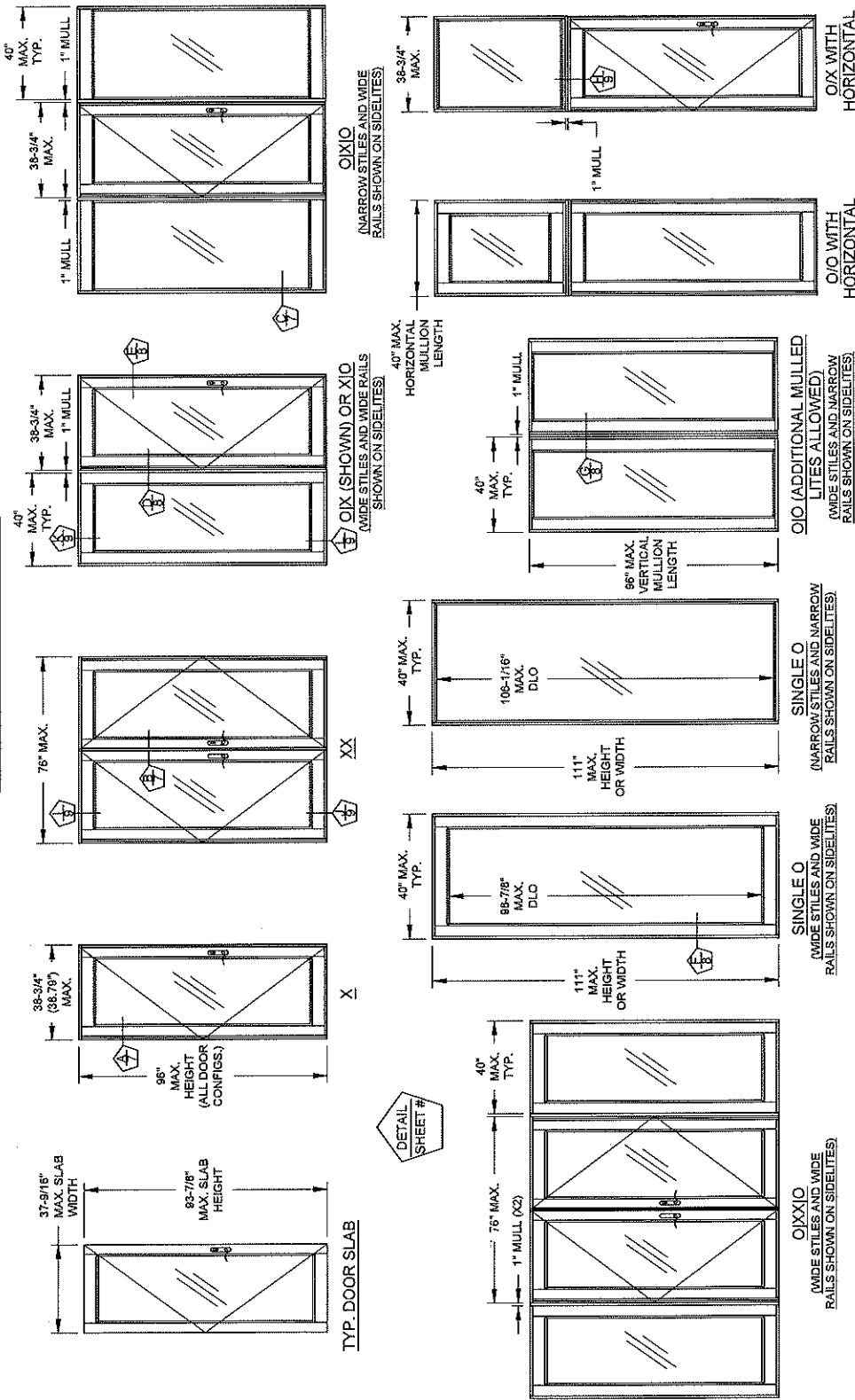
VINYL FRENCH DOOR (N)

REVISION:

E) REMOVE 1/4" & 3/16" ULTRA CON



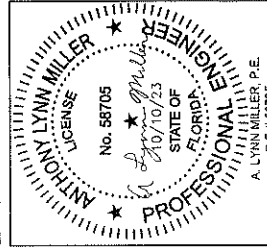
EXAMPLE CONFIGURATIONS

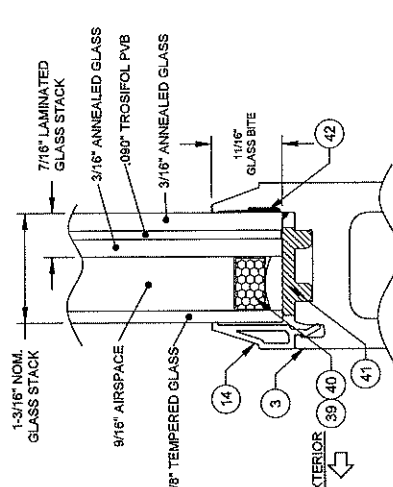
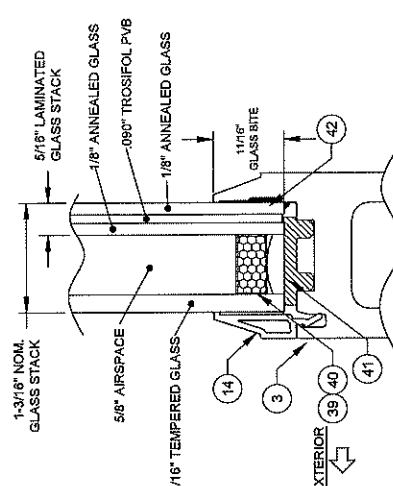
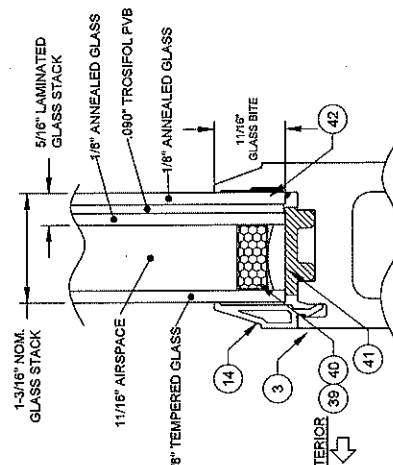
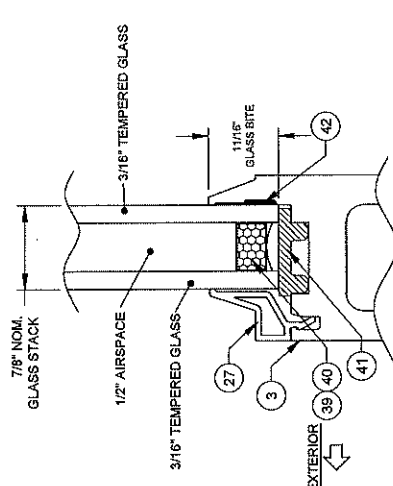
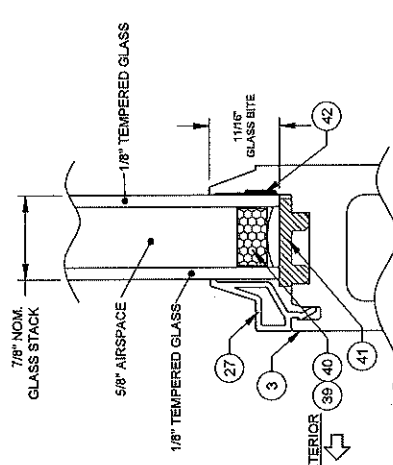


