Tray 5
33-5023-008-0190

Approved
Edward Silva, Village Manager
Date

VILLAGE OF PALMETTO BAY
9705 E. HIBISCUS STREET
PALMETTO BAY, FLORIDA 33157
(305) 259-1234 Fax: (305) 259-1290

REQUEST FOR PUBLIC RECORDS

Requests are filled in accordance with the provisions of Chapters 119 and 257, Florida Statutes.

DATE: 6/25/18

NAME: Maday de Armas
maday de armas

COMPANY:

ADDRESS:

PHONE: 3/972-6717 FAX:

EMAIL: madaydearmas@yahoo.com

REQUEST (Attach additional page, if necessary): Copies of the following documents:

Permit # BLD-2018-1670
- need permit card
- permit Application
- Plans & NOAS

* *

FOR USE BY VILLAGE STAFF ONLY

TRACKING NO.: 2018-188

DATE FORWARDED: 6-25-18

ASSIGNED DEPT: Building

DATE REQUEST FILLED: 6/28/18

NUMBER OF COPIES: 55

ESTIMATED TIME (IF APPLICABLE):

ESTIMATED COST:

HOW WAS REQUEST FILLED?

IF NOT FILLED, REASON:

BY:

Permit Action Report
VILLAGE OF PALMETTO BAY

Permit #: BLD-2018-1670
Master permit #:

Permit type: bwnd - WINDOWS/DOORS (RESIDEN
Routing queue: b7 - FLAT ROOF /LOW SLOPE

Address: 7440 SW 139TH TER
PALMETTO BAY, FL 33158

Group # - Name	Action Code	Action Description	Completion Date	Completion Code	Completed By	Comments
1 - PERMIT COUNTER	intake	APPLICATION INTAKE	2/2/2018	apprve	gbilbraut	
1 - PERMIT COUNTER	cuff	COLLECT UPFRONT FEE	2/2/2018	apprve	gbilbraut	
2 - PLANS PROCESSING	routeplans	ROUTE PLANS FOR REVIEW	2/2/2018		gbilbraut	
3 - BUILDING REVIEW	brev	BUILDING REVIEW	2/2/2018	apprve	ogarcia	02.02.18 Building approved Orestes Garcia gb
4 - PLANS PROCESSING	compcomn	COMPILE COMMENTS	2/2/2018		gbilbraut	
4 - PLANS PROCESSING	notifycust	NOTIFY CUSTOMER	2/2/2018		gbilbraut	
5 - PERMIT COUNTER	verifycont	VERIFY CONTRACTOR	2/2/2018		gbilbraut	
6 - PLANS PROCESSING	notifycust	NOTIFY CUSTOMER	2/2/2018	apprve	ssumpter	
7 - PERMIT COUNTER	collissue	COLLECT FEES/ISSUE PERMIT	2/2/2018	apprve	ssumpter	
8 - INSPECTIONS	700	NOC	3/2/2018	apprve	wmaltby	
8 - INSPECTIONS	779	WOOD BUCKS	3/2/2018	apprve	wmaltby	
8 - INSPECTIONS	795	DOORS FILL CELLS	3/2/2018	n/a	wmaltby	
8 - INSPECTIONS	723	WINDOW IN-PROGRESS	3/2/2018	apprve	wmaltby	
8 - INSPECTIONS	780	DOOR IN-PROGRESS	3/2/2018	apprve	wmaltby	
8 - INSPECTIONS	789	MULLIONS & CLIPS	3/2/2018	apprve	wmaltby	
8 - INSPECTIONS	738	DOOR FINAL	6/18/2018	denied	wmaltby	Denied by Kassner No permit SED floor track is a trip hazard.
8 - INSPECTIONS	738	DOOR FINAL				
8 - INSPECTIONS	734	WINDOW FINAL	6/18/2018	denied	wmaltby	Denied by Kassner No permit
8 - INSPECTIONS	734	WINDOW FINAL				
8 - INSPECTIONS	758	FINAL STRUCTURAL BUILDING	6/18/2018	denied	wmaltby	Denied by Kassner
8 - INSPECTIONS	758	FINAL STRUCTURAL BUILDING				

Village of Palmetto Bay

PERMIT CARD

PERMIT TYPE WINDOWS/DOORS (RESIDENTIAL/COM

PERMIT NUMBER BLD-2018-1670

OWNER RESIDENT, RESIDENT

ISSUE DATE 02/02/2018

ADDRESS 7440 SW 139TH TER

EXPIRATION DATE 12/15/2018

CONTRACTOR SABA CONSTRUCTION CO INC

DESCRIPTION INSTALLATION OF (4) DOORS AND (10) WINDOWS 6TH EDITION FBC 2017

INSPECTION TYPE		INSPECTOR	DATE	COMMENTS
700	NOC			
723	WINDOW IN-PROGRESS			
734	WINDOW FINAL			
738	DOOR FINAL			
758	FINAL STRUCTURAL BUILDING			
779	WOOD BUCKS			
780	DOOR IN-PROGRESS			
789	MULLIONS & CLIPS			
795	DOORS FILL CELLS			

ADDITIONAL COMMENTS

No inspections will be made unless Permit Card is displayed and approved plans are available

Warning to owner: Your failure to record a Notice of Commencement may result in your paying twice for improvements to your property. If you intend to obtain financing, consult with your lender or an attorney before recording your Notice of Commencement. For inspection, call 305-259-1250. Please ensure that yourlicense and insurance remain current. No inspection will be provided if a lapse in coverage is discovered.

INSPECTION REQUEST LINE (305) 259-1253 3:00PM DEADLINE

WALK IN

Village of Palmetto Bay Permit Application

Department of Building & Capital Projects
9705 E. Hibiscus Street
Palmetto Bay, Florida 33157
Phone: (305) 259-1250 Fax: (866) 927-5576 Inspections: (305) 259-1253

Trad S

GENERAL INFORMATION Please read these instructions carefully before submitting the work for review.

This application must be completed and signed by both the property owner and qualifier. Both of these signatures must be notarized. Please print legibly or type in order not to delay your application. For roofing permits, in addition to this permit you must also fill out a roofing permit application. Express permits require an additional fee and will only be accepted between the hours of 8:00 A.M. and 10:00 A.M., Monday through Friday. All other permits/plans must be dropped off before 4:30 p.m. for regular processing. During the processing of your application you may be asked to submit additional information. There may be additional permits and reviews required from other governmental agencies not affiliated with Palmetto Bay.

APPLICATION

Clerk's Initials	Plan Process Number	Master Permit Number	Subsidiary Permit Number(s)	Expiration Date
SB	BLD 2018-1676			

Job Address: 7440 SW 139 terr. Palmetto Bay, FL. 33158
Address Unit number City State Zip Code

Folio Number: 33-5023-008-0190

Lot: _____ Block: _____

Subdivision: _____ PB: _____ PG: _____

Current Use of Property: residence

Proposed Use of Property: RESIDENCE

Description of Work: replace 10 windows & doors (4)

Dumpster permit to be included? Yes _____ NO ✓

Zoning: _____ Square Feet: 374

Tenant Information: Unit Number:

Linear Feet: _____ Units: 1 Stories: 1

Value of Proposed Work: $25,000 Est. Bldg. Value: _____

Tax Assessed Value: _____

Flood Zone: _____ Base Floor Elev.: _____

Homeowner's Association: _____

I affirm that there ☐ are or ☐ are no restrictive covenants associated with the underlying property that would affect the pending application. Failure to disclose this information shall result in the immediate revocation of any type of permit or certificate of use/occupancy.

Check Permit Type		Check Permit Change		Check Type of Improvement			
Building	✓	Change of Contractor		New Construction		Deck/Concrete flatwork	
Electrical		Permit Renewal		Exterior Alteration		Window Replacement	
Mechanical		Plan Revision		Interior Alteration		Shutters	
Plumbing		Permit Extension		Attached Addition		Garage Doors	
LPGX		Supplement		Detached Addition		Storage Shed	
Roofing		Re-inspection Fee		Repair		Railings	
Fence		PACE Program		Repair due to Fire		Stairs	
Sign				Demolish		Windows/Doors	
Public Works				Screen Enclosure		Roofing	
Other				Driveway		Re-Roof	
				Fence		Seal-cote	
				Pool		Other	

02022018

Architect Information	Engineer Information
Name:	Name:
License Number:	License Number:
Address:	Address:
Telephone Number:	Telephone Number:
Email address	Email address

Property Owner	Contractor
Name: Ray Florente	Company Name Sabi Construction
Address: 7440 SW 139 terr.	Qualifier Hatem Bamleh
Home Telephone: 305.542.4613	License Number CGC 059579
Business Telephone:	Address 13132 SW. 57 terr. Miami 33183
Email Address dmetfab@gmail.com	Telephone Number 305.383.8386
Fax Number:	Fax Number

Plans Processing Contact Person	
Name:	Email:
Telephone Number:	

Bond Company (if applicable)	Mortgage Lender
Name:	Name:
Address:	Address:
City: State: Zip	City: State: Zip
Does Property have Homestead Exemption	Email Address

Classification Of Proposed Work

Residential ☐ Duplex ☐ Townhouse ☐ Multi Family ☐ Commercial ☐ Industrial ☐ Other ☐

Effective Code_____ Occupancy_____ Construction Type _____

Zoning: Variance Number: Remarks:

OWNER AFFIDAVIT

Application is hereby made to obtain a permit to do the work and installation as indicated. I certify that no work or installation has commenced prior to the issuance of a permit and that all work will be performed to meet the standards of all laws regulating construction in this jurisdiction. I understand that a separate permit must be secured for **ELECTRICAL, MECHANICAL, PLUMBING, SIGNS, WELLS, POOLS, ROOFING, SHUTTERS, WINDOWS, FURNACES, BOILERS, HEATERS, TANKS, FENCE, DRIVEWAYS and AIR CONDITIONERS, ETC.** In addition to the requirements of this permit, there may be additional restrictions found in the Public Records, and there may be additional permits required from other governmental entities.

I, the owner of the property, have disclosed all information related to any work that has been performed in the prior twelve months to the Building Division as part of this application. Further, I am fully aware that if the cumulative cost of work to my home or business under this and any other permit equals or exceeds fifty percent of the fair market value of the structure, the entire structure must meet the present federal flood criteria for finished floor elevation. I am also fully aware that if the cost of work to my home or business under this and any other permit equals or exceeds fifty per cent of the replacement cost of the structure, then the entire structure must conform to current code requirements of the Florida Building Code.

I, the owner of the property, understand that a permit application is subject to denial and a validated permit or permit card is subject to revocation or modification based upon applicable deeds, covenants, declarations, easements and any other legal restriction. By issuing a permit, the Village of Palmetto Bay makes no representation as to the existence or validity of any property restriction.

I, the owner of the property certify that all the foregoing information is accurate and that all work will be done in compliance with all applicable laws regulating construction and zoning.

WARNING TO OWNER: YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. A NOTICE OF COMMENCEMENT MUST BE RECORDED AND POSTED ON THE JOB SITE BEFORE THE FIRST INSPECTION. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE COMMENCING WORK OR RECORDING YOUR NOTICE OF COMMENCEMENT.

X Signature of Owner

State of Florida, County of DADE

Sworn to (or affirmed) and subscribed before this 18 day of January, 20 18.

by (print name) Ray Florente

Notary Name Barbara Mirino

Personally known ☐ or I.D. _____

Type of Identification produced: Florida Driver's Lic

BARBARA MIRINO
Notary Public - State of Florida
Commission # FF 198093
My Comm. Expires Feb 20, 2019
Bonded through National Notary Assn.

Signature of Qualifier

State of Florida, County of Dade

Sworn to (or affirmed) and subscribed before this 18 day of JANUARY, 20 18.

by (print name) Hatem Bamleh

Notary Name Barbara Mirino

Personally known or I.D. _____

Type of Identification produced: Florida Drivers Lic

BARBARA MIRINO
Notary Public - State of Florida
Commission # FF 198093
My Comm. Expires Feb 20, 2019
Bonded through National Notary Assn.

IMPORTANT NOTICES

- Do not begin work without receiving you validated permit and permit card. Applying for a permit does not grant you the right to commence construction. Construction can only occur during the hours of 7:00 a.m. to 7:00 p.m., Monday thru Saturday and from the hours of 9:00 a.m. to 6:00 p.m. on Sundays and Federal holidays.
- All construction sites must be maintained in a clean and orderly condition free from construction debris. Failure to do so will result in a fine and a suspension of inspections until said property is cleaned.
- Streets and neighboring properties shall be kept free from dirt and debris.
- Swales must be protected from damage by equipment or vehicles and sidewalks cannot be blocked.
- Portable Toilets for construction jobs require a separate permit. If toilet is not available the inspection will not be performed.
- Water cannot be discharged into the right of way or storm drains without the approval of the Public Works Department.
- No equipment or materials can be stored on the right of way; they must only be stored on your property.
- Florida Department of Health approval is required for applications involving Septic Tanks. Department of Environmental Resources Management (DERM) and /or Miami-Dade Water and Sewer Department approval is required for applications involving sewers and water. The tree section of the Department of Environmental Resources Management (DERM) approval is required on all landscape plans and on all tree removal applications.

CHECKLIST (OFFICE USE ONLY)

☐ OWNER-BUILDER FORM (Attached)

☐ FIRE DEPARTMENT APPROVAL (Commercial/multi (family only)

☐ CONCURRENCY (New Construction)

☐ PROOF OF OWNERSHIP (Attached)

☐ CONDO ASSOCIATION APPROVAL

☐ UPFRONT FEES AMOUNT: _____

☐ HEALTH DEPARTMENT APPROVAL (Septic/Sewer)

☐ IMPACT FEE (New Construction)

☐ SCHOOL REVIEW (New Construction)

☐ DERM REVIEW (New Construction/Additions/Tree Removal)

☐ PUBLIC WORKS

☐ PERMIT CLERK REVIEW
By: _____

- ☐ Complete Application
- ☐ Current liability ins.
- ☐ Worker's Comp.
- ☐ Cont. Lic. Check

☐ OTHER (Specify and Attach)

☐ FLORIDA DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION APPROVAL (RESTAURANTS)

PERMIT FEES (OFFICE USE ONLY)

Village of Palmetto Bay Permit Fees	266.60	**Art in Public Places**	
Miami-Dade County Fees (sq. ft. x $65//1000x0.60)		**Certificate of Use and Occupancy**	
Flood Zone Review	15.00	**Zoning Inspection Fee** ($50.00 per application)	
Radon-Inspector State Educational Fund and DCA State fee	2.87 2.87	**Administration Fee**	
Code Enforcement Fine		**Express Fee** (25.00)	25.00
Certificate of Completion		**Public Works Fee**	
Construction Sign Fee		**Landscape Review Fee** (175.00 per hour)	
Roll-off Waste Container Fee (105.00 per container site)		**Special Review Fee** (89.25 per hour)	
Rework Fee		**Other**	

$312.34

PLAN REVIEWER APPROVAL AREA (OFFICE USE ONLY)

SECTION	REVIEWER APPROVAL'S NAME	APPROVAL DATE	REJECTED DATE NUMBER 1	REJECTED DATE NUMBER 2	REJECTED DATE NUMBER 3
COMMUNITY DEVELOPMENT					
ZONING					
ELECTRICAL					
MECHANICAL					
PLUMBING					
FIRE					
ROOFING					
PUBLIC WORKS					
PLANNING					
STRUCTURAL					
BUILDING	OMG	2/2/18			
BUILDING OFFICIAL					

REWORKS: A fee of **$105.50** may be charged for failure to make required corrections previously indicated. The fee shall be charged after the initial review plus one follow up review per trade. Please note that Florida Statutes 553.80 section 2(b) states "with respect to evaluation of design professionals documents, if a local government finds it necessary, in order to enforce compliance with the Florida Building Code and issue a permit, to reject design documents required by the code three or more times for failure to correct a code violation specifically noted in each rejection, including but not limited to egress, fire protection, structural stability, energy, accessibility, lighting, ventilation, electrical, mechanical, plumbing, and gas systems, or other requirements identified by rule of the Florida Building Commission adopted pursuant to Chapter 120, the local government shall impose, each time after third such review the plans are rejected for that code violation a fee of **four times the amount** of the proportion of the permit fee attributed to plans review".

ISSUING OFFICIAL

FINAL PLAN REVIEWED AND PREPARED FOR ISSUANCE BY: _____ DATE: 2/2/18

CONDITIONS OF APPROVAL

PLAN TRACKING

Plans Checked out	Date	Clerk	Plans Checked in	Date	Clerk

OFFICE OF THE PROPERTY APPRAISER

Summary Report

Generated On : 2/2/

Property Information	
Folio:	33-5023-008-0190
Property Address:	
Owner	
Mailing Address	
PA Primary Zone	2100 ESTATES - 15000 SQFT LOT
Primary Land Use	0101 RESIDENTIAL - SINGLE FAMILY : 1 UNIT
Beds / Baths / Half	3 / 2 / 0
Floors	1
Living Units	1
Actual Area	Sq.Ft
Living Area	Sq.Ft
Adjusted Area	1,766 Sq.Ft
Lot Size	17,160 Sq.Ft
Year Built	1958

Assessment Information			
Year	2017	2016	2015
Land Value	$241,200	$241,200	$192,960
Building Value	$135,205	$129,182	$130,154
XF Value	$23,448	$23,472	$16,413
Market Value	$399,853	$393,854	$339,527
Assessed Value	$203,308	$199,127	$197,743

Taxable Value Information	2017	2016	2
County			
Exemption Value	$50,000	$50,000	$50,
Taxable Value	$153,308	$149,127	$147,
School Board			
Exemption Value	$25,000	$25,000	$25,
Taxable Value	$178,308	$174,127	$172,
City			
Exemption Value	$50,000	$50,000	$50,
Taxable Value	$153,308	$149,127	$147,
Regional			
Exemption Value	$50,000	$50,000	$50,
Taxable Value	$153,308	$149,127	$147,

Benefits Information				
Benefit	Type	2017	2016	2015
Save Our Homes Cap	Assessment Reduction	$196,545	$194,727	$141,784
Homestead	Exemption	$25,000	$25,000	$25,000
Second Homestead	Exemption	$25,000	$25,000	$25,000

Note: Not all benefits are applicable to all Taxable Values (i.e. County, School Board, City, Regional).

Sales Information			
Previous Sale	Price	OR Book-Page	Qualification Descriptic
12/01/1994	$166,000	16620-0343	Sales which are qualified
08/01/1988	$136,000	13779-301	Sales which are qualified
04/01/1973	$47,500	00000-00000	Sales which are qualified

Short Legal Description

HERMAN HEIGHTS SEC 2 PB 66-86
LOT 4 BLK 3
LOT SIZE 120.000 X 143
OR 16620-0343 1294 1
F/A/U 30-5023-008-0190

The Office of the Property Appraiser is continually editing and updating the tax roll. This website may not reflect the most current information on record. The Property Appra and Miami-Dade County assumes no liability, see full disclaimer and User Agreement at http://www.miamidade.gov/info/disclaimer.asp

EXPRESS PERMIT FEE

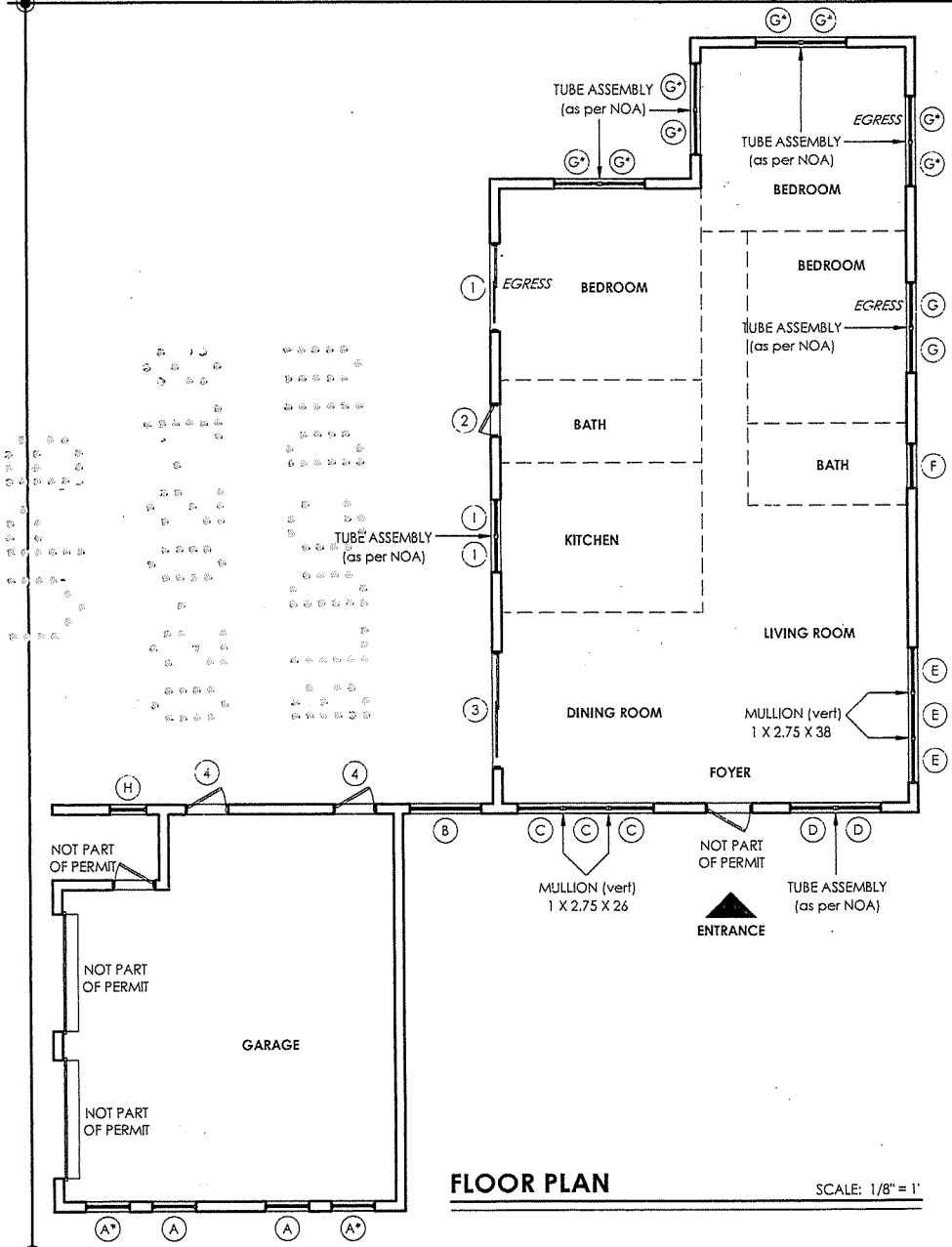
I understand that an additional fee of $25.00 (per-review) will be applied to my permit at final fee.

Authorization: Stacey Perez Date: 2/2/18

EXPEDITED PLAN REVIEW

I understand that an additional fee of $85.89 (per trade, per review) Will be applied to a RUSH review for permits with plans.
(For Example: New Construction, Additions, and Remodeling & Revisions to plans).

Authorization: Date:



FLOOR PLAN

SCALE: 1/8" = 1'

SCOPE OF WORK

- ALUMINUM FIXED WINDOW BY PGT INDUSTRIES ...IMPACT RESISTANT ...NOA: 17-0614.11
- ALUMINUM CASEMENT WINDOW BY PGT INDUSTRIES ...IMPACT RESISTANT ...NOA: 17-0614.14
- ALUMINUM FRENCH DOOR BY PGT INDUSTRIES ...IMPACT RESISTANT ...NOA: 17-0504.01
- ALUMINUM SLIDING-GLASS DOOR BY PGT INDUSTRIES ...IMPACT RESISTANT ...NOA: 17-0420.12
- ALUMINUM TUBE MULLION BY PGT INDUSTRIES ...IMPACT RESISTANT ...NOA: 17-0630.01

GENERAL NOTES

- ONE STORY STRUCTURE (15' MEAN ROOF HEIGHT)
- EXPOSURE: C
- WIND VELOCITY: 175 MPH
- KD: 0.85
- FLORIDA BUILDING CODE 2017
- ASCE 7-16 WIND CODE
- BASED ON TRIBUTARY AREA AS SHOWN
- CONTRACTOR TO VERIFY DIMENSIONS

EGRESS REQUIREMENTS:
MINIMUM CLEAR WIDTH: 20".
MINIMUM CLEAR HEIGHT: 24".
MINIMUM CLEAR OPENING: 5.0 SQ.FT.
MAXIMUM SILL HEIGHT : 44" (from finished floor).

WINDLOAD PRESSURE TABLE FOR WINDOWS

TOTAL Sq.Ft.= 258.37

MARK	DESCRIPTION	WIDTH	HEIGHT	TRIB. AREA	POS.PRESSURE P.S.F.	NEG.PRESSURE P.S.F.	ZONE	N.O.A.
A	CASEMENT IMP.	37.000	26.000	6.68	40.06	-43.45	INT (4)	17-0614.14
A*	CASEMENT IMP.	37.000	26.000	6.68	40.06	-53.64	END (5)	17-0614.14
B	FIXED IMP.	60.000	62.000	25.83	37.59	-48.70	END (5)	17-0614.11
C	CASEMENT IMP.	37.000	26.000	6.68	40.06	-53.64	END (5)	17-0614.14
D	CASEMENT IMP.	37.000	50.000	12.85	39.41	-52.33	END (5)	17-0614.14
E	CASEMENT IMP.	37.000	38.000	9.76	40.06	-53.64	END (5)	17-0614.14
F	CASEMENT IMP.	37.000	28.000	7.19	40.06	-43.45	INT. (4)	17-0614.14
G	CASEMENT IMP.	37.000	38.000	9.76	40.06	-43.45	INT (4)	17-0614.14
G*	CASEMENT IMP.	37.000	38.000	9.76	40.06	-53.64	END (5)	17-0614.14
H	FIXED IMP.	31.000	47.000	10.12	40.03	-53.58	END (5)	17-0614.11
I	CASEMENT IMP.	30.000	38.000	7.92	40.06	-43.45	INT (4)	17-0614.14

WINDLOAD PRESSURE TABLE FOR DOORS

TOTAL Sq.Ft.= 148.45

MARK	DESCRIPTION	WIDTH	HEIGHT	TRIB. AREA	POS.PRESSURE P.S.F.	NEG.PRESSURE P.S.F.	ZONE	N.O.A.
1	SLID-GASS DOOR IMP.	72.000	81.500	20.38	38.21	-49.93	END (5)	17-0420.12
2	FRENCH DOOR IMP.	27.000	82.000	15.38	38.94	-42.33	INT (4)	17-0504.01
3	SLID-GASS DOOR IMP.	95.000	81.000	26.72	37.50	-48.52	END (5)	17-0420.12
4	FRENCH DOOR IMP.	35.000	80.000	19.44	38.33	-50.18	END (5)	17-0504.01

DRAWN ON: 01/29/18	REVISED ON: -
DRAWN BY: R.A.L.J.	SCALE: SHOWN
CONTENT: WINDOWS & DOORS REPLACEMENT	

LLORENTE RESIDENCE
7440 SW 139TH TERRACE
PALMETTO BAY, FLORIDA 33158

SHEET: 1 of 1

Village of Palmetto Bay Building & Capital Projects Department
9705 E Hibiscus Street
Palmetto Bay, Florida 33157
Tel: 305-259-1250 Fax: 305-259-1291

Property Owner: *LLORENTE RESIDENCE*

Property Address: *7440 SW 139TH TERRACE PALMETTO BAY, FL 33158*

Date: 1/30/2018

Contractor:

Window & Door Permit Supplement

MARK No.	GLASS TYPE / THICKNESS		SIZE (W x H)	UNIT TYPE	UNIT NAME	NOA #	MULLION ANCHORAGE	MULLION N.O.A.	MULLION HORIZ / VERT	CALC. WIND PRESS. NEG.	CALC. WIND PRESS. POS.	PRESS. CAP. NEG.	PRESS. CAP. POS.	WATER INFILTRATION REQ. Y/N
A	LAMINATED	5/16"	37.000 X 26.000	X	CASEMENT IMP.	17-0614.14	–	–	–	-43.45	40.06	-90.00	70.00	N
A*	LAMINATED	5/16"	37.000 X 26.000	X	CASEMENT IMP.	17-0614.14	–	–	–	-53.64	40.06	-90.00	70.00	N
B	LAMINATED	7/16"	60.000 X 62.000	O	FIXED IMP.	17-0614.11	–	–	–	-48.70	37.59	-72.70	72.70	N
C	LAMINATED	5/16"	37.000 X 26.000	X	CASEMENT IMP.	17-0614.14	1/4" ULTRACON	17-0630.01	VERT	-53.64	40.06	-90.00	70.00	N
D	LAMINATED	5/16"	37.000 X 50.000	X	CASEMENT IMP.	17-0614.14	1/4" ULTRACON	17-0630.01	VERT	-52.33	39.41	-56.10	56.10	N
E	LAMINATED	5/16"	37.000 X 38.000	X	CASEMENT IMP.	17-0614.14	1/4" ULTRACON	17-0630.01	VERT	-53.64	40.06	-90.00	70.00	N
F	LAMINATED	5/16"	37.000 X 28.000	X	CASEMENT IMP.	17-0614.14	–	–	–	-43.45	40.06	-90.00	70.00	N
G	LAMINATED	5/16"	37.000 X 38.000	X	CASEMENT IMP.	17-0614.14	–	–	–	-43.45	40.06	-90.00	70.00	N
G*	LAMINATED	5/16"	37.000 X 38.000	X	CASEMENT IMP.	17-0614.14	–	–	–	-53.64	40.06	-90.00	70.00	N
H	LAMINATED	7/16"	31.000 X 47.000	O	FIXED IMP.	17-0614.11	–	–	–	-53.58	40.03	-80.00	80.00	N
I	LAMINATED	5/16"	30.000 X 38.000	X	CASEMENT IMP.	17-0614.14	–	–	–	-43.45	40.06	-90.00	70.00	N
1	LAMINATED	7/16"	72.000 X 81.500	XX	SLID-GASS DOOR IMP.	17-0420.12	–	–	–	-49.93	38.21	-60.00	60.00	N
2	LAMINATED	3/8"	27.000 X 82.000	X	FRENCH DOOR IMP.	17-0504.01	–	–	–	-42.33	38.94	-75.00	75.00	N
3	LAMINATED	7/16"	95.000 X 81.000	XX	SLID-GASS DOOR IMP.	17-0420.12	–	–	–	-48.52	37.50	-60.00	60.00	N
4	LAMINATED	3/8"	35.000 X 80.000	X	FRENCH DOOR IMP.	17-0504.01	–	–	–	-50.18	38.33	-75.00	75.00	N

MIAMI-DADE COUNTY
DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/economy

NOTICE OF ACCEPTANCE (NOA)

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 C dated 06/19/17, 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 NOA# 16-0218.03** 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 **Jorge M. Plasencia, P.E.**

MIAMI-DADE COUNTY APPROVED 11/1/17

NOA No. 17-0630.01
Expiration Date: May 26, 2021
Approval Date: November 09, 2017

PGT Industries, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Manufacturer's die drawings and sections.
   (Submitted under NOA No. 10-0819.05)
2. Drawing No. 6300IR, titled "Impact-Resistant Aluminum Tube Mullions", sheets 1 through 25 of 25, dated 08/29/11, with revision C dated 06/19/17, 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 5th Edition (2014)** and with **FBC 6th Edition (2017)**, prepared by manufacturer, dated 08/29/17, 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.

Jorge M. Plasencia, P.E.
Product Control Unit Supervisor
NOA No. 17-0630.01
Expiration Date: May 26, 2021
Approval Date: November 09, 2017

F. STATEMENTS

1. Statement letter of conformance to **FBC-5th Edition (2014)** and **FBC-6th Edition (20147**, dated 06/22/17, issued by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.
2. Statement letter of no financial interest, dated 06/22/17, issued by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.

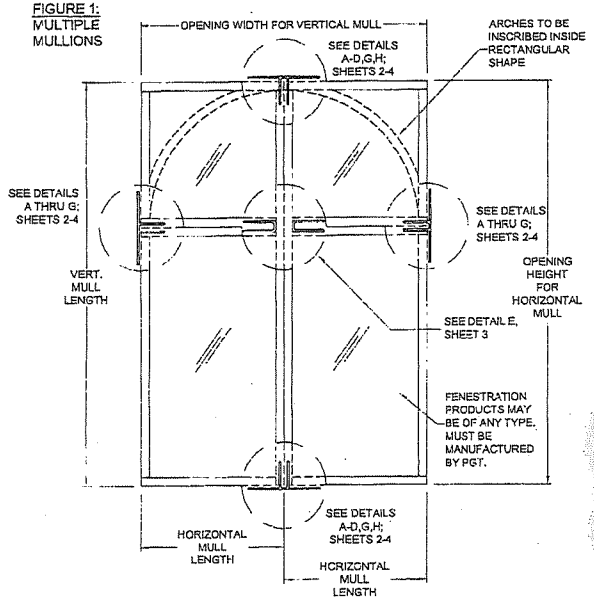
G. OTHERS

1. Notice of Acceptance No. **16-0218.03**, issued to PGT Industries, Inc. for their Series **"PGT" Clipped Extruded Aluminum Tube Mullion – L.M.I.**, approved on 04/14/16 and expiring on 05/26/21.

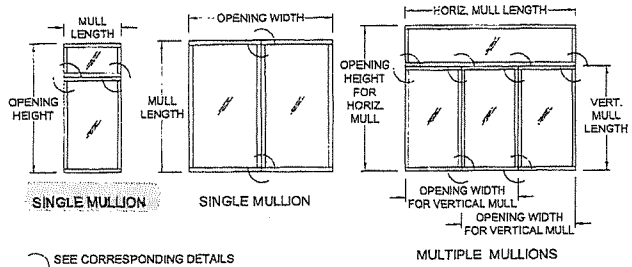
Jorge M. Plasencia, P.E.
Product Control Unit Supervisor
NOA No. 17-0630.01
Expiration Date: May 26, 2021
Approval Date: November 09, 2017

SUITABLE FOR ALL LOCATIONS REQUIRING NON-IMPACT OR LARGE AND SMALL MISSILE IMPACT-RESISTANT PRODUCTS

FIGURE 1: MULTIPLE MULLIONS



ADDITIONAL EXAMPLES OF MULL CONFIGURATIONS:



SEE CORRESPONDING DETAILS FROM FIGURE 1 ABOVE.

CODES / STANDARDS USED:

- 2017 FLORIDA BUILDING CODE (FBC), 6TH EDITION
- 2014 FLORIDA BUILDING CODE (FBC), 5TH EDITION
- ANSI/AF&PA NDS-2015 FOR WOOD CONSTRUCTION
- ALUMINUM DESIGN MANUAL, ADM-2015
- AISI S100-12
- AISC 360-10

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 BUCKS 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 24. 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; ELCO ULTRACON/AGGRE-GATOR 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 PGT-APPROVED FENESTRATION PRODUCTS HAVING CURRENT APPROVALS.

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 WIDTH/HEIGHT OF EACH INDIVIDUAL MULLION COMPLIES WITH THE REQUIREMENTS OF THIS NOA.

INSTRUCTIONS:

1) DETERMINE THE DESIGN PRESSURE REQUIREMENT (LBS/FT²) FOR THE OPENING USING THE ASCE-7 STANDARD.

2) CHOOSE A MULLION TYPE THAT WILL FIT THE DEPTH OF THE FENESTRATION PRODUCT'S FRAME DEPTH.

3) REFER TO SHEET 25 TO DETERMINE IF THE WIND LOADING IS "RECTANGULAR" OR "TRIANGULAR/TRAPEZOIDAL".

4) FIND THE CHOSEN MULLION'S MULLION CAPACITY (LBS/FT²) FROM TABLES 1A THROUGH 16A, ON SHEETS 5 THROUGH 20 RESPECTIVELY, USING THE MULLION TYPE, LENGTH AND OPENING WIDTH OR HEIGHT (DEPENDING IF THE MULLION IS SPANNING VERTICALLY OR HORIZONTALLY). THE MULLION CAPACITY (LBS/FT²) OBTAINED SHALL MEET OR EXCEED THE DESIGN PRESSURE REQUIREMENT (LBS/FT²) FOR THE OPENING OBTAINED IN STEP 1).

5) FROM THE SAME TABLE USED IN STEP 4) ABOVE, FIND THE VALUE IN THE NEXT COLUMN ANCHOR CAPACITY REQUIRED (LBS). THIS VALUE REPRESENTS THE WINDLOAD TRANSFERRED TO THE SUBSTRATE BY THE ANCHORS AND MUST BE MET TO ATTAIN THE FULL MULLION CAPACITY.

6) FROM THE ANCHOR CAPACITY (LBS) TABLE ON THE SAME SHEET AND USING YOUR ACTUAL SUBSTRATE CONDITION (MULTIPLE ANCHOR/SUBSTRATE/ANCHOR-CLIP PATTERN MAY APPLY) SELECT AN ANCHOR CLIP PATTERN AND VERIFY THAT THE REQUIRED ANCHOR CAPACITY IS MET.

7) IF THE MULLION CAPACITY (LBS/FT²) OBTAINED IN THE TABLE IS HIGHER THAN THE DESIGN PRESSURE REQUIREMENT (LBS/FT²) FOR THE OPENING, YOU MAY USE THE "ANCHOR CAPACITY ADJUSTMENT FORMULA" TO OBTAIN THE LOWER ANCHOR CAPACITY REQUIRED. WITH THIS VALUE A LOWER ANCHOR CAPACITY OPTION MAY BE SELECTED FOR THE SAME SUBSTRATE

8) VERIFY THE DESIGN PRESSURE RATING (LBS/FT²) FOR THE FENESTRATION PRODUCT TO BE USED AND COMPARE WITH THE FINAL MULLION CAPACITY (LBS/FT²) OBTAINED FOR THE MULLION SYSTEM. THE LOWER OF THE TWO SHALL APPLY FOR THE ENTIRE MULLED FENESTRATION PRODUCT ASSEMBLY.

9) HIGHLIGHT OPTION USED AND TABLE VALUES USED IN A SPECIFIC APPLICATION WHEN USING THIS NOA TO APPLY FOR A PERMIT.

GENERAL NOTES 1
INSTRUCTIONS 1
ELEVATIONS 1
MULL TO 2X WOOD 2
MULL TO 1X & MASONRY 2
INSTALLATION NOTES 2
MULL TO MASONRY 3
MULL TO STEEL STUD 3
MULL TO MULL 3
ALTERNATATE CLIPS 4
BAY MULL INSTALLATION 4
1 X 2 X .125 MULL SPECS 5
1 X 2 X .375 MULL SPECS 6
1 X 2.75 X .375 MULL SPECS 7
1 X 2.75 X .65 MULL SPECS 8
1 X 3.125 X .500 MULL SPECS 9
1 X 4 X .125 MULL SPECS 10
1 X 4 X .375 TUBE MULL SPECS 11
1 X 4 X .375 "T" MULL SPECS 11
1.25 X 3.188 X .265 MULL SPECS 12
1.25 X 3.25 X .100 MULL SPECS 13
1.25 X 3.25 X .624 MULL SPECS 14
1.25 X 3.94 X .624 MULL SPECS 15
2 X 1 X .25 MULL SPECS 16
2 X 6 X .25 MULL SPECS 17
1.26 X 3.11 X .125 MULL SPECS 18
30° X 3.25 BAY MULL SPECS 19
45° X 3.25 BAY MULL SPECS 20
MULLION & CLIP DIMENSIONS 21-23
EXAMPLES 1 & 2 24
LOADING EXAMPLES 25

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PGT® 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600 FL CERT. OF AUTH.# 26286

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS

Description: GENERAL NOTES AND ELEVATION

Drawing No. 6300JR | Sheet: 1 of 25

Scale: N/A | Date: 08/23/11 | Rev. C

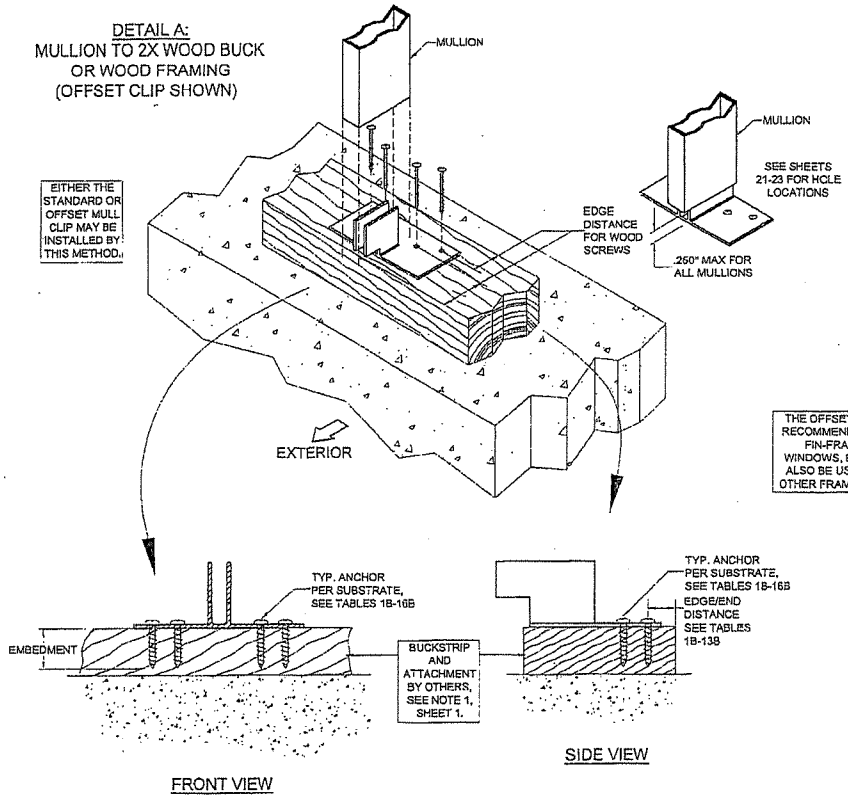
Drawn By: J ROSOWSKI | Checked By: | Date:

Revised: J ROSOWSKI | Date: 06/19/17 | NO CHANGES THIS SHEET.

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0630.01
Expiration Date 05/26/2021
By
Miami-Dade Product Control

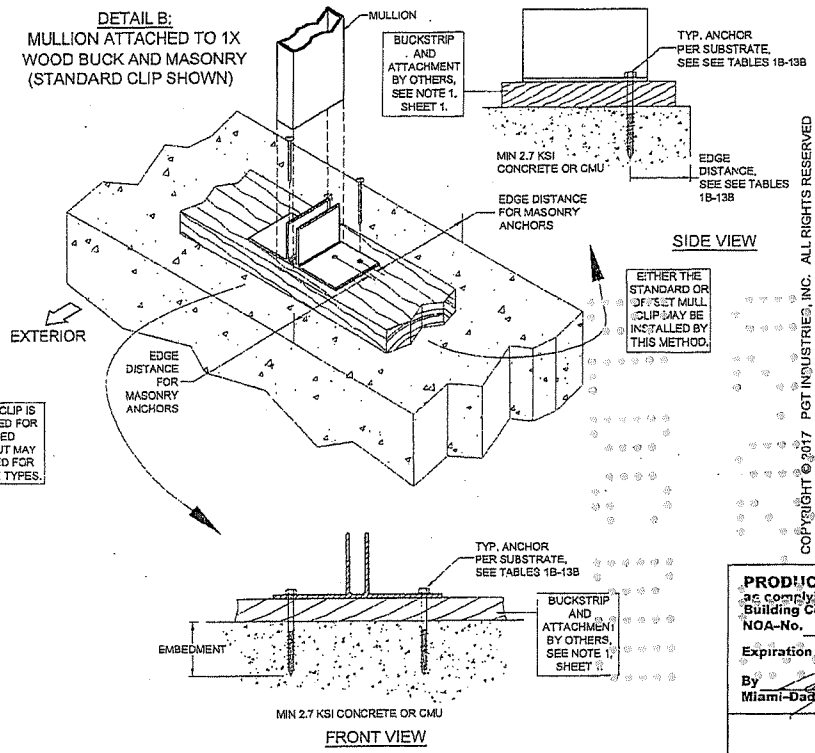
ANTHONY LYNN MILLER
LICENSE
No. 58705
6/22/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
FL P.E.# 58705

DETAIL A:
MULLION TO 2X WOOD BUCK OR WOOD FRAMING (OFFSET CLIP SHOWN)



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

DETAIL B:
MULLION ATTACHED TO 1X WOOD BUCK AND MASONRY (STANDARD CLIP SHOWN)



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 ELCO ULTRACON OR ELCO 1/4" S.S. AGGREGATOR MASONRY ANCHORS.

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FL CERT. OF AUTH.# 29298

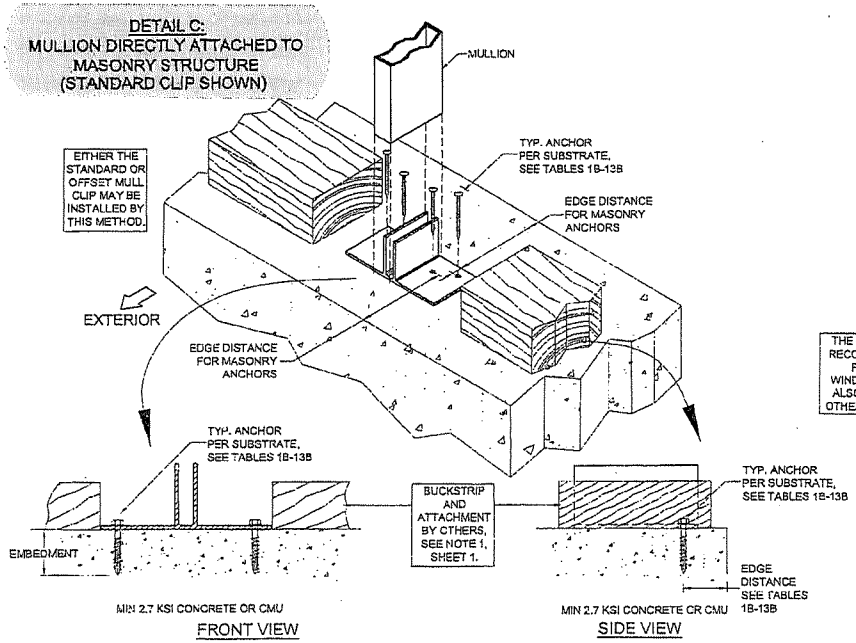
Title:	IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description:	INSTALLATION INSTRUCTIONS A
Drawing No.	6300JR
Sheet:	2 of 25
Rev:	C
Scale:	N/A
Date:	08/29/11
Checked By:	
Date:	
Drawn By:	J ROSOWSKI
Revision:	NO CHANGES THIS SHEET.
Rev. By:	ROSOWSKI
Date:	06/19/17

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0630.01
Expiration Date 05/26/2021
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
6/22/17

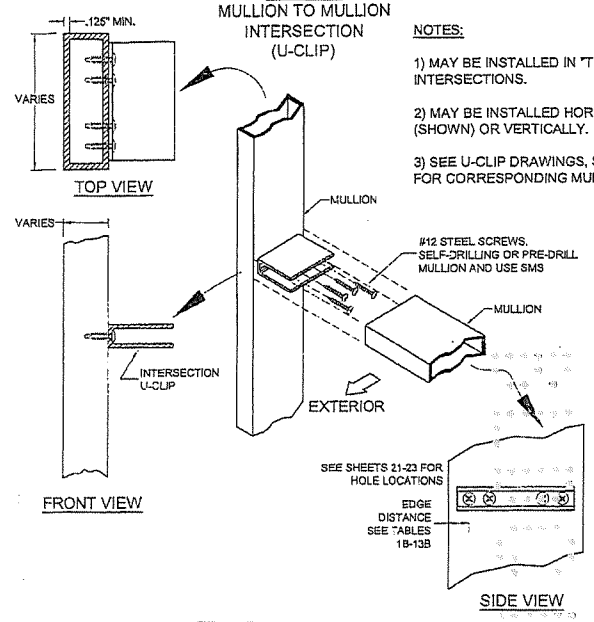
A. LYNN MILLER, P.E.
FL P.E.# 58705

DETAIL C:
MULLION DIRECTLY ATTACHED TO MASONRY STRUCTURE (STANDARD CLIP SHOWN)



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

DETAIL E:
MULLION TO MULLION INTERSECTION (U-CLIP)



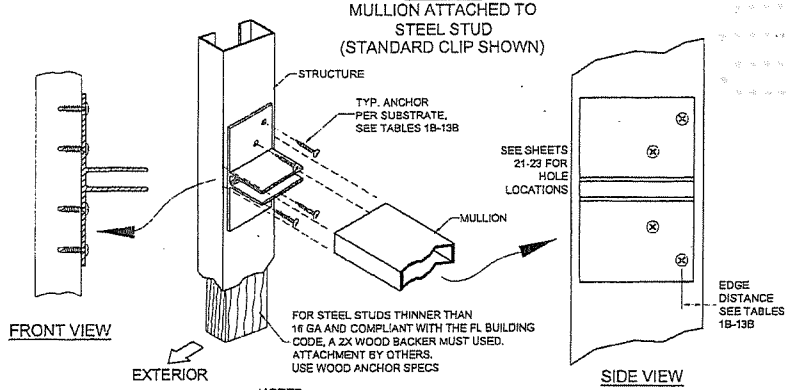
NOTES:

1) MAY BE INSTALLED IN "TEE" OR "CROSS" INTERSECTIONS.

2) MAY BE INSTALLED HORIZONTALLY (SHOWN) OR VERTICALLY.

3) SEE U-CLIP DRAWINGS, SHEETS 21-23 FOR CORRESPONDING MULLION.

DETAIL D:
MULLION ATTACHED TO STEEL STUD (STANDARD CLIP SHOWN)



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, THIS SHEET.

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

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Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: INSTALLATION INSTRUCTIONS B
Drawing No. 6300JR
Sheet: 3 of 25
Scale: N/A
Checked By:
Date:
Rev: C
Drawn By: J ROSOWSKI
Date: 08/29/11
Revision: NO CHANGES THIS SHEET.
Rev. By: J ROSOWSKI
Date: 06/19/17

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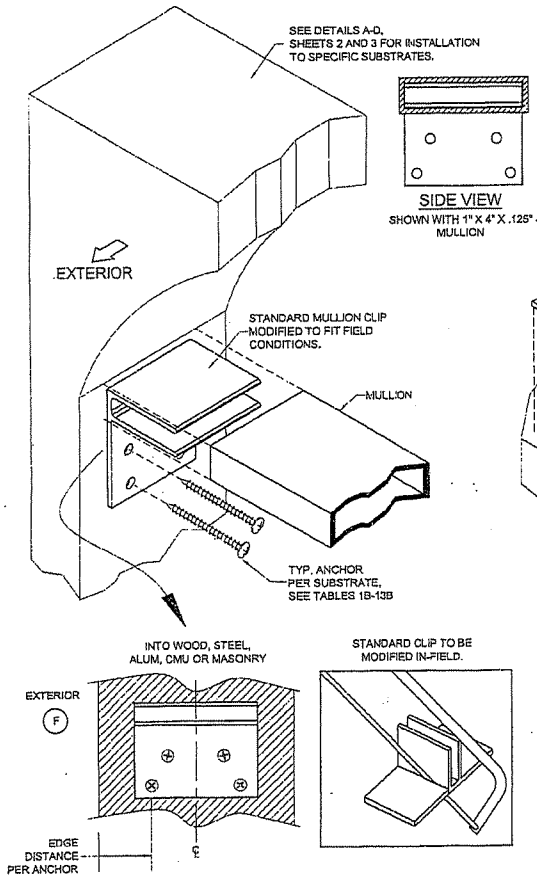
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
FL P.E.# 58705

DETAIL F:
FIELD-MODIFIED MULLION CLIP
(F-CLIP)



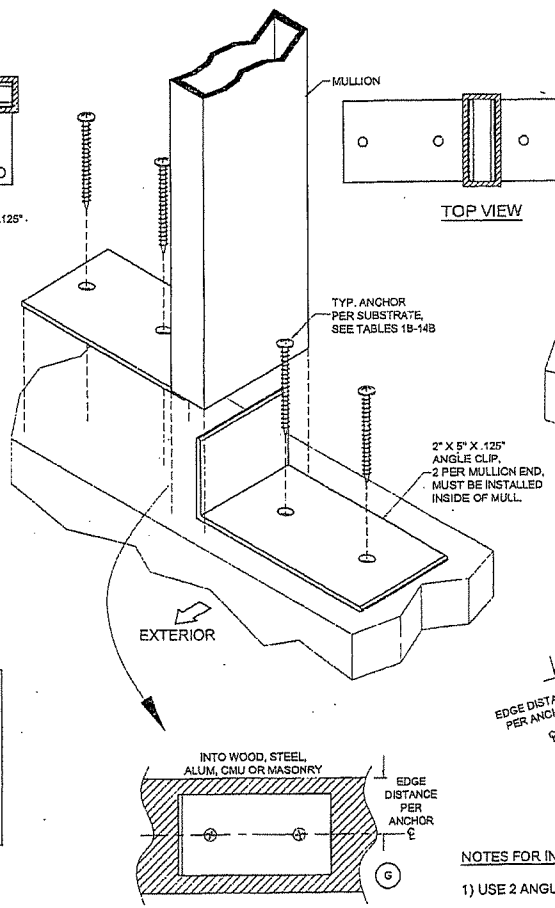
NOTES FOR INSTALLATION OPTIONS F:

1) DETAIL IS NOT APPLICABLE FOR THE BAY OR 1.26" X 2.11" X .125" MULLION.

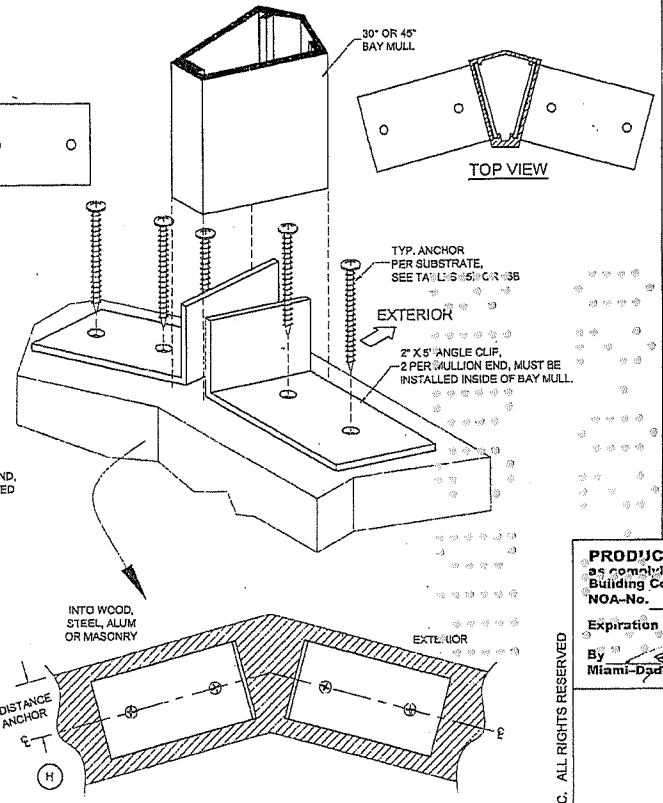
2) SEE TABLES 1B-13B FOR ANCHOR QUANTITIES AND SHEETS 21-23 FOR HOLE LOCATIONS.

3) THE 2X5 CLIP IS NOT SUITABLE FOR THIS APPLICATION.

DETAIL G:
ANGLE MULLION CLIP
(ANGLE CLIP)



DETAIL H:
BAY MULLION INSTALLATION
(ANGLE CLIP)



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-14B FOR ANCHOR QUANTITIES AND SHEETS 21-23 FOR HOLE LOCATIONS.

3) DETAIL H: SEE TABLES 15B OR 16B FOR ANCHOR QUANTITIES AND SHEET 22 FOR HOLE LOCATIONS.

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Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS		Sheet: 4 of 25	
Description: INSTALLATION INSTRUCTIONS C		Drawing No. 6300JR	Rev: C
Customer: N/A	Scale: N/A	Checked By:	Date:
Drawn By: J. ROSOWSKI	Date: 08/29/11		
Rev. By: J. ROSOWSKI	Date: 06/19/17	Revision: NO CHANGES THIS SHEET.	

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0630.01
Expiration Date 05/26/2021
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
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No. 58705
6/22/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
FL P.E.# 58705

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TABLE 1A

Mullion Capacity Table (lbs/ft²)

Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)

1 x 2 x .125 Alum. Tube Mullion	50 In				60 In				70 In				80 In			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 In	111.9	408	129.5	332	93.2	408	115.5	325	79.9	408	107.8	321	69.9	408	104.4	319
46 In	74.8	312	83.8	258	62.4	312	73.4	252	53.5	312	67.0	248	46.8	312	63.2	246
50.625 In	63.9	281	70.6	234	53.2	281	61.5	228	45.6	281	55.7	224	39.9	281	52.1	222
54 In	52.6	247	57.5	207	43.9	247	49.8	202	37.8	247	44.8	199	32.9	247	41.5	198
60 In	38.4	200	41.2	170	32.0	200	35.4	166	27.4	200	31.5	163	24.0	200	28.9	160
63 In	33.1	181	35.3	155	27.6	181	30.3	152	23.7	181	26.9	149	20.7	181	24.5	146
66 In	28.8	165	30.6	142	24.0	165	26.1	139	20.6	165	23.1	136	18.0	165	21.0	134
72 In	22.2	139	23.3	120	18.5	139	19.9	118	15.9	139	17.5	116				
78 In	18.9	125	19.7	109	15.7	125	16.8	107								
79 In	17.5	118	18.2	104												

1 x 2 x .125 Alum. Tube Mullion	90 In				100 In				120 In				140 In				160 In			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 In	62.1	408	104.0	319	55.9	408	104.0	319	46.6	408	104.0	319	39.9	408	104.0	319	35.0	408	104.0	319
46 In	41.6	312	61.3	244	37.6	312	61.0	244	31.2	312	61.0	244	26.8	312	61.0	244	23.4	312	61.0	244
50.625 In	35.5	281	50.1	220	31.9	281	49.3	219	26.6	281	49.3	219	22.8	281	49.3	219	20.0	281	49.3	219
54 In	29.2	247	39.4	194	26.3	247	38.4	193	21.9	247	38.1	193	18.8	247	38.1	193	16.4	247	38.1	193
60 In	21.3	200	27.1	159	19.2	200	25.9	157	16.0	200	25.0	156								
63 In	18.4	181	22.6	144	16.6	181	21.7	143												
66 In																				
72 In																				
78 In																				
79 In																				

TABLE 1B

Anchor Capacity Table (lbs)

Anchor Clip Patterns	Substrate:	2.7k Concrete				3.5k Conc.	Hollow CMU					Filled CMU	PT Wood		Metal
	Anchor Type:	3/16" Elco Ultracon		1/4" Elco Ultracon		5/16" Elco Ultracon	3/16" Elco Ultracon		1/4" Elco Ultracon		1/4" SS Elco AggreGator	5/16" Elco Ultracon	1/4" SS Elco AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.46"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/5"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1):		390 lbs	390 lbs	450 lbs	890 lbs	1644 lbs	270 lbs	280 lbs	354 lbs	740 lbs	374 lbs	664 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 1.15" Min. O.C. / Standard (or Offset) Clip (Fig. 2):		480 lbs	700 lbs	N/A	N/A	N/A	N/A	380 lbs	N/A	N/A	N/A	N/A	N/A	682 lbs	885 lbs	1120 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):		760 lbs	780 lbs	600 lbs	1560 lbs	1898 lbs	540 lbs	560 lbs	N/A	760 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
2 Anchors @ 0.45" Min. O.C. / U-Clip, into .125" 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	N/A	N/A	715 lbs
1 Anchor / F-Clip (Fig. 5):		185 lbs	195 lbs	225 lbs	445 lbs	822 lbs	135 lbs	140 lbs	177 lbs	370 lbs	187 lbs	332 lbs	473 lbs	170 lbs	221 lbs	280 lbs
2 Anchors @ 1.15" Min. O.C./ F-Clip (Fig. 6):		240 lbs	350 lbs	N/A	N/A	N/A	N/A	190 lbs	N/A	N/A	N/A	N/A	N/A	341 lbs	442 lbs	560 lbs

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

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FIGURE 2:

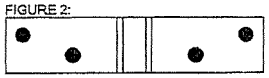
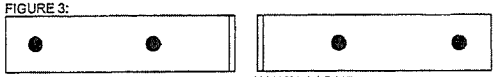


FIGURE 3:



ANGLE CLIP MUST BE USED IN PAIRS.

FIGURE 4:

FIGURE 5:

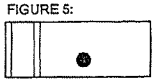


FIGURE 6:

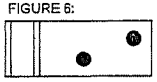


TABLE NOTES:

1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEET 25 FOR INFORMATION ON LOADING. SEE SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.

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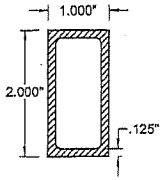

1" X 2" X .125" MULLION

PGT INDUSTRIES
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600
FL CERT. OF AUTH.# 29296

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Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: 1 X 2 X .125 MULL SPECS
Drawing No.: 6300JR
Sheet: 5 of 25
Rev: C
Scale: N/A
Date: 08/29/11
Checked By:
Date:
Job #: N/A
Drawn By: J ROSOWSKI
Rev. By: J ROSOWSKI
Date: 06/19/17
Revision: NO CHANGES THIS SHEET.

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0630.01
Expiration Date 05/26/2021
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
6/22/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
FL P.E.# 58705

TABLE 2A

Mullion Capacity Table (lbs/ft²)

Opening Width (for vertically-spanning mullions) **or Opening Height** (for horizontally-spanning mullions)

1 x 2 x .375 Alum. Tube Mullion	50 in				60 in				70 in				80 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 in	170.0	820	170.0	435	151.3	662	170.0	478	129.7	662	170.0	506	113.5	662	169.5	518
48 in	121.8	507	136.0	419	101.4	507	119.2	410	86.9	507	108.7	403	76.0	507	102.6	399
50.625 in	103.7	456	114.6	379	86.4	456	99.9	371	74.1	456	90.5	364	64.8	456	84.6	360
54 in	85.4	400	93.3	336	71.2	400	80.9	328	61.0	400	72.7	322	53.4	400	67.3	318
60 in	62.3	324	66.9	276	51.9	324	57.5	270	44.5	324	51.2	264	38.9	324	46.9	260
63 in	53.8	294	57.4	252	44.8	294	49.2	246	38.4	294	43.8	241	33.6	294	39.8	237
66 in	46.8	268	49.6	230	39.0	268	42.4	225	33.4	268	37.5	221	29.2	268	34.1	218
72 in	36.0	225	37.9	198	30.0	225	32.2	191	25.7	225	28.4	188	22.5	225	25.6	185
78 in	30.6	202	32.0	177	25.5	202	27.2	173	21.9	202	23.9	170	19.2	202	21.8	167
78 in	26.3	192	29.0	168	23.6	192	25.1	165	20.2	192	22.0	162	17.7	192	19.7	159
90 in	18.5	144	19.0	128	15.4	144	16.1	126								
96 in	15.2	127	15.6	113												

1 x 2 x .375 Alum. Tube Mullion	90 in				100 in				120 in				140 in				160 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 in	100.9	662	168.9	517	90.8	662	168.9	517	75.7	662	168.9	517	64.9	662	168.9	517	56.7	662	168.9	517
48 in	67.6	507	99.6	397	60.8	507	99.0	396	50.7	507	99.0	396	43.4	507	99.0	396	38.0	507	99.0	396
50.625 in	57.6	456	81.3	357	51.8	456	80.0	356	43.2	456	80.0	356	37.0	456	80.0	356	32.4	456	80.0	356
54 in	47.5	400	64.0	315	42.7	400	62.3	314	35.6	400	61.8	313	30.5	400	61.8	313	26.7	400	61.8	313
60 in	34.6	324	43.9	257	31.1	324	42.0	255	25.0	324	40.5	253	22.2	324	40.5	253	19.5	324	40.5	253
63 in	29.9	294	37.1	234	26.9	294	35.2	232	22.4	294	33.5	230	19.2	294	33.4	230	16.8	294	33.4	230
66 in	26.0	268	31.6	215	23.4	268	29.8	212	19.5	268	28.0	210	16.7	268	27.7	209	14.6	268	27.7	209
72 in	20.0	225	23.5	182	18.0	225	22.1	180	15.0	225	20.3	177	12.9	225	19.6	176	11.3	225	19.6	176
78 in	17.0	202	19.7	165	15.3	202	18.4	163	12.8	202	16.7	160	10.8	202	16.9	158	9.6	202	15.8	158
78 in	15.7	192	18.1	157	14.2	192	16.8	155	11.8	192	15.2	152	10.1	192	14.4	150	8.9	192	14.2	150
90 in																				
96 in																				

TABLE 2B

Anchor Capacity Table (lbs)

Anchor Clip Patterns	Substrate:	2.7k Concrete				3.5k Conc.	Hollow CMU					Filled CMU	PT Wood		Metal
	Anchor Type:	3/16" Elco Ultracon		1/4" Elco Ultracon		5/16" Elco Ultracon	3/16" Elco Ultracon		1/4" Elco Ultracon		1/4" SS Elco AggreGator	5/16" Elco Ultracon	1/4" SS Elco AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	.1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.46"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1):		390 lbs	390 lbs	450 lbs	890 lbs	1644 lbs	270 lbs	280 lbs	354 lbs	740 lbs	374 lbs	684 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 1.15" Min. O.C. / Standard (or Offset) Clip (Fig. 2):		480 lbs	700 lbs	N/A	N/A	N/A	N/A	380 lbs	N/A	N/A	N/A	N/A	1892 lbs	682 lbs	885 lbs	1120 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x3 Angle Clips / (Fig. 3):		780 lbs	780 lbs	690 lbs	1560 lbs	1895 lbs	540 lbs	560 lbs	N/A	760 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
2 Anchors @ 0.45" Min. O.C. / U-Clip, into .125" 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	N/A	N/A	715 lbs
1 Anchor / F-Clip (Fig. 5):		195 lbs	195 lbs	225 lbs	445 lbs	822 lbs	135 lbs	140 lbs	177 lbs	370 lbs	187 lbs	332 lbs	473 lbs	170 lbs	221 lbs	280 lbs
2 Anchors @ 1.15" Min. O.C./ F-Clip (Fig. 6):		240 lbs	350 lbs	N/A	N/A	N/A	N/A	190 lbs	N/A	N/A	N/A	N/A	N/A	341 lbs	442 lbs	560 lbs

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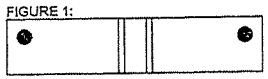

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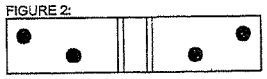
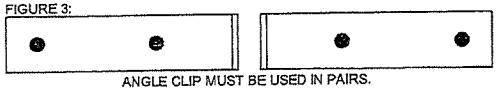


FIGURE 3:



ANGLE CLIP MUST BE USED IN PAIRS.

FIGURE 4:

FIGURE 5:

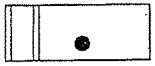
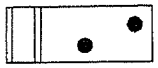


FIGURE 6:



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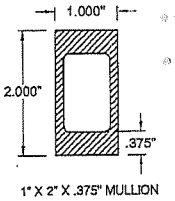

1" X 2" X .375" MULLION

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PGT
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600
FL CERT. OF AUTH.#29896

Title:	IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description:	1 X 2 X .375 MULL SPECS
Series:	N/A
Drawn By:	J.ROSOWSKI
Date:	06/19/17
Scale:	N/A
Drawing No.	6300.JR
Checked By:	
Date:	08/29/11
Revision:	NO CHANGES THIS SHEET.
Rev. By:	J.ROSOWSKI
Sheet:	6 of 25
Rev:	C

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0630.01
Expiration Date 05/26/2021
By:
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
6/22/17

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

TABLE 3A

Mullion Capacity Table (lbs/ft²)

Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)

1 x 2.75 x .375 Alum. Tube Mullion	50 in				60 in				70 in				80 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519
48 in	170.0	708	170.0	524	170.0	850	170.0	584	170.0	992	170.0	630	170.0	1133	170.0	661
50.625 in	170.0	747	170.0	563	170.0	896	170.0	631	167.8	1032	170.0	684	146.8	1032	170.0	723
54 in	170.0	797	170.0	612	161.3	907	170.0	691	138.2	907	164.7	730	120.9	907	152.5	720
60 in	141.1	735	151.5	625	117.6	735	130.3	611	100.8	735	116.0	599	88.2	735	106.2	590
63 in	121.9	666	130.0	570	101.6	669	111.5	557	87.0	666	98.9	547	76.2	666	90.1	538
66 in	106.0	607	112.4	522	88.3	607	96.1	511	75.7	607	85.0	501	66.2	607	77.1	493
72 in	81.6	510	85.8	443	68.0	510	73.0	434	58.3	510	64.3	426	51.0	510	57.9	410
78 in	69.4	458	72.5	400	57.8	458	61.7	392	49.6	458	54.1	385	43.4	458	48.6	378
79 in	64.2	435	67.0	381	53.5	435	56.8	373	45.9	435	49.8	366	40.1	435	44.7	360
80 in	41.8	327	43.1	290	34.8	327	36.4	285	29.9	327	31.8	280	26.1	327	28.3	275
96 in	34.4	267	35.4	257	28.7	267	29.9	252	24.6	267	26.0	248	21.5	267	23.1	244
102 in	24.2	227	24.7	205	20.2	227	20.8	201	17.3	227	18.0	198	15.1	227	16.0	195
111 in	22.3	215	22.7	194	18.6	215	19.1	191	15.9	215	16.6	188				
120 in	17.5	184	17.9	167												

1 x 2.75 x .375 Alum. Tube Mullion	90 in				100 in				120 in				140 in				160 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 in	170.0	1116	170.0	521	170.0	1240	170.0	521	148.7	1301	170.0	521	127.5	1301	170.0	521	111.5	1301	170.0	521
48 in	151.8	1139	170.0	677	136.6	1139	170.0	680	113.8	1139	170.0	680	97.6	1139	170.0	680	85.4	1139	170.0	680
50.625 in	130.5	1032	170.0	747	117.4	1032	170.0	756	97.9	1032	170.0	756	83.9	1032	170.0	755	73.4	1032	170.0	756
54 in	107.5	907	145.0	714	96.8	907	141.1	710	80.6	907	140.0	709	69.1	907	140.0	709	60.5	907	140.0	709
60 in	78.4	735	99.5	583	70.5	735	95.1	578	58.8	735	91.8	574	50.4	735	91.8	574	44.1	735	91.8	574
63 in	67.7	666	83.9	531	60.9	666	79.8	526	50.8	666	75.8	521	43.5	666	75.6	521	38.1	666	75.6	521
66 in	58.9	607	71.5	486	53.0	607	67.6	481	44.2	607	63.4	476	37.9	607	62.7	474	33.1	607	62.7	474
72 in	46.4	510	53.3	413	40.8	510	50.0	408	34.0	510	45.9	402	29.2	510	44.4	399	25.5	510	44.3	399
78 in	38.6	458	44.0	373	34.7	458	41.6	368	28.9	458	37.7	362	24.8	458	36.0	359	21.7	458	35.7	358
79 in	35.7	435	40.9	355	32.1	435	38.1	351	26.8	435	34.4	344	22.9	435	32.6	341	20.1	435	32.2	340
80 in	23.2	327	25.7	271	20.9	327	23.7	268	17.4	327	21.0	262	14.9	327	19.3	258				
96 in	19.1	267	20.9	240	17.2	267	19.3	237	14.4	267	16.9	232								
102 in																				
111 in																				
120 in																				

TABLE 3B

Anchor Capacity Table (lbs)

Anchor Clip Patterns	Substrate:	2.7k Concrete				3.5k Conc.	Hollow CMU					Filled CMU	PT Wood		Metal
	Anchor Type:	3/16" Elco Ultracon		1/4" Elco Ultracon		5/16" Elco Ultracon	3/16" Elco Ultracon		1/4" Elco Ultracon		1/4" SS Elco AggreGator	5/16" Elco Ultracon	1/4" SS Elco AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1):		390 lbs	390 lbs	450 lbs	690 lbs	1644 lbs	270 lbs	280 lbs	354 lbs	740 lbs	374 lbs	664 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 1.15" Min. O.C. / Standard (or Offset) Clip (Fig. 2):		480 lbs	700 lbs	N/A	N/A	N/A	N/A	380 lbs	N/A	N/A	N/A	N/A	N/A	682 lbs	885 lbs	1120 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):		780 lbs	780 lbs	680 lbs	1360 lbs	1896 lbs	540 lbs	560 lbs	N/A	760 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
2 Anchors @ 0.45" Min. O.C. / U-Clip, into .125" 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	N/A	N/A	715 lbs
1 Anchor / F-Clip (Fig. 5):		155 lbs	195 lbs	225 lbs	445 lbs	822 lbs	135 lbs	140 lbs	177 lbs	370 lbs	187 lbs	332 lbs	473 lbs	170 lbs	221 lbs	280 lbs
2 Anchors @ 1.15" Min. O.C./ F-Clip (Fig. 6):		240 lbs	350 lbs	N/A	N/A	N/A	N/A	190 lbs	N/A	N/A	N/A	N/A	N/A	341 lbs	442 lbs	560 lbs

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

CIRCLED VALUES ARE USED IN THE EXAMPLE ON SHEET 24.

ANCHOR CAPACITY ADJUSTMENT FORMULA:

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

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

FIGURE 1:

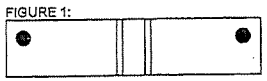


FIGURE 2:

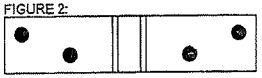
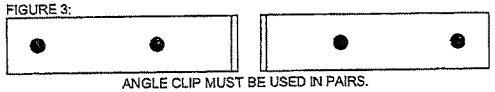


FIGURE 3:



ANGLE CLIP MUST BE USED IN PAIRS.

FIGURE 4:

FIGURE 5:

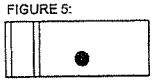


FIGURE 6:

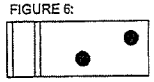


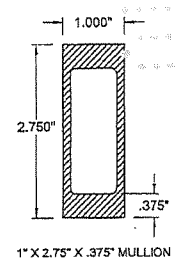
TABLE NOTES:

1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEET 25 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 21-23. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON SHEETS 21-23. 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 BE PRESSURE-TREATED YELLOW SOUTHERN PINE WITH AN 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.



1" X 2.75" X .375" MULLION

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FL CERT. OF AUTH.# 29296

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS

Description: 1 X 2.75 X .375 MULL SPECS

Series: N/A | Drawing No.: 6300JR | Sheet: 7 of 25

Scale: N/A | Rev.: C

Drawn By: J.ROSOWSKI | Date: 08/29/11 | Checked By: | Date:

Re. By: J.ROSOWSKI | Date: 06/19/17 | Revision: NO CHANGES THIS SHEET.

