



**BUILDING CODE COMPLIANCE OFFICE (BCCO)  
PRODUCT CONTROL DIVISION**

**MIAMI-DADE COUNTY, FLORIDA  
METRO-DADE FLAGLER BUILDING  
140 WEST FLAGLER STREET, SUITE 1603  
MIAMI, FLORIDA 33130-1563  
(305) 375-2901 FAX (305) 375-2908  
www.buildingcodeonline.com**

**NOTICE OF ACCEPTANCE (NOA)**

**Roller Star Corporation  
1460 S.W. 6<sup>th</sup> Court, Bldg. 1400  
Pompano Beach, FL 33069**

**SCOPE:**

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) 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 Division (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. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division 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"RE1000" Extruded Aluminum Roll Shutters**

**APPROVAL DOCUMENT:** Drawing No. **05-186R1**, titled "RE 1000 Extruded Aluminum Roll Shutter", sheets 1 through 14 of 14, dated Dec 05, 2006, prepared by EngCo, Inc, signed and sealed by Pedro De Figueiredo, P. E., bearing the Miami-Dade County Product Control Renewal stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Division.

**MISSILE IMPACT RATING: Large and Small Missile Impact**

**Limitation:**

1. Roll-up Mechanism is Not part of this approval and must be certified by independent testing agency.
2. Minimum separation from interior storm bar to existing glass shall be as shown on sheet 3 of 14.
3. Minimum slat engagement inside of sidetrack shall be 1-1/4" & Slat orientation shall be concave side to the exterior.

**LABELING:** Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and the following statement: "Miami-Dade County Product Control Approved or MDCPCA", 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 & renews** NOA # **02-0419.01** and consists of this page, evidence page E-1 as well as approval document mentioned above.

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



4  
2/15/17

**NOA No 05-0804.02  
Expiration Date: October 04, 2011  
Approval Date: February 08, 2007  
Page 1**

**Roller Star Corporation**

**NOTICE OF ACCEPTANCE: EVIDENCE PAGE**

**A DRAWING** (transferred from file # **02-0419.01**)

1. Manufacturers extruded drawings and sections.
2. Drawing No. 05-186R1, titled "RE 1000 Extruded Aluminum Roll Shutter", sheets 1 through 14 of 14, dated Dec 05, 2006, prepared by EngCo, Inc., signed and sealed by Pedro De Figueiredo, PE.

**B TEST** : (transferred from file # **02-0419.01**)

Original test reports conducted per SFC per PA201, PA 202 & 203-94 now known as FBC, TAs 201, 202 & 203-94

1. Test report on Large Missile Impact Test per PA 201 and Cyclic Wind Pressure Test per PA 203, of "Roll shutter RE 1000 Series" prepared by Hurricane Engineering & Testing, Inc., Report No. HETI 00-951, dated 11/09/2000, signed & sealed by H. M. Medina, PE.
2. Test report on Uniform Static Air Pressure Test per PA 202 & Force Entry Resistance Test per SFBC Section 3603.2(b) 3 of "Roll shutter RE 1000 Series" prepared by Hurricane Engineering & Testing, Inc., Report No. HETI 00-950, dated 11/09/00, signed and sealed by H. M. Medina PE.
3. Test report on Large Missile Impact Test per PA 201 of "Roll shutter RE 1000 Series", prepared by Hurricane Engineering & Testing, Inc., Report No. HETI 00-954, dated 11/21/00, signed and sealed by H. M. Medina, PE.
4. Test report on Large Missile Impact Test per PA 201 of "Roll shutter storm bars RE 1000 Series", prepared by Hurricane Engineering & Testing, Inc., Report No. 01-973, dated 01/30/01, signed and sealed by H. M. Medina, PE.

**C CALCULATIONS**

1. Comparative analysis for slats; storm bars, headers and anchors using rational analysis dated July 21, 2005 and last revised on Dec 05, 2006, prepared by Engco, Inc., signed and sealed by Pedro De Figueiredo, P. E.
2. Comparative analysis for slats; storm bars, headers and anchors using rational analysis dated 02/17/01 and revised on 07/25/01, Section B pages 1 through 11, Section C pages 1 through 11, Section D pages 1 and Section E pages 1 through 4, prepared by Engco, Inc., signed and sealed by P. D. Figueiredo, PE. (Transferred from file # **02-0419.01**)

**D. QUALITY ASSURANCE**

1. Miami Dade Building Code Compliance Office (BCCO).

**E MATERIAL CERTIFICATION**

1. Tensile Test Report No. HETI 01-T005, per ASTM E8, Hurricane Engineering & Testing Inc., dated 03/08/01, signed and sealed by H. M. Medina, PE.

**F STATEMENTS**

1. Statement Letter of product compliance to FBC & "No financial interest" dated July 21, 2005, signed and sealed by Pedro De Figueiredo, P. E.
2. Lab compliance letter, as part of above referenced test reports.

**G OTHER**

1. This **revises & renews** NOA # **02-0419.01 (01-0424.02)** expired on October 04, 2006
2. Response to request letter dated November 14, 2006 by BCCO. Ishaq I. Chanda

Ishaq I. Chanda, P. E.

Product Control Examiner

NOA No 05-00804.02

Expiration Date: October 04, 2011

Approval Date: February 08, 2007

# ROLL SHUTTER RE 1000

MANUFACTURER:  
Roller Star USA  
1480 SW 6th COURT  
BUILDING #1400  
POMPANO BEACH  
FLORIDA - 33069  
TEL: (954) 972-4772  
FAX: (954) 917-7392

Product:  
**RE1000**

EXTRUDED ALUMINUM  
ROLL SHUTTERS

Engineering:  
**EngCo Inc.**  
CA 8116  
6971 W. Sunrise Blvd. 104  
Plantation, Fl. 33313  
Tel.: (954) 585-0304  
Fax: (954) 585-0305



12-05-06  
Engineer Seal  
Pedro De Figueiredo  
PE 52609

Date: 12/4/06  
Scale: 1:1  
Design by: PPMF

Dade County NOA:  
**PRODUCT RENEWED**  
as complying with the Florida  
Building Code  
Acceptance No 05-0804-02  
Expiration Date 06/04/2011  
By Ismael J. Llanes  
Miami Dade Product Control  
Division

Drawing Number  
05-186R1

Sheet  
1 of 14

## GENERAL NOTES:

1- DEFINITION: THIS PRODUCT IS A ROLLING TYPE SHUTTER; DESIGNED, CONSTRUCTED AND ERECTED TO EASILY ENCLOSE AN AREA, PROVIDING PROTECTION FROM HURRICANE FORCE WINDS WITHIN THE ALLOWABLE DESIGNED PRESSURES AND LIMITATIONS STATED IN THIS APPROVAL.

2- CODE: FLORIDA BUILDING CODE 2004. THIS PRODUCT HAS BEEN TESTED AND DESIGNED ACCORDINGLY WITH SECTIONS 1609.1.4 (TAS201, 202, 203 'LARGE MISSILE'), 1613.1.9, 1625, 1626, 2003, 2413. THE DESIGN APPLIES TO WIND BORNE DEBRIS REGIONS INCLUDING THE HVHZ (DADE & BROWAD COUNTIES LARGE MISSILE - TAS 201).

3- POSTING: A PERMANENT LEGIBLE DECAL SHALL BE PLACED AT A READILY VISIBLE LOCATION STATING THE FOLLOWING:

'RE 1000 SERIES ROLL SHUTTER  
ROLLER STAR - POMPANO BEACH - FLORIDA  
DADE COUNTY PRODUCT CONTROL APPROVED'

4- LOADS: THE DESIGNED LOAD MUST BE CALCULATED, AS PER ASCE 7-02 (SECTION 1609, FLORIDA BUILDING CODE 2004) BY A PROFESSIONAL ARCHITECT OR ENGINEER FOR EACH SPECIFIC PROJECT. THE CALCULATED DESIGNED PRESSURE MUST NOT EXCEED THE ALLOWABLE PRESSURES FOR EACH SHUTTER COMPONENT TO BE USED.

5- MATERIAL: ALL ALUMINUM STRUCTURE AND COMPONENTS SHALL BE DESIGNED AS PER CHAPTER 20 OF THE FBC. EXTRUDED SHAPES SHALL BE MADE OF 6063-T5 ALLOYS OR AS NOTED.

6- FASTENERS: ASSEMBLY SCREWS AND ANCHORS SHALL BE AS SPECIFIED IN THE CURRENT SET OF DRAWINGS. INSTALLATION AND LOADS AS PER THIS APPROVAL.

7- USE: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, ARCHITECT OR ENGINEER OF RECORD TO VERIFY THE FOLLOWING:  
7.1- THE STABILITY OF THE STRUCTURE WHERE THE SHUTTER IS TO BE ATTACHED INSURING PROPER ANCHORAGE.

7.2- THE SITE SPECIFIC PROJECT CRITERIA, SUCH AS BUT NOT LIMITED TO, WIND LOADS, LOCAL CODE REQUIREMENTS, DESIGNED PRESSURES ETC.

7.3- THAT THIS APPROVAL IS ADEQUATE TO THE SPECIFIC PROJECT.

8- ROLL-UP MECHANISM NOT PART OF THIS APPROVAL. IT MUST BE CERTIFIED BY AN INDEPENDENT TESTING AGENCY.

## INDEX:

SHEET 1 of 14 - COVER SHEET, INDEX, GENERAL NOTES  
SHEET 2 of 14 - SHUTTER COMPONENTS  
SHEET 3 of 14 - SLATS WINDLOAD & DEFLECTIONS (TABLES 1.3, 2.3, 3.3)  
SHEET 4 of 14 - GUIDE RAILS MOUNTING OPTIONS  
SHEET 5 of 14 - STORM BARS SELECTION & DEFLECTION TABLE  
SHEET 6 of 14 - STORM BARS SELECTION & DEFLECTION TABLE  
SHEET 7 of 14 - STORM BARS ANCHORING TABLES  
SHEET 8 of 14 - HEADER SELECTION & DEFLECTION TABLES  
SHEET 9 of 14 - HEADER SELECTION & DEFLECTION TABLES  
SHEET 10 of 14 - HEADER ANCHORING TABLES  
SHEET 11 of 14 - MULLION SELECTION TABLE  
SHEET 12 of 14 - MULLION ANCHORING TABLES  
SHEET 13 of 14 - HOOD ASSEMBLY  
SHEET 14 of 14 - COMBINED DEFLECTION ON MULTIPLE SPANS SHUTTERS

# SHUTTER COMPONENTS

MANUFACTURER:  
**Roller Star USA**  
 1480 SW 6th COURT  
 BUILDING #1400  
 POMPANO BEACH  
 FLORIDA - 33069  
 TEL: (954) 972-4772  
 FAX: (954) 917-7392

Product:  
**RE1000**

EXTRUDED ALUMINUM  
 ROLL SHUTTERS

Engineering:  
**EngCo Inc.**

CA 8116  
 6971 W. Sunrise Blvd. 104  
 Plantation, FL 33313  
 Tel.: (954) 585-0304  
 Fax: (954) 585-0305

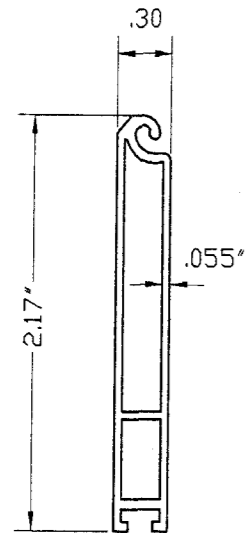
  
**DEC 05 2006**  
 Engineer Seal  
 Pedro De Figueiredo  
 PE 52609

Date: 12/4/06  
 Scale: 1:1  
 Design by: PPMF

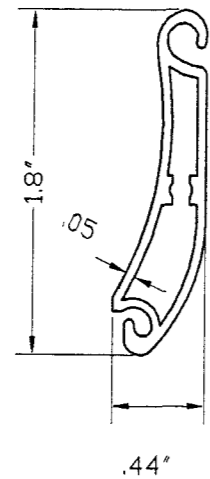
Dade County NOA:  
**PRODUCT RENEWED**  
 as complying with the Florida  
 Building Code  
 Acceptance No 05-0804.02  
 Expiration Date OCT 04, 2011  
 By Isaac L. Landa  
 Miami Dade Product Control  
 Division

