Owner Alfred Stolmaker | Mailing Address | Permit No. 19876 | Cost $ 9,500.00

Lot 6 | Block N | Subdivision HIBISCUS ISLAND | Address 230 N. Hibiscus Drive

General Contractor Taylor Construction Company | Bond No. 3039 | 3232-05-0330

Architect Robert Swartburg | Engineer A.H. Baxter | (Priority application (#44-066-00480- approved (D. H. Burk.....

9367

Zoning Regulations: Use RD | Area 22 | Lot Size 76 X 125

Building Size: Front 55' | Depth 30 | Height 15 | Stories one

Certificate of Occupancy No. | Use RESIDENCE & GARAGE (3bedrooms)

Type of Construction CBS | Foundation Concrete piling | Roof Tile | Date April 3, 1945

Plumbing Contractor | Sewer Connection | Date

Temporary Closet

Plumbing Contractor # 18224 City Plumbing Company | Date May 11,1945

Water Closets 2, | Bath Tubs 1, | Floor Drains Laundry tray 1,

Lavatories 2, | Showers 1, | Grease Traps

Urinals | Sinks 1, | Drinking Fountains

Gas Stoves 1, | Gas Heaters 1, | Rough Approved | Date

Gas Radiators 1, | Gas Turn On Approved

Septic Tank Contractor #18224 City Plumbing Co: 1.... | Tank Size | Date May 11,1945

Oil Burner Contractor #18284 Acme Septic Tank Co: 1---------- 600 gallons ---------- | Tank Size | Date June 4, 1945

Sprinkler System

Electrical Contractor # 21075.. Lowry Electric Co: | Address # 21173 | Date June 12,1945

Switch 17 | Range 1, | Motors | Fans | Temporary Service July 20,1945

OUTLETS Light 19 | HEATERS Water 1,

Receptacles 24 | Space 2, | Centers of Distribution 2,

Refrigerators 1, | Bell transformer 1, Service equipment 1,

Irons 2, | Sign Outlets

No. FIXTURES 19 | Electrical Contractor | Date

FINAL APPROVED BY R.B. Woodmansee | Date of Service February 6, 1946

Alterations or Repairs—Over

PLUMBING PERMIT # 18707 -- Yell for Pennell, Inc. 1 Gas range - Nov. 6, 1945

ALTERATIONS & ADDITIONS

Building Permits:

#58374 Richard Weiss: Florida Room addition to existing porch - 19'6"x8' - $500 - Jan. 27, 1959. OK 3/10/59 Cox

#69074 Owner, Alfred Stolemaker: Repaint exterior - $200. - 4/1/63

#69211 Yale Ogron Mfg. Co.: Replace 18 steel casements with awning type windows - $650. - 4/25/63

77359 Associated Roofers: Reroof flat roof - $100 - 11/10/66

#81357 Owner 14" x 18" for sale sign for sale 534-4025 $5.00 11/12/68

#00100 - owner - for sale sign #298 $5.00 11/22/71

#02646-Jack Justice Realtor-For Sale Sign #477-$5-3-6-73

#03566-Orkin Exterminating-Fumigation-$295-7-12-73

#07173-The Keyes Co-For Sale Sign #829-4-18-75

#23483 2/25/83 F & R Plumb - reroof 18 sqs $3,000.

Plumbing Permits: # 34045 Beutel's Solar Heater Co: 1 Solar Water Heater repairs only -Oct. 15,1952

#40634 Serota Plbg: 1 4" Sewer - June 2, 1958

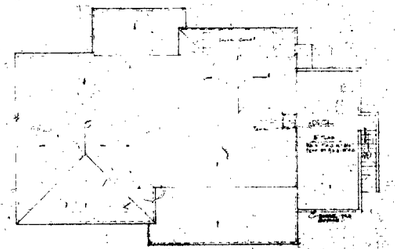
#44964 Beutel's Solar Heater: 1 solar water heater, replace tank - 10/8/65

#49237-Peoples Gas System- 1 Gas Outlet dryer-6-27-72

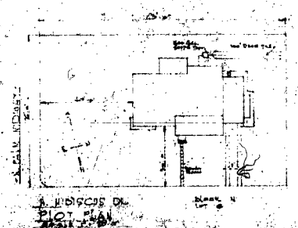
#57943-Isometric Plumbing- 1 dishwasher-12-4-79

#53397 E & E Elec: 4 light outlets, 2 centers of distrib, 1 service equip, 1 motor(2-5HP)- 3/11/59 OK 3/11/59 Newbold

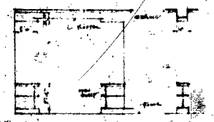
Electrical Permits: E & E

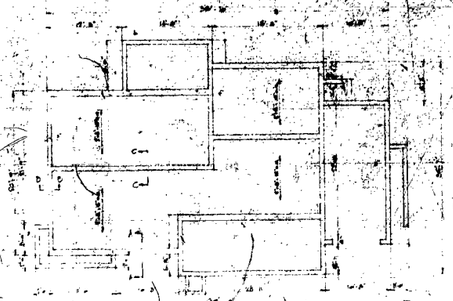


FLOOR PLAN

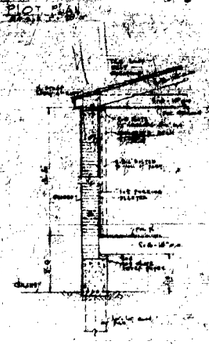


PLOT PLAN



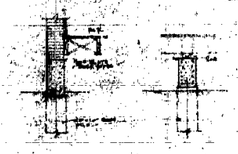


1ST. FLOOR PLUMBING PLAN

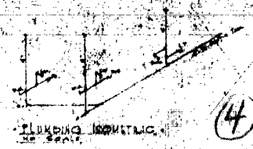


SECTION A-A

SECTION B-B



SECTION C-C



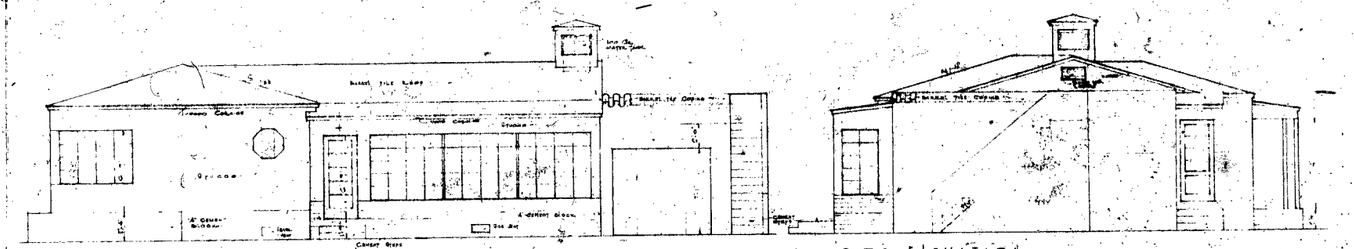
FLOORING DETAILS

(4)

(4)	R. ROBERT SWARTBURG, AR. ARCHT. Coral Gables, Fla.		
SCALE	DATE	9/19/60	

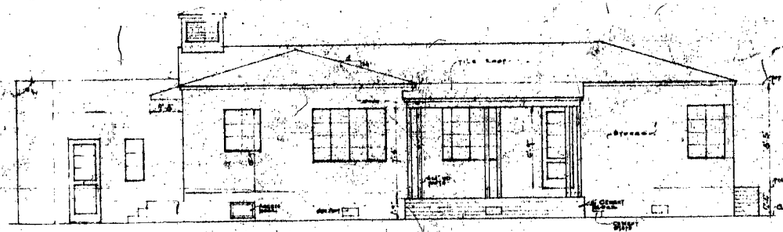
19876

ARCHITECTS FOR
MR. ALFRED GIOLANELLI
RESIDENCE DR. FIRST FLOOR PLAN
CORAL GABLES, FLORIDA
TAYLOR CONSTRUCTION
MIAMI, FLORIDA



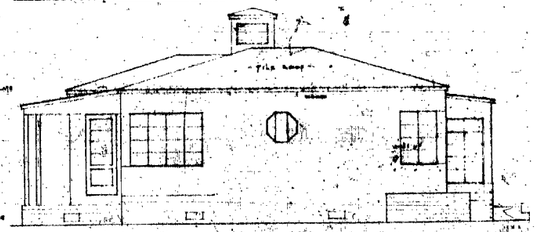
FRONT ELEVATION

SIDE ELEVATION



REAR ELEVATION

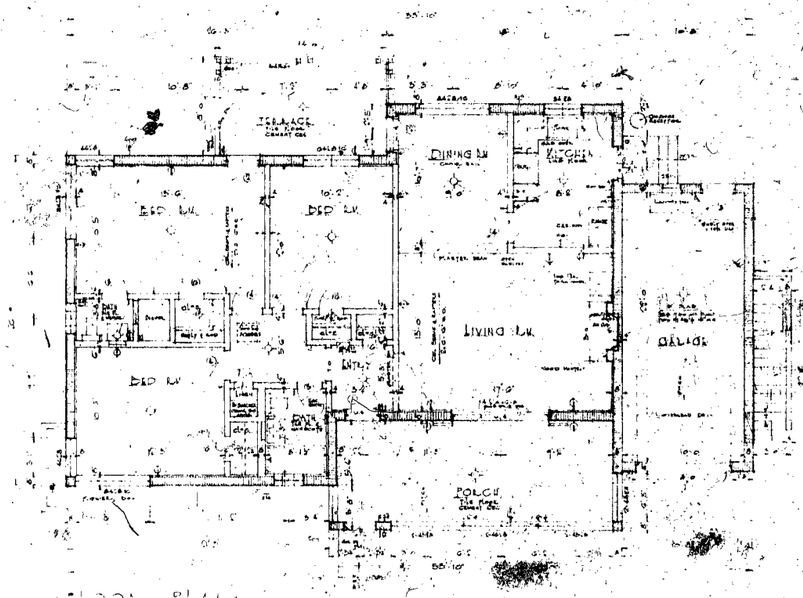
SCALE 1/8"=1'-0"



SIDE ELEVATION

RESIDENCE OF
MR. ALFRED STOLMAKER
HIBISCUS DR. HIBISCUS ISLANDS
MIAMI BEACH, FLORIDA
TAYLOR CONSTRUCTION CO.
MIAMI, FLORIDA

3	R. ROBERT SWARTBURG, ARCHITECT 627 Lincoln Rd. M.B.		
No. 45-1	By WM.	Date 3/26/45	

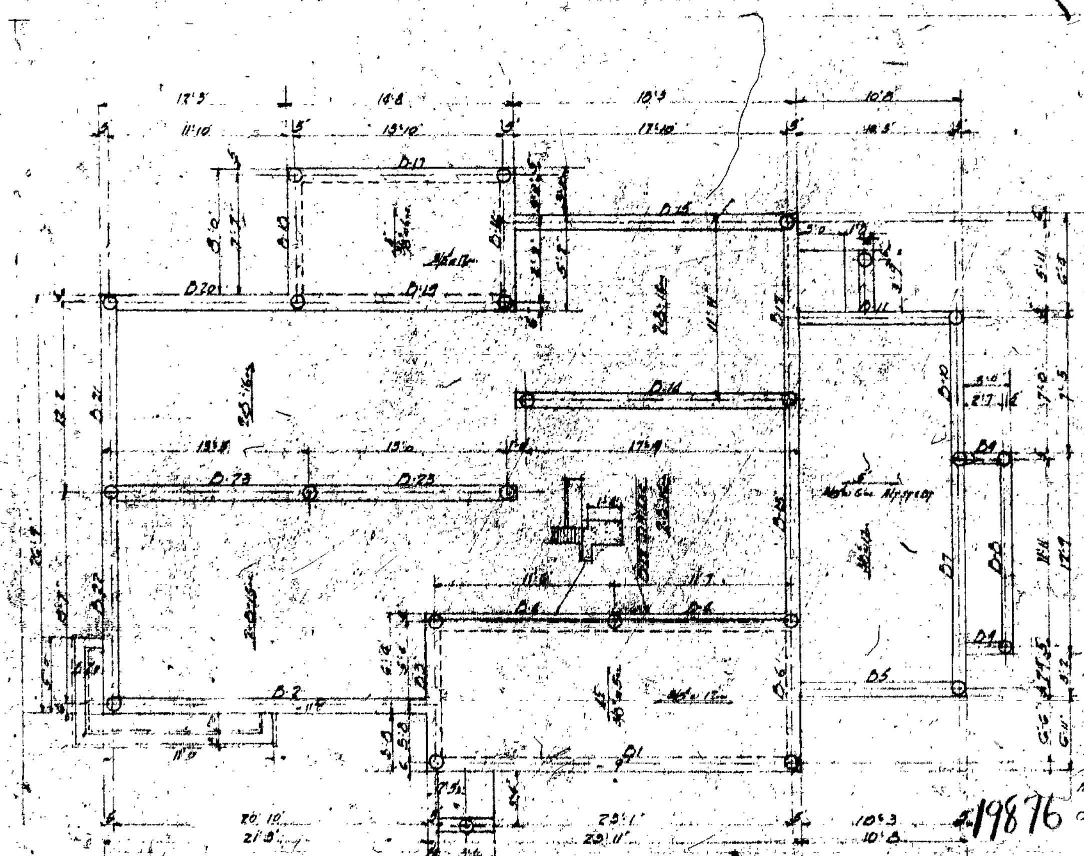


FLOOR PLAN
SCALE 1/4"=1'-0"

POOL SCHEDULE

ELECTRIC SYMBOLS

(2)



BEAM SCHEDULE

Beam Mark	Beam Size	Steel Str. Bars	Steel Bent Bars	Stirrups No. per Beam	Stirrups Spa. ea. end	Top Steel	LL Beam Bot.
D1	12.20	2-7/8	2-7/8	8-3/8	4@12		-3'1"
D2	12.22	2-7/8	2-7/8	8-3/8	4@12		-3'5"
D3	12.33	3-7/8		6-3/8	3@12	2-7/8	-3'6"
D4	12.16	2-3/4	2-3/4	10-3/8	2@8-3@9		-2'9"
D5	12.12	2-7/8	1-7/8				-3'7"
D6	8.38	2-7/8					-3'4"
D7	8.18	1-1"	1-1"	10-3/8	2@8-3@12		-3'3"
D8	8.16	1-7/8	1-7/8	6-3/8	3@12		-3'0"
D9	8.12	2-7/8					-3'0"
D10	8.26	1-7/8	1-7/8				-3'3"
D11	8.16	1-7/8	1-7/8	6-3/8	3@9		-3'8"
D12	12.18	2-3/4	2-3/4	10-3/8	2@8-3@9		-3'5"
D13	10.18	1-1"	1-7/8	10-3/8	2@9-3@12		-3'5"
D14	12.20	2-7/8	2-3/4	8-3/8	4@12		-2'10"
D15	12.20	2-7/8	2-3/4	8-3/8	4@12		-3'5"
D16	8.32	2-7/8		8-3/8	4@12		-3'5"
D17	10.12	2-7/8	1-7/8				-3'4"
D18	8.12	2-7/8					-3'4"
D19	12.20	2-3/4	2-3/4	14-3/8	2@7-2@8-3@12		-2'6"
D20	12.20	2-7/8	2-7/8				-2'8"
D21	8.16	1-7/8	1-3/4	6-3/8	3@9		-3'4"
D22	8.16	1-3/4	1-3/4	6-3/8	3@9		-3'1"
D23	12.18	2-7/8	2-7/8	6-3/8	3@12		-2'8"

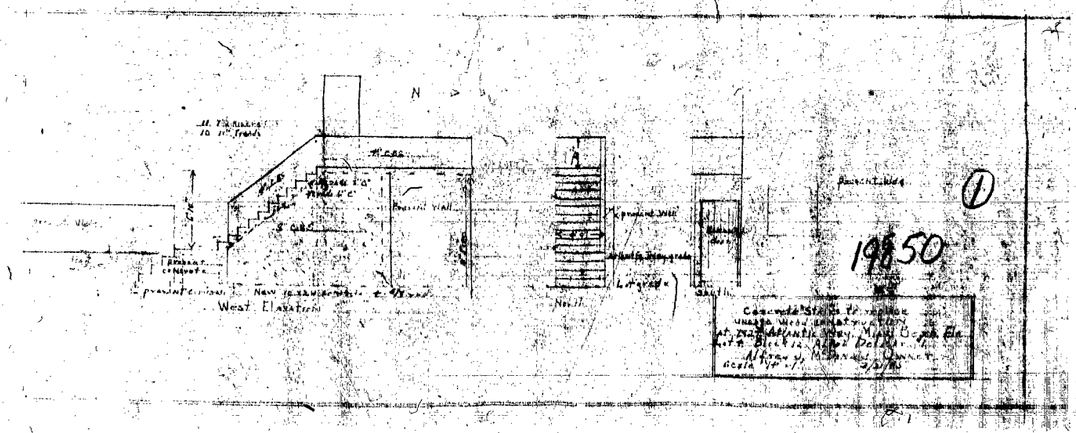
Piles:
Piles indicated thus ○ 10" concrete reinforced 4-3/4" [illegible] 1/4" [illegible] [illegible] [illegible] spaced [illegible] Concrete strength [illegible] [illegible] days. Piles to be jetted [illegible] [illegible] driven to refusal with [illegible] Piles to be cut off at bottom of beam & dowels [illegible] to extend 12" into Grade Beams.

Note: Bent bars to extend 1/4 th. part of adjacent span.

Concrete
Concrete: 3000 lb. 28 Day mix

19876

FOUNDATION & PILING PLAN
RESIDENCE FOR
MR. ALFRED [illegible]
N. HIBISCUS DR. [illegible] ISLAND
MIAMI BEACH, FLORIDA
TAYLOR [illegible] CO.
MIAMI, FLORIDA
A.N. [illegible] ENGINEER
CORAL GABLES, FLORIDA
DWG. NO. 1



S. WOLFSON

19845 (D)

City of Miami Beach Building Department

IMPORTANT NOTICE

Exterior windows and doors installation always requires a building permit and the following **MANDATORY** inspections:

1. - **Framing/structure inspection (Code 1135 or 1190).** It is to be sure that the structure receiving and supporting the window/door in **sound conditions** to hold the window/door on its place. On new construction it is usually under the master permit.

2. - **Bucks inspection (Code 1135 or 1190 until new Code is created).** Bucks and shims are regulated by the Florida Building Code and by the specific N.O.A. In some cases structural calculations and details are required.

3. - **Window/door installation inspection (Code 1185).** It shall be done when windows are installed but **not** finished/concealed yet. Inspector will inspect anchors, window/doors type, model, and to checking means of escape and safeguard requirements.

4. - **Planning (Code 7005) and Fire (Code 3099) Finals**. Contractor shall be sure that these two departments' requirements are fulfilled and call inspections required. Single Family Residences are exempt of Fire inspection.

5. - **Final Windows/doors (Code 1187).** To be performed when windows/ doors are completely finished and operable, and all the previous inspections approved. This inspection will close the window permit. Keep stickers/labels for this inspection.

SPECIAL INSTRUCTIONS FOR REPLACEMENT OF <u>EXISTING</u> WINDOWS/DOORS ON <u>EXISTING</u> BUILDINGS:

To avoid possible water damage and to minimize the time without windows/doors in occupied buildings, inspections 1, 2, and 3 can be performed at the same time as "**<u>in progress</u>**". Contractor MUST call for these in progress inspection the **first and every following day** of removal and installation work. Failing to call these inspections will generate an automatic $250.00 Fine. Contractor will be responsible of removing and re-installing any window/door required by the inspector to perform the mandatory inspections.

If the inspector does not show up after an inspection has been called thru the automated system, the Contractor is allowed to install windows/doors but not finish them, to allow inspector to see the work done. Taking pictures is recommended on this case, even though **pictures are not a substitute of inspections**.

Engineer/Architect inspections **are not accepted** unless required by the Plans Examiner at the time of Permit approval or by the Inspector at the job site.

Person Receiving Document X Alice Bryant

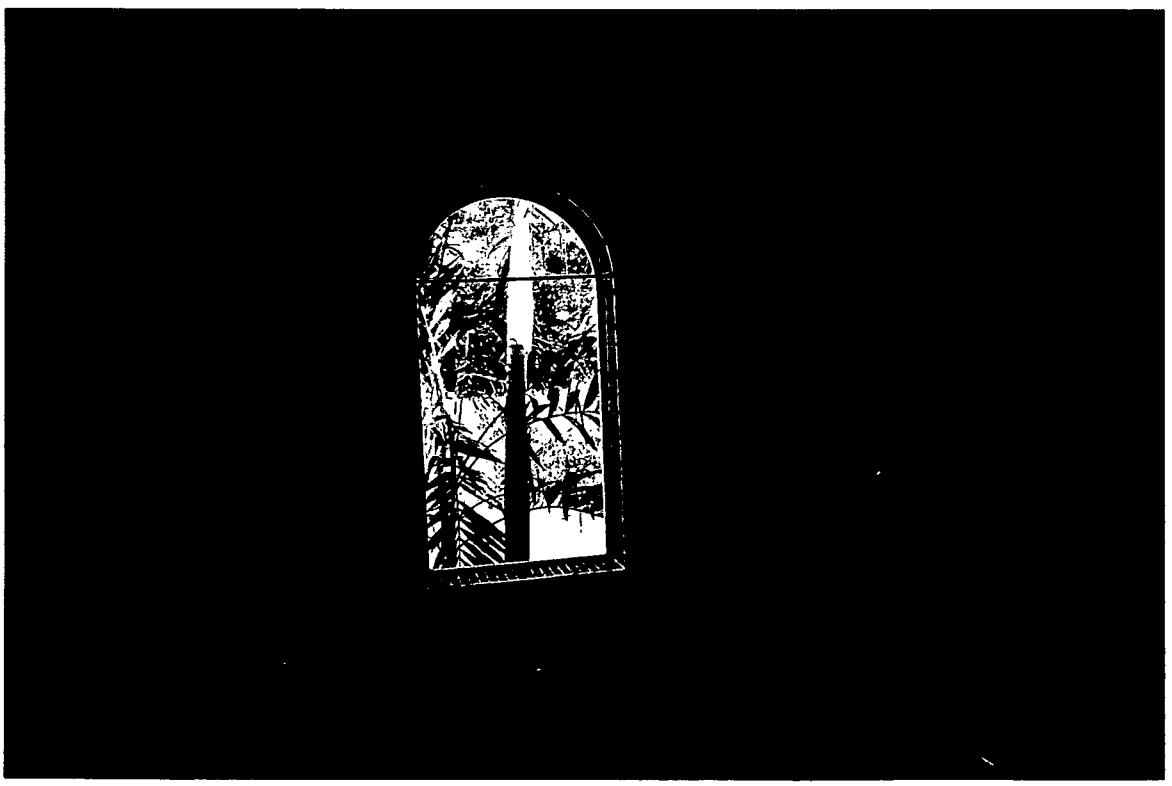
220 N HIBISCUS DRIVE

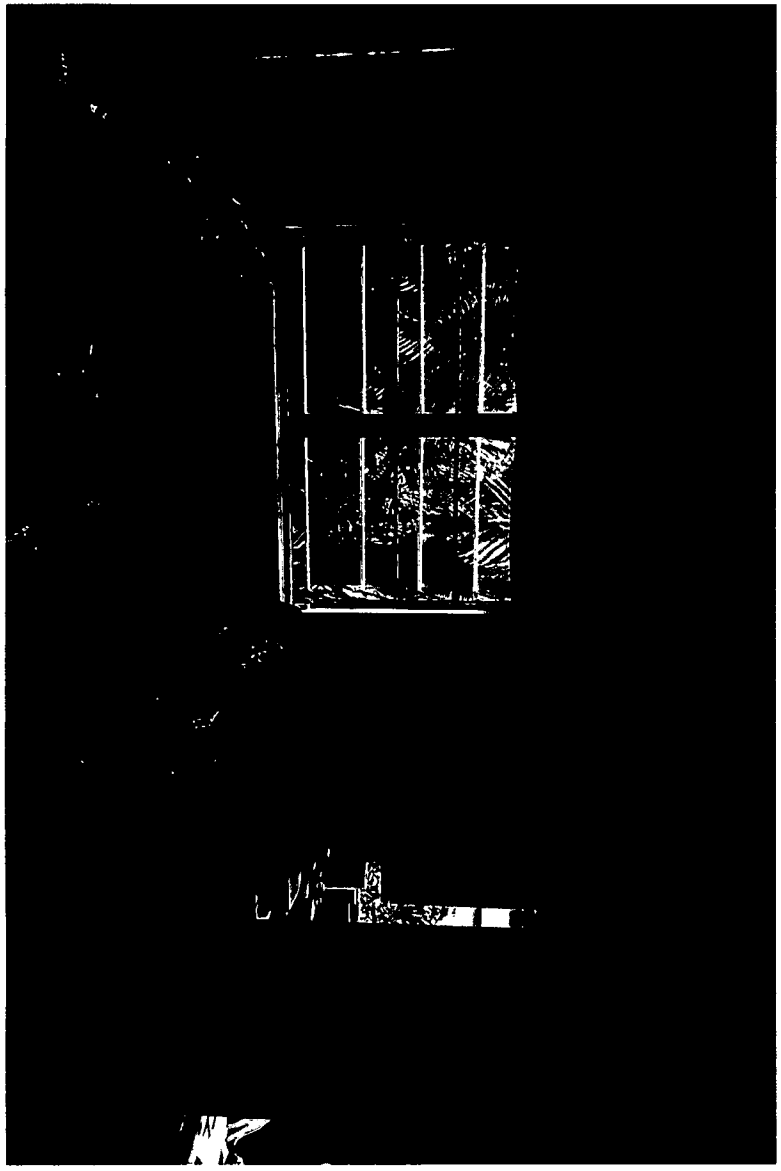
NOTICE: In addition to the requirement of this permit there may be additional restrictions applicable to this property that may be found in the Public Records of this County and there may be additional permits required from other government entities such as water management districts, state agencies, or federal agencies. The City of Miami Beach assumes no responsibility for ecological results from these plans which are not in accordance with Federal, State, and Local Laws, Rules, and Regulations.

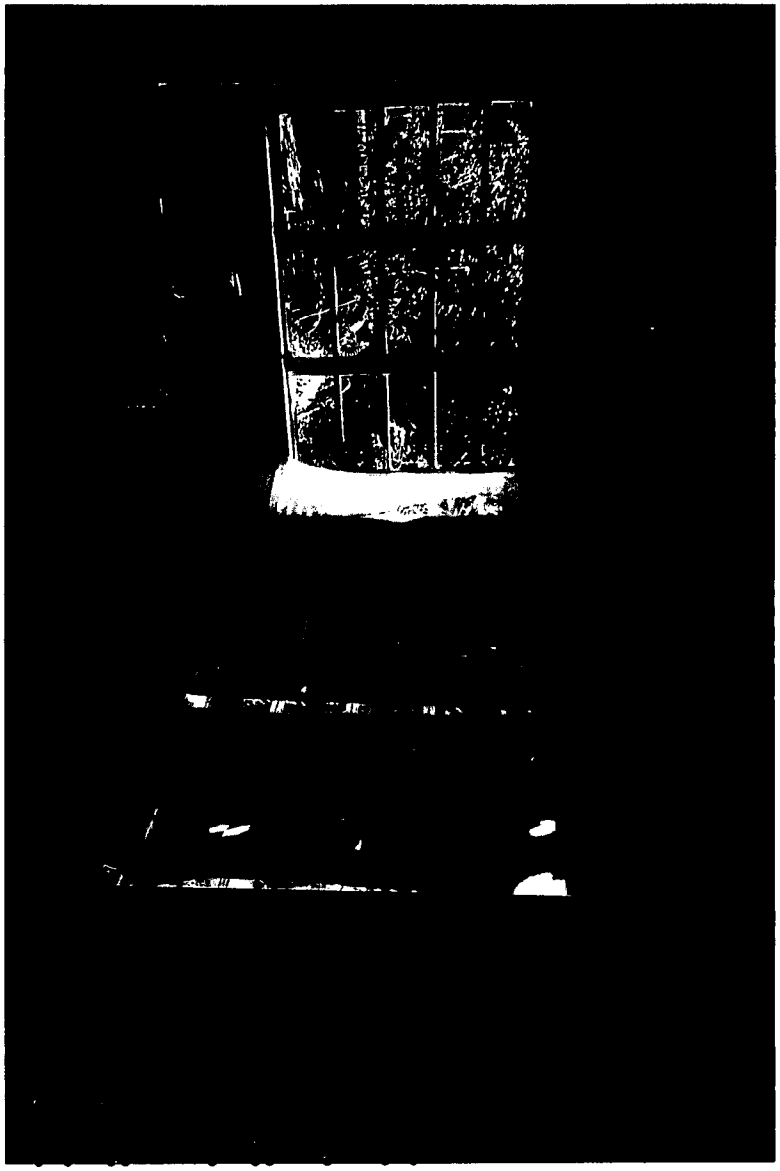
APPROVED FOR PERMIT BY THE FOLLOWING:

BUILDING:	MX SCHAD 3-14-12
ZONING:	3/14/12
DRB/HPB:	
CONCURRENCY:	
PLUMBING:	
ELECTRICAL:	
MECHANICAL:	
FIRE PREVENTION:	
ENGINEERING:	
PUBLIC WORKS:	ENC-3-14-2012
STRUCTURAL:	AV 3/14/12
ELEVATOR:	

48 HOURS PRIOR TO EXCAVATING
CONTRACTOR SHALL CALL FOR LOCATION
OF UNDERGROUND UTILITIES
SUNSHINE ONE-CALL 1-800-432-4770
CITY OF MIAMI BEACH 305-673-7080







THE END

2007 FLORIDA BUILDING CODE
WORST CASE DESIGN PRESSURE CHART FOR COMPONENTS AND CLADDING per ASCE 7-05
FOR BUILDINGS WITH MEAN ROOF HEIGHT OF 60 FEET OR LESS

Emma T. Mellinger, P.E

1600 S. Federal Highway. #207, Pompano Beach, FL 33062

(954) 784-6991 (954) 781-5708 fax

emma@c5es.com

DESIGN PRESSURES FOR INTERIOR ZONES ("Zone 4")

Mean Roof Height	Tributary Area (sq. ft)								
(ft)	10	15	20	25	30	35	40	45	50
15	46.5	45.2	44.4	43.7	43.1	42.7	42.3	41.9	41.6
	-50.4	-49.2	-48.3	-47.6	-47.1	-46.6	-46.2	-45.9	-45.5
16	47.1	45.9	45.0	44.3	43.7	43.3	42.9	42.5	42.2
	-51.1	-49.8	-49.0	-48.3	-47.7	-47.3	-46.8	-46.5	-46.2
17	47.7	46.4	45.6	44.9	44.3	43.8	43.4	43.0	42.7
	-51.7	-50.5	-49.6	-48.9	-48.3	-47.9	-47.4	-47.1	-46.8
18	48.3	47.0	46.1	45.4	44.8	44.3	43.9	43.6	43.2
	-52.4	-51.1	-50.2	-49.5	-48.9	-48.4	-48.0	-47.7	-47.3
19	48.8	47.5	46.6	45.9	45.3	44.9	44.4	44.1	43.7
	-53.0	-51.7	-50.8	-50.1	-49.5	-49.0	-48.6	-48.2	-47.9
20	49.4	48.1	47.1	46.4	45.8	45.3	44.9	44.5	44.2
	-53.5	-52.2	-51.3	-50.6	-50.0	-49.5	-49.1	-48.7	-48.4
22	50.4	49.0	48.1	47.4	46.8	46.3	45.8	45.4	45.1
	-54.6	-53.3	-52.4	-51.6	-51.0	-50.5	-50.1	-49.7	-49.4
24	51.3	49.9	49.0	48.2	47.6	47.1	46.7	46.3	45.9
	-55.6	-54.3	-53.3	-52.6	-52.0	-51.5	-51.0	-50.6	-50.3
26	52.2	50.8	49.8	49.1	48.4	47.9	47.5	47.1	46.7
	-56.6	-55.2	-54.2	-53.5	-52.9	-52.3	-51.9	-51.5	-51.1
28	53.0	51.6	50.6	49.8	49.2	48.7	48.2	47.8	47.4
	-57.5	-56.1	-55.1	-54.3	-53.7	-53.2	-52.7	-52.3	-51.9
30	53.8	52.3	51.3	50.6	49.9	49.4	48.9	48.5	48.1
	-58.3	-56.9	-55.9	-55.1	-54.5	-53.9	-53.5	-53.1	-52.7
32	54.5	53.1	52.0	51.3	50.6	50.1	49.6	49.2	48.8
	-59.1	-57.7	-56.7	-55.9	-55.2	-54.7	-54.2	-53.8	-53.4
34	55.2	53.7	52.7	51.9	51.3	50.7	50.2	49.8	49.4
	-59.9	-58.4	-57.4	-56.6	-55.9	-55.4	-54.9	-54.5	-54.1
36	55.9	54.4	53.3	52.5	51.9	51.3	50.8	50.4	50.0
	-60.6	-59.1	-58.1	-57.3	-56.6	-56.1	-55.6	-55.1	-54.8
38	56.5	55.0	54.0	53.1	52.5	51.9	51.4	51.0	50.6
	-61.3	59.8	-58.7	-57.9	-57.3	-56.7	-56.2	-55.8	-55.4
40	57.1	55.6	54.5	53.7	53.0	52.5	52.0	51.5	51.1
	-62.0	-60.5	-59.4	-58.6	-57.9	-57.3	-56.8	-56.4	-56.0
44	58.3	56.7	55.7	54.8	54.1	53.5	53.0	52.6	52.2
	-63.2	-61.7	-60.6	-59.7	-59.1	-58.5	-58.0	-57.5	-57.1
48	59.4	57.8	56.7	55.8	55.1	54.5	54.0	53.6	53.1
	-64.4	-62.8	-61.7	-60.8	-60.1	-59.6	-59.0	-58.6	-58.2
52	60.4	58.8	57.6	56.8	56.1	55.4	54.9	54.5	54.0
	-65.5	-63.9	-62.8	-61.9	-61.2	-60.6	-60.0	-59.6	-59.2
56	61.3	59.7	58.5	57.7	56.9	56.3	55.8	55.3	54.9
	-66.5	-64.9	-63.7	-62.9	-62.1	-61.5	-61.0	-60.5	-60.1
60	62.2	60.6	59.4	58.5	57.8	57.1	56.6	56.1	55.7
	-67.5	-65.8	-64.7	-63.8	-63.0	-62.4	-61.9	-61.4	-61.0

DESIGN PRESSURES FOR EXTERIOR ZONES ("Zone 5")

Mean Roof Height	Tributary Area (sq. ft)								
(ft)	10	15	20	25	30	35	40	45	50
15	46.5	45.2	44.4	43.7	43.1	42.7	42.3	41.9	41.6
	-62.2	-59.8	-58.0	-56.7	-55.6	-54.6	-53.8	-53.1	-52.5
16	47.1	45.9	45.0	44.3	43.7	43.3	42.9	42.5	42.2
	-63.1	-60.6	-58.8	-57.5	-56.3	-55.4	-54.6	-53.9	-53.2
17	47.7	46.4	45.6	44.9	44.3	43.8	43.4	43.0	42.7
	-63.9	-61.4	-59.6	-58.2	-57.1	-56.1	-55.3	-54.5	-53.9
18	48.3	47.0	46.1	45.4	44.8	44.3	43.9	43.6	43.2
	-64.6	-62.1	-60.3	-58.9	-57.8	-56.8	-55.9	-55.2	-54.5
19	48.8	47.5	46.6	45.9	45.3	44.9	44.4	44.1	43.7
	-65.4	-62.8	-61.0	-59.6	-58.4	-57.4	-56.6	-55.8	-55.2
20	49.4	48.1	47.1	46.4	45.8	45.3	44.9	44.5	44.2
	-66.1	-63.5	-61.6	-60.2	-59.0	-58.1	-57.2	-56.4	-55.8
22	50.4	49.0	48.1	47.4	46.8	46.3	45.8	45.4	45.1
	-67.4	-64.8	-62.9	-61.4	-60.2	59.2	-58.4	-57.6	-56.9
24	51.3	49.9	49.0	48.2	47.6	47.1	46.7	46.3	45.9
	68.7	66.0	64.1	62.6	61.4	-60.3	-59.4	-58.7	-58.0
26	52.2	50.8	49.8	49.1	48.4	47.9	47.5	47.1	46.7
	-69.8	-67.1	-65.1	-63.6	-62.4	-61.4	-60.4	-59.6	-58.9
28	53.0	51.6	50.6	49.8	49.2	48.7	48.2	47.8	47.4
	-70.9	-68.2	-66.2	-64.6	-63.4	-62.3	-61.4	-60.6	-59.9
30	53.8	52.3	51.3	50.6	49.9	49.4	48.9	48.5	48.1
	-72.0	-69.2	-67.1	-65.6	-64.3	-63.2	-62.3	-61.5	-60.7
32	54.5	53.1	52.0	51.3	50.6	50.1	49.6	49.2	48.8
	-73.0	-70.1	-68.1	-66.5	-65.2	-64.1	-63.1	-62.3	-61.6
34	55.2	53.7	52.7	51.9	51.3	50.7	50.2	49.8	49.4
	-73.9	-71.0	-68.9	-67.3	-66.0	-64.9	-64.0	-63.1	-62.4
36	55.9	54.4	53.3	52.5	51.9	51.3	50.8	50.4	50.0
	-74.8	-71.9	-69.8	-68.1	-66.8	-65.7	-64.7	-63.9	-63.1
38	56.5	55.0	54.0	53.1	52.5	51.9	51.4	51.0	50.6
	-75.7	-72.7	-70.6	-68.9	-67.6	-66.5	-65.5	-64.6	-63.8
40	57.1	55.6	54.5	53.7	53.0	52.5	52.0	51.5	51.1
	-76.5	-73.5	-71.3	-69.7	-68.3	-67.2	-66.2	-65.3	-64.5
44	58.3	56.7	55.7	54.8	54.1	53.5	53.0	52.6	52.2
	-78.0	-75.0	-72.8	-71.1	-69.7	-68.5	-67.5	-66.6	-65.8
48	59.4	57.8	56.7	55.8	55.1	54.5	54.0	53.6	53.1
	-79.5	-76.3	-74.1	-72.4	-71.0	-69.8	-68.8	-67.9	-67.1
52	60.4	58.8	57.6	56.8	56.1	55.4	54.9	54.5	54.0
	-80.8	-77.6	-75.4	-73.6	-72.2	-71.0	-69.9	-69.0	-68.2
56	61.3	59.7	58.5	57.7	56.9	56.3	55.8	55.3	54.9
	-82.1	-78.9	-76.6	-74.8	-73.3	-72.1	-71.0	-70.1	-69.3
60	62.2	60.6	59.4	58.5	57.8	57.1	56.6	56.1	55.7
	-83.3	-80.0	-77.7	-75.9	-74.4	-73.2	-72.1	-71.1	-70.3

JOB SITE LOCATION:

WIND SPEED = **146** MPH, EXPOSURE "**C**"

These tables are valid for the following conditions only:

1 Wind Speed (3-second gust): 146 mph.
2 Building Category: II (General Residential and Commercial Construction).
3 Importance Factor: 1.0
4 Exposure Category: C
5 Topographic Factor (Kzt): 1.0 (Flat Terrain)
6 Directionality Factor (Kd): 0.85
For situations requiring Kd=1.0, multiply the values in these tables by 1.18. Verify Kd requirements with local building official and product approvals before use.
7 Gcpi: +- 0.18
8 Enclosed Building

Consult an Engineer for any other conditions

Instructions

1 Tables show the "worst case" design pressures, with any unknown variable at its critical condition.
2 Tables are valid only for mean roof heights of 60 feet or
3 Tables are valid for any roof slope. For reductions for roof slopes less than 10 degrees, consult Engineer for site specific analysis.
4 Calculate the average roof height. If average cannot be determined, use the peak roof height. Round up the roof height to the next highest table value.
5 Calculate the tributary area (length x height) of the opening in question. Round the tributary area down to the next smallest table value. If the tributary area is unknown, use the most critical value (10 square feet).
6 Area between structural mullions shall be used as tributary area.
7 Determine the Zone (Interior 4, or Exterior 5) of the opening. An opening with any portion closer than distance "a" to a building corner shall be considered in an Exterior Zone (5), otherwise if all of the opening falls more than distance "a" from a building corner, the opening shall be considered in an Interior Zone (4).
8 Distance "a," as refered to above, shall be calculated as 10% of the minimum building width, but not less than 3
9 Read the worst case positive and negative design pressures for use as required by governing building

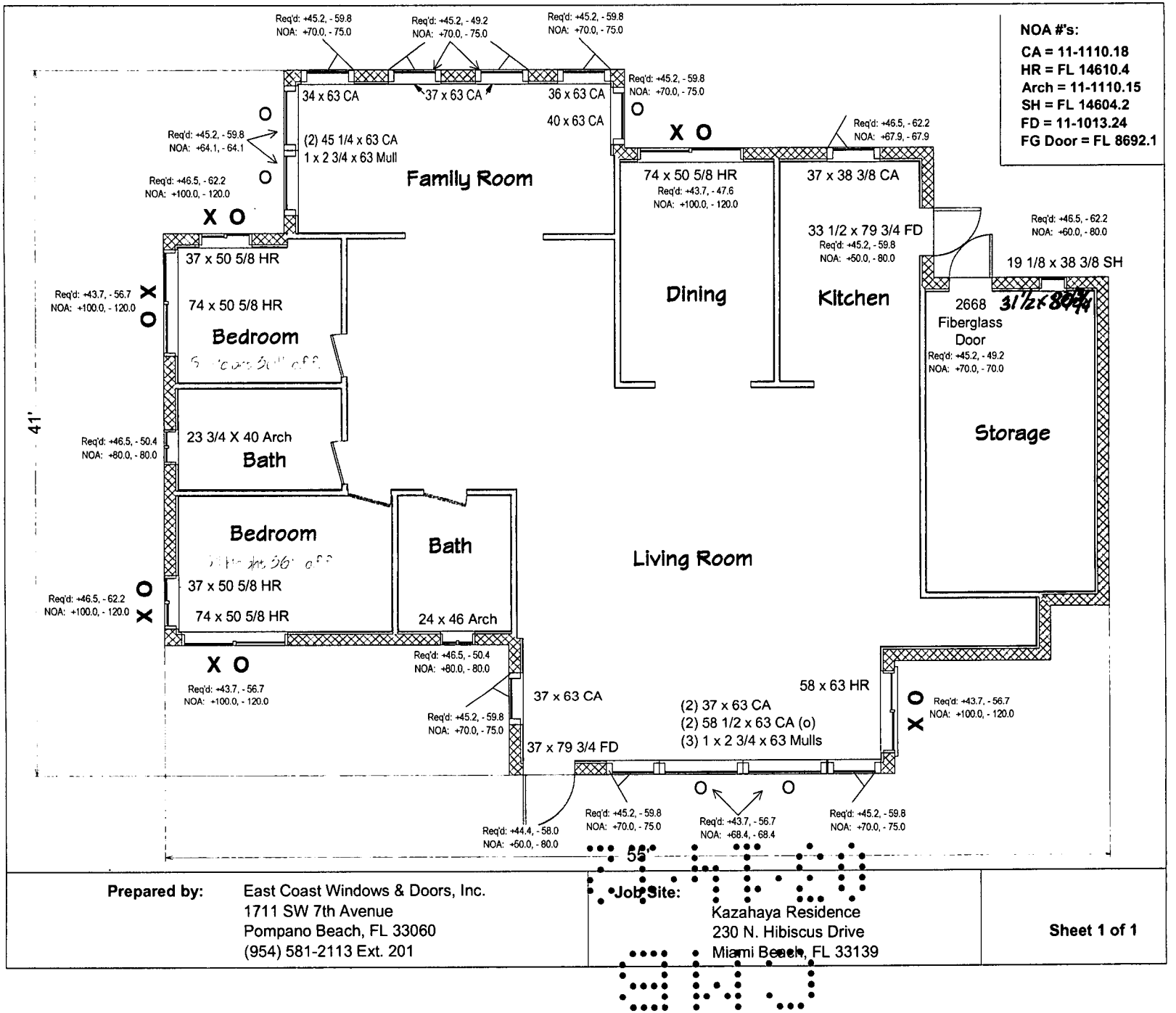
General Notes

1 These tables are not valid as a site-specific drawing
2 These tables are only valid when signed and embossed with raised impression seal by Emma T. Mellinger, P.E.
3 No alterations or markings on this document are permitted
4 These tables apply to walls and vertical surfaces only.
5 Use of these tables, and the values and coefficients listed herein is to be dictated and verified by the governing building department and permit holder.
6 These tables are intended solely to illustrate design wind pressures as listed. No other warranty or certification is intended or applicable.
7 This document is the work and property of Emma T. Mellinger, P.E., and shall not be reproduced in whole or in part without her express written consent.

Emma T. Mellinger, P.E.
FL P.E. # 50049

Date: August 10, 2011

Wind Loads



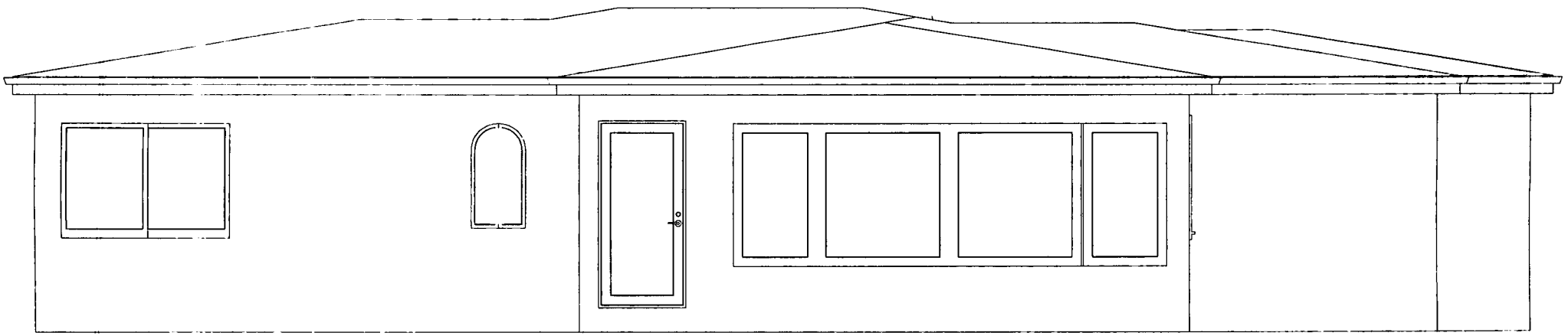
Prepared by: East Coast Windows & Doors, Inc.
1711 SW 7th Avenue
Pompano Beach, FL 33060
(954) 581-2113 Ext. 201

Job Site: Kazahaya Residence
230 N. Hibiscus Drive
Miami Beach, FL 33139

Sheet 1 of 1

Floor Plan

230 N Hibiscus Drive



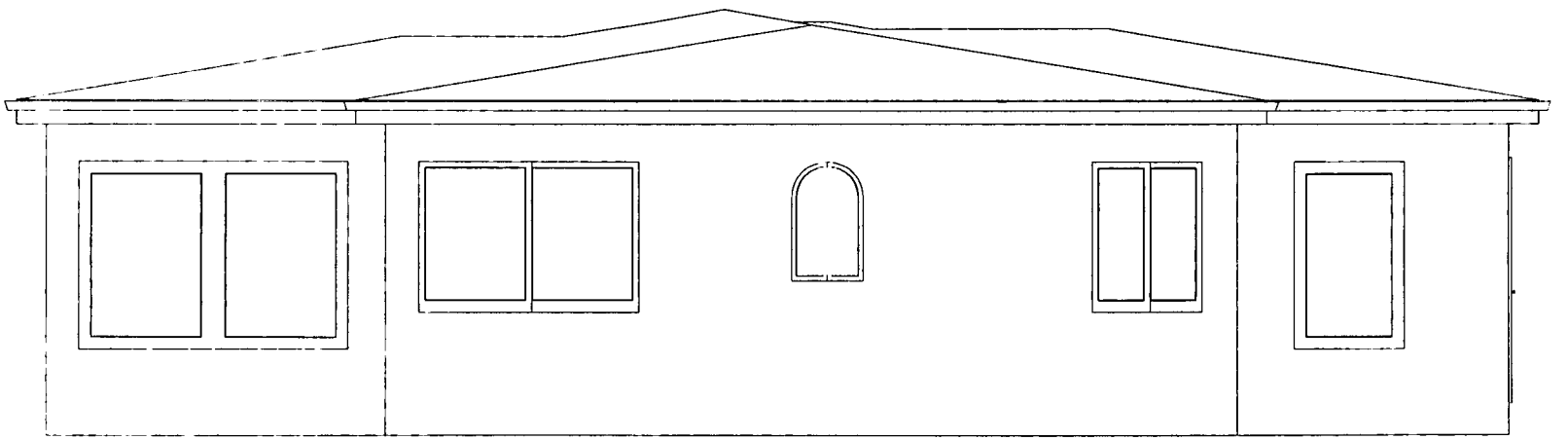
Front Elevation

21.41.20

BNO

Elevation

230 N Hibiscus Drive

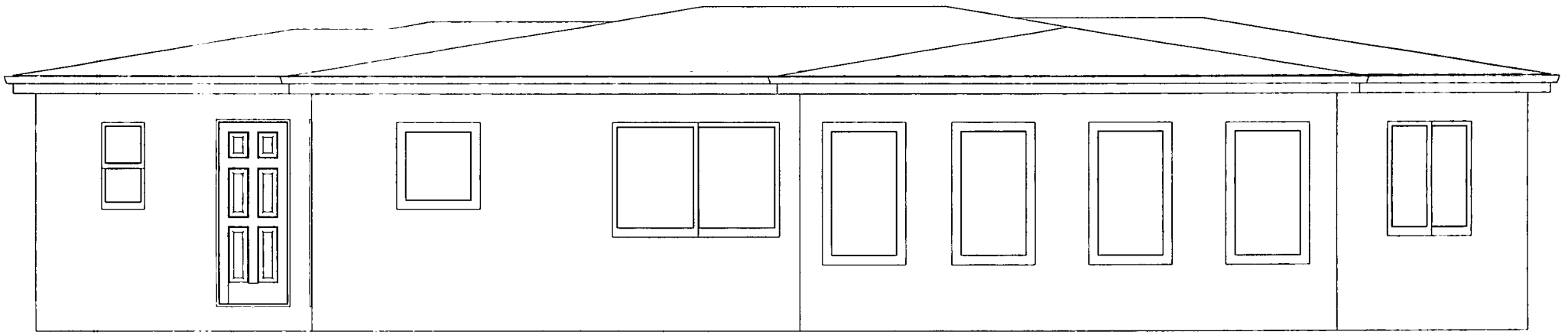


Left Side Elevation

21-41-20

SHO

230 N Hibiscus Drive

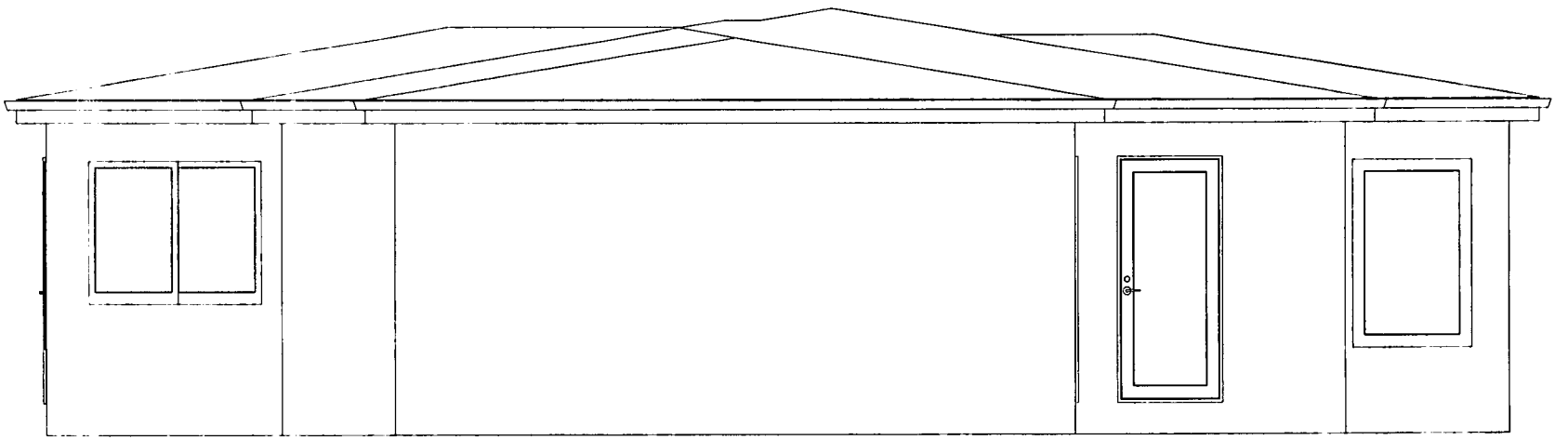


Rear Elevation

21-41-60

9W0

230 N Hibiscus Drive



Right Side Elevation

21-41-60

AND

Impact - CA

MIAMI-DADE COUNTY
DEPARTMENT OF PERMITTING, ENVIRONMENT, AND REGULATORY AFFAIRS (PERA)
BOARD AND CODE ADMINISTRATION DIVISION

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

NOTICE OF ACCEPTANCE (NOA)

PGT Industries
1070 Technology Drive
Nokomis, 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 PERA-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. PERA 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" Aluminum Casement Window - L.M.I.

APPROVAL DOCUMENT: Drawing No. **7045-8**, titled "Aluminum Casement Windows, Impact", sheets 1 through 13 of 13, prepared by manufacturer, dated 12/17/02 with revision "**E**" dated 10/24/11; 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 Missile 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 No. 08-0117.11** and consists of this page 1, evidence pages E-1 and E-2, as well as approval document mentioned above.

The submitted documentation was reviewed by **Jaime D. Gascon, P. E.**

MIAMI-DADE COUNTY APPROVED

J. Gascon 2/2/12

PGT Industries

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Manufacturer's die drawings and sections.
   (Submitted under previous NOA No. 05–1129.11 and 03–0611.02)
2. Drawing No. **7045–8**, titled "Aluminum Casement Windows, Impact", sheets 1 through 13 of 13, prepared by manufacturer, dated 12/17/02 with revision "**E**" dated 10/24/11, 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
2. along with marked–up drawings and installation diagram of outswing aluminum casement window, prepared by Fenestration Testing Laboratory, Inc., Test Reports No.'s **FTL–4607** and **FTL–4608**, dated 05/10/05, both signed and sealed by Edmundo Largaespada, P. E.
   (Submitted under previous NOA No. 05–1129.11)
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
   6) Forced Entry Test, per FBC 2411 3.2.1 and TAS 202–94

   along with marked–up drawings and installation diagram of outswing aluminum casement window, prepared by Fenestration Testing Laboratory, Inc., Test Reports No.'s **FTL–3729**, **FTL–3587**, **FTL–3582** and **FTL–3580**, dated 02/28/03 and 10/03/02, all signed and sealed by Joseph C. Chan, P. E.
   (Submitted under previous NOA No. 03–0611.02)

C. CALCULATIONS

1. Revised anchor verification calculations and structural analysis, dated 11/21/05 complying with FBC, prepared by manufacture, signed and sealed by Lucas A. Turner, P. E.
   (Submitted under previous NOA No. 08–0117.11)
2. **Glazing complies with ASTM E1300–98/ 04**

D. QUALITY ASSURANCE

1. Miami–Dade Department of Permitting, Environment, and Regulatory Affairs (PERA)

Jaime D. Gascon, P. E.
Product Control Section Supervisor
NOA No. 11–1110.18
Expiration Date: May 22, 2013
Approval Date: February 09, 2012

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

E. MATERIAL CERTIFICATIONS

1. Notice of Acceptance No. **11–0624.01** issued to **E.I. DuPont DeNemours & Co., Inc.** for their **"DuPont Butacite® PVB Interlayer"** dated 09/08/11, expiring on 12/11/16.
2. Notice of Acceptance No. **11–0325.05** issued to **Solutia, Inc.** for their **"Saflex – Clear or colored Interlayer"** dated 04/21/11, expiring on 04/21/16.

F. STATEMENTS

1. Statement letter of conformance and compliance with the FBC–2007 (with the 2009 supplement) and FBC–2010, dated 10/29/11, signed and sealed by Anthony Lynn Miller, P. E.
2. Statement letter of no financial interest and independence, dated 10/29/11, signed and sealed by Anthony Lynn Miller, P. E.
3. Letter of *Adoption of as his Own, the Work of another Engineer* per Section 61G15–27.001 of the F.B.P.E., dated 10/07/11 signed and sealed by Anthony Lynn Miller, P. E.
4. Statement letter of no financial interest, independence, conformance and compliance with the Florida Building Code, dated 01/11/08, signed and sealed by Robert L. Clark, P. E.
   (Submitted under previous NOA No. 08–0117.11)
5. Laboratory compliance letters for Test Reports No.'s **FTL–4607** and **FTL–4608**, issued by Fenestration Testing Laboratory, Inc., dated 05/10/05, both signed and sealed by Edmundo Largaespada, P. E.
   (Submitted under previous NOA No. 05–1129.11)
6. Laboratory compliance letters for Test Reports No.'s **FTL–3729, FTL–3587, FTL–3582** and **FTL–3580**, issued by Fenestration Testing Laboratory, Inc., dated 02/28/03 and 10/03/02, all signed and sealed by Joseph C. Chan, P. E.
   (Submitted under previous NOA No. 03–0611.02)

G. OTHERS

1. Notice of Acceptance No. **08–0117.11**, issued to PGT Industries for their Series "CA–740 Aluminum Casement Window – L.M.I." approved on 05/15/08 and expiring on 05/22/13.

Jaime D. Gascon, P. E.
Product Control Section Supervisor
NOA No. 11–1110.18
Expiration Date: May 22, 2013
Approval Date: February 09, 2012

NOTES; LARGE MISSILE WINDOWS

1. GLAZING OPTIONS:
   - A. 5/16" LAMINATED GLASS COMPRISED OF (1) LITE OF 1/8" ANNEALED GLASS AND (1) LITE OF 1/8" HEAT STRENGTHENED GLASS W/ AN .090 INTERLAYER OF SOLUTIA OR DUPONT PVB.
   - B. 5/16" LAMINATED GLASS COMPRISED OF (2) LITES OF 1/8" HEAT STRENGTHENED GLASS W/ AN .090 INTERLAYER OF SOLUTIA OR DUPONT PVB.
   - C. 7/16" LAMINATED GLASS COMPRISED OF (1) LITE OF 3/16" ANNEALED GLASS AND (1) LITE OF 3/16" HEAT STRENGTHENED GLASS W/ AN .090 INTERLAYER OF SOLUTIA OR DUPONT PVB.
   - D. 7/16" LAMINATED GLASS COMPRISED OF (2) LITES OF 3/16" HEAT STRENGTHENED GLASS W/ AN .090 INTERLAYER OF SOLUTIA OR DUPONT PVB.
   - E. 13/16" I.G. GLASS COMPRISED OF (1) LITE OF 1/8" HEAT STRENGTHENED GLASS AND (1) 5/16" LAMINATED COMPONENT WITH A 3/8" AIR SPACE. 5/16" LAMINATED GLASS COMPRISED OF (2) LITES OF 1/8" HEAT STRENGTHENED GLASS WITH AN .090 SOLUTIA OR DUPONT PVB INTERLAYER.
   - ⚠F. 13/16" I.G. GLASS COMPRISED OF (1) LITE OF 1/8" ANNEALED GLASS AND (1) 7/16" LAMINATED COMPONENT WITH AN AIR SPACE. 7/16" LAMINATED GLASS COMPRISED OF (1) LITE OF 3/16" ANNEALED GLASS AND (1) LITE OF 3/16" HEAT STRENGTHENED GLASS WITH AN .090 SOLUTIA OR DUPONT PVB INTERLAYER.
   - ⚠G. 13/16" I.G. GLASS COMPRISED OF (1) LITE OF 1/8" ANNEALED GLASS AND (1) 7/16" LAMINATED COMPONENT WITH AN AIR SPACE. 7/16" LAMINATED GLASS COMPRISED OF (2) LITES OF 3/16" HEAT STRENGTHENED GLASS WITH AN .090 SOLUTIA OR DUPONT PVB INTERLAYER.

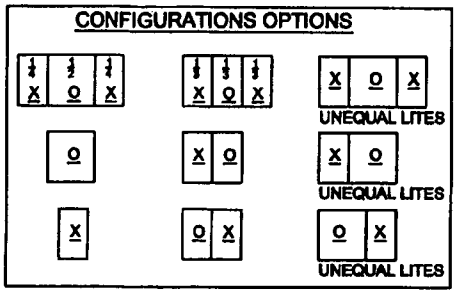
   IN MIAMI-DADE COUNTY OPTIONS E, F, AND G WHEN INSTALLED OVER 30' THE OUTBOARD LITE OF GLASS MUST BE UPGRADED TO TEMPERED.⚠
2. CONFIGURATIONS: X, XX, XO, OX, XOX AND O
3. DESIGN PRESSURE RATINGS / COMPARATIVE ANALYSIS TABLES:
   - A. NEGATIVE DESIGN LOADS BASED ON TESTED PRESSURE AND GLASS TABLES ASTM E 1300-98. ⚠
   - B. POSITIVE DESIGN LOADS BASED ON WATER TEST PRESSURE AND GLASS TABLES ASTM E 1300-98.
   - C. DESIGN PRESSURES UNDER 40 P.S.F. NOT APPLICABLE IN MIAMI-DADE COUNTY.
   - D. FOR "X" CONFIGURATIONS SEE SHEET 5.
   - E. FOR "XX" CONFIGURATIONS SEE SHEET 6.
   - F. FOR 1/1-1/1 "XOX" & "O" CONFIGURATIONS SEE SHEET 7.
   - G. FOR 1/3-1/3 "XOX" & "XO" OR "OX" CONFIGURATIONS SEE SHEET 8.
   - H. FOR UNEQUAL LITE "XOX, "XO" & "OX" CONFIGURATIONS SEE SHEET 9.
4. ⚠ANCHORAGE: THE 33 1/3% STRESS INCREASE HAS NOT BEEN USED IN THE DESIGN OF THIS PRODUCT. SEE SHEETS 3, 4 AND 13 FOR ADDITIONAL ANCHORAGE INFORMATION.

   HEAD & SILL: MAX. 4" FROM CORNERS
   MAX. 4" & 7" ON EACH SIDE OF MEETING RAILS
   MAX. 14 1/2" SPACING ON VENTS
   MAX. 13" SPACING ON FIXED LITES
   (2) ANCHORS 3" APART AT MID-SPAN ON FIXED LITE ONLY

   JAMBS: MAX. 4" FROM CORNERS
   MAX. 13" SPACING
   (2) ANCHORS 3" APART AT MID-SPAN

   ⚠ SEE SHEET 13 FOR APPROVED ANCHORS. 1/4" TAPCONS OR 1/4" SS4 CRETE-FLEX MAY BE USED IN CONCRETE OR WOOD APPLICATIONS TO ACHIEVE THE DESIGN PRESSURES SHOWN IN SHEETS 5 THROUGH 9. SEE SHEETS 5 THROUGH 9 FOR DESIGN PRESSURE LIMITATIONS WHEN ANCHORING WITH #12 SCREWS.
5. SHUTTER REQUIREMENT: NONE REQUIRED
6. NARROW JOINT SEALANT IS USED ON ALL FOUR CORNERS OF THE FRAME.
7. ⚠REFERENCE TEST REPORTS: FTL-3580, FTL-3582, FTL-3587, FTL-3729, FTL4607 AND FTL-4608.
8. THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE, INCLUDING THE HIGH VELOCITY HURRICANE ZONE (HVHZ).