- NOTES:
- 1) SINGLE DOORS MAY BE LEFT OR RIGHT-HANDED.
 - 2) MULLED STILES ARE STANDARD 1" FRENCH DOOR MULLED STILES PER THIS APPROVAL.
 - 3) MULLED CONFIGURATIONS NOT SHOWN MAY BE POSSIBLE USING OTHER MULLED TYPES. SEE SEPARATE APPROVAL.
 - 4) FRENCH DOOR MULLED STILE IS LIMITED TO 96" IN VERTICAL APPLICATIONS AND 40" IN HORIZONTAL APPLICATIONS.
 - 5) NARROW OR WIDE STILES AND RAILS MAY BE MIXED WITHIN THE SAME SLITR OR MULLED ASSEMBLY.
 - 6) ADDITIONAL CONFIGURATIONS USING THE 1" FRENCH DOOR MULLED STILE ARE POSSIBLE. USE THE ABOVE DRAWINGS AS A REFERENCE FOR SIZE LIMITATIONS.

E) NO CHANGES IN THIS SHEET.

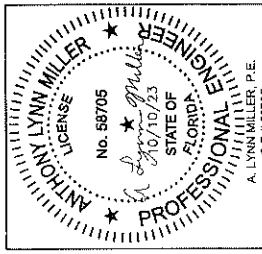
Prepared by A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1800	Custom Windows and Doors 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1800	REGISTRATION #29296	Date: 06/12/11	Disc: 2 OF 11	Rev: M
PGT EXAMPLES CONFIGURATIONS. VINYL FRENCH DOOR (NI) FD5456FPA-NI					





E) NO CHANGES IN THIS SHEET.

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VINYL FRENCH DOOR (N) 06/12/11	GLASS TYPES. 3 OF 11
F05455 13/05	3 OF 11 F05455FPA-NI 06/12/11



SINGLE DOOR INSTALLATION (X)

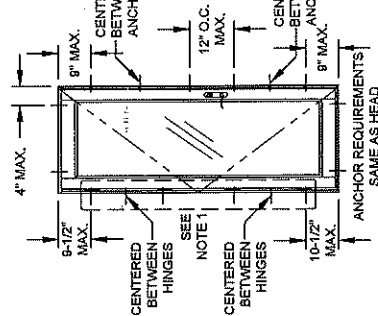
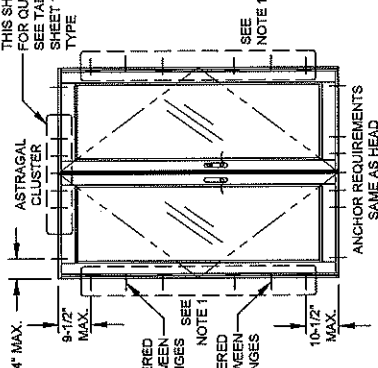


TABLE 3:
DOOR DESIGN PRESSURE

+50.0 PSF	Glass Types 1, 3, 4
+70.0 PSF	Glass Type 2

DOUBLE DOOR INSTALLATION (XX)



XX (USING ASTRAGAL)

TABLE 4:
XX Door: Astragal Cluster Anchors Required @ Head & Sill

Door Height (in)	Door Width (in)							
	48	60	72	78	84	96	108	120
80	4	4	4	4	4	4	4	4
96	4	4	4	4	4	4	4	4

TRANSOM-TO-DOOR (X/O) OR TRANSOM-TO-SIDELITE (O/O) MULLION ATTACHMENT & INSTALLATION

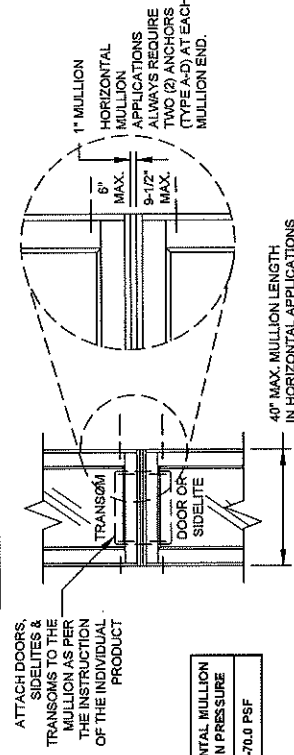


TABLE 7:
HORIZONTAL MULLION
DESIGN PRESSURE

+70.0 PSF

SIDELITE-TO-SIDELITE MULLION INSTALLATION (O/O, O/O/O, ETC.)

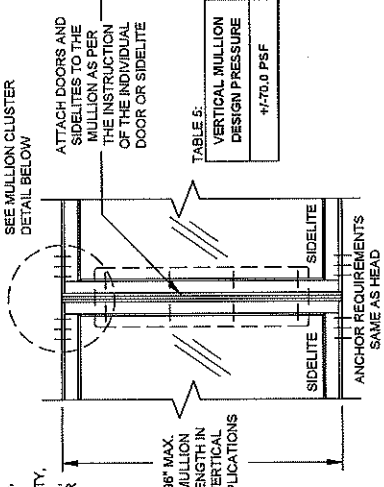


TABLE 5:
VERTICAL MULLION
DESIGN PRESSURE

+70.0 PSF

SIDELITE-TO-DOOR MULLION INSTALLATION (X/O, O/X, XX, O/X/O, X/O/X, OXX/O, ETC.)

