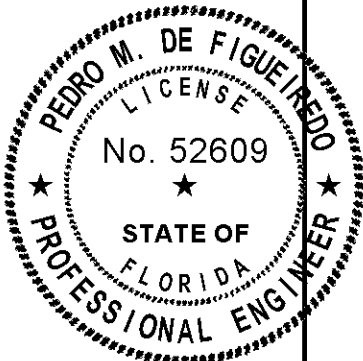


RE 1000, RE1500, RE600 & RE400 SHUTTER SYSTEM

EXTRUDED ALUMINUM ROLL SHUTTERS

FLORIDA STATE APPROVAL
CODE VERSION: FLORIDA BUILDING CODE 2020 - 7th EDITION
APPROVED FOR USE IN HVHZ AND OUTSIDE HVHZ
CATEGORY: SHUTTERS -- SUBCATEGORY: ROLL-UP
IMPACT RESISTANT: LARGE MISSILE



Pedro De Figueiredo
10/13/2020

ENGINEERING
ENGCO INC. - CA 8116
9715 W. BROWARD BLVD.
PLANTATION, FL 33324
ENGCO@AOL.COM
ENGINEER SEAL
PEDRO DE FIGUEIREDO
PE 52609

GENERAL NOTES:

- 1- DEFINITION: THESE PRODUCTS ARE TO BE USED AS A HURRICANE PROTECTION DEVICE. THEY ARE 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- DESIGN: THIS PRODUCT HAS BEEN TESTED UNDER THE TAS 202, 201 (LARGE MISSILE), 203 AND HAS BEEN DESIGNED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE 2020 - 7th EDITION.
- 3- POSTING: A PERMANENT LABEL SHALL BE PROVIDED AND IT SHALL BE LOCATED ON THE BOTTOM OF THE HOOD FACING THE EXTERIOR OR OUTSIDE OR THE BOTTOM SLAT FACING THE EXTERIOR OR OUTSIDE AND A MINIMUM OF ONE LABEL PER OPENING.
- 4- LOADS: DESIGNED LOAD CALCULATED BASED ON THE ASCE 7-16 AND PROVIDED BY A PROFESSIONAL ARCHITECT OR ENGINEER FOR EACH SPECIFIC PROJECT. THE CALCULATED DESIGNED PRESSURE MUST NOT EXCEED THE ALLOWABLE PRESSURES FOR EACH PRODUCT COMPONENT TO BE USED. THE DESIGN PRESSURES, AS DETERMINED FROM ASCE 7-16 ARE PERMITTED TO BE MULTIPLIED BY 0.6.
- 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 DOOR 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- DISCLAIMER: ENGCO INC. HAS NO CONTROL IN THE MANUFACTURING AND/OR PERFORMANCE OF THIS PRODUCT. THESE GENERIC PLANS WERE ENGINEERED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICES AND TEST DATA PROVIDED BY A CERTIFIED LABORATORY.
- 9- THE ROLL-UP MECHANISM (GEARS, MOTORS, SUPPORTING END PLATES) ARE NOT PART OF THIS APPROVAL. MANUFACTURER ARE RESPONSIBLE TO SPECIFY THESE COMPONENTS FOR PROPER DOOR OPERATION.
- 10- LIMITATIONS: PRODUCT IS QUALIFIED AS "NON POROUS", THEREFORE GLAZING SEPARATION IS NOT REQUIRED WITH THE EXCEPTION FOR THE FOLLOWING LOCATIONS:

10.1- HIGH VELOCITY HURRICANE ZONES (HVHZ MIAMI-DADE & BROWARD COUNTIES)
10.2- IN WIND ZONE 4 AS DEFINED IN ASTM E 1996
10.3- IN ESSENTIAL FACILITIES IN ALL WIND ZONES.
- IN ORDER TO COMPLY WITH CODE, THE LOCATIONS AS SPECIFIED IN 10.1, 10.2 AND 10.3 ARE REQUIRED TO HAVE GLASS SEPARATION AS SPECIFIED ON SHEETS 3 (NON HVHZ) AND SHEET 4 (HVHZ).
- 11- MULTIPLE SPAN SHUTTERS: REINFORCEMENTS SUCH AS STORM BARS, HEADER AND MULLIONS WERE DESIGNED BY RATIONAL ANALYSIS AND ARE PART OF DRAWINGS 20-165MS.

