

**GENERAL NOTES: (FLORIDA BUILDING CODE 2007 - non HVHZ)**

- 1- DEFINITION: THIS PRODUCT IS A HURRICANE PROTECTION DEVICE; DESIGNED, CONSTRUCTED AND ERECTED TO EASILY ENCLOSE AN AREA, PROVIDING PROTECTION FROM HURRICANE FORCE WINDS AND WIND BORNE DEBRIS WITHIN THE ALLOWABLE DESIGNED PRESSURES AND LIMITATIONS STATED IN THIS APPROVAL.
- 2- POSTING: A PERMANENT LABEL SHALL BE PROVIDED AS PER FBC 2007 SECTION 1714.8. IT SHALL BE PLACED ON A READILY VISIBLE LOCATION AND A MINIMUM OF ONE LABEL PER OPENING.
- 3- GLASS SEPARATION: PRODUCT IS QUALIFIED AS "NON POROUS", THEREFORE GLAZING SEPARATION IS NOT REQUIRED WITH EXCEPTION FOR THE FOLLOWING LOCATIONS:
  - 3.1- WIND ZONE 4 AS DEFINED IN ASTM E 1996-05 (LOCATIONS WITH WIND GUST GREATER THAN 140 MPH)
  - 3.2- ESSENTIAL FACILITIES AS DEFINED IN ASCE 7
 FOR THE ABOVE LOCATIONS THE PRODUCT MUST BE SEPARATED 20' FROM GLAZING AREAS.
- 4- LOADS: DESIGNED LOAD CALCULATED BASED ON THE ASCE 7 AND PROVIDED 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- REINFORCEMENTS SUCH AS MULLIONS WERE DESIGNED BY RATIONAL ANALYSIS AND ARE PART OF THESE DRAWINGS. DUE TO MANY VARIATIONS OF REINFORCEMENTS, LOADS AND SHUTTER DIMENSIONS BECOME IMPRACTICAL ADDRESSING ALL CONDITIONS IN ONE SET OF DRAWINGS. THE CONDITIONS ADDRESSED IN THE PROPOSED DRAWINGS HAVE CONSERVATIVE LIMITATIONS IN ORDER TO FACILITATE THE DESIGN. SITE SPECIFIC CONDITIONS CAN BE ADDRESSED ON A JOB BASIS PROVIDED PROPER ENGINEERING BASED ON THE ALUMINUM DESIGN MANUAL 05.
- 8- USE: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, ARCHITECT OR ENGINEER OF RECORD TO VERIFY THE FOLLOWING:
  - 8.1- THE STABILITY OF THE STRUCTURE WHERE THE PRODUCT IS TO BE ATTACHED INSURING PROPER ANCHORAGE.
  - 8.2- THE SITE SPECIFIC PROJECT CRITERIA, SUCH AS BUT NOT LIMITED TO, LOCAL CODE REQUIREMENTS, DESIGNED PRESSURES ETC.
  - 8.3- THAT THIS APPROVAL IS ADEQUATE TO THE SPECIFIC PROJECT.
- 9- INCREASE IN ALLOWABLE STRESS BY 33 1/3% HAVE NOT BEEN USED IN THE DESIGN OF THE ANCHORS FOR THIS PRODUCT APPROVAL.
- 10- LIMITATIONS: NOT APPROVED IN HIGH VELOCITY ZONES (MIAMI-DADE AND BROWARD COUNTIES)

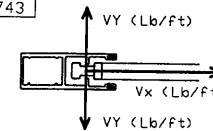
**CODE AND STANDARD COMPLIANCE:**  
 FLORIDA BUILDING CODE 2007 (non HVHZ)  
 ASTM E330, E1886, E1996 (LEVEL D MISSILE)

**TABLE 1  
 ALLOWABLE DESIGNED PRESSURE**

FW MAX. (IN)	TT MAX. (IN)	DESIGN RATING (PSF)
231	224 11/16	±70
222 5/16	216	±75
216 5/16	210	±79
210 5/16	204	±83
204 5/16	198	±87
198 5/16	192	±90
192 5/16	186	±94
186 5/16	180	±98
180 5/16	174	±102
174 5/16	168	±105
168 5/16	162	±109
162 5/16	156	±113
156 5/16	150	±116
150 5/16	144	±120

**TABLE 2 - TRACK REACTION (LB/FT)**

LOAD psf	TRACK TO TRACK (TT)									
	144		162		180		206		224-11/16	
	VX	VY	VX	VY	VX	VY	VX	VY	VX	VY
20	0	122	0	137	332	152	777	172	1104	189
30	0	183	373	205	796	228	1149	258	1428	283
40	254	243	691	273	1152	303	1306	343	1494	378
50	448	304	897	342	1370	379	1410	429	1555	472
60	603	365	1005	410	1439	455	1460	515	1599	567
70	728	426	1001	478	1341	531	1533	601	1739	661
80	832	487	998	547	1341	607	1592	687		
83	812	504	1007	567	1348	629	1672	712		
90	763	548	1029	615	1365	683				
98	722	596	1050	670	1431	743				
100	711	608	1055	683						
109	762	663	1149	745						
110	769	669								
120	818	730								



CONTRACTOR TO VERIFY ADEQUACY OF STRUCTURE FOR MAXIMUM IMPOSED LOADS VY AND Vx

**DESIGN SCHEDULE**

COMPONENT	SHEET
SLAT ALLOWABLE PRESSURE - TABLE 1	1
TRACK REACTION - TABLE 2	1
TRACK ANCHORAGE	3, 4, 5 & 6
MULLION	7 & 8

- NOTES:**
- 1- ALLOWABLE DESIGNED PRESSURE ARE FUNCTION OF THE LOWEST ALLOWABLE DESIGNED LOAD FOR EACH COMPONENT (SLATS, ANCHORAGE & MULLIONS)
  - 2- DESIGNED PRESSURES MUST NOT EXCEED 120 PSF.
  - 3- TRACK TO TRACK DIMENSION (TT) MUST NOT EXCEED 224 11/16".