Drawing Number  
**05-186R1**

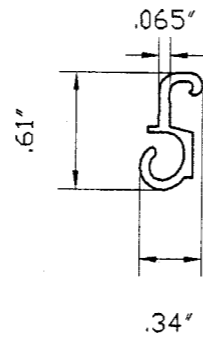
Sheet  
 2 of 14



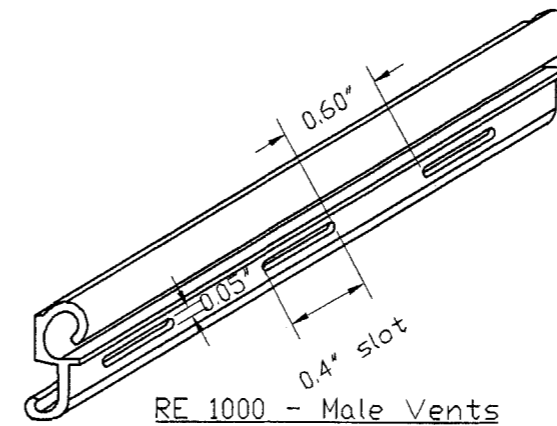
BAS\*AT1 - End Slat  
 6063-T5



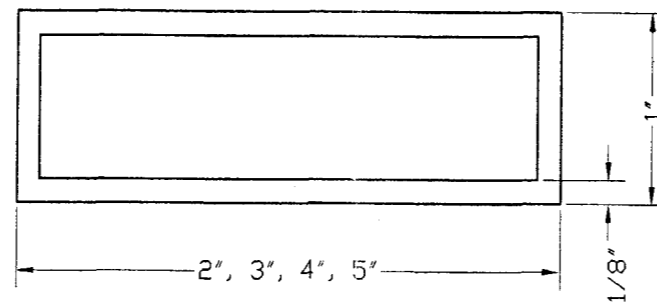
RE 1000 - Female Slat  
 6063-T5



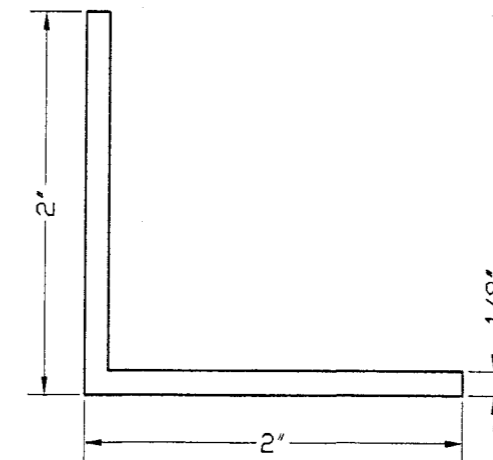
RE 1000 - Male Slat  
 6063-T5



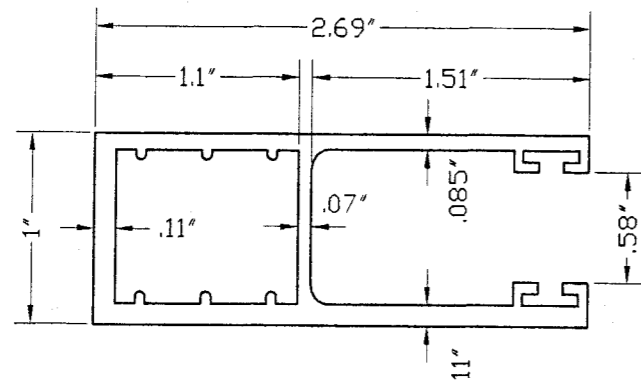
RE 1000 - Male Vents



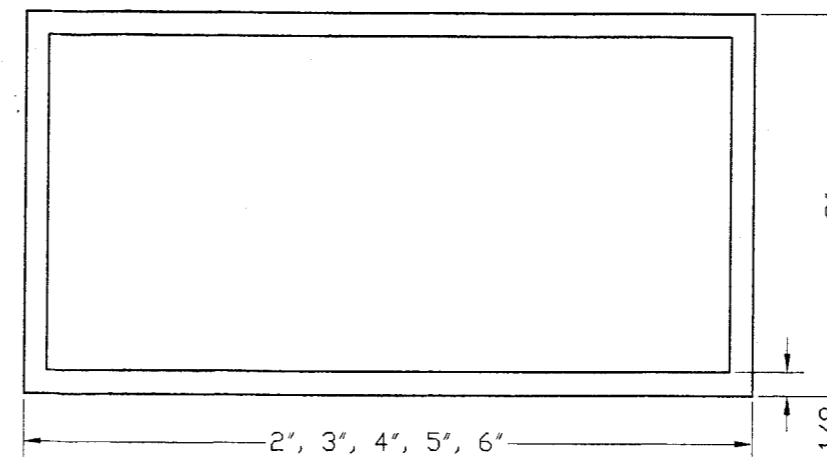
Std 1x Aluminum Tube  
 6063-T6



Std 2x2 Aluminum Angle  
 6063-T6



GUI\*HSU - Guide Rail  
 6063-T5



Std 2x Aluminum Tube  
 6063-T6

# SLATS WINDLOAD DESIGN TABLES

MANUFACTURER:  
**Roller Star USA**  
 1480 SW 6th COURT  
 BUILDING #1400  
 POMPANO BEACH  
 FLORIDA - 33069  
 TEL: (954) 972-4772  
 FAX: (954) 917-7392

TABLE 1.3  
 MAXIMUM INSIDE TRACK (TT)  
 RE 1000 SHUTTER SLAT

PD	1 SPAN	2 SPAN	3 SPAN
30	65	133	200
45	58	133	200
55	54	130	196
65	51	119	188
75	49	111	181
85	47	104	174
95	45	98	165
105	44	94	157
115	43	89	150
125	41	86	144
135	40	83	139
145	39	80	134
155	39	77	129
165	38	75	125
175	36	72	122
185	35	70	118
195	35	69	115
255	30	60	101

PD= Design load in Psf  
 Max. Deflection= min. of span/30 or 2"  
 Spans are indicated in inches

TABLE 2.3  
 SLAT DEFLECTION FOR 2 SPAN SHUTTERS

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	0.89	0.61	0.40	0.25	0.15	0.08	0.04	0.02
45	1.33	0.91	0.60	0.37	0.22	0.12	0.06	0.02
55	1.63	1.11	0.73	0.46	0.27	0.14	0.07	0.03
65	1.92	1.31	0.86	0.54	0.32	0.17	0.08	0.03
75	-	1.52	0.99	0.62	0.36	0.20	0.09	0.04
85	-	1.72	1.13	0.70	0.41	0.22	0.11	0.04
95	-	1.92	1.26	0.79	0.46	0.25	0.12	0.05
105	-	-	1.39	0.87	0.51	0.27	0.13	0.05
115	-	-	1.52	0.95	0.56	0.30	0.15	0.06
125	-	-	1.66	1.03	0.61	0.33	0.16	0.06
135	-	-	1.79	1.12	0.65	0.35	0.17	0.07
145	-	-	-	1.20	0.70	0.38	0.18	0.07
155	-	-	-	1.28	0.75	0.41	0.20	0.08
165	-	-	-	1.37	0.80	0.43	0.21	0.09
175	-	-	-	1.45	0.85	0.46	0.22	0.09
185	-	-	-	1.53	0.90	0.48	0.23	0.10
195	-	-	-	-	0.95	0.51	0.25	0.10
255	-	-	-	-	1.24	0.67	0.32	0.13

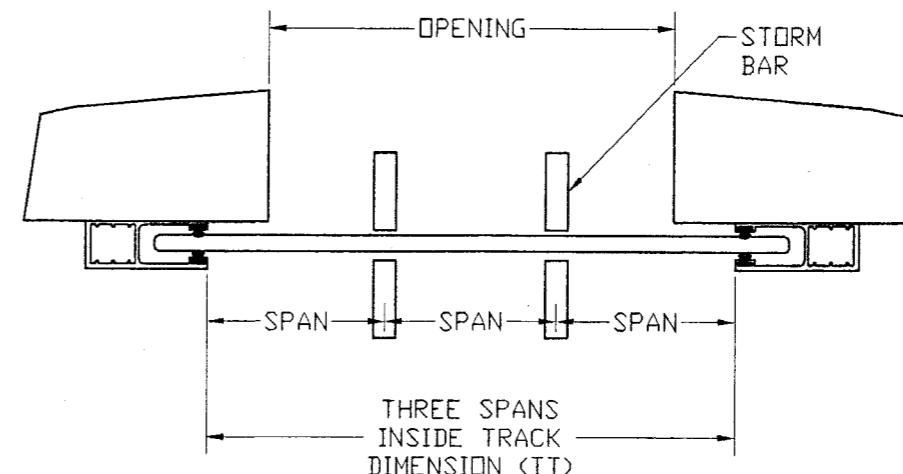
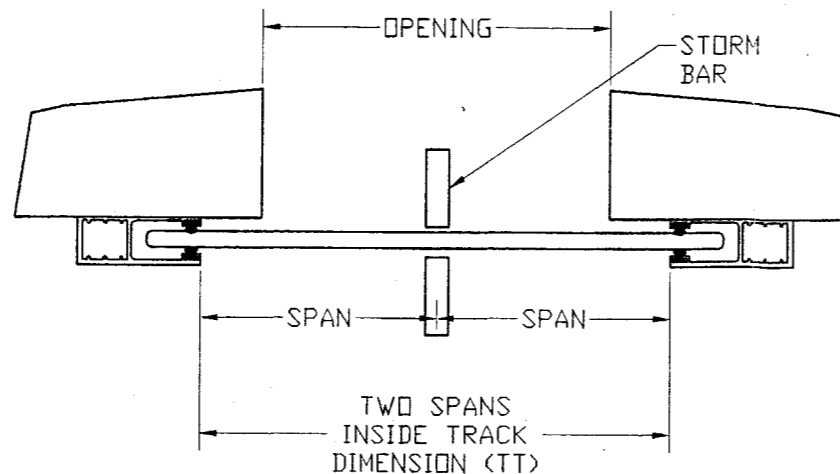
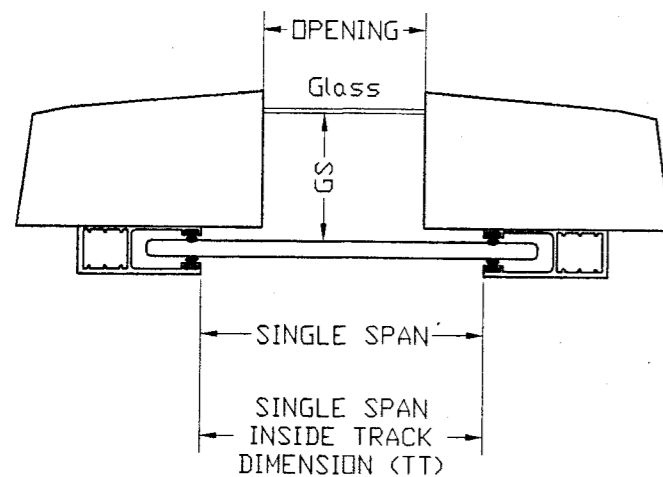
Deflections are indicated in inches

TABLE 3.3  
 SLAT DEFLECTION FOR 3 SPAN SHUTTERS

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	1.13	0.77	0.51	0.32	0.19	0.10	0.05	0.02
45	1.70	1.16	0.76	0.48	0.28	0.15	0.07	0.03
55	-	1.42	0.93	0.58	0.34	0.18	0.09	0.04
65	-	1.68	1.10	0.69	0.40	0.22	0.10	0.04
75	-	1.93	1.27	0.79	0.46	0.25	0.12	0.05
85	-	-	1.44	0.90	0.53	0.28	0.14	0.06
95	-	-	1.61	1.00	0.59	0.32	0.15	0.06
105	-	-	1.78	1.11	0.65	0.35	0.17	0.07
115	-	-	-	1.22	0.71	0.38	0.19	0.08
125	-	-	-	1.32	0.77	0.42	0.20	0.08
135	-	-	-	1.43	0.84	0.45	0.22	0.09
145	-	-	-	1.53	0.90	0.48	0.23	0.10
155	-	-	-	-	0.96	0.52	0.25	0.10
165	-	-	-	-	1.02	0.55	0.27	0.11
175	-	-	-	-	1.08	0.59	0.28	0.12
185	-	-	-	-	1.15	0.62	0.30	0.12
195	-	-	-	-	1.21	0.65	0.31	0.13
255	-	-	-	-	-	0.85	0.41	0.17

(GS) GLASS SEPARATION:	
LARGE MISSILE IMPACT	WIND LOAD ONLY
4 7/8" -48" <= SPAN <= 66 5/8"	3" ALL CONDITIONS
4" -30" < SPAN < 48"	
3 1/2" -SPAN <= 30"	

GLASS SEPARATION FOR LARGE MISSILE IMPACT IS APPLICABLE FOR INSTALLATION UP TO 30 FT. OF GRADE DUE TO LARGE MISSILE IMPACT. WIND LOAD GLASS SEPARATION APPLIES TO INSTALLATION ABOVE 30 FT. OF GRADE.



Product:  
**RE1000**  
 EXTRUDED ALUMINUM  
 ROLL SHUTTERS

Engineering:  
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DEC 05 2006

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Date: 12/4/06  
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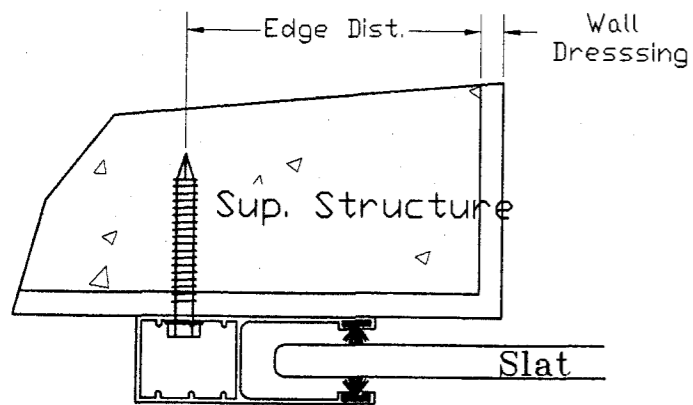
Drawing Number  
 05-186R1

Sheet  
 3 of 14

# GUIDE RAILS MOUNTING OPTIONS

MANUFACTURER:  
**Roller Star USA**  
 1480 SW 6th COURT  
 BUILDING #1400  
 POMPANO BEACH  
 FLORIDA - 33069  
 TEL: (954) 972-4772  
 FAX: (954) 917-7392