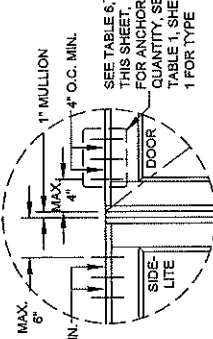
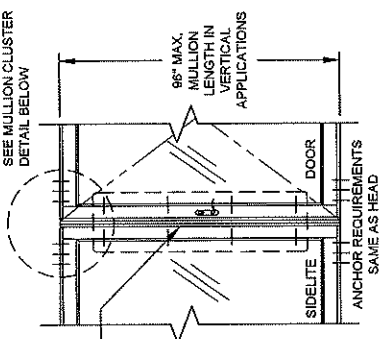


TABLE 6:
Anchors Required for a Vertical Mullion (each mullion end)

Mullion Height (in)	Door or Sidelite/Transom Width (in)							
	12	24	32	36	40	48	60	72
80	1	2	2	2	2	2	2	2
96	1	2	2	2	2	2	2	2

- INSTRUCTIONS:
- 1) DOOR HINGE JAMBS OF ALL HEIGHTS TO ALWAYS BE ANCHORED WITH SIX ANCHORS. SEE TABLE 1, FOR ALL APPROVED ANCHORS. FOUR OF THE SIX ANCHORS MUST BE INSTALLED THROUGH THE HINGES, ONE AT EACH HINGE LOCATION (RECOMMENDED #10 FLATHEAD SMS OR 3/16" FLATHEAD ULTRACON FOR EACH HINGE ANCHOR).
 - 2) FOR A MULLED UNIT, DETERMINE THE DESIGN PRESSURE OF EACH COMPONENT IN THAT CONFIGURATION. FOR EXAMPLE, ON AN "X/O" CONFIGURATION, THE DP FOR THE DOOR, THE MULLION AND THE SIDELITE MUST EACH BE DETERMINED. THE LOWEST DP APPLIES TO THE ENTIRE ASSEMBLY.
- NOTES:
- 1) SINGLE DOOR MAY BE LEFT OR RIGHT-HANDED.
 - 2) MULLIONS SHOWN ARE STANDARD 1" FRENCH DOOR MULLIONS.
 - 3) MULLED CONFIGURATIONS NOT SHOWN MAY BE POSSIBLE USING OTHER MULLION TYPES. SEE SEPARATE APPROVAL. THE LOWEST COMPONENT DP IS TO BE THE OVERALL ASSEMBLY DP.
 - 4) FRENCH DOOR MULLION IS LIMITED TO 96" IN VERTICAL APPLICATIONS AND 48" IN HORIZONTAL APPLICATIONS.
 - 5) NARROW OR WIDE STILES AND RAILS MAY BE MIXED WITHIN THE SAME SIDELITE/TRANSOM OR MULLED ASSEMBLY.
 - 6) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE SHORT OR LONG DIMENSION.

E) NO CHANGES IN
THIS SHEET.

PGT
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600

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REGISTRATION #29286
Date 06/12/11
By A. MORELESIN
Rev. 11
FD5455
4 OF 11

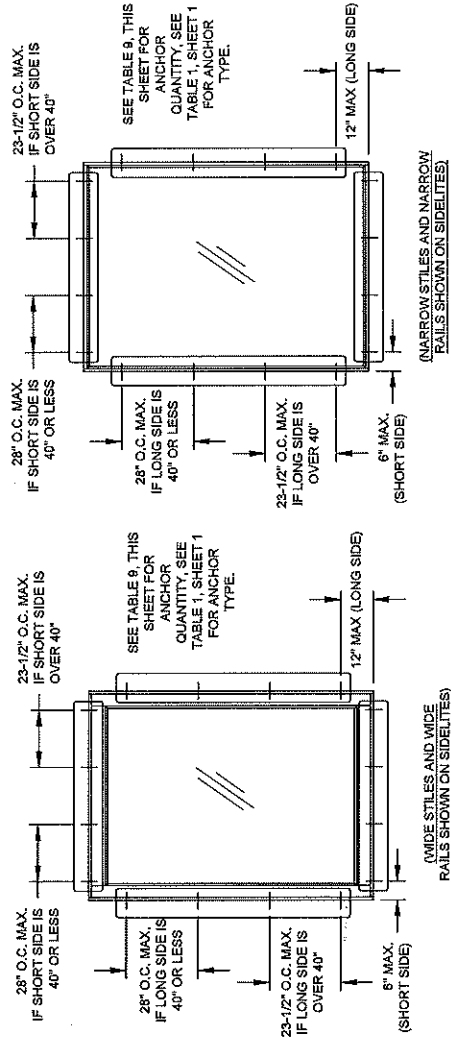
ANTHONY LYNN MILLER
No. 58705
10/10/23
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E. #58705

SIDELITE/TRANSOM INSTALLATION (C)

TABLE 8:

WINDOW DESIGN PRESSURE	Glass Types 1, 2, 5
+/-70.0 PSF	

NOTE: GLASS TYPE 5 LIMITED TO MAX. OF 28 SQ.FT.



- NOTES:
- 1) NARROW OR WIDE STILES AND RAILS MAY BE MIXED WITHIN THE SAME SIDELITE/TRANSOM OR MULLED ASSEMBLY.
 - 2) SIDELITE/TRANSOM MAY BE A SINGLE, STAND-ALONE UNIT.
 - 3) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE SHORT OR LONG DIMENSION.

TABLE 9:

		Sidelite/Transom Anchor Quantity															
		Long Side (in)								Short Side (in)							
		63-3/16	66-3/8	68	70	72	76	78	82	84	88	92	96	98	104	108	111
		Anchor A	Anchor B-D	Anchor A	Anchor B-D	Anchor A	Anchor B-D	Anchor A	Anchor B-D	Anchor A	Anchor B-D	Anchor A	Anchor B-D	Anchor A	Anchor B-D	Anchor A	Anchor B-D
24	Short Side	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Long Side	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
28	Short Side	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Long Side	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
32	Short Side	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Long Side	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
36	Short Side	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Long Side	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
38-3/4	Short Side	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Long Side	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
40	Short Side	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Long Side	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