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0630.01
Expiration Date 05/26/2021
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
6/22/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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

TABLE 4A

Mullion Capacity Table (lbs/ft²)

Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)

1 x 2.75 x .650 Alum. Tube Mullion	50 in				60 in				70 in				80 in				90 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519	170.0	1116	170.0	521
48 in	170.0	708	170.0	524	170.0	850	170.0	584	170.0	992	170.0	630	170.0	1133	170.0	661	170.0	1275	170.0	677
50.625 in	170.0	747	170.0	563	170.0	898	170.0	631	170.0	1048	170.0	684	170.0	1195	170.0	723	162.6	1286	170.0	747
54 in	170.0	797	170.0	612	170.0	956	170.0	691	170.0	1116	170.0	754	150.7	1130	170.0	803	133.9	1130	170.0	837
60 in	170.0	885	170.0	701	146.5	915	162.3	761	125.5	915	144.5	746	109.9	915	132.3	735	97.6	915	123.9	726
63 in	151.8	830	161.9	710	126.5	830	138.9	694	108.5	830	123.2	681	94.9	830	112.2	670	84.4	830	104.6	662
66 in	132.1	757	140.0	650	110.0	757	119.8	635	94.3	757	105.6	624	82.5	757	96.1	614	73.4	757	89.1	606
72 in	101.7	636	108.8	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
76 in	86.5	571	90.4	498	72.1	571	76.8	488	61.8	571	67.4	479	54.1	571	60.6	471	48.0	571	55.5	464
78 in	80.0	542	83.4	474	66.7	542	70.8	465	57.1	542	62.1	456	50.0	542	55.7	449	44.4	542	51.0	442
90 in	52.1	407	53.7	361	43.4	407	45.4	355	37.2	407	39.6	349	32.5	407	35.3	343	28.9	407	32.1	338
96 in	42.9	356	44.1	320	35.8	358	37.2	314	30.7	358	32.4	309	26.8	358	28.8	304	23.8	356	26.1	300
108 in	30.1	283	30.8	255	25.1	283	25.9	251	21.5	283	22.5	247	18.8	283	19.9	244	16.7	283	18.0	240
111 in	27.8	267	28.3	242	23.1	267	23.8	238	19.8	267	20.6	235	17.3	267	18.3	231	15.4	267	16.5	228
120 in	22.0	229	22.3	209	18.3	229	18.8	205	15.7	229	16.2	202								

1 x 2.75 x .650 Alum. Tube Mullion	100 in				120 in				140 in				160 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 in	170.0	1240	170.0	521	170.0	1488	170.0	521	158.7	1620	170.0	521	138.8	1620	170.0	521
48 in	170.0	1417	170.0	680	141.7	1417	170.0	680	121.5	1417	170.0	680	106.3	1417	170.0	680
50.625 in	146.3	1286	170.0	756	121.9	1286	170.0	756	104.5	1286	170.0	756	91.4	1286	170.0	756
54 in	120.6	1130	170.0	856	100.5	1130	170.0	861	86.1	1130	170.0	861	75.3	1130	170.0	861
60 in	87.9	915	118.5	720	73.2	915	114.4	715	62.8	915	114.4	715	54.9	915	114.4	715
63 in	75.9	830	99.4	656	63.3	830	94.5	649	54.2	830	94.1	649	47.4	830	94.1	649
66 in	66.0	757	84.2	600	55.0	757	79.0	593	47.2	757	78.2	591	41.3	757	78.2	591
72 in	50.9	636	62.3	508	42.4	636	57.2	500	36.3	636	55.3	497	31.8	636	55.2	497
76 in	43.2	571	51.8	459	36.0	571	47.0	451	30.9	571	44.8	447	27.0	571	44.6	446
78 in	40.0	542	47.5	437	33.3	542	42.9	429	28.6	542	40.6	425	25.0	542	40.1	423
90 in	26.0	407	29.6	334	21.7	407	26.1	327	18.6	407	24.1	322	16.3	407	23.0	319
96 in	21.5	356	24.0	296	17.9	358	21.0	289	15.3	358	19.2	284				
108 in	15.1	283	16.5	237												
111 in																
120 in																

TABLE 4B

Anchor Capacity Table (lbs)

Anchor Clip Patterns	Substrate	2.7k Concrete				3.5k Conc.	Hollow CMU					Filled CMU	PT Wood		Metal
	Anchor Type	3/16" Elco Ultracon		1/4" Elco Ultracon		5/16" Elco Ultracon	3/16" Elco Ultracon		1/4" Elco Ultracon		1/4" SS Elco AggreGator	5/16" Elco Ultracon	1/4" SS Elco AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1):		390 lbs	390 lbs	450 lbs	550 lbs	1644 lbs	270 lbs	280 lbs	354 lbs	740 lbs	374 lbs	684 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 1.15" Min. O.C. / Standard (or Offset) Clip (Fig. 2):		480 lbs	700 lbs	N/A	N/A	N/A	N/A	380 lbs	N/A	N/A	N/A	N/A	N/A	682 lbs	885 lbs	1120 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):		780 lbs	780 lbs	680 lbs	1560 lbs	1896 lbs	540 lbs	560 lbs	N/A	760 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
2 Anchors @ 0.45" Min. O.C. / U-Clip, into .125" 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	N/A	N/A	715 lbs
1 Anchor / F-Clip (Fig. 5):		195 lbs	195 lbs	225 lbs	445 lbs	822 lbs	135 lbs	140 lbs	177 lbs	370 lbs	187 lbs	332 lbs	473 lbs	170 lbs	221 lbs	280 lbs
2 Anchors @ 1.15" Min. O.C./ F-Clip (Fig. 6):		240 lbs	350 lbs	N/A	N/A	N/A	N/A	190 lbs	N/A	N/A	N/A	N/A	N/A	341 lbs	442 lbs	560 lbs

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

CIRCLED VALUES ARE USED IN THE EXAMPLE ON SHEET 24.

ANCHOR CAPACITY ADJUSTMENT FORMULA:

$$(DP_{sec}) \times \left(\frac{\text{ANCHOR CAP.}_{\text{mullion}}}{\text{MULLION CAP.}_{\text{mullion}}}\right) = \text{ANCHOR CAP.}_{\text{sec}}$$

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.

FIGURE 1:

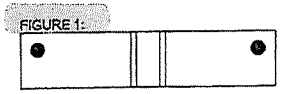


FIGURE 2:

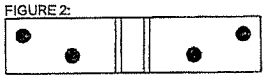
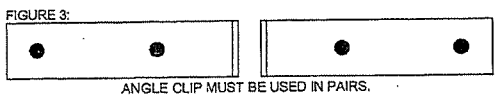


FIGURE 3:



ANGLE CLIP MUST BE USED IN PAIRS.

FIGURE 4:

FIGURE 5:

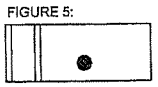
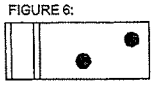


FIGURE 6:



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

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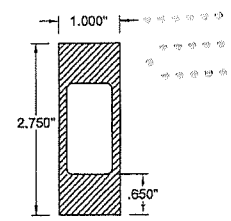

1" X 2.75" X .650" MULLION

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PGT
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600
FL CERT. OF AUTH.# 29298

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: 1 X 2.75 X .660 MULL SPECS
Series: N/A
Scale: N/A
Drawing No. 6300JR
Date: 08/29/11
Sheet: 8 of 25
Rev. C
Drawn By: J ROSOWSKI
Checked By:
Date:
Rev. By: J ROSOWSKI
Date: 06/19/17
Revisions: NO CHANGES THIS SHEET.

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0630.01
Expiration Date 05/26/2021
By _____
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
6/22/17
A. LYNN MILLER, P.E.
FL P.E.# 58705

TABLE 5A

Mullion Capacity Table (lbs/ft²)

Opening Width (for vertically-spanning mullions) **or Opening Height** (for horizontally-spanning mullions)

1" x 3.125" x .500" Alum Tube Mull	50 in				60 in				70 in				80 in				90 in				100 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519	170.0	1116	170.0	521	170.0	1240	170.0	521
48 in	170.0	708	170.0	524	170.0	850	170.0	584	170.0	992	170.0	630	170.0	1133	170.0	661	170.0	1275	170.0	677	170.0	1417	170.0	680
50.625 in	170.0	747	170.0	563	170.0	896	170.0	631	170.0	1046	170.0	684	170.0	1195	170.0	723	170.0	1345	170.0	747	170.0	1494	170.0	756
54 in	170.0	797	170.0	612	170.0	955	170.0	691	170.0	1116	170.0	754	170.0	1275	170.0	803	166.1	1401	170.0	837	149.5	1401	170.0	856
60 in	170.0	885	170.0	701	170.0	1063	170.0	797	158.5	1158	170.0	878	138.7	1156	187.0	928	123.3	1156	156.5	917	111.0	1156	149.7	910
63 in	170.0	930	170.0	745	159.8	1049	170.0	850	137.0	1049	155.5	860	119.8	1049	141.7	846	106.5	1049	132.0	836	95.9	1049	125.5	828
66 in	166.8	955	170.0	789	139.0	955	151.3	804	119.1	955	133.7	788	104.2	955	121.4	775	92.6	955	112.6	765	83.4	955	106.4	757
72 in	128.5	803	134.9	697	107.0	803	114.9	682	91.8	803	101.1	670	80.3	803	91.2	659	71.4	803	83.8	649	64.2	803	78.6	642
78 in	109.2	721	114.1	629	91.0	721	97.0	616	78.0	721	85.1	605	68.3	721	76.5	595	60.7	721	70.1	586	54.6	721	65.4	579
78 in	101.0	684	105.4	599	84.2	684	89.4	587	72.2	684	78.4	576	63.1	684	70.4	567	56.1	684	64.4	558	50.5	684	59.9	551
90 in	85.3	514	87.9	456	54.8	514	57.3	448	47.0	514	50.0	440	41.1	514	44.8	433	36.5	514	40.5	427	32.8	514	37.3	421
96 in	54.2	452	55.7	404	45.2	452	47.0	396	38.7	452	40.9	390	33.9	452	36.4	384	30.1	452	32.9	378	27.1	452	30.3	373
108 in	38.1	357	38.9	322	31.7	357	32.7	317	27.2	357	28.4	312	23.8	357	25.2	308	21.1	357	22.7	303	19.0	357	20.8	299
111 in	35.1	338	35.8	306	29.2	338	30.1	301	25.0	338	26.1	296	21.9	338	23.1	292	19.5	338	20.8	288	17.5	338	19.0	284
120 in	27.7	289	28.2	263	23.1	289	23.7	259	19.8	289	20.5	256	17.3	289	18.1	252	15.4	289	16.3	249	13.9	289	14.9	246

1" x 3.125" x .500" Alum Tube Mull	120 in				140 in				160 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 in	170.0	1488	170.0	521	170.0	1735	170.0	521	154.4	1802	170.0	521
48 in	157.7	1577	170.0	680	135.1	1577	170.0	680	118.2	1577	170.0	680
50.625 in	141.7	1495	170.0	756	121.5	1495	170.0	756	106.3	1495	170.0	756
54 in	124.6	1401	170.0	861	106.8	1401	170.0	861	93.4	1401	170.0	861
60 in	92.5	1156	144.5	903	79.3	1156	144.5	903	69.4	1156	144.5	903
63 in	79.9	1049	119.3	820	68.5	1049	118.9	819	59.9	1049	118.9	819
66 in	69.5	955	99.8	749	59.6	955	98.7	746	52.1	955	98.7	746
72 in	53.5	803	72.2	632	45.9	803	69.8	628	40.1	803	69.7	627
78 in	45.5	721	59.4	569	39.0	721	56.6	564	34.1	721	56.1	563
78 in	42.1	684	54.1	541	36.1	684	51.3	536	31.6	684	50.6	534
90 in	27.4	514	33.0	412	23.5	514	30.4	406	20.6	514	29.0	403
96 in	22.6	452	26.6	365	19.4	452	24.2	359	16.9	452	22.8	355
108 in	15.9	357	18.0	293	13.6	357	16.2	287	11.9	357	15.0	283
111 in	14.6	338	16.5	278	12.5	338	14.8	273	11.0	338	13.6	269
120 in	11.6	289	12.8	240	9.9	289	11.4	236	8.7	289	10.4	232

TABLE 5B

Anchor Capacity Table (lbs)

Anchor Clip Patterns	Substrate:	2.7k Concrete				3.5k Conc.	Hollow CMU					Filled CMU	PT Wood		Metal
	Anchor Type:	3/16" Elco Ultracon		1/4" Elco Ultracon		5/16" Elco Ultracon	3/16" Elco Ultracon		1/4" Elco Ultracon		1/4" SS Elco AggreGator	5/16" Elco Ultracon	1/4" SS Elco AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G9)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1):		390 lbs	390 lbs	450 lbs	890 lbs	1644 lbs	270 lbs	280 lbs	354 lbs	740 lbs	374 lbs	664 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 1.15" Min. O.C. / Standard (or Offset) Clip (Fig. 2):		480 lbs	700 lbs	N/A	N/A	N/A	N/A	360 lbs	N/A	N/A	N/A	N/A	N/A	682 lbs	885 lbs	1120 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):		780 lbs	780 lbs	680 lbs	1560 lbs	1896 lbs	540 lbs	560 lbs	N/A	780 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
3 Anchors @ 0.45" Min. O.C. / U-Clip, into .125" 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	N/A	N/A	1073 lbs
1 Anchor / F-Clip (Fig. 5):		195 lbs	195 lbs	225 lbs	445 lbs	822 lbs	135 lbs	140 lbs	177 lbs	370 lbs	187 lbs	332 lbs	473 lbs	170 lbs	221 lbs	280 lbs
2 Anchors @ 1.15" Min. O.C./ F-Clip (Fig. 6):		240 lbs	350 lbs	N/A	N/A	N/A	N/A	190 lbs	N/A	N/A	N/A	N/A	N/A	341 lbs	442 lbs	560 lbs

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

ANCHOR CAPACITY ADJUSTMENT FORMULA:

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

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

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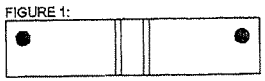

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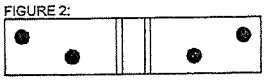

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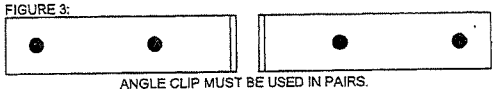

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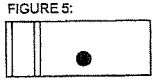

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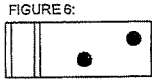

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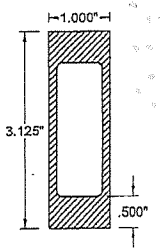

1" X 3.125" X .5" MULLION
(1" VF MULLION)

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0630.01
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By
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PGT
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N. VENICE, FL 34275
(941) 480-1600
FL CERT. OF AUTH.# 20206

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Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: 1 X 3.125 X .5 MULL SPECS
Drawing No.: 6300JR
Sheet: 9 of 25
Rev.: C
Scale: N/A
Date: 08/29/11
Checked By: J. ROSOWSKI
Date:
Revision: NO CHANGES THIS SHEET.
Date: 06/19/17
Rev. By: J. ROSOWSKI

TABLE 6A

Mullion Capacity Table (lbs/ft²)

Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)

1 x 4 x .125 Alum. Tube Mullion	50 in				60 in				70 in				80 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 in	170.0	620	170.0	436	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519
48 in	170.0	708	170.0	524	170.0	850	170.0	584	170.0	992	170.0	630	170.0	1133	170.0	661
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	723
54 in	170.0	797	170.0	612	170.0	955	170.0	691	170.0	1116	170.0	754	154.4	1158	170.0	803
60 in	170.0	885	170.0	701	166.7	1042	170.0	797	142.9	1042	161.1	832	125.1	1042	146.7	815
63 in	170.0	930	170.0	745	151.2	992	163.6	818	129.6	992	144.4	799	113.4	992	131.0	782
66 in	165.4	947	170.0	789	137.8	947	148.0	706	118.1	947	130.3	768	103.4	947	117.7	752
72 in	135.9	849	142.7	737	113.2	849	121.6	722	97.0	849	106.9	708	84.9	849	96.4	698
76 in	115.5	762	120.7	665	96.3	762	102.6	652	82.5	762	90.0	640	72.2	762	80.9	629
78 in	105.9	724	111.4	634	89.0	724	94.6	621	76.3	724	82.9	609	66.8	724	74.4	599
90 in	69.6	543	71.8	483	58.0	543	60.7	474	49.7	543	52.9	466	43.5	543	47.1	458
96 in	57.3	478	58.9	427	47.8	478	49.7	419	40.9	478	43.2	412	35.8	478	38.5	405
108 in	40.3	377	41.1	341	33.5	377	34.6	335	28.8	377	30.0	330	25.2	377	26.6	325
111 in	37.1	357	37.8	323	30.9	357	31.8	318	26.5	357	27.6	313	23.2	357	24.4	309
120 in	29.3	306	29.8	279	24.5	306	25.1	274	21.0	306	21.7	270	18.3	306	19.2	267
144 in	17.0	212	17.2	196												

1 x 4 x .125 Alum. Tube Mullion	90 in				100 in				120 in				140 in				160 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 in	170.0	1116	170.0	521	170.0	1240	170.0	521	170.0	1488	170.0	521	145.8	1488	170.0	521	127.6	1488	170.0	521
48 in	170.0	1275	170.0	677	156.3	1303	170.0	680	130.3	1303	170.0	680	111.7	1303	170.0	680	97.7	1303	170.0	680
50.625 in	156.1	1235	170.0	747	140.5	1235	170.0	756	117.1	1235	170.0	756	100.4	1235	170.0	756	87.8	1235	170.0	756
54 in	137.2	1158	170.0	837	123.5	1158	170.0	856	102.9	1158	170.0	861	88.2	1158	170.0	861	77.2	1158	170.0	861
60 in	111.2	1042	136.8	801	100.0	1042	130.2	791	83.4	1042	125.1	782	71.5	1042	125.1	782	62.5	1042	125.1	782
63 in	100.8	992	121.4	768	90.7	992	114.8	756	75.6	992	108.4	745	64.8	992	108.0	744	56.7	992	108.0	744
66 in	91.9	947	108.7	738	82.7	947	102.2	727	68.9	947	95.1	713	59.1	947	94.0	711	51.7	947	94.0	711
72 in	75.5	849	86.7	686	67.9	849	82.7	675	56.6	849	75.3	659	48.5	849	72.5	652	42.5	849	72.4	651
76 in	64.2	762	74.2	620	57.8	762	69.2	613	48.1	762	62.6	602	41.3	762	59.9	597	36.1	762	59.4	595
78 in	59.4	724	68.1	591	53.4	724	63.4	583	44.5	724	57.3	573	38.2	724	54.3	567	33.4	724	53.5	565
90 in	38.6	543	42.6	452	34.8	543	39.5	446	29.0	543	34.9	436	24.8	543	32.1	430	21.7	543	30.7	426
96 in	31.8	478	34.8	400	28.7	478	32.0	395	23.9	478	28.1	386	20.5	478	25.6	380	17.9	478	24.2	376
108 in	22.4	377	24.0	321	20.1	377	22.0	317	16.8	377	19.0	310	14.4	377	17.1	304				
111 in	20.6	357	22.0	305	18.5	357	20.1	301	15.4	357	17.4	294								
120 in	18.3	306	17.3	263																
144 in																				

TABLE 6B

Anchor Capacity Table (lbs)

Anchor Clip Patterns	Substrate:	2.7k Concrete				3.5k Conc.	Hollow CMU					Filled CMU	PT Wood		Metal
	Anchor Type:	3/16" Elco Ultracon		1/4" Elco Ultracon		5/16" Elco Ultracon	3/16" Elco Ultracon		1/4" Elco Ultracon		1/4" SS Elco AggreGator	5/16" Elco Ultracon	1/4" SS Elco AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1&2):		390 lbs	390 lbs	450 lbs	890 lbs	1644 lbs	270 lbs	280 lbs	354 lbs	740 lbs	374 lbs	664 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 2.25" Min. O.C. / Standard (or Offset) Clip (Fig. 3):		700 lbs	700 lbs	580 lbs	1410 lbs	952 lbs	N/A	560 lbs	N/A	630 lbs	N/A	880 lbs	N/A	682 lbs	885 lbs	1120 lbs
8 Anchors @ 1.15" Min. O.C. / Standard (or Offset) Clip (Fig 4):		960 lbs	1400 lbs	N/A	N/A	N/A	N/A	760 lbs	N/A	N/A	N/A	N/A	N/A	1363 lbs	1770 lbs	2240 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 5):		780 lbs	780 lbs	660 lbs	1580 lbs	1896 lbs	540 lbs	560 lbs	N/A	760 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
6 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 6):		1170 lbs	1170 lbs	1020 lbs	2340 lbs	2844 lbs	810 lbs	840 lbs	N/A	1140 lbs	1122 lbs	1320 lbs	2838 lbs	1022 lbs	1327 lbs	1680 lbs
4 Anchors @ 0.45" Min. O.C. / U-Clip, into .125" Alum. (Fig. 7):		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1430 lbs
2 Anchors @ 2.25" Min. O.C./ F-Clip (Fig. 8):		350 lbs	350 lbs	290 lbs	705 lbs	476 lbs	N/A	280 lbs	N/A	315 lbs	N/A	440 lbs	N/A	341 lbs	442 lbs	560 lbs
4 Anchors @ 1.15" Min. O.C./ F-Clip (Fig. 9):		480 lbs	700 lbs	N/A	N/A	N/A	N/A	380 lbs	N/A	N/A	N/A	N/A	N/A	682 lbs	885 lbs	1120 lbs

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

ANCHOR CAPACITY ADJUSTMENT FORMULA:

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

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FIGURE 1: FIGURE 2: FIGURE 3: FIGURE 4: FIGURE 8: FIGURE 9:

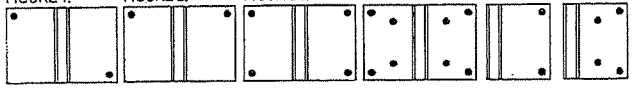
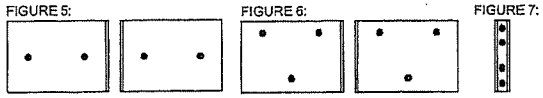


FIGURE 5: FIGURE 6: FIGURE 7:



ANGLE CLIP (FIGURES 5&6) MUST BE USED IN PAIRS.

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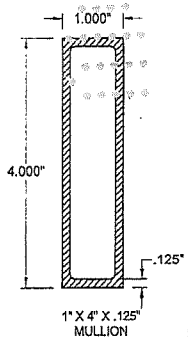
1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEET 25 FOR INFORMATION ON LOADING. SEE SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.

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 21-23. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON SHEETS 21-23. 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 BE PRESSURE-TREATED YELLOW SOUTHERN PINE WITH AN 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.



PGT® 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600 FL CERT. OF AUTH.# 29296

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Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: 1 X 4 X .125 MULL SPECS
Series: N/A | Drawing No. 6300JR | Sheet: 10 of 25
Scale: N/A | Date: | Rev: C
Drawn By: J ROSOWSKI | Date: 08/29/11 | Checked By: | Date:
Rev. By: J ROSOWSKI | Date: 06/19/17 | Revision: NO CHANGES THIS SHEET.

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0630.01
Expiration Date 05/26/2021
By
Miami-Dade Product Control

ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER
6/22/17
A. LYNN MILLER, P.E.
FL P.E.# 58705

TABLE 7A

Mullion Capacity Table (lbs/ft²)

Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)

1 x 4 x .375 Alum. Tube & "T" Mullion	50 in				60 in				70 in				80 in				90 in				100 in				120 in				140 in				160 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519	170.0	1116	170.0	521	170.0	1240	170.0	521	170.0	1488	170.0	521	170.0	1735	170.0	521	170.0	1983	170.0	521
48 in	170.0	708	170.0	524	170.0	850	170.0	584	170.0	992	170.0	630	170.0	1133	170.0	661	170.0	1275	170.0	677	170.0	1417	170.0	680	170.0	1700	170.0	680	170.0	1983	170.0	680	151.8	2024	170.0	680
50.625 in	170.0	747	170.0	563	170.0	896	170.0	631	170.0	1046	170.0	684	170.0	1195	170.0	723	170.0	1345	170.0	747	170.0	1494	170.0	756	170.0	1793	170.0	756	158.0	1919	170.0	756	136.5	1919	170.0	756
54 in	170.0	797	170.0	612	170.0	956	170.0	691	170.0	1116	170.0	754	170.0	1275	170.0	803	170.0	1434	170.0	837	170.0	1594	170.0	856	159.9	1799	170.0	861	137.1	1799	170.0	861	120.0	1799	170.0	861
60 in	170.0	885	170.0	701	170.0	1063	170.0	797	170.0	1240	170.0	878	170.0	1417	170.0	944	170.0	1594	170.0	996	155.5	1619	170.0	1033	129.6	1619	170.0	1063	111.0	1619	170.0	1063	97.2	1619	170.0	1063
63 in	170.0	930	170.0	745	170.0	1116	170.0	850	170.0	1302	170.0	940	170.0	1488	170.0	1015	156.7	1542	170.0	1076	141.0	1542	170.0	1122	117.5	1542	168.5	1158	100.7	1542	167.9	1157	88.1	1542	167.9	1157
66 in	170.0	974	170.0	789	170.0	1169	170.0	903	170.0	1364	170.0	1002	160.6	1472	170.0	1086	142.8	1472	169.8	1148	128.5	1472	158.8	1130	107.1	1472	147.8	1108	91.8	1472	146.0	1104	80.3	1472	146.0	1104
72 in	170.0	1063	170.0	878	170.0	1275	170.0	1009	150.8	1320	166.2	1101	132.0	1320	149.9	1082	117.3	1320	137.8	1066	105.6	1320	128.6	1049	88.0	1320	117.0	1024	75.4	1320	112.6	1013	66.0	1320	112.5	1012
76 in	170.0	1122	170.0	937	149.6	1184	159.4	1013	128.2	1184	139.0	994	112.2	1184	125.7	978	99.7	1184	115.3	964	89.8	1184	107.5	952	74.8	1184	97.6	935	64.1	1184	93.1	927	56.1	1184	92.3	925
78 in	166.1	1124	170.0	967	138.4	1124	147.0	965	118.6	1124	128.8	947	103.8	1124	115.6	931	92.3	1124	105.8	916	83.0	1124	98.5	906	69.2	1124	89.0	890	59.3	1124	84.3	881	51.9	1124	83.2	879
90 in	108.1	844	111.5	750	90.1	844	94.3	736	77.2	844	82.1	724	67.6	844	73.3	712	60.1	844	66.5	702	54.0	844	61.4	693	45.0	844	54.2	678	38.6	844	50.0	666	33.8	844	47.7	662
96 in	89.1	742	91.5	663	74.2	742	77.2	652	63.6	742	67.2	641	55.7	742	59.8	631	49.5	742	54.1	622	44.5	742	49.8	614	37.1	742	43.6	600	31.8	742	39.8	590	27.8	742	37.5	584
108 in	62.6	586	63.9	530	52.1	586	53.8	521	44.7	586	46.6	513	39.1	586	41.4	505	34.8	586	37.3	498	31.3	586	34.2	492	26.1	586	29.6	481	22.3	586	26.6	472	19.5	586	24.7	466
111 in	57.6	555	58.8	503	48.0	555	49.5	495	41.2	555	42.9	487	36.0	555	38.0	480	32.0	555	34.2	473	28.8	555	31.3	467	24.0	555	27.1	457	20.6	555	24.3	448	18.0	555	22.4	442
120 in	45.6	475	46.4	433	38.0	475	39.0	426	32.6	475	33.7	420	28.5	475	29.8	414	25.3	475	26.8	409	22.8	475	24.5	404	19.0	475	21.1	395	16.3	475	18.7	387	14.3	475	17.2	381
144 in	28.4	330	28.7	305	22.0	330	22.4	301	18.9	330	19.3	297	16.5	330	17.0	293																				

TABLE 7B

Anchor Capacity Table (lbs)

Anchor Clip Patterns	Substrate:	2.7k Concrete				3.5k Conc.	Hollow CMU						Filled CMU	PT Wood		Metal
	Anchor Type:	3/16" Elco Ultracon		1/4" Elco Ultracon		5/16" Elco Ultracon	3/16" Elco Ultracon		1/4" Elco Ultracon		1/4" SS Elco AggreGator	5/16" Elco Ultracon	1/4" SS Elco AggreGator	#10 Steel Screw (GS)	#12 Steel Screw (GS)	#12 Steel Screw (GS)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.46"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1&2):		390 lbs	390 lbs	450 lbs	890 lbs	1844 lbs	270 lbs	280 lbs	354 lbs	740 lbs	374 lbs	864 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 2.25" Min. O.C. / Standard (or Offset) Clip (Fig. 3):		700 lbs	700 lbs	580 lbs	1410 lbs	952 lbs	N/A	560 lbs	N/A	630 lbs	N/A	880 lbs	N/A	682 lbs	885 lbs	1120 lbs
8 Anchors @ 1.15" Min. O.C. / Standard (or Offset) Clip (Fig. 4):		960 lbs	1400 lbs	N/A	N/A	N/A	N/A	760 lbs	N/A	N/A	N/A	N/A	N/A	1363 lbs	1770 lbs	2240 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 5):		780 lbs	780 lbs	680 lbs	1560 lbs	1896 lbs	540 lbs	560 lbs	N/A	760 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
6 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 6):		1170 lbs	1170 lbs	1020 lbs	2340 lbs	2844 lbs	810 lbs	840 lbs	N/A	1140 lbs	1122 lbs	1320 lbs	2838 lbs	1022 lbs	1327 lbs	1680 lbs
4 Anchors @ 0.45" Min. O.C. / U-Clip, into .125" Alum. (Fig. 7):		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1430 lbs
2 Anchors @ 2.25" Min. O.C./ F-Clip (Fig. 8):		350 lbs	350 lbs	290 lbs	705 lbs	476 lbs	N/A	280 lbs	N/A	315 lbs	N/A	440 lbs	N/A	341 lbs	442 lbs	560 lbs
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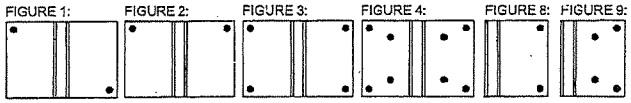

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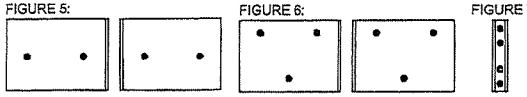

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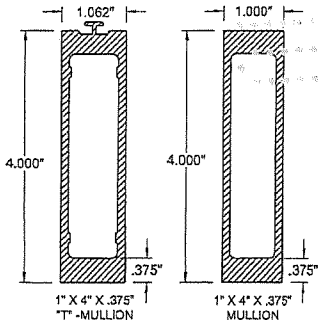

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Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: 1 X 4 X .375 MULL SPECS
Series: N/A
Scale: N/A
Drawing No. 6300JR
Sheet: 11 of 25
Drawn By: J.ROSOWSKI
Date: 08/29/11
Checked By:
Date:
Rev: C
Rev. By: J.ROSOWSKI
Date: 06/19/17
Revision: NO CHANGES THIS SHEET.

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0630.01
Expiration Date 05/26/2021
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
6/22/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
FL P.E.# 58705

TABLE 8A

Mullion Capacity Table (lbs/ft²)

Opening Width (for vertically-spanning mullions) or **Opening Height** (for horizontally-spanning mullions)

1.26" x 3.188" x .265" Alum Tube Mull	50 in				60 in				70 in				80 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519
48 in	170.0	708	170.0	524	170.0	850	170.0	504	170.0	992	170.0	630	170.0	1133	170.0	661
50.625 in	170.0	747	170.0	563	170.0	896	170.0	631	170.0	1046	170.0	684	170.0	1195	170.0	723
54 in	170.0	797	170.0	612	170.0	956	170.0	691	170.0	1116	170.0	754	170.0	1275	170.0	803
60 in	170.0	885	170.0	701	170.0	1063	170.0	797	158.9	1158	170.0	878	139.0	1158	167.4	930
63 in	170.0	930	170.0	745	160.1	1051	170.0	850	137.2	1051	155.9	862	120.1	1051	142.0	848
66 in	167.1	957	170.0	789	139.3	957	151.6	805	119.4	957	134.0	790	104.4	957	121.6	777
72 in	128.7	804	135.2	698	107.3	804	115.2	684	91.9	804	101.3	671	80.4	804	91.4	660
75 in	109.4	722	114.4	630	91.2	722	97.2	618	78.2	722	85.3	606	68.4	722	76.7	596
78 in	101.2	685	105.6	600	84.4	685	89.6	588	72.3	685	78.5	577	63.3	685	70.5	568
90 in	65.9	515	68.0	457	54.9	515	57.5	449	47.1	515	50.1	441	41.2	515	44.7	434
96 in	54.3	453	55.8	404	45.3	453	47.1	397	38.8	453	41.0	391	33.9	453	36.4	385
108 in	38.1	358	39.0	323	31.8	358	32.8	318	27.2	358	28.4	313	23.8	358	25.2	308
111 in	35.1	338	35.8	306	29.3	338	30.1	301	25.1	338	26.1	297	22.0	338	23.2	293
120 in	27.8	290	28.3	264	23.2	290	23.8	260	19.9	290	20.6	256	17.4	290	18.2	253
144 in	16.1	201	16.3	186												

1.26" x 3.188" x .265" Alum Tube Mull	90 in				100 in				120 in				140 in				160 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 in	170.0	1116	170.0	521	170.0	1240	170.0	521	170.0	1488	170.0	521	170.0	1735	170.0	521	151.6	1769	170.0	521
48 in	170.0	1275	170.0	677	170.0	1417	170.0	680	154.8	1548	170.0	680	132.7	1545	170.0	680	116.1	1548	170.0	680
50.625 in	170.0	1345	170.0	747	167.0	1468	170.0	756	139.2	1468	170.0	756	119.3	1468	170.0	756	104.4	1468	170.0	756
54 in	163.1	1376	170.0	837	146.8	1376	170.0	856	122.3	1376	170.0	861	104.8	1376	170.0	861	91.7	1376	170.0	861
60 in	123.6	1150	156.8	919	111.2	1158	150.0	912	92.7	1158	144.8	905	79.4	1158	144.8	905	69.5	1158	144.8	905
63 in	106.7	1051	132.3	837	96.1	1051	125.7	830	80.1	1051	119.5	822	68.6	1051	119.1	821	60.0	1051	119.1	821
66 in	92.8	957	112.8	767	83.6	957	106.6	759	69.6	957	100.0	750	59.7	957	98.9	748	52.2	957	98.9	748
72 in	71.5	804	84.1	650	64.4	804	78.8	643	53.6	804	72.3	633	46.0	804	69.9	629	40.2	804	69.8	628
75 in	60.8	722	70.3	588	54.7	722	65.5	580	45.6	722	59.5	570	39.1	722	56.7	565	34.2	722	56.2	564
78 in	56.2	685	64.5	560	50.6	685	60.1	553	42.2	685	54.3	543	36.2	685	51.4	537	31.6	685	50.7	536
90 in	36.6	515	40.6	428	33.0	515	37.4	422	27.5	515	33.1	413	23.5	515	30.5	407	20.6	515	29.1	404
96 in	30.2	453	33.0	379	27.2	453	30.4	374	22.6	453	26.6	366	19.4	453	24.3	360	17.0	453	22.9	356
108 in	21.2	358	22.7	304	19.1	358	20.8	300	15.9	358	18.0	293								
111 in	19.5	338	20.9	299	17.6	338	19.1	285												
120 in	15.4	290	16.4	249																
144 in																				

TABLE 8B

Anchor Capacity Table (lbs)

Anchor Clip Patterns	Substrate:	2.7k Concrete				3.5k Conc.	Hollow CMU						Filled CMU	PT Wood		Metal
	Anchor Type:	3/16" Elco Ultracon		1/4" Elco Ultracon		5/16" Elco Ultracon	3/16" Elco Ultracon		1/4" Elco Ultracon		1/4" SS Elco AggreGator	5/16" Elco Ultracon	1/4" SS Elco AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1):		390 lbs	390 lbs	450 lbs	850 lbs	1644 lbs	270 lbs	280 lbs	354 lbs	740 lbs	374 lbs	664 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 1.15" Min. O.C. / Standard (or Offset) Clip (Fig. 2):		480 lbs	700 lbs	N/A	N/A	N/A	N/A	380 lbs	N/A	N/A	N/A	N/A	N/A	682 lbs	885 lbs	1120 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):		760 lbs	760 lbs	680 lbs	1560 lbs	1896 lbs	540 lbs	560 lbs	N/A	760 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
4 Anchors @ 0.45" Min. O.C. / U-Clip, into .125" 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	N/A	N/A	1430 lbs
1 Anchor / F-Clip (Fig. 5):		195 lbs	195 lbs	225 lbs	445 lbs	822 lbs	135 lbs	140 lbs	177 lbs	370 lbs	187 lbs	332 lbs	473 lbs	170 lbs	221 lbs	280 lbs
2 Anchors @ 1.15" Min. O.C./ F-Clip (Fig. 6):		240 lbs	350 lbs	N/A	N/A	N/A	N/A	190 lbs	N/A	N/A	N/A	N/A	N/A	341 lbs	442 lbs	560 lbs

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

FIGURE 1:

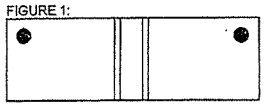


FIGURE 2:

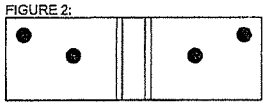
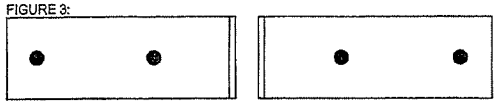


FIGURE 3:



ANGLE CLIP MUST BE USED IN PAIRS.

FIGURE 4:

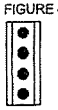


FIGURE 5:

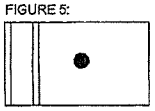


FIGURE 6:

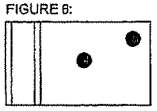


TABLE NOTES:

1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEET 25 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 21-23. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON SHEETS 21-23. FIGURES SHOW SUGGESTED, APPROXIMATE HOLE LOCATIONS.

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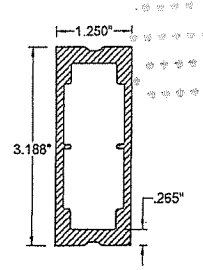
ANCHOR CAPACITY ADJUSTMENT FORMULA:

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

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.



1.25" X 3.188" X .265" MULLION
(1-1/4" VF MULLION)

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0630.03
Expiration Date 05/26/2021
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
6/22/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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

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Sheet: 12 of 25
Rev: C
Scales: N/A
Scaler: N/A
Date: 08/29/11
Checked By:
Date:
Drawn By: J.ROSOWSKI
Rev. By: J.ROSOWSKI
Date: 06/19/17
Revision: NO CHANGES THIS SHEET.

TABLE 9A

Mullion Capacity Table (lbs/ft²)

Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)

1.25 x 3.25 x .100 Alum. Tube Mullion	50 in				60 in				70 in				80 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mullion Length	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)
42 in	170.0	820	170.0	435	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519
48 in	170.0	700	170.0	624	170.0	850	170.0	584	167.6	978	170.0	630	146.7	978	170.0	661
50.625 in	170.0	747	170.0	583	170.0	898	170.0	631	150.7	927	170.0	684	131.9	927	166.5	708
54 in	170.0	797	170.0	612	154.5	869	170.0	691	132.5	869	153.9	683	115.9	869	141.8	669
60 in	143.2	746	153.8	634	119.4	746	132.3	620	102.3	746	117.8	606	89.5	746	107.0	599
63 in	123.7	677	132.0	579	103.1	677	113.2	566	88.4	677	100.4	555	77.3	677	91.4	546
65 in	107.5	617	114.1	530	89.7	617	97.0	519	76.9	617	86.3	509	67.3	617	78.3	500
72 in	82.9	516	87.1	450	69.1	516	74.2	440	58.2	516	65.2	432	51.8	516	58.8	425
76 in	70.5	465	73.7	406	58.7	465	62.8	398	50.3	465	54.9	390	44.1	465	49.4	384
78 in	65.2	441	68.0	387	54.3	441	57.7	379	46.6	441	50.8	372	40.8	441	45.4	366
90 in	42.4	332	43.8	295	35.4	332	37.0	269	30.3	332	32.3	284	26.5	332	28.8	280
96 in	35.0	291	35.9	260	29.1	291	30.3	256	25.0	291	26.4	252	21.9	291	23.5	248
108 in	24.6	230	25.1	208	20.5	230	21.1	205	17.5	230	18.3	201	15.4	230	16.2	198
111 in	22.6	218	23.1	197	18.9	218	19.4	194	16.2	218	16.8	191	14.1	218	14.9	188
120 in	17.9	187	18.2	170	14.9	187	15.3	167								

1.25 x 3.25 x .100 Alum. Tube Mullion	90 in				100 in				120 in				140 in				160 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mullion Length	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)
42 in	170.0	1116	170.0	521	153.3	1118	170.0	521	127.7	1118	170.0	521	109.5	1118	170.0	521	95.8	1118	170.0	521
48 in	170.4	978	170.0	677	117.3	978	170.0	680	97.8	978	170.0	680	83.8	978	170.0	680	73.3	978	170.0	680
50.625 in	117.2	927	159.1	699	105.5	927	156.3	695	87.9	927	156.3	695	75.4	927	156.3	695	65.9	927	156.3	695
54 in	103.0	869	134.0	660	92.7	869	128.8	654	77.3	869	128.8	652	66.2	869	128.8	652	57.9	869	128.8	652
60 in	79.6	746	101.0	592	71.6	746	96.8	587	59.7	746	93.3	583	51.2	746	93.3	583	44.8	746	93.3	583
63 in	68.7	677	85.2	539	61.9	677	81.0	534	51.6	677	77.0	529	44.2	677	76.7	529	38.7	677	76.7	529
65 in	59.8	617	72.6	494	53.8	617	69.7	489	44.8	617	64.4	483	38.4	617	63.7	482	33.6	617	63.7	482
72 in	46.1	516	54.2	419	41.4	516	50.7	414	34.5	516	48.6	408	29.6	516	45.0	405	25.9	516	45.0	405
76 in	39.2	465	45.3	378	35.2	465	42.2	374	29.4	465	38.3	367	25.2	465	38.5	364	22.0	465	38.2	363
78 in	36.2	441	41.6	360	32.6	441	38.7	356	27.2	441	34.9	349	23.3	441	33.1	346	20.4	441	32.7	345
90 in	23.6	332	26.1	276	21.2	332	24.1	272	17.7	332	21.3	266	15.2	332	19.6	262	13.3	332	18.7	260
96 in	19.4	291	21.3	244	17.5	291	19.5	241	14.6	291	17.1	236	12.5	291	15.6	232				
108 in																				
111 in																				
120 in																				

TABLE 9B

Anchor Capacity Table (lbs)

Anchor Clip Patterns	Substrate:	2.7k Concrete				3.5k Conc.	Hollow CMU						Filled CMU	PT Wood		Metal
	Anchor Type:	3/16" Elco Ultracon		1/4" Elco Ultracon		5/16" Elco Ultracon	3/16" Elco Ultracon		1/4" Elco Ultracon		1/4" SS Elco AggreGator	5/16" Elco Ultracon	1/4" SS Elco AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1):		390 lbs	390 lbs	450 lbs	890 lbs	1544 lbs	270 lbs	260 lbs	354 lbs	740 lbs	374 lbs	664 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 1.15" Min. O.C. / Standard (or Offset) Clip (Fig. 2):		480 lbs	700 lbs	N/A	N/A	N/A	N/A	360 lbs	N/A	N/A	N/A	N/A	N/A	682 lbs	885 lbs	1120 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):		760 lbs	760 lbs	680 lbs	1660 lbs	1886 lbs	540 lbs	560 lbs	N/A	760 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
3 Anchors @ 0.54" Min. O.C. / U-Clip, into .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	N/A	N/A	950 lbs
1 Anchor / F-Clip (Fig. 5):		195 lbs	195 lbs	225 lbs	445 lbs	822 lbs	135 lbs	140 lbs	177 lbs	370 lbs	187 lbs	332 lbs	473 lbs	170 lbs	221 lbs	280 lbs
2 Anchors @ 1.15" Min. O.C./ F-Clip (Fig. 6):		240 lbs	350 lbs	N/A	N/A	N/A	N/A	190 lbs	N/A	N/A	N/A	N/A	N/A	341 lbs	442 lbs	560 lbs

ANCHOR CAPACITY ADJUSTMENT FORMULA:

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

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

FIGURE 1:

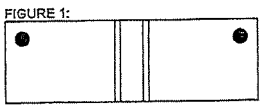


FIGURE 2:

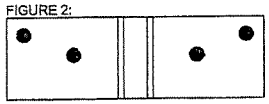
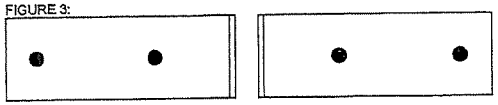
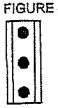


FIGURE 3:



ANGLE CLIP MUST BE USED IN PAIRS.

FIGURE 4:



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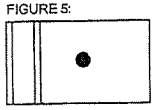

FIGURE 6:

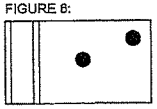

TABLE NOTES:

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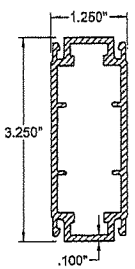
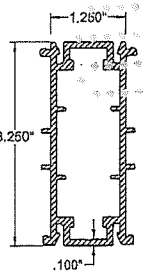


1.25" X 3.25" X .100" MULLION FOR FIELD-MULLED UNITS



1.25" X 3.25" X .100" MULLION FOR FACTORY-MULLED UNITS

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1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600
FL CERT. OF AUTH.# 29398

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: 1.25 X 3.25 X .100 MULL SPECS
Drawing No.: 6300JR
Sheet: 13 of 25
Rev.: C
Scale: N/A
Checked By:
Date:
Drawn By: J. ROSOWSKI
Date: 08/29/11
R. By: J. ROSOWSKI
Date: 06/19/17
Revision: NO CHANGES THIS SHEET.

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0630.01
Expiration Date 05/26/2021
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
6/22/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
FL P.E.# 58705

TABLE 10A

Mullion Capacity Table (lbs/ft²)

Opening Width (for vertically-spanning mullions) or **Opening Height** (for horizontally-spanning mullions)

1.25 x 3.25 x .624 Alum. Tube Mullion — Mullion Length

Mullion Length	50 in Rectangular Loading		50 in Trap/Triang. Loading		60 in Rectangular Loading		60 in Trap/Triang. Loading		70 in Rectangular Loading		70 in Trap/Triang. Loading	
	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)
42 in	170.0	620	170.0	435	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	584	170.0	992	170.0	630
50.625 in	170.0	747	170.0	563	170.0	896	170.0	631	170.0	1046	170.0	684
54 in	170.0	797	170.0	612	170.0	956	170.0	691	170.0	1116	170.0	754
60 in	170.0	885	170.0	701	170.0	1063	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
66 in	170.0	974	170.0	789	170.0	1169	170.0	903	155.6	1248	170.0	1002
72 in	167.8	1049	170.0	876	139.9	1049	150.2	992	119.9	1049	132.1	876
76 in	142.7	941	149.1	822	118.9	941	126.8	805	101.9	941	111.2	791
78 in	132.0	894	137.6	783	110.0	894	116.9	767	94.3	894	102.4	753
90 in	85.9	671	88.7	596	71.6	671	74.9	585	61.4	671	65.3	575
96 in	70.8	590	72.8	527	59.0	590	61.4	516	50.6	590	53.4	509
108 in	49.7	466	50.8	421	41.4	466	42.8	414	35.5	466	37.1	408
111 in	45.8	441	46.7	400	38.2	441	39.3	393	32.7	441	34.1	387
120 in	36.3	378	36.9	344	30.2	378	31.0	339	25.9	378	26.8	334
144 in	21.0	262	21.2	242	17.5	262	17.8	239	15.0	262	15.3	236

Mullion Length	80 in Rectangular Loading		80 in Trap/Triang. Loading		90 in Rectangular Loading		90 in Trap/Triang. Loading		100 in Rectangular Loading		100 in Trap/Triang. Loading	
	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)
42 in	170.0	992	170.0	519	170.0	1116	170.0	521	170.0	1240	170.0	521
48 in	170.0	1133	170.0	661	170.0	1275	170.0	677	170.0	1417	170.0	680
50.625 in	170.0	1195	170.0	723	170.0	1345	170.0	747	170.0	1494	170.0	756
54 in	170.0	1275	170.0	803	170.0	1434	170.0	837	170.0	1594	170.0	856
60 in	170.0	1417	170.0	944	161.1	1511	170.0	996	145.0	1511	170.0	1033
63 in	156.6	1370	170.0	1015	139.2	1370	170.0	1076	125.3	1370	164.0	1082
66 in	136.2	1248	158.6	1013	121.1	1248	147.1	1000	108.9	1248	139.0	989
72 in	104.9	1049	119.1	860	93.2	1049	109.7	848	83.9	1049	102.7	838
76 in	89.2	941	100.0	777	79.3	941	91.7	766	71.4	941	85.5	757
78 in	82.5	894	91.9	740	73.3	894	84.1	730	66.0	894	78.3	721
90 in	53.7	671	58.2	566	47.7	671	52.9	558	43.0	671	40.8	551
96 in	44.3	590	47.5	502	39.3	590	43.0	494	35.4	590	39.6	488
108 in	31.1	466	32.9	402	27.6	466	29.7	396	24.9	466	27.1	391
111 in	28.6	441	30.2	382	26.4	441	27.2	376	22.9	441	24.9	372
120 in	22.7	378	23.7	329	20.1	378	21.3	325	18.1	378	19.5	321
144 in												

Mullion Length	120 in Rectangular Loading		120 in Trap/Triang. Loading		140 in Rectangular Loading		140 in Trap/Triang. Loading		160 in Rectangular Loading		160 in Trap/Triang. Loading	
	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)
42 in	170.0	1489	170.0	521	170.0	1736	170.0	521	170.0	1983	170.0	521
48 in	170.0	1700	170.0	680	160.7	1979	170.0	680	148.5	1979	170.0	680
50.625 in	170.0	1793	170.0	756	152.5	1077	170.0	756	133.5	1877	170.0	756
54 in	156.4	1756	170.0	861	134.1	1759	170.0	861	117.3	1759	170.0	861
60 in	120.9	1511	170.0	1063	103.6	1511	170.0	1063	90.6	1511	170.0	1063
63 in	104.4	1370	155.9	1072	89.5	1370	155.3	1070	78.3	1370	155.3	1070
66 in	90.8	1248	130.4	976	77.8	1248	129.0	975	68.1	1248	129.0	975
72 in	69.9	1049	94.3	826	59.9	1049	91.2	820	52.4	1049	91.1	820
76 in	59.5	941	77.6	744	51.0	941	74.0	737	44.6	941	73.3	736
78 in	55.0	894	70.7	707	47.1	894	67.0	701	41.3	894	66.1	698
90 in	35.8	671	43.1	539	30.7	671	39.7	531	26.9	671	37.9	526
96 in	29.6	590	34.7	477	25.3	590	31.6	469	22.1	590	29.8	464
108 in	20.7	466	23.6	382	17.8	466	21.2	375	15.5	466	19.6	370
111 in	19.1	441	21.5	363	16.4	441	19.3	356	14.3	441	17.8	351
120 in	15.1	378	16.7	314								
144 in												

TABLE 10B

Anchor Capacity Table (lbs)

Anchor Clip Patterns	2.7k Concrete				3.5k Conc.	Hollow CMU					Filled CMU	PT Wood		Metal
Substrate:	2.7k Concrete				5/16" Elco Ultracon	3/16" Elco Ultracon		1/4" Elco Ultracon		1/4" SS Elco AggreGator	5/16" Elco Ultracon	1/4" SS Elco AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
Anchor Type:	3/16" Elco Ultracon		1/4" Elco Ultracon											
Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1):	390 lbs	390 lbs	450 lbs	890 lbs	1644 lbs	270 lbs	280 lbs	354 lbs	740 lbs	374 lbs	664 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 1.15" Min. O.C. / Standard (or Offset) Clip (Fig. 2):	480 lbs	700 lbs	N/A	N/A	N/A	N/A	380 lbs	N/A	N/A	N/A	N/A	N/A	682 lbs	885 lbs	1120 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):	780 lbs	780 lbs	680 lbs	1560 lbs	1896 lbs	540 lbs	560 lbs	N/A	760 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
3 Anchors @ 0.54" Min. O.C. / U-Clip, into .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	N/A	N/A	950 lbs
1 Anchor / F-Clip (Fig. 5):	195 lbs	195 lbs	225 lbs	445 lbs	822 lbs	135 lbs	140 lbs	177 lbs	370 lbs	187 lbs	332 lbs	473 lbs	170 lbs	221 lbs	280 lbs
2 Anchors @ 1.18" Min. O.C./ F-Clip (Fig. 6):	240 lbs	350 lbs	N/A	N/A	N/A	N/A	190 lbs	N/A	N/A	N/A	N/A	N/A	341 lbs	442 lbs	560 lbs

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

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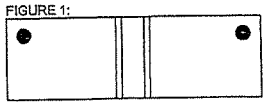

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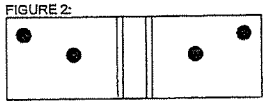
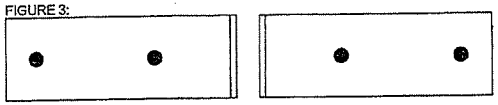


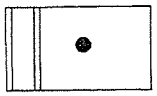
FIGURE 3:



ANGLE CLIP MUST BE USED IN PAIRS.

FIGURE 4:

FIGURE 5:



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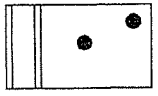

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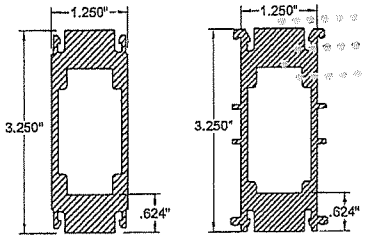

1.25" X 3.25" X .624" MULLION FOR FIELD-MULLED UNITS

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

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0630.01
Expiration Date 05/26/2021
By Miami-Dade Product Control

ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER
6/22/17
A. LYNN MILLER, P.E.
FL P.E.# 58705

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PGT 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600
FL CERT. OF AUTH.# 29298

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: 1.25 X 3.25 X .624 MULL SPECS
Series: N/A | Drawing No. 6300JR | Sheet: 14 of 25
Scale: N/A | Checked By: | Date:
Drawn By: J ROSOWSKI | Date: 08/29/11 | Rev. C
Rev. By: J ROSOWSKI | Date: 06/19/17 | Revision: NO CHANGES THIS SHEET.

TABLE 11A

Mullion Capacity Table (lbs/ft²)

Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)

1.25 x 3.94 x .624 Alum. Tube Mullion	50 in				60 in				70 in				80 in				90 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mullion Length	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)
42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519	170.0	1116	170.0	521
48 in	170.0	708	170.0	524	170.0	850	170.0	584	170.0	992	170.0	630	170.0	1133	170.0	661	170.0	1275	170.0	677
50.625 in	170.0	747	170.0	563	170.0	896	170.0	631	170.0	1046	170.0	684	170.0	1195	170.0	723	170.0	1345	170.0	747
54 in	170.0	797	170.0	612	170.0	956	170.0	691	170.0	1116	170.0	754	170.0	1275	170.0	803	170.0	1434	170.0	837
60 in	170.0	886	170.0	701	170.0	1063	170.0	797	170.0	1240	170.0	878	170.0	1417	170.0	944	170.0	1594	170.0	996
63 in	170.0	930	170.0	745	170.0	1116	170.0	850	170.0	1302	170.0	940	170.0	1488	170.0	1016	170.0	1673	170.0	1076
66 in	170.0	974	170.0	789	170.0	1169	170.0	903	170.0	1364	170.0	1002	170.0	1558	170.0	1086	170.0	1752	170.0	1155
72 in	170.0	1063	170.0	878	170.0	1275	170.0	1009	170.0	1488	170.0	1126	170.0	1700	170.0	1228	154.1	1734	170.0	1315
76 in	170.0	1122	170.0	937	170.0	1346	170.0	1080	168.5	1556	170.0	1209	147.4	1656	165.2	1285	131.1	1556	161.5	1266
78 in	170.0	1151	170.0	967	170.0	1381	170.0	1116	155.9	1477	169.3	1246	136.4	1477	152.0	1224	121.2	1477	139.1	1208
90 in	142.0	1110	146.5	986	118.4	1110	123.9	968	101.6	1110	107.9	951	88.8	1110	96.3	936	78.9	1110	87.5	922
96 in	117.0	975	120.3	872	97.5	975	101.5	856	83.6	975	88.3	842	73.2	975	78.5	829	65.0	975	71.2	817
108 in	82.2	771	84.3	696	68.5	771	70.7	685	58.7	771	61.3	674	51.4	771	54.3	664	45.7	771	49.0	655
111 in	76.7	730	77.3	661	63.1	730	65.0	650	54.1	730	56.3	640	47.3	730	49.9	631	42.1	730	45.0	622
120 in	59.9	624	61.0	569	49.9	624	51.2	560	42.8	624	44.3	552	37.5	624	39.2	544	33.3	624	35.3	537
144 in	34.7	433	35.1	400	28.9	433	29.4	395	24.8	433	25.4	390	21.7	433	22.4	386	19.3	433	20.0	381

1.25 x 3.94 x .624 Alum. Tube Mullion	100 in				120 in				140 in				160 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mullion Length	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft²)	Anchor Capacity Required (lbs)
42 in	170.0	1240	170.0	521	170.0	1488	170.0	521	170.0	1735	170.0	521	170.0	1983	170.0	521
48 in	170.0	1417	170.0	680	170.0	1700	170.0	680	170.0	1983	170.0	680	170.0	2267	170.0	680
50.625 in	170.0	1494	170.0	756	170.0	1793	170.0	756	170.0	2092	170.0	756	170.0	2391	170.0	756
54 in	170.0	1594	170.0	856	170.0	1913	170.0	861	170.0	2231	170.0	861	160.2	2403	170.0	861
60 in	170.0	1771	170.0	1033	170.0	2125	170.0	1063	148.3	2163	170.0	1063	129.8	2163	170.0	1063
63 in	170.0	1859	170.0	1122	158.9	2060	170.0	1169	134.5	2060	170.0	1171	117.7	2060	170.0	1171
66 in	170.0	1948	170.0	1210	143.0	1966	170.0	1275	122.6	1966	170.0	1286	107.2	1966	170.0	1286
72 in	138.7	1734	169.8	1386	116.6	1734	165.9	1364	99.1	1734	150.4	1352	86.7	1734	150.2	1352
76 in	117.3	1556	141.3	1251	98.3	1556	128.3	1229	84.2	1556	122.3	1219	73.7	1556	121.2	1216
90 in	109.1	1477	129.5	1191	90.9	1477	116.9	1169	77.9	1477	110.8	1158	68.2	1477	105.3	1154
96 in	71.0	1110	80.7	910	59.2	1110	71.3	891	50.7	1110	65.6	878	44.4	1110	62.7	870
108 in	58.5	975	65.4	807	48.8	975	57.4	789	41.8	975	52.3	776	36.5	975	49.3	767
111 in	41.1	771	44.9	647	34.3	771	38.9	632	29.4	771	35.0	621	25.7	771	32.4	612
120 in	37.9	730	41.1	614	31.5	730	35.6	600	27.0	730	31.9	589	23.7	730	29.5	581
144 in	30.0	624	32.2	531	25.0	624	27.7	518	21.4	624	24.6	509	18.7	624	22.5	501

TABLE 11B

Anchor Capacity Table (lbs)

Anchor Clip Patterns	Substrate:	2.7k Concrete				3.5k Conc.	Hollow CMU					Filled CMU	PT Wood		Metal
	Anchor Type:	3/16" Elco Ultracon		1/4" Elco Ultracon		5/16" Elco Ultracon	3/16" Elco Ultracon		1/4" Elco Ultracon		1/4" SS Elco AggreGator	5/16" Elco Ultracon	1/4" SS Elco AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1):		390 lbs	390 lbs	450 lbs	680 lbs	1644 lbs	270 lbs	280 lbs	354 lbs	740 lbs	374 lbs	664 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 1.15" Min. O.C. / Standard (or Offset) Clip (Fig. 2):		460 lbs	700 lbs	N/A	N/A	N/A	N/A	360 lbs	N/A	N/A	N/A	N/A	N/A	682 lbs	685 lbs	1120 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):		780 lbs	780 lbs	680 lbs	1560 lbs	1896 lbs	540 lbs	560 lbs	N/A	760 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	685 lbs	1120 lbs
4 Anchors @ 0.54" Min. O.C. / U-Clip, into .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	N/A	N/A	1267 lbs
1 Anchor / F-Clip (Fig. 5):		195 lbs	195 lbs	225 lbs	445 lbs	822 lbs	135 lbs	140 lbs	177 lbs	370 lbs	187 lbs	332 lbs	473 lbs	170 lbs	221 lbs	280 lbs
2 Anchors @ 1.15" Min. O.C. / F-Clip (Fig. 6):		240 lbs	350 lbs	N/A	N/A	N/A	N/A	190 lbs	N/A	N/A	N/A	N/A	N/A	341 lbs	442 lbs	560 lbs

ANCHOR CAPACITY ADJUSTMENT FORMULA:

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

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

FIGURE 1:

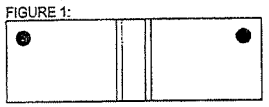


FIGURE 2:

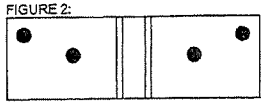
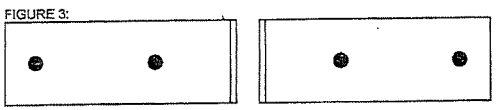


FIGURE 3:



ANGLE CLIP MUST BE USED IN PAIRS.

FIGURE 4:

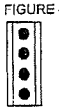


FIGURE 5:

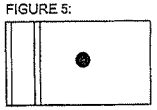


FIGURE 6:

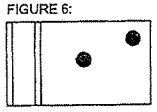


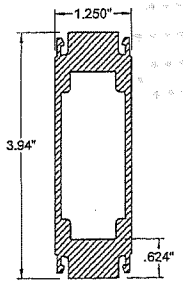
TABLE NOTES:

1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEET 25 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 21-23. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON SHEETS 21-23. 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 BE PRESSURE-TREATED YELLOW SOUTHERN PINE WITH AN 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, 18-8 S.S. OR 410 S.S.



1.25" X 3.94" X .624" MULLION

PGT Industries
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600
FL CERT. OF AUTH.# 29296

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Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: 1.25 X 3.94 X .624 MULL SPECS
Drawing No.: 6300JR
Sheet: 15 of 25
Rev: C
Scale: N/A
Drawn By: J ROSOWSKI
Date: 08/29/11
Checked By:
Date:
Rev. By: J ROSOWSKI
Date: 06/19/17
Revision: NO CHANGES THIS SHEET.

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No.: 17-0630.01
Expiration Date 05/26/2021
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
6/22/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
FL P.E.# 58705

TABLE 12A

Mullion Capacity Table (lbs/ft²)

Opening Width (for vertically-spanning mullions) or **Opening Height** (for horizontally-spanning mullions)

2 x 4 x .25 Alum. Tube Mullion	50 in				60 in				70 in				80 in				90 in				100 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519	170.0	1116	170.0	521	170.0	1240	170.0	521
46 in	170.0	708	170.0	524	170.0	850	170.0	584	170.0	992	170.0	630	170.0	1133	170.0	661	170.0	1275	170.0	677	170.0	1417	170.0	680
50.625 in	170.0	747	170.0	563	170.0	896	170.0	631	170.0	1046	170.0	684	170.0	1195	170.0	723	170.0	1345	170.0	747	170.0	1494	170.0	756
54 in	170.0	797	170.0	612	170.0	956	170.0	691	170.0	1116	170.0	754	170.0	1275	170.0	803	170.0	1434	170.0	837	170.0	1594	170.0	856
60 in	170.0	885	170.0	701	170.0	1063	170.0	797	170.0	1240	170.0	878	170.0	1417	170.0	944	170.0	1594	170.0	996	170.0	1771	170.0	1033
63 in	170.0	930	170.0	745	170.0	1116	170.0	850	170.0	1302	170.0	940	170.0	1488	170.0	1015	170.0	1673	170.0	1076	170.0	1859	170.0	1122
66 in	170.0	974	170.0	789	170.0	1169	170.0	903	170.0	1364	170.0	1002	170.0	1558	170.0	1066	170.0	1753	170.0	1155	170.0	1948	170.0	1210
72 in	170.0	1063	170.0	878	170.0	1275	170.0	1009	170.0	1488	170.0	1126	170.0	1700	170.0	1228	170.0	1913	170.0	1315	170.0	2125	170.0	1387
76 in	170.0	1122	170.0	937	170.0	1346	170.0	1080	170.0	1570	170.0	1209	170.0	1794	170.0	1322	165.1	1960	170.0	1421	148.6	1960	170.0	1505
78 in	170.0	1151	170.0	967	170.0	1381	170.0	1116	170.0	1611	170.0	1250	170.0	1842	170.0	1369	152.7	1861	170.0	1474	137.4	1861	163.1	1500
90 in	170.0	1328	170.0	1144	149.1	1398	156.0	1219	127.8	1398	136.0	1198	111.8	1398	121.3	1179	99.4	1398	110.2	1162	89.5	1398	101.6	1147
96 in	147.4	1229	151.5	1098	122.9	1229	127.8	1079	105.3	1229	111.2	1061	92.1	1229	96.9	1044	81.9	1229	89.6	1029	73.7	1229	82.4	1016
108 in	103.5	971	105.8	877	86.3	971	89.0	862	74.0	971	77.2	849	64.7	971	68.4	837	57.5	971	61.8	825	51.8	971	56.5	815
111 in	95.4	919	97.3	832	79.5	919	81.9	819	68.1	919	70.9	806	59.6	919	62.9	794	53.0	919	56.7	784	47.7	919	51.8	774
120 in	75.5	786	76.8	716	62.9	786	64.5	705	53.9	786	55.8	695	47.2	786	49.4	686	41.9	786	44.4	677	37.7	786	40.5	668
144 in	43.7	546	44.2	504	36.4	546	37.0	498	31.2	546	31.9	491	27.3	546	28.2	485	24.3	546	25.3	479	21.8	546	22.9	474

2 x 4 x .25 Alum. Tube Mullion	120 in				140 in				160 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 in	170.0	1488	170.0	521	170.0	1735	170.0	521	170.0	1983	170.0	521
46 in	170.0	1700	170.0	680	170.0	1983	170.0	680	170.0	2267	170.0	680
50.625 in	170.0	1793	170.0	756	170.0	2092	170.0	756	170.0	2391	170.0	756
54 in	170.0	1913	170.0	861	170.0	2231	170.0	861	170.0	2550	170.0	861
60 in	170.0	2125	170.0	1063	170.0	2479	170.0	1063	160.8	2680	170.0	1063
63 in	170.0	2231	170.0	1169	166.7	2553	170.0	1171	145.9	2553	170.0	1171
66 in	170.0	2338	170.0	1275	151.9	2437	170.0	1286	132.9	2437	170.0	1286
72 in	170.0	2184	170.0	1488	124.8	2184	170.0	1529	109.2	2184	170.0	1530
76 in	160.1	1960	170.0	1548	106.1	1960	154.0	1535	92.9	1960	152.7	1531
78 in	143.7	1861	147.3	1473	98.2	1861	139.6	1459	85.9	1861	137.6	1454
90 in	81.9	1398	89.8	1122	63.9	1398	82.7	1105	55.9	1398	78.9	1099
96 in	74.7	1229	72.2	993	52.7	1229	65.9	977	46.1	1229	62.1	967
108 in	43.1	971	49.0	796	37.0	971	44.0	782	32.4	971	40.8	771
111 in	39.7	919	44.8	756	34.1	919	40.2	742	29.8	919	37.1	732
120 in	31.5	786	34.9	653	27.0	786	31.0	641	23.6	786	28.4	531
144 in	18.2	546	19.5	464	15.6	546	17.2	455	13.7	546	15.5	448

TABLE 12B

Anchor Capacity Table (lbs)

Anchor Clip Patterns	Substrate: 2.7k Concrete				3.5k Conc.	Hollow CMU					Filled CMU	PT Wood		Metal
Anchor Type*	3/16" Elco Ultracon		1/4" Elco Ultracon		5/16" Elco Ultracon	3/16" Elco Ultracon		1/4" Elco Ultracon		1/4" SS Elco AggreGator	5/16" Elco Ultracon	1/4" SS Elco AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1&2):	390 lbs	390 lbs	450 lbs	890 lbs	1644 lbs	270 lbs	280 lbs	354 lbs	740 lbs	374 lbs	664 lbs	946 lbs	341 lbs	442 lbs	550 lbs
4 Anchors @ 2.68" Min. O.C. / Standard (or Offset) Clip (Fig. 3):	740 lbs	740 lbs	630 lbs	1485 lbs	1424 lbs	N/A	560 lbs	N/A	695 lbs	N/A	880 lbs	N/A	532 lbs	885 lbs	1120 lbs
6 Anchors @ 1.71" Min. O.C. / Standard (or Offset) Clip (Fig. 4):	885 lbs	1050 lbs	758 lbs	1946 lbs	N/A	N/A	705 lbs	N/A	799 lbs	N/A	N/A	N/A	1022 lbs	1327 lbs	1680 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 5):	780 lbs	780 lbs	680 lbs	1560 lbs	1805 lbs	540 lbs	560 lbs	N/A	760 lbs	748 lbs	880 lbs	1892 lbs	532 lbs	885 lbs	1120 lbs
6 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 6):	1170 lbs	1170 lbs	1020 lbs	2340 lbs	2844 lbs	810 lbs	840 lbs	N/A	1140 lbs	1122 lbs	1320 lbs	2838 lbs	1022 lbs	1327 lbs	1680 lbs
3 Anchors @ 1.34" Min. O.C. / U-Clip, into .125" Alum. (Fig. 7):	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1073 lbs
6 Anchors @ 0.64" Min. O.C. / U-Clip, into .125" Alum. (Fig. 8):	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2146 lbs
2 Anchors @ 2.68" Min. O.C./ F-Clip (Fig. 9):	370 lbs	370 lbs	315 lbs	743 lbs	712 lbs	N/A	280 lbs	N/A	348 lbs	N/A	440 lbs	N/A	341 lbs	442 lbs	550 lbs
3 Anchors @ 1.71" Min. O.C./ F-Clip (Fig. 10):	443 lbs	525 lbs	379 lbs	873 lbs	N/A	N/A	353 lbs	N/A	399 lbs	N/A	N/A	N/A	511 lbs	664 lbs	840 lbs

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

CIRCLED VALUES ARE USED IN THE EXAMPLE ON SHEET 24.

ANCHOR CAPACITY ADJUSTMENT FORMULA:

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

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

FIGURE 1: FIGURE 2: FIGURE 3: FIGURE 4:

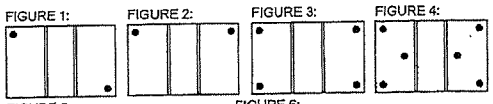


FIGURE 5: FIGURE 6:

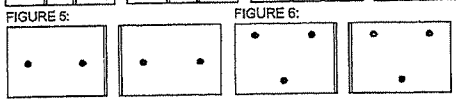
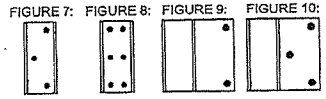


FIGURE 7: FIGURE 8: FIGURE 9: FIGURE 10:



ANGLE CLIP (FIGURES 5&6) MUST BE USED IN PAIRS.

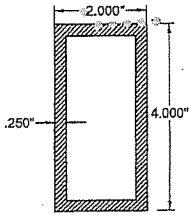
TABLE NOTES:

1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEET 25 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 21-23. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON SHEETS 21-23. 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 BE PRESSURE-TREATED YELLOW SOUTHERN PINE WITH AN 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.



2" X 4" X .25" MULLION

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Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: 2 X 4 X .25 MULL SPECS
Series: N/A
Drawn By: J ROSOWSKI
Date: 06/19/17
Scale: N/A
Drawing No. 6300JR
Checked By:
Date: 08/29/11
Sheet: 16 of 25
Rev: C
Revision: NO CHANGES THIS SHEET.

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0530.01
Expiration Date 05/26/2021
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
6/22/17
A. LYNN MILLER, P.E.
FL P.E.# 58705

TABLE 13A

Mullion Capacity Table (lbs/ft²)

Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)

2 x 6 x .25 Alum. Tube Mullion	50 in				60 in				70 in				80 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519
48 in	170.0	708	170.0	524	170.0	850	170.0	584	170.0	992	170.0	630	170.0	1133	170.0	661
50.625 in	170.0	747	170.0	563	170.0	896	170.0	631	170.0	1046	170.0	684	170.0	1195	170.0	723
54 in	170.0	797	170.0	612	170.0	956	170.0	691	170.0	1116	170.0	754	170.0	1275	170.0	803
60 in	170.0	885	170.0	701	170.0	1063	170.0	797	170.0	1240	170.0	875	170.0	1417	170.0	944
63 in	170.0	930	170.0	745	170.0	1116	170.0	850	170.0	1302	170.0	940	170.0	1488	170.0	1015
66 in	170.0	974	170.0	789	170.0	1169	170.0	903	170.0	1364	170.0	1002	170.0	1558	170.0	1086
72 in	170.0	1063	170.0	878	170.0	1275	170.0	1009	170.0	1488	170.0	1126	170.0	1700	170.0	1228
76 in	170.0	1122	170.0	937	170.0	1346	170.0	1080	170.0	1570	170.0	1209	170.0	1784	170.0	1322
78 in	170.0	1151	170.0	967	170.0	1381	170.0	1116	170.0	1611	170.0	1250	170.0	1842	170.0	1369
90 in	170.0	1326	170.0	1144	170.0	1594	170.0	1328	170.0	1859	170.0	1498	170.0	2125	170.0	1653
96 in	170.0	1417	170.0	1232	170.0	1700	170.0	1434	170.0	1983	170.0	1622	170.0	2267	170.0	1784
108 in	170.0	1594	170.0	1409	170.0	1913	170.0	1647	170.0	2231	170.0	1870	170.0	2550	170.0	2078
111 in	170.0	1638	170.0	1454	170.0	1966	170.0	1700	170.0	2293	170.0	1932	170.0	2621	170.0	2149
120 in	170.0	1771	170.0	1586	170.0	2125	170.0	1859	154.4	2252	159.9	1991	135.1	2252	141.4	1964
144 in	125.1	1564	126.6	1445	104.3	1564	108.1	1425	88.4	1564	91.5	1437	78.2	1564	80.7	1390

2 x 6 x .25 Alum. Tube Mullion	90 in				100 in				120 in				140 in				160 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 in	170.0	1116	170.0	521	170.0	1240	170.0	521	170.0	1488	170.0	521	170.0	1735	170.0	521	170.0	1983	170.0	521
48 in	170.0	1275	170.0	677	170.0	1417	170.0	680	170.0	1700	170.0	680	170.0	1983	170.0	680	170.0	2267	170.0	680
50.625 in	170.0	1345	170.0	747	170.0	1494	170.0	756	170.0	1793	170.0	756	170.0	2092	170.0	756	170.0	2391	170.0	756
54 in	170.0	1434	170.0	837	170.0	1594	170.0	856	170.0	1913	170.0	861	170.0	2231	170.0	861	170.0	2550	170.0	861
60 in	170.0	1594	170.0	996	170.0	1771	170.0	1033	170.0	2125	170.0	1063	170.0	2479	170.0	1063	170.0	2833	170.0	1063
63 in	170.0	1673	170.0	1076	170.0	1859	170.0	1122	170.0	2231	170.0	1169	170.0	2603	170.0	1171	170.0	2975	170.0	1171
66 in	170.0	1753	170.0	1155	170.0	1948	170.0	1210	170.0	2338	170.0	1275	170.0	2727	170.0	1286	170.0	3117	170.0	1286
72 in	170.0	1913	170.0	1315	170.0	2125	170.0	1387	170.0	2550	170.0	1488	170.0	2975	170.0	1529	170.0	3400	170.0	1530
76 in	170.0	2019	170.0	1421	170.0	2243	170.0	1505	170.0	2692	170.0	1629	170.0	3140	170.0	1694	170.0	3589	170.0	1705
78 in	170.0	2072	170.0	1474	170.0	2302	170.0	1564	170.0	2763	170.0	1700	170.0	3223	170.0	1777	170.0	3693	170.0	1796
90 in	170.0	2391	170.0	1793	170.0	2656	170.0	1918	170.0	3188	170.0	2125	156.0	3413	170.0	2273	136.5	3413	170.0	2351
96 in	170.0	2550	170.0	1952	170.0	2833	170.0	2095	160.0	3199	170.0	2339	137.1	3199	166.6	2470	120.0	3199	156.1	2428
108 in	164.8	2781	170.0	2271	148.3	2781	161.9	2333	123.6	2781	140.4	2281	105.9	2781	125.9	2234	92.7	2781	116.0	2190
111 in	151.8	2832	162.3	2245	138.6	2832	148.4	2216	113.8	2832	128.4	2189	97.6	2832	115.1	2128	85.4	2832	106.3	2096
120 in	120.1	2252	127.2	1938	108.1	2252	118.1	1915	90.1	2252	96.8	1872	77.2	2252	88.0	1836	67.6	2252	81.4	1808
144 in	69.5	1564	72.3	1373	62.6	1564	65.7	1358	52.1	1564	55.0	1330	44.7	1564	49.2	1305	39.1	1564	44.4	1283

TABLE 13B

Anchor Capacity Table (lbs)

Anchor Clip Patterns	Substrate:	2.7k Concrete				3.5k Conc.	Hollow CMU					Filled CMU	PT Wood		Metal
	Anchor Type:	3/16" Elco Ultracon		1/4" Elco Ultracon		5/16" Elco Ultracon	3/16" Elco Ultracon		1/4" Elco Ultracon		1/4" SS Elco AggreGator	5/16" Elco Ultracon	1/4" SS Elco AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1&2):		390 lbs	390 lbs	450 lbs	890 lbs	1644 lbs	270 lbs	280 lbs	354 lbs	740 lbs	374 lbs	654 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 4.68" Min. O.C. / Standard (or Offset) Clip (Fig. 3):		780 lbs	780 lbs	900 lbs	1760 lbs	3232 lbs	540 lbs	560 lbs	708 lbs	1480 lbs	748 lbs	1272 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
8 Anchors @ 1.71" Min. O.C. / Standard (or Offset) Clip (Fig. 4):		1180 lbs	1400 lbs	1010 lbs	2595 lbs	N/A	N/A	840 lbs	N/A	1965 lbs	N/A	N/A	N/A	1363 lbs	1770 lbs	2240 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 5):		780 lbs	780 lbs	680 lbs	1560 lbs	1896 lbs	540 lbs	560 lbs	N/A	760 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
8 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 6):		1560 lbs	1560 lbs	1360 lbs	3120 lbs	3792 lbs	1080 lbs	1120 lbs	N/A	1520 lbs	1496 lbs	1760 lbs	3784 lbs	1363 lbs	1770 lbs	2240 lbs
12 Anchors @ 1.5" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 7):		1680 lbs	2100 lbs	1440 lbs	3780 lbs	N/A	N/A	1320 lbs	N/A	1500 lbs	N/A	N/A	N/A	2045 lbs	2654 lbs	3360 lbs
4 Anchors @ 1.34" Min. O.C. / U-Clip, into .125" Alum. (Fig. 8):		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1430 lbs
8 Anchors @ 0.84" Min. O.C. / U-Clip, into .125" Alum. (Fig. 9):		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2861 lbs
2 Anchors @ 4.68" Min. O.C./ F-Clip (Fig. 10):		390 lbs	390 lbs	450 lbs	890 lbs	1616 lbs	270 lbs	280 lbs	354 lbs	740 lbs	374 lbs	636 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 1.71" Min. O.C./ F-Clip (Fig. 11):		590 lbs	700 lbs	505 lbs	1298 lbs	N/A	N/A	470 lbs	N/A	533 lbs	N/A	N/A	N/A	682 lbs	885 lbs	1120 lbs

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: FIGURE 10: FIGURE 11:

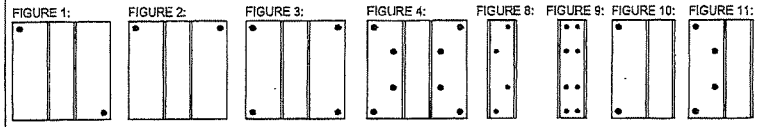
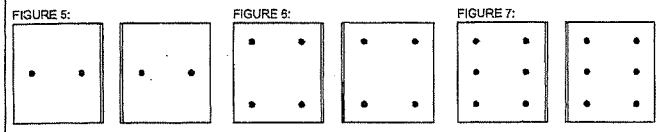


FIGURE 5: FIGURE 6: FIGURE 7:



ANGLE CLIP (FIGURES 5 - 7) MUST BE USED IN PAIRS.