**Manufacturer:**  
**CROCI NORTH AMERICA**

11600 ADELMO LANE  
 FORT MYERS, FL 33966  
 Tel.: (239) 278-3066  
 Fax: (239) 278-5977

**PRODUCT:**  
**ES 55 SUP**  
**Rolling Shutter**  
 LARGE & SMALL MISSILE  
 IMPACT RATED

**Engineering:**  
**EngCo Inc.**  
 CA 8116  
 6971 W. Sunrise Blvd. 104  
 Plantation, Fl. 33313  
 ENGCO@AOL.COM



**DRAFTING:**  
**PK DRAFTING & MORE**

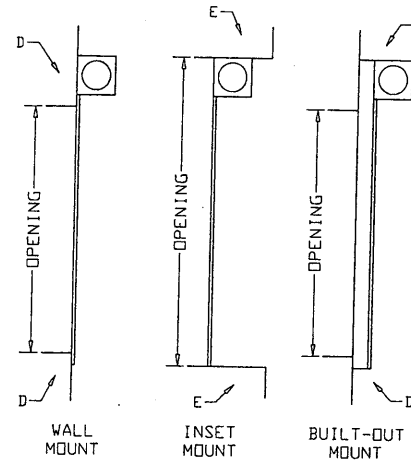
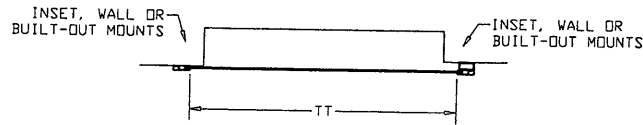
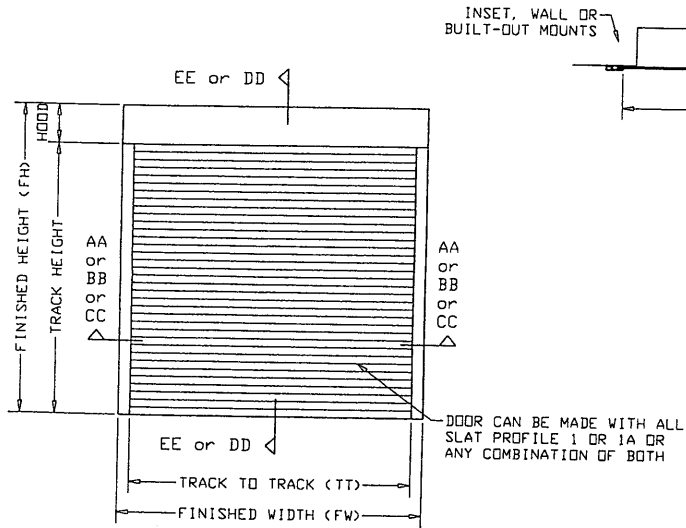
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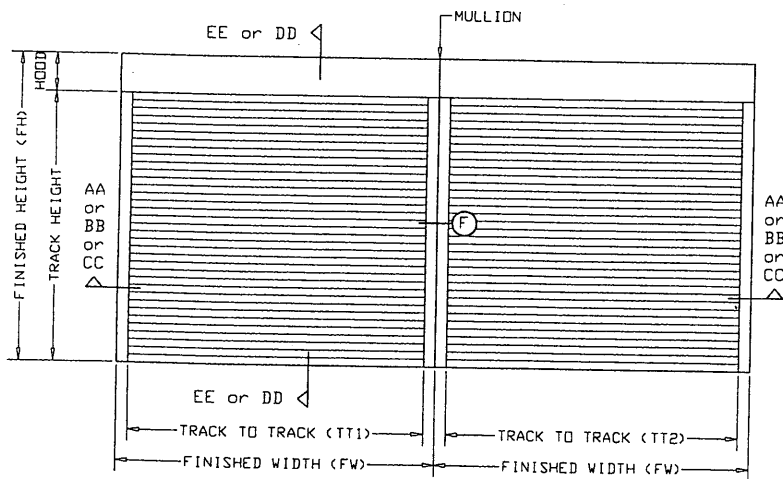
Drawing Number  
**09-005**

SHEET  
 1 of 9

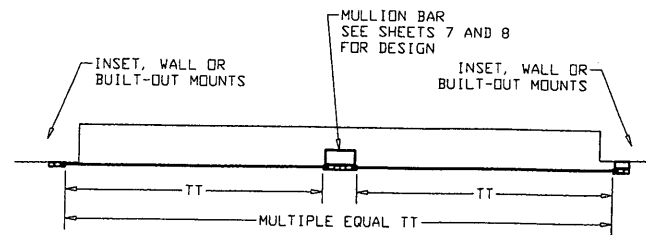
TYPICAL SINGLE UNIT ELEVATION



TYPICAL MULTIPLE UNITS ELEVATION



TT1 = TT2



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REVISIONS:

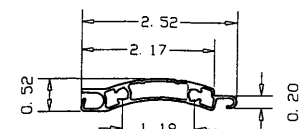
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Drawing Number  
**09-005**

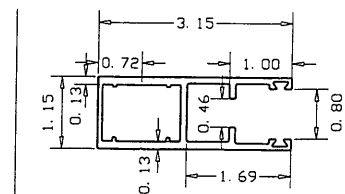
SHEET  
**2 of 9**

PRODUCT COMPONENTS

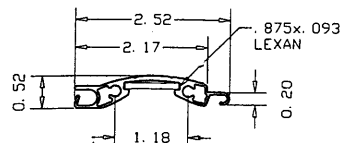
SLAT END RETENTION LAY-OUT



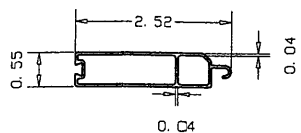
1- ES55 SUP SLAT  
EXTRUDED ALUMINUM 6063-T6



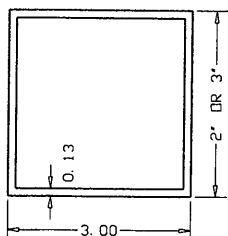
5- GE4580 SUP  
3\"/>



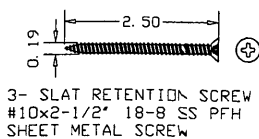
1A- ES55 LEX W/LEXAN INSERT  
EXTRUDED ALUMINUM 6063-T6



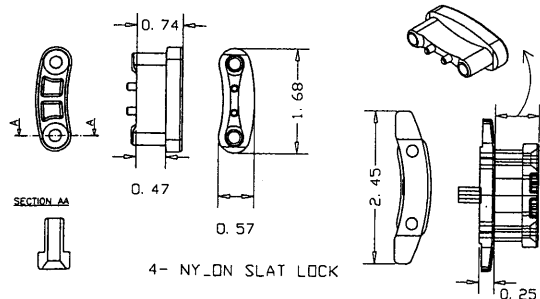
2- TE14X56U END SLAT  
6063-T6 EXTRUDED ALUMINUM



