



**MIAMI-DADE COUNTY**  
 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](http://www.buildingcodeonline.com)

**NOTICE OF ACCEPTANCE (NOA)**

**American Shutter Products, Inc.**  
 6360 Topaz Court  
 Fort Myers, Florida 33912

**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 High Velocity Hurricane Zone of the Florida Building Code.

**DESCRIPTION: "Croc Extruded" Aluminum Accordion Shutter**

**APPROVAL DOCUMENT:** Drawing No. 06-150, titled "Croc Extruded Accordion Shutter", sheets 1 through 6 of 6, prepared by EngCo, Inc., dated May 11, 2006, signed and sealed by Pedro De Figueiredo, P.E. on May 31, 2006, bearing the Miami-Dade County Product Control Approval stamp with the Notice of Acceptance number and approval date by the Miami-Dade County Product Control Division.

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

**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", 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 consists of this page 1, evidence submitted page E-1 as well as approval document mentioned above. The submitted documentation was reviewed by **Helmy A. Makar, P.E.**



*Helmy A. Makar*  
 07/06/2006

NOA No 06-0515.01  
 Expiration Date: 07/06/2011  
 Approval Date: 07/06/2006  
 Page 1

**American Shutter Products, Inc.**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**A. DRAWINGS**

1. *Drawing No. 06-150, titled " Croci Extruded Accordion Shutter ", sheets 1 through 6 of 6, prepared by EngCo, Inc., dated May 11, 2006, signed and sealed by Pedro De Figueiredo, P.E. on May 31, 2006.*

**B. TESTS**

1. *Test report on Large Missile Impact Test, Cyclic Wind Pressure Test and Static Wind Pressure Test of Aluminum Accordion Shutter, prepared by Construction Testing Corporation, Report No. 05-035 TAS, dated November 16, 2005, signed and sealed by Yamil G. Kuri, P.E.*

**C. CALCULATIONS**

1. *Comparative analysis and anchor calculations, dated May 11, 2006, pages 1 through 28 of 28, prepared by EngCo, Inc., signed and sealed by Pedro De Figueiredo, P.E.*

**D. QUALITY ASSURANCE**

1. *By Miami-Dade County Building Code Compliance Office.*

**E. MATERIAL CERTIFICATIONS**

1. *None.*



Helmy A. Makar, P. E.  
Product Control Examiner  
NOA No 06-0515.01  
Expiration Date: 07/06/2011  
Approval Date: 07/06/2006

**INDICES:**

- SHEET 1- INDICES, GENERAL NOTES, TYPICAL ELEVATION, ALLOWABLE BLADE PRESSURE TABLE 1
- SHEET 2- SECTIONS AA, BB & CC, ANCHOR TABLES
- SHEET 3- SECTIONS DD, EE & FF, ANCHOR TABLES
- SHEET 4- SECTIONS GG, J, H, I & ANCHOR TABLES
- SHEET 5- SECTION L, MALE & FEMALE STACK
- SHEET 6- BILL OF MATERIALS, COMPONENTS DRAWINGS & ASSEMBLY LAY-OUT.

**GENERAL NOTES:**

1- DEFINITION: THIS PRODUCT IS AN ACCORDION TYPE SHUTTER, DESIGNED, CONSTRUCTED AND ERECTED TO EASILY ENCLOSE AN OPENING, PROVIDING PROTECTION FROM HURRICANE FORCE WINDS AND WIND BORNE DEBRIS (LARGE MISSILE) WITHIN THE ALLOWABLE DESIGNED PRESSURES AND LIMITATIONS STATED IN THIS APPROVAL.

2- CODE: THIS PRODUCT HAS BEEN TESTED AND DESIGNED IN ACCORDANCE WITH THE 2004 FLORIDA BUILDING CODE, 2005 SUPPLEMENT UNDER TAS 201, 202 AND 203.

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

"AMERICAN SHUTTER PRODUCTS, INC - FT. MYERS - FLORIDA  
CROCI EXTRUDED ALUMINUM ACCORDION SHUTTER  
MIAMI-DADE COUNTY PRODUCT CONTROL APPROVED"

4- LOADS: THE DESIGNED LOAD (BASED ON ASCE 7) MUST BE CALCULATED 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 EXTRUDED ALUMINUM SHAPES SHALL BE MADE OF 6063-T6 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.

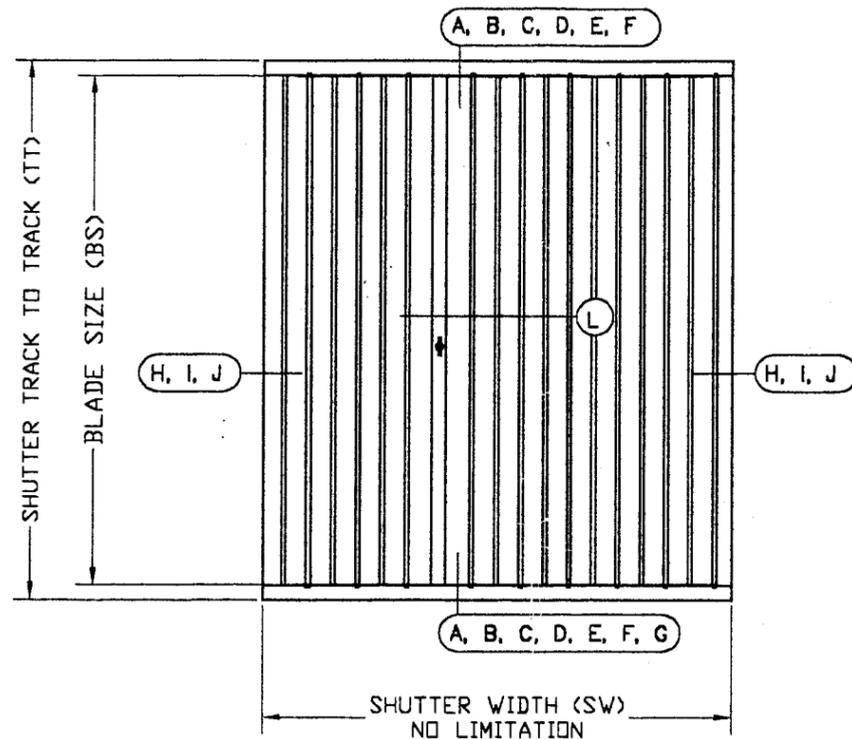
7- USE: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, ARCHITECT OR ENGINEER OF RECORD TO VERIFY THE FOLLOWING:

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 WINDLOADS, LOCAL CODE REQUIREMENTS, DESIGNED PRESSURES ETC.