TABLE NOTES:

1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEET 25 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 21-23. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON SHEETS 21-23. FIGURES SHOW SUGGESTED, APPROXIMATE HOLE LOCATIONS.

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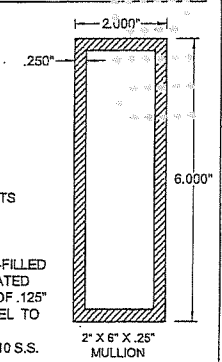
ANCHOR CAPACITY ADJUSTMENT FORMULA:

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

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



PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0630.01
Expiration Date 05/26/2021
By
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ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
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FL P.E.# 58705

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Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: 2 X 6 X .25 MULL SPECS
Drawing No.: 6300JR
Sheet: 17 of 25
Rev: C
Scale: N/A
Date: 08/29/11
Revision: NO CHANGES THIS SHEET.
Drawn By: J. ROSOWSKI
Date: 06/19/17
Checked By:
Date:

TABLE 14A

Mullion Capacity Table (lbs/ft²)

Opening Width (for vertically-spanning mullions) **or Opening Height** (for horizontally-spanning mullions)

1.26" x 2.11" x .125" Alum Tube Mull	50 in				60 in				70 in				80 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 in	144.2	526	167.0	426	120.2	526	148.9	419	103.0	526	138.9	414	90.1	526	134.6	411
48 in	96.6	403	109.0	333	80.5	403	94.7	325	69.0	403	86.4	320	60.4	403	81.4	317
50.625 in	82.3	362	91.0	301	68.6	362	79.3	294	58.8	362	71.9	289	51.5	362	67.2	286
54 in	67.8	318	74.1	267	56.5	318	64.2	261	48.5	318	57.7	256	42.4	318	53.5	253
60 in	49.5	258	53.1	219	41.2	258	45.7	214	35.3	258	40.7	210	30.9	258	37.2	207
63 in	42.7	234	45.6	200	35.6	234	39.1	195	30.5	234	34.7	192	26.7	234	31.6	189
66 in	37.2	213	39.4	183	31.0	213	33.7	179	26.5	213	29.8	176	23.2	213	27.0	173
72 in	28.6	179	30.1	155	23.9	179	25.8	152	20.4	179	22.5	149	17.9	179	20.3	147
78 in	24.3	161	25.4	140	20.3	161	21.6	137	17.4	161	19.0	135	15.2	161	17.0	133
78 in	22.5	152	23.5	133	18.8	152	19.9	131	16.1	152	17.5	128				

1.26" x 2.11" x .125" Alum Tube Mull	90 in				100 in				120 in				140 in				160 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 in	80.1	526	134.1	411	72.1	526	134.1	411	60.1	526	134.1	411	51.5	526	134.1	411	45.1	526	134.1	411
48 in	53.7	403	79.1	315	48.3	403	78.6	314	40.3	403	78.6	314	34.5	403	78.6	314	30.2	403	78.6	314
50.625 in	45.7	362	64.6	284	41.2	362	63.6	283	34.3	362	63.5	283	29.4	362	63.5	283	25.7	362	63.5	283
54 in	37.7	318	50.8	250	33.9	318	49.5	249	28.3	318	49.1	248	24.2	318	49.1	248	21.2	318	49.1	248
60 in	27.5	258	34.9	204	24.7	258	33.4	203	20.6	258	32.2	201	17.7	258	32.2	201	15.5	258	32.2	201
63 in	23.7	234	29.4	185	21.4	234	28.0	184	17.8	234	26.6	183	15.3	234	26.5	183	13.4	234	26.5	183
66 in	20.6	213	25.1	170	18.6	213	23.7	169	15.5	213	22.2	167	13.3	213	22.0	166	11.6	213	22.0	166
72 in	15.9	179	18.7	145																
78 in																				
78 in																				

TABLE 14B

Anchor Capacity Table (lbs)

Anchor Clip Patterns	Substrate:	2.7k Concrete				3.5k Conc.	Hollow CMU						Filled CMU	PT Wood		Metal
	Anchor Type:	3/16" Elco Ultracon		1/4" Elco Ultracon		5/16" Elco Ultracon	3/16" Elco Ultracon		1/4" Elco Ultracon		1/4" SS Elco AggreGator	5/16" Elco Ultracon	1/4" SS Elco AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 1):		780 lbs	780 lbs	680 lbs	1560 lbs	1896 lbs	540 lbs	860 lbs	N/A	760 lbs	748 lbs	860 lbs	1892 lbs	682 lbs	885 lbs	1430 lbs

ANCHOR CAPACITY ADJUSTMENT FORMULA:

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

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

FIGURE 1:

ANGLE CLIP MUST BE USED IN PAIRS.

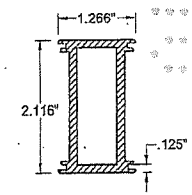
TABLE NOTES:

1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEET 25 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 21-23. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON SHEETS 21-23. 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 BE PRESSURE-TREATED YELLOW SOUTHERN PINE WITH AN 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.



1.26" X 2.11" X .125" MULLION
(INTEGRAL FIN MULLION)

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GT INDUSTRIES
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600
FL CERT. OF AUTH.# 29285

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS		Sheet: 18 of 25	
Description: 1.26 X 2.11 X .125 MULL SPECS		Drawing No. 6300JR	Rev: C
Series: N/A	Scale: N/A	Date: 08/29/11	Checked By: Date:
Drawn By: J ROSOWSKI	Date: 08/29/11	Revisions: NO CHANGES THIS SHEET.	
Rev. By: J ROSOWSKI	Date: 06/19/17		

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0630.01
Expiration Date 05/26/2021
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
6/22/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
FL P.E.# 58705

TABLE 15A

Mullion Capacity Table (lbs/ft²)

Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)

3.25" 30 DEG. AL BAY MULL	50 in				60 in				70 in				80 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 in	170.0	620	170.0	435	170.0	744	170.0	478	170.0	868	170.0	506	170.0	992	170.0	519
48 in	170.0	709	170.0	524	170.0	850	170.0	584	170.0	992	170.0	630	170.0	1133	170.0	661
50.625 in	170.0	747	170.0	563	170.0	896	170.0	631	170.0	1046	170.0	684	170.0	1195	170.0	723
54 in	170.0	797	170.0	612	170.0	956	170.0	691	170.0	1116	170.0	754	170.0	1278	170.0	803
60 in	170.0	885	170.0	701	170.0	1063	170.0	797	167.0	1218	170.0	878	146.1	1218	170.0	944
63 in	170.0	930	170.0	745	170.0	1116	170.0	850	150.2	1150	168.8	933	131.4	1150	153.0	914
66 in	170.0	974	170.0	789	152.4	1048	165.8	881	130.6	1048	146.6	864	114.3	1048	133.1	850
72 in	140.8	880	147.9	764	117.4	880	126.0	748	100.6	880	110.8	734	86.0	880	100.0	722
75 in	119.7	790	125.1	690	99.8	790	106.4	676	85.5	790	93.3	663	74.8	790	83.9	652
78 in	110.8	750	115.5	657	92.3	750	98.1	644	79.1	750	85.9	632	69.2	750	77.1	621
90 in	72.1	563	74.4	500	60.1	563	62.9	491	51.5	563	54.8	453	45.1	563	48.9	475
96 in	59.4	495	61.1	443	49.5	495	51.5	435	42.4	495	44.8	427	37.1	495	39.9	421
108 in	41.7	391	42.6	353	34.8	391	35.9	348	29.8	391	31.1	342	26.1	391	27.6	337
111 in	38.4	370	39.2	335	32.0	370	33.0	330	27.5	370	28.6	325	24.0	370	25.3	320
120 in	30.4	317	30.9	289	25.3	317	26.0	284	21.7	317	22.5	280	19.0	317	19.9	276
144 in	17.6	220	17.8	203												

3.25" 30 DEG. AL BAY MULL	90 in				100 in				120 in				140 in				160 in			
	Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading		Rectangular Loading		Trap/Triang. Loading	
Mull Length	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)	Mullion Capacity (lbs/ft2)	Anchor Capacity Required (lbs)
42 in	170.0	1115	170.0	521	170.0	1240	170.0	521	170.0	1488	170.0	521	170.0	1735	170.0	521	149.1	1740	170.0	521
48 in	170.0	1275	170.0	677	170.0	1417	170.0	680	152.2	1522	170.0	680	130.5	1522	170.0	680	114.2	1522	170.0	680
50.625 in	170.0	1345	170.0	747	164.2	1443	170.0	756	136.9	1443	170.0	756	117.3	1443	170.0	756	102.6	1443	170.0	756
54 in	160.4	1353	170.0	837	144.3	1353	170.0	856	120.3	1353	170.0	861	103.1	1353	170.0	861	90.2	1353	170.0	861
60 in	129.9	1218	159.6	936	116.9	1218	152.1	924	97.4	1218	146.1	913	83.5	1218	146.1	913	73.1	1218	146.1	913
63 in	116.8	1150	141.9	898	105.1	1150	134.2	885	87.6	1150	126.7	871	75.1	1150	126.2	870	65.7	1150	126.2	870
66 in	101.6	1048	123.4	839	91.4	1048	116.6	830	76.2	1048	109.4	821	65.3	1048	108.2	818	57.1	1048	108.2	818
72 in	78.2	880	92.0	712	70.4	880	86.2	703	58.7	880	79.2	693	50.3	880	76.5	688	44.0	880	76.4	688
75 in	65.5	790	76.9	643	59.9	790	71.7	635	49.9	790	65.1	624	42.8	790	62.1	619	37.4	790	61.5	617
78 in	61.5	750	70.6	612	55.4	750	65.7	605	46.2	750	59.4	594	39.6	750	56.2	588	34.6	750	55.5	586
90 in	40.1	563	44.4	468	36.1	563	40.9	462	30.0	563	36.2	452	25.8	563	33.3	445	22.5	563	31.8	442
96 in	33.0	495	36.1	415	29.7	495	33.2	409	24.8	495	29.1	400	21.2	495	26.6	394	18.6	495	25.0	390
108 in	23.2	391	24.9	333	20.9	391	22.8	328	17.4	391	19.7	321	14.9	391	17.8	315				
111 in	21.4	370	22.8	316	19.2	370	20.9	312	16.0	370	18.1	305								
120 in	16.9	317	17.9	273																
144 in																				

TABLE 15B

Anchor Capacity Table (lbs)

Anchor Clip Patterns	Substrate:	2.7K Concrete				3.5K Conc.	Hollow CMU					Filled CMU	PT Wood		Metal
	Anchor Type:	3/16" Elco Ultracon		1/4" Elco Ultracon		5/16" Elco Ultracon	3/16" Elco Ultracon		1/4" Elco Ultracon		1/4" SS Elco AggreGator	5/16" Elco Ultracon	1/4" SS Elco AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2'	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 5" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 1):		390 lbs	390 lbs	450 lbs	860 lbs	1700 lbs	270 lbs	280 lbs	354 lbs	740 lbs	374 lbs	720 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 3.5" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 2):		780 lbs	780 lbs	790 lbs	1670 lbs	2525 lbs	540 lbs	560 lbs	N/A	1120 lbs	748 lbs	980 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
6 Anchors @ 2.71" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):		1120 lbs	1120 lbs	950 lbs	2246 lbs	2254 lbs	N/A	840 lbs	N/A	1059 lbs	N/A	1320 lbs	N/A	1022 lbs	1327 lbs	1680 lbs

ANCHOR CAPACITY ADJUSTMENT FORMULA:

$$(DR_{SFS}) \times \left(\frac{\text{ANCHOR CAP.}_{\text{FROM TABLE}}}{\text{MULLION CAP.}_{\text{FROM TABLE}}}\right) = \text{ANCHOR CAP.}_{\text{REQ.}}$$

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

FIGURE 1:

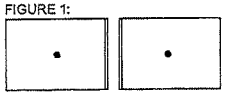


FIGURE 2:

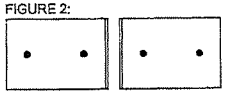
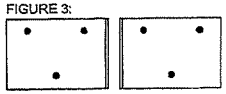


FIGURE 3:



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

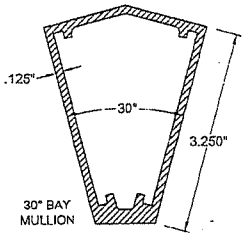
TABLE NOTES:

1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEET 25 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 21-23. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON SHEETS 21-23. 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 BE PRESSURE-TREATED YELLOW SOUTHERN PINE WITH AN 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.



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PGT® 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600 FL CERT. OF AUTH.# 29298

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: 30 DEGREE BAY MULL SPECS
Drawing No.: 6300JR
Sheet: 19 of 25
Series: N/A
Scale: N/A
Checked By:
Date:
Rev: C
Drawn By: J. ROSCOWSKI
Date: 08/29/11
Rev. By: J. ROSCOWSKI
Date: 06/19/17
Revision: NO CHANGES THIS SHEET.

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0630.01
Expiration Date 05/26/2021
By
Miami-Dade Product Control

ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER
6/22/17
A. LYNN MILLER, P.E.
FL P.E.# 58705

TABLE 16A

Mullion Capacity Table (lbs/ft²)

Opening Width (for vertically-spanning mullions) or **Opening Height** (for horizontally-spanning mullions)

3.25" 45 DEG. AL BAY MULL

Mull Length	50 in Rectangular Loading Mullion Capacity (lbs/ft2)	50 in Rectangular Loading Anchor Capacity Required (lbs)	50 in Trap/Triang. Loading Mullion Capacity (lbs/ft2)	50 in Trap/Triang. Loading Anchor Capacity Required (lbs)	60 in Rectangular Loading Mullion Capacity (lbs/ft2)	60 in Rectangular Loading Anchor Capacity Required (lbs)	60 in Trap/Triang. Loading Mullion Capacity (lbs/ft2)	60 in Trap/Triang. Loading Anchor Capacity Required (lbs)	70 in Rectangular Loading Mullion Capacity (lbs/ft2)	70 in Rectangular Loading Anchor Capacity Required (lbs)	70 in Trap/Triang. Loading Mullion Capacity (lbs/ft2)	70 in Trap/Triang. Loading Anchor Capacity Required (lbs)
42 in	170.0	620	170.0	435	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	584	170.0	992	170.0	630
50.625 in	170.0	747	170.0	563	170.0	896	170.0	631	170.0	1046	170.0	684
54 in	170.0	797	170.0	612	170.0	956	170.0	691	170.0	1116	170.0	754
60 in	170.0	885	170.0	701	170.0	1063	170.0	797	170.0	1240	170.0	878
63 in	170.0	930	170.0	745	170.0	1116	170.0	850	162.9	1247	170.0	940
66 in	170.0	974	170.0	789	170.0	1169	170.0	903	148.4	1190	163.7	965
72 in	161.6	1010	169.8	877	134.7	1010	144.6	859	115.4	1010	127.2	842
76 in	137.4	906	143.6	792	114.5	906	122.0	775	98.1	906	107.1	761
78 in	127.1	861	132.5	754	105.9	861	112.5	738	90.8	861	98.6	725
90 in	82.7	646	85.4	574	68.9	646	72.1	564	59.1	646	62.9	554
96 in	68.2	588	70.1	508	56.8	588	59.1	499	48.7	588	51.4	491
108 in	47.9	449	48.9	405	39.9	449	41.2	399	34.2	449	35.7	393
111 in	44.1	425	45.0	385	36.8	425	37.9	379	31.5	425	32.8	373
120 in	34.9	364	35.5	331	29.1	364	29.6	320	24.9	364	25.6	321
144 in	20.2	253	20.4	233	16.8	253	17.1	230				

Mull Length	80 in Rectangular Loading Mullion Capacity (lbs/ft2)	80 in Rectangular Loading Anchor Capacity Required (lbs)	80 in Trap/Triang. Loading Mullion Capacity (lbs/ft2)	80 in Trap/Triang. Loading Anchor Capacity Required (lbs)	90 in Rectangular Loading Mullion Capacity (lbs/ft2)	90 in Rectangular Loading Anchor Capacity Required (lbs)	90 in Trap/Triang. Loading Mullion Capacity (lbs/ft2)	90 in Trap/Triang. Loading Anchor Capacity Required (lbs)	100 in Rectangular Loading Mullion Capacity (lbs/ft2)	100 in Rectangular Loading Anchor Capacity Required (lbs)	100 in Trap/Triang. Loading Mullion Capacity (lbs/ft2)	100 in Trap/Triang. Loading Anchor Capacity Required (lbs)
42 in	170.0	992	170.0	519	170.0	1116	170.0	521	170.0	1240	170.0	521
48 in	170.0	1133	170.0	661	170.0	1275	170.0	677	170.0	1417	170.0	680
50.625 in	170.0	1195	170.0	723	170.0	1345	170.0	747	170.0	1494	170.0	756
54 in	170.0	1275	170.0	803	170.0	1434	170.0	837	155.2	1455	170.0	856
60 in	157.1	1309	170.0	944	139.7	1309	170.0	996	125.7	1309	153.5	994
63 in	142.5	1247	164.5	983	126.7	1247	152.8	985	114.0	1247	144.3	952
66 in	129.9	1190	147.9	945	115.4	1190	136.5	926	103.9	1190	128.4	914
72 in	101.0	1010	114.7	828	89.8	1010	105.6	817	80.8	1010	98.9	807
76 in	85.9	906	96.2	749	76.3	906	88.2	738	68.7	906	82.3	729
78 in	79.4	861	88.5	713	70.6	861	81.0	703	63.6	861	75.4	694
90 in	51.7	646	56.1	545	45.0	646	50.9	537	41.4	646	47.0	530
96 in	42.6	588	45.8	483	37.9	588	41.4	476	34.1	588	38.1	470
108 in	29.9	449	31.7	387	26.6	449	28.6	382	23.9	449	26.1	377
111 in	27.6	425	29.1	367	24.5	425	26.2	362	22.1	425	24.0	358
120 in	21.8	364	22.8	317	19.4	364	20.5	313	17.5	364	18.7	309
144 in												

Mull Length	120 in Rectangular Loading Mullion Capacity (lbs/ft2)	120 in Rectangular Loading Anchor Capacity Required (lbs)	120 in Trap/Triang. Loading Mullion Capacity (lbs/ft2)	120 in Trap/Triang. Loading Anchor Capacity Required (lbs)	140 in Rectangular Loading Mullion Capacity (lbs/ft2)	140 in Rectangular Loading Anchor Capacity Required (lbs)	140 in Trap/Triang. Loading Mullion Capacity (lbs/ft2)	140 in Trap/Triang. Loading Anchor Capacity Required (lbs)	160 in Rectangular Loading Mullion Capacity (lbs/ft2)	160 in Rectangular Loading Anchor Capacity Required (lbs)	160 in Trap/Triang. Loading Mullion Capacity (lbs/ft2)	160 in Trap/Triang. Loading Anchor Capacity Required (lbs)
42 in	170.0	1488	170.0	521	170.0	1735	170.0	521	160.3	1871	170.0	521
48 in	163.7	1637	170.0	680	140.3	1637	170.0	680	122.8	1637	170.0	680
50.625 in	147.1	1552	170.0	756	128.1	1552	170.0	756	110.4	1552	170.0	756
54 in	128.3	1455	170.0	861	110.8	1455	170.0	861	97.0	1455	170.0	861
60 in	104.8	1309	157.1	982	89.8	1309	157.1	982	78.6	1309	157.1	982
63 in	95.0	1247	136.2	936	81.4	1247	135.7	935	71.3	1247	135.7	935
66 in	86.6	1190	119.5	896	74.2	1190	118.1	893	64.9	1190	118.1	893
72 in	67.3	1010	90.8	795	57.7	1010	87.8	790	50.5	1010	87.7	789
76 in	57.3	906	74.7	716	49.1	906	71.2	710	42.9	906	70.6	708
78 in	53.0	861	68.1	681	45.4	861	64.5	675	39.7	861	63.7	672
90 in	34.5	646	41.5	510	29.5	646	38.2	511	25.9	646	36.5	507
96 in	28.4	588	33.4	459	24.3	588	30.5	452	21.3	588	28.7	447
108 in	20.0	449	22.7	368	17.1	449	20.4	361	15.0	449	18.9	356
111 in	18.4	425	20.7	350	15.8	425	18.6	343				
120 in												
144 in												

TABLE 16B

Anchor Capacity Table (lbs)

Anchor Clip Patterns	Substrate:	2.7k Concrete				3.5k Conc.	Hollow CMU						Filled CMU	PT Wood		Metal
	Anchor Type:	3/16" Elco Ultracon		1/4" Elco Ultracon		5/16" Elco Ultracon	3/16" Elco Ultracon		1/4" Elco Ultracon		1/4" SS Elco AggreGator	5/16" Elco Ultracon	1/4" SS Elco AggreGator	#10 Steel Screw (G5)	#12 Steel Screw (G5)	#12 Steel Screw (G5)
	Edge Distance (in):	1"	2-1/2"	1"	2-1/2"	3-1/8"	1"	2-1/2"	1"	2-1/2"	2"	3-1/8"	2"	0.48"	0.54"	0.324"
	Embedment (in):	1-3/4"	1-3/4"	1-3/4"	1-3/4"	2"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	2"	1-3/8"	1-3/8"	varies
2 Anchors @ 5" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 1):		390 lbs	390 lbs	450 lbs	890 lbs	1700 lbs	270 lbs	280 lbs	354 lbs	740 lbs	574 lbs	720 lbs	946 lbs	341 lbs	442 lbs	560 lbs
4 Anchors @ 3.5" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 2):		780 lbs	780 lbs	790 lbs	1670 lbs	2525 lbs	540 lbs	560 lbs	N/A	1120 lbs	748 lbs	880 lbs	1892 lbs	682 lbs	885 lbs	1120 lbs
6 Anchors @ 2.71" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):		1120 lbs	1120 lbs	958 lbs	2246 lbs	2254 lbs	N/A	840 lbs	N/A	1059 lbs	N/A	1320 lbs	N/A	1022 lbs	1327 lbs	1680 lbs

FIGURE 1:

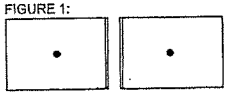


FIGURE 2:

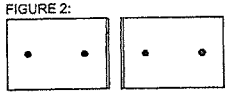
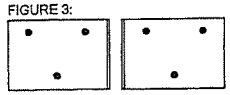


FIGURE 3:



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

TABLE NOTES:

1) SEE SHEET 1 FOR INSTRUCTIONS ON USING THE TABLES AND SHEET 25 FOR INFORMATION ON LOADING. SEE SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.

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

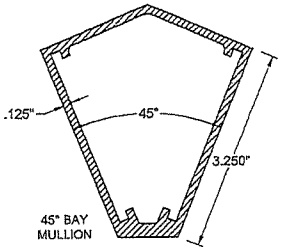
3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 21-23. HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS SHOWN ON SHEETS 21-23. FIGURES SHOW SUGGESTED, APPROXIMATE HOLE LOCATIONS.

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 BE PRESSURE-TREATED YELLOW SOUTHERN PINE WITH AN 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.

ANCHOR CAPACITY ADJUSTMENT FORMULA

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

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



PRODUCT REVISED
as complying with the Florida Building Code
NOA No. 17-0630.01
Expiration Date 05/26/2021
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
6/22/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
FL P.E.# 58705

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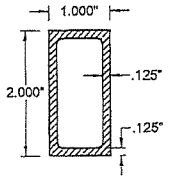
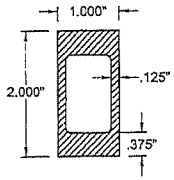
PGT 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600
FL CERT. OF AUTH.# 28938

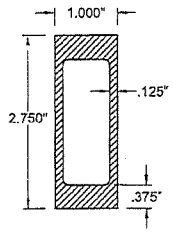
Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: 45 DEGREE BAY MULL SPECS
Drawing No.: 6300JR
Sheet: 20of 25
Rev.: C
Checked By: Date:
Series: N/A
Scale: N/A
Date: 08/29/11
Drawn By: J.ROSOWSKI
Rev. By: J.ROSOWSKI
Date: 06/19/17
Revs conc. NO CHANGES THIS SHEET.



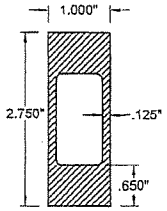
1" X 2" X .125" MULLION
6063-T6 ALUM.
X-SECTION



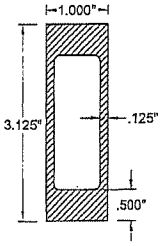
1" X 2" X .375" MULLION
6063-T6 ALUM.
X-SECTION



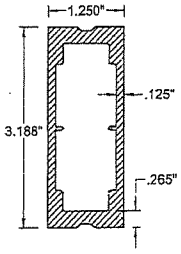
1" X 2.75" X .375" MULLION
6063-T6 ALUM.
X-SECTION



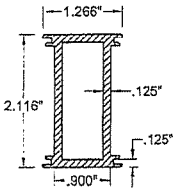
1" X 2.75" X .650" MULLION
6063-T6 ALUM.
X-SECTION



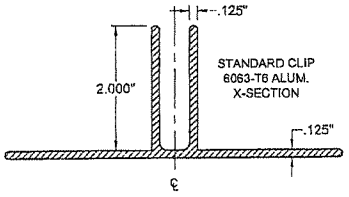
1" X 3.125" X .5" MULLION
6063-T6 ALUM.
X-SECTION



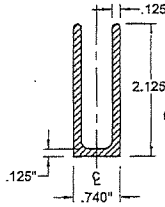
1.25" X 3.188" X .265" MULLION
6063-T6 ALUM.
X-SECTION



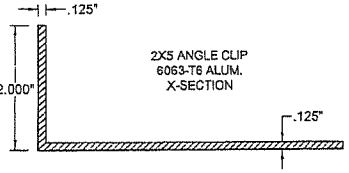
1.26" X 2.11" X .125" MULLION
6063-T6 ALUM.
X-SECTION



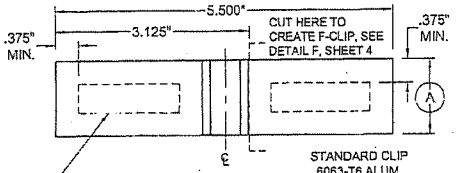
STANDARD CLIP
6063-T6 ALUM.
X-SECTION



U-CLIP
6063-T6 ALUM.
X-SECTION

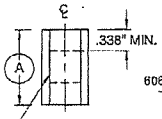


2X5 ANGLE CLIP
6063-T6 ALUM.
X-SECTION



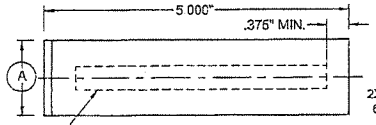
STANDARD CLIP
6063-T6 ALUM.
TOPVIEW

CENTER OF ANCHOR HOLE MUST LIE WITHIN THE DASHED BOUNDARY. SEE SHEETS 5-17 FOR THE ANCHOR O.C. DISTANCE. MAXIMUM ANCHOR HOLE DIAMETER: ANCHOR DIAMETER + 1/16".



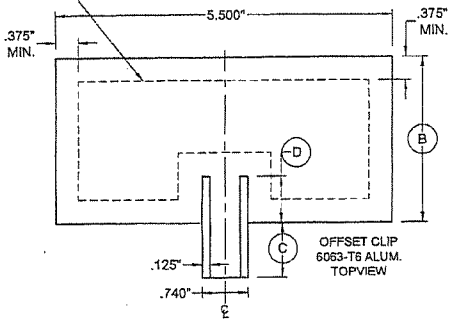
U-CLIP
6063-T6 ALUM.
TOPVIEW

CENTER OF ANCHOR HOLE MUST LIE WITHIN THE DASHED BOUNDARY. SEE SHEETS 5-17 FOR THE ANCHOR O.C. DISTANCE. MAXIMUM ANCHOR HOLE DIAMETER: ANCHOR DIAMETER + 1/16".



2X5 ANGLE CLIP
6063-T6 ALUM.
TOPVIEW

CENTER OF ANCHOR HOLE MUST LIE WITHIN THE DASHED BOUNDARY. SEE SHEETS 5-18 FOR THE ANCHOR O.C. DISTANCE. MAXIMUM ANCHOR HOLE DIAMETER: ANCHOR DIAMETER + 1/16".



OFFSET CLIP
6063-T6 ALUM.
TOPVIEW

TABLE A

Dimension	Value (In)	For Mullion:
A	1.625	1" X 2" X .125" Aluminum Tube Mullion
B	2.654	
C	0.895	
D	0.740	
A	1.125	1" X 2" X .375" Aluminum Tube Mullion
B	2.404	
C	0.635	
D	0.490	
A	1.875	1" X 2.75" X .375 Aluminum Tube Mullion
B	3.000	
C	0.757	
D	1.118	
A	1.312	1" X 2.75" X .650" Aluminum Tube Mullion
B	3.000	
C	0.476	
D	0.836	
A	2.000	1" X 3.125" X .500" Alum Tube Mull
B	2.637	
C	0.863	
D	1.137	
A	2.625	1.25" X 3.188" X .265" Alum Tube Mull
B	3.262	
C	0.862	
D	1.762	
A	1.813	1.26" X 2.11" X .121" Alum Tube Mull

TABLE B

Mull Dimension (sheet #)	PGT Part #				
	Mullion	Std. Clip	Offset Clip	U-Clip	Angle Clip
1" X 2" X .125" (5)	66605	666113M	6661118M	666243M	666511M
1" X 2" X .375" (6)	666006	666114M	6661119M	666244M	666512M
1" X 2.75" X .375" (7)	66607	666115M	6661120M	666245M	666513M
1" X 2.75" X .650" (8)	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)	66641M	6661117M	6661113M	666241M	666516M
1.26" X 2.11" X .125" (18)	69370	N/A	N/A	N/A	666517M

NOTES:

1) HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS GIVEN ON THIS SHEET.

2) SEE SHEETS 5-9, 12 & 18 FOR SUGGESTED, APPROXIMATE HOLE LOCATIONS & ANCHOR O.C. DISTANCE.

3) SEE SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.

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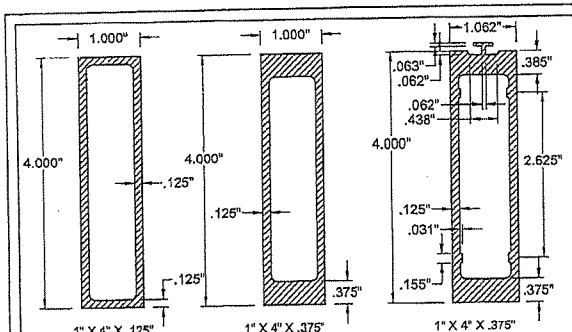
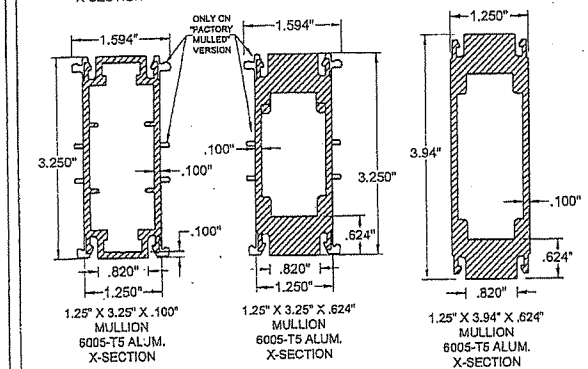
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600
FL CERT. OF AUTH.# 29298

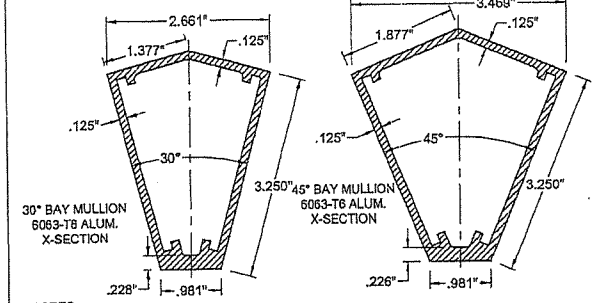
Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: MULLION AND CLIP DIMENSIONS A
Drawing No.: 6300JR
Sheet: 21 of 25
Rev.: C
Scale: N/A
Date:
Checked By:
Revision: NO CHANGES THIS SHEET.
Scale: N/A
Date: 08/29/11
Date: 06/19/17
Drawn By: J ROSIOWSKI
Rev. By: J ROSIOWSKI

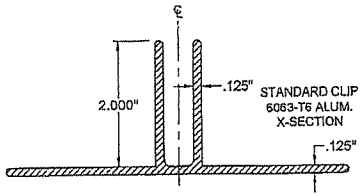
PRODUCT REVISED
as complying with the Florida Building Code
NOA No. 17-0630.01
Expiration Date 05/26/2021
By
Miami-Dade Product Control

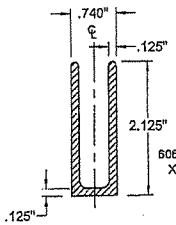
ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER P.E.
FL P.E.# 58705
6/22/17

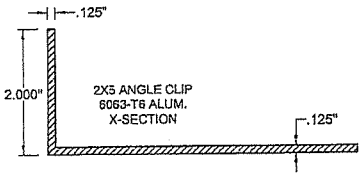


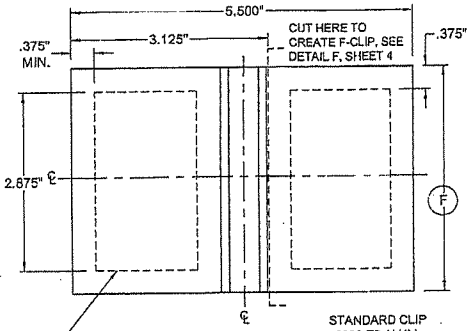


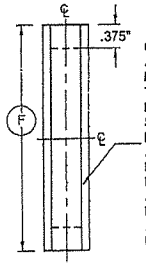


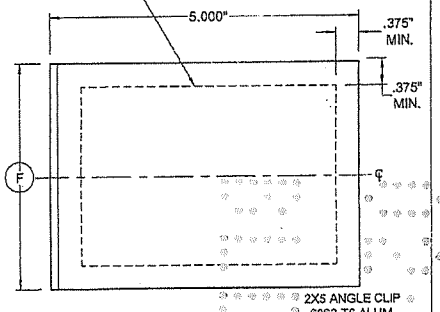












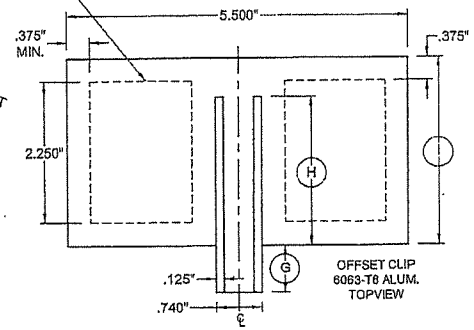


TABLE C

Dimension	Value (in)	For Mullion:
F	3.687	1" X 4" X .125" Aluminum Tube Mullion
G	1.000	
H	2.680	
I	3.000	
F	3.187	1" X 4" X .375" Aluminum Tube & "T"
G	0.757	
H	2.430	
I	3.000	
F	2.250	1.25" X 3.25" X .100" Aluminum Tube Mullion
G	0.750	
H	1.500	
I	3.250	

TABLE C, CONT.

Dimension	Value (in)	For Mullion:
F	1.938	1.25" X 3.25" X .624" Aluminum Tube Mullion
G	0.500	
H	1.438	
I	3.250	
F	2.625	1.25" X 3.94" X .624" Aluminum Tube Mullion
G	1.125	
H	1.500	
I	3.250	
F	2.813	30° Bay Mull
F	2.875	45° Bay Mull

TABLE D

Mull Dimension (sheet #)	PGT Part #				
	Mullion	Std. Clip	Offset Clip	U-Clip	Angle Clip
1" X 4" X .125" (10)	69364	666111M	6661122M	666241M	666518M
1" X 4" X .375" (11)	66610	666112M	6661123M	666242M	666519M
1" X 4" X .375" "T" (11)	66653	666112M	6661123M	666242M	666519M
1.25" X 3.25" X .100" (13)	20160/20312	6661127M	6661124M	6662410M	6665115M
1.25" X 3.25" X .624" (14)	20161/20315	6661128M	6661125M	6662411M	6665116M
1.25" X 3.94" X .624" (15)	20162	6661117M	6661126M	666241M	666517M
30 Degree (19)	66649	N/A	N/A	N/A	6665110M
45 Degree (20)	66650	N/A	N/A	N/A	6665111M

NOTES:

1) HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS GIVEN ON THIS SHEET.

2) SEE SHEETS 10, 11, 13-15, 19 & 20 FOR SUGGESTED, APPROXIMATE HOLE LOCATIONS.

3) SEE SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.

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NOA No. 17-0630.04
Expiration Date 05/26/2021
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ANTHONY LYNN MILLER
LICENSE
No. 58705
06/22/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
FL P.E.# 58705

PGT®
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600
FL CERT. OF AUTH.# 29298

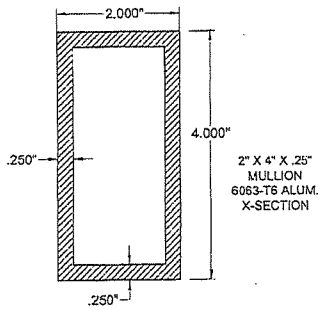
Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: MULLION AND CLIP DIMENSIONS B
Drawing No.: 6300JR
Sheet: 22 of 25
Series: N/A
Scale: N/A
Checked By:
Date:
Rev: C
Drawn By: J ROSOWSKI
Date: 08/29/11
Revision: NO CHANGES THIS SHEET.
Key By: J ROSOWSKI
Date: 06/19/17

TABLE E

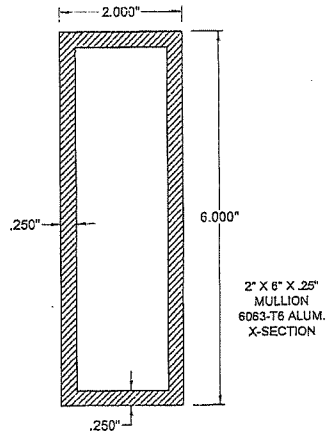
Mull Dimension (sheet #)	PGT Part #			
	Mullion	Std. Clip	U-Clip	Angle Clip
2" X 4" X .25" (16)	66602	666261M	666271M	6665112M
2" X 6" X .25" (17)	66604	666262M	666272M	6665113M

NOTES:

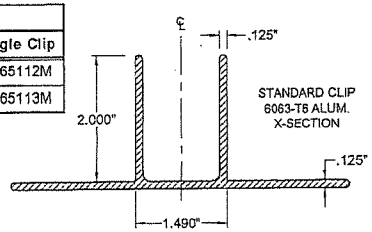
1) HOLES TO BE DRILLED IN THE FIELD FOLLOWING DIMENSIONAL RESTRICTIONS GIVEN ON THIS SHEET.
2) SEE SHEETS 16-17 FOR SUGGESTED, APPROXIMATE HOLE LOCATIONS.
3) SEE SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.



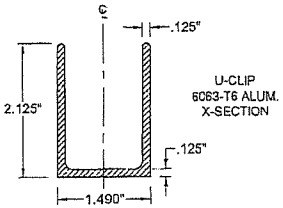
2" X 4" X .25" MULLION 6063-T6 ALUM. X-SECTION



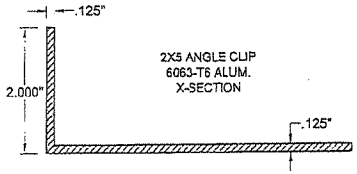
2" X 6" X .25" MULLION 6063-T6 ALUM. X-SECTION



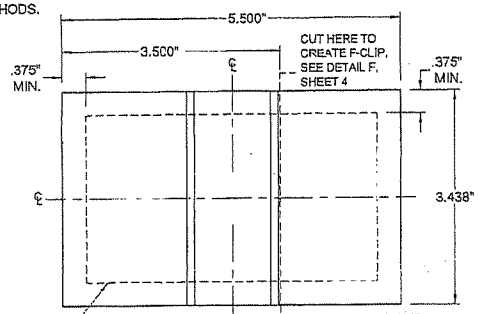
STANDARD CLIP 6063-T6 ALUM. X-SECTION



U-CLIP 6063-T6 ALUM. X-SECTION

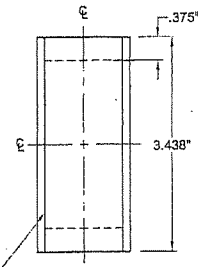


2X5 ANGLE CLIP 6063-T6 ALUM. X-SECTION



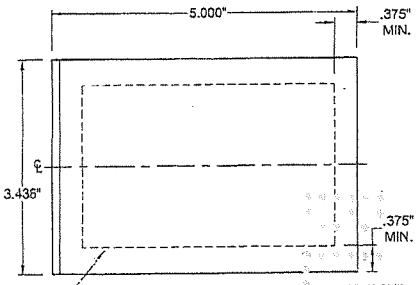
STANDARD CLIP 6063-T6 ALUM. TOPVIEW

CENTER OF ANCHOR HOLE MUST LIE WITHIN THE DASHED BOUNDARY. SEE SHEETS 16-17 FOR THE ANCHOR O.C. DISTANCE. MAXIMUM ANCHOR HOLE DIAMETER: ANCHOR DIAMETER + 1/16".



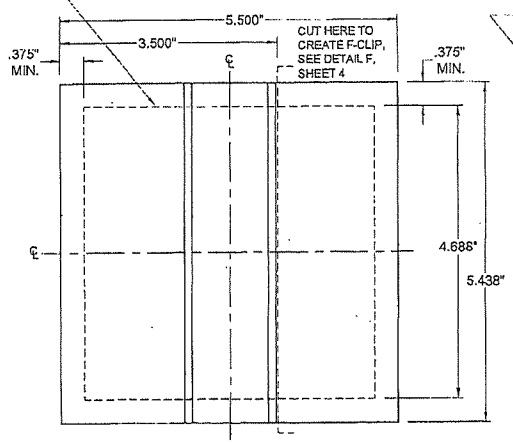
U-CLIP, 6063-T6 ALUM.
USED FOR 2" X 4" MULLION, SHEET 16
TOPVIEW

CENTER OF ANCHOR HOLE MUST LIE WITHIN THE DASHED BOUNDARY. SEE SHEETS 16-17 FOR THE ANCHOR O.C. DISTANCE. MAXIMUM ANCHOR HOLE DIAMETER: ANCHOR DIAMETER + 1/16".

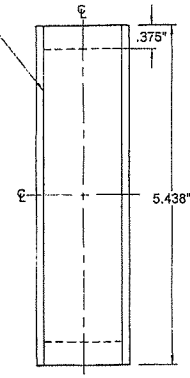


2X5 ANGLE CLIP 6063-T6 ALUM. TOPVIEW

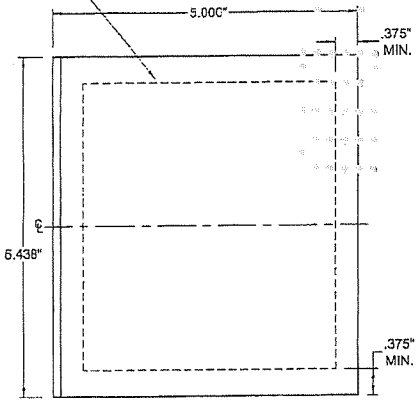
CENTER OF ANCHOR HOLE MUST LIE WITHIN THE DASHED BOUNDARY. SEE SHEETS 16-17 FOR THE ANCHOR O.C. DISTANCE. MAXIMUM ANCHOR HOLE DIAMETER: ANCHOR DIAMETER + 1/16".



STANDARD CLIP 6063-T6 ALUM. TOP VIEW



U-CLIP 6063-T6 ALUM.
USED FOR 2" X 6" MULLION, SHEET 17
TOPVIEW



2X5 ANGLE CLIP 6063-T6 ALUM. TOPVIEW

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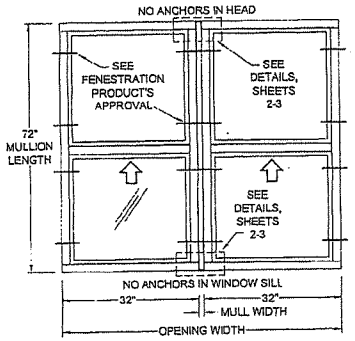
Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: MULLION AND CLIP DIMENSIONS C
Series: N/A
Drawing No. 6300JR
Scale: N/A
Sheet: 23 of 25
Rev. C
Drawn By: J ROSOWSKI
Date: 08/29/11
Checked By:
Date:
Rev. By: J ROSOWSKI
Date: 06/19/17
Revision: NO CHANGES THIS SHEET.

PRODUCT REVISED
as complying with the Florida Building Code
NOA No. 17-0630.01
Expiration Date 05/26/2021
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
6/22/17
A. LYNN MILLER, P.E.
FL P.E.# 58705

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 +60.0/-60.0 PSF.

1) INITIALLY ASSUMING THAT A 1" WIDE MULLION IS SUITABLE,THE MULLION LENGTH IS 72" AND THE OPENING WIDTH IS 32"+32+1" =65". REFERENCING SHEET 25, 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 +60.0/-60.0 PSF. IF THE TABLE DOES NOT SHOW THE EXACT SIZE, USE THE NEXT LARGER SIZE AVAILABLE.

FROM TABLE 3A, SHEET 7, THE 1" X 2.75" X .375" MULLION (LENGTH = 72", OPENING WIDTH = 70") MEETS THE DEPTH REQUIRED, HOWEVER THE DESIGN PRESSURE IS +/-58.3 PSF AND WOULD NOT BE SUITABLE FOR THIS APPLICATION.

FROM TABLE 4A, SHEET 8, THE 1" X 2.75" X .650" 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.

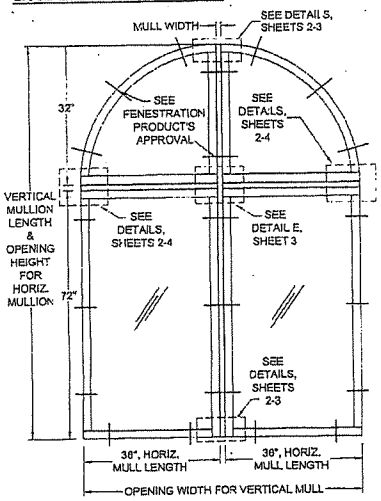
2) USE TABLE 4B TO FIND THE ANCHOR TYPE, ANCHOR QUANTITY AND CLIP TYPE REQUIRED FOR THE WOOD SUBSTRATE. BOTH THE STANDARD CLIP WITH (4) #12 ANCHORS AND THE 2X5 ANGLE CLIPS WITH (4) #12 ANCHORS HAVE A CAPACITY OF 885 LBS. THOUGH EITHER ONE COULD BE USED, THE STANDARD CLIP IS EASIER TO INSTALL.

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 +/-60.0 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:

$$(60\ \text{PSF}) \times \left(\frac{636\ \text{LBS}}{72.7\ \text{PSF}}\right) = 524.9\ \text{LBS}$$ (MAY BE USED TO QUALIFY # 10 STEEL SCREWS FROM TABLE 4B)

EXAMPLE 2: MULTIPLE MULLIONS



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 +50.0/-55.0 PSF.

FOR THE VERTICAL MULLION:

1) INITIALLY ASSUMING THAT A 1" WIDE MULLION IS SUITABLE, THE MULLION LENGTH IS 32"+72"+1"=105" AND THE OPENING WIDTH IS 36"+36"+1" =73". REFERENCING SHEET 25, 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 +50.0/-55.0 PSF. IF THE TABLE DOES NOT SHOW THE EXACT SIZE, USE THE NEXT LARGER SIZE AVAILABLE.

FROM TABLE 3A, SHEET 7, THE 1" X 2.75" X .375" MULLION (LENGTH = 108", OPENING WIDTH = 80") MEETS THE DEPTH REQUIRED, HOWEVER THE DESIGN PRESSURE IS +/-15.1 PSF AND WOULD NOT BE SUITABLE FOR THIS APPLICATION.

FROM TABLE 12A, SHEET 16, THE 2" X 4" X .250" MULLION (LENGTH = 108", OPENING WIDTH = 80") HAS A DESIGN PRESSURE OF +/-64.7 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 36"+36"+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"+35-1/2"+2"=73").

2) USE TABLE 12B 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 1050 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.

1) THE MULLION LENGTH IS 36" AND THE OPENING HEIGHT IS 32"+72"+2" =106". REFERENCING SHEET 25, THE COLUMN USING TRAPEZOIDAL/TRIANGULAR LOADING MAY BE USED. FROM TABLE 12A, SHEET 16, THE 2" X 4" X .250" MULLION (@ LENGTH = 42", OPENING HEIGHT = 120") HAS A DESIGN PRESSURE OF +/-170.0 PSF WHICH EXCEEDS THE REQUIREMENTS FOR THE OPENING AND MAY BE USED IN THIS APPLICATION. NOTE THE ANCHOR CAPACITY REQUIRED OF 521 LBS.

2) USE TABLE 12B 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 1" GIVES AN ANCHOR CAPACITY OF 540 LBS WHICH IS GREATER, AND THEREFORE SUITABLE, FOR THE REQUIRED ANCHOR CAPACITY OF 521 LBS.

4) FOR THE U-CLIP IN THE HORIZONTAL MULLION TO VERTICAL MULLION, USE THE SAME ANCHOR CAPACITY OF 521 LBS. TABLE 12B 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:
+/-64.7 PSF FROM THE VERTICAL MULLION;
+/-170.0 PSF FROM THE 36" HORIZONTAL MULLION ATTACHING TO CMU;
+/-170.0 PSF FROM THE 36" HORIZONTAL MULLION ATTACHING TO THE VERTICAL MULLION (INTERSECTION).
THE LOWEST DESIGN PRESSURE IS +/-64.7 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.

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Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: EXAMPLES
Series: N/A
Drawn By: J ROSOWSKI
Date: 08/29/11
Drawing No. 6300JR
Checked By:
Date:
Sheet: 24 of 25
Rev: C
Revision: NO CHANGES THIS SHEET.
Rev. By: J ROSOWSKI
Date: 06/19/17

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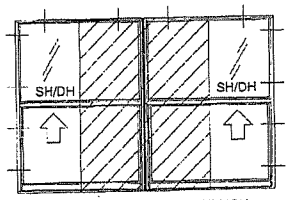
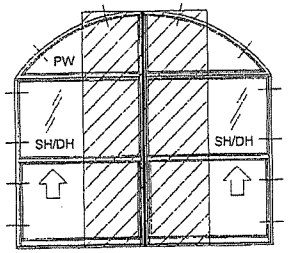
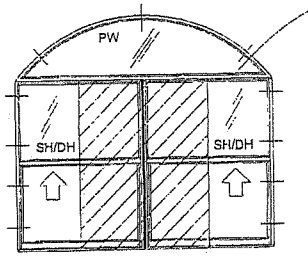
EXAMPLES OF RECTANGULAR LOADING:



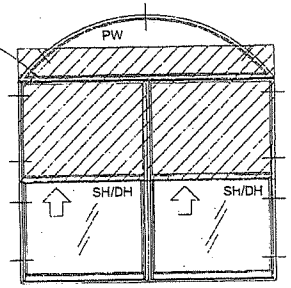
LOADING OF VERTICAL MULLION
SILL OF WINDOWS NOT ANCHORED



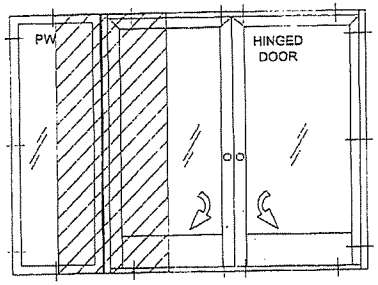
LOADING OF VERTICAL MULLION
WITH INTERSECTING HORIZONTAL MULLIONS



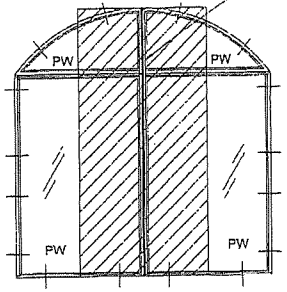
LOADING OF VERTICAL MULLION
SILL OF WINDOWS NOT ANCHORED



LOADING OF HORIZONTAL MULLION
WITH INTERSECTING VERTICAL MULLION

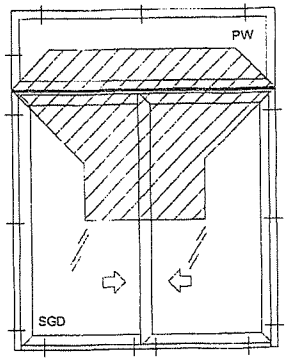


LOADING OF VERTICAL MULLION
PANEL OF HINGED DOOR IS NOT CAPTURED OR ANCHORED

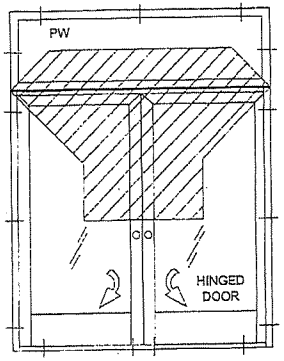


LOADING OF VERTICAL MULLION
WITH INTERSECTING HORIZONTAL MULLIONS

EXAMPLES OF TRAPEZOIDAL/TRIANGULAR LOADING:



LOADING OF HORIZONTAL MULLION



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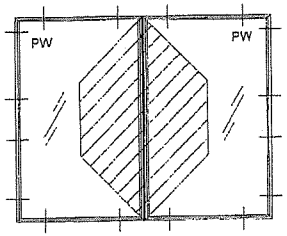
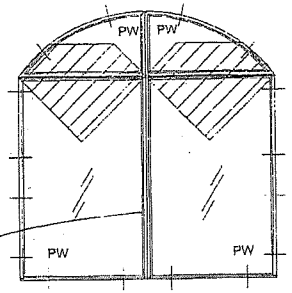
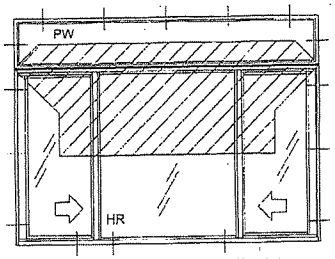


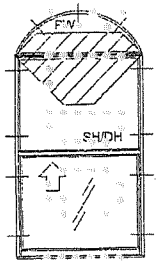
LOADING OF VERTICAL MULLION



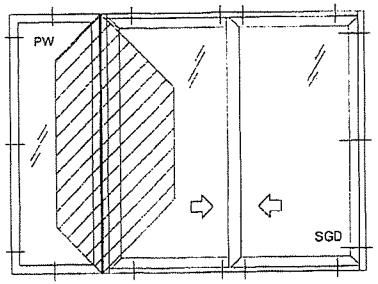
LOADING OF (2) HORIZONTAL MULLIONS



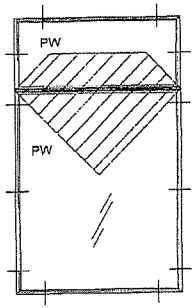
LOADING OF HORIZONTAL MULLION



LOADING OF HORIZONTAL MULLION



LOADING OF VERTICAL MULLION



LOADING OF HORIZONTAL MULLION

NOTES:

1) DRAWINGS ARE RERESENTATIONS OF TYPICAL CONFIGURATIONS. 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.

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1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600
FL CERT. OF AUTH.# 29288

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS			
Description: LOADING EXAMPLES	Drawing No. 6300JR	Sheet: 25 of 25	Rev: C
Series: N/A	Scale: N/A	Checked By:	Date:
Drawn By: T. ROSCIWSKI	Date: 08/29/11	Revision:	
Rev. By: T. ROSCIWSKI	Date: 06/19/17	NO CHANGES THIS SHEET.	

PRODUCT REVISED
as complying with the Florida Building Code
NOA No. 17-0630.01
Expiration Date 05/25/2021
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
06/22/17
A. LYNN MILLER, P.E.
FL P.E.# 58705

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/economy

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

NOTICE OF ACCEPTANCE (NOA)

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 **"FD-101"** Aluminum Outswing French Doors w/wo Sidelites– **L.M.I.**

APPROVAL DOCUMENT: Drawing No. **11005–1 Rev G**, titled "Alum. French Door & Sidelites, Impact", sheets 1 through 15 of 15, dated 04/04/2012 and last revised on 09/17/17, prepared by PGT Industries, signed and sealed by Anthony Lynn Miller, P. E., bearing the Miami–Dade County Product Control Revision stamp with the Notice of Acceptance number and Expiration date by the Miami–Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

Limitations:

1. Use of Tables **1** or **2** (sheet 2) requires full length reinforcements (item # 22) for OX, XO, XXO, OXX, OXO and OXXO configurations. The lower design pressure from table 1 or table 2 shall control.
2. Standalone X, XX and O configuration unit do not required, reinforcement (item #22).
3. Applicable Egress operable doors must comply with min clear width & height per FBC, to be reviewed by AHJ.
4. 1x or 2x buck to be properly secured to sustain imposed load and to be reviewed by AHJ.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and series and following statement: "Miami-Dade County Product Control Approved", noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **revises NOA #16-0629.17** and consists of this page 1 and evidence pages E-1 & E-2, as well as approval document mentioned above.

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

MIAMI-DADE COUNTY APPROVED

NOA No. 17-0504.01
Expiration Date: October 18, 2022
Approval Date: September 28, 2017

9/20/17

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. Evidence submitted under previous approvals

A. DRAWINGS

1. Manufacturer's die drawings and sections (Submitted under files # listed below)
2. Drawing No. **11005-1 Rev F**, titled "Alum. French Door & Sidelites, Impact", sheets 1 through 10 of 10, dated 04/04/2012 and last revised on 09/08/16, prepared by PGT Industries, signed and sealed by Anthony Lynn Miller, P.E.

B. TESTS

1. Test report on 1) Uniform Static Air Pressure Test, per FBC, TAS 202-94
   2) Large Missile Impact Test per FBC, TAS 201-94
   3) Cyclic Wind Pressure Loading per FBC, TAS 203-94

   Along with marked-up drawings and installation diagram of Aluminum Sliding Glass Doors (w/ TPS, Super, Cardinal & Duraseal Spacers), prepared by Fenestration Testing Laboratory, Inc., Test Reports No(s) **FTL-8717, FTL-8970** and **FTL-8968**, dated 02/15/16, 06/07/16 and 06/20/16, all signed & sealed by Idalmis Ortega, P.E.(submitted under file **#16-0629.17**)
2. Test reports on: 1) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94
   2) Large Missile Impact Test per FBC, TAS 201-94
   3) Cyclic Wind Pressure Loading per FBC, TAS 203-94

   Along with marked–up drawings and installation diagram of fixed sidelite (O) w/ insulated laminated glass, prepared by Fenestration Testing Laboratory, Inc., Test Reports No(s) **FTL–6864**, dated 04/02/12, signed and sealed by Marlin D. Brinson, P. E. (Submitted under files **#12-0516.02/#11-1013.22)**
3. Test report 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, TAS 202-94

   Along with marked–up drawings and installation diagram of Aluminum outswing doors w/sidelites, prepared by Fenestration Testing Laboratory, Inc., Test Reports No **FTL–5212**, dated 05/05/2007, signed and sealed by Carlos S. Rionda, P. E. (Submitted under files # **12-516.02/#11-1013.22)**

C. CALCULATIONS (Submitted under file **#15-0528.24**)

1. Anchor verification calculations and structural analysis dated 05/22/15, complying with FBC-214 (5th Edition), prepared by PGT, signed and sealed by Lynn Miller, P.E.
2. Glazing complies w/ ASTME-1300-02, 04 & -09.

D. QUALITY ASSURANCE

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

Ishaq I. Chanda

Ishaq I. Chanda, P.E.
Product Control Examiner
NOA No. 17-0504.01
Expiration Date: October 18, 2022
Approval Date: September 28, 2017

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

E. MATERIAL CERTIFICATIONS

1. Notice of Acceptance No. **14-0916.10** issued to Kuraray America, Inc. (former E.I. DuPont DeNemours & Co., Inc.) for "Kuraray **Butacite PVB Interlayer**", expiring on 12/11/16.
2. Notice of Acceptance No. **13-1231.10** issued to Eastman Chemical Company (MA) former Solutia Inc. for their "**Saflex Clear or colored interlayer**", expiring on 05/21/16.

F. STATEMENTS (Submitted under file **#15-0528.24**)

1. Statement letter of conformance to FBC 2014(5th edition) and letter of no financial interest, prepared by PGT, dated 05/22/15, signed and sealed by Lynn Miller, P.E.
2. Lab compliance as part of the above referenced test report.

G. OTHER

1. This NOA **revises** NOA **#15-0528.24**, expiring 10/18/17.
2. Test proposal # 16-0152 dated 03/09/16 approved by RER
3. Test proposals dated Jan 18, 2017 and 02/15/12 approved by Jaime D. Gascon, P.E.

2. New Evidence submitted

A. DRAWINGS

1. Drawing No. **11005–1 Rev G**, titled "Alum. French Door & Sidelites, Impact", sheets 1 through 15 of 15, dated 04/04/2012 and last revised on 09/17/17, prepared by PGT Industries, signed and sealed by Anthony Lynn Miller, P.E.

B. TESTS

1. None.

C.

1. Anchor verification calculations and structural analysis dated 08/01/17, complying with FBC-2014 (5TH Edition) & 2017(6th Edition), prepared by PGT, signed and sealed by Lynn Miller, P.E.
2. Glazing complies w/ ASTME-1300-02, 04 & -09.

D.

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

E. MATERIAL CERTIFICATIONS

1. Notice of Acceptance No. **16-1117.01** issued to Kuraray America, Inc. (former E.I. DuPont DeNemours & Co., Inc.) for "**Trosifol**: Ultra clear, clear & color PVB glass interlayer" (former "Kuraray **Butacite** PVB Interlayer)", expiring on 07/08/19.
2. Notice of Acceptance No. **15-1201.11** issued to Eastman Chemical Company (MA) former Solutia Inc. for their "**Saflex Clear or colored interlayer**", expiring on 05/21/21.

F. STATEMENTS

1. Statement letter of conformance to FBC 2014(5th edition), FBC 2017(6th edition) and letter of no financial interest, prepared by PGT, dated 08/01/17, signed and sealed by Lynn Miller, P.E.

G. OTHER

1. This NOA **revises & renews** NOA **#16-0629.17**, expiring 10/18/22.

Ishaq I. Chanda

Ishaq I. Chanda, P.E.
Product Control Examiner
NOA No. 17-0504.01
Expiration Date: October 18, 2022
Approval Date: September 28, 2017

SERIES 101 OUTSWING, IMPACT RESISTANT FRENCH DOOR AND SIDE LITE

DESIGN PRESSURE RATING	IMPACT RATING
SEE TABLES 1 - 4 ON SHEET 2	RATED FOR LARGE & SMALL MISSILE IMPACT RESISTANCE

1) GLAZING OPTIONS: SEE BELOW.

2) DESIGN PRESSURES: (SEE TABLES 1-4 ON SHEET 2.
   A. NEGATIVE DESIGN LOADS BASED ON TESTED PRESSURE AND GLASS TABLES ASTM E 1300.
   B. POSITIVE DESIGN LOADS BASED ON WATER TEST PRESSURE AND GLASS TABLES ASTM E 1300.
   C. DESIGN LOADS ARE BASED ON ALLOWABLE STRESS DESIGN, ASD.

3) CONFIGURATIONS: X, O, XX, XO, OX, XXO, OXX, OXO, AND OXXO.

4) ANCHORAGE: THE 33 1/3% STRESS INCREASE HAS NOT BEEN USED IN THE DESIGN OF THIS PRODUCT. FOR ANCHORAGE REQUIREMENTS SEE SHEETS 8-11. MATERIALS, INCLUDING BUT NOT LIMITED TO STEEL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE FBC, CURRENT EDITION.

5) SHUTTERS ARE NOT REQUIRED.

6) SEALANTS: INSTALLATION SCREWS, FRAME AND PANEL CORNERS SEALED WITH CLEAR COLORED SEALANT.

7) REFERENCES: TEST REPORT FTL-4964, 5212 & 6864; ELCO ULTRACON & CRETEFLEX NOA'S

8) THIS PRODUCT HAS BEEN DESIGNED & TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE, INCLUDING THE HIGH VELOCITY HURRICANE ZONE (HVHZ).

9) DOOR SIZES MUST BE VERIFIED FOR COMPLIANCE WITH EGRESS REQUIREMENTS PER CURRENT FLORIDA BUILDING CODE. APPLICABLE EGRESS REQUIREMENTS TO BE REVIEWED BY AUTHORITY HAVING JURISDICTION (AHJ).

TABLE A:

Anchor Group	Anchor Type	Frame Member	Substrate	Min. Edge Distance	Min. Embedment or Metal Thickness
1	1/4" Elco UltraCon® F_v=155 ksi, F_u=177 ksi	All	Concrete (min. 2.85 ksi)	1-3/4"	1-3/8"
		Jamb	Hollow Block (ASTM C90)	1-3/4"	1-1/4"
2	1/4" 410 SS Elco CreteFlex® F_v=127.4 ksi, F_u=189.7 ksi	All	Concrete (min. 3.35 ksi)	1-3/4"	1-3/4"
		Jamb	Hollow Block (ASTM C90)	1-3/4"	1-1/4"
		All	Southern Pine (SG = 0.55)	1"	1-3/8"
3	#12 Steel SMS (Gr. 5)	All	Southern Pine (SG = 0.55)	9/16"	1-3/8"
		All	6063-T5 Aluminum	3/8"	1/8"

1) ALL ANCHOR HEAD TYPES ARE APPLICABLE.
2) MIN. OF 3 THREADS BEYOND METAL SUBSTRATE.
3) METAL SUBSTRATE TO MEET MIN. STRENGTH AND THICKNESS REQUIREMENTS PER CURRENT FLORIDA BUILDING CODE AND TO BE REVIEWED BY THE AUTHORITY HAVING JURISDICTION.

CODES / STANDARDS USED:
- 2017 FLORIDA BUILDING CODE (FBC), 6TH EDITION
- 2014 FLORIDA BUILDING CODE (FBC), 5TH EDITION
- ASTM E1300-09
- ANSI/AF&PA NDS-2015 FOR WOOD CONSTRUCTION
- ALUMINUM DESIGN MANUAL, ADM-2015
- AISI S100-12
- AISC 360-10

GENERAL NOTES..... 1
GLAZING DETAILS..... 1
DESIGN PRESSURES..... 2
VERT. SECTIONS..... 3
HORIZ. SECTIONS..... 4
PARTS LIST..... 5
EXTRUSIONS..... 6
ANCHOR QUANTITY..... 7-13
INSTALLATION..... 14-15

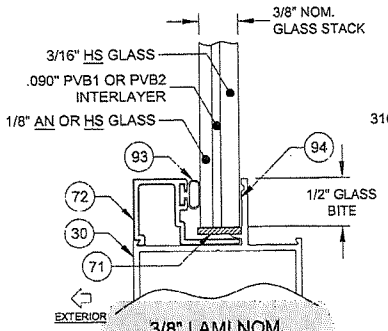
INSTRUCTIONS:
1) DETERMINE THE DESIGN PRESSURE, DP REQUIREMENT (LBS/FT²) FOR THE OPENING USING THE **ASCE-7 STANDARD**.

2) ON SHEET 2, TABLES 1 & 2 REFER TO PRODUCTS THAT ARE REINFORCED. TABLES 3 & 4 REFER TO PRODUCTS THAT ARE UNREINFORCED. DETERMINE THE DESIGN PRESSURE OF YOUR PRODUCT USING THE APPROPRIATE SET OF TABLES. EXAMPLES ARE GIVEN ON SHEET 2. THIS DESIGN PRESSURE NEEDS TO BE HIGHER THAN THE OPENING'S REQUIRED DESIGN PRESSURE FROM STEP 1.

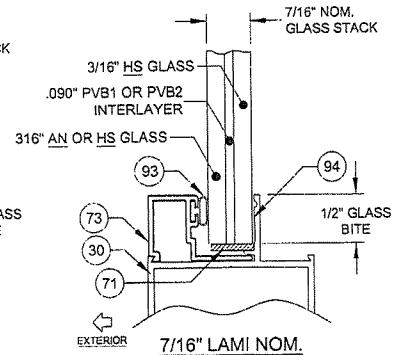
3) DETERMINE YOUR ANCHOR GROUP FROM TABLE A, THIS SHEET AND YOUR GLASS TYPES, (A - D), FROM THE GLAZING DETAILS ON THIS SHEET.

4) FROM SHEETS 7-13, FIND THE SHEET THAT PERTAINS TO YOUR PRODUCT AND DETERMINE THE ANCHOR QUANTITIES REQUIRED.

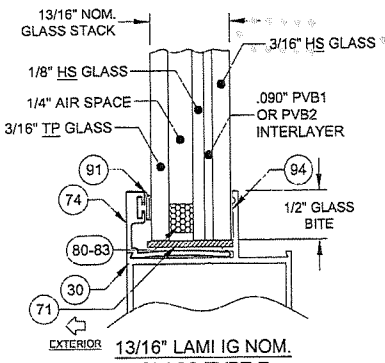
5) ANCHORS ARE TO BE INSTALLED USING THE LOCATION GUIDELINES GIVEN IN THE NOTES ON SHEETS 7-13. SHEET 14 & 15 SHOW INSTALLATION CROSS-SECTIONAL DETAILS.



3/8" LAMI NOM.
GLASS TYPE A, (PVB1),
GLASS TYPE B, (PVB2)



7/16" LAMI NOM.
GLASS TYPE C, (PVB1),
GLASS TYPE D, (PVB2)



13/16" LAMI IG NOM.
GLASS TYPE E

AN = ANNEALED
HS = HEAT-STRENGTHENED
TP = TEMPERED

PVB1 = .090" TROSIFOL® PVB BY KURARAY AMERICA, INC.
PVB2 = .090" SAFLEX/KEEPSAFE MAXIMUM PVB BY EASTMAN CHEMICAL CO.

PRODUCT REVISED as complying with the Florida building Code
Acceptance No. 17-0504.01
Expiration Date SEP 28 2020
Signature Dade Product Control

Revision: F) REORGANIZED SHEETS AND UPDATED TO FBC 2017, ADDED TABLE A & ALUM. SUBSTRATE. - JR - 04/10/17

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(941)-480-1600

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CERT. OF AUTH. #29296

Date	04/04/12
Drawn	JENS ROSOWSKI
DWG No.	11005-1
Rev.	G
Sheet	1 OF 15
Scale	NTS
Series	FD-101 LM

Title: ALUM. FRENCH DOOR & SIDE LITES, LM.
Descr: NOTES AND GLZ. DETAILS

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/15/17

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

TABLE 1:

DESIGN PRESSURES FOR REINFORCED DOORS, ALL GLASS TYPES

X FRAME WIDTH	XX FRAME WIDTH	FRAME HEIGHT									
		6^8 - 79 3/4"		7^0 - 83 3/4"		87 3/4"		91 3/4"		8^0 - 95 3/4"	
3^0 37 1/2"	6^0 71 3/4"	+75.0	-75.0	+75.0	-75.0	+75.0	-75.0	+75.0	-75.0	+75.0	-75.0

TABLE 2:

DESIGN PRESSURES FOR REINFORCED SIDE LITES

GLASS TYPES	FRAME WIDTH	FRAME HEIGHT									
		6^8 - 79 3/4"		7^0 - 83 3/4"		87 3/4"		91 3/4"		8^0 - 95 3/4"	
A	27 3/4"	+75.0	-75.0	+75.0	-75.0	+75.0	-75.0	+75.0	-75.0	+75.0	-75.0
	36 1/8"	+75.0	-75.0	+75.0	-75.0	+71.4	-71.4	+67.6	-67.6	+64.2	-64.2
	36 3/4"	+75.0	-75.0	+74.9	-74.9	+70.4	-70.4	+66.6	-66.6	+63.1	-63.1
B, C, D OR E	36 3/4"	+75.0	-75.0	+75.0	-75.0	+75.0	-75.0	+75.0	-75.0	+75.0	-75.0

FOR MAX. SIZES OF COMBINED UNITS, SEE SHEETS 10-13.