Pedro De Figueiredo
Digitally signed by Pedro De Figueiredo
Date: 2020.10.14 05:04:32 -04'00'

DIGITALLY SIGNED FOR 12 PAGES

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6	RE 400 & RE 600 TYPICAL TRACKS MOUNT SECTIONS
7	RE 1000 AND RE 1500-24 TRACK ANCHORAGE (TABLE 3 & 4)
8	RE 1500-26 TRACK ANCHORAGE (TABLE 5)
9	RE 400 STD AND HD TRACK ANCHORAGE (TABLE 6)
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11	PRODUCT COMPONENTS
12	HOOD ASSEMBLY
TOTAL NUMBER OF PAGES: 12	

STANDARD COMPLIANCE:
ASTM E330, E1996, E1886 (LEVEL D MISSILE)
TAS 201, 202, 203 (LARGE & SMALL MISSILE)
ASCE 7-16, ADM-15, NDS-18

PRODUCT:
ROLL UP SHUTTER SYSTEMS
RE1000, RE1500, RE600 & RE400
LARGE MISSILE IMPACT RESISTANT

MANUFACTURER:
ROLLER STAR USA
6278 N. FEDERAL HWY #162
FORT LAUDERDALE, FL 33308
TEL: 954-972-4772
WWW.ROLLERSTARUSA.COM

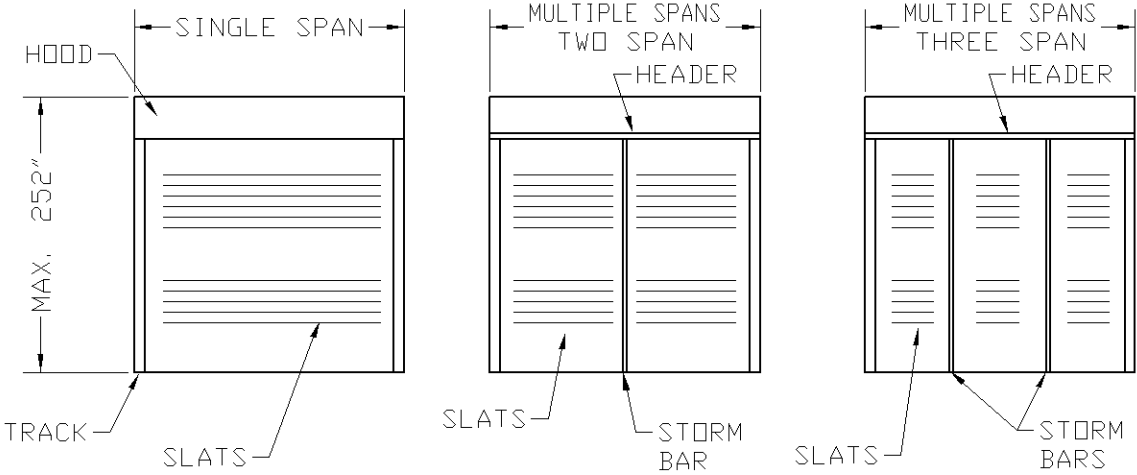
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NA
DATE:
10/13/2020
DRAWING #
20-165
SHEET
1 OF 12