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

TYPICAL ELEVATION

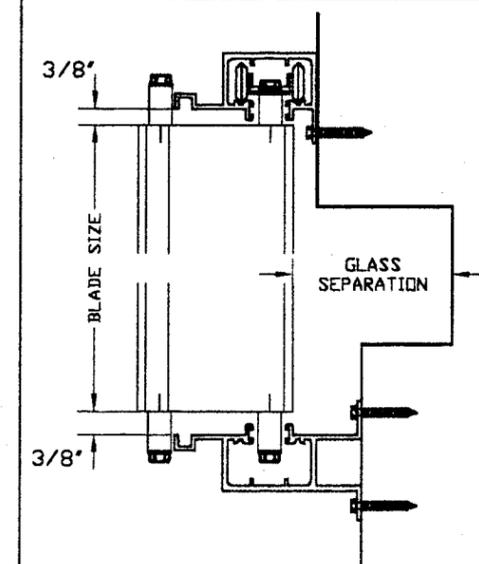


**USER INSTRUCTIONS:**

- 1- DETERMINE PROJECT DESIGN WIND LOAD PRESSURES AS PER ITEM 4 OF GENERAL NOTES, SHEET 1.
- 2- CHECK BLADE SIZE WITH TABLE 1 ON SHEET 1 FOR ALLOWABLE DESIGN PRESSURE.
- 3- SELECT MOUNT TYPE TO BE USED AS PER SHEETS 2, 3 & 4. MOUNT TYPES ARE INTERCHANGEABLE.
- 4- CALCULATE ANCHOR SPACING AND TYPE OF ANCHOR TO BE USED FOR A GIVEN BLADE SIZE X PRESSURE FOR THE SPECIFIC MOUNT TYPE AS PER SHEETS 2, 3 & 4.

TABLE 1  
ALLOWABLE DESIGNED LOADS  
X  
MAXIMUM BLADE SIZE

BLADE (IN) INCHES	PRESSURE (PSF)	
	POSITIVE	NEGATIVE
60'	188	188
66'	171	171
72'	156	156
78'	144	144
84'	134	134
90'	125	125
96'	117	117
102'	110	110
108'	100	100
114'	90	90
120'	81	81
126'	74	74
132'	66	67
138'	55	61
144'	46	56
150'	39	52



GLASS SEPARATION		
INSTALLATION BELOW 30' ELEVATION	BLADE <=120' 3 1/2"	BLADE >120' 4 5/8"
INSTALLATION ABOVE 30' ELEVATION	BLADE <=120' 3'	BLADE >120' 4'

Manufacturer:  
**American Shutter Products, Inc.**  
A DIVISION OF  
CROCI NORTH AMERICA  
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FORT MYERS, FL 33912  
Tel.: (239) 278-3066  
Fax: (239) 278-5977

Product:  
**Croci Extruded Aluminum Accordion Shutter**

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

*(Signature)*  
MAY 31 2006  
PEDRO DE FIGUEIREDO, PE  
PE 52609

DRAFTING:  
**PK DRAFTING & MORE**

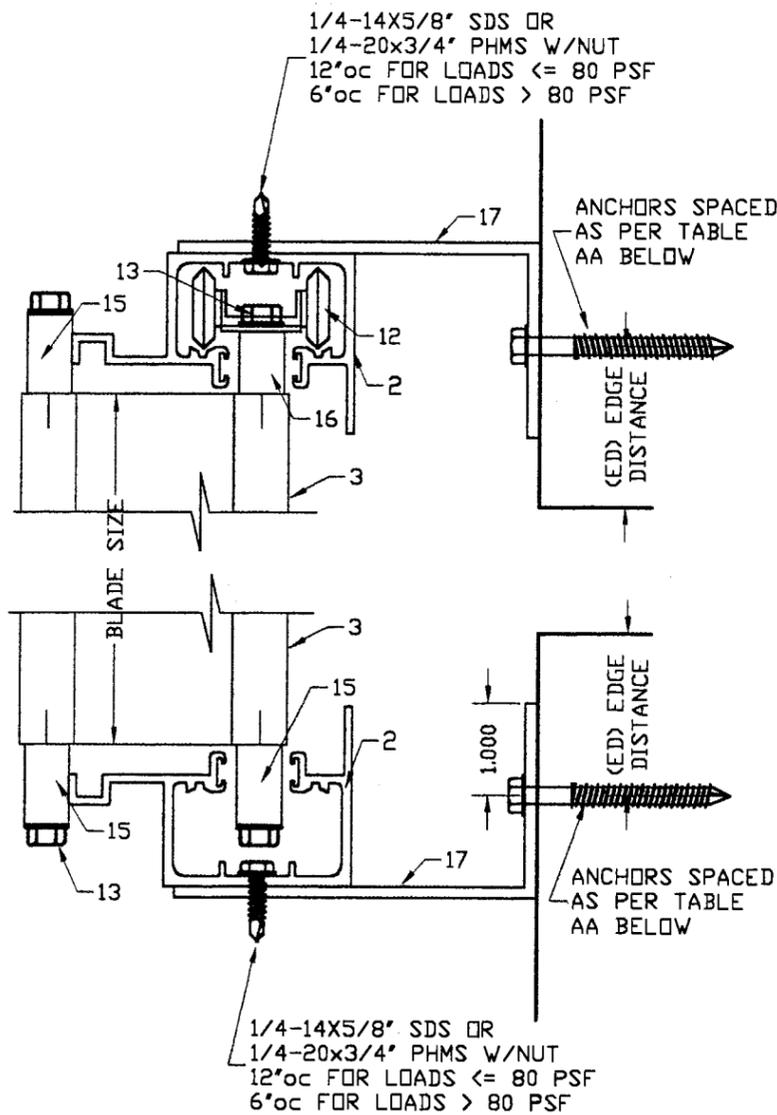
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Scale: NA  
Design by: PPMF

Miami-Dade BCCO  
Approved as complying with the Florida Building Code  
Date: 07/06/2006  
NOA#: 06-0515-01  
Miami Dade Product Control  
Division  
By: *(Signature)*