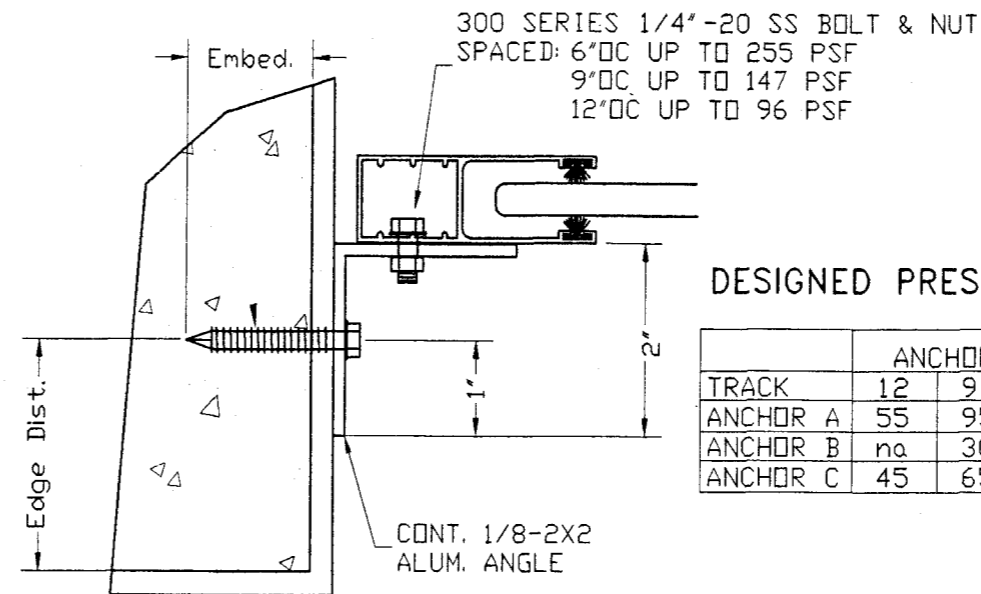
## MOUNT: WALL



### DESIGNED PRESSURES

TRACK	ANCHOR SPACING			
	12	9	6	3
ANCHOR A	45	75	145	<255
ANCHOR B	na	na	45	<125
ANCHOR C	65	95	195	<255

## MOUNT: INSET



### DESIGNED PRESSURES

TRACK	ANCHOR SPACING			
	12	9	6	3
ANCHOR A	55	95	175	<255
ANCHOR B	na	30	65	<185
ANCHOR C	45	65	125	<255

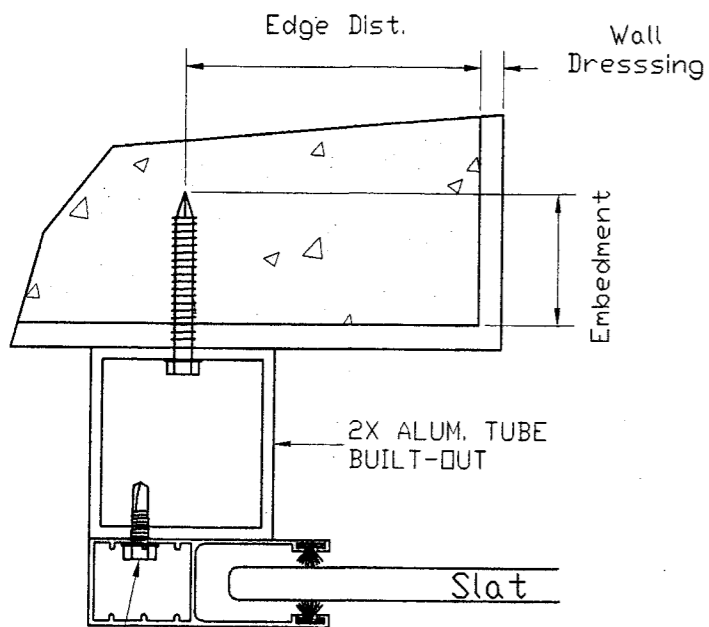
Product:  
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EXTRUDED ALUMINUM  
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## MOUNT: BUILT-OUT



### DESIGNED PRESSURES

TRACK	ANCHOR SPACING			
	12	9	6	3
ANCHOR A	105	165	<255	-
ANCHOR B	30	45	85	<255
ANCHOR C	135	195	<255	-

### ANCHOR SCHEDULE

Type	Description	Embedment	Substract	Manufacturer
A	1/4" Tapcon	1 3/4"	Concrete	Elco
B	1/4" Tapcon	1 1/4"	Hollow Block	Elco
C	#14 SS Wood Screws	2"	Wood (SG=.55)	Elco

EDGE DISTANCE = 3"

ANCHORAGE NOTE: ANCHOR SPACING IS CONTROLLED BY THE SPAN VS PRESSURE TABLES ON SHEET 3 OF 14

DEC 05 2006

Engineer Seal  
 Pedro De Figueiredo  
 PE 52609

Date: 12/4/06  
 Scale: 1:1  
 Design by: PPMF

Dade County NOA:

**PRODUCT RENEWED**  
 as complying with the Florida  
 Building Code  
 Acceptance No. 05-0804.02  
 Expiration Date 09/04/2011

By *Shag L. Chanda*  
 Miami Dade Product Control  
 Division

Drawing Number  
 05-186R1

Sheet  
 4 of 14

#10-3/4" DRILL-FLEX  
 BY ELCO SPACED:  
 6"OC/255 PSF  
 9"OC/147 PSF  
 12"OC/96 PSF

# STORM BAR SELECTION AND DEFLECTION TABLES

## 1/8 2X2 STORM BAR

MAXIMUM ALLOWABLE  
STORM BAR HEIGHT  
2 SPANS SHUTTER

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	61	64	68	72	77	83	91	102
45	50	53	55	59	63	68	75	83
55	45	48	50	53	57	61	67	75
65	42	44	46	49	52	57	62	69
75	39	41	43	45	49	53	58	64
85	36	38	40	43	46	49	54	61
95	34	36	38	40	43	47	51	57
105	33	34	36	38	41	44	49	54
115	31	33	34	37	39	42	46	52
125	30	31	33	35	38	41	45	50
135	29	30	32	34	36	39	43	48
145	28	29	31	33	35	38	41	46
155	26	28	30	31	34	36	40	45
165	24	27	29	30	33	35	39	43
175	23	25	28	30	32	34	38	42
185	22	24	26	29	31	33	37	41
195	20	23	25	28	30	32	36	40
255	15	17	19	21	25	28	31	35

MAXIMUM ALLOWABLE  
STORM BAR HEIGHT  
3 SPANS SHUTTER

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	66	69	73	77	82	89	97	109
45	51	56	59	63	67	73	80	89
55	42	46	51	57	61	66	72	80
65	35	39	43	49	56	60	66	74
75	30	33	37	42	48	56	61	69
85	27	29	33	37	42	49	58	65
95	24	26	29	33	38	44	53	61
105	22	24	26	30	34	40	48	58
115	20	22	24	27	31	36	44	55
125	18	20	22	25	29	33	40	50
135	17	18	20	23	26	31	37	47
145	15	17	19	21	25	29	35	43
155	14	16	18	20	23	27	32	41
165	14	15	17	19	22	25	30	38
175	13	14	16	18	20	24	29	36
185	12	13	15	17	19	22	27	34
195	11	13	14	16	18	21	26	32
255	9	9	11	12	14	16	19	24

## 1/8 2X3 STORM BAR

MAXIMUM ALLOWABLE  
STORM BAR HEIGHT  
2 SPANS SHUTTER

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	82	86	91	96	103	111	120	120
45	67	70	74	79	84	91	100	111
55	61	63	67	71	76	82	90	101
65	56	58	62	65	70	75	83	93
75	52	54	57	61	65	70	77	86
85	47	51	54	57	61	66	72	81
95	42	47	51	54	58	62	68	76
105	38	42	47	51	55	59	65	73
115	35	39	43	48	52	57	62	69
125	32	35	39	44	50	54	60	67
135	30	33	36	41	47	52	57	64
145	28	30	34	38	44	50	55	62
155	26	28	32	36	41	48	53	60
165	24	27	30	33	38	45	52	58
175	23	25	28	32	36	42	50	56
185	22	24	26	30	34	40	48	55
195	20	23	25	28	32	38	46	53
255	15	17	19	21	25	29	35	43

MAXIMUM ALLOWABLE  
STORM BAR HEIGHT  
3 SPANS SHUTTER

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	77	84	94	103	110	119	120	120
45	51	56	62	70	80	94	106	119
55	42	46	51	57	66	77	92	107
65	35	39	43	49	56	65	78	98
75	30	33	37	42	48	56	67	84
85	27	29	33	37	42	49	59	74
95	24	26	29	33	38	44	53	67
105	22	24	26	30	34	40	48	60
115	20	22	24	27	31	36	44	55
125	18	20	22	25	29	33	40	50
135	17	18	20	23	26	31	37	47
145	15	17	19	21	25	29	35	43
155	14	16	18	20	23	27	32	41
165	14	15	17	19	22	25	30	38
175	13	14	16	18	20	24	29	36
185	12	13	15	17	19	22	27	34
195	11	13	14	16	18	21	26	32
255	9	9	11	12	14	16	19	24

STORM BAR MAXIMUM DEFLECTION  
2 SPANS SHUTTER

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	0.6	0.6	0.7	0.8	0.9	1.1	1.3	1.6
45	0.4	0.4	0.5	0.5	0.6	0.7	0.9	1.1
55	0.3	0.4	0.4	0.4	0.5	0.6	0.7	0.9
65	0.3	0.3	0.3	0.4	0.4	0.5	0.6	0.7
75	0.2	0.3	0.3	0.3	0.4	0.4	0.5	0.6
85	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.6
95	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.5
105	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4
115	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.4
125	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4
135	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.4
145	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3
155	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
165	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
175	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
185	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3
195	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2
255	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2

STORM BAR MAXIMUM DEFLECTION  
3 SPANS SHUTTER

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	0.7	0.7	0.8	0.9	1.0	1.2	1.4	1.8
45	0.4	0.5	0.5	0.6	0.7	0.8	1.0	1.2
55	0.2	0.3	0.4	0.5	0.6	0.7	0.8	1.0
65	0.1	0.2	0.2	0.3	0.5	0.5	0.7	0.8
75	0.1	0.1	0.1	0.2	0.3	0.5	0.6	0.7
85	0.1	0.1	0.1	0.1	0.2	0.3	0.5	0.7
95	0.0	0.0	0.1	0.1	0.2	0.2	0.4	0.6
105	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.5
115	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.5
125	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3
135	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3
145	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
155	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
165	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
175	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
185	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

STORM BAR MAXIMUM DEFLECTION  
2 SPANS SHUTTER

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	0.7	0.8	0.9	0.9	1.1	1.3	1.4	1.1
45	0.5	0.5	0.6	0.6	0.7	0.9	1.0	1.3
55	0.4	0.4	0.5	0.5	0.6	0.7	0.8	1.1
65	0.3	0.3	0.4	0.4	0.5	0.6	0.7	0.9
75	0.3	0.3	0.3	0.4	0.4	0.5	0.6	0.8
85	0.2	0.3	0.3	0.3	0.4	0.4	0.5	0.7
95	0.2	0.2	0.3	0.3	0.3	0.4	0.5	0.6
105	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.6
115	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.5
125	0.1	0.1	0.1	0.2	0.3	0.3	0.4	0.5
135	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.4
145	0.0	0.1	0.1	0.1	0.2	0.3	0.3	0.4
155	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.4
165	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.3
175	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.3
185	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.3
195	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3
255	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2

STORM BAR MAXIMUM DEFLECTION  
3 SPANS SHUTTER

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	0.5	0.6	0.9	1.1	1.2	1.5	1.3	1.0
45	0.1	0.2	0.2	0.4	0.5	0.9	1.2	1.5
55	0.1	0.1	0.1	0.2	0.3	0.5	0.8	1.2
65	0.0	0.1	0.1	0.1	0.2	0.3	0.5	1.0
75	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.6
85	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.4
95	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3
105	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
115	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
125	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
135	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DEFLECTION IN INCHES BASED ON MAX. STORM BAR HEIGHT  
STORM BAR HEIGHT IN INCHES  
Pd- DESIGNED PRESSURE IN PSF

# STORM BAR SELECTION AND DEFLECTION TABLES

## 1/8 2X4 STORM BAR

MAXIMUM ALLOWABLE  
STORM BAR HEIGHT  
2 SPANS SHUTTER

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	101	106	112	118	120	120	120	120
45	82	86	91	97	103	112	120	120
55	74	78	82	87	93	101	111	120
65	62	69	76	80	86	93	102	114
75	54	59	66	74	80	86	95	106
85	47	52	58	65	75	81	89	99
95	42	47	52	59	67	77	84	94
105	38	42	47	53	61	71	80	89
115	35	39	43	48	55	65	76	85
125	32	35	39	44	51	59	71	82
135	30	33	36	41	47	55	66	79
145	28	30	34	38	44	51	61	76
155	26	28	32	36	41	48	57	72
165	24	27	30	33	38	45	54	67
175	23	25	28	32	36	42	51	64
185	22	24	26	30	34	40	48	60
195	20	23	25	28	32	38	46	57
255	15	17	19	21	25	29	35	43

MAXIMUM ALLOWABLE  
STORM BAR HEIGHT  
3 SPANS SHUTTER

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	77	84	94	106	120	120	120	120
45	51	56	62	70	80	94	113	120
55	42	46	51	57	66	77	92	115
65	35	39	43	49	56	65	78	98
75	30	33	37	42	48	56	67	84
85	27	29	33	37	42	49	59	74
95	24	26	29	33	38	44	53	67
105	22	24	26	30	34	40	48	60
115	20	22	24	27	31	36	44	55
125	18	20	22	25	29	33	40	50
135	17	18	20	23	26	31	37	47
145	15	17	19	21	25	29	35	43
155	14	16	18	20	23	27	32	41
165	14	15	17	19	22	25	30	38
175	13	14	16	18	20	24	29	36
185	12	13	15	17	19	22	27	34
195	11	13	14	16	18	21	26	32
255	9	9	11	12	14	16	19	24

## 1/8 2X5 STORM BAR

MAXIMUM ALLOWABLE  
STORM BAR HEIGHT  
2 SPANS SHUTTER

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	119	120	120	120	120	120	120	120
45	90	99	107	114	120	120	120	120
55	74	81	90	101	110	119	120	120
65	62	69	76	86	98	109	120	120
75	54	59	66	74	85	99	111	120
85	47	52	58	65	75	87	105	117
95	42	47	52	59	67	78	94	111
105	38	42	47	53	61	71	85	105
115	35	39	43	48	55	65	78	97
125	32	35	39	44	51	59	71	89
135	30	33	36	41	47	55	66	83
145	28	30	34	38	44	51	61	77
155	26	28	32	36	41	48	57	72
165	24	27	30	33	38	45	54	67
175	23	25	28	32	36	42	51	64
185	22	24	26	30	34	40	48	60
195	20	23	25	28	32	38	46	57
255	15	17	19	21	25	29	35	43