CONFIGURATIONS OPTIONS



NOA DRAWING TABLE OF CONTENTS

PRODUCT REVISED as complying with the Florida Building Code
Acceptance No 11-1110.18
Expiration Date 12/22/2013
Miami Dade Product Control

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

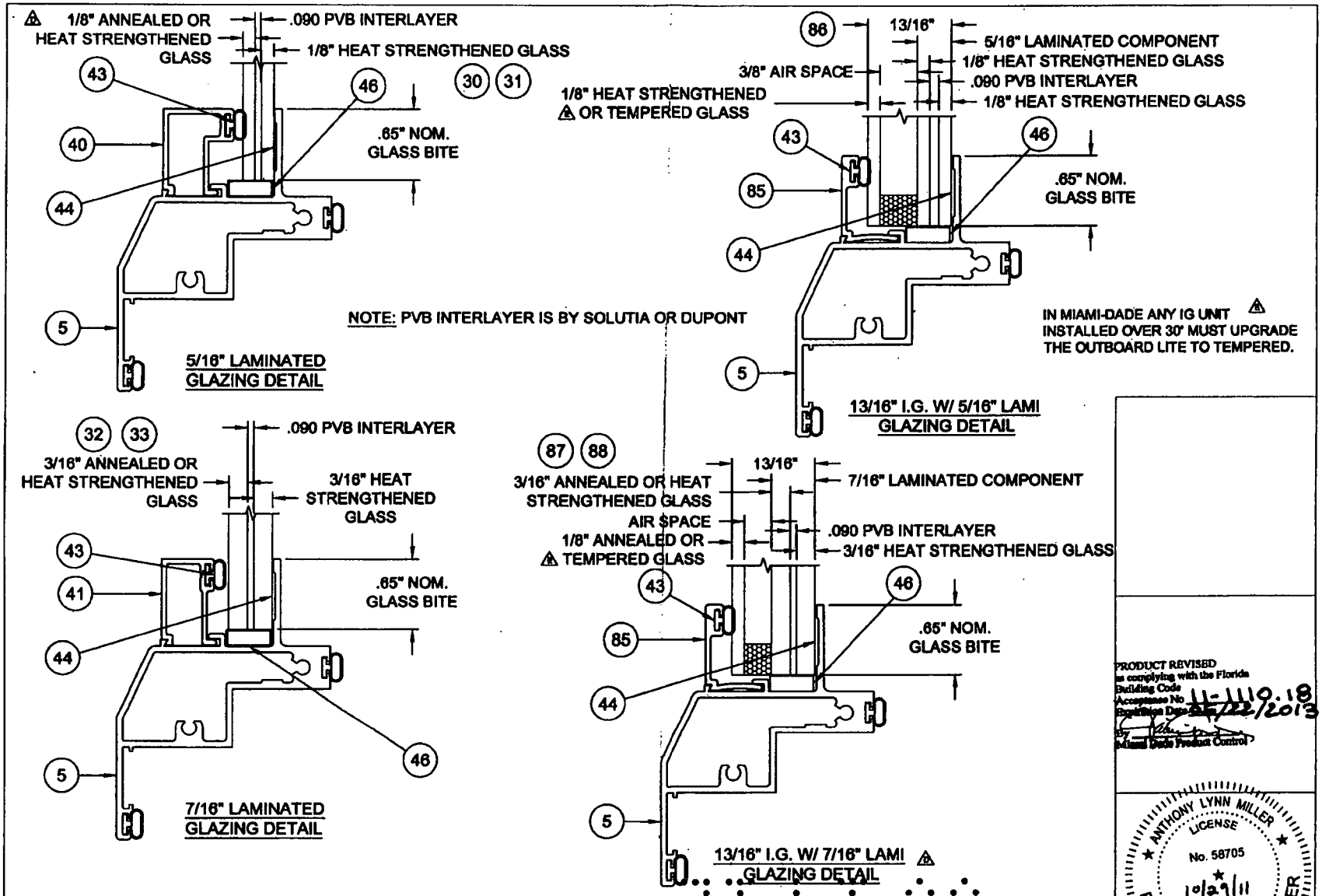
Revised By:	Date:	Revision:	
F.K.	7/10/03	C	NO CHANGE THIS SHEET
F.K.	6/23/06	D	ADD 78" HT., GLASS TYPES F AND G. REVISE ANCHORAGE.
J.J.	10/24/11	E	FBC 2010 CODE CHANGE & 30' RULE
Drawn By: F.K.	Date: 12/17/02	Checked By:	Date:

1070 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274

PGT Visibly Better

Description: NOTES AND TABLE OF CONTENTS
Title: ALUMINUM CASEMENT WINDOW, IMPACT

Product/Model	Scale	Sheet	Drawing No.	Rev
CA-740	NTS	1 of 13	7045-6	E



PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 11-1119.18
Expiration Date 5/22/2013
Miami Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
10/29/11
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. Lynn Miller, P.E.
P.E.# 58705

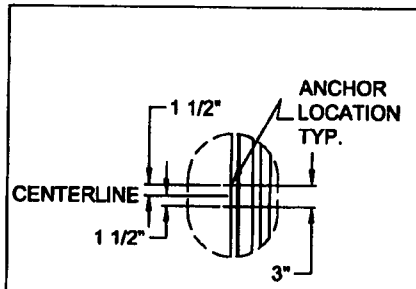
Revised By	Date	Revisions	
F.K.	7/10/03	C	NO CHANGE THIS SHEET
F.K.	6/23/05	D	ADD 13/16" LAMI I.G. W/ 7/16"LAMI & CORRECT 5/16" LAMI DETAIL
J.J.	10/24/11	E	30' RULE
Drawn By: F.K.	Date: 03/25/03	Checked By:	Date:

1070 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274

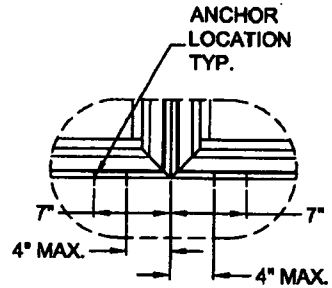
PGT Visibly Better

Description: GLAZING DETAILS
Title: ALUMINUM CASEMENT WINDOW, IMPACT

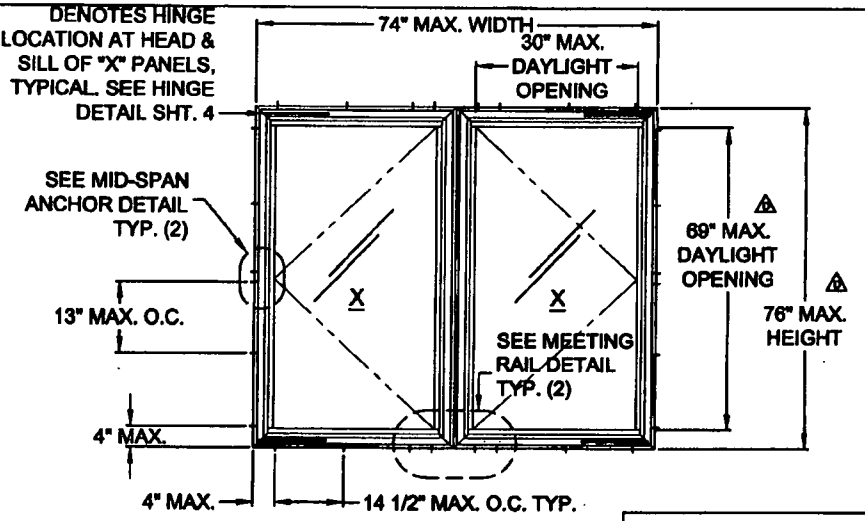
Customer/Job	Scale	Sheet	Drawing No.	Rev
CA-746	NTS	2 of 13	7045-8	E



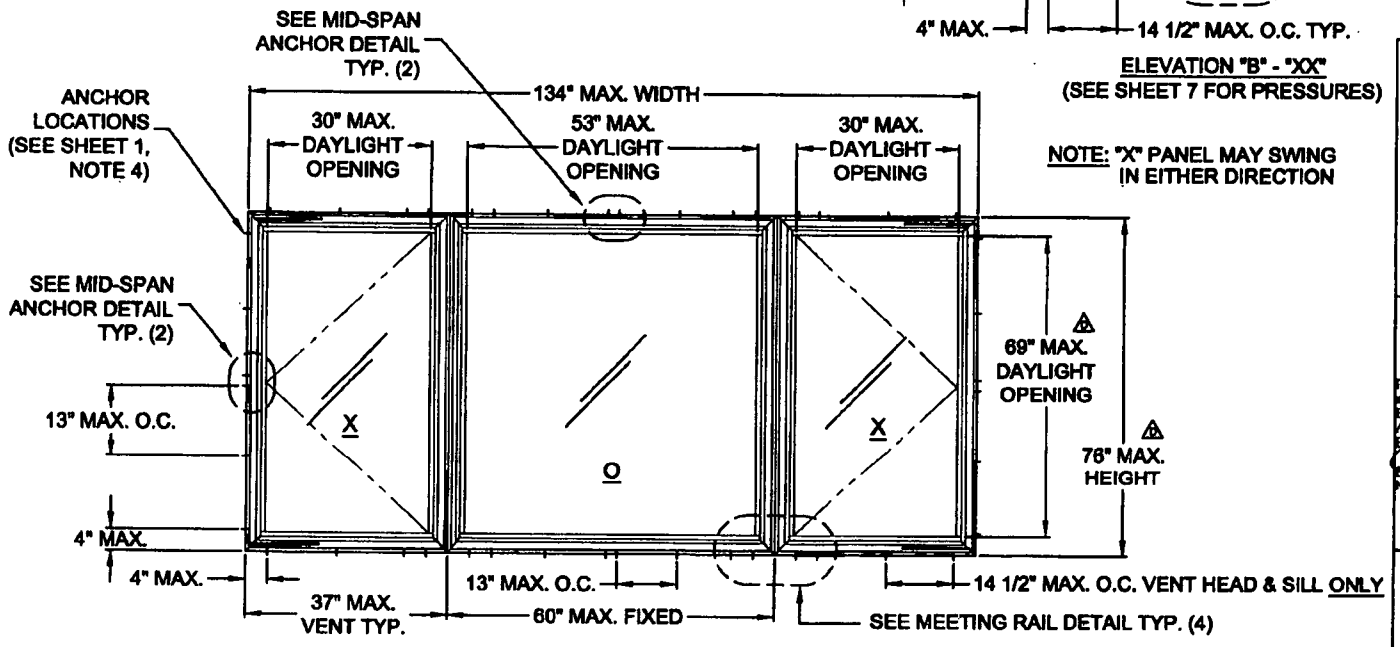
MID-SPAN ANCHOR DETAIL
(SEE SHT. 1 NOTE 4)



MEETING RAIL DETAIL
(SEE SHT. 1 NOTE 4)



ELEVATION "B" - "XX"
(SEE SHEET 7 FOR PRESSURES)



ELEVATION "A" - "XOX" (SEE SHEETS 7-9 FOR PRESSURES)

NOTE: "X" PANEL MAY SWING IN EITHER DIRECTION

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No. 11-1110.18
Expiration Date 05/22/2013
By: [signature]
Miami Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
10/27/11
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. Lynn Miller, P.E.
P.E.# 58705

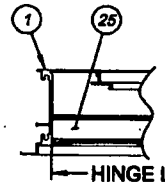
Revised By:	Date:	Revisions:	
F.K.	7/10/03	C	ADD HINGE LOCATION DETAILS
F.K.	8/23/05	D	CHANGE MAX. HT. TO 76" AND MAX. DLO TO 69"
J.J.	10/24/11	E	NO CHANGE THIS SHEET
Drawn By: F.K.	Date: 12/17/02	Checked By:	Date:

1070 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274

PGT Visibly Better

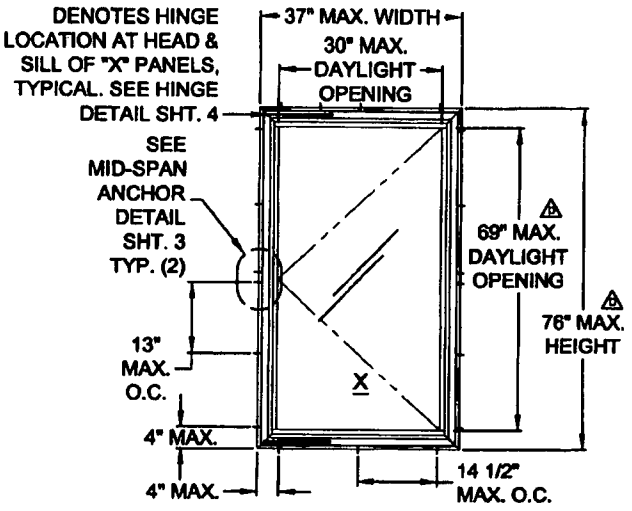
Description: "XX" & "XOX" ELEVATIONS
Title: ALUMINUM CASEMENT WINDOW, IMPACT

Authorization:	Scale:	Sheet:	Drawing No.:	Rev:
CA-740	NTS	3 of 13	7045-8	E

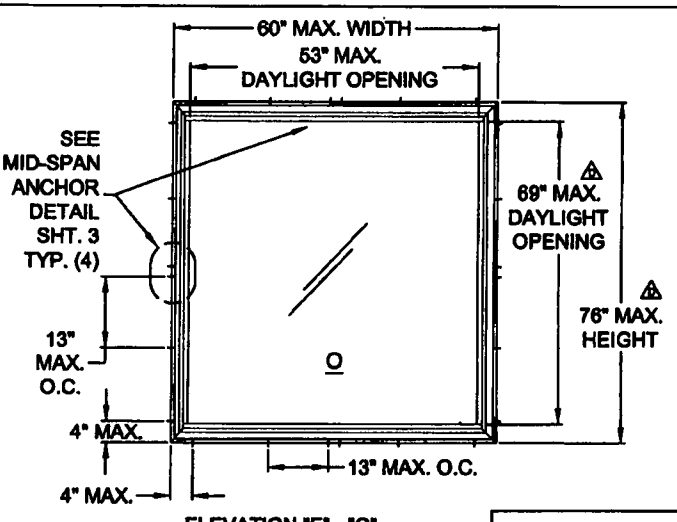


HINGE LOCATED APPROX. FLUSH AGAINST JAM, TYPICAL HEAD & SILL

HINGE LOCATION DETAIL

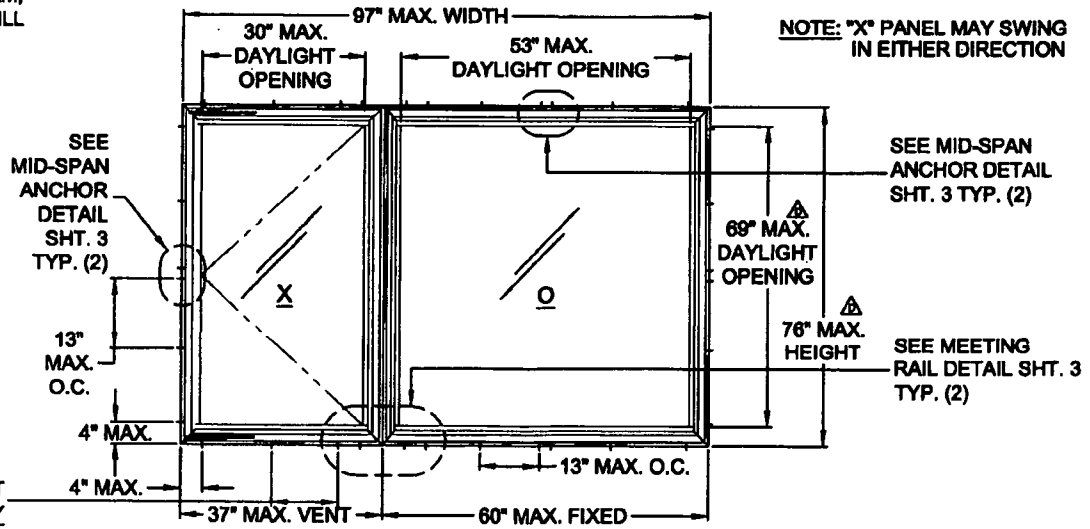


ELEVATION "D" - "X"
(SEE SHEET 5 FOR PRESSURES)



ELEVATION "E" - "O"
(SEE SHEET 7 FOR PRESSURES)

NOTE: "X" PANEL MAY SWING IN EITHER DIRECTION



ELEVATION "F" - "XO" & "OX" UNEQUAL LITE (SEE SHEETS 8-9 FOR PRESSURES)

PRODUCT REVISED as complying with the Florida Building Code
Acceptance No 11-1110.18
Expiration Date 05/22/2013
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:	
F.K.	6/23/05	C	ADD HINGE DETAIL & HINGE LOCATION NOTES
F.K.	7/10/03	D	CHANGE MAX. HT. TO 76" AND MAX. DLO TO 69"
J.J.	10/24/11	E	NO CHANGE THIS SHEET
Drawn By: F.K.	Date: 12/17/02	Checked By: F.K.	Date:

1070 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1629
NOKOMIS, FL 34274

RGT Visibly Better

Description: "X", "O", "XO" & "OX" ELEVATIONS

Title: ALUMINUM CASEMENT WINDOW, IMPACT

Subdivision:	Scale:	Sheet:	Drawing No.:	Rev:
CA-740	NTS	4 of 13	7045-8	E

COMPARATIVE ANALYSIS TABLE 1. "X" WINDOWS TEST REPORTS: FTL-3582, FTL-3587, FTL-3729

GLAZING OPTIONS: A. 5/16" LAMI (1/8"A,.090,1/8"HS) B. 5/16" LAMI (1/8"HS,.090,1/8"HS) E. 13/16" LAMI (1/8"HS,3/8" SPACE,5/16" LAMI-W/ 1/8"HS,.090,1/8"HS)

"X" WIDTH		HEIGHT																									
		26		31		36		38 3/8		43		48		50 5/8		54		57		60		63		66		69		72	
		NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS
19 1/8	A	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0
	B,E	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0
24	A	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-89.6	70.0	-86.3	70.0	-84.2	70.0	-83.2	70.0	-81.7	70.0
	B,E	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0
26 1/2	A	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-83.6	70.0	-79.9	70.0	-75.4	70.0	-72.4	70.0	-69.9	69.9	-67.8	67.8	-66.2	66.2	-65.0	65.0	-63.7	63.7
	B,E	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0
30	A	-90.0	70.0	-90.0	70.0	-90.0	70.0	-87.4	70.0	-77.6	70.0	-68.4	68.4	-63.9	63.9	-60.0	60.0	-58.5	58.5	-56.2	56.2	-53.4	53.4	-51.3	51.3	-49.8	49.8	-48.3	48.3
	B,E	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0
32	A	-90.0	70.0	-90.0	70.0	-86.3	70.0	-81.0	70.0	-71.1	70.0	-61.8	61.8	-58.9	58.9	-56.1	56.1	-53.8	53.8	-50.4	50.4	-47.7	47.7	-45.6	45.6	-43.9	43.9	-42.2	42.2
	B,E	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-87.8	70.0	-84.4	70.0
34	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-65.5	65.5	-57.5	57.5	-54.9	54.9	-51.8	51.8	-48.6	48.6	-45.2	45.2	-42.4	42.4						
	B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0						
36	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-70.4	70.0	-60.4	60.4	-54.3	54.3	-51.1	51.1	-47.9	47.9	-44.8	44.8	-42.2	42.2	-39.7	39.7						
	B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0						
37	A	-75.0	70.0	-75.0	70.0	-73.7	70.0	-67.9	67.9	-59.0	59.0	-52.8	52.8	-49.9	49.9	-46.4	46.4	-43.5	43.5	-41.1	41.1	-38.6	38.6						
	B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0						

TABLE 2. "X" WINDOWS TEST REPORTS: FTL-3580, FTL-3587

GLAZING OPTION: C. 7/16" LAMI (3/16"A,.090,3/16"HS)		
ALL "X" SIZES UP TO 37" WIDE x 63" HIGH AND ALL "X" SIZES UP TO 32" WIDE x 72" HIGH	-90.0	70.0

TABLE 2A. "X" WINDOWS TEST REPORTS: FTL-4607, FTL-4608 ⚠

GLAZING OPTIONS: C. 7/16" LAMI (3/16"A,.090,3/16"HS) F.13/16" LAMI (1/8"A,AIR SPACE,7/16" LAMI-W/ 3/16"A,.090,3/16"HS)		
ALL "X" SIZES UP TO 37" WIDE x 76" HIGH	-55.0	55.0

X

NOTES: ⚠
1. FOR INSTALLATIONS IN WOOD OR CONCRETE TO THE FULL DESIGN PRESSURES IN THE ABOVE TABLES, USE ELCO 1/4" TAPCONS OR 1/4" SS4 CRETE-FLEX ANCHORS.
2. IF INSTALLING WITH #12 SCREWS, DESIGN PRESSURE IS LIMITED TO 69.6 P.S.F.

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 11-1110.18
Expiration Date 12/12/2013
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:	
F.K.	7/10/03	C	NO CHANGE THIS SHEET
F.K.	6/23/06	D	REVISE ANCHORS & ADD 76" HEIGHT OPTION
J.J.	10/24/11	E	NO CHANGE THIS SHEET
Drawn By: F.K.	Date: 12/17/02	Checked By:	Date:

1070 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274

PGT Visibly Better

Description: PRESSURES- X CONFIG. WINDOWS
Title: ALUMINUM CASEMENT WINDOW, IMPACT
Product Approval: CA-740 | Scale: NTS | Sheet: 5 of 13 | Drawing No.: 7045-8 | Rev: E

COMPARATIVE ANALYSIS TABLE 3.		"XX" WINDOWS																					TEST REPORTS: FTL-3582
GLAZING OPTION: A. 5/16" LAMI (1/8"A,.090,1/8"HS)																							
		HEIGHT																					
"XX" WIDTH		26		31		36		38 3/8		43		48		50 5/8		54		57		60		63	
		NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS
37	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0
43	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0
48	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0
53 1/8	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-72.1	70.0	-69.5	69.5	-67.5	67.5
57	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-74.4	70.0	-69.6	69.6	-65.2	65.2	-63.0	63.0	-60.8	60.8	-58.0	58.0
60	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-68.4	68.4	-63.9	63.9	-60.0	60.0	-58.5	58.5	-56.2	56.2	-53.4	53.4
64	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-71.1	70.0	-61.8	61.8	-58.9	58.9	-56.1	56.1	-53.8	53.8	-50.4	50.4	-47.7	47.7
68	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-65.5	65.5	-57.5	57.5	-54.9	54.9	-51.8	51.8	-48.6	48.6	-45.2	45.2	-42.4	42.4
72	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-70.4	70.0	-60.4	60.4	-54.3	54.3	-51.1	51.1	-47.9	47.9	-44.8	44.8	-42.2	42.2	-39.7	39.7
74	A	-75.0	70.0	-75.0	70.0	-73.7	70.0	-67.9	67.9	-59.0	59.0	-52.8	52.8	-49.9	49.9	-46.4	46.4	-43.5	43.5	-41.1	41.1	-38.6	38.6

TABLE 4.	"XX" WINDOWS	TEST REPORTS: FTL-3582, FTL-3729		
GLAZING OPTIONS: B. 5/16" LAMI (1/8"HS,.090,1/8"HS) E. 13/16" LAMI (1/8"HS,3/8" SPACE,5/16" LAMI-W/ 1/8"HS,.090,1/8"HS)				
		ALL "XX" SIZES UP TO 74" WIDE x 63" HIGH	-75.0	70.0

TABLE 5.	"XX" WINDOWS	TEST REPORT: FTL-3580		
GLAZING OPTION: C. 7/16" LAMI (3/16"A,.090,3/16"HS)				
		ALL "XX" SIZES UP TO 74" WIDE x 63" HIGH	-90.0	70.0

TABLE 5A.	"XX" WINDOWS	TEST REPORTS: FTL-3580, FTL-4607, FTL-4608		
GLAZING OPTIONS: C. 7/16" LAMI (3/16"A,.090,3/16"HS) F.13/16" LAMI (1/8"A,AIR SPACE,7/16" LAMI-W/ 3/16"A,.090,3/16"HS)				
		ALL "XX" SIZES UP TO 74" WIDE x 76" HIGH	-55.0	55.0

⚠

NOTES: ⚠
1. FOR INSTALLATIONS IN WOOD OR CONCRETE TO THE FULL DESIGN PRESSURES IN THE ABOVE TABLES, USE ELCO 1/4" TAPCONS OR 1/4" SS4 CRETE-FLEX ANCHORS.
2. IF INSTALLING WITH #12 SCREWS, DESIGN PRESSURE IS LIMITED TO 69.6 P.S.F.

X	X

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 11-1110.18
Expiration Date 05/22/2013
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:	
Revised By: F.K.	Date: 6/23/05	Revisions: D	REVISE ANCHORS & ADD TABLES 76" HEIGHT OPTION
Revised By: J.J.	Date: 10/24/11	Revisions: E	NO CHANGE THIS SHEET
Drawn By: F.K.	Date: 12/17/02	Checked By:	Date:

1070 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274

PGT Visibly Better

Description: PRESSURES- XX CONFIG. WINDOWS
Title: ALUMINUM CASEMENT WINDOW, IMPACT
Series/Model: CA-740 | Scale: NTS | Sheet: 6 of 13 | Drawing No.: 7045-8 | Rev: E

END

COMPARATIVE ANALYSIS TABLE 6. "O" & "1/4-1/2-1/4 XOX" WINDOWS TEST REPORTS: FTL-3582, FTL-3729, FTL-4607, FTL-4608

GLAZING OPTIONS: ~~A. 5/16" LAMI (1/8"A,.090,1/8"HS)~~ B. 5/16" LAMI (1/8"HS,.090,1/8"HS) C. 7/16" LAMI (3/16"A,.090,3/16"HS)
E. 13/16" LAMI (1/8"HS,3/8" SPACE,5/16" LAMI-W/ 1/8"HS,.090,1/8"HS) F.13/16" LAMI (1/8"A,AIR SPACE,7/16" LAMI-W/ 3/16"A,.090,3/16"HS)

WIDTHS			HEIGHT																									
			28		31		36		38 3/8		43		48		50 5/8		54		57		60		63		67		72		76	
"O"	"XOX"		NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS
36	72	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-70.4	70.0	-60.4	60.4	-54.3	54.3	-51.1	51.1	-47.9	47.9	-44.8	44.8	-42.2	42.2	-39.7	39.7						
		B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0						
		C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-55.0	55.0	-55.0	55.0	-55.0	55.0
37	74	A	-75.0	70.0	-75.0	70.0	-73.7	70.0	-67.9	67.9	-59.0	59.0	-52.8	52.8	-49.9	49.9	-46.4	46.4	-43.5	43.5	-41.1	41.1	-38.8	38.8						
		B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0						
		C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-55.0	55.0	-55.0	55.0	-55.0	55.0
39 1/2	79	A	-75.0	70.0	-75.0	70.0	-67.8	67.8	-62.1	62.1	-55.7	55.7	-49.8	49.8	-46.9	46.9	-43.6	43.6	-41.1	41.1	-38.6	38.6	-36.5	36.5						
		B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0						
		C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-87.4	70.0	-83.2	70.0	-55.0	55.0	-55.0	55.0	-55.0	55.0
42	84	A	-75.0	70.0	-75.0	70.0	-62.4	62.4	-56.4	56.4	-53.3	53.3	-56.4	56.4	-53.4	53.4	-50.0	50.0	-46.9	46.9	-44.3	44.3	-41.9	41.9						
		B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0						
		C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-84.5	70.0	-79.7	70.0	-75.8	70.0	-55.0	55.0	-55.0	55.0	-55.0	55.0
45	90	A	-75.0	70.0	-70.3	70.0	-58.0	58.0	-54.6	54.6	-59.3	59.3	-53.6	53.6	-50.9	50.9	-47.5	47.5	-44.7	44.7	-42.1	42.1	-39.7	39.7						
		B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0						
		C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-88.2	70.0	-81.8	70.0	-76.9	70.0	-72.4	70.0	-69.2	69.2	-55.0	55.0	-55.0	55.0	-55.0	55.0
48	96	A	-75.0	70.0	-65.0	65.0	-54.3	54.3	-51.1	51.1	-55.1	55.1	-51.4	51.4	-48.6	48.6	-45.3	45.3	-42.5	42.5	-40.4	40.4	-38.4	38.4						
		B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0						
		C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-86.0	70.0	-80.9	70.0	-75.0	70.0	-70.7	70.0	-67.3	67.3	-64.1	64.1	-55.0	55.0	-55.0	55.0	-53.2	53.2
50 1/2	101	A	-75.0	70.0	-60.8	60.8	-51.3	51.3	-48.3	48.3	-52.7	52.7	-48.7	48.7	-46.9	46.9	-43.5	43.5	-41.3	41.3	-39.2	39.2	-37.1	37.1						
		B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-74.3	70.0						
		C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-81.2	70.0	-75.7	70.0	-70.3	70.0	-66.8	66.8	-63.5	63.5	-60.5	60.5	-55.0	55.0	-52.6	52.6	-49.6	49.6
53 1/8	106 3/8	A	-75.0	70.0	-56.7	56.7	-48.7	48.7	-45.4	45.4	-50.0	50.0	-46.1	46.1	-44.2	44.2	-42.2	42.2	-40.1	40.1	-38.0	38.0	-36.2	36.2						
		B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-72.4	70.0						
		C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-85.6	70.0	-78.4	70.0	-71.1	70.0	-66.5	66.5	-63.0	63.0	-60.0	60.0	-57.3	57.3	-53.8	53.8	-49.4	49.4	-46.2	46.2
54	108	A	-75.0	70.0	-58.2	58.2	-47.9	47.9	-44.5	44.5	-49.1	49.1	-45.3	45.3	-43.4	43.4	-41.9	41.9	-39.8	39.8	-37.8	37.8	-35.9	35.9						
		B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-71.8	70.0						
		C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-86.9	70.0	-75.0	70.0	-70.1	70.0	-65.4	65.4	-61.8	61.8	-59.1	59.1	-56.4	56.4	-52.8	52.8	-48.4	48.4	-45.2	45.2
55 1/2	111	A	-75.0	70.0	-57.1	57.1	-46.4	46.4	-43.3	43.3	-47.5	47.5	-43.9	43.9	-42.2	42.2	-40.8	40.8	-39.1	39.1	-37.2	37.2	-35.4	35.4						
		B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-74.3	70.0	-70.8	70.0						
		C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-84.3	70.0	-72.5	70.0	-68.4	68.4	-63.6	63.6	-60.1	60.1	-57.5	57.5	-54.8	54.8	-51.1	51.1	-46.8	46.8	-43.6	43.6
57	114	A	-75.0	70.0	-56.2	56.2	-44.8	44.8	-42.1	42.1	-46.2	46.2	-42.5	42.5	-41.2	41.2	-39.8	39.8	-38.5	38.5	-36.7	36.7	-34.8	34.8						
		B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-73.3	70.0	-69.6	69.6						
		C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-81.8	70.0	-70.7	70.0	-66.7	66.7	-61.8	61.8	-58.7	58.7	-55.9	55.9	-53.2	53.2	-49.4	49.4	-45.2	45.2	-42.6	42.6
58 1/2	117	A	-74.2	70.0	-55.0	55.0	-43.4	43.4	-40.9	40.9	-44.8	44.8	-41.3	41.3	-40.2	40.2	-38.7	38.7	-37.6	37.6	-36.1	36.1	-34.2	34.2						
		B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-72.2	70.0	-68.4	68.4						
		C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-79.4	70.0	-69.0	69.0	-64.9	64.9	-60.4	60.4	-57.3	57.3	-54.6	54.6	-51.6	51.6	-47.8	47.8	-43.6	43.6	-41.7	41.7
60	120	A	-72.9	70.0	-53.4	53.4	-42.2	42.2	-39.7	39.7	-43.6	43.6	-40.4	40.4	-39.2	39.2	-37.6	37.6	-36.7	36.7	-35.5	35.5	-33.7	33.7						
		B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-73.3	70.0	-71.0	70.0	-67.4	67.4						
		C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-77.1	70.0	-67.3	67.3	-63.3	63.3	-59.1	59.1	-55.9	55.9	-53.0	53.0	-50.0	50.0	-46.3	46.3	-42.8	42.8	-40.8	40.8

1/4 X	1/2 O	1/4 X

O

TABLE 7. "O" & "1/4-1/2-1/4 XOX" WINDOWS TEST REPORT: FTL-3580

GLAZING OPTION: D. 7/16" LAMI (3/16"HS,.090,3/16"HS)		
ALL "O" SIZES UP TO 60" WIDE x 63" HIGH AND ALL "1/4-1/2-1/4 XOX" SIZES UP TO 120" WIDE x 63" HIGH	-60.0	70.0

TABLE 7A. "O" & "1/4-1/2-1/4 XOX" WINDOWS TEST REPORTS: FTL-4607, FTL-4608

GLAZING OPTIONS: D. 7/16" LAMI (3/16"HS,.090,3/16"HS) G. 13/16" LAMI (1/8"A,AIR SPACE,7/16" LAMI-W/ 3/16"HS,.090,3/16"HS)		
ALL "O" SIZES UP TO 60" WIDE x 76" HIGH AND ALL "1/4-1/2-1/4 XOX" SIZES UP TO 120" WIDE x 76" HIGH	-55.0	55.0

NOTES: 1. FOR INSTALLATIONS IN WOOD OR CONCRETE TO THE FULL DESIGN PRESSURES IN THE ABOVE TABLES, USE ELCO 1/4" TAPCONS OR 1/4" SS4 CRETE-FLEX ANCHORS.

2. IF INSTALLING WITH #12 SCREWS, DESIGN PRESSURE IS LIMITED TO 69.6 P.S.F.

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 11-1110.18
Expiration Date 05/22/2013
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:	Revision:	
F.K.	7/10/03	C	NO CHANGE THIS SHEET
F.K.	8/23/06	D	CHANGE ANCHORS AND ADD 76" HT. OPTION
J.J.	10/24/11	E	NO CHANGE THIS SHEET
Drawn By: F.K.	Date: 12/17/02	Checked By:	Date:

1070 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1029
NOKOMIS, FL 34274

PGT Vistby Better

Description: PRESSURES O &1/4-1/2-1/4 XOX CONFIG. WINDOWS
Title: ALUMINUM CASEMENT WINDOW, IMPACT
Series: CA-740 | Scale: NTS | Sheet: 7 of 13 | Drawing No.: 7045-8 | Rev: E

COMPARATIVE ANALYSIS TABLE 8.			"XO" OR "OX" & "1/3-1/3-1/3 XOX" WINDOWS																				TEST REPORT: FTL-3582	
GLAZING OPTION: A. 5/16" LAMI (1/8"A,.090,1/8"HS)																								
"XO" WIDTH	"XOX" WIDTH		HEIGHT																					
			26		31		36		38 3/8		43		48		50 5/8		54		57		60		63	
			NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS
37	55 1/2	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0
48	72	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0
49 1/3	74	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0
53 1/8	79 2/3	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0
56	84	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-72.1	70.0	-69.5	69.5	-67.5	67.5
60	90	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-71.9	70.0	-67.7	67.7	-64.9	64.9	-62.7	62.7	-60.4	60.4
64	96	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-71.1	70.0	-68.4	68.4	-63.9	63.9	-60.0	60.0	-58.5	58.5	-56.2	56.2	-53.4	53.4
67.333	101	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-66.4	66.4	-58.2	58.2	-55.6	55.6	-52.6	52.6	-49.4	49.4	-45.9	45.9	-43.1	43.1
70.917	106 3/8	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-71.8	70.0	-61.8	61.8	-55.1	55.1	-51.9	51.9	-48.9	48.9	-45.8	45.8	-42.8	42.8	-40.3	40.3
72	108	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-70.4	70.0	-60.4	60.4	-54.3	54.3	-51.1	51.1	-47.9	47.9	-44.8	44.8	-42.2	42.2	-39.7	39.7
74	111	A	-75.0	70.0	-75.0	70.0	-73.7	70.0	-67.9	67.9	-59.0	59.0	-52.8	52.8	-49.9	49.9	-46.4	46.4	-43.5	43.5	-41.1	41.1	-38.6	38.6

TABLE 9.	"XO" or "OX" & "1/3-1/3-1/3 XOX" WINDOWS	TEST REPORTS: FTL-3582, FTL-3729		
GLAZING OPTIONS:	B. 5/16" LAMI (1/8"HS,.090,1/8"HS)	E. 13/16" LAMI (1/8"HS,3/8" SPACE,5/16" LAMI-W/ 1/8"HS,.090,1/8"HS)		
ALL "XO" OR "OX" SIZES UP TO 74" WIDE x 63" HIGH AND ALL "1/3-1/3-1/3 XOX" SIZES UP TO 111" WIDE x 63" HIGH			-75.0	70.0

TABLE 10.	"XO" or "OX" & "1/3-1/3-1/3 XOX" WINDOWS	TEST REPORT: FTL-3580		
GLAZING OPTION:	C. 7/16" LAMI (3/16"A,.090,3/16"HS)			
ALL "XO" OR "OX" SIZES UP TO 74" WIDE x 63" HIGH AND ALL "1/3-1/3-1/3 XOX" SIZES UP TO 111" WIDE x 63" HIGH			-90.0	70.0

TABLE 10A.	"XO" or "OX" & "1/3-1/3-1/3 XOX" WINDOWS	TEST REPORTS: FTL-3580, FTL-4607, FTL-4608		
GLAZING OPTIONS:	C. 7/16" LAMI (3/16"A,.090,3/16"HS)	F.13/16" LAMI (1/8"A,AIR SPACE,7/16" LAMI-W/ 3/16"A,.090,3/16"HS)		
ALL "XO" OR "OX" SIZES UP TO 74" WIDE x 76" HIGH AND ALL "1/3-1/3-1/3 XOX" SIZES UP TO 111" WIDE x 76" HIGH			-55.0	55.0

⚠

NOTES: ⚠
1. FOR INSTALLATIONS IN WOOD OR CONCRETE TO THE FULL DESIGN PRESSURES IN THE ABOVE TABLES, USE ELCO 1/4" TAPCONS OR 1/4" SS4 CRETE-FLEX ANCHORS.
2. IF INSTALLING WITH #12 SCREWS, DESIGN PRESSURE IS LIMITED TO 69.6 P.S.F.

1/3	1/3	1/3
X	O	X

X	O

O	X

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 11-1110.18
Expiration Date 12/16/2013
By
Miami Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
10/29/14
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. Lynn Miller, P.E.
P.E.# 58705

Revised By:	Date:	Revision:	
F.K.	7/10/03	C	NO CHANGE THIS SHEET
F.K.	8/23/05	D	CHANGE ANCHORS AND ADD 76" HEIGHT OPTION
J.J.	10/24/11	E	NO CHANGE THIS SHEET
Drawn By: F.K.	Date: 12/17/02	Checked By:	Date:

1070 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274

PGT Visibly Better

Description: PRESSURES XO, OX, & 1/3-1/3-1/3 XOX WINDOWS
Title: ALUMINUM CASEMENT WINDOW, IMPACT

Product/Model	Scale	Sheet	Drawing No.	Rev.
CA-740	NTS	8 of 13	7045-8	E

COMPARATIVE ANALYSIS TABLE 11. "XO" or "OX" & "XOX" UNEQUAL LITE WINDOWS TEST REPORTS: FTL-3580, FTL-3582, FTL-3729, FTL-4607, FTL-4608

GLAZING OPTIONS: A. 5/16" LAMI (1/8"A,.090,1/8"HS) B. 5/16" LAMI (1/8"HS,.090,1/8"HS) C. 7/16" LAMI (3/16"A,.090,3/16"HS)
E. 13/16" LAMI (1/8"HS,3/8" SPACE,5/16" LAMI-W/ 1/8"HS,.090,1/8"HS) F. 13/16" LAMI (1/8"A,AIR SPACE,7/16" LAMI-W/ 3/16"A,.090,3/16"HS)

WIDTHS				HEIGHT																									
				26		38		38 3/8		43		48		50 5/8		54		57		60		63		67		72		76	
"XOX"	VENT	FIXED		NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS
69.264	19.125	31.014	A	-75.0	70.0	-75.0	70.0	-75.0	70.0	-74.1	70.0	-64.9	64.9	-60.6	60.6	-58.1	58.1	-56.1	56.1	-53.3	53.3	-50.5	50.5						
			B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0						
			C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-55.0	55.0	-55.0	55.0	-55.0	55.0
66.919	24	36.919	A	-75.0	70.0	-69.1	69.1	-63.4	63.4	-56.5	56.5	-50.4	50.4	-47.5	47.5	-44.1	44.1	-41.6	41.6	-39.2	39.2	-36.9	36.9						
			B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-73.8	70.0						
			C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-89.4	70.0	-85.2	70.0	-55.0	55.0	-55.0	55.0	-55.0	55.0
95.973	27	42.973	A	-75.0	70.0	-60.5	60.5	-57.2	57.2	-52.1	52.1	-55.2	55.2	-52.6	52.6	-49.1	49.1	-46.2	46.2	-43.6	43.6	-41.1	41.1						
			B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0						
			C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-87.0	70.0	-81.9	70.0	-77.2	70.0	-73.1	70.0	-55.0	55.0	-55.0	55.0	-55.0	55.0
108.649	30	48.649	A	-75.0	70.0	-53.5	53.5	-50.4	50.4	-54.5	54.5	-50.7	50.7	-48.2	48.2	-44.9	44.9	-42.0	42.0	-40.1	40.1	-38.0	38.0						
			B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0						
			C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-84.7	70.0	-79.5	70.0	-73.6	70.0	-69.7	69.7	-66.3	66.3	-63.1	63.1	-55.0	55.0	-55.0	55.0	-52.2	52.2
115.892	32	51.892	A	-75.0	70.0	-49.9	49.9	-46.8	46.8	-51.3	51.3	-47.4	47.4	-45.5	45.5	-42.7	42.7	-40.7	40.7	-38.6	38.6	-36.6	36.6						
			B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-73.2	70.0						
			C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-90.0	70.0	-78.8	70.0	-73.2	70.0	-68.3	68.3	-64.8	64.8	-61.4	61.4	-58.6	58.8	-55.0	55.0	-50.9	50.9	-47.7	47.7
122	33.687	54.627	A	-75.0	70.0	-47.3	47.3	-44.0	44.0	-48.4	48.4	-44.7	44.7	-42.8	42.8	-41.4	41.4	-39.5	39.5	-37.5	37.5	-35.7	35.7						
			B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-74.9	70.0	-71.4	70.0						
			C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-85.6	70.0	-74.0	70.0	-69.4	69.4	-64.7	64.7	-61.0	61.0	-58.4	58.4	-55.7	55.7	-52.1	52.1	-47.7	47.7	-44.6	44.6
123.135	34	55.135	A	-75.0	70.0	-46.8	46.8	-43.6	43.6	-47.9	47.9	-44.3	44.3	-42.4	42.4	-41.1	41.1	-39.3	39.3	-37.3	37.3	-35.5	35.5						
			B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-74.6	70.0	-71.0	70.0						
			C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-85.0	70.0	-73.1	70.0	-68.8	68.8	-64.1	64.1	-60.5	60.5	-57.9	57.9	-55.2	55.2	-51.5	51.5	-47.2	47.2	-44.0	44.0
126.000	34.791	56.418	A	-75.0	70.0	-45.5	45.5	-42.6	42.6	-46.7	46.7	-43.1	43.1	-41.6	41.6	-40.2	40.2	-38.7	38.7	-36.9	36.9	-35.0	35.0						
			B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-73.7	70.0	-70.1	70.0						
			C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-82.6	70.0	-71.3	70.0	-67.3	67.3	-62.5	62.5	-59.2	59.2	-56.5	56.5	-53.8	53.8	-50.1	50.1	-45.8	45.8	-43.0	43.0
130	35.896	58.209	A	-74.4	70.0	-43.6	43.6	-41.2	41.2	-46.1	46.1	-41.5	41.5	-40.4	40.4	-38.9	38.9	-37.7	37.7	-36.2	36.2	-34.3	34.3						
			B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-72.4	70.0	-68.6	68.6						
			C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-79.9	70.0	-69.3	69.3	-65.3	65.3	-60.6	60.6	-57.6	57.6	-54.7	54.7	-51.9	51.9	-48.1	48.1	-43.9	43.9	-41.9	41.9
130.378	36	58.378	A	-74.3	70.0	-43.5	43.5	-41.0	41.0	-45.0	45.0	-41.4	41.4	-40.3	40.3	-38.8	38.8	-37.6	37.6	-36.1	36.1	-34.3	34.3						
			B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-72.3	70.0	-68.5	68.5						
			C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-79.6	70.0	-69.1	69.1	-65.1	65.1	-60.5	60.5	-57.4	57.4	-54.6	54.6	-51.7	51.7	-48.0	48.0	-43.8	43.8	-41.8	41.8
134	37	60	A	-72.9	70.0	-42.2	42.2	-39.7	39.7	-43.5	43.5	-40.4	40.4	-39.2	39.2	-37.7	37.7	-36.7	36.7	-35.5	35.5	-33.7	33.7						
			B,E	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-75.0	70.0	-73.3	70.0	-71.0	70.0	-67.4	67.4						
			C,F	-90.0	70.0	-90.0	70.0	-90.0	70.0	-77.1	70.0	-67.3	67.3	-63.3	63.3	-59.1	59.1	-55.9	55.9	-53.0	53.0	-50.0	50.0	-46.3	46.3	-42.8	42.8	-40.8	40.8

"XO" & "OX" WINDOW WIDTHS EQUAL THE SUM OF THE VENT WIDTH AND THE FIXED WIDTH.

TABLE 12. "XO" or "OX" & "XOX" UNEQUAL LITE WINDOWS TEST REPORT: FTL-3580

GLAZING OPTION: D. 7/16" LAMI (3/16"HS,.090,3/16"HS)

ALL "XOX" SIZES UP TO 134" WIDE x 63" HIGH WITH 37" MAX. VENT WIDTH AND 60" MAX. FIXED WIDTH AND ALL "XO" or "OX" SIZES UP TO 97" WIDE x 63" HIGH WITH 37" MAX. VENT WIDTH AND 60" MAX. FIXED WIDTH	-90.0	70.0

TABLE 12A. "XO" or "OX" & "XOX" UNEQUAL LITE WINDOWS TEST REPORTS: FTL-3580, FTL-4607, FTL-4608 ⚠

GLAZING OPTIONS: D. 7/16" LAMI (3/16"HS,.090,3/16"HS) G. 13/16" LAMI (1/8"A,AIR SPACE,7/16" LAMI-W/ 3/16"HS,.090,3/16"HS)

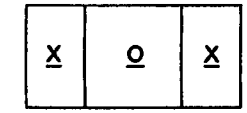
ALL "XOX" SIZES UP TO 134" WIDE x 76" HIGH WITH 37" MAX. VENT WIDTH AND 60" MAX. FIXED WIDTH AND ALL "XO" or "OX" SIZES UP TO 97" WIDE x 76" HIGH WITH 37" MAX. VENT WIDTH AND 60" MAX. FIXED WIDTH	-55.0	55.0

NOTES: 1. FOR INSTALLATIONS IN WOOD OR CONCRETE TO THE FULL DESIGN PRESSURES IN THE ABOVE TABLES, USE ELCO 1/4" TAPCONS OR ⚠ 1/4" SS4 CRETE-FLEX ANCHORS.
2. IF INSTALLING WITH #12 SCREWS, DESIGN PRESSURE IS LIMITED TO 69.6 P.S.F.

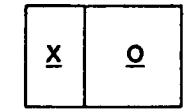
Revised By:	Date:	Revisions:	
F.K.	7/10/03	C	NO CHANGE THIS SHEET
F.K.	6/23/06	D	CHANGE ANCHORS AND ADD 76" HEIGHT OPTION
J.J.	10/24/11	E	NO CHANGE THIS SHEET
Drawn By: F.K.	Date: 12/17/02	Checked By:	Date:

1070 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1629
NOKOMIS, FL 34274
PGT Visibly Better

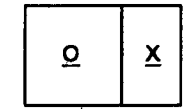
Description: PRESSURES- UNEQUAL CONFIG. XO, OX & XOX
Title: ALUMINUM CASEMENT WINDOW, IMPACT
Series/Model: CA-740 | Scale: NTS | Sheet: 9 of 13 | Drawing No.: 7045-8 | Rev: E



UNEQUAL LITES



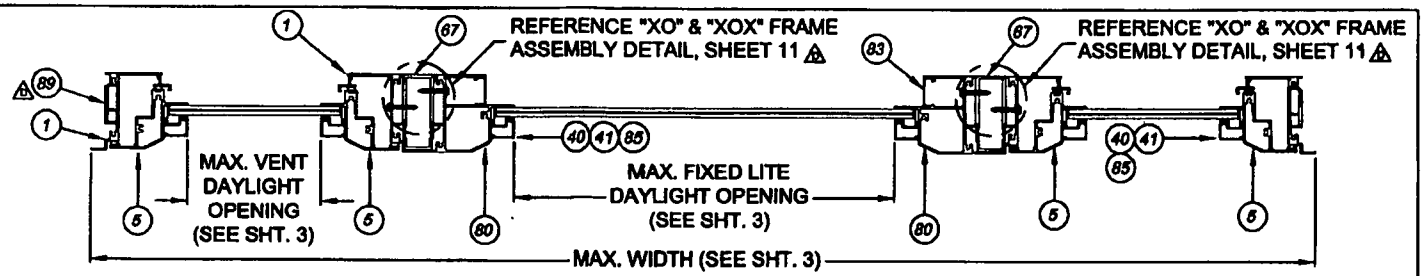
UNEQUAL LITES



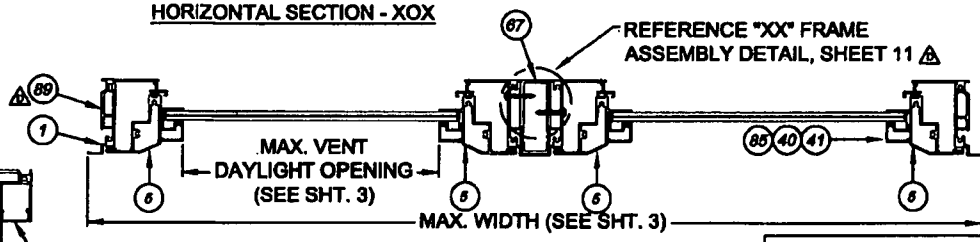
UNEQUAL LITES

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 11-1110.18
Expiration Date 05/22/2013
By
Miami Dade Product Control

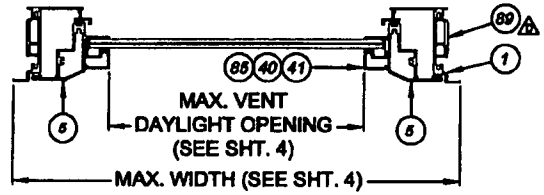
ANTHONY LYNN MILLER
LICENSE
No. 58705
6/29/14
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. Lynn Miller PE.
P.E.# 58705



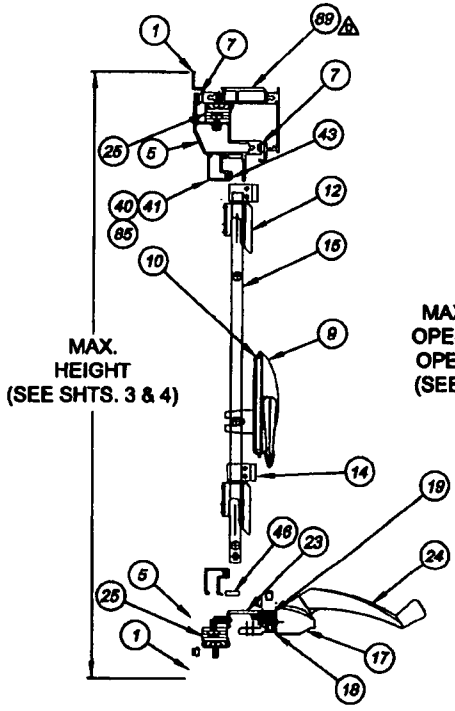
HORIZONTAL SECTION - XOX



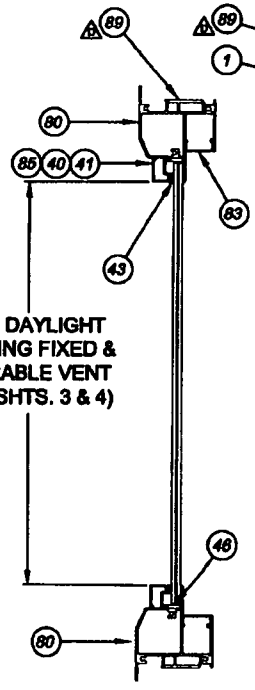
HORIZONTAL SECTION - XX



HORIZONTAL SECTION - X



VERTICAL SECTION OPERABLE UNIT



VERTICAL SECTION FIXED UNIT

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No. 11-1110.13
Expiration Date 03/22/2018
By
Miami Dade Product Control

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

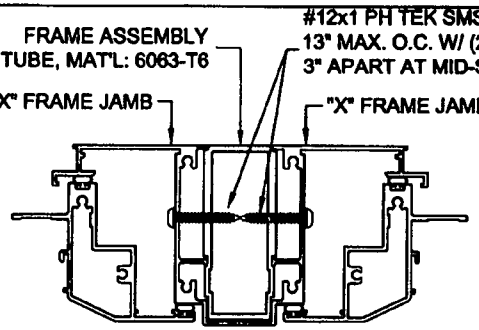
Revised By:	Date:	Revision:	
F.K.	7/10/03	C	SHOW TOP HINGE
F.K.	6/23/06	D	CHG SHT. NO. REF. AND ADD ITEM 89
J.J.	10/24/11	E	NO CHANGE THIS SHEET
Drawn By: F.K.	Date: 12/17/02	Checked By:	Date:

1070 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1629
NOKOMIS, FL 34274

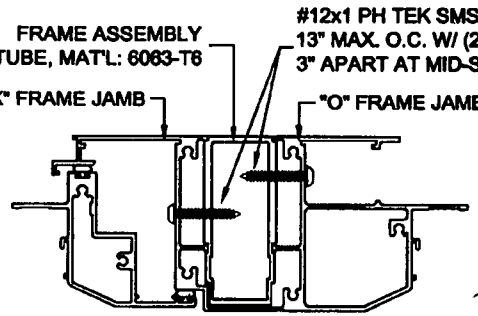
PGT Visibly Better

Description: SECTIONS
Title: ALUMINUM CASEMENT WINDOW, IMPACT

Series/Model:	Scale:	Sheet:	Drawing No.:	Rev:
CA-740	NTS	10 - 13	7045-8	E

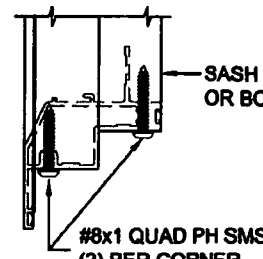


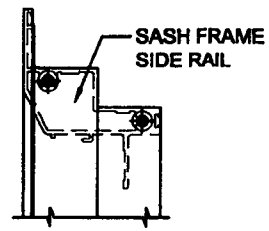
"XX" FRAME ASSEMBLY DETAIL



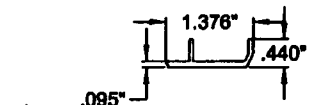
"XO" & "XOX" FRAME ASSEMBLY DETAIL

NOTE: ALL ALUMINUM SHALL BE OF 6063-T6

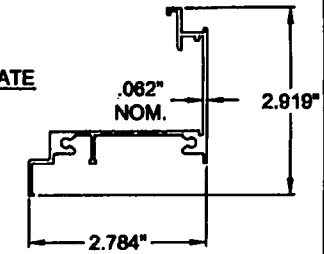




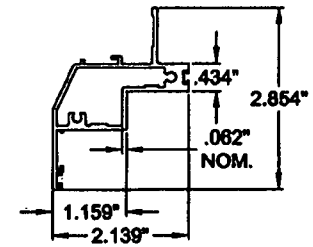
SASH FRAME ASSEMBLY DETAIL



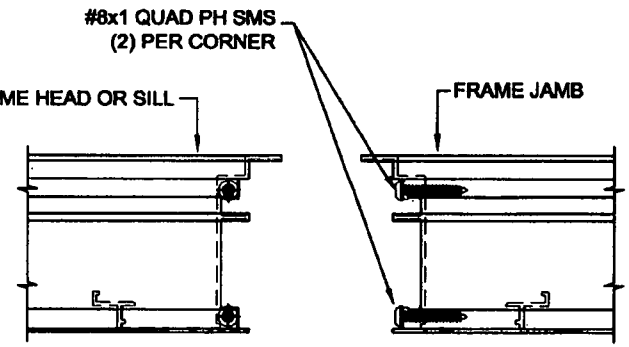
89 CASEMENT BACKING PLATE
MAT'L: 6063-T6
DWG# 7071



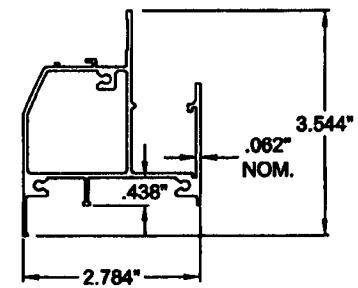
1 FRAME HEAD, SILL, JAMB
MAT'L: 6063-T6
DWG# 7002A



5 SASH FRAME HEAD, SILL, JAMB
MAT'L: 6063-T6
DWG# 7003A



MAIN FRAME ASSEMBLY DETAIL



80 FIXED FRAME HEAD, SILL, JAMB
MAT'L: 6063-T6
DWG# 7005A

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 11-1110.18
Expiration Date 04/12/2013
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:	
F.K.	7/10/03	C	NO CHANGE THIS SHEET
F.K.	6/23/05	D	ADD ITEM 89
J.J.	10/24/11	E	NO CHANGE THIS SHEET
Drawn By: F.K.	Date: 12/17/02	Checked By:	Date:

1070 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274

PGT Visibly Better

Description: EXTRUSIONS & ASSEMBLY DETAILS
Title: ALUMINUM CASEMENT WINDOW, IMPACT

Product/Model	Scale	Sheet	Drawing No.	Rev.
CA-740	NTS	11 of 13	7045-8	E

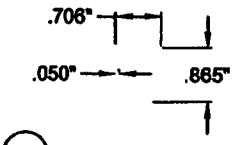
END

PARTS LIST

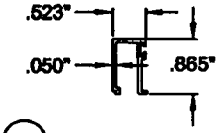
ITEM	DWG #	PGT. #	DESCRIPTION
1	7002A		MAIN FRAME - HEAD, SILL & JAMBS
2	1155	781PQA	#8 X 1 QUAD PH SMS
3	7008		FRAME CORNER KEY
4			1/2"X1/2"X1/8" CLOSED-CELL FOAM TAPE
5	7003A		SASH - TOP, BOTTOM & SIDE RAILS
6	1155	781PQA	#8 X 1 QUAD PH SMS
7	7017	67017K	BULB WEATHERSTRIP .187X.240
8	7009		SASH CORNER KEY
9	7024		MAXIM MULTI-POINT LOCK
10	7026		LOCK SUPPORT PLATE
11			#10-24 X .562 PH. PN. TYPE F
12	7014		MULTI-LOCK KEEPER (R.H. & L.H.)
13	1157	78X78PPSMS	#8 X .875 PH. PN. SMS
14	7013		TIE BAR GUIDE
15	7015		TIE BAR ASSEMBLY
16	7028		MAXIM DYAD OPERATOR
17	7027		MAXIM DUAL ARM OPERATOR
18	7030		OPERATOR GASKET
19	7031		BACKING PLATE
20			#8-32 X .375 PH. PN. TYPE B
21	7032		STUD BRACKET (L.H. & R.H.)
22		7858ZA	#8 X 5/8" FLT. PHL SMS
23	7033		OPERATOR TRACK & SLIDER (DUAL ARM)
24	7022		SNAP-ON HANDLE
25	7023		12" HINGE (HEAVY DUTY)
26		710x12PP	#10 X .500 PH. PHL.
30			5/16" LAMINATED (1/8A & 1/8HS GLASS) .090 INTERLAYER - SOLUTIA OR DUPONT PVB
31			5/16" LAMINATED (1/8HS & 1/8HS GLASS) .090 INTERLAYER - SOLUTIA OR DUPONT PVB
32			7/16" LAMINATED (3/16A & 3/16HS GLASS) .090 INTERLAYER - SOLUTIA OR DUPONT PVB
33			7/16" LAMINATED (3/16HS & 3/16HS GLASS) .090 INTERLAYER - SOLUTIA OR DUPONT PVB
40	7036		GLAZING BEAD (5/16")
41	7042		GLAZING BEAD (7/16")
43	1224	6TP247	VINYL BULB WSTP (THICK)
44			SILICONE - DOW CORNING 899, 995 OR EQUIV. ⚠
45			PARABOND
46	1634	6163K	SETTING BLOCK
50	7006		SCREEN FRAME
51	7040		SCREEN CORNER KEY
52			SCREEN CLOTH
53	1635	61635K	SCREEN SPLINE - SERRATED
54	331	60976	CASEMENT SCREEN CLIP
55		78x12PSTW/B	#8 X .500 SQ. PN. TEK SMS
67	7004A	67004	CASEMENT FRAME ASS'Y. TUBE
68		712X1PPT	#12 X 1" PH. PHIL. TEK.
69	7011		LOCK SUPPORT PLATE
70	7012		LOCK SPACER
71	7019	711573	SNAP-ON T-HANDLE KNOB
72	7018	7FLDHD	FOLDING HANDLE

PARTS LIST CONT.