Drawing Number  
06-150

Sheet  
1 of 6

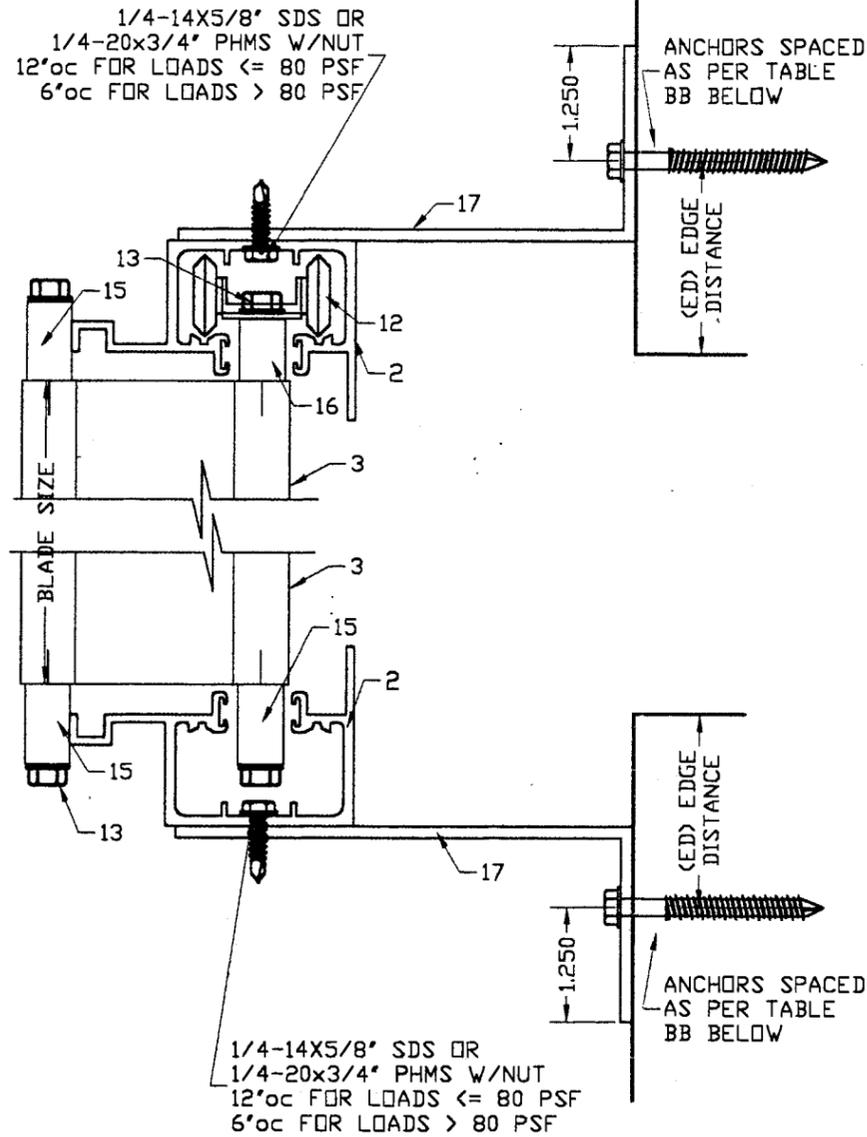
SECTION AA  
BUILT-OUT ON ANGLE



SECTION AA - MAXIMUM ANCHOR SPACING INCHES ON CENTER

Pd psf	BLADE SIZE (IN)														
	150			132			108			84			60		
	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3
40	12	8	12	12	9	12	12	11	12	12	12	12	12	12	12
60	9	5	12	10	6	12	12	7	12	12	10	12	12	12	12
100	5	3	8	6	3	9	7	4	11	10	6	12	12	8	12
160	3	-	5	4	-	5	5	-	7	6	3	9	9	5	12
190	3	-	4	3	-	5	4	-	6	5	3	7	7	4	11

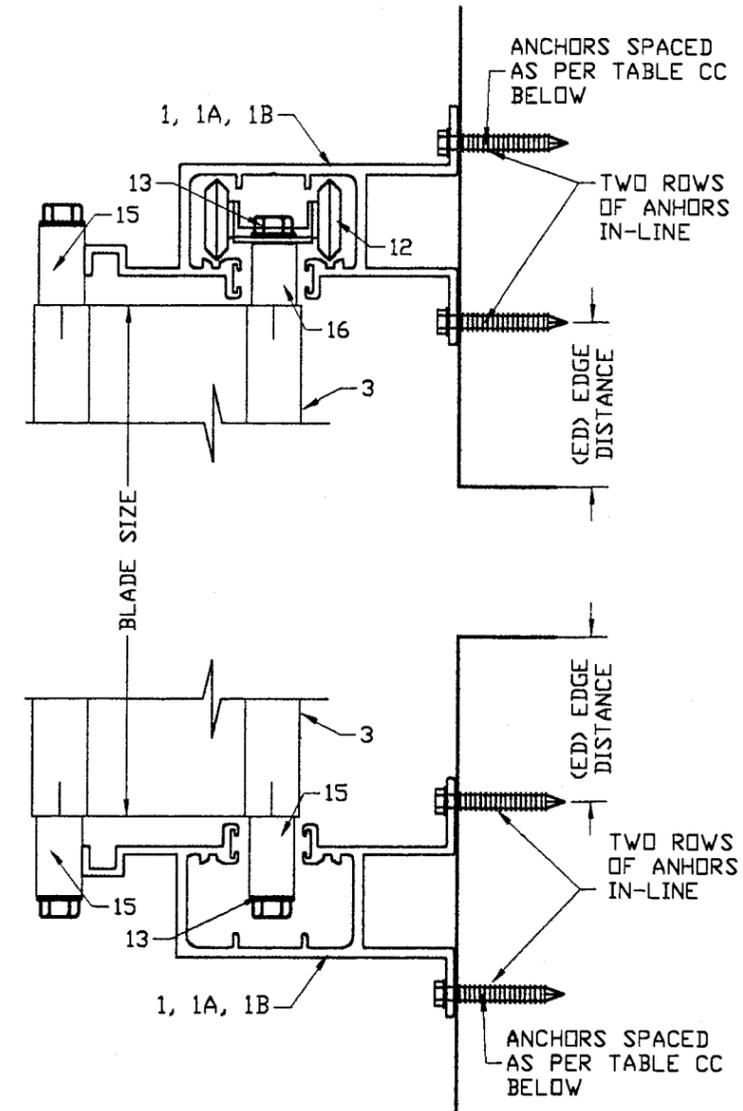
ALTERNATE SECTION BB  
BUILT-OUT ON ANGLE



SECTION BB - MAXIMUM ANCHOR SPACING INCHES ON CENTER

Pd psf	BLADE SIZE (IN)														
	150			132			108			84			60		
	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3
40	6	3	8	7	4	10	8	5	12	11	6	12	12	9	12
60	4	--	6	4	--	7	5	3	8	7	4	11	10	6	12
100	--	--	3	--	--	4	3	--	5	4	--	6	6	3	9
160	--	--	--	--	--	--	--	--	3	--	--	4	4	--	6
190	--	--	--	--	--	--	--	--	--	--	--	3	3	--	5

SECTION CC  
WALL MOUNT TRACK



SECTION CC - MAXIMUM ANCHOR SPACING INCHES ON CENTER

Pd psf	BLADE SIZE (IN)														
	150			132			108			84			60		
	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3
40	15	9	24	17	10	24	21	12	24	24	16	24	24	22	24
60	10	6	21	11	7	24	14	8	24	18	11	24	24	15	24
100	6	3	13	7	4	15	8	5	18	11	6	23	15	9	24
160	3	-	8	4	-	9	5	3	11	7	4	15	9	5	21
190	3	-	7	3	-	8	4	-	10	5	3	13	8	4	18

ANCHOR	DESCRIPTION	*EMBED.	Manufacturer	Edge Dist.
A1	1/4" Tapcon into min. 3320 psi concrete	1 1/2"	Elco	2 1/2"
A2	1/4" Tapcon into C-90 Hollow Block	1 1/4"	Elco	2 1/2"
A3	1/4" Lag Wood Screws into wood (SG=55)	2"	Generic	1"
A4	1/4-20 Calk-In into min. 2000 psi Concrete	7/8"	Powers	3"