TYPICAL SHUTTER CONFIGURATIONS

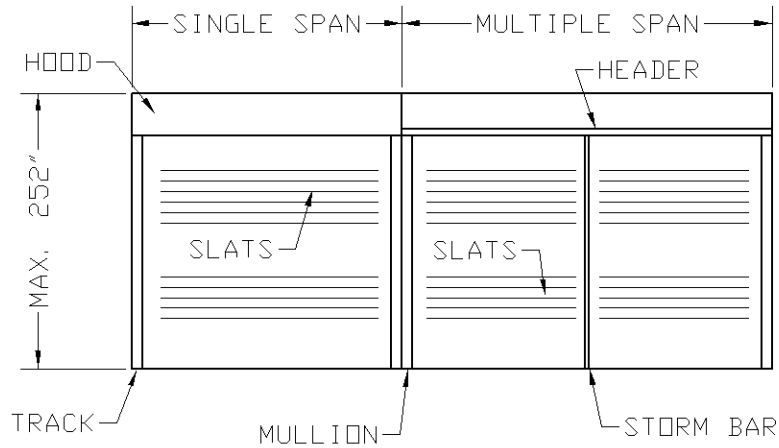
DESIGN SCHEDULE TABLES

COMPONENT	NON HVHZ	HVHZ	REF. SHEET
SLAT ALLOWABLE PRESSURE	1	2	3, 4, 5, 6
SLAT GLASS SEPARATION	1	2	3, 4, 5, 6
TRACK ANCHORAGE	3, 4, 5, 6, 7, 7A		7, 8, 9, 10
STORM BARS AND HEADERS	SEE GEN. NOTES 11		
MULLIONS	SEE GEN. NOTES 11		

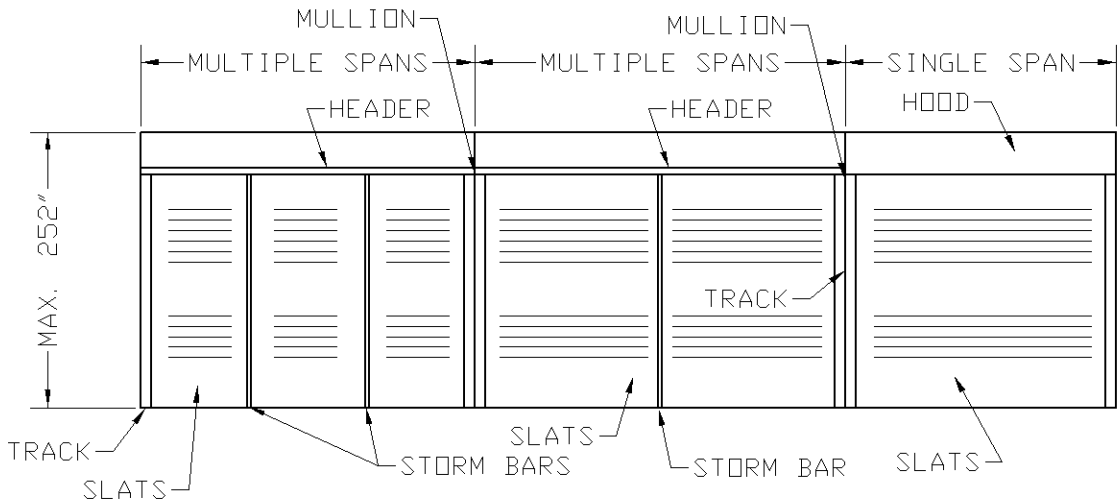
NOTES:
1- ALLOWABLE DESIGNED PRESSURE ARE FUNCTION OF THE LOWEST ALLOWABLE DESIGNED LOAD FOR EACH COMPONENT (SLATS, ANCHORS, STORM BARS, HEADERS & MULLIONS)
2- USE REFERENCE ABOVE TO CALCULATE THE DESIGN LOAD FOR EACH OF THE COMPONENTS
3- MAXIMUM HEIGHT MUST NOT EXCEED 252"