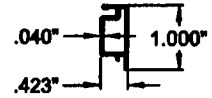
ITEM	DWG #	PGT. #	DESCRIPTION
73	7025		MAXIM SINGLE LOCK
74	7016		SINGLE LOCK KEEPER
75		70834A	#8 X .750 QUAD PN SMS
80	7005A		FIXED WINDOW FRAME - HEAD, SILL & JAMBS
81	1155	781PQA	#8 X 1 QUAD PN SMS
82	7010		FIXED FRAME CORNER KEY
83	7007		INSTALLATION HOLE COVER
85	7047	67407	GLAZING BEAD (13/16" I.G.)
86		13/16"	I.G. GLASS (1/8"HS, AIR SPACE, 5/16"LAMI) 5/16" LAMI = (2) LITES OF 1/8"HS GLASS WITH AN.090 INTERLAYER - SOLUTIA OR DUPONT PVB
87		13/16"	I.G. GLASS (1/8"HS, AIR SPACE, 7/16"LAMI) 7/16" LAMI = 3/16A & 3/16HS GLASS WITH AN.090 INTERLAYER - SOLUTIA OR DUPONT PVB
88		13/16"	I.G. GLASS (1/8"HS, AIR SPACE, 7/16"LAMI) 7/16" LAMI = 3/16HS & 3/16HS GLASS WITH AN.090 INTERLAYER - SOLUTIA OR DUPONT PVB
89	7071	67071	CASEMENT BACKING PLATE (SEE NOTE 4, SHEET 13) ⚠



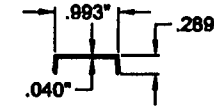
40 5/16" GLAZING BEAD
MAT'L: 6063-T6
DWG# 7036



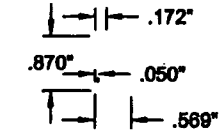
41 7/16" GLAZING BEAD
MAT'L: 6063-T6
DWG# 7042



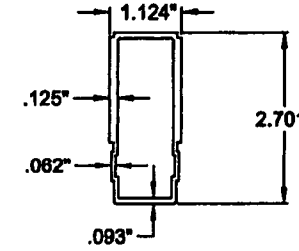
50 CASEMENT SCREEN FRAME
MAT'L: 6063-T6
DWG# 7006



83 INSTALLATION HOLE COVER
MAT'L: 6063-T6
DWG# 7007



85 13/16" GLAZING BEAD
MAT'L: 6063-T6
DWG# 7047



67 CASEMENT FRAME ASSEMBLY TUBE
MAT'L: 6063-T6
DWG# 7004A

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 11-1110.13
Expiration Date DEC 22 2013
By
Miami Dade Product Control

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

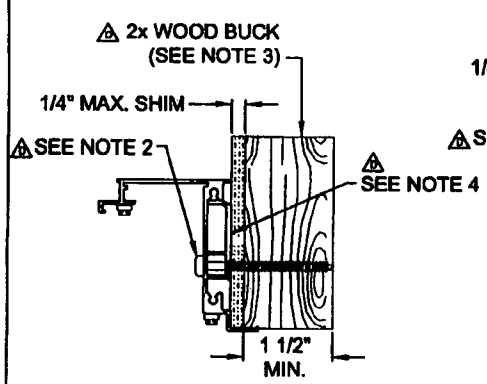
Revised By:	Date:	Revision:	
F.K.	7/10/03	C	NO CHANGE THIS SHEET
F.K.	6/23/06	D	ADD EQUIV. TO ITEM 44, SILICONE AND ADD ITEMS 87, 88 AND 89
J.J.	10/24/11	E	NO CHANGE THIS SHEET
Drawn By: F.K.	Date: 12/17/02	Checked By:	Date:

1070 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274

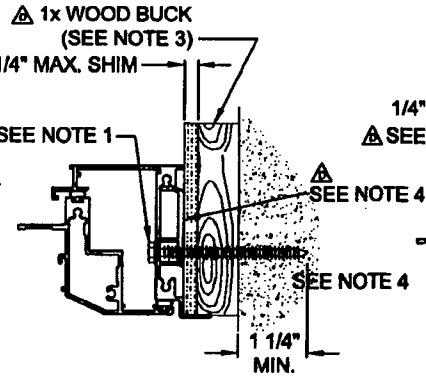
PGT Visibly Better

Description: PARTS LIST & EXTRUSIONS
Title: ALUMINUM CASEMENT WINDOW, IMPACT

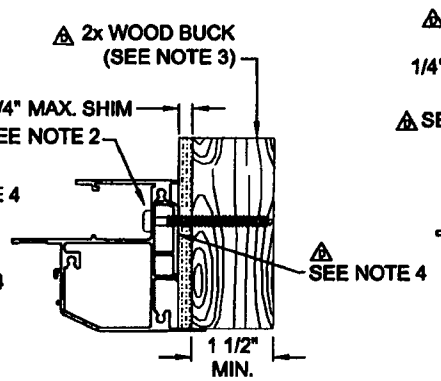
Job/Addition	Scale	Sheet	Drawing No.	Rev
CA-740	NTS	12 of 13	7045-8	E



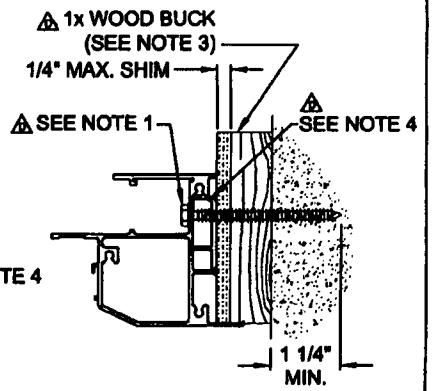
OPERABLE UNIT FRAME
TO WOOD BUCK
1 1/2" OR MORE THICK



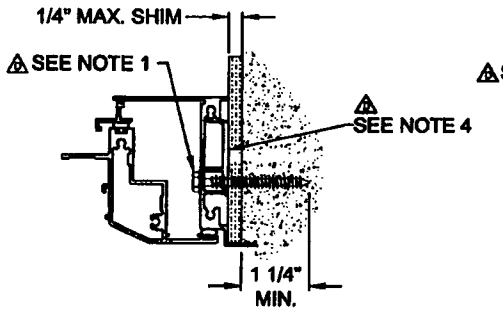
OPERABLE UNIT FRAME
TO CONCRETE W/ WOOD BUCK
LESS THAN 1 1/2" THICK



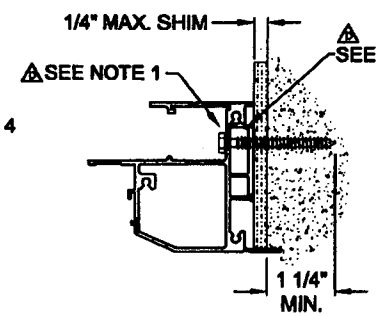
FIXED UNIT FRAME
TO WOOD BUCK
1 1/2" OR MORE THICK



FIXED UNIT FRAME TO CONCRETE W/
WOOD BUCK LESS THAN 1 1/2" THICK



OPERABLE UNIT FRAME
TO CONCRETE



FIXED UNIT FRAME
TO CONCRETE

NOTE: ALL DETAILS APPLY TO HEAD, SILL, AND JAMB.

NOTES: ⚠

1. FOR CONCRETE APPLICATIONS IN MIAMI-DADE COUNTY, USE ONLY MIAMI-DADE COUNTY APPROVED 1/4" ELCO TAPCONS OR 1/4" SS4 CRETE-FLEX CONCRETE ANCHORS. MINIMUM DISTANCE FROM ANCHOR TO CONCRETE EDGE IS 2 1/2". SEE SHEET 1 FOR SPACING.
2. FOR WOOD APPLICATIONS IN MIAMI-DADE COUNTY, USE #12 SCREWS, 1/4" ELCO TAPCONS OR 1/4" ELCO SS4 CRETE-FLEX. SEE SHEET 1 FOR SPACING.
3. WOOD BUCKS DEPICTED IN THE SECTIONS ON THIS PAGE AS 1x ARE BUCKS WHOSE TOTAL THICKNESS IS LESS THAN 1 1/2". 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. INSTALLATION TO THE SUBSTRATE OF WOOD BUCKS TO BE ENGINEERED BY OTHERS OR AS APPROVED BY AUTHORITY HAVING JURISDICTION.
4. ITEM 89, BACKING PLATE, NOT REQUIRED FOR INSTALLATIONS OUTSIDE OF MIAMI-DADE COUNTY.

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 11-1119.18
Expiration Date 05/22/2013
By
Miami Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
10/29/14
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. Lynn Miller, P.E.
P.E.# 58705

Revised By:	Date:	Revisions:	
F.K.	7/10/03	C	NO CHANGE THIS SHEET
F.K.	6/23/06	D	REVISE NOTES AND REMOVE 3/16" TAPCONS & #14 SCREWS
J.J.	10/24/11	E	NO CHANGE THIS SHEET
Drawn By: F.K.	Date: 12/17/02	Checked By:	Date:

1070 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274

PGT
Visibly Better

Description: ANCHORAGE DETAILS
Title: ALUMINUM CASEMENT WINDOW, IMPACT

Product Code	Scale	Sheet	Drawing No.	Rev.
CA-740	NTS	13 of 13	7045-8	E

IMPACT- HR (high sill)

Business & Professional Regulation

Florida Department of Business & Professional Regulation

Product Approval
USER: Public User

FL #	FL14610
Application Type	New
Code Version	2007
Application Status	Approved
	*Approved by DCA. Approvals by DCA shall be reviewed and ratified by the POC and/or the Commission if necessary.
Comments	
Archived	☐
Product Manufacturer	Eastern Architectural Systems
Address/Phone/Email	10030 Bavaria Road Ft. Myers, FL 33913 (800) 281-6564 fbc@buildingdrops.com
Authorized Signature	AJ Giacalone fbc@buildingdrops.com
Technical Representative Address/Phone/Email	
Quality Assurance Representative Address/Phone/Email	
Category	Windows
Subcategory	Horizontal Slider
Compliance Method	Certification Mark or Listing
Certification Agency	National Accreditation & Management Institute,
Validated By	National Accreditation & Management Institute,

Referenced Standard and Year (of Standard)

Standard	Year
AAMA/WDMA/CSA 101/I.S.2/A440	2005
ANSI/AAMA/NWWDA 101/I.S.2	1997
ASTM E1886	2005
ASTM E1996	2005
TAS 201	1994
TAS 202	1994
TAS 202	1994

Equivalence of Product Standards
Certified By

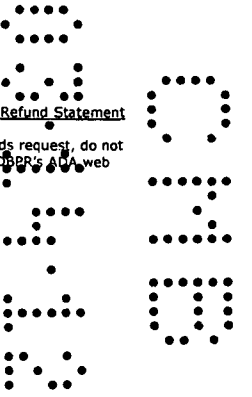
Product Approval Method	Method 1 Option A
Date Submitted	05/31/2011
Date Validated	08/18/2011
Date Pending FBC Approval	
Date Approved	08/25/2011

Summary of Products

FL #	Model, Number or Name	Description
14610.1	Series "1000" Aluminum	Horizontal Sliding Window
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** +35/-35 **Other:** Configuration: XOX Max. Frame Size: W-112" H-63" Max. Vent Size: W-28" H-60.25" Glazing: Fixed Lite: 1/8" Tempered Glass Vent Lite: 5/16" Annealed Glass		**Certification Agency Certificate** FL14610_R0_C_CAC_NI009471.01.PDF **Quality Assurance Contract Expiration Date** 04/30/2014 **Installation Instructions** FL14610_R0_II_EAS004_R1_SIGNED_AND_CERT.pdf Verified By: Alexis Spyrou, P.E. Florida P.E. 68101 Created by Independent Third Party: Yes **Evaluation Reports** FL14610_R0_AE_PER_1319_SIGNED_AND_CERT.pdf Created by Independent Third Party: Yes
14610.2	Series "1000" Aluminum	Horizontal Sliding Window
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** N/A **Other:** Configuration: XO Glazing: 3/16" Monolithic Annealed Glass Refer to drawing EAS002 for Max. Frame and Vent Sizes and Design Pressure Ratings		**Certification Agency Certificate** FL14610_R0_C_CAC_NI006178.01.PDF FL14610_R0_C_CAC_NI006178.02.PDF **Quality Assurance Contract Expiration Date** 06/30/2015 **Installation Instructions** FL14610_R0_II_EAS002_R1_SIGNED_AND_CERT.pdf Verified By: Alexis Spyrou, P.E. Florida P.E. 68101 Created by Independent Third Party: Yes **Evaluation Reports** FL14610_R0_AE_PER_1317_SIGNED_AND_CERT.pdf Created by Independent Third Party: Yes
14610.3	Series "FWI 1000" Aluminum Impact Rated	Horizontal Sliding Window
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +80/-80 **Other:** Configuration: OX Max. Frame Size: W-72" H-60" Max. Sash Size: W-36" H-57" Glazing: Laminate-3/16" Heat Strengthened Glass/0.090" Saflex/Keepsake Maximum/ 3/16" Heat Strengthened Glass, Interlayer Approved under NOA 09-0127.13		**Certification Agency Certificate** FL14610_R0_C_CAC_09-0127.13.pdf FL14610_R0_C_CAC_NI006149.01.pdf **Quality Assurance Contract Expiration Date** 12/31/2014 **Installation Instructions** FL14610_R0_II_EAS001.pdf Verified By: Alexis Spyrou, P.E. Florida P.E. 68101 Created by Independent Third Party: Yes **Evaluation Reports** FL14610_R0_AE_PER_1316.pdf Created by Independent Third Party: Yes
14610.4	Series "FWI 1000" Aluminum Impact Rated	Horizontal Sliding Window
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +100/-120 **Other:** Glazing: Laminate- 3/16" Heat Strengthened Glass/0.100" PVB Interlayer by Solutia/ 3/16" Heat Strengthened Glass Refer to drawing EAS003 for Max. Frame & Panel Sizes, Interlayer Approved under NOA 09-0127.13		**Certification Agency Certificate** FL14610_R0_C_CAC_09-0127.13.pdf FL14610_R0_C_CAC_NI010658.01.PDF FL14610_R0_C_CAC_NI010658.PDF **Quality Assurance Contract Expiration Date** 02/28/2015 **Installation Instructions** FL14610_R0_II_EAS003.pdf Verified By: Alexis Spyrou, P.E. Florida P.E. 68101 Created by Independent Third Party: Yes **Evaluation Reports** FL14610_R0_AE_PER_1318.pdf Created by Independent Third Party: Yes
14610.5	Series 3241 Vinyl	Horizontal Sliding Window
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** +50/-50		**Certification Agency Certificate** FL14610_R0_C_CAC_NI010634.01.PDF **Quality Assurance Contract Expiration Date** 03/31/2014 **Installation Instructions**

Other: Configuration: XO Max. Frame Size: W-71.5" H-59.5" Glazing: 3/4" O.A. I.G.-1/8" Annealed Glass		FL14610_R0_II_EAS045 SIGNED AND CERT.pdf Verified By: Alexis Spyrou, P.E. Florida P.E. 68101 Created by Independent Third Party: Yes **Evaluation Reports** FL14610_R0_AE_PER 1406.pdf Created by Independent Third Party: Yes
14610.6	Series 4241 Vinyl Impact Rated	Horizontal Sliding Window
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +50/-50 **Other:** Configuration: XO Max. Frame Size: W-71.5" H-59.5" Glazing: 3/4" O.A. I.G.-1/8" Annealed Glass/Laminate-1/8" Annealed Glass/0.090" PVB by Solutia/1/8" Annealed Glass		**Certification Agency Certificate** FL14610_R0_C_CAC_NI010634.02.PDF FL14610_R0_C_CAC_NI010634.PDF **Quality Assurance Contract Expiration Date** 03/31/2014 **Installation Instructions** FL14610_R0_II_EAS046.pdf Verified By: Alexis Spyrou, P.E. Florida P.E. 68101 Created by Independent Third Party: Yes **Evaluation Reports** FL14610_R0_AE_PER 1407.pdf Created by Independent Third Party: Yes

Back Next



EASTERN ARCHITECTURAL SYSTEMS,INC

SERIES FWI 1000 IMPACT HORIZONTAL ROLLER

INSTALLATION NOTES:

1. ONE (1) INSTALLATION ANCHOR IS REQUIRED AT EACH ANCHOR LOCATION SHOWN.
2. THE NUMBER OF INSTALLATION ANCHORS DEPICTED IS THE *MINIMUM* NUMBER OF ANCHORS TO BE USED FOR PRODUCT INSTALLATION.
3. INSTALL INDIVIDUAL INSTALLATION ANCHORS WITHIN A TOLERANCE OF ±1/2 INCH OF THE DEPICTED LOCATION IN THE ANCHOR LAYOUT DETAIL (I.E., WITHOUT CONSIDERATION OF TOLERANCES). TOLERANCES ARE NOT CUMULATIVE FROM ONE INSTALLATION ANCHOR TO THE NEXT.
4. SHIM AS REQUIRED AT EACH INSTALLATION ANCHOR WITH LOAD BEARING SHIM(S). MAXIMUM ALLOWABLE SHIM STACK TO BE 1/4 INCH. SHIM WHERE SPACE OF 1/16 INCH OR GREATER OCCURS. SHIM(S) SHALL BE CONSTRUCTED OF HIGH DENSITY PLASTIC OR BETTER.
5. FOR INSTALLATION INTO WOOD FRAMING USE #14 WOOD SCREWS OF SUFFICIENT LENGTH TO ACHIEVE 1 1/2 INCH MINIMUM EMBEDMENT INTO WOOD SUBSTRATE.
6. FOR INSTALLATION THROUGH 1X BUCK TO *CONCRETE/MASONRY, OR DIRECTLY INTO* CONCRETE/MASONRY, USE 1/4 INCH DIAMETER ITW TAPCONS OF SUFFICIENT LENGTH TO ACHIEVE 1 1/4 INCH MINIMUM EMBEDMENT.
7. FOR INSTALLATION INTO STEEL STUD FRAMING USE #14 SELF-TAPPING SCREWS OF SUFFICIENT LENGTH TO ACHIEVE THREE (3) THREADS MINIMUM PENETRATION BEYOND THE METAL STRUCTURE.
8. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDE WALL FINISHES, INCLUDING BUT NOT LIMITED TO STUCCO, FOAM, BRICK VENEER, AND SIDING.
9. INSTALLATION ANCHORS AND ASSOCIATED HARDWARE MUST BE MADE OF CORROSION RESISTANT MATERIAL OR HAVE A CORROSION RESISTANT COATING.
10. FOR GROUT FILLED BLOCK, DO NOT INSTALL INSTALLATION ANCHORS INTO MORTAR JOINTS. EDGE DISTANCE IS MEASURED FROM FREE EDGE OF BLOCK OR EDGE OF MORTAR JOINT INTO FACE SHELL OF BLOCK.
11. INSTALLATION ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ANCHOR MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND ANCHORS SHALL NOT BE USED IN SUBSTRATES WITH STRENGTHS LESS THAN THE MINIMUM STRENGTH SPECIFIED BY THE ANCHOR MANUFACTURER.
12. INSTALLATION ANCHOR CAPACITIES FOR PRODUCTS HEREIN ARE BASED ON SUBSTRATE MATERIALS WITH THE FOLLOWING PROPERTIES:
    A. WOOD - MINIMUM SPECIFIC GRAVITY OF 0.55.
    B. CONCRETE -MINIMUM COMPRESSIVE STRENGTH *OF 2700 PSI.*
    C. MASONRY - STRENGTH CONFORMANCE TO ASTM C-90, GRADE N, TYPE 1 (OR GREATER).
    D. STEEL - MINIMUM TENSILE YIELD STRENGTH OF 33 KSI.

GENERAL NOTES:

1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH THE *CURRENT FLORIDA BUILDING CODE (FBC),* INCLUDING HVHZ AND HAS BEEN EVALUATED ACCORDING TO THE FOLLOWING:
   - TAS 201-94
   - TAS 202-94
   - TAS 203-94
2. ADEQUACY OF THE EXISTING STRUCTURAL CONCRETE/MASONRY AND 2X FRAMING AS A MAIN WIND FORCE RESISTING SYSTEM CAPABLE OF WITHSTANDING AND TRANSFERRING APPLIED PRODUCT LOADS TO THE FOUNDATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD FOR THE PROJECT OF INSTALLATION.
3. 1X AND 2X BUCKS (WHEN USED) SHALL BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO THE STRUCTURE. *BUCK DESIGN AND INSTALLATION IS THE* RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD FOR THE PROJECT OF INSTALLATION.
4. THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC SITE. IF SITE CONDITIONS CAUSE INSTALLATION TO DEVIATE FROM THE REQUIREMENTS DETAILED HEREIN, A LICENSED ENGINEER OR ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE WITH THIS DOCUMENT.
5. APPROVED IMPACT PROTECTIVE SYSTEM IS NOT REQUIRED ON THIS PRODUCT IN AREAS REQUIRING IMPACT RESISTANCE.
6. WINDOW FRAME MATERIAL: 6063-T6 ALUMINUM
7. GLASS MEETS THE REQUIREMENTS OF ASTM E 1300-04 GLASS CHARTS. SEE SHEET 4 FOR GLAZING DETAIL.
8. DESIGNATIONS "X" AND "O" STAND FOR THE FOLLOWING:
   X: OPERABLE PANEL
   O: FIXED PANEL

TABLE OF CONTENTS

SHEET	REVISION	SHEET DESCRIPTION
1	-	INSTALLATION & GENERAL NOTES
2	-	ELEVATION & ANCHOR LAYOUT
3	-	VERTICAL SECTIONS
4	-	HORIZONTAL SECTIONS & GLAZING DETAILS
5	-	COMPONENTS & BILL OF MATERIASL

DESIGN PRESSURE RATING

DESIGN PRESSURE	MISSILE IMPACT RATING
+100/-120 PSF	LARGE AND SMALL MISSILE IMPACT

21.41.00

AND

Eastern Architectural Systems
EASTERN ARCHITECTURAL SYSTEMS
10030 BAVARIA ROAD
FT MYERS, FL 33913
PH: (800) 432-1204 FX: (239) 369-2412

TITLE: SERIES FWI 1000 HR INSTALLATION & GENERAL NOTES

PREPARED BY:
CERTWORKS, LLC
127 W. FAIRBANKS AVE., STE. 438
WINTER PARK, FL 32789
PH: (407) 644-9557 FX: (407) 644-2366

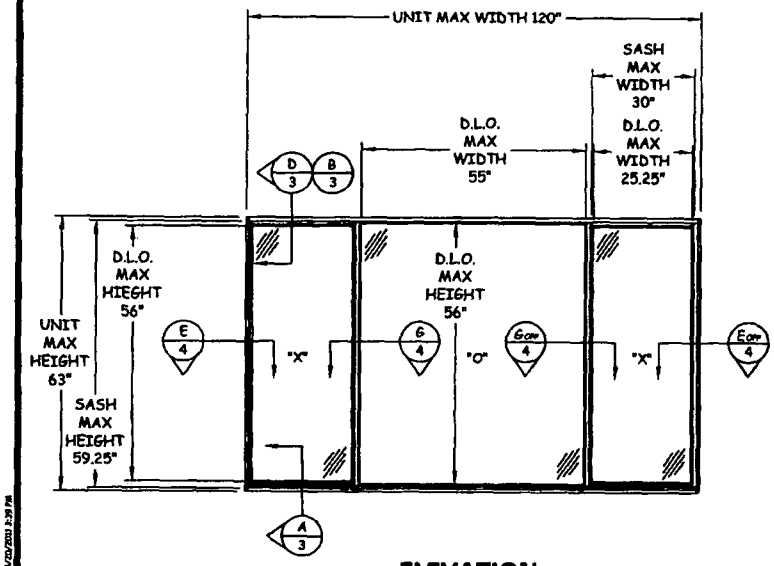
REVISIONS

NO.	DESCRIPTION	BY	DATE

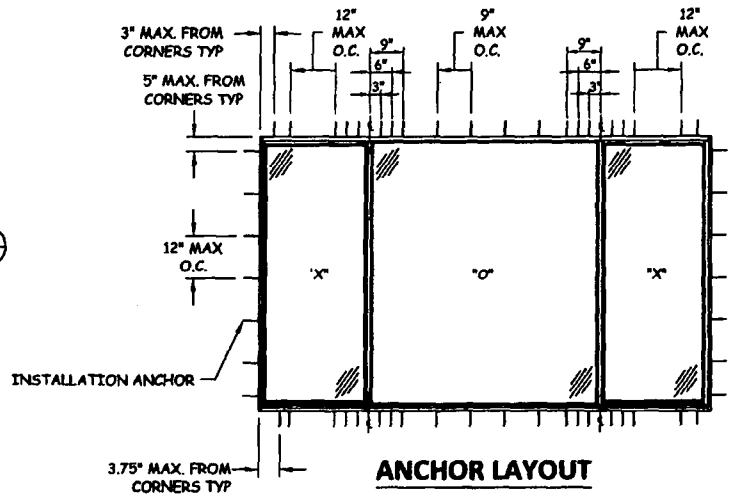
DATE: 4.04.11
DWN BY: JLA
CHK BY: HFN
SCALE: NTS

DWG #: EAS003

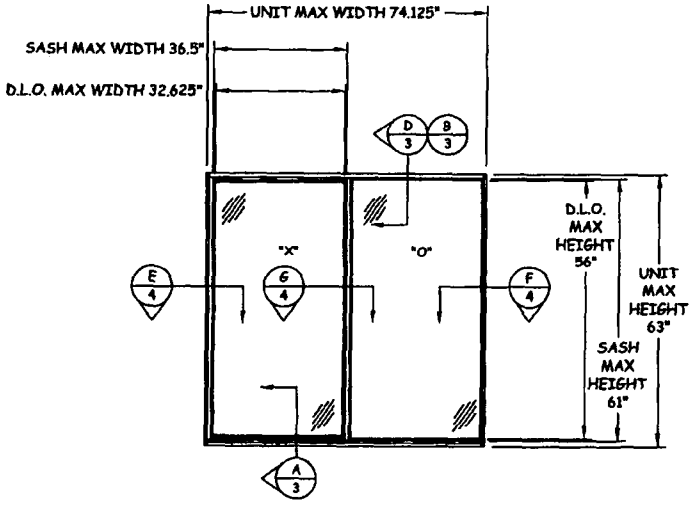
SHEET: 1 OF 5



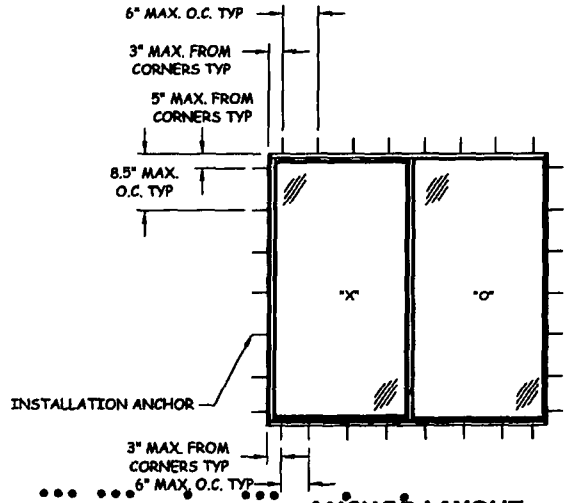
ELEVATION



ANCHOR LAYOUT



ELEVATION



ANCHOR LAYOUT

DRAFT

Eastern Architectural Systems

EASTERN ARCHITECTURAL SYSTEMS
10030 BAVARIA ROAD
FT MYERS, FL 33913
PH: (800) 432-2204 FX: (239) 369-2412

TITLE: SERIES FWI 1000 HR ELEVATION & ANCHOR LAYOUT

PREPARED BY:
CERTWORKS, LLC
127 W. FAIRBANKS AVE. STE. 438
WINTER PARK, FL 32789
PH: (407) 644-9557 FX: (407) 644-2366

REVISIONS

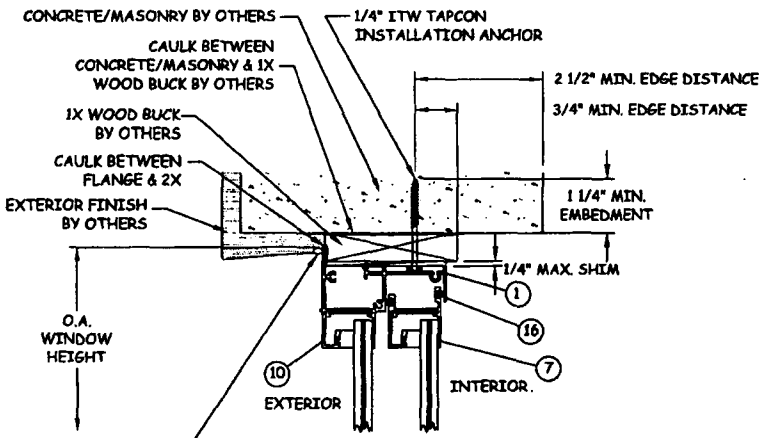
NO.	DESCRIPTION	BY	DATE

DATE: 4.04.11
DWN BY: JLA
CHK BY: HFN
SCALE: NTS

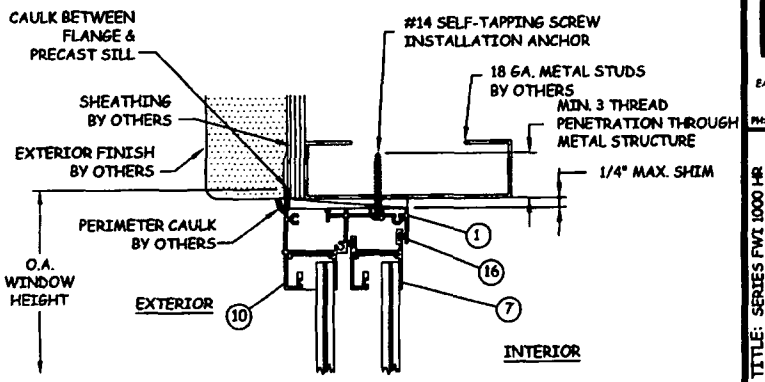
DWG #: EAS003

SHEET: 2 OF 5

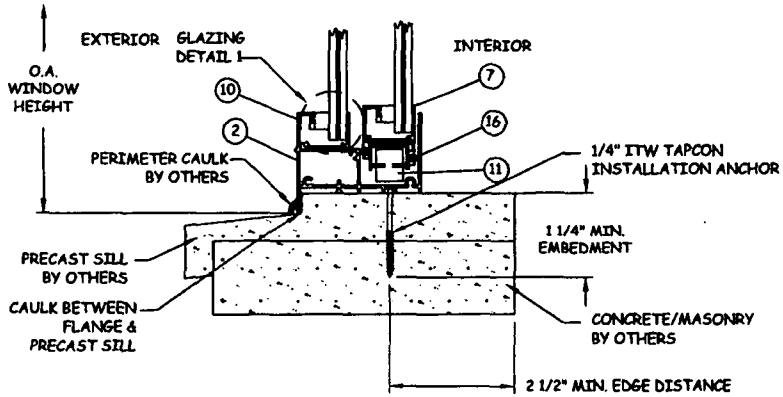
END



D/3 VERTICAL SECTION
HEAD - MASONARY/CONCRETE



B/3 VERTICAL SECTION
HEAD - STEEL STUD



A/3 VERTICAL SECTION
PRE-CAST SILL

APPROVED

AND

Eastern Architectural Systems

EASTERN ARCHITECTURAL SYSTEMS
10090 BAVARIA ROAD
FT MYERS, FL 33913
PH: (800) 432-2204 FX: (239) 369-2412

TITLE: SERIES FWI 1000 HR
VERTICAL SECTIONS

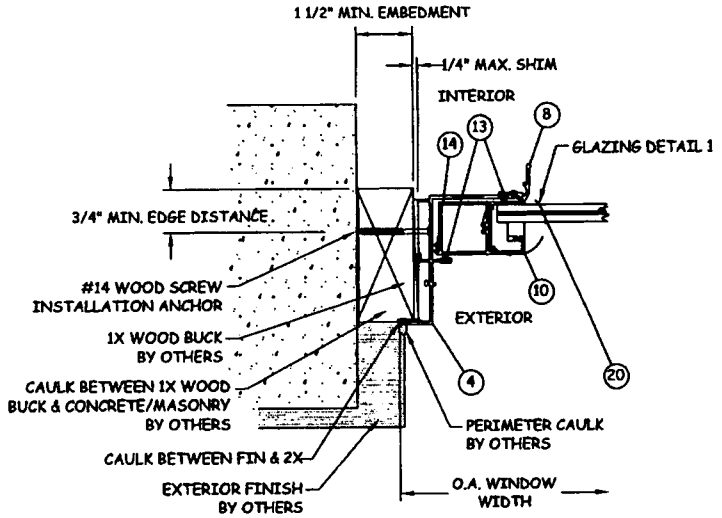
PREPARED BY:
CERTWORKS, LLC
127 W. FAIRBANKS AVE., STE. 438
WINTER PARK, FL 32789
PH: (407) 644-6997 FX: (407) 644-2366

REVISIONS

NO.	DESCRIPTION	BY	DATE

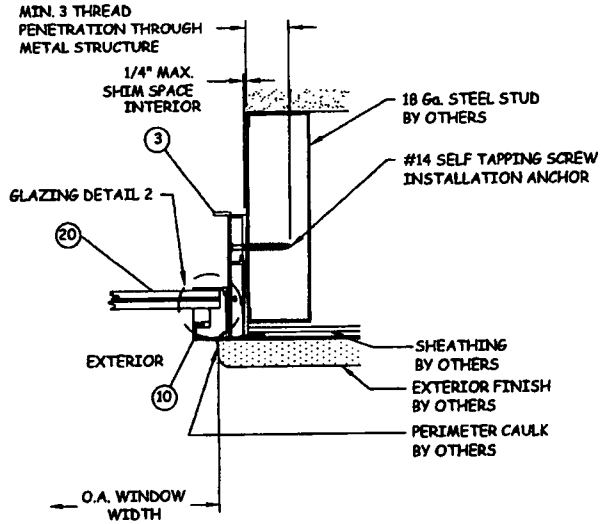
DATE: 4.04.11
DWN BY: JLA
CHK BY: HFN
SCALE: NTS

DWG #: EAS003
SHEET: 3 OF 5



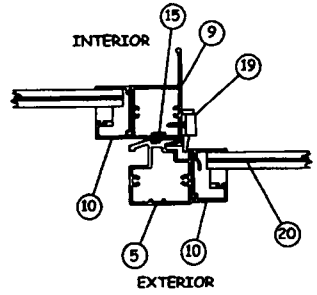
E/4 **HORIZONTAL SECTION**

JAMB - 2X WOOD BUCK



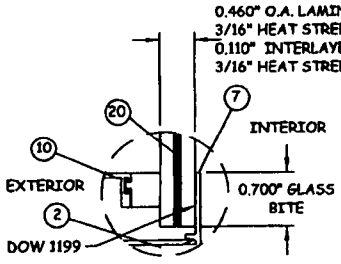
F/4 **HORIZONTAL SECTION**

JAMB - STEEL STUD



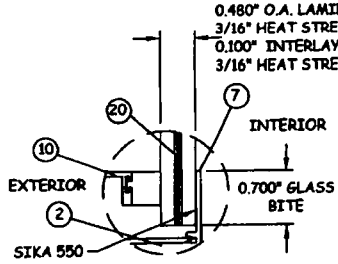
G/4 **HORIZONTAL SECTION**

MEETING RAIL



GLAZING DETAIL 1

*MAX PANEL SIZE
36.1254" X 57.25"



GLAZING DETAIL 2

21.1.11

9N0

Eastern Architectural Systems

EASTERN ARCHITECTURAL SYSTEMS
10030 BAVARIA ROAD
FT MYERS, FL 33913
PH: (800) 432-2204 FX: (239) 369-2412

TITLE: SERIES FWI 1000 HR
HORIZONTAL SECTIONS & GLAZING DETAILS

PREPARED BY:
CERTWORKS, LLC
127 W. FAIRBANKS AVE., STE. 438
WINTER PARK, FL 32789
PH: (407) 644-6957 FX: (407) 644-2364

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 4.04.11 | DWN BY: JLA | CHK BY: HFN | SCALE: NTS

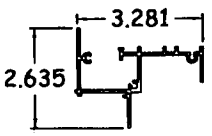
DWG #: EAS003

SHEET: 4 OF 5

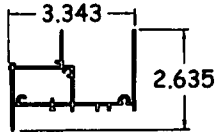
BILL OF MATERIALS

ITEM NO	DESCRIPTION	MATERIAL	MANUFACTURER
1	FRAME HEAD	6063-T6	EAS, INC
2	FRAME SILL	6063-T6	EAS, INC
3	FIXED FRAME JAMB	6063-T6	EAS, INC
4	FRAME LOCK JAMB	6063-T6	EAS, INC
5	FIXED RAIL	6063-T6	EAS, INC
6	APPLIED FIN	6063-T6	EAS, INC
7	VENT HEAD/SILL	6063-T6	EAS, INC
8	VENT JAMB STILE	6063-T6	EAS, INC
9	MEETING RAIL	6063-T6	EAS, INC
10	GLAZING BEAD	6063-T6	EAS, INC
11	ROLLER ASSEMBLY		
12	WEEP COVERS		
13	FRAME JAMB BULB VINYL		
14	VENT STILE BULB VINYL		
15	MEETING RAIL WOOL PILE		
16	VENT HEAD/ SILL WOOL PILE		
17	VENT HEAD/ SILL WOOL PILE		
18	FOAM PADS		
19	SASH LOCK	6063-T6	EAS, INC

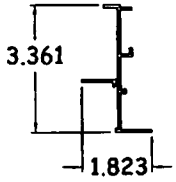
1 FRAME HEAD
0.062" TYP WALL THICKNESS



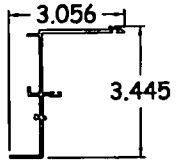
2 FRAME SILL
0.062" TYP WALL THICKNESS



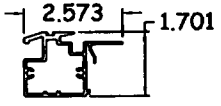
3 FIXED FRAME JAMB
0.062" TYP WALL THICKNESS



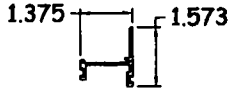
4 FRAME LOCK JAMB
0.062" TYP WALL THICKNESS



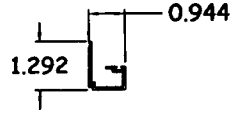
5 FIXED RAIL
0.062" TYP WALL THICKNESS



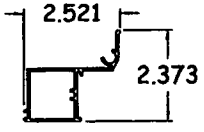
7 VENT SILL
0.062" TYP WALL THICKNESS



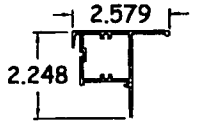
10 GLAZING BEAD
0.062" TYP WALL THICKNESS



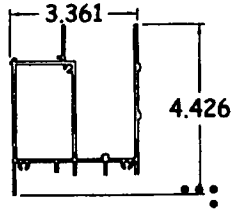
8 VENT JAMB STILE
0.062" TYP WALL THICKNESS



9 VENT MEETING RAIL
0.062" TYP WALL THICKNESS



2 HI RISE FRAME SILL
0.062" TYP WALL THICKNESS



21.41.20

8H0

Eastern Architectural Systems
10030 Bavaria Road
Ft Myers, FL 33913
Ph: (800) 432-2804 Fx: (239) 369-2412

TITLE: SERIES FWI 1000 HR
COMPONENTS &
BILL OF MATERIALS

PREPARED BY:
CERTWORKS, LLC
127 W. FAIRBANKS AVE., STE. 438
WINTER PARK, FL 32789
Ph: (407) 644-6957 Fx: (407) 644-2346

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 4.04.11
DWN BY: JLA
CHK BY: HPN
SCALE: NTS

DWG #: EAS003

SHEET: 5 OF 5

CertWorks ... it works

FBPE Certificate of Authorization No. 28520

127 W. Fairbanks Ave.
Suite 438
Winter Park, FL 32789
407.644.6957 PH
407.644.2366 FX
info@certwrks.com

Product Evaluation Report
of
Eastern Architectural Systems, Inc.

Series FWI 1000
Horizontal Roller Window
(Impact)
for
Florida Product Approval
FL#

Report No. 1318

Florida Building Code
Per Rule 9N-3

Method:	**1 – A (Certification)**
Category:	**Windows**
Sub – Category:	**Horizontal Slider**

Product:	**Series FWI 1000 Horizontal Roller**
Material:	**Aluminum 6063-T6**
Product Dimensions:	**74.125" x 63"**
	120" x 63"

Prepared For:
Eastern Architectural Systems
10030 Bavaria Road
Ft Myers, FL 33913

Prepared by:
Alexis Spyrou, P.E.
Florida Professional Engineer # 68101
Date: 4/04/2011

Contents:

Alexis Spyrou, P.E.
Florida No. 68101

Manufacturer:	**Eastern Architectural Systems, Inc.**
Product Category:	Windows
Product Sub-Category:	Horizontal Slider
Compliance Method:	State Product Approval Rule 9N-3.005 (1)(a)
Product Name:	**Series FWI 1000 Horizontal Roller Window** (Impact)

Scope: This is a Product Evaluation Report issued by Alexis Spyrou, P.E. (FL # 68101) for **Eastern Architectural Systems, Inc.** based on Rule Chapter No. 9N-3.005, Method 1a of the State of Florida Product Approval, Department of Community Affairs - Florida Building Commission.

Alexis Spyrou, P.E. does not have nor will acquire financial interest in the company manufacturing or distributing the product or in any other entity involved in the approval process of the product named herein.

This product has been evaluated for use in locations adhering to the current Florida Building Code as per standards listed on page three of this document.

See Installation Instructions **EAS003**, signed and sealed by Alexis Spyrou, P.E. (FL # 68101) for specific use parameters.

Limits of Use:

1. This product has been evaluated and is in compliance with the current Florida Building Code, including the "High Velocity Hurricane Zone" (HVHZ).
2. Product anchors shall be as listed and spaced as shown on details. Anchor embedment into substrate material shall be beyond wall dressing or stucco.
3. When used in areas requiring wind borne debris protection this product complies with Section 1609.1.2 of the current Florida Building Code and does not require an impact resistant covering.
4. Site conditions that deviate from the details of drawing **EAS003**, require further engineering analysis by a licensed engineer or registered architect.
5. See Installation Instructions **EAS003**, for size and design pressure limitations.

Quality Assurance:

The manufacturer has demonstrated compliance of window products in Accordance with the Florida Building Code and Rule 9N-3.005 (3) for manufacturing under a quality assurance program audited by an approved quality assurance entity through **National Accreditation & Management Institute** (FBC Organization #: QUA1789).

Performance Standards:

The product described herein has been tested per:

- TAS 201-94
- TAS 202-94
- TAS 203-94

Referenced Data:

1. Product Testing performed by National Certified Testing Laboratories, Inc.
   (FBC Organization #: TST1589)
   Report #: NCTL-210-3751-1

2. Product Testing performed by National Certified Testing Laboratories, Inc.
   (FBC Organization #: TST1589)
   Report #: NCTL-210-3752-1

3. Quality Assurance
   National Accreditation & Management Institute
   (FBC Organization #: QUA1789)

Installation: 1. Approved anchor types and substrates are as follows:

Through Frame Installation:

A. For two by (2X) wood frame substrate, use **#14 Wood Screws** type wood frame anchors of sufficient length to achieve minimum embedment of 1.50" into wood framing.

B. For concrete or masonry substrate where one by (1X), non-structural, wood bucking is employed, use **1/4" diameter ITW Tapcon** type concrete screw anchors of sufficient length to achieve minimum embedment of 1.25" into concrete or masonry.

C. For concrete or masonry substrate where wood bucking is NOT employed, use **1/4" diameter ITW Tapcon** type concrete screw anchors of sufficient length to achieve minimum embedment of 1.25" into concrete or masonry.

D. For steel stud substrate, use **#14 self-tapping screw** anchors of sufficient length to achieve three (3) threads minimum penetration beyond the metal structure.

Refer to Installation Instructions (**EAS003**) for anchor spacing and more details of the installation requirements.

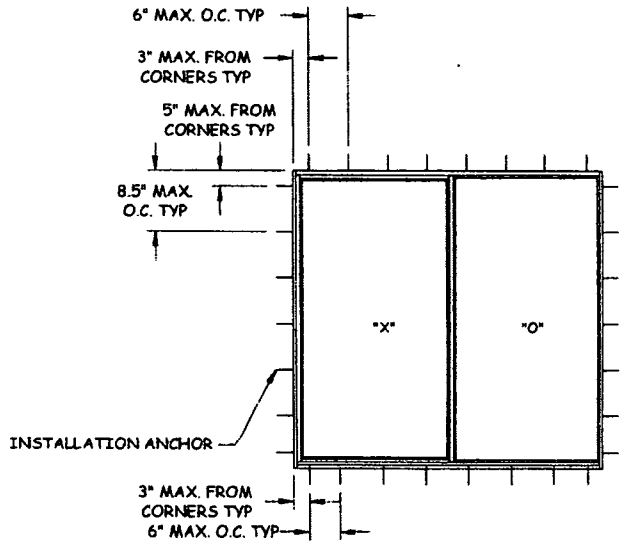
Design Pressure:

Design Pressure	
Size	**DP**
74.125" x 63"	+100/- 120 PSF
120" x 63"	+100/- 120 PSF

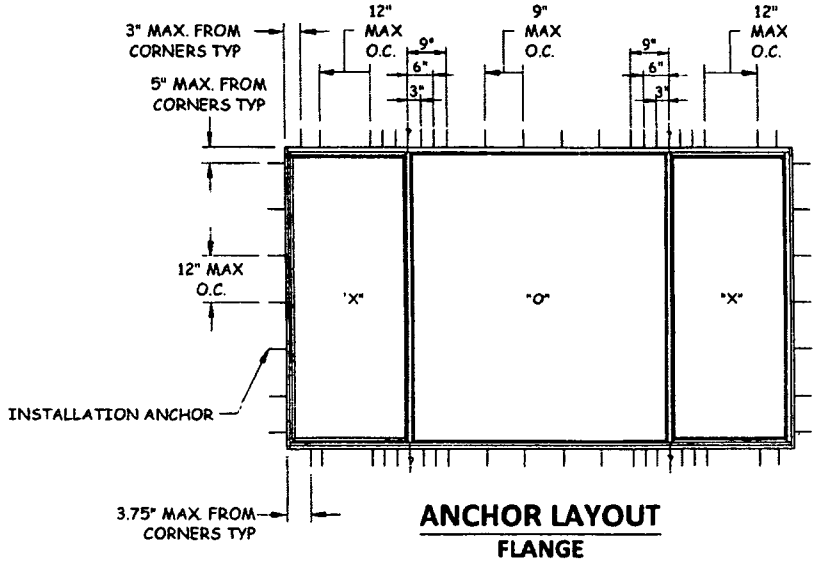
Installation Method

Eastern Architectural Systems, Inc.

Series FWI 1000 Horizontal Roller Window



ANCHOR LAYOUT



ANCHOR LAYOUT
FLANGE

Alexis Spyrou, P.E.
Florida No. 68101

Impact-PW/Arch.

MIAMI-DADE COUNTY
DEPARTMENT OF PERMITTING, ENVIRONMENT, AND REGULATORY AFFAIRS (PERA)
BOARD AND CODE ADMINISTRATION DIVISION

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

NOTICE OF ACCEPTANCE (NOA)

PGT Industries
1070 Technology Drive
Nokomis, 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 PERA–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. PERA 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" Aluminum Fixed Window – L.M.I.

APPROVAL DOCUMENT: Drawing No. **4259–4** titled "Aluminum Picture Window, Impact", sheets 1 through 8 of 8, prepared by manufacturer, dated 07/14/03 with revision "**D**" dated 10/18/11, 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 No. 10–0504.05** and consists of this page 1, evidence pages E–1 and E–2, as well as approval document mentioned above.

The submitted documentation was reviewed by **Jaime D. Gascon, P. E.**

MIAMI-DADE COUNTY APPROVED

J. Gascon 1/25/12

PGT Industries

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Manufacturer's die drawings and sections.
   (Submitted under previous NOA No. 03–1105.01)
2. Drawing No. **4259–4** titled "Aluminum Picture Window, Impact", sheets 1 through 8 of 8, prepared by manufacturer, dated 07/14/03 with revision **"D"** dated 10/18/11, 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

   along with marked–up drawings and installation diagram of aluminum fixed window, prepared by Fenestration Testing Laboratory, Inc., Test Reports No.'s **FTL–3835** and **FTL–3850**, dated 07/18 and 31/03, all signed and sealed by Joseph C. Chan, P. E.
   (Submitted under previous NOA No. 03–1105.01)

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, dated 08/19/10 complying with FBC–2007, prepared by manufacture, signed and sealed by Anthony L. Miller, P. E.
   (Submitted under previous NOA No. 10–0504.05)
2. **Glazing complies with ASTM E1300–02/ 04**

D. QUALITY ASSURANCE

1. Miami–Dade Department of Permitting, Environment, and Regulatory Affairs (PERA)

E. MATERIAL CERTIFICATIONS

1. Notice of Acceptance No. **11–0325.05** issued to **Solutia, Inc.** for their **"Saflex – Clear or colored Interlayer"** dated 04/21/11, expiring on 04/21/16.
2. Notice of Acceptance No. **11–0624.01** issued to **E. I. DuPont DeNemours & Co.**, Inc. for their **"DuPont Butacite® PVB Interlayer"** dated 09/08/11, expiring on 12/11/16.

F. STATEMENTS

1. Statement letter of conformance and compliance with the FBC–2007 (with the 2009 supplement) and FBC–2010, dated 10/29/11, signed and sealed by Anthony Lynn Miller, P. E.
2. Statement letter of no financial interest and independence, dated 10/29/11, signed and sealed by Anthony Lynn Miller, P. E.

Jaime D. Gascon, P. E.
Product Control Section Supervisor
NOA No. 11–1110.15
Expiration Date: February 19, 2014
Approval Date: February 02, 2012

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

F. STATEMENTS

3. Letter of *Adoption of as his Own, the Work of another Engineer* per Section 61G15–27.001 of the F.B.P.E., dated 08/19/10 signed and sealed by Anthony Lynn Miller, P. E.
   (Submitted under previous NOA No. 10–0504.08)
4. Statement letter of conformance and compliance with the Florida Building Code, dated 08/19/10 signed and sealed by Anthony Lynn Miller, P. E.
   (Submitted under previous NOA No. 10–0504.08)
5. Statement letter of no financial interest and independence, dated 08/19/10 signed and sealed by Anthony Lynn Miller, P. E.
   (Submitted under previous NOA No. 10–0504.08)
6. Laboratory compliance letter for Test Reports No.'s **FTL–3835** and **FTL–3850**, issued by Fenestration Testing Laboratory, Inc., dated 07/31/03, signed and sealed by Joseph C. Chan, P. E.
   (Submitted under previous NOA No. 03–1105.01)

G. OTHERS

1. Notice of Acceptance No. **10–0504.05**, issued to PGT Industries for their Series "PW–701 Aluminum Fixed Window – L.M.I." approved on 09/22/10 and expiring on 02/19/14.

Jaime D. Gascon, P. E.
Product Control Section Supervisor
NOA No. 11–1110.15
Expiration Date: February 19, 2014
Approval Date: February 02, 2012

NOTES: SERIES 701 ALUMINUM FIXED WINDOW

1. DIRECTIONS FOR USE:
A. DETERMINE THE PRODUCT'S MAXIMUM DESIGN PRESSURE FROM EITHER TABLES ON SHEET 2 (DEPENDING ON YOUR GLASS TYPE).
B. DETERMINE THE TYPE AND QUANTITY OF ANCHORS REQUIRED TO MEET THE WINDOWS DESIGN PRESSURE FROM SHEET 6 FOR WOOD SUBSTRATES, OR SHEET 7 FOR MASONRY SUBSTRATES. SPACE ANCHORS APART EQUALLY PER NOTES ON SHEET.
C. USE SHEETS 3 THROUGH 6 TO INSTALL PRODUCT, REFERENCING NOTES FROM SHEETS 6 & 7.

2. DESIGN PRESSURE RATINGS: NEGATIVE DESIGN LOADS BASED ON TESTED PRESSURE AND ASTM E1300-02, 3-SECOND GUST. POSITIVE DESIGN LOADS BASED ON WATER TEST PRESSURE AND ASTM E1300-02, 3-SECOND GUST.

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 FLORIDA BUILDING CODE. LOAD DURATION, CD, OF 1.6 WAS USED IN WOOD SUBSTRATES ONLY.

4. SHUTTER REQUIREMENT: NONE REQUIRED

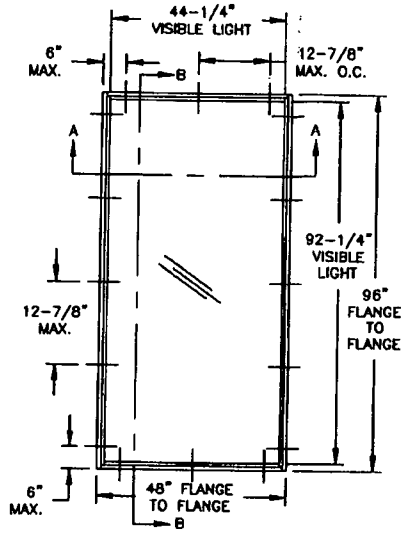
5. MATERIALS USED FOR ANCHOR EVALUATIONS WERE SOUTHERN PINE, C-90 CONCRETE MASONRY UNITS AND CONCRETE WITH MIN. KSI PER ANCHOR TYPE, SEE SHEET 7.

6. REFERENCES: TEST REPORTS, FTL-3835 & FTL-3850, NOA: 07-0425.01 (ULTRACON), 03-0225.05 (CRETE-FLEX), ANSI/AF&PA NDS-2005 FOR WOOD CONSTRUCTION, ADM-2005 ALUMINUM DESIGN MANUAL.

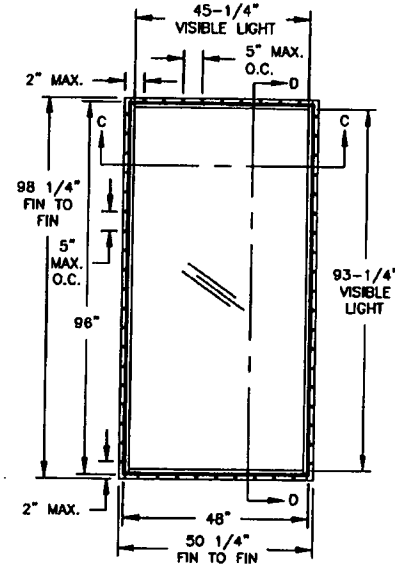
7. THIS PRODUCT HAS BEEN DESIGNED & TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE, INCLUDING THE HIGH VELOCITY HURRICANE ZONE (HVHZ).

8. 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.

9. NARROW JOINT SEALANT IS USED ON ALL FOUR CORNERS OF THE FRAME. INSTALLATION ANCHORS SHOULD BE SEALED. ADHESIVE SEALANT SHALL BE USED BETWEEN SUBSTRATE AND FLANGE OR FIN. OVERALL SEALING/FLASHING STRATEGY FOR WATER RESISTANCE OF INSTALLATION SHALL BE DONE BY OTHERS.



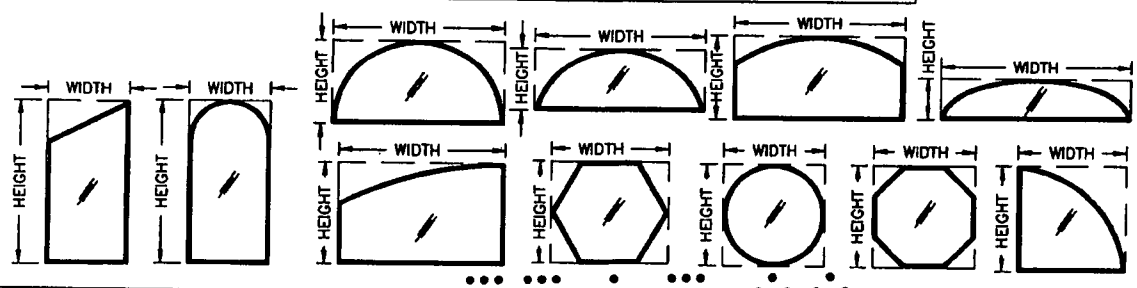
TYP. FLANGED FRAME ELEVATION
(TESTED UNIT)



TYP. INTEGRAL FIN FRAME ELEVATION
(TESTED UNIT)

NOA DRAWING TABLE OF CONTENTS

OTHER 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 SHEET 2.



PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No. 11-1119.15
Expiration Date 12/19/2014
By
Miami Dade Product Control

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

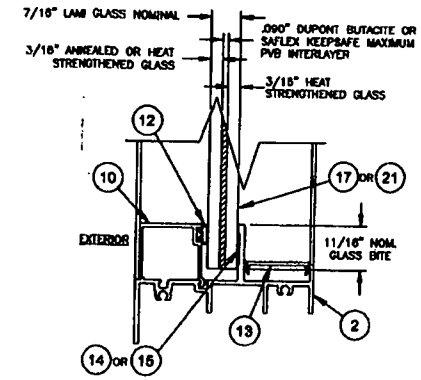
Revised By:	Date:	Revisions:	
J.J.	10/18/11	D	2010 FBC UPDATE
J.R.	3/31/10	C	COMPLETE REDRAW AND REORGANIZATION TO INCLUDE INFORMATION FOR LARGER WINDOWS.
F.K.	4/4/07	B	CHG. NOTE 2 TO REF. ASTM E 1300-02 AND REVISE ANCHORAGE NOTE 3.
Drawn By:	Date:	Checked By:	Date:
F.K.	7/14/03		

1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274

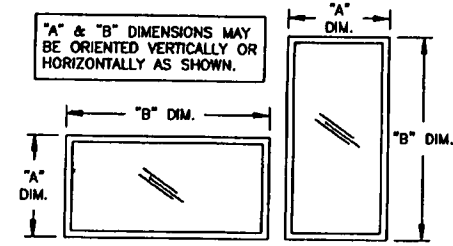
Description: ELEVATIONS AND NOTES
Title: ALUMINUM PICTURE WINDOW, IMPACT

Series/Model:	Scale:	Sheet:	Drawing No.	Rev.
PW-701	NTS	1 of 8	4259-4	D

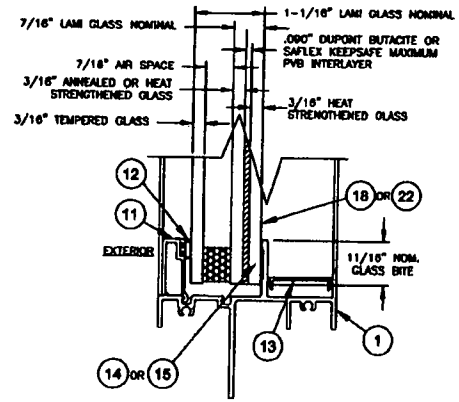
Fin and Flanged Windows	Maximum Design Pressure (+/- psf)	7/16 Lami: 3/16A - .090 PVB - 3/16HS 7/16 Lami Ht: 3/16TMP - 7/16 AIR - 3/16A - .090 PVB - 3/16HS						
	"A" or "B" Dimension (in)							
"B" or "A" Dimension (in)	24	30	36	42	48	54	60	67.675
36	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
48	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
60	80.0	80.0	80.0	80.0	80.0	71.1	71.1	64.0
67.675	80.0	80.0	80.0	80.0	80.0	71.1	64.0	62.1
72	80.0	80.0	80.0	80.0	79.3	71.1	64.0	
76.8	80.0	80.0	80.0	80.0	76.0	70.0	64.0	
84	80.0	80.0	80.0	74.3	68.3	63.8		
85.3	80.0	80.0	80.0	73.6	67.4	62.8		
96	80.0	80.0	77.2	64.7	59.2			
109.7	80.0	80.0	72.3	58.3				
120	80.0	80.0	70.4					
128	80.0	80.0	70.0					
145	80.0	80.0						



7/16" LAMI GLAZING DETAIL
FLANGED OR INTEGRAL FIN FRAME
(FLANGE FRAME SHOWN)



Fin and Flanged Windows	Maximum Design Pressure (+/- psf)	7/16 Lami: 3/16HS - .090 PVB - 3/16HS 7/16 Lami Ht: 3/16TMP - 7/16 AIR - 3/16HS - .090 PVB - 3/16HS						
	"A" or "B" Dimension (in)							
"B" or "A" Dimension (in)	24	30	36	42	48	54	60	67.675
36	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
48	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
60	80.0	80.0	80.0	80.0	80.0	71.1	71.1	64.0
67.675	80.0	80.0	80.0	80.0	80.0	71.1	64.0	62.1
72	80.0	80.0	80.0	80.0	80.0	71.1	64.0	
76.8	80.0	80.0	80.0	80.0	80.0	71.1	64.0	
84	80.0	80.0	80.0	80.0	80.0	71.1		
85.3	80.0	80.0	80.0	80.0	80.0	71.1		
96	80.0	80.0	80.0	80.0	80.0			
109.7	80.0	80.0	80.0	80.0				
120	80.0	80.0	80.0					
128	80.0	80.0	80.0					
145	80.0	80.0						



1-1/16" LAMI I.G. GLAZING DETAIL
FLANGED OR INTEGRAL FIN FRAME
(INTEGRAL FIN FRAME SHOWN)

NOTES:

1. ANY ONE SIDE OF THE WINDOW CANNOT BE MORE THAN 145" NOR CAN THE WINDOW AREA EXCEED 32FT².
2. FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE WIDTH OR HEIGHT DIMENSION.
3. FOR ARCHITECTURAL WINDOWS, FIND THE SMALLEST WINDOW SIZE IN THE TABLE ABOVE WHICH THE OVERALL WIDTH AND HEIGHT DIMENSIONS COMPLETELY FIT WITHIN.
4. THE WINDOWS WIDTH AND HEIGHT (DIMENSIONS "A" AND "B") MAY BE REVERSED TO OBTAIN A MORE ACCURATE RESULT FROM THE TABLE (SEE FIGURE, THIS SHEET).