\* EMBEDMENT SHALL BE BEYOND WALL DRESSING

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Scale: NA  
Design by: PPMF

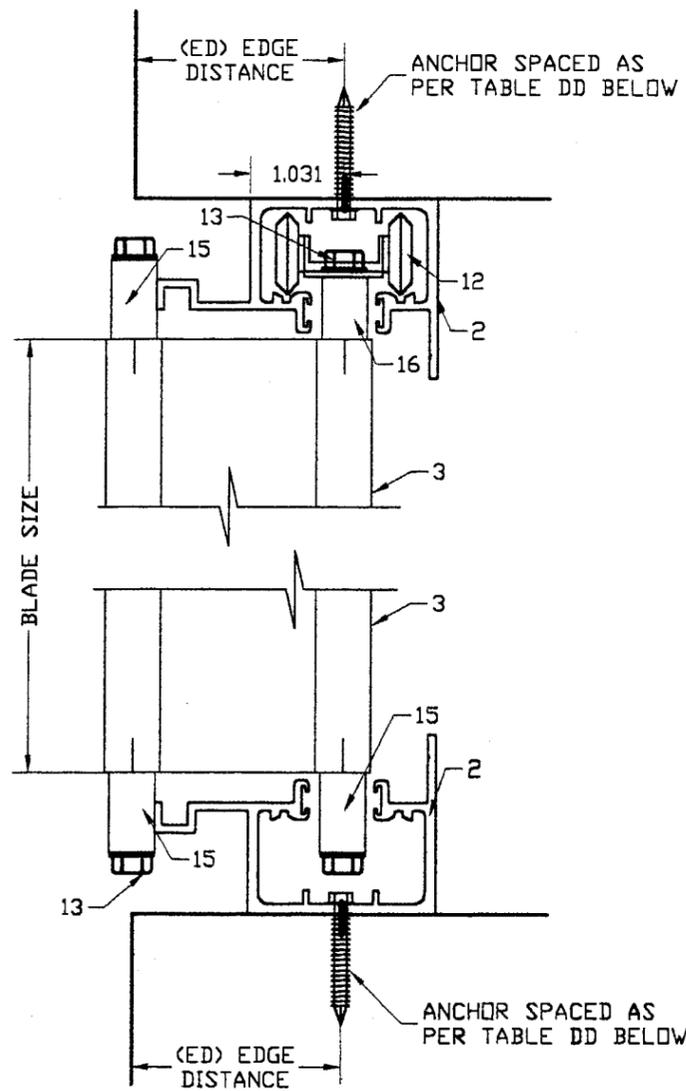
Miami-Dade BCCO

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By: *Helmut A. Helber*

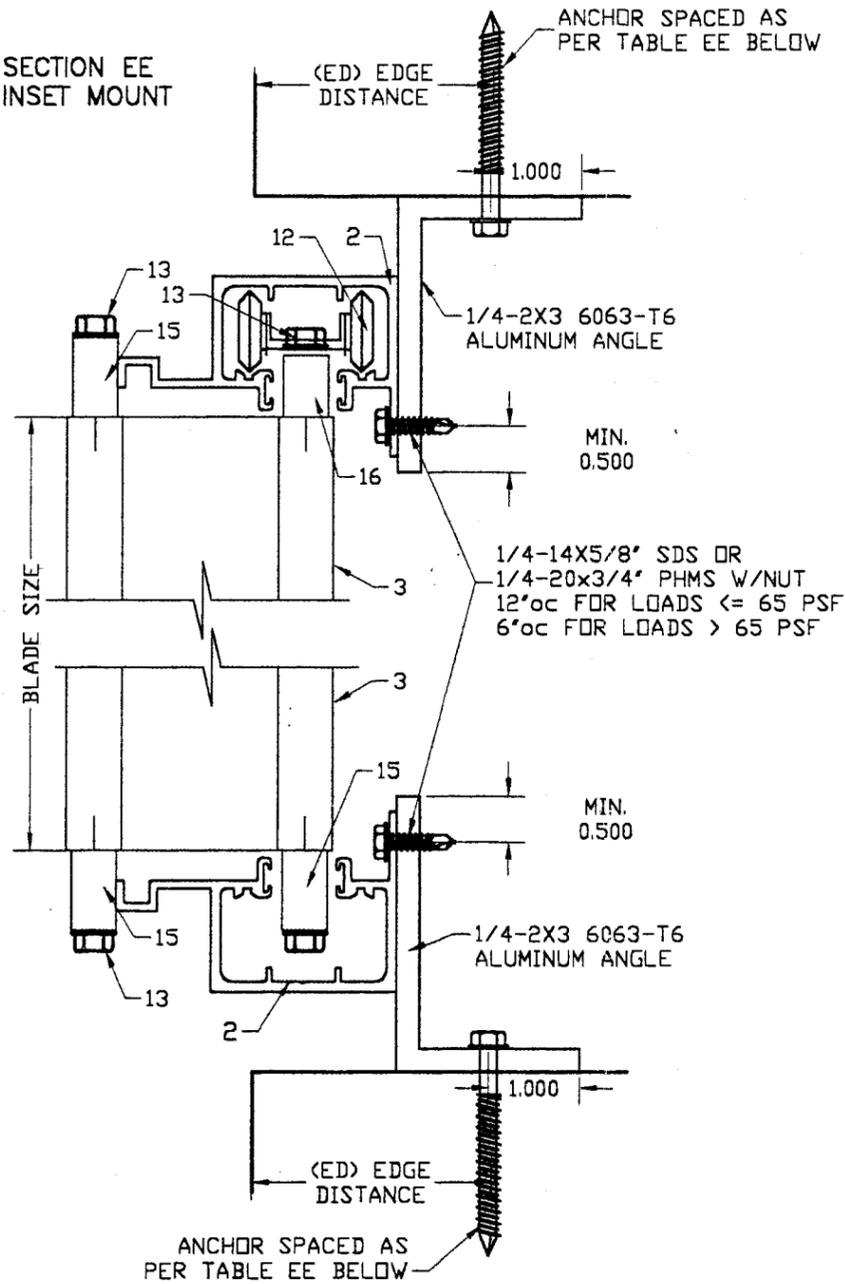
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06-150

Sheet  
2 of 6

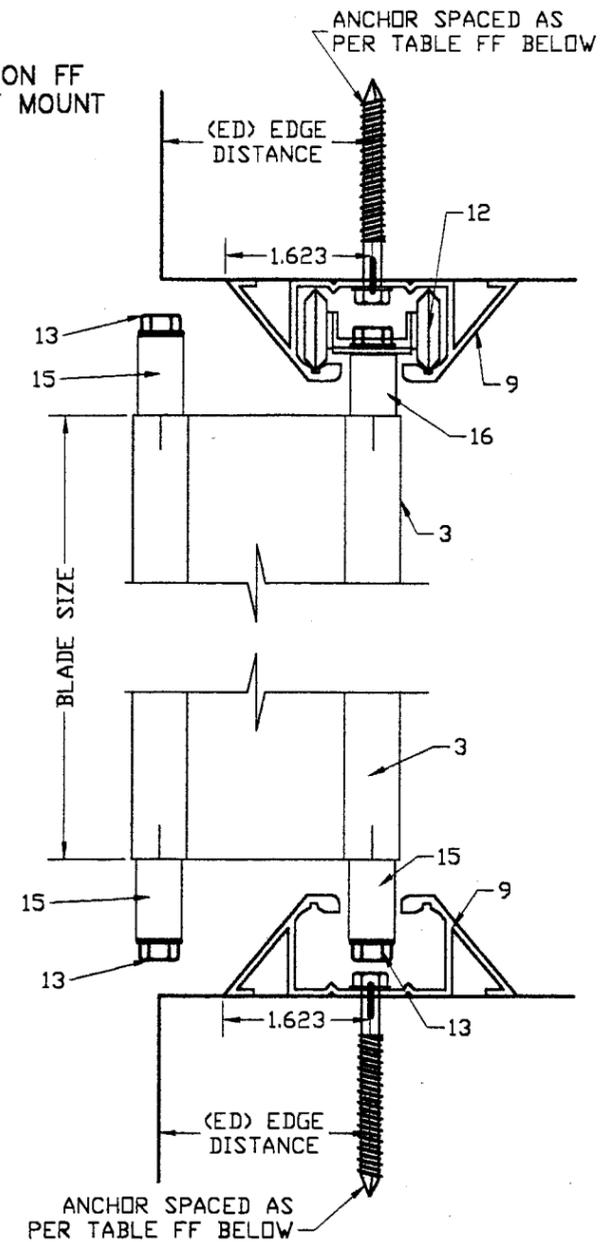
SECTION DD  
INSET MOUNT



SECTION EE  
INSET MOUNT



SECTION FF  
INSET MOUNT



SECTION DD - MAXIMUM ANCHOR SPACING INCHES ON CENTER

Pd psf	BLADE SIZE (IN)														
	150			132			108			84			60		
	A1	A3	A4	A1	A3	A4	A1	A3	A4	A1	A3	A4	A1	A3	A4
40	8	6	6	9	7	7	9	9	9	9	9	9	9	9	9
60	5	4	4	6	5	5	7	6	6	9	7	8	9	9	9
100	3	-	-	3	-	3	4	3	3	6	4	5	8	6	7
160	-	-	-	-	-	3	-	-	3	-	3	5	4	4	-
190	-	-	-	-	-	-	-	-	3	-	-	4	3	3	-