DOOR SIZES MUST BE VERIFIED FOR COMPLIANCE WITH EGRESS REQUIREMENTS PER CURRENT FLORIDA BUILDING CODE. APPLICABLE EGRESS REQUIREMENTS TO BE REVIEWED BY AUTHORITY HAVING JURISDICTION (AHJ).

TABLE 3:

DESIGN PRESSURES FOR UNREINFORCED DOORS, ALL GLASS TYPES

X FRAME WIDTH	XX FRAME WIDTH	FRAME HEIGHT									
		6^8 - 79 3/4"		7^0 - 83 3/4"		87 3/4"		91 3/4"		8^0 - 95 3/4"	
2^0 25 1/2"	4^0 47 3/4"	+58.6	-58.6	+55.4	-55.4	+52.4	-52.4	+49.8	-49.8	+47.4	-47.4
27 1/2"	51 3/4"	+54.9	-54.9	+51.8	-51.8	+49.0	-49.0	+46.5	-46.5	+44.3	-44.3
29 1/2"	55 3/4"	+51.7	-51.7	+48.8	-48.8	+46.1	-46.1	+43.8	-43.8	+41.6	-41.6
2^6 31 1/2"	5^0 59 3/4"	+49.0	-49.0	+46.2	-46.2	+43.6	-43.6	+41.4	-41.4	+39.3	-39.3
2^8 33 1/2"	5^4 63 3/4"	+43.1	-43.1	+43.1	-43.1	+41.5	-41.5	+39.3	-39.3	+37.3	-37.3
35 1/2"	67 3/4"	+38.1	-38.1	+38.1	-38.1	+38.1	-38.1	+37.5	-37.5	+35.6	-35.6
3^0 37 1/2"	6^0 71 3/4"	+34.0	-34.0	+34.0	-34.0	+34.0	-34.0	+34.0	-34.0	+34.0	-34.0

TABLE 4:

DESIGN PRESSURES FOR UNREINFORCED SIDE LITES

GLASS TYPE	FRAME WIDTH	FRAME HEIGHT									
		6^8 - 79 3/4"		7^0 - 83 3/4"		87 3/4"		91 3/4"		8^0 - 95 3/4"	
A, B, C, D OR E	10 3/4"	+75.0	-75.0	+75.0	-75.0	+75.0	-75.0	+75.0	-75.0	+75.0	-75.0
	12 3/4"	+75.0	-75.0	+75.0	-75.0	+75.0	-75.0	+75.0	-75.0	+75.0	-75.0
	19"	+72.4	-72.4	+68.5	-68.5	+65.0	-65.0	+61.9	-61.9	+59.0	-59.0
	21 3/4"	+64.5	-64.5	+61.0	-61.0	+57.8	-57.8	+55.0	-55.0	+52.4	-52.4
	27 3/4"	+52.9	-52.9	+49.9	-49.9	+47.2	-47.2	+44.7	-44.7	+42.6	-42.6
	36 1/8"	+35.2	-35.2	+35.2	-35.2	+35.2	-35.2	+35.2	-35.2	+34.4	-34.4
	36 3/4"	+34.0	-34.0	+34.0	-34.0	+34.0	-34.0	+34.0	-34 0	+34.0	-34.0

FOR MAX. SIZES OF COMBINED UNITS, SEE SHEETS 10-13.

NOTES FOR ALL CONFIGURATIONS:

1) FOR CONFIGURATIONS WHICH CONTAIN A SIDE LITE TO DOOR CONNECTION, (XO, OX, XXO, OXX, OXO, OXXO), THE LOWEST DESIGN PRESSURE SHALL PREVAIL.

2) FULL LENGTH REINFORCEMENT (ITEM 22 SHOWN IN SECTION E-E, SHEET 4), IS REQUIRED AT DOOR TO SIDE LITE CONNECTIONS, WHEN USING TABLES 1 & 2.

3) DOOR AND SIDE LITE COMBINATIONS FROM TABLES 3 AND 4 DO NOT REQUIRE REINFORCEMENT ITEM 22.

4) DESIGN PRESSURES UNDER 40 PSF ARE NOT APPLICABLE IN MIAMI-DADE COUNTY.

5) FOR DOOR-ONLY CONFIGURATIONS (X, XX), ONLY TABLE 1 IS APPLICABLE. REINFORCEMENT, PART #22, IS NOT REQUIRED.

6) FOR SINGLE, STAND-ALONE SIDE LITES (O), ONLY TABLE 2 IS APPLICABLE. REINFORCEMENT, PART #22, IS NOT REQUIRED.

7) CONFIGURATIONS WHERE THE DOOR LOCKSTILE ABUTS A SIDELITE ARE NOT AVAILABLE WITH REINFORCEMENT.

8) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE SIZE. (E.G. FOR 32" "X" DOOR WIDTH IN TABLE 3, USE 33-1/2")

EXAMPLE 1, (USING TABLES 1 & 2): XO WITH GLASS TYPE B, REINFORCED,
33-1/2" WIDE X 79-3/4" HIGH SINGLE DOOR WITH 18" X 79-3/4" SIDE LITE (SEE NOTE 8)

DOOR DESIGN PRESSURE = +75 / -75 PSF
SIDE LITE DESIGN PRESSURE = +75 / -75 PSF
OVERALL DESIGN PRESSURE = +75 / -75 PSF

EXAMPLE 2, (USING TABLES 1 & 2): OXXO WITH GLASS TYPE A, REINFORCED,
68" WIDE X 85" HIGH DOUBLE DOOR WITH (2) 36-1/2" X 85" SIDE LITES (SEE NOTE 8)

DOOR DESIGN PRESSURE = +75 / -75 PSF
SIDE LITE DESIGN PRESSURE = +70.4 / -70.4 PSF
OVERALL DESIGN PRESSURE = +70.4 / -70.4 PSF

EXAMPLE 3, (USING TABLES 3 & 4): OXO WITH GLASS TYPE C, UNREINFORCED,
30" WIDE X 87-3/4" HIGH SINGLE DOOR WITH (2) 26" X 87-3/4" SIDE LITES (SEE NOTE 8)

DOOR DESIGN PRESSURE = +43.6 / -43.6 PSF
SIDE LITE DESIGN PRESSURE = +47.2 / -47.2 PSF
OVERALL DESIGN PRESSURE = +43.6 / -43.6 PSF

EXAMPLE 4, (USING TABLES 3 & 4): OXXO WITH GLASS TYPE B, UNREINFORCED,
71-3/4" WIDE X 95-3/4" HIGH DOUBLE DOOR WITH (2) 36-3/4" X 95-3/4" SIDE LITES

DOOR DESIGN PRESSURE = +34 / -34 PSF
SIDE LITE DESIGN PRESSURE = +34 / -34 PSF
OVERALL DESIGN PRESSURE = +34 / -34 PSF

EXAMPLE 5, (USING TABLE 1): X WITH GLASS TYPE A,
32" WIDE X 90" HIGH SINGLE DOOR (SEE NOTE 8)

DOOR DESIGN PRESSURE = +75 / -75 PSF

EXAMPLE 6, (USING TABLE 1): XX WITH GLASS TYPE A,
63-3/4" WIDE X 91-3/4" HIGH DOUBLE DOOR (SEE NOTE 8)

DOOR DESIGN PRESSURE = +75 / -75 PSF

GLASS TYPES (ALL TABLES, THIS SHEET):
A. 3/8" LAMI (1/8" A, .090 PVB, 3/16" HS)
B. 3/8" LAMI (1/8" HS, .090 PVB, 3/16" HS)
C. 7/16" LAMI (3/16" A, .090 PVB, 3/16" HS)
D. 7/16" LAMI (3/16" HS, .090 PVB, 3/16" HS)
E. 13/16" LAMI IG (3/16" TP, 1/4" AIRSPACE, 1/8" HS, .090 PVB, 3/16" HS)

PRODUCT REVIEWED as complying with the Florida Building Code
Acceptance No. 17-0504.01
Expiration Date 9/28/22
Miami-Dade Product Control

Revision: G) NO CHANGES THIS SHEET. - JR - 04/10/17

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

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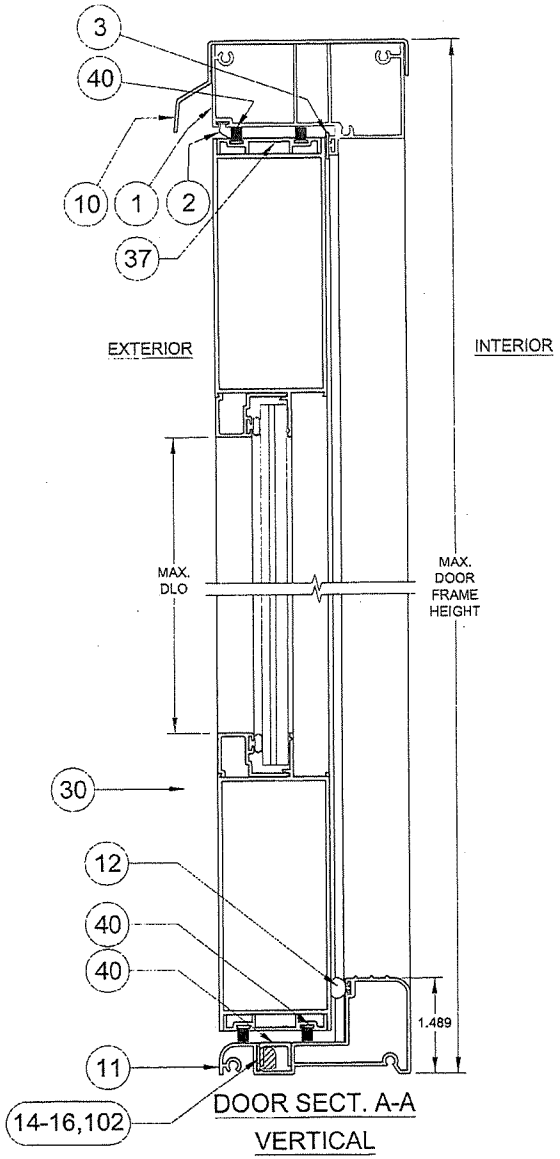
CERT. OF AUTH. #29296

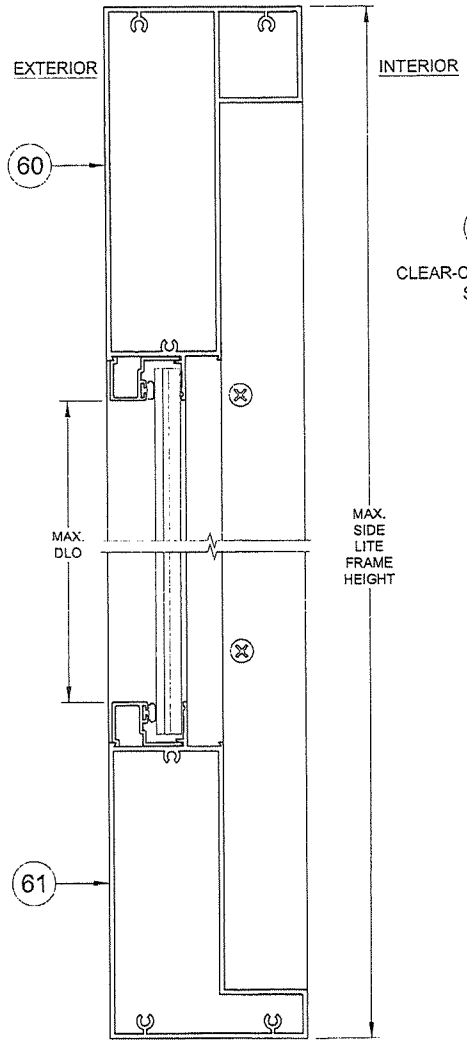
Date	04/04/12
Drawn	JENS ROSOWSKI
Dwg. No.	11005-1
Rev.	G
Title	ALUM. FRENCH DOOR & SIDE LITES, LM
Desc.	DESIGN PRESSURES
Sheet	2 OF 15
Scale	NTS
Series	FD-101 LM

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/15/17

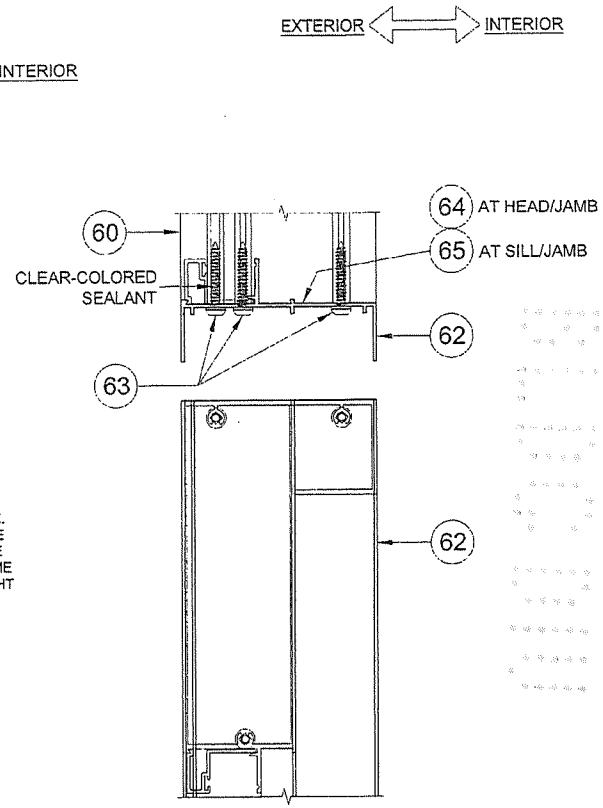
A. LYNN MILLER, P.E.
P.E.# 58705



DOOR SECT. A-A
VERTICAL



SL SECT. B-B
VERTICAL



SL VIEW G-G
CORNER ASSEMBLY

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Expiration Date 9/28/22
By Ishag I. Chank
Mass' Dade Product Control

Revision
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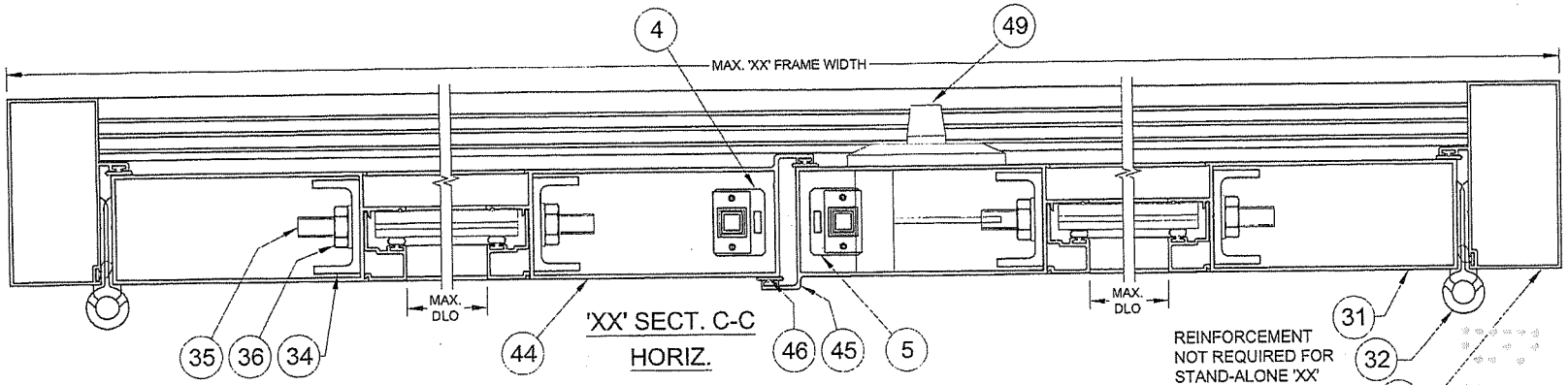
Title	ALUM. FRENCH DOOR & SIDE LITES, LM	Date	04/04/12
Desc.	VERTICAL SECTIONS	Drawn By	JENS ROSOWSKI
Series	FD-101 LM	Scale	NTS
Sheet	3 OF 15	DWG No.	11005-1
Rev.	G		

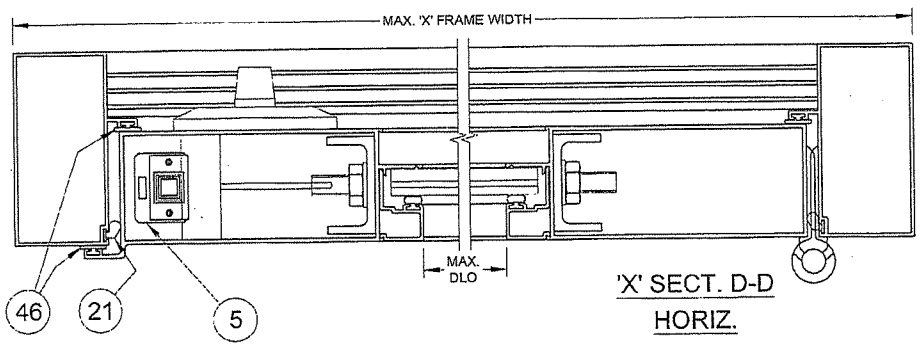
ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/15/17

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



'XX' SECT. C-C
HORIZ.

REINFORCEMENT NOT REQUIRED FOR STAND-ALONE 'XX' DOORS.

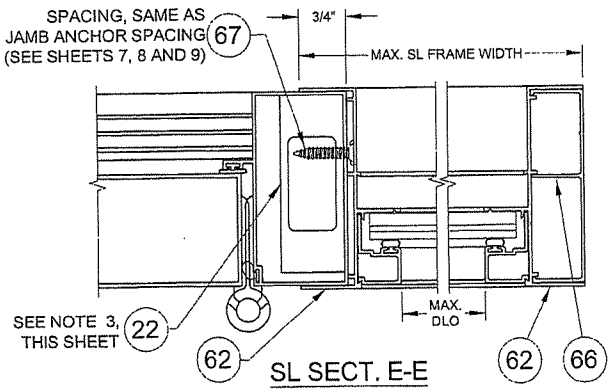


'X' SECT. D-D
HORIZ.

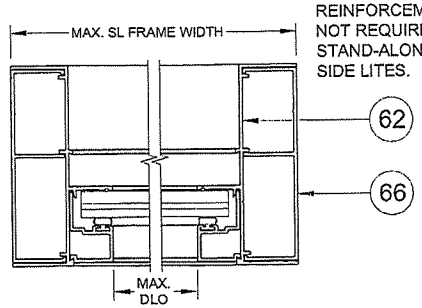
REINFORCEMENT NOT REQUIRED FOR STAND-ALONE 'X' DOORS.

INTERIOR

EXTERIOR



SL SECT. E-E
HORIZ. (DOOR W/ SIDE LITE)



SL SECT. F-F
HORIZ. (SINGLE SIDE LITE)

REINFORCEMENT NOT REQUIRED FOR STAND-ALONE 'O' SIDE LITES.

NOTES:

1) CLEAR OPENING FOR 'X' AND 'XX' DOORS AS FOLLOWS:
WIDTH:
'X' DOORS = DOOR FRAME WIDTH - 5.646
'XX' DOOR = DOOR FRAME WIDTH / 2 - 4.079
HEIGHT:
DOOR FRAME HEIGHT - 3.259"

2) SIDE LITES OVERLAP 'X' AND 'XX' DOORS BY 3/4" WHEN ASSEMBLED TO MAKE 'XO', 'OX', 'OXO' 'XXO', 'OXX' AND 'OXXO' CONFIGURATIONS.

3) FULL LENGTH REINFORCEMENT APPLICABLE TO DOOR AND SIDE LITE COMBINATIONS FROM TABLES 1 AND 2, SHEET 2. ITEM 22 IS NOT REQUIRED WITH COMBINATIONS FROM TABLES 3 AND 4, SHEET 2, OR WITH STAND-ALONE 'O', 'X' & 'XX' CONFIGURATIONS FROM TABLES 1 AND 2.

PRODUCT REVISED
as complying with the Florida Building Code
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By [signature]
Miami-Dade Product Control

Revision	
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Series	Desc.	Scale	Sheet	DWG No.	Drawn By	Date	Rev.
FD-101 LM	HORIZONTAL SECTIONS	NTS	4 OF 15	11005-1	JENS KOSOVSKI	04/04/12	G

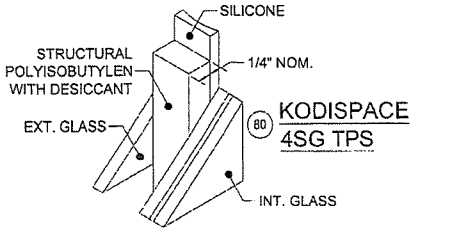
Title: ALUM. FRENCH DOOR & SIDE LITES, LM

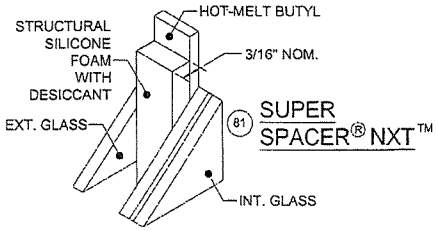
ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/15/17

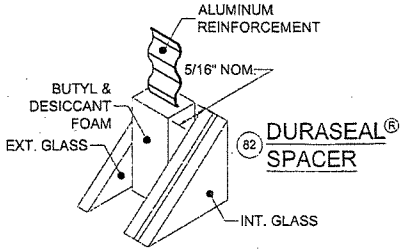
A. LYNN MILLER, P.E.
P.E.# 58705

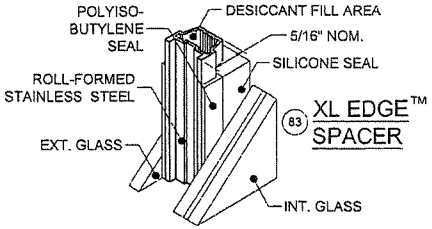
ITEM	DWG #	PGT#	DESCRIPTION
1	943B	60411	FRAME HEAD
2	1010	6Q300	WSTP.,Q-LON .190 X .375 HIGH
3	7070	67070K	BULB WEATHERSTRIP .187 X .300 HIGH
4	955	7955X	FLUSHBOLT STRIKEPLATE
5	938	7938X	2 PT. LOCK STRIKEPLATE
6	956	7956A	FRAME HEAD STRIKEPLATE BACKING PLATE
7		7832X12FPXP	#8-32 X .500 PH. FL. MS - S.S. W/SILICONE PATCH
8	995	70995	GASKET (BETWEEN THRESHOLD & FRAME JAMB)
9	996	70996	GASKET (BETWEEN HEAD & FRAME JAMB)
10	952A	6533016	FILLER HEAD ADAPTER
11	11000	611000M	OUTSWING THRESHOLD
12	1670	671670	WSTP, .350 RD FOAM FILL T-SLOT (AMSBURY#32011)
13	11004A	611004M	OUTSWING THRESHOLD CHANNEL COVER
14	11001A	411001A	ACETAL SPACER .065 @ THRESHOLD, OPTIONAL
15	11002A	411002A	ACETAL SPACER .095 @ THRESHOLD, OPTIONAL
16	11003A	411003A	ACETAL SPACER .140 @ THRESHOLD, OPTIONAL
20	915D	60380	FRAME JAMB (OUTSWING)
21	1010	6Q300	WSTP.,Q-LON .190 X .375 HIGH
22	6608	66608M	REINFORCEMENT, 1.000 X 2.750 X 0.650, 6061-T5
23	1140	78X112PSATS	#8 X 1.500 PH SQ A T/S
24	1048	71048	JAMB SCREW COVER CAP
25	930	41721N	STRIKE PLATE INSERT
26	1118	710X34PFA	#10 X .750 PH. FL. SMS
27	7070	67070K	BULB WEATHERSTRIP .187 X .300 HIGH
30	910D	6910	DOOR PANEL, TOP & BOTTOM RAIL
31	911E	6911	DOOR PANEL, SIDE RAIL
32	917	7FRMO	HINGE EXTRUSION
33	1178	71058FP W,B	#10 X .625 PH. FL. SMS
34	913A	60378M	TRUSS CLAMP
35	1130	6TRODA	5/16-18 THREADED ROD
36	990	7990NUTA	5/16-18 FLANGED HEX NUT
37	914A	60379M	WEATHERSTRIP CHANNEL
38		7834FPT	#8 X .75 PH. FL. TEK
39	997	70997	GASKET (BETWEEN PANEL HEAD/SILL & PANEL STILES)
40	1023	67924G	WSTP., .187 X .250 HIGH, FINSEAL
41	928	41720	SLIDE BOLT ASSY. (INACTIVE PANEL ONLY)
42	1145	76X12FPAW	#6 X .500 PH FL SMS TYPE BDS
43	1212	7P30GG	SILL DUST PLUG (INACTIVE PNL)
44	983B	6983	DOOR PANEL ASTRAGAL 1 (OUTSWING)
45	984B	6984	DOOR PANEL ASTRAGAL 2 (OUTSWING)
46	1213	6Q200K	WSTP.,Q-LON .190 X .200 HIGH
47	929	74UBLOK	LOCK SUPPORT ASSY. (41707 & 41708)
48	1139	7634F	#6 X .750 PH. FL. SMS
49	982	FD2PTAY	2 PT. LOCK ASSY.
50		6R180FS	RUBBER SLEEVE
51	930	41721	STRIKE PL. INSERT (INACTIVE PANEL)
52	931	7FRSPX	DEADBOLT STRIKE PLATE
53	1118	710X34PFA	#10 X .750 PH FL. SMS
54	957	70957X	HANDLE STRIKE PLATE
55	1118	710X34PFA	#10 X .750 PH FL. SMS
60	920D	6920D	SIDELITE HEADER
61	921D	6921	SIDELITE SILL
62	916B	60381	SIDELITE JAMB
63	1155	781PQA	#8 X 1.000 QUAD PN. SMS
64	998	7998	HEAD GASKETS (STOCKING #70998)
65	999	7999	SILL GASKETS (STOCKING #70999)
66	934A	61641M	SIDELITE JAMB ADAPTER
67			#12 X 1.000 SHEET METAL SCREW
70		712653K	SETTIING BLOCK, 3/32" X 1/4" X 1" W/PSA
71		71267K	SETTING BLOCK, 1/16" X 1/2" X 1" W/PSA
72	4222A	64222	BEAD, 7/16"
73	988	6988	BEAD, 3/8"
74	988		IG BEAD
92	986	64986	BEAD, INTERIOR
93	1224	6TP247	BULB, THICK (USED IN EXTRUDED BEAD)
94	GLAZING SILICONE, DOW 899 OR 983		
95	GLASS, 3/8" LAMI - 1/8" A., .90 PVB, 3/16" HS		
96	GLASS, 3/8" LAMI - 1/8" HS, .90 PVB, 3/16" HS		
97	GLASS, 7/16" LAMI - 3/16" A., .90 PVB, 3/16" HS		
98	GLASS, 7/16" LAMI - 3/16" HS, .90 PVB, 3/16" HS		
102	11006A	411006A	ACETAL SPACER .295 @ THRESHOLD, OPTIONAL
103	OFF-THE SHELF		DEAD BOLT LOCK, MIN 1" THROW, GR 3 STEEL
104	OFF-THE SHELF		HANDLE/LATCH ASSEMBLY, MIN 7/16" THROW, GR 3 STEEL

ITEMS # 17-19, 28, 29, 56-59, 68, 69, 75-79, 84-91 & 99-101 ARE NOT USED AND ARE NOT PART OF THIS APPROVAL.



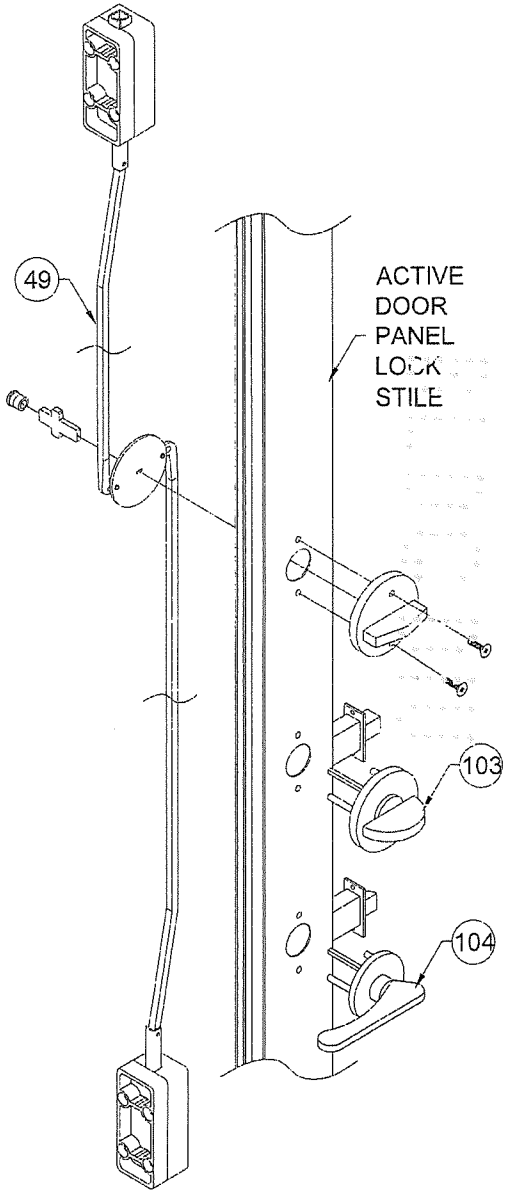






Part #	Description	Material
80	Kommerling 4SG TPS Spacer System	See this Sheet for Materials
81	Quanex Super Spacer nXT with Hot Melt Butyl	
82	Quanex Duraseal Spacer	
83	Cardinal XL Edge Spacer	

REFERENCE TEST REPORTS: FTL-8717, 8968 & 8970



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Acceptance No. 17-0504.01
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Director - Prod. Product Control

Rev. Sign: F) NO CHANGES THIS SHEET. - JR - 04/10/17

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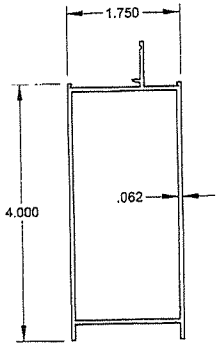
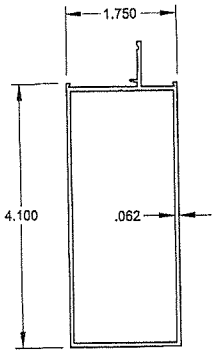
Date	04/04/12
Drawn	JEFFS ROSOWSKI
Title	ALUM. FRENCH DOOR & SIDE LITES, LM
Desc.	BOM AND SPACER DETAILS
Series	FD-101 LM
Scale	NTS
Sheet	5 OF 15
DWG No.	11005-1
Rev.	G

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/15/17

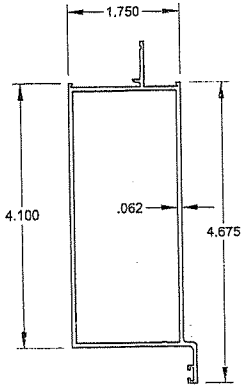
A. LYNN MILLER, P.E.
P.E.# 58705



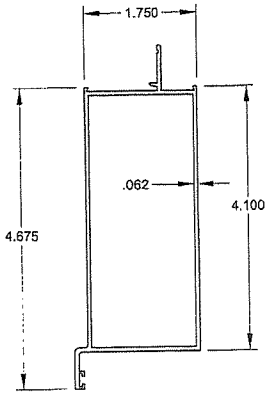
30 DOOR PANEL TOP & BOTTOM RAIL 6063-T5



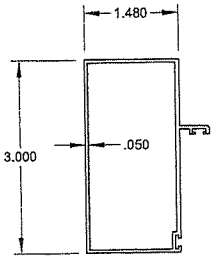
31 DOOR PANEL SIDE RAIL 6063-T5



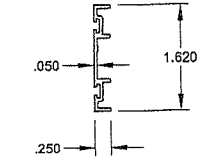
44 DOOR PANEL INTERIOR ASTRAGAL 6063-T5



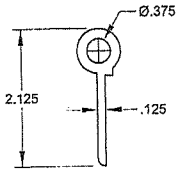
45 DOOR PANEL EXTERIOR ASTRAGAL 6063-T5



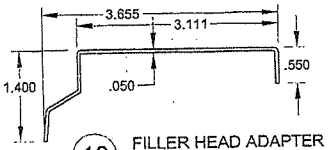
20 DOOR FRAME JAMB 6063-T6



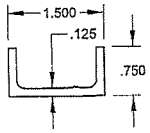
37 WEATHER STRIP CHANNEL 6063-T5



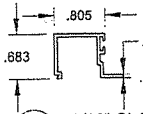
32 HINGE 6063-T5



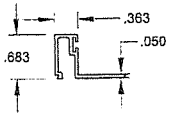
10 FILLER HEAD ADAPTER 6063-T6



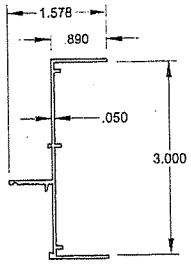
34 TRUSS CLAMP 6063-T5



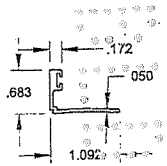
74 3/16" GLAZING BEAD 6063-T5



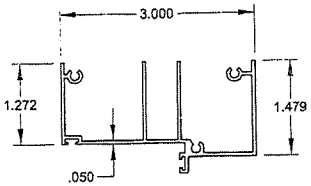
76 5/8" GLAZING BEAD 6063-T5



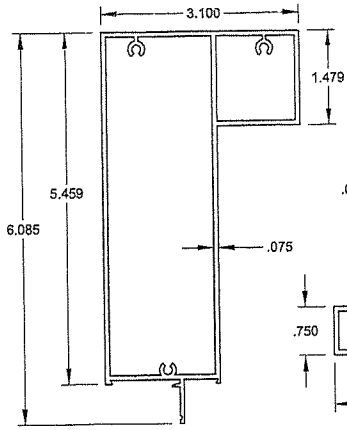
62 SL JAMB 6063-T6



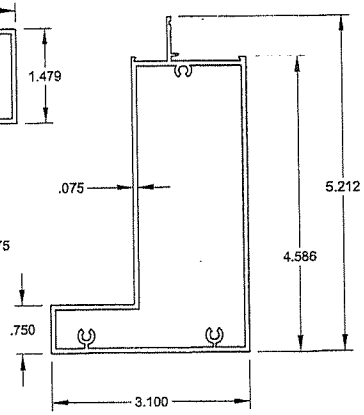
74 IG GLAZING BEAD 6063-T5



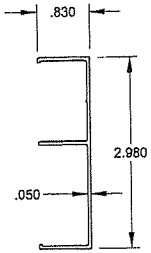
1 FRAME HEAD 6063-T6



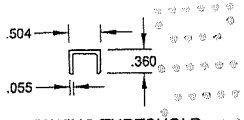
60 SL HEADER 6063-T6



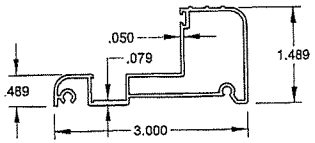
61 SL SILL 6063-T6



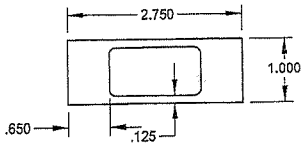
66 SL JAMB ADAPTER 6063-T6



13 OUTSWING THRESHOLD CHANNEL COVER 6063-T6



11 OUTSWING THRESHOLD 6063-T6



22 TUBE MULL 6063-T5

PRODUCT REVISED as complying with the Florida Building Code
Acceptance No. 17-0504.01
Expiration Date 9/28/22
Miami-Dade Product Control

Revision: F) NO CHANGES THIS SHEET. - JR - 04/10/17

1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941)-490-1600

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CERT. OF AUTH. #29296

Title	Date	Drawn By	DWG No.	Rev.
ALUM. FRENCH DOOR & SIDE LITES, LM	04/04/12	JENS ROSOWSKI	11005-1	G
Desc. EXTRUSIONS			Sheet 6 OF 15	
Series FD-101 LM	Scale NTS			

ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER
9/5/17

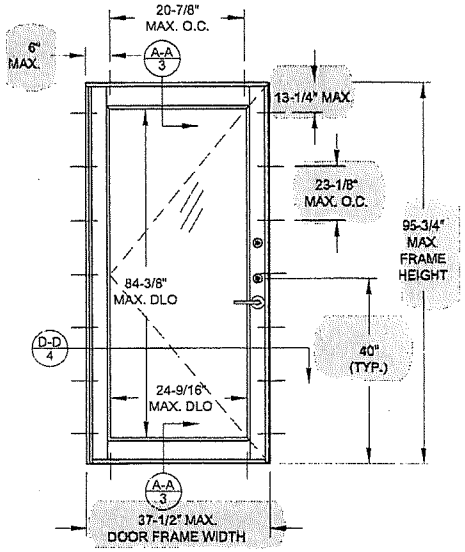
A. LYNN MILLER, P.E.
P.E.# 58705

TABLE 5:

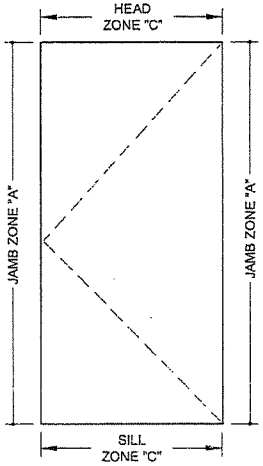
X DOORS, ALL GLASS TYPES

ANCHOR TYPE & SUBSTRATE		2, 3, WOOD 3 ALUM		1,2, CONC	
		LOAD ZONES			
MAX. DOOR FRAME WIDTH	MAX. FRAME HEIGHT	X - JAMB "A"	X - HEAD/SILL "C"	X - JAMB "A"	X - HEAD/SILL "C"
25.50	79.75	5	2	4	2
	83.75	5	2	4	2
	87.75	5	2	4	2
	91.75	5	2	4	2
	95.75	6	2	4	2
27.50	79.75	5	2	4	2
	83.75	5	2	4	2
	87.75	5	2	4	2
	91.75	6	2	4	2
	95.75	6	2	4	2
29.50	79.75	5	2	4	2
	83.75	5	2	4	2
	87.75	6	2	4	2
	91.75	6	2	4	2
	95.75	6	2	4	2
31.50	79.75	5	2	4	2
	83.75	6	2	4	2
	87.75	6	2	4	2
	91.75	6	2	4	2
	95.75	7	2	4	2
33.50	79.75	6	3	4	3
	83.75	6	3	4	3
	87.75	6	3	4	3
	91.75	7	3	4	3
	95.75	7	3	4	3
35.50	79.75	6	3	4	3
	83.75	6	3	4	3
	87.75	6	3	4	3
	91.75	7	3	4	3
	95.75	7	3	4	3
37.50	79.75	6	3	4	3
	83.75	6	3	4	3
	87.75	7	3	4	3
	91.75	7	3	4	3
	95.75	7	3	4	3

Design Pressure
See Sheet 2, Table 1



TYP. DIMENSIONS OF SINGLE DOOR, X



LOAD ZONES FOR SINGLE DOOR, X

NOTES:

1) SEE SHEET 1 FOR GLASS AND ANCHOR TYPE DESCRIPTIONS.

2) DOORS MAY BE LEFT OR RIGHT-HANDED.

3) ANCHOR QUANTITIES ARE BASED ON SPACING AS FOLLOWS (4" MIN. O.C. FOR CONCRETE, 4" MIN. O.C. FOR CMU):
JAMBS (ALL): 13-1/4" MAX. FROM CORNERS AND 23-1/8" MAX. O.C.
HEAD & SILL OF DOORS: 6" MAX. FROM CORNERS, 9" MAX. FROM ASTRAGAL CENTERS AND 20-7/8" MAX. O.C.

4) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE SIZE.

5) FOR ANCHORAGE INSTALLATION DETAILS SEE SHEET 14.

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No. 17-0504.01
Expiration Date SEP 28, 2020
By [signature]
Miami Dade Product Control

Revision: F) NEW SHEET COMBINING SIZE ELEVATIONS, ZONE ELEVATIONS AND ANCHOR TABLES. - JR - 04/10/17

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CERT. OF AUTH. #29296

Title	Date	Drawn By	Rev.
ALUM. FRENCH DOOR & SIDE LITES, LM	04/04/12	JENS ROSOWSKI	G

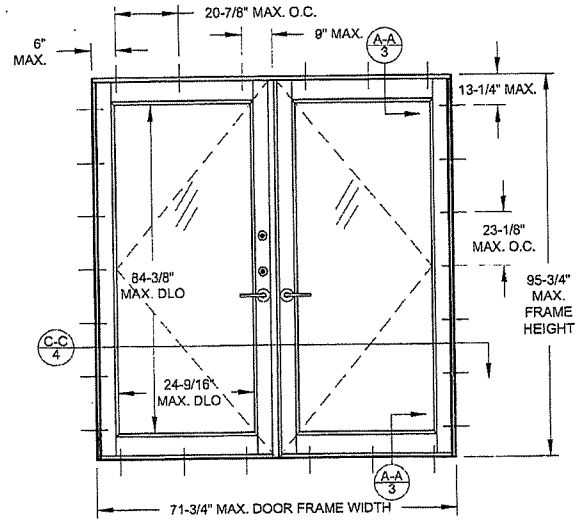
Series	Desc.	Scale	Sheet	DWG No.	Rev.
FD-101 LM	X DETAILS	NTS	7 OF 15	11005-1	

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/15/17

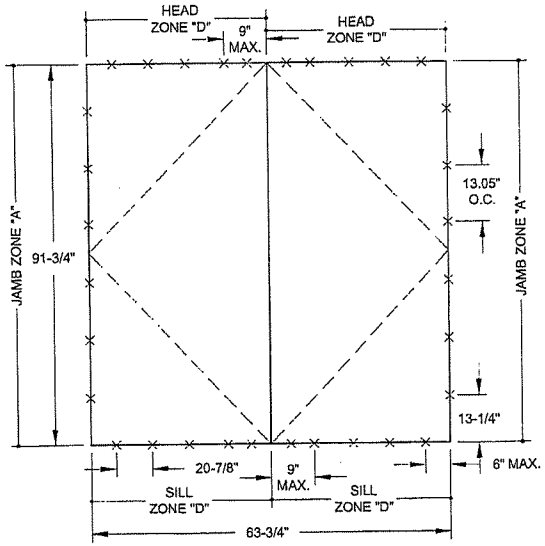
A. LYNN MILLER, P.E.
P.E.# 58705

TABLE 6:

XX DOORS, ALL GLASS TYPES					
ANCHOR TYPE & SUBSTRATE		2, 3, WOOD 3 ALUM		1,2, CONC	
		LOAD ZONES			
MAX. DOOR FRAME WIDTH	MAX. FRAME HEIGHT	XX - JAMB "A"	XX - HEAD/SILL "D"	XX - JAMB "A"	XX - HEAD/SILL "D"
47.75	79.75	4	3	4	2
	83.75	5	4	4	2
	87.75	5	4	4	2
	91.75	5	4	4	2
	95.75	5	4	4	2
51.75	79.75	5	4	4	2
	83.75	5	4	4	2
	87.75	5	4	4	2
	91.75	5	4	4	2
	95.75	6	4	4	3
55.75	79.75	5	4	4	2
	83.75	5	4	4	2
	87.75	5	4	4	2
	91.75	6	4	4	3
	95.75	6	4	4	3
59.75	79.75	5	5	4	2
	83.75	5	5	4	2
	87.75	6	5	4	3
	91.75	6	5	4	3
	95.75	6	5	4	3
63.75	79.75	5	5	4	2
	83.75	6	5	4	3
	87.75	6	5	4	3
	91.75	6	5	4	3
	95.75	7	6	4	3
67.75	79.75	6	5	4	3
	83.75	6	5	4	3
	87.75	6	5	4	3
	91.75	7	6	4	3
	95.75	7	6	4	3
71.75	79.75	6	5	4	3
	83.75	6	5	4	3
	87.75	6	5	4	3
	91.75	7	6	4	3
	95.75	7	6	4	3



TYP. ELEVATION OF XX CONFIGURATION



LOAD ZONES FOR XX CONFIGURATION
& ANCHORAGE LAYOUT USED IN EXAMPLE

Design Pressure
See Sheet 2, Table 1

NOTES:

1) SEE SHEET 1 FOR GLASS AND ANCHOR TYPE DESCRIPTIONS.

2) DOORS MAY BE LEFT OR RIGHT-HANDED.

3) ANCHOR QUANTITIES ARE BASED ON SPACING AS FOLLOWS (4" MIN. O.C. FOR CONCRETE, 4" MIN. O.C. FOR CMU):
JAMBS (ALL): 13-1/4" MAX. FROM CORNERS AND 23-1/8" MAX. O.C.
HEAD & SILL OF DOORS: 6" MAX. FROM CORNERS, 9" MAX. FROM ASTRAGAL CENTERS AND 20-7/8" MAX. O.C.

4) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE SIZE.

5) FOR ANCHORAGE DETAILS SEE SHEET 14.

EXAMPLE:
XX WITH GLASS TYPE A,
63-3/4" WIDE X 91-3/4" HIGH DOUBLE DOOR,
ANCHOR TYPE 3 INTO WOOD
DESIGN PRESSURE = +75 / -75 PSF,
SEE EXAMPLE 6, SHEET 2 FOR DP EXAMPLE

DOOR ANCHOR REQUIREMENTS FROM TABLE 6:
6 ANCHORS @ EACH JAMB
5 ANCHORS EACH DOOR PANEL @ HEAD
5 ANCHORS EACH DOOR PANEL @ SILL

◯ SEE CIRCLED VALUES ON TABLE 6.

× = DENOTES ANCHOR LOCATION.

PRODUCT REVISED
is complying with the Florida
Building Code
Acceptance No. 17-0504.01
Expiration Date 9/28/22
Building Code Project Control

Revision: F) NEW SHEET COMBINING SIZE ELEVATIONS, ZONE ELEVATIONS AND ANCHOR TABLES. - JR - 04/10/17

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CERT. OF AUTH. #29298

Series	Desc.	Title	Date	Drawn By	DWG No.	Rev.
FD-101 LM	XX DETAILS	ALUM. FRENCH DOOR & SIDE LITES, LM	04/04/12	JENS ROSOWSKI	11005-1	G

Scale: NTS Sheet: 8 OF 15

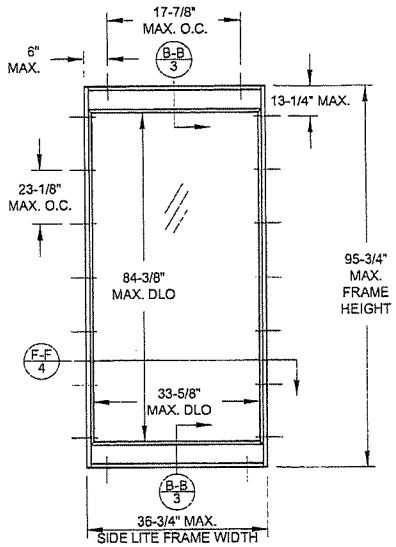
ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/15/17

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

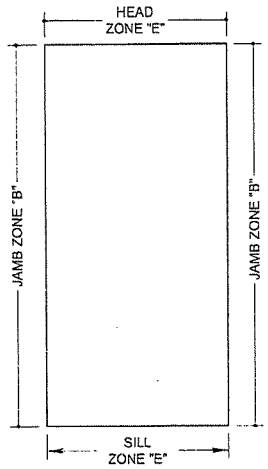
TABLE 7:

O SIDE LITE, ALL GLASS TYPES					
ANCHOR TYPE & SUBSTRATE		2, 3, WOOD 3 ALUM		1,2, CONC	
		LOAD ZONES			
MAX SIDE LITE FRAME WIDTH	MAX FRAME HEIGHT	O - JAMB "B"	O - HEAD/SILL "E"	O - JAMB "B"	O - HEAD/SILL "E"
10.75	79.75	4	1	4	1
	83.75	4	1	4	1
	87.75	4	1	4	1
	91.75	4	1	4	1
	95.75	4	1	4	1
12.75	79.75	4	2	4	2
	83.75	4	2	4	2
	87.75	4	2	4	2
	91.75	4	2	4	2
	95.75	4	2	4	2
19.00	79.75	4	2	4	2
	83.75	4	2	4	2
	87.75	4	2	4	2
	91.75	4	2	4	2
	95.75	4	2	4	2
21.75	79.75	4	2	4	2
	83.75	4	2	4	2
	87.75	4	2	4	2
	91.75	5	2	4	2
	95.75	5	2	4	2
27.75	79.75	5	2	4	2
	83.75	5	2	4	2
	87.75	5	2	4	2
	91.75	6	2	4	2
	95.75	6	2	4	2
36.13	79.75	6	3	4	3
	83.75	6	3	4	3
	87.75	7	3	4	3
	91.75	7	3	4	3
	95.75	7	3	4	3
36.75	79.75	6	3	4	3
	83.75	6	3	4	3
	87.75	7	3	4	3
	91.75	7	3	4	3
	95.75	7	3	4	3

Design Pressure
See Sheet 2, Table 2



TYP. ELEVATION OF SINGLE SIDELITE, O



LOAD ZONES FOR SINGLE SIDELITE, O

NOTES:

1) SEE SHEET 1 FOR GLASS AND ANCHOR TYPE DESCRIPTIONS.

2) ANCHOR QUANTITIES ARE BASED ON SPACING AS FOLLOWS (4" MIN. O.C. FOR CONCRETE, 4" MIN. O.C. FOR CMU):
JAMBS (ALL): 13-1/4" MAX. FROM CORNERS AND 23-1/8" MAX. O.C.
HEAD & SILL OF SIDE LITES: 6" MAX. FROM CORNERS AND 24-3/4" MAX. O.C.

3) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE SIZE.

4) FOR ANCHORAGE INSTALLATION DETAILS SEE SHEET 15.

PRODUCT REVISED
as complying with the Florida
building Code
Acceptance No 17-0504.01
Expiration Date 9/28/22
By [signature]
Miami-Dade Product Control

Revision: F) NEW SHEET COMBINING SIZE ELEVATIONS, ZONE ELEVATIONS AND ANCHOR TABLES. - JR - 04/10/17

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Series	Desc.	Scale	Sheet	DWG No.	Drawn By	Date	Rev.
FD-101 LM	O DETAILS	NTS	6 OF 15	11005-1	JENS ROSOWSKI	04/04/12	G

Title: ALUM. FRENCH DOOR & SIDE LITES, LM

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/15/17

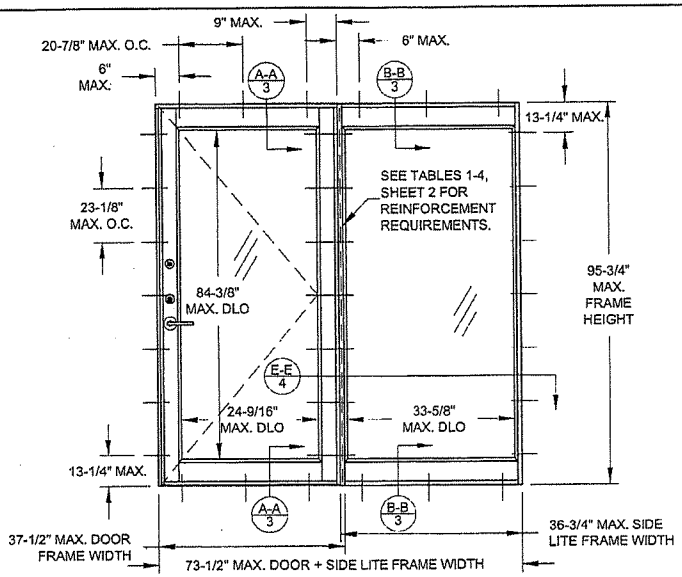
A. LYNN MILLER, P.E.
P.E.# 58705

TABLE 8:

XO & OX, ALL GLASS TYPES

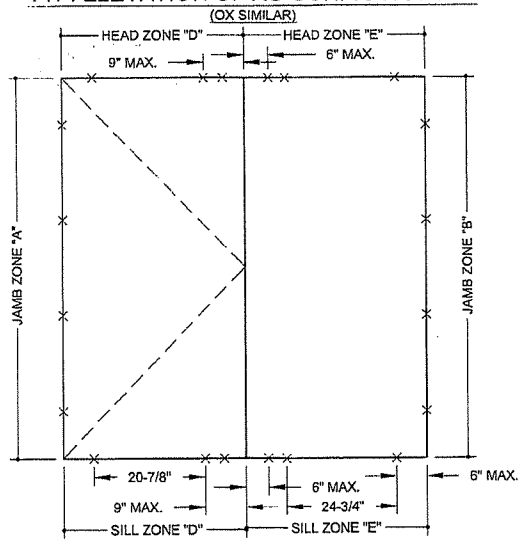
ANCHOR TYPE & SUBSTRATE			2, 3, WOOD 3 ALUM				1,2, CONC			
			LOAD ZONES							
MAX. SIDE LITE FRAME WIDTH	MAX. 'X' DOOR FRAME WIDTH	MAX. FRAME HEIGHT	O - JAMB "B"	O - HEAD/SILL "E"	X - HEAD/SILL "D"	X - JAMB "A"	O - JAMB "B"	O - HEAD/SILL "E"	X - HEAD/SILL "D"	X - JAMB "A"
10.75	25.50	79.75	4	2	3	5	4	2	2	4
		83.75	4	2	4	5	4	2	2	4
		87.75	4	2	4	5	4	2	2	4
		91.75	4	2	4	5	4	2	2	4
		95.75	4	2	4	6	4	2	2	4
12.75	27.50	79.75	4	2	4	5	4	2	2	4
		83.75	4	2	4	5	4	2	2	4
		87.75	4	2	4	5	4	2	2	4
		91.75	4	2	4	6	4	2	2	4
		95.75	4	2	4	6	4	2	3	4
19.00	29.50	79.75	4	3	4	5	4	2	2	4
		83.75	4	3	4	5	4	2	2	4
		87.75	4	3	4	6	4	2	2	4
		91.75	4	3	4	6	4	2	3	4
		95.75	4	3	4	6	4	2	3	4
21.75	31.50	79.75	4	3	5	5	4	2	2	4
		83.75	4	3	5	6	4	2	2	4
		87.75	4	3	5	6	4	2	3	4
		91.75	5	3	5	6	4	2	3	4
		95.75	5	3	5	7	4	2	3	4
27.75	33.50	79.75	5	3	5	6	4	2	2	4
		83.75	5	3	5	6	4	2	3	4
		87.75	5	3	5	6	4	2	3	4
		91.75	6	3	5	7	4	3	3	4
		95.75	6	3	6	7	4	3	3	4
36.13	35.50	79.75	6	4	5	6	4	3	3	4
		83.75	6	4	5	6	4	3	3	4
		87.75	7	5	5	6	4	3	3	4
		91.75	7	5	6	7	4	3	3	4
		95.75	7	5	6	7	4	3	3	4
36.75	37.50	79.75	6	4	5	6	4	3	3	4
		83.75	6	4	5	6	4	3	3	4
		87.75	7	5	5	7	4	3	3	4
		91.75	7	5	6	7	4	3	3	4
		95.75	7	5	6	7	4	3	3	4

ANCHOR QUANTITIES FOR THE DOOR AND SIDE LITE TO BE DETERMINED INDEPENDENTLY.



TYP. ELEVATION OF XO CONFIGURATION

(OX SIMILAR)



LOAD ZONES FOR XO CONFIGURATION & ANCHORAGE LAYOUT USED IN EXAMPLE

(OX SIMILAR)

Design Pressure	
Reinforced:	See Sheet 2, Tables 1 & 2
Unreinforced:	See Sheet 2, Tables 3 & 4

NOTES:

1) SEE SHEET 1 FOR GLASS AND ANCHOR TYPE DESCRIPTIONS.

2) DOORS MAY BE LEFT OR RIGHT-HANDED.

3) ANCHOR QUANTITIES ARE BASED ON SPACING AS FOLLOWS (4" MIN. O.C. FOR CONCRETE, 4" MIN. O.C. FOR CMU):
JAMBS (ALL): 13-1/4" MAX. FROM CORNERS AND 23-1/8" MAX. O.C.
HEAD & SILL OF DOORS: 6" MAX. FROM CORNERS, 9" MAX. FROM ASTRAGAL CENTERS AND 20-7/8" MAX. O.C.
HEAD & SILL OF SIDE LITES: 6" MAX. FROM CORNERS AND 24-3/4" MAX. O.C.

4) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE SIZE.

5) FOR ANCHORAGE INSTALLATION DETAILS SEE SHEETS 14 & 15.

6) CONFIGURATIONS WHERE THE DOOR LOCKSTILE ABUTS A SIDE LITE ARE NOT AVAILABLE WITH REINFORCEMENT.

7) SIDE LITE OVERLAPS DOOR BY 3/4" ONCE ASSEMBLED.

PRODUCT APPROVAL
Approval Date: 3/28/2022
Approval No. 17-0504.01
Expiration Date: 3/28/2022

EXAMPLE:
XO WITH GLASS TYPE B,
36" X 84" SINGLE DOOR WITH 36" X 84" WIDE SIDE LITE,
ANCHOR TYPE 3 INTO CONC.
DOOR DESIGN PRESSURE = +75 / -75 PSF

DOOR ANCHOR REQUIREMENTS FROM TABLE 8:
4 ANCHORS @ DOOR JAMB
3 ANCHORS @ DOOR PANEL @ HEAD
3 ANCHORS @ DOOR PANEL @ SILL
4 ANCHORS @ SIDE LITE JAMB
3 ANCHORS @ SIDE LITE @ HEAD
3 ANCHORS @ SIDE LITE @ SILL

◯ SEE CIRCLED VALUES ON TABLE 8.

X = DENOTES ANCHOR LOCATION.

Revision	
F	NEW SHEET COMBINING SIZE ELEVATIONS, ZONE ELEVATIONS AND ANCHOR TABLES. - JR - 04/10/17

PGT®
1070 TECHNOLOGY DRIVE
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Title	ALUM. FRENCH DOOR & SIDE LITES, LM
Desc.	XO & OX DETAILS
Series	FD-101 LM
Scale	NTS
Sheet	10 OF 15
Drawn By	JENS ROSOWSKI
Date	04/04/12
DWG No.	11005-1
Rev.	G

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/15/17

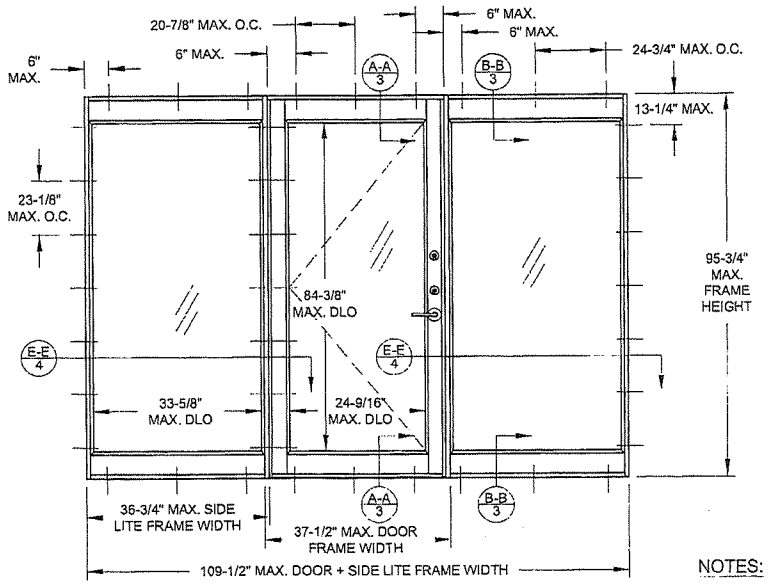
A. LYNN MILLER, P.E.
P.E.# 58705

TABLE 9:

OXO, ALL GLASS TYPES

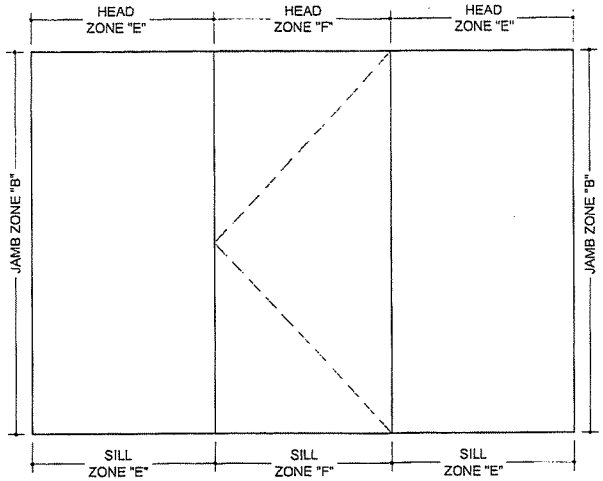
ANCHOR TYPE & SUBSTRATE			2, 3, WOOD 3 ALUM			1,2, CONC		
			LOAD ZONES					
MAX. SIDE LITE FRAME WIDTH	MAX. 'X' DOOR FRAME WIDTH	MAX. FRAME HEIGHT	O - JAMB "B"	O - HEAD/SILL "E"	X - HEAD/SILL "F"	O - JAMB "B"	O - HEAD/SILL "E"	X - HEAD/SILL "F"
10.75	25.50	79.75	4	2	7	4	2	3
		83.75	4	2	7	4	2	3
		87.75	4	2	7	4	2	3
		91.75	4	2	7	4	2	3
		95.75	4	2	7	4	2	3
12.75	27.50	79.75	4	2	7	4	2	3
		83.75	4	2	7	4	2	3
		87.75	4	2	7	4	2	3
		91.75	4	2	7	4	2	5
		95.75	4	2	7	4	2	5
19.00	29.50	79.75	4	3	8	4	2	3
		83.75	4	3	8	4	2	3
		87.75	4	3	8	4	2	5
		91.75	4	3	8	4	2	5
		95.75	4	3	8	4	2	5
21.75	31.50	79.75	4	3	8	4	2	3
		83.75	4	3	8	4	2	5
		87.75	4	3	8	4	2	5
		91.75	5	3	8	4	2	5
		95.75	5	3	10	4	2	5
27.75	33.50	79.75	5	3	8	4	2	3
		83.75	5	3	8	4	2	5
		87.75	5	3	8	4	2	5
		91.75	6	3	10	4	3	5
		95.75	6	3	10	4	3	5
36.13	35.50	79.75	6	4	8	4	3	5
		83.75	6	4	8	4	3	5
		87.75	7	5	8	4	3	5
		91.75	7	5	10	4	3	5
		95.75	7	5	10	4	3	5
36.75	37.50	79.75	6	4	8	4	3	5
		83.75	6	4	8	4	3	5
		87.75	7	5	10	4	3	5
		91.75	7	5	10	4	3	5
		95.75	7	5	10	4	3	5

ANCHOR QUANTITIES FOR THE DOOR AND SIDE LITE TO BE DETERMINED INDEPENDENTLY.



TYP. ELEVATION OF OXO CONFIGURATION

(NOT AVAILABLE WITH REINFORCEMENT)



LOAD ZONES FOR OXO CONFIGURATION

Design Pressure	
Reinforced:	N/A
Unreinforced:	See Sheet 2, Tables 3 & 4

NOTES:

1) SEE SHEET 1 FOR GLASS AND ANCHOR TYPE DESCRIPTIONS.

2) DOORS MAY BE LEFT OR RIGHT-HANDED.

3) ANCHOR QUANTITIES ARE BASED ON SPACING AS FOLLOWS (4" MIN. O.C. FOR CONCRETE, 4" MIN. O.C. FOR CMU):
JAMBS (ALL): 13-1/4" MAX. FROM CORNERS AND 23-1/8" MAX. O.C.
HEAD & SILL OF DOORS: 6" MAX. FROM CORNERS, 6" MAX. FROM ASTRAGAL CENTERS AND 20-7/8" MAX. O.C.
HEAD & SILL OF SIDE LITES: 6" MAX. FROM CORNERS AND 24-3/4" MAX. O.C.

4) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE SIZE.

5) FOR ANCHORAGE INSTALLATION DETAILS SEE SHEETS 14 & 15.

6) CONFIGURATIONS WHERE THE DOOR LOCKSTILE ABUTS A SIDE LITE ARE NOT AVAILABLE WITH REINFORCEMENT.

7) SIDE LITE OVERLAPS DOOR BY 3/4" ONCE ASSEMBLED.

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No. 17-0504.01
Expiration Date 9/28/22
Miami-Dade Product Control

Revision: F) NEW SHEET COMBINING SIZE ELEVATIONS, ZONE ELEVATIONS AND ANCHOR TABLES. - JR - 04/10/17

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CERT. OF AUTH. #29296

Title	Date	By	Rev.
ALUM. FRENCH DOOR & SIDE LITES, LM	04/04/12	JENS ROSOWSKI	G

Series	Desc.	Scale	Sheet	DWG No.	Drawn
FD-101 LM	OXO DETAILS	NTS	11 OF 15	11005-1	

ANTHONY LYNN MILLER
LICENSE
No. 58705
9/15/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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

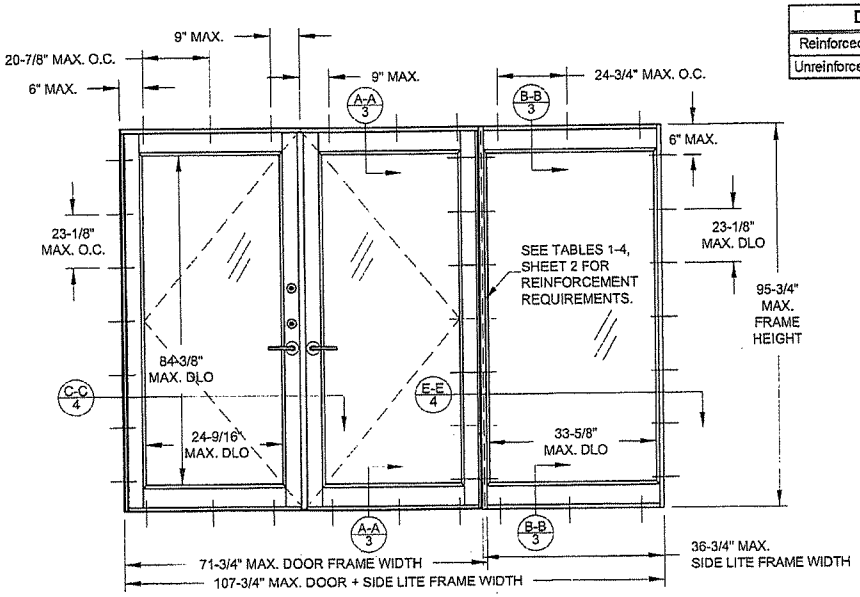
TABLE 10:

XXO & OXX, ALL GLASS TYPES

ANCHOR TYPE & SUBSTRATE			2, 3, WOOD 3 ALUM					1,2, CONC				
			LOAD ZONES									
MAX. SIDE LITE FRAME WIDTH	MAX. 'XX' DOOR FRAME WIDTH	MAX. FRAME HEIGHT	O - JAMB "B"	O - HEAD/SILL "E"	XX - JAMB "A"	XX - HEAD/SILL "D"	XX - HEAD/SILL "F"	O - JAMB "B"	O - HEAD/SILL "E"	XX - JAMB "A"	XX - HEAD/SILL "D"	XX - HEAD/SILL "F"
10.75	47.75	79.75	4	2	4	3	6	4	2	4	2	3
		83.75	4	2	5	4	7	4	2	4	2	3
		87.75	4	2	5	4	7	4	2	4	2	3
		91.75	4	2	5	4	7	4	2	4	2	3
		95.75	4	2	5	4	7	4	2	4	2	3
12.75	51.75	79.75	4	2	5	4	7	4	2	4	2	3
		83.75	4	2	5	4	7	4	2	4	2	3
		87.75	4	2	5	4	7	4	2	4	2	3
		91.75	4	2	5	4	7	4	2	4	2	3
		95.75	4	2	6	4	7	4	2	4	3	5
19.00	55.75	79.75	4	3	5	4	7	4	2	4	2	3
		83.75	4	3	5	4	7	4	2	4	2	3
		87.75	4	3	5	4	7	4	2	4	2	3
		91.75	4	3	6	4	7	4	2	4	3	5
		95.75	4	3	6	4	8	4	2	4	3	5
21.75	59.75	79.75	4	3	5	5	8	4	2	4	2	3
		83.75	4	3	5	5	8	4	2	4	2	3
		87.75	4	3	6	5	8	4	2	4	3	5
		91.75	5	3	6	5	8	4	2	4	3	5
		95.75	5	3	6	5	8	4	2	4	3	5
27.75	63.75	79.75	5	3	5	5	8	4	2	4	2	3
		83.75	5	3	6	5	8	4	2	4	3	5
		87.75	5	3	6	5	8	4	2	4	3	5
		91.75	6	3	6	5	8	4	3	4	3	5
		95.75	6	3	7	6	10	4	3	4	3	5
36.13	67.75	79.75	6	4	6	5	8	4	3	4	3	5
		83.75	6	4	6	5	8	4	3	4	3	5
		87.75	7	5	6	5	8	4	3	4	3	5
		91.75	7	5	7	6	10	4	3	4	3	5
		95.75	7	5	7	6	10	4	3	4	3	5
36.75	71.75	79.75	6	4	6	5	8	4	3	4	3	5
		83.75	6	4	6	5	9	4	3	4	3	5
		87.75	7	5	6	5	9	4	3	4	3	5
		91.75	7	5	7	6	10	4	3	4	3	5
		95.75	7	5	7	6	10	4	3	4	3	5

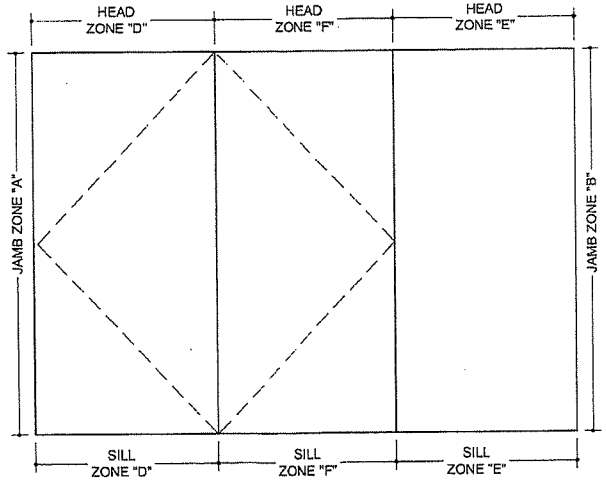
ANCHOR QUANTITIES FOR THE DOOR AND SIDE LITE TO BE DETERMINED INDEPENDENTLY.

Design Pressure	
Reinforced:	See Sheet 2, Tables 1 & 2
Unreinforced:	See Sheet 2, Tables 3 & 4



TYP. ELEVATION OF XXO CONFIGURATION

(OXX SIMILAR)



LOAD ZONES FOR XXO CONFIGURATION

(OXX SIMILAR)

NOTES:

1) SEE SHEET 1 FOR GLASS AND ANCHOR TYPE DESCRIPTIONS.

2) DOORS MAY BE LEFT OR RIGHT-HANDED.

3) ANCHOR QUANTITIES ARE BASED ON SPACING AS FOLLOWS (4" MIN. O.C. FOR CONCRETE, 4" MIN. O.C. FOR CMU):
   JAMBS (ALL): 13-1/4" MAX. FROM CORNERS AND 23-1/8" MAX. O.C.
   HEAD & SILL OF DOORS: 6" MAX. FROM CORNERS, 9" MAX. FROM ASTRAGAL CENTERS AND 20-7/8" MAX. O.C.
   HEAD & SILL OF SIDE LITES: 6" MAX. FROM CORNERS AND 24-3/4" MAX. O.C.

4) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE SIZE.

5) FOR ANCHORAGE INSTALLATION DETAILS SEE SHEETS 14 & 15.

6) CONFIGURATIONS WHERE THE DOOR LOCKSTILE ABUTS A SIDE LITE ARE NOT AVAILABLE WITH REINFORCEMENT.

7) SIDE LITE OVERLAPS DOOR BY 3/4" ONCE ASSEMBLED.

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 17-0504.01
Expiration Date 9/28/22
Mgr. Prod. Product Control

Revision	
	F) NEW SHEET COMBINING SIZE ELEVATIONS, ZONE ELEVATIONS AND ANCHOR TABLES. - JR - 04/10/17

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Series	Door	Title	Scale	Sheet	DWG No.	Drawn By	Date	Rev.
FD-101 LM	XXO & OXX DETAILS	ALUM. FRENCH DOOR & SIDE LITES, LM	NTS	12 OF 15	11005-1	JENS ROSOWSKI	04/04/12	G

ANTHONY LYNN MILLER
LICENSE
No. 58705
9/15/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER

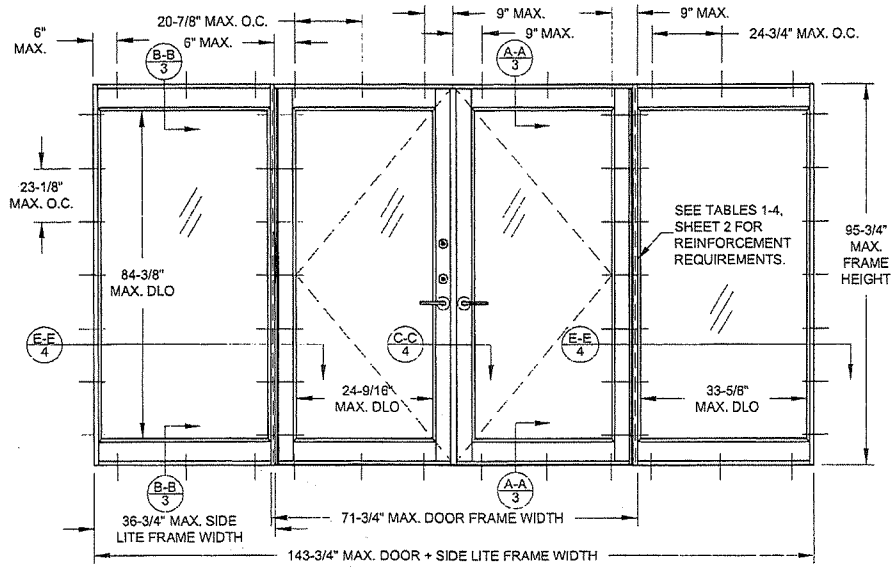
A. LYNN MILLER, P.E.
P.E.# 58705

TABLE 11:

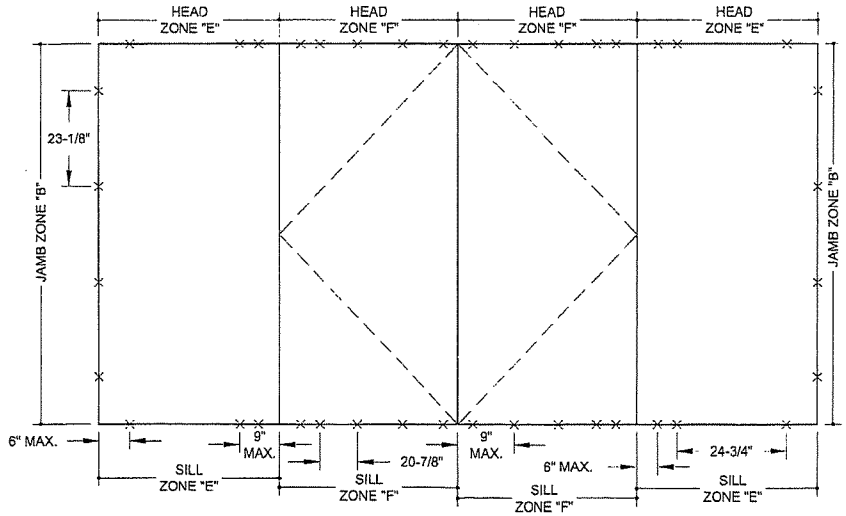
OXXO, ALL GLASS TYPES

ANCHOR TYPE & SUBSTRATE			2, 3, WOOD 3 ALUM			1,2, CONC		
			LOAD ZONES					
MAX SIDE LITE FRAME WIDTH	MAX 'XX' DOOR FRAME WIDTH	MAX FRAME HEIGHT	O - JAMB "B"	O - HEAD/SILL "E"	XX - HEAD/SILL "F"	O - JAMB "B"	O - HEAD/SILL "E"	XX - HEAD/SILL "F"
10.75	47.75	79.75	4	2	6	4	2	3
		83.75	4	2	7	4	2	3
		87.75	4	2	7	4	2	3
		91.75	4	2	7	4	2	3
		95.75	4	2	7	4	2	3
12.75	51.75	79.75	4	2	7	4	2	3
		83.75	4	2	7	4	2	3
		87.75	4	2	7	4	2	3
		91.75	4	2	7	4	2	3
		95.75	4	2	7	4	2	5
19.00	55.75	79.75	4	3	7	4	2	3
		83.75	4	3	7	4	2	3
		87.75	4	3	7	4	2	3
		91.75	4	3	7	4	2	5
		95.75	4	3	8	4	2	5
21.75	59.75	79.75	4	3	8	4	2	3
		83.75	4	3	8	4	2	3
		87.75	4	3	8	4	2	5
		91.75	5	3	8	4	2	5
		95.75	5	3	8	4	2	5
27.75	63.75	79.75	5	3	8	4	2	3
		83.75	5	3	8	4	2	5
		87.75	5	3	8	4	2	5
		91.75	6	3	8	4	3	5
		95.75	6	3	10	4	3	5
36.13	67.75	79.75	6	4	8	4	3	5
		83.75	6	4	8	4	3	5
		87.75	7	5	8	4	3	5
		91.75	7	5	10	4	3	5
		95.75	7	5	10	4	3	5
36.75	71.75	79.75	6	4	8	4	3	5
		83.75	6	4	9	4	3	5
		87.75	7	5	9	4	3	5
		91.75	7	5	10	4	3	5
		95.75	7	5	10	4	3	5

ANCHOR QUANTITIES FOR THE DOOR AND SIDE LITE TO BE DETERMINED INDEPENDENTLY.