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 11-1110.16
Expiration Date 7/14/2014
By
Miami Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
6/22/11
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. Lynn Miller, P.E.
P.E.# 58705

Revised By:	Date:	Revisions:	
J.J.	10/18/11	D	CHANGED HS CAP TO TMP FOR 30' RULE
J.R.	3/31/10	C	COMPLETE REDRAW AND REORGANIZATION TO INCLUDE INFORMATION FOR LARGER WINDOWS.
F.K.	4/4/07	B	NO CHANGE THIS SHEET
Drawn By: F.K.	Date: 7/14/03	Checked By:	Date:

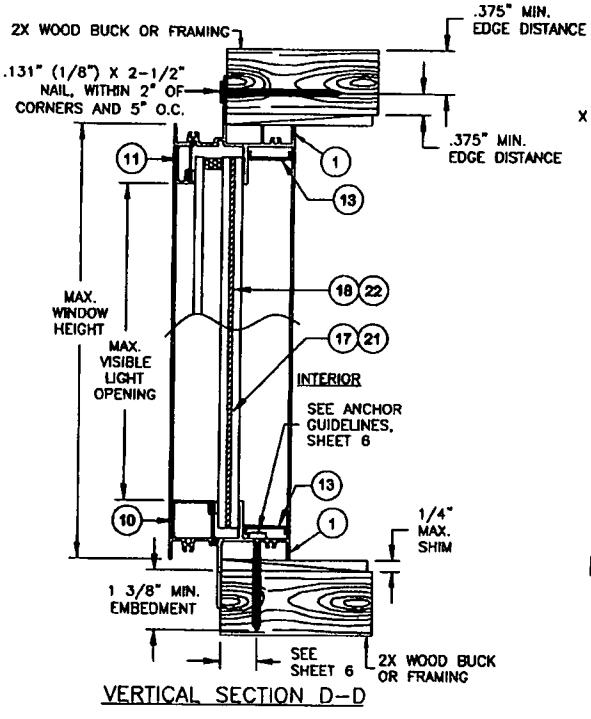
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274

PGT

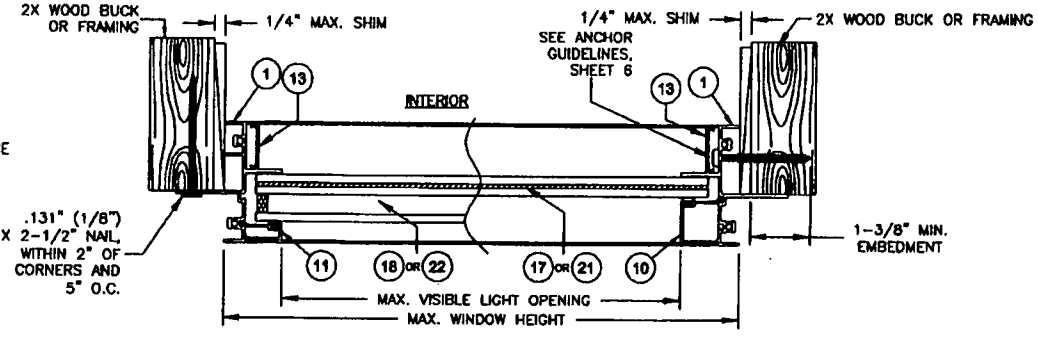
Description: GLAZING DETAILS
ALUMINUM PICTURE WINDOW, IMPACT

Series/Model:	Scale:	Sheet:	Drawing No.	Rev.
PW-701	NTS	2 of 8	4259-4	D

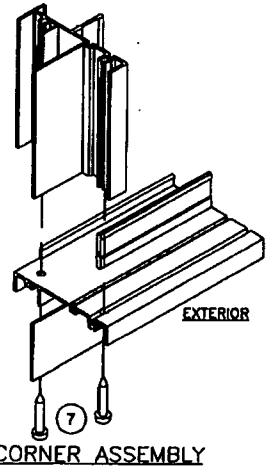
INSTALLATION DETAILS FOR FINNED FRAMES



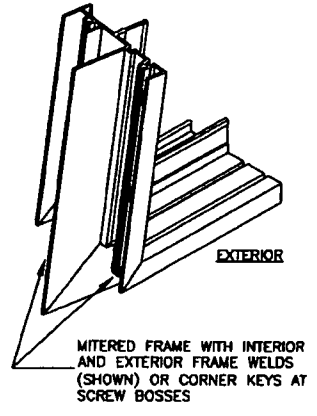
VERTICAL SECTION D–D



HORIZONTAL SECTION C–C



90° CORNER ASSEMBLY



ANGLED CORNER ASSEMBLY

NOTES

1. USE ONLY NAILS PER ABOVE, OR ANCHORS LISTED ON SHEET 6. FOLLOW EMBEDMENT AND EDGE DISTANCE LIMITS.

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 11-1110.16
Expiration Date 07/14/2014
By
Miami Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
10/29/11
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. Lynn Miller, P.E.
P.E.# 58705

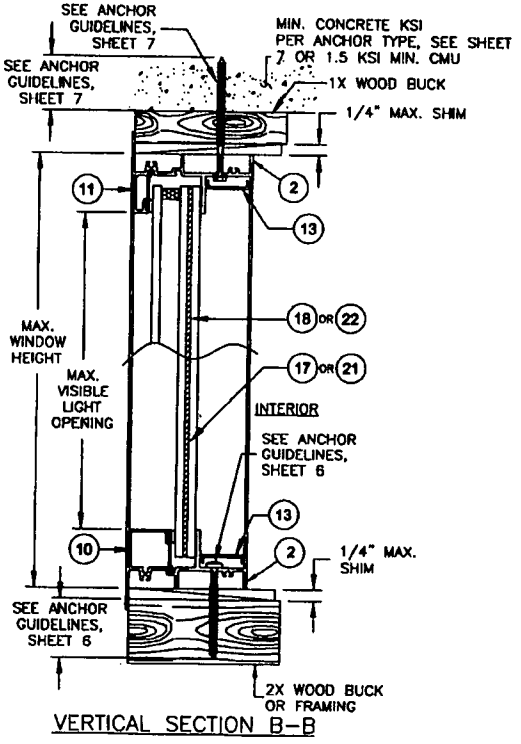
Revised By:	Date:	Revisions:	
J.J.	10/18/11	0	NO CHANGE THIS SHEET
J.R.	3/31/10	C	COMPLETE REDRAW AND REORGANIZATION TO INCLUDE INFORMATION FOR LARGER WINDOWS.
Revised By:	Date:	Revisions:	
Drawn By:	Date:	Checked By:	Date:
F.K.	7/14/09		

1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274

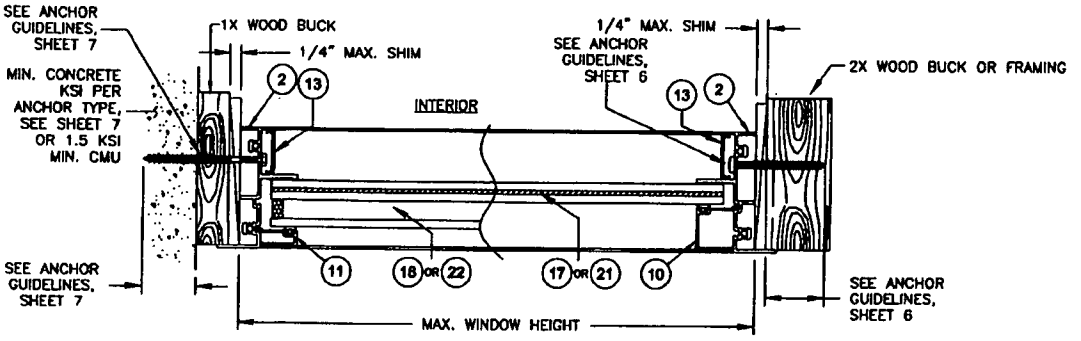
Description: INSTALLATION, FINNED FRAME
and ALUMINUM PICTURE WINDOW, IMPACT

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
PW-701	NTS	3 of 8	4259-4	D

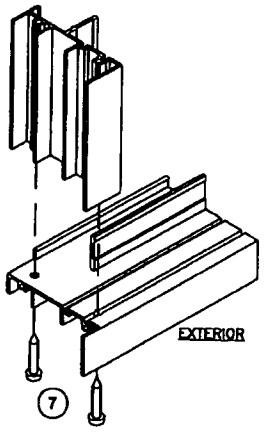
INSTALLATION DETAILS FOR FLANGED FRAMES



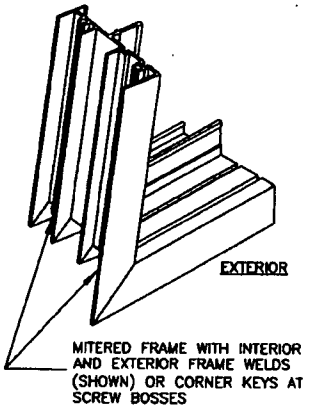
VERTICAL SECTION B–B



HORIZONTAL SECTION A–A



90° CORNER ASSEMBLY



ANGLED CORNER ASSEMBLY

NOTES

1. USE ONLY ANCHORS LISTED ON SHEETS 6 AND 7. FOLLOW EMBEDMENT AND EDGE DISTANCE LIMITS.

2. WOOD BUCKS DEPICTED IN THE SECTIONS ON THIS PAGE 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.

PRODUCT REVISED as complying with the Florida Building Code
Acceptance No 11-1110.15
Expiration Date 02/14/2014
By Miami Dade Product Control

ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER
10/29/11
A. LYNN MILLER P.E.
P.E.# 58705

Revised By:	Date:	Revisions:	
J.J.	10/18/11	D	NO CHANGE THIS SHEET
J.R.	3/31/10	C	COMPLETE REDRAW AND REORGANIZATION TO INCLUDE INFORMATION FOR LARGER WINDOWS.
Revised By:	Date:	Revisions:	
Drawn By: F.K.	Date: 7/14/03	Checked By:	Date:

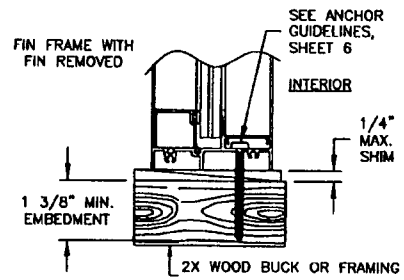
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274

PGT

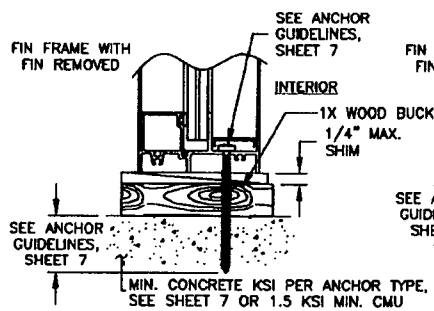
Description: INSTALLATION, FLANGED FRAME
Title: ALUMINUM PICTURE WINDOW, IMPACT

Series/Model:	Scale:	Sheet:	Drawing No.	Rev.
PW-701	NTS	4 of 8	4259-4	D

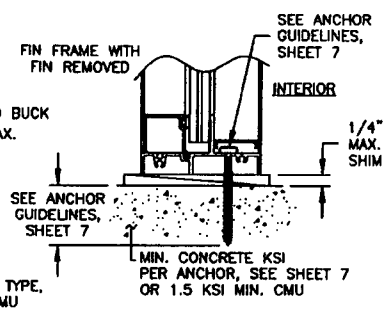
MISC INSTALLATION DETAILS



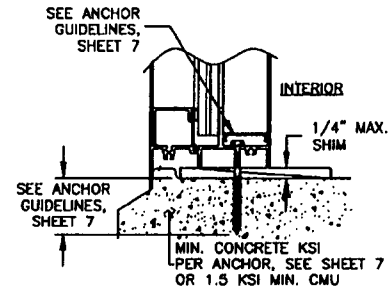
EQUAL LEG FRAME
(OTHER FRAMES SIM.)
2X WOOD SUBSTRATE



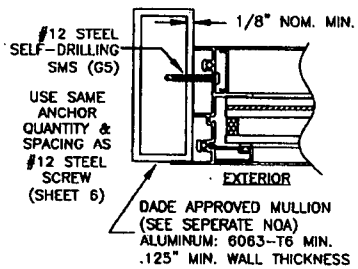
EQUAL LEG FRAME
(OTHER FRAMES SIM.)
1X WOOD BUCKSTRIP



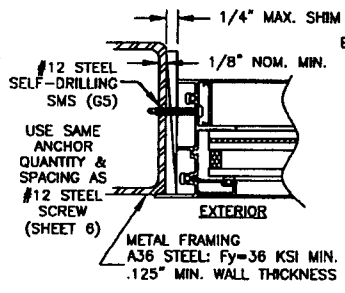
EQUAL LEG FRAME
(OTHER FRAMES SIM.)
DIRECTLY TO MASONRY



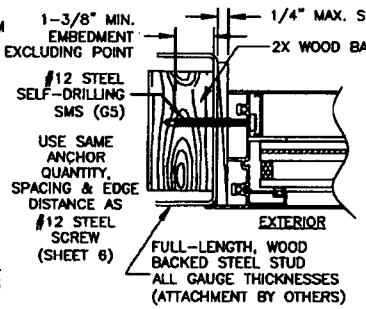
FLANGE FRAME
PRECAST SLOPED SILL



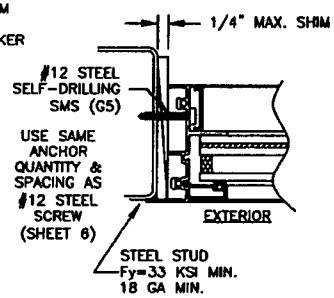
FLANGE FRAME
(OTHER FRAMES SIM.)
ALUMINUM MULL SUBSTRATE



FLANGE FRAME
(OTHER FRAMES SIM.)
STRUCTURAL STEEL SUBSTRATE



FLANGE FRAME
(OTHER FRAMES SIM.)
STEEL STUD/WOOD SUBSTRATE



FLANGE FRAME
(OTHER FRAMES SIM.)
STEEL STUD SUBSTRATE

NOTES

1. USE ONLY ANCHORS LISTED ON SHEETS 6 AND 7. FOLLOW EMBEDMENT AND EDGE DISTANCE LIMITS.

2. WOOD BUCKS DEPICTED IN THE SECTIONS ON THIS PAGE 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.

PRODUCT REVIEWED as complying with the Florida Building Code
Acceptance No 11-1110.15
Expiration Date 02/19/2014
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:	
J.J.	10/18/11	D	NO CHANGE THIS SHEET
J.R.	3/31/10	C	COMPLETE REDRAW AND REORGANIZATION TO INCLUDE INFORMATION FOR LARGER WINDOWS.
Drawn By: F.K.	Date: 7/14/03	Checked By:	Date:

1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274

PGT

Description: INSTALLATION, FINNED FRAME
ALUMINUM PICTURE WINDOW, IMPACT

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
PW-701	NTS	5 of 8	4259-4	D

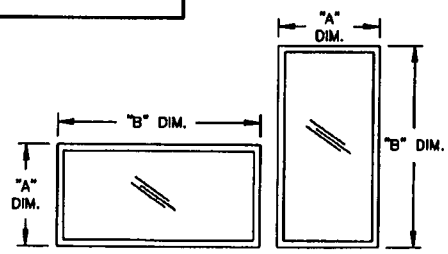
Head, Sill and Jamb Anchor Quantities into Wood or Metal (Anchor Types 1-4)

"B" or "A" Dimension (in)	Anchor Type	"A" or "B" Dimension (in)																													
		24				30				36				42				48				54				60				67.875			
	Anchor Location*	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
36	Jamb	3	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3
	Head/Sill	2	2	2	2	3	3	3	3	4	3	4	3	5	4	5	4	5	5	5	5	6	5	6	5	6	6	6	6	7	6	7	6
48	Jamb	4	4	5	4	5	4	5	4	5	5	5	5	5	5	6	5	5	5	6	5	5	5	6	5	5	5	6	5	5	5	6	5
	Head/Sill	2	2	2	2	3	3	3	3	4	3	4	3	5	4	5	4	5	5	6	5	6	6	7	6	6	6	7	6	7	7	8	7
60	Jamb	5	5	6	5	6	5	6	5	6	6	6	6	6	6	7	6	6	6	7	6	7	6	7	6	7	6	7	6	7	6	7	6
	Head/Sill	2	2	2	2	3	3	3	3	4	3	4	3	5	4	5	4	5	5	6	5	6	6	7	6	7	6	7	6	8	7	8	7
67.875	Jamb	6	6	7	6	7	6	7	6	7	6	7	6	7	7	8	7	7	7	8	7	7	7	8	7	8	7	8	7	8	7	8	7
	Head/Sill	2	2	2	2	3	3	3	3	4	3	4	3	5	4	5	4	5	5	6	5	6	6	7	6	7	6	7	6	8	7	8	7
72	Jamb	6	6	8	6	7	6	8	6	7	7	8	7	7	7	8	7	7	7	9	7	8	7	9	7	8	7	9	7				
	Head/Sill	2	2	2	2	3	3	3	3	4	3	4	3	5	4	5	4	5	5	6	5	6	6	7	6	7	6	7	6				
78.8	Jamb	7	7	8	7	8	7	8	7	8	7	8	7	8	8	8	8	8	8	9	8	8	8	9	8	9	8	9	8				
	Head/Sill	2	2	2	2	3	3	3	3	4	3	4	3	5	4	5	4	5	5	6	5	6	6	7	6	7	6	7	6				
84	Jamb	7	7	9	7	8	7	9	7	8	8	9	8	8	8	9	8	8	8	10	8	9	8	10	8								
	Head/Sill	2	2	2	2	3	3	3	3	4	3	4	3	5	4	5	4	5	5	6	5	6	6	7	6								
85.3	Jamb	7	7	9	7	8	7	9	7	8	8	9	8	8	8	9	8	8	8	10	8	9	8	10	8								
	Head/Sill	2	2	2	2	3	3	3	3	4	3	4	3	5	4	5	4	5	5	6	5	6	6	7	6								
96	Jamb	8	8	10	8	9	8	10	8	9	9	10	9	9	9	10	9	9	9	11	9												
	Head/Sill	2	2	2	2	3	3	3	3	4	3	4	3	5	4	5	4	5	5	6	5												
109.7	Jamb	9	9	12	9	10	9	12	9	10	10	12	10	10	10	12	10																
	Head/Sill	2	2	2	2	3	3	3	3	4	3	4	3	5	4	5	4																
120	Jamb	10	10	13	10	11	10	13	10	11	11	13	11																				
	Head/Sill	2	2	2	2	3	3	3	3	4	3	4	3																				
128	Jamb	11	11	13	11	12	11	13	11	12	12	13	11																				
	Head/Sill	2	2	2	2	3	3	3	3	4	3	4	3																				
145	Jamb	12	12	15	12	13	12	15	12																								
	Head/Sill	2	2	2	2	3	3	3	3																								

* Width and Height dimensions may be reversed to locate anchor quantities on the table. If so, the Head/Sill and Jamb rows must also be reversed so that the longer dimension gets the most anchors.

Anchor Type	Anchor Description	Substrate	Min. Edge Distance	Min. Embedment
1	#12, Steel screw (G5)	S. Pine	0.884"	1.375"
	#12, Steel screw (G5)	Sil. Stud, Gr 33	0.324"	.048"/18Ga
	#12, Steel screw (G5)	Alum. 6063-T6	0.324"	0.125"
	#12, Steel screw (G5)	A36 Steel	0.324"	0.125"
2	#14, Steel screw (G5)	S. Pine	0.994"	1.375"
	#14, Steel screw (G5)	Sil. Stud, Gr 33	0.361"	.048"/18Ga
	#14, Steel screw (G5)	Alum. 6063-T6	0.361"	0.125"
	#14, Steel screw (G5)	A36 Steel	0.361"	0.125"
3	1/4" Steel Ultracon	S. Pine	1"	1.375"
	1/4" 410 SS CrateFlex	S. Pine	1"	1.375"
4	5/16" Steel Ultracon	S. Pine	1.26"	1.375"

"A" & "B" DIMENSIONS MAY BE ORIENTED VERTICALLY OR HORIZONTALLY AS SHOWN.



NOTES:

1. ANY ONE SIDE OF THE WINDOW CANNOT BE MORE THAN 145" NOR CAN THE WINDOW AREA EXCEED 32FT².
2. FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE WIDTH OR HEIGHT DIMENSION.
3. FOR ARCHITECTURAL WINDOWS, FIND THE SMALLEST WINDOW SIZE IN THE TABLE ABOVE WHICH THE OVERALL WIDTH AND HEIGHT DIMENSIONS COMPLETELY FIT WITHIN.
4. THE WINDOWS WIDTH AND HEIGHT (DIMENSIONS "A" AND "B") MAY BE REVERSED TO OBTAIN A MORE ACCURATE RESULT FROM THE TABLE (SEE FIGURE, THIS SHEET).
5. DIFFERENT ANCHORS MAY BE CHOSEN FROM MULTIPLE TABLE COLUMNS TO MATCH THE SUBSTRATE.

PRODUCT REVISED as complying with the Florida Building Code
Acceptance No. 11-1110.15
Expiration Date 12/14/2019
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:	
J.J.	10/18/11	D	NO CHANGE THIS SHEET
J.R.	3/31/10	C	COMPLETE REDRAW AND REORGANIZATION TO INCLUDE INFORMATION FOR LARGER WINDOWS.
F.K.	4/4/07	B	NEW SHEET
Drawn By: F.K.	Date: 7/14/03	Checked By:	Date:

1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274

Description: ANCHORAGE, WOOD SUBSTRATE
Size: ALUMINUM PICTURE WINDOW, IMPACT
Series/Model: PW-701 | Scale: NTS | Sheet: 6 of 8 | Drawing No.: 4259-4 | Rev: D

Head, Sill and Jamb Anchor Quantities Into Masonry (Anchor Types 5-7)

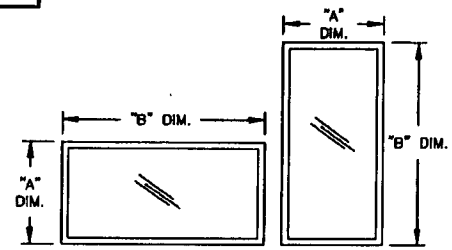
"B" or "A" Dimension (in)

	Anchor Type	"A" or "B" Dimension (in)																							
		24			30			36			42			48			54			60			67.875		
	Anchor Location*	5	6	7	5	6	7	5	6	7	5	6	7	5	6	7	5	6	7	5	6	7	5	6	7
36	Jamb	4	3	3	4	4	3	4	4	3	4	4	3	4	4	3	4	4	3	4	4	3	4	4	3
	Head/Sill	2	2	2	3	3	3	4	4	3	5	5	4	5	5	4	6	6	5	6	6	5	7	7	6
48	Jamb	5	4	4	5	5	4	5	5	4	6	5	5	6	5	5	6	5	5	6	5	5	6	5	5
	Head/Sill	2	2	2	3	3	3	4	4	3	5	5	4	6	5	5	7	6	6	7	6	6	8	7	7
60	Jamb	6	5	5	6	6	5	6	6	5	7	6	6	7	6	6	7	6	6	7	6	6	7	6	6
	Head/Sill	2	2	2	3	3	3	4	4	3	5	5	4	6	5	5	7	6	6	7	6	6	8	7	7
67.875	Jamb	7	6	6	7	6	6	7	7	6	8	7	7	8	7	7	8	7	7	8	7	7	8	8	7
	Head/Sill	2	2	2	3	3	3	4	4	3	5	5	4	6	5	5	7	6	6	7	6	6	8	8	7
72	Jamb	8	6	6	8	7	6	8	7	6	8	7	7	9	7	7	9	7	7	9	8	7			
	Head/Sill	2	2	2	3	3	3	4	4	3	5	5	4	6	5	5	7	6	6	7	6	6			
76.6	Jamb	8	7	7	8	7	7	8	8	7	8	8	8	9	8	8	9	8	8	9	8	8			
	Head/Sill	2	2	2	3	3	3	4	4	3	5	5	4	6	5	5	7	6	6	7	8	6			
84	Jamb	9	7	7	9	8	7	9	8	7	9	8	8	10	8	8	10	8	8						
	Head/Sill	2	2	2	3	3	3	4	4	3	5	5	4	6	5	5	7	6	6						
85.3	Jamb	9	7	7	9	8	7	9	8	7	9	8	8	10	8	8	10	8	8						
	Head/Sill	2	2	2	3	3	3	4	4	3	5	5	4	6	5	5	7	6	6						
96	Jamb	10	8	8	10	9	8	10	9	8	10	9	9	11	9	9									
	Head/Sill	2	2	2	3	3	3	4	4	3	5	5	4	6	5	5									
109.7	Jamb	12	9	9	12	10	9	12	10	9	12	10	10												
	Head/Sill	2	2	2	3	3	3	4	4	3	5	5	4												
120	Jamb	13	10	10	13	11	10	13	11	10															
	Head/Sill	2	2	2	3	3	3	4	4	3															
128	Jamb	13	11	11	13	12	11	13	12	11															
	Head/Sill	2	2	2	3	3	3	4	4	3															
145	Jamb	16	12	12	15	13	12																		
	Head/Sill	2	2	2	3	3	3																		

* Width and Height dimensions may be reversed to locate anchor quantities on the table. If so, the Head/Sill and Jamb rows must also be reversed so that the longer dimension gets the most anchors.

Anchor Type	Anchor Description	Substrate	Min. Edge Distance	Min. Embedment
5	1/4" Steel Ultracon	Hollow Block	1"	1.25"
	1/4" Steel Ultracon	2.7k Concrete	1"	1.375"
6	1/4" 410 SS CreteFlex	Hollow Block	1"	1.25"
	1/4" 410 SS CreteFlex	3.35k Concrete	1"	1"
7	5/16" Steel Ultracon	Hollow Block	1.563"	1.25"
	5/16" Steel Ultracon	3.5k Concrete	1.25"	1"

"A" & "B" DIMENSIONS MAY BE ORIENTED VERTICALLY OR HORIZONTALLY AS SHOWN.



NOTES:

1. ANY ONE SIDE CANNOT BE MORE THAN 145" AND HAVE AN AREA OF MORE THAN 32FT².
2. FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE WIDTH OR HEIGHT DIMENSION.
3. FOR ARCHITECTURAL WINDOWS, FIND THE SMALLEST WINDOW SIZE IN THE TABLE ABOVE WHICH THE OVERALL WIDTH AND HEIGHT DIMENSIONS COMPLETELY FIT WITHIN.
4. THE WINDOWS WIDTH AND HEIGHT (DIMENSIONS "A" AND "B") MAY BE REVERSED TO OBTAIN A MORE ACCURATE RESULT FROM THE TABLE (SEE FIGURE, THIS SHEET).
5. DIFFERENT ANCHORS MAY BE CHOSEN FROM MULTIPLE TABLE COLUMNS TO MATCH THE SUBSTRATE.

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No. 11-1118.16
Expiration Date 12/19/2014
By
Miami Dade Product Control

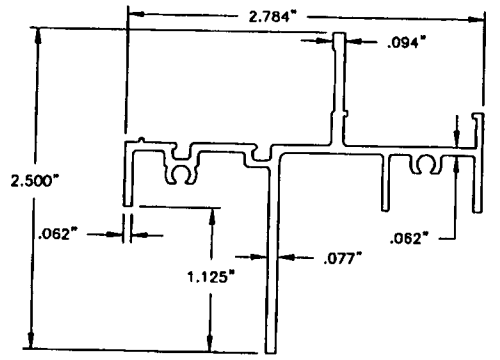
ANTHONY LYNN MILLER
LICENSE
No. 58705
10/29/14
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. Lynn Miller, P.E.
P.E.# 58705

Revised By:	Date:	Revisions:	
J.J.	10/18/11	D	NO CHANGE THIS SHEET
J.R.	3/31/10	C	COMPLETE REDRAW AND REORGANIZATION TO INCLUDE INFORMATION FOR LARGER WINDOWS.
F.K.	4/4/07	B	NEW SHEET
Drawn By: F.K.	Date: 7/14/03	Checked By:	Date:

1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274

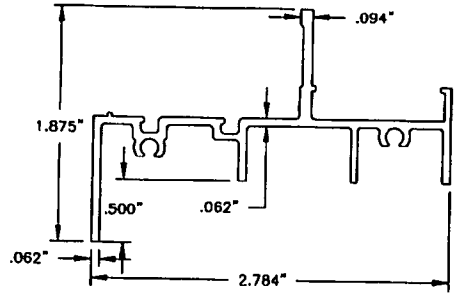
Description: ANCHORAGE, MASONRY SUBSTRATE
Title: ALUMINUM PICTURE WINDOW, IMPACT

Series/Model:	Scale:	Sheet:	Drawing No.	Rev.
PW-701	NTS	7 of 8	4259-4	D



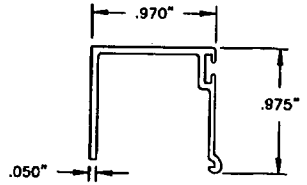
INTEGRAL FIN FRAME

(1) MAT'L: 6063–T5
DWG NO. 4256A



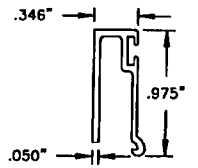
FLANGED FRAME

(2) MAT'L: 6063–T5
DWG NO. 4253



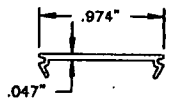
7/16" LAMI GLASS BEAD

(10) MAT'L: 6063–T5
DWG NO. 4255



1–1/16" LAMI I.G. GLASS BEAD

(11) MAT'L: 6063–T5
DWG NO. 4254



INSTALL. FASTENER COVER

(13) MAT'L: 6063–T5
DWG NO. 4224

ITEM	DWG #	PART #	DESCRIPTION
1	4256A	64256	Integral fin frame head, sill & jamb
2	4253	64253	Flanged frame head, sill & jamb
7	1155	781PQX	#8 x 1 Quad PH SMS stainless steel
8			Schnee-Morehead SM5504 acryl-r narrow joint sealant or
10	4255	64255	7/16 lami glass bead
11	4254	64254	1-1/16 lami I.G. glass bead
12	1224	6TP247	Vinyl bulb weatherstrip (thick)
13	4224		Installation fastener cover
14			Dow Corning 899 glazing sealant or equivalent
15			Dow Corning 995 silicone structural sealant, black
17			**7/16" lami glass:** 3/16" annealed - .090 DuPont Butacite or Saflex KeepSafe Maximum PVB interlayer - 3/16" heat strengthened
18			**1-1/16" lami I.G. glass:** 3/16" heat strengthened outboard - 7/16" airspace - 3/16" annealed - .090 DuPont Butacite or Saflex KeepSafe Maximum PVB interlayer - 3/16" heat strengthened
20	4262	64262	Architectural corner key
21			**7/16" lami glass:** 3/16" heat strengthened - .090 DuPont Butacite or Saflex KeepSafe Maximum PVB interlayer - 3/16" heat strengthened
22			**1-1/16" lami I.G. glass:** 3/16" heat strengthened outboard - 7/16" airspace - 3/16" heat strengthened - .090 DuPont Butacite or Saflex KeepSafe Maximum PVB interlayer - 3/16" heat strengthened

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 11-1110.15
Expiration Date 12/19/2014
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:	
J.J.	10/18/11	D	NO CHANGE THIS SHEET
J.R.	3/31/10	C	COMPLETE REDRAW AND REORGANIZATION TO INCLUDE INFORMATION FOR LARGER WINDOWS.
Revised By:	Date:	Revisions:	
Drawn By: F.K.	Date: 7/14/09	Checked By:	Date:

1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274

PGT

Description: EXTRUSION PROFILES & PARTS LIST
Job: ALUMINUM PICTURE WINDOW, IMPACT
Series/Model: PW-701 | Scale: NTS | Sheet: 8 of 8 | Drawing No.: 4259-4 | Rev: D

IMPACT-SH

Business & Professional Regulation

Florida Department of Business & Professional Regulation

Product Approval
USER: Public User

FL #	FL14604
Application Type	New
Code Version	2007
Application Status	Approved *Approved by DCA. Approvals by DCA shall be reviewed and ratified by the POC and/or the Commission if necessary.
Comments	
Archived	☐
Product Manufacturer	Eastern Architectural Systems
Address/Phone/Email	10030 Bavaria Road Ft. Myers, FL 33913 (800) 281-6564 fbc@buildingdrops.com
Authorized Signature	AJ Giacalone fbc@buildingdrops.com
Technical Representative Address/Phone/Email	
Quality Assurance Representative Address/Phone/Email	
Category	Windows
Subcategory	Single Hung
Compliance Method	Certification Mark or Listing
Certification Agency	National Accreditation & Management Institute,
Validated By	National Accreditation & Management Institute,

Referenced Standard and Year (of Standard)

Standard	Year
AAMA/WDMA/CSA 101/I.S.2/A440	2005
ANSI/AAMA/NWWDA 101/I.S.2	1997
ASTM E1886	2002
ASTM E1996	2002
TAS 201	1994
TAS 202	1994
TAS 203	1994

Equivalence of Product Standards Certified By

Product Approval Method	Method 1 Option A
Date Submitted	05/31/2011
Date Validated	09/07/2011
Date Pending FBC Approval	
Date Approved	09/09/2011

Summary of Products

PL #	Model, Number or Name	Description
14604.1	Series "1000" Aluminum	Single Hung Window
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** +45/-45 **Other:** Configuration: O/X Max. Frame Size: W-53" H-77" Max. Vent Size: W-50" H-38" Glazing: 3/16" Annealed Glass		**Certification Agency Certificate** FL14604_R0_C_CAC_NI006177.01-R1.PDF **Quality Assurance Contract Expiration Date** 06/30/2015 **Installation Instructions** FL14604_R0_II_EAS009_R1_SIGNED_AND_CERT_9-6-11.pdf Verified By: Alexis Spyrou, P.E. Florida P.E. 68101 Created by Independent Third Party: Yes **Evaluation Reports** FL14604_R0_AE_PER_1324_SIGNED_AND_CERT.pdf Created by Independent Third Party: Yes
14604.2	Series "FWI 1000" Aluminum Impact Rated	Single Hung Window
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** N/A **Other:** Refer to drawing EAS010 for Window Size, Glazing, & Design Pressure Rating, Impact Interlayer Approved under NOA 09-0127.13		**Certification Agency Certificate** FL14604_R0_C_CAC_09-0127.13.pdf FL14604_R0_C_CAC_NI006148.01.pdf FL14604_R0_C_CAC_NI010670.PDF **Quality Assurance Contract Expiration Date** 12/31/2014 **Installation Instructions** FL14604_R0_II_EAS010_R1_SIGNED_AND_CERT.pdf Verified By: Alexis Spyrou, P.E. Florida P.E. 68101 Created by Independent Third Party: Yes **Evaluation Reports** FL14604_R0_AE_PER_1325.pdf Created by Independent Third Party: Yes
14604.3	Series "FWI 1000" Aluminum Impact Rated	Single Hung Window
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +60/-60 **Other:** Configuration: O/X Max. Frame Size: W-53" H-96" Max. Vent Size: W-50" H-48" Glazing: Laminate-1/8" Annealed Glass/0.090" Safety-Plus II Interlayer/1/8" Annealed Glass, Impact Interlayer Approved under NOA 09-0127.13		**Certification Agency Certificate** FL14604_R0_C_CAC_09-0127.13.pdf FL14604_R0_C_CAC_NI009020.02.pdf **Quality Assurance Contract Expiration Date** 09/30/2015 **Installation Instructions** FL14604_R0_II_EAS008.pdf Verified By: Alexis Spyrou, P.E. Florida P.E. 68101 Created by Independent Third Party: Yes **Evaluation Reports** FL14604_R0_AE_PER_1323.pdf Created by Independent Third Party: Yes
14604.4	Series "FWI 1000" Aluminum Impact Rated	Single Hung Window
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +75/-75 **Other:** Configuration: O/X Max. Frame Size: W-48" H-72" Max. Vent Size: W-47" H-38" Glazing: 3/4" Overall Laminated I.G.- 1/8" Heat Strengthened Glass/0.090" Saflex by Solutia/1/8" Heat Strengthened Glass/0.250" Air Space/ 1/8" Heat Strengthened Glass, Impact Interlayer Approved under NOA 09-0127.13		**Certification Agency Certificate** FL14604_R0_C_CAC_09-0127.13.pdf FL14604_R0_C_CAC_NI009020.03-R1.PDF **Quality Assurance Contract Expiration Date** 12/31/2014 **Installation Instructions** FL14604_R0_II_EAS007.pdf Verified By: Alexis Spyrou, P.E. Florida P.E. 68101 Created by Independent Third Party: Yes **Evaluation Reports** FL14604_R0_AE_PER_1322.pdf Created by Independent Third Party: Yes
14604.5	Series "FWI 1000" Aluminum Impact Rated	Single Hung Window
Limits of Use **Approved for use in HVHZ:** Yes		**Certification Agency Certificate** FL14604_R0_C_CAC_08-0206.01.pdf

Approved for use outside HVHZ: Yes **Impact Resistant:** Yes **Design Pressure:** +120/-150 **Other:** Configuration: O/X Max. Frame Size: W-54" H-77" Max. Vent Size: W-51" H-38" Glazing: Laminate-3/16" Heat Strengthened Glass/0.100" HP Solutia/ 3/16" Heat Strengthened Glass, Impact Interlayer Approved under NOA 08-0206.01		FL14604_R0_C_CAC_NI009020.01-R1.PDF **Quality Assurance Contract Expiration Date** 04/30/2015 **Installation Instructions** FL14604_R0_II_EAS005_R1_SIGNED_AND_CERT.pdf Verified By: Alexis Spyrou, P.E. Florida P.E. 68101 Created by Independent Third Party: Yes **Evaluation Reports** FL14604_R0_AE_PER_1320_SIGNED_AND_CERT.pdf Created by Independent Third Party: Yes
14604.6	Series 1431 Vinyl	Single Hung Window with Nailing Fin
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** +50/-50 **Other:** Configuration: O/X Max. Frame Size: W-48" H-72" Max. Vent Size: W-44.38" H-35" Glazing: 3/4" Overall I.G.		**Certification Agency Certificate** FL14604_R0_C_CAC_NI010607-R1.PDF **Quality Assurance Contract Expiration Date** 12/31/2014 **Installation Instructions** FL14604_R0_II_EAS038.pdf Verified By: Alexis Spyrou, P.E. Florida P.E. 68101 Created by Independent Third Party: Yes **Evaluation Reports** FL14604_R0_AE_PER_1352.pdf Created by Independent Third Party: Yes
14604.7	Series 1441 Vinyl	Single Hung Window with Flange
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** +50/-50 **Other:** Configuration: O/X Max. Frame Size: W-54" H-72" Max. Vent Size: W-50.38" H-35.13" Glazing: 3/4" Overall I.G.		**Certification Agency Certificate** FL14604_R0_C_CAC_NI010813-R1.PDF **Quality Assurance Contract Expiration Date** 04/30/2015 **Installation Instructions** FL14604_R0_II_EAS037_R1.pdf Verified By: Alexis Spyrou, P.E. Florida P.E. 68101 Created by Independent Third Party: Yes **Evaluation Reports** FL14604_R0_AE_PER1353_R1.pdf Created by Independent Third Party: Yes
14604.8	Series 2451/1431 Vinyl Impact Rated	Single Hung Window with Nailing Fin
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +50/-50 **Other:** Configuration: O/X Max. Frame Size: W-48" H-72" Max. Vent Size: W-44.25" H-35" Glazing: 3/4" Overall Laminated I.G.- 1/8" Annealed Glass/Laminate-1/8" Annealed Glass/0.090" PVB by Solutia/1/8" Annealed Glass		**Certification Agency Certificate** FL14604_R0_C_CAC_NI010607-R1.PDF FL14604_R0_C_CAC_NI010608.PDF **Quality Assurance Contract Expiration Date** 12/31/2014 **Installation Instructions** FL14604_R0_II_EAS038.pdf Verified By: Alexis Spyrou, P.E. Florida P.E. 68101 Created by Independent Third Party: Yes **Evaluation Reports** FL14604_R0_AE_PER_1354.pdf Created by Independent Third Party: Yes
14604.9	Series 2461/1441 Vinyl Impact Rated	Single Hung Window with Flange
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +50/-50 **Other:** Configuration: O/X Max. Frame Size: W-54" H-72" Max. Vent Size: W-50.5" H-35.5" Glazing: 3/4" Overall Laminated I.G.- 1/8" Annealed Glass/Laminate-1/8" Annealed Glass/0.090" PVB by Solutia/1/8" Annealed Glass		**Certification Agency Certificate** FL14604_R0_C_CAC_NI010630.PDF FL14604_R0_C_CAC_NI010813-R1.PDF **Quality Assurance Contract Expiration Date** 10/31/2014 **Installation Instructions** FL14604_R0_II_EAS039.pdf Verified By: Alexis Spyrou, P.E. Florida P.E. 68101 Created by Independent Third Party: Yes **Evaluation Reports** FL14604_R0_AE_PER_1355_R1.pdf Created by Independent Third Party: Yes

Back Next

EASTERN ARCHITECTURAL SYSTEMS,INC

SERIES FWI 1000 SINGLE HUNG

INSTALLATION NOTES:

1. ONE (1) INSTALLATION ANCHOR IS REQUIRED AT EACH ANCHOR LOCATION SHOWN.
2. THE NUMBER OF INSTALLATION ANCHORS DEPICTED IS THE MINIMUM NUMBER OF ANCHORS TO BE USED FOR PRODUCT INSTALLATION.
3. INSTALL INDIVIDUAL INSTALLATION ANCHORS WITHIN A TOLERANCE OF ±1/2 INCH OF THE DEPICTED LOCATION IN THE ANCHOR LAYOUT DETAIL (I.E., WITHOUT CONSIDERATION OF TOLERANCES). TOLERANCES ARE NOT CUMULATIVE FROM ONE INSTALLATION ANCHOR TO THE NEXT.
4. SHIM AS REQUIRED AT EACH INSTALLATION ANCHOR WITH LOAD BEARING SHIM(S). MAXIMUM ALLOWABLE SHIM STACK TO BE 1/4 INCH. SHIM WHERE SPACE OF 1/16 INCH OR GREATER OCCURS. SHIM(S) SHALL BE CONSTRUCTED OF HIGH DENSITY PLASTIC OR BETTER.
5. FOR FLANGE INSTALLATION THROUGH 1X BUCK TO CONCRETE/MASONRY, OR DIRECTLY INTO CONCRETE/MASONRY, USE 1/4 INCH DIAMETER ITW TAPCON OF SUFFICIENT LENGTH TO ACHIEVE 1 1/4 INCH MINIMUM EMBEDMENT.
6. FOR FLANGE INSTALLATION INTO WOOD FRAMING USE #14 WOOD SCREWS OF SUFFICIENT LENGTH TO ACHIEVE 1 1/2 INCH MINIMUM EMBEDMENT INTO WOOD SUBSTRATE.
7. FOR FIN INSTALLATION INTO WOOD FRAMING USE #10 WOOD SCREWS OF SUFFICIENT LENGTH TO ACHIEVE 1 1/2 INCH MINIMUM EMBEDMENT INTO WOOD SUBSTRATE.
8. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDE WALL FINISHES, INCLUDING BUT NOT LIMITED TO STUCCO, FOAM, BRICK VENEER, AND SIDING.
9. INSTALLATION ANCHORS AND ASSOCIATED HARDWARE MUST BE MADE OF CORROSION RESISTANT MATERIAL OR HAVE A CORROSION RESISTANT COATING.
10. FOR GROUT FILLED BLOCK, DO NOT INSTALL INSTALLATION ANCHORS INTO MORTAR JOINTS. EDGE DISTANCE IS MEASURED FROM FREE EDGE OF BLOCK OR EDGE OF MORTAR JOINT INTO FACE SHELL OF BLOCK.
11. INSTALLATION ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ANCHOR MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND ANCHORS SHALL NOT BE USED IN SUBSTRATES WITH STRENGTHS LESS THAN THE MINIMUM STRENGTH SPECIFIED BY THE ANCHOR MANUFACTURER.
12. INSTALLATION ANCHOR CAPACITIES FOR PRODUCTS HEREIN ARE BASED ON SUBSTRATE MATERIALS WITH THE FOLLOWING PROPERTIES:
    A. WOOD - MINIMUM SPECIFIC GRAVITY OF 0.55.
    B. CONCRETE -MINIMUM COMPRESSIVE STRENGTH OF 2700 PSI.
    C. MASONRY - STRENGTH CONFORMANCE TO ASTM C-90, GRADE N, TYPE 1 (OR GREATER).

GENERAL NOTES:

1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH THE CURRENT FLORIDA BUILDING CODE (FBC), INCLUDING HVHZ AND HAS BEEN EVALUATED ACCORDING TO THE FOLLOWING:
    - TAS 201-94
    - TAS 202-94
    - TAS 203-94
2. ADEQUACY OF THE EXISTING STRUCTURAL CONCRETE/MASONRY AND 2X FRAMING AS A MAIN WIND FORCE RESISTING SYSTEM CAPABLE OF WITHSTANDING AND TRANSFERRING APPLIED PRODUCT LOADS TO THE FOUNDATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD FOR THE PROJECT OF INSTALLATION.
3. 1X AND 2X BUCKS (WHEN USED) SHALL BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO THE STRUCTURE. BUCK DESIGN AND INSTALLATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD FOR THE PROJECT OF INSTALLATION.
4. THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC SITE. IF SITE CONDITIONS CAUSE INSTALLATION TO DEVIATE FROM THE REQUIREMENTS DETAILED HEREIN, A LICENSED ENGINEER OR ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE WITH THIS DOCUMENT.
5. THIS PRODUCT IS LARGE AND SMALL MISSILE IMPACT RESISTANT APPROVED IMPACT PROTECTIVE SYSTEM **IS NOT REQUIRED** ON THIS PRODUCT IN AREAS REQUIRING IMPACT RESISTANCE.
6. WINDOW FRAME MATERIAL: 6063-T5 ALUMINUM
7. GLASS MEETS THE REQUIREMENTS OF ASTM E 1300-04 GLASS CHARTS. SEE SHEET 3 FOR GLAZING DETAILS.
8. DESIGNATIONS "X" AND "O" STAND FOR THE FOLLOWING:
    X: OPERABLE PANEL
    O: FIXED PANEL

TABLE OF CONTENTS

DESIGN PRESSURE RATING

GLAZE TYPE	DESIGN PRESSURE	MAXIMUM SIZE	MISSILE IMPACT RATING
A	+60/-80 PSF	53" X 72"	LARGE AND SMALL MISSILE IMPACT RESISTANT
B	+80/-100 PSF	53" X 77"	LARGE AND SMALL MISSILE IMPACT RESISTANT

Eastern Architectural Systems
EASTERN ARCHITECTURAL SYSTEMS
10030 BAVARIA ROAD
FT MYERS, FL 33913
PH: (800) 432-2204 FX: (239) 369-2412

TITLE: SERIES FWI 1000 SH INSTALLATION & GENERAL NOTES

PREPARED BY:
CERTWORKS, LLC
127 W. FAIRBANKS AVE., STE. 438
WINTER PARK, FL 32789
PH: (407) 644-6957 FX: (407) 644-2366

REVISIONS

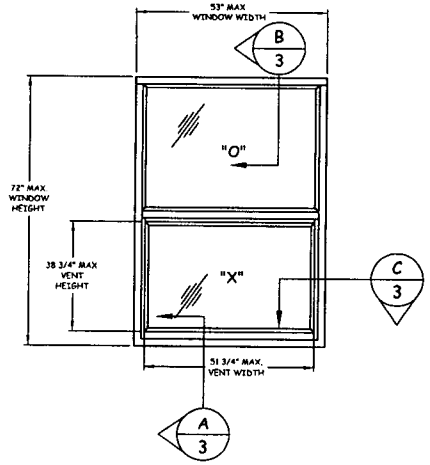
NO.	DESCRIPTION	BY	DATE

ALEXIS SPYROU LICENSE No 68101 STATE OF FLORIDA 6-30-11 PROFESSIONAL ENGINEER

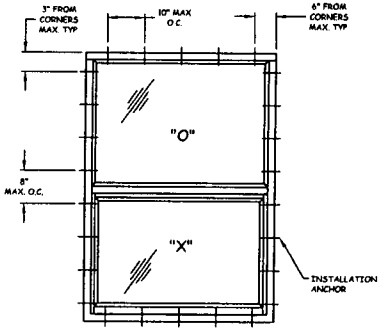
DATE: 4.05.11 | DWN BY: JLA | CHK BY: HFN | SCALE: NTS

DWG #: EAS010

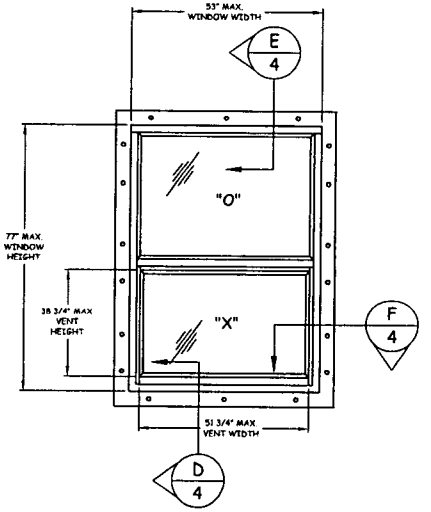
SHEET: 1 OF 4



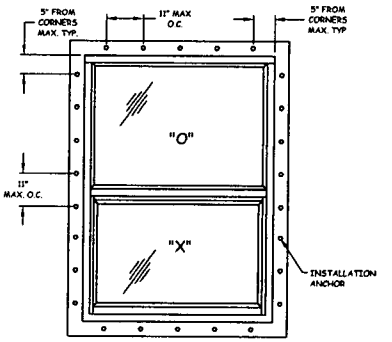
ELEVATION
FLANGE



ANCHOR LAYOUT
FLANGE



ELEVATION
FIN



ANCHOR LAYOUT
FIN

AND

Eastern Architectural Systems

EASTERN ARCHITECTURAL SYSTEMS
10030 BAVARIA ROAD
FT MYERS, FL 33913
PH: (800) 432-2204 FX: (239) 369-2412

TITLE: SERIES FWI 1000 SH
ELEVATION
& ANCHOR LAYOUT

PREPARED BY:
CERTWORKS, LLC
127 W. FAIRBANKS AVE., STE. 438
WINTER PARK, FL 32789
PH: (407) 644-6957 FX: (407) 644-2366

REVISIONS

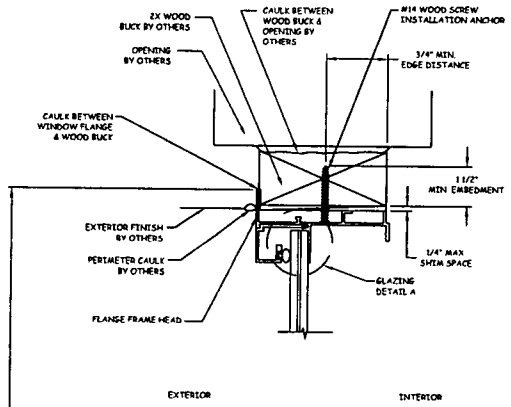
NO.	DESCRIPTION	BY	DATE

ALEXIS SPYROU
LICENSE
No 68101
STATE OF FLORIDA
PROFESSIONAL ENGINEER
6-30-11

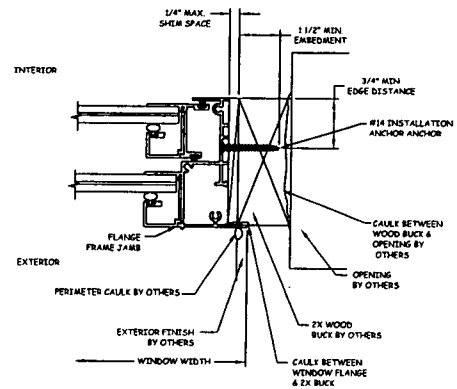
DATE: 4.05.11
DWN BY: JLA
CHK BY: HFN
SCALE: NTS

DWG #: EAS010

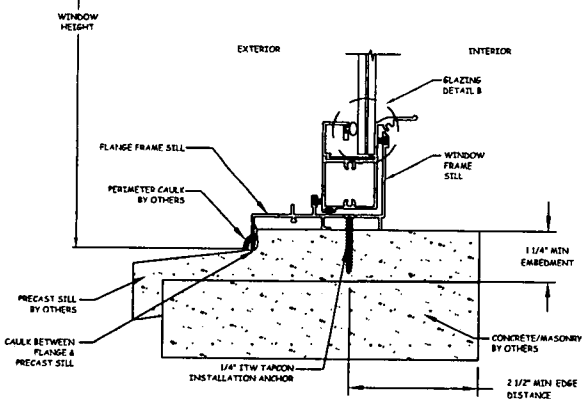
SHEET: 2 OF 4



B/3 VERTICAL SECTION
HEAD - 2X WOOD FRAME
FLANGE INSTALLATION

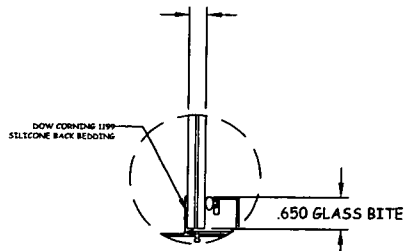


C/3 VERTICAL SECTION
JAMB - 2X WOOD FRAME
FLANGE INSTALLATION



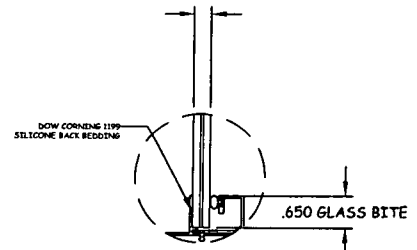
A/3 VERTICAL SECTION
SILL - CONCRETE/MASONRY
FLANGE INSTALLATION

0.460" O.A. LAMINATED GLASS CONSISTING OF:
0.185" HEAT STRENGTHENED GLASS,
0.090" SAFLEX INTERLAYER BY SOLUTIA,
0.185" ANNEALED GLASS



GLAZING DETAIL A

0.464" O.A. LAMINATED GLASS CONSISTING OF:
0.187" HEAT STRENGTHENED GLASS,
0.090" SAFLEX INTERLAYER BY SOLUTIA,
0.187" HEAT STRENGTHENED GLASS



GLAZING DETAIL B

21.11.20

AND

Eastern Architectural Systems
EASTERN ARCHITECTURAL SYSTEMS
10030 BAVARIA ROAD
FT MYERS, FL 33913
PH: (800) 432-2204 FX: (239) 369-2412

TITLE: SERIES FWI 1000 SH
VERTICALS HORIZONTAL SECTIONS & GLAZING DETAIL

PREPARED BY:
CERTWORKS, LLC
127 W. FAIRBANKS AVE., STE. 438
WINTER PARK, FL 32789
PH: (407) 644-5957 FX: (407) 644-2366

REVISIONS

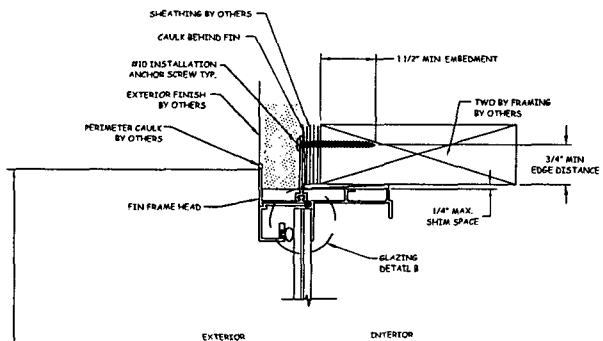
NO.	DESCRIPTION	BY	DATE

ALEXIS SPYROU LICENSE No 68101 STATE OF FLORIDA 6-30-11 PROFESSIONAL ENGINEER

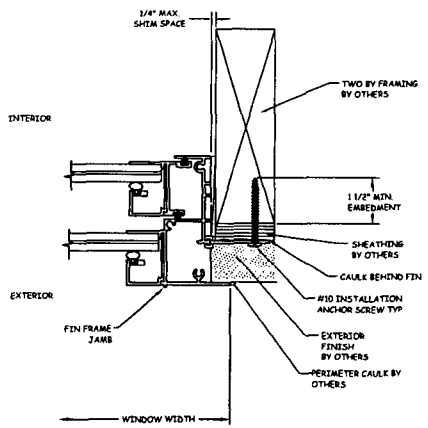
DATE: 4.05.11
DWN BY: JLA
CHK BY: HFN
SCALE: NTS

DWG #: EAS010

SHEET: 3 OF 4

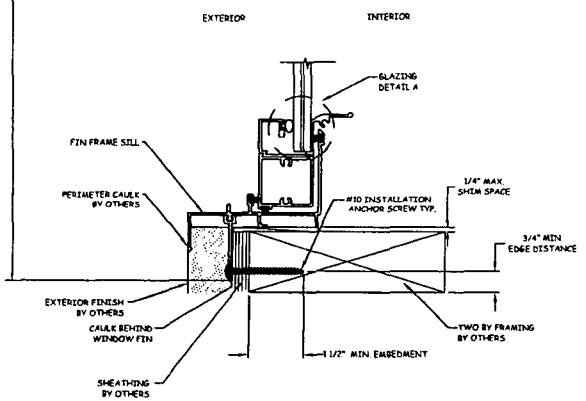


E/4 VERTICAL SECTION
HEAD - 2X WOOD FRAME
FIN INSTALLATION



F/4 VERTICAL SECTION
HEAD - 2X WOOD FRAME
FIN INSTALLATION

WINDOW HEIGHT



D/4 VERTICAL SECTION
SILL - 2X WOOD FRAME
FIN INSTALLATION

21-11-20

3H3

Eastern Architectural Systems
EASTERN ARCHITECTURAL SYSTEMS
10030 BAVARIA ROAD
FT MYERS, FL 33913
PH: (800) 432-2204 FX: (239) 369-2412

TITLE: SERIES FWT 1000 SH
VERTICAL
& HORIZONTAL SECTIONS

PREPARED BY:
CERTWORKS, LLC
127 W. FAIRBANKS AVE., STE. 438
WINTER PARK, FL 32789
PH: (407) 644-6957 FX: (407) 644-2366

REVISIONS

NO.	DESCRIPTION	BY	DATE

ALEXIS SPYROU LICENSE No 68101 STATE OF FLORIDA 6-30-11 PROFESSIONAL ENGINEER

DATE:	DWN BY:	CHK BY:	SCALE:
4.05.11	JLA	HFN	NTS

DWG #: EAS010

SHEET: 4 OF 4

CertWorks *... it works*

FBPE Certificate of Authorization No. 28520

127 W. Fairbanks Ave.
Suite 438
Winter Park, FL 32789
407.644.6957 PH
407.644.2366 FX
info@certwrks.com

Product Evaluation Report
of
Eastern Architectural Systems, Inc.

Series FWI 1000
Single Hung Window
(Impact)
for
Florida Product Approval
FL#

Report No. 1325

Florida Building Code
Per Rule 9N-3

Method:	**1 – A (Certification)**
Category:	**Windows**
Sub – Category:	**Single Hung**

Product:	**Series FWI 1000 Single Hung**
Material:	**Aluminum 6063-T5**
Product Dimensions:	**53" x 72"**
	53" x 77"

Prepared For:
Eastern Architectural Systems
10030 Bavaria Road
Ft Myers, FL 33913

Prepared by:
Alexis Spyrou, P.E.
Florida Professional Engineer # 68101
Date: 5/19/2011

Contents:

5-19-11

Alexis Spyrou, P.E.
Florida No. 68101

Manufacturer:	**Eastern Architectural Systems, Inc.**
Product Category:	Windows
Product Sub-Category:	Single Hung
Compliance Method:	State Product Approval Rule 9N-3.005 (1)(a)
Product Name:	**Series FWI 1000 Single Hung Window** (Impact)

Scope: This is a Product Evaluation Report issued by Alexis Spyrou, P.E. (FL # 68101) for **Eastern Architectural Systems, Inc.** based on Rule Chapter No. 9N-3.005, Method 1a of the State of Florida Product Approval, Department of Community Affairs - Florida Building Commission.

Alexis Spyrou, P.E. does not have nor will acquire financial interest in the company manufacturing or distributing the product or in any other entity involved in the approval process of the product named herein.

This product has been evaluated for use in locations adhering to the current Florida Building Code as per standards listed on page three of this document.

See Installation Instructions **EAS010**, signed and sealed by Alexis Spyrou, P.E. (FL # 68101) for specific use parameters.

Limits of Use:

1. This product has been evaluated and is in compliance with the current Florida Building Code, including the "High Velocity Hurricane Zone" (HVHZ).
2. Product anchors shall be as listed and spaced as shown on details. Anchor embedment into substrate material shall be beyond wall dressing or stucco.
3. When used in areas requiring wind borne debris protection this product complies with Section 1609.1.2 of the current Florida Building Code and does not require an impact resistant covering.
4. Site conditions that deviate from the details of drawing **EAS010**, require further engineering analysis by a licensed engineer or registered architect.
5. See Installation Instructions **EAS010**, for size and design pressure limitations.

Quality Assurance: The manufacturer has demonstrated compliance of window products in Accordance with the Florida Building Code and Rule 9N-3.005 (3) for manufacturing under a quality assurance program audited by an approved quality assurance entity through **National Accreditation & Management Institute** (FBC Organization #: QUA1789).

Performance Standards: The product described herein has been tested per:

- TAS 201-94
- TAS 202-94
- TAS 203-94

Referenced Data:

1. Product Testing performed by Fenestration Testing Laboratory, Inc.
   (FBC Organization #: TST1657)
   Report #: 02-311-24, Report Date: 10/17/2007
2. Product Testing performed by Fenestration Testing Laboratory, Inc.
   (FBC Organization #: TST1657)
   Report #: 11-749-03, Report Date: 7/29/2008
3. Quality Assurance
   National Accreditation & Management Institute
   (FBC Organization #: QUA1789)

Installation: 1. Approved anchor types and substrates are as follows:

Through Frame Installation:

A. For two by (2X) wood frame substrate, use **#14 Wood Screws** type wood frame anchors of sufficient length to achieve minimum embedment of 1.50" into wood framing.

B. For concrete or masonry substrate where one by (1X), non-structural, wood bucking is employed, use **1/4" diameter ITW Tapcon** type concrete screw anchors of sufficient length to achieve minimum embedment of 1.25" into concrete or masonry.

C. For concrete or masonry substrate where wood bucking is NOT employed, use **1/4" diameter ITW Tapcon** type concrete screw anchors of sufficient length to achieve minimum embedment of 1.25" into concrete or masonry.

Through Fin Installation:

A. For two by (2X) wood frame substrate, use **#10 Wood Screws** type wood frame anchors of sufficient length to achieve minimum embedment of 1.50" into wood framing

Refer to Installation Instructions (**EAS010**) for anchor spacing and more details of the installation requirements.

Design Pressure:

Design Pressure		
Glass Type	**Size**	**DP**
A	53" x 72"	+60/-80 PSF
B	53" x 77"	+80/-100 PSF

Glazing:

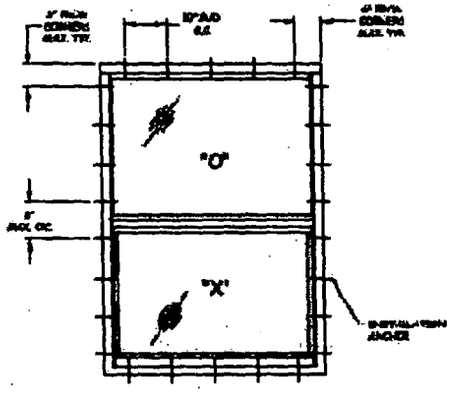
Type A: 0.46" OA laminated glass consisting of: 0.185" Heat Strengthened Glass - 0.090" Saflex Interlayer – 0.185" Annealed Glass

Type B: 0.464" OA laminated glass consisting of: 0.187" Heat Strengthened Glass - 0.090" Saflex Interlayer - 0.187" Heat Strengthened Glass

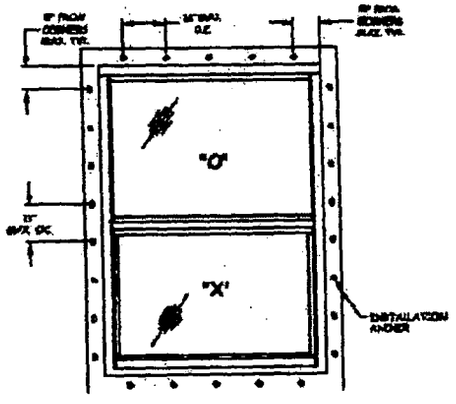
Installation Method

Eastern Architectural Systems, Inc.

Series FWI 1000 Single Hung Window



ANCHOR LAYOUT
FLANGE



ANCHOR LAYOUT
FIN

Impact- Mull

MIAMI-DADE COUNTY
DEPARTMENT OF PERMITTING, ENVIRONMENT, AND REGULATORY AFFAIRS (PERA)
BOARD AND CODE ADMINISTRATION DIVISION

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/pera/

NOTICE OF ACCEPTANCE (NOA)

PGT Industries
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 PERA - 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. PERA 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 22 of 22, prepared by manufacturer, dated 08/29/11, 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 # 10-0819.05** and consists of this page 1 and evidence page E-1, as well as approval document mentioned above.