Prepared by A. LYNN MILLER
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N. VENICE, FL 34275
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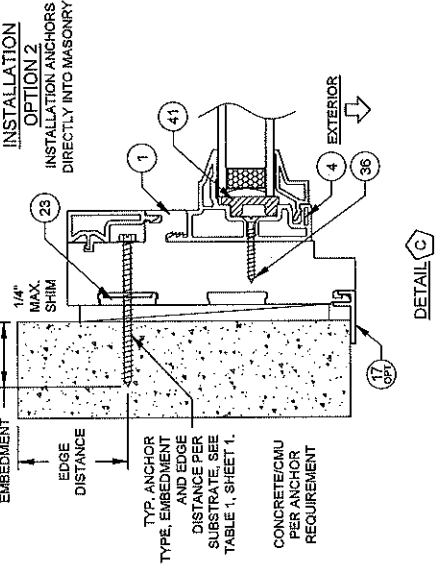
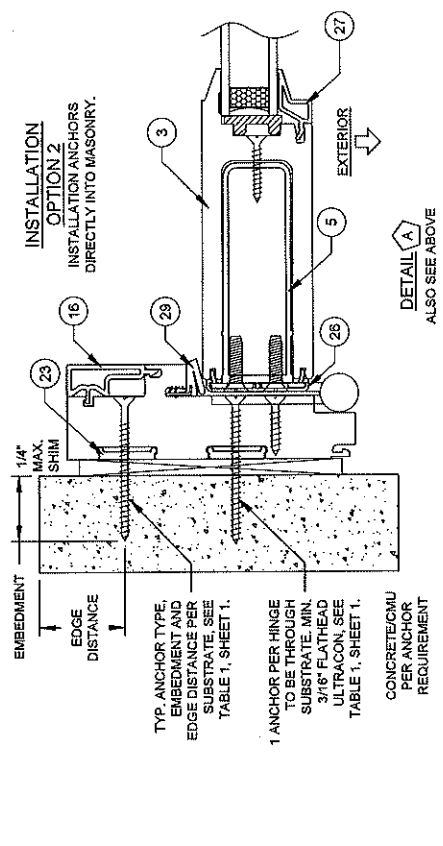
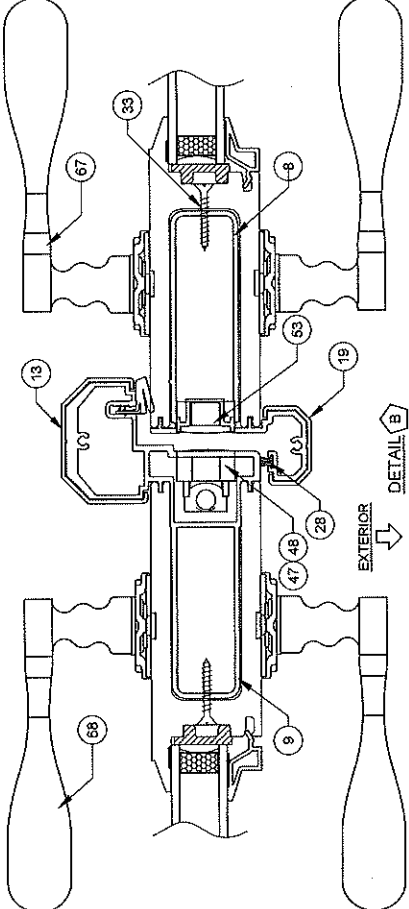
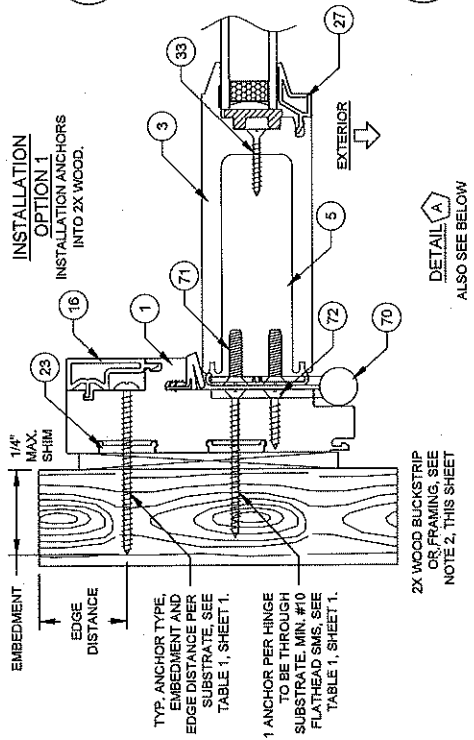
DP & ANCHORAGES
VINYL FRENCH DOOR (NI)
Date 06/12/11
Drawn By A. MORLESIN
DWG No. FD5455FPA-NI
Rev. E

Sheet 5 OF 11
FD5455

ANTHONY LYNN MILLER
No. 58705
10/10/23
FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.#58705

REVISION:
E) NO CHANGES IN THIS SHEET.

INSTALLATION OPTION 1 INSTALLATION ANCHORS INTO 2X WOOD.

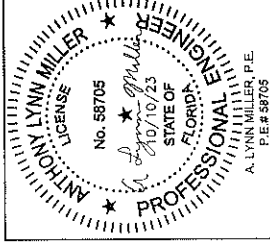


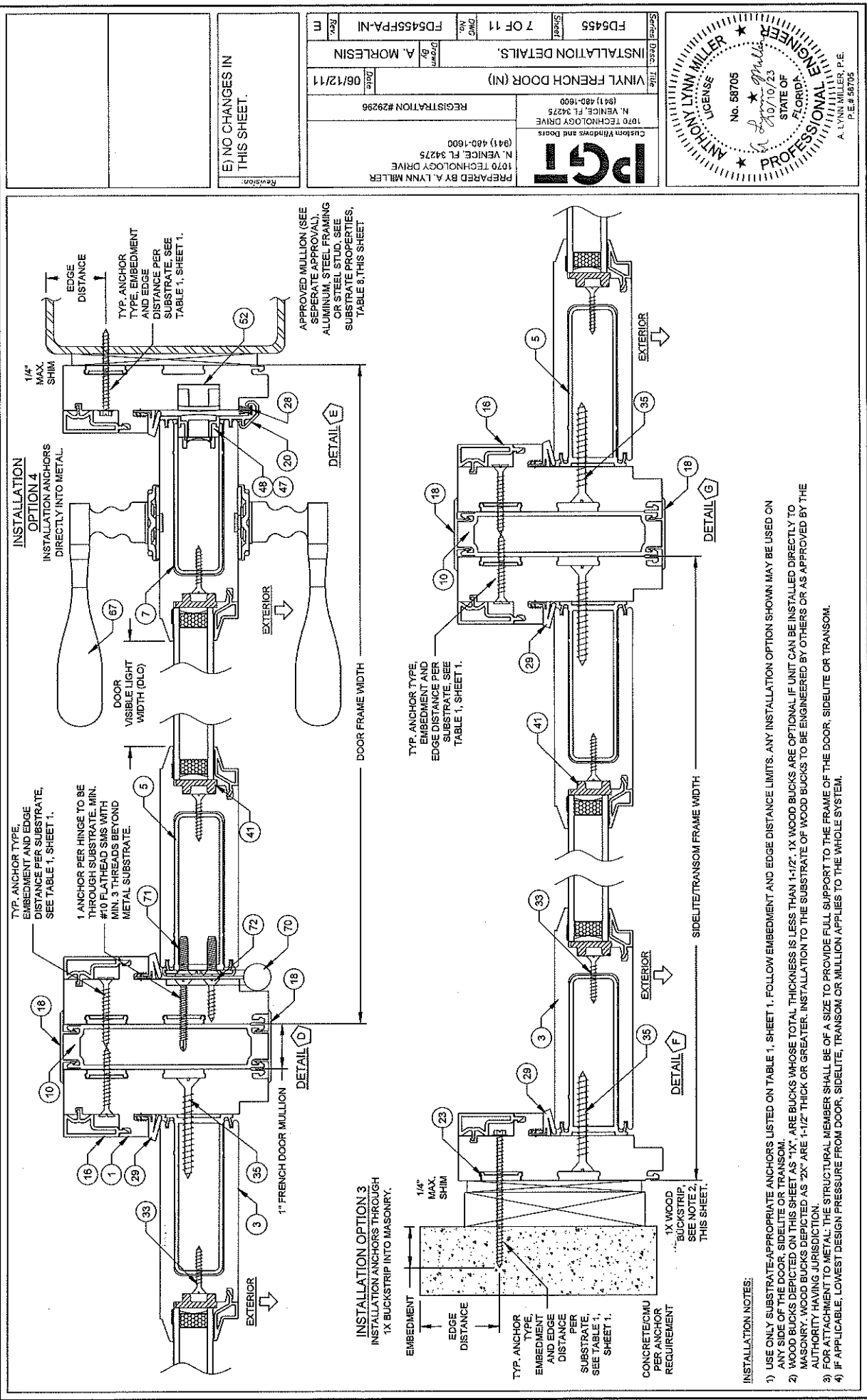
INSTALLATION NOTES:

- 1) USE ONLY SUBSTRATE-APPROPRIATE ANCHORS LISTED ON TABLE 1, SHEET 1. FOLLOW EMBEDMENT AND EDGE DISTANCE LIMITS. ANY INSTALLATION OPTION SHOWN MAY BE USED ON ANY SIDE OF THE DOOR, SIDELITE OR TRANSOM.
- 2) WOOD BUCKS DERIVED ON THIS SHEET AS "1X" ARE BUCKS WHOSE TOTAL THICKNESS IS LESS THAN 1-1/2". 1X WOOD BUCKS ARE OPTIONAL. IF UNIT CAN BE INSTALLED DIRECTLY TO MASONRY, WOOD BUCKS DEPICTED AS "2X" ARE 1-1/2" THICK OR GREATER. INSTALLATION TO THE SUBSTRATE OF WOOD BUCKS TO BE ENGINEERED BY OTHERS OR AS APPROVED BY THE AUTHORITY HAVING JURISDICTION.
- 3) FOR ATTACHMENT TO METAL: THE STRUCTURAL MEMBER SHALL BE OF A SIZE TO PROVIDE FULL SUPPORT TO THE FRAME OF THE DOOR, SIDELITE OR TRANSOM.
- 4) IF APPLICABLE, LOWEST DESIGN PRESSURE FROM DOOR, SIDELITE, TRANSOM OR MULLION APPLIES TO THE WHOLE SYSTEM.

E) NO CHANGES IN THIS SHEET.

PGT Custom Windows and Doors 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600		PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600
VINYL FRENCH DOOR (NI) 06/12/11	REGISTRATION #29296	INSTALLATION DETAILS. A. MORLESIN
Sheet 6 OF 11	Date 06/12/11	Project FD5455





Sheet	FD6455
Drawn	7 OF 11
By	FD6455FPA-NI
Check	A. MORLESIN
Date	06/12/11
Project	REGISTRATION #29296
Client	PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600
Company	PGT Custom Windows and Doors 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600

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

FD6455
7 OF 11
FD6455FPA-NI
A. MORLESIN
06/12/11
REGISTRATION #29296
PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
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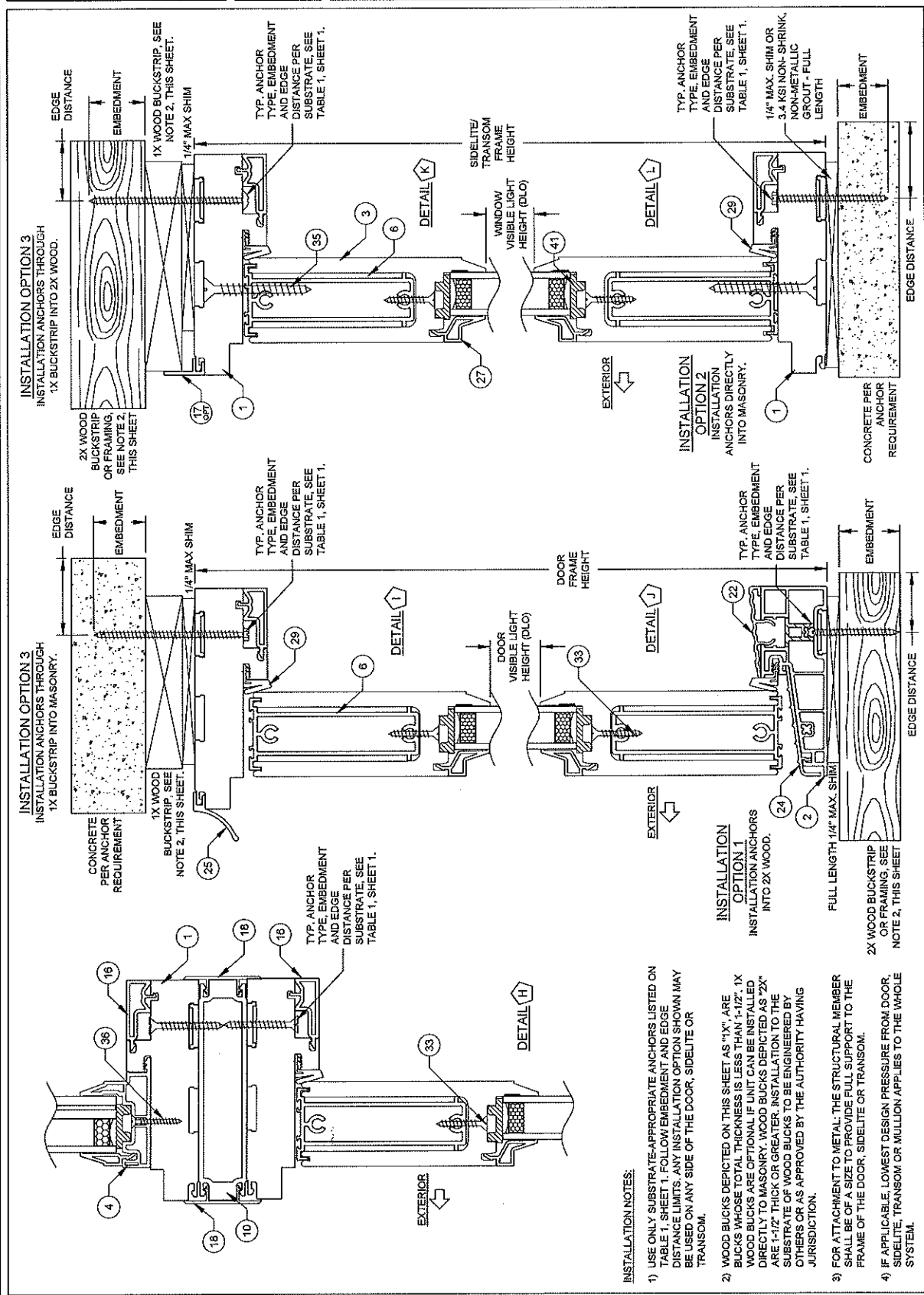
- INSTALLATION NOTES:**
- 1) USE ONLY SUBSTRATE-APPROPRIATE ANCHORS LISTED ON TABLE 1, SHEET 1. FOLLOW EMBEDMENT AND EDGE DISTANCE LIMITS. ANY INSTALLATION OPTION SHOWN MAY BE USED ON ANY SIDE OF THE DOOR, SIDELITE OR TRANSOM.
 - 2) WOOD BUCKS DEPICTED ON THIS SHEET AS "1X", ARE THICKS WHOSE TOTAL THICKNESS IS LESS THAN 1-1/2". 1X WOOD BUCKS ARE OPTIONAL. IF UNIT CAN BE INSTALLED DIRECTLY TO MASONRY, WOOD BUCKS DEPICTED AS "2X" ARE 1-1/2" THICK OR GREATER. INSTALLATION TO THE SUBSTRATE OF WOOD BUCKS TO BE ENGINEERED BY OTHERS OR AS APPROVED BY THE AUTHORITY HAVING JURISDICTION.
 - 3) FOR ATTACHMENT TO METAL: THE STRUCTURAL MEMBER SHALL BE OF A SIZE TO PROVIDE FULL SUPPORT TO THE FRAME OF THE DOOR, SIDELITE OR TRANSOM.
 - 4) IF APPLICABLE, LOWEST DESIGN PRESSURE FROM DOOR, SIDELITE, TRANSOM OR MULLION APPLIES TO THE WHOLE SYSTEM.