SECTION EE - MAXIMUM ANCHOR SPACING INCHES ON CENTER

Pd psf	BLADE SIZE (IN)														
	150			132			108			84			60		
	A1	A3	A4	A1	A3	A4	A1	A3	A4	A1	A3	A4	A1	A3	A4
40	5	5	4	6	5	5	7	7	6	9	9	8	12	12	11
60	3	3	3	4	4	3	5	4	4	6	6	5	9	8	7
100	-	-	-	-	-	-	3	-	-	4	3	3	5	5	4
160	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3
190	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-

SECTION FF - MAXIMUM ANCHOR SPACING INCHES ON CENTER

Pd psf	BLADE SIZE (IN)														
	150			132			108			84			60		
	A1	A3	A4	A1	A3	A4	A1	A3	A4	A1	A3	A4	A1	A3	A4
40	11	7	9	13	8	10	16	10	13	16	14	16	16	16	16
60	8	5	6	9	6	7	11	7	8	14	9	11	16	13	16
100	4	-	3	5	3	4	6	4	5	8	5	6	12	8	9
160	3	-	-	3	-	-	4	-	3	5	3	4	7	5	6
190	-	-	-	3	-	-	3	-	4	-	3	6	4	5	-

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A3	1/4" Lag Wood Screws into wood (SG= .55)	2"	Generic	1"
A4	1/4-20 Calk-In into min. 2000 psi Concrete	7/8"	Powers	3"

\* EMBEDMENT SHALL BE BEYOND WALL DRESSING

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MAY 31 2006

PEDRO DE FIGUEIREDO, PE  
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DRAFTING:  
**PK DRAFTING & MORE**

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Scale: NA  
Design by: PPMF

Miami-Dade BCCO

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By: *Helmut A. Mello*

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Sheet  
3 of 6

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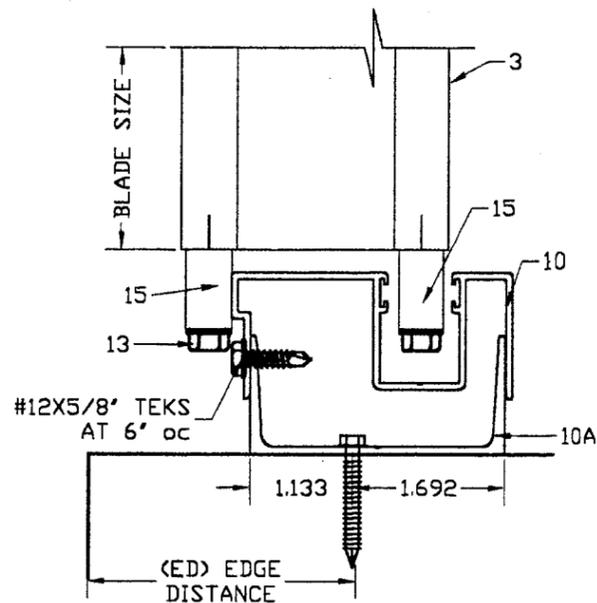
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 By: *Helmy Adnan*

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Sheet  
 4 of 6

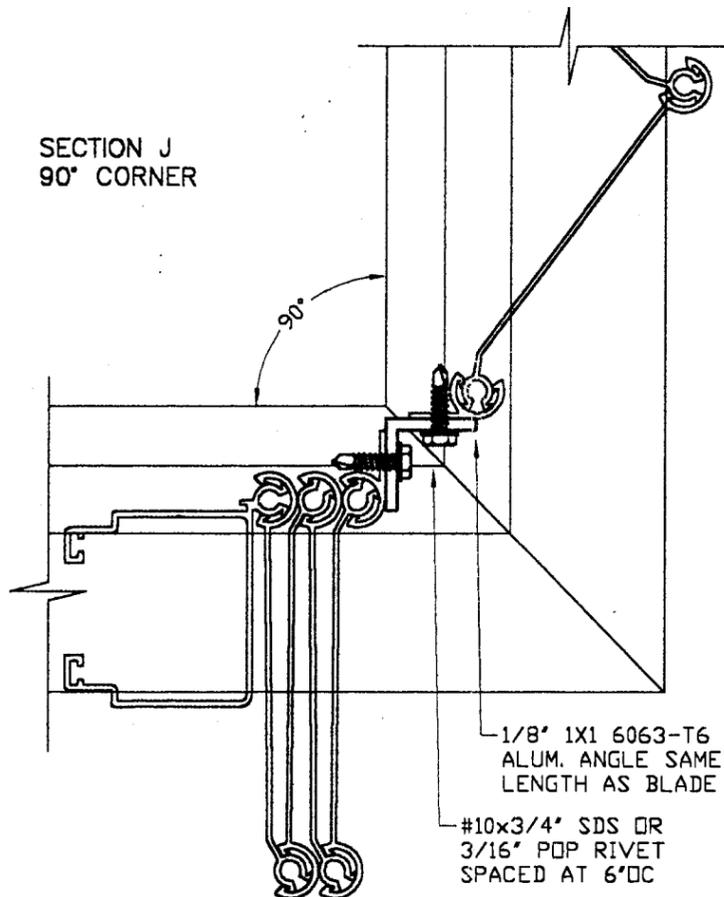
**SECTION G G - INSET MOUNT  
 ADJUSTABLE TRACK  
 SILL APPLICATION ONLY**



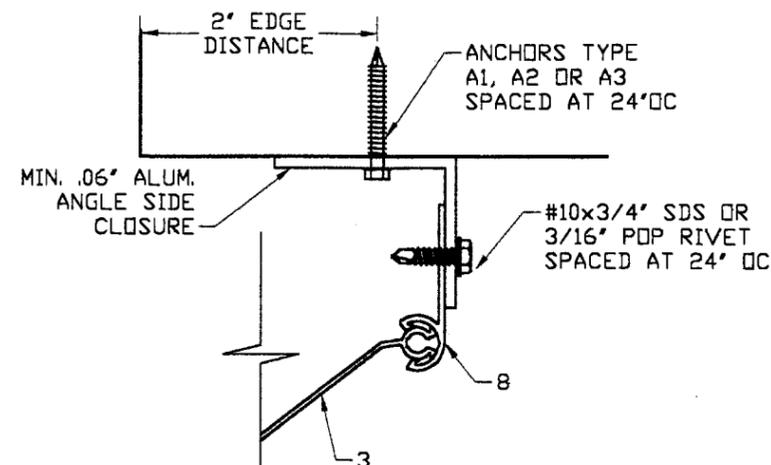
SECTION GG - MAXIMUM ANCHOR SPACING INCHES ON CENTER

Pd psf	BLADE SIZE (IN)														
	150			132			108			84			60		
	A1	A3	A4	A1	A3	A4	A1	A3	A4	A1	A3	A4	A1	A3	A4
40	7	6	6	9	7	7	9	8	8	9	9	9	9	9	9
60	5	4	4	6	4	4	7	5	5	9	7	7	9	9	9
100	3	-	-	3	-	-	4	3	3	5	4	4	7	6	6
160	-	-	-	-	-	-	-	-	-	3	-	-	4	4	4
190	-	-	-	-	-	-	-	-	-	-	-	-	4	3	3