The submitted documentation was reviewed by **Manuel Perez, P.E.**

MIAMI-DADE COUNTY APPROVED

NOA No. 11-0922.01
Expiration Date: May 26, 2016
Approval Date: December 08, 2011

PGT Industries

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Manufacturer's die drawings and sections.
2. Drawing No. **6300JR**, titled "Impact-Resistant Aluminum Tube Mullions", sheets 1 through 22 of 22, prepared by manufacturer, dated 08/29/11, 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, all signed and sealed by Marlin D. Brinson, P. E.
   (Submitted under previous NOA #10-0819.05)

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with FBC-2007 and FBC-2010, prepared by manufacturer, dated 09/20/11, signed and sealed by Anthony Lynn Miller, P.E.

D. QUALITY ASSURANCE

1. Miami-Dade Department of Permitting, Environment, and Regulatory Affairs (PERA).

E. MATERIAL CERTIFICATIONS

1. None.

F. STATEMENTS

1. Statement letter of conformance with the FBC-2007 and FBC-2010, and no financial interest, dated June 06, 2011, signed and sealed by Anthony Lynn Miller, P.E.
2. Proposal # **10-1070-R** issued by BNC to PGT Industries, dated 01/07/11, signed by Ishaq I. Chanda, Product Control Examiner.

G. OTHER

1. Notice of Acceptance No. **10-0819.05**, issued to PGT Industries, for their PGT Series Aluminum Clipped Mullion – L.M.I., approved on 05/26/11 and expiring on 05/26/16.

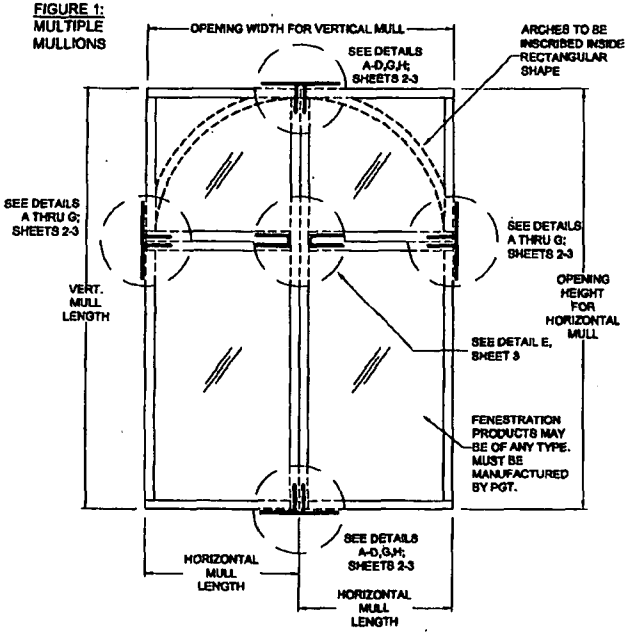
4

Manuel Perez

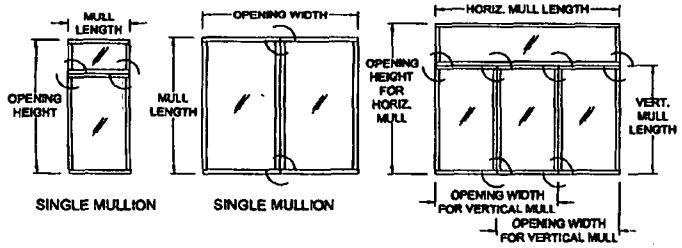
Manuel Perez, P.E.
Product Control Examiner
NOA No. 11-0922.01
Expiration Date: May 26, 2016
Approval Date: December 08, 2011

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.

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 21. FOR MULTIPLE UNITS, CONSIDER ONLY TWO ADJACENT UNITS AT A TIME WHEN USING THE DESIGN PRESSURE AND ANCHORAGE TABLES. THE LOWEST DESIGN PRESSURE OF MULTIPLE MULLIONS OR FENESTRATION PRODUCTS SHALL APPLY.

6) WHEN FINDING YOUR SIZE IN THE MULLION TABLES, ALWAYS ROUND UP TO THE NEXT SIZE SHOWN ON THE TABLE(S).

7) ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO. WOOD BUCKS BY OTHERS, MUST BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE STRUCTURE. ANCHORS SHALL BE COATED OR CORROSION RESISTANT AS APPROPRIATE FOR SUBSTRATE MATERIAL. DISSIMILAR MATERIALS SHALL BE PROTECTED AS REQUIRED TO PREVENT REACTIONS.

8) REFERENCE: TEST REPORTS: FTL-6443; ELCO ULTRACON/AGGRE-GATOR NOA'S; ANSI/AF&PA NDS FOR WOOD CONSTRUCTION; ADM-ALUMINUM DESIGN MANUAL

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.

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 22 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 13A, ON SHEETS 6 THROUGH 17 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.

PGT
1070 TECHNOLOGY DRIVE N. VENICE, FL 34275
P.O. BOX 1328 VENICE, FL 34284
FL CERT. OF AUTH.# 28296

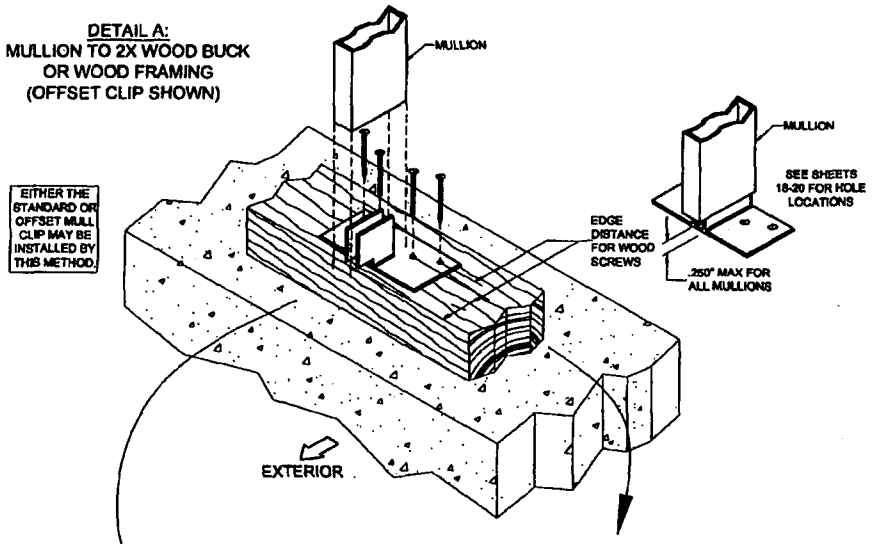
Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: GENERAL NOTES AND ELEVATION
Series: N/A
Scale: N/A
Drawing No.: 6300JR
Date: 08/29/11
Sheet: 1 of 22
Drawn By: J ROSOWSKI
Checked By:
Date:
Revision:
Rev. By:
Date:
Revision:

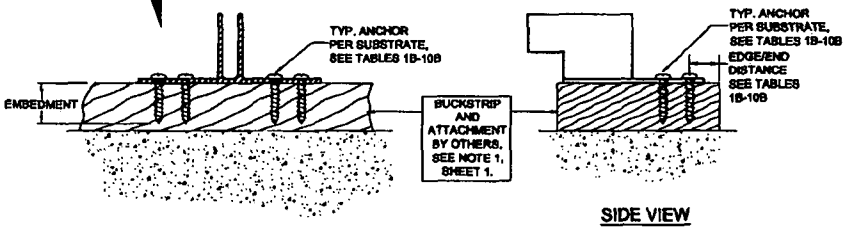
PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 11-0922.01
Expiration Date DEC 06, 2016
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
11/30/11
A. LYNN MILLER, P.E.
FL P.E.# 58705

END

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

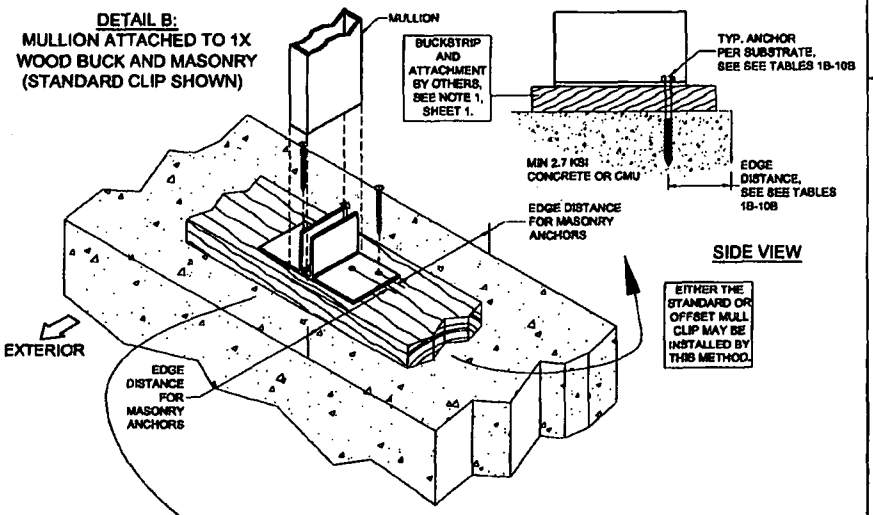




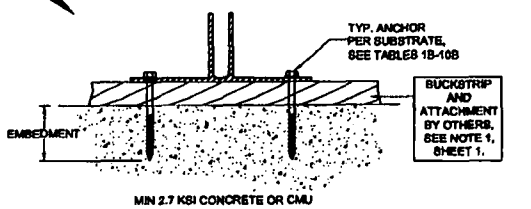
FRONT VIEW

SIDE VIEW

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



SIDE VIEW



FRONT VIEW

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 INTERIOR 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.

21-11-30

GHO

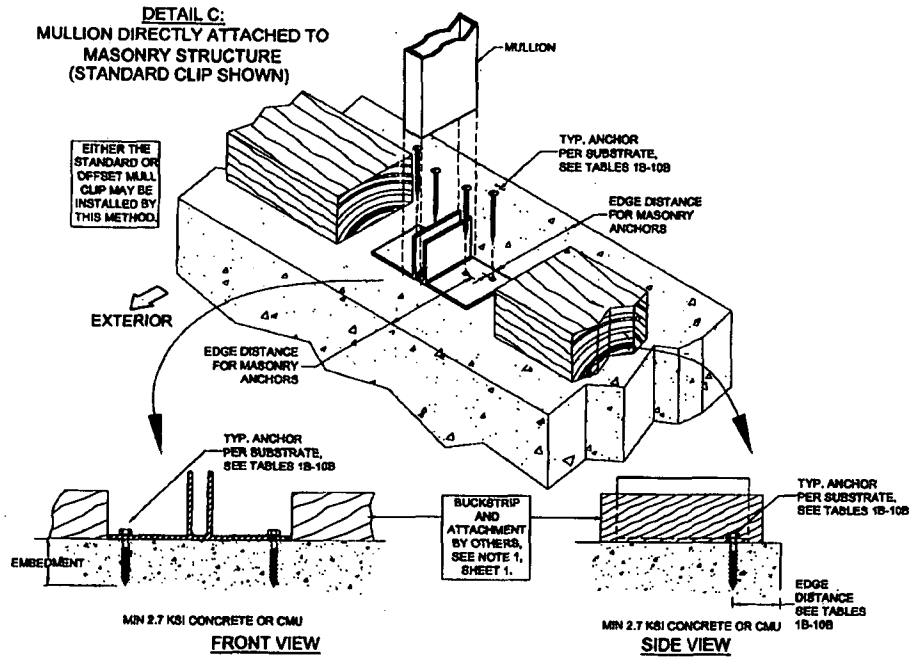
PGT
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1328
NORTH VENICE, FL 34275
FL CERT. OF AUTH.# 26206

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: INSTALLATION INSTRUCTIONS A
Series: N/A
Drawn By: J.ROSOWSKI
Scale: N/A
Date: 08/29/11
Drawing No.: 6300JR
Checked By:
Date:
Revision:
Sheet: 2 of 22
Rev.:

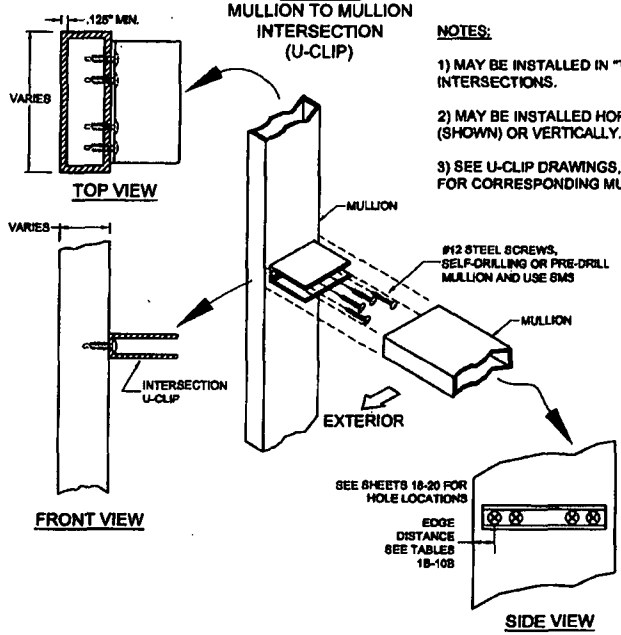
PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 11-0922.01
Expiration Date [illegible], 2016
By [signature]
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
11/30/11
A. LYNN MILLER, P.E.
FL P.E.# 58705

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



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



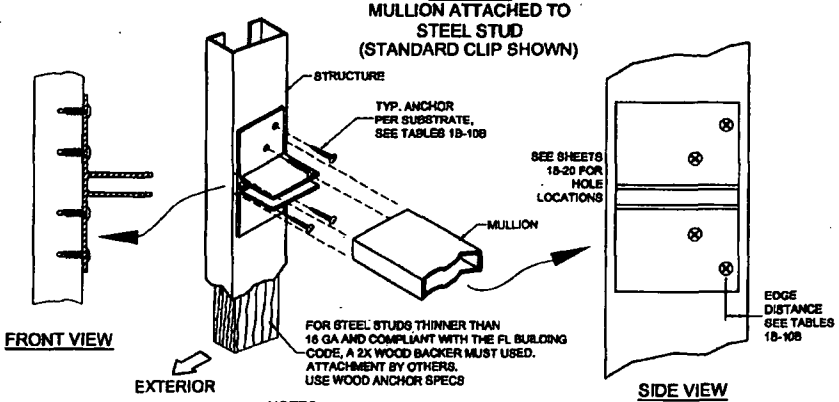
NOTES:

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

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

3) SEE U-CLIP DRAWINGS, SHEETS 18-20 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 5-17, 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 INTERIOR 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.

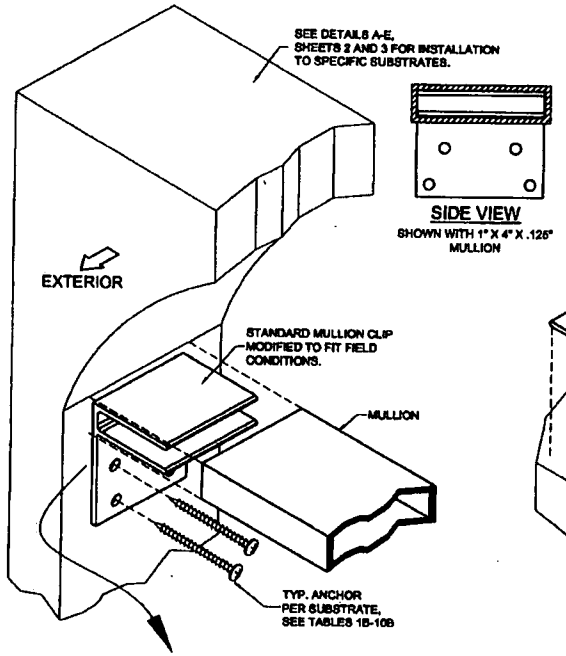
PGT
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1539
VENICE, FL 34284
FL CERT. OF AUTH.# 29280

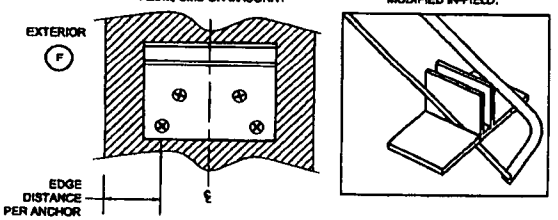
Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: INSTALLATION INSTRUCTIONS B
Series: N/A
Drawing No. 6300JR
Sheet: 3 of 22
Scale: N/A
Date: 08/29/11
Drawn By: J ROSOWSKI
Checked By:
Revisions:
Rev. By:

PRODUCT REVISED as complying with the Florida Building Code
Acceptance No. 11-0729.01
Expiration Date 08/25/2016
By Manuel Perez
Miami-Dade Product Control

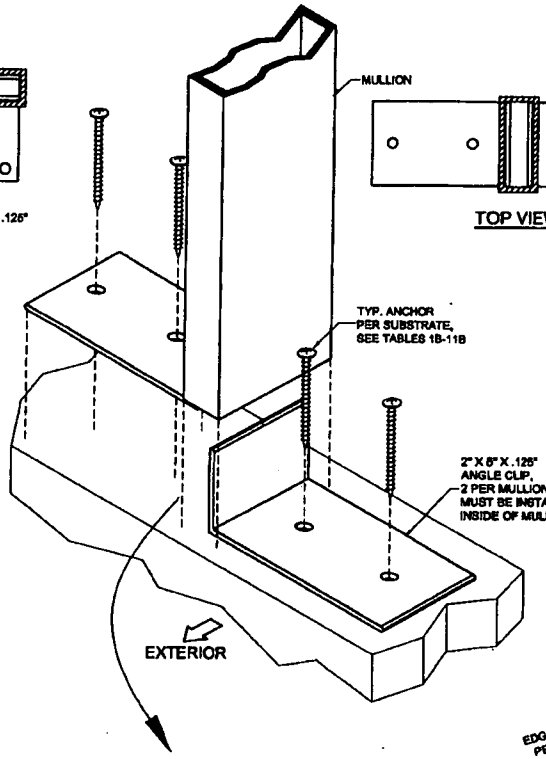
ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER
11/30/11
A. LYNN MILLER, P.E.
FL P.E.# 58705

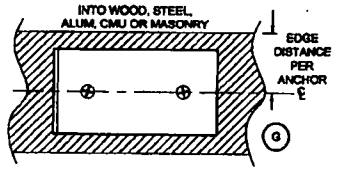
DETAIL F:
FIELD-MODIFIED MULLION CLIP
(F-CLIP)



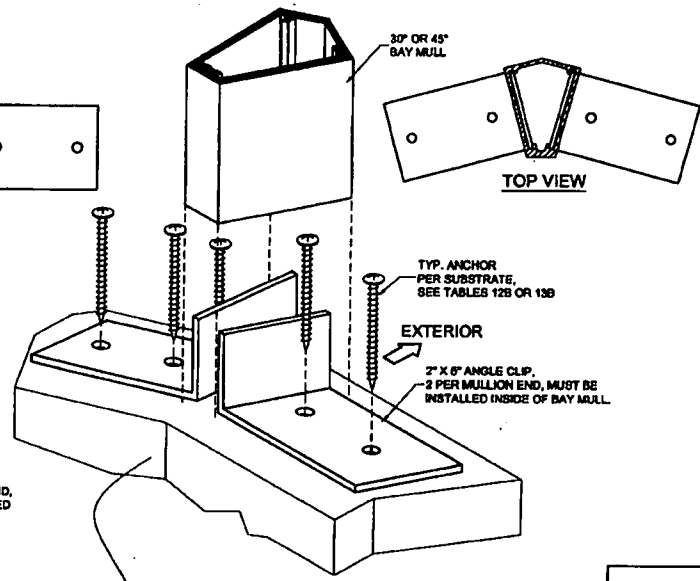


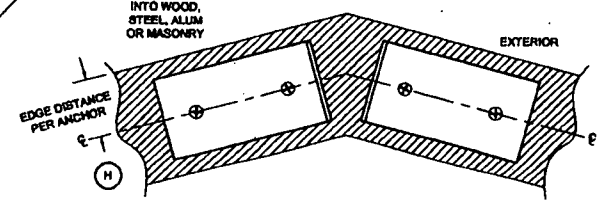
DETAIL G:
ANGLE MULLION CLIP
(ANGLE CLIP)





DETAIL H:
BAY MULLION INSTALLATION
(ANGLE 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-10B FOR ANCHOR QUANTITIES AND SHEETS 18-20 FOR HOLE LOCATIONS.

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

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-11B FOR ANCHOR QUANTITIES AND SHEETS 18-20 FOR HOLE LOCATIONS.

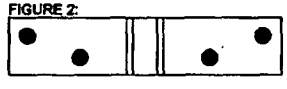
3) DETAIL H: SEE TABLES 12B OR 13B FOR ANCHOR QUANTITIES AND SHEETS 18-20 FOR HOLE LOCATIONS.

PGT
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274
FL CERT. OF AUTH.# 26298

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: INSTALLATION INSTRUCTIONS C
Series: N/A
Scale: N/A
Drawn By: J ROSOWSKI
Date: 08/29/11
Drawing No. 8300JR
Checked By:
Date:
Revision:
Sheet: 4 of 22
Rev:

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 11-0922.01
Expiration Date 11/16/2016
By
Miami-Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
11/3/11
A. LYNN MILLER, P.E.
FL P.E.# 58705



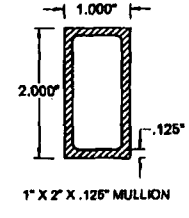


TABLE 1A

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				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	111.9	408	129.5	332	93.2	408	115.5	325	79.9	408	107.6	321	69.9	408	104.4	319	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
48 in	74.9	312	83.8	258	62.4	312	73.4	252	53.5	312	67.0	248	46.8	312	63.2	246	41.6	312	61.3	244	37.5	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	63.9	281	70.6	234	53.2	281	61.5	228	45.6	281	55.7	224	39.9	281	52.1	222	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	52.6	247	57.5	207	43.9	247	49.6	202	37.6	247	44.8	199	32.9	247	41.5	196	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	38.4	200	41.2	170	32.0	200	35.4	166	27.4	200	31.5	163	24.0	200	28.9	160	21.3	200	27.1	159	19.2	200	25.9	157	16.0	200	25.0	156								
63 in	33.1	181	35.3	156	27.6	181	30.3	152	23.7	181	26.9	149	20.7	181	24.5	146	18.4	181	22.6	144	16.6	181	21.7	143												
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	23.8	120	18.5	139	19.9	118	15.9	139	17.5	116																								
76 in	18.9	125	19.7	109	15.7	125	16.6	107																												
78 in	17.5	118	18.2	104																																

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"	0.45"	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"	(see note 4)
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	364 lbs	740 lbs	468 lbs	664 lbs	1182 lbs	326 lbs	420 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	652 lbs	840 lbs	1120 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):		780 lbs	780 lbs	690 lbs	1590 lbs	1896 lbs	540 lbs	680 lbs	N/A	760 lbs	936 lbs	880 lbs	2364 lbs	652 lbs	840 lbs	1120 lbs
2 Anchors @ 0.45" Min. O.C. / U-Clip, Into 1/8" 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	716 lbs
1 Anchor / F-Clip (Fig. 5):		195 lbs	185 lbs	225 lbs	445 lbs	622 lbs	126 lbs	140 lbs	177 lbs	370 lbs	234 lbs	332 lbs	591 lbs	163 lbs	210 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	326 lbs	420 lbs	560 lbs

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

ANCHOR CAPACITY ADJUSTMENT FORMULA:

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

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

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

3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 18-20. ALL MULLION CLIPS MAY BE FACTORY MACHINED AND CONTAIN UNUSED HOLES. HOLES MAY BE DRILLED IN THE FIELD FOLLOWING DIMENSIONS SHOWN ON SHEETS 18-20.

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.

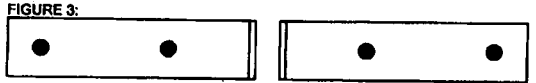
1" X 2" X .125" MULLION

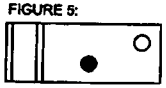
PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 11-0922.01
Expiration Date 11/22/2016
By Manuel Perez
Miami Dade Product Control

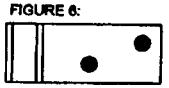
No. 58705
11/2/11
A. LYNN MILLER, P.E.
FL P.E.# 58705

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: 1 X 2 X .125 MULL SPECS
Series: N/A | Scale: N/A | Drawing No. 6300JR | Sheet: 5 of 22
Drawn By: J ROSOWSKI | Date: 08/29/11 | Checked By: | Date: | Rev:
Rev. By: | Date: | Revision:

1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274
FL CERT. OF AUTH.# 29296







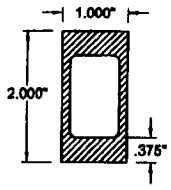


TABLE 2A

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				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	
		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)
Mull Length	42 in	170.0	620	170.0	435	151.3	662	170.0	478	129.7	662	170.0	506	113.5	662	169.5	516	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	121.8	507	136.0	419	101.4	507	119.2	410	86.8	507	106.7	403	76.0	507	102.6	399	67.6	507	99.6	397	60.8	507	99.0	398	50.7	507	99.0	396	43.4	507	99.0	396	38.0	507	99.0	396
	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	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	85.4	400	93.3	336	71.2	400	80.9	328	61.0	400	72.7	322	53.4	400	67.3	318	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	62.3	324	66.9	276	51.9	324	57.6	270	44.5	324	51.2	264	38.9	324	46.9	260	34.6	324	43.9	257	31.1	324	42.0	255	26.0	324	40.5	253	22.2	324	40.5	253	19.5	324	40.5	253
	63 in	53.8	294	57.4	252	44.8	294	49.2	246	38.4	294	43.6	241	33.6	294	39.8	237	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	46.8	268	49.6	230	39.0	268	42.4	225	33.4	268	37.5	221	29.2	268	34.1	218	26.0	268	31.8	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	36.0	225	37.9	196	30.0	225	32.2	191	25.7	225	28.4	188	22.5	225	25.6	185	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
	76 in	30.6	202	32.0	177	25.5	202	27.2	173	21.9	202	23.9	170	19.2	202	21.6	167	17.0	202	19.7	166	15.3	202	18.4	163	12.8	202	16.7	160	10.9	202	15.9	158	9.6	202	15.8	158
	78 in	28.3	192	29.6	168	23.6	192	25.1	165	20.2	192	22.0	162	17.7	192	19.7	160	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	18.6	144	19.0	128	15.4	144	16.1	128																												
	96 in	15.2	127	15.6	113																																

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"	0.48"	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"	(see note 4)
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	290 lbs	354 lbs	740 lbs	468 lbs	664 lbs	1182 lbs	326 lbs	420 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	652 lbs	840 lbs	1120 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):		780 lbs	780 lbs	660 lbs	1580 lbs	1898 lbs	540 lbs	580 lbs	N/A	760 lbs	936 lbs	880 lbs	2364 lbs	652 lbs	840 lbs	1120 lbs
2 Anchors @ 0.45" Min. O.C. / U-Clip, Into 1/8" 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	716 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	234 lbs	332 lbs	591 lbs	163 lbs	210 lbs	280 lbs
2 Anchors @ 1.15" Min. O.C./ F-Clip (Fig. 6):		340 lbs	360 lbs	N/A	N/A	N/A	N/A	190 lbs	N/A	N/A	N/A	N/A	N/A	326 lbs	420 lbs	560 lbs

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

ANCHOR CAPACITY ADJUSTMENT FORMULA:

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

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

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

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

3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 18-20. ALL MULLION CLIPS MAY BE FACTORY MACHINED AND CONTAIN UNUSED HOLES. HOLES MAY BE DRILLED IN THE FIELD FOLLOWING DIMENSIONS SHOWN ON SHEETS 18-20.

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.

1" X 2" X .375" MULLION

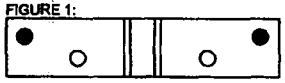
PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 11-0922.01
Expiration Date Mar 26, 2016
By
Miami Dade Product Control

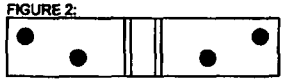
No. 58705
11/3/11

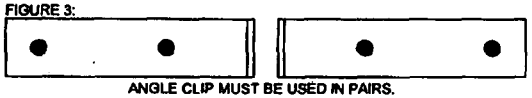
A. LYNN MILLER, P.E.
FL P.E.# 58705

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: 1 X 2 X .375 MULL SPECS
Series: N/A
Scale: N/A
Drawing No. 6300JR
Sheet: 6 of 22
Drawn By: J ROSOWSKI
Date: 08/29/11
Checked By:
Date:
Rev.:
Rev. By:
Date:
Revision:

1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274
FL CERT. OF AUTH.# 29296







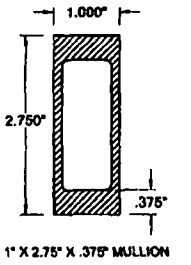


TABLE 3A

1 x 2.75 x .375 Alum. Tube Mullion		Mullion Capacity Table (lbs/ft²)																																			
		Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)																																			
		50 in				60 in				70 in				80 in				90 in				100 in				120 in				140 in				160 in			
		Rectangular Loading		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	
		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)
Mull Length	42 in	170.0	620	170.0	435	170.0	744	170.0	476	170.0	868	170.0	506	170.0	992	170.0	519	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	170.0	708	170.0	524	170.0	850	170.0	584	170.0	992	170.0	630	170.0	1133	170.0	661	151.6	1139	170.0	677	136.9	1139	170.0	680	113.9	1139	170.0	680	97.6	1139	170.0	680	85.4	1139	170.0	680
	50.625 in	170.0	747	170.0	583	170.0	896	170.0	631	167.8	1032	170.0	684	146.8	1032	170.0	723	130.5	1032	170.0	747	117.4	1032	170.0	756	97.9	1032	170.0	756	83.9	1032	170.0	756	73.4	1032	170.0	756
	54 in	170.0	797	170.0	612	161.3	907	170.0	691	136.2	907	164.7	730	120.9	907	152.5	720	107.5	907	145.0	714	96.8	907	141.1	710	80.8	907	140.0	709	69.1	907	140.0	709	60.5	907	140.0	709
	60 in	141.1	735	151.5	625	117.6	735	130.3	611	100.8	735	116.0	589	86.2	735	108.2	690	78.4	735	99.5	583	70.6	735	95.1	578	58.6	736	91.6	574	50.4	736	91.8	574	44.1	736	91.6	574
	63 in	121.9	666	130.0	570	101.6	666	111.5	557	87.0	666	98.9	547	76.2	666	90.1	539	67.7	666	83.9	531	60.9	666	79.8	526	50.9	666	78.8	521	43.5	666	78.6	521	38.1	666	78.6	521
	66 in	108.0	607	112.4	522	88.3	607	96.1	511	75.7	607	88.0	501	66.2	607	77.1	499	58.9	607	71.5	486	53.0	607	67.8	481	44.2	607	63.4	476	37.9	607	62.7	474	33.1	607	62.7	474
	72 in	81.6	510	85.8	443	68.0	510	73.0	434	58.3	510	64.3	428	51.0	510	57.9	419	45.4	510	53.3	413	40.6	510	50.0	408	34.0	510	45.9	402	29.2	510	44.4	399	25.6	510	44.3	399
	76 in	69.4	458	72.6	400	57.6	458	61.7	392	49.6	458	54.1	385	43.4	458	48.6	378	38.6	458	44.6	373	34.7	458	41.6	366	28.9	458	37.7	362	24.8	458	36.0	359	21.7	458	35.7	358
	78 in	64.2	435	67.0	381	53.5	435	58.5	373	45.9	435	49.8	369	40.1	435	44.7	360	35.7	435	40.9	355	32.1	435	38.1	351	26.6	435	34.4	344	22.9	435	32.6	341	20.1	435	32.2	340
	90 in	41.8	327	43.1	290	34.8	327	36.4	285	29.9	327	31.8	280	26.1	327	28.3	276	23.2	327	26.7	271	20.9	327	23.7	266	17.4	327	21.0	262	14.9	327	19.3	268				
	96 in	34.4	287	35.4	257	28.7	287	29.9	262	24.6	287	26.0	248	21.6	287	23.1	244	19.1	287	20.9	240	17.2	287	19.3	237	14.4	287	16.9	232								
	108 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	18.8	215	19.1	191	15.9	215	16.5	186																								
	120 in	17.6	184	17.9	167																																

TABLE 3B

Anchor Clip Patterns	Anchor Capacity Table (lbs)														
Substrate:	2.7k Concrete				3.6k 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"	0.64"	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"	(see note 4)
2 Anchors @ 4.75" Min. O.C. / Standard or Offset Clip (Fig. 1):	390 lbs	390 lbs	450 lbs	990 lbs	1644 lbs	270 lbs	280 lbs	364 lbs	740 lbs	468 lbs	664 lbs	1182 lbs	328 lbs	420 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	662 lbs	840 lbs	1120 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips / (Fig. 3):	780 lbs	780 lbs	680 lbs	1580 lbs	1896 lbs	540 lbs	560 lbs	N/A	760 lbs	936 lbs	680 lbs	2364 lbs	662 lbs	840 lbs	1120 lbs
2 Anchors @ 0.45" Min. O.C. / U-Clip, into 1/8" 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	716 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	234 lbs	332 lbs	591 lbs	163 lbs	210 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	328 lbs	420 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 21.

ANCHOR CAPACITY ADJUSTMENT FORMULA:

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

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

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

3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 18-20. ALL MULLION CLIPS MAY BE FACTORY MACHINED AND CONTAIN UNUSED HOLES. HOLES MAY BE DRILLED IN THE FIELD FOLLOWING DIMENSIONS SHOWN ON SHEETS 18-20.

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.

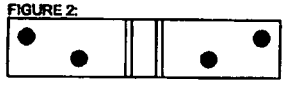
1" X 2.75" X .375" MULLION

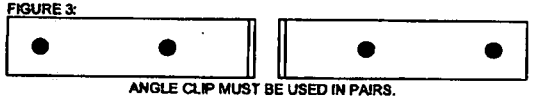
PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 11-0922.01
Expiration Date Nov 26, 2016
By Manuel Perez
Miami Dade Product Control

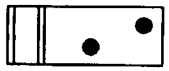
No. 58705
11/3/11
A. LYNN MILLER, P.E.
FL P.E.# 58705

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: 1 X 2.75 X .375 MULL SPECS
Series: N/A | Scale: N/A | Drawing No. 6300JR | Sheet: 7 of 22
Drawn By: J ROSOWSKI | Date: 08/29/11 | Checked By: | Date: | Rev:
Rev. By: | Date: | Revision:

1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274
FL CERT. OF AUTH.# 29296







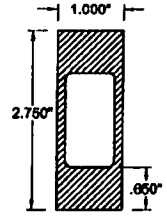


TABLE 4A

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				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	436	170.0	744	170.0	476	170.0	868	170.0	506	170.0	992	170.0	619	170.0	1116	170.0	521	170.0	1240	170.0	521	170.0	1488	170.0	621	158.7	1620	170.0	621	138.8	1620	170.0	621
48 in	170.0	706	170.0	524	170.0	850	170.0	564	170.0	992	170.0	630	170.0	1133	170.0	681	170.0	1275	170.0	677	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	170.0	747	170.0	563	170.0	896	170.0	631	170.0	1046	170.0	684	170.0	1195	170.0	723	162.6	1286	170.0	747	146.3	1286	170.0	758	121.9	1286	170.0	758	104.5	1286	170.0	758	91.4	1286	170.0	758
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	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	170.0	886	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	87.9	915	116.5	720	73.2	915	114.4	716	62.6	915	114.4	716	54.9	915	114.4	716
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	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	132.1	757	140.0	660	110.0	757	119.8	636	94.3	757	105.9	624	82.5	757	96.1	614	73.4	757	89.1	606	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	101.7	636	106.8	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	50.9	636	62.3	506	42.4	636	57.2	500	36.3	636	55.3	497	31.8	636	55.2	497
76 in	86.5	571	90.4	498	72.1	571	78.8	486	61.6	571	67.4	479	54.1	571	60.6	471	48.0	571	55.5	484	43.2	571	51.6	459	36.0	571	47.0	451	30.9	571	44.6	447	27.0	571	44.6	446
78 in	80.0	542	83.4	474	66.7	542	70.8	465	57.1	542	62.1	458	50.0	542	55.7	449	44.4	542	51.0	442	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	52.1	407	53.7	381	43.4	407	45.4	356	37.2	407	39.6	348	32.5	407	36.3	343	28.9	407	32.1	338	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	42.8	358	44.1	320	35.6	358	37.2	314	30.7	358	32.4	309	26.6	358	28.6	304	23.6	358	26.1	300	21.5	358	24.0	296	17.9	358	21.0	289	15.3	358	19.2	284				
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	15.1	283	16.5	237												
111 in	27.8	267	28.3	242	23.1	267	23.8	238	19.5	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																								

TABLE 4B

Anchor Capacity Table (lbs)

Anchor Clip Patterns	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"	0.64"	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"	(see note 4)
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	468 lbs	664 lbs	1182 lbs	326 lbs	420 lbs	680 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	652 lbs	840 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	936 lbs	680 lbs	2364 lbs	652 lbs	840 lbs	1120 lbs
2 Anchors @ 0.45" Min. O.C. / U-Clip, Into 1/8" 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	716 lbs
1 Anchor / F-Clip (Fig. 5):	195 lbs	195 lbs	225 lbs	445 lbs	822 lbs	136 lbs	140 lbs	177 lbs	370 lbs	234 lbs	332 lbs	591 lbs	163 lbs	210 lbs	280 lbs
2 Anchors @ 1.15" Min. O.C./ F-Clip (Fig. 6):	240 lbs	360 lbs	N/A	N/A	N/A	N/A	190 lbs	N/A	N/A	N/A	N/A	N/A	326 lbs	420 lbs	680 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 21.

ANCHOR CAPACITY ADJUSTMENT FORMULA:

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

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

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

3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 18-20. ALL MULLION CLIPS MAY BE FACTORY MACHINED AND CONTAIN UNUSED HOLES. HOLES MAY BE DRILLED IN THE FIELD FOLLOWING DIMENSIONS SHOWN ON SHEETS 18-20.

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.

1" X 2.75" X .650" MULLION

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS

Description: 1 X 2.75 X .650 MULL SPECS

Series:	Scale:	Drawing No.	Sheet:
N/A	N/A	6300JR	8 of 22
Drawn By: J ROSOWSKI	Date: 08/29/11	Checked By:	Date:
Rev. By:	Date:	Revision:	Rev:

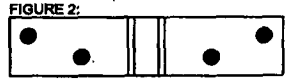
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274

FL CERT. OF AUTH.# 29296

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 11-0922.01
Expiration Date May 26, 2016
By
Miami Dade Product Control

No. 58705
11/30/11

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



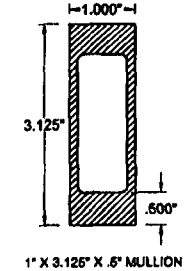


TABLE 5A

1" x 3.125" x .500" Alum Tube Mull	Mullion Capacity Table (lbs/ft²)																																			
	Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)																																			
	50 in				60 in				70 in				80 in				90 in				100 in				120 in				140 in				160 in			
	Rectangular Loading		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	436	170.0	744	170.0	476	170.0	668	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	1736	170.0	521	154.4	1802	170.0	521
48 in	170.0	706	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	157.7	1577	170.0	680	135.1	1577	170.0	680	118.2	1577	170.0	680
50.625 in	170.0	747	170.0	563	170.0	898	170.0	631	170.0	1046	170.0	664	170.0	1195	170.0	723	170.0	1345	170.0	747	170.0	1494	170.0	758	141.7	1495	170.0	758	121.5	1495	170.0	758	106.3	1495	170.0	758
54 in	170.0	797	170.0	612	170.0	958	170.0	691	170.0	1116	170.0	754	170.0	1275	170.0	803	165.1	1401	170.0	837	149.5	1401	170.0	856	124.6	1401	170.0	861	106.8	1401	170.0	861	93.4	1401	170.0	861
60 in	170.0	885	170.0	701	170.0	1063	170.0	797	158.5	1156	170.0	876	136.7	1156	167.0	926	123.3	1156	156.5	917	111.0	1156	149.7	910	92.5	1156	144.5	903	79.3	1156	144.5	903	69.4	1156	144.5	903
63 in	170.0	930	170.0	745	159.6	1049	170.0	860	137.0	1049	155.6	860	119.6	1049	141.7	846	106.6	1049	132.0	836	95.9	1049	125.5	826	79.9	1049	119.3	820	68.5	1049	116.9	819	59.9	1049	116.9	819
66 in	168.6	955	170.0	789	139.0	955	151.3	804	119.1	955	133.7	786	104.2	955	121.4	775	92.6	955	112.6	765	83.4	955	106.4	757	69.5	955	98.8	749	59.6	955	96.7	746	52.1	955	96.7	746
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	83.9	649	64.2	803	78.6	642	53.5	803	72.2	632	45.9	803	69.6	628	40.1	803	68.7	627
76 in	109.2	721	114.1	629	91.0	721	97.0	616	78.0	721	85.1	605	68.3	721	76.8	595	60.7	721	70.1	586	54.6	721	65.4	579	45.5	721	59.4	569	39.0	721	56.6	564	34.1	721	56.1	563
78 in	101.0	684	105.4	599	84.2	684	89.4	587	72.2	684	76.4	576	63.1	684	70.4	567	56.1	684	64.4	558	50.5	684	59.9	551	42.1	684	54.1	541	36.1	684	51.3	536	31.6	684	50.6	534
90 in	65.6	514	67.9	458	54.6	514	57.3	448	47.0	514	50.0	440	41.1	514	44.8	433	36.5	514	40.5	427	32.9	514	37.3	421	27.4	514	33.0	412	23.5	514	30.4	408	20.6	514	29.0	403
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	22.6	452	26.6	365	19.4	452	24.2	359	16.9	452	22.6	356
108 in	38.1	357	38.9	322	31.7	357	32.7	317	27.2	357	28.4	312	23.6	357	25.2	306	21.1	357	22.7	303	19.0	357	20.8	299	15.9	357	18.0	293	13.6	357	16.2	287	11.9	357	15.0	283
111 in	35.1	338	35.6	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	14.6	338	16.5	278	12.6	338	14.6	273	11.0	338	13.6	269
120 in	27.7	269	28.2	263	23.1	269	23.7	259	19.8	269	20.5	256	17.8	269	18.1	252	15.4	269	16.3	249	13.9	269	14.9	246	11.6	269	12.6	240	9.9	269	11.4	236	8.7	269	10.4	232

TABLE 5B

Anchor Clip Patterns	Anchor Capacity Table (lbs)															
	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"	(see note 4)
2 Anchors @ 4.78" Min. O.C. / Standard Clip (Fig. 1):		390 lbs	390 lbs	450 lbs	690 lbs	1644 lbs	270 lbs	280 lbs	364 lbs	740 lbs	468 lbs	684 lbs	1162 lbs	326 lbs	420 lbs	580 lbs
4 Anchors @ 1.18" Min. O.C. / Standard Clip (Fig. 2):		460 lbs	700 lbs	N/A	N/A	N/A	N/A	380 lbs	N/A	N/A	N/A	N/A	N/A	652 lbs	840 lbs	1120 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips (Fig. 3):		780 lbs	780 lbs	660 lbs	1560 lbs	1696 lbs	540 lbs	560 lbs	N/A	760 lbs	936 lbs	660 lbs	2364 lbs	652 lbs	840 lbs	1120 lbs
3 Anchors @ 0.45" Min. O.C. / U-Clip, into 1/8" 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	1074 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	294 lbs	332 lbs	591 lbs	163 lbs	210 lbs	260 lbs
2 Anchors @ 1.18" Min. O.C. / F-Clip (Fig. 6):		240 lbs	360 lbs	N/A	N/A	N/A	N/A	190 lbs	N/A	N/A	N/A	N/A	N/A	326 lbs	420 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:

ANCHOR CAPACITY ADJUSTMENT FORMULA:

$$(DP_{\text{[illegible]}}) \times \left(\frac{\text{ANCHOR CAP.}_{\text{[illegible]}}}{\text{MULLION CAP.}_{\text{[illegible]}}}\right) = \text{ANCHOR CAP.}_{\text{[illegible]}}$$

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

TABLE NOTES:

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

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

3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 18-20. ALL MULLION CLIPS MAY BE FACTORY MACHINED AND CONTAIN UNUSED HOLES. HOLES MAY BE DRILLED IN THE FIELD FOLLOWING DIMENSIONS SHOWN ON SHEETS 18-20.

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.

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

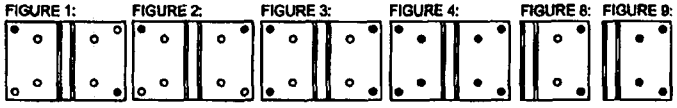
Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: 1 X 3.125 X .5 MULL SPECS
Series: N/A
Scale: N/A
Drawing No. 6300JR
Sheet: 9 of 22
Drawn By: J ROSOWSKI
Date: 08/29/11
Checked By:
Date:
Rev:
Rev. By:
Date:
Revision:

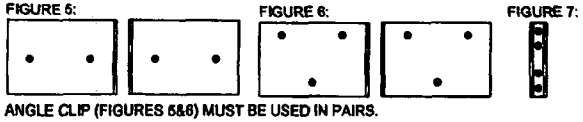
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274
FL CERT. OF AUTH.# 29296

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 11-0922.01
Expiration Date [illegible]
By Manuel Perez
Miami-Dade Product Control

No. 58705
11/30/11

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





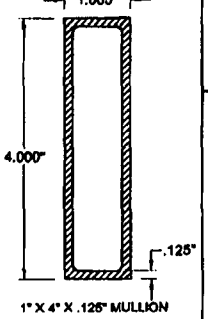


TABLE 6A

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				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	436	170.0	744	170.0	478	170.0	888	170.0	608	170.0	992	170.0	619	170.0	1116	170.0	621	170.0	1240	170.0	521	170.0	1488	170.0	621	145.8	1489	170.0	521	127.6	1489	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	158.3	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	170.0	747	170.0	583	170.0	898	170.0	631	170.0	1046	170.0	684	170.0	1195	170.0	723	166.1	1236	170.0	747	140.5	1236	170.0	756	117.1	1236	170.0	756	100.4	1236	170.0	756	87.8	1236	170.0	756
54 in	170.0	797	170.0	612	170.0	956	170.0	691	170.0	1116	170.0	754	154.4	1158	170.0	803	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	170.0	885	170.0	701	166.7	1042	170.0	797	142.9	1042	161.1	832	125.1	1042	146.7	815	111.2	1042	136.8	801	100.0	1042	138.2	791	83.4	1042	125.1	782	71.5	1042	125.1	782	62.5	1042	125.1	782
63 in	170.0	930	170.0	748	151.2	992	163.6	818	129.9	992	144.4	799	113.4	992	131.0	782	100.8	992	121.4	769	90.7	992	114.8	758	75.6	992	108.4	745	64.8	992	108.0	744	56.7	992	108.0	744
66 in	165.4	947	170.0	789	137.8	947	148.0	786	118.1	947	130.3	768	103.4	947	117.7	752	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	135.9	849	142.7	737	113.2	849	121.6	722	97.0	849	108.9	708	84.9	849	98.4	696	75.5	849	89.7	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	116.6	762	120.7	668	98.3	762	102.6	652	82.5	762	90.0	640	72.2	762	80.9	629	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	596
78 in	108.9	724	111.4	634	89.0	724	94.6	621	78.3	724	82.9	609	68.5	724	74.4	599	60.4	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	53.6	565
90 in	68.6	543	71.8	483	58.0	543	60.7	474	49.7	543	52.9	466	43.5	543	47.1	458	38.6	543	42.8	452	34.8	543	39.5	448	29.0	543	34.9	438	24.8	543	32.1	430	21.7	543	30.7	428
96 in	57.3	476	58.9	427	47.8	476	49.7	419	40.9	476	43.2	412	35.8	476	38.5	406	31.8	476	34.8	400	28.7	476	32.0	395	23.9	476	28.1	389	20.5	476	25.6	380	17.9	476	24.2	376
108 in	40.3	377	41.1	341	33.6	377	34.6	335	28.8	377	30.0	330	25.2	377	26.8	325	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	37.1	357	37.8	323	30.9	357	31.6	318	26.5	357	27.6	313	23.2	357	24.4	309	20.6	357	22.0	305	18.5	357	20.1	301	15.4	357	17.4	294								
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	16.3	306	17.3	263																
144 in	17.0	212	17.2	186																																

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"	(see note 4)
2 Anchors @ 4.75" Min. O.C. / Standard Clip (Fig. 1 or 2):		390 lbs	390 lbs	450 lbs	890 lbs	1644 lbs	270 lbs	280 lbs	354 lbs	740 lbs	456 lbs	664 lbs	1182 lbs	326 lbs	420 lbs	560 lbs
4 Anchors @ 2.25" Min. O.C. / Standard Clip (Fig. 3):		700 lbs	700 lbs	580 lbs	1410 lbs	952 lbs	N/A	580 lbs	N/A	630 lbs	N/A	880 lbs	N/A	652 lbs	840 lbs	1120 lbs
8 Anchors @ 1.16" Min. O.C. / Standard 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	1304 lbs	1680 lbs	2240 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips (Fig. 5):		780 lbs	780 lbs	900 lbs	1780 lbs	3288 lbs	540 lbs	580 lbs	708 lbs	1480 lbs	936 lbs	1328 lbs	2364 lbs	652 lbs	840 lbs	1120 lbs
6 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips (Fig. 6):		1170 lbs	1170 lbs	1020 lbs	2340 lbs	2944 lbs	610 lbs	640 lbs	N/A	1140 lbs	1404 lbs	1320 lbs	3546 lbs	978 lbs	1260 lbs	1680 lbs
4 Anchors @ 0.45 Min. O.C. / U-Clip, Into 1/8" 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	1432 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	0 lbs	440 lbs	0 lbs	326 lbs	420 lbs	560 lbs
4 Anchors @ 1.15" Min. O.C. / F-Clip (Fig. 9):		460 lbs	700 lbs	N/A	N/A	N/A	N/A	380 lbs	N/A	N/A	N/A	N/A	N/A	652 lbs	840 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 5:

FIGURE 6:

FIGURE 7:

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

ANCHOR CAPACITY ADJUSTMENT FORMULA:

$$(DP) \times \left(\frac{ANCHOR\ CAP.}{MULLION\ CAP.}\right) = ANCHOR\ CAP.$$

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

TABLE NOTES:

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

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

3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 18-20. ALL MULLION CLIPS MAY BE FACTORY MACHINED AND CONTAIN UNUSED HOLES. HOLES MAY BE DRILLED IN THE FIELD FOLLOWING DIMENSIONS SHOWN ON SHEETS 18-20.

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.

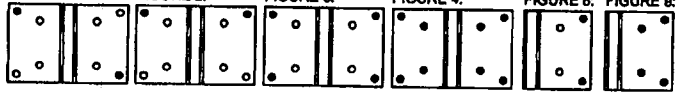
1" X 4" X .125" MULLION

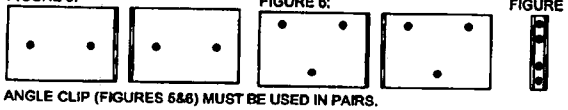
PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 11-0922.01
Expiration Date May 22, 2016
By Manuel Perez
Miami-Dade Product Control

A. LYNN MILLER, P.E.
FL P.E.# 58705
No. 58705
11-3-11

Title:	IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description:	1 X 4 X .125 MULL SPECS
Series: N/A	Scale: N/A
Drawing No.	6300JR
Sheet:	10 of 22
Rev:	
Drawn By: J ROSOWSKI	Date: 08/29/11
Checked By:	Date:
Rev. By:	Date:
Revision:	

1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274
FL CERT. OF AUTH.# 29296





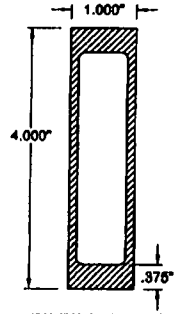


TABLE 7A

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 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	594	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	664	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	764	170.0	1275	170.0	803	170.0	1434	170.0	837
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
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
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	166.6	1146
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	1062	117.3	1320	137.8	1069
76 in	170.0	1122	170.0	937	149.6	1184	159.4	1013	128.2	1184	139.9	994	112.2	1184	128.7	978	99.7	1184	115.3	964
78 in	166.1	1124	170.0	967	138.4	1124	147.0	985	118.6	1124	128.6	947	103.8	1124	115.6	931	92.3	1124	105.8	918
90 in	108.1	844	111.5	760	90.1	844	94.3	736	77.2	844	82.1	724	67.5	844	73.3	712	60.1	844	66.5	702
96 in	89.1	742	91.6	683	74.2	742	77.2	652	63.6	742	67.2	641	55.7	742	59.8	631	49.5	742	54.1	622
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
111 in	57.6	555	58.6	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
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
144 in	26.4	330	26.7	305	22.0	330	22.4	301	18.9	330	19.3	297	16.5	330	17.0	293				

1 x 4 x .375 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	170.0	1736	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	151.8	2024	170.0	680
50.625 in	170.0	1494	170.0	756	170.0	1793	170.0	756	156.0	1919	170.0	756	136.5	1919	170.0	756
54 in	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	155.5	1619	170.0	1033	129.5	1619	170.0	1063	111.0	1619	170.0	1063	97.2	1619	170.0	1063
63 in	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	128.5	1472	166.8	1130	107.1	1472	147.9	1106	91.8	1472	146.0	1104	80.3	1472	146.0	1104
72 in	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	89.8	1184	107.5	962	74.8	1184	97.6	935	64.1	1184	93.1	927	56.1	1184	92.3	925
78 in	83.0	1124	96.5	906	69.2	1124	89.0	890	59.3	1124	84.3	881	51.9	1124	83.2	878
90 in	54.0	844	61.4	693	45.0	844	54.2	678	38.6	844	50.0	668	33.8	844	47.7	662
96 in	44.5	742	49.6	614	37.1	742	43.6	600	31.8	742	39.8	590	27.8	742	37.5	584
108 in	31.3	586	34.2	492	26.1	586	29.6	481	22.3	586	26.6	472	19.5	586	24.7	468
111 in	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	22.8	475	24.6	404	19.0	475	21.1	396	16.3	475	18.7	387	14.3	475	17.2	381
144 in																

TABLE 7B

Anchor Capacity Table (lbs)

Anchor Clip Patterns	2.7k Concrete				3.6k 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"	(see note 4)
2 Anchors @ 4.75" Min. O.C. / Standard Clip (Fig. 1 or 2):	390 lbs	390 lbs	450 lbs	880 lbs	1644 lbs	270 lbs	280 lbs	354 lbs	740 lbs	468 lbs	664 lbs	1182 lbs	328 lbs	420 lbs	560 lbs
4 Anchors @ 2.25" Min. O.C. / Standard Clip (Fig. 3):	700 lbs	700 lbs	880 lbs	1410 lbs	952 lbs	N/A	560 lbs	N/A	630 lbs	N/A	880 lbs	N/A	652 lbs	840 lbs	1120 lbs
8 Anchors @ 1.15" Min. O.C. / Standard 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	1304 lbs	1680 lbs	2240 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips (Fig. 5):	780 lbs	780 lbs	900 lbs	1780 lbs	3288 lbs	540 lbs	560 lbs	708 lbs	1480 lbs	936 lbs	1328 lbs	2364 lbs	652 lbs	840 lbs	1120 lbs
6 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips (Fig. 6):	1170 lbs	1170 lbs	1020 lbs	2340 lbs	2644 lbs	810 lbs	840 lbs	N/A	1140 lbs	1404 lbs	1320 lbs	3546 lbs	978 lbs	1260 lbs	1680 lbs
4 Anchors @ 0.45 Min. O.C. / U-Clip, into 1/8" 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	1432 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	0 lbs	440 lbs	0 lbs	326 lbs	420 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	652 lbs	840 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 5:

FIGURE 6:

FIGURE 7:

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

TABLE NOTES:

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

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

3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 18-20. ALL MULLION CLIPS MAY BE FACTORY MACHINED AND CONTAIN UNUSED HOLES. HOLES MAY BE DRILLED IN THE FIELD FOLLOWING DIMENSIONS SHOWN ON SHEETS 18-20.

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.

ANCHOR CAPACITY ADJUSTMENT FORMULA:

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

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.

1" X 4" X .375" MULLION

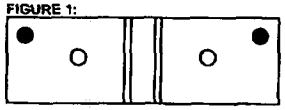
PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 11-0922.01
Expiration Date MAY 26, 2016
By
Miami Dade Product Control

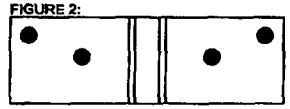
ANTHONY LYNN MILLER
No. 58705
11-3-11

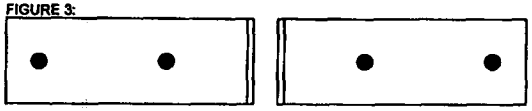
A. LYNN MILLER, P.E.
FL P.E.# 58705

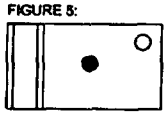
Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS		
Description: 1 X 4 X .375 MULL SPECS		
Series: N/A	Scale: N/A	Drawing No. 6300JR	Sheet: 11 of 22
Drawn By: J ROSOWSKI	Date: 08/29/11	Checked By:	Date:	Rev:
Rev. By:	Date:	Revision:	

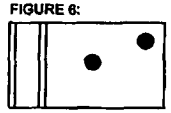
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274
FL CERT. OF AUTH.# 29296











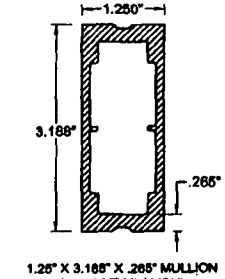


TABLE 8A

Mullion Capacity Table (lbs/ft²)

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

1.25" x 3.188" x .265" Alum Tube Mull		50 in				60 in				70 in				80 in				90 in				100 in				120 in				140 in				160 in			
		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	
		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)
Mull Length	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	1736	170.0	521	151.6	1769	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	154.8	1548	170.0	680	132.7	1548	170.0	680	119.1	1548	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	1346	170.0	747	167.0	1468	170.0	758	138.2	1468	170.0	758	119.3	1468	170.0	758	104.4	1468	170.0	758
	54 in	170.0	797	170.0	612	170.0	956	170.0	691	170.0	1116	170.0	764	170.0	1275	170.0	803	163.1	1376	170.0	837	146.8	1376	170.0	858	122.3	1376	170.0	881	104.8	1376	170.0	881	91.7	1376	170.0	881
	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	123.6	1158	158.6	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	170.0	930	170.0	745	160.1	1051	170.0	850	137.2	1061	155.9	862	120.1	1061	142.0	848	108.7	1061	132.3	837	96.1	1061	125.7	830	80.1	1061	119.8	822	68.6	1061	119.1	821	60.0	1051	119.1	821
	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	92.8	967	112.8	767	83.8	957	108.6	769	69.6	967	100.0	750	59.7	967	96.9	748	52.2	967	96.9	748
	72 in	128.7	804	135.2	696	107.3	804	115.2	684	91.9	804	101.3	671	80.4	804	91.4	660	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	626
	76 in	109.4	722	114.4	630	91.2	722	97.2	618	78.2	722	85.3	606	68.4	722	76.7	598	60.8	722	70.3	589	54.7	722	65.5	580	46.6	722	59.6	570	39.1	722	56.7	565	34.2	722	56.2	564
	78 in	101.2	685	108.6	600	84.4	685	89.6	588	72.3	685	78.5	577	63.3	685	70.6	568	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	65.9	515	68.0	457	54.9	515	57.6	449	47.1	515	50.1	441	41.2	515	44.7	434	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	54.3	453	55.8	404	45.3	453	47.1	397	38.8	453	41.0	391	33.9	453	36.4	385	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	38.1	358	39.0	323	31.8	358	32.9	318	27.2	358	28.4	313	23.8	358	25.2	306	21.2	358	22.7	304	19.1	358	20.8	300	15.9	358	18.0	293								
	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	19.5	338	20.9	289	17.6	338	19.1	285												
	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	15.4	290	16.4	249																
	144 in	16.1	201	16.3	186																																

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"	(see note 4)
2 Anchors @ 4.75" Min. O.C. / Standard Clip (Fig. 1):		360 lbs	390 lbs	450 lbs	890 lbs	1644 lbs	270 lbs	280 lbs	354 lbs	740 lbs	466 lbs	664 lbs	1182 lbs	326 lbs	420 lbs	580 lbs
4 Anchors @ 1.15" Min. O.C. / Standard 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	652 lbs	840 lbs	1120 lbs
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips (Fig. 3):		780 lbs	780 lbs	660 lbs	1560 lbs	1696 lbs	540 lbs	580 lbs	N/A	760 lbs	936 lbs	880 lbs	2364 lbs	652 lbs	840 lbs	1120 lbs
4 Anchors @ 0.45" Min. O.C. / U-Clip, into 1/8" 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	1432 lbs
1 Anchor / F-Clip (Fig. 5):		196 lbs	195 lbs	225 lbs	445 lbs	822 lbs	135 lbs	140 lbs	177 lbs	370 lbs	234 lbs	332 lbs	591 lbs	163 lbs	210 lbs	290 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	326 lbs	420 lbs	580 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:

ANCHOR CAPACITY ADJUSTMENT FORMULA:

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

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.

TABLE NOTES:

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

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

3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 18-20. ALL MULLION CLIPS MAY BE FACTORY MACHINED AND CONTAIN UNUSED HOLES. HOLES MAY BE DRILLED IN THE FIELD FOLLOWING DIMENSIONS SHOWN ON SHEETS 18-20.

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.