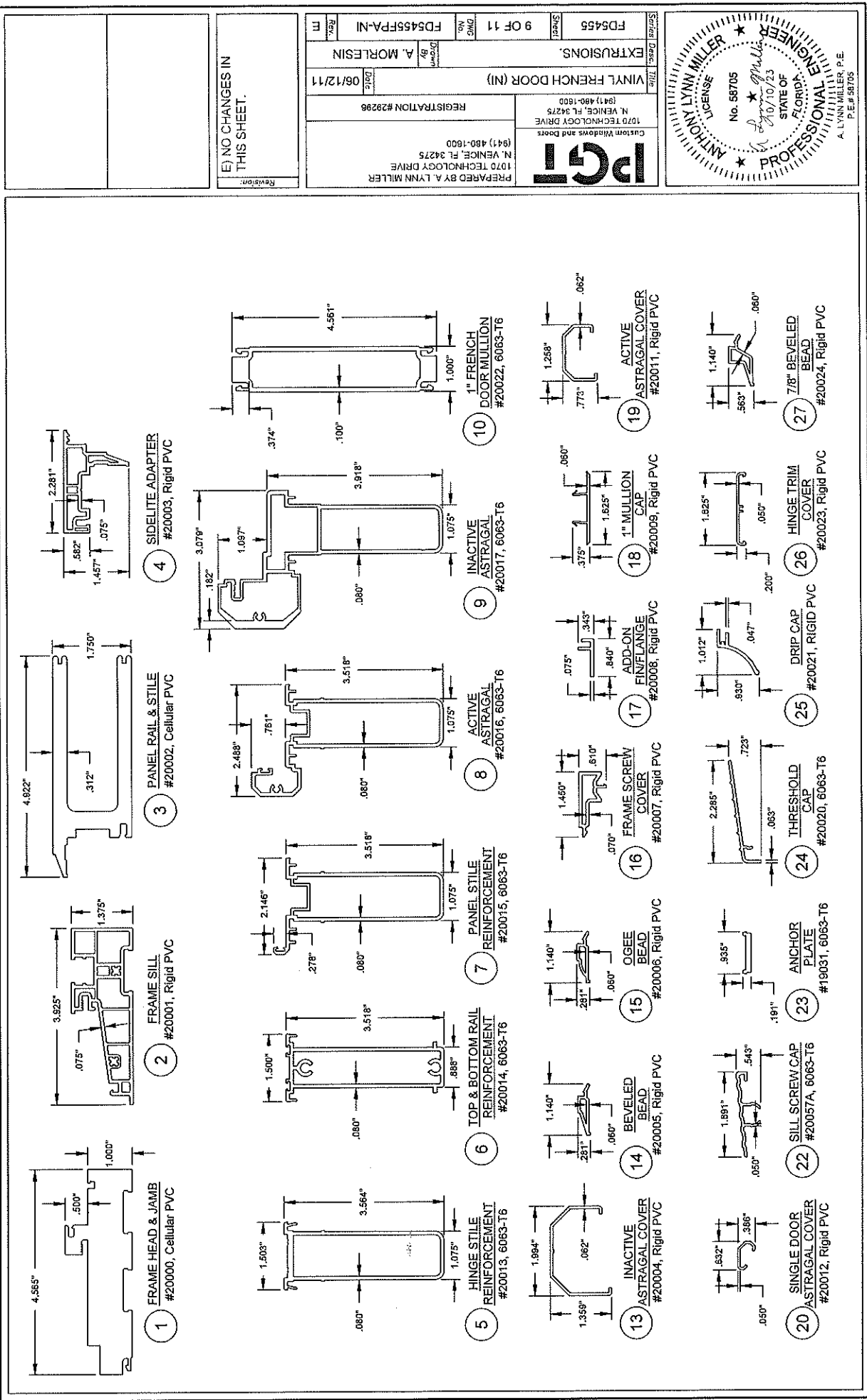
Title VINYL FRENCH DOOR (M)	
Project No. 8 OF 11	Date 06/12/11
Drawn By A. MORLESIN	
Check FD6455	
Revision E) NO CHANGES IN THIS SHEET.	

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Custom Windows and Doors 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600	
REGISTRATION #29296	

State of FLORIDA No. 58705 A. LYNN MILLER, P.E. PE#58705	
ANTHONY LYNN MILLER LICENSED PROFESSIONAL ENGINEER	

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





Revision: _____

E) NO CHANGES IN THIS SHEET.

REGISTRATION #29296

DATE 06/12/11

By: A. MORLESIN

Check: _____

9 OF 11

FD5455

Spec: _____

PREPARED BY A. LYNN MILLER

1070 TECHNOLOGY DRIVE

N. VENICE, FL 34275

(941) 480-1800

PGT

Custom Windows and Doors

1070 TECHNOLOGY DRIVE

N. VENICE, FL 34275

(941) 480-1800

ANTHONY LYNN MILLER

PROFESSIONAL ENGINEER

FLORIDA

STATE OF

10/10/23

No. 58705

P.E. #58705

PGT
Custom Windows and Doors
1070 TECHNOLOGY DRIVE
N. VENICE, FL 33425
(941) 486-1600

REGISTRATION #29286

DATE: 06/12/11

DESIGN: A. MORLESIN

BY: A. MORLESIN

10 OF 11

FD5455

BOM & ASSEMBLY DETAILS.