MAXIMUM ALLOWABLE  
STORM BAR HEIGHT  
3 SPANS SHUTTER

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	77	84	94	106	120	120	120	120
45	51	56	62	70	80	94	113	120
55	42	46	51	57	66	77	92	115
65	35	39	43	49	56	65	78	98
75	30	33	37	42	48	56	67	84
85	27	29	33	37	42	49	59	74
95	24	26	29	33	38	44	53	67
105	22	24	26	30	34	40	48	60
115	20	22	24	27	31	36	44	55
125	18	20	22	25	29	33	40	50
135	17	18	20	23	26	31	37	47
145	15	17	19	21	25	29	35	43
155	14	16	18	20	23	27	32	41
165	14	15	17	19	22	25	30	38
175	13	14	16	18	20	24	29	36
185	12	13	15	17	19	22	27	34
195	11	13	14	16	18	21	26	32
255	9	9	11	12	14	16	19	24

STORM BAR MAXIMUM DEFLECTION  
2 SPANS SHUTTER

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	0.8	0.9	1.0	1.1	1.0	0.8	0.7	0.6
45	0.5	0.6	0.6	0.7	0.8	1.0	1.1	0.8
55	0.4	0.5	0.5	0.6	0.7	0.8	1.0	1.0
65	0.2	0.3	0.4	0.5	0.6	0.7	0.8	1.0
75	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.9
85	0.1	0.1	0.2	0.3	0.4	0.5	0.6	0.7
95	0.1	0.1	0.1	0.2	0.3	0.5	0.5	0.7
105	0.1	0.1	0.1	0.2	0.2	0.4	0.5	0.6
115	0.0	0.1	0.1	0.1	0.2	0.3	0.4	0.5
125	0.0	0.0	0.1	0.1	0.1	0.2	0.4	0.5
135	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.5
145	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.4
155	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.4
165	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3
175	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3
185	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
195	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1

STORM BAR MAXIMUM DEFLECTION  
3 SPANS SHUTTER

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	0.2	0.3	0.4	0.6	0.9	0.7	0.6	0.5
45	0.1	0.1	0.1	0.2	0.3	0.4	0.7	0.7
55	0.0	0.0	0.1	0.1	0.1	0.2	0.4	0.8
65	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.5
75	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3
85	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
95	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
105	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
115	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
125	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

STORM BAR MAXIMUM DEFLECTION  
2 SPANS SHUTTER

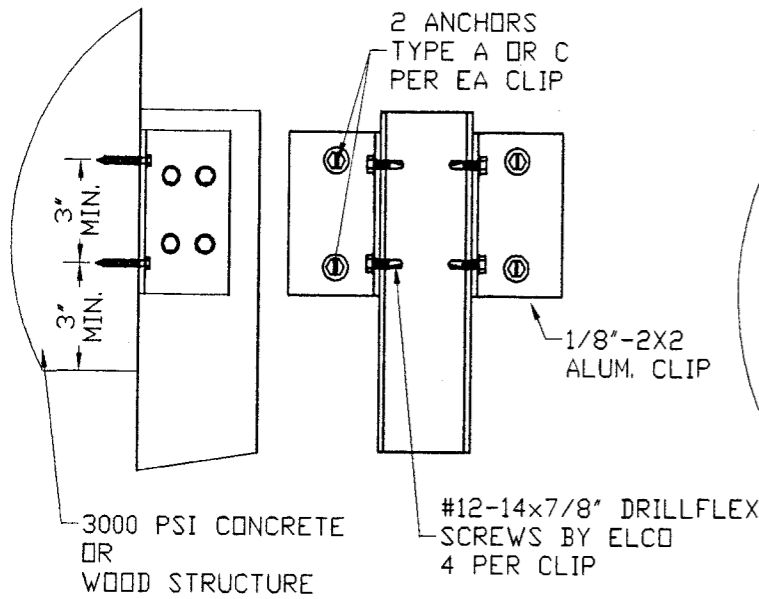
Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	0.9	0.8	0.7	0.6	0.6	0.5	0.4	0.3
45	0.4	0.6	0.7	0.8	0.9	0.7	0.6	0.5
55	0.2	0.3	0.4	0.6	0.7	0.9	0.7	0.6
65	0.1	0.2	0.3	0.4	0.5	0.7	0.9	0.7
75	0.1	0.1	0.2	0.2	0.4	0.6	0.7	0.8
85	0.1	0.1	0.1	0.2	0.2	0.4	0.7	0.8
95	0.0	0.1	0.1	0.1	0.2	0.3	0.5	0.8
105	0.0	0.0	0.1	0.1	0.1	0.2	0.4	0.7
115	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.5
125	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.4
135	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3
145	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3
155	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
165	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
175	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
185	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
195	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

STORM BAR MAXIMUM DEFLECTION  
3 SPANS SHUTTER

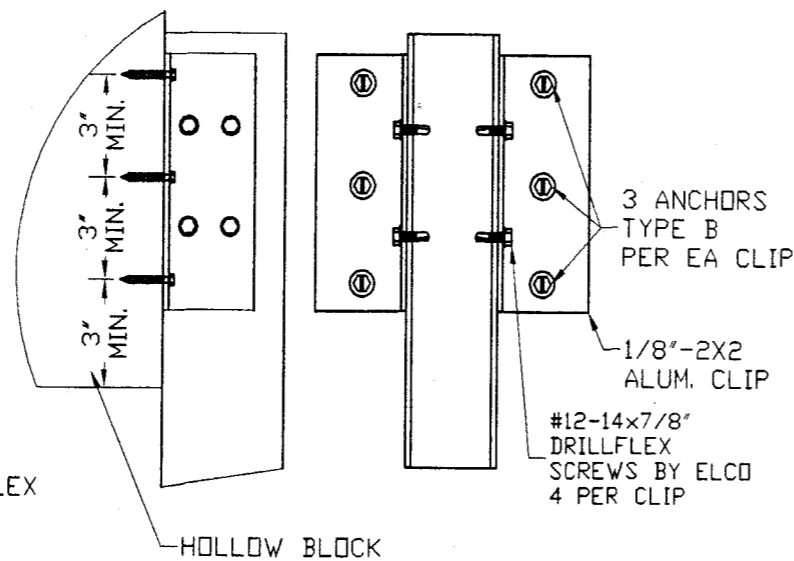
Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	0.1	0.2	0.2	0.3	0.5	0.4	0.4	0.3
45	0.0	0.1	0.1	0.1	0.1	0.2	0.4	0.4
55	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.4
65	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.3
75	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
85	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
95	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
115	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

# STORM BAR ANCHORAGE

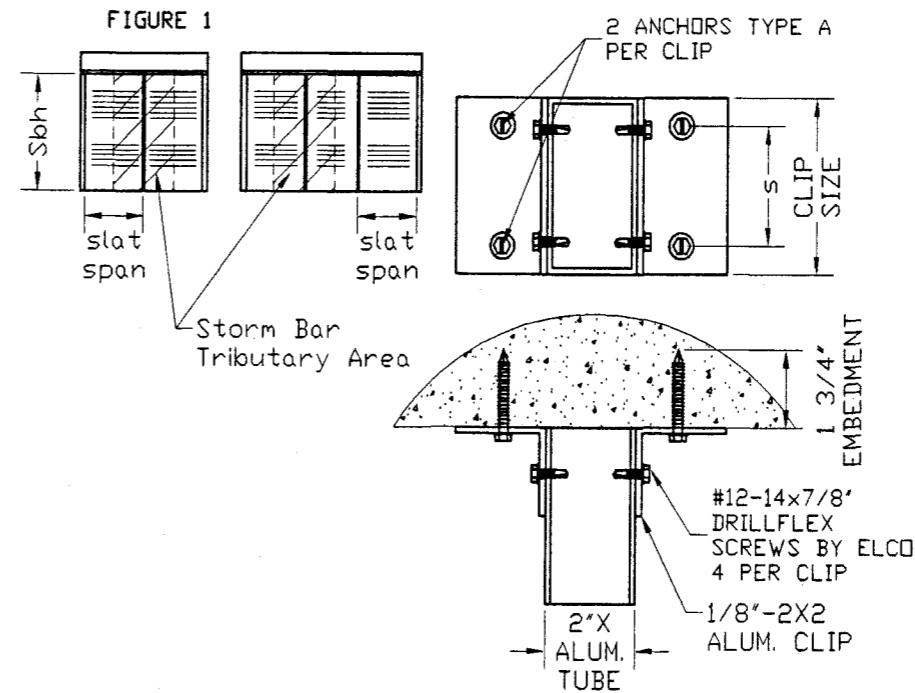
## WALL MOUNTED STORM BARS ANCHORED TO CONCRETE OR WOOD



## WALL MOUNTED STORM BARS ANCHORED TO HOLLOW BLOCK WALL



## FLOOR/CEILING MOUNTED STORM BARS ANCHORED TO CONCRETE SLAB



GENERAL NOTE:  
ALL ANCHORAGE IS CONTROLLED BY THE MAXIMUM STORM BAR HEIGHT SELECTION TABLES ON SHEETS 5 AND 6

### ANCHOR SCHEDULE

Type	Description	Embed.	Substrat	Manufacturer
A	1/4" Tapcon	1 3/4"	Concrete	Elco
B	1/4" Tapcon	1 1/4"	Hollow Block	Elco
C	#14 SS Wood Screws	2"	Wood (SG= .55)	Elco

TABLE 1  
ALLOWABLE DESIGNED PRESSURES (PSF)

AREA	2 SPAN-CLIP SIZE				3 SPAN-CLIP SIZE			
	2	3	4	5	2	3	4	5
10	66	101	184	204	75	115	209	232
15	44	67	122	136	50	77	139	154
20	33	51	92	102	37	57	104	116
30	22	34	61	68	25	38	70	77
35	19	29	52	58	21	33	60	66
40	16	25	46	51	19	29	52	58
s	1.5	2.0	3.0	4.0	1.5	2.0	3.0	4.0

NOTES:  
1- USE 2 ANCHORS PER CLIP  
2- AREA: SEE FIGURE 1 TO CALCULATE AREA  
3- USE ANCHOR TYPE A.  
4- REDUCTION FACTOR OF 1/4" TAPCONS:  
0.66 (S=2'), 0.50 (S=1.5')

## STORM BARS MOUNTED ON BUILT-OUT ALUM. TUBE AND SHUTTER HEADER

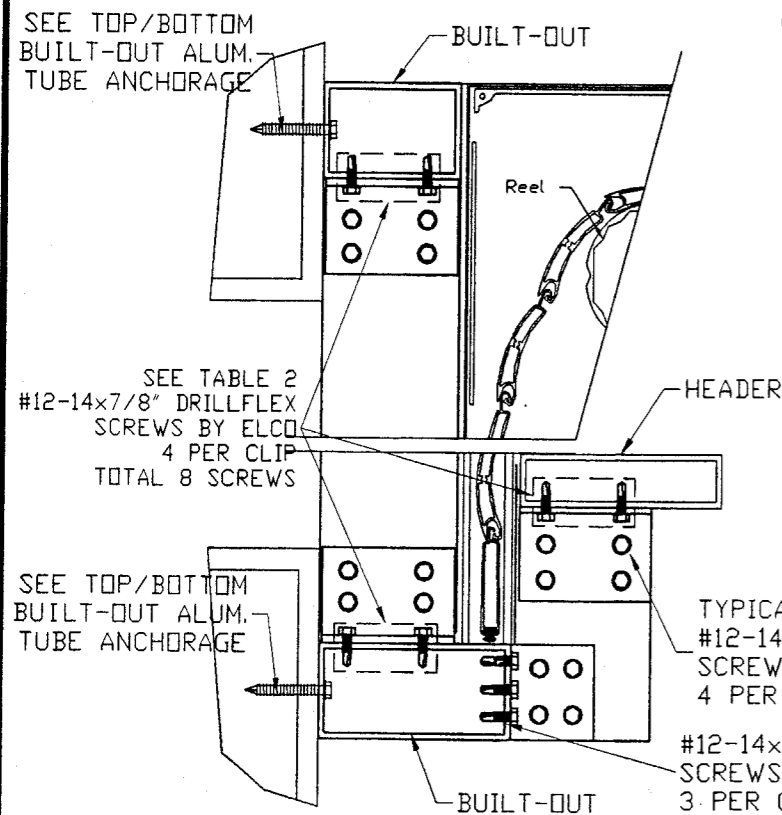
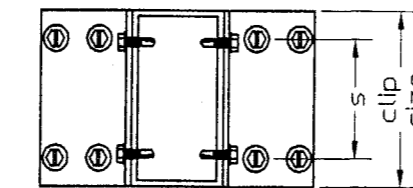


TABLE 2  
ALLOWABLE DESIGNED PRESSURES (Psf)

Clip Size	Pd Psf	(s)
2'	<= 75	1.5'
3'	<= 255	2.5'
4'	<= 255	3.0'
5'	<= 255	4.0'

Pd Allowable designed pressure

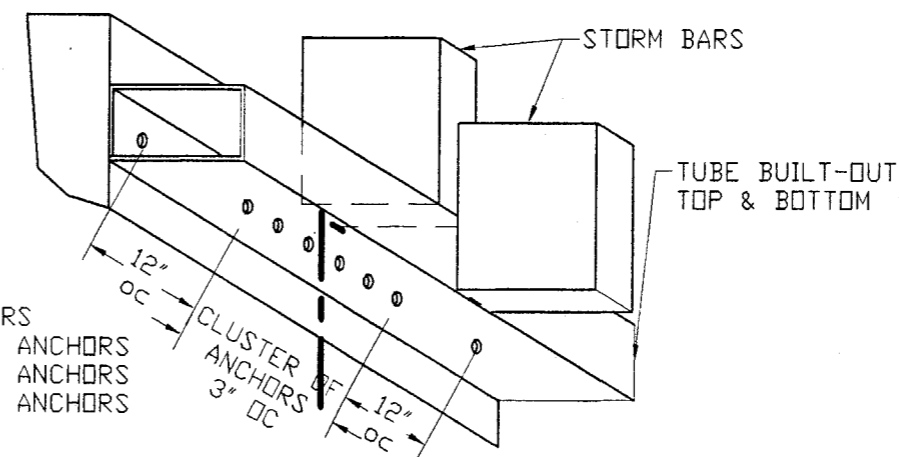


STORM BAR  
TYPICAL 1/8-2X2 ALUMINUM CLIP

TYPICAL #12-14x7/8" DRILLFLEX SCREWS BY ELCO 4 PER CLIP

#12-14x7/8" DRILLFLEX SCREWS BY ELCO 3 PER CLIP - TOTAL 6 SCREWS

## TOP/BOTTOM BUILT-OUT ALUMINUM TUBE ANCHORAGE



CLUSTER OF ANCHORS  
TYPE A- MIN. OF 3 ANCHORS  
TYPE B- MIN. OF 6 ANCHORS  
TYPE C- MIN. OF 3 ANCHORS

MANUFACTURER:  
**Roller Star USA**  
1480 SW 6th COURT  
BUILDING #1400  
POMPANO BEACH  
FLORIDA - 33069  
TEL: (954) 972-4772  
FAX: (954) 917-7392