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

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS

Description: 1.25 X 3.188 X .265 MULL SPECS

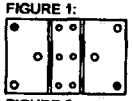
Series: N/A	Scale: N/A	Drawing No. 6300JR	Sheet 12 of 22
Drawn By: J ROSOWSKI	Date: 08/29/11	Checked By:	Date:	Rev:
Rev. By:	Date:	Revision:	

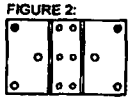
PGT
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274
FL CERT. OF AUTH.# 29296

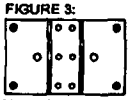
PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 11-0322.01
Expiration Date May 22, 2016
By Manuel Perez
Miami Dade Product Control

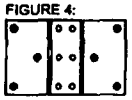
No. 58705
11/30/11

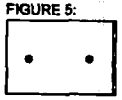
A. LYNN MILLER, P.E.
FL P.E.# 58705

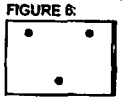


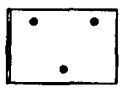


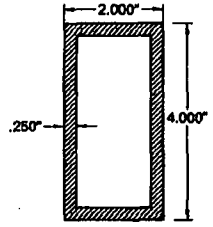












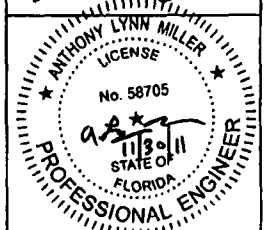


TABLE 9A

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				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	476	170.0	869	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	170.0	2267	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	170.0	2092	170.0	756	170.0	2391	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	170.0	1913	170.0	861	170.0	2231	170.0	861	170.0	2550	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	998	170.0	1771	170.0	1033	170.0	2125	170.0	1063	170.0	2479	170.0	1063	160.8	2680	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	1016	170.0	1673	170.0	1076	170.0	1859	170.0	1122	170.0	2231	170.0	1169	168.7	2553	170.0	1171	145.9	2563	170.0	1171
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	1753	170.0	1155	170.0	1948	170.0	1210	170.0	2338	170.0	1275	161.9	2437	170.0	1288	132.9	2437	170.0	1288
72 in	170.0	1063	170.0	878	170.0	1276	170.0	1009	170.0	1488	170.0	1126	170.0	1700	170.0	1228	170.0	1913	170.0	1315	170.0	2126	170.0	1367	146.6	2184	170.0	1488	124.8	2184	170.0	1529	109.2	2184	170.0	1530
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	166.1	1980	170.0	1421	148.8	1980	170.0	1505	123.6	1980	161.6	1548	108.1	1980	154.0	1536	92.9	1980	152.7	1531
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	162.7	1861	170.0	1474	137.4	1861	163.1	1500	114.5	1861	147.3	1473	98.2	1861	139.6	1459	85.9	1861	137.6	1454
90 in	170.0	1328	170.0	1144	149.1	1398	156.0	1219	127.8	1398	136.0	1196	111.8	1398	121.3	1176	99.4	1398	110.2	1162	89.5	1398	101.6	1147	74.5	1398	89.8	1122	63.9	1398	82.7	1105	55.9	1398	78.9	1098
96 in	147.4	1229	151.6	1098	122.9	1229	127.8	1079	105.3	1229	111.2	1061	92.1	1229	99.9	1044	81.9	1229	89.6	1029	73.7	1229	82.4	1016	61.4	1229	72.2	993	52.7	1229	66.0	977	46.1	1229	62.1	967
108 in	103.6	971	105.6	877	86.3	971	89.0	862	74.0	971	77.2	849	64.7	971	68.4	837	57.5	971	61.6	825	51.8	971	56.5	815	43.1	971	49.0	796	37.0	971	44.0	782	32.4	971	40.6	771
111 in	95.4	919	97.3	832	79.6	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	51.6	774	39.7	919	44.6	758	34.1	919	40.2	742	29.8	919	37.1	732
120 in	75.5	786	76.8	718	62.9	786	64.6	705	53.9	786	55.6	695	47.2	786	49.4	686	41.9	786	44.4	677	37.7	786	40.5	668	31.5	786	34.9	653	27.0	786	31.0	641	23.6	786	28.4	631
144 in	43.7	546	44.2	504	36.4	546	37.0	496	31.2	546	31.9	491	27.3	546	28.2	486	24.3	546	25.3	479	21.8	546	22.9	474	18.2	546	19.5	464	15.6	546	17.2	455	13.7	546	15.6	448

TABLE 9B

Anchor Capacity Table (lbs)

Anchor Clip Patterns	2.7k Concrete				3.5k Conc.	Hollow CMU						Filled CMU	PT Wood		Metal
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"	(see note 4)
2 Anchors @ 4.75" Min. O.C. / Standard Clip (Fig. 1 or 2):	390 lbs	390 lbs	450 lbs	890 lbs	1644 lbs	270 lbs	280 lbs	384 lbs	740 lbs	468 lbs	664 lbs	1162 lbs	328 lbs	420 lbs	560 lbs
4 Anchors @ 2.68" Min. O.C. / Standard Clip (Fig. 3):	740 lbs	740 lbs	830 lbs	1485 lbs	1424 lbs	N/A	580 lbs	N/A	695 lbs	N/A	880 lbs	N/A	652 lbs	840 lbs	1120 lbs
6 Anchors @ 1.71" Min. O.C. / Standard Clip (Fig. 4):	886 lbs	1050 lbs	756 lbs	1946 lbs	N/A	N/A	705 lbs	N/A	799 lbs	N/A	N/A	N/A	978 lbs	1260 lbs	1680 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	936 lbs	880 lbs	2364 lbs	652 lbs	840 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	1404 lbs	1320 lbs	3546 lbs	978 lbs	1260 lbs	1680 lbs
3 Anchors @ 1.34" Min. O.C. / U-Clip, Into 1/8" 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	1074 lbs
6 Anchors @ 0.64" Min. O.C. / U-Clip, Into 1/8" 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	2148 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	328 lbs	420 lbs	560 lbs
3 Anchors @ 1.71" Min. O.C. / F-Clip (Fig. 10):	390 lbs	390 lbs	340 lbs	780 lbs	948 lbs	270 lbs	280 lbs	N/A	390 lbs	468 lbs	440 lbs	1162 lbs	328 lbs	420 lbs	560 lbs

CIRCLED VALUES ARE USED IN THE EXAMPLE ON SHEET 21.

ANCHOR CAPACITY ADJUSTMENT FORMULA:

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

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

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

3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 18-20. ALL MULLION CLIPS MAY BE FACTORY MACHINED AND CONTAIN UNUSED HOLES. HOLES MAY BE DRILLED IN THE FIELD FOLLOWING DIMENSIONS SHOWN ON SHEETS 18-20.

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.

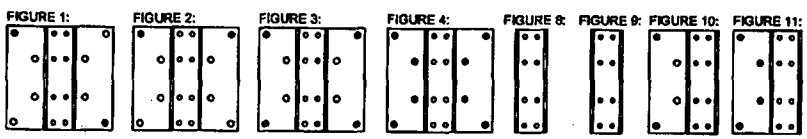
2" X 4" X .25" MULLION

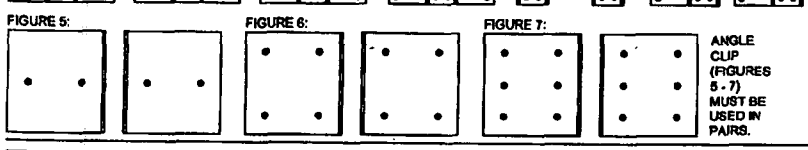
PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 11-0922.01
Expiration Date [illegible] 2016
By Manuel Perez
Miami Dade Product Control

No. 58705
11/30/11
A. LYNN MILLER, P.E.
FL P.E.# 58705

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS			
Description: 2 X 4 X .25 MULL SPECS			
Series: N/A	Scale: N/A	Drawing No. 6300JR	Sheet: 13 of 22
Drawn By: J ROSOWSKI	Date: 08/29/11	Checked By:	Date:
Rev. By:	Date:	Revision:	Rev:

PGT
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274
FL CERT. OF AUTH.# 29296





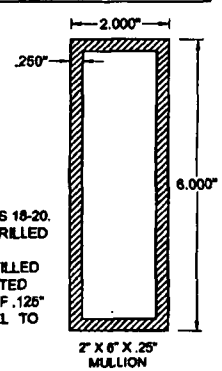


TABLE 10A

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				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	
		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)
Mull Length	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	170.0	1116	170.0	521	170.0	1240	170.0	521	170.0	1488	170.0	521	170.0	1736	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	170.0	2267	170.0	680
	50.625 in	170.0	747	170.0	583	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	758	170.0	2092	170.0	758	170.0	2391	170.0	758
	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	858	170.0	1913	170.0	861	170.0	2231	170.0	861	170.0	2550	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	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	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	170.0	2231	170.0	1169	170.0	2603	170.0	1171	170.0	2975	170.0	1171
	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	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	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	170.0	2550	170.0	1488	170.0	2975	170.0	1529	170.0	3400	170.0	1530
	76 in	170.0	1122	170.0	937	170.0	1346	170.0	1060	170.0	1570	170.0	1209	170.0	1794	170.0	1322	170.0	2019	170.0	1421	170.0	2243	170.0	1506	170.0	2692	170.0	1629	170.0	3140	170.0	1694	170.0	3589	170.0	1705
	78 in	170.0	1151	170.0	987	170.0	1381	170.0	1116	170.0	1611	170.0	1250	170.0	1842	170.0	1369	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	3683	170.0	1796
	90 in	170.0	1328	170.0	1144	170.0	1594	170.0	1328	170.0	1859	170.0	1498	170.0	2125	170.0	1653	170.0	2391	170.0	1793	170.0	2656	170.0	1916	170.0	3188	170.0	2125	156.0	3413	170.0	2273	136.5	3413	170.0	2361
	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	1794	170.0	2550	170.0	1952	170.0	2833	170.0	2095	160.0	3189	170.0	2338	137.1	3189	166.6	2470	120.0	3189	156.1	2428
	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	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	170.0	1636	170.0	1454	170.0	1966	170.0	1700	170.0	2293	170.0	1932	170.0	2621	170.0	2149	151.8	2632	162.3	2245	136.6	2632	148.4	2216	113.8	2632	128.4	2166	97.6	2632	116.1	2126	85.4	2632	108.3	2096
	120 in	170.0	1771	170.0	1566	170.0	2125	170.0	1859	154.4	2252	159.9	1991	136.1	2252	141.4	1964	120.1	2252	127.2	1936	108.1	2252	116.1	1915	90.1	2252	99.8	1872	77.2	2252	86.9	1836	67.6	2252	81.4	1806
	144 in	125.1	1564	128.6	1448	104.3	1564	108.1	1425	89.4	1564	91.5	1407	78.2	1564	80.7	1390	69.5	1564	72.3	1373	62.6	1564	65.7	1358	52.1	1564	56.0	1330	44.7	1564	49.2	1306	39.1	1564	44.4	1293

TABLE 10B

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"	(see note 4)
2 Anchors @ 4.75" Min. O.C. / Standard Clip (Fig. 1 or 2):		390 lbs	390 lbs	450 lbs	890 lbs	1644 lbs	270 lbs	290 lbs	354 lbs	740 lbs	468 lbs	664 lbs	1182 lbs	326 lbs	420 lbs	560 lbs
4 Anchors @ 4.66" Min. O.C. / Standard Clip (Fig. 3):		780 lbs	780 lbs	900 lbs	1780 lbs	3084 lbs	540 lbs	580 lbs	708 lbs	1480 lbs	936 lbs	1104 lbs	2364 lbs	652 lbs	840 lbs	1120 lbs
8 Anchors @ 1.71" Min. O.C. / Standard Clip (Fig. 4):		1180 lbs	1400 lbs	1010 lbs	2696 lbs	N/A	N/A	940 lbs	N/A	1065 lbs	N/A	N/A	N/A	1304 lbs	1680 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	936 lbs	880 lbs	2364 lbs	652 lbs	840 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	1872 lbs	1760 lbs	4728 lbs	1304 lbs	1680 lbs	2240 lbs
12 Anchors @ 1.5" Min. O.C. / (2) 2x5 Angle Clips (Fig. 7):		1660 lbs	2100 lbs	1440 lbs	3780 lbs	N/A	N/A	1320 lbs	N/A	1600 lbs	N/A	N/A	N/A	1956 lbs	2520 lbs	3360 lbs
4 Anchors @ 1.34" Min. O.C. / U-Clip, Into 1/8" 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	1432 lbs
8 Anchors @ 0.64" Min. O.C. / U-Clip, Into 1/8" 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	2864 lbs
2 Anchors @ 4.66" Min. O.C. / F-Clip (Fig. 10):		390 lbs	390 lbs	450 lbs	890 lbs	1532 lbs	270 lbs	290 lbs	354 lbs	740 lbs	468 lbs	552 lbs	1182 lbs	326 lbs	420 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	652 lbs	840 lbs	1120 lbs

ANCHOR CAPACITY ADJUSTMENT FORMULA:

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

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

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 22 FOR INFORMATION ON LOADING. SEE SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.
2) LINEAR INTERPOLATION BETWEEN MULL LENGTHS AND/OR OPENING WIDTHS IS ALLOWABLE.
3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 18-20. ALL MULLION CLIPS MAY BE FACTORY MACHINED AND CONTAIN UNUSED HOLES. HOLES MAY BE DRILLED IN THE FIELD FOLLOWING DIMENSIONS SHOWN ON SHEETS 18-20.
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.

2" X 6" X .25" MULLION

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 11-0922.01
Expiration Date May 26, 2016
By Manuel Perez
Miami Dade Product Control

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
11/3/11

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

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: 2 X 6 X .25 MULL SPECS
Series: N/A
Scale: N/A
Drawing No. 6300JR
Sheet: 14 of 22
Drawn By: J ROSOWSKI
Date: 08/29/11
Checked By:
Date:
Rev:
Rev. By:
Date:
Revision:

1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274
FL CERT. OF AUTH.# 29296

TABLE 11A

1.26" x 2.11" x .125" Alum Tube Mull	Mullion Capacity Table (lbs/ft²) — Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions)																																			
	50 in				60 in				70 in				80 in				90 in				100 in				120 in				140 in				160 in			
	Rectangular Loading		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	144.2	526	167.0	429	120.2	526	148.9	419	103.0	526	138.9	414	90.1	526	134.6	411	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	96.6	403	106.0	333	80.5	403	94.7	325	69.0	403	86.4	320	60.4	403	81.4	317	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	82.3	362	91.0	301	68.6	362	79.3	294	58.8	362	71.9	289	51.5	362	67.2	286	45.7	362	64.8	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	67.8	318	74.1	267	56.5	318	64.2	261	48.5	318	57.7	256	42.4	318	53.5	253	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	49.6	258	53.1	219	41.2	258	45.7	214	35.3	258	40.7	210	30.9	258	37.2	207	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	42.7	234	46.6	200	35.6	234	39.1	195	30.5	234	34.7	192	26.7	234	31.6	189	23.7	234	29.4	186	21.4	234	28.0	184	17.8	234	26.6	183	15.3	234	26.5	183	13.4	234	26.6	183
66 in	37.2	213	39.4	183	31.0	213	33.7	179	26.8	213	29.8	176	23.2	213	27.0	173	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	28.6	179	30.1	158	23.9	179	25.6	152	20.4	179	22.5	149	17.9	179	20.3	147	15.9	179	18.7	145																
76 in	24.3	161	26.4	140	20.3	161	21.6	137	17.4	161	19.0	135	16.2	161	17.0	133																				
78 in	22.6	152	23.6	133	18.8	152	19.9	131	16.1	152	17.6	128																								

TABLE 11B

Anchor Capacity Table (lbs)																
Anchor Clip Patterns	Substrate:	2.7k Concrete				3.6k 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"	(see note 4)
4 Anchors @ 3" Min. O.C. / (2) 2x5 Angle Clips (Fig. 1):		760 lbs	760 lbs	660 lbs	1560 lbs	1896 lbs	540 lbs	560 lbs	N/A	760 lbs	936 lbs	860 lbs	2364 lbs	552 lbs	640 lbs	1432 lbs

ANCHOR CAPACITY ADJUSTMENT FORMULA:

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

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.

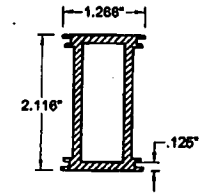
TABLE NOTES:

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

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

3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 18-20. ALL MULLION CLIPS MAY BE FACTORY MACHINED AND CONTAIN UNUSED HOLES. HOLES MAY BE DRILLED IN THE FIELD FOLLOWING DIMENSIONS SHOWN ON SHEETS 18-20.

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.



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

02-14-12

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 11-0926.01
Expiration Date 11/08/2016
By Manuel Perez
Miami Dade Product Control

No. 58705
11/30/11

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

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: 1.26 X 2.11 X .125 MULL SPECS
Series: N/A | Scale: N/A | Drawing No. 6300JR | Sheet: 15 of 22
Drawn By: J ROSOWSKI | Date: 08/29/11 | Checked By: | Date: | Rev:
Rev. By: | Date: | Revision:

PGT
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274
FL CERT. OF AUTH.# 29296

TABLE 12A

3.25" 30 DEG. AL BAY MULL	Mullion Capacity Table (lbs/ft²) Opening Width (for vertically-spanning mullions) or Opening Height (for horizontally-spanning mullions) 50 in				60 in				70 in				80 in				90 in				100 in				120 in				140 in				160 in			
	Rectangular Loading		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	606	170.0	992	170.0	619	170.0	1116	170.0	521	170.0	1240	170.0	521	170.0	1488	170.0	521	170.0	1736	170.0	521	149.1	1740	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	152.2	1522	170.0	680	130.6	1522	170.0	680	114.2	1522	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	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	170.0	797	170.0	612	170.0	956	170.0	691	170.0	1116	170.0	754	170.0	1275	170.0	803	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	170.0	885	170.0	701	170.0	1063	170.0	797	167.0	1218	170.0	876	146.1	1218	170.0	944	129.9	1218	159.8	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	170.0	930	170.0	745	170.0	1116	170.0	850	150.2	1150	168.6	933	131.4	1150	153.0	914	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	170.0	974	170.0	789	152.4	1048	165.8	881	130.6	1048	146.6	864	114.3	1048	133.1	850	101.6	1048	123.4	839	91.4	1048	116.6	830	76.2	1048	109.4	821	65.3	1048	106.2	818	57.1	1048	106.2	818
72 in	140.6	880	147.0	784	117.4	880	128.0	746	100.6	880	110.8	734	88.0	880	100.0	722	78.2	880	92.0	712	70.4	880	86.2	703	58.7	880	79.2	693	50.3	880	76.5	686	44.0	880	76.4	688
76 in	119.7	790	125.1	690	99.8	790	108.4	676	85.5	790	93.3	663	74.8	790	83.9	652	66.5	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	110.6	750	115.6	667	92.3	750	98.1	644	79.1	750	85.9	632	69.2	750	77.1	621	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	72.1	563	74.4	500	60.1	563	62.9	491	51.5	563	54.9	483	45.1	563	48.9	475	40.1	563	44.4	468	36.1	563	40.9	462	30.0	563	36.2	452	25.8	563	33.3	446	22.5	563	31.6	442
96 in	59.4	495	61.1	443	49.5	495	51.5	436	42.4	495	44.8	427	37.1	495	39.9	421	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	41.7	391	42.6	353	34.8	391	35.8	345	29.8	391	31.1	342	26.1	391	27.6	337	23.2	391	24.9	333	20.9	391	22.6	328	17.4	391	18.7	321	14.9	391	17.6	315				
111 in	38.4	370	39.2	336	32.0	370	33.0	330	27.5	370	28.6	326	24.0	370	25.3	320	21.4	370	22.8	316	19.2	370	20.9	312	16.0	370	18.1	305								
120 in	30.4	317	30.9	269	25.3	317	26.0	264	21.7	317	22.5	260	19.0	317	19.9	276	16.9	317	17.9	273																
144 in	17.6	220	17.8	203																																

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"	(see note 4)
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	468 lbs	720 lbs	1182 lbs	326 lbs	420 lbs	560 lbs
4 Anchors @ 3.5" Min. O.C. / (2) 2x5 Angle Clips (Fig. 2):		780 lbs	780 lbs	790 lbs	1670 lbs	2625 lbs	540 lbs	560 lbs	N/A	1120 lbs	936 lbs	880 lbs	2364 lbs	652 lbs	840 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	1069 lbs	N/A	1320 lbs	N/A	978 lbs	1260 lbs	1680 lbs

FIGURE 1:

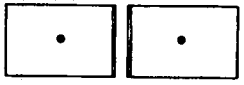


FIGURE 2:

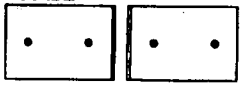
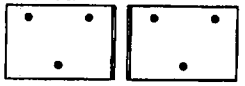


FIGURE 3:



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

TABLE NOTES:

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

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

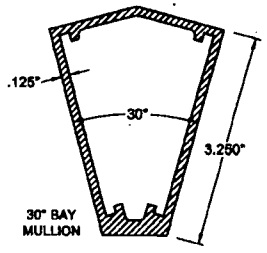
3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 18-20. ALL MULLION CLIPS MAY BE FACTORY MACHINED AND CONTAIN UNUSED HOLES. HOLES MAY BE DRILLED IN THE FIELD FOLLOWING DIMENSIONS SHOWN ON SHEETS 18-20.

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.

ANCHOR CAPACITY ADJUSTMENT FORMULA:

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

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
Acceptance No 11-0922.01
Expiration Date May 26, 2016
By Manuel Perez
Miami Dade Product Control

No. 58705
11/30/11

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

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: 30 DEGREE BAY MULL SPECS
Series: N/A
Scale: N/A
Drawing No. 6300JR
Sheet: 16 of 22
Drawn By: J ROSOWSKI
Date: 08/29/11
Checked By:
Date:
Rev:
Rev. By:
Date:
Revision:

1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274
FL CERT. OF AUTH.# 29296

TABLE 13A

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	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	1736	170.0	521	160.3	1871	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	163.7	1637	170.0	680	140.3	1637	170.0	680	122.8	1637	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	758	147.1	1552	170.0	758	128.1	1552	170.0	758	110.4	1552	170.0	758
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	165.2	1455	170.0	856	129.3	1455	170.0	861	110.8	1455	170.0	861	97.0	1455	170.0	861
60 in	170.0	885	170.0	701	170.0	1063	170.0	797	170.0	1240	170.0	878	157.1	1309	170.0	944	139.7	1309	170.0	998	125.7	1309	163.5	994	104.8	1309	157.1	982	89.8	1309	157.1	982	78.6	1309	157.1	982
63 in	170.0	930	170.0	745	170.0	1116	170.0	850	162.9	1247	170.0	940	142.5	1247	164.5	963	126.7	1247	152.6	965	114.0	1247	144.3	952	96.0	1247	138.2	936	81.4	1247	135.7	936	71.3	1247	135.7	936
66 in	170.0	974	170.0	789	170.0	1169	170.0	903	148.4	1190	163.7	965	129.9	1190	147.9	945	115.4	1190	136.5	928	103.9	1190	128.4	914	86.6	1190	119.6	896	74.2	1190	118.1	893	64.9	1190	118.1	893
72 in	161.6	1010	169.8	877	134.7	1010	144.6	859	116.4	1010	127.2	842	101.0	1010	114.7	828	89.8	1010	105.6	817	80.6	1010	98.9	807	67.3	1010	90.6	795	57.7	1010	87.6	790	50.5	1010	87.7	789
76 in	137.4	906	143.6	792	114.5	906	122.0	775	96.1	906	107.1	761	86.9	906	96.2	749	76.3	906	88.2	738	68.7	906	82.3	729	57.3	906	74.7	716	49.1	906	71.2	710	42.9	906	70.6	706
78 in	127.1	861	132.6	754	105.9	861	112.5	739	90.8	861	98.6	725	79.4	861	88.5	713	70.6	861	81.0	703	63.6	861	76.4	694	53.0	861	68.1	681	45.4	861	64.5	676	39.7	861	63.7	672
90 in	82.7	646	85.4	574	68.9	646	72.1	564	59.1	646	62.9	554	51.7	646	56.1	545	46.0	646	50.9	537	41.4	646	47.0	530	34.5	646	41.6	519	29.5	646	38.2	511	25.9	646	36.6	507
96 in	68.2	568	70.1	506	56.6	568	59.1	499	48.7	568	51.4	491	42.6	568	45.8	483	37.9	568	41.4	476	34.1	568	39.1	470	28.4	568	33.4	459	24.3	568	30.5	452	21.3	568	28.7	447
106 in	47.9	449	48.9	405	39.9	449	41.2	399	34.2	449	35.7	393	29.9	449	31.7	387	26.6	449	28.6	382	23.9	449	25.1	377	20.0	449	22.7	366	17.1	449	20.4	361	15.0	449	18.9	356
111 in	44.1	425	45.0	385	36.8	425	37.9	379	31.6	425	32.8	373	27.6	425	29.1	367	24.6	425	26.2	362	22.1	425	24.0	356	18.4	425	20.7	350	15.8	425	18.6	343				
120 in	34.9	384	35.5	331	29.1	384	29.9	326	24.9	384	26.8	321	21.8	384	22.6	317	19.4	384	20.5	313	17.6	384	18.7	309												
144 in	20.2	253	20.4	233	16.8	253	17.1	230																												

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"	0.64"	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"	(see note 4)
2 Anchors @ 6" Min. O.C. / (2) 2x5 Angle Clips (Fig. 1):		390 lbs	390 lbs	450 lbs	590 lbs	1700 lbs	270 lbs	290 lbs	354 lbs	740 lbs	468 lbs	720 lbs	1182 lbs	326 lbs	420 lbs	560 lbs
4 Anchors @ 3.5" Min. O.C. / (2) 2x5 Angle Clips (Fig. 2):		780 lbs	780 lbs	790 lbs	1670 lbs	2825 lbs	540 lbs	580 lbs	N/A	1120 lbs	936 lbs	860 lbs	2364 lbs	652 lbs	840 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	978 lbs	1260 lbs	1680 lbs

FIGURE 1:

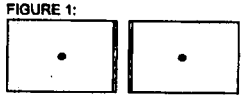


FIGURE 2:

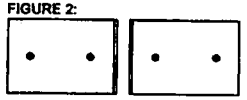
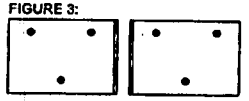


FIGURE 3:



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

TABLE NOTES:

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

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

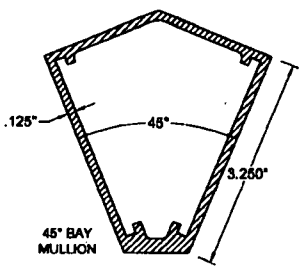
3) MULLION AND MULLION CLIPS SHOWN ARE NOT TO SCALE. FOR EXACT DIMENSIONS, SEE SHEETS 18-20. ALL MULLION CLIPS MAY BE FACTORY MACHINED AND CONTAIN UNUSED HOLES. HOLES MAY BE DRILLED IN THE FIELD FOLLOWING DIMENSIONS SHOWN ON SHEETS 18-20.

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.

ANCHOR CAPACITY ADJUSTMENT FORMULA:

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

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.



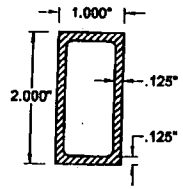
PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 11-0922.01
Expiration Date [illegible] 26, 2016
By
Miami Dade Product Control

No. 58705
11/30/11

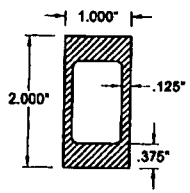
A. LYNN MILLER, P.E.
FL P.E.# 58705

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: 45 DEGREE BAY MULL SPECS
Series: N/A
Scale: N/A
Drawing No. 6300JR
Sheet: 17 of 22
Drawn By: J ROSOWSKI
Date: 08/29/11
Checked By:
Date:
Rev:
Rev. By:
Date:
Revision:

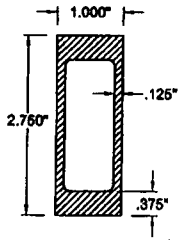
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274
FL CERT. OF AUTH.# 29296



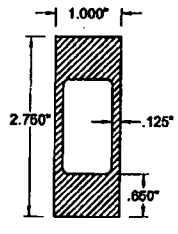
1" X 2" X .125" MULLION
6063-T6 ALUM.
X-SECTION



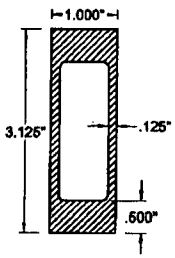
1" X 2" X .375" MULLION
6063-T6 ALUM.
X-SECTION



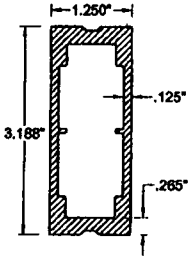
1" X 2.75" X .375" MULLION
6063-T6 ALUM.
X-SECTION



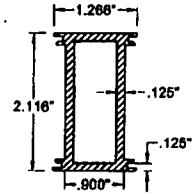
1" X 2.75" X .650" MULLION
6063-T6 ALUM.
X-SECTION



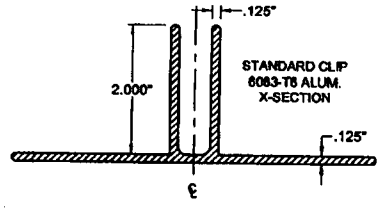
1" X 3.125" X .5" MULLION
6063-T6 ALUM.
X-SECTION



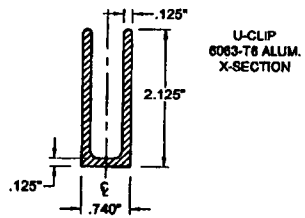
1.25" X 3.188" X .265" MULLION
6063-T6 ALUM.
X-SECTION



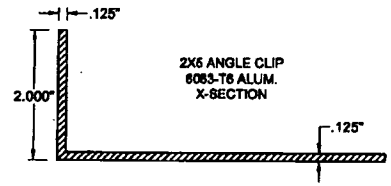
1.26" X 2.11" X .125" MULLION
6063-T6 ALUM.
X-SECTION



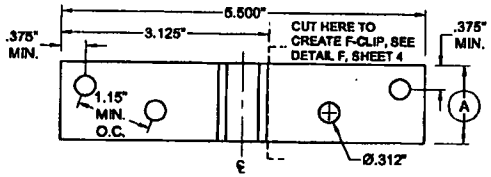
STANDARD CLIP
6063-T6 ALUM.
X-SECTION



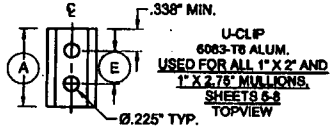
U-CLIP
6063-T6 ALUM.
X-SECTION



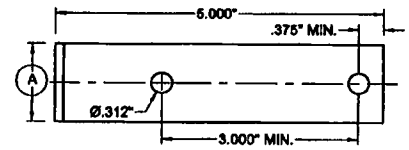
2X6 ANGLE CLIP
6063-T6 ALUM.
X-SECTION



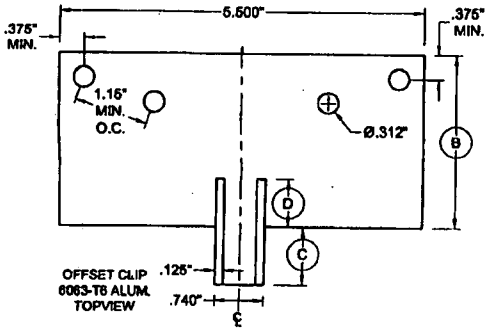
STANDARD CLIP
6063-T6 ALUM.
TOPVIEW



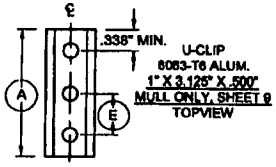
U-CLIP
6063-T6 ALUM.
USED FOR ALL 1" X 2" AND
1" X 2.75" MULLIONS,
SHEETS 6-8
TOPVIEW



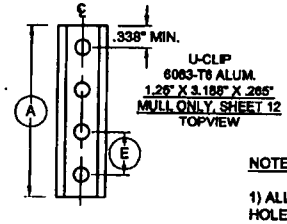
2X6 ANGLE CLIP
6063-T6 ALUM.
TOPVIEW



OFFSET CLIP
6063-T6 ALUM.
TOPVIEW



U-CLIP
6063-T6 ALUM.
1" X 3.125" X .500"
MULL ONLY, SHEET 9
TOPVIEW



U-CLIP
6063-T6 ALUM.
1.25" X 3.188" X .265"
MULL ONLY, SHEET 12
TOPVIEW

TABLE A

Dimension	Value (in)	For Mullion:
A	1.625	1" X 2" X .125" Aluminum Tube Mullion
B	2.664	
C	0.895	
D	0.740	
E	.450 Min.	
A	1.125	1" X 2" X .375" Aluminum Tube Mullion
B	2.404	
C	0.635	
D	0.490	
E	0.450	
A	1.875	1" X 2.75"" X .375 Aluminum Tube Mullion
B	3.000	
C	0.757	
D	1.118	
E	.450 Min.	
A	1.312	1" X 2.75" X .650" Aluminum Tube Mullion
B	3.000	
C	0.476	
D	0.836	
E	.450 Min.	
A	2.000	1" X 3.125" X .500" Alum Tube Mull
B	2.637	
C	0.863	
D	1.137	
E	.450 Min.	
A	2.625	1.25" X 3.188" X .265" Alum Tube Mull
B	3.262	
C	0.882	
D	1.762	
E	.450 Min.	
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)	666005	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" (15)	69370	N/A	N/A	N/A	666517M

NOTES:

1) ALL MULLION CLIPS MAY BE FACTORY MACHINED AND CONTAIN UNUSED HOLES. IF NEEDED, HOLES MAY BE DRILLED IN THE FIELD FOLLOWING DIMENSIONS GIVEN ON THIS SHEET.

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

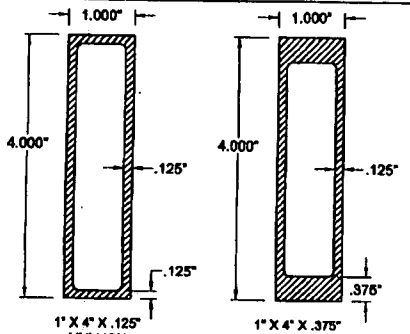
PGT
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274
FL CERT. OF AUTH.# 29296

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: MULLION AND CLIP DIMENSIONS A
Scale: N/A
Drawn By: J ROSOWSKI
Date: 08/29/11
Drawing No. 6300JR
Sheet 18 of 22
Rev.
Date:
Checked By:
Date:
Revised:
Rev. By:
Date:

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 11-0922.01
Expiration Date: Feb 26, 2016
By Miami Dade Product Control

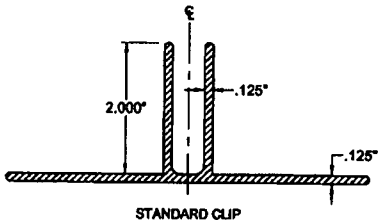
ANTHONY LYNN MILLER
LICENSE
No. 58705
11/30/11
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

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

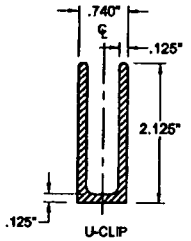


1" X 4" X .125" MULLION 6063-T6 ALUM. X-SECTION

1" X 4" X .375" MULLION 6063-T6 ALUM. X-SECTION

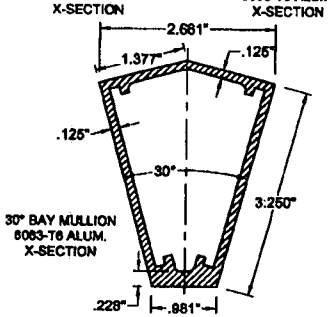


STANDARD CLIP 6063-T6 ALUM. X-SECTION

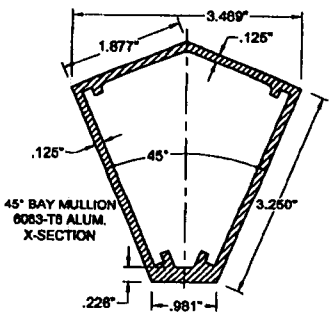


U-CLIP 6063-T6 ALUM. X-SECTION

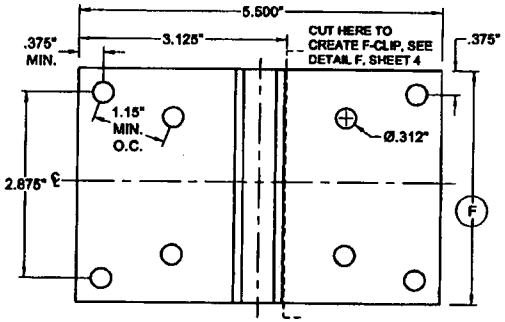
2X5 ANGLE CLIP 6063-T6 ALUM. X-SECTION



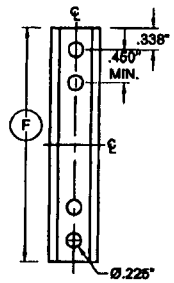
30° BAY MULLION 6063-T6 ALUM. X-SECTION



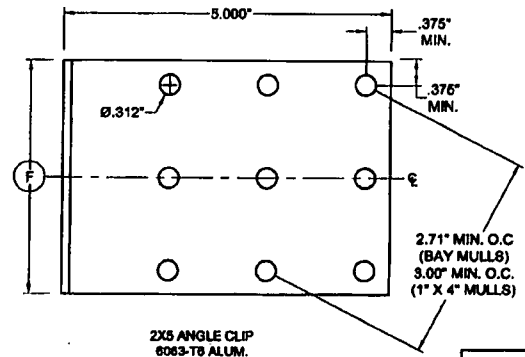
45° BAY MULLION 6063-T6 ALUM. X-SECTION



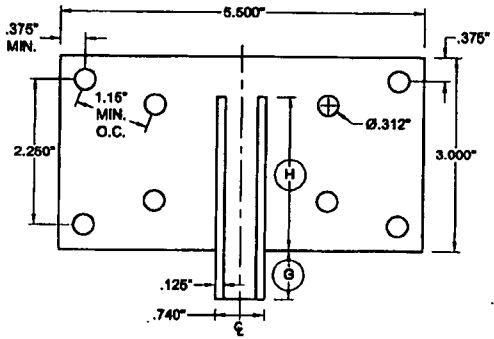
STANDARD CLIP 6063-T6 ALUM. TOPVIEW



U-CLIP 6063-T6 ALUM. USED FOR ALL 1" X 4" MULLIONS. SHEETS 10 & 11 TOPVIEW



2X5 ANGLE CLIP 6063-T6 ALUM. TOPVIEW



OFFSET CLIP 6063-T6 ALUM. TOPVIEW

TABLE C

Dimension	Value (in)	For Mullion:
F	3.687	1" X 4" X .125" Aluminum Tube Mullion
G	1.000	
H	2.680	
F	3.187	1" X 4" X .375" Aluminum Tube Mullion
G	0.757	
H	2.430	
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)	66810	666112M	6661123M	666242M	666519M
30 Degree (16)	66849	N/A	N/A	N/A	6665110M
45 Degree (17)	66850	N/A	N/A	N/A	6665111M

NOTES:

1) ALL MULLION CLIPS MAY BE FACTORY MACHINED AND CONTAIN UNUSED HOLES. IF NEEDED, HOLES MAY BE DRILLED IN THE FIELD FOLLOWING DIMENSIONS GIVEN ON THIS SHEET.

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

PRODUCT REVISED as complying with the Florida Building Code
Acceptance No. 11-0922.01
Expiration Date [illegible] 2016
By Manuel Perez
Miami-Dade Product Control

ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER
11/30/11
A. LYNN MILLER, P.E.
FL P.E.# 58705

PGT
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 113525
GAINESVILLE, FL 34274
FL CERT. OF AUTH # 28236

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: MULLION AND CLIP DIMENSIONS B
Drawing No.: 6300JR
Sheet: 19 of 22
Scale: N/A
Date: 08/29/11
Drawn By: J ROSOWSKI
Scale: N/A
Checked By:
Date:
Revisions:
Rev. By:
Date:

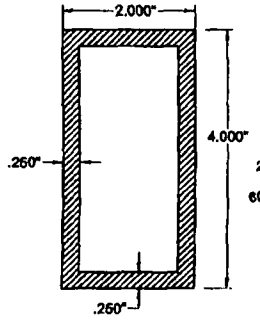
TABLE E

Mull Dimension (sheet #)	PGT Part #			
	Mullion	Std. Clip	U-Clip	Angle Clip
2" X 4" X .25" (13)	66602	666261M	666271M	6665112M
2" X 6" X .25" (14)	66604	666262M	666272M	6665113M

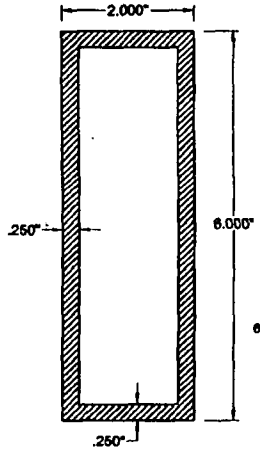
NOTES:

1) ALL MULLION CLIPS MAY BE FACTORY MACHINED AND CONTAIN UNUSED HOLES. IF NEEDED, HOLES MAY BE DRILLED IN THE FIELD FOLLOWING DIMENSIONS GIVEN ON THIS SHEET.

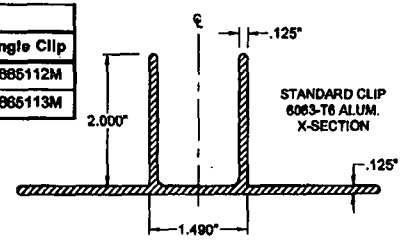
2) SEE SHEETS 2-4 FOR GENERAL INSTALLATION METHODS.



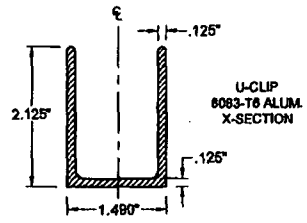
2" X 4" X .25" MULLION 6063-T6 ALUM. X-SECTION



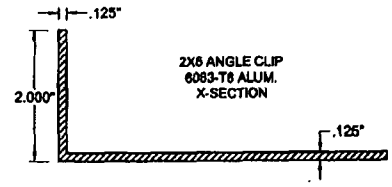
2" X 6" X .25" MULLION 6063-T6 ALUM. X-SECTION



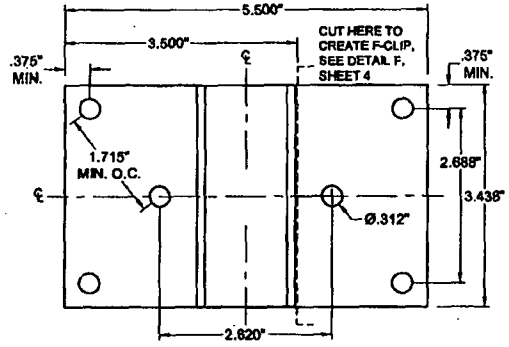
STANDARD CLIP 6063-T6 ALUM. X-SECTION



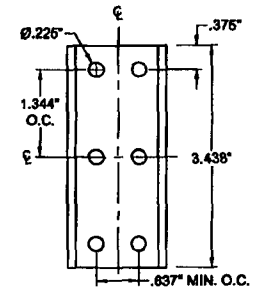
U-CLIP 6063-T6 ALUM. X-SECTION



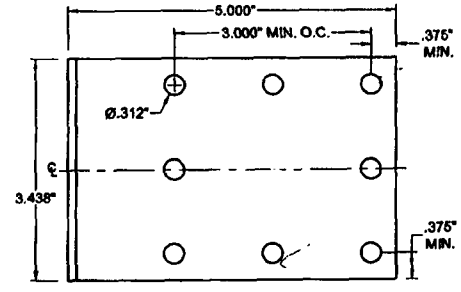
2X5 ANGLE CLIP 6063-T6 ALUM. X-SECTION



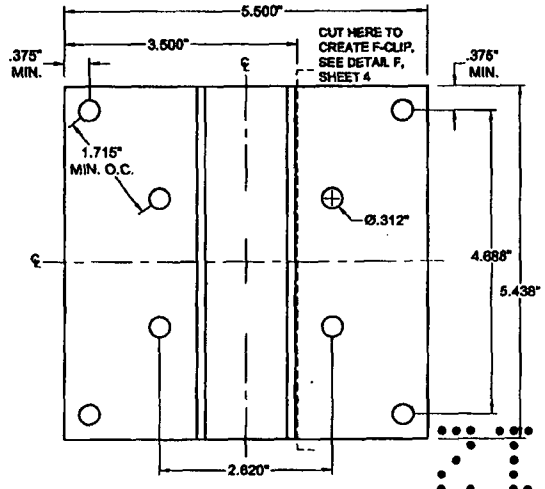
STANDARD CLIP 6063-T6 ALUM. TOPVIEW



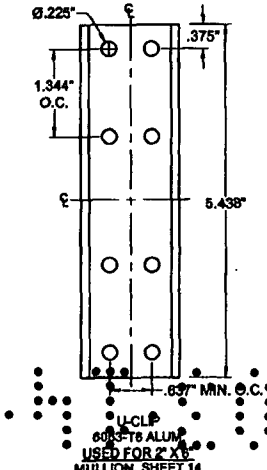
U-CLIP 6063-T6 ALUM. USED FOR 2" X 4" MULLION, SHEET 13 TOPVIEW



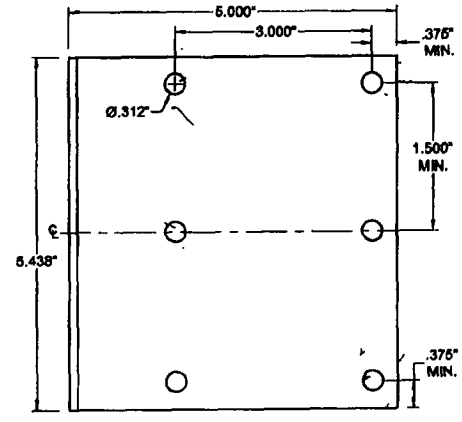
2X5 ANGLE CLIP 6063-T6 ALUM. TOPVIEW



STANDARD CLIP 6063-T6 ALUM. TOP VIEW



U-CLIP 6063-T6 ALUM. USED FOR 2" X 6" MULLION, SHEET 14 TOPVIEW



2X5 ANGLE CLIP 6063-T6 ALUM. TOPVIEW

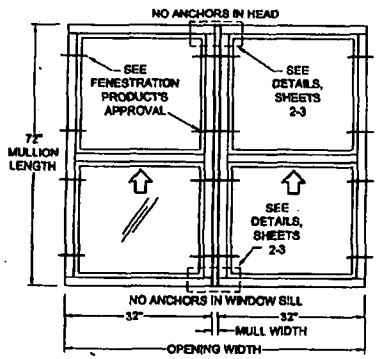
PGT
1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 P.O. BOX 1529 NOKOMIS, FL 34274
FL CERT. OF AUTH.# 2926

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: MULLION AND CLIP DIMENSIONS C
Drawing No. 6300JR
Sheet: 20 of 22
Scale: N/A
Drawn by: J ROSOWSKI
Date: 08/29/11
Checked by:
Date:
Rev:
Revision:
Rev. By:

PRODUCT REVISED as complying with the Florida Building Code Acceptance No 11-0929.01 Expiration Date Feb 16, 2016
By Miami-Dade Product Control

ANTHONY LYNN MILLER LICENSE No. 58705 11/30/11 STATE OF FLORIDA PROFESSIONAL ENGINEER
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 22, THE COLUMN USING RECTANGULAR LOADING MUST BE USED. SCAN THE MULLION TABLES FOR A MULLION THAT IS AT LEAST THE WINDOW FRAME DEPTH OF 2-1/4" AND WILL MEET OR EXCEED THE REQUIRED DESIGN PRESSURE OF +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.

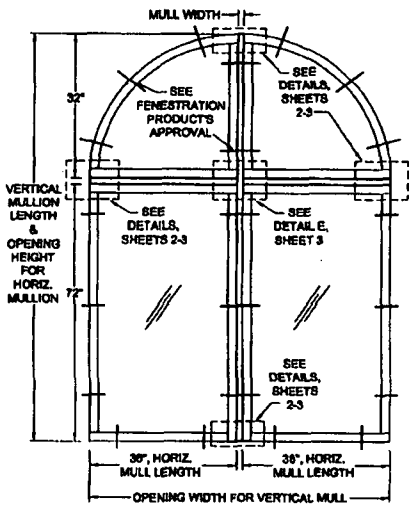
2) USE TABLE 4B TO FIND THE ANCHOR TYPE, ANCHOR QUANTITY AND CLIP TYPE REQUIRED FOR THE WOOD SUBSTRATE. BOTH THE STANDARD CLIP WITH (4) #12 ANCHORS AND THE 2X5 ANGLE CLIPS WITH (4) #12 ANCHORS HAVE A CAPACITY OF 840 LBS. THOUGH EITHER ONE COULD BE USED, THE STANDARD CLIP IS EASIER TO INSTALL.

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 +60.0/-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 22, THE COLUMN USING RECTANGULAR LOADING SHALL BE USED. SCAN THE MULLION TABLES FOR A MULLION THAT IS AT LEAST THE WINDOW FRAME DEPTH OF 2-3/8" AND WILL MEET OR EXCEED THE REQUIRED DESIGN PRESSURE OF +60.0/-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 9A, SHEET 13, 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 9B 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 22, THE COLUMN USING TRAPEZOIDAL/TRIANGULAR LOADING MAY BE USED. FROM TABLE 9A, SHEET 13, 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 9B 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 840 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 9B 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.

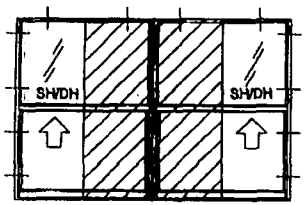
PGT
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
NORTHAM, FL 34274
FL CERT. OF AUTH.# 29296

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONS
Description: EXAMPLES
Drawing No. 6300JR
Sheet 21 of 22
Rev:
Scale: N/A
Date: 08/29/11
Revisions:
Drawn By: J ROSOWSKI
Checked By:
Rev. By:

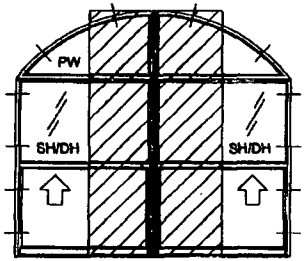
PRODUCT REVISED
is complying with the Florida
Building Code
Acceptance No. 11-0922.01
Expiration Date 11 Sep 2016
By Manuel Perez
Miami-Dade Product Control

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

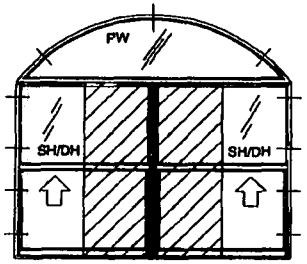
EXAMPLES OF RECTANGULAR LOADING:



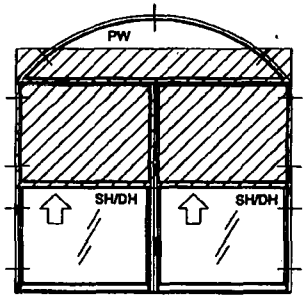
LOADING OF VERTICAL MULLION
SILL OF WINDOWS NOT ANCHORED



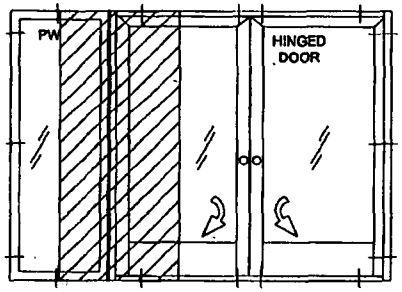
LOADING OF VERTICAL MULLION
WITH INTERSECTING HORIZONTAL MULLIONS



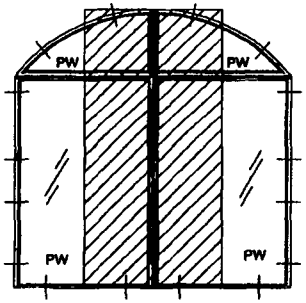
LOADING OF VERTICAL MULLION
SILL OF WINDOWS NOT ANCHORED



LOADING OF HORIZONTAL MULLION
WITH INTERSECTING VERTICAL MULLION

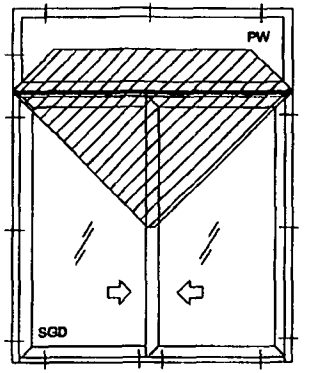


LOADING OF VERTICAL MULLION
PANEL OF HINGED DOOR IS NOT CAPTURED OR ANCHORED

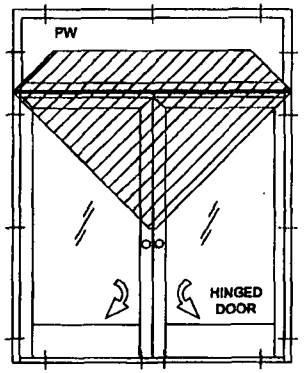


LOADING OF VERTICAL MULLION
WITH INTERSECTING HORIZONTAL MULLIONS

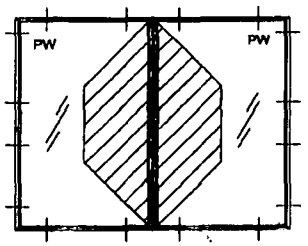
EXAMPLES OF TRAPEZOIDAL/TRIANGULAR LOADING:



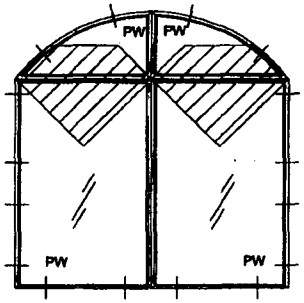
LOADING OF HORIZONTAL MULLION



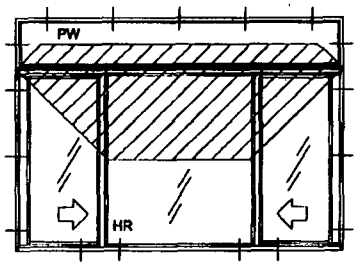
LOADING OF HORIZONTAL MULLION



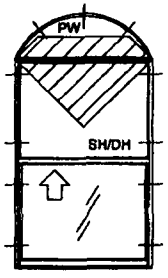
LOADING OF VERTICAL MULLION



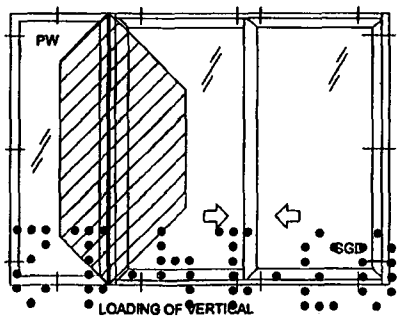
LOADING OF (2) HORIZONTAL MULLIONS



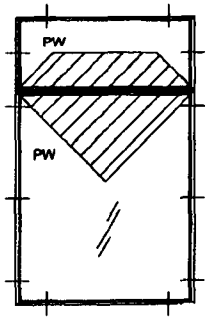
LOADING OF HORIZONTAL MULLION



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.

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 16020.R1
Expiration Date Feb 26, 2016
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

PGT
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
P.O. BOX 1529
VENICE, FL 34284
FL CERT. OF AUTH # 29296

Title: IMPACT-RESISTANT ALUMINUM TUBE MULLIONIONS
Description: LOADING EXAMPLES
Series: N/A
Drawn By: J ROSOWSKI
Scale: N/A
Date: 08/29/11
Drawing No. 6300JR
Checked By:
Date:
Revision:
Sheet 22 of 22
Rev:
Date:
Revision:
Rev. By:

Impact - FD

MIAMI-DADE COUNTY
DEPARTMENT OF PERMITTING, ENVIRONMENT, AND REGULATORY AFFAIRS (PERA)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

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/pera/

PGT Industries
1070 Technology Drive,
Nokomis, 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 PERA - 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. PERA 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-750" Outswing Aluminum French Door w/Sidelites – L.M.I.

APPROVAL DOCUMENT: Drawing No. **8000-11**, titled "Alum. French Door & Side Lites, Impact", sheets 1 through 12 of 12, dated 12/23/04, with revision **E** dated 10/12/11,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 # 09-1028.10** and consists of this page 1 and evidence pages E-1, E-2, and E-3, as well as approval document mentioned above.

The submitted documentation was reviewed by **Manuel Perez, P.E.**

MIAMI-DADE COUNTY APPROVED

NOA No 11-1013.24
Expiration Date: February 24, 2015
Approval Date: November 24, 2011
Page 1

PGT Industries

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Manufacturer's die drawings and sections
2. Drawing No. **8000-11**, titled "Alum. French Door & Side Lites, Impact", sheets 1 through 12 of 12, dated 12/23/04, with revision **E** dated 10/12/11, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.

B. TESTS

1. Test reports on: 1) Air Infiltration Test,
   2) Uniform Static Air Pressure Test,
   3) Water Resistance Test,
   4) Forced Entry Test, per SFBC 3603.2 (b)

   along with marked-up drawings and installation diagram of an aluminum sliding glass door using a low sill threshold, glazed with 7/16" laminated glass, prepared by Fenestration Testing Laboratory, Inc., Test Report No. **FTL-5941**, dated 05/20/09, signed and sealed by Julio E. Gonzalez, P.E.
   (Submitted under NOA # 09-1028.10)
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 aluminum doors of OXXO configuration, prepared by Fenestration Testing Laboratory, Inc., Test Report No.
   (Submitted under NOA # 09-1028.10)
3. Test reports 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
   4) Forced Entry Test, per FBC 2411 3.2.1 and TAS 202-94

   along with marked-up drawings and installation diagram of aluminum doors of OXXX configuration, prepared by Fenestration Testing Laboratory, Test Reports No. **FTL-4527**, dated 02/10/05, signed and sealed by Edmundo Largaespada, P. E.
   (Submitted under NOA # 05-0419.03)
4. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94
   2) Uniform Static Air Pressure Test, per FBC, TAS 202-94
   3) Water Resistance Test, per FBC, TAS 202-94
   4) Forced Entry Test, per FBC 2411 3.2.1 and TAS 202-94

   along with marked-up drawings and installation diagram of aluminum doors of OXXO configuration, prepared by Fenestration Testing Laboratory, Test Reports No. **FTL-4528**, dated 02/14/05, signed and sealed by Edmundo Largaespada, P. E.
   (Submitted under NOA # 05-0419.03)

Manuel Perez

Manuel Perez, P.E.
Product Control Examiner
NOA No 11-1013.24
Expiration Date: February 24, 2015
Approval Date: November 24, 2011

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

B. TESTS (CONTINUED)

5. Test reports on: 1) Large Missile Impact Test per FBC, TAS 201-94
2) Cyclic Wind Pressure Loading per FBC, TAS 203-94
along with marked-up drawings and installation diagram of aluminum doors of XXXO configuration, prepared by Fenestration Testing Laboratory, Test Reports No. **FTL-4529,** dated 02/14/05, signed and sealed by Edmundo Largaespada, P. E.
(Submitted under NOA # 05-0419.03)

6. Test reports on: 1) Large Missile Impact Test per FBC, TAS 201-94
2) Cyclic Wind Pressure Loading per FBC, TAS 203-94
along with marked-up drawings and installation diagram of aluminum outswing French door, prepared by Fenestration Testing Laboratory, Test Reports No. **FTL-4530,** dated 02/14/05, signed and sealed by Edmundo Largaespada, P. E.
(Submitted under NOA # 05-0419.03)

7. Test reports on: 1) Large Missile Impact Test per FBC, TAS 201-94
2) Cyclic Wind Pressure Loading per FBC, TAS 203-94
along with marked-up drawings and installation diagram of aluminum outswing French door, prepared by Fenestration Testing Laboratory, Test Reports No. **FTL-4311,** dated 09/01/04, signed and sealed by Edmundo Largaespada, P. E.
(Submitted under NOA # 05-0103.03)

8. Test reports 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 outswing French door, prepared by Fenestration Testing Laboratory, Test Reports No. **FTL-4312,** dated 09/13/04, signed and sealed by Edmundo Largaespada, P. E.
(Submitted under NOA # 05-0103.03)

9. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94
2) Uniform Static Air Pressure Test, per FBC, TAS 202-94
3) Water Resistance Test, per FBC, TAS 202-94
4) Forced Entry Test, per FBC 2411 3.2.1 and TAS 202-94
along with marked-up drawings and installation diagram of aluminum outswing French door, prepared by Fenestration Testing Laboratory, Test Reports No. **FTL-4315,** dated 09/13/04, signed and sealed by Edmundo Largaespada, P. E.
(Submitted under NOA # 05-0103.03)

Manuel Perez, P.E.
Product Control Examiner
NOA No 11-1013.24
Expiration Date: February 24, 2015
Approval Date: November 24, 2011

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with FBC-2007, dated 10/01/09, prepared, signed and sealed by Robert L. Clark, P.E, updated to the FBC-2010 on 10/11/11, signed and sealed by A. Lynn Miller, P.E.
2. Glazing complies with ASTM E1300-04

D. QUALITY ASSURANCE

1. Miami Dade Department of Permitting, Environment, and Regulatory Affairs (PERA).

E. MATERIAL CERTIFICATIONS

1. Notice of Acceptance No. **10-0922.09** issued to **E.I. DuPont DeNemours & Co.**, Inc. for their "**DuPont Butacite® PVB, Interlayer**" dated 12/24/10, expiring on 12/11/11.
2. Notice of Acceptance No. **09-0223.05** issued to **Solutia, Inc.** for their "**Saflex Multi-layer Glass Interlayer**" dated 04/08/09, expiring on 04/08/14.
3. Notice of Acceptance No. **08-1224.04** issued to Solutia, Inc. for their "**Saflex Composites Glass Interlayer with PET Core**" dated 02/25/09, expiring on 12/11/13.

F. STATEMENTS

1. Statement letter dated 10/07/11, Successor Engineer adopting the another engineer's work per FAR 61G15-27-001, signed & sealed by A. Lynn Miller, P.E.
2. Statement letter of conformance with the FBC-2007 and FBC-2010, prepared by manufacturer, dated 10/11/11, signed & sealed by A. Lynn Miller, P.E.
3. Statement letter of "No financial interest", prepared by manufacturer, dated 10/11/11, signed & sealed by A. Lynn Miller, P.E.
4. Letter of lab compliance, part of the above test reports.
5. Proposal No. **08-1891** issued by BCCO, dated January 26, 2009, signed by Ishaq Chanda, P.E.

G. OTHER

1. Notice of Acceptance No. **09-1028.10**, issued to PGT Industries for their Series "FD-750" Outswing Aluminum French Door w/Sidelites – L.M.I., approved on 02/10/10 and expiring on 02/24/15.

Manuel Perez, P.E.
Product Control Examiner
NOA No 11-1013.24
Expiration Date: February 24, 2015
Approval Date: November 24, 2011

NOTES: OUTSWING IMPACT FRENCH DOOR(S) AND SIDE LITE(S)

1. GLAZING OPTIONS:
   A. 7/16" LAMI CONSISTING OF (1) LITE OF 3/16" ANNEALED GLASS AND (1) LITE OF 3/16" HEAT STRENGTHENED GLASS WITH AN .090 PVB INTERLAYER OF DUPONT BUTACITE OR SAFLEX/KEEPSAFE MAXIMUM.

   B. 7/16" LAMI CONSISTING OF (2) LITES OF 3/16" HEAT STRENGTHENED GLASS WITH AN .090 PVB INTERLAYER OF DUPONT BUTACITE OR SAFLEX/KEEPSAFE MAXIMUM.

   C. 7/16" LAMI CONSISTING OF (1) LITE OF 3/16" ANNEALED GLASS AND (1) LITE OF 3/16" HEAT STRENGTHENED GLASS WITH AN .075 VANCEVA INTERLAYER.

   D. 7/16" LAMI CONSISTING OF (2) LITES OF 3/16" HEAT STRENGTHENED GLASS WITH AN .075 VANCEVA INTERLAYER.

   E. 7/8" LAMI I.G. CONSISTING OF (1) LITE OF 3/16" TEMPERED GLASS OUTSIDE, 1/4" AIR SPACE AND (1) 7/16" LAMI GLASS ASSEMBLY INSIDE (3/16" A,.090 PVB, 3/16" HS).