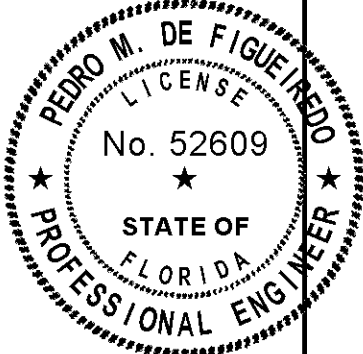
SINGLE SLAT ROW
SINGLE SPAN, TWO SPANS, THREE SPANS OR MULTIPLE SPANS



TWO SLAT ROWS
COMBINATIONS OF SINGLE SPANS OR MULTIPLE SPANS
ONE INTERMEDIATE MULLION



THREE OR MORE SLAT ROWS
COMBINATIONS OF SINGLE SPANS OR MULTIPLE SPANS
MULTIPLE INTERMEDIATE MULLIONS



Pedro De Figueiredo
10/13/2020

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PRODUCT:

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RE1000, RE1500, RE600 & RE400
LARGE MISSILE IMPACT RESISTANT

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2 OF 12

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ENGCO INC. - CA 8116
9715 W. BROWARD BLVD.
PLANTATION, FL 33324
ENGCO@AOL.COM
ENGINEER SEAL
PEDRO DE FIGUEIREDO
PE 52609

(OUTSIDE THE HVHZ)
SLAT SPAN DESIGN FOR INSTALLATION OUTSIDE HIGH VELOCITY HURRICANE ZONES

TABLE 1: SLAT SPAN DESIGN
RE1000, RE1500-S24 & RE1500-S26, RE400 AND RE600

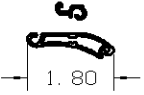
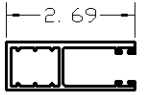
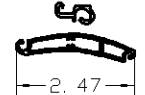
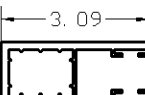
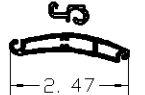
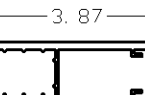
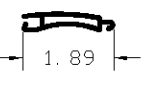
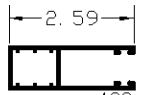
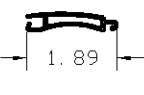
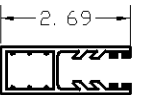
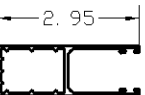
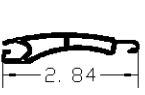
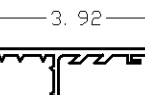
Pd (+/-)	MAX POS/NEG SPAN								
	RE1000			RE1500-S24			RE1500-S26		
	SS	GS*	GS**	SS	GS*	GS**	SS	GS*	GS**
30	73	4	5.0	92	4	5.0	132	9	9.0
45	64	4	5.0	81	4	4.5	116	8	8.0
55	59	4	5.0	76	4	4.5	106	8	8.0
65	55	4	5.0	71	4	4.5	98	8	8.0
75	51	4	5.0	67	4	4.5	91	8	8.0
85	49	3	5.0	64	4	4.5	85	8	8.0
95	47	3	4.5	61	4	4.5	80	8	8.0
105	45	3	4.5	58	4	4.5	75	7	7.0
115	43	3	4.5	55	4	4.5	70	7	7.0
125	41	3	4.5	53	3	4.5	66	6	6.0
135	40	3	4.5	51	3	4.5	63	5	5.0
145	39	3	4.5	49	3	4.5	59	5	5.0
155	38	3	4.0	47	3	4.5	56	4	4.5
165	37	3	4.0	46	3	4.5	53	4	4.5
175	36	3	4.0	44	3	4.5	50	4	4.5
185	35	3	4.0	42	3	4.5	47	3	4.5
195	34	3	4.0	41	3	4.5	45	3	4.5
205	34	3	4.0	39	3	4.5	42	3	4.5
255	30	2	4.0	--	-	--	--	-	--