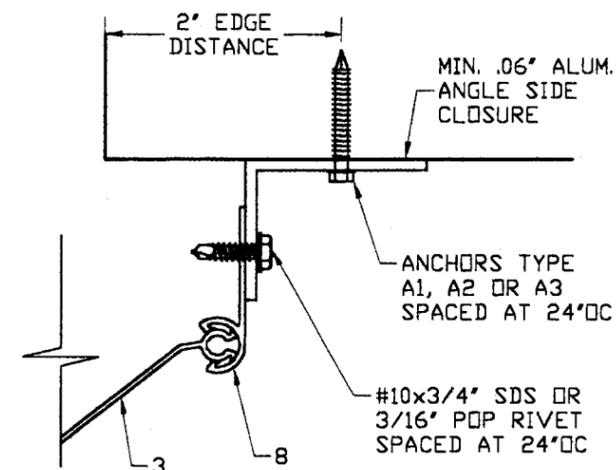
**SECTION J  
 90° CORNER**



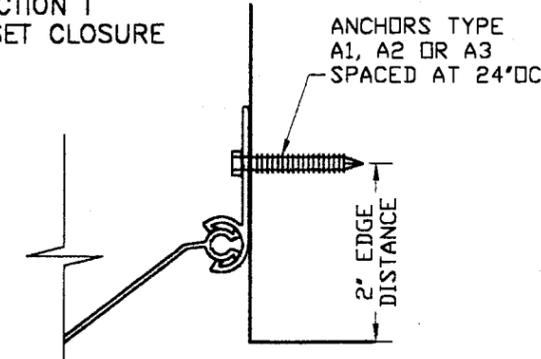
**SECTION H  
 SIDE CLOSURE**



**SECTION H'  
 ALTERNATE  
 SIDE CLOSURE**



**SECTION I  
 INSET CLOSURE**

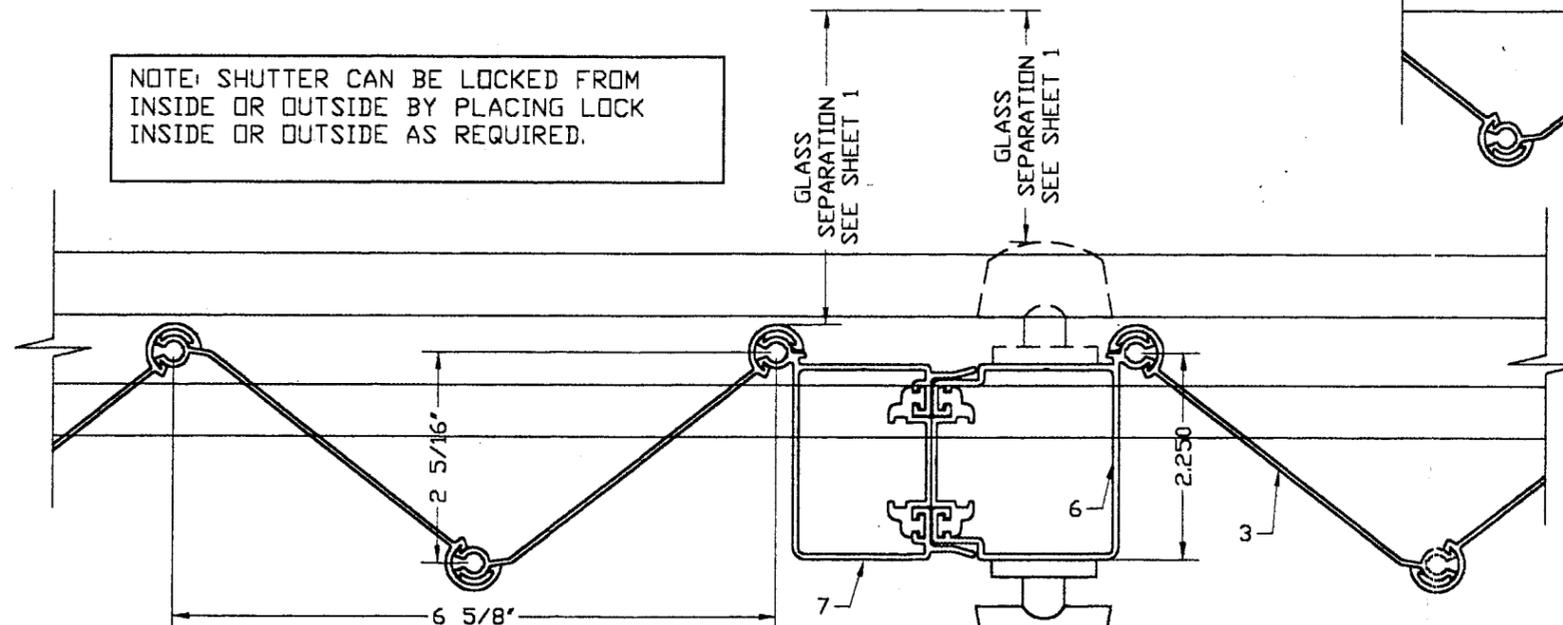


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\* EMBEDMENT SHALL BE BEYOND WALL DRESSING

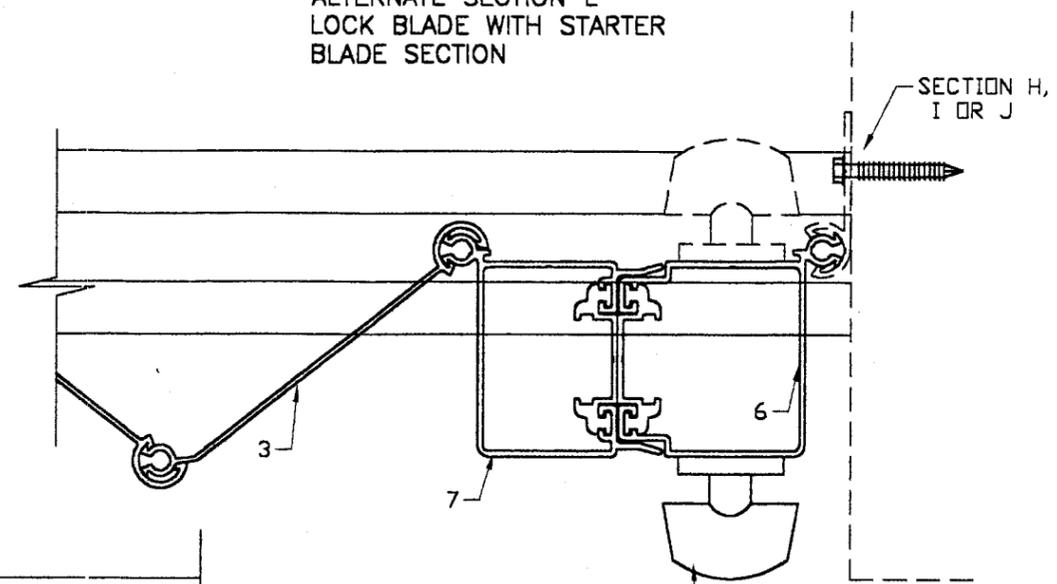
SECTION L  
LOCK AND BLADE SECTION

NOTE: SHUTTER CAN BE LOCKED FROM INSIDE OR OUTSIDE BY PLACING LOCK INSIDE OR OUTSIDE AS REQUIRED.