Product:  
**RE1000**  
EXTRUDED ALUMINUM  
ROLL SHUTTERS

Engineering:  
**EngCo Inc.**  
CA 8116  
6971 W. Sunrise Blvd. 104  
Plantation, FL 33313  
Tel.: (954) 585-0304  
Fax: (954) 585-0305

DEC 05 2006

Engineer Seal  
Pedro De Figueiredo  
PE 52609

Date: 12/4/06  
Scale: 1:1  
Design by: PPMF

Dade County NOA:

**PRODUCT RENEWED**  
as complying with the Florida  
Building Code  
Acceptance No. 05-0804-02  
Expiration Date OCT 04, 2011  
By Ishag I. Chaudhry  
Miami Dade/Product Control  
Division

Drawing Number  
**05-186R1**

Sheet  
7 of 14

# HEADER SELECTION AND DEFLECTION TABLES

## 1/8 2X2 STORM BAR

## 1/8 2X3 STORM BAR

HEADER SELECTION  
2 SPANS SHUTTER

HEADER SELECTION  
3 SPANS SHUTTER

HEADER SELECTION  
2 SPANS SHUTTER

HEADER SELECTION  
3 SPANS SHUTTER

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	2X4	2X4	2X3	2X3	2X3	2X2	2X2	2X2
45	2X4	2X4	2X4	2X3	2X3	2X3	2X2	2X2
55	2X5	2X4	2X4	2X3	2X3	2X3	2X2	2X2
65	2X5	2X4	2X4	2X4	2X3	2X3	2X2	2X2
75	2X5	2X5	2X4	2X4	2X3	2X3	2X3	2X2
85	2X5	2X5	2X4	2X4	2X4	2X3	2X3	2X2
95	2X5	2X5	2X5	2X4	2X4	2X3	2X3	2X2
105	2X6	2X5	2X5	2X4	2X4	2X3	2X3	2X2
115	2X6	2X5	2X5	2X4	2X4	2X3	2X3	2X2
125	2X6	2X5	2X5	2X4	2X4	2X3	2X3	2X2
135	2X6	2X6	2X5	2X5	2X4	2X4	2X3	2X2
145	2X6	2X6	2X5	2X5	2X4	2X4	2X3	2X3
155	2X6	2X6	2X5	2X5	2X4	2X4	2X3	2X3
165	2X6	2X6	2X5	2X5	2X4	2X4	2X3	2X3
175	2X6	2X6	2X5	2X5	2X4	2X4	2X3	2X3
185	2X6	2X6	2X5	2X5	2X4	2X4	2X3	2X3
195	2X6	2X6	2X5	2X5	2X5	2X4	2X3	2X3
255	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	2X6	2X5	2X5	2X4	2X4	2X3	2X3	2X2
45	2X6	2X6	2X5	2X5	2X4	2X4	2X3	2X3
55	2X6	2X6	2X6	2X5	2X5	2X4	2X3	2X3
65	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
75	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
85	2X6	2X6	2X6	2X5	2X5	2X4	2X4	2X3
95	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
105	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
115	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
125	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
135	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
145	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
155	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
165	2X6	2X6	2X6	2X5	2X5	2X4	2X4	2X3
175	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
185	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
195	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
255	2X6	2X6	2X6	2X5	2X5	2X4	2X4	2X3

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	2X5	2X4	2X4	2X3	2X3	2X3	2X2	2X2
45	2X5	2X5	2X4	2X4	2X3	2X3	2X3	2X2
55	2X6	2X5	2X5	2X4	2X4	2X3	2X3	2X2
65	2X6	2X5	2X5	2X4	2X4	2X3	2X3	2X2
75	2X6	2X6	2X5	2X5	2X4	2X4	2X3	2X2
85	2X6	2X6	2X5	2X5	2X4	2X4	2X3	2X3
95	2X6	2X6	2X5	2X5	2X4	2X4	2X3	2X3
105	2X6	2X6	2X6	2X5	2X4	2X4	2X3	2X3
115	2X6	2X6	2X6	2X5	2X5	2X4	2X3	2X3
125	2X6	2X6	2X5	2X5	2X5	2X4	2X3	2X3
135	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
145	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
155	2X6	2X6	2X6	2X5	2X5	2X4	2X4	2X3
165	2X6	2X6	2X6	2X5	2X5	2X4	2X4	2X3
175	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
185	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
195	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
255	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	2X6	2X6	2X6	2X5	2X4	2X4	2X3	2X2
45	2X6	2X6	2X6	2X5	2X5	2X4	2X4	2X3
55	2X6	2X6	2X6	2X5	2X5	2X4	2X4	2X3
65	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
75	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
85	2X6	2X6	2X6	2X5	2X5	2X4	2X4	2X3
95	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
105	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
115	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
125	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
135	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
145	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
155	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
165	2X6	2X6	2X6	2X5	2X5	2X4	2X4	2X3
175	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
185	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
195	2X6	2X6	2X5	2X5	2X5	2X4	2X4	2X3
255	2X6	2X6	2X6	2X5	2X5	2X4	2X4	2X3

MAXIMUM HEADER DEFLECTION  
2 SPANS SHUTTER

MAXIMUM HEADER DEFLECTION  
3 SPANS SHUTTER

MAXIMUM HEADER DEFLECTION  
2 SPANS SHUTTER

MAXIMUM HEADER DEFLECTION  
3 SPANS SHUTTER

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	0.8	0.6	0.9	0.6	0.4	0.6	0.3	0.1
45	1.0	0.8	0.5	0.7	0.4	0.3	0.4	0.2
55	0.7	0.8	0.6	0.8	0.5	0.3	0.4	0.2
65	0.7	0.9	0.6	0.4	0.5	0.3	0.4	0.2
75	0.8	0.6	0.7	0.4	0.6	0.3	0.2	0.2
85	0.8	0.6	0.7	0.5	0.3	0.3	0.2	0.2
95	0.9	0.6	0.4	0.5	0.3	0.4	0.2	0.2
105	0.6	0.6	0.4	0.5	0.3	0.4	0.2	0.2
115	0.6	0.7	0.5	0.5	0.3	0.4	0.2	0.3
125	0.6	0.7	0.5	0.6	0.4	0.4	0.2	0.3
135	0.6	0.5	0.5	0.3	0.4	0.2	0.2	0.3
145	0.7	0.5	0.5	0.4	0.4	0.2	0.2	0.1
155	0.7	0.5	0.6	0.4	0.4	0.2	0.2	0.1
165	0.7	0.5	0.6	0.4	0.4	0.2	0.3	0.1
175	0.7	0.5	0.6	0.4	0.4	0.2	0.3	0.1
185	0.7	0.5	0.6	0.4	0.4	0.2	0.3	0.1
195	0.6	0.5	0.6	0.4	0.3	0.3	0.3	0.1
255	0.6	0.5	0.6	0.4	0.3	0.3	0.2	0.1

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	1.7	1.9	1.3	1.5	0.9	1.1	0.6	0.7
45	1.9	1.4	1.6	1.1	1.2	0.7	0.7	0.3
55	1.9	1.4	1.1	1.2	0.7	0.7	0.8	0.4
65	1.9	1.5	1.7	1.2	0.8	0.8	0.4	0.4
75	1.9	1.4	1.7	1.2	0.8	0.9	0.5	0.4
85	1.9	1.4	1.1	1.2	0.8	0.9	0.5	0.5
95	1.9	1.4	1.6	1.2	0.8	0.9	0.5	0.5
105	1.9	1.4	1.6	1.2	0.8	0.9	0.5	0.5
115	1.9	1.4	1.7	1.2	0.8	0.9	0.5	0.5
125	1.9	1.4	1.6	1.2	0.8	0.9	0.5	0.5
135	1.9	1.4	1.6	1.2	0.8	0.9	0.5	0.5
145	1.8	1.4	1.6	1.1	0.8	0.9	0.5	0.5
155	1.8	1.4	1.7	1.2	0.8	0.9	0.5	0.5
165	1.9	1.4	1.1	1.2	0.8	0.9	0.5	0.5
175	1.9	1.4	1.7	1.2	0.8	0.9	0.5	0.5
185	1.9	1.4	1.7	1.2	0.8	0.8	0.5	0.5
195	1.8	1.5	1.6	1.2	0.8	0.8	0.5	0.5
255	1.9	1.3	1.1	1.1	0.8	0.8	0.5	0.5

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	0.6	0.8	0.6	0.8	0.5	0.3	0.4	0.2
45	0.8	0.6	0.7	0.5	0.6	0.3	0.2	0.2
55	0.6	0.6	0.4	0.5	0.3	0.4	0.2	0.2
65	0.6	0.7	0.5	0.5	0.3	0.4	0.2	0.3
75	0.6	0.5	0.5	0.3	0.4	0.2	0.2	0.3
85	0.7	0.5	0.5	0.4	0.4	0.2	0.2	0.1
95	0.7	0.5	0.6	0.4	0.4	0.2	0.3	0.1
105	0.7	0.5	0.4	0.4	0.4	0.3	0.3	0.1
115	0.7	0.5	0.4	0.4	0.3	0.3	0.3	0.1
125	0.7	0.5	0.6	0.4	0.3	0.3	0.3	0.1
135	0.7	0.5	0.6	0.4	0.3	0.3	0.2	0.1
145	0.7	0.5	0.6	0.4	0.3	0.3	0.2	0.1
155	0.7	0.5	0.4	0.4	0.3	0.3	0.2	0.2
165	0.7	0.5	0.4	0.4	0.3	0.3	0.2	0.2
175	0.7	0.5	0.6	0.4	0.3	0.3	0.2	0.2
185	0.7	0.5	0.6	0.4	0.3	0.3	0.2	0.2
195	0.6	0.5	0.6	0.4	0.3	0.3	0.2	0.2
255	0.6	0.5	0.6	0.4	0.3	0.3	0.2	0.2

Pd	SHUTTER SPAN							
	66	60	54	48	42	36	30	24
30	1.9	1.4	1.1	1.2	1.3	0.7	0.7	0.8
45	1.9	1.4	1.7	1.2	0.8	0.9	0.5	0.4
55	1.9	1.4	1.1	1.2	0.8	0.9	0.5	0.5
65	1.9	1.5	1.7	1.2	0.8	0.9	0.5	0.5
75	1.9	1.4	1.7	1.2	0.8	0.9	0.5	0.5
85	1.9	1.4	1.1	1.2	0.8	0.9	0.5	0.5
95	1.9	1.4	1.6	1.2	0.8	0.9	0.5	0.5
105	1.9	1.4	1.6	1.2	0.8	0.9	0.5	0.5
115	1.9	1.4	1.7	1.2	0.8	0.9	0.5	0.5
125	1.9	1.4	1.6	1.2	0.8	0.9	0.5	0.5
135	1.9	1.4	1.6	1.2	0.8	0.9	0.5	0.5
145	1.8	1.4	1.6	1.1	0.8	0.9	0.5	0.5
155								



MANUFACTURER:  
**Roller Star USA**  
 1480 SW 6th COURT  
 BUILDING #1400  
 POMPANO BEACH  
 FLORIDA - 33069  
 TEL: (954) 972-4772  
 FAX: (954) 917-7392

Product:  
**RE1000**  
 EXTRUDED ALUMINUM  
 ROLL SHUTTERS

Engineering:  
**EngCo Inc.**  
 CA 8116  
 6971 W. Sunrise Blvd. 104  
 Plantation, Fl. 33313  
 Tel.: (954) 585-0304  
 Fax: (954) 585-0305

*[Signature]*  
**DEC 05 2006**  
 Engineer Seal  
 Pedro De Figueiredo  
 PE 52609

Date: 12/4/06  
 Scale: 1:1  
 Design by: PPMF

Dade County NOA:  
**PRODUCT RENEWED**  
 as complying with the Florida  
 Building Code  
 Acceptance No 05-0804-02  
 Expiration Date DEC 04, 2011  
 By Ishag I. Chander  
 Miami Dade Product Control  
 Division