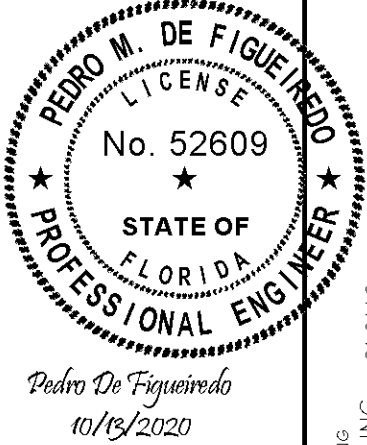
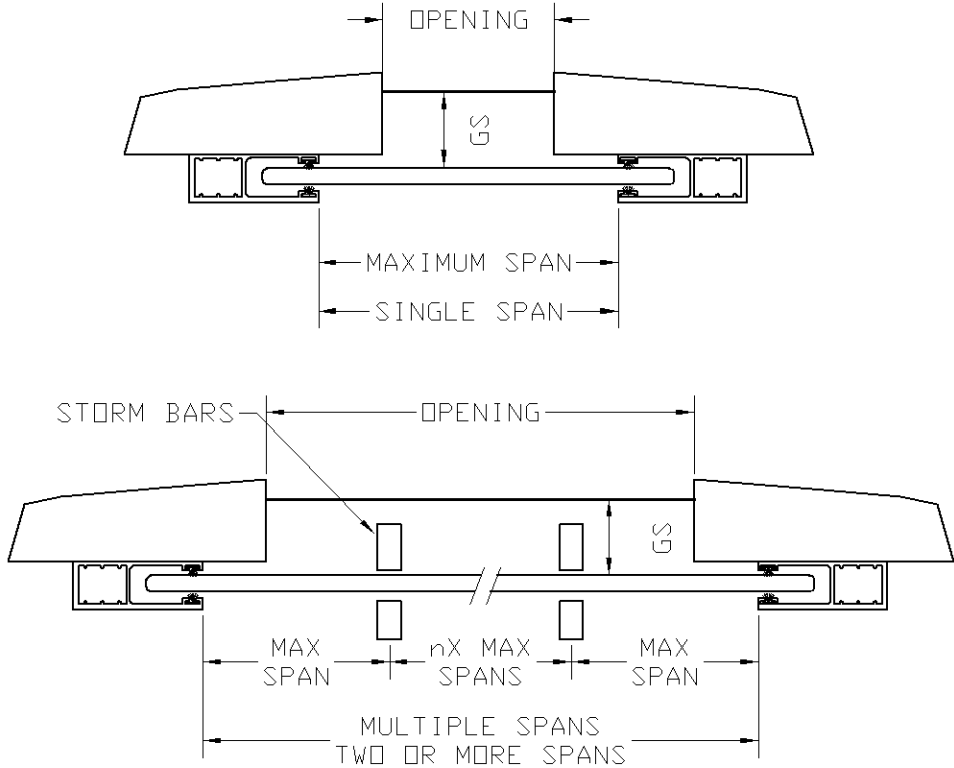
Pd (+/-)	MAX. POS/NEG SPAN			
	RE400 STD		RE400 HD	
	SS	GS	SS	GS
25	60	3	67	3
30	57	3	63	3
35	54	3	60	3
40	52	3	58	3
45	50	3	56	3
50	49	3	55	3
55	48	3	53	3
60	46	3	52	3
65	45	3	51	3
70	44	3	50	3
75	43	3	48	3
80	43	3	47	3
90	41	3	45	3
100	40	3	44	3
110	39	3	42	3
120	38	3	41	3
140	36	3	38	3
160	35	3	36	3

Pd (+/-)	MAX. POS/NEG SPAN			
	RE600 STD		RE600 HD	
	SS	GS	SS	GS
25	84	3	103	5
30	80	3	97	5
35	76	3	93	5
40	73	3	90	5
45	71	3	86	5
50	69	3	84	5
55	67	3	81	5
60	65	3	79	5
65	64	3	77	5
70	62	3	76	5
75	61	3	74	5
80	60	3	72	4
90	58	3	68	4
100	56	3	65	4
110	55	3	62	4
120	53	3	59	4
145	51	3	52	4
160	49	3	49	3

TABLE NOTES:

- 1- Pd: ALLOWABLE POS/NEG PRESSURE IN PSF
2- SS: MAXIMUM SLAT SPAN IN INCHES UNDER POSITIVE OR NEGATIVE LOADS Pd.
3- GS: MINIMUM GLAZING SEPARATION ONLY FOR LOCATIONS AS DEFINED ON GENERAL NOTE 10, ALL OTHER LOCATION GLAZING SEPARATION IS NOT REQUIRED.
GS*: MINIMUM GLAZING SEPARATION FOR ALL ELEVATIONS, GS*: MINIMUM GLAZING SEPARATION ONLY FOR UNITS INSTALLED ABOVE 30' GRADE,
GS**: MINIMUM GLAZING SEPARATION ONLY FOR UNITS INSTALLED BELOW 30' GRADE
4- MAXIMUM SLAT SPAN FOR MULTIPLES UNITS ARE TO BE LIMITED TO THE MAXIMUM ALLOWABLE SPAN SPECIFIED IN THE ABOVE TABLES.

SHUTTER MAIN COMPONENTS						
RE1000  1.80  2.69 HSU	RE1500-S24  2.47  3.09 S24	RE1500-S26  2.47  3.87 S26	RE400 STD  1.89  2.59 403	RE400 HD  1.89  2.69 404	RE600 STD  2.84  2.95 603	RE600 HD  2.84  3.92 604



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10/13/2020

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PRODUCT:

ROLL UP SHUTTER SYSTEMS
RE1000, RE1500, RE600 & RE400
LARGE MISSILE IMPACT RESISTANT

MANUFACTURER:

ROLLER STAR USA

8278 N. FEDERAL HWY #162
FORT LAUDERDALE, FL 33308
TEL: 866 982-7009
WWW.ROLLERSTARUSA.COM

SCALE:

NA

DATE:

10/13/2020

DRAWING #

20-165

SHEET

3 OF 12

ENGINEERING

ENGCO INC. - CA 8116

9715 W. BROWARD BLVD.

PLANTATION, FL 33324

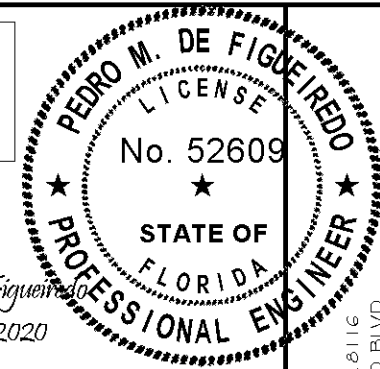
ENGCO@AOL.COM

ENGINEER SEAL
PEDRO DE FIGUEIREDO
PE 52609

(INSIDE THE HVHZ)