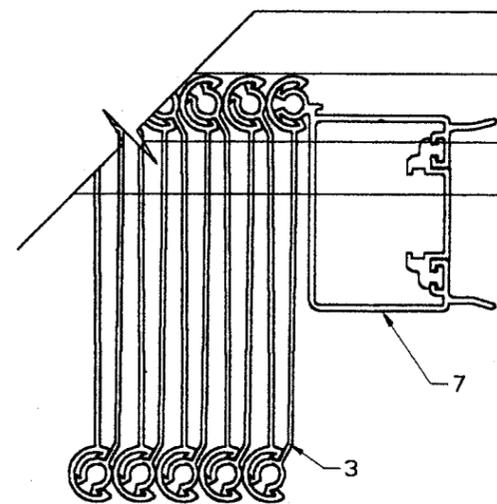


KEY OR THUMBTURN LOCK  
LOCATED ON ACCORDION  
INTERIOR OR EXTERIOR SIDE

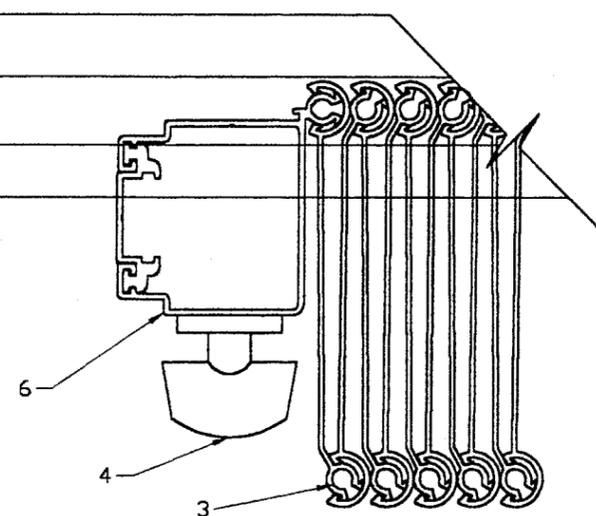
ALTERNATE SECTION L  
LOCK BLADE WITH STARTER  
BLADE SECTION



KEY OR THUMBTURN LOCK  
LOCATED ON ACCORDION  
INTERIOR OR EXTERIOR SIDE



FEMALE STACK



MALE STACK

Manufacturer:  
**American  
Shutter  
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Design by: PPMF

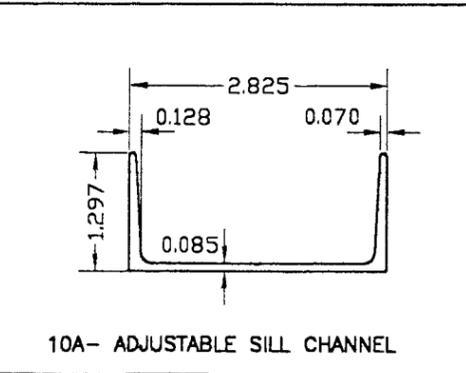
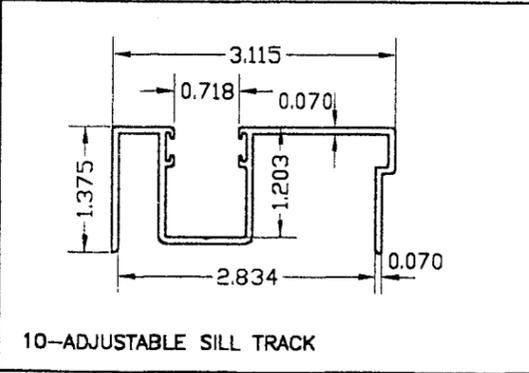
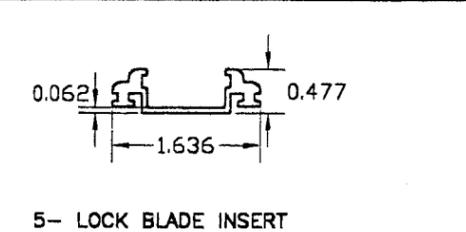
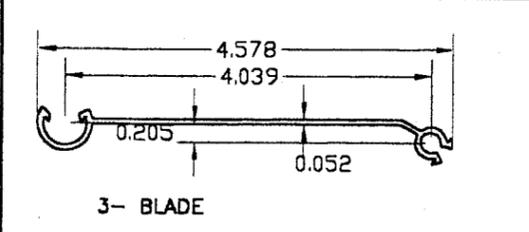
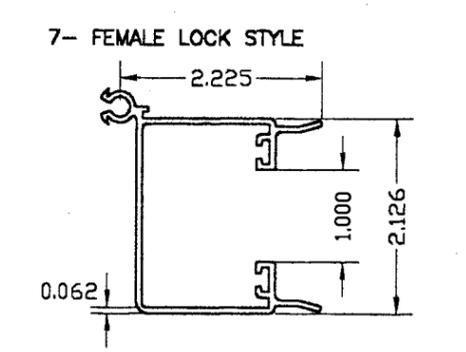
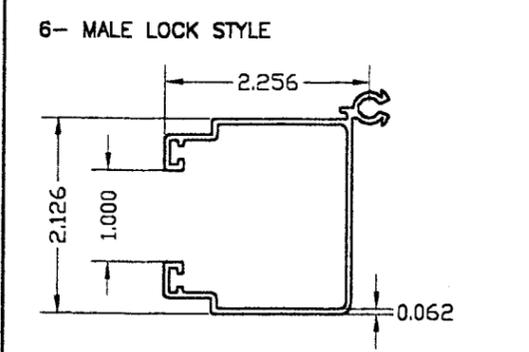
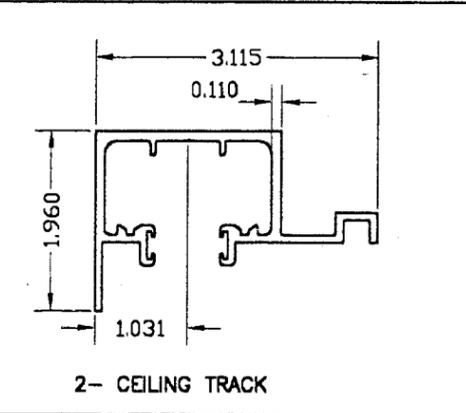
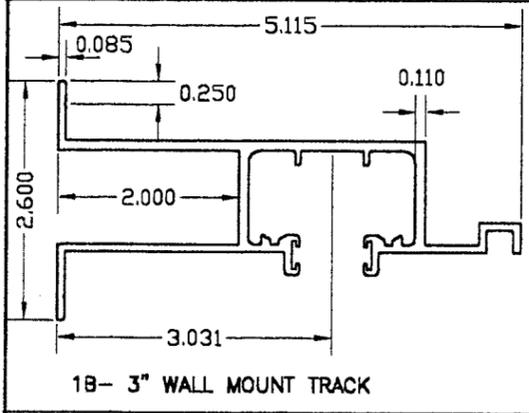
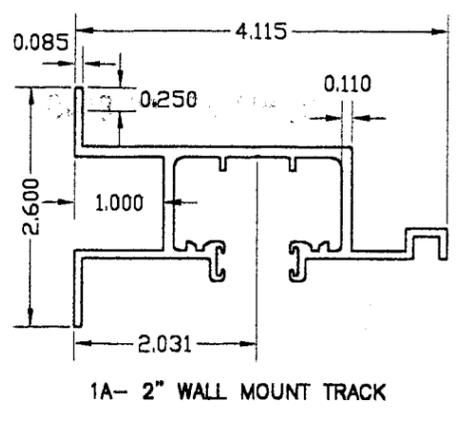
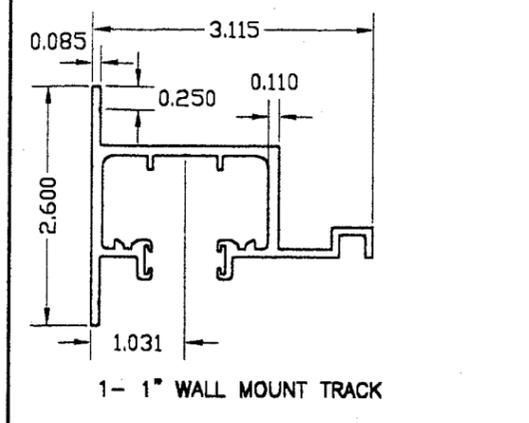
Miami-Dade BCCO