   F. 7/8" LAMI I.G. CONSISTING OF (1) LITE OF 3/16" TEMPERED GLASS OUTSIDE, 1/4" AIR SPACE AND (1) 7/16" LAMI GLASS ASSEMBLY INSIDE (3/16" HS,.090 PVB, 3/16" HS).

   G. 7/8" LAMI I.G. CONSISTING OF (1) LITE OF 3/16" TEMPERED GLASS OUTSIDE, 1/4" AIR SPACE AND (1) 7/16" LAMI GLASS ASSEMBLY INSIDE (3/16" A,.075 VANCEVA, 3/16" HS).

   H. 7/8" LAMI I.G. CONSISTING OF (1) LITE OF 3/16" TEMPERED GLASS OUTSIDE, 1/4" AIR SPACE AND (1) 7/16" LAMI GLASS ASSEMBLY INSIDE (3/16" HS,.075 VANCEVA, 3/16" HS).

2. DESIGN PRESSURES: TABLE 1, SHEET 3.
   A. NEGATIVE DESIGN LOADS BASED ON TESTED PRESSURE AND GLASS TABLES ASTM E1300-02.
   B. POSITIVE DESIGN LOADS BASED ON WATER TEST PRESSURE AND GLASS TABLES ASTM E1300-02.

3. CONFIGURATIONS: X, O, XX, XO, OX, XXX, XXO, OXX, OXO, XXXX, XXXO, OXXX, OR OXXO WHERE O REPRESENTS EITHER THE NARROW JAMB OR FULL JAMB SIDE LITE. ANY TWO ADJACENT X UNITS CAN BE EITHER TWO SINGLE, X DOORS OR A DOUBLE, XX DOOR' BOTH USING EITHER THE STANDARD OR THE LOW-RISE SILL. THE FRENCH DOOR ASSEMBLY BEAM IS USED TO ASSEMBLE X, XX, AND O UNITS TO MAKE THE ABOVE CONFIGURATIONS.

4. ANCHORAGE: THE 33 1/3% STRESS INCREASE HAS NOT BEEN USED IN THE DESIGN OF THIS PRODUCT. FOR ANCHORAGE REQUIREMENTS SEE SHEETS 9 THRU 11.

5. SHUTTERS ARE NOT REQUIRED.

6. SEALANT: INSTALLATION SCREWS, FRAME AND PANEL CORNERS SEALED WITH CLEAR COLORED SEALANT. VERTICAL ASSEMBLY BEAM SEAMS SEALED ON THE INTERIOR AND EXTERIOR WITH CONTRACTOR'S SEALANT.

7. REFERENCES: TEST REPORTS: FTL-4311, FTL-4312, FTL-4315, FTL-4527, FTL-4528, FTL-4529, FTL-4530, FTL-4921 AND FTL-6941.
   ANSI/AF&PA NDS-2005 FOR WOOD CONSTRUCTION
   ADM-2005 ALUMINUM DESIGN MANUAL

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

NOA DRAWING MAP

PRODUCT REVISED
in complying with the Florida
Building Code
Application No. 11-1013.24
Expiration Date: FEB. 24, 2015

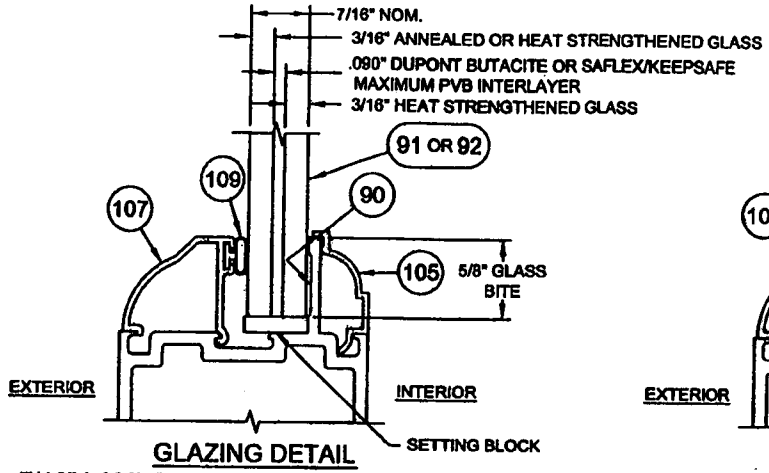
Revised By	Date	Revisions	
J.R.	6/23/09	C	UPDATED BUILDING CODE AND DESIGN MANUAL YEARS, ADDED TEST REPORT NUMBERS.
J.R.	6/28/10	D	NO CHANGES THIS SHEET
J.L.	10/13/11	E	FBC 2010 CODE CHANGE
Drawn By	Date	Checked By	Date
F.K.	12/23/04	L.T.	4/8/05

1078 TECHNOLOGY DRIVE
HOUMA, FL 70775
P.O. BOX 1539
HOUMA, FL 70774

Description: GENERAL NOTES AND DRAWING MAP
Title: ALUM. FRENCH DOOR & SIDE LITES, IMPACT

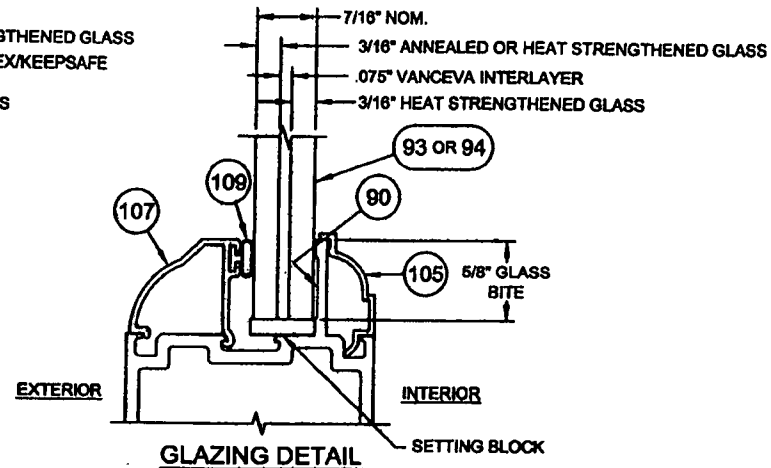
Batch/Job #	Scale	Sheet	Drawing No.	Rev
FD750	FULL	1 of 12	8000-11	E

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



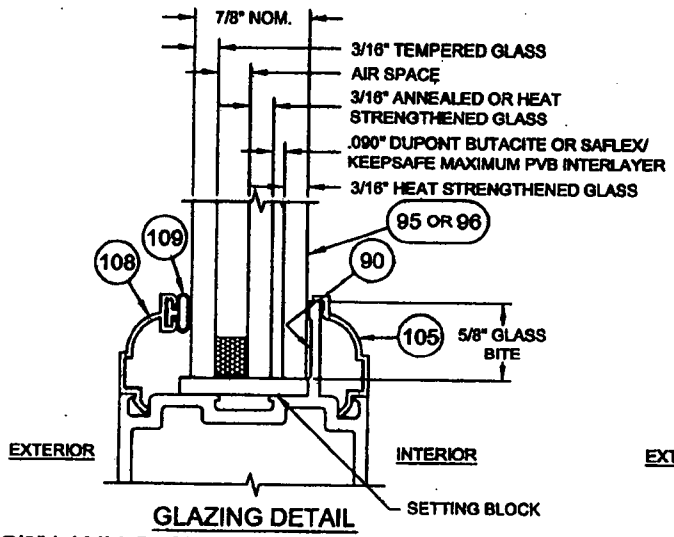
GLAZING DETAIL

7/16" LAMI GLASS W/ PVB INTERLAYER



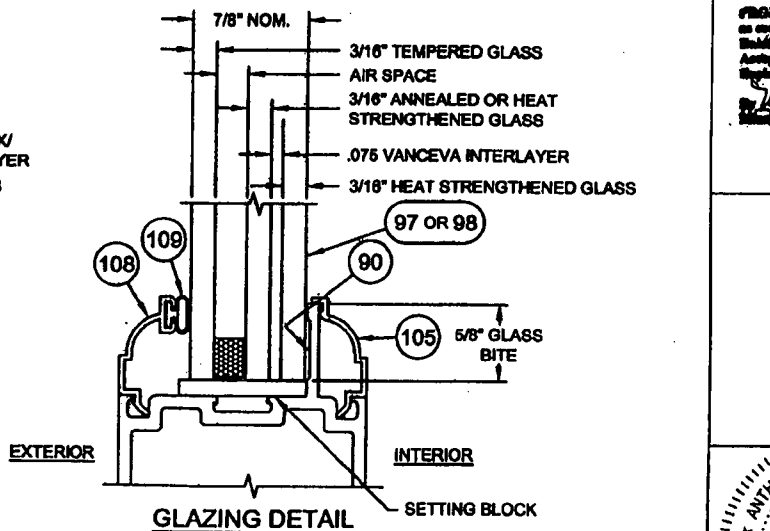
GLAZING DETAIL

7/16" LAMI GLASS W/ VANCEVA INTERLAYER



GLAZING DETAIL

7/8" LAMI I.G. GLASS W/ PVB INTERLAYER



GLAZING DETAIL

7/8" LAMI I.G. GLASS W/ VANCEVA INTERLAYER

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No. 11073.24
Expiration Date 1223.24.2015
By

Revised By	Date	Revisions	
F.K.	10/13/08	B	NO CHANGE THIS SHEET
J.R.	08/23/09	C	NO CHANGE THIS SHEET
J.R.	01/25/10	D	NO CHANGES THIS SHEET
Drawn By: F.K.	Date: 12/23/04	Checked By: L.T.	Date: 4/8/05

1075 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1539
NOKOMIS, FL 34274

PGT

GLAZING DETAILS

ALUM. FRENCH DOOR & SIDE LITES, IMPACT

Series/Model	Glass	Sheet	Drawing No.	Rev.
FD750	FULL	2 of 12	8000-11	E

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER

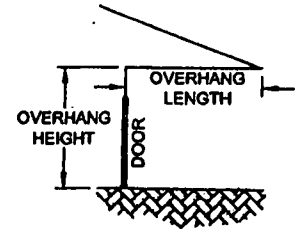
A. LYNN MILLER, P.E.
FL P.E.# 58705

Table 1. Maximum Design Pressures (psf)

Configuration		Width (in)	Allowed Glass Types	Height (in)									
				79 3/4" (6^0)		83 3/4" (7^0)		87 3/4"		91 3/4"		95 3/4" (8^0)	
French Door	X	37" (3^0)	A,E	+70.0	-80.0	+70.0	-80.0	+70.0	-80.0	+70.0	-80.0	+70.0	-80.0
			C,G	+100.0	-100.0	+100.0	-100.0	+100.0	-100.0	+100.0	-100.0	+100.0	-100.0
	XX	71 3/4" (6^0)	A,E	+70.0	-80.0	+70.0	-80.0	+70.0	-80.0	+70.0	-80.0	+70.0	-80.0
			C,G	+100.0	-100.0	+100.0	-100.0	+100.0	-100.0	+100.0	-100.0	+100.0	-100.0
Sidelite	Full Jamb	36 11/16"	A,E	+70.0	-80.0	+70.0	-80.0	+70.0	-80.0	+70.0	-80.0	+70.0	-80.0
			C,G	+100.0	-100.0	+100.0	-100.0	+100.0	-100.0	+100.0	-100.0	+100.0	-100.0
	Narrow Jamb	30 11/16"	C,G	+100.0	-100.0	+100.0	-100.0	+100.0	-100.0	+100.0	-100.0	+100.0	-100.0
		33 11/16"	C,G	+100.0	-100.0	+100.0	-100.0	+100.0	-100.0	+100.0	-100.0	+97.4	-97.4
		36 11/16"	A, B, E, F	+70.0	-80.0	+70.0	-80.0	+70.0	-80.0	+70.0	-80.0	+70.0	-80.0
			C,G	+100.0	-100.0	+99.9	-99.9	+95.3	-95.3	+91.4	-91.4	+87.9	-87.9
			D,H	+100.0	-100.0	+100.0	-100.0	+100.0	-100.0	+100.0	-100.0	+100.0	-100.0

Table 1a. Glass Type and Test Report Number

A - 7/16" LAMI (3/16"A,.090 PVB, 3/16"HS)	FTL-4311, 4312, 4315
B - 7/16" LAMI (3/16"HS,.090 PVB, 3/16"HS)	UPGRADE FTL-4311, 4312, 4315
C - 7/16" LAMI (3/16"A,.075 VANCEVA, 3/16"HS)	FTL-4527, 4528, 4529, 4530
D - 7/16" LAMI (3/16"HS,.075 VANCEVA, 3/16"HS)	UPGRADE FTL-4527, 4528, 4529, 4530
E - 7/8" LAMI I.G. (3/16"T, 1/4" AIR SPACE, 3/16"A,.090 PVB, 3/16"HS)	FTL-4311, 4312, 4315
F - 7/8" LAMI I.G. (3/16"T, 1/4" AIR SPACE, 3/16"HS,.090 PVB, 3/16"HS)	UPGRADE FTL-4311, 4312, 4315
G - 7/8" LAMI I.G. (3/16"T, 1/4" AIR SPACE, 3/16"A,.075 VANCEVA, 3/16"HS)	FTL-4527, 4528, 4529, 4530
H - 7/8" LAMI I.G. (3/16"T, 1/4" AIR SPACE, 3/16"HS,.075 VANCEVA, 3/16"HS)	UPGRADE FTL-4527, 4528, 4529, 4530



⚠ NOTES:
1. IF USING THE OPTIONAL LOW-RISE SILL (PART 10, SHEET 8 OF 12), THE OVERHANG HEIGHT MUST BE GREATER THAN THE OVERHANG LENGTH (SEE DIAGRAM). IF NOT, THE MAXIMUM POSITIVE (+) DESIGN PRESSURE IS LIMITED TO +50.0 PSF FOR ALL STYLES AND SIZES OF THE DOOR AND ANY ADJOINING SIDELITES. (REF. FTL-6941)

PRODUCT REVIEWED as complying with the Florida Building Code
Acceptance No. 11-1013.24
Expiration Date: Feb. 24, 2015

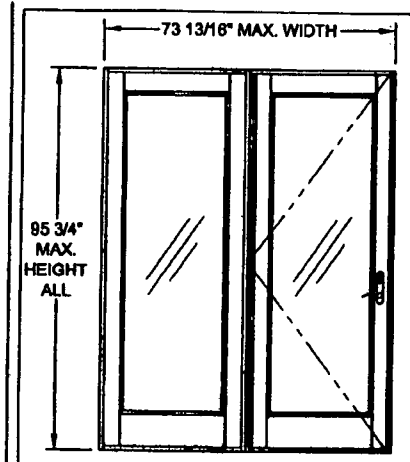
Revised By	Date	Revision	
F.K.	10/18/06	B	UPDATE TABLE 1 TO ASTM E 1300-02
J.R.	09/28/09	C	ADDED NOTE/DIAGRAM FOR LOW RISE SILL
J.R.	01/28/10	D	NO CHANGES THIS SHEET
Drawn By: F.K.	Date: 12/23/04	Checked By: L.T.	Date: 4/6/05

1020 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1629
NOKOMIS, FL 34274

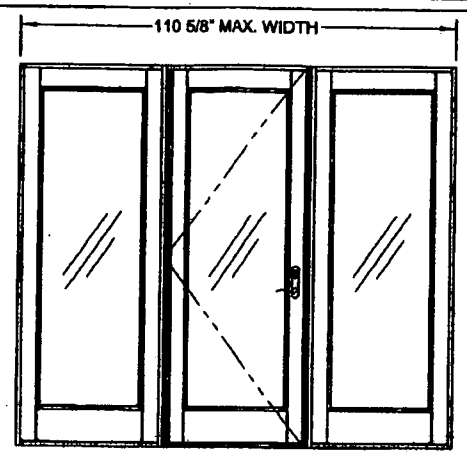
Description: DESIGN PRESSURES
Title: ALUM. FRENCH DOOR & SIDE LITES, IMPACT

Batch/Job #	Scale	Sheet	Drawing No.	Rev.
FD750	NTS	3 of 12	8000-11	E

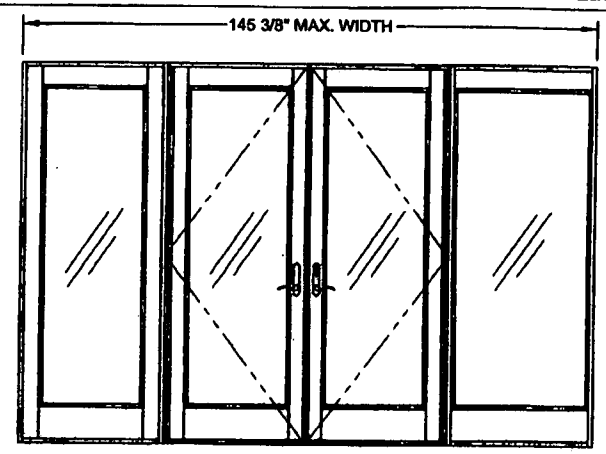
ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
FL P.E.# 58705



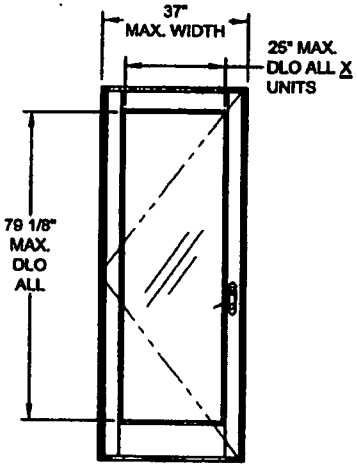
OX OR XO



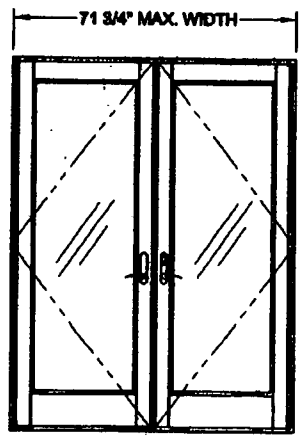
OXO



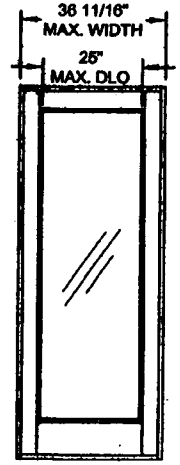
OXXO (SHOWING EACH VERSION SIDELITE)



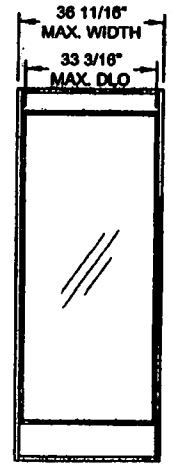
X



XX



O (FULL JAMB)



O (NARROW JAMB)

NOTES:
1. CONFIGURATIONS WITH SIDE LITES CAN BE EITHER NARROW JAMB OR FULL JAMB VERSION.
2. FOR ANCHOR SPACING AND DETAILS SEE SHEETS 9 THROUGH 11.
3. FOR VERTICAL SECTIONS SEE SHEET 5 AND FOR HORIZONTAL SECTIONS SEE SHEET 6.

Revised By	Date	Revision	
F.K.	10/13/05	B	NO CHANGE THIS SHEET
J.R.	08/23/06	C	NO CHANGE THIS SHEET
J.R.	01/25/10	D	NO CHANGES THIS SHEET
Drawn By: F.K.	Date: 12/23/04	Checked By: L.T.	Date: 4/6/05

1000 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1629
NOKOMIS, FL 34274

Description: EXAMPLE ELEVATIONS

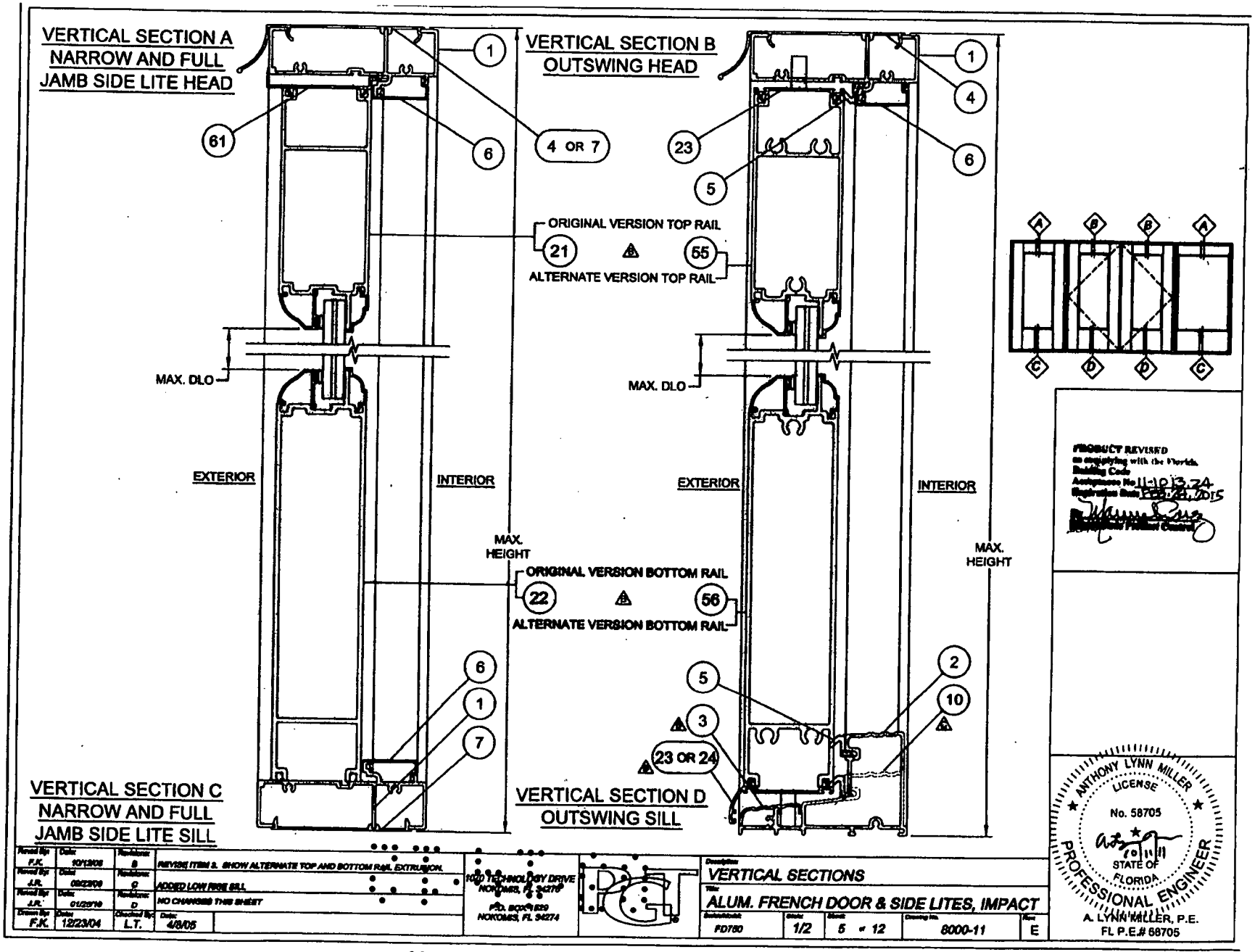
Title: ALUM. FRENCH DOOR & SIDE LITES, IMPACT

Batch/Model	Scale	Sheet	Drawing No.	Rev
FD760	NTS	4 of 12	8000-11	E

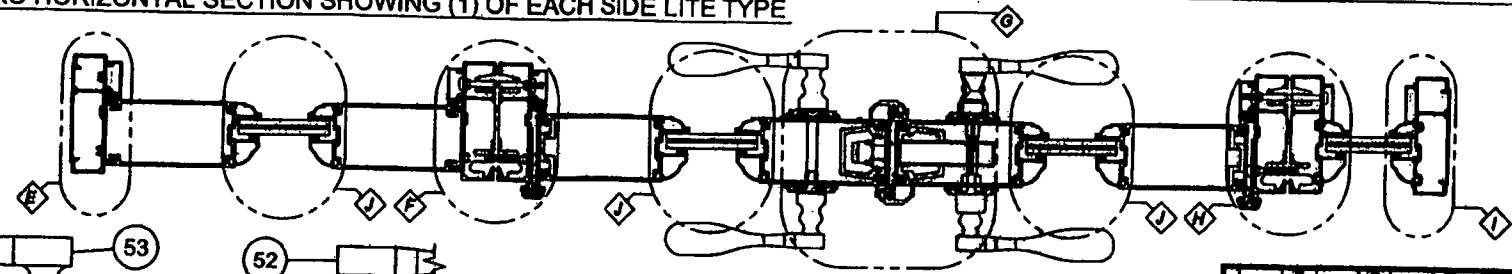
PRODUCT REVISED
as complying with the Florida Building Code
Application No. 11-1013.24
Expiration Date: Feb. 24, 2015
By: [signature]
Miami-Dade Product Control

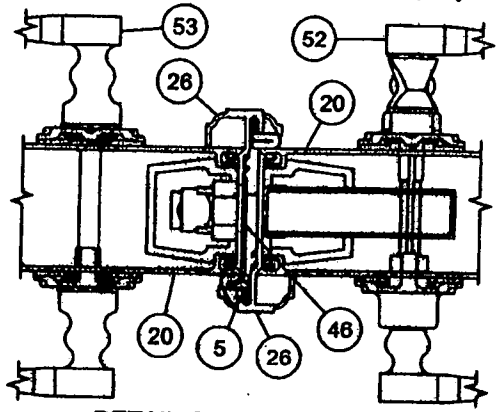
ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
FL P.E.# 58705

END

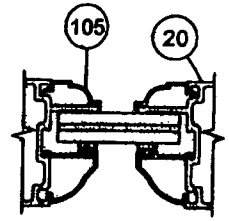

VERTICAL SECTION A
NARROW AND FULL
JAMB SIDE LITE HEAD
61
1
6
4 OR 7
MAX. DLO
EXTERIOR
INTERIOR
VERTICAL SECTION B
OUTSWING HEAD
1
4
23
6
5
ORIGINAL VERSION TOP RAIL
21
55
ALTERNATE VERSION TOP RAIL
MAX. DLO
EXTERIOR
INTERIOR
MAX. HEIGHT
ORIGINAL VERSION BOTTOM RAIL
22
56
ALTERNATE VERSION BOTTOM RAIL
MAX. HEIGHT
A
B
B
A
C
D
D
C
6
1
7
5
2
10
3
23 OR 24
VERTICAL SECTION C
NARROW AND FULL
JAMB SIDE LITE SILL
VERTICAL SECTION D
OUTSWING SILL
PRODUCT REVIEWED
as complying with the Florida
Building Code
Application No. 11-1013.24
Expiration Date 2/24/2015
ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
FL P.E.# 58705
F.K. 10/13/06 B REVISE ITEM 3. SHOW ALTERNATE TOP AND BOTTOM RAIL EXTRUSION.
J.R. 08/23/09 C ADDED LOW RISE SILL
J.R. 01/29/10 D NO CHANGES THIS SHEET
F.K. 12/23/04 L.T. 4/8/05
1020 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1929
NOKOMIS, FL 34274
VERTICAL SECTIONS
ALUM. FRENCH DOOR & SIDE LITES, IMPACT
FD760
1/2
5 of 12
6000-11
E

OXXO HORIZONTAL SECTION SHOWING (1) OF EACH SIDE LITE TYPE

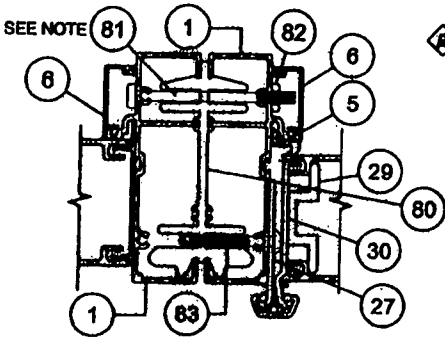




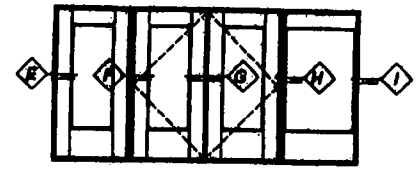
DETAIL G STILES AT ASTRAGAL



DETAIL J
SLAB AT
GLASS BED



DETAIL F
FULL JAMB SIDE LITE
(AT HINGE JAMB)

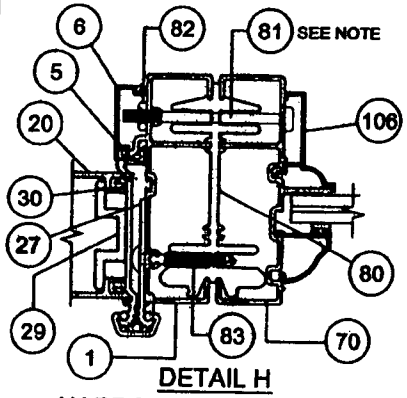


NOTE: ASSEMBLY HARDWARE QTY (3), 11" FROM TOP & BOTTOM AND ONE AT MIDSPAN

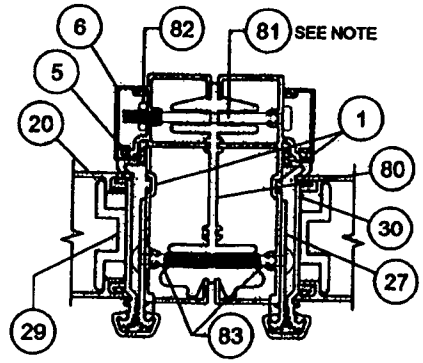
INTERIOR

EXTERIOR

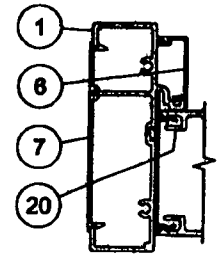
PRODUCT REVISED
as complying with the Florida Building Code
Application No. 11-1013.24
Expiration Date: FEB. 24, 2015



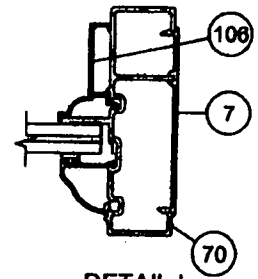
DETAIL H
NARROW JAMB SIDE LITE
(AT HINGE JAMB)



DETAIL K
HINGE JAMB TO HINGE JAMB
(NOT SHOWN ABOVE)



DETAIL E
JAMB, FULL JAMB
SIDE LITE



DETAIL I
JAMB, NARROW
JAMB SIDE LITE

Revised By	Date	Revisions	
F.K.	10/13/05	B	NO CHANGE THIS SHEET
J.R.	09/23/05	C	NO CHANGE THIS SHEET
J.R.	01/20/10	D	NO CHANGES THIS SHEET
Drawn By: F.K.	Date: 12/23/04	Checked By: L.T.	Date: 4/8/05

1080 TECHNOLOGY DRIVE
NOKOMIS, IL 62275
P.O. BOX 1539
NOKOMIS, FL 34274

PGT

Description: HORIZONTAL SECTION DETAILS
Title: ALUM. FRENCH DOOR & SIDE LITES, IMPACT

Model/Assembly	Scale	Sheet	Drawing No.	Rev.
FD750	1/2	6 of 12	8000-11	E

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

END

FD750 DOOR(S)

ITEM	DWG#	DESCRIPTION	PGT#
		FRAME KIT PARTS	
1	8006	FRAME - HEAD & HINGE JAMB	68006
2	8003A	OUT-SWING SILL	68003A
3	8004C	OUT-SWING SILL COVER	68004C ⚠
4	8008	DRIP CAP	68008
5	------	HEAD, SILL & JAMB WEATHERSTRIP (SCHLEGAL)	U83337T8500
6	8007	SCREW COVER	68007
7	8009	INSTALL PLATE	68009
8	------	FRAME ASSEMBLY SCREW #8 X 1" PH QUAD	781PQA
9	8032	ASTRAGAL END SEAL	48032
10	8058	OUT-SWING SILL (LOW RISE)	48058 ⚠
		DOOR PANEL	
5	------	HEAD, SILL & JAMB WEATHERSTRIP (SCHLEGAL)	U83337T8500
20	8012	STILE	68012
21	8014	TOP RAIL, (THREADED ROD DESIGN)	68014
22	8013	BOTTOM RAIL, (THREADED ROD DESIGN)	68013
23	8017	TOP SWEEP	68017
24	8016	BOTTOM SWEEP	68016
25	------	SWEEP SCREWS, #4 X 1/2" PHIL PH	
26	8015	ASTRAGAL, ACTIVE & INACTIVE	68015
27	8021B	GEAR HINGE, JAMB SIDE	68021B
28	8020A	GEAR HINGE, COVER	68020A
29	8018	GEAR HINGE, BACK-UP PLATE	68018
30	8019A	GEAR HINGE, DOOR SIDE	68019A
31	8035	GEAR HINGE, BEARING	68035
32	------	GEAR HINGE, SET-SCREW #6-32 x 1/4"	
33	------	GEAR HINGE, MTG. SCREW #12 x 3/4" TRUSS HD.	
34	------	GEAR HINGE, MTG. SCREW #12 x 1 1/2" TRUSS HD.	
35	------	THREADED ROD 5/16-18 X 36"	6TRODA
36	------	FLANGED HEX NUT 5/16-18	7990NUTA
37	8039	TRUSS CLAMP	6037BM
38	8043	S/S GEAR LATCH MECHANISM (ASHLAND)	
39	8030	LOCK BLOCK	48030
40	------	LATCH ASS'Y SCREWS #8 X 2" SS PHILL TR HD	782T2PAX
41	8037	S/S SHOOT BOLT ROD (SULLIVAN)	
42	8045	STANDARD FLUSH BOLTS W/ SS ROD (SULLIVAN)	
43	8031	SHOOT BOLT GUIDE	48031
44	------	SHOOT BOLT GUIDE & STRIKE SCREW 8-32 X 3/8" SS PHILL TR HD	782C38PFTX
45	8038R	RIGHT- STRIKE PLATE AT ASTRAGAL (ACTIVE HINGED LEFT)	W5110-4381
46	8038L	LEFT - STRIKE PLATE AT ASTRAGAL (ACTIVE HINGED RIGHT)	W5110-4451
47	------	STRIKE PLATE SCREWS 8-32 X 3/8" SS PHILL TR HD	782C38PFTX
48	------	STRIKE PLATE MIDDLE SCREW 6-24 X 1/2" FH	7612PPTX
49	8036	STRIKE PLATE AT HEAD & SILL	
50	------	HEAD STRIKE SCREWS SS 8 X 1/2 PHILL FH	7858ZAX
51	------	STRIKE PLATE SCREWS @SILL SS 8 X 1/2 PHILL UNDERCUT FH	78X12PPHUC
52	8041	ACTIVE TRIM SET (ASHLAND)	
53	8042	PASSIVE TRIM SET (ASHLAND)	
54	8044	STAINLESS STEEL PASSIVE LOCK GEAR (ASHLAND)	
55	8014A	TOP RAIL (LAG BOLT DESIGN)	68014A ⚠
56	8013A	BOTTOM RAIL (LAG BOLT DESIGN)	68013A ⚠
57	------	5/16" x 2 1/2" LAG BOLTS	7516LBOLTX ⚠

FD750 FULL JAMB SIDE LITE

ITEM	DWG#	DESCRIPTION	PGT#
1	8006	FRAME - HEAD, SILL & JAMB	68006
4	8008	DRIP CAP	68008
6	8007	SCREW COVER	68007
7	8009	INSTALL PLATE	68009
8	------	FRAME ASSEMBLY SCREW #8 X 1" PH QUAD	781PQA
20	8012	STILE	68012
21	8014	TOP RAIL	68014
22	8013	BOTTOM RAIL	68013
35	------	THREADED ROD 5/16-18 X 36"	6TRODA
36	------	FLANGED HEX NUT 5/16-18	7990NUTA
37	8039	TRUSS CLAMP	6037BM
60	------	#8 X 3/4" PH SQ DRIVE TEK SCREW	78X34PSTW
61	8028	SIDE LITE HEAD TRIM	68028
62	8029	SIDE LITE JAMB TRIM	68029

FD750 NARROW JAMB SIDE LITE

1	8006	FRAME - HEAD & SILL	68006
4	8008	DRIP CAP	68008
6	8007	SCREW COVER	68007
7	8009	INSTALL PLATE	68009
8	------	FRAME ASSEMBLY SCREW #8 X 1" PH QUAD	781PQA
21	8014	TOP RAIL	68014
22	8013	BOTTOM RAIL	68013
35	------	THREADED ROD 5/16-18 X 36"	6TRODA
36	------	FLANGED HEX NUT 5/16-18	7990NUTA
37	8039	TRUSS CLAMP	6037BM
60	------	#8 X 3/4" PH SQ DRIVE TEK SCREW	78X34PSTW
61	8028	SIDE LITE HEAD TRIM	68028
70	8010	FRAME, JAMB	68010

ASSEMBLY KIT

80	8033B	FRENCH DOOR ASSEMBLY BEAM	68033B
81	------	#10-24 X 2 1/2" PH SCREW	
82	------	#10-24 HEX NUT	
83	------	#12 X 1 1/2" TR HD TEK SCREW	
84	8056	SUBSILL (OPTIONAL)	68056 ⚠

GLASS, BEADS & SILICONE

90	------	GLAZING SEALANT, DOW CORNING 899, 983, 995 OR EQUIVALENT	
91	------	7/16" LAMINATED GLASS (3/16" ANN.,.090 PVB, 3/16" HS)	
92	------	7/16" LAMINATED GLASS (3/16" HS.,.090 PVB, 3/16" HS)	
93	------	7/16" LAMINATED GLASS (3/16" ANN.,.075 VANCEVA, 3/16" HS)	
94	------	7/16" LAMINATED GLASS (3/16" HS.,.075 VANCEVA, 3/16" HS)	
95	------	7/8" LAMI I.G. (3/16" T, 1/4" SPACE, 3/16" ANN.,.090 PVB, 3/16" HS)	
96	------	7/8" LAMI I.G. (3/16" T, 1/4" SPACE, 3/16" HS.,.090 PVB, 3/16" HS)	
97	------	7/8" LAMI I.G. (3/16" T, 1/4" SPACE, 3/16" ANN.,.075 VANCEVA, 3/16" HS)	
98	------	7/8" LAMI I.G. (3/16" T, 1/4" SPACE, 3/16" HS.,.075 VANCEVA, 3/16" HS)	
105	8022	BACK BEAD	68022
106	8026A	SL BACKBEAD	68026A
107	8023A	7/16" BEAD	68023A
108	8024A	7/8" IG BEAD	68024A
109	1224	VINYL BULB W STP (THICK)	6TP247

Revised By:	Date:	Revision:	
F.K.	10/13/08	B	UPDATE ITEM 3. ADD ITEMS 68, 56, 57 AND 84.
J.R.	08/22/09	C	ADDED LOW RISE SILL
J.R.	01/28/10	D	NO CHANGES THIS SHEET
Drawn By: F.K.	Date: 12/23/04	Checked By: L.T.	Date: 4/8/05

1970 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 9529
NOKOMIS, FL 34274

PGT

Description: PARTS LIST

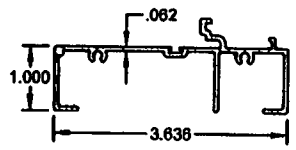
Title: ALUM. FRENCH DOOR & SIDE LITES, IMPACT

Product/Model	Series	Sheet	Drawing No.	Rev
FD750	NA	7 of 12	8000-11	E

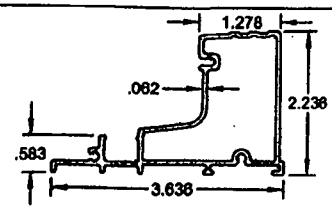
PRODUCT REVIEWED as complying with the Florida Building Code
Application No. 11-1013.24
Expiration Date: FEB. 04, 2015
By: [signature] Product Control

ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER
10/11/11
A. LYNN MILLER, P.E.
FL P.E.# 58705

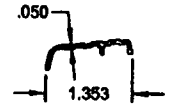
END



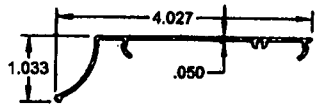
#8006 6063-T6
(1) FRAME, HEAD, JAMB AND SIDELITE SILL



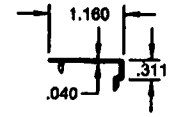
(2) #8003A 6063-T6
OUT-SWING SILL



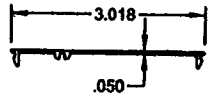
(3) #8004C 6063-T5 ⚠
OS SILL COVER



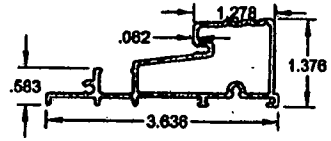
(4) #8008 6063-T5
DRIP CAP



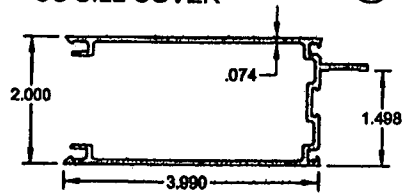
(6) #8007 6063-T6
SCREW COVER



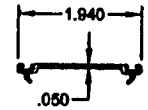
(7) #8009 6063-T5
INSTALL PLATE



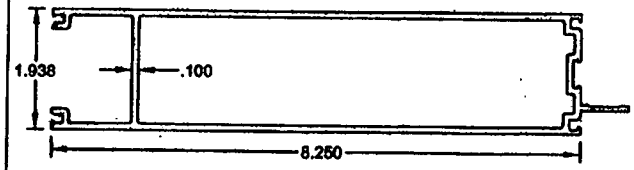
⚠ (10) #8056 6063-T6
OUT-SWING LOW SILL



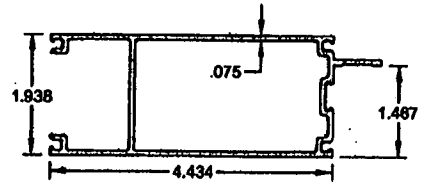
(20) #8012 6063-T6
STILE



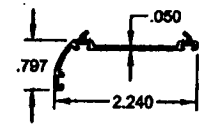
(23) #8017 6063-T5
TOP SWEEP



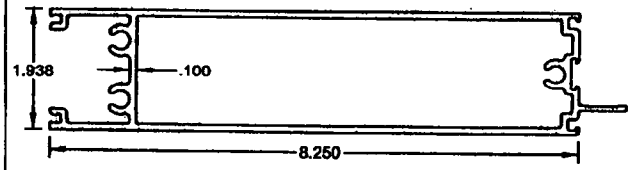
(22) #8013 6063-T6
BOTTOM RAIL



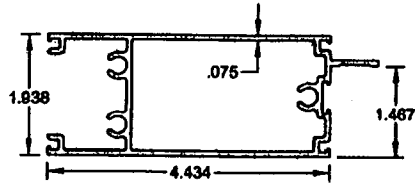
(21) #8014 6063-T5
TOP RAIL



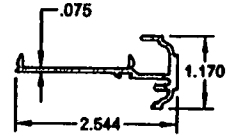
(24) #8016 6063-T6
BOTTOM SWEEP



(56) #8013A 6063-T6
BOTTOM RAIL, LAG BOLT DESIGN



(55) #8014A 6063-T5
TOP RAIL, LAG BOLT DESIGN



(26) #8015 6063-T6
ASTRAGAL

PRODUCT REVISED
to comply with the Florida Building Code
Application No. 11-1013.24
Expiration Date: 08.24.2015
By: [signature]
Miami-Dade Product Control

Revised By:	Date:	Revision:	
F.K.	10/13/08	B	UPGRADE ITEMS 8.
J.R.	08/23/09	C	ADDED LOW RISE SILL AND SECOND EXTRUSION SHEET
J.R.	01/25/10	D	NO CHANGES THIS SHEET
Drawn By: F.K.	Date: 12/23/04	Checked By: L.T.	Date: 4/8/05

1090 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1539
NOKOMIS, FL 34274

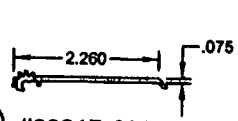
PGT

Description: EXTRUSION PROFILES
Title: ALUM. FRENCH DOOR & SIDE LITES, IMPACT

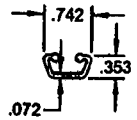
Estimator:	Scale:	Sheet:	Drawing No.:	Rev:
FD780	1/2	8 of 12	8000-11	E

ANTHONY LYNN MILLER
LICENSE
No. 56705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
FL P.E.# 58705

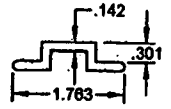
END



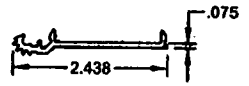
(27) #8021B 6063-T6
GEAR HINGE, JAMB



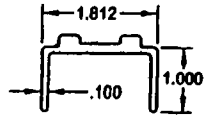
(28) #8020A 6063-T6
GEAR HINGE, COVER



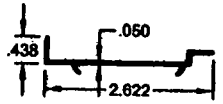
(29) #8018 6063-T5
HINGE, BACK-UP



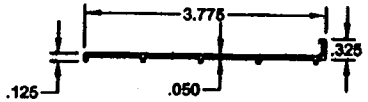
(30) #8019A 6063-T6
GEAR HINGE, DOOR



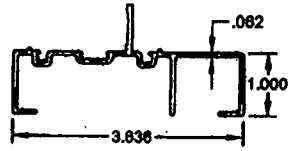
(37) #8039 6063-T6
TRUSS CLAMP



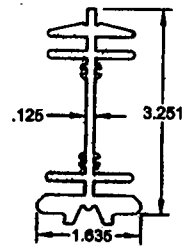
(61) #8028 6063-T5
SL HEAD TRIM



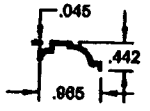
(84) #8056 6063-T4
SUBSILL, OPTIONAL



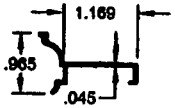
(70) #8010 6063-T6
NARROW SL JAMB



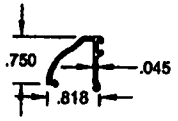
(80) #8033B 6105-T5
FD ASS'Y BEAM



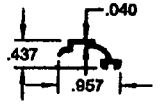
(105) #8022 6063-T5
BACKBEAD



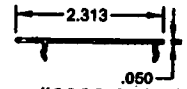
(106) #8026A 6063-T5
SL BACKBEAD



(107) #8023A 6063-T5
7/16" BEAD



(108) #8024A 6063-T5
I.G. BEAD



(62) #8029 6063-T5
SL JAMB TRIM

PRODUCT REVISED
to complying with the Florida
Building Code
Acceptance No. 11-1013.24
Expiration Date FEB. 25, 2015

Revised By:	Date:	Revisions:	
F.K.	10/13/06	B	UPGRADE ITEMS 8
Revised By:	Date:	Revisions:	
J.R.	08/22/06	C	NEW PAGE
Revised By:	Date:	Revisions:	
J.R.	01/25/10	D	NO CHANGES THIS SHEET
Drawn By:	Date:	Checked By:	Date:
F.K.	12/23/04	L.T.	4/8/05

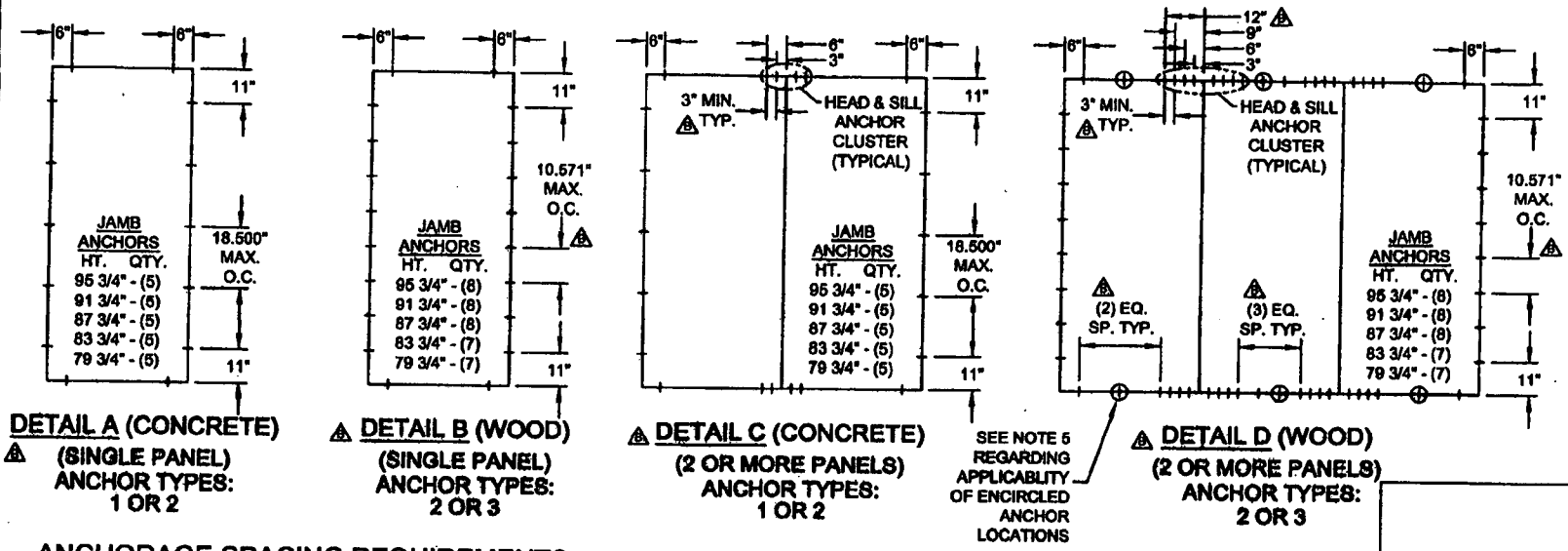
1000 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274

Description: EXTRUSION PROFILES
Title: ALUM. FRENCH DOOR & SIDE LITES, IMPACT

Substitutes:	Scale:	Sheet:	Drawing No.:	Rev:
FD760	1/2	9 of 12	8000-11	E

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

END



ANCHORAGE SPACING REQUIREMENTS:

1. DETAILS A AND B ABOVE REPRESENT ANCHORING OF SINGLE X DOORS, OR INDIVIDUAL SIDE LITE O PANELS WITH FULL OR NARROW WIDTH JAMBS. DETAILS C AND D ABOVE REPRESENT ANCHORING OF ANY MIXTURE OF DOUBLE XX DOORS, SINGLE X DOORS, NARROW JAMB OR FULL JAMB SIDE LITE PANELS, FOR MULTIPLE-PANEL INSTALLATIONS OF TWO OR MORE PANELS. UNLESS OTHERWISE STATED, DIMENSIONS OF DETAILS A THROUGH D ARE MAXIMUMS.

2. ANCHOR TYPES: 1 - 1/4" ELCO ULTRACON 2 -1/4" ELCO SS4 CRETE-FLEX 3 - #12 STEEL SCREW (G5)

CONCRETE SUBSTRATE USE TYPE 1 AT 1 3/8" MIN. EMBEDMENT OR TYPE 2 AT 1 3/4" EMBEDMENT. 1 3/4" MIN. EDGE DISTANCE FOR BOTH.
WOOD SUSTRATE - USE TYPE 2 OR TYPE 3 AT 1 3/8" MIN. EMBEDMENT.

3. SINGLE PANEL CONFIGURATIONS: (DETAIL A, CONCRETE SUBSTRATE. DETAIL B, WOOD SUBSTRATE)

HEAD AND SILL.....6" MAX. FROM FRAME CORNERS.
JAMBS.....11" MAX. FROM FRAME CORNERS, 18.500" MAX. O.C. CONCRETE SUBSTRATE (DETAIL A) AND 10.571" MAX. O.C. WOOD SUBSTRATE (DETAIL B).

4. TWO OR MORE PANEL CONFIGURATIONS: (DETAIL C, CONCRETE SUBSTRATE)

HEAD AND SILL.....6" MAX. FROM FRAME CORNERS, AND AT 3" AND 6" MAX. ON EACH SIDE OF ASSEMBLY BEAM AND/OR ASTRAGAL LOCATIONS (CLUSTER OF 4).
JAMBS....11" MAX. FROM FRAME CORNERS AND 18.500" MAX. O.C.

5. TWO OR MORE PANEL CONFIGURATIONS: (DETAIL D, WOOD SUBSTRATE)

HEAD AND SILL.....6" MAX. FROM FRAME CORNERS, AND AT 3", 6", 9" AND 12" MAX. ON EACH SIDE OF ASSEMBLY BEAM AND/OR ASTRAGAL LOCATIONS (CLUSTER OF 8).
PLUS ENCIRCLED ANCHORS OUTSIDE CLUSTERS, REQUIRED ONLY ON PANEL WIDTHS OVER 27 3/4".
JAMBS.....11" MAX. FROM FRAME CORNERS AND 10.571" MAX. O.C.

Revised By	Date	Revision	
F.K.	10/12/06	B	REMOVE NOTE PERTAINING TO ANCHORAGE OUTSIDE MDX COUNTY. REVISE ANCHORAGE PER FBC2004 AND REVISE NOTES# 2, 3 & 5.
J.R.	08/23/09	C	NO CHANGE THIS SHEET
J.R.	01/28/10	D	CHANGED "TAPCON" TO "ULTRACON".
F.K.	12/23/04	L.T.	4/8/05

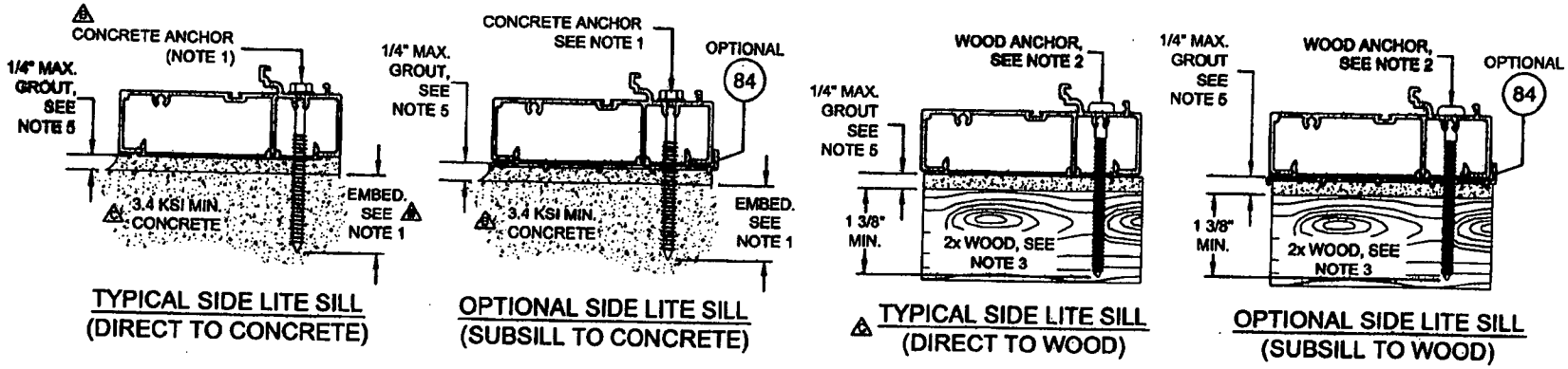
1070 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274

Description: ANCHORAGE SPACING					
Title: ALUM. FRENCH DOOR & SIDE LITES, IMPACT					
Series/Model: FD780	Scale: 1/4	Sheet: 10 of 12	Drawing No.: 8000-11	Rev: E	

PRODUCT APPROVED in accordance with the Florida Building Code. Application No. 11-1013.24 Expiration Date: 08.24.2015

ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER

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



TYPICAL SIDE LITE SILL (DIRECT TO CONCRETE)

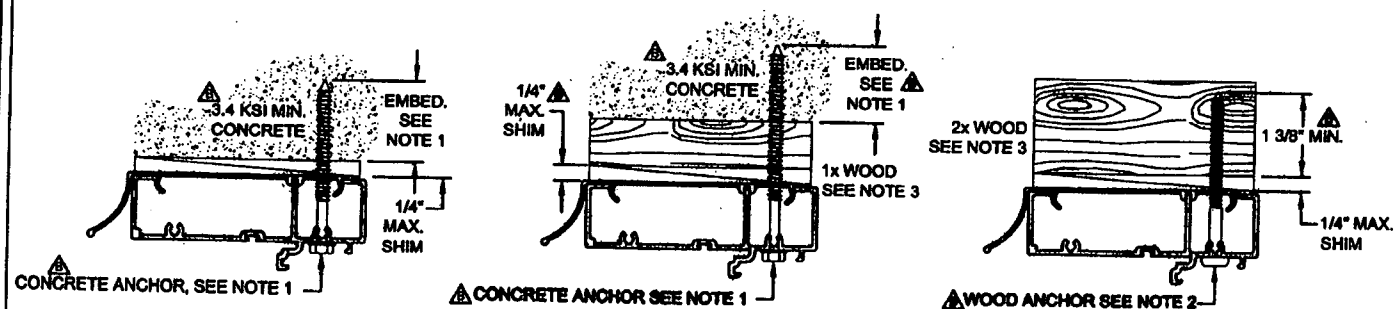
OPTIONAL SIDE LITE SILL (SUBSILL TO CONCRETE)

TYPICAL SIDE LITE SILL (DIRECT TO WOOD)

OPTIONAL SIDE LITE SILL (SUBSILL TO WOOD)

EXTERIOR INTERIOR

(ALL HEAD & SILL SECTIONS)



TYPICAL DOOR & SIDE LITE HEAD

NOTES:

1. FOR CONCRETE APPLICATIONS IN MIAMI-DADE COUNTY, USE ONLY MIAMI-DADE COUNTY APPROVED ELCO 1/4" ULTRACONS OR 1/4" SS4 CRETE-FLEX. MIN. DISTANCE FROM ANCHOR TO CONCRETE EDGE IS 1 3/4". MIN. EMBEDMENT: 1/4" ULTRACON - 1 3/8", 1/4" SS4 CRETE-FLEX - 1 3/4".
2. FOR WOOD APPLICATIONS USE #12 STEEL SCREWS (G5) OR ELCO 1/4" SS4 CRETE-FLEX - 1 3/8" MIN. EMBEDMENT FOR EITHER.
3. 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. 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).
4. FOR ATTACHMENT TO ALUM: THE MAT'L SHALL BE A MIN. STRENGTH OF 6063-T5 AND A MIN. OF 1/8" THICK. THE ALUM. STRUCTURAL MEMBER SHALL BE OF A SIZE TO PROVIDE FULL SUPPORT TO THE DOOR FRAME SIMILAR TO THAT SHOWN IN THE DETAILS ON THIS SHEET FOR 2x WOOD BUCKS. THE ANCHOR SHALL BE A #12 SMS WITH FULL ENGAGEMENT INTO THE ALUM. IF THESE CRITERIA ARE MET, THE PRESSURES SHOWN ON SHEET 3 AND ANCHORAGE SPACING FOR WOOD SHOWN ON SHEET 10 MAY BE USED.
5. IF SILL IS TIGHT TO SUBSTRATE, GROUT OR OTHER MATERIAL IS NOT REQUIRED. IF USED, NON-SHRINK, NON-METALLIC GROUT, 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.