6- 1/8-3X3 TUBE OR  
6A- 1/8-2X3 TUBE  
EXTRUDED ALUMINUM 6063-T6



3- SLAT RETENTION SCREW  
#10x2-1/2\"/>



4- NYLON SLAT LOCK

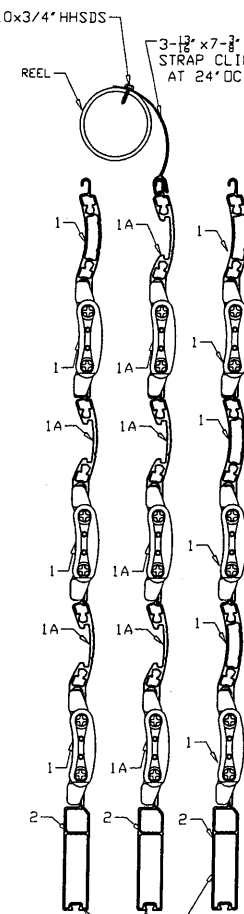
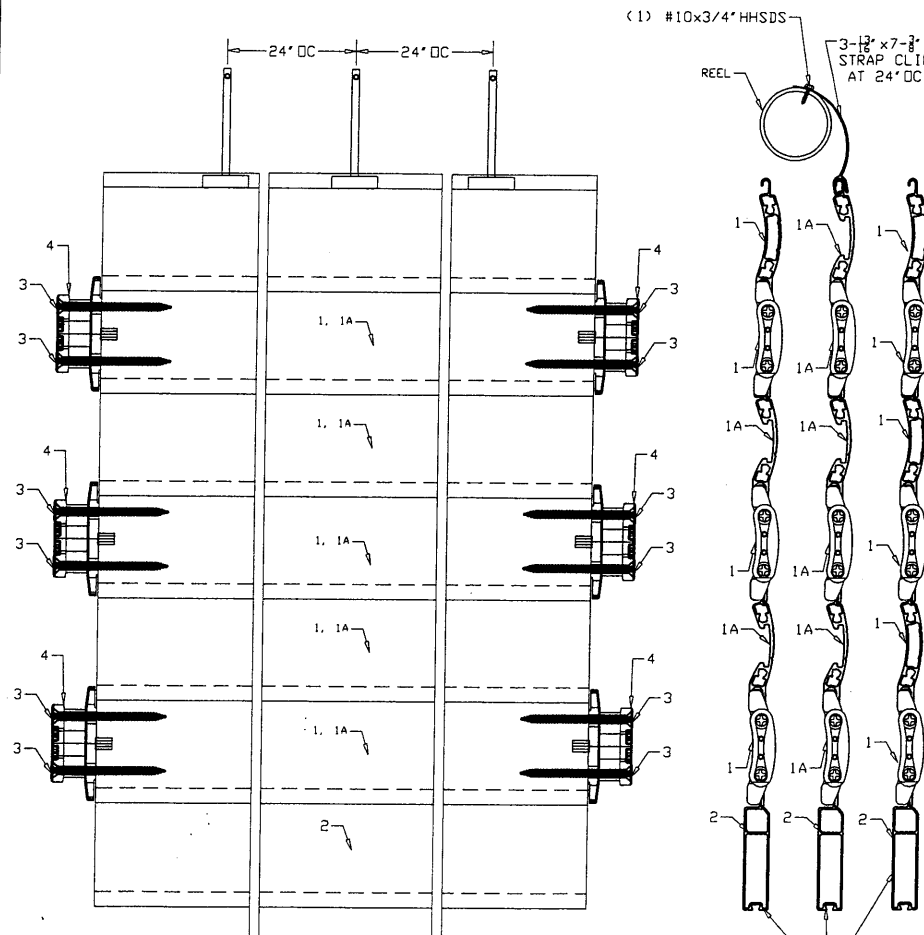


ILLUSTRATION ONLY  
DOOR CAN BE MADE WITH ALL  
SLAT PROFILE 1 OR 1A OR  
ANY COMBINATION OF BOTH

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AMERICA**  
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**PK DRAFTING & MORE**

REVISIONS:

Date: 04/15/2009  
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Design by: PPMF

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SHEET  
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TYPICAL VERTICAL SECTIONS

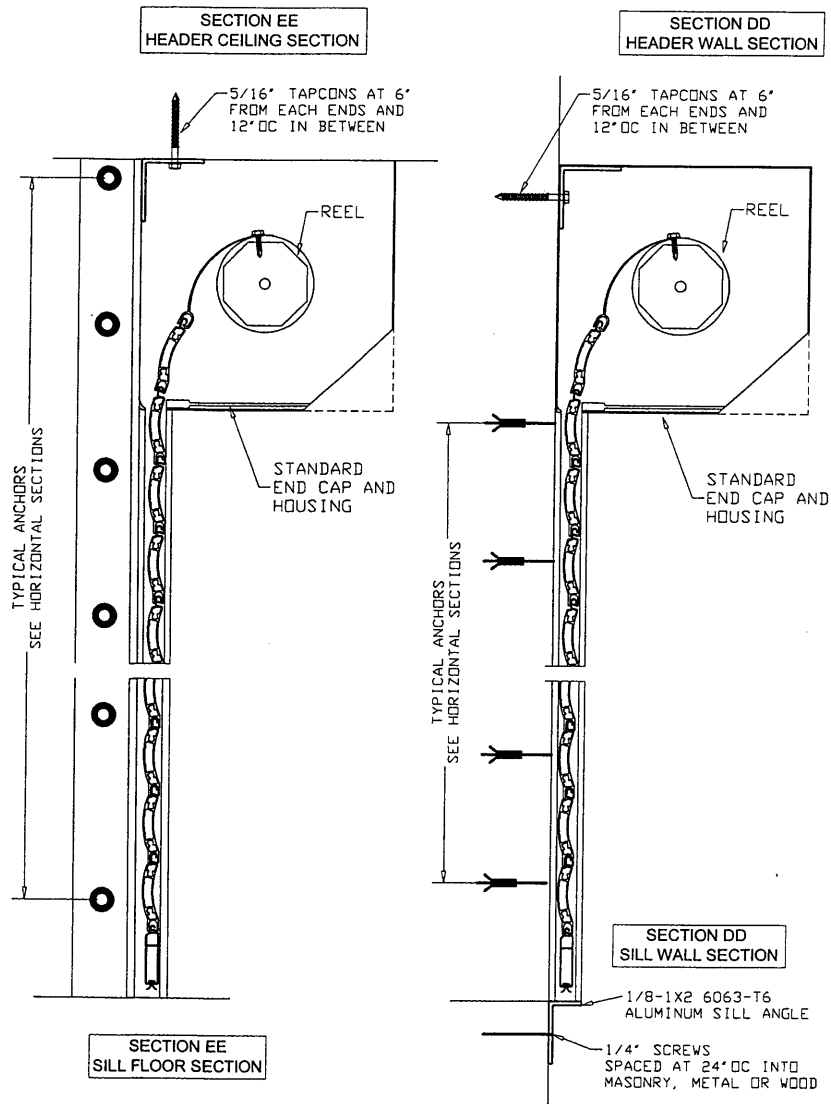
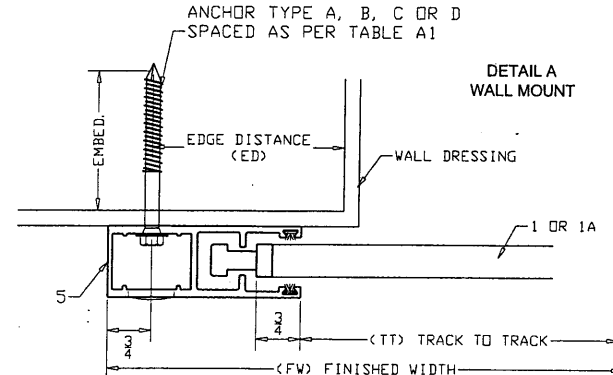