VINYL FRENCH DOOR (N)

PROFESSIONAL ENGINEER
ANTHONY LYNN MILLER
No. 58705
10/10/23
STATE OF FLORIDA
A. LYNN MILLER, P.E.
P.E.# 58705

E) NO CHANGES IN THIS SHEET.

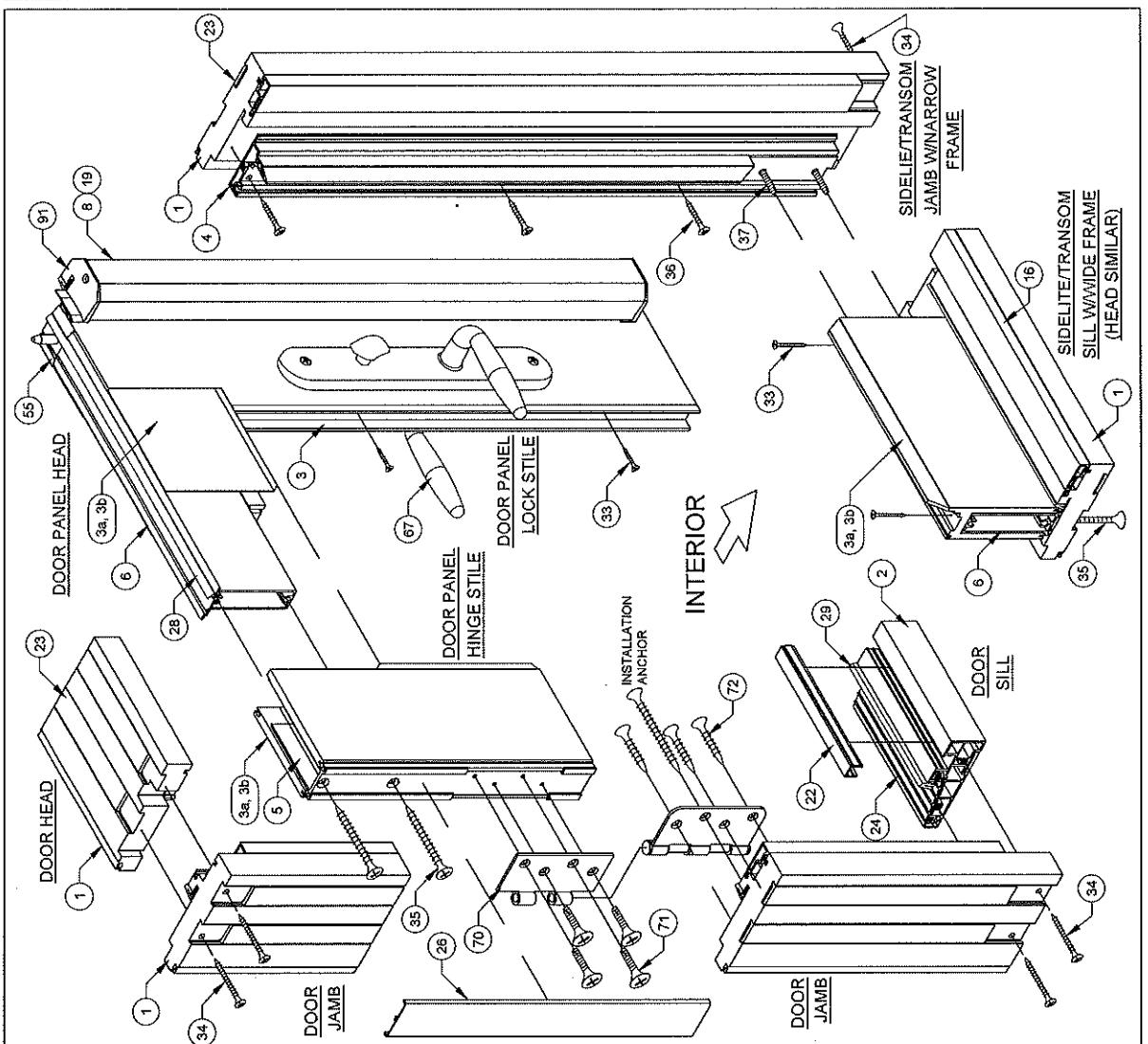


TABLE 10:

#	PGT Part #	Description	Material
1	20000	Door & Sidelite/Transom Main Frame	Cellular PVC
2	20001	Door Frame Sill	Rigid PVC
3	20002	Panel Sillie & Rail	Cellular PVC
4	20003	Sidelite Adapter	Rigid PVC
5	20013	Hinge Sillie Reinforcement	Alum. 6063-T6
6	20014	Panel Rail Reinforcement	Alum. 6063-T6
7	20015	Panel Sillie Reinforcement	Alum. 6063-T6
8	20016	Active Astragal	Alum. 6063-T6
9	20017	Inactive Astragal	Alum. 6063-T6
10	20022	1" French Door Mullion	Alum. 6063-T6
13	20004	Inactive Astragal Cover	Rigid PVC
14	20005	1-3/16" Bevel Bead	Rigid PVC
15	20006	1-3/16" Open Bead	Rigid PVC
16	20007	Screw Cover	Rigid PVC
17	20008	Add-on Fin/Flange	Rigid PVC
18	20009	1" Mullion Cap	Rigid PVC
19	20011	Active Astragal Cover	Rigid PVC
20	20012	Single Door Astragal Cover	Rigid PVC
22	20057A	Sill Screw Cover	Rigid PVC
23	19031	Anchor Plate	Alum. 6063-T6
24	20020	Threshold Cover	Rigid PVC
25	20021	Drp Cap	Rigid PVC
26	20023	Hinge Trim Cover	Rigid PVC
27	20024	7/8" Beveled Bead	Rigid PVC
28	1671/3	Pin Weatherstrip	Pin Weatherstrip
29	1671/3	Frame Weatherstrip	Frame Weatherstrip
31	714JFP1410XW	Frame-to-Wide Slab Screw: #14 X 1-1/2" Phil. FH	Stainless Steel
32	75101X	Frame-to-Narrow Slab Screw: #10 X 1" Phil. FH	Stainless Steel
33	78X1FP1410	Reinforcement Screw: #8 X 1" Phil. FH	Stainless Steel
34	7102FPAX	Frame Assembly Screw: #10 X 2" Phil. FH	Stainless Steel
35	714JFP1410XW	W-W Slab Assembly Screw: #14 X 1-1/2" Phil. FH	Stainless Steel
36	75101X	N-W Slab Assembly Screw: #10 X 1" Phil. FH	Stainless Steel
37	71420X25	N-W Slab Assembly Screw: #14 X 2-1/4" Phil. FH	Stainless Steel
39		OneSeal Spacer	OneSeal Spacer
40	62689	SuperSpacer	EPDM
41	72002B	Setting Block: (Dim = 85 +/- 5)	Silicone
42		Backdrilling: Dowel/91, 963, 965 or GE-1700	
43		Argon Gas	Argon Gas
44	6HL5140	Hot Melt Butyl	Hot Melt Butyl
47-73		see Hardware BOM, Table 9, Sheet 12	
90	20033	Inactive Astragal Cap	Acetal
91	20035	Active Astragal Cap	Acetal