TYP. ELEVATION OF OXXO CONFIGURATION



LOAD ZONES FOR OXXO CONFIGURATION & ANCHORAGE LAYOUT USED IN EXAMPLE

Design Pressure	
Reinforced:	See Sheet 2, Tables 1 & 2
Unreinforced:	See Sheet 2, Tables 3 & 4

NOTES:

1) SEE SHEET 1 FOR GLASS AND ANCHOR TYPE DESCRIPTIONS.

2) DOORS MAY BE LEFT OR RIGHT-HANDED.

3) ANCHOR QUANTITIES ARE BASED ON SPACING AS FOLLOWS (4" MIN. O.C. FOR CONCRETE, 4" MIN. O.C. FOR CMU):
JAMBS (ALL): 13-1/4" MAX. FROM CORNERS AND 23-1/8" MAX. O.C.
HEAD & SILL OF DOORS: 6" MAX. FROM CORNERS, 9" MAX. FROM ASTRAGAL CENTERS AND 20-7/8" MAX. O.C.
HEAD & SILL OF SIDE LITES: 6" MAX. FROM CORNERS AND 24-3/4" MAX. O.C.

4) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE SIZE.

5) FOR ANCHORAGE INSTALLATION DETAILS SEE SHEETS 14 & 15.

6) CONFIGURATIONS WHERE THE DOOR LOCKSTILE ABUTS A SIDE LITE ARE NOT AVAILABLE WITH REINFORCEMENT.

7) SIDE LITE OVERLAPS DOOR BY 3/4" ONCE ASSEMBLED.

EXAMPLE:
OXXO WITH GLASS TYPE B,
71-3/4" WIDE X 95-3/4" HIGH DOUBLE DOOR
WITH (2) 36-3/4" X 95-3/4" SIDE LITES,
ANCHOR TYPE 2 INTO CONCRETE,
DESIGN PRESSURE = +34 / -34 PSF,
SEE EXAMPLE 4, SHEET 2 FOR DP EXAMPLE

DOOR ANCHOR REQUIREMENTS FROM TABLE 11:
4 ANCHORS @ EACH SIDE LITE JAMB
5 ANCHORS EACH DOOR PANEL @ HEAD
5 ANCHORS EACH DOOR PANEL @ SILL
3 ANCHORS EACH SIDE LITE @ HEAD
3 ANCHORS EACH SIDE LITE @ SILL

◯ SEE CIRCLED VALUES ON TABLE 11.

× = DENOTES ANCHOR LOCATION.

PRODUCT REVISED
to comply with the Florida Building Code
Acceptance No. 17-0504.01
Expiration Date 9/28/22
Signature of Product Control

Revision: F) NEW SHEET COMBINING SIZE ELEVATIONS, ZONE ELEVATIONS AND ANCHOR TABLES. - JR - 04/10/17

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Series	Desc.	Title	Date	Drawn By	Dwg. No.	Sheet	Scale	Rev.
FD-101 LM	OXXO DETAILS	ALUM. FRENCH DOOR & SIDE LITES, LM	04/04/12	JENS ROSOWSKI	11005-1	13 OF 15	NTS	G

ANTHONY LYNN MILLER
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No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/15/17

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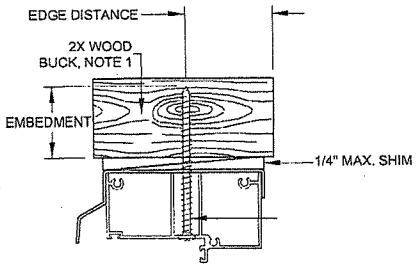
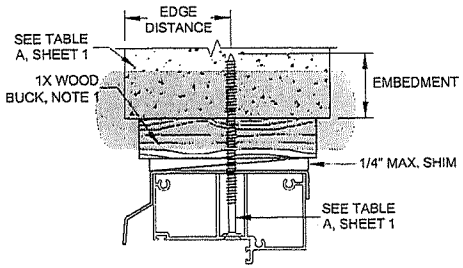
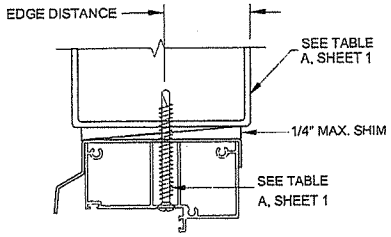
P.E.# 58705



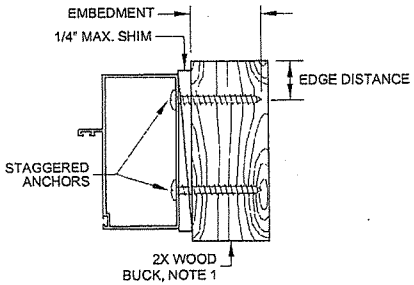
DOOR HEAD (WOOD)



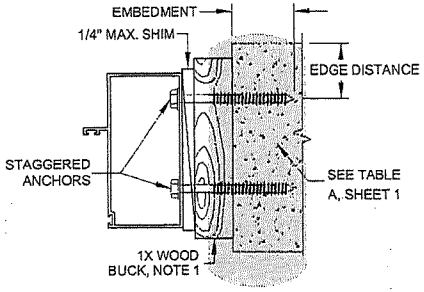
DOOR HEAD (CONC)



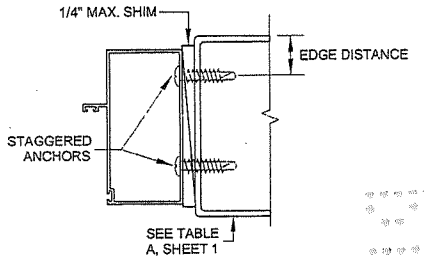
DOOR HEAD (ALUMINUM)



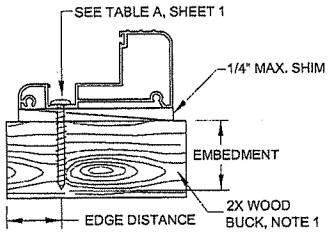
DOOR JAMB (WOOD)



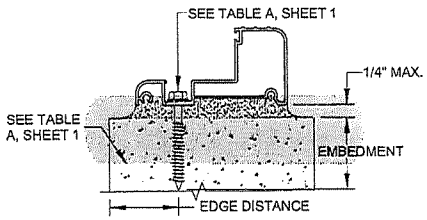
DOOR JAMB (CONC)



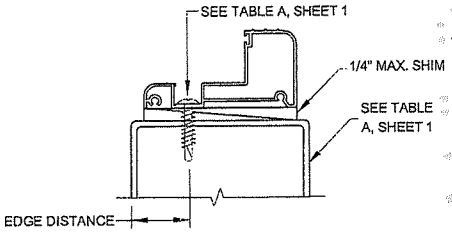
DOOR JAMB (ALUMINUM)



DOOR SILL (WOOD)



DOOR SILL (CONC)



DOOR SILL (ALUMINUM)

1. WOOD BUCKS DEPICTED AS 1x ARE LESS THAN 1 1/2" THICK. 1x WOOD BUCKS ARE OPTIONAL IF UNIT IS INSTALLED DIRECTLY TO SOLID CONCRETE OR CMU. 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 (AHJ).

2. IF SILL IS TIGHT TO SUBSTRATE, GROUT OR OTHER MATERIAL IS NOT REQUIRED. IF USED, NON-SHRINK, NON-METALLIC GROUT (3350 PSI MIN.), (DONE BY OTHERS) 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.

3. TYP. ANCHOR TYPE, EMBEDMENT & EDGE DISTANCE PER SUBSTRATE, SEE TABLE A, SHEET 1..

EXTERIOR INTERIOR
(ALL HEAD & SILL SECTIONS)

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 17-0564.01
Expiration Date 9/28/22
By [signature]
Miami Dade Product Control

Revision
F) CLARIFIED DETAILS, ADDED ALUMINUM. - JR - 04/10/17

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

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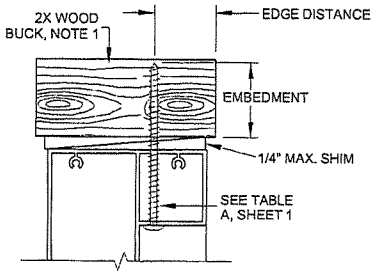
Title	Date	Drawn By	Rev.
ALUM. FRENCH DOOR & SIDE LITES, LM	04/04/12	JENS ROSOWSKI	G

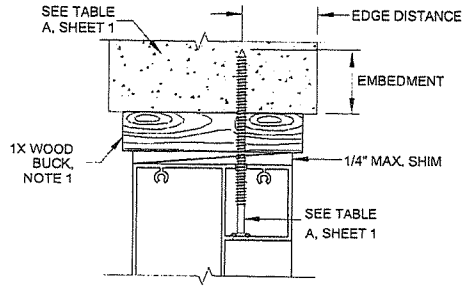
Series	Desc.	Scale	Sheet	DWG No.
FD-101 LM		NTS	14 OF 15	11005-1

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/15/17

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



SIDE LITE HEAD (WOOD)



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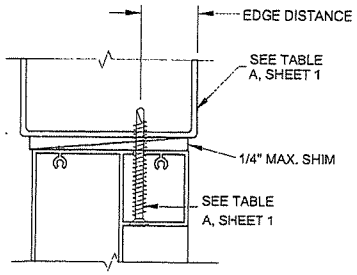

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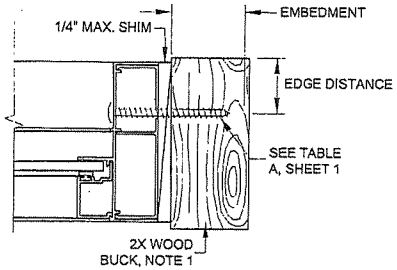
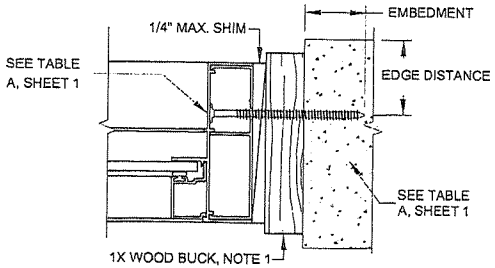


SIDE LITE JAMB (WOOD)



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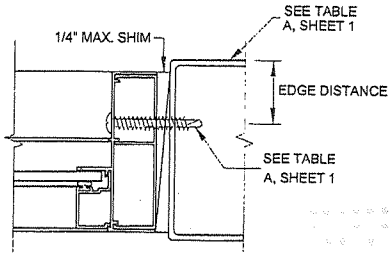

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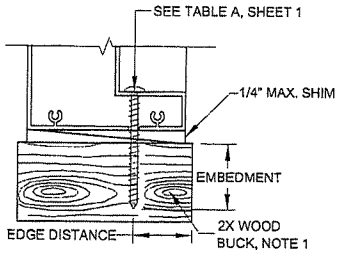
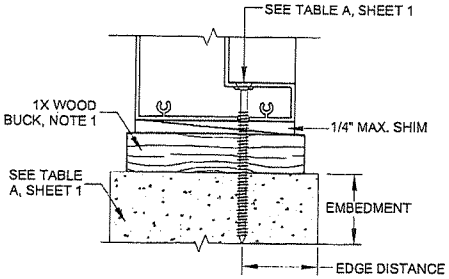
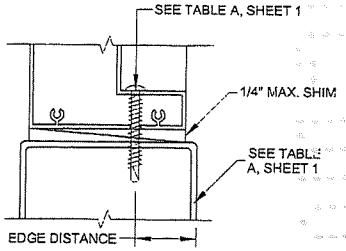


SIDE LITE SILL (WOOD)



SIDE LITE SILL (CONC)



SIDE LITE SILL (ALUMINUM)

1. WOOD BUCKS DEPICTED AS 1x ARE LESS THAN 1 1/2" THICK. 1x WOOD BUCKS ARE OPTIONAL IF UNIT IS INSTALLED DIRECTLY TO SOLID CONCRETE OR CMU. 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 (AHJ).

2. IF SILL IS TIGHT TO SUBSTRATE, GROUT OR OTHER MATERIAL IS NOT REQUIRED. IF USED, NON-SHRINK, NON-METALLIC GROUT (3350 PSI MIN.), (DONE BY OTHERS) 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.

3. TYP. ANCHOR TYPE, EMBEDMENT & EDGE DISTANCE PER SUBSTRATE, SEE TABLE A, SHEET 1..

EXTERIOR INTERIOR
(ALL HEAD & SILL SECTIONS)

PRODUCT REVISED
as complying with the Florida building Code
Acceptance No. 17-0504.01
Expiration Date SEP 28, 2022
By Ishan I. Chand
Miami-Dade Product Control

Revision	
F)	CLARIFIED DETAILS, ADDED ALUMINUM. - JR - 04/10/17

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

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CERT. OF AUTH. #29296

Title	ALUM. FRENCH DOOR & SIDE LITES, LM	Date	04/04/12
Desc.	SIDE LITE INSTALL DETAILS	Drawn By	JENS ROSOWSKI
Series	FD-101 LM	Scale	NTS
Sheet	15 OF 15	DWG No.	11005-1
Rev.	G		

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/15/17

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

MIAMI-DADE COUNTY
DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/economy

NOTICE OF ACCEPTANCE (NOA)

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 "SGD-770" Aluminum Sliding Glass Door w / 90° & 135° corners – L.M.I.

APPROVAL DOCUMENT: Drawing No. **PGT0130**, titled "Series 770 Alum. SGD - LM Impact", sheets 1 through 22 of 22, dated 10/10/14, with revision C dated 04/05/17, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, P.E., bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state, model/series, and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **revises NOA# 16-0629.06** 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 **Jorge M. Plasencia, P.E.**

MIAMI-DADE COUNTY APPROVED

9/18/17

NOA No. 17-0420.12
Expiration Date: February 17, 2020
Approval Date: September 28, 2017

PGT Industries, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Manufacturer's die drawings and sections.
   (Submitted under NOA No. 14-0123.10)
2. Drawing No. **PGT0130**, titled "Series 770 Alum. SGD – LM Impact", sheets 1 through 22 of 22, dated 10/10/14, with revision C dated 04/05/17, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.

B. TESTS

1. Reference Test report on 1) Uniform Static Air Pressure Test, per FBC, TAS 202-94
   2) Large Missile Impact Test per FBC, TAS 201-94
   3) Cyclic Wind Pressure Loading per FBC, TAS 203-94

   Along with marked-up drawings and installation diagram of Aluminum Sliding Glass Doors (w/ PS, Super, Cardinal & Duraseal Spacers), prepared by Fenestration Testing Laboratory, Inc., Test Reports No(s) **FTL-8717, FTL-8970** and **FTL-8968**, dated 02/15/16, 06/17/16 and 06/20/16, all signed & sealed by Idalmis Ortega, P.E.
   (Submitted under NOA No. 16-0629.06)
2. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94
   2) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
   3) Water Resistance Test, per FBC, TAS 202-94
   4) Large Missile Impact Test per FBC, TAS 201-94
   5) Cyclic Wind Pressure Loading per FBC, TAS 203-94
   6) Forced Entry Test, per FBC 2411.3.2.1, and TAS 202-94

   along with marked-up drawings and installation diagram of an aluminum sliding glass door, prepared by Fenestration Testing Laboratory, Inc., Test Report No. **FTL-7554**, dated 11/01/13, signed and sealed by Marlin D. Brinson, P.E.
   (Submitted under NOA No. 14-0123.10)
3. Test reports on:1) Air Infiltration Test, per TAS 202-94
   2) Uniform Static Air Pressure Test, Loading per TAS 202-94
   3) Water Resistance Test, per TAS 202-94.
   4) Forced Entry Test per FBC 2411.3.2.1 and TAS202-94.
   5) Large Missile Impact Test, per TAS 201-94
   6) Cyclic Wind Pressure Loading, per TAS 203-94

   along with marked-up drawings and installation diagram of aluminum Sliding Glass Doors, prepared by Fenestration Testing Laboratory, Inc., Test Report No **FTL-5980, FTL-5993, FTL-6036, FTL-6001, FTL-6014, FTL-6015, FTL-6017, FTL-6023, FTL-6024, FTL-6025, FTL-6028, FTL-6031, FTL-6033 and FTL-6036** dated 08/10/09, all signed and sealed by Julio Gonzales, P.E.
   Note: The test reports No. **FTL 5980, FTL 6001** and **FTL 6015** have been revised and reissued on 12/29/09, signed and sealed by Julio Gonzales, P.E.
   (Submitted under NOA No. 09-0826.10)

Jorge M. Plasencia, P.E.
Product Control Unit Supervisor
NOA No. 17-0420.12
Expiration Date: February 17, 2020
Approval Date: September 28, 2017

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

B. TESTS (CONTINUED)

5. Additional Reference Fixed Window Test Report No. **FTL-7897** (Cardinal spacer), per TAS 201, 202 & 203-94, issued by Fenestration Testing Laboratory, Inc. ***(Submitted under NOA No. 15-0430.08)***

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with **FBC-5th Edition (2014)** and **FBC-6th Edition (2017)**, dated 04/18/17 and revised on 08/10/17, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.
2. Glazing complies with **ASTM E1300-09**

D. QUALITY ASSURANCE

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

E. MATERIAL CERTIFICATIONS

1. Notice of Acceptance No. **16-1117.01** issued to **Kuraray America, Inc.** for their **"Trosifol® Ultraclear, Clear and Color PVB Glass Interlayers"** dated 01/19/17, expiring on 07/08/19.
2. Notice of Acceptance No. **14-0916.11** issued to **Kuraray America, Inc.** for their **"SentryGlas® (Clear and White) Glass Interlayers"** dated 06/25/15, expiring on 07/04/18.

F. STATEMENTS

1. Statement letter of conformance with **FBC-5th Edition (2014)** and **FBC-6th Edition (2017)**, dated 08/10/17, issued by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.
2. Statement letter of no financial interest, dated 04/18/17, issued by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.
3. Test proposal No. **16-0152** dated 03/09/16 approved by RER.
4. Lab compliance as part of the above referenced Test Report No(s) **FTL-8717, FTL-8970** and **FTL-8968.**

G. OTHERS

1. Notice of Acceptance No. **16-0629.06**, issued to PGT Industries, Inc. for their Series "SGD-770" Aluminum Sliding Glass Doors w/90° &135° corners - L.M.I. approved on 08/04/16 and expiring on 02/17/20.

Jorge M. Plasencia, P.E.
Product Control Unit Supervisor
NOA No. 17-0420.12
Expiration Date: February 17, 2020
Approval Date: September 28, 2017

SERIES 770, IMPACT RESISTANT SLIDING GLASS DOOR INCLUDING POCKETS & 90°/135° CORNERS

GENERAL NOTES

1) GLAZING TYPE OPTIONS: SEE TABLE B, THIS SHEET & GLAZING DETAILS ON SHEETS 4 & 5.
2) DESIGN PRESSURES:
   A. NEGATIVE DESIGN LOADS BASED ON TESTED PRESSURE AND GLASS TABLES ASTM E1300.
   B. POSITIVE DESIGN LOADS BASED ON WATER TEST PRESSURE AND GLASS TABLES ASTM E1300.
   C. DESIGN LOADS ARE BASED ON ALLOWABLE STRESS DESIGN, ASD.
3) ANCHORAGE: THE 33-1/3% STRESS INCREASE HAS NOT BEEN USED IN THE DESIGN OF THIS PRODUCT. MATERIALS, INCLUDING BUT NOT LIMITED TO STEEL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE CURRENT FLORIDA BUILDING CODE. FOR ANCHORAGE DETAILS SEE SHEETS 6-14.
4) SHUTTERS ARE NOT REQUIRED PER FBC REQUIREMENTS, AS APPLICABLE.
5) INSTALLATION SCREWS, FRAME SPLICES, FRAME AND PANEL CORNERS TO BE SEALED WITH NARROW JOINT SEALANT.
6) REFERENCES: ELCO ULTRACON, CRETEFLEX AND AGGREGATOR NOA'S, ANSI/AF&PA NDS FOR WOOD CONSTRUCTION AND ADM, ALUMINUM DESIGN MANUAL.
7) THIS PRODUCT HAS BEEN DESIGNED & TESTED TO COMPLY WITH THE REQUIREMENTS OF THE CURRENT FLORIDA BUILDING CODE, INCLUDING THE HIGH VELOCITY HURRICANE ZONE (HVHZ)
8) DOOR SIZES MUST BE VERIFIED FOR COMPLIANCE WITH EGRESS REQUIREMENTS PER CURRENT FLORIDA BUILDING CODE, AS APPLICABLE.
9) TEST REPORTS: FTL-5980, FTL-5993, FTL-6001, FTL-6014, FTL-6015, FTL-6017, FTL-6022, FTL-6023, FTL-6024, FTL-6025, FTL-6028, FTL-6031, FTL-6033, FTL-6036 AND FTL-7554

TABLE B, SEE DETAILS ON SHEETS 4 & 5

Glass Type	Description (Listed from Exterior to Interior)
G3	7/16" Laminated: (2) Lites of 3/16" HS Glass with .090" PVB Interlayer
G3A	9/16" Laminated: (2) Lites of 1/4" HS Glass with .090" PVB Interlayer
G4	7/16" Laminated: (2) Lites of 3/16" HS Glass with .090" SG Interlayer
G4A	9/16" Laminated: (2) Lites of 1/4" HS Glass with .090" SG Interlayer
G5	1" Laminated I.G.: 3/16" T Exterior Cap + 3/8" Air Space + 7/16" Laminated; (2) Lites of 3/16" HS Glass with .090" PVB Interlayer
G5A	1" Laminated I.G.: 1/4" T Exterior Cap + 5/16" Air Space + 7/16" Laminated; (2) Lites of 3/16" HS Glass with .090" PVB Interlayer
G6	1" Laminated I.G.: 3/16" T Exterior Cap + 3/8" Air Space + 7/16" Laminated; (2) Lites of 3/16" HS Glass with .090" SG Interlayer
G6A	1" Laminated I.G.: 1/4" T Exterior Cap + 5/16" Air Space + 7/16" Laminated; (2) Lites of 3/16" HS Glass with .090" SG Interlayer
G7	7/16" Laminated: (2) Lites of 3/16" ANN Glass with .090" SG Interlayer
G7A	9/16" Laminated: (2) Lites of 1/4" ANN Glass with .090" SG Interlayer
G8	1" Laminated I.G.: 3/16" T Exterior Cap + 3/8" Air Space + 7/16" Laminated; (2) Lites of 3/16" ANN Glass with .090" SG Interlayer
G8A	1" Laminated I.G.: 1/4" T Exterior Cap + 5/16" Air Space + 7/16" Laminated; (2) Lites of 3/16" ANN Glass with .090" SG Interlayer

"ANN" = ANNEALED
"HS" = HEAT STRENGTHENED
"T" = TEMPERED
"PVB" = .090" TROSIFOL® PVB BY KURARAY AMERICA, INC.
"SG" = .090" SENTRYGLAS® BY KURARAY AMERICA, INC.

DESIGN PRESSURE RATING	IMPACT RATING
SEE TABLES 1, 2 & 3 ON SHEETS 6, 7 & 8	RATED FOR LARGE & SMALL MISSILE IMPACT RESISTANCE

CODES / STANDARDS USED:
- 2017 FLORIDA BUILDING CODE (FBC), 6TH EDITION
- 2014 FLORIDA BUILDING CODE (FBC), 5TH EDITION
- ASTM E1300-09
- ANSI/AF&PA NDS-2015 FOR WOOD CONSTRUCTION
- ALUMINUM DESIGN MANUAL, ADM-2015
- AISI S100-12
- AISC 360-10

GENERAL NOTES..... 1
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GLAZING DETAILS..... 4,5
ANCHORAGE..... 6-14
DESIGN PRESSURES..... 6-8
INSTALL DETAILS..... 12-14
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PANEL / SILL TYPES..... 17
CROSS SECTIONS..... 18,19
PARTS LIST..... 20
EXTRUSIONS..... 21,22

TABLE A:

Anchor Group	Anchor Type	Frame Member	Substrate	Min. Edge Distance	Min. O.C. Distance	Min. Embedment or Metal Thickness
A	#12 18-8 SMS, (F_y=80 ksi, F_u= 95 ksi) #12 410 SS SMS, (F_y= 90 ksi, F_u= 110 ksi)	All	Southern Pine (SG = 0.55)	9/16"	7/8"	1-3/8"
			6063-T5 Aluminum	3/8"	9/16"	0.090"
			A36 Steel	3/8"	9/16"	0.050"
			Gr. 33 Steel Stud	3/8"	9/16"	0.045" (18 Ga)
	1/4" Elco Aggre-Gator® F_y=57 ksi, F_u=96 ksi	All	Concrete (min. 2.22 ksi)	1-1/2"	3"	1-3/8"
		Jamb / P-hook	Filled Block (ASTM C90)	2"	3"	2"
		Jamb / P-hook	Hollow Block (ASTM C90)	2"	3"	1-1/4"
		All	Southern Pine (SG = 0.55)	1"	1"	1-3/8"
B	#12 Steel SMS (Gr. 5) (min. of 3 threads beyond metal substrate)	All	Southern Pine (SG = 0.55)	9/16"	7/8"	1-3/8"
			6063-T5 Aluminum	3/8"	9/16"	0.090"
			A36 Steel	3/8"	9/16"	0.050"
			Gr. 33 Steel Stud	3/8"	9/16"	0.045" (18 Ga)
C	1/4" Elco UltraCon® F_y=155 ksi, F_u=177 ksi	All	Concrete (min. 2.85 ksi)	1"	4"	1-3/8"
		Jamb / P-hook	Hollow Block (ASTM C90)	1"	6"	1-1/4"
D	1/4" Elco UltraCon® F_y=155 ksi, F_u= 177 ksi	All	Concrete (min. 2.85 ksi)	2-1/2"	4"	1-3/8"
		Jamb / P-hook	Filled Block (ASTM C90)	2-1/2"	4"	1-3/4"
		Jamb / P-hook	Hollow Block (ASTM C90)	2-1/2"	6"	1-1/4"
	1/4" 410 SS Elco CreteFlex® F_y=127.4 ksi, F_u= 189.7 ksi	Head / Sill	Concrete (min. 3.35 ksi)	1"	4"	1-3/4"
		Jamb / P-hook	Concrete (min. 3.35 ksi)	1"	6"	1-3/4"
		Jamb / P-hook	Hollow Block (ASTM C90)	2-1/2"	6"	1-1/4"
		All	Southern Pine (SG = 0.55)	1"	1"	1-3/8"

1) WHERE SUBSTRATE CONDITIONS REQUIRE ANCHORAGE FROM MORE THAN ONE OF THE ANCHOR GROUPS ABOVE, CHOOSE THE ANCHOR GROUP OF THE LOWEST LETTER FOR ALL TABLES IN THIS APPROVAL.
2) ALL ANCHOR HEAD TYPES ARE APPLICABLE.
3) FOR STEEL STUDS, MIN. FU = 45 KSI, MIN FY = 33 KSI.
4) FILLED BLOCK VALUES MAY ALSO BE USED IN HOLLOW BLOCK APPLICATIONS.
5) ANCHORS MUST BE OF SUFFICIENT LENGTH SO THAT A MINIMUM OF 3 THREADS EXTEND BEYOND METAL SUBSTRATE.

ANCHOR NOTES

1) FOR CONCRETE/CMU SUBSTRATE APPLICATIONS IN MIAMI-DADE COUNTY, USE ONLY MIAMI-DADE COUNTY APPROVED ANCHORS. SEE TABLE A ON THIS SHEET FOR EMBEDMENT, EDGE DISTANCE AND SUBSTRATE REQUIREMENTS.

2) FOR OTHER SUBSTRATE APPLICATIONS SEE TABLE A, THIS SHEET.

3) WOOD BUCKS DEPICTED AS 1X ARE LESS THAN 1-1/2" THICK. PROPERLY SECURED, 1X WOOD BUCKS ARE OPTIONAL IF UNIT IS INSTALLED DIRECTLY TO SOLID CONCRETE. 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. BUCK DESIGN AND INSTALLATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD & TO BE REVIEWED BY THE BUILDING OFFICIAL.

4) METAL SUBSTRATE TO MEET MIN. STRENGTH AND THICKNESS REQUIREMENTS PER CURRENT FLORIDA BUILDING CODE AND TO BE REVIEWED BY THE AUTHORITY HAVING JURISDICTION.

5) IF SILL IS TIGHT TO SUBSTRATE, GROUT OR OTHER MATERIAL IS NOT REQUIRED. IF USED, NON-SHRINK, NON-METALLIC GROUT, MAX. 1/4" THICK & 3400 PSI MIN., (DONE BY OTHERS) 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.

PRODUCT REVISED
as complying with the Florida Building Code
NOA No. 17-0420.12
Expiration Date 02/17/2020
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
4/18/17
A. LYNN MILLER, P.E.
P.E.# 58705

Revd By:	Date:	Revisions:	
JR	04/05/17	C	UPDATED TO FBC 2017, REVISED TABLES 1, 2, 3 & A
Drawn By: JR	Date: 10/10/14	Checked By:	Date:

1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 460-1600
CERT. OF AUTH. #29286

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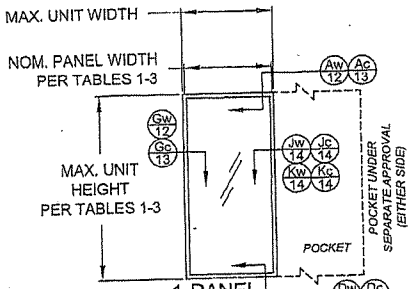
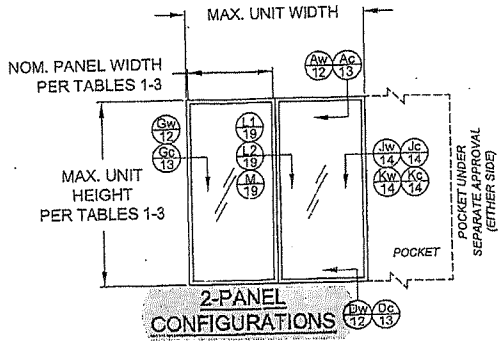
Description: GENERAL NOTES AND MAP
Title: SERIES 770 ALUM. SGD - LM IMPACT

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
SGD-770	NTS	1 of 22	PGT0130	C

EXAMPLE CONFIGURATIONS



1-PANEL CONFIGURATIONS



2-PANEL CONFIGURATIONS

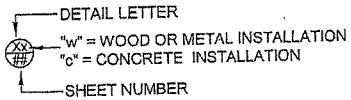
CONFIGURATIONS NOTES:

1) ALL CONFIGURATIONS SHOWN ARE ALSO AVAILABLE AS POCKET CONFIGURATIONS AT EITHER OR BOTH JAMB LOCATIONS USING DETAIL "Jw", "Jc", "Kw" OR "Kc" INSTALLATION. EXAMPLE: 4-PANEL XXXX IN POCKET (p) CONFIGURATION CAN BE pXXXXp, pXXXX OR XXXXp. OXXX IN POCKET CONFIGURATION CAN BE OXXXp.

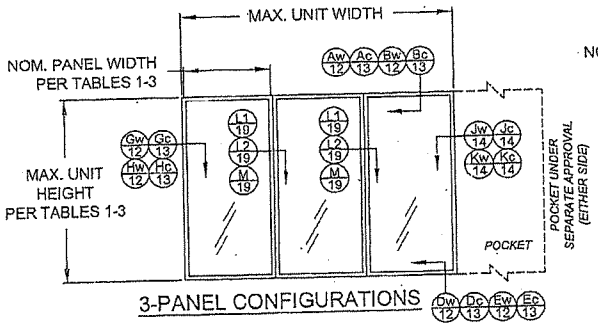
2) 90° & 135° CORNER CONFIGURATIONS CAN BE A COMBINATION OF ANY 2 STRAIGHT CONFIGURATIONS.

3) FOR NOM. PANEL WIDTH, SEE TABLES 1-3.

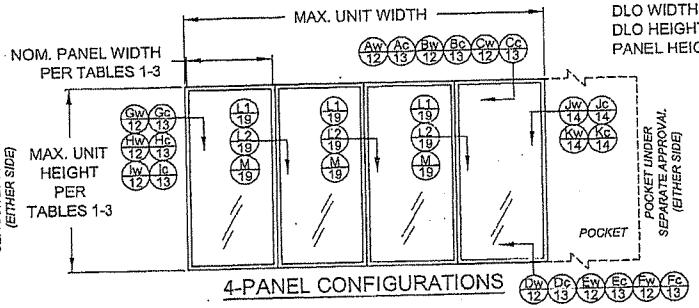
"X" = OPERABLE PANEL,
"O" = INOPERABLE PANEL,
"p" = POCKET



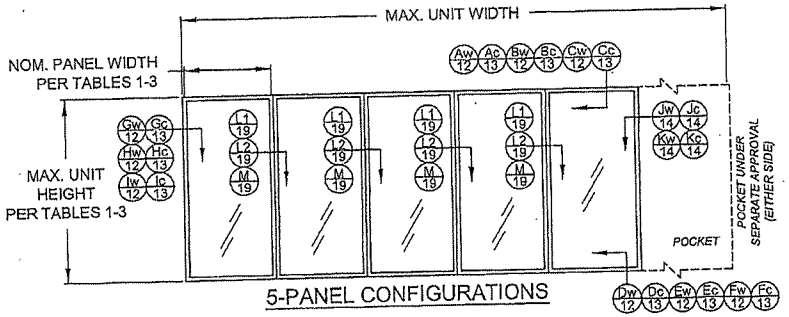
DLO WIDTH = NOM. PANEL WIDTH - 7"
DLO HEIGHT = DOOR UNIT HEIGHT - 10.125"
PANEL HEIGHT = DOOR UNIT HEIGHT - 1.866"



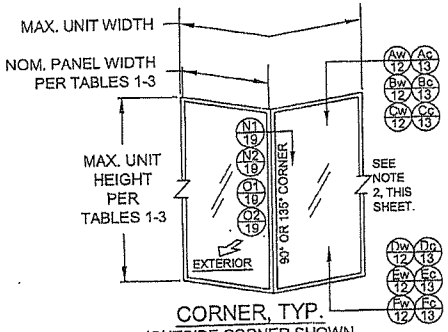
3-PANEL CONFIGURATIONS



4-PANEL CONFIGURATIONS



5-PANEL CONFIGURATIONS



CORNER, TYP.
(OUTSIDE CORNER SHOWN, INSIDE CORNER SIMILAR)

PRODUCT REVISED
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NOA-No. 17-0420.12
Expiration Date 02/17/2020
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
4/18/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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

Revsd By:	Date:	Revisions:	
JR	04/05/17	C	NO CHANGES THIS SHEET.
Drwn By: JR	Date: 10/10/14	Checked By:	Date:

1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
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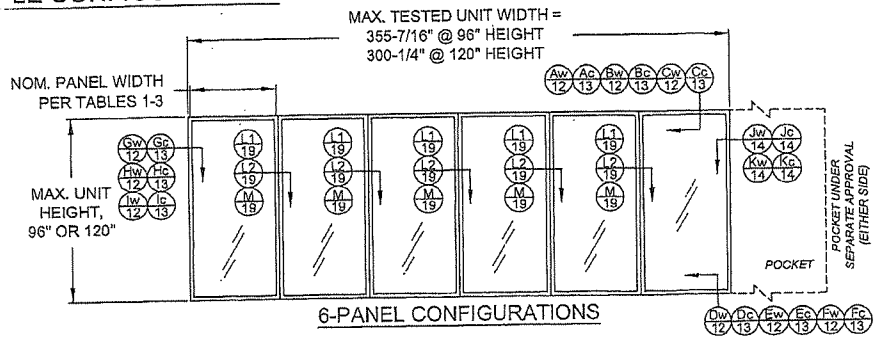
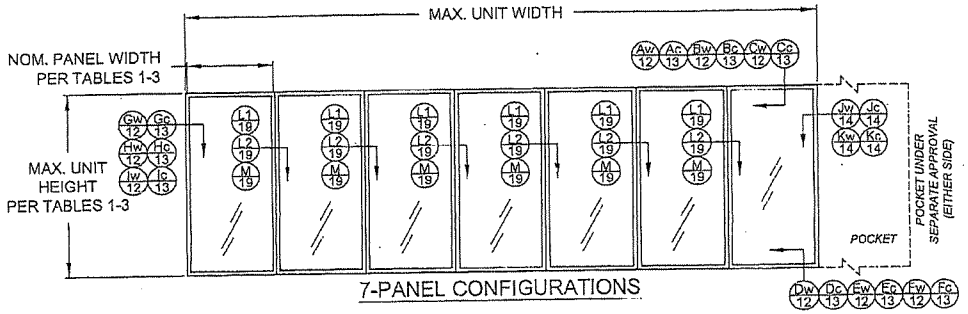
Description: EXAMPLE CONFIGURATIONS
Title: SERIES 770 ALUM. SGD - LM IMPACT

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
SGD-770	NTS	2 of 22	PGT0130	C

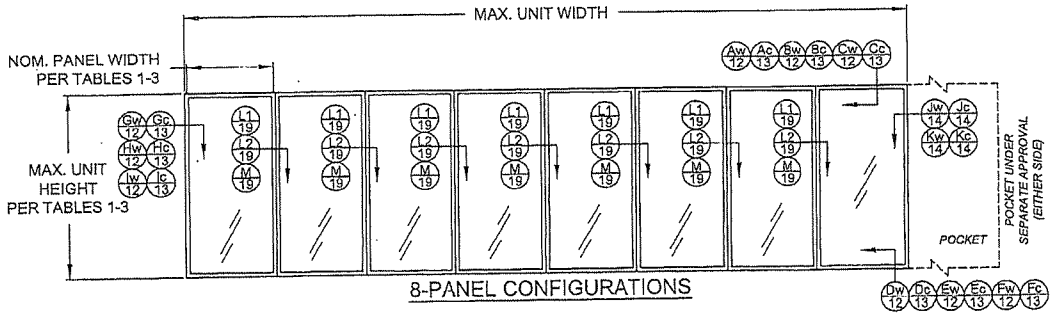
EXAMPLE CONFIGURATIONS



6-PANEL CONFIGURATIONS



7-PANEL CONFIGURATIONS



8-PANEL CONFIGURATIONS

CONFIGURATIONS NOTES:

1) ALL CONFIGURATIONS SHOWN ARE ALSO AVAILABLE AS POCKET CONFIGURATIONS AT EITHER OR BOTH JAMB LOCATIONS USING DETAIL "Jw", "Jc", "Kw" OR "Kc" INSTALLATION. EXAMPLE: 4-PANEL XXXX IN POCKET (p) CONFIGURATION CAN BE pXXXXp, pXXXX OR XXXXp. OXXX IN POCKET CONFIGURATION CAN BE OXXXp.

2) 90° & 135° CORNER CONFIGURATIONS CAN BE A COMBINATION OF ANY 2 STRAIGHT CONFIGURATIONS.

3) FOR NOM. PANEL WIDTH, SEE TABLES 1-3.

"X" = OPERABLE PANEL,
"O" = INOPERABLE PANEL,
"p" = POCKET

DETAIL LETTER
"w" = WOOD OR METAL INSTALLATION
"c" = CONCRETE INSTALLATION
SHEET NUMBER

DLO WIDTH = NOM. PANEL WIDTH - 7"
DLO HEIGHT = DOOR UNIT HEIGHT - 10.125"
PANEL HEIGHT = DOOR UNIT HEIGHT - 1.866"

PRODUCT REVISED
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NOA-No. 17-0420.12
Expiration Date 02/17/2020
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
4/18/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.# 58705

Revised By:	Date:	Revisions:	
JR	04/05/17	C	NO CHANGES THIS SHEET.
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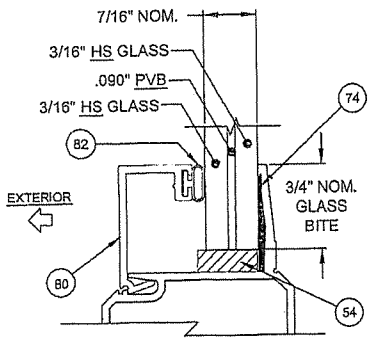
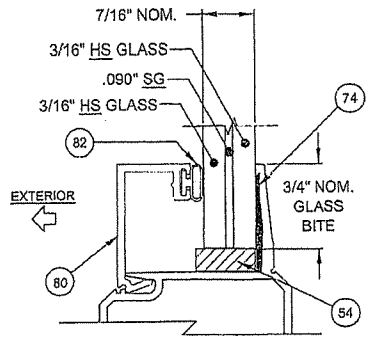
Description: EXAMPLE CONFIGURATIONS
Title: SERIES 770 ALUM. SGD - LM IMPACT

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
SGD-770	NTS	3 of 22	PGT0130	C

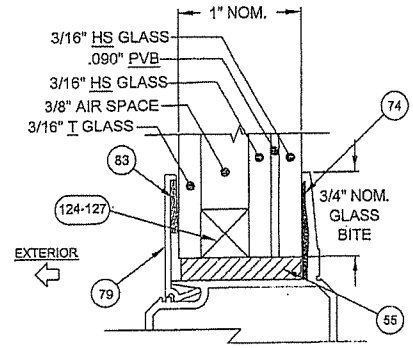
GLAZING DETAILS (G3, G3A, G4, G4A, G5 & G5A)



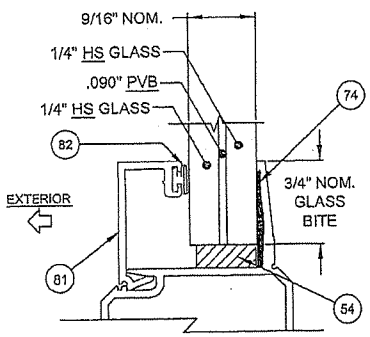
7/16" LAMINATED GLASS, TYPE G3



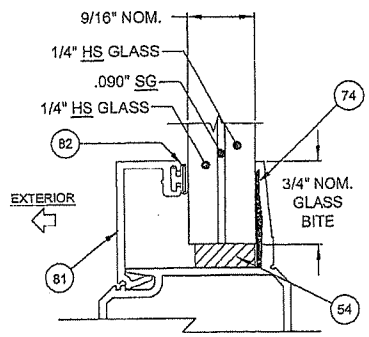
7/16" LAMINATED GLASS, TYPE G4



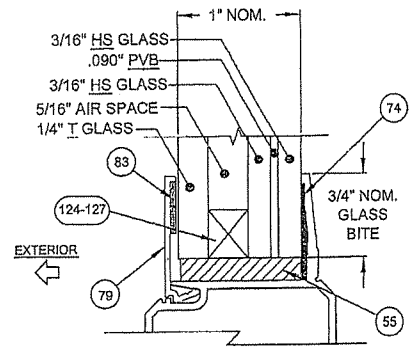
1" LAMINATED I.G. GLASS, TYPE G5



9/16" LAMINATED GLASS, TYPE G3A



9/16" LAMINATED GLASS, TYPE G4A



1" LAMINATED I.G. GLASS, TYPE G5A

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

GLAZING NOTES:
"ANN" = ANNEALED
"HS" = HEAT STRENGTHENED
"T" = TEMPERED
"PVB" = .090" TROSIFOL® PVB BY KURARAY AMERICA, INC.
"SG" = .090" SENTRYGLAS® BY KURARAY AMERICA, INC.

SEE SHEET 15 FOR SPACER DETAILS.

Revised By:	Date:	Revisions:	
JR	04/05/17	C	NO CHANGES THIS SHEET.
Drawn By: JR	Date: 10/10/14	Checked By:	Date:

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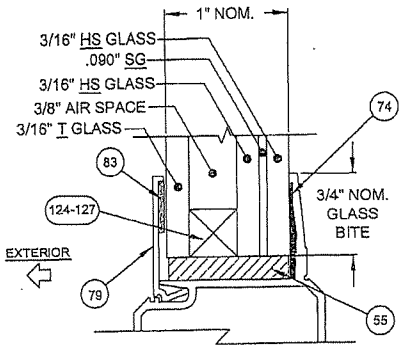
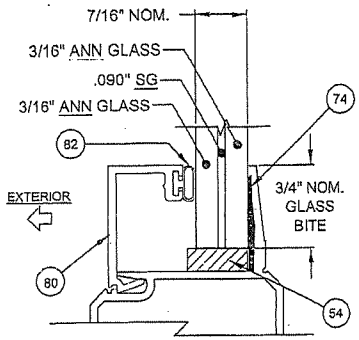
Description: GLAZING DETAILS
Title: SERIES 770 ALUM. SGD - LM IMPACT

Detail/Model:	Scale:	Sheet:	Drawing No.	Rev:
SGD-770	NTS	4 of 22	PGT0130	C

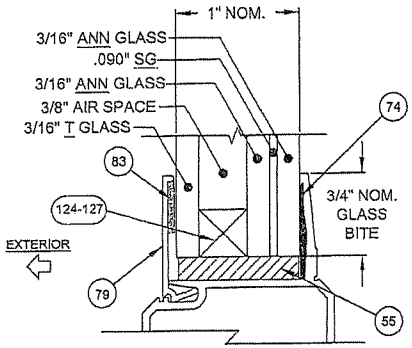
GLAZING DETAILS (G6, G6A, G7, G7A, G8 & G8A)



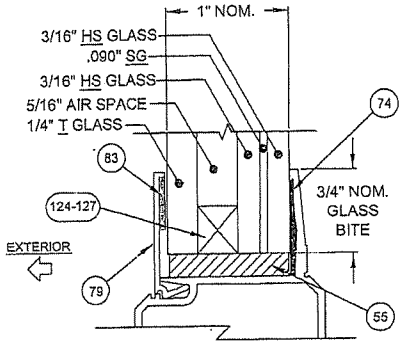
1" LAMINATED I.G. GLASS, TYPE G6



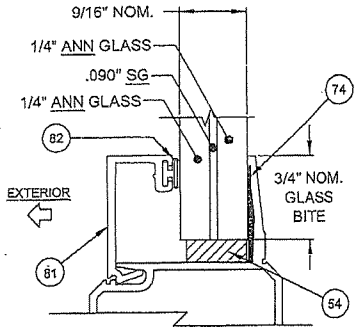
7/16" LAMINATED GLASS, TYPE G7



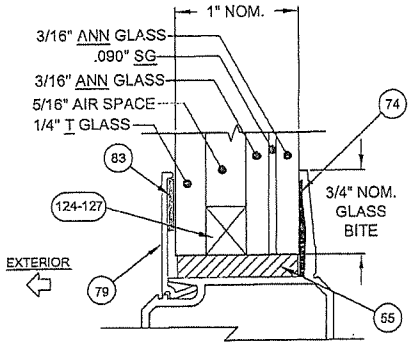
1" LAMINATED I.G. GLASS, TYPE G8



1" LAMINATED I.G. GLASS, TYPE G6A



9/16" LAMINATED GLASS, TYPE G7A



1" LAMINATED I.G. GLASS, TYPE G8A

PRODUCT REVISED
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By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
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4/18/17

A. LYNN MILLER, P.E.
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SEE SHEET 15 FOR SPACER DETAILS.

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Drawn By: JR	Date: 10/10/14	Checked By:	Date:

Description: GLAZING DETAILS
Title: SERIES 770 ALUM. SGD - LM IMPACT

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
SGD-770	NTS	5 of 22	PGT0130	C

TABLE 1:

Design Pressure (DP) and Anchor Quantities Required, (for all approved configurations on Sheets 2 & 3)
For corner astragal anchorage on 90° or 135° corner units, see sheet 11

Maximum DP for all sizes: +60 / -60 psf
(May be limited by Table 1A)

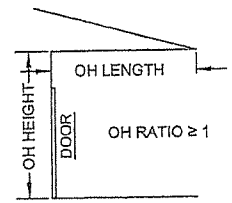
Table applies to Glass Types 3, 3A, 5, 5A, 7, 7A, 8 & 8A and the Stile/Astragal Types shown below.			Door Unit Height															
			80"				84"				90"				96"			
			69-7/8" DLO				73-7/8" DLO				79-7/8" DLO				85-7/8" DLO			
			Anchor Group				Anchor Group				Anchor Group				Anchor Group			
			A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
Nominal Panel Width (in)	24"	17" DLO Head/Sill	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1
		Jamb	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
		P-hook	6+7	6+7	6+7	6+7	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8
	30"	23" DLO Head/Sill	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1
		Jamb	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
		P-hook	6+7	6+7	6+7	6+7	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8
	36"	29" DLO Head/Sill	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1
		Jamb	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
		P-hook	6+7	6+7	6+7	6+7	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8
	42"	35" DLO Head/Sill	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1
		Jamb	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
		P-hook	6+7	6+7	6+7	6+7	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8
	48"	41" DLO Head/Sill	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2
		Jamb	8	8	8	8	8	8	8	8	8	8	8	8	10	8	8	8
		P-hook	6+7	6+7	6+7	6+7	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8

FOR EXAMPLE ON USING TABLE, SEE SHEET 8.

TABLE 1A:

Sill Height to Max. (+) DP (Water Infiltration Rating)	
Sill Riser Height (Flat or Box, see Sheet 17)	(+) Design Pressure, psf
Flush - 1-1/2"	see note 3
Low - 2-1/2"	+ 46.67
Medium - 3-1/4"	+ 60.0
High - 4"	+ 60.0

SEE NOTES 1-3



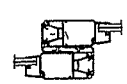
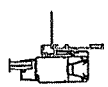
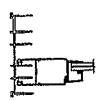
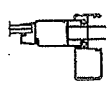
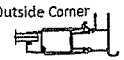
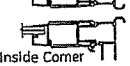
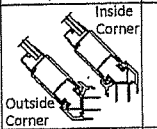
$$\text{OH RATIO} = \frac{\text{OH LENGTH}}{\text{OH HEIGHT}}$$

DLO WIDTH =
NOM. PANEL WIDTH - 7"

DLO HEIGHT =
DOOR UNIT HEIGHT - 10.125"

PANEL HEIGHT =
DOOR UNIT HEIGHT - 1.866"

NOTES:
1) POSITIVE PRESSURES IN TABLE 1 ARE BASED ON THE USE OF THE 3-1/4" SILL.
2) WHEN USING THE 2-1/2" SILL, POSITIVE WATER DP IS 46.67 PSF MAX. WHEN USING THE 3-1/4" SILL, POSITIVE WATER DP IS 60.0 PSF MAX. WHEN USING THE 4" SILL, POSITIVE WATER DP IS 60.0 PSF MAX (NEGATIVE PRESSURES UNCHANGED). SEE TABLE 1A.
3) 4", 3-1/4" AND 2-1/2" SILL HEIGHTS ARE TESTED FOR WATER INFILTRATION WHEREAS THE 1-1/2" SILL IS NOT AND MUST ONLY BE USED WHERE WATER RESISTANCE IS NOT REQUIRED. MAX. POSITIVE DESIGN PRESSURES SHOWN IN TABLE 1 MAY BE USED WHEN THE DOOR IS PROTECTED BY AN OVERHANG COMPLYING WITH THE CURRENT FLORIDA BUILDING CODE (SEE ADJACENT DIAGRAM). THIS CONDITION IS NOT RATED FOR WATER INFILTRATION.
4) SEE SHEETS 10-14 FOR ANCHORAGE SPACING, EDGE DISTANCE AND EMBEDMENT INFORMATION.
5) DOOR SIZE TO COMPLY WITH CURRENT FBC EGRESS REQUIREMENTS WHEN REQUIRED.
6) JAMB ANCHORS ARE SPECIFIED AS THE TOTAL QUANTITY, DIVIDE BY 2 FOR PAIRS TO BE INSTALLED.

Interlock	P-hook	Lockstile @ Jamb	Straight Astragal Assembly	Lockstile @ Straight Astragal	90° Astragal Assembly	Lockstile @ 90° Astragal	135° Astragal Assembly	Lockstile @ 135° Astragal
Standard Stiles	Standard Stile	Standard Stile	Standard Stile	Standard Stile	Heavy-duty Stile	Heavy-duty Stile	Heavy-duty Stile	Heavy-duty Stile
			Standard Astragal 		Outside Corner  Inside Corner 	Outside Corner Inside Corner	Inside Corner  Outside Corner	
Part #60 (x2)	Part #60	Part #60	Part #60 (Stile) Part #67 (Astragal)	Part #60	Part #61 (Stile) Part #118 (Corner Receiver)	Part #119 (Out.) Part #120 (In.)	Part #61 (Stile) Parts #31 & #32 (Corn. & Fxd Mount)	Part #61

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P.E.# 58705

Revised By:	Date:	Revisions:	
JR	04/05/17	C	REVISED TABLE 1.
Drawn By: JR	Date: 10/10/14	Checked By:	Date:

1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600
CERT. OF AUTH. #29296
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Description: DP AND ANCHORAGE
Title: SERIES 770 ALUM. SGD - LM IMPACT

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
SGD-770	NTS	6 of 22	PGT0130	C

TABLE 2:

Design Pressure (DP) and Anchor Quantities Required, (for all approved configurations on Sheets 2 & 3)

For corner astragal anchorage on 90° or 135° corner units, see sheet 11

Maximum DP for all sizes: +60 / -60
(May be limited by Table 2A)

Table applies to Glass Types 4, 4A, 6, 6A, 7, 7A, 8 & 8A and the Stile/Astragal Types shown below.

Nominal Panel Width			Door Unit Height																																	
			80"				84"				90"				96"				102"				108"				114"				120"			
			69-7/8" DLO				73-7/8" DLO				79-7/8" DLO				85-7/8" DLO				91-7/8" DLO				97-7/8" DLO				103-7/8" DLO				109-7/8" DLO			
			Anchor Group				Anchor Group				Anchor Group				Anchor Group				Anchor Group				Anchor Group				Anchor Group				Anchor Group			
			A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
24"	17" DLO	Head/Sill	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1
		Jamb	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
		P-hook	6+7	6+7	6+7	6+7	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9	9+10	9+10	9+10	9+10	9+10	9+10	9+10	9+10
30"	23" DLO	Head/Sill	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1
		Jamb	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
		P-hook	6+7	6+7	6+7	6+7	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9	9+10	9+10	9+10	9+10	9+10	9+10	9+10	9+10
36"	29" DLO	Head/Sill	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1
		Jamb	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
		P-hook	6+7	6+7	6+7	6+7	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9	9+10	9+10	9+10	9+10	9+10	9+10	9+10	9+10
42"	35" DLO	Head/Sill	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C5+1	C5+1	C4+1	C4+1
		Jamb	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	10	10	10	10	10	10	10	10	10	10	10	10	12	10	10	10
		P-hook	6+7	6+7	6+7	6+7	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9	9+10	9+10	9+10	9+10	9+10	9+10	9+10	9+10
48"	41" DLO	Head/Sill	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C5+2	C5+2	C4+2	C4+2	C5+2	C5+2	C5+2	C5+2	C5+2	C5+2	C5+2	C5+2
		Jamb	8	8	8	8	8	8	8	8	8	8	8	8	10	8	8	8	10	10	10	10	10	10	10	10	12	10	10	10	12	10	10	10
		P-hook	6+7	6+7	6+7	6+7	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9	9+10	9+10	9+10	9+10	9+10	9+10	9+10	9+10
54"	47" DLO	Head/Sill	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	Not available in these sizes															
		Jamb	8	8	8	8	8	8	8	8	10	8	8	8	10	8	8	8																
		P-hook	6+7	6+7	6+7	6+7	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8																
60"	53" DLO	Head/Sill	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2																
		Jamb	8	8	8	8	8	8	8	8	10	8	8	8	10	8	8	8																
		P-hook	6+7	6+7	6+7	6+7	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8																

FOR EXAMPLE ON USING TABLE, SEE SHEET 8.

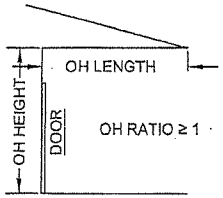
NOTES:

1) POSITIVE PRESSURES IN TABLE 2 ARE BASED ON THE USE OF THE 3-1/4" SILL.
2) WHEN USING THE 2-1/2" SILL, POSITIVE WATER DP IS 46.67 PSF MAX. WHEN USING THE 3-1/4" SILL, POSITIVE WATER DP IS 60.0 PSF MAX. WHEN USING THE 4" SILL, POSITIVE WATER DP IS 60.0 PSF MAX (NEGATIVE PRES. UNCHANGED). SEE TABLE 2A.
3) 4", 3-1/4" AND 2-1/2" SILL HEIGHTS ARE TESTED FOR WATER INFILTRATION WHEREAS THE 1-1/2" SILL IS NOT AND MUST ONLY BE USED WHERE WATER RESISTANCE IS NOT REQUIRED. MAX. POSITIVE DESIGN PRESSURES SHOWN IN TABLE 2 MAY BE USED WHEN THE DOOR IS PROTECTED BY AN OVERHANG COMPLYING WITH THE CURRENT FBC (SEE ADJACENT DIAGRAM); THIS CONDITION IS NOT RATED FOR WATER INFILTRATION.
4) SEE SHEETS 10-14 FOR ANCHORAGE SPACING, EDGE DISTANCE AND EMBEDMENT INFORMATION.
5) DOOR SIZE TO COMPLY WITH CURRENT FBC EGRESS REQUIREMENTS WHEN REQUIRED.
6) JAMB ANCHORS ARE SPECIFIED AS THE TOTAL QUANTITY, DIVIDE BY 2 FOR PAIRS TO BE INSTALLED.

TABLE 2A:

Sill Height to Max. (+) DP (Water Infiltration Rating)	
Sill Riser Height (Flat or Box, see Sheet 17)	(+) Design Pressure, psf
Flush - 1-1/2"	see note 3
Low - 2-1/2"	+ 46.67
Medium - 3-1/4"	+ 60.0
High - 4"	+ 60.0

SEE NOTES 1-3



$$\text{OH RATIO} = \frac{\text{OH LENGTH}}{\text{OH HEIGHT}}$$

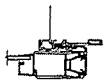
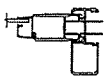
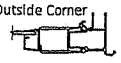
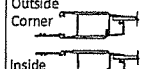
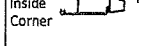
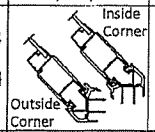
DLO WIDTH =
NOM. PANEL WIDTH - 7"

DLO HEIGHT =
DOOR UNIT HEIGHT - 10.125"

PANEL HEIGHT =
DOOR UNIT HEIGHT - 1.866"

PRODUCT REVISED
as complying with the Florida Building Code
NOA-N 17-0420.12
Expiration Date 02/17/2020
By
Miami-Dade Product Control

THE FOLLOWING STILE & ASTRAGAL TYPES SHALL BE USED FOR TABLE 2, SEE SHEETS 21 & 22 FOR PART DIMENSIONS AND SHEETS 18 & 19 FOR ASSEMBLY DETAILS.

Interlock	P-hook	Lockstile @ Jamb	Straight Astragal Assembly	Lockstile @ Straight Astragal	90° Astragal Assembly	Lockstile @ 90° Astragal	135° Astragal Assembly	Lockstile @ 135° Astragal
Heavy-duty Stiles	Heavy-duty Stile	Heavy-duty Stile	Heavy-duty Stile	Heavy-duty Stile	Heavy-duty Stile	Heavy-duty Stile	Heavy-duty Stile	Heavy-duty Stile
			Standard Astragal 		Outside Corner  Inside Corner	Outside Corner  Inside Corner 	Inside Corner  Outside Corner	
Part #61 (x2)	Part #61	Part #61	Part #61 (Stile) Part #67 (Astragal)	Part #61	Part #61 (Stile) Part #118 (Corner Receiver)	Part #119 (Out.) Part #120 (In.)	Part #61 (Stile) Parts #31 & #32 (Corn. & Fxd Mount)	Part #61

Revised By:	Date:	Revisions:	
JR	04/05/17	C	REVISED TABLE 2, REMOVED EXAMPLE.
Drawn By: JR	Date: 10/10/14	Checked By:	Date:

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Description: DP AND ANCHORAGE
Title: SERIES 770 ALUM. SGD - LM IMPACT

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
SGD-770	NTS	7 of 22	PGT0130	C

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
4/18/17
A. LYNN MILLER, P.E.
P.E.# 58705

TABLE 3:

Design Pressure (DP) and Anchor Quantities Required, (for all approved configurations on Sheets 2 & 3)
For corner astragal anchorage on 90° or 135° corner units, see sheet 11

Maximum DP shown below
(May be limited by Table 3A)

Table applies to Glass Types 4, 4A, 6, 6A, 7, 7A, 8 & 8A and the Stile/Astragal types shown below.

Nominal Panel Width			Door Unit Height																													
			80"				84"				90"				96"				102"				108"			
			69-7/8" DLO				73-7/8" DLO				79-7/8" DLO				85-7/8" DLO				91-7/8" DLO				97-7/8" DLO			
			Anchor Group				Anchor Group				Anchor Group				Anchor Group				Anchor Group				Anchor Group			
			A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
24"	17" DLO	Design Pressure	+/-90.0 psf																+/-82.5 psf				+/-75.0 psf			
		Head/Sill	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1
		Jamb	8	8	8	8	6	8	8	8	8	8	8	8	8	8	8	8	10	10	10	10	10	10	10	10
		P-hook	6+7	6+7	6+7	6+7	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9
30"	23" DLO	Design Pressure	+/-90.0 psf																+/-82.5 psf				+/-75.0 psf			
		Head/Sill	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1
		Jamb	8	8	8	8	8	8	8	8	10	8	8	8	10	8	8	8	10	10	10	10	10	10	10	10
		P-hook	6+7	6+7	6+7	6+7	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9
36"	29" DLO	Design Pressure	+/-90.0 psf																+/-82.5 psf				+/-75.0 psf			
		Head/Sill	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C4+1	C5+1	C5+1	C4+1	C4+1	C5+1	C5+1	C4+1	C4+1	C5+1	C5+1	C4+1	C4+1
		Jamb	10	8	8	8	10	8	8	8	10	8	8	8	12	10	8	8	12	10	10	10	10	10	10	10
		P-hook	6+7	6+7	6+7	6+7	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9
42"	35" DLO	Design Pressure	+/-90.0 psf																+/-82.5 psf				+/-75.0 psf			
		Head/Sill	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C4+2	C5+2	C5+2	C5+2	C5+2	C5+2	C5+2	C5+2	C5+2	C5+2	C5+2	C5+2	C5+2	C5+2	C5+2	C5+2	C5+2
		Jamb	10	8	8	8	10	8	8	8	12	10	8	8	12	10	8	8	12	10	10	10	12	10	10	10
		P-hook	7+8	7+8	7+8	7+8	7+8	7+8	7+8	7+8	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9
48"	41" DLO	Design Pressure	+/-90.0 psf												See Note A below.				+/-82.5 psf				+/-75.0 psf			
		Head/Sill	C5+2	C5+2	C4+2	C4+2	C5+2	C5+2	C5+2	C5+2	C5+2	C5+2	C5+2	C5+2	C6+2	C6+2	C5+2	C5+2	C6+2	C6+2	C5+2	C5+2	C6+2	C6+2	C5+2	C5+2
		Jamb	10	8	8	8	12	10	8	8	12	10	8	8	14	12	8	8	14	12	10	10	14	10	10	10
		P-hook	7+8	7+8	7+8	7+8	8+9	8+9	8+9	8+9	8+9	8+9	8+9	8+9	9+10	9+10	9+10	9+10	9+10	9+10	9+10	9+10	9+10	9+10	9+10	9+10

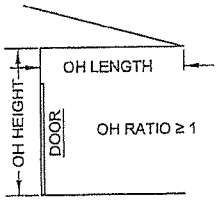
NOTE A: +/-90.0 PSF FOR GLASS TYPES 4, 4A, 6, 6A, 7A, 8 & 8A; +/-87.1 FOR GLASS TYPE 7

EXAMPLE ON SHEET 9

TABLE 3A:

Sill Height to Max. (+) DP (Water Infiltration Rating)	
Sill Riser Height (Flat or Box, see Sheet 17)	(+) Design Pressure, psf
Flush - 1-1/2"	see note 3
Low - 2-1/2"	+ 46.67
Medium - 3-1/4"	+ 60.0
High - 4"	+ 90.0

SEE NOTES 1-3



OH RATIO = OH LENGTH / OH HEIGHT

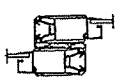
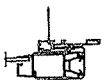
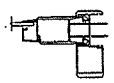
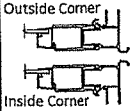
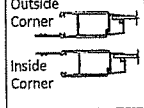
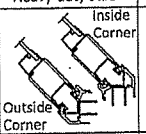
NOTES:
1) POSITIVE PRESSURES IN TABLE 3 ARE BASED ON THE USE OF THE 4" SILL.
2) WHEN USING THE 2-1/2" SILL, POSITIVE WATER DP IS 46.67 PSF MAX. WHEN USING THE 3-1/4" SILL, POSITIVE WATER DP IS 60.0 PSF MAX. WHEN USING THE 4" SILL, POSITIVE WATER DP IS 90.0 PSF MAX (NEGATIVE PRESSURES UNCHANGED). SEE TABLE 3A.
3) 4", 3-1/4" AND 2-1/2" SILL HEIGHTS ARE TESTED FOR WATER INFILTRATION WHEREAS THE 1-1/2" SILL IS NOT AND MUST ONLY BE USED WHERE WATER RESISTANCE IS NOT REQUIRED. MAX. POSITIVE DESIGN PRESSURES SHOWN IN TABLE 3 MAY BE USED WHEN THE DOOR IS PROTECTED BY AN OVERHANG COMPLYING WITH THE CURRENT FLORIDA BUILDING CODE (SEE ADJACENT DIAGRAM); THIS CONDITION IS NOT RATED FOR WATER INFILTRATION.
4) SEE SHEETS 10-14 FOR ANCHORAGE SPACING, EDGE DISTANCE AND EMBEDMENT INFORMATION.
5) DOOR SIZE TO COMPLY WITH CURRENT FBC EGRESS REQUIREMENTS WHEN REQUIRED.
6) JAMB ANCHORS ARE SPECIFIED AS THE TOTAL QUANTITY, DIVIDE BY 2 FOR PAIRS TO BE INSTALLED.

DLO WIDTH =
NOM. PANEL WIDTH - 7"

DLO HEIGHT =
DOOR UNIT HEIGHT - 10.125"

PANEL HEIGHT =
DOOR UNIT HEIGHT - 1.866"

THE FOLLOWING STILE & ASTRAGAL TYPES SHALL BE USED FOR TABLE 3, SEE SHEETS 21 & 22 FOR PART DIMENSIONS AND SHEETS 18 & 19 FOR ASSEMBLY DETAILS.

Interlock	P-hook	Lockstile @ Jamb	Straight Astragal Assembly	Lockstile @ Straight Astragal	90° Astragal Assembly	Lockstile @ 90° Astragal	135° Astragal Assembly	Lockstile @ 135° Astragal
Heavy-duty Stiles	Heavy-duty Stile	Heavy-duty Stile	Heavy-duty Stile	Heavy-duty Stile	Heavy-duty Stile	Heavy-duty Stile	Heavy-duty Stile	Heavy-duty Stile
			Heavy-duty Astragal					
					 Outside Corner Inside Corner	 Outside Corner Inside Corner	 Inside Corner Outside Corner	
Part #61 (x2)	Part #61	Part #61	Part #61 (Stile) Part #68 (Astragal)	Part #61	Part #61 (Stile) Part #118 (Corner Receiver)	Part #119 (Out.) Part #120 (In.)	Part #61 (Stile) Parts #31 & #32 (Corn. & Fxd Mount)	Part #61

Revised By:	Date:	Revisions:	
JR	04/05/17	C	REVISED TABLE 3, ADDED EXAMPLE.
Drawn By: JR	Date: 10/10/14	Checked By:	Date:

1070 TECHNOLOGY DRIVE
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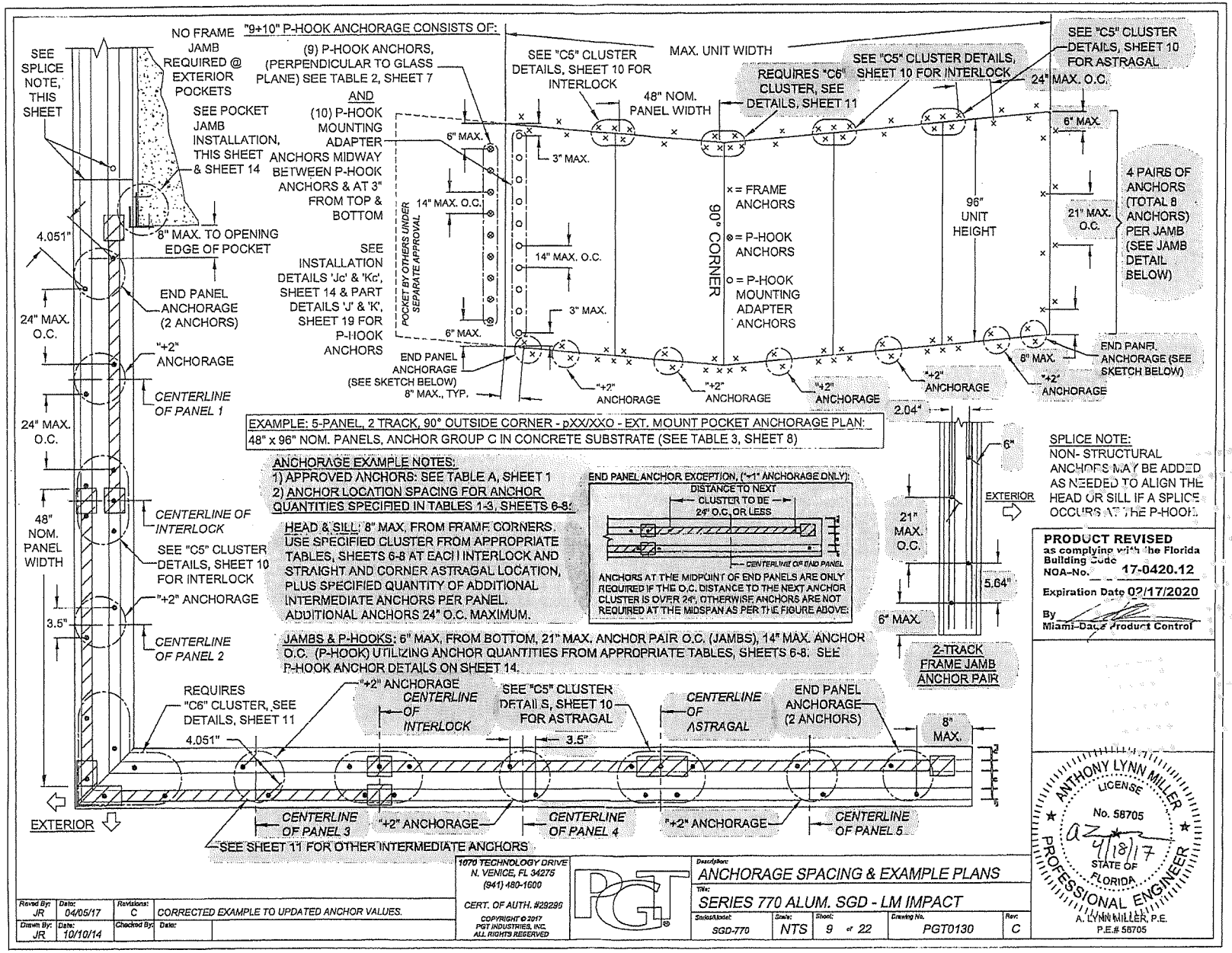
Description: DP AND ANCHORAGE
Title: SERIES 770 ALUM. SGD - LM IMPACT

Series/Model:	Scale:	Sheet	Drawing No.	Rev.
SGD-770	NTS	8 of 22	PGT0130	C

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0420.12
Expiration Date 02/17/2020
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
4/18/17

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



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Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
4/18/17
A. LYNN MILLER, P.E.
P.E.# 58705

Revised By:	Date:	Revisions:	
JR	04/05/17	C	CORRECTED EXAMPLE TO UPDATED ANCHOR VALUES.
Drawn By: JR	Date: 10/10/14	Checked By:	Date:

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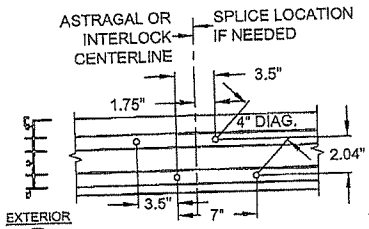
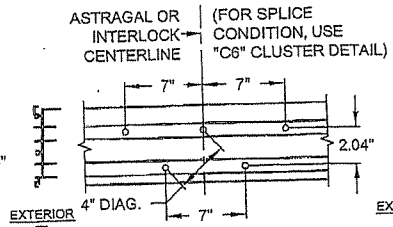
Description: ANCHORAGE SPACING & EXAMPLE PLANS

Title: SERIES 770 ALUM. SGD - LM IMPACT

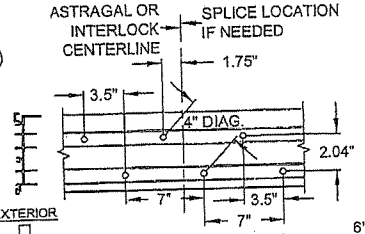
Product/Model:	Scale:	Sheet:	Drawing No.	Rev:
SGD-770	NTS	9 of 22	PGT0130	C



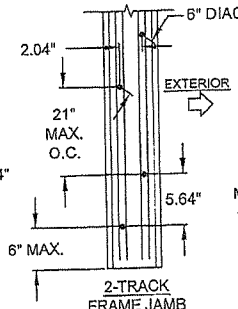
2-TRACK FRAME HEAD/SILL @ ASTRAGAL OR INTERLOCK (USE WHERE 4 CLUSTER ANCHORS ARE REQUIRED, "C4")



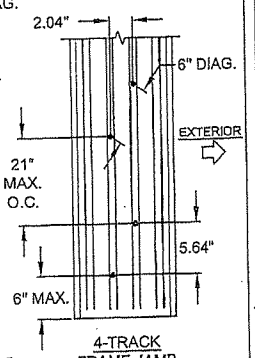
2-TRACK FRAME HEAD/SILL @ ASTRAGAL OR INTERLOCK (USE WHERE 5 CLUSTER ANCHORS ARE REQUIRED, "C5")



2-TRACK FRAME HEAD/SILL @ ASTRAGAL OR INTERLOCK (USE WHERE 6 CLUSTER ANCHORS ARE REQUIRED, "C6")



2-TRACK FRAME JAMB ANCHOR PAIR



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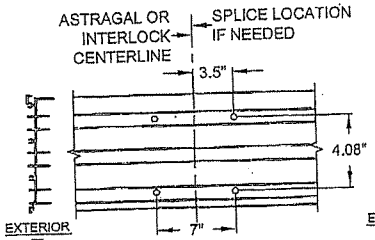
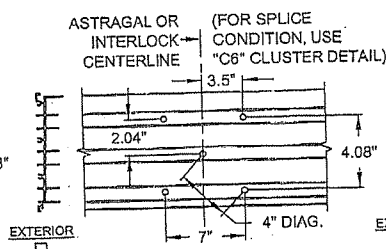
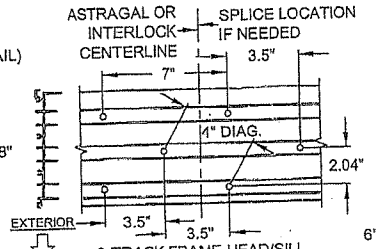


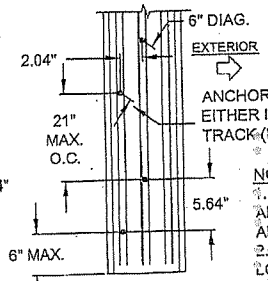
3-TRACK FRAME HEAD/SILL @ ASTRAGAL OR INTERLOCK (USE WHERE 4 CLUSTER ANCHORS ARE REQUIRED, "C4")



3-TRACK FRAME HEAD/SILL @ ASTRAGAL OR INTERLOCK (USE WHERE 5 CLUSTER ANCHORS ARE REQUIRED, "C5")



3-TRACK FRAME HEAD/SILL @ ASTRAGAL OR INTERLOCK (USE WHERE 6 CLUSTER ANCHORS ARE REQUIRED, "C6")



3-TRACK FRAME JAMB ANCHOR PAIR

ANCHORS MAY BE INSTALLED EITHER IN THE EXT. OR INT. TRACK (INT. SHOWN)

NOTES:
1. ALL DIMENSIONS SHOWN ARE BASED ON MIN. ALLOWED.
2. FOR HEAD OR SILL SPLICE LOCATIONS/ANCHORAGE AT P-HOOK SEE SHEET 9.