TABLE A1  
SPACING ON CENTER FOR WALL MOUNT INSTALLATION

LOAD Psf	TRACK TO TRACK															
	144			162			180			204			224-11/16			
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	D
20	6	6	6	6	6	6	6	6	6	6	4	5	6	6	3	3
30	6	6	6	6	6	6	6	4	5	6	6	3	3	5	5	-
40	6	6	6	6	6	4	5	6	6	3	3	6	5	-	3	5
50	6	6	5	6	6	6	3	4	5	5	-	5	5	-	5	4
60	6	6	4	5	6	6	3	3	5	5	-	5	5	-	4	4
70	6	6	3	4	6	6	3	3	5	5	-	4	4	-	4	4
80	6	6	3	4	5	5	-	3	4	4	-	4	4	-	-	-
83	6	6	3	4	5	5	-	3	4	4	-	4	4	-	-	-
90	5	6	3	3	4	5	-	3	4	4	-	-	-	-	-	-
98	5	5	3	3	4	4	-	3	4	4	-	-	-	-	-	-
100	5	5	3	3	4	4	-	3	-	-	-	-	-	-	-	-
109	4	5	-	3	4	4	-	-	-	-	-	-	-	-	-	-
120	4	5	-	3	-	-	-	-	-	-	-	-	-	-	-	-



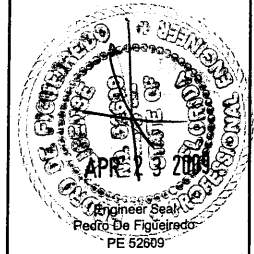
ANCHOR SCHEDULE:

ANCHOR	DESCRIPTION	MATERIAL	EMBEDMENT	EDGE DISTANCE
A	5/16" ITW TAPCONS	MIN. 2899 psi CONCRETE	2 1/4"	3 1/8"
B	5/16" ITW TAPCONS	GROUT FILLED C-90 BLOCK	2 1/4"	4"
C	1/4"-14X1" GRADE 5 SELF DRILLING SCREWS	MIN. 1/4" 6063-T6 ALUM. OR A36 1/8" STEEL		1/2"
D	5/16"X3" TAPCONS	WOOD WITH G>= 55	2 1/4"	3/8"
E	3/8" POWERS WEDGE BOLT	MIN. 3000 psi CONCRETE	3 1/2"	4-1/2"

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DRAFTING:  
**PK DRAFTING & MORE**

REVISIONS:

Date: 04/15/2009  
Scale: NA  
Design by: PPMF

Drawing Number  
**09-005**

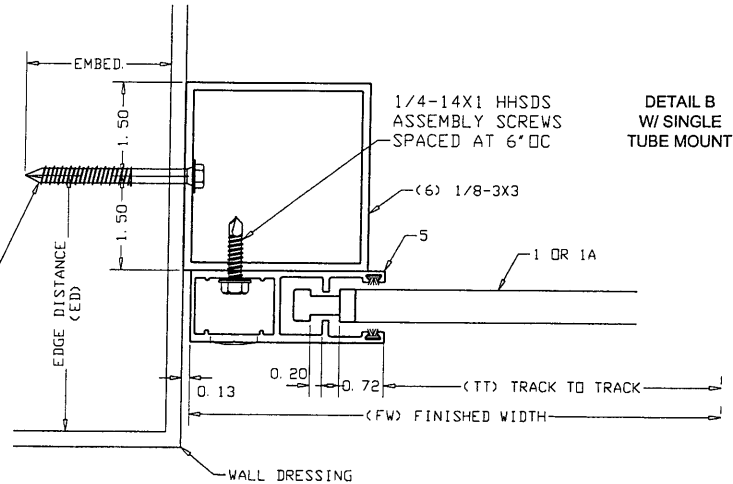
SHEET  
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TABLE A2  
SPACING ON CENTER FOR ONE ANGLE INSET MOUNT INSTALLATION

LOAD Psf	TRACK TO TRACK																			
	144				162				180				204				224-11/16			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
20	6	6	6	6	6	6	6	6	6	6	4	5	-	4	-	-	-	-	-	3
30	6	6	6	6	6	6	3	6	4	4	-	4	-	-	-	3	-	-	-	-
40	6	6	4	6	4	4	-	4	-	-	-	3	-	-	-	-	-	-	-	-
50	5	6	-	5	-	-	-	3	-	-	-	3	-	-	-	-	-	-	-	-
60	4	4	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
70	-	4	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
80	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
83	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ANCHOR TYPE A, B, C OR D  
SPACED AS PER TABLE A2 OR  
ANCHOR TYPE E SPACED AT 5" OC  
WITH TT x PRESSURE TABLE BELOW:

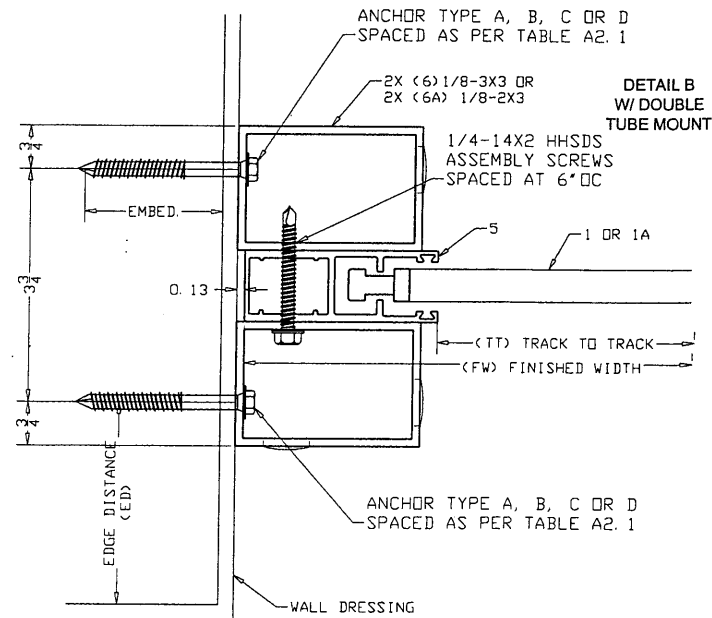
ANCHOR TYPE E SPACED AT 5" OC					
TT (IN)	144	162	180	204	224-11/16
LOAD (PSF)	120	109	90	70	60



ANCHOR SCHEDULE:				
ANCHOR	DESCRIPTION	MATERIAL	EMBEDMENT	EDGE DISTANCE
A	5/16" ITW TAPCONS	MIN. 2899 psi CONCRETE	2 1/4"	3 1/8"
B	5/16" ITW TAPCONS	GROUT FILLED C-90 BLOCK	2 1/4"	4"
C	1/4"-14x1" GRADE 5 SELF DRILLING SCREWS	MIN. 1/4" 6063-T6 ALUM. OR A36 1/8" STEEL		1/2" 3/8"
D	5/16"x3" TAPCONS	WOOD WITH G>= 55	2 1/4"	1-1/4"
E	3/8" POWERS WEDGE BOLT	MIN. 3000 psi CONCRETE	3 1/2"	4-1/2"

TABLE A2.1  
SPACING ON CENTER FOR ONE ANGLE INSET MOUNT INSTALLATION

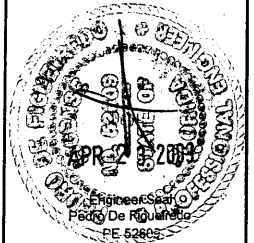
LOAD Psf	TRACK TO TRACK																			
	144				162				180				204				224-11/16			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
20	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
30	6	6	6	6	6	6	6	6	6	6	6	6	6	5	6	6	6	4	6	6
40	6	6	6	6	6	6	6	6	6	5	6	6	6	4	6	6	6	4	6	6
50	6	6	6	6	6	6	6	6	6	4	6	6	6	4	6	6	6	3	6	6
60	6	6	6	6	6	5	6	6	6	4	6	6	6	3	6	6	6	3	6	6
70	6	6	6	6	6	5	6	6	6	4	6	6	6	3	6	6	6	3	5	6
80	6	6	6	6	6	4	6	6	6	3	6	6	6	3	5	-	-	-	-	-
83	6	6	6	6	6	4	6	6	6	3	6	6	6	3	5	-	-	-	-	-
90	6	6	6	6	6	4	6	6	6	3	6	-	-	-	-	-	-	-	-	-
98	6	6	6	6	6	4	6	6	6	3	5	-	-	-	-	-	-	-	-	-
100	6	6	6	6	6	4	6	-	-	-	-	-	-	-	-	-	-	-	-	-
109	6	6	6	6	6	4	6	-	-	-	-	-	-	-	-	-	-	-	-	-
120	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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DRAFTING:  
**PK DRAFTING & MORE**

REVISIONS:

Date: 04/15/2009  
Scale: NA  
Design by: PPMF

Drawing Number  
**09-005**

SHEET  
5 of 9

TABLE A3  
SPACING ON CENTER FOR 1/8-2X3 BUILT-OUT MOUNT INSTALLATION

LOAD Psf	TRACK TO TRACK																			
	144				162				180				204				224-11/16			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
20	6	6	6	6	6	6	6	6	6	5	6	4	5	-	3	-	-	-	-	-
30	6	6	6	6	6	6	4	6	4	4	-	3	-	-	-	-	-	-	-	-
40	6	6	6	6	5	5	-	3	-	-	-	-	-	-	-	-	-	-	-	-
50	6	6	3	5	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60	5	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
70	4	5	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
80	4	4	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
83	4	4	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
90	4	4	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
98	4	4	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100	4	4	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
109	4	4	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
120	4	4	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ANCHOR SCHEDULE:

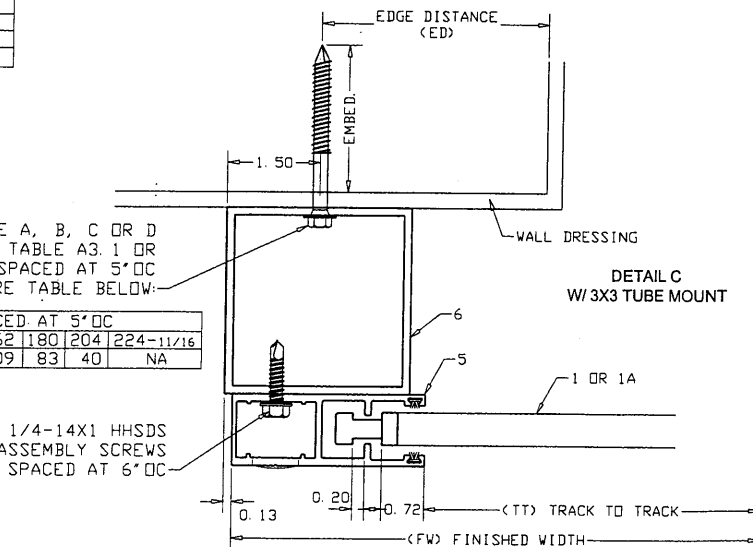
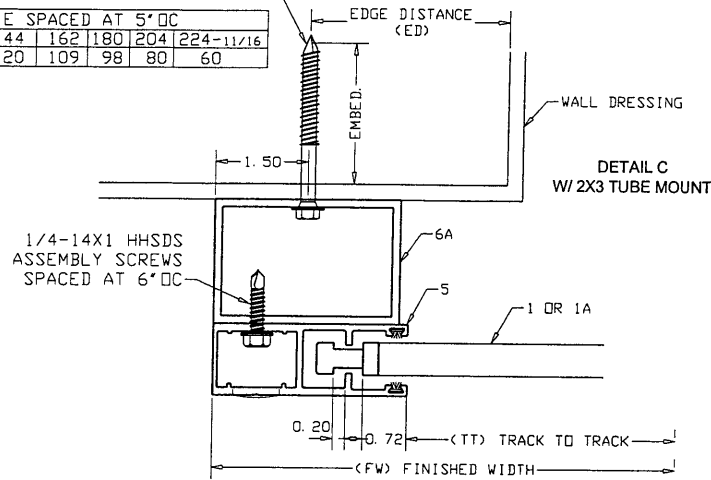
ANCHOR	DESCRIPTION	MATERIAL	EMBEDMENT	EDGE DISTANCE
A	5/16" ITW TAPCONS	MIN. 2899 psi CONCRETE	2 1/4"	3 1/8"
B	5/16" ITW TAPCONS	GROUT FILLED C-90 BLOCK	2 1/4"	4"
C	1/4"-14X1" GRADE 5 SELF DRILLING SCREWS	MIN. 1/4" 6063-T6 ALUM. OR A36 1/8" STEEL		1/2" 3/8"
D	5/16"X3" TAPCONS	WOOD WITH G>= 55	2 1/4"	1-1/4"
E	3/8" POWERS WEDGE BOLT	MIN. 3000 psi CONCRETE	3 1/2"	4-1/2"