Drawing Number  
**05-186R1**

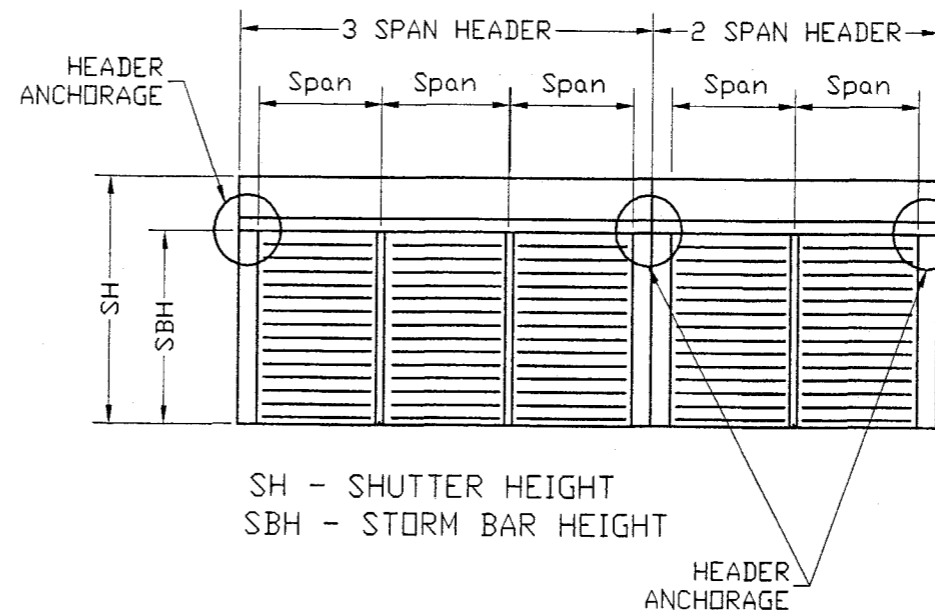
Sheet  
 10 of 14

**ANCHOR SCHEDULE**

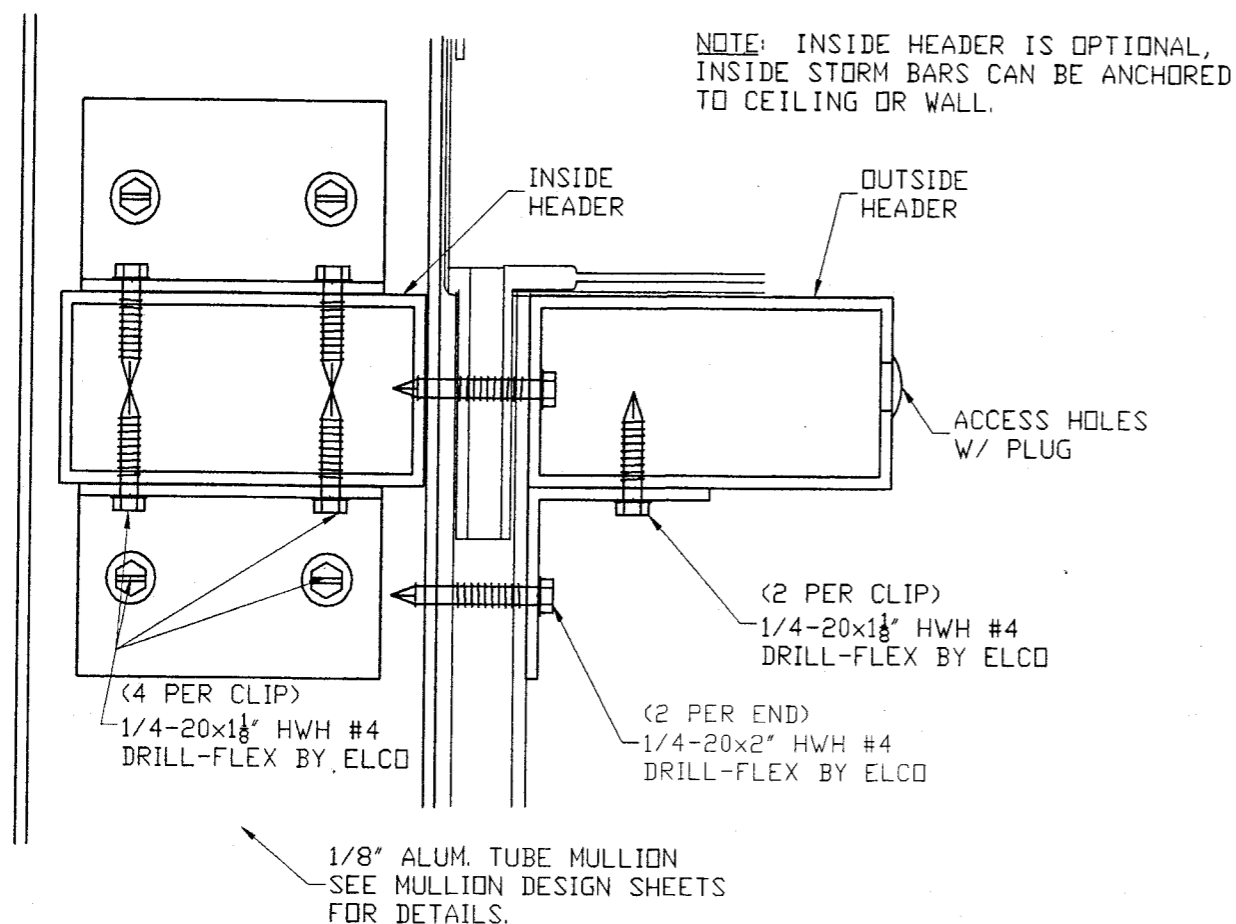
Type	Description	Embed.	Substrat	Manufacturer
A	1/4" Tapcon	1 3/4"	Concrete	Elco
B	1/4" Tapcon	1 1/4"	Hollow Block	Elco
C	#14 SS Wood Screws	2"	Wood (SG=.55)	Elco

EDGE DISTANCE = 3"

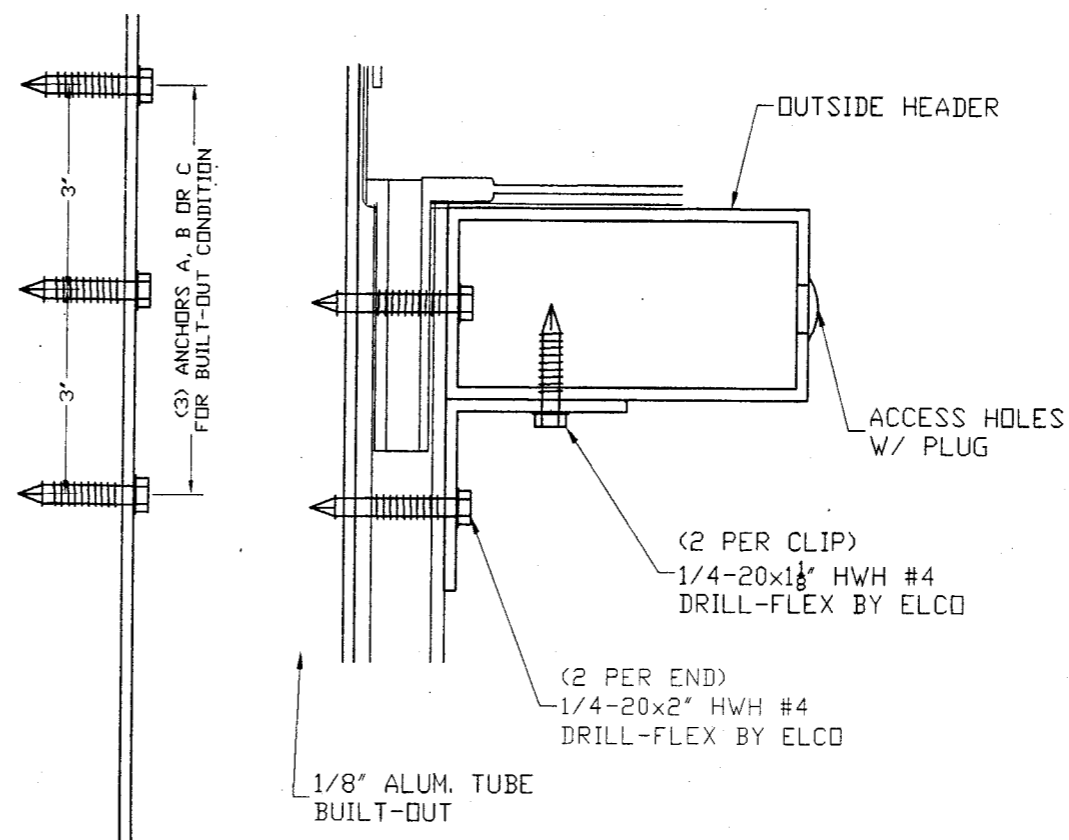
**ANCHORAGE NOTE:** HEADER ANCHORAGE IS CONTROLLED BY THE MAXIMUM ALLOWABLE STORM BARS HEIGHT TABLES ON SHEETS 5 AND 6 OF 14



**HEADER ANCHORAGE INTO MULLION TUBE**



**HEADER ANCHORAGE INTO BUILT-OUT ALUM. TUBE**



# MULLION SELECTION TABLES

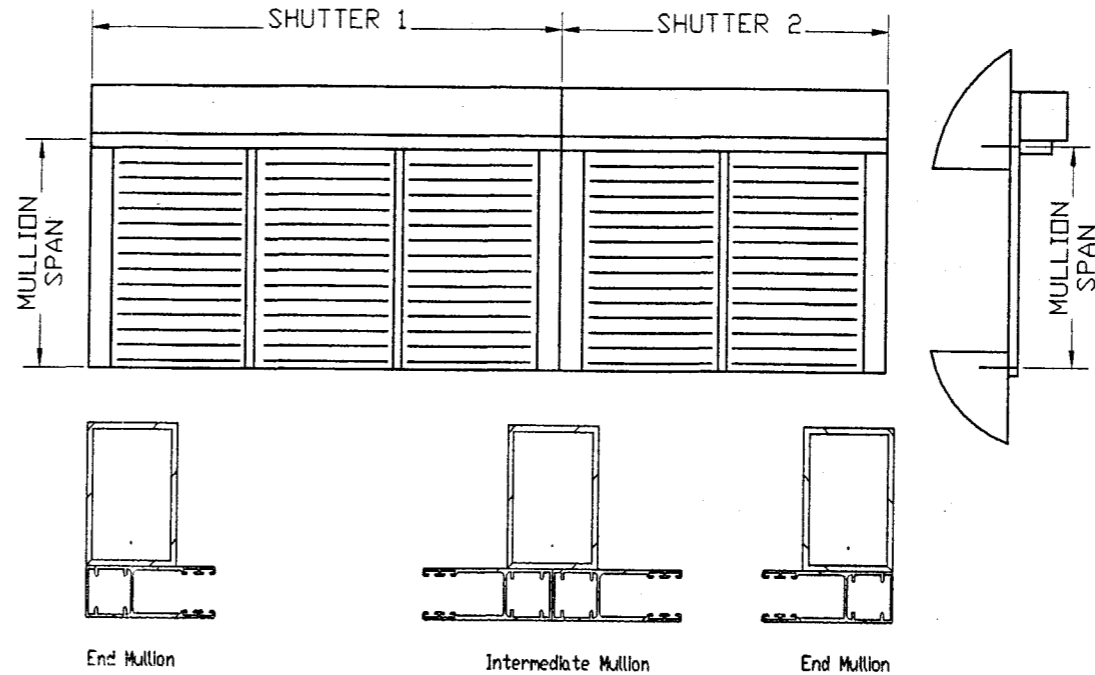
## CASE 1 - MULLION ANCHORED WALL TO WALL OR WALL TO FLOOR

### INTERMEDIATE MULLION

### END MULLION

Pd	MULLION SPAN							
	120	108	96	84	72	60	48	36
30	2X6	2X5	2X4	2X4	2X3	2X3	2X2	2X2
45	2X6	2X6	2X5	2X4	2X4	2X3	2X2	2X2
55	NA	2X6	2X5	2X5	2X4	2X3	2X3	2X2
65	NA	2X6	2X5	2X5	2X4	2X3	2X3	2X2
75	NA	2X6	2X5	2X4	2X3	2X3	2X2	2X2
85	NA	NA	2X6	2X5	2X4	2X3	2X3	2X2
95	NA	NA	2X6	2X5	2X4	2X4	2X3	2X2
105	NA	NA	2X6	2X5	2X4	2X4	2X3	2X2
115	NA	NA	NA	2X6	2X5	2X4	2X3	2X2
125	NA	NA	NA	2X6	2X5	2X4	2X3	2X2
135	NA	NA	NA	2X6	2X5	2X4	2X3	2X2
145	NA	NA	NA	2X6	2X5	2X4	2X3	2X2
155	NA	NA	NA	2X6	2X5	2X4	2X3	2X2
165	NA	NA	NA	2X6	2X5	2X4	2X3	2X2
175	NA	NA	NA	NA	2X5	2X4	2X3	2X2
185	NA	NA	NA	NA	2X5	2X4	2X3	2X2
195	NA	NA	NA	NA	2X5	2X4	2X3	2X2
255	NA	NA	NA	NA	2X6	2X5	2X4	2X3

Pd	MULLION SPAN							
	120	108	96	84	72	60	48	36
30	2X4	2X4	2X3	2X3	2X3	2X2	2X2	2X2
45	2X5	2X4	2X4	2X3	2X3	2X2	2X2	2X2
55	2X5	2X5	2X4	2X4	2X3	2X3	2X2	2X2
65	2X5	2X5	2X4	2X4	2X3	2X3	2X2	2X2
75	2X6	2X5	2X4	2X4	2X3	2X3	2X2	2X2
85	2X6	2X5	2X4	2X4	2X3	2X3	2X2	2X2
95	2X6	2X5	2X5	2X4	2X3	2X3	2X2	2X2
105	2X6	2X5	2X5	2X4	2X4	2X3	2X2	2X2
115	2X6	2X6	2X5	2X4	2X4	2X3	2X2	2X2
125	2X6	2X6	2X5	2X4	2X4	2X3	2X2	2X2
135	2X6	2X6	2X5	2X4	2X4	2X3	2X2	2X2
145	2X6	2X6	2X5	2X4	2X4	2X3	2X2	2X2
155	NA	2X6	2X5	2X4	2X4	2X3	2X2	2X2
165	NA	2X6	2X5	2X5	2X4	2X3	2X3	2X2
175	NA	2X6	2X5	2X5	2X4	2X3	2X3	2X2
185	NA	2X6	2X5	2X5	2X4	2X3	2X3	2X2
195	NA	2X6	2X5	2X5	2X4	2X3	2X3	2X2
255	NA	2X6	2X6	2X5	2X4	2X3	2X3	2X2