SLAT SPAN DESIGN FOR INSTALLATION INSIDE THE HIGH VELOCITY HURRICANE ZONES

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10/13/2020

ENGINEER SEAL
PEDRO DE FIGUEIREDO
PE 52609

TABLE 2: SLAT SPAN DESIGN

RE1000, RE1500-S24 & RE1500-S26, RE400 AND RE600

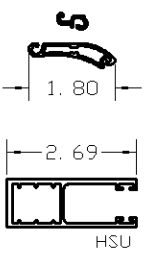
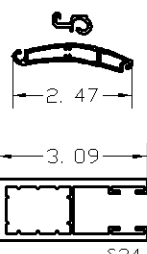
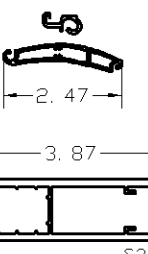
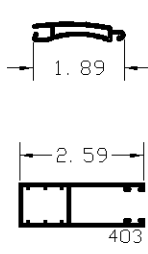
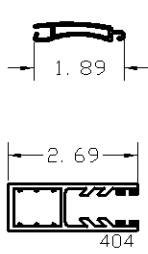
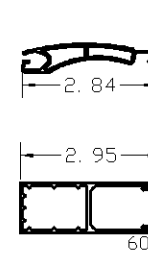
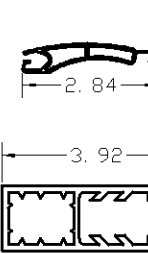
Pd (+/-)	SLAT SPAN DESIGN - RE1000				SLAT SPAN DESIGN - RE1500 S24				SLAT SPAN DESIGN - RE1500 S26			
	MAX POS SPAN	GS* IN	GS** IN	MAX NEG SPAN	MAX POS SPAN	GS* IN	GS** IN	MAX NEG SPAN	MAX POS SPAN	GS* IN	GS** IN	MAX NEG SPAN
30	66	3	5.0	69	83	3	4.5	92	95	3	4.5	110
45	60	3	5.0	60	74	3	4.5	79	85	3	4.5	95
55	55	3	5.0	55	69	3	4.5	73	79	3	4.5	86
65	52	3	5.0	52	66	3	4.5	68	73	3	4.5	79
75	49	3	5.0	49	63	3	4.5	63	68	3	4.5	71
85	46	3	4.5	46	60	3	4.5	60	62	3	4.5	63
95	44	3	4.5	44	57	3	4.5	57	58	3	4.5	58
105	43	3	4.5	43	55	3	4.5	55	56	3	4.5	56
115	42	3	4.5	42	53	3	4.5	53	54	3	4.5	54
125	41	3	4.5	41	51	3	4.5	51	53	3	4.5	53
135	40	3	4.5	40	49	3	4.5	49	51	3	4.5	51
145	39	3	4.5	39	48	3	4.5	48	49	3	4.5	49
155	38	3	4.0	38	46	3	4.5	46	48	3	4.5	48
165	37	3	4.0	37	45	3	4.5	45	47	3	4.5	47
175	36	3	4.0	36	44	3	4.5	44	46	3	4.5	46
185	35	3	4.0	35	42	3	4.5	42	45	3	4.5	45
195	34	3	4.0	34	41	3	4.5	41	44	3	4.5	44
205	34	3	4.0	34	39	3	4.5	39	42	3	4.5	42
255	30	2	4.0	30								

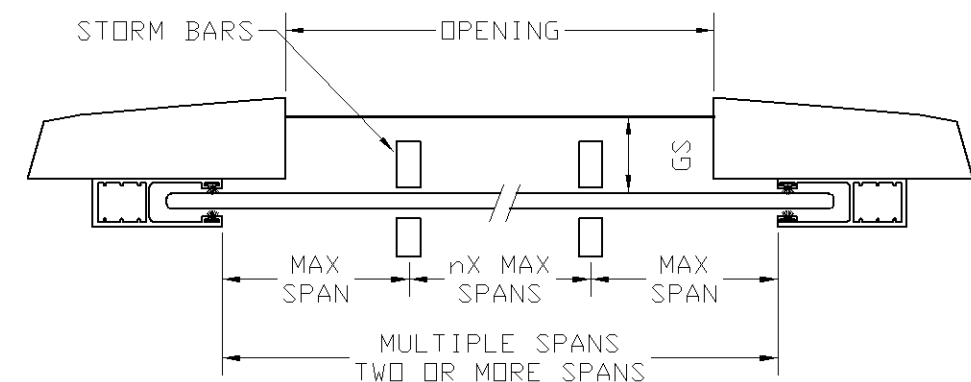
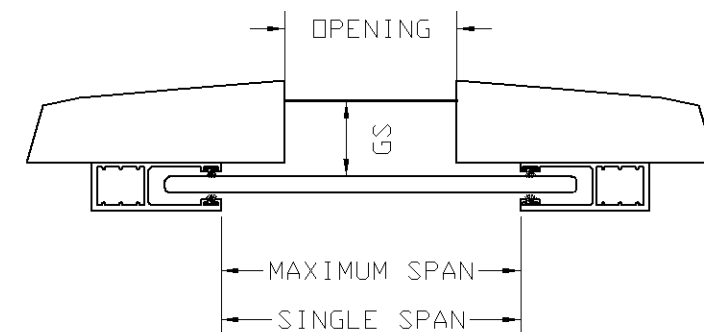
Pd (+/-)	SLAT SPAN DESIGN - RE400					
	MAX. POS / NEG SPAN					
	STD			HD		
	SS+	SS-	GS	SS+	SS-	GS
25	54	54	3	61	61	3
30	52	52	3	59	59	3
35	50	50	3	56	56	3
40	49	49	3	54	54	3
45	49	49	3	52	52	3
50	48	48	3	51	51	3
55	47	47	3	50	50	3
60	46	46	3	48	48	3
65	45	45	3	47	47	3
70	44	44	3	47	47	3
75	43	43	3	46	46	3
80	43	43	3	45	45	3
90	41	41	3	44	44	3
100	40	40	3	43	43	3
110	39	39	3	42	42	3
120	38	38	3	41	41	3
140	36	36	3	38	38	3
160	35	35	3	36	36	3