TABLE A3.1  
SPACING ON CENTER FOR 1/8-3X3 BUILT-OUT MOUNT INSTALLATION

LOAD Psf	TRACK TO TRACK																			
	144				162				180				204				224-11/16			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
20	6	6	6	6	6	6	6	6	6	4	6	-	4	-	3	-	-	-	-	-
30	6	6	6	6	6	6	3	6	-	-	-	-	-	-	-	-	-	-	-	-
40	6	6	5	6	4	4	-	3	-	-	-	-	-	-	-	-	-	-	-	-
50	6	6	3	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60	4	5	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
70	-	4	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ANCHOR TYPE A, B, C OR D  
SPACED AS PER TABLE A3 OR  
ANCHOR TYPE E SPACED AT 5" OC  
WITH TT x PRESSURE TABLE BELOW:

ANCHOR TYPE E SPACED AT 5" OC					
TT (IN)	144	162	180	204	224-11/16
LOAD (PSF)	120	109	98	80	60



Manufacturer:  
**CROCI NORTH AMERICA**  
11600 ADELMO LANE  
FORT MYERS, FL 33966  
Tel.: (239) 278-3066  
Fax: (239) 278-5977

PRODUCT:  
**ES 55 SUP**  
Rolling Shutter  
LARGE & SMALL MISSILE  
IMPACT RATED

Engineering:  
**EngCo Inc.**  
CA 8116  
6971 W. Sunrise Blvd. 104  
Plantation, FL 33313  
ENGCO@AOL.COM



DRAFTING:  
**PK DRAFTING & MORE**

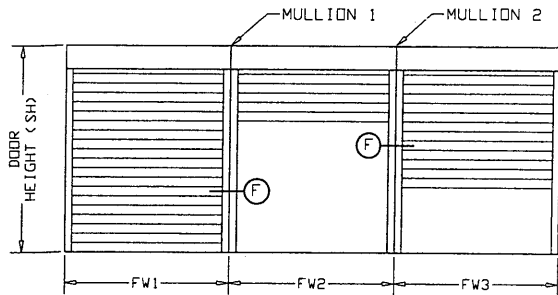
REVISIONS:

Date: 04/15/2009  
Scale: NA  
Design by: PPMF

Drawing Number  
**09-005**

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**EQUALLY SPACED MULLIONS SELECTION**



MULLION 1:  $TM1 = (FW1 + FW2) / 2$   
 MULLION 2:  $TM2 = (FW2 + FW3) / 2$   
 TM: TRIBUTARY MODULE

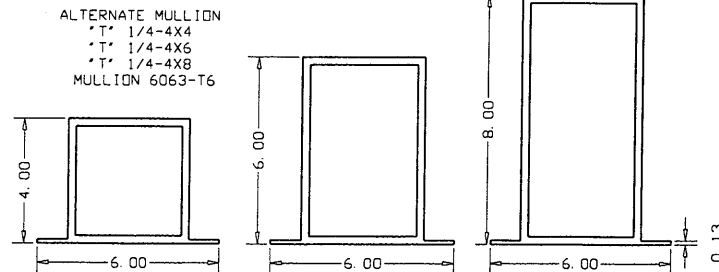
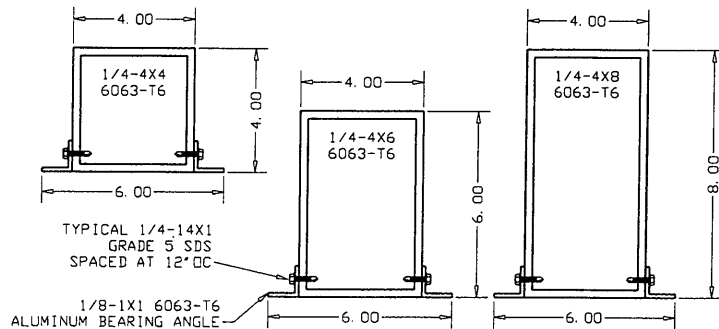
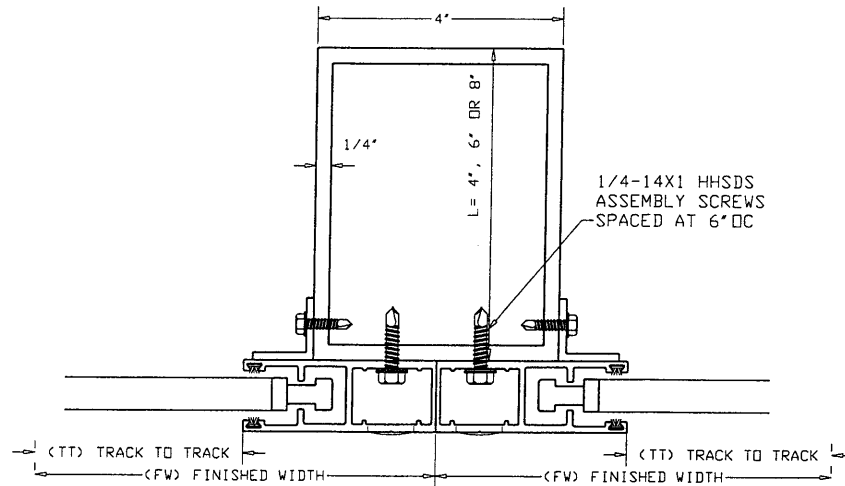
**MULLION BARS SELECTION TABLES (PSF)**

DOOR MODULE	MULLION TYPE & MAX. HEIGHT								
	1/4-4x8			1/4-4x6			1/4-4x4		
231	51	61	70	40	50	63	28	35	46
211	55	67	83	44	54	69	30	39	51
199	59	71	88	47	58	73	32	41	54
181	65	78	97	51	64	81	36	45	59
169	69	84	104	55	68	86	38	48	63
157	75	90	112	59	73	93	41	52	68
151	78	94	116	62	76	97	43	54	71

**NOTES:**

- MULLIONS WERE DESIGNED BY RATIONAL ANALYSIS BASED ON THE ALUMINUM DESIGN MANUAL 2005 ED. AND THE FLORIDA BUILDING CODE.
- DEFLECTION CRITERIA: MAXIMUM SPAN /120
- VALUES ABOVE IS APPLICABLE ONLY FOR EQUAL MODULES  $FW1=FW2=FW3$ .
- UNEQUAL MODULES ARE TO BE DESIGNED BY RATIONAL ANALYSIS IN A CASE BY CASE BASIS.