Approved as complying with the  
Florida Building Code  
Date: 07/06/2006  
NOA#: 06-0515-01  
Miami Dade Product Control  
Division:  
By: *Helmy A. Masha*

Drawing Number  
06-150

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5 of 6

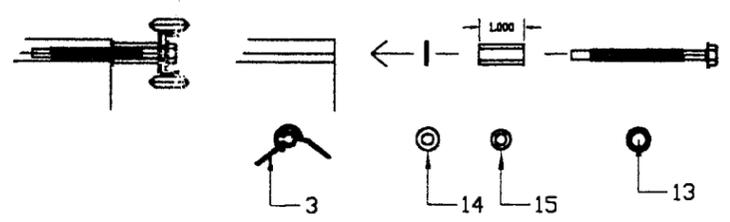
COMPONENTS



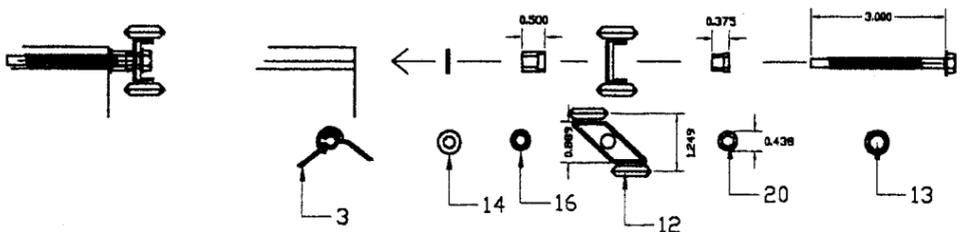
BILL OF MATERIALS

ITEM	DESCRIPTION	MATERIAL	MANUFACTURER
1	1' WALL MOUNT TRACK	6063-T6 ALUMINUM	CROCI
1A	2' WALL MOUNT TRACK	6063-T6 ALUMINUM	CROCI
1B	3' WALL MOUNT TRACK	6063-T6 ALUMINUM	CROCI
2	CEILING TRACK	6063-T6 ALUMINUM	CROCI
3	ACCORDION BLADE	6063-T6 ALUMINUM	CROCI
4	LOCK		
5	LOCK BLADE INSERT	6063-T6 ALUMINUM	CROCI
6	MALE LOCK BLADE	6063-T6 ALUMINUM	CROCI
7	FEMALE LOCK BLADE	6063-T6 ALUMINUM	CROCI
8	STARTER BLADE	6063-T6 ALUMINUM	CROCI
9	"A" TRACK	6063-T6 ALUMINUM	CROCI
10	ADJUSTABLE TRACK	6063-T6 ALUMINUM	CROCI
10A	ADJUST. CHANNEL	6063-T6 ALUMINUM	CROCI
11			
12	WHEEL CARRIER	PLATED STEEL/ NYLON	CROCI
13	1/4" X 3" SCREW BLADE	410 STAINLESS STEEL	CROCI
14	1/2" SS FLAT WASHER	STAINLESS STEEL	CROCI
15	1" X 7/16" BUSHING	NYLON	CROCI
16	1/2" X 7/16" WHEEL BUSHING	NYLON	CROCI
17	1/8 BUILT-OUT ANGLES	6063-T6 ALUMINUM	CROCI
18	1/4"-2X3 ANGLE	6063-T6 ALUMINUM	CROCI
19			
20	3/8" X 5/16" WHEEL SPACER	NYLON	CROCI

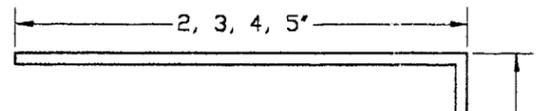
TYPICAL BUSHING ASSEMBLY



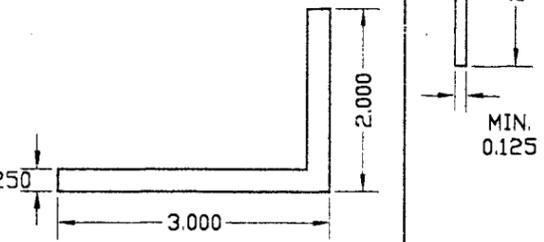
TYPICAL WHEEL ASSEMBLY



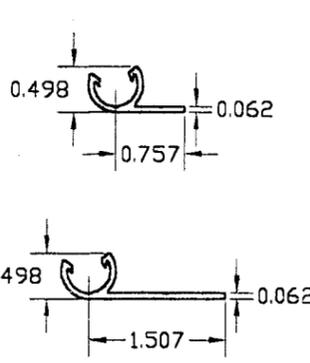
17- BUILT-OUT ANGLES



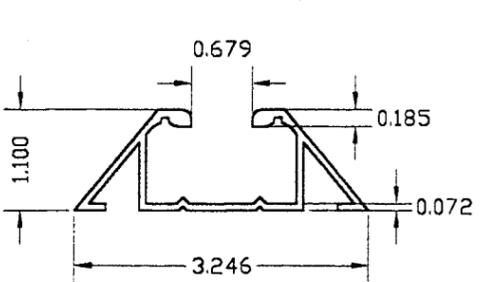
18- MOUNT TYPE E ANGLE



8- STARTER BLADES



9- "A" TRACK



Manufacturer:  
**American Shutter Products, Inc.**

A DIVISION OF  
CROCI NORTH AMERICA  
6360 TOPAZ COURT  
FORT MYERS, FL 33912  
Tel.: (239) 278-3066  
Fax: (239) 278-5977

Product:  
**Croci Extruded Aluminum Accordion Shutter**

Engineering:  
**EngCo Inc.**

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

MAY 31 2006

PEDRO DE FIGUEIREDO, PE  
PE 52609

DRAFTING:  
**PK DRAFTING & MORE**

Date: 5/11/06  
Scale: NA  
Design by: PPMF

Miami-Dade BCCO

Approved as complying with the Florida Building Code  
Date: 07/06/2006  
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Miami Dade Product Control Division  
By: *Heather A. Madon*

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