MANUFACTURER:  
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Product:  
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 EXTRUDED ALUMINUM  
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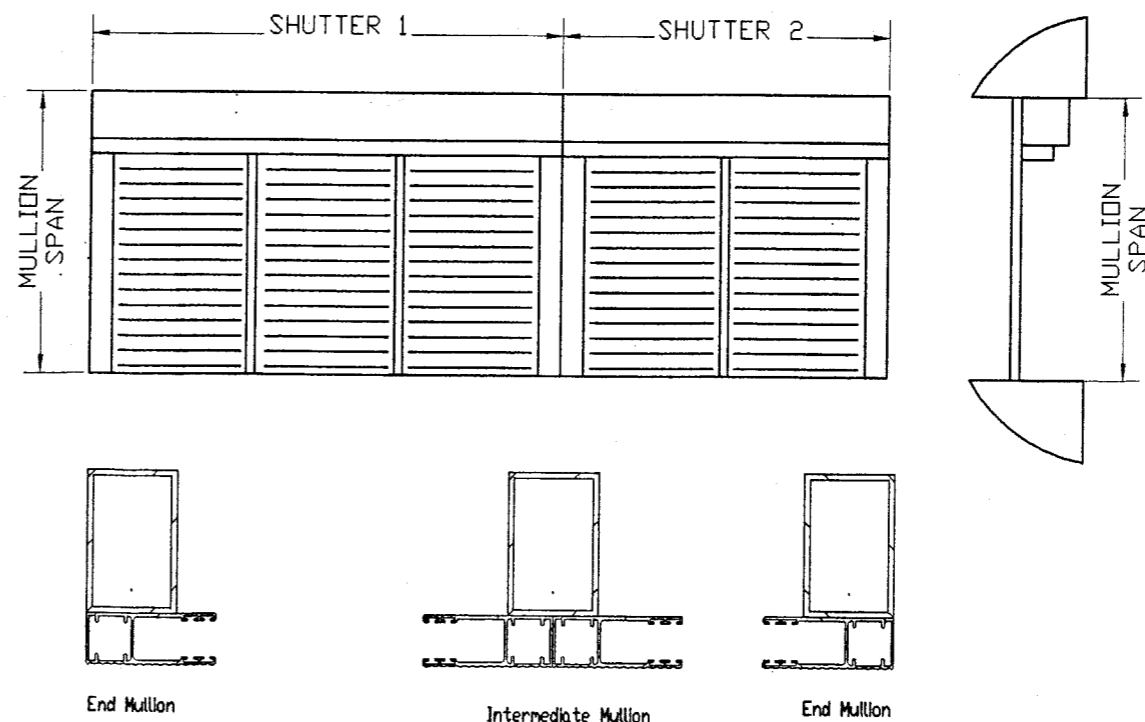
## CASE 2 - MULLION ANCHORED FLOOR TO CEILING

### INTERMEDIATE MULLION

### END MULLION

Pd	MULLION SPAN							
	120	108	96	84	72	60	48	36
30	2X6	2X6	2X5	2X5	2X4	2X4	2X3	2X3
45	NA	NA	2X6	2X5	2X5	2X4	2X4	2X3
55	NA	NA	2X6	2X6	2X5	2X4	2X4	2X3
65	NA	NA	2X6	2X6	2X5	2X4	2X4	2X3
75	NA	NA	NA	2X6	2X5	2X5	2X4	2X3
85	NA	NA	NA	2X6	2X5	2X5	2X4	2X3
95	NA	NA	NA	2X6	2X5	2X5	2X4	2X3
105	NA	NA	NA	NA	2X6	2X5	2X4	2X4
115	NA	NA	NA	NA	2X6	2X5	2X4	2X4
125	NA	NA	NA	NA	2X6	2X5	2X4	2X4
135	NA	NA	NA	NA	2X6	2X5	2X4	2X4
145	NA	NA	NA	NA	2X6	2X5	2X4	2X4
155	NA	NA	NA	NA	2X6	2X5	2X5	2X4
165	NA	NA	NA	NA	2X6	2X5	2X5	2X4
175	NA	NA	NA	NA	NA	2X6	2X5	2X4
185	NA	NA	NA	NA	NA	2X6	2X5	2X4
195	NA	NA	NA	NA	NA	2X6	2X5	2X4
255	NA	NA	NA	NA	NA	2X6	2X5	2X4

Pd	MULLION SPAN							
	120	108	96	84	72	60	48	36
30	2X5	2X4	2X4	2X4	2X3	2X3	2X2	2X2
45	2X5	2X5	2X4	2X4	2X3	2X3	2X3	2X2
55	2X6	2X5	2X5	2X4	2X4	2X3	2X3	2X2
65	2X6	2X5	2X5	2X4	2X4	2X3	2X3	2X2
75	2X6	2X5	2X5	2X4	2X4	2X3	2X3	2X2
85	2X6	2X5	2X5	2X4	2X4	2X3	2X3	2X2
95	2X6	2X6	2X5	2X4	2X4	2X3	2X3	2X2
105	2X6	2X6	2X5	2X5	2X4	2X3	2X3	2X2
115	2X6	2X6	2X5	2X5	2X4	2X3	2X3	2X2
125	2X6	2X6	2X5	2X5	2X4	2X3	2X3	2X2
135	NA	2X6	2X5	2X5	2X4	2X3	2X3	2X2
145	NA	2X6	2X5	2X5	2X4	2X3	2X3	2X2
155	NA	2X6	2X6	2X5	2X4	2X4	2X3	2X2
165	NA	2X6	2X6	2X5	2X4	2X4	2X3	2X2
175	NA	2X6	2X6	2X5	2X4	2X4	2X3	2X3
185	NA	2X6	2X6	2X5	2X4	2X4	2X3	2X3
195	NA	NA	2X6	2X5	2X4	2X4	2X3	2X3
255	NA	NA	2X6	2X5	2X5	2X4	2X3	2X3



NOTE: MULLION TABLES ARE CONTROLLED BY THE SPAN VS PRESSURE TABLES ON SHEET 3 OF 14

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 Pedro De Figueiredo  
 PE 52609

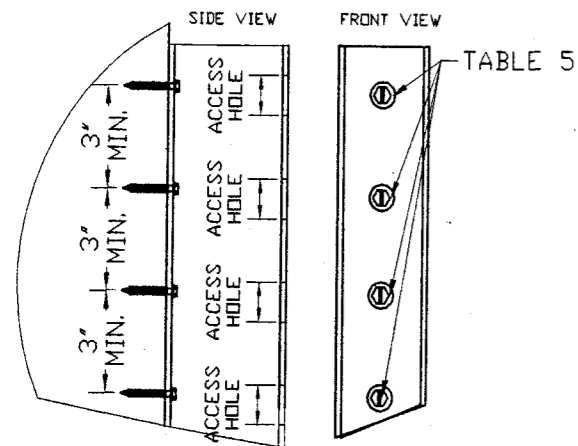
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 Scale: 1:1  
 Design by: PPMF

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 Miami Dade Product Control  
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Sheet  
 11 of 14

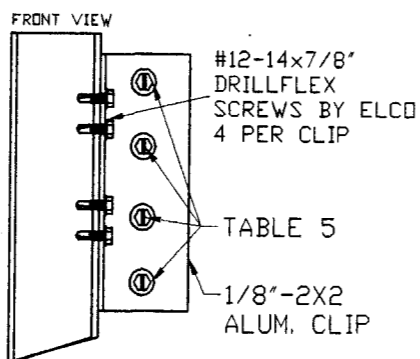
MULLION ANCHORAGE TABLES  
ALLOWABLE DESIGN LOAD - Pd (Psf)



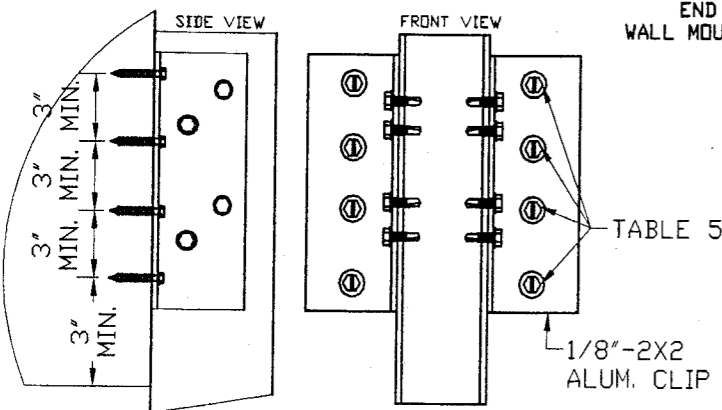
END MULLION WALL MOUNT (W/OUT CLIP)

TABLE 5 - WALL MOUNT MULLION ANCHORED TO WALL

MULL	ANCHORS PER CLIP	
	TYPE A, C	TYPE B
2X2	3	5
2X3	3	6
2X4	3	7
2X5	4	8
2X6	4	8



END MULLION WALL MOUNT (W/ CLIP)



INTERMEDIATE MULLION WALL MOUNT

ANCHOR SCHEDULE

Type	Description	Embed.	Substract	Manufacturer
A	1/4" Tapcon	1 3/4"	Concrete	Elco
B	1/4" Tapcon	1 1/4"	Hollow Block	Elco
C	#14 SS Wood Screws	2"	Wood (SG=, 55)	Elco

EDGE DISTANCE = 3"

UNIT LAY-OUT

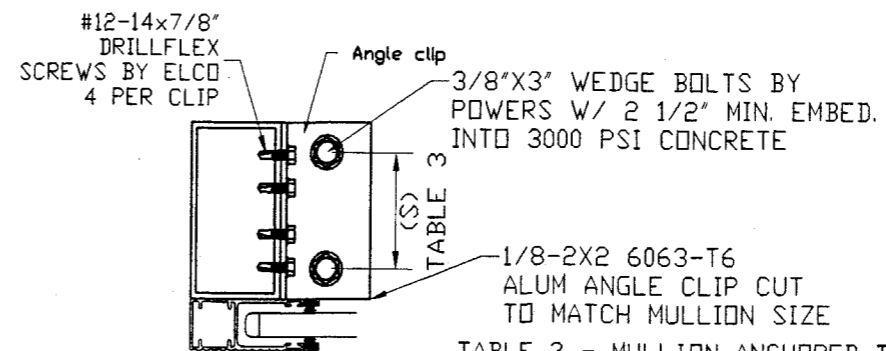
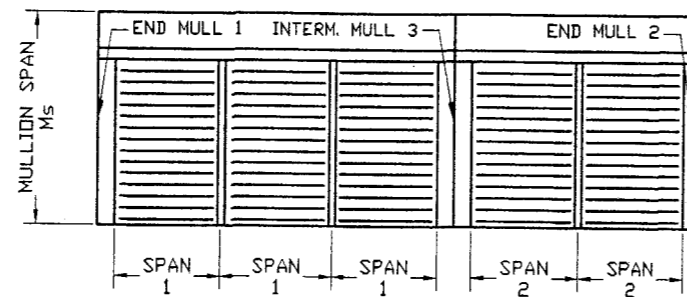


TABLE 3 - MULLION ANCHORED TO CONCRETE FLOOR/CEILING

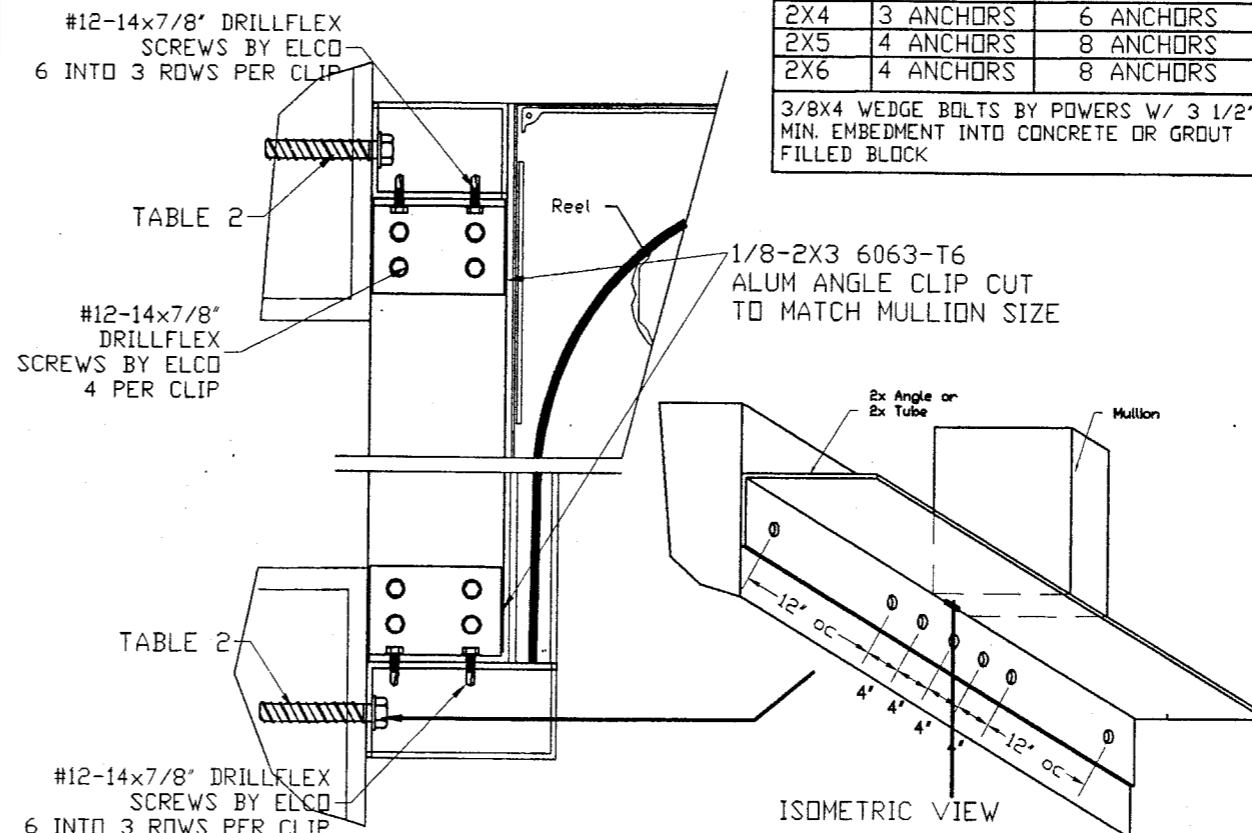
MULL	SPACING (s)
2X2	1 AT CENTER OF CLIP
2X3	2 AT 1 7/8" oc
2X4	2 AT 2 3/4" oc
2X5	2 AT 3 3/4" oc
2X6	2 AT 4" oc

NOTES:  
1- 2X2 MULL TO BE USED UP TO 95 PSF LOAD  
4- REDUCTION FACTOR OF 3/8" WEDGE BOLTS:  
0.73 (S=2.75"), 0.50 (S=1.75")