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NOA-No. 17-0420.12
Expiration Date 02/17/2020
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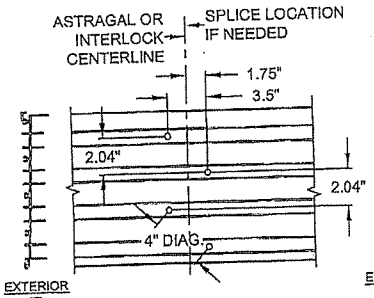
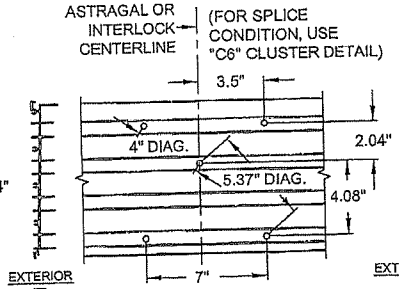
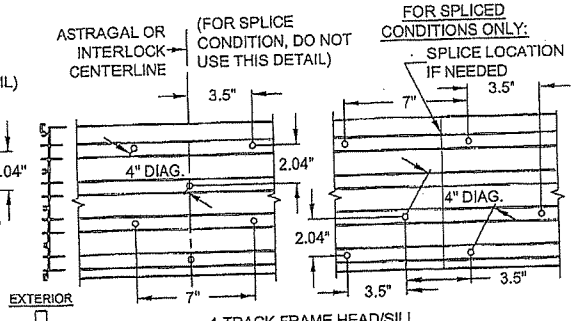


4-TRACK FRAME HEAD/SILL @ ASTRAGAL OR INTERLOCK (USE WHERE 4 CLUSTER ANCHORS ARE REQUIRED, "C4")



4-TRACK FRAME HEAD/SILL @ ASTRAGAL OR INTERLOCK (USE WHERE 5 CLUSTER ANCHORS ARE REQUIRED, "C5")



4-TRACK FRAME HEAD/SILL @ ASTRAGAL OR INTERLOCK (USE WHERE 6 CLUSTER ANCHORS ARE REQUIRED, "C6") WITH & WITHOUT SPLICE CONDITION

ANTHONY LYNN MILLER
LICENSE No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
4/18/17
A. LYNN MILLER, P.E.
P.E.# 58705

1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
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CERT. OF AUTH. #29296

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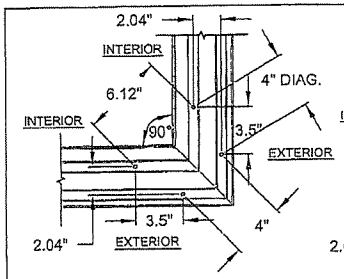
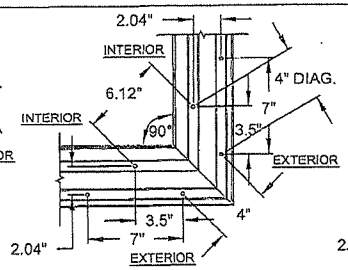
Description: ANCHORAGE, EXAMPLE CLUSTERS
Title: SERIES 770 ALUM. SGD - LM IMPACT

Revised By:	Date:	Revisions:	
JR	04/05/17	C	NO CHANGES THIS SHEET.
Drawn By: JR	Date: 10/10/14	Checked By:	Date:

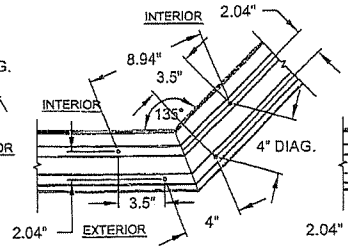
Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
SGD-770	NTS	10 of 22	PGT0130	C



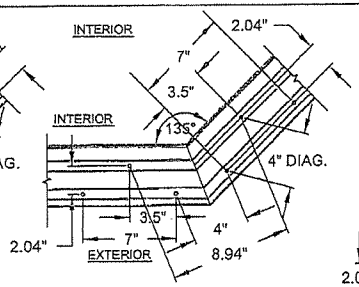
90° CORNER
2-TRACK FRAME HEAD/SILL
(USE WHERE 4 CLUSTER ANCHORS ARE REQUIRED, "C4")



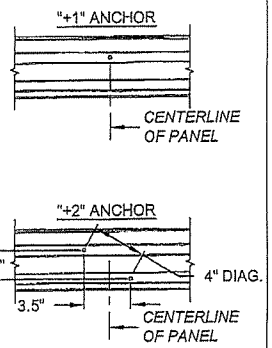
90° CORNER
2-TRACK FRAME HEAD/SILL
(USE WHERE 5 OR 6 CLUSTER ANCHORS ARE REQUIRED, "C6")

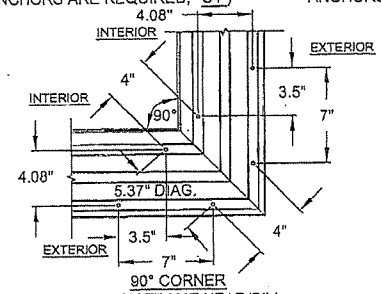


135° CORNER
2-TRACK FRAME HEAD/SILL
(USE WHERE 4 CLUSTER ANCHORS ARE REQUIRED, "C4")

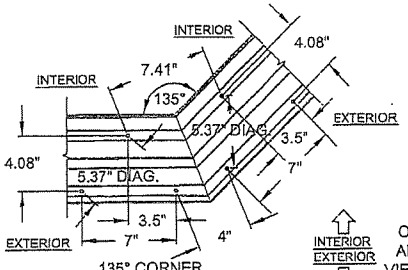


135° CORNER
2-TRACK FRAME HEAD/SILL
(USE WHERE 5 OR 6 CLUSTER ANCHORS ARE REQUIRED, "C6")



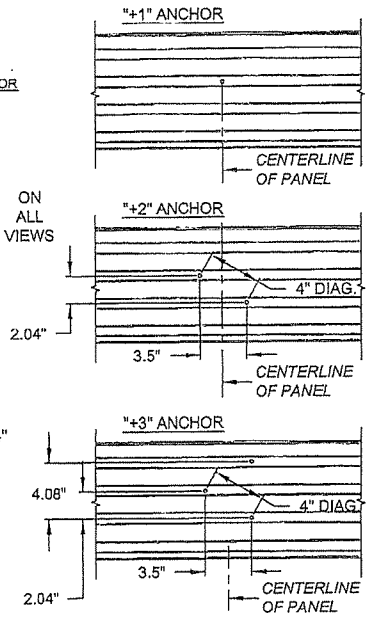


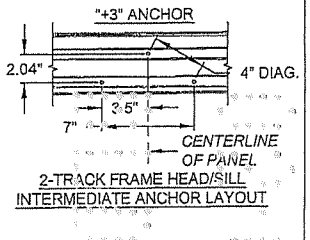
90° CORNER
3-TRACK FRAME HEAD/SILL
("C6" ANCHOR CLUSTER REQUIRED AT ALL 3-TRACK CORNERS)



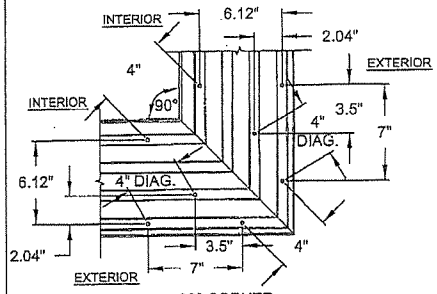
135° CORNER
3-TRACK FRAME HEAD/SILL
("C6" ANCHOR CLUSTER REQUIRED AT ALL 3-TRACK CORNERS)

INTERIOR
EXTERIOR
ON ALL VIEWS

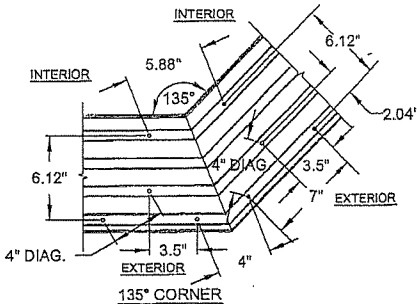




2-TRACK FRAME HEAD/SILL
INTERMEDIATE ANCHOR LAYOUT



90° CORNER
4-TRACK FRAME HEAD/SILL
("C8" ANCHOR CLUSTER REQUIRED AT ALL 4-TRACK CORNERS)



135° CORNER
4-TRACK FRAME HEAD/SILL
("C8" ANCHOR CLUSTER REQUIRED AT ALL 4-TRACK CORNERS)

4-TRACK FRAME HEAD/SILL
INTERMEDIATE ANCHOR LAYOUT
(3-TRACK SIMILAR)

NOTES:
1. ALL DIMENSIONS SHOWN ARE BASED ON MINIMUM ALLOWED.
2. DETAILS DEPICT ANCHOR QUANTITY AND SPACING, AND WOULD BE IDENTICAL FOR EXTERIOR OR INTERIOR CORNER CONFIGURATIONS.

Revised By:	Date:	Revisions:	
JR	04/05/17	C	NO CHANGES THIS SHEET.
Drawn By: JR	Date: 10/10/14	Checked By:	Date:

1070 TECHNOLOGY DRIVE
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Description: ANCHORAGE, EXAMPLE CLUSTERS
Title: SERIES 770 ALUM. SGD - LM IMPACT

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
SGD-770	NTS	11 of 22	PGT0130	C

PRODUCT REVISED
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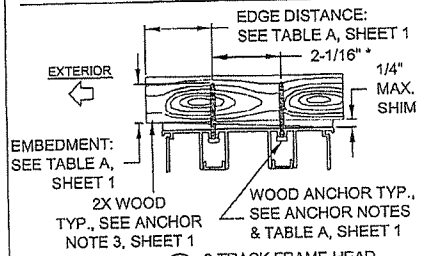
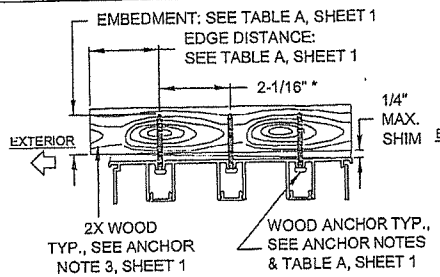
ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
4/18/17
A. LYNN MILLER, P.E.
P.E.# 58705

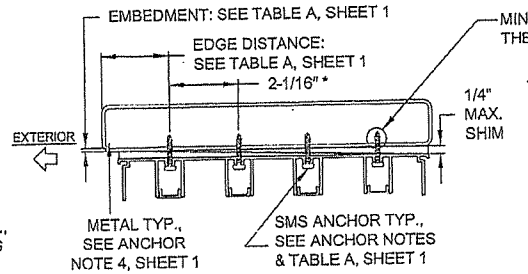
INSTALLATION DETAILS



DET Aw 2-TRACK FRAME HEAD WOOD INSTALLATION



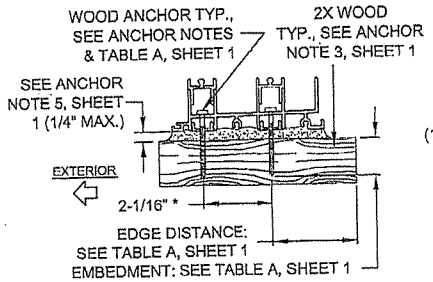
DET Bw 3-TRACK FRAME HEAD WOOD INSTALLATION



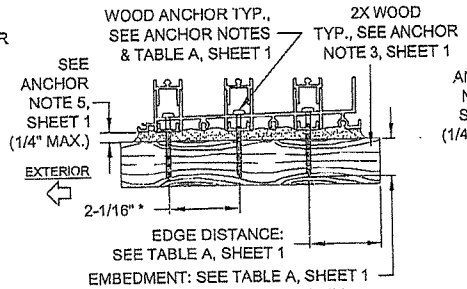
DET Cw 4-TRACK FRAME HEAD METAL INSTALLATION

NOTES:
1. ALL DIMENSIONS SHOWN ARE BASED ON MIN. ALLOWED.
2. METAL OR WOOD SUBSTRATES MAY BE USED FOR ALL FRAME TYPES PER TABLE A, SHEET 1.

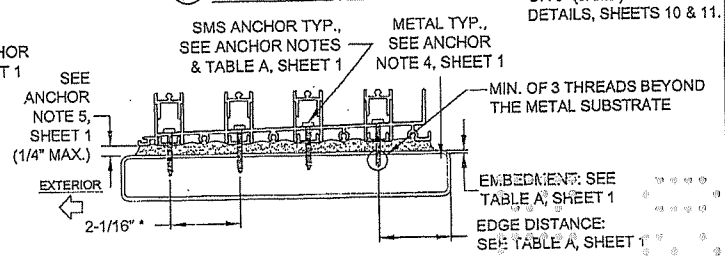
* DIAGONAL O.C. IS MIN 4" (HEAD & SILL) OR 6" (JAMB) SEE DETAILS, SHEETS 10 & 11.



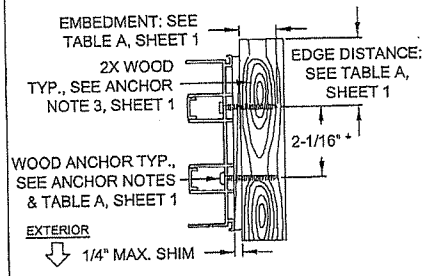
DET Dw 2-TRACK FRAME SILL WOOD INSTALLATION



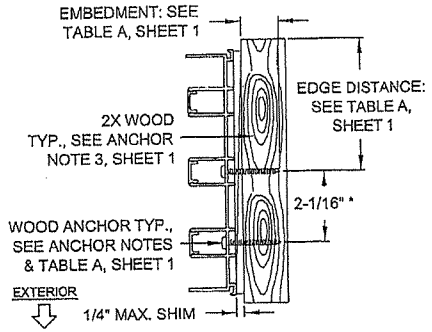
DET Ew 3-TRACK FRAME SILL WOOD INSTALLATION



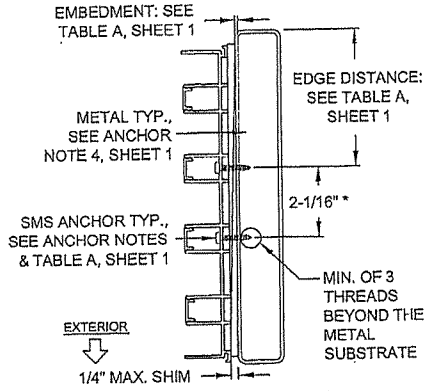
DET Fw 4-TRACK FRAME SILL METAL INSTALLATION



DET Gw 2-TRACK FRAME JAMB WOOD INSTALLATION



DET Hw 3-TRACK FRAME JAMB WOOD INSTALLATION



DET Iw 4-TRACK FRAME JAMB METAL INSTALLATION

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Expiration Date 02/17/2020
By
Miami-Dade Product Control

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P.E.# 58705

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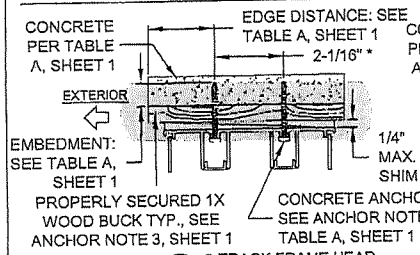
Description: ANCHORAGE DETAILS
Title: SERIES 770 ALUM. SGD - LM IMPACT

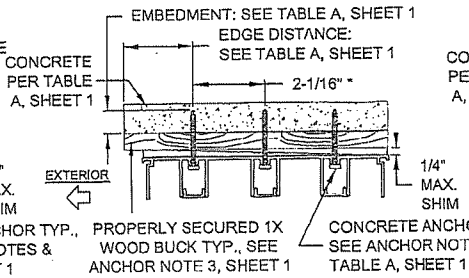
Revised By:	Date:	Revisions:	
JR	04/05/17	C	NO CHANGES THIS SHEET.
Drawn By: JR	Date: 10/10/14	Checked By:	Date:

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
SGD-770	NTS	12 of 22	PGT0130	C

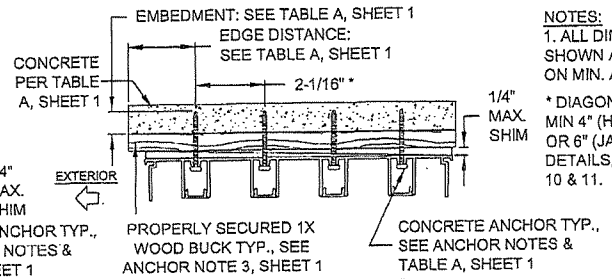
INSTALLATION DETAILS



DET Ac 2-TRACK FRAME HEAD CONCRETE INSTALLATION



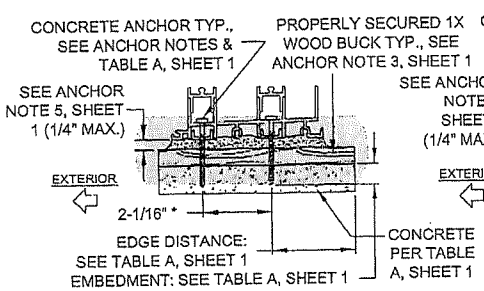
DET Bc 3-TRACK FRAME HEAD CONCRETE INSTALLATION



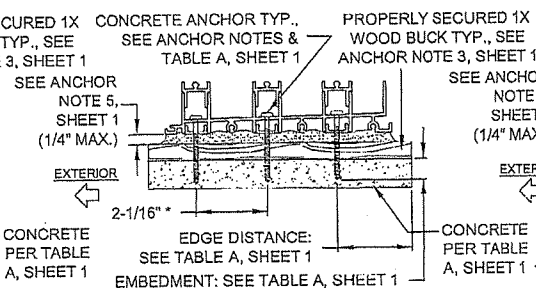
DET Cc 4-TRACK FRAME HEAD CONCRETE INSTALLATION

NOTES:
1. ALL DIMENSIONS SHOWN ARE BASED ON MIN. ALLOWED.

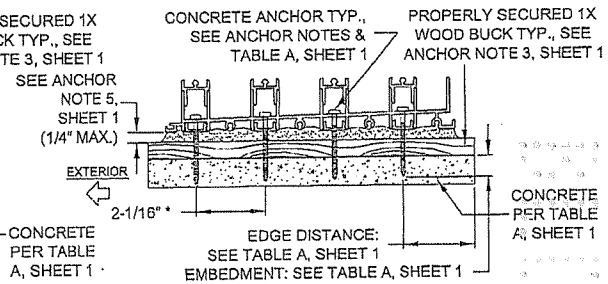
* DIAGONAL O.C. IS MIN 4" (HEAD & SILL) OR 6" (JAMB) SEE DETAILS, SHEETS 10 & 11.



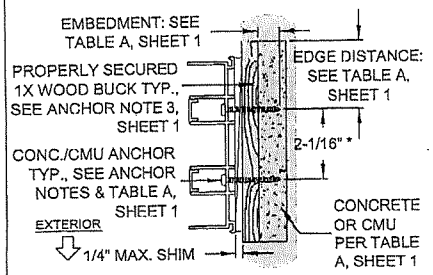
DET Dc 2-TRACK FRAME SILL CONCRETE INSTALLATION



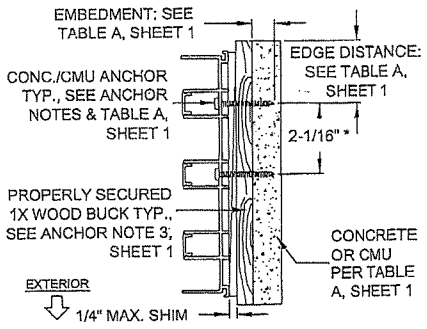
DET Ec 3-TRACK FRAME SILL CONCRETE INSTALLATION



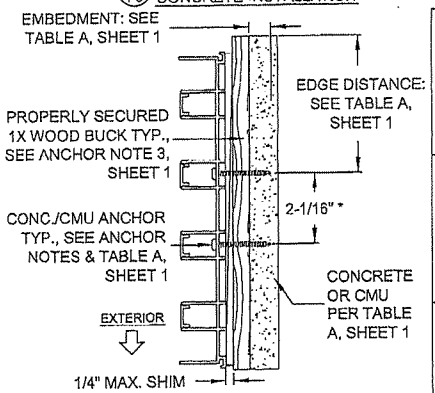
DET Fc 4-TRACK FRAME SILL CONCRETE INSTALLATION



DET Gc 2-TRACK FRAME JAMB CONCRETE/CMU INSTALLATION



DET Hc 3-TRACK FRAME JAMB CONCRETE/CMU INSTALLATION



DET Ic 4-TRACK FRAME JAMB CONCRETE/CMU INSTALLATION

PRODUCT REVISED
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NOA-No. 17-0420.12
Expiration Date 02/17/2020
By Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
4/18/17

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

Revised By:	Date:	Revisions:	
JR	04/05/17	C	NO CHANGES THIS SHEET.
Drawn By: JR	Date: 10/10/14	Checked By:	Date:

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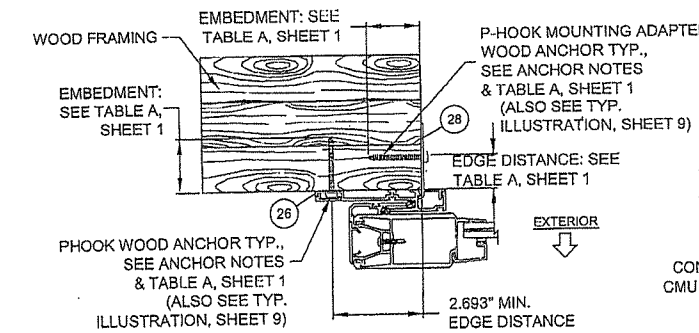
Description: ANCHORAGE DETAILS
Title: SERIES 770 ALUM. SGD - LM IMPACT

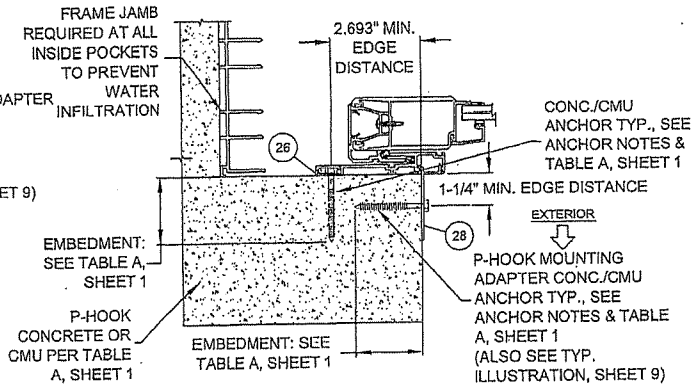
Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
SGD-770	NTS	13 of 22	PGT0130	C

INSTALLATION DETAILS



DET Jw P-HOOK FOR USE WITH FLAT SILL RISERS
PARTS #18, #20, #22 OR #24,
WOOD INSTALLATION
(SEE TABLES 1A, 2A & 3A FOR WATER RATINGS)

EXTERIOR MOUNT SHOWN, MAY ALSO BE INSTALLED IN INTERIOR CONDITION



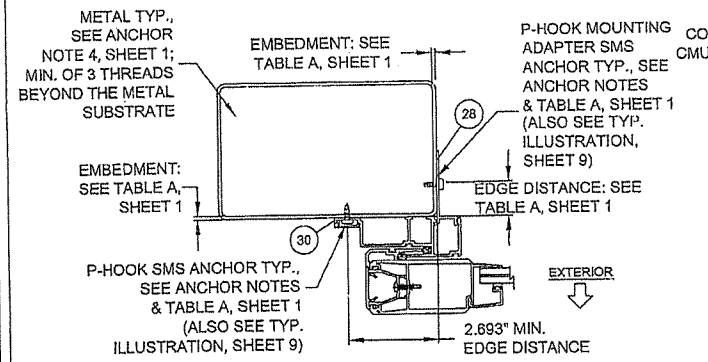
DET Jc P-HOOK FOR USE WITH ANY SILL RISER
PARTS #18, #20, #22 OR #24,
CONCRETE/CMU INSTALLATION
(SEE TABLES 1A, 2A & 3A FOR WATER RATINGS)

INTERIOR MOUNT SHOWN, MAY ALSO BE INSTALLED IN EXTERIOR CONDITION

NOTES:
1. ALL DIMENSIONS SHOWN ARE BASED ON MIN. ALLOWED.

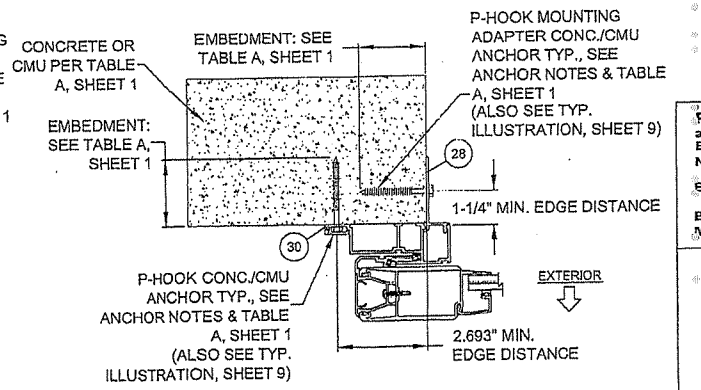
2. FIGURES ON THIS SHEET ARE FOR ILLUSTRATIVE PURPOSES ONLY. SEE TABLE A, SHEET 1 FOR ALL APPROVED SUBSTRATES.

3. SEE TABES 1-3, SHEETS 6-8 FOR REQUIRED P-HOOK AND P-HOOK MOUNTING ADAPTER ANCHOR QUANTITIES. ALSO SEE EXAMPLE ON SHEET 9.



DET Kw P-HOOK FOR USE WITH BOX SILL RISERS
PARTS #19, #21, #23 OR #25,
METAL INSTALLATION
(SEE TABLES 1A, 2A & 3A FOR WATER RATINGS)

EXTERIOR MOUNT ONLY



DET Kc P-HOOK FOR USE WITH BOX SILL RISERS
PARTS #19, #21, #23 OR #25,
CONCRETE INSTALLATION
(SEE TABLES 1A, 2A & 3A FOR WATER RATINGS)

EXTERIOR MOUNT ONLY

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NOA-No. 17-0420.12
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Miami-Dade Product Control

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P.E.# 58705

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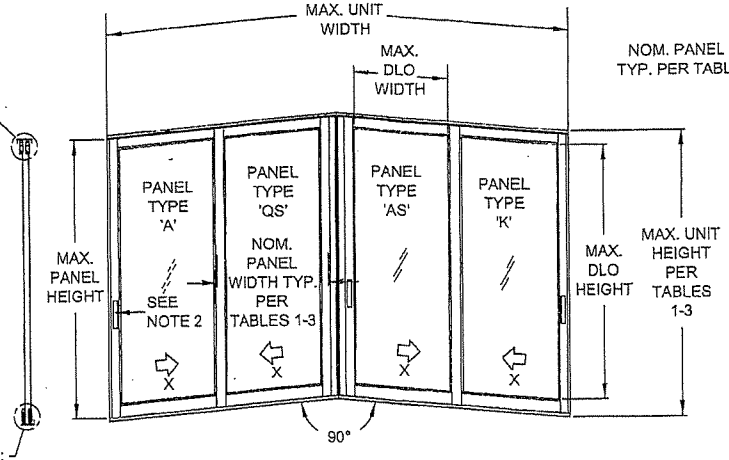
Description: ANCHORAGE DETAILS
Title: SERIES 770 ALUM. SGD - LM IMPACT

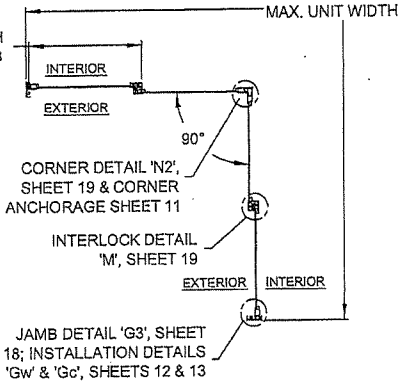
Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
SGD-770	NTS	14 of 22	PGT0130	C

CONFIG. EXAMPLES

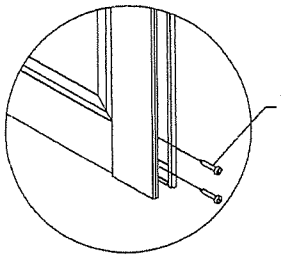
NOTES:
1) SEE SHEET 17 FOR INDIVIDUAL PANEL CONFIGURATIONS AS APPLICABLE. SEE DP/ANCHOR TABLES, SHEETS 6-8 FOR MAX. PANEL HEIGHT AND WIDTH. SEE SHEETS 18 & 19 FOR SECTION DETAILS AND SHEETS 12-14 FOR INSTALLATION DETAILS.
2) (1) LOCK (ITEMS 75 & 107-110) AT EACH LOCKSTILE, LOCKING INTO KEEPER (ITEM 103) AT FRAME JAMB OR ASTRAGAL.
3) PLEASE SEE APPLICABLE ASTRAGAL & INTERLOCK COMBINATIONS PER DP/ANCHOR TABLES.



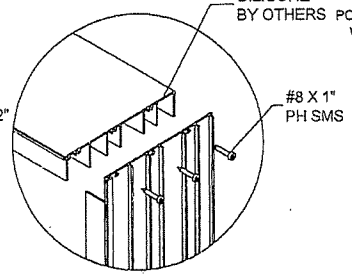
EXAMPLE: 90° INSIDE CORNER, 4 PANELS - XX/XX



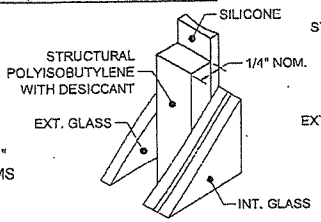
DLO WIDTH = NOM. PANEL WIDTH - 7"
DLO HEIGHT = DOOR UNIT HEIGHT - 10.125"
PANEL HEIGHT = DOOR UNIT HEIGHT - 1.866"



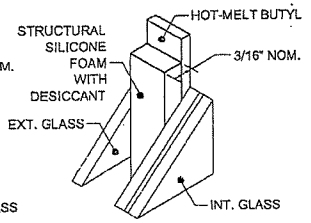
PANEL CORNER DETAIL



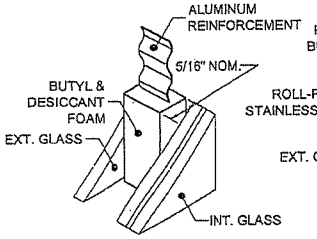
FRAME CORNER DETAIL



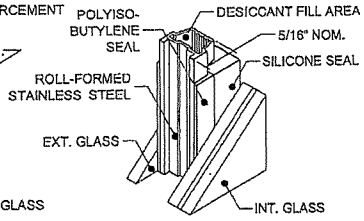
(124) KODISPACE 4SG TPS



(125) SUPER SPACER® NXT™



(126) DURASEAL® SPACER



(127) XL EDGE™ SPACER

Part #	Description	Material
124	Kommerling 4SG TPS Spacer System	See this Sheet for Materials
125	Quanex Super Spacer nXT with Hot Melt Butyl	
126	Quanex Duraseal Spacer	
127	Cardinal XL Edge Spacer	

REFERENCE TEST REPORTS: FTL-8717, 8968 & 8970

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No. 58705
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4/18/17
A. LYNN MILLER, P.E.
P.E.# 58705

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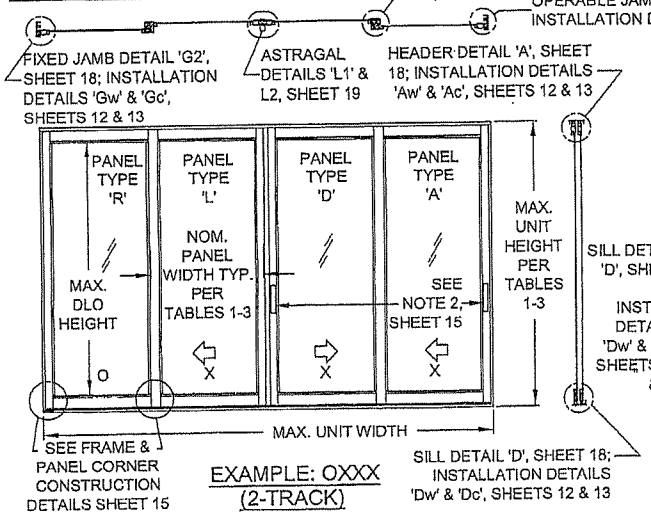
Description: ANCHORAGE DETAILS / EXAMPLE ELEVATION
Title: SERIES 770 ALUM. SGD - LM IMPACT

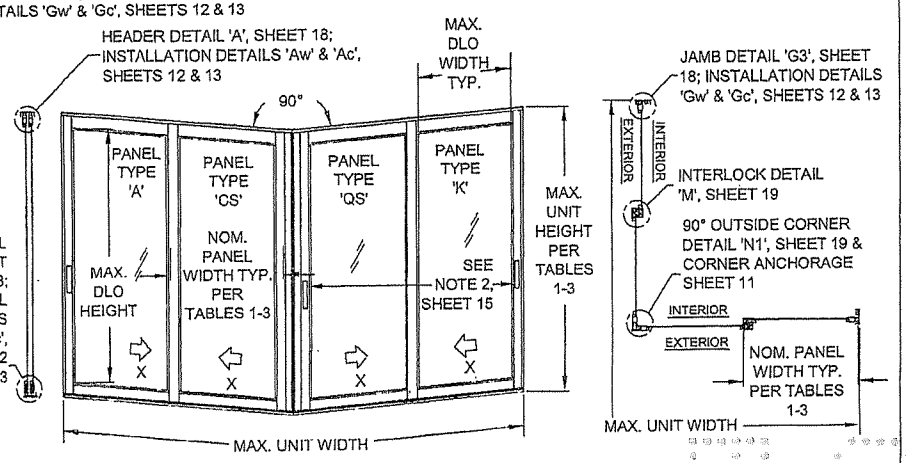
Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
SGD-770	NTS	15 of 22	PGT0130	C

CONFIG. EXAMPLES

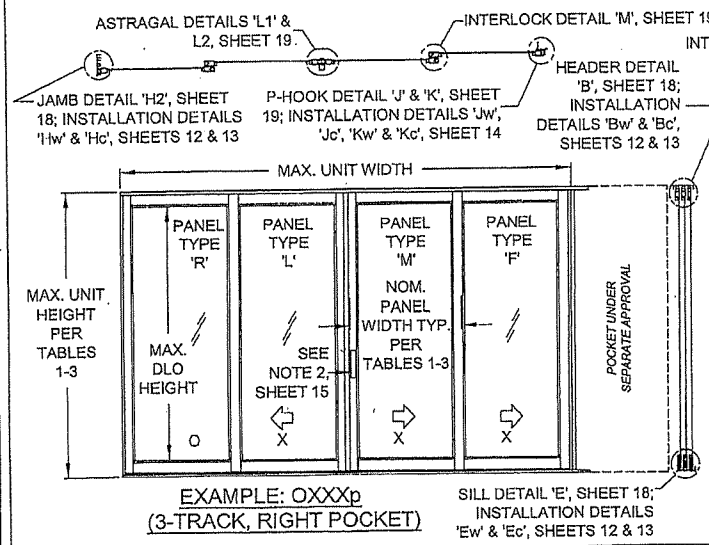
FOR ALL DETAILS ON THIS SHEET, SEE NOTES ON SHEET 15



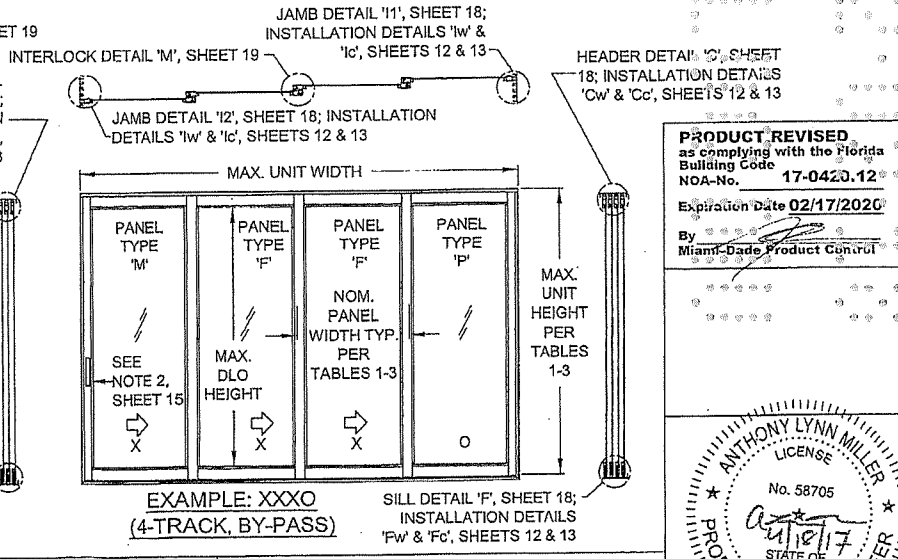
EXAMPLE: OXXX (2-TRACK)



EXAMPLE: 90° OUTSIDE CORNER - XX/XX (2-TRACK)



EXAMPLE: OXXXp (3-TRACK, RIGHT POCKET)



EXAMPLE: XXXO (4-TRACK, BY-PASS)

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

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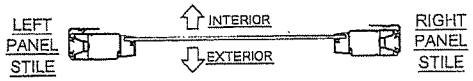
Description: EXAMPLE ELEVATIONS

Title: SERIES 770 ALUM. SGD - LM IMPACT

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
SGD-770	NTS	16 of 22	PGT0130	C

PANEL TYPES	PANEL'S RIGHT STILE TYPE														
PANEL'S LEFT STILE TYPE	SINGLE INTERLOCK OUT	SINGLE INTERLOCK IN	FIXED STILE	LOCKSTILE W/ HANDLE	ASTRAGAL BOX OUT	ASTRAGAL BOX IN	ASTRAGAL BOX OUT W/ HANDLE	ASTRAGAL BOX IN W/ HANDLE	INT CORNER 90 LOCKSTILE W/ HANDLE #120	EXT CORNER 90 LOCKSTILE W/ HANDLE #119	EXT CORNER 90 RECEIVER W/ HANDLE #61 #118	INT CORNER 90 RECEIVER W/ HANDLE #61 #118	EXT CORNER 90 RECEIVER #61 #118	EXT CORNER 135 RECEIVER W/ HANDLE #61 #31	INT CORNER 135 RECEIVER W/ HANDLE #61 #31
SINGLE INTERLOCK OUT		F	PP	K			L (BOX OUT)		TR	TQ	TC	TA		TV	TW
SINGLE INTERLOCK IN	B	E	P	A			C (BOX OUT)	C (BOX IN)	IC	SQ	SC	SA		SV	SW
FIXED STILE	RR	R			S (BOX OUT)	S (BOX IN)						FD	FC	FV	FW
LOCKSTILE W/ HANDLE	D	M			J (BOX OUT)	J (BOX IN)									
ASTRAGAL BOX OUT W/ HANDLE	LR (BOX OUT)														
ASTRAGAL BOX IN W/ HANDLE		N (BOX IN)													
ASTRAGAL BOX OUT			T (BOX OUT)	U (BOX OUT)											
ASTRAGAL BOX IN			T (BOX IN)	U (BOX IN)											
INT CORNER 90 LOCKSTILE W/ HANDLE #120	RT	CI													
EXT CORNER 90 LOCKSTILE W/ HANDLE #119	QT	QS													
EXT CORNER #61 90 RECEIVER W/ HANDLE #118	CT	CS													
INT CORNER #61 90 RECEIVER W/ HANDLE #118	AT	AS	DF												
EXT CORNER #118 90 RECEIVER #61			CF												
EXT CORNER #31 135 RECEIVER W/ HANDLE #61	VT	VS	VF												
INT CORNER #31 135 RECEIVER W/ HANDLE #61	WT	WS	WF												

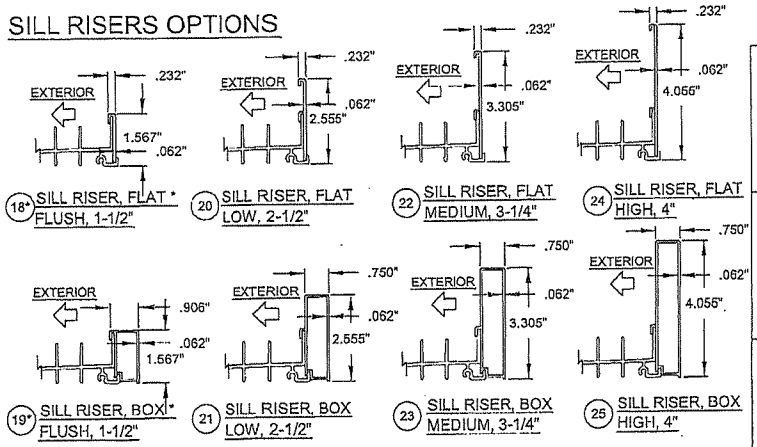


PANEL "E" SHOWN. SEE TABLE FOR OTHER PANEL TYPES AND APPLICABLE STILE/ASTRAGAL REQUIREMENTS.

PANEL NOTES:

1. SEE DP TABLES 1-3, SHEETS 6-8 FOR PANEL SIZES & DESIGN PRESSURE.
2. PANEL TYPES NOT SHOWN OR CROSSED OFF ARE NOT REQUIRED FOR ANY CONFIGURATIONS AND ARE NOT AVAILABLE.
3. 90° ASTRAGALS TO USE HEAVY-DUTY STILES (#61), CORNER RECEIVER (#118) AND EITHER EXTERIOR (#119) OR INTERIOR (#120) CORNER ASTRAGALS.
4. 135° ASTRAGALS TO USE HEAVY-DUTY STILES (#61) AND CORNER ADDON (#31).

SILL RISERS OPTIONS



18* SILL RISER, FLAT * FLUSH, 1-1/2"

20 SILL RISER, FLAT LOW, 2-1/2"

22 SILL RISER, FLAT MEDIUM, 3-1/4"

24 SILL RISER, FLAT HIGH, 4"

19* SILL RISER, BOX * FLUSH, 1-1/2"

21 SILL RISER, BOX LOW, 2-1/2"

23 SILL RISER, BOX MEDIUM, 3-1/4"

25 SILL RISER, BOX HIGH, 4"

* NOT VALID FOR WATER INFILTRATION RESISTANCE REQUIREMENTS, SEE SHEETS 6-8

PRODUCT REVISED as complying with the Florida Building Code NOA-No. 17-0420.12
Expiration Date 02/17/2020
By Miami-Dade Product Control

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

1070 TECHNOLOGY DRIVE
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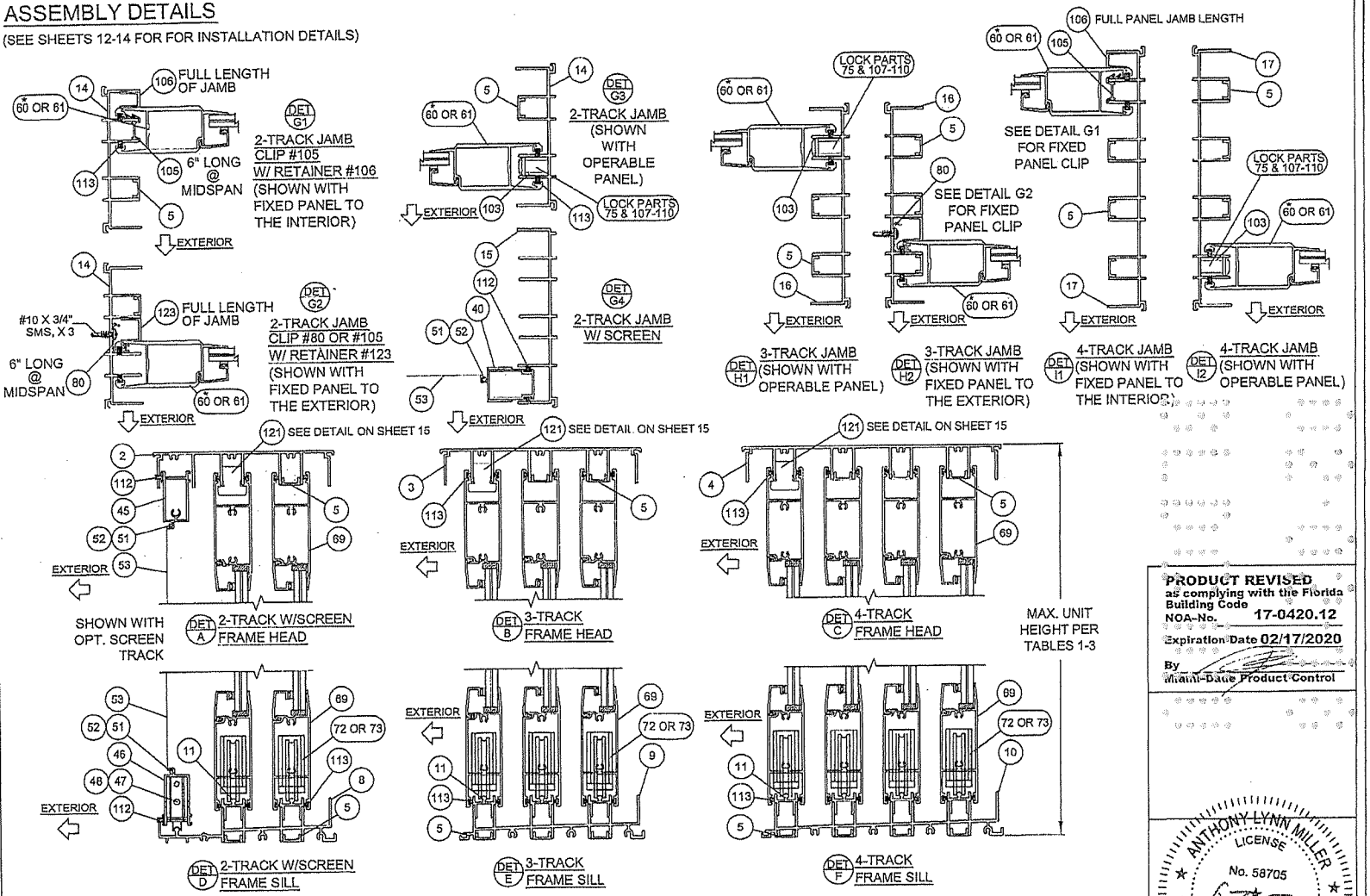
Description: PANEL TYPES
Title: SERIES 770 ALUM. SGD - LM IMPACT

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
SGD-770	NTS	17 of 22	PGT0130	C

ASSEMBLY DETAILS

(SEE SHEETS 12-14 FOR FOR INSTALLATION DETAILS)



* ITEM 61 SHOWN, ITEM 60 ALSO APPLICABLE, SEE TABLES 1-3, SHEETS 6-8 FOR DP (PSF) ASSOCIATED WITH STILE.

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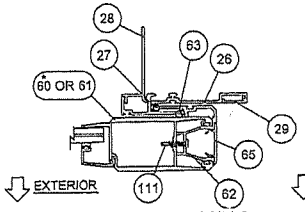
Description: VERTICAL SECTION DETAILS

Title: SERIES 770 ALUM. SGD-WINDOW - LMI

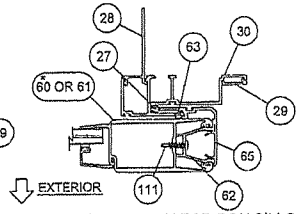
Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
SGD-770 WINDOW	NTS	18 of 22	PGT0129	C

ASSEMBLY DETAILS

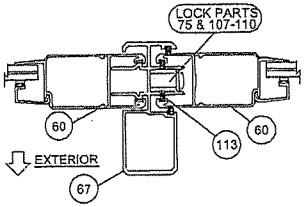
(SEE SHEETS 12-14 FOR FOR INSTALLATION DETAILS)



DET J P-HOOK FOR FLAT SILLS (EXT. OR INT. MOUNT)

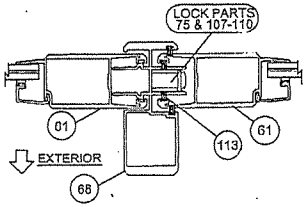


DET K P-HOOK FOR BOX SILLS EXT. MOUNT ONLY



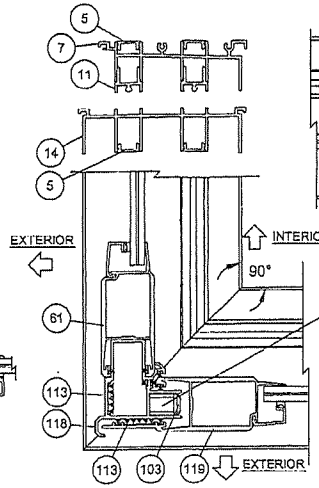
DET L1 STANDARD ASTRAGAL #67 WITH STANDARD STILES #60

EXTERIOR BOX ASTRAGAL SHOWN (BOX-OUT) MAY ALSO BE INSTALLED TOWARDS INTERIOR (BOX-IN)

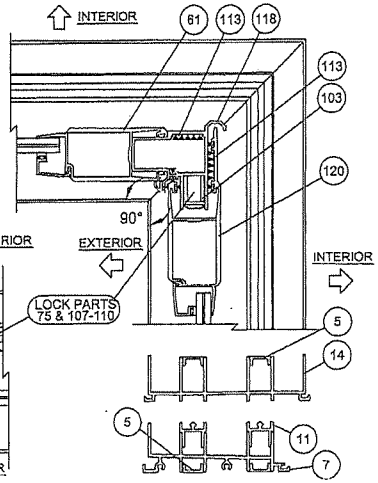


DET L2 HEAVY-DUTY ASTRAGAL #68 WITH HEAVY-DUTY STILES #61

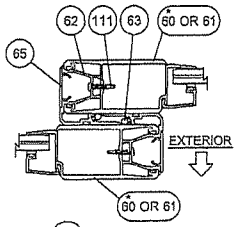
EXTERIOR BOX ASTRAGAL SHOWN (BOX-OUT) MAY ALSO BE INSTALLED TOWARDS INTERIOR (BOX-IN)



DET N1 90° OUTSIDE CORNER 2-TRACK SHOWN

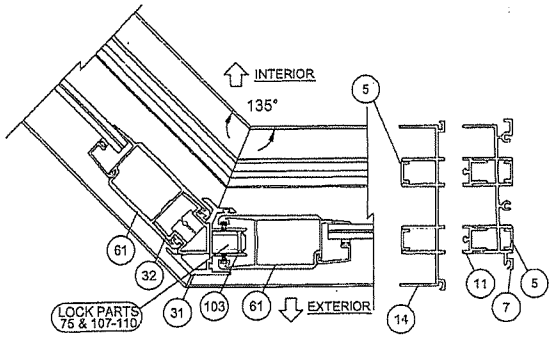


DET N2 90° INSIDE CORNER 2-TRACK SHOWN

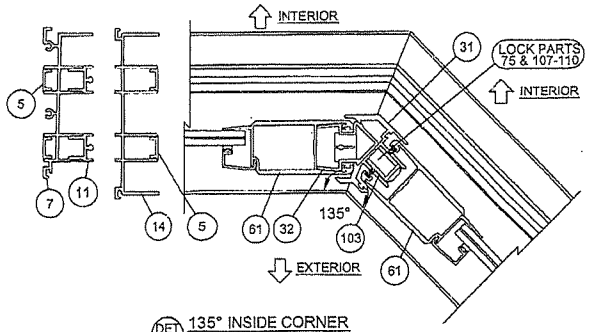


DET M INTERLOCK

* ITEM #61 (HEAVY-DUTY STILE) SHOWN, ITEM #60 (STANDARD STILE) ALSO APPLICABLE, SEE TABLES 1-3, SHEETS 6-8 FOR DP (PSF) ASSOCIATED WITH STILES.



DET O1 135° OUTSIDE CORNER 2-TRACK SHOWN



DET O2 135° INSIDE CORNER 2-TRACK SHOWN

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0420.12
Expiration Date 02/17/2020
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
9/18/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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

Revised By:	Date:	Revisions:	
JR	04/05/17	C	NO CHANGES THIS SHEET.
Drawn By: JR	Date: 10/10/14	Checked By:	Date:

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

CERT. OF AUTH. #29296

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Description: HORIZONTAL SECTION DETAILS, CORNERS

Title: SERIES 770 ALUM. SGD - LM IMPACT

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
SGD-770	NTS	19 of 22	PGT0130	C

Item	PGT Dwg. #	PGT #	Description
1	17305	617306	2-TRACK HEAD
2	17303	617303	2-TRACK HEAD WITH SCREEN RAIL
3	17309	617309	3-TRACK HEAD
4	17312	617312	4-TRACK HEAD
5	17314	617314	FRAME SCREW COVER
6	17317	617317	FRAME HEAD/JAMB ADD-ON
7	17304	617304	2-TRACK SILL
8	17301	617301	2-TRACK SILL WITH SCREEN RAIL
9	17307	617307	3-TRACK SILL
10	17310	617310	4-TRACK SILL
11	17313	617313	FRAME SILL TRACK INSERT
12	17315	617315	FRAME SILL SCREEN ADD-ON (SEE NOTE 3)
13	17316	617310	FRAME SILL SCREEN END ADD-ON (SEE NOTE 3)
14	17305	617305	2-TRACK JAMB
15	17302	617302	2-TRACK JAMB WITH SCREEN RAIL
16	17308	617308	3-TRACK JAMB
17	17311	617311	4-TRACK JAMB
18	17322	617322	SILL RISER - FLAT, FLUSH, 1-1/2"
19	17319	617319	SILL RISER - BOX, FLUSH, 1-1/2"
20	17321	617321	SILL RISER - FLAT, LOW, 2-1/2"
21	17318	617318	SILL RISER - BOX, LOW, 2-1/2"
22	17355	617355	SILL RISER - FLAT, MEDIUM, 3-1/4"
23	17354	617354	SILL RISER - BOX, MEDIUM, 3-1/4"
24	17323	617323	SILL RISER - FLAT, HIGH, 4"
25	17320	617320	SILL RISER - BOX, HIGH, 4"
26	17333	617333	POCKET P-HOOK
27	7070	67070	NEOPRENE BULB WSTP FOR P-HOOK
28	17334	617334	POCKET P-HOOK MOUNT
29	17335	617335	P-HOOK COVER
30	17348	617348	POCKET P-HOOK FOR BOX RISER
31	17378	617378	135 CORNER
32	17376	617376	135 FIXED MOUNT
			ITEMS 40-53 ARE SCREEN PARTS:
40	4319	612258	SCREEN SIDE RAIL - LOCKSTILE
41		7LOCKWGSK	SCREEN LOCKSET
42		41818	SCREEN KEEPER SPACER SET
43	8152	68152	SCREEN INTERLOCK ADAPTER
44	4428	64428	SCREEN DOUBLE INTERLOCK
45	4317	612256	SCREEN TOP RAIL
46	4318	612257	SCREEN BOTTOM RAIL
47	668	7SRAZ	STANDARD ROLLER
48	668	7SRAX	STANDARD ROLLER - ST. STL
49	4344	64344	SCREEN ASTRAGAL
50	17349	617349	OXO SCREEN ASTRAGAL ADAPTER
51	1692	61692	SCREEN SPLINE - .165"
52	1694	61694	SCREEN SPLINE - .150"
53		61816C20	SCREEN CLOTH
54	1725		1/2" X 4" X 1/16" SET. BLOCK, NEOPRENE 85 +/-5
55	1726		1" X 4" X 1/16" SET. BLOCK, NEOPRENE 85 +/-5

Item	PGT Dwg. #	PGT #	Description
60	17325	617325	PANEL STILE
61	17326	617326	PANEL STILE (HEAVY DUTY)
62	17327	617327	INTERLOCK ADAPTOR
63	1225	61P248	VINYL BULB WSTP. - THIN (INSIDE INTERLOCK)
64	1729	71729	SILL END WEATHERSTRIP PAD
65	17328	617328	INTERLOCK SCREW COVER
67	17329	617329	ASTRAGAL
68	17339	617339	HEAVY DUTY ASTRAGAL
69	17324	617324	TOP & BOTTOM RAIL
70	17350	617350	WEATHERSTRIP EXTENSION (INJECTION MOLDED)
71	1695	71695	1-1/2" X 1" X 3/4" HIGH FIN SEAL DUST PLUGS
72	8153	78153X	TANDEM ST. STL. ROLLER ASSY.
73	8153	78153N	TANDEM NYLON ROLLER ASSY.
74		SILICONE	DOW-899, DOW-995 OR GE-7700
75	8185	78185X	GEMINI MORTICE 3-PLY DUAL LOCK W/LONG TRIM PLATE
76		71032X1FPFX	#10-32 X 1" FL. SS SCREW W/ TYPE "F" TIP
77		7103239	10-32 STEEL ZINC U-NUT
79	17357	617357	1" IG BEAD
80	17359	617359	7/16" BEAD / FIXED PANEL CLIP
81	17360	617360	9/16" BEAD
82	1224	61P247K	VINYL BULB WEATHERSTRIP
83	61745	1745	LOWE INC, 1/2" X 1/16" SGL. SIDE ADH. TAPE, POLYETH.
100	8052	48052	ROLLER ADJ. HOLE PLUG
101		72087	JAMB BUMPER
102	1696	71696	DUST PLUG
103	8186	78186X	1" KEEPER
104	653	7SDKEEP	SCREEN LOCK KEEPER
105	17344	617344	FIXED PANEL CLIP - 6" LONG
106	17352	617352	FIXED PANEL RETAINER - 9/16"
107	1739	71739	HANDLE KIT - INTERIOR RAISED WITH THUMB TURN
108	1740	71740	HANDLE KIT - RAISED EXTERIOR HANDLE
109	1731	78162SN	HANDLE KIT - RECESSED INTERIOR WITH THUMB TURN
110	1732	78178	HANDLE KIT - RECESSED EXTERIOR PULL
111		710X34PPSDAX	#10 X 3/4" PH. PN. TEK - S.S.
112	1235	67S16	WSTP, .270 X .170 - FIN SEAL
113	1712	64066	.187" X .230" FINSEAL
114		710X115PPX	#10 X 1-1/2"
115		710XPPT	#10 X 1"
116		720X1X	#14-20 X 1" S.S.
117		720X112X	#14-20 X 1-1/2" S.S.
118	17336	617336	90 DEGREE CORNER RECEIVER
119	17337	617337	90 DEGREE OUTSIDE CORNER ASTRAGAL
120	17338	6117338	90 DEGREE INSIDE CORNER ASTRAGAL
123	17352	617352	FIXED PANEL RETAINER, 7/8"

NOTES:
1) ALL ALUMINUM = 6063-T6

2) ITEMS # 33-39, 56-59, 66, 78, 84-99, 121 & 122 ARE NOT USED AND ARE NOT PART OF THIS APPROVAL.

3) USE OF #12 OR #13 REQUIRES MIN. #10 SMS OR 3/16" MASONRY ANCHORS @ 24" MAX. O.C.

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0420.12
Expiration Date 02/17/2020
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
11/18/17

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

Revised By:	Date:	Revisions:	
JR	04/05/17	C	NO CHANGES THIS SHEET.
Drawn By: JR	Date: 10/10/14	Checked By:	Date:

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

CERT. OF AUTH. #28298

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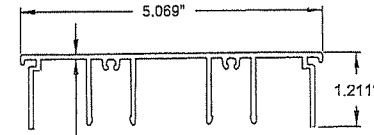
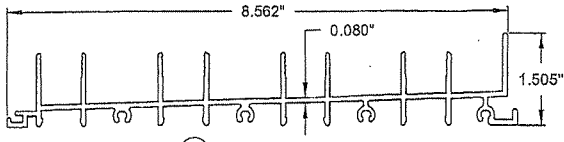
Description: PARTS LIST
Title: SERIES 770 ALUM. SGD - LM IMPACT

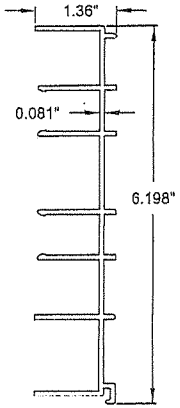
Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
SGD-770	NTS	20 of 22	PGT0130	C



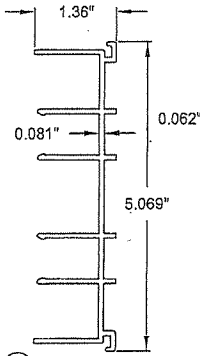
1 2-TRACK HEAD (6063-T6 AL)



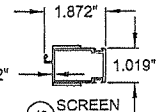
10 4-TRACK SILL (6063-T6 AL)



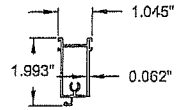
15 2-TRACK JAMB W/ SCREEN TRACK (6063-T6 AL)



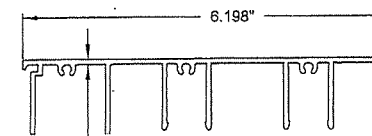
14 2-TRACK JAMB (6063-T6 AL)



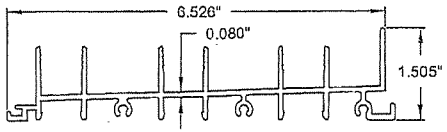
40 SCREEN STILE (6063-T6 AL)



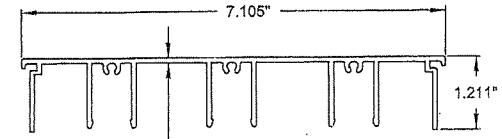
45 SCREEN TOP RAIL (6063-T6 AL)



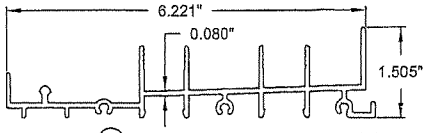
2 2-TRACK HEAD W/ SCREEN TRACK (6063-T6 AL)



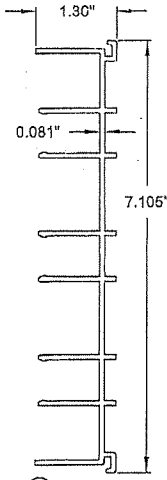
9 3-TRACK SILL (6063-T6 AL)



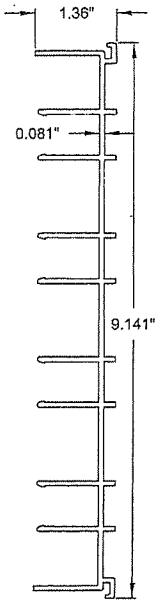
3 3-TRACK HEAD (6063-T6 AL)



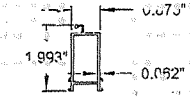
8 2-TRACK SILL W/ SCREEN TRACK (6063-T6 AL)



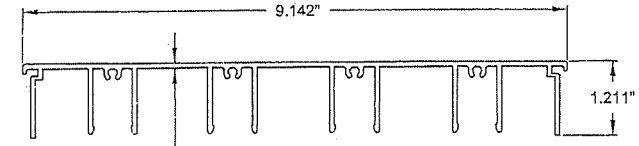
16 3-TRACK JAMB (6063-T6 AL)



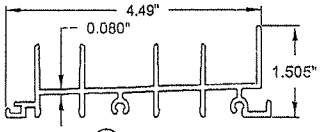
17 4-TRACK JAMB (6063-T6 AL)



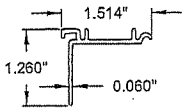
18 SCREEN BOTTOM RAIL (6063-T6 AL)



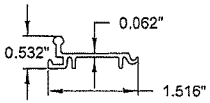
4 4-TRACK HEAD (6063-T6 AL)



7 2-TRACK SILL (6063-T6 AL)

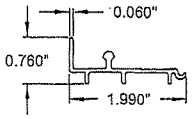


6 FRAME HEAD/JAMB SCREEN ADD-ON (6063-T6 AL)



12 FRAME SILL SCREEN ADD-ON (6063-T6 AL)

REQUIRES MIN. #10 SMS OR 3/16" MASONRY ANCHORS @ 24" MAX. O.C.



13 FRAME SILL SCREEN END ADD-ON (6063-T6 AL)

REQUIRES MIN. #10 SMS OR 3/16" MASONRY ANCHORS @ 24" MAX. O.C.

SEE SHEET 17 FOR SILL RISERS.

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0420.12
Expiration Date 02/17/2020
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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

Revised By:	Date:	Revisions:	
JR	04/05/17	C	NO CHANGES THIS SHEET.
Drawn By: JR	Date: 10/10/14	Checked By:	Date:

1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600
CERT. OF AUTH. #29296

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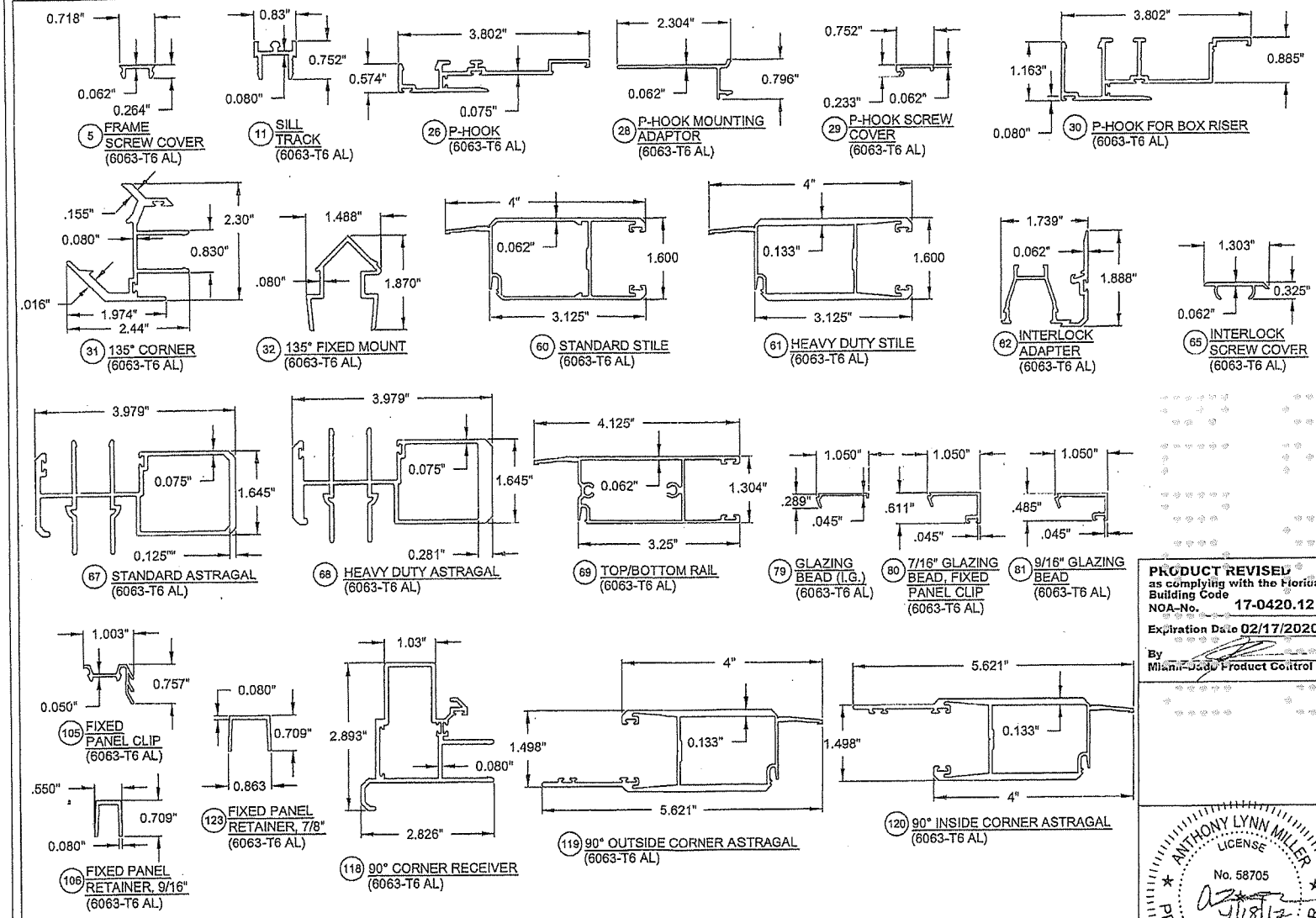
Description: EXTRUSIONS

Title: SERIES 770 ALUM. SGD - LM IMPACT

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
SGD-770	NTS	21 of 22	PGT0130	C



PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0420.12
Expiration Date 02/17/2020
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
4/18/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.# 58705

Revised By:	Date:	Revisions:	
JR	04/05/17	C	NO CHANGES THIS SHEET.
Drawn By: JR	Date: 10/10/14	Checked By:	Date:

1070 TECHNOLOGY DRIVE
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Description: EXTRUSIONS

Title: SERIES 770 ALUM. SGD - LM IMPACT

Sales/Model:	Scale:	Sheet:	Drawing No.	Rev:
SGD-770	NTS	22 of 22	PGT0130	C

MIAMI-DADE COUNTY
DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/economy

NOTICE OF ACCEPTANCE (NOA)

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 "CA-740" Outswing Aluminum Casement Window - L.M.I.

APPROVAL DOCUMENT: Drawing No. **MD-CA740-LM**, titled "Casement Window Details - LM & SM", sheets 1 through 11 of 11, dated 08/08/12, with revision C dated 05/25/17, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, P.E., bearing the Miami–Dade County Product Control Revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state, model/series, and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **revises and renews NOA# 16-0629.21** 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 **Manuel Perez, P.E.**

MIAMI-DADE COUNTY APPROVED

9/6/17

NOA No. 17-0614.14
Expiration Date: April 11, 2023
Approval Date: September 14, 2017

PGT Industries, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Manufacturer's die drawings and sections.
   (Submitted under NOA No. 12-1218.09)
2. Drawing No. **MD-CA740-LM**, titled "Casement Window Details – LM & SM", sheets 1 through 11 of 11, dated 08/08/12, with revision C dated 05/25/17, signed and sealed by Anthony Lynn Miller, P.E.

B. TESTS

1. Test reports on: 1) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
   2) Large Missile Impact Test per FBC, TAS 201-94
   3) Cyclic Wind Pressure Loading per FBC, TAS 203-94

   along with marked-up drawings and installation diagram of a PVC sliding glass door, a PVC fixed window and an aluminum sliding glass door, using: Kodispace 4SG TPS spacer system, Duraseal® spacer system, Super Spacer® NXT™ spacer system and XL Edge™ spacer system at insulated glass, prepared by Fenestration Testing Laboratory, Inc., Test Reports No. **FTL-8717, FTL-8968** and **FTL-8970**, dated 11/16/15, 06/07/16 and 06/02/16 respectively, all signed and sealed by Idalmis Ortega, P.E.
   (Submitted under previous NOA No. 16-0629.21)
2. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94
   2) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
   3) Water Resistance Test, per FBC, TAS 202-94
   4) Large Missile Impact Test per FBC, TAS 201-94
   5) Cyclic Wind Pressure Loading per FBC, TAS 203-94
   6) Forced Entry Test, per FBC 2411.3.2.1, and TAS 202-94

   along with marked-up drawings and installation diagram of a series CA740 outswing aluminum casement window, prepared by Fenestration Testing Laboratory, Inc. Test Report No. **FTL-7065**, dated 10/05/12, signed and sealed by Marlin D. Brinson, P.E.
   (Submitted under NOA No. 12-1218.09)

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with **FBC 6th Edition (2017)**, dated 06/09/17, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.
2. Glazing complies with **ASTM E1300-04**

D. QUALITY ASSURANCE

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

Manuel Perez

Manuel Perez, P.E.
Product Control Examiner
NOA No. 17-0614.14
Expiration Date: April 11, 2023
Approval Date: September 14, 2017

E. MATERIAL CERTIFICATIONS

1. Notice of Acceptance No. **16-1117.01** issued to **Kuraray America, Inc.** for their "**Trosifol® Ultraclear, Clear and Color PVB Glass Interlayers**" dated 01/19/17, expiring on 07/08/19.
2. Notice of Acceptance No. **14-0916.11** issued to **Kuraray America, Inc.** for their **"Kuraray SentryGlas® (Clear and White) Glass Interlayers"** dated 06/25/15, expiring on 07/04/18.

F. STATEMENTS

1. Statement letter of conformance, complying with **FBC 5th Edition (2014)** and with **FBC 6th Edition (2017)**, dated August 29, 2017, issued by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.
2. Statement letter of no financial interest, dated June 9, 2015, issued by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.
3. Proposal No. **16-0125** issued by the Product Control Section, dated March 09, 2016, signed by Ishaq Chanda, P.E.
   (Submitted under previous NOA No. 16-0629.21)

G. OTHERS

1. Notice of Acceptance No. **16-0629.21**, issued to PGT Industries, Inc. for their Series "CA-740" Outswing Aluminum Casement Window - L.M.I." approved on 08/11/16 and expiring on 04/11/18.

Manuel Perez, P.E.
Product Control Examiner
NOA No. 17-0614.14
Expiration Date: April 11, 2023
Approval Date: September 14, 2017

GENERAL NOTES: SERIES 740 IMPACT-RESISTANT CASEMENT WINDOW

1) THIS PRODUCT HAS BEEN DESIGNED & TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE, INCLUDING THE HIGH VELOCITY HURRICANE ZONE (HVHZ).

2) SHUTTERS ARE NOT REQUIRED WHEN USED IN WIND-BORNE DEBRIS REGIONS. FOR INSULATED GLASS INSTALLATIONS ABOVE 30' IN THE HVHZ, THE OUTBOARD LITE (CAP) MUST TEMPERED.