Pd (+/-)	SLAT SPAN DESIGN - REGOO					
	MAX. POS / NEG SPAN					
	STD			HD		
	SS+	SS-	GS	SS+	SS-	GS
25	78	84	3	83	93	3
30	75	80	3	80	87	3
35	72	76	3	76	83	3
40	70	73	3	74	79	3
45	68	71	3	71	76	3
50	66	69	3	69	73	3
55	65	67	3	68	70	3
60	64	65	3	66	68	3
65	63	63	3	65	66	3
70	61	62	3	63	65	3
75	61	61	3	62	63	3
80	59	59	3	61	62	3
90	57	57	3	59	59	3
100	55	55	3	57	57	3
110	53	53	3	55	55	3
120	51	51	3	54	54	3
145	48	48	3	50	50	3
160	46	46	3	49	49	3

TABLE NOTES:

- 1- Pd: ALLOWABLE POS/NEG PRESSURE IN PSF
- 2- MAX. POS SPAN: MAXIMUM SLAT SPAN IN INCHES UNDER POSITIVE LOAD Pd.
- 3- MAX. NEG SPAN: MAXIMUM SLAT SPAN IN INCHES UNDER NEGATIVE LOAD Pd.
- 4- GS: MINIMUM GLAZING SEPARATION FOR ALL ELEVATIONS, GS*: MINIMUM GLAZING SEPARATION ONLY FOR UNITS INSTALLED ABOVE 30' GRADE, GS**: MINIMUM GLAZING SEPARATION ONLY FOR UNITS INSTALLED BELOW 30' GRADE
- 6- HVHZ: BROWARD AND MIAMI-DADE COUNTIES AS DEFINED IN THE FLORIDA BUILDING CODE
- 7- MAXIMUM SLAT SPAN FOR MULTIPLES UNITS ARE TO BE LIMITED TO THE MAXIMUM ALLOWABLE SPAN SPECIFIED IN THE ABOVE TABLES.

SHUTTER MAIN COMPONENTS						
RE1000	RE1500-S24	RE1500-S26	RE400 STD	RE400 HD	RE600 STD	RE600 HD
						



PRODUCT:
ROLL UP SHUTTER SYSTEMS
RE1000, RE1500, REGOO & RE400
LARGE MISSILE IMPACT RESISTANT

MANUFACTURER:
ROLLER STAR USA
6278 N. FEDERAL HWY #162
FORT LAUDERDALE, FL 33308
TEL: 954-972-4772
WWW.ROLLERSTARUSA.COM

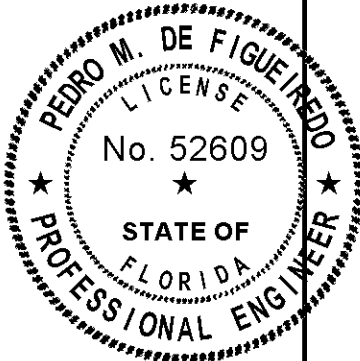
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20-165

SHEET
4 OF 12

RE1000 AND RE1500 - GUIDE RAILS MOUNTING OPTIONS



Pedro De Figueiredo
10/13/2020

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ENGINEER SEAL
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PE 52609