DAY/LITE OPENING (DLO) SIZES

WHEN USING PART # 3: (WIDE RAILS OR STILES)
 X DOOR FRAME HEIGHT - 12.3 = DLO HEIGHT
 X DOOR FRAME WIDTH - 12.3 = DLO WIDTH
 (XX DOOR FRAME HEIGHT / 2) - 12.1 = DLO HEIGHT
 (XX DOOR FRAME WIDTH / 2) - 11.7 = DLO WIDTH
 SLIT/IR FRAME HEIGHT - 12.1 = DLO HEIGHT
 SLIT/IR FRAME WIDTH - 12.1 = DLO WIDTH
 WHEN USING PART # 4: (NARROW RAILS OR STILES)
 SLIT/IR FRAME HEIGHT - 4.9 = DLO HEIGHT
 SLIT/IR FRAME WIDTH - 4.9 = DLO WIDTH

HARDWARE DETAILS & LOCATIONS

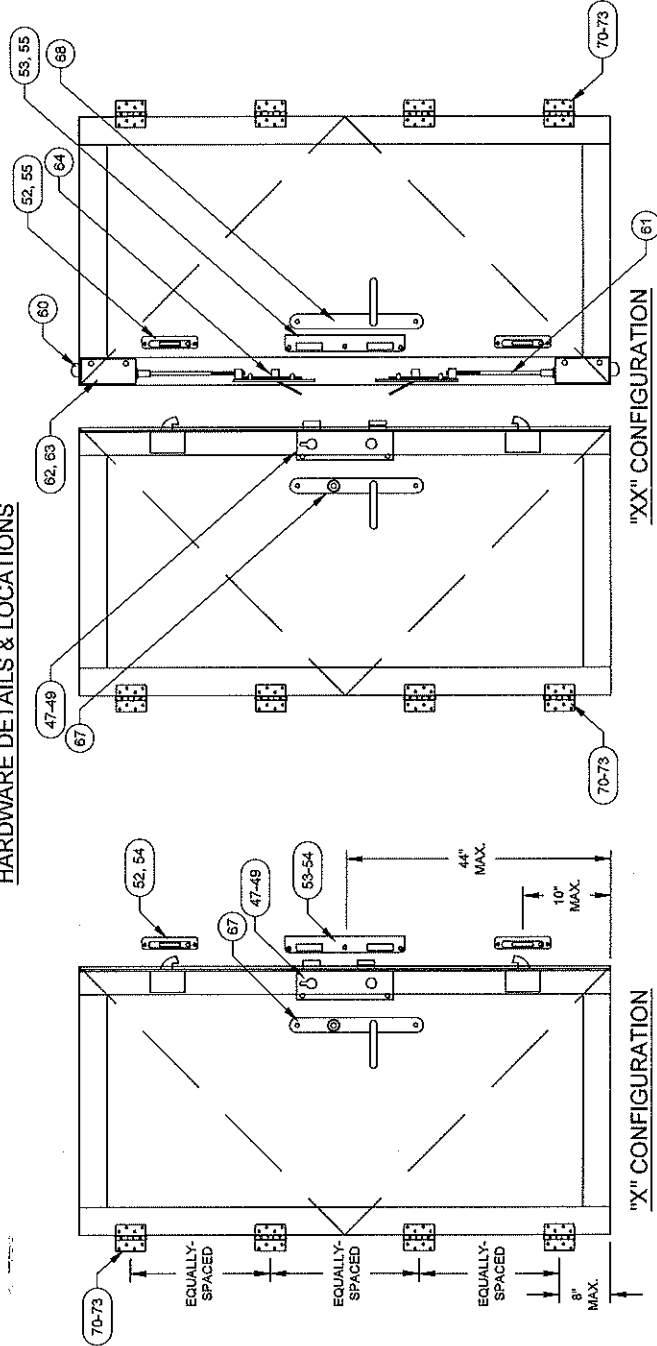
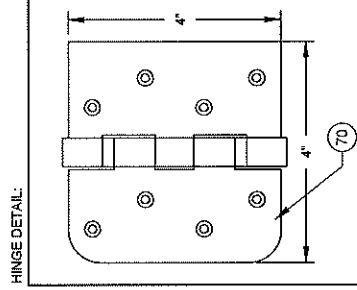


TABLE 11:

#	P/GT Part #	Description	Material
47	668032701	P3000 3-PT Rhino Lock (65")	
48	668032702	P3000 3-PT Rhino Lock (over 65")	
49	71032X1FPFX	Rhino Lock Screw, 10-32 X 1" Phil. FH	
52	20027	Adjustable Strike Plate Assembly	Stainless Steel
53	20028	Center Strike Plate Assembly	Stainless Steel
54	75101X	Strike Plate Screw, (XX) #10 X 1" Phil. FH	410 S.S.
55	76X12PFX	Strike Plate Screw, (XX) #8 X 1 1/2" Phil. FH	410 S.S.
60	7561202	Flush Bolt (XX)	
61	7603725	Flush Bolt Rod (XX)	
62	420034	Flush Bolt Guides (XX)	
63	7832X12FPXP	Flush Bolt Screw, 8-32 X 1 1/2" Phil. FH	
64	48033N	Guide Pin (XX)	
65	78036	Flush Bolt Strike Plate (XX)	Stainless Steel
66	7832X12FPXP	Flush Bolt Strike Plate Screw, (XX) #8 X 3/4" Phil. FH	410 S.S.
67	varies	Handle/Lever	
68	varies	Dummy Handle/Lever	
70	20025	Butt Hinge	Stainless Steel
71	71032X1FPFX	Hinge, Slab Screw, #10-32 X 1" Phil. FH	Stainless Steel
72	75101X	Hinge, Frame Screw, #10 X 1" Phil. FH	Stainless Steel



Revision:
E) NO CHANGES IN THIS SHEET.

PGT Custom Windows and Doors 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600		PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600
VINYL FRENCH DOOR (NI) Date: 06/12/11 By: A. MORLESIN Drawn: FDS455FPA-NI Rev: M	HARDWARE: 11 OF 11 DWG No.	Sheet: FDS455