3) FOR MASONRY APPLICATIONS IN MIAMI-DADE COUNTY, USE ONLY MIAMI-DADE COUNTY APPROVED MASONRY ANCHORS. MATERIALS USED FOR ANCHOR EVALUATIONS WERE SOUTHERN PINE, ASTM C90 CONCRETE MASONRY UNITS AND CONCRETE WITH MIN. KSI PER ANCHOR TYPE. SEE TABLE 3, SHEET 4.

4) 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) ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO. USE ANCHORS OF SUFFICIENT EMBEDMENT AS SPECIFIED ON TABLE 3, SHEET 4. NARROW JOINT SEALANT IS USED ON ALL FOUR CORNERS OF THE FRAME. 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.

6) 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 WINDOW.

7) DESIGN PRESSURES:
A. NEGATIVE DESIGN LOADS BASED ON STRUCTURAL/CYCLE TEST PRESSURE, FRAME ANALYSIS AND GLASS PER ASTM E1300.
B. POSITIVE DESIGN LOADS BASED ON WATER TEST PRESSURE, STRUCTURAL/ CYCLE TEST PRESSURE, FRAME ANALYSIS AND GLASS PER ASTM E1300.
C. DESIGN LOADS ARE BASED ON ALLOWABLE STRESS DESIGN, ASD.

8) THE ANCHORAGE METHODS SHOWN HAVE BEEN DESIGNED TO RESIST THE WINDLOADS 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.

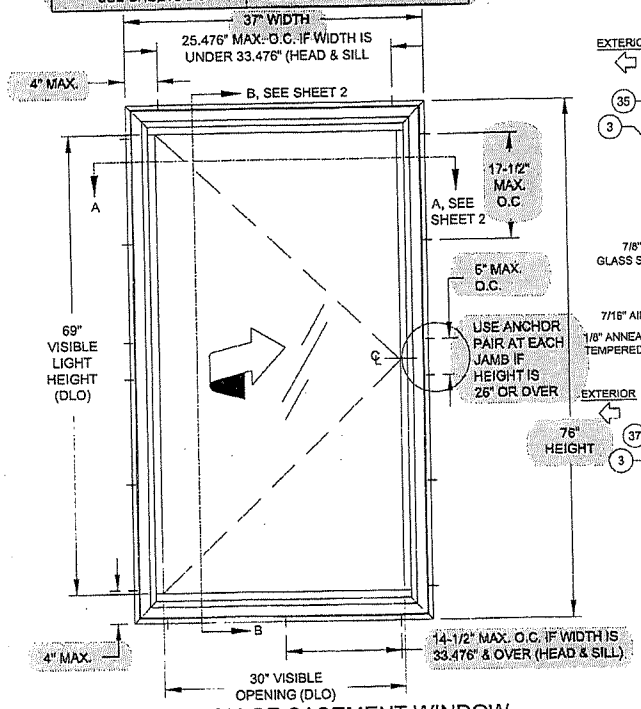
9) REFERENCES: TEST REPORTS FTL-7065, 3579, 3580, 3724; ELCO ULTRACON NOA; ELCO CRETEFLEX NOA; ANSI/AF&PA NDS FOR WOOD CONSTRUCTION AND ADM ALUMINUM DESIGN MANUAL.

TABLE 1:

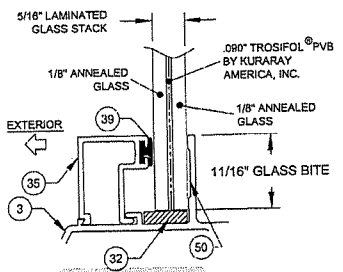
	Glass Types	Sheet #
1	5/16" Lami (1/8 An - .090" PVB - 1/8 An)	5
2	7/16" Lami (3/16 An - .090" SG - 3/16 An)	6
3	7/16" Lami (3/16 HS - .090" SG - 3/16 HS)	7
4	7/8" Lami. IG (1/8" An - 7/16" Air - 1/8" An - .090" PVB - 1/8" An)	5
5	7/8" Lami. IG (1/8" T - 7/16" Air - 1/8" An - .090" PVB - 1/8" An)	8
6	7/8" Lami. IG (3/16" An - 1/4" Air - 3/16" An - .090" SG - 3/16" An)	9
7	7/8" Lami. IG (3/16" An - 1/4" Air - 3/16" HS - .090" SG - 3/16" HS)	7
8	7/8" Lami. IG (3/16" T - 1/4" Air - 3/16" An - .090" SG - 3/16" An)	9
9	7/8" Lami. IG (3/16" T - 1/4" Air - 3/16" HS - .090" SG - 3/16" HS)	7

*PVB"= TROSIFOL® PVB BY KURARAY AMERICA, INC.
*SG"= SENTRYGLAS® BY KURARAY AMERICA, INC.

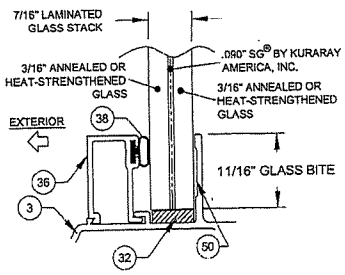
DESIGN PRESSURE RATING	IMPACT RATING
VARIES, SEE SHEETS 5-9	RATED FOR LARGE & SMALL MISSILE IMPACT RESISTANCE



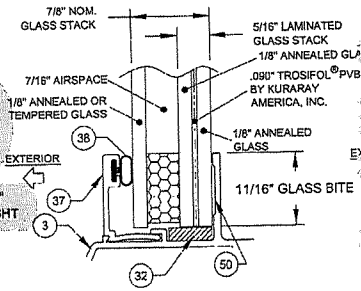
TYP. ELEVATION OF CASEMENT WINDOW



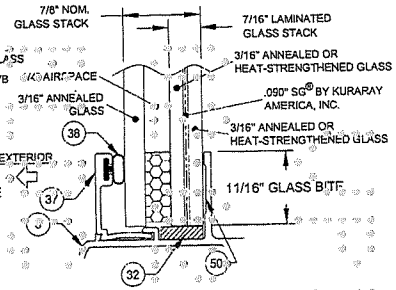
GLASS TYPE 1



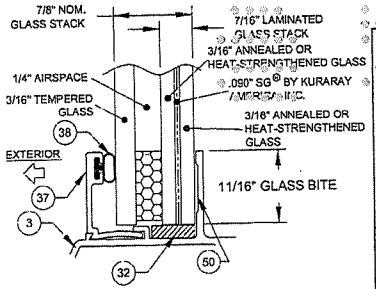
GLASS TYPES 2 & 3



GLASS TYPES 4 & 5



GLASS TYPES 6 & 7



GLASS TYPES 8 & 9

CODES / STANDARDS USED:
- 2017 FLORIDA BUILDING CODE (FBC), 6TH EDITION
- 2014 FLORIDA BUILDING CODE (FBC), 5TH EDITION
- ASTM E1300-04
- ANSI/AF&PA NDS-2015 FOR WOOD CONSTRUCTION
- ALUMINUM DESIGN MANUAL, ADM-2015
- AISI S100-12
- AISC 360-10

GENERAL NOTES..... 1
ELEVATION..... 1
GLAZING DETAILS..... 1
INSTALLATION..... 2
ASSEMBLY TUBE DETAILS..... 3
ANCHOR SPECIFICATIONS..... 4
ANCHOR QUANTITIES..... 4
DESIGN PRESSURES..... 5-9
ASSEMBLY DETAILS/BOM..... 10
EXTRUSIONS/SPACER..... 11

ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER
6/9/17
A. LYNN MILLER, P.E.
P.E.# 58705

PRODUCT REVISED as complying with the Florida Building Code Acceptance No. 17-0614.14 Expiration Date April 11, 2023
By Manuel Perez
Miami Dade Product Control

Revised By:	Date:	Revision:
JR	05/25/17	UPDATED ANCHORAGE PER FBC 2017.
Revised By:	Date:	Revision:

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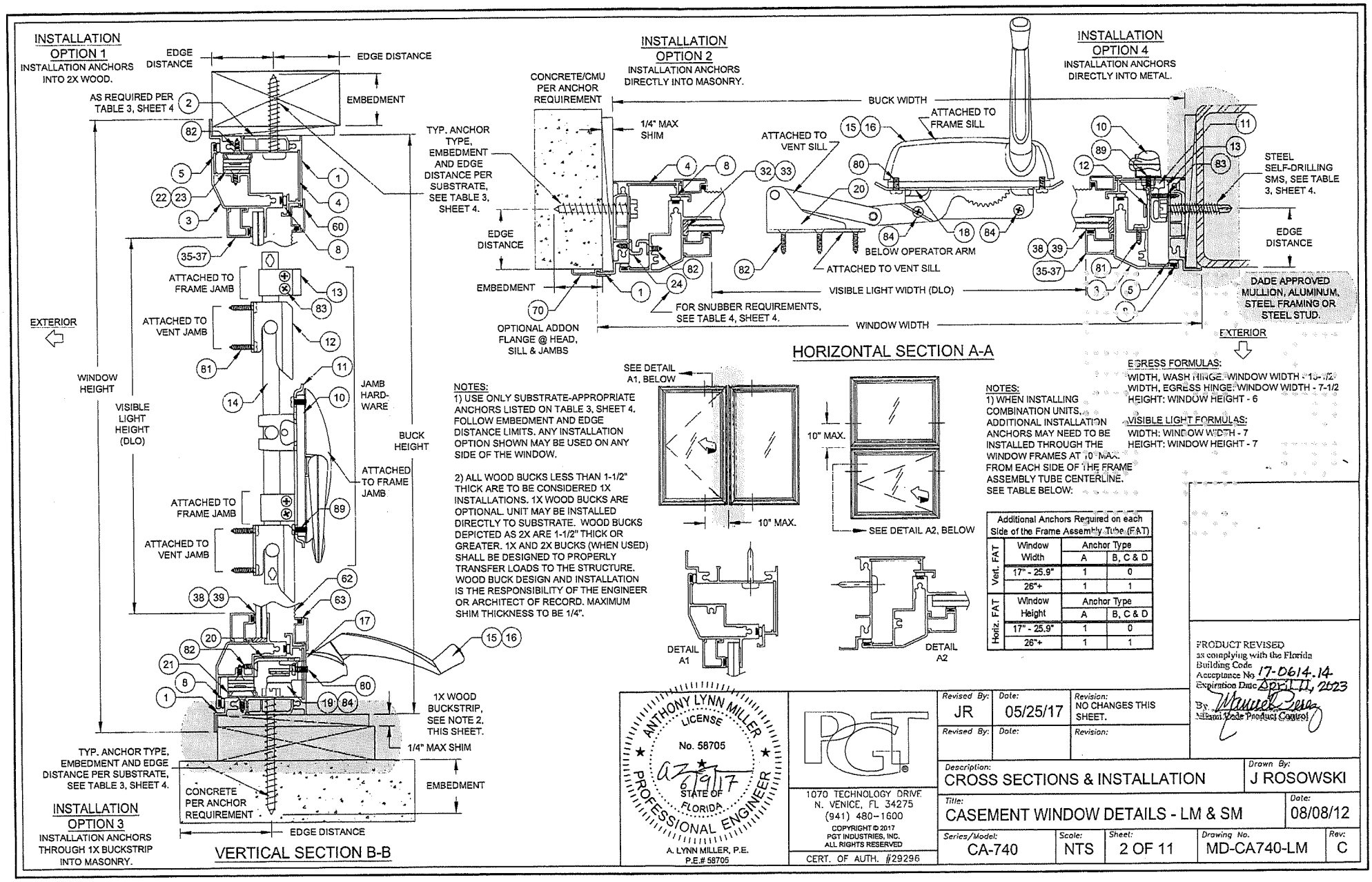
Description: GLAZING DETAILS
Drawn By: J ROSOWSKI
Title: CASEMENT WINDOW DETAILS - LM & SM
Date: 08/08/12

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
CA-740	NTS	1 OF 11	MD-CA740-LM	C



NOTES:
1) USE ONLY SUBSTRATE-APPROPRIATE ANCHORS LISTED ON TABLE 3, SHEET 4. FOLLOW EMBEDMENT AND EDGE DISTANCE LIMITS. ANY INSTALLATION OPTION SHOWN MAY BE USED ON ANY SIDE OF THE WINDOW.

2) ALL WOOD BUCKS LESS THAN 1-1/2" THICK ARE TO BE CONSIDERED 1X INSTALLATIONS. 1X WOOD BUCKS ARE OPTIONAL. UNIT MAY BE 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. MAXIMUM SHIM THICKNESS TO BE 1/4".

NOTES:
1) WHEN INSTALLING COMBINATION UNITS, ADDITIONAL INSTALLATION ANCHORS MAY NEED TO BE INSTALLED THROUGH THE WINDOW FRAMES AT 10" MAX. FROM EACH SIDE OF THE FRAME ASSEMBLY TUBE CENTERLINE. SEE TABLE BELOW:

Additional Anchors Required on each Side of the Frame Assembly Tube (FAT)			
Vert. FAT	Window Width	Anchor Type	
		A	B, C & D
	17" - 25.9"	1	0
	26"+	1	1
Horiz. FAT	Window Height	Anchor Type	
		A	B, C & D
	17" - 25.9"	1	0
	26"+	1	1

EGRESS FORMULAS:
WIDTH, WASH HINGE: WINDOW WIDTH - 10-1/2
WIDTH, EGRESS HINGE: WINDOW WIDTH - 7-1/2
HEIGHT: WINDOW HEIGHT - 6

VISIBLE LIGHT FORMULAS:
WIDTH: WINDOW WIDTH - 7
HEIGHT: WINDOW HEIGHT - 7

PRODUCT REVISED as complying with the Florida Building Code
Acceptance No. 17-0614.14
Expiration Date April 11, 2023
By: Miami-Dade Product Control

ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER
6/9/17
A. LYNN MILLER, P.E.
P.E.# 58705

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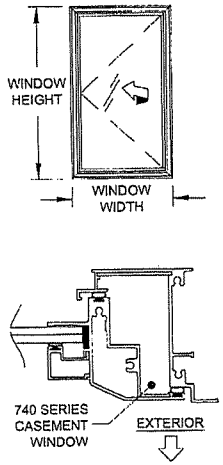
Revised By:	Date:	Revision:
JR	05/25/17	NO CHANGES THIS SHEET.
Revised By:	Date:	Revision:

Description:	Drawn By:
CROSS SECTIONS & INSTALLATION	J ROSOWSKI

Title:	Date:
CASEMENT WINDOW DETAILS - LM & SM	08/08/12

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
CA-740	NTS	2 OF 11	MD-CA740-LM	C

CASEMENT (X)



FOR SINGLE UNITS:

1) DETERMINE YOUR WINDOW SIZE AND GLASS.

2) KNOWING YOUR ANCHOR TYPE AND SUBSTRATE, DETERMINE YOUR ANCHOR GROUP FROM TABLE 3, SHEET 4.

3) FROM SHEETS 5-9, FIND THE SHEET FOR YOUR GLASS TYPE. FIND THE PRODUCT'S DESIGN PRESSURE FROM THE TABLE LABELED *"DESIGN PRESSURE (PSF) FOR SINGLE WINDOWS, ALL ANCHOR GROUPS"*.

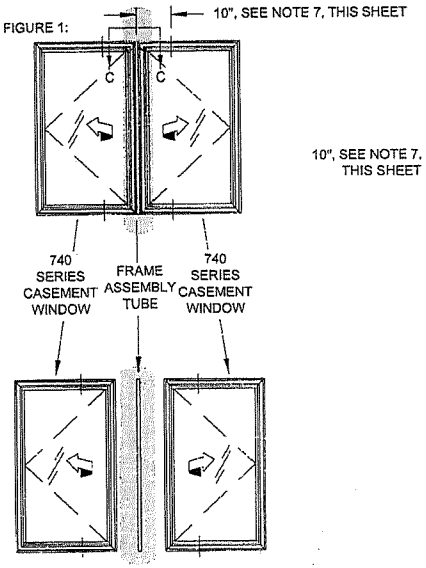
4) DIMENSIONS SHOWN ARE TIP-TO-TIP. FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE WIDTH OR HEIGHT DIMENSION SHOWN ON THE TABLES.

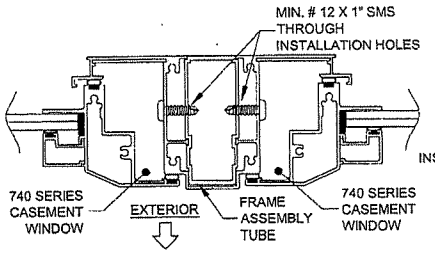
5) USING THE TABLE LABELED *"WINDOW ANCHORS REQUIRED"* (TABLE 2, SHEET 4), DETERMINE THE NUMBER OF ANCHORS NEEDED IN THE HEAD, SILL AND JAMBS OF YOUR WINDOW.

6) INSTALL AS PER THE INSTRUCTIONS ON SHEET 2.

CASEMENT / CASEMENT (XX)

FIGURE 1:

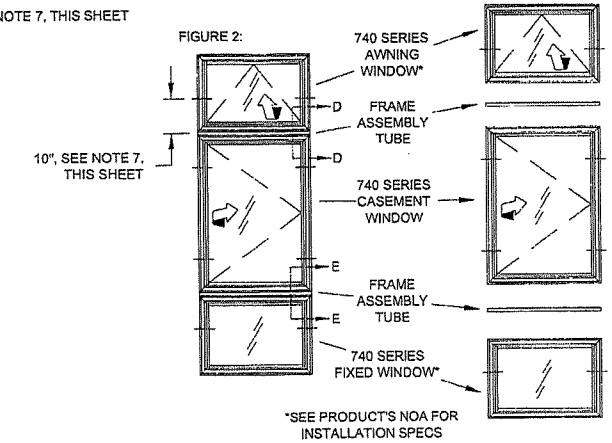




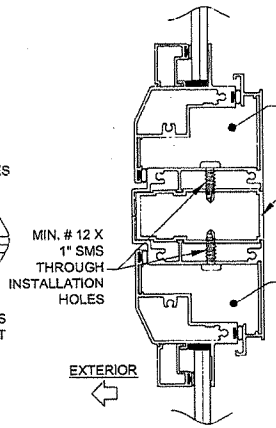
HORIZONTAL SECTION C-C

AWNING / CASEMENT / FIXED CASEMENT (XXO)

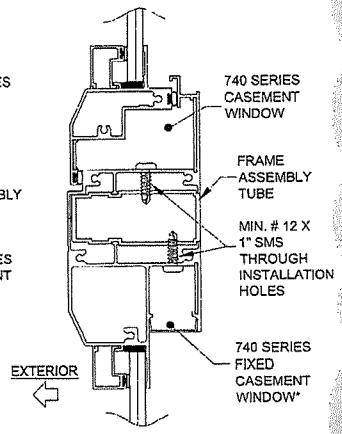
FIGURE 2:



*SEE PRODUCT'S NOA FOR INSTALLATION SPECS



VERTICAL SECTION D-D



VERTICAL SECTION E-E

FOR EACH WINDOW IN A VERTICALLY OR HORIZONTALLY COMBINED ASSEMBLY:

1) DETERMINE EACH INDIVIDUAL WINDOW TYPE, SIZE AND GLASS MAKEUP, SEE FIGURES 1 & 2, THIS SHEET. DETERMINE YOUR ANCHOR GROUP FROM TABLE 3, SHEET 4.

2) FROM SHEETS 5-9, FIND THE SHEET FOR YOUR GLASS TYPE.

3) FIND THE DESIGN PRESSURE FROM THE TABLES LABELED *"DESIGN PRESSURE (PSF) FOR WINDOWS ATTACHED TO A VERTICAL FRAME ASSEMBLY TUBE"* OR *"DESIGN PRESSURE (PSF) FOR WINDOWS ATTACHED TO A HORIZONTAL FRAME ASSEMBLY TUBE"*, DEPENDING ON WHICH WAY THE FRAME ASSEMBLY TUBE IS ORIENTATED. THIS MUST BE DONE FOR EACH WINDOW IN THE ASSEMBLY, AND THE LOWEST DESIGN PRESSURE APPLIES TO THE ENTIRE ASSEMBLY. DIMENSIONS SHOWN ARE TIP-TO-TIP. FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE WIDTH OR HEIGHT DIMENSION SHOWN ON THE TABLES.

4) USING THE TABLE LABELED *"WINDOW ANCHORS REQUIRED"* (TABLE 2, SHEET 4), DETERMINE THE NUMBER OF ANCHORS NEEDED IN THE HEAD, SILL AND JAMBS OF YOUR WINDOW.

5) INSTALL AS PER THE INSTRUCTIONS ON SHEETS 2-3. NOTE THAT ADDITIONAL ANCHORS THROUGH THE WINDOW FRAME INTO THE SUBSTRATE MAY BE REQUIRED (SEE SHEET 2), AND THAT MIN. #12 X 1" ANCHORS ARE TO BE USED THROUGH THE FRAME INTO THE FRAME ASSEMBLY TUBE (SEE DETAILS ON THIS SHEET).

PRODUCT REVISED as complying with the Florida Building Code
Acceptance No 17-0614.14
Expiration Date April 11, 2023
By Manuel Perez
Miami-Dade Product Control

FRAME ASSEMBLY TUBE NOTES:

1) DIMENSIONS SHOWN ARE TIP-TO-TIP DIMENSIONS FOR EACH INDIVIDUAL WINDOW. FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE WIDTH OR HEIGHT DIMENSION SHOWN ON THE TABLES.

2) ANY 740-SERIES PRODUCT (CASEMENT, AWNING OR FIXED CASEMENT) MAY BE ATTACHED TO THE FRAME ASSEMBLY TUBE. FOR ALL WINDOWS USE THE WINDOW'S NOA FOR ANCHORAGE, SIZE AND DESIGN PRESSURE LIMITATIONS.

3) ALL WINDOWS IN THE COMBINATION UNIT MUST BE ABLE TO INDIVIDUALLY COMPLY WITH THE REQUIREMENTS OF THEIR RESPECTIVE NOA.

4) FRAME ASSEMBLY TUBE TO BE FASTENED TO WINDOW, AS SHOW IN DETAILS, WITH MIN. # 12 X 1" SHEET METAL SCREWS. USE THE SAME SPACING AND QUANTITY AS THE OPPOSITE FRAME SENSES.

5) THE FRAME ASSEMBLY TUBE MAY NOT EXCEED 62" IN LENGTH (AS USED IN A 63" FLANGED WINDOW) OR BE USED IN TEE OR CROSS CONFIGURATIONS.

6) THE FRAME ASSEMBLY TUBE IS NOT REQUIRED TO BE CLIPPED TO THE SUBSTRATE. ALL EXTERIOR JOINTS TO BE SEALED BY INSTALLER.

7) FOR ALL COMBINATION UNITS, ADDITIONAL INSTALLATION ANCHORS MAY NEED TO BE INSTALLED THROUGH THE WINDOW FRAMES AT 10" MAX. FROM EACH SIDE OF THE FRAME ASSEMBLY TUBE CENTERLINE. SEE TABLE BELOW:

Additional Anchors Required on each Side of the Frame Assembly Tube (FAT)

	Window Width	Anchor Type A	Anchor Type B, C & D
Vert. FAT	17" - 25.9"	1	0
	26"+	1	1

	Window Height	Anchor Type A	Anchor Type B, C & D
Horiz. FAT	17" - 25.9"	1	0
	26"+	1	1

Revised by:	Date:	Revision:
J ROSOWSKI	05/25/17	NO CHANGES.

Drawn by:	Date:
J ROSOWSKI	08/08/12

Description: FRAME ASSEMBLY TUBE DETAILS

Title: CASEMENT WINDOW DETAILS - LM & SM

Series/Model:	Scale:	Sheet:	Drawing No.	Rev.
CA-740	NTS	3 OF 11	MD-CA740-LM	C

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CERT. OF AUTH. #29296

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
6/9/17
A. LYNN MILLER, P.E.
P.E.# 58705

TABLE 2:

Window Anchors Required

Window Height (in)		Window Width (in)	under 23"				25-15/16"				27-3/4"				30"				33-1/2"				35"				37"			
			Anchor Group				Anchor Group				Anchor Group				Anchor Group				Anchor Group				Anchor Group				Anchor Group			
			A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
	under 23"	Jamb	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
		Head/Sill	2	2	2	2	3	2	2	2	3	2	2	2	4	2	2	2	4	3	2	2	4	3	3	3	5	3	3	3
	25-15/16"	Jamb	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
		Head/Sill	2	2	2	2	3	2	2	2	3	2	2	2	4	2	2	2	4	3	2	2	5	3	3	3	5	3	3	3
	38-3/8"	Jamb	6	4	4	4	6	4	4	4	6	4	4	4	6	4	4	4	6	4	4	4	6	4	4	4	8	4	4	4
		Head/Sill	2	2	2	2	3	2	2	2	3	2	2	2	4	3	2	2	4	3	3	2	5	3	3	3	5	4	3	3
	48"	Jamb	6	4	4	4	8	6	4	4	8	8	4	4	8	6	4	4	8	6	4	4	8	6	4	4	8	6	6	4
		Head/Sill	2	2	2	2	3	2	2	2	3	2	2	2	4	3	2	2	4	3	3	2	5	3	3	3	5	4	3	3
	50-5/8"	Jamb	8	6	4	4	8	6	4	4	8	6	4	4	8	6	4	4	10	6	6	4	10	6	6	4	10	6	6	4
		Head/Sill	2	2	2	2	3	2	2	2	3	2	2	2	4	3	2	2	4	3	3	2	5	3	3	3	5	4	3	3
	60"	Jamb	8	6	6	4	10	6	6	4	10	6	6	4	10	8	6	4	12	8	6	4	12	8	6	4	12	8	6	4
		Head/Sill	2	2	2	2	3	2	2	2	3	2	2	2	4	3	2	2	4	3	3	2	5	3	3	3	5	3	3	3
	63"	Jamb	10	6	6	6	10	6	6	6	10	8	6	6	12	8	6	6	12	8	6	6	12	8	6	6	12	8	6	6
		Head/Sill	2	2	2	2	3	2	2	2	3	2	2	2	4	3	2	2	4	3	3	2	5	3	3	3	5	3	3	3
	72"	Jamb	10	8	6	6	12	8	6	6	12	8	8	6	14	8	8	6	14	8	8	6	14	8	8	6	14	8	8	6
		Head/Sill	2	2	2	2	3	2	2	2	3	2	2	2	4	3	2	2	4	3	2	2	5	3	3	3	5	3	3	3
	76"	Jamb	12	8	6	6	12	8	8	6	14	8	8	6	14	10	8	6	14	10	8	6	14	10	8	6	14	10	8	6
		Head/Sill	2	2	2	2	3	2	2	2	3	2	2	2	4	3	2	2	4	3	2	2	4	3	3	3	5	3	3	3
	84"	Jamb	12	8	8	6	14	10	8	6	14	10	8	6	16	10	8	6	16	10	8	6								
		Head/Sill	2	2	2	2	3	2	2	2	3	2	2	2	4	2	2	2	4	3	2	2								

1) USE THIS TABLE FOR ALL WINDOWS PER THE ELEVATIONS ON SHEET 1. DIMENSIONS SHOWN ARE WINDOW TIP-TO-TIP.
2) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE WIDTH OR HEIGHT DIMENSION SHOWN ON THE TABLE.

TABLE 4:

Jamb Snubber Locations

		Glass Type: PVB (Types 1, 4 & 5)	Glass Type: SG (Types 2, 3 & 6-9)
Window Height	63" and less	None Required	12" max. from each end & 30" max O.C.
	over 63"	12" max. from each end & 30" max O.C.	12" max. from each end & 30" max O.C.

"PVB"= TROSIFOL® PVB BY KURARAY AMERICA, INC.
"SG"= SENTRYGLAS® BY KURARAY AMERICA, INC.

TABLE 3:

Group	Anchor	Substrate	Min. Edge Distance	Min. O.C. Distance	Min. Embedment	Anchor Plate Required?
A	#12, steel SMS (G5)	S. Pine	5/8"	1"	1-3/8"	No
		6063-T5 Alum.	3/8"	5/8"	.063"	No
		A36 Steel	3/8"	5/8"	.050"	No
		A653 Stud, Gr. 33	3/8"	5/8"	.045", 20 Ga.	No
	#14, steel SMS (G5) or #14, 410 SS SMS	S. Pine	5/8"	1"	1-3/8"	No
		6063-T5 Alum.	3/8"	5/8"	.063"	No
		A36 Steel	3/8"	5/8"	.050"	No
		A653 Stud, Gr. 33	3/8"	5/8"	.045", 20 Ga.	No
B	1/4" steel Ultracon	2.85k Concrete	2-1/2"	4"	1-3/8"	No
		Hollow Block	1"	6"	1-1/4"	No
		Hollow Block	2-1/2"	5"	1-1/4"	No
C	1/4" steel Ultracon	Hollow Block	1"	6"	1-1/4	Yes
	1/4" 410 SS CreteFlex	3.35k Concrete	1"	5"	1-3/4"	No
		Hollow Block	2-1/2"	5"	1-1/4"	No
D	#12, steel SMS (G5) or #12, 410 SS SMS	S. Pine	5/8"	1"	1-3/8"	Yes
		6063-T5 Alum.	3/8"	5/8"	.0713"	Yes
		A36 Steel	3/8"	5/8"	.050"	Yes
		A653 Stud, Gr. 33	3/8"	5/8"	.045", 18 Ga.	Yes
	#14, steel SMS (G5) or #14, 410 SS SMS	S. Pine	5/8"	1"	1-3/8"	Yes
		6063-T5 Alum.	3/8"	5/8"	.0713"	Yes
		A36 Steel	3/8"	5/8"	.050"	Yes
		A653 Stud, Gr. 33	3/8"	5/8"	.045", 18 Ga.	Yes
	1/4" steel Ultracon	2.85k Concrete	1"	4"	1-3/4"	Yes
		2.85k Concrete	2-1/2"	4"	1-3/8"	Yes
		Hollow Block	2-1/2"	5"	1-1/4"	Yes
		Filled Block	2-1/2"	4"	1-3/4"	Yes
	1/4" 410 SS CreteFlex	3.35k Concrete	1"	6"	1-3/4"	Yes
		3.35k Concrete	2-1/2"	6"	1"	Yes
		Hollow Block	2-1/2"	6"	1-1/4"	Yes
	5/16" steel Ultracon	3.5k Concrete	1-1/4"	5"	1-3/4"	No
		Hollow Block	3-1/8"	5"	1-1/4"	No
		Filled Block	2-1/2"	5"	1-3/4"	No

1) WHERE SUBSTRATE CONDITIONS REQUIRE ANCHORAGE FROM MORE THAN ONE OF THE ANCHOR GROUPS ABOVE, CHOOSE THE ANCHOR GROUP OF THE LOWEST LETTER FOR ALL SUBSEQUENT TABLES IN THIS APPROVAL.
2) ANCHOR MUST EXTEND A MIMIMUM OF 3 THREADS BEYOND ANY METAL SUBSTRATE.
3) ANCHORS MAY BE HEXHEAD, PANHEAD OR FLATHEAD.
4) FOR STEEL STUDS, MIN. FU = 45 KSI, MIN FY = 33 KSI.

EXAMPLE 1: FOR WINDOW COMBINATION SHOWN BELOW; 7/16" HEAT-STRENGTHENED, LAMINATED GLASS, 1/4" MASONRY ANCHORS INTO CONCRETE, +70/-85 PSF DP REQUIRED

CASEMENT ANCHORS:
A) FROM TABLE 12, ANCHORS C & D ALLOW A DP OF +70/-90.

B) FOR THE JAMB, FROM TABLE 3, ANCHOR TYPE C HAS THE ANCHOR AND SUBSTRATE DESIRED AND DOES NOT REQUIRE THE ANCHOR PLATE IF USING THE CRETEFLEX ANCHOR.

C) FROM TABLE 2, 6 ANCHORS ARE REQUIRED IN EACH JAMB.

D) SIMILARLY, 2 ANCHORS ARE REQUIRED IN THE HEAD & SILL.

E) DISTRIBUTE ANCHORS FOLLOWING GUIDELINES FROM ELEVATION ON SHEET 1.

F) PER RULES ON SHEETS 2 & 3, INSTALL 1 ADDITIONAL ANCHOR ON THE FRAME ASSEMBLY TUBE SIDE OF THE AWNING (HEAD & SILL).

FIXED CASEMENT ANCHORS:
A) FROM TABLE 11, A 34" X 61" FIXED CASEMENT WINDOW HAS A DESIGN PRESSURE OF +70/-90 USING ANCHORS C OR D.

B) FOR THE JAMB, FROM TABLE 3, ANCHOR TYPE C HAS THE ANCHOR AND SUBSTRATE DESIRED AND DOES NOT REQUIRE THE ANCHOR PLATE IF USING THE CRETEFLEX ANCHOR.

C) FROM TABLE 2A, 6 ANCHORS ARE REQUIRED IN EACH JAMB.

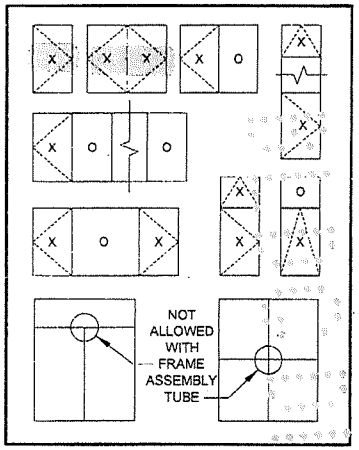
D) SIMILARLY, 3 ANCHORS ARE REQUIRED IN THE HEAD & SILL.

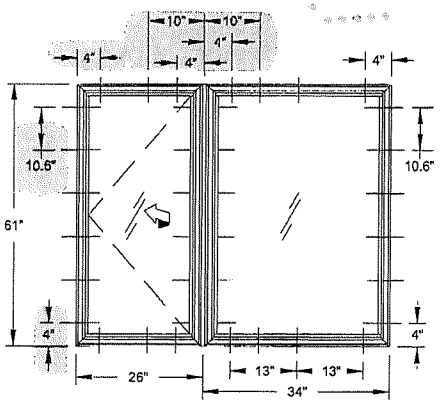
E) DISTRIBUTE ANCHORS FOLLOWING GUIDELINES FROM ELEVATION ON SHEET 1.

F) PER RULES ON SHEET 2, INSTALL 1 ADDITIONAL ANCHOR ON THE FRAME ASSEMBLY TUBE SIDE OF THE FIXED CASEMENT (HEAD & SILL).

Material	Min. F_y	Min. F_u
Steel Screw	92 ksi	120 ksi
410 Screw	90 ksi	110 ksi
Elco UltraCon®	155 ksi	177 ksi
410 SS Elco CreteFlex®	127.4 ksi	189.7 ksi
6063-T5 Aluminum	16 ksi	22 ksi
A36 Steel	36 ksi	58 ksi
Gr. 33 Steel Stud	33 ksi	45 ksi

SAMPLE CONFIGURATIONS:





PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 17-0614.14
Expiration Date Sept. 11, 2023
By Manuel Saez
Miami-Dade Product Control

Revision:	Date:	Revised By:
UPDATED TABLES.	05/25/17	J ROSOWSKI

Date:	Drawn By:
08/08/12	J ROSOWSKI

Description: ANCHOR TYPE AND QUANTITY

Title: CASEMENT WINDOW DETAILS - LM & SM

Rev. C

Drawing No. MD-CA740-LM

Sheet: 4 OF 11

Scale: NTS

Series/Model: CA-740

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ANTHONY LYNN MILLER
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STATE OF FLORIDA
PROFESSIONAL ENGINEER
6/9/17

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

FOR GLASS TYPES:

1) 5/16" LAMI (1/8 AN - .090" PVB - 1/8 AN)
4) 7/8" LAMI. IG: (1/8" AN - 7/16" AIR - 1/8" AN - .090" PVB - 1/8" AN)

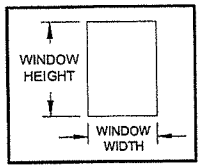
"PVB"= TROSIFOL® PVB BY KURARAY AMERICA, INC.

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 17-0614.14
Expiration Date April 11, 2023
By
Miami-Dade Product Control

TABLE 5:

Design Pressure (psf) for Single Windows, All Anchor Groups

Window Height \ Window Width	under 23"	25-15/16"	27-3/4"	30"	33-1/2"	35"	37"
under 23"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
25-15/16"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
38-3/8"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
48"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-91
50-5/8"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-89.2
60"	+70/-90	+70/-90	+70/-90	+70/-88.5	+70/-80.6	+70/-77.7	+70/-74.3
63"	+70/-90	+70/-90	+70/-90	+70/-84.3	+70/-76.5	+70/-73.7	+70/-70.1
72"	+70/-90	+70/-87.2	+70/-77.7	+60/-71.5	+60/- 62.4	+60/- 60.9	+/- 59.3
76"	+70/-90	+70/-84.6	+70/-75.7	+/-67.3	+/- 58.9	+/- 57.2	+/- 55.6
84"	+70/-90	+70/-80.4	+70/-71.3	+60/-62.1	+/- 54.2		



SEE SHEETS 1 & 4 FOR WINDOW ANCHOR LOCATIONS AND QUANTITIES.

TABLE 6:

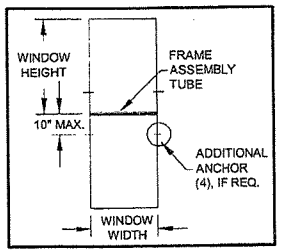
Design Pressure (psf) for Windows Attached to a Vertical Frame Assembly Tube

Window Height \ Window Width	under 23"				25-15/16"			27-3/4"			30"			33-1/2"			35"		37"	
	Anchor Group				Anchor Group			Anchor Group			Anchor Group			Anchor Group			Anchor Group		Anchor Group	
	A	B	C	D	A	B	C & D	A	B	C & D	A	B	C & D	A	B	C & D	A	B, C & D	A	B, C & D
under 23"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
25-15/16"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
38-3/8"	+70/-90	+70/-76.4	+70/-90	+70/-90	+70/-84.5	+70/-90	+70/-90	+70/-79	+70/-90	+70/-90	+70/-73	+70/-90	+70/-90	+70/-81.8	+70/-90	+70/-90	+70/-78.3	+70/-90	+70/-74	+70/-90
48"	+70/-76.2	+/-61.1	+70/-73.1	+70/-90	+/-67.5	+70/-90	+70/-90	+/-63.1	+70/-90	+70/-90	+/-58.4	+70/-90	+70/-90	+/-65.4	+70/-83.9	+70/-90	+/-62.6	+70/-90	+/-58.2	+70/-90
50-5/8"	+70/-72.3	+/-57.9	+/-69.3	+70/-90	+/-64	+70/-90	+70/-90	+/-59.9	+70/-90	+70/-90	+/-55.4	+70/-88.7	+70/-90	+/-62	+70/-79.5	+70/-90	+/-59.3	+70/-90	+/-56.1	+70/-89.2
60"	+/-61	+/-48.9	+/-58.5	+70/-90	+/-54	+70/-86.6	+70/-90	+/-50.5	+70/-81	+70/-90	+/-46.7	+70/-74.9	+70/-88.5	+/-52.3	+/-67.1	+70/-80.3	+/-50.1	+70/-77.7	+/-47.4	+70/-74.3
63"	+/-58.1	+/-46.5	+/-55.7	+70/-88.7	+/-51.5	+70/-82.5	+70/-90	+/-48.1	+70/-77.1	+70/-90	+/-44.5	+70/-71.3	+70/-84.3	+/-49.8	+/-63.9	+70/-76.5	+/-47.7	+70/-73.7	+/-45.1	+70/-70.1

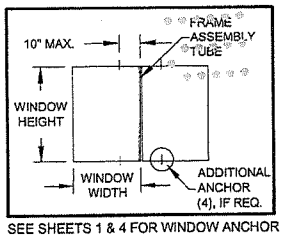
TABLE 7:

Design Pressure (psf) for Windows Attached to a Horizontal Frame Assembly Tube

Window Height \ Window Width	under 23"	25-15/16"	27-3/4"	30"	33-1/2"			35"			37"		
	Anchor Group	Anchor Group	Anchor Group	Anchor Group	Anchor Group			Anchor Group			Anchor Group		
	All	All	All	All	A	B	C & D	A	B	C & D	A	B	C & D
under 23"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-87.6	+70/-90	+70/-90	+70/-83.8	+70/-90	+70/-90	+70/-79.2	+70/-90
25-15/16"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-87.6	+70/-90	+70/-90
38-3/8"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-88.8	+70/-90	+70/-90
48"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
50-5/8"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-89.2	+70/-89.2	+70/-89.2
60"	+70/-90	+70/-90	+70/-90	+70/-88.5	+70/-80.6	+70/-80.6	+70/-80.6	+70/-77.7	+70/-77.7	+70/-77.7	+70/-74.3	+70/-74.3	+70/-74.3
63"	+70/-90	+70/-90	+70/-90	+70/-84.3	+70/-76.5	+70/-76.5	+70/-76.5	+70/-73.7	+70/-73.7	+70/-73.7	+70/-70.1	+70/-70.1	+70/-70.1
72"	+70/-90	+70/-87.2	+70/-77.7	+70/-71.5	+60/-62.4	+60/-62.4	+60/-62.4	+60/-60.9	+60/-60.9	+60/-60.9	+/-59.3	+/-59.3	+/-59.3
76"	+70/-90	+70/-84.6	+70/-75.7	+/-67.3	+/-58.9	+/-58.9	+/-58.9	+/-57.2	+/-57.2	+/-57.2	+/-55.6	+/-55.6	+/-55.6
84"	+70/-90	+70/-80.4	+70/-71.3	+60/-62.1	+/-54.2	+/-54.2	+/-54.2						



SEE SHEETS 1 & 4 FOR WINDOW ANCHOR LOCATIONS AND QUANTITIES. SEE SHEET 3 FOR ANY ADDITIONAL ANCHORS REQUIRED FOR THE FRAME ASSEMBLY TUBE.



SEE SHEETS 1 & 4 FOR WINDOW ANCHOR LOCATIONS AND QUANTITIES. SEE SHEET 3 FOR ANY ADDITIONAL ANCHORS REQUIRED FOR THE FRAME ASSEMBLY TUBE.

NOTES:
1) SEE SHEET 4 FOR ADDITIONAL SAMPLE CONFIGURATIONS.
2) SEE SHEET 4 FOR SNUBBER REQUIREMENTS.

Revision: UPDATED TABLES.
Revised By: J ROSOWSKI Date: 05/25/17
Drawn By: J ROSOWSKI Date: 08/08/12
Description: DESIGN PRESSURES PER GLAZING TYPE
Title: CASEMENT WINDOW DETAILS - LM & SM
Rev: C
Sheet: 5 OF 11
Drawing No. MD-CA740-LM
Scale: NTS
Series/Model: CA-740

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

FOR GLASS TYPES:

2) 7/16" LAMI (3/16 AN - .090" SG - 3/16 AN)

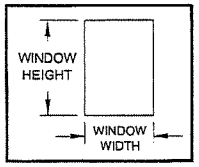
*SG"= SENTRYGLAS® BY KURARAY AMERICA, INC.

PRODUCT REVISED
IS complying with the Florida
Building Code
Acceptance No 17-0614.14
Expiration Date April 11, 2023
By Miami-Dade Product Control

TABLE 8:

Design Pressure (psf) for Single Windows, All Anchor Groups

Window Height	Window Width: under 23"	25-15/16"	27-3/4"	30"	33-1/2"	35"	37"
under 23"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
25-15/16"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
38-3/8"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
48"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
50-5/8"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
60"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
63"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-129.6
72"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-129.1	+90/-122.5	+90/-113.8
76"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-124.1	+90/-116.7	+90/-107.8
84"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-116.4		

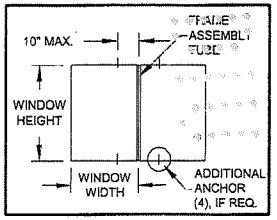


SEE SHEETS 1 & 4 FOR WINDOW ANCHOR LOCATIONS AND QUANTITIES.

TABLE 9:

Design Pressure (psf) for Windows Attached to a Vertical Frame Assembly Tube

Window Height	Window Width: under 23" Anchor Group A	B	C	D	25-15/16" Anchor Group A	B	C & D	27-3/4" Anchor Group A	B	C & D	30" Anchor Group A	B	C	D	33-1/2" Anchor Group A	B	C	D	35" Anchor Group A	B	C	D	37" Anchor Group A	B	C	D
under 23"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
25-15/16"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
38-3/8"	+70/-90	+70/-76.4	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
48"	+70/-76.2	+/-61.1	+70/-73.1	+70/-90	+70/-84.4	+70/-90	+70/-90	+70/-78.9	+70/-90	+70/-90	+70/-73	+70/-90	+70/-90	+70/-90	+70/-78.5	+70/-90	+70/-90	+70/-90	+70/-75.1	+70/-90	+70/-90	+70/-90	+70/-82.9	+70/-90	+70/-90	+70/-90
50-5/8"	+70/-72.3	+/-57.9	+/-69.3	+70/-90	+70/-80.1	+70/-90	+70/-90	+70/-74.8	+70/-90	+70/-90	+/-69.2	+70/-88.7	+70/-90	+70/-90	+70/-74.4	+70/-90	+70/-90	+70/-90	+70/-71.2	+70/-90	+70/-90	+70/-90	+70/-78.6	+70/-89.9	+70/-90	+70/-90
60"	+/-61	+/-48.9	+/-58.5	+70/-90	+/-67.5	+70/-86.6	+70/-90	+/-63.1	+70/-81	+70/-90	+/-58.4	+70/-74.9	+70/-89.6	+70/-90	+/-62.8	+70/-83.9	+70/-80.3	+70/-90	+/-60.1	+70/-80.2	+70/-90	+70/-90	+/-66.3	+70/-75.9	+70/-90	+70/-90
63"	+/-58.1	+/-46.5	+/-55.7	+70/-88.7	+/-64.3	+70/-82.5	+70/-90	+/-60.1	+70/-77.1	+70/-90	+/-55.6	+70/-71.3	+70/-85.3	+70/-90	+/-59.8	+70/-79.9	+70/-76.5	+70/-90	+/-57.2	+70/-76.4	+70/-90	+70/-90	+/-63.1	+70/-72.3	+70/-86.5	+70/-90

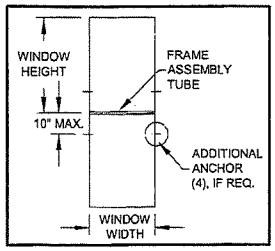


SEE SHEETS 1 & 4 FOR WINDOW ANCHOR LOCATIONS AND QUANTITIES. SEE SHEET 3 FOR ANY ADDITIONAL ANCHORS REQUIRED FOR THE FRAME ASSEMBLY TUBE.

TABLE 10:

Design Pressure (psf) for Windows Attached to a Horizontal Frame Assembly Tube

Window Height	Window Width: under 23" Anchor Group All	25-15/16" Anchor Group All	27-3/4" Anchor Group All	30" Anchor Group All	33-1/2" Anchor Group A	B	C & D	35" Anchor Group A	B	C & D	37" Anchor Group A	B	C & D
under 23"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-87.6	+70/-90	+70/-90	+70/-83.8	+70/-90	+70/-90	+70/-79.2	+70/-90
25-15/16"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-87.6	+70/-90	+70/-90
38-3/8"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
48"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
50-5/8"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
60"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
63"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
72"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
76"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
84"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90						



SEE SHEETS 1 & 4 FOR WINDOW ANCHOR LOCATIONS AND QUANTITIES. SEE SHEET 3 FOR ANY ADDITIONAL ANCHORS REQUIRED FOR THE FRAME ASSEMBLY TUBE.

NOTES:
1) SEE SHEET 4 FOR ADDITIONAL SAMPLE CONFIGURATIONS.
2) SEE SHEET 4 FOR SNUBBER REQUIREMENTS.

Revised By: J ROSOWSKI	Date: 05/25/17	Revision: UPDATED TABLES.	
Drawn By: J ROSOWSKI	Date: 08/08/12	Description: DESIGN PRESSURES PER GLAZING TYPE	
Series/Model: CA-740	Scale: NTS	Sheet: 6 OF 11	Drawing No. MD-CA740-LM
Title: CASEMENT WINDOW DETAILS - LM & SM			Rev. C

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PROFESSIONAL ENGINEER
6/9/17
A. LYNN MILLER, P.E.
P.E.# 58705

FOR GLASS TYPES:

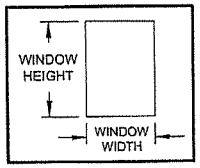
3) 7/16" LAMI (3/16 HS - .090" SG - 3/16 HS)
7) 7/8" LAMI. IG: (3/16" AN - 1/4" AIR - 3/16" HS - .090" SG - 3/16" HS)
9) 7/8" LAMI. IG: (3/16" T - 1/4" AIR - 3/16" HS - .090" SG - 3/16" HS)

"SG"= SENTRYGLAS® BY KURARAY AMERICA, INC.

TABLE 11:

Design Pressure (psf) for Single Windows, All Anchor Groups

Window Height \ Window Width	under 23"	25-15/16"	27-3/4"	30"	33-1/2"	35"	37"
under 23"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
25-15/16"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
38-3/8"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
48"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
50-5/8"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
60"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
63"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
72"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
76"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
84"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130		

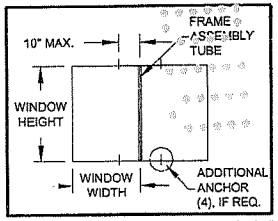


SEE SHEETS 1 & 4 FOR WINDOW ANCHOR LOCATIONS AND QUANTITIES.

TABLE 12:

Design Pressure (psf) for Windows Attached to a Vertical Frame Assembly Tube

Window Height \ Window Width	under 23"				25-15/16"			27-3/4"			30"				33-1/2"				35"				37"			
	Anchor Group				Anchor Group			Anchor Group			Anchor Group				Anchor Group				Anchor Group				Anchor Group			
	A	B	C	D	A	B	C & D	A	B	C & D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
under 23"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
25-15/16"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
38-3/8"	+70/-90	+70/-76.4	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
48"	+70/-76.2	+/-61.1	+70/-73.1	+70/-90	+70/-84.4	+70/-90	+70/-90	+70/-78.9	+70/-90	+70/-90	+70/-73	+70/-90	+70/-90	+70/-90	+70/-78.5	+70/-90	+70/-90	+70/-90	+70/-75.1	+70/-90	+70/-90	+70/-90	+70/-82.9	+70/-90	+70/-90	+70/-90
50-5/8"	+70/-72.3	+/-57.9	+/-69.3	+70/-90	+70/-80.1	+70/-90	+70/-90	+70/-74.8	+70/-90	+70/-90	+/-69.2	+70/-88.7	+70/-90	+70/-90	+70/-74.4	+70/-90	+70/-90	+70/-90	+70/-71.2	+70/-90	+70/-90	+70/-90	+70/-78.6	+70/-89.9	+70/-90	+70/-90
60"	+/-61	+/-48.9	+/-58.5	+70/-90	+/-67.5	+70/-86.6	+70/-90	+/-63.1	+70/-81	+70/-90	+/-58.4	+70/-74.9	+70/-89.6	+70/-90	+/-62.8	+70/-83.9	+70/-80.3	+70/-90	+/-60.1	+70/-80.2	+70/-90	+70/-90	+/-66.3	+70/-75.0	+70/-90	+70/-90
63"	+/-58.1	+/-46.5	+/-55.7	+70/-88.7	+/-64.3	+70/-82.5	+70/-90	+/-60.1	+70/-77.1	+70/-90	+/-55.6	+70/-71.3	+70/-85.3	+70/-90	+/-59.8	+70/-79.9	+70/-76.5	+70/-90	+/-57.2	+70/-76.4	+70/-90	+70/-90	+/-63.1	+70/-72.3	+70/-86.5	+70/-90

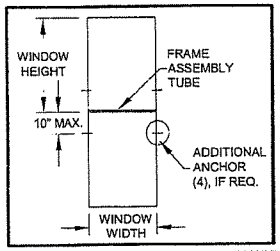


SEE SHEETS 1 & 4 FOR WINDOW ANCHOR LOCATIONS AND QUANTITIES. SEE SHEET 3 FOR ANY ADDITIONAL ANCHORS REQUIRED FOR THE FRAME ASSEMBLY TUBE.

TABLE 13:

Design Pressure (psf) for Windows Attached to a Horizontal Frame Assembly Tube

Window Height \ Window Width	under 23"	25-15/16"	27-3/4"	30"	33-1/2"			35"			37"		
	Anchor Group	Anchor Group	Anchor Group	Anchor Group	Anchor Group			Anchor Group			Anchor Group		
	All	All	All	All	A	B	C & D	A	B	C & D	A	B	C & D
under 23"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-87.6	+70/-90	+70/-90	+70/-83.8	+70/-90	+70/-90	+70/-79.2	+70/-90
25-15/16"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-87.6	+70/-90	+70/-90
38-3/8"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
48"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
50-5/8"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
60"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
63"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
72"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
76"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
84"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90						



SEE SHEETS 1 & 4 FOR WINDOW ANCHOR LOCATIONS AND QUANTITIES. SEE SHEET 3 FOR ANY ADDITIONAL ANCHORS REQUIRED FOR THE FRAME ASSEMBLY TUBE.

NOTES:
1) SEE SHEET 4 FOR ADDITIONAL SAMPLE CONFIGURATIONS.
2) SEE SHEET 4 FOR SNUBBER REQUIREMENTS.

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 17-0614.14
Expiration Date April 11, 2023
By Manuel Sosa
Miami Dade Product Control

Revision: UPDATED TABLES.
Date: 05/25/17
Revised By: J ROSOWSKI
Date: 08/08/12
Design By: J ROSOWSKI
Description: DESIGN PRESSURES PER GLAZING TYPE
Title: CASEMENT WINDOW DETAILS - LM & SM
Sheet: 7 OF 11
Drawing No. MD-CA740-LM
Rev. C
Scale: NTS
Series/Model: CA-740

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FOR GLASS TYPES:

5) 7/8" LAMI. IG: (1/8" T - 7/16" AIR - 1/8" AN - .090" PVB - 1/8" AN)

"PVB"= TROSIFOL®PVB BY KURARAY AMERICA, INC.

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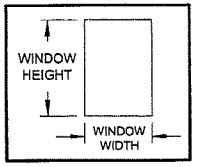
is complying with the Florida Building Code
Acceptance No. 17-0614.14
Expiration Date April 11, 2023
By Manuel Perez
Miami Dade Product Control

TABLE 14:

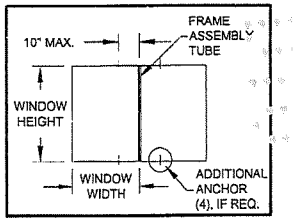
Window Height	Design Pressure (psf) for Single Windows, All Anchor Groups						
	Window Width						
	under 23"	25-15/16"	27-3/4"	30"	33-1/2"	35"	37"
under 23"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
25-15/16"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
38-3/8"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
48"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
50-5/8"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
60"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-88.6	+70/-84.6
63"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-87.2	+70/-84	+70/-79.9
72"	+70/-90	+70/-90	+70/-88.5	+70/-81.5	+60/-70	+60/-69.4	+60/-67.6
76"	+70/-90	+70/-90	+70/-86.3	+70/-76.7	+60/-67.2	+60/-65.2	+60/-63.3
84"	+70/-90	+70/-90	+70/-81.3	+60/-70	+60/-61.8		



SEE SHEETS 1 & 4 FOR WINDOW ANCHOR LOCATIONS AND QUANTITIES.

TABLE 15:

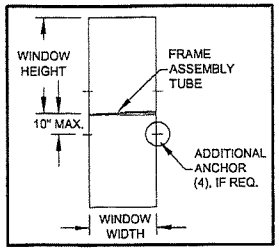
Window Height	Design Pressure (psf) for Windows Attached to a Vertical Frame Assembly Tube																								
	Window Width																								
	under 23"				25-15/16"			27-3/4"			30"				33-1/2"				35"			37"			
	Anchor Group				Anchor Group			Anchor Group			Anchor Group				Anchor Group				Anchor Group			Anchor Group			
	A	B	C	D	A	B	C & D	A	B	C & D	A	B	C	D	A	B	C	D	A	B	C & D	A	B	C & D	
under 23"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	
25-15/16"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	
38-3/8"	+70/-90	+70/-76.4	+70/-90	+70/-90	+70/-84.5	+70/-90	+70/-90	+70/-79	+70/-90	+70/-90	+70/-73	+70/-90	+70/-90	+70/-90	+70/-81.8	+70/-90	+70/-90	+70/-90	+70/-78.3	+70/-90	+70/-90	+70/-74	+70/-90	+70/-90	
48"	+70/-76.2	+/-61.1	+70/-73.1	+70/-90	+/-67.5	+70/-90	+70/-90	+/-63.1	+70/-90	+70/-90	+/-58.4	+70/-90	+70/-90	+70/-90	+/-65.4	+70/-83.9	+70/-90	+70/-90	+/-62.6	+70/-90	+70/-90	+/-59.2	+70/-90	+70/-90	
50-5/8"	+70/-72.3	+/-57.9	+/-69.3	+70/-90	+/-64	+70/-90	+70/-90	+/-59.9	+70/-90	+70/-90	+/-55.4	+70/-88.7	+70/-90	+70/-90	+/-62	+70/-79.5	+70/-90	+70/-90	+/-59.3	+70/-90	+70/-90	+/-56.1	+70/-89.9	+70/-90	
60"	+/-61	+/-48.9	+/-56.5	+70/-90	+/-54	+70/-86.6	+70/-90	+/-50.5	+70/-81	+70/-90	+/-46.7	+70/-74.9	+70/-89.6	+70/-90	+/-52.3	+/-67.1	+70/-80.3	+70/-90	+/-50.1	+70/-80.2	+70/-88.6	+/-47.4	+70/-75.9	+70/-84.6	
63"	+/-58.1	+/-46.5	+/-55 7	+70/-88.7	+/-51.5	+70/-82.5	+70/-90	+/-48.1	+70/-77.1	+70/-90	+/-44.5	+70/-71.3	+70/-85.3	+70/-90	+/-49.8	+/-63.9	+70/-76.5	+70/-87.2	+/-47.7	+70/-76.4	+70/-84	+/-45.1	+70/-72.3	+70/-70.9	



SEE SHEETS 1 & 4 FOR WINDOW ANCHOR LOCATIONS AND QUANTITIES. SEE SHEET 3 FOR ANY ADDITIONAL ANCHORS REQUIRED FOR THE FRAME ASSEMBLY TUBE.

TABLE 16:

Window Height	Design Pressure (psf) for Windows Attached to a Horizontal Frame Assembly Tube												
	Window Width												
	under 23"	25-15/16"	27-3/4"	30"	33-1/2"			35"			37"		
	Anchor Group	Anchor Group	Anchor Group	Anchor Group	Anchor Group			Anchor Group			Anchor Group		
	All	All	All	All	A	B	C & D	A	B	C & D	A	B	C & D
under 23"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-87.6	+70/-90	+70/-90	+70/-83.8	+70/-90	+70/-90	+70/-79.2	+70/-90
25-15/16"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-87.6	+70/-90	+70/-90
38-3/8"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-88.8	+70/-90	+70/-90
48"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
50-5/8"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-89.8	+70/-90	+70/-90
60"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-88.6	+70/-88.6	+70/-88.6	+70/-84.6	+70/-84.6	+70/-84.6
63"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-87.2	+70/-87.2	+70/-87.2	+70/-84	+70/-84	+70/-84	+70/-79.9	+70/-79.9	+70/-79.9
72"	+70/-90	+70/-90	+70/-88.5	+70/-81.5	+60/-70	+60/-70	+60/-70	+60/-69.4	+60/-69.4	+60/-69.4	+60/-67.6	+60/-67.6	+60/-67.6
76"	+70/-90	+70/-90	+70/-86.3	+70/-76.7	+60/-67.2	+60/-67.2	+60/-67.2	+60/-65.2	+60/-65.2	+60/-65.2	+60/-63.3	+60/-63.3	+60/-63.3
84"	+70/-90	+70/-90	+70/-81.3	+60/-70	+60/-61.8	+60/-61.8	+60/-61.8						



SEE SHEETS 1 & 4 FOR WINDOW ANCHOR LOCATIONS AND QUANTITIES. SEE SHEET 3 FOR ANY ADDITIONAL ANCHORS REQUIRED FOR THE FRAME ASSEMBLY TUBE.

NOTES:
1) SEE SHEET 4 FOR ADDITIONAL SAMPLE CONFIGURATIONS.
2) SEE SHEET 4 FOR SNUBBER REQUIREMENTS.

Revision:	UPDATED TABLES.
Revised By:	J ROSOWSKI
Date:	05/25/17
Drawn By:	J ROSOWSKI
Date:	08/08/12
Description:	DESIGN PRESSURES PER GLAZING TYPE
Title:	CASEMENT WINDOW DETAILS - LM & SM
Drawing No.	MD-CA740-LM
Rev.	C
Sheet:	8 OF 11
Scale:	NTS
Series/Model:	CA-740

PGT®
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LICENSE
No. 58705
6/9/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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

FOR GLASS TYPES:

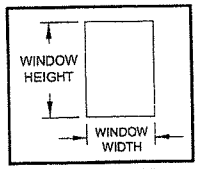
6) 7/8" LAMI. IG: (3/16" AN - 1/4" AIR - 3/16" AN - .090" SG - 3/16" AN)
8) 7/8" LAMI. IG: (3/16" T - 1/4" AIR - 3/16" AN - .090" SG - 3/16" AN)

"SG"= SENTRYGLAS® BY KURARAY AMERICA, INC.

TABLE 17:

Design Pressure (psf) for Single Windows, All Anchor Groups

Window Height	Window Width: under 23"	25-15/16"	27-3/4"	30"	33-1/2"	35"	37"
under 23"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
25-15/16"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
38-3/8"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
48"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
50-5/8"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
60"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
63"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
72"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-124.6	+90/-115.7
76"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-126.2	+90/-118.7	+90/-109.6
84"	+90/-130	+90/-130	+90/-130	+90/-130	+90/-118.4		



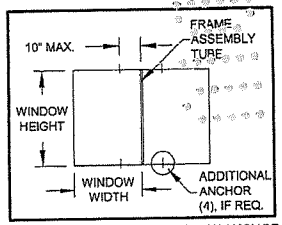
SEE SHEETS 1 & 4 FOR WINDOW ANCHOR LOCATIONS AND QUANTITIES.

TABLE 18:

Design Pressure (psf) for Windows Attached to a Vertical Frame Assembly Tube

Window Height	Window Width: under 23" Anchor Group A	B	C	D	25-15/16" Anchor Group A	B	C & D	27-3/4" Anchor Group A	B	C & D
under 23"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
25-15/16"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
38-3/8"	+70/-90	+70/-76.4	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
48"	+70/-76.2	+/-61.1	+70/-73.1	+70/-90	+70/-84.4	+70/-90	+70/-90	+70/-78.9	+70/-90	+70/-90
50-5/8"	+70/-72.3	+/-57.9	+/-69.3	+70/-90	+70/-80.1	+70/-90	+70/-90	+70/-74.8	+70/-90	+70/-90
60"	+/-61	+/-48.9	+/-58.5	+70/-90	+/-67.5	+70/-86.6	+70/-90	+/-63.1	+70/-81	+70/-90
63"	+/-58.1	+/-46.5	+/-55.7	+70/-88.7	+/-64.3	+70/-82.5	+70/-90	+/-60.1	+70/-77.1	+70/-90

Window Height	30" Anchor Group A	B	C	D	33-1/2" Anchor Group A	B	C	D	35" Anchor Group A	B	C & D	37" Anchor Group A	B	C	D
under 23"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
25-15/16"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
38-3/8"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
48"	+70/-73	+70/-90	+70/-90	+70/-90	+70/-78.5	+70/-90	+70/-90	+70/-90	+70/-75.1	+70/-90	+70/-90	+70/-82.9	+70/-90	+70/-90	+70/-90
50-5/8"	+/-69.2	+70/-88.7	+70/-90	+70/-90	+70/-74.4	+70/-90	+70/-90	+70/-90	+70/-71.2	+70/-90	+70/-90	+70/-78.6	+70/-89.9	+70/-90	+70/-90
60"	+/-58.4	+70/-74.9	+70/-89.6	+70/-90	+/-62.8	+70/-83.9	+70/-80.3	+70/-90	+/-60.1	+70/-80.2	+70/-90	+/-66.3	+70/-75.9	+70/-90	+70/-90
63"	+/-55.6	+70/-71.3	+70/-85.3	+70/-90	+/-59.8	+70/-79.9	+70/-76.5	+70/-90	+/-57.2	+70/-76.4	+70/-90	+/-63.1	+70/-72.3	+70/-86.5	+70/-90

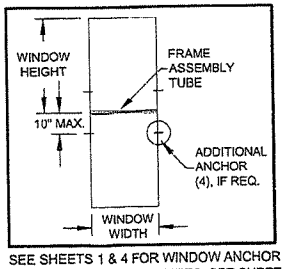


SEE SHEETS 1 & 4 FOR WINDOW ANCHOR LOCATIONS AND QUANTITIES. SEE SHEET 3 FOR ANY ADDITIONAL ANCHORS REQUIRED FOR THE FRAME ASSEMBLY TUBE.

TABLE 19:

Design Pressure (psf) for Windows Attached to a Horizontal Frame Assembly Tube

Window Height	Window Width: under 23" Anchor Group All	25-15/16" Anchor Group All	27-3/4" Anchor Group All	30" Anchor Group All	33-1/2" Anchor Group A	B	C & D	35" Anchor Group A	B	C & D	37" Anchor Group A	B	C & D
under 23"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-87.6	+70/-90	+70/-90	+70/-83.8	+70/-90	+70/-90	+70/-79.2	+70/-90
25-15/16"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-87.6	+70/-90	+70/-90
38-3/8"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
48"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
50-5/8"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
60"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
63"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
72"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
76"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90
84"	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90	+70/-90						



SEE SHEETS 1 & 4 FOR WINDOW ANCHOR LOCATIONS AND QUANTITIES. SEE SHEET 3 FOR ANY ADDITIONAL ANCHORS REQUIRED FOR THE FRAME ASSEMBLY TUBE.

NOTES:
1) SEE SHEET 4 FOR ADDITIONAL SAMPLE CONFIGURATIONS.
2) SEE SHEET 4 FOR SNUBBER REQUIREMENTS.

PRODUCT REVISED
complying with the Florida
Building Code 17-0614.14
Compliance No
Expiration Date April 11, 2023
By
Miami-Dade Product Control

Revision	Date	Revised By	Date	Drawn By	Description	Title	Series/Model	Scale	Sheet	Drawing No.	Rev.
UPDATED TABLES.	05/25/17	J ROSOWSKI	08/08/12	J ROSOWSKI	DESIGN PRESSURES PER GLAZING TYPE	CASEMENT WINDOW DETAILS - LM & SM	CA-740	NTS	9 OF 11	MD-CA740-LM	C

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6/9/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER

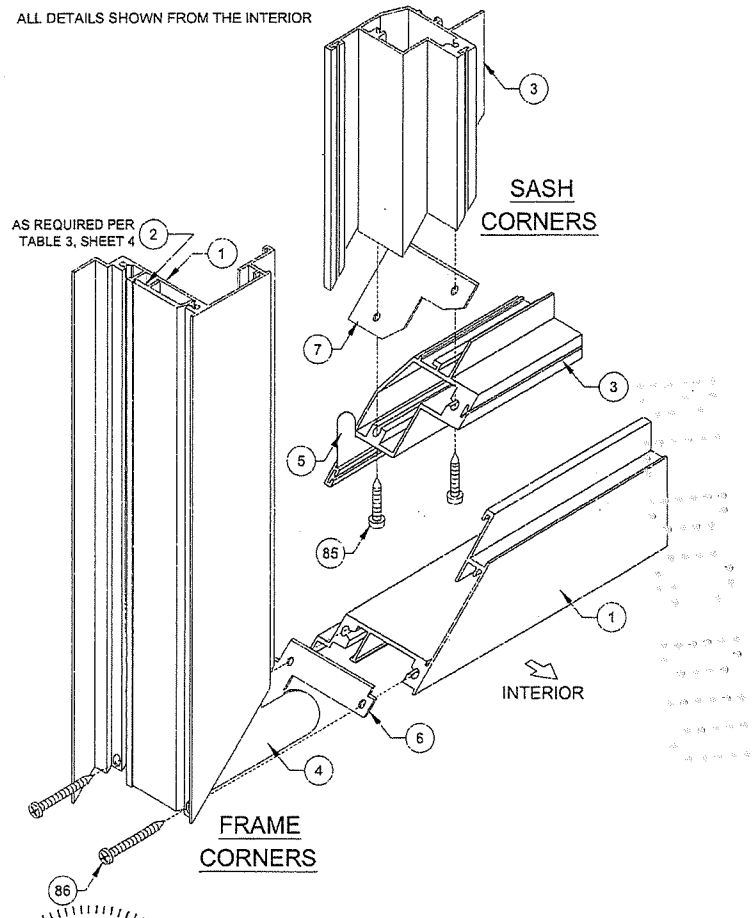
A. LYNN MILLER, P.E.
P.E.# 58705

TABLE 20:

Item	Dwg. #	Description	Material
1	7002	Main Frame Head, Sill & Jamb	6063-T6 Alum.
2	7071	Anchor Plate	6063-T6 Alum.
3	7003	Sash Top, Bottom & Side Rail	6063-T6 Alum.
4	7008	Frame Corner Key	Steel
5	7009	Sash Corner Key	Steel
6	7078	Frame Gasket	Vinyl Foam
7	7072	Sash Corner Gasket	Vinyl Foam
8	7070	Bulb Weatherstrip .187" x .275"	Flex PVC 70
10	7024	Maxim Multi-Point Lock	Steel
11	7026	Lock Support Plate	Steel
12	7014	Multi-Lock Keeper	Steel
13	7013	Tie Bar Guide	Nylon
14	7015	Tie Bar Assembly	Steel or SS
15	7028	Maxim Dyad Operator, WW<=24"	Steel
16	7027	Maxim Dual Arm Operator, WW>24"	Steel
17	7030	Operator Gasket	Vinyl Foam
18	7031	Operator Backing Plate	Steel
19	7051	Operator Spacer Block	Nylon
20	7032	Stud Bracket	Steel
21	7033	Operator Track & Slider (Dual Arm)	Steel
22	7023	Egress Hinge (Heavy Duty), Manuf. by Truth	Steel
23	7050	Egress Hinge/Washable (HD), Manuf. by Truth	Steel
24		Snubber, Anti-blowout Clip	Steel
32	1713	Setting Block 5/32" x 3/16" x 1-1/4"	EPDM
33	1714	Setting Block 5/32" x 7/16" x 1-1/4"	EPDM
35	7036	Lami Bead B	6063-T6 Alum.
36	7042	Lami Bead C	6063-T6 Alum.
37	7059	Lami Bead D	6063-T6 Alum.
38	1224	Vinyl Bulb Wstp (Thick)	Flex PVC 70
39	1225	Vinyl Bulb Wstp (Thin)	Flex PVC 70
50		Dow 899 Silicon Backbedding	
60	7006	Screen Frame	3105-H14 Alum.
61	7040	Screen Corner Key	Polypropolene
62		Screen Cloth	Fiberglass
63	1635	Screen Spline	EM. PVC
64	320	Screen Spring	Stainless Steel
70	134	Add-on Flange	6063-T6 Alum.
71	7004	Frame Assy Tube	6063-T6 Alum.
80		#8-32 x 1/2" Ph. Pn. Mach. Scr TYPE B	Stainless Steel
81	1157	#8 x 1/2" Ph. Pn. SMS	Stainless Steel
82		#8 x 5/8" Fl. Ph. SMS	Stainless Steel
83		#8 x 7/8" Fl. Ph. SMS	Stainless Steel
84		#8 x 1" Fl. Ph. TEK	Stainless Steel
85		#8 x 1" Quad Pn SMS	Stainless Steel
86		#8 X 1-1/2" Quad Pn SMS	Stainless Steel
87		#10 x 1/2" Ph. Pn./ TEK	Stainless Steel
89		#10-24 x 9/16" Ph. Pn. TYPE F	Stainless Steel
90		#12 x 1" Ph. Pn. TEK	Stainless Steel

ASSEMBLY DETAILS

ALL DETAILS SHOWN FROM THE INTERIOR



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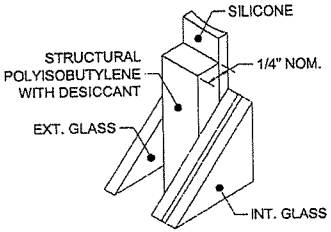
Revised By:	Date:	Revision:
JR	05/25/17	NO CHANGES THIS SHEET.
Revised By:	Date:	Revision:

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 17-0614.14
Expiration Date April 11, 2023
By Manuel Perez
Miami Dade Product Control

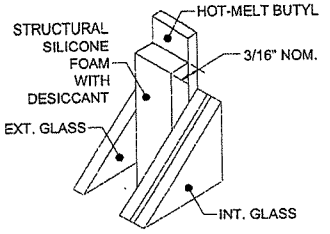
Description:	Drawn By:
BOM AND CORNER VIEW	J ROSOWSKI

Title:	Date:
CASEMENT WINDOW DETAILS - LM & SM	08/08/12

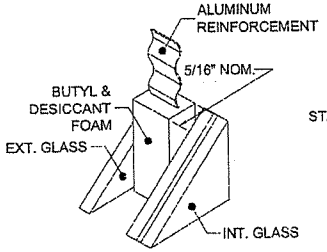
Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
CA-740	NTS	10 OF 11	MD-CA740-LM	C



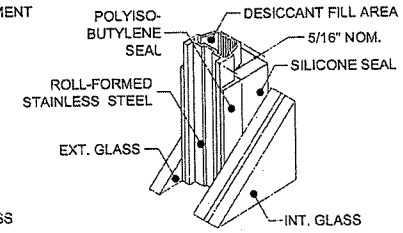
100 KODISPACE 4SG TPS



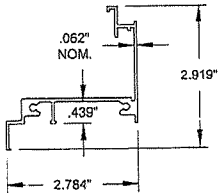
101 SUPER SPACER® NXT™



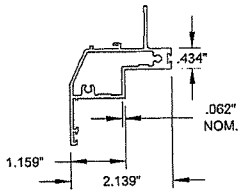
102 DURASEAL® SPACER



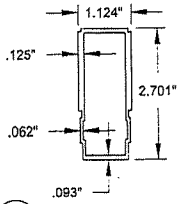
103 XL EDGE™ SPACER



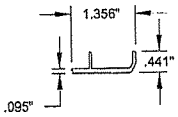
1 FRAME HEAD, SILL & JAMB
#7002, 6063-T6



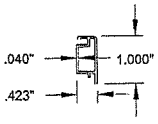
3 SASH TOP, BOTTOM & SIDE
#7003, 6063-T6



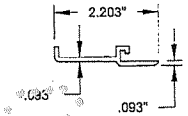
71 FRAME ASSEMBLY TUBE
#7004, 6063-T6



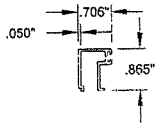
2 ANCHOR PLATE
#7071, 6063-T6



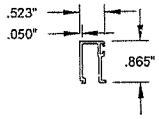
60 FIXED SCREEN FRAME
#7006, 3105-H14



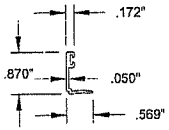
70 ADDON FLANGE
#134, 6063-T6



35 BEAD B
#7036, 6063-T6



36 BEAD C
#7042, 6063-T6



37 BEAD D
#7059, 6063-T6

Part #	Description	Material
100	Kommerling 4SG TPS Spacer System	See this Sheet for Materials
101	Quanex Super Spacer nXT with Hot Melt Butyl	
102	Quanex Duraseal Spacer	
103	Cardinal XL Edge Spacer	

REFERENCE TEST REPORTS: FTL-8717, 8968 & 8970

ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER
6/9/17
A. LYNN MILLER, P.E.
P.E.# 58705

PRODUCT REVISED as complying with the Florida Building Code Acceptance No. 17-0614.14 Expiration Date APRIL 11, 2023
By Miami-Dade Product Control

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1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600
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CERT. OF AUTH. #29296

Revised By:	Date:	Revision:
JR	05/25/17	NO CHANGES THIS SHEET.
Revised By:	Date:	Revision:

Description: EXTRUSIONS & SPACERS
Drawn By: J ROSOWSKI
Title: CASEMENT WINDOW DETAILS - LM & SM
Date: 08/08/12

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
CA-740	NTS	11 OF 11	MD-CA740-LM	C

MIAMI-DADE COUNTY
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
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 "PW-701/720/820" Aluminum Fixed Window - L.M.I.