TABLE 2 - ANGLE OR TUBE BUILT-OUT MOUNT

MULL	END	INTERMEDIATE
2X2	3 ANCHORS	6 ANCHORS
2X3	3 ANCHORS	6 ANCHORS
2X4	3 ANCHORS	6 ANCHORS
2X5	4 ANCHORS	8 ANCHORS
2X6	4 ANCHORS	8 ANCHORS

3/8x4 WEDGE BOLTS BY POWERS W/ 3 1/2" MIN. EMBEDMENT INTO CONCRETE OR GROUT FILLED BLOCK



ISOMETRIC VIEW

MANUFACTURER:  
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Pedro De Figueiredo  
PE 52609

Date: 12/4/06  
Scale: 1:1  
Design by: PPMF

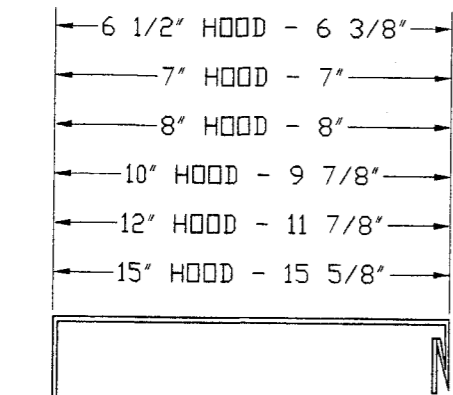
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By Ishag I. Chande  
Miami Dade Product Control  
Division

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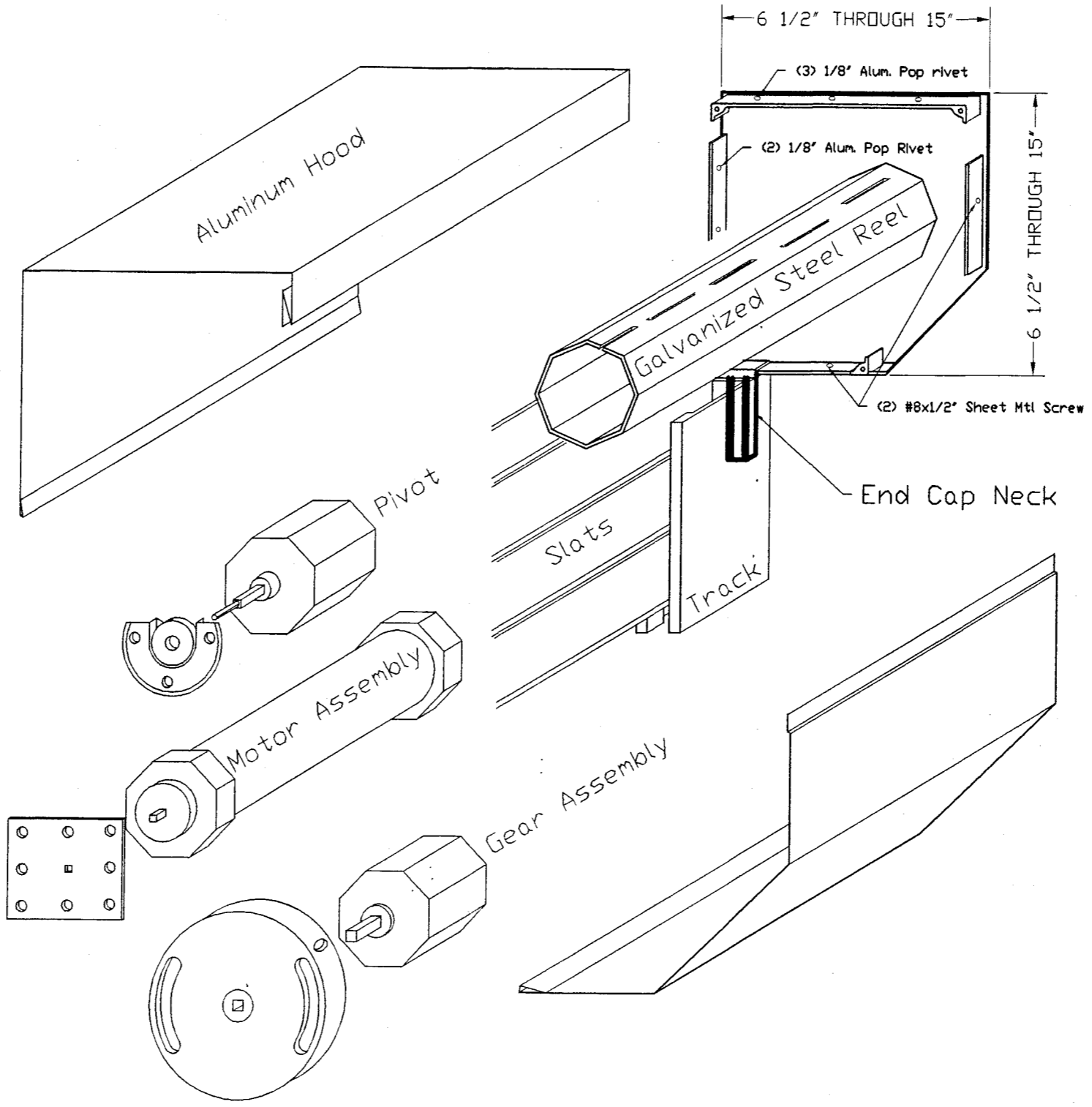
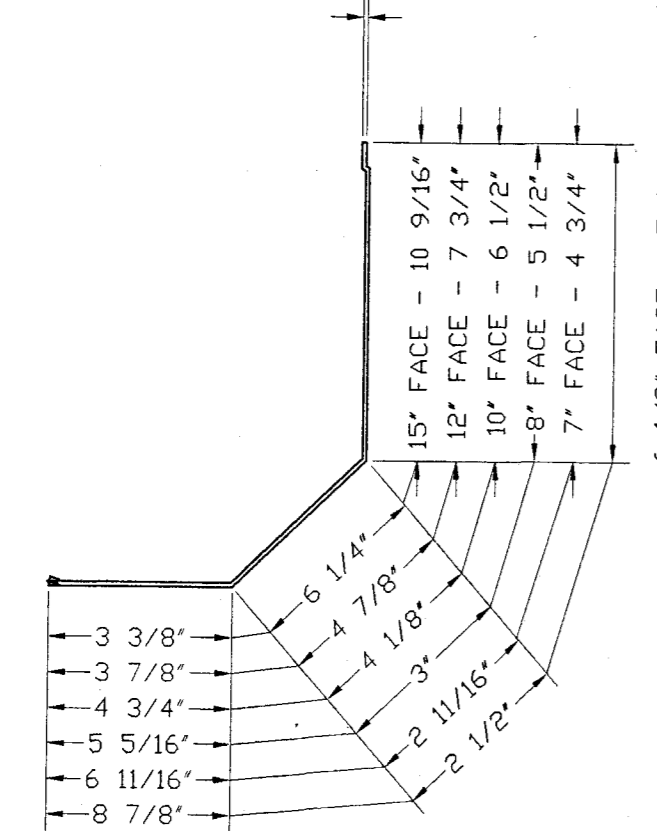
Sheet  
12 of 14

# HOOD ASSEMBLY



THICKNESS  
 .032 - 6 1/2", 7"  
 .04 - 8", 10", 12"  
 .05 - 15 3/4"

THICKNESS  
 .032 - 6 1/2", 7"  
 .04 - 8", 10", 12"  
 .05 - 15 3/4"



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*[Signature]*  
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 Engineer Seal  
 Pedro De Figueiredo  
 PE 52609

Date: 12/4/06  
 Scale: 1:1  
 Design by: PPMF

Dade County NOA:  
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 Miami Dade Product Control  
 Division

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**05-186R1**

Sheet  
 13 of 14

# CALCULATION EXAMPLES FOR TOTAL SLAT DEFLECTION ON MULTIPLE SPAN SHUTTERS

## POSITIVE LOAD

UNIT #	(1) Pd	(2) TT	(3) # SPANS	(4) Span	(5) SLAT DEF(A)	(6) STORM BARS			(7) HEADER		(8) TOTAL DEF. (D) D=A+B/2+C/4	(9) Allowable D<=Span/30 or 2'	(10) GS GS=D+1
						TYPE	SPAN	DEF. (B)	TYPE	DEF. (C)			
1	45	180	3	60	1.16	2X2	56	0.5	2X6	1.4	1.76<	2.0	3"
2	65	96	2	48	0.54	2X4	80	0.5	2X5	0.4	0.79<	1.6	3"
3	30	72	3	24	0.02	2X3	120	1.0	2X3	0.8	0.72<	0.8	3"
4	95	144	3	48	1.00	2X2	33	0.1	NA	0.0	1.05<	1.6	3"
5	45	120	2	60	0.91	2X5	99	0.6	2X6	0.5	1.34<	2.0	3"

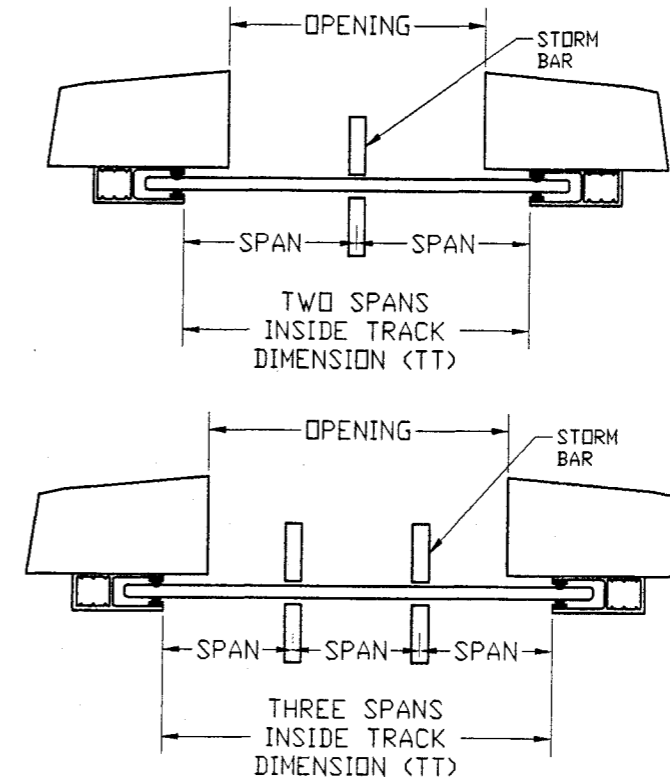
## NEGATIVE LOAD

UNIT #	(1) Pd	(2) TT	(3) # SPANS	(4) Span	(5) SLAT DEF(A)	(6) STORM BARS			(7) HEADER		(8) TOTAL DEF. (D) D=A+B/2+C/4	(9) Allowable D<=Span/30
						TYPE	SPAN	DEF. (B)	TYPE	DEF. (C)		
1	55	180	3	60	1.42	2X2	46	0.3	2X6	1.4	1.92<	2.0
2	75	96	2	48	0.62	2X4	74	0.4	2X5	0.4	0.92<	1.6
3	45	72	3	24	0.03	2X4	120	0.7	2X4	0.4	0.48<	0.8
4	95	144	3	48	1.00	2X2	33	0.1	2X5	1.2	1.35<	1.6
5	55	120	2	60	1.11	2X5	81	0.3	2X6	0.5	1.39<	2.0

### PROCEDURE:

- STEP 1: PROVIDE PROJECT DESIGNED PRESSURE IN PSF AS PER ITEM 4 SHEET 1 OF 14. BASED ON ASCE 7-02
- STEP 2: PROVIDE TRACK TO TRACK SHUTTER DIMENSION IN INCHES.
- STEP 3: PROVIDE NUMBER OF SPANS: 2 FOR ONE SET OF STORM BARS 3 FOR TWO SETS.
- STEP 4: CALCULATE THE SPAN SIZE DIVIDING TT/# OF SPANS. THIS VALUE MUST BE LESS OR EQUAL THE CORRESPONDING VALUE OF TABLE 1.3 ON SHEET 3 OF 14.
- STEP 5: CALCULATED SLAT DEFLECTION IN INCHES AS PER TABLE 2.3 OR 3.3.
- STEP 6: SELECT APPROPRIATE STORM BAR TYPE AND CORRESPONDING DEFLECTION ON SHEETS 5 OR 6 OF 14.
- STEP 7: (IF APPLICABLE) SELECT APPROPRIATE HEADER TYPE AND CORRESPONDING DEFLECTION ON SHEETS 8 OR 9 OF 14.
- STEP 8: CALCULATE TOTAL DEFLECTION
- STEP 9: CALCULATE AND COMPARE MAXIMUM ALLOWABLE DEFLECTION. IF TOTAL DEFLECTION EXCEEDS THE ALLOWABLE TRY TO UPGRADE THE STORM BAR UNTIL DESIGN IS ACCEPTABLE.
- STEP 10: CALCULATE THE SLAT TO GLASS SEPARATION (POSITIVE ONLY). COMPARE WITH GLASS SEPARATION TABLE.

NOTE: THIS IS A GENERIC EXAMPLE SHEET. FOR SPECIFIC PROJECTS, CONTRACTOR MUST USE ADDITIONAL SHEET AND FOLLOW THE ABOVE GUIDELINES. THE SPECIFIC PROJECT MUST BE VERIFIED BY THE BUILDING OFFICIAL. SITE SPECIFIC ENGINEERING, PROVIDED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER, MAY BE ACCEPTABLE UPON BUILDING OFFICIAL APPROVAL.



(GS) GLASS SEPARATION:		
LARGE MISSILE IMPACT		WIND LOAD ONLY
4 7/8"	-48" <= SPAN <= 66 5/8"	3" ALL CONDITIONS
4"	-30" < SPAN < 48"	
3 1/2"	-SPAN <= 30"	

GLASS SEPARATION FOR LARGE MISSILE IMPACT IS APPLICABLE FOR INSTALLATION UP TO 30 FT. OF GRADE DUE TO LARGE MISSILE IMPACT. WIND LOAD GLASS SEPARATION APPLIES TO INSTALLATION ABOVE 30 FT. OF GRADE.

MANUFACTURER:  
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Miami Dade Product Control  
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Sheet  
14 of 14