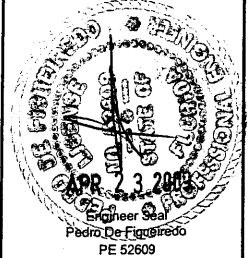
**MULLIONS SECTIONS (DETAIL F)**



Manufacturer:  
**CROCI NORTH AMERICA**  
 11600 ADELMO LANE  
 FORT MYERS, FL 33966  
 Tel.: (239) 278-3066  
 Fax: (239) 278-5977

PRODUCT:  
**ES 55 SUP**  
 Rolling Shutter  
 LARGE & SMALL MISSILE  
 IMPACT RATED

Engineering:  
**EngCo Inc.**  
 CA 8116  
 6971 W. Sunrise Blvd. 104  
 Plantation, FL 33313  
 ENGCO@AOL.COM



DRAFTING:  
**PK DRAFTING & MORE**

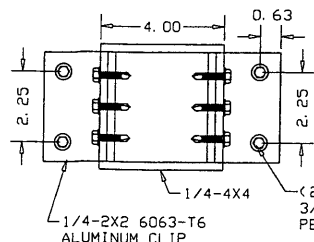
REVISIONS:

Date: 04/15/2009  
 Scale: NA  
 Design by: PPMF

Drawing Number  
**09-005**

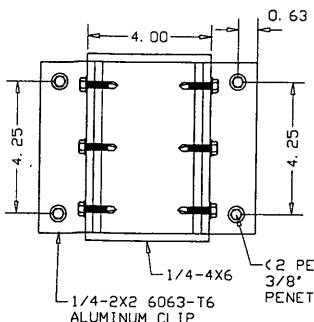
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EQUALLY SPACED MULLIONS WALL AND INSET CONNECTIONS



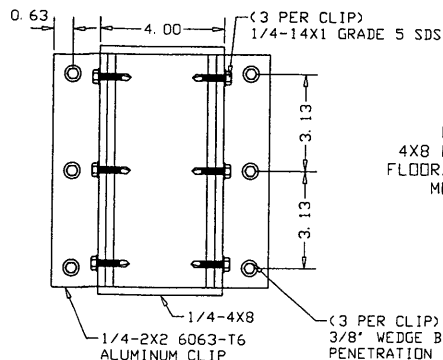
FC1  
4X4 MULLION  
FLOOR/CEILING  
MOUNT

(2 PER CLIP)  
3/8" WEDGE BOLTS W/ 3-1/2"  
PENETRATION INTO CONCRETE



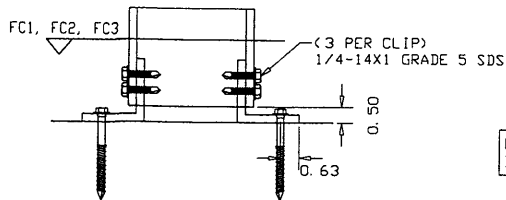
FC2  
4X6 MULLION  
FLOOR/CEILING  
MOUNT