APPROVAL DOCUMENT: Drawing No. **MD-720-820.1**, titled "Fixed Window Installation Guidelines", sheets 1 through 11 of 11, dated 04/12/13, with revision C dated 06/06/17, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, P.E., bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state, model/series, and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **revises NOA# 16-0629.14** and consists of this page 1 and evidence pages E-1, E-2 and E-3, as well as approval document mentioned above.

The submitted documentation was reviewed by **Jorge M. Plasencia, P.E.**

MIAMI-DADE COUNTY APPROVED

10/05/17

NOA No. 17-0614.11
Expiration Date: February 19, 2019
Approval Date: October 12, 2017

PGT Industries, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Manufacturer's die drawings and sections.
   (Submitted under NOA No. 03-1105.01)
2. Drawing No. **MD-720-820.1**, titled "Fixed Window Installation Guidelines", sheets 1 through 11 of 11, dated 04/12/13, with revision C dated 06/06/17, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.

B. TESTS

1. Test reports on: 1) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
   2) Large Missile Impact Test per FBC, TAS 201-94
   3) Cyclic Wind Pressure Loading per FBC, TAS 203-94

   along with marked-up drawings and installation diagram of a PVC sliding glass door, a PVC fixed window and an aluminum sliding glass door, using: Kodispace 4SG TPS spacer system, Duraseal® spacer system, Super Spacer® NXT™ spacer system and XL Edge™ spacer system at insulated glass, prepared by Fenestration Testing Laboratory, Inc., Test Reports No. **FTL-8717, FTL-8968** and **FTL-8970**, dated 11/16/15, 06/07/16 and 06/02/16 respectively, all signed and sealed by Idalmis Ortega, P.E.
   (Submitted under previous NOA No. 16-0629.14)
2. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94
   2) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
   3) Water Resistance Test, per FBC, TAS 202-94
   4) Large Missile Impact Test per FBC, TAS 201-94
   5) Cyclic Wind Pressure Loading per FBC, TAS 203-94
   6) Forced Entry Test, per FBC 2411.3.2.1, and TAS 202-94

   along with marked-up drawings and installation diagram of an aluminum fixed window, prepared by Fenestration Testing Laboratory, Inc., Test Report No. **FTL-7212**, dated 03/21/13, signed and sealed by Marlin D. Brinson, P.E.
   (Submitted under NOA No. 13-0502.03)
3. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94
   2) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
   3) Water Resistance Test, per FBC, TAS 202-94
   4) Large Missile Impact Test per FBC, TAS 201-94
   5) Cyclic Wind Pressure Loading per FBC, TAS 203-94

   along with marked-up drawings and installation diagram of an aluminum fixed window, prepared by Fenestration Testing Laboratory, Inc., Test Reports No. **FTL-3835** and **FTL-3850**, dated 07/18/03 and 07/31/03 respectively, all signed and sealed by Joseph C. Chan, P.E.
   (Submitted under NOA No. 03-1105.01)

Jorge M. Plasencia, P.E.
Product Control Unit Supervisor
NOA No. 17-0614.11
Expiration Date: February 19, 2019
Approval Date: October 12, 2017

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with **FBC-5th Edition (2014) and FBC-6th Edition (2017)**, dated 09/15/17, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.
2. Glazing complies with **ASTM E1300-09**

D. QUALITY ASSURANCE

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

E. MATERIAL CERTIFICATIONS

1. Notice of Acceptance No. **16-1117.01** issued to **Kuraray America, Inc.** for their **"Trosifol® Ultraclear, Clear and Color PVB Glass Interlayers"** dated 01/19/17, expiring on 07/08/19.
2. Notice of Acceptance No. **14-0916.11** issued to **Kuraray America, Inc.** for their **"SentryGlas® (Clear and White) Glass Interlayer"** dated 06/25/15, expiring on 07/04/18.
3. TREMCO Part No. **TR–14271E** EPDM exterior glazing gasket complying with the following:
   a) ASTM C864 Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers with Option II exceptions.
   b) ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension of 1600 PSI.
   c) ASTM D395B Test Methods for Rubber Property—Compression Set for 22 HRS 158°F.
   d) ASTM D 624 Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers of 143 lb/ in.

Jorge M. Plasencia, P.E.
Product Control Unit Supervisor
NOA No. 17-0614.11
Expiration Date: February 19, 2019
Approval Date: October 12, 2017

F. STATEMENTS

1. Statement letter of conformance to **FBC-5th Edition (2014)** and **FBC-6th Edition (2017)**, dated 08/29/17, issued by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.
2. Statement letter of no financial interest, dated 06/09/17, issued by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.
3. Proposal No. **16-1372B** issued by the Product Control Section, dated 11/09/16, signed by Manuel Perez, P.E.
4. Proposal No. **16-0125** issued by the Product Control Section, dated 03/09/16, signed by Ishaq Chanda, P.E.
5. Laboratory compliance letter for Test Report No. **FTL-7212**, dated 03/21/13, signed and sealed by Marlin D. Brinson, P.E.
   (Submitted under previous NOA No. 13-0502.03)
6. Laboratory compliance letter for Test Reports No. **FTL-3835** and **FTL-3850**, dated 07/18/03 and 07/31/03 respectively, all signed and sealed by Joseph C. Chan, P.E.
   (Submitted under NOA No. 03-1105.01)

G. OTHERS

1. Notice of Acceptance No. **16-0629.14**, issued to PGT Industries for their Series "PW-701/720/820" Aluminum Fixed Window – L.M.I." approved on 08/04/16 and expiring on 02/19/19.

Jorge M. Plasencia, P.E.
Product Control Unit Supervisor
NOA No. 17-0614.11
Expiration Date: February 19, 2019
Approval Date: October 12, 2017

GENERAL NOTES: SERIES 720/820 IMPACT-RESISTANT FIXED WINDOW

1) THIS PRODUCT HAS BEEN DESIGNED & TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE, INCLUDING THE HIGH VELOCITY HURRICANE ZONE (HVHZ).

2) SHUTTERS ARE NOT REQUIRED WHEN USED IN WIND-BORNE DEBRIS REGIONS. FOR INSULATED GLASS INSTALLATIONS ABOVE 30' IN THE HVHZ, THE OUTBOARD LITE (CAP) MUST TEMPERED.

3) FOR MASONRY APPLICATIONS IN MIAMI-DADE COUNTY, USE ONLY MIAMI-DADE COUNTY APPROVED MASONRY ANCHORS. MATERIALS USED FOR ANCHOR EVALUATIONS WERE SOUTHERN PINE, ASTM C90 CONCRETE MASONRY UNITS AND CONCRETE WITH MIN. KSI PER ANCHOR TYPE.

4) 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, (EOR) OR ARCHITECT OF RECORD, (AOR).

5) ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO. USE ANCHORS OF SUFFICIENT EMBEDMENT. NARROW JOINT SEALANT IS USED ON ALL FOUR CORNERS OF THE FRAME. 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.

6) MAX. 1/4" 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 WINDOW.

7) DESIGN PRESSURES:
A. NEGATIVE DESIGN LOADS BASED ON STRUCTURAL/CYCLE TEST PRESSURE, FRAME ANALYSIS AND GLASS PER ASTM E1300.
B. POSITIVE DESIGN LOADS BASED ON WATER TEST PRESSURE, STRUCTURAL/ CYCLE TEST PRESSURE, FRAME ANALYSIS AND GLASS PER ASTM E1300.
C. DESIGN LOADS ARE BASED ON ALLOWABLE STRESS DESIGN, ASD.

8) THE ANCHORAGE METHODS SHOWN HAVE BEEN DESIGNED TO RESIST THE WINDLOADS 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.

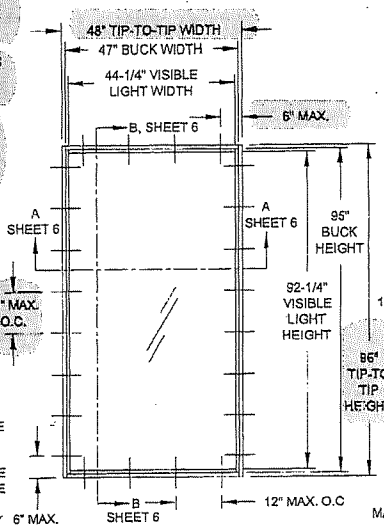
9) REFERENCES: TEST REPORTS FTL-3835, 3850 & 7212; ELCO ULTRACON NOA; ELCO CRETEFLEX NOA; ANSI/AF&PA NDS FOR WOOD CONSTRUCTION AND ALUMINUM DESIGN MANUAL.

10) THE 720 SERIES USES A PVB INTERLAYER, THE 820 SERIES USES AN SG INTERLAYER. THE 720 AND 820 SERIES MAY ALSO BE REFERRED AS THE 701 SERIES.

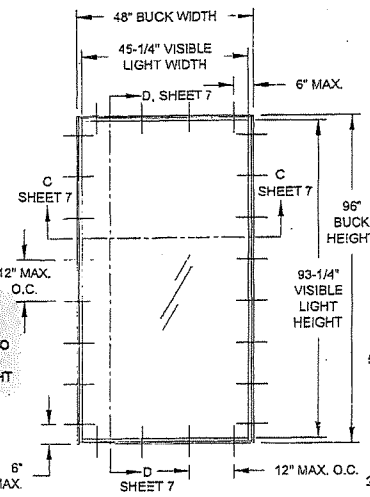
CODES / STANDARDS USED:

- 2017 FLORIDA BUILDING CODE (FBC), 6TH EDITION
- 2014 FLORIDA BUILDING CODE (FBC), 5TH EDITION
- ASTM E1300-09
- ANSI/AF&PA NDS-2015 FOR WOOD CONSTRUCTION
- ALUMINUM DESIGN MANUAL, ADM-2015
- AISI S100-12
- AISC 360-10

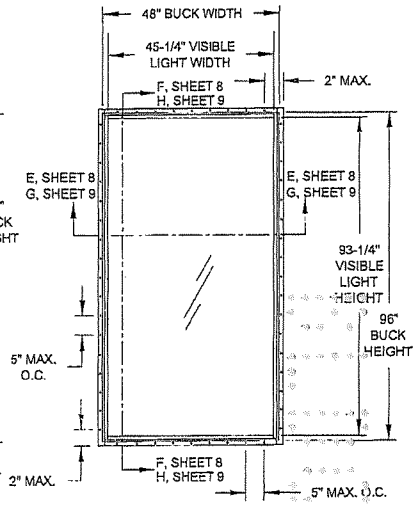
DESIGN PRESSURE RATING	IMPACT RATING
VARIES, SEE SHEETS 2-5	RATED FOR LARGE & SMALL MISSILE IMPACT RESISTANCE



TYP. FLANGED FRAME ELEVATION (TESTED UNIT)



TYP. EQUAL-LEG FRAME ELEVATION (TESTED UNIT)

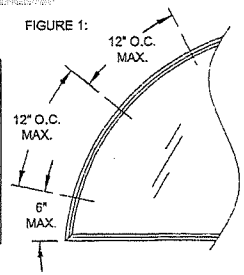


TYP. FIN FRAME ELEVATION (TESTED UNIT)

GUIDE TO SHEETS:

GENERAL NOTES	1
ELEVATIONS	1
GLAZING DETAILS	2-5
DESIGN PRESSURES	2-5
INSTALLATION, FLANGE	6
INSTALLATION, EQUAL-LEG	7
INSTALLATION, INT. FIN A	8
INSTALLATION, INT. FIN B	9
CORNER ASSEMBLY	10
EXTRUSION PROFILES	11
PARTS LIST	11

FIGURE 1:



SHAPES AS SHOWN BELOW OR SIMILAR, MAY BE USED BY INSCRIBING THE SHAPE IN A BLOCK AND OBTAINING DESIGN PRESSURES FOR THAT BLOCK SIZE FROM THE TABLES ON SHEETS 2-5. ANCHOR SPACING TO BE 6" MAX. FROM CORNERS AND 12" O.C. MAX. FOR ALL CURVED FRAME MEMBERS, SEE FIGURE 1, THIS SHEET.

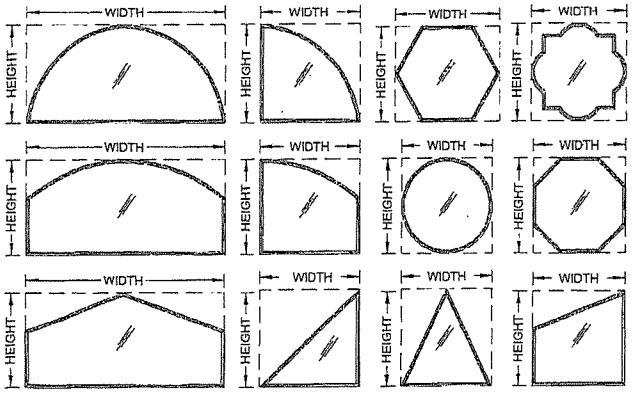


TABLE 1:

Type #	Description	Sheet #
1	7/16" Laml (3/16" An - .090" PVB - 3/16" HS)	2
2	7/16" Laml (3/16" HS - .090" PVB - 3/16" HS)	3
3	1-1/16" Laml. IG (3/16" T - 7/16" Air - 3/16" An - .090" PVB - 3/16" HS)	2
4	1-1/16" Laml. IG (3/16" T - 7/16" Air - 3/16" HS - .090" PVB - 3/16" HS)	3
5	7/16" Laml (3/16" An - .090" SG - 3/16" An)	4
6	7/16" Laml (3/16" HS - .090" SG - 3/16" HS)	5
7	1-1/16" Laml. IG (3/16" T - 7/16" Air - 3/16" An - .090" SG - 3/16" An)	4
8	1-1/16" Laml. IG (3/16" T - 7/16" Air - 3/16" HS - .090" SG - 3/16" HS)	5

"SG" = "KURARAY SENTRYGLAS® INTERLAYER" BY KURARAY AMERICA, INC.
"PVB" = "KURARAY TROSIFOL® PVB INTERLAYER" BY KURARAY AMERICA, INC.

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0614.11
Expiration Date 02/19/2019
By
Miami-Dade Product Control

Revision: JR - 06/06/17 - UPDATED ANCHORAGE TO FBC 2017.

PGT®
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Series	Desc.	Sheet	Scale	DWG	Drawn	Date	Rev.
PW-720 PW-820	GENERAL NOTES & ELEVATION	1 OF 1	NTS	N/A	J ROSOWSKI	4/12/13	C

Title: FIXED WINDOW INSTALLATION GUIDELINES

WD-720-820.1

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/15/17

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

TABLE 2:

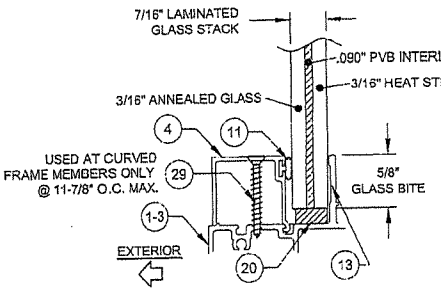
Window Design Pressure (+/-, psf) for Glass Type 1

Short Side (in)	Long Side (in) 67-7/8	72	76	80	84	88	92	96	100	104	109-1/2
30	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80
32	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80
34	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-79.8	+/-79.4
36	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-79.7	+/-77.2	+/-75.1	+/-73.4	+/-72.2
38	+/-80	+/-80	+/-80	+/-80	+/-80	+/-78.1	+/-75.2	+/-72.5	+/-70.3	+/-68.5	+/-66.3
40	+/-80	+/-80	+/-80	+/-79.8	+/-77.2	+/-74.3	+/-71.3	+/-67.9	+/-65.1	+/-63.4	+/-61.6
42	+/-80	+/-80	+/-80	+/-77.4	+/-74.3	+/-71.3	+/-68.2	+/-64.7	+/-61.6	+/-59.8	+/-58.2
44	+/-80	+/-80	+/-78.9	+/-75.4	+/-72.1	+/-68.9	+/-65.6	+/-62.2	+/-59.7	+/-57.5	
46	+/-80	+/-80	+/-77.2	+/-73.6	+/-70.1	+/-66.8	+/-63.5	+/-60.3	+/-57.7		
48	+/-80	+/-79.3	+/-75.6	+/-71.9	+/-68.3	+/-64.9	+/-61.5	+/-58.2			
50	+/-80	+/-77.5	+/-74.1	+/-70.3	+/-66.7	+/-63.1	+/-59.7				
52	+/-79.1	+/-75.6	+/-72.4	+/-68.8	+/-65.1	+/-61.5					
54	+/-77.4	+/-73.6	+/-70.5	+/-67.3	+/-63.5						
56	+/-75.8	+/-72	+/-68.6	+/-65.3							
58	+/-74.2	+/-70.3	+/-66.8								
60	+/-72.7	+/-68.7	+/-65								
62	+/-71.2	+/-67.1									
64	+/-69.7	+/-65.5									
66	+/-68.3										
67-7/8	+/-67										

TABLE 3:

Window Design Pressure (+/-, psf) for Glass Type 3

Short Side (in)	Long Side (in) 67-7/8	72	76	80	84	88	92	96	100	104	109-1/2
30	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80
32	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80
34	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80
36	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80
38	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-79.4	+/-76.4	+/-74.3
40	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-76.7	+/-73.5	+/-70.9	+/-69
42	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-77	+/-73.1	+/-69.6	+/-66.9	+/-65.2
44	+/-80	+/-80	+/-80	+/-80	+/-80	+/-77.8	+/-74.1	+/-70.3	+/-67.5	+/-63.9	
46	+/-80	+/-80	+/-80	+/-80	+/-79.2	+/-75.4	+/-71.7	+/-68.1	+/-65.1		
48	+/-80	+/-80	+/-80	+/-80	+/-77.2	+/-73.3	+/-69.5	+/-65.8			
50	+/-80	+/-80	+/-80	+/-79.4	+/-75.3	+/-71.3	+/-67.5				
52	+/-80	+/-80	+/-80	+/-77.7	+/-73.5	+/-69.5					
54	+/-80	+/-80	+/-79.6	+/-76	+/-71.8						
56	+/-80	+/-80	+/-77.5	+/-73.8							
58	+/-80	+/-79.4	+/-75.4								
60	+/-80	+/-77.6	+/-73.5								
62	+/-80	+/-75.8									
64	+/-78.8	+/-74									
66	+/-77.2										
67-7/8	+/-74.9										



GLASS TYPE 1

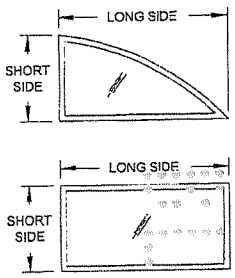
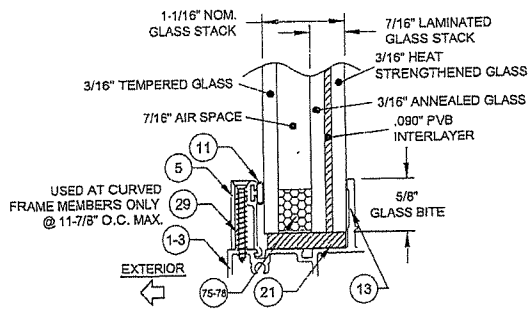


TABLE DIMENSIONS MAY BE ORIENTED VERTICALLY OR HORIZONTALLY AS SHOWN.



GLASS TYPE 3

NOTES:
1) BUCK DIMENSIONS SHOWN. FOR FLANGED WINDOWS, SUBTRACT 1" FROM THE TIP-TO-TIP DIMENSION TO DETERMINE THE BUCK DIMENSION.
2) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE SHORT OR LONG DIMENSION.
3) FOR ARCHITECTURAL WINDOWS, FIND THE SMALLEST WINDOW SIZE IN THE TABLE ABOVE WHICH THE OVERALL DIMENSIONS COMPLETELY FIT WITHIN.

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0614.11
Expiration Date 02/19/2019
By
Miami-Dade Product Control

Revision: NO CHANGES THIS SHEET.

1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
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Series	Title	Date	Rev.
PW-720 PW-820	FIXED WINDOW INSTALLATION GUIDELINES	4/12/13	C
Scale	Desc.	Drawn	
NTS	DESIGN PRESSURE TABLES	J ROSOWSKI	
Sheet		DWG.	
2 OF 11		MD-720-820.1	

ANTHONY LYNN MILLER
LICENSE
No. 58705
9/15/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER

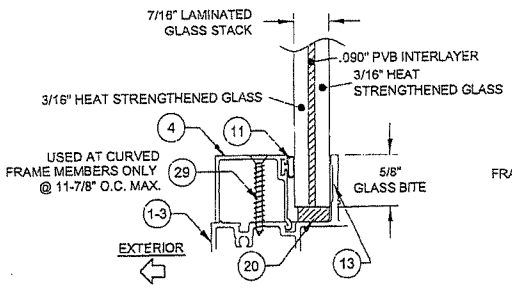
A. LYNN MILLER, P.E.
P.E.# 58705

TABLE 4:

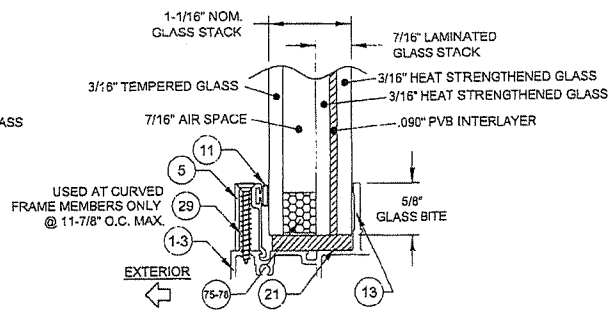
Window Design Pressure (+/-, psf) for Glass Types 2 & 4

Short Side (in)	Long Side (in) 67-7/8	72	76	80	84	88	92	96	100	104	109-1/2	112	116	120	124	128	132	136	140	144
30	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80
32	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80
34	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80			
36	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80				
38	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80						
40	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80								
42	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80									
44	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80										
46	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80											
48	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80												
50	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80	+/-80													
52	+/-80	+/-80	+/-80	+/-80	+/-80	+/-79.1														
54	+/-80	+/-80	+/-80	+/-80	+/-78.6															
56	+/-80	+/-80	+/-80	+/-79.1																
58	+/-80	+/-80	+/-80																	
60	+/-80	+/-80	+/-79.3																	
62	+/-80	+/-80																		
64	+/-80	+/-80																		
66	+/-80																			
67-7/8	+/-80																			

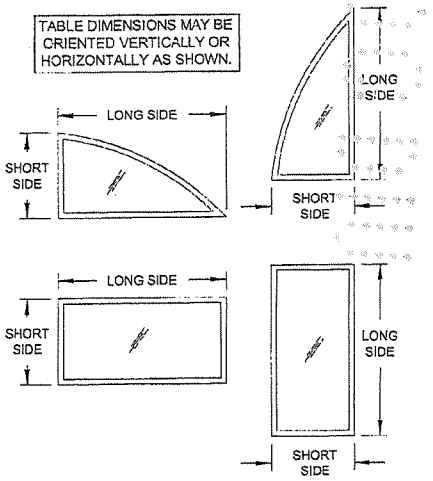
NOTES:
1) BUCK DIMENSIONS SHOWN. FOR FLANGED WINDOWS, SUBTRACT 1" FROM THE TIP-TO-TIP DIMENSION TO DETERMINE THE BUCK DIMENSION.
2) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE SHORT OR LONG DIMENSION.
3) FOR ARCHITECTURAL WINDOWS, FIND THE SMALLEST WINDOW SIZE IN THE TABLE ABOVE WHICH THE OVERALL DIMENSIONS COMPLETELY FIT WITHIN.



GLASS TYPE 2



GLASS TYPE 4



PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0614.11
Expiration Date 02/19/2019
By
Miami-Dade Product Control

Revision: NO CHANGES THIS SHEET.

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

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CERT. OF AUTH. #29296

Title	FIXED WINDOW INSTALLATION GUIDELINES	Date	4/12/13
Desc.	DESIGN PRESSURE TABLES 2	Drawn	J ROSOWSKI
Series	PW-720 PW-820	Scale	NTS
Sheet	3 OF 11	DWG No.	MD-720-820.1
		Rev.	C

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/15/17

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

TABLE 5:

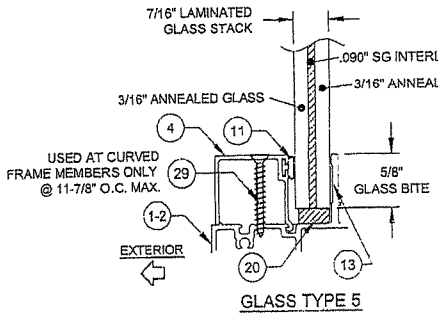
Window Design Pressure (+/-, psf) for Glass Type 5

Short Side (in)	Long Side (in) 67-7/8	72	76	80	84	88	92	96	100	104	109-1/2
30	+90/-125.4	+90/-120	+90/-115.5	+90/-111.5	+90/-108.5	+90/-106	+90/-104.5	+90/-103.5	+90/-102.5	+90/-100.7	+90/-97.9
32	+90/-116.9	+90/-110.8	+90/-105.3	+90/-101.6	+90/-98.7	+90/-95.7	+90/-92.3	+90/-90.6	+90/-90.3	+/-89.9	+/-89
34	+90/-108.9	+90/-103	+90/-98.8	+90/-95.1	+90/-91.6	+/-88.2	+/-84.4	+/-81.5	+/-80.1	+/-79.8	+/-79.4
36	+90/-102.6	+90/-97.1	+90/-92.8	+/-88.9	+/-85.5	+/-82.5	+/-79.7	+/-77.2	+/-75.1	+/-73.4	+/-72.2
38	+90/-98.4	+90/-92.2	+/-86.7	+/-83.2	+/-80.7	+/-78.1	+/-75.2	+/-72.5	+/-70.3	+/-68.5	+/-66.3
40	+90/-94.6	+/-88.2	+/-82.6	+/-79.8	+/-77.2	+/-74.3	+/-71.3	+/-67.9	+/-65.1	+/-63.4	+/-61.6
42	+90/-91.3	+/-84.7	+/-80.7	+/-77.4	+/-74.3	+/-71.3	+/-68.2	+/-64.7	+/-61.6	+/-59.8	+/-58.2
44	+/-88.3	+/-82.4	+/-78.9	+/-75.4	+/-72.1	+/-68.9	+/-65.6	+/-62.2	+/-59.7	+/-57.5	
46	+/-85.4	+/-80.8	+/-77.2	+/-73.6	+/-70.1	+/-66.6	+/-63.5	+/-60.3	+/-57.7		
48	+/-82.7	+/-79.3	+/-75.6	+/-71.9	+/-68.3	+/-64.9	+/-61.5	+/-58.2			
50	+/-80.9	+/-77.5	+/-74.1	+/-70.3	+/-66.7	+/-63.1	+/-59.7				
52	+/-79.1	+/-75.6	+/-72.4	+/-68.8	+/-65.1	+/-61.5					
54	+/-77.4	+/-73.8	+/-70.5	+/-67.3	+/-63.5						
56	+/-75.8	+/-72	+/-68.6	+/-65.3							
58	+/-74.2	+/-70.3	+/-66.8								
60	+/-72.7	+/-68.7	+/-65								
62	+/-71.2	+/-67.1									
64	+/-69.7	+/-65.5									
66	+/-68.3										
67-7/8	+/-67										

TABLE 6:

Window Design Pressure (+/-, psf) for Glass Type 7

Short Side (in)	Long Side (in) 67-7/8	72	76	80	84	88	92	96	100	104	109-1/2
30	+90/-130	+90/-130	+90/-130	+90/-126	+90/-122.6	+90/-119.8	+90/-118.1	+90/-117	+90/-115.8	+90/-112.7	+90/-109.9
32	+90/-130	+90/-125.1	+90/-118.9	+90/-114.8	+90/-111.5	+90/-108.1	+90/-104.3	+90/-102.4	+90/-102	+90/-101.4	+90/-99.7
34	+90/-123.1	+90/-116.4	+90/-111.7	+90/-107.5	+90/-103.8	+90/-99.7	+90/-95.3	+90/-92.1	+90/-90.5	+/-90	+/-89.6
36	+90/-116	+90/-109.8	+90/-104.8	+90/-100.5	+90/-96.6	+90/-93.3	+/-90	+/-87.3	+/-84.9	+/-82.3	+/-81.2
38	+90/-111.2	+90/-104.2	+90/-97.9	+90/-94	+90/-91.1	+/-88.2	+/-84.9	+/-81.9	+/-79.4	+/-76.4	+/-74.3
40	+90/-106.9	+90/-99.6	+90/-93.4	+90/-90.1	+/-87.2	+/-84	+/-80.5	+/-76.7	+/-73.5	+/-70.9	+/-69
42	+90/-103.2	+90/-95.7	+90/-91.2	+/-87.4	+/-84	+/-80.6	+/-77	+/-73.1	+/-69.6	+/-66.9	+/-65.2
44	+90/-99.7	+90/-93.1	+/-89.1	+/-85.2	+/-81.4	+/-77.8	+/-74.1	+/-70.3	+/-67.5	+/-63.9	
46	+90/-96.5	+90/-91.3	+/-87.2	+/-83.2	+/-79.2	+/-75.4	+/-71.7	+/-68.1	+/-65.1		
48	+90/-93.5	+/-89.6	+/-85.4	+/-81.2	+/-77.2	+/-73.3	+/-69.5	+/-65.8			
50	+90/-91.4	+/-87.6	+/-83.7	+/-79.4	+/-75.3	+/-71.3	+/-67.5				
52	+/-89.4	+/-85.5	+/-81.8	+/-77.7	+/-73.5	+/-69.5					
54	+/-87.5	+/-83.4	+/-79.6	+/-76	+/-71.8						
56	+/-85.6	+/-81.4	+/-77.5	+/-73.8							
58	+/-83.8	+/-79.4	+/-75.4								
60	+/-82.1	+/-77.6	+/-73.5								
62	+/-80.4	+/-75.8									
64	+/-78.8	+/-74									
66	+/-77.2										
67-7/8	+/-74.9										



GLASS TYPE 5

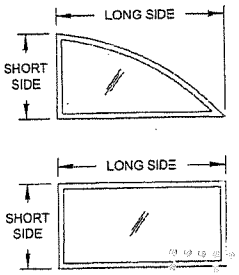
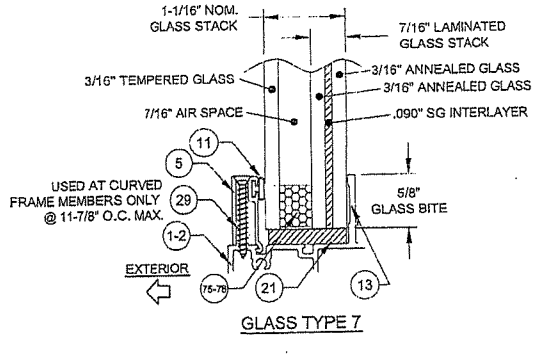


TABLE DIMENSIONS MAY BE ORIENTED VERTICALLY OR HORIZONTALLY AS SHOWN.



GLASS TYPE 7

NOTES:
1) BUCK DIMENSIONS SHOWN. FOR FLANGED WINDOWS, SUBTRACT 1" FROM THE TIP-TO-TIP DIMENSION TO DETERMINE THE BUCK DIMENSION.
2) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE SHORT OR LONG DIMENSION.
3) FOR ARCHITECTURAL WINDOWS, FIND THE SMALLEST WINDOW SIZE IN THE TABLE ABOVE WHICH THE OVERALL DIMENSIONS COMPLETELY FIT WITHIN.
4) THIS SHEET APPLIES ONLY TO FLANGE AND EQUAL-LEG WINDOWS. DO NOT USE WITH FIN-FRAMED WINDOWS.

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0614.11
Expiration Date 02/19/2019
By
Miami-Dade Product Control

Revision: NO CHANGES THIS SHEET.

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

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CERT. OF AUTH. #29296

Title	Date	Drawn By	DWG No.	Sheet	Scale	Rev.
FIXED WINDOW INSTALLATION GUIDELINES	4/12/13	J ROSOWSKI	MD-720-820.1	4 OF 11	NTS	C
DESIGN PRESSURE TABLES 3						

Series: PW-720 PW-820

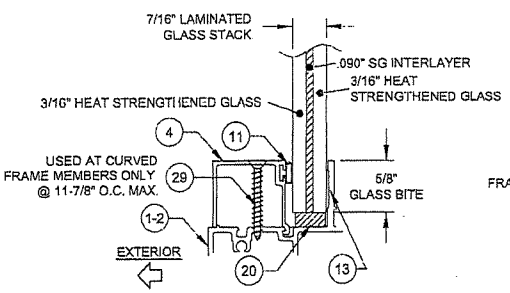
ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/15/17

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

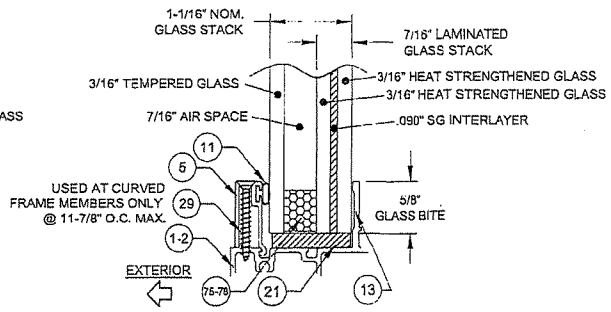
TABLE 7:

Short Side (in)	Window Design Pressure (+/-, psf) for Glass Types 6 & 8 — Long Side (in)																			
	67-7/8	72	76	80	84	88	92	96	100	104	109-1/2	112	116	120	124	128	132	136	140	144
30	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
32	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130
34	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130			
36	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130				
38	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-129.2	+90/-127.3						
40	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-126.8	+90/-123.2	+90/-122								
42	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-129.3	+90/-123.2	+90/-119.7	+90/-116.4									
44	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-124.5	+90/-119.4	+90/-115										
46	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-126.9	+90/-120.5	+90/-115.3											
48	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-129.7	+90/-123	+90/-116.5												
50	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+90/-126.2	+89.4/-119.5													
52	+90/-130	+90/-130	+90/-130	+90/-130	+90/-130	+88.8/-123														
54	+90/-130	+90/-130	+90/-130	+90/-130	+88.8/-127.1															
56	+90/-130	+90/-130	+90/-130	-89.4/-129																
58	+90/-130	+90/-130	+90/-130																	
60	+90/-130	+90/-130	+89.6/-129.3																	
62	+90/-130	+90/-130																		
64	+90/-130	+90/-130																		
66	+90/-130																			
67-7/8	+90/-130																			

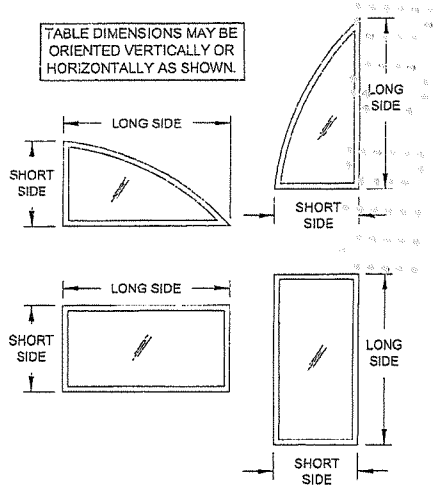
NOTES:
1) BUCK DIMENSIONS SHOWN. FOR FLANGED WINDOWS, SUBTRACT 1" FROM THE TIP-TO-TIP DIMENSION TO DETERMINE THE BUCK DIMENSION.
2) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE SHORT OR LONG DIMENSION.
3) FOR ARCHITECTURAL WINDOWS, FIND THE SMALLEST WINDOW SIZE IN THE TABLE ABOVE WHICH THE OVERALL DIMENSIONS COMPLETELY FIT WITHIN.
4) THIS SHEET APPLIES ONLY TO FLANGE AND EQUAL-LEG WINDOWS. DO NOT USE WITH FIN-FRAMED WINDOWS.



GLASS TYPE 6



GLASS TYPE 8



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Expiration Date 02/19/2019
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Revision:
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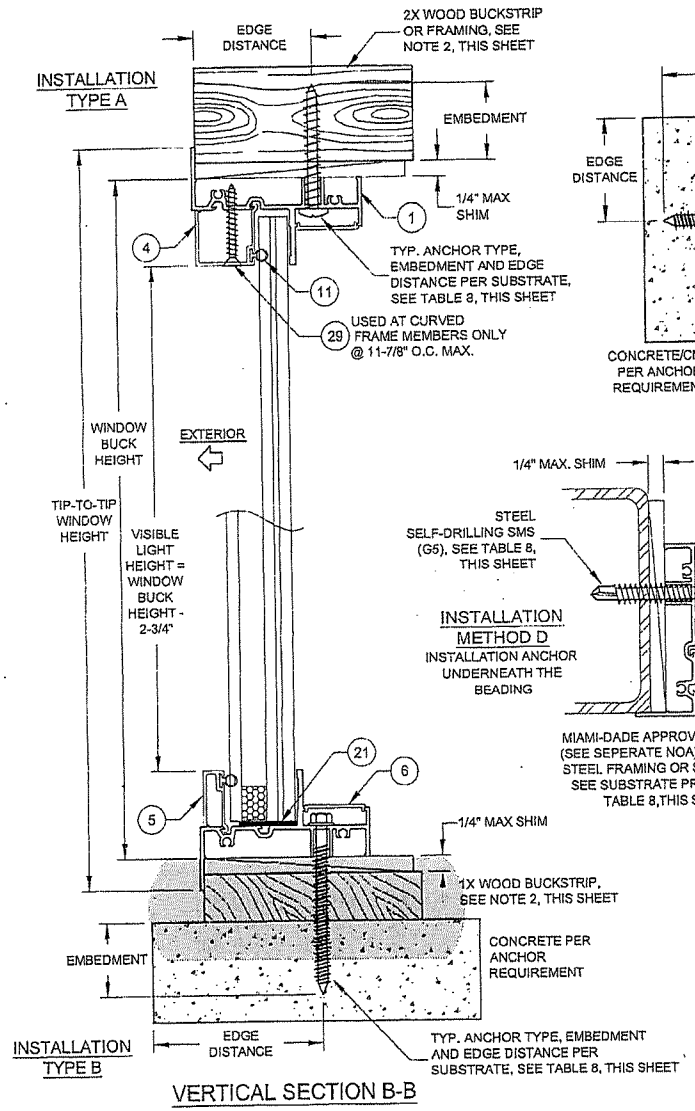
Date	4/12/13
Drwn	J ROSOWSKI
Rev.	C
DWG No.	MD-720-820.1
Sheet	5 OF 11
Scale	NTS
Series	PW-720 PW-820

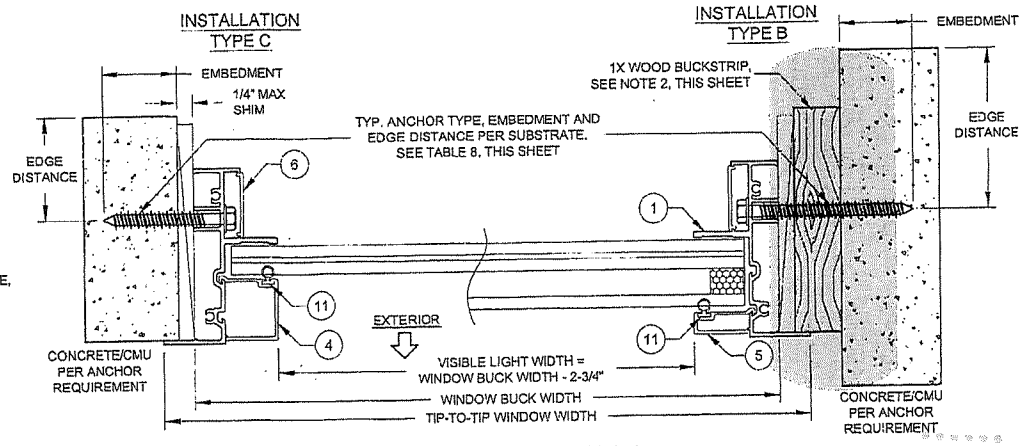
Title: FIXED WINDOW INSTALLATION GUIDELINES
Desc.: DESIGN PRESSURE TABLES 4

ANTHONY LYNN MILLER
LICENSE
No. 58705
9/15/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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



VERTICAL SECTION B-B



HORIZONTAL SECTION A-A

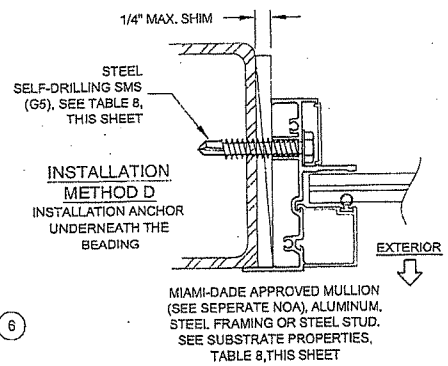


TABLE 8:

Anchor	Substrate	Min. Edge Distance	Min. Embedment	Max C.C. Spacing
#12 or #14 410 SS Screw	P.T. Southern Pine (SG=0.55)	9/16"	1-3/8"	12"
	Aluminum, 6063-T5 min.	3/8"	0.063" *	12"
	A36 Steel	3/8"	0.063" *	12"
	Steel Stud, Gr. 33 min.	3/8"	0.045" (18 Ga) *	12"
#12 or #14 Steel Screw (G5)	P.T. Southern Pine (SG=0.55)	9/16"	1-3/8"	12"
	Aluminum, 6063-T5 min.	3/8"	0.063" *	12"
	A36 Steel	3/8"	0.063" *	12"
	Steel Stud, Gr. 33 min.	3/8"	0.045" (18 Ga) *	12"
1/4" 410 SS CreteFlex	Ungrouted CMU, (ASTM C-90)	2-1/2"	1-1/4"	12"
	Concrete (min. 3.35 ksi)	1"	1-3/4"	12"
1/4" Steel Ultracon	Concrete (min. 2.85 ksi)	1"	1-3/4"	12"
	Concrete (min. 2.85 ksi)	2-1/2"	1-3/8"	12"
	Ungrouted CMU, (ASTM C-90)	2-1/2"	1-1/4"	12"
	Grouted CMU, (ASTM C-90)	2-1/2"	1-3/4"	12"
5/16" Steel Ultracon	Concrete (min. 3.5 ksi)	1-1/4"	1-3/4"	12"
	Grouted CMU, (ASTM C-90)	2-1/2"	1-3/4"	12"

* MIN. OF 3 THREADS BEYOND THE METAL SUBSTRATE.
"UNGROUTED CMU" VALUES MAY BE USED FOR GROUTED CMU APPLICATIONS.

INSTALLATION NOTES:

1. USE ONLY ANCHORS LISTED ON THIS SHEET. FOLLOW EMBEDMENT AND EDGE DISTANCE LIMITS.

2. WOOD BUCKS DEPICTED 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 SOLID CONCRETE. 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 AUTHORITY HAVING JURISDICTION.

3. FOR ATTACHMENT TO METAL: THE STRUCTURAL MEMBER SHALL BE OF A SIZE TO PROVIDE FULL SUPPORT TO THE WINDOW FRAME.

4. IF APPLICABLE, LOWER DESIGN PRESSURE FROM EITHER WINDOW OR MULLION NOA APPLIES TO WHOLE SYSTEM.

Material	Min. F_y	Min. F_u
Steel Screw	92 ksi	120 ksi
410 Screw	90 ksi	110 ksi
Elco UltraCon®	155 ksi	177 ksi
410 SS Elco CreteFlex®	127.4 ksi	189.7 ksi
6063-T5 Aluminum	16 ksi	22 ksi
A36 Steel	36 ksi	58 ksi
Gr. 33 Steel Stud	33 ksi	45 ksi

PRODUCT REVISED
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NOA-No. 17-0614.11
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Miami-Dade Product Control

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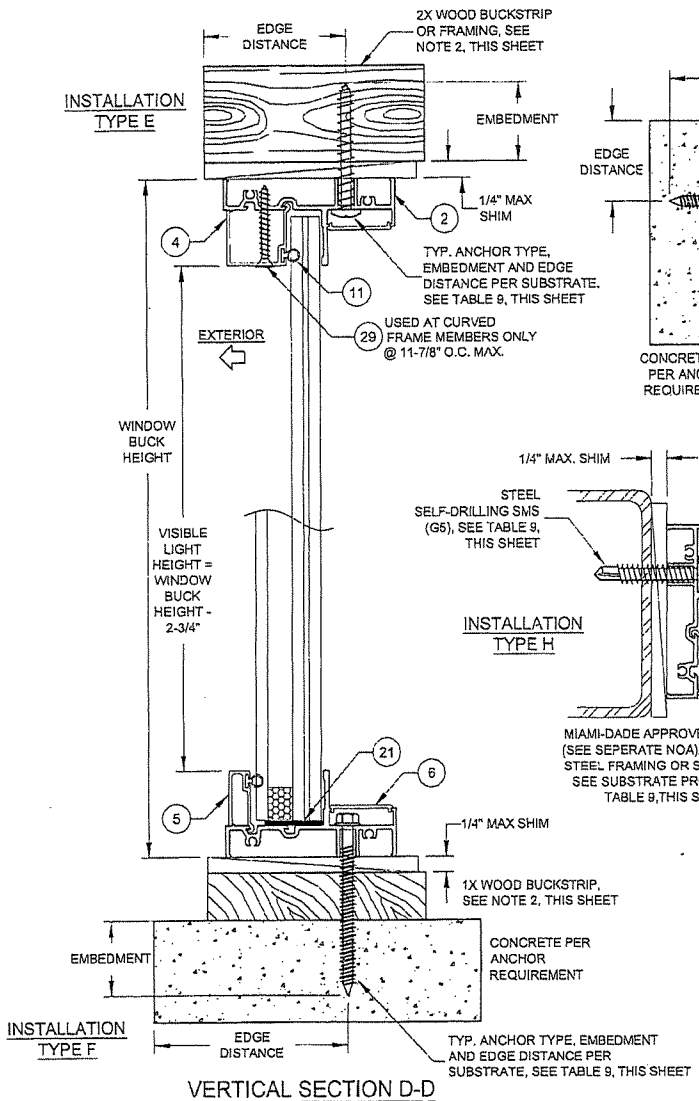
Title	Drawn By	Date	Rev.
FIXED WINDOW INSTALLATION GUIDELINES	J ROSOWSKI	4/12/13	C

Desc.	DWG No.	Sheet
FLANGE INSTALLATION	MD-720-820.1	8 OF 1

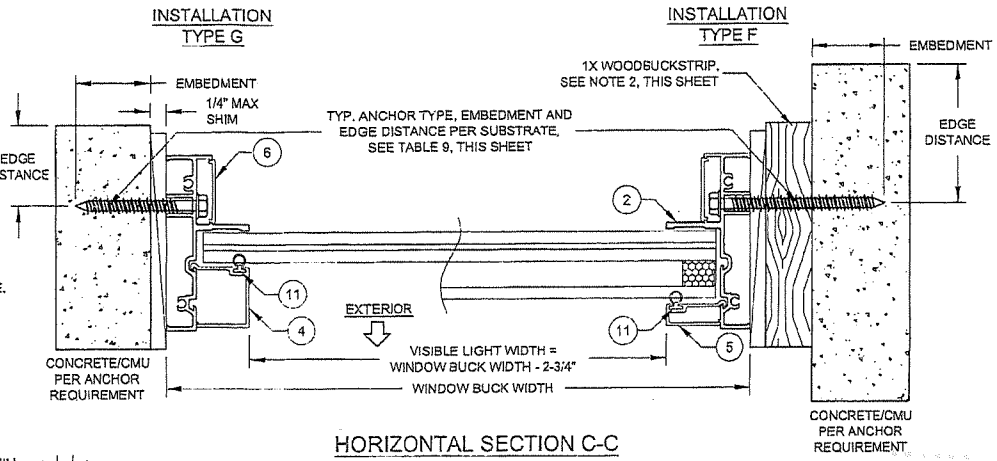
Series	Scale
PW-720 PW-820	NTS

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/15/17

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



VERTICAL SECTION D-D



HORIZONTAL SECTION C-C

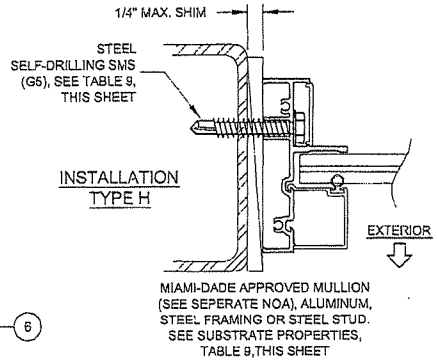


TABLE 9:

Anchor	Substrate	Min. Edge Distance	Min. Embedment	Max O.C. Spacing
#12 or #14 410 SS Screw	P.T. Southern Pine (SG=0.55)	9/16"	1-3/8"	12"
	Aluminum, 6063-T5 min.	3/8"	0.063" *	12"
	A36 Steel	3/8"	0.063" *	12"
	Steel Stud, Gr. 33 min.	3/8"	0.045" (18 Ga) *	12"
#12 or #14 Steel Screw (G5)	P.T. Southern Pine (SG=0.55)	9/16"	1-3/8"	12"
	Aluminum, 6063-T5 min.	3/8"	0.063" *	12"
	A36 Steel	3/8"	0.063" *	12"
	Steel Stud, Gr. 33 min.	3/8"	0.045" (18 Ga) *	12"
1/4" 410 SS CreteFlex	Ungrouted CMU, (ASTM C-90)	2-1/2"	1-1/4"	12"
	Concrete (min. 3.35 ksi)	1"	1-3/4"	12"
1/4" Steel Ultracon	Concrete (min. 2.85 ksi)	1"	1-3/4"	12"
	Concrete (min. 2.85 ksi)	2-1/2"	1-3/8"	12"
	Ungrouted CMU, (ASTM C-90)	2-1/2"	1-1/4"	12"
	Grouted CMU, (ASTM C-90)	2-1/2"	1-3/4"	12"
5/16" Steel Ultracon	Concrete (min. 3.5 ksi)	1-1/4"	1-3/4"	12"
	Grouted CMU, (ASTM C-90)	2-1/2"	1-3/4"	12"

* MIN. OF 3 THREADS BEYOND THE METAL SUBSTRATE.
"UNGROUTED CMU" VALUES MAY BE USED FOR GROUTED CMU APPLICATIONS.

INSTALLATION NOTES:

1. USE ONLY ANCHORS LISTED ON THIS SHEET. FOLLOW EMBEDMENT AND EDGE DISTANCE LIMITS.

2. WOOD BUCKS DEPICTED 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 SOLID CONCRETE. 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 AUTHORITY HAVING JURISDICTION.

3. FOR ATTACHMENT TO METAL: THE STRUCTURAL MEMBER SHALL BE OF A SIZE TO PROVIDE FULL SUPPORT TO THE WINDOW FRAME.

4. IF APPLICABLE, LOWER DESIGN PRESSURE FROM EITHER WINDOW OR MULLION NOA APPLIES TO WHOLE SYSTEM.

Material	Min. F_y	Min. F_u
Steel Screw	82 ksi	120 ksi
410 Screw	90 ksi	110 ksi
Elco UltraCon®	155 ksi	177 ksi
410 SS Elco CreteFlex®	127.4 ksi	189.7 ksi
6063-T5 Aluminum	16 ksi	22 ksi
A36 Steel	36 ksi	58 ksi
Gr. 33 Steel Stud	33 ksi	45 ksi

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0614.11
Expiration Date 02/19/2019
By
Miami-Dade Product Control

Revision: NO CHANGES THIS SHEET.

1670 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941)-430-1600

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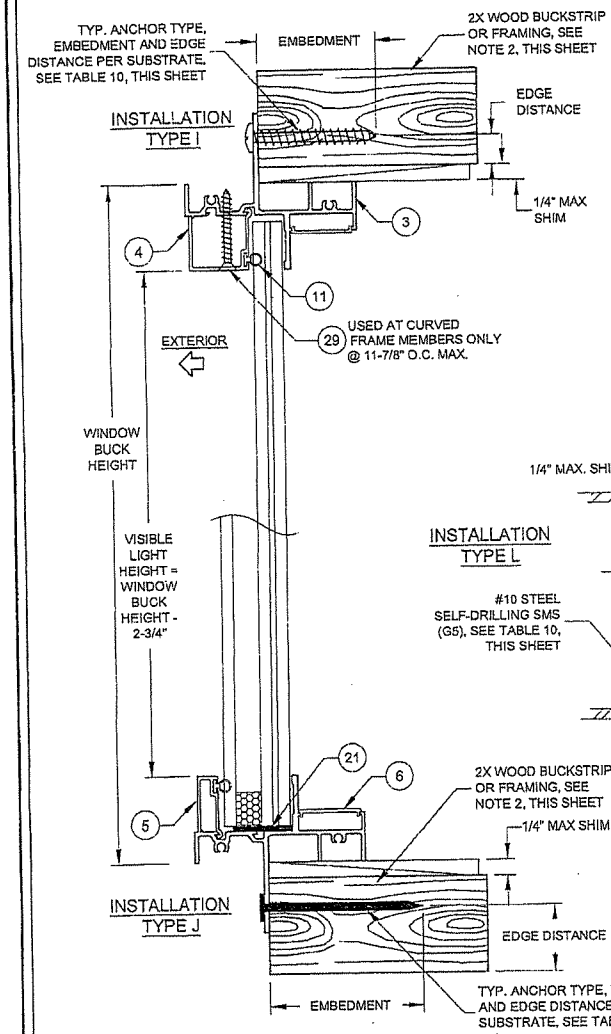
CERT. OF AUTH. #29296

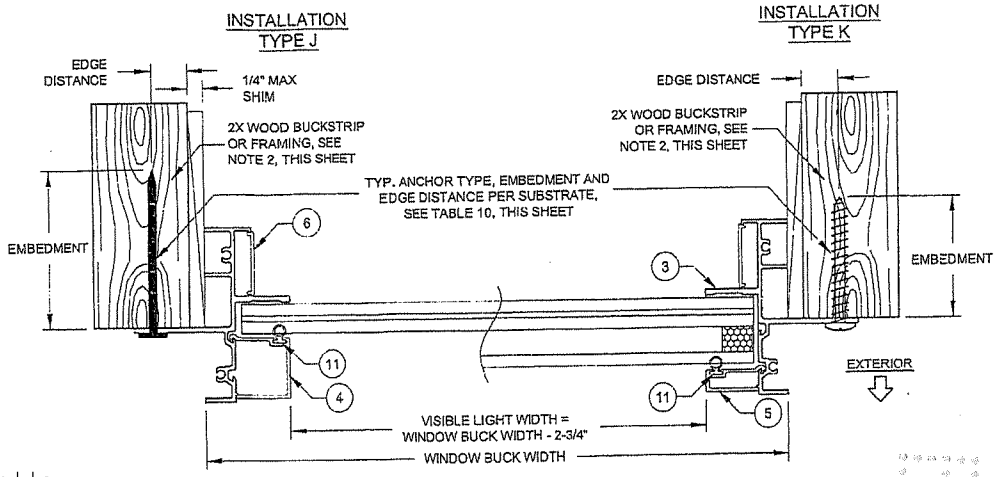
Title:	FIXED WINDOW INSTALLATION GUIDELINES
Date:	4/12/13
Drawn By:	J ROSOWSKI
Rev.	C
Desc.	EQUAL-LEG INSTALLATION
DWG No.	MD-720-920.1
Sheet	7 OF 11
Scale	NTS
Series	PW-720 PW-820

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/15/17

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



VERTICAL SECTION F-F



HORIZONTAL SECTION E-E

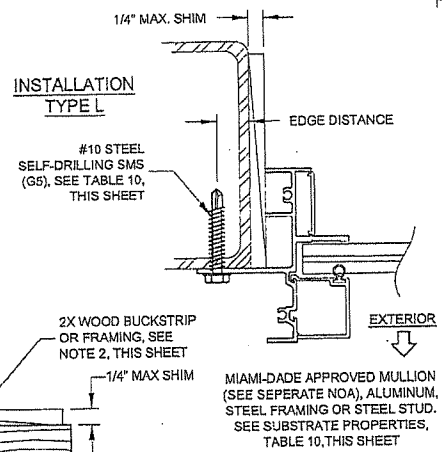


TABLE 10:

Anchor	Substrate	Min. Edge Distance	Max. O.C. Spacing
2-1/2" x .113" Box Nail	P.T. Southern Pine (SG=0.55)	5/16"	5"
2-1/2" x .131" Common Nail	P.T. Southern Pine (SG=0.55)	3/8"	5"
2-1/2" x .145" Roofing Nail	P.T. Southern Pine (SG=0.55)	3/8"	5"
#10 x 1" Steel Screw (G5)*	P.T. Southern Pine (SG=0.55)	1/2"	5"
	0.093" Aluminum, 6063-T5 min.	5/16"	5"
	1/16" A36 Steel	5/16"	5"
	0.045" (18 Ga) Steel Stud, Gr. 33	5/16"	5"

* MIN. OF 3 THREADS BEYOND THE METAL SUBSTRATE.

INSTALLATION NOTES:

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4. IF APPLICABLE, LOWER DESIGN PRESSURE FROM EITHER WINDOW OR MULLION NOA APPLIES TO WHOLE SYSTEM.

Material	Min. F_y	Min. F_u
Steel Screw	92 ksi	120 ksi
6063-T5 Aluminum	16 ksi	22 ksi
A36 Steel	36 ksi	58 ksi
Gr. 33 Steel Stud	33 ksi	45 ksi

PRODUCT REVISED
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Miami-Dade Product Control

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(941)-480-1600

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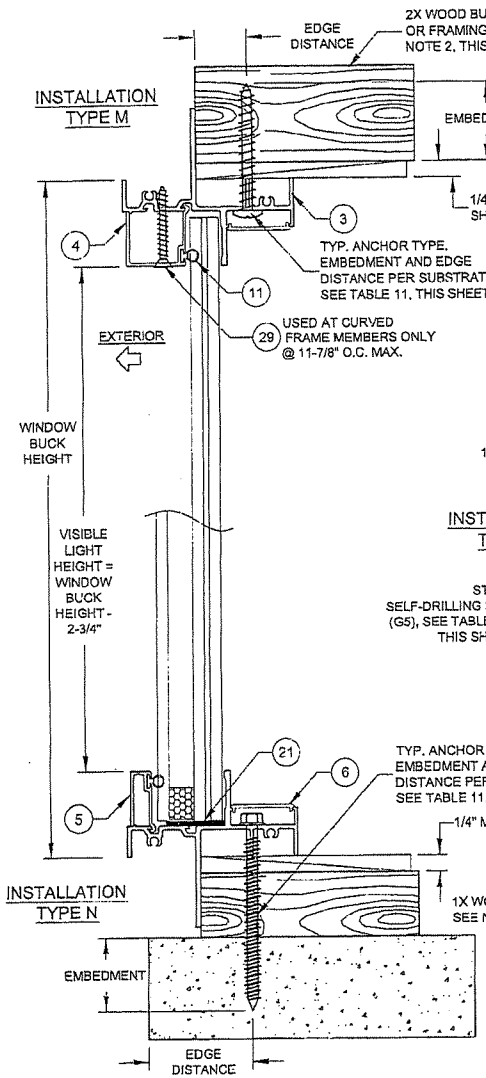
CERT. OF AUTH. #29296

Series	Scale	Sheet	DWG No.	Drawn By	Date	Rev.
PW-720 PW-820	NTS	8 OF 11	MD-720-820.1	J ROSOWSKI	4/12/13	C

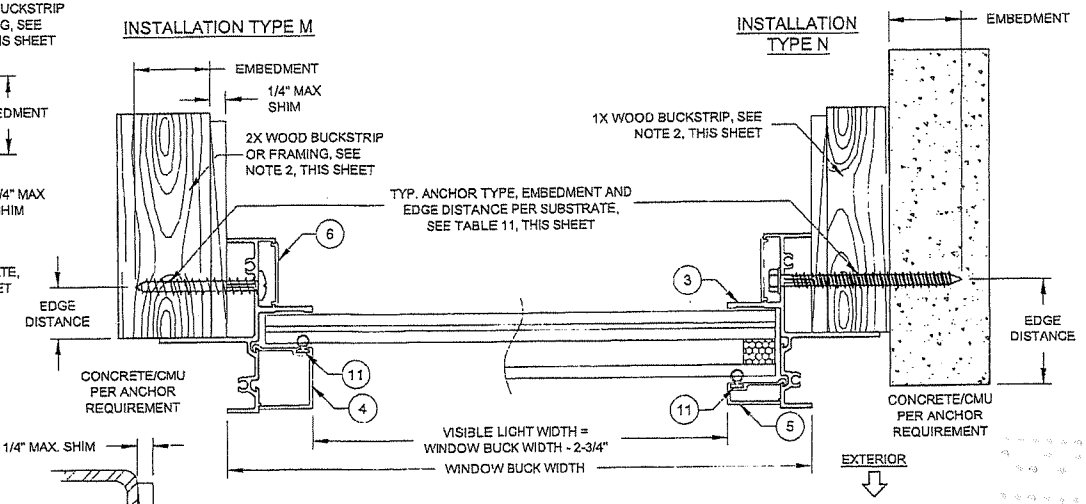
Title: FIXED WINDOW INSTALLATION GUIDELINES
Desc.: FIN INSTALLATION

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/15/17

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



VERTICAL SECTION H-H



HORIZONTAL SECTION G-G

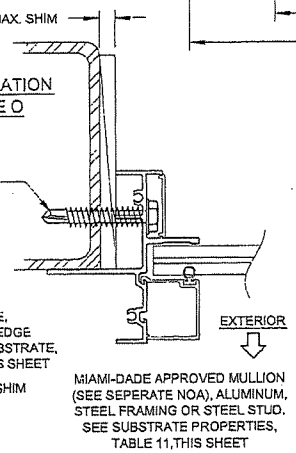


TABLE 11:

Anchor	Substrate	Min. Edge Distance	Min. Embedment	Max. O.C. Spacing
#12 or #14 410 SS Screw	P.T. Southern Pine (SG=0.55)	9/16"	1-3/8"	3.7"
	Aluminum, 6063-T5 min.	3/8"	0.063" *	3.7"
	A36 Steel	3/8"	0.063" *	3.7"
	Steel Stud, Gr. 33 min.	3/8"	0.045" (18 Ga) *	3.7"
#12 or #14 Steel Screw (G5)	P.T. Southern Pine (SG=0.55)	9/16"	1-3/8"	3.7"
	Aluminum, 6063-T5 min.	3/8"	0.063" *	3.7"
	A36 Steel	3/8"	0.063" *	3.7"
	Steel Stud, Gr. 33 min.	3/8"	0.045" (18 Ga) *	3.7"
1/4" 410 SS CreteFlex	Ungrouted CMU, (ASTM C-90)	2-1/2"	1-1/4"	6.7"
	Concrete (min. 3.35 ksi)	1"	1-3/4"	6.7"
1/4" Steel Ultracon	Concrete (min. 2.85 ksi)	1"	1-3/4"	6.7"
	Concrete (min. 2.85 ksi)	2-1/2"	1-3/8"	6.7"
	Ungrouted CMU, (ASTM C-90)	2-1/2"	1-1/4"	6.7"
	Grouted CMU, (ASTM C-90)	2-1/2"	1-3/4"	6.7"
5/16" Steel Ultracon	Concrete (min. 3.5 ksi)	1-1/4"	1-3/4"	6.7"
	Grouted CMU, (ASTM C-90)	2-1/2"	1-3/4"	6.7"

* MIN. OF 3 THREADS BEYOND THE METAL SUBSTRATE.
"UNGROUTED CMU" VALUES MAY BE USED FOR GROUTED CMU APPLICATIONS.

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4. IF APPLICABLE, LOWER DESIGN PRESSURE FROM EITHER WINDOW OR MULLION NOA APPLIES TO WHOLE SYSTEM.

Material	Min. F_y	Min. F_u
Steel Screw	92 ksi	120 ksi
410 Screw	90 ksi	110 ksi
Elco UltraCon®	155 ksi	177 ksi
410 SS Elco CreteFlex®	127.4 ksi	189.7 ksi
6063-T5 Aluminum	16 ksi	22 ksi
A36 Steel	36 ksi	58 ksi
Gr. 33 Steel Stud	33 ksi	45 ksi

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0614.11
Expiration Date 02/19/2019
By
Miami-Dade Product Control

Revision: JR - 06/06/17 - UPDATED ANCHORAGE TO FBC 2017.

1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941)-430-1600

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CERT. OF AUTH. #29206

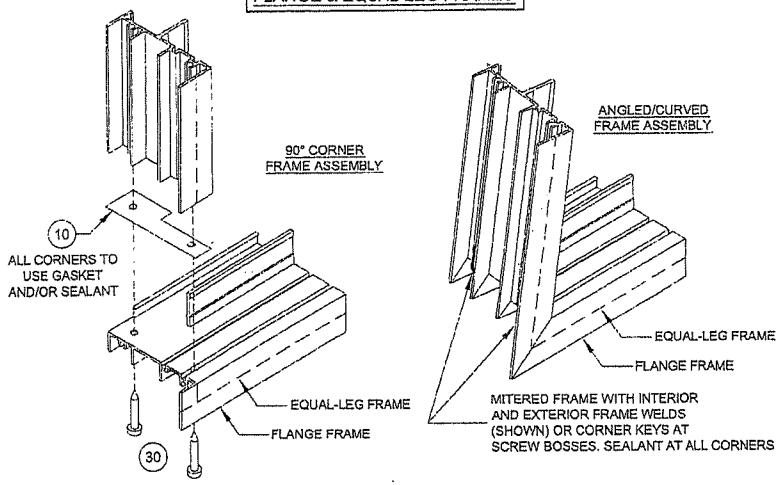
Series	Desc.	Title	Scale	Sheet	DWG No.	Rev.
PW-720 PW-820	FIN INSTALLATION	FIXED WINDOW INSTALLATION GUIDELINES	NTS	9 OF 11	MD-720-820.1	C

Drawn: J ROSOWSKI
Date: 4/12/13

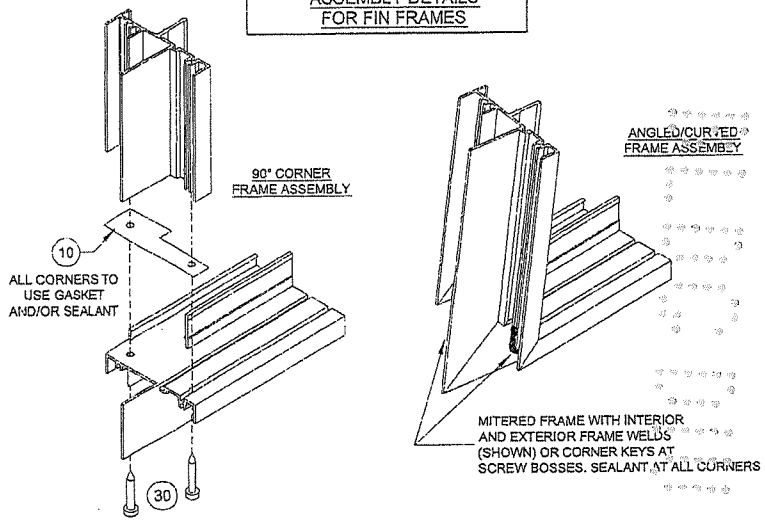
ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/15/17

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

ASSEMBLY DETAILS FOR FLANGE & EQUAL-LEG FRAMES



ASSEMBLY DETAILS FOR FIN FRAMES



PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0614.11
Expiration Date 02/19/2019
By
Miami-Dade Product Control

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CERT. OF AUTH. #29298

Title	Date	Drawn By	DWG No.	Rev.
FIXED WINDOW INSTALLATION GUIDELINES	4/12/13	J ROSOWSKI	MD-720-820.1	C

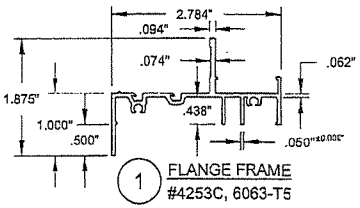
Series	Scale	Sheet	Dasc.
PW-720 PW-820	NTS	10 OF 11	

ANTHONY LYNN MILLER
LICENSE
No. 58705
9/15/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER

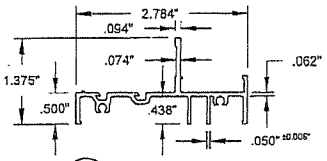
A. LYNN MILLER, P.E.
P.E.# 58705

TABLE 12:

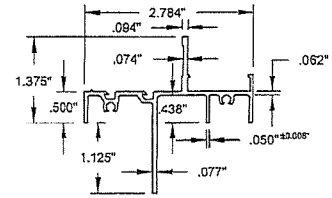
Item #	PGT Part #	Description	Material
1	4253C	Flanged Frame	Alum. 6063-T5
2	4285	Equal-leg Frame	Alum. 6063-T5
3	4256	Integral Fin Frame	Alum. 6063-T5
4	4255	7/16" Lami. Glass Beading	Alum. 6063-T5
5	4254	I.G. Glass Beading	Alum. 6063-T5
6a	4270	Installation Fastener Cover	Alum. 6063-T5
6b	4224	Installation Fastener Cover	Rigid PVC
10	70589C	Gasket (at 90° corner joints)	Polyethylene
11	TP247/8	Vinyl Bulb Weatherstrip	Flex PVC, Duro. 65 +/-1
13		Dow 791, 899 or GE 7700 Backbedding	Silicone
20	71652K	Setting Block, Mono. 3/16" x 7/16" x 4"	Neoprene, Duro. 85 +/-1
21	71704AK	Setting Block, I.G. 3/16" x 1-3/32" x 4"	Neoprene, Duro. 85 +/-1
29		#6 x 1-1/4" FH SMS	Stainless Steel
30	781PQX	#8 x 1" Quad PH SMS	Stainless Steel



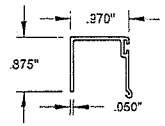
1 FLANGE FRAME
#4253C, 6063-T5



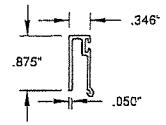
2 EQUAL-LEG FRAME
#4285, 6063-T5



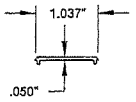
3 FIN FRAME
#4256, 6063-T5



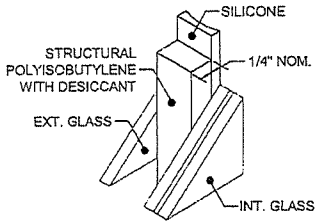
4 7/16" LAMI. GLASS BEADING
#4255, 6063-T5



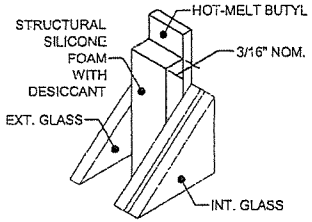
5 I.G. GLASS BEADING
#4254, 6063-T5



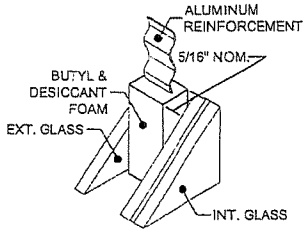
6a INSTALLATION FASTENER COVER
#4270, 6063-T5



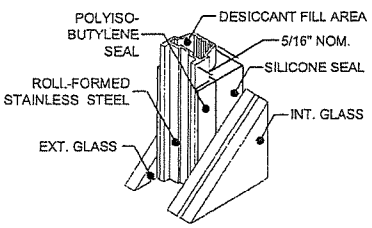
75 KODISPACE 4SG TPS



76 SUPER SPACER® NXT™



77 DURASEAL® SPACER



78 XL EDGE™ SPACER

TABLE 13:

Part #	Description	Material
75	Kommerling 4SG TPS Spacer System	See this Sheet for Materials
76	Quanex Super Spacer nXT with Hot Melt Butyl	
77	Quanex Duraseal Spacer	
78	Cardinal XL Edge Spacer	

REFERENCE TEST REPORTS: FTL-8717, 8968 & 8970

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 17-0614.11
Expiration Date 02/19/2019
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Miami-Dade Product Control

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N. VENICE, FL 34275
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Date	4/12/13	
Drawn By	J ROSOWSKI	
Rev.	C	
DWG No.	MD-720-820.1	
Sheet	11 OF 11	
Scale	NTS	
Series	PW-720 PW-820	
Title	FIXED WINDOW INSTALLATION GUIDELINES	
Desc.	BOM, EXTRUSIONS, AND CORNERS	

ANTHONY LYNN MILLER
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STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/15/17

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

BLD-2018-1670

7440 SW 139 ter

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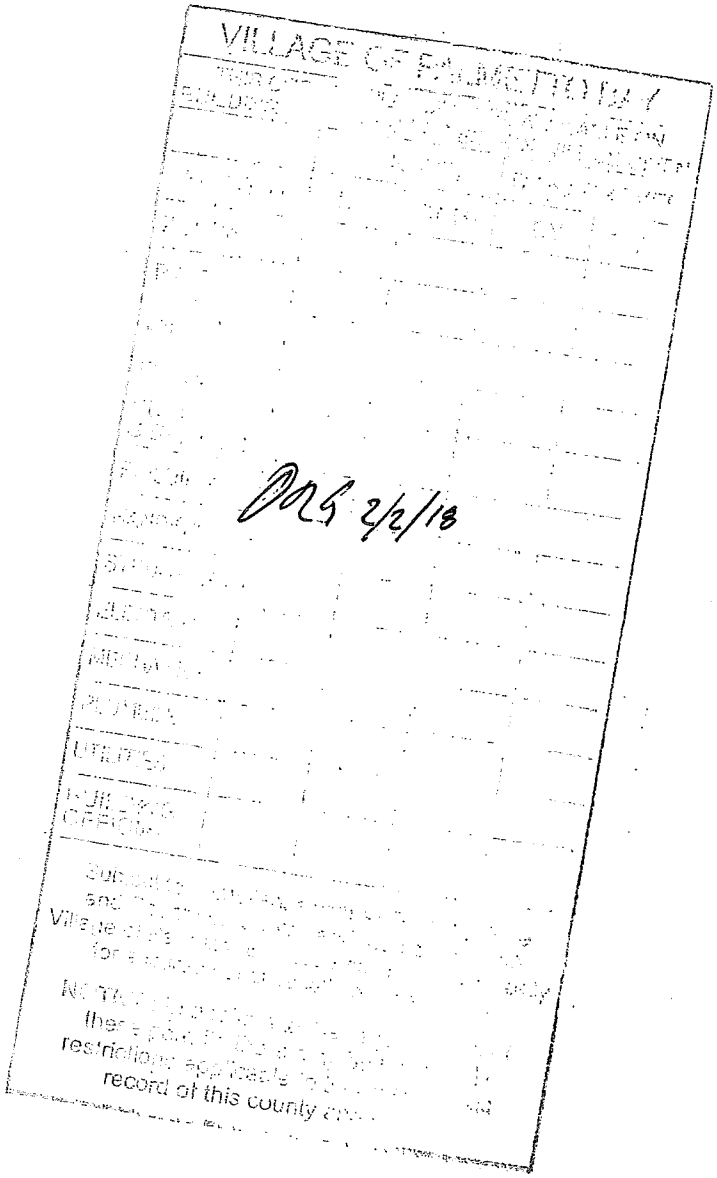
VILLAGE OF PALMETTO BAY

DRG 2/2/18

Subject to [illegible] and [illegible] Village [illegible] for [illegible]



NOTICE [illegible] there [illegible] restrictions applicable [illegible] record of this county [illegible]