Revised By	Date	Revision	
F.K.	10/13/09	B	UPDATE ANCHORAGE AND NOTES
J.R.	6/6/2009	C	CHANGED MIN fc OF CONCRETE. ADDED BISBILITE SILL DETAIL. REORGANIZED DETAILS.
J.R.	8/10/2010	D	CHANGED "TAPCON" TO "ULTRACON".
Drawn By: F.K.	Date: 12/23/04	Checked By: L.T.	Date: 4/8/05

1000 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274

PGT

ANCHORAGE DETAILS

ALUM. FRENCH DOOR & SIDE LITES, IMPACT

Scale	Sheet	Drawing No.	Rev
FD750	1/4	11 x 12	8000-11	E

PRODUCT REVIEWED in accordance with the Florida Building Code Application No. 11-1013.24 Expiration Date: FEB. 18, 2015

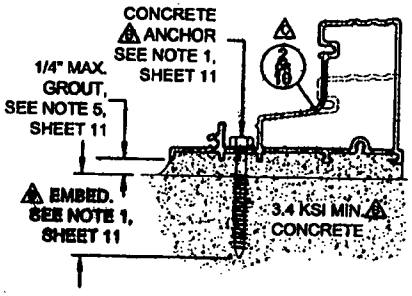
ANTHONY LYNN MILLER LICENSE No. 58705 STATE OF FLORIDA PROFESSIONAL ENGINEER

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

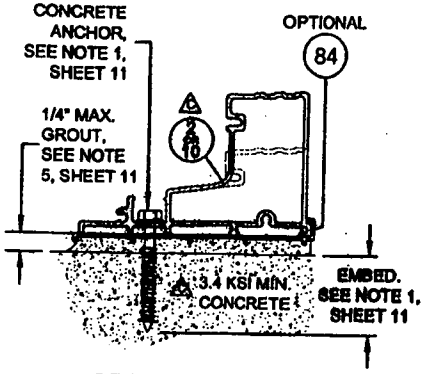
END

EXTERIOR INTERIOR

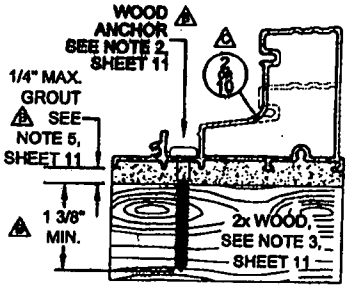
(ALL SILL SECTIONS)



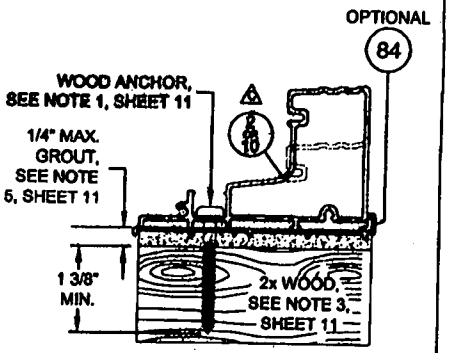
TYPICAL DOOR SILL
(DIRECT TO CONCRETE)



OPTIONAL DOOR SILL
(SUBSILL TO CONCRETE)



TYPICAL DOOR SILL
(DIRECT TO WOOD)

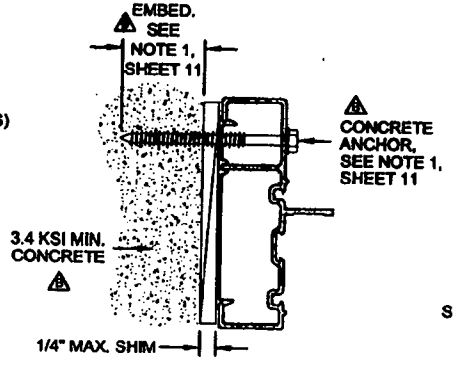


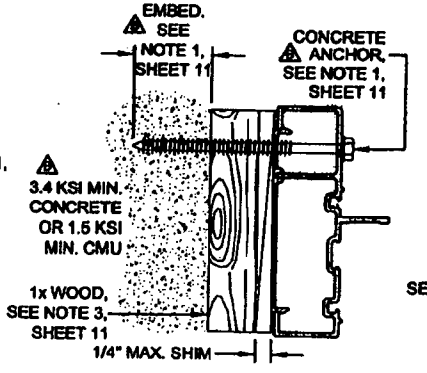
OPTIONAL DOOR SILL
(SUBSILL TO WOOD)

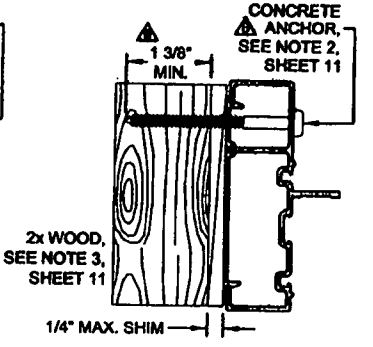
INTERIOR

(ALL JAMB SECTIONS)

EXTERIOR







TYPICAL DOOR & SIDE LITE JAMB

PRODUCT REVIEWED as complying with the Florida Building Code
Application No. 11-1013.24
Expiration Date: Feb. 24, 2015

Revised By	Date	Number	
F.K.	10/13/09	B	NEW SHT: ADD SUBSILL AND ALTERNATE TOP & BOTTOM RAIL EXTRUSIONS
J.R.	6/22/09	C	CHANGED MIN KSI OF CONCRETE. ADDED LOW RISE SILL OPTION. REORGANIZED DETAILS.
J.R.	6/25/10	D	NO CHANGES THIS SHEET
Drawn By: F.K.	Date: 12/23/04	Checked By: L.T.	Date: 4/8/05

1080 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1539
NOKOMIS, FL 34274

PGT

Description: ANCHORAGE DETAILS

Title: ALUM. FRENCH DOOR & SIDE LITES, IMPACT

Product/Model	Scale	Sheet	Drawing No.	Rev.
FD750	1/4	12 = 12	8000-11	E

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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

END

FLORIDA DEPARTMENT OF
Community Affairs

Product Approval
USER: Public User

FL #	FL8692-R2
Application Type	Revision
Code Version	2007
Application Status	Approved
	*Approved by DCA. Approvals by DCA shall be reviewed and ratified by the POC and/or the Commission if necessary.
Comments	
Archived	
Product Manufacturer	Masonite International
Address/Phone/Email	One North Dale Mabry Suite 950 Tampa, FL 33609 (615) 441-4258 sschreiber@masonite.com
Authorized Signature	Steve Schreiber sschreiber@masonite.com
Technical Representative Address/Phone/Email	
Quality Assurance Representative Address/Phone/Email	
Category	Exterior Doors
Subcategory	Swinging Exterior Door Assemblies
Compliance Method	Certification Mark or Listing
Certification Agency	National Accreditation & Management Institute,
Validated By	National Accreditation & Management Institute,

Referenced Standard and Year (of Standard)

Standard	Year
TAS 201	1994
TAS 202	1994
TAS 203	1994

Equivalence of Product Standards Certified By

Product Approval Method	Method 1 Option A
Date Submitted	02/01/2011
Date Validated	03/10/2011
Date Pending FBC Approval	
Date Approved	03/22/2011

Summary of Products

FL #	Model, Number or Name	Description
8692.1	Hurricane Belleville Fiberglass Door Unit	6'-8" Opaque I/S and O/S Single Door
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +70.0/-70.0 **Other:** Evaluated for use in locations adhering to the Florida Building Code including the High Velocity Hurricane Zone, and where pressure requirements as determined by ASCE 7 do not exceed the design pressures listed. 3'-0" x 6'-8" max nominal size. Hurricane protective system is NOT required. See anchor detail DWG-MA-FL0170-07 for additional information.		**Certification Agency Certificate** FL8692_R2_C_CAC_NI007077-R1.PDF **Quality Assurance Contract Expiration Date** 12/31/2014 **Installation Instructions** FL8692_R2_II_FL0170.pdf Verified By: National Accreditation & Management Institute, Created by Independent Third Party: **Evaluation Reports** FL8692_R2_AE_504A.pdf Created by Independent Third Party: Yes
8692.2	Hurricane Belleville Fiberglass Door Unit	8'-0" Opaque I/S and O/S Single Door
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +70.0/-70.0 **Other:** Evaluated for use in locations adhering to the Florida Building Code including the High Velocity Hurricane Zone, and where pressure requirements as determined by ASCE 7 do not exceed the design pressures listed. 3'-0" x 8'-0" max nominal size. Hurricane protective system is NOT required. See anchor detail DWG-MA-FL0171-07 for additional information.		**Certification Agency Certificate** FL8692_R2_C_CAC_NI007077-R1.PDF **Quality Assurance Contract Expiration Date** 12/31/2014 **Installation Instructions** FL8692_R2_II_FL0171.pdf Verified By: National Accreditation & Management Institute, Created by Independent Third Party: **Evaluation Reports** FL8692_R2_AE_503A.pdf Created by Independent Third Party: Yes
8692.3	Hurricane Belleville Fiberglass Door Unit	6'-8" Opaque I/S Single or Double Door w/ or w/o Sidelites
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +50.5/-50.5 **Other:** Evaluated for use in locations adhering to the Florida Building Code including the High Velocity Hurricane Zone, and where pressure requirements as determined by ASCE 7 do not exceed the design pressures listed. 12'-0" x 6'-8" max nominal size. Hurricane protective system is NOT required. See anchor detail DWG-MA-FL0170-07 for additional information.		**Certification Agency Certificate** FL8692_R2_C_CAC_NI007077-R1.PDF **Quality Assurance Contract Expiration Date** 12/31/2014 **Installation Instructions** FL8692_R2_II_FL0170.pdf Verified By: National Accreditation & Management Institute, Created by Independent Third Party: **Evaluation Reports** FL8692_R2_AE_502A.pdf Created by Independent Third Party: Yes
8692.4	Hurricane Belleville Fiberglass Door Unit	6'-8" Opaque O/S Single or Double Door w/ or w/o Sidelites
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +55.0/-50.5 **Other:** Evaluated for use in locations adhering to the Florida Building Code including the High Velocity		**Certification Agency Certificate** FL8692_R2_C_CAC_NI007077-R1.PDF **Quality Assurance Contract Expiration Date** 12/31/2014 **Installation Instructions** FL8692_R2_II_FL0170.pdf Verified By: National Accreditation & Management

Hurricane Zone, and where pressure requirements as determined by ASCE 7 do not exceed the design pressures listed. 12'-0" x 6'-8" max nominal size. Hurricane protective system is NOT required. See anchor detail DWG-MA-FL0170-07 for additional information.		Institute, Created by Independent Third Party: **Evaluation Reports** FL8692_R2_AE_502A.pdf Created by Independent Third Party: Yes
8692.5	Hurricane Belleville Fiberglass Door Unit	8'-0" Opaque I/S Single or Double Door w/ or w/o Sidelites
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +50.5/-50.5 **Other:** Evaluated for use in locations adhering to the Florida Building Code including the High Velocity Hurricane Zone, and where pressure requirements as determined by ASCE 7 do not exceed the design pressures listed. 12'-0" x 8'-0" max nominal size. Hurricane protective system is NOT required. See anchor detail DWG-MA-FL0171-07 for additional information.		**Certification Agency Certificate** FL8692_R2_C_CAC_NI007077-R1.PDF **Quality Assurance Contract Expiration Date** 12/31/2014 **Installation Instructions** FL8692_R2_II_FL0171.pdf Verified By: National Accreditation & Management Institute, Created by Independent Third Party: **Evaluation Reports** FL8692_R2_AE_501A.pdf Created by Independent Third Party: Yes
8692.6	Hurricane Belleville Fiberglass Door Unit	8'-0" Opaque O/S Single or Double Door w/ or w/o Sidelites
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +55.0/-50.5 **Other:** Evaluated for use in locations adhering to the Florida Building Code including the High Velocity Hurricane Zone, and where pressure requirements as determined by ASCE 7 do not exceed the design pressures listed. 12'-0" x 8'-0" max nominal size. Hurricane protective system is NOT required. See anchor detail DWG-MA-FL0171-07 for additional information.		**Certification Agency Certificate** FL8692_R2_C_CAC_NI007077-R1.PDF **Quality Assurance Contract Expiration Date** 12/31/2014 **Installation Instructions** FL8692_R2_II_FL0171.pdf Verified By: National Accreditation & Management Institute, Created by Independent Third Party: **Evaluation Reports** FL8692_R2_AE_501A.pdf Created by Independent Third Party: Yes
8692.7	Hurricane Belleville Fiberglass Door Unit	6'-8" Glazed I/S and O/S Single or Double Door w/ or w/o Sidelites
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +55.0/-55.0 **Other:** Evaluated for use in locations adhering to the Florida Building Code including the High Velocity Hurricane Zone, and where pressure requirements as determined by ASCE 7 do not exceed the design pressures listed. 12'-0" x 6'-8" max nominal size. Hurricane protective system is NOT required. See anchor detail DWG-MA-FL0172-07 for additional information.		**Certification Agency Certificate** FL8692_R2_C_CAC_NI007077-R1.PDF **Quality Assurance Contract Expiration Date** 12/31/2014 **Installation Instructions** FL8692_R2_II_FL0172.pdf Verified By: National Accreditation & Management Institute, Created by Independent Third Party: **Evaluation Reports** FL8692_R2_AE_502A.pdf Created by Independent Third Party: Yes
8692.8	Hurricane Belleville Fiberglass Door Unit	8'-0" Glazed I/S Single or Double Door w/ or w/o Sidelites
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +43.0/-47.0 **Other:** Evaluated for use in locations adhering to the Florida Building Code including the High Velocity Hurricane Zone, and where pressure requirements as determined by ASCE 7 do not exceed the design pressures listed. 12'-0" x 8'-0" max nominal size. Hurricane protective system is NOT required. See anchor detail DWG-MA-FL0173-07 for additional information.		**Certification Agency Certificate** FL8692_R2_C_CAC_NI007077-R1.PDF **Quality Assurance Contract Expiration Date** 12/31/2014 **Installation Instructions** FL8692_R2_II_FL0173.pdf Verified By: National Accreditation & Management Institute, Created by Independent Third Party: **Evaluation Reports** FL8692_R2_AE_501A.pdf Created by Independent Third Party: Yes
8692.9	Hurricane Belleville Fiberglass Door Unit	8'-0" Glazed O/S Single or Double Door w/ or w/o Sidelites
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes		**Certification Agency Certificate** FL8692_R2_C_CAC_NI007077-R1.PDF **Quality Assurance Contract Expiration Date**

Impact Resistant: Yes **Design Pressure:** +47.0/-45.0 **Other:** Evaluated for use in locations adhering to the Florida Building Code including the High Velocity Hurricane Zone, and where pressure requirements as determined by ASCE 7 do not exceed the design pressures listed. 12'-0" x 8'-0" max nominal size. Hurricane protective system is NOT required. See anchor detail DWG-MA-FL0173-07 for additional information.		12/31/2014 **Installation Instructions** FL8692_R2_II_FL0173.pdf Verified By: National Accreditation & Management Institute, Created by Independent Third Party: **Evaluation Reports** FL8692_R2_AE_501A.pdf Created by Independent Third Party: Yes
8692.10	Hurricane Belleville Fiberglass Door Unit	8'-0" Glazed I/S and O/S Single or Double Door w/ or w/o Sidelites (with surface bolts)
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +55.0/-55.0 **Other:** Evaluated for use in locations adhering to the Florida Building Code including the High Velocity Hurricane Zone, and where pressure requirements as determined by ASCE 7 do not exceed the design pressures listed. 12'-0" x 8'-0" max nominal size. Hurricane protective system is NOT required. See anchor detail DWG-MA-FL0173-07 for additional information.		**Certification Agency Certificate** FL8692_R2_C_CAC_NI007077-R1.PDF **Quality Assurance Contract Expiration Date** 12/31/2014 **Installation Instructions** FL8692_R2_II_FL0173.pdf Verified By: National Accreditation & Management Institute, Created by Independent Third Party: **Evaluation Reports** FL8692_R2_AE_501A.pdf Created by Independent Third Party: Yes

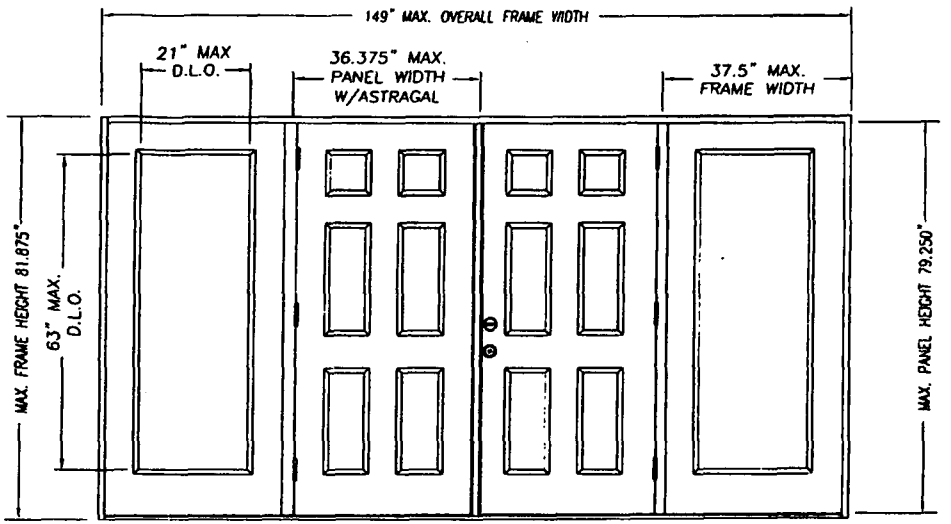
Back Next

Department of Community Affairs
Florida Building Code Online
Codes and Standards
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100
(850) 487-1824, Fax (850) 414-8436

Product Approval Accepts:

Masonite

HURRICANE BELLEVILLE FIBERGLASS DOOR UNIT
6'-8" DOUBLE DOOR WITH / WITHOUT SIDELITES



DOUBLE DOOR UNIT W/SIDELITES

GENERAL NOTES

1. EVALUATED FOR USE IN LOCATIONS ADHERING TO THE FLORIDA BUILDING CODE AND WHERE PRESSURE REQUIREMENTS AS DETERMINED BY ASCE 7, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, DOES NOT EXCEED THE DESIGN PRESSURES LISTED.
2. THIS PRODUCT DOES NOT REQUIRE THE USE OF A HURRICANE PROTECTIVE SYSTEM (SHUTTERS).
3. POLYURETHANE CORE FLAME SPREAD INDEX OF 50 AND SMOKE DEVELOPED INDEX OF 60 PER ASTM E84.
4. PLASTICS TESTING OF FIBERGLASS FACING:

TEST DESCRIPTION	DESIGNATION	RESULT
SELF IGNITION TEMP	ASTM D1929	752 °F > 650 °F
RATE OF BURNING	ASTM D635	0.56 IN/MIN
SMOKE DENSITY	ASTM D2843	53.4%
TENSILE STRENGTH*	ASTM D638	3.2% DIFF

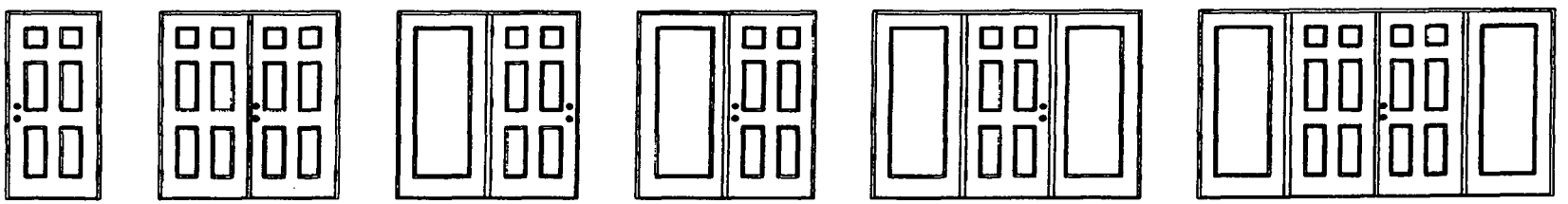
5. PLASTICS TESTING OF LITE FRAME MATERIAL:

TEST DESCRIPTION	DESIGNATION	RESULT
SELF IGNITION TEMP	ASTM D1929	980 °F > 650 °F
RATE OF BURNING	ASTM D635	1.04 IN/MIN
SMOKE DENSITY	ASTM D2843	73.6%
TENSILE STRENGTH*	ASTM D638	2.8% DIFF

* COMPARATIVE TENSILE STRENGTH AFTER WEATHERING 4500 HOURS XENON ARC METHOD 1

Addendum to NAMI

Certification No.: N109077-R1
Reviewed By:
Date Reviewed: 12/17/10



SINGLE DOOR UNIT | DOUBLE DOOR UNIT | SINGLE DOOR UNIT WITH SIDELITE | SINGLE DOOR UNIT WITH SIDELITE | SINGLE DOOR UNIT W/SIDELITES | DOUBLE DOOR UNIT W/SIDELITES

TABLE OF CONTENTS

CONFIG	MAX WIDTH	DESIGN PRESSURE RATING				WHERE WATER INFILTRATION PERFORMANCE IS REQUIRED TO BE 15% OF DESIGN PRESSURE				
		INSWING		OUTSWING		INSWING		OUTSWING		OUTSWING*
X	37.5"	+70.0	-70.0	+70.0	-70.0	+19.0	-49.0	+70.0	-70.0	+70.0 / -70.0
XX	74"	+50.5	-50.5	+55.0	-50.5	+19.0	-19.0	+40.0	-40.0	+55.0 / -50.5
OX or XO	75"	+50.5	-50.5	+55.0	-50.5	+19.0	-19.0	+40.0	-40.0	+55.0 / -50.5
OXO	112.5"	+50.5	-50.5	+55.0	-50.5	+19.0	-19.0	+40.0	-40.0	+55.0 / -50.5
OXXO	149"	+50.5	-50.5	+55.0	-50.5	+19.0	-19.0	+40.0	-40.0	+55.0 / -50.5

* High Dam Threshold Design

1-21-11

KURT BALTHAZOR
FLORIDA P.E.
#56533

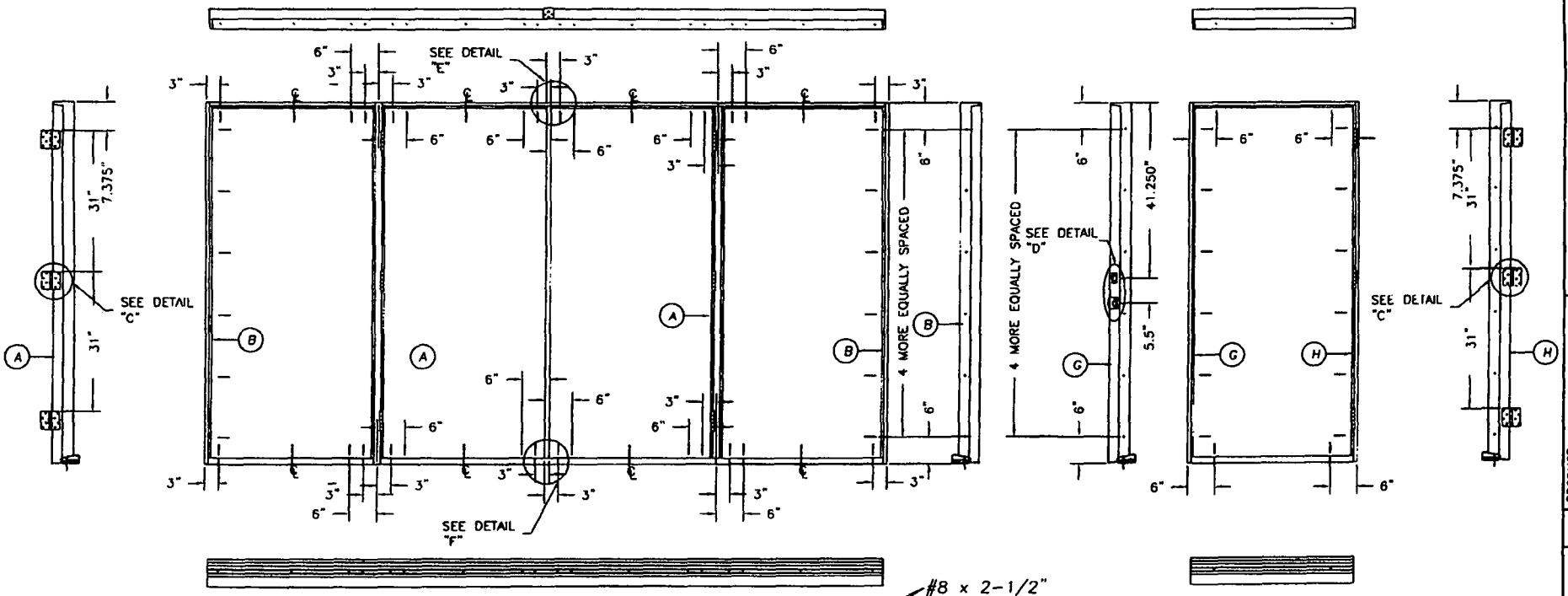
MASONITE INTERNATIONAL CORP.
1955 POWIS ROAD
WEST CHICAGO, IL 60185

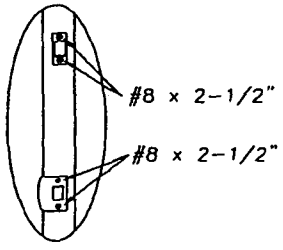
PRODUCT: "EXTERIOR DOOR PRODUCT" DOUBLE 6'8" OPAQUE FIBERGLASS DOOR

PART OR ASSEMBLY: TYPICAL ELEVATIONS & GENERAL NOTES

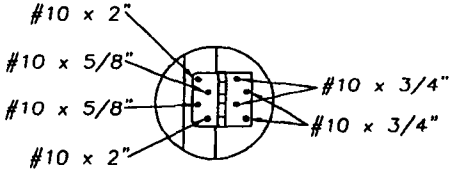
NO.	DATE	REVISIONS	BY
A	11/2/10	MISC UPDATES	SWS

DATE: 4/9/07
SCALE: N.T.S.
DWG. BY: SWS
CHK. BY:
DRAWING NO.: DWG-MA-FL0170-07
SHEET 1 OF 3

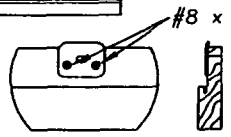




DETAIL "D"

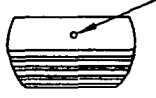


DETAIL "C"



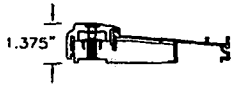
DETAIL "E" ASTRAGAL

ATTACH ASTRAGAL RETAINER BOLT STRIKE PLATE TO FRAME AS SHOWN.

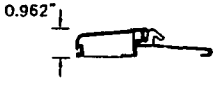


ASTRAGAL RETAINER BOLT HOLE MUST BE DRILLED THROUGH THE THRESHOLD & INTO THE STRUCTURE DEEP ENOUGH FOR A 1.375" THROW

DETAIL "F" ASTRAGAL

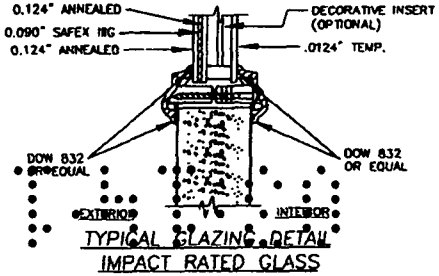


INSWING THRESHOLD



OUTSWING THRESHOLD

HIGH DAM O/S THRESHOLD



TYPICAL GLAZING DETAIL IMPACT RATED GLASS

Addendum to NAMI

Certification No: N1607677-R1
Reviewed By:
Date Reviewed: 12/12/10

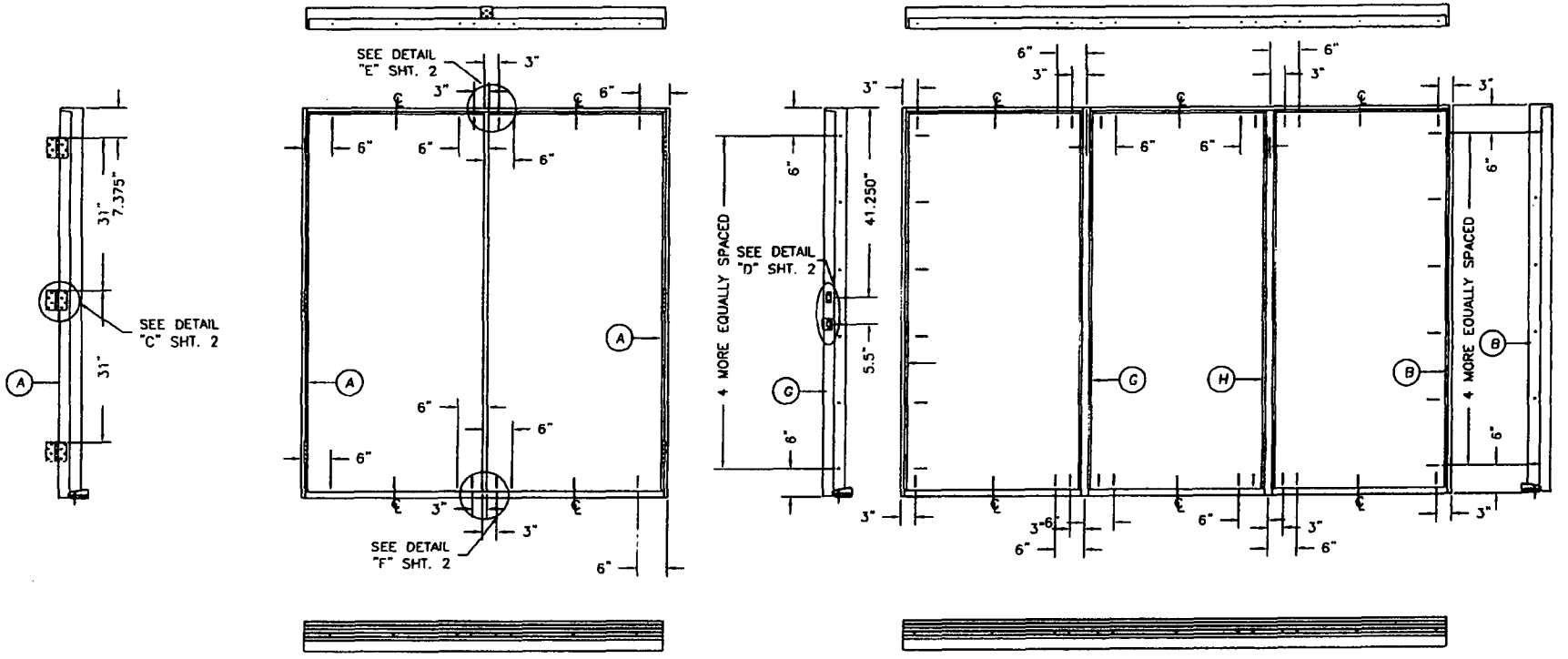
MASONITE INTERNATIONAL CORP.
1955 POWIS ROAD
WEST CHICAGO, IL 60185

PRODUCT: EXTERIOR DOOR PRODUCT 6'-8" FIBERGLASS OPAQUE DOUBLE DOOR UNIT

PART OR ASSEMBLY: ANCHORING LOCATIONS & DETAILS

NO.	DATE	REVISIONS	BY
A	11/2/10	MISC UPDATES	SWS

DATE: 4/9/07
SCALE: N.T.S.
DWG. BY: SWS
CHK. BY:
DRAWING NO.: DWG-MA-FLD170-07
SHEET 2 OF 3

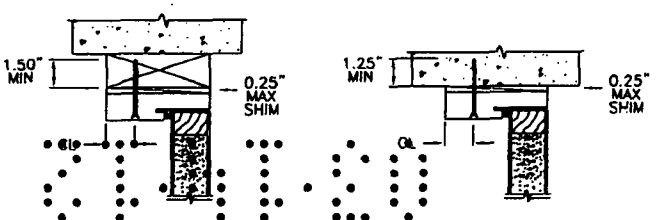


ATTACHMENT DETAIL

1. ANCHOR ANALYSIS FOR LOADING CONDITIONS PREPARED, SIGNED AND SEALED BY LUIS R. LOMAS, PE (FLORIDA #62514) WITH THE LOWEST (LEAST) FASTENER RATING FROM THE DIFFERENT FASTENERS BEING CONSIDERED FOR USE. JAMB, HEAD, AND THRESHOLD FASTENERS ANALYZED FOR THIS UNIT INCLUDE #10 WOOD SCREWS OR 3/16" TAPCONS. A PHYSICAL SHIM MUST BE PLACED IN SHIM SPACE AT EACH ANCHOR LOCATION.
2. THE WOOD SCREW SINGLE SHEAR DESIGN VALUES COME FROM ANSI/AF&PA NDA FOR SOUTHERN PINE LUMBER AND ACHEIVEMENT OF 1-1/2" MINIMUM EMBEDMENT. THE TAPCON MUST ACHIEVE MINIMUM EMBEDMENT OF 1-1/4".
3. WOOD BUCKS BY OTHERS MUST BE ANCHORED PROPERLY TO TRANSFER LOADS TO STRUCTURE.
4. MINIMUM DESIGN VALUE STRENGTH OF ANCHORS 171 LBS.

HARDWARE SCHEDULE

1.	KWIKSET SERIES 400 GRADE 3 CYLINDRICAL LATCH AND SERIES 980 GRADE 1 DEADLOCK HARDWARE TO BE INSTALLED AT 5-1/2" CENTERLINE.
2.	4" X 4" FULL MORTISE BUTT HINGES.



TYPICAL WOOD BUCK ANCHOR INSTALLATION

TYPICAL MASONRY ANCHOR INSTALLATION

Addendum to NAMI
Certification No.: N1607677-21
Reviewed By:
Date Reviewed: 12/17/10

MASONITE INTERNATIONAL CORP.
1955 POWIS ROAD
WEST CHICAGO, IL 60185

PRODUCT: "EXTERIOR DOOR PRODUCT" 6'-0" FIBERGLASS OPAQUE DOUBLE DOOR UNIT

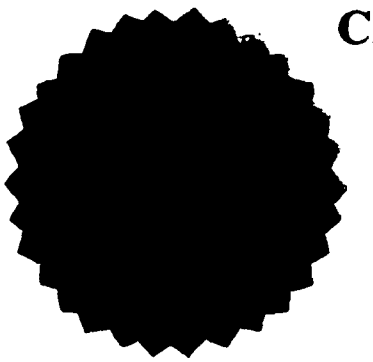
PART OR ASSEMBLY: ANCHORING LOCATIONS & DETAILS

NO.	DATE	REVISIONS	BY
A	11/2/10	MISC UPDATES	SWS

DATE: 4/9/07
SCALE: N.T.S.
DWG. BY: SWS
CHK. BY:
DRAWING NO.: DWG-MA-FL0170-07
SHEET 3 OF 3

END

NAMI NOTICE OF PRODUCT LINE CERTIFICATION



Certification No.: NI007077-R1 Page 1
Date: 04/10/2007
Revision Date: 12/17/2010
Certification Program: Structural
Company: Masonite International
Code: M-703-1

The "Notice of Product Line Certification" is valid only when Administrator's Seal is applied to the upper left hand portion of this form and a certification label is applied to the product. This certification seal represents product conformity to the applicable specification and that all certification criteria has been satisfied.

The products and systems listed below are approved for listing in the Directory of Certified Products at www.NAMICertification.com. Please review, and advise NAMI immediately if data, as shown requires corrections.

Company: **Masonite International Corporation**
1955 Powis Road
West Chicago, IL 60185

Product Line: **Masonite "Hurricane Belleville Fiberglass Door" Side-Hinged Door**

Test Report: **NCTL-210-3102-1/210-3105-1/210-3367-1/210-3389-1**

Section 1: General Description of the Products and Systems under this Certification

1.1 **Frame:** The frame jambs consist of finger jointed pine with all corners coped, butted, and sealed using three 2" long wire staples (.04375").

1.2 **Mullion Construction:** Where used, each mullion constructed of laminated lumber and attached to the header and threshold with three #10 x 3" Philips Flat Head Wood Screws or back to back wood jambs.

1.3 **Glazing:** Where used, the overall impact rated laminated glass was glazed into an ASA Polycarbonate frame. Consisted of 0.124"Annealed/0.090" Solutia Saflex IIIG/0.124"Annealed/Decorative Insert-0.124" Tempered Glass/ or 0.124"Annealed/0.090 Solutia Saflex IIIG/0.124"Annealed and 0.124"Tempered Glass with aluminum or butyl spacer.

1.4 **Door Leaf Construction:** Each door leaf was constructed from 0.075" thick reinforced fiberglass composite material. Top rail and stiles constructed from wood, with or without composite edge band.

Section 2: Registered Suppliers

2.1	Door Lites:	Specialty
2.2	Astragal:	Endura Ultimate

Section 3: Additional Supportive Test or Acceptance Data Provided with Certification Documentation included:

3.1 Fiberglass Door Facing-Tested for Tensile & Elongation Properties per ASTM D638, both before and after weathering for 4500 hours per ASTM G26 Xenon Arc Method 1. Test Report No. ATI-94556.01-106-31.

3.2 Skin material tested to ASTM D635, ASTM D2843 and ASTM D1929 And conditioned for not less than 40 hours per ASTM D618. "Rate of Burn, Self Ignition Temperature and Smoke Density Tests" to Fiberglass Skin conducted by ETC Laboratories, Test Report ETC-98-417-7139.0.

3.3 Impact lite frame material tested to ASTM D635, ASTM D2843, ASTM D1929 and ASTM D638 Test Report No. ATI-94556.01-106-31.

3.4 Miami-Dade Building Code Compliance Notice of Acceptance for Solutia Interlayers, NOA No.: 09-0127.13.

3.5 Surface Burning Characteristics for Foam Filled Door performed by Omega Point Laboratories to ASTM E84-98, "Standard Test Method for Surface Burning Characteristics of Building Materials-Report No. 15977-104313.

3.6 Anchor Calculations for: (Revised Section 04/26/05)
Anchor Performance Calculation Report-Performed by Luis R. Lomas, P.E. (Florida No. 62514)

3.1 National Accreditation & Management Institute W-1362/W-1416.

See additional Pages of Certification for Certified Product Line Matrix(s) and Installation Details. If you have any questions regarding this certification, please contact NAMI at (804) 684-5124.

National Accreditation & Management Institute, Inc.
4794 George Washington Memorial Highway, Hayes, VA 23072
Tel: (804) 684-5124 Fax: (804) 684-5122

NOTICE OF PRODUCT CERTIFICATION

Company: Masonite International Corporation
1955 Powis Road
West Chicago, IL 60185

Certification No.: NI007077-R1 Page 3
Certification Date: 04/10/2007
Expiration Date: 12/31/2014
Revision Date: 12/17/2010

Product: Fiberglass Impact Rated Opaque Inswing or Outswing Door w/ and w/o Impact Rated Sidelites (w/Wood Frame unless noted)
Specifications Tested To: TAS 201/202/203-94/ASTM E330

The "Notice of Product Certification" is only valid if the NAMI Certification Label has been applied to the product as described within this document. The certification label represents product conformity to the applicable specification and that all certification criteria has been satisfied. This product has been approved for listing within NAMI's Certified Product Listing at www.Namicertification.com. NAMI's Certification Program is accredited by The American National Standards Institute (ANSI).

Configuration	Inswing or Outswing	Glazed or Opaque	Maximum Size	Structural Design Pressure	Water Test Pressure	Missile Impact Rated	Test Report Number Drawing Number & Comments
X Single	I/S	Opaque	3'0" x 6'8"	+70/-70	2.86 psf	Yes	NCTL-210-3102-1 Maximum Panel Size: 3'0" x 6'8" Anchor Drawings-MA-FL0170-07
X Single	O/S	Opaque	3'0" x 6'8"	+70/-70	10.5 psf	Yes	NCTL-210-3102-1 Maximum Panel Size: 3'0" x 6'8" Anchor Drawings-MA-FL0170-07
XX Double	I/S	Opaque	6'0" x 6'8"	+50.5/-50.5	2.86 psf	Yes	NCTL-210-3105-1 Maximum Panel Size: 3'0" x 6'8"/Sidelite: 3'0" x 6'8" Anchor Drawings-MA-FL0170-07
XX Double	O/S	Opaque	6'0" x 6'8"	+55/-50.5	6.00 psf 8.25 psf*	Yes	NCTL-210-3105-1 Maximum Panel Size: 3'0" x 6'8"/Sidelite: 3'0" x 6'8" Anchor Drawings-MA-FL0170-07
XO/OX Single w/Sidelite	I/S	Opaque Door Glazed Sidelite	6'0" x 6'8"	+50.5/-50.5	2.86 psf	Door-Yes Sidelite-Yes	NCTL-210-3105-1 Maximum Panel Size: 3'0" x 6'8"/Sidelite: 3'0" x 6'8" Anchor Drawings-MA-FL0170-07
XO/OX Single w/Sidelites	O/S	Opaque Door Glazed Sidelite	6'0" x 6'8"	+55/-50.5	6.00 psf 8.25 psf*	Door-Yes Sidelite-Yes	NCTL-210-3105-1 Maximum Panel Size: 3'0" x 6'8"/Sidelite: 3'0" x 6'8" Anchor Drawings-MA-FL0170-07
OXO Single w/Sidelites	I/S	Opaque Door Glazed Sidelites	9'0" x 6'8"	+50.5/-50.5	2.86 psf	Door-Yes Sidelites-Yes	NCTL-210-3105-1 Maximum Panel Size: 3'0" x 6'8"/Sidelite: 3'0" x 6'8" Anchor Drawings-MA-FL0170-07
OXO Single w/Sidelites	O/S	Opaque Door Glazed Sidelites	9'0" x 6'8"	+55/-50.5	6.00 psf 8.25 psf*	Door-Yes Sidelites-Yes	NCTL-210-3105-1 Maximum Panel Size: 3'0" x 6'8"/Sidelite: 3'0" x 6'8" Anchor Drawings-MA-FL0170-07
OXXO Double w/Sidelites	I/S	Opaque Doors Glazed Sidelites	12'4" x 6'8"	+50.5/-50.5	2.86 psf	Doors-Yes Sidelites-Yes	NCTL-210-3105-1 Maximum Panel Size: 3'0" x 6'8"/Sidelite: 3'0" x 6'8" Anchor Drawings-MA-FL0170-07
OXXO Double w/Sidelites	O/S	Opaque Doors Glazed Sidelites	12'4" x 6'8"	+55/-50.5	6.00 psf 8.25 psf*	Doors-Yes Sidelites-Yes	NCTL-210-3105-1 Maximum Panel Size: 3'0" x 6'8"/Sidelite: 3'0" x 6'8" Anchor Drawings-MA-FL0170-07

*Denotes High Dam Threshold Design

National Accreditation & Management Institute, Inc./4794 George Washington Memorial Highway/Hayes, VA 23072
Tel: (804) 684-5124 Fax: (804) 684-5124

NAMI AUTHORIZED SIGNATURE: _____

NOTICE OF PRODUCT CERTIFICATION

Company: Masonite International Corporation
1955 Powis Road
West Chicago, IL 60185

Certification No.: NI007077-R1 Page 4
Certification Date: 04/10/2007
Expiration Date: 12/31/2014
Revision Date: 12/17/2010

Product: Fiberglass Impact Rated Opaque Inswing or Outswing Door w/ and w/o Impact Rated Sidelites (w/Wood Frame unless noted)
Specifications Tested To: TAS 201/202/203-94/ASTM E330

The "Notice of Product Certification" is only valid if the NAMI Certification Label has been applied to the product as described within this document. The certification label represents product conformity to the applicable specification and that all certification criteria has been satisfied. This product has been approved for listing within NAMI's Certified Product Listing at www.Namicertification.com. NAMI's Certification Program is accredited by The American National Standards Institute (ANSI).

Configuration	Inswing or Outswing	Glazed or Opaque	Maximum Size	Structural Design Pressure	Water Test Pressure	Missile Impact Rated	Test Report Number Drawing Number & Comments
X Single	I/S	Opaque	3'0" x 8'0"	+70/-70	2.86 psf	Yes	NCTL-210-3102-1 Maximum Panel Size: 3'0" x 8'0" Anchor Drawings-MA-FL0171-07
X Single	O/S	Opaque	3'0" x 8'0"	+70/-70	10.5 psf	Yes	NCTL-210-3102-1 Maximum Panel Size: 3'0" x 8'0" Anchor Drawings-MA-FL0171-07
XX Double	I/S	Opaque	6'0" x 8'0"	+50.5/-50.5	2.86 psf	Yes	NCTL-210-3105-1 Maximum Panel Size: 3'0" x 8'0" Anchor Drawings-MA-FL0171-07
XX Double	O/S	Opaque	6'0" x 8'0"	+55/-50.5	6.00 psf 8.25 psf*	Yes	NCTL-210-3105-1 Maximum Panel Size: 3'0" x 8'0" Anchor Drawings-MA-FL0171-07
XO/OX Single w/Sidelite	I/S	Opaque Door Glazed Sidelite	6'0" x 8'0"	+50.5/-50.5	2.86 psf	Door-Yes Sidelite-Yes	NCTL-210-3105-1 Maximum Panel Size: 3'0" x 8'0" Anchor Drawings-MA-FL0171-07
XO/OX Single w/Sidelites	O/S	Opaque Door Glazed Sidelite	6'0" x 8'0"	+55/-50.5	6.00 psf 8.25 psf*	Door-Yes Sidelite-Yes	NCTL-210-3105-1 Maximum Panel Size: 3'0" x 8'0" Anchor Drawings-MA-FL0171-07
OXO Single w/Sidelites	I/S	Opaque Door Glazed Sidelites	9'0" x 8'0"	+50.5/-50.5	2.86 psf	Door-Yes Sidelites-Yes	NCTL-210-3105-1 Maximum Panel Size: 3'0" x 8'0" Anchor Drawings-MA-FL0171-07
OXO Single w/Sidelites	O/S	Opaque Door Glazed Sidelites	9'0" x 8'0"	+55/-50.5	6.00 psf 8.25 psf*	Door-Yes Sidelites-Yes	NCTL-210-3105-1 Maximum Panel Size: 3'0" x 8'0" Anchor Drawings-MA-FL0171-07
OXXO Double w/Sidelites	I/S	Opaque Doors Glazed Sidelites	12'4" x 8'0"	+50.5/-50.5	2.86 psf	Doors-Yes Sidelites-Yes	NCTL-210-3105-1 Maximum Panel Size: 3'0" x 8'0" Anchor Drawings-MA-FL0171-07
OXXO Double w/Sidelites	O/S	Opaque Doors Glazed Sidelites	12'4" x 8'0"	+55/-50.5	6.00 psf 8.25 psf*	Doors-Yes Sidelites-Yes	NCTL-210-3105-1 Maximum Panel Size: 3'0" x 8'0" Anchor Drawings-MA-FL0171-07

*Denotes High Dam Threshold Design

National Accreditation & Management Institute, Inc./4794 George Washington Memorial Highway/Hayes, VA 23072
Tel: (804) 684-5124 Fax: (804) 684-5122

NAMI AUTHORIZED SIGNATURE: _____

NOTICE OF PRODUCT CERTIFICATION

Company: Masonite International Corporation
1955 Powis Road
West Chicago, IL 60185

Certification No.: NI007077-R1 Page 5
Certification Date: 04/10/2007
Expiration Date: 12/31/2014
Revision Date: 12/17/2010

Product: Fiberglass Impact Rated Glazed Inswing or Outswing Door w/ and w/o Impact Rated Sidelites (w/Wood Frame unless noted)
Specifications Tested To: TAS 201/202/203-94/ASTM E330

The "Notice of Product Certification" is only valid if the NAMI Certification Label has been applied to the product as described within this document. The certification label represents product conformity to the applicable specification and that all certification criteria has been satisfied. This product has been approved for listing within NAMI's Certified Product Listing at www.Namicertification.com. NAMI's Certification Program is accredited by The American National Standards Institute (ANSI).

Configuration	Inswing or Outswing	Glazed or Opaque	Maximum Size	Structural Design Pressure	Water Test Pressure	Missile Impact Rated	Test Report Number Drawing Number & Comments
X Single	I/S	Glazed	3'0" x 6'8"	+55/-55	2.86 psf	Yes	NCTL-210-3389-1 Maximum Panel Size: 3'0" x 6'8" Anchor Drawings-MA-FL0172-07
X Single	O/S	Glazed	3'0" x 6'8"	+55/-55	6.00 psf 8.25 psf*	Yes	NCTL-210-3389-1 Maximum Panel Size: 3'0" x 6'8" Anchor Drawings-MA-FL0172-07
XX Double	I/S	Glazed	6'0" x 6'8"	+55/-55	2.86 psf	Yes	NCTL-210-3389-1 Maximum Panel Size: 3'0" x 6'8" Anchor Drawings-MA-FL0172-07
XX Double	O/S	Glazed	6'0" x 6'8"	+55/-55	6.00 psf 8.25 psf*	Yes	NCTL-210-3389-1 Maximum Panel Size: 3'0" x 6'8" Anchor Drawings-MA-FL0172-07
XO/OX Single w/Sidelite	I/S	Glazed Door Glazed Sidelite	6'0" x 6'8"	+55/-55	2.86 psf	Door-Yes Sidelite-Yes	NCTL-210-3389-1 Maximum Panel Size: 3'0" x 6'8" Anchor Drawings-MA-FL0172-07
XO/OX Single w/Sidelites	O/S	Glazed Door Glazed Sidelite	6'0" x 6'8"	+55/-55	6.00 psf 8.25 psf*	Door-Yes Sidelite-Yes	NCTL-210-3389-1 Maximum Panel Size: 3'0" x 6'8" Anchor Drawings-MA-FL0172-07
OXO Single w/Sidelites	I/S	Glazed Door Glazed Sidelites	9'0" x 6'8"	+55/-55	2.86 psf	Door-Yes Sidelites-Yes	NCTL-210-3389-1 Maximum Panel Size: 3'0" x 6'8" Anchor Drawings-MA-FL0172-07
OXO Single w/Sidelites	O/S	Glazed Door Glazed Sidelites	9'0" x 6'8"	+55/-55	6.00 psf 8.25 psf*	Door-Yes Sidelites-Yes	NCTL-210-3389-1 Maximum Panel Size: 3'0" x 6'8" Anchor Drawings-MA-FL0172-07
OXXO Double w/Sidelites	I/S	Glazed Doors Glazed Sidelites	12'6" x 6'8"	+55/-55	2.86 psf	Doors-Yes Sidelites-Yes	NCTL-210-3389-1 Maximum Panel Size: 3'0" x 6'8" Anchor Drawings-MA-FL0172-07
OXXO Double w/Sidelites	O/S	Glazed Doors Glazed Sidelites	12'6" x 6'8"	+55/-55	6.00 psf 8.25 psf*	Doors-Yes Sidelites-Yes	NCTL-210-3389-1 Maximum Panel Size: 3'0" x 6'8" Anchor Drawings-MA-FL0172-07

*Denotes High Dam Threshold Design

National Accreditation & Management Institute, Inc./4794 George Washington Memorial Highway/Hayes, VA 23072
Tel-(804) 684-5124/Fax-(804) 684-5122

NAMI AUTHORIZED SIGNATURE: _____

NOTICE OF PRODUCT CERTIFICATION

Company: Masonite International Corporation
1955 Powis Road
West Chicago, IL 60185

Certification No.: NI007077-R1 Page 6
Certification Date: 04/10/2007
Expiration Date: 12/31/2014
Revision Date: 12/17/2010

Product: Fiberglass Impact Rated Glazed Inswing or Outswing Door w/ and w/o Impact Rated Sidelites (w/Wood Frame unless noted)
Specifications Tested To: TAS 201/202/203-94/ASTM E330

The "Notice of Product Certification" is only valid if the NAMI Certification Label has been applied to the product as described within this document. The certification label represents product conformity to the applicable specification and that all certification criteria has been satisfied. This product has been approved for listing within NAMI's Certified Product Listing at www.Namicertification.com. NAMI's Certification Program is accredited by The American National Standards Institute (ANSI).

Configuration	Inswing or Outswing	Glazed or Opaque	Maximum Size	Structural Design Pressure	Water Test Pressure	Missile Impact Rated	Test Report Number Drawing Number & Comments
X Single	I/S	Glazed	3'0" x 8'0"	+43/-47	2.86 psf	Yes	NCTL-210-3367-1 Maximum Panel Size: 3'0" x 8'0" Anchor Drawings-MA-FL0173-07
X Single	O/S	Glazed	3'0" x 8'0"	+47/-45 +55/-55 w/Surface Bolts	6.00 psf 8.25 psf*	Yes	NCTL-210-3367-1 Maximum Panel Size: 3'0" x 8'0" Anchor Drawings-MA-FL0173-07
XX Double	I/S	Glazed	6'0" x 8'0"	+43/-47	2.86 psf	Yes	NCTL-210-3367-1 Maximum Panel Size: 3'0" x 8'0" Anchor Drawings-MA-FL0173-07
XX Double	O/S	Glazed	6'0" x 8'0"	+47/-45 +55/-55 w/Surface Bolts	6.00 psf 8.25 psf*	Yes	NCTL-210-3367-1 Maximum Panel Size: 3'0" x 8'0" Anchor Drawings-MA-FL0173-07
XO/OX Single w/Sidelite	I/S	Glazed Door Glazed Sidelite	6'0" x 8'0"	+43/-47	2.86 psf	Door-Yes Sidelite-Yes	NCTL-210-3367-1 Maximum Panel Size: 3'0" x 8'0" Anchor Drawings-MA-FL0173-07
XO/OX Single w/Sidelites	O/S	Glazed Door Glazed Sidelite	6'0" x 8'0"	+47/-45 +55/-55 w/Surface Bolts	6.00 psf 8.25 psf*	Door-Yes Sidelite-Yes	NCTL-210-3367-1 Maximum Panel Size: 3'0" x 8'0" Anchor Drawings-MA-FL0173-07
OXO Single w/Sidelites	I/S	Glazed Door Glazed Sidelites	9'0" x 8'0"	+43/-47	2.86 psf	Door-Yes Sidelites-Yes	NCTL-210-3367-1 Maximum Panel Size: 3'0" x 8'0" Anchor Drawings-MA-FL0173-07
OXO Single w/Sidelites	O/S	Glazed Door Glazed Sidelites	9'0" x 8'0"	+47/-45 +55/-55 w/Surface Bolts	6.00 psf 8.25 psf*	Door-Yes Sidelites-Yes	NCTL-210-3367-1 Maximum Panel Size: 3'0" x 8'0" Anchor Drawings-MA-FL0173-07
OXXO Double w/Sidelites	I/S	Glazed Doors Glazed Sidelites	12'6" x 8'0"	+43/-47	2.86 psf	Doors-Yes Sidelites-Yes	NCTL-210-3367-1 Maximum Panel Size: 3'0" x 8'0" Anchor Drawings-MA-FL0173-07
OXXO Double w/Sidelites	O/S	Glazed Doors Glazed Sidelites	12'6" x 8'0"	+47/-45 +55/-55 w/Surface Bolts	6.00 psf 8.25 psf*	Doors-Yes Sidelites-Yes	NCTL-210-3367-1 Maximum Panel Size: 3'0" x 8'0" Anchor Drawings-MA-FL0173-07

*Denotes High Dam Threshold Design

National Accreditation & Management Institute, Inc./4794 George Washington Memorial Highway/Hayes, VA 23072
Tel-(804) 684-5124/Fax-(804) 684-5122

NAMI AUTHORIZED SIGNATURE: _____

Luis R. Lomas P.E.

1432 Woodford Rd.
Lewisville, NC 27023
336-945-9695

Manufacturer: Masonite
Report #: 504A
Date: 12/29/09

Product: Single Door 3'x6'8"

Scope:

This analysis provides calculations, quantities, and spacing requirements for installing product to substrate, and it applies only to the product described herein. These calculations comply with requirements of the Florida Building Code.

Drawings verification:

This analysis verifies anchoring for the following drawings:

DWG-MA-FL0120-05	DWG-MA-FL0130-05	DWG-MA-FL0153-06	DWG-MA-FL0168-07
DWG-MA-FL0122-05	DWG-MA-FL0132-05	DWG-MA-FL0155-06	DWG-MA-FL0170-07
DWG-MA-FL0124-05	DWG-MA-FL0134-05	DWG-MA-FL0156-06	DWG-MA-FL0172-07
DWG-MA-FL0126-05	DWG-MA-FL0140-05	DWG-MA-FL0160-07	DWG-MA-FL0174-07
DWG-MA-FL0128-05	DWG-MA-FL0151-06	DWG-MA-FL0162-07	DWG-MA-FL0175-07

Anchors to be qualified:

1. #10 Wood screw, for installation in wood frame substrates.
2. 3/16" ITW Tapcon, for masonry installation

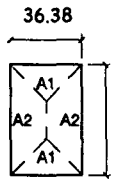
Anchor capacity in shear condition:

Fastener type: #10 wood screw			(NDS 2005, 11.3)		
Side member: Douglas Fir-Larch			Main member: Spruce-Pine-Fir		
Side member thickness:	t_s =	1.000 in	Main member thickness:	t_m =	1.500 in
Side member dowel bearing strength:	F_{es} =	4,650 psi	Main member dowel bearing strength:	F_{em} =	3,350 psi
Minimum required penetration:		1.330 in	Screw bending yield strength:	F_{yb} =	80,000 psi
Duration Factor:	C_D =	1.6	Tabulated lateral design value:	Z=	107.0 lbs
Allowable Design Value:	**Z' =**	**171 lbs/anchor**			Mode IV
Fastener type: 3/16" ITW Tapcon			N.O.A. 07-1126.10		
Substrate: Hollow block					
Minimum embedment:		1.25 in			
Minimum edge distance:		1.13 in	Minimum C to C spacing:		2.25 in
Tabulated shear design value:	Z =	112 lbs	Actual C To C spacing:		3.00 in
Minimum edge distance:		2.63 in	C to C spacing factor:		1.00
Tabulated shear design value:	Z =	197 lbs			
Actual edge distance:		2.50 in			
Design value per interpolation:	Z =	189 lbs			
Allowable Design Value:	**Z' =**	**189 lbs/anchor**			
Minimum anchor capacity:		**171 lbs/anchor**			

Note: Anchors with the least capacity is used for calculations to qualify anchors with higher capacity.

Anchor calculations, minimum required anchors

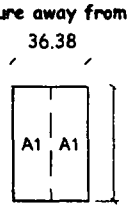
Pressure against stops with bump threshold:



Design pressure: 85.0 psf

Zone	Area (ft^2)	Load (lbs)	Ind. (in)	Max. O.C. (in)	Anchor Cap. (lbs)	Anchor Qty	Anchor Load (lbs)	Result
A_1	2.3	195	N/A	N/A	171	2	98	OK
A_2	7.7	656	6.00	18.00	171	5	131	OK

Single. Pressure away from stops:



Design pressure: 85.0 psf

Zone	Area (ft^2)	Load (lbs)	Ind. (in)	Max. O.C. (in)	Anchor Cap. (lbs)	Anchor Qty	Anchor Load (lbs)	Result
A_1	10.0	851	6.00	18.00	171	5	170	OK

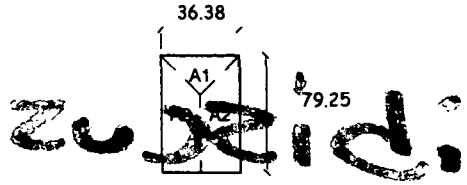
Luis R. Lomas P.E.
FL No.: 62514
1/7/2010

Luis R. Lomas P.E.

1432 Woodford Rd.
Lewisville, NC 27023
336-945-9695

Manufacturer: Masonite
Report #: 504A
Date: 12/29/09

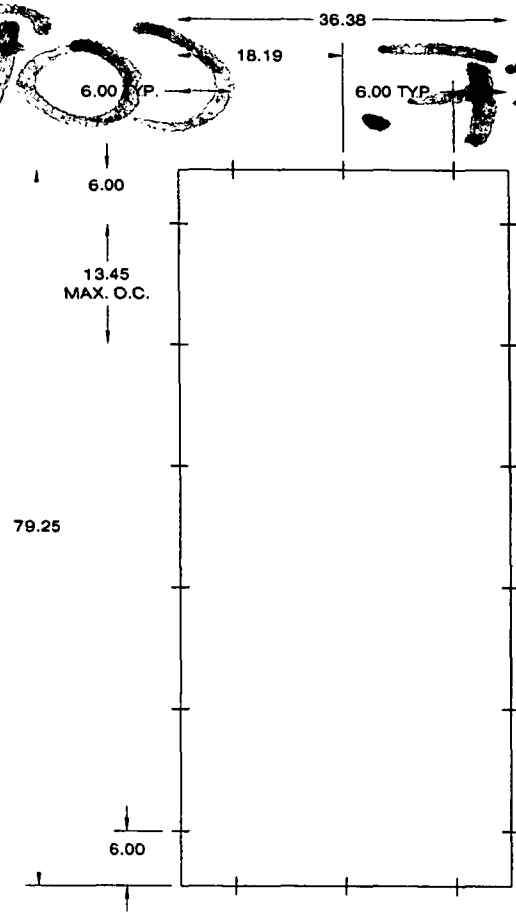
Single. Pressure against stops with saddle threshold:



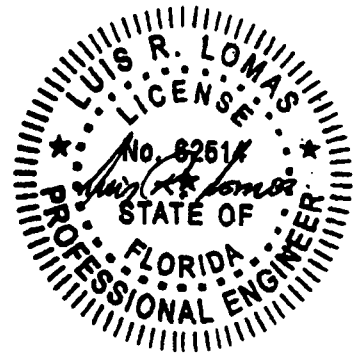
Design pressure: 85.0 psf

Zone	Area (ft^2)	Load (lbs)	Ind.	Max. O.C.	Anchor			Result
					Cap. (lbs)	Qty	Load (lbs)	
A_1	2.3	195	N/A	N/A	171	2	98	OK
A_2	8.9	756	6.00	18.00	171	5	151	OK

Anchor Locations:



Note:
Anchor locations indicated in this document are the minimum required for the described product exposed at the design pressure indicated herein.



Luis R. Lomas P.E.
FL No.: 62514
1/7/2010

B12025 04

230 N. Hibiscus Dr.

OFF. COPY

OFFICE COPY
CITY OF MIAMI BEACH
APPROVED FOR PERMIT BY
THE FOLLOWING:

BUILDING: MSCHAD 3-14-12
ZONING: 3/14/12
DRB/HPB:
CONCURRENCY:
PLUMBING:
ELECTRICAL:
MECHANICAL:
FIRE PREVENTION:
ENGINEERING:
PUBLIC WORKS: EML-3-14-2012
STRUCTURAL: AV 3/14/12
ELEVATOR:

Phone [illegible]

THIS PLAN REVIEW CONSTITUTES APPROVAL FOR OBTAINING BUILDING PERMITS ONLY.

All construction and/or use of equipment in the right-of-way and/or easements, requires a separate Public Works Department permit prior to start of construction.

Permit Requirements: Proof of existing sidewalk/swale area conditions (pictures) and/or posting of sidewalk/roadway bonds (Public Works Inspection of the right-of-way will be required prior to final sign-off on the C.C. / C.O., or the release of bonds.)

EML-3-14-2014

Approved/Revised [illegible] Date: [illegible]

48 HOURS PRIOR TO EXCAVATING
CONTRACTOR SHALL CALL FOR LOCATION
OF UNDERGROUND UTILITIES
SUNSHINE ONE-CALL 1-800-432-4770
CITY OF MIAMI BEACH 305-673-7080

PERMIT NUMBER

BS 952103
BMS 51432

ADDRESS

6P

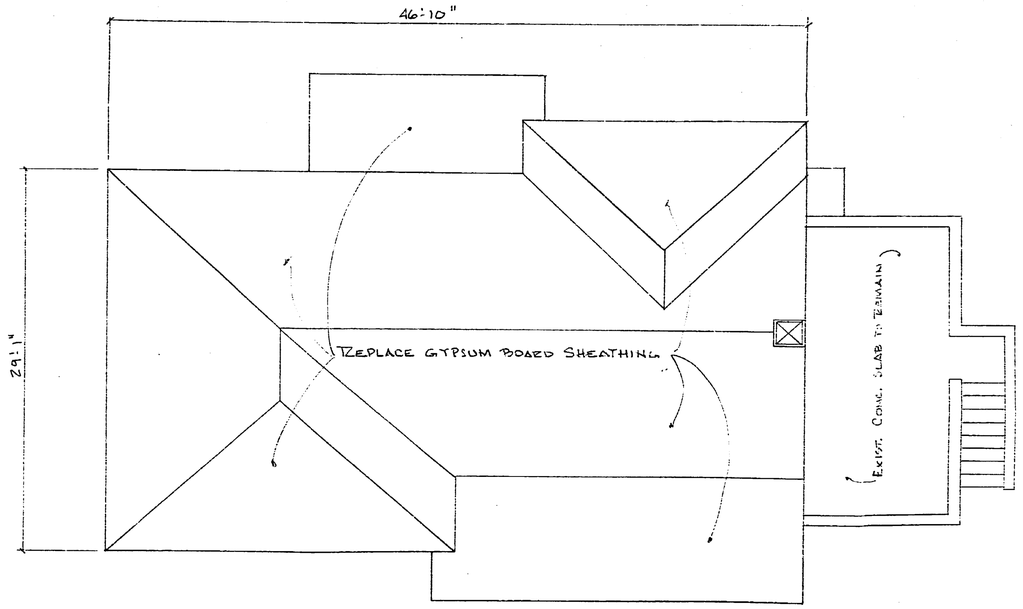
OFFICE COPY
CITY OF MIAMI BEACH
APPROVED FOR PERMIT BY
THE FOLLOWING:

BUILDING: Barb 9/18/95
ZONING:
ELECTRICAL:
MECHANICAL:
FIRE PREVENTION:
ENGINEERING:
PUBLIC WORKS:
STRUCTURAL:
ACCESSIBILITY:

CITY OF MIAMI BEACH
RECEIVED
SEP 18 1995
BUILDING DEPARTMENT

GENERAL NOTES:

1. Remove existing roofing material and gypsum board sheathing.
2. Provide new roof sheathing with (1) layer of 5/8" CDX plywood.
3. Use 8d nails at 4" on center within 48" of the perimeter edges and at 6" on center elsewhere.
4. Provide (1) layer of 30# tin tagged roof paper, (1) layer of 90# hot mopped roof paper and Altusa roof tiles in all the sloped roof areas in accordance with the latest edition of the South Florida Buiding Code.
5. Provide (1) layer hot mopped 75# roof paper base sheet, (2) layers of hot mopped Fibeglass roof paper and (1) layer of hot mopped cap sheet in accordance with the latest edition of the South Florida Building Code.



Roof Plan

REVISIONS	BY

LUIS E. NIEVAS, P.E.
1316 Bayview Circle
Fort Lauderdale, Fl 33326
(305) 389-9220

Roof Sheathing Replacement
230 N. Hibiscus Drive
Hibiscus Island
Miami Beach, Florida

Date 9-13-95
Scale 1/4"= 1'0"
Drawn
Job
Sheet 1