(2 PER CLIP)  
3/8" WEDGE BOLTS W/ 3-1/2"  
PENETRATION INTO CONCRETE

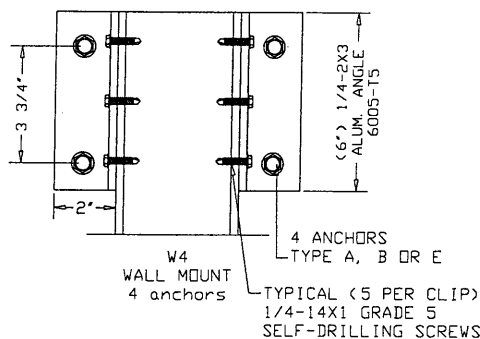


FC3  
4X8 MULLION  
FLOOR/CEILING  
MOUNT

(3 PER CLIP)  
3/8" WEDGE BOLTS W/ 3-1/2"  
PENETRATION INTO CONCRETE



NOTE: ANGLE CLIP TO  
BE PLACED INSIDE TUBE

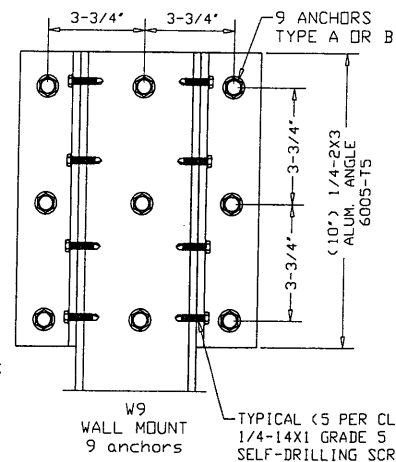


W4  
WALL MOUNT  
4 anchors

(6") 1/4-2X3  
ALUM. ANGLE  
6005-T5

4 ANCHORS  
TYPE A, B OR E

TYPICAL (5 PER CLIP)  
1/4-14X1 GRADE 5  
SELF-DRILLING SCREWS

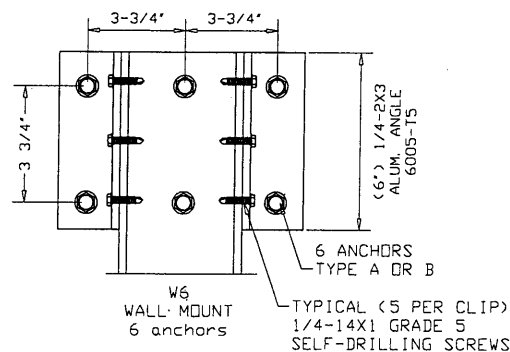


W9  
WALL MOUNT  
9 anchors

(10") 1/4-2X3  
ALUM. ANGLE  
6005-T5

9 ANCHORS  
TYPE A OR B

TYPICAL (5 PER CLIP)  
1/4-14X1 GRADE 5  
SELF-DRILLING SCREWS



W6  
WALL MOUNT  
6 anchors

(6") 1/4-2X3  
ALUM. ANGLE  
6005-T5

6 ANCHORS  
TYPE A OR B

TYPICAL (5 PER CLIP)  
1/4-14X1 GRADE 5  
SELF-DRILLING SCREWS

WALL MOUNT ANCHOR SELECTION

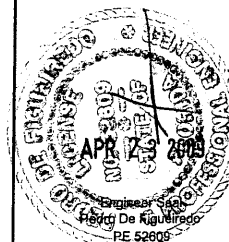
ANCHOR TYPE	MULLION TYPE		
	4X4	4X6	4X8
A	W4	W9	W9
B	W4	W6	W9
E	W4	W4	W4

ANCHOR SCHEDULE:				
ANCHOR	DESCRIPTION	MATERIAL	EMBEDMENT	EDGE DISTANCE
A	5/16" X 3" TAPCONS	MIN. 2899 psi CONCRETE	2 1/4"	3 1/8"
B	5/16" X 3" TAPCONS	GROUT FILLED C-90 BLOCK	2 1/4"	4"
E	3/8" X 4" WEDGE BOLTS	MIN. 3000 psi CONCRETE	3 1/2"	4 1/2"

Manufacturer:  
**CROCI NORTH  
AMERICA**  
11600 ADELMO LANE  
FORT MYERS, FL 33966  
Tel.: (239) 278-3066  
Fax: (239) 278-5977

PRODUCT:  
**ES 55 SUP**  
Rolling Shutter  
LARGE & SMALL MISSILE  
IMPACT RATED

Engineering:  
**EngCo Inc.**  
CA 8116  
6971 W. Sunrise Blvd. 104  
Plantation, FL 33313  
ENGCO@AOL.COM



DRAFTING:  
**PK DRAFTING & MORE**

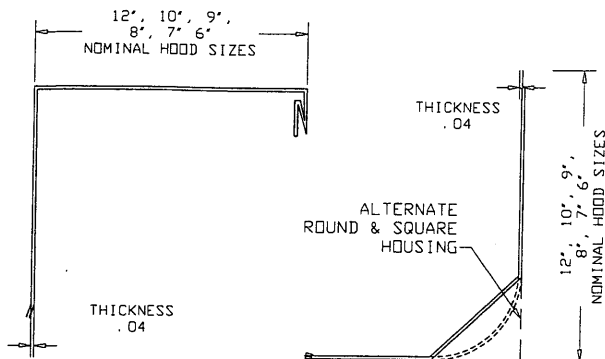
REVISIONS:

Date: 04/15/2009  
Scale: NA  
Design by: PPMF

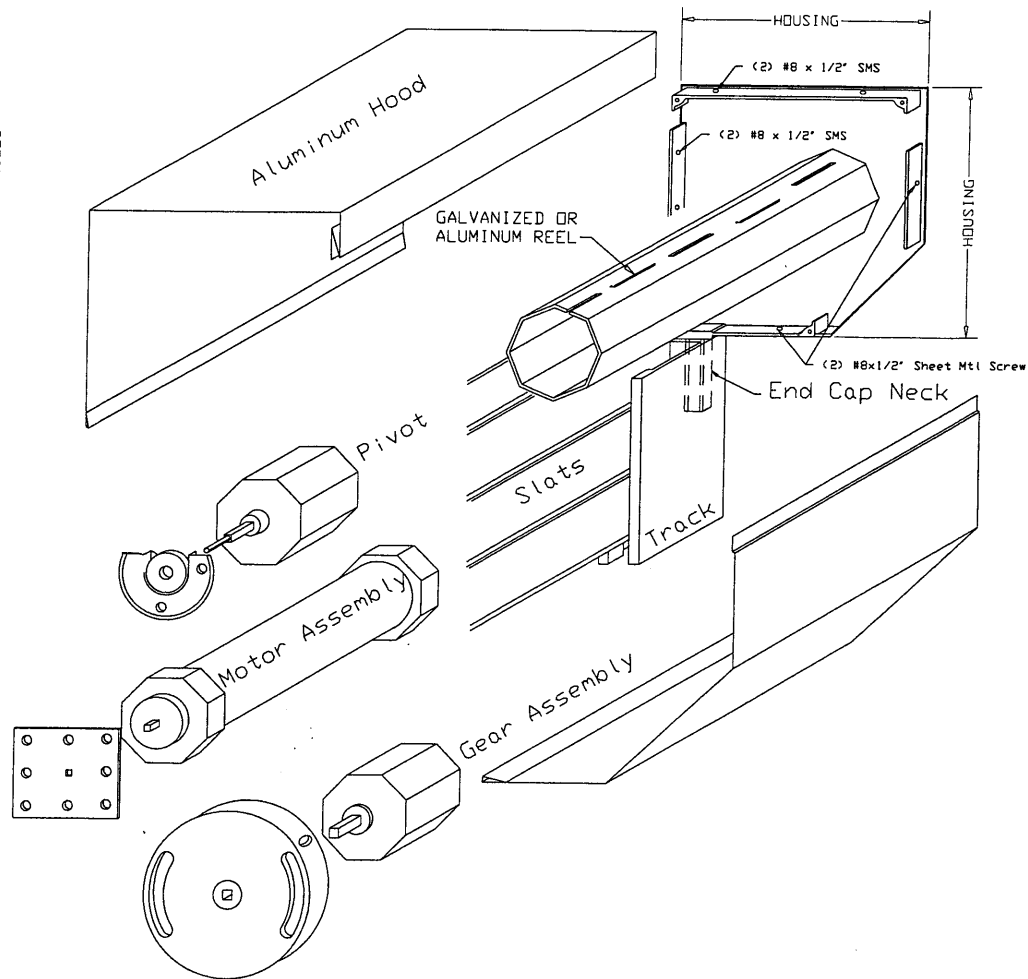
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# HOOD ASSEMBLY



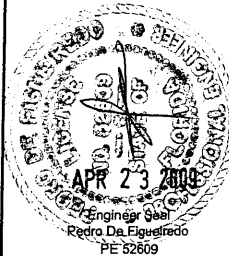
NOTE: THE ROLL-UP MECHANISM (GEARS, MOTORS, SUPPORTING END PLATES) ARE NOT PART OF THIS APPROVAL. MANUFACTURER IS RESPONSIBLE TO SPECIFY THESE COMPONENTS FOR PROPER SHUTTER OPERATION.



Manufacturer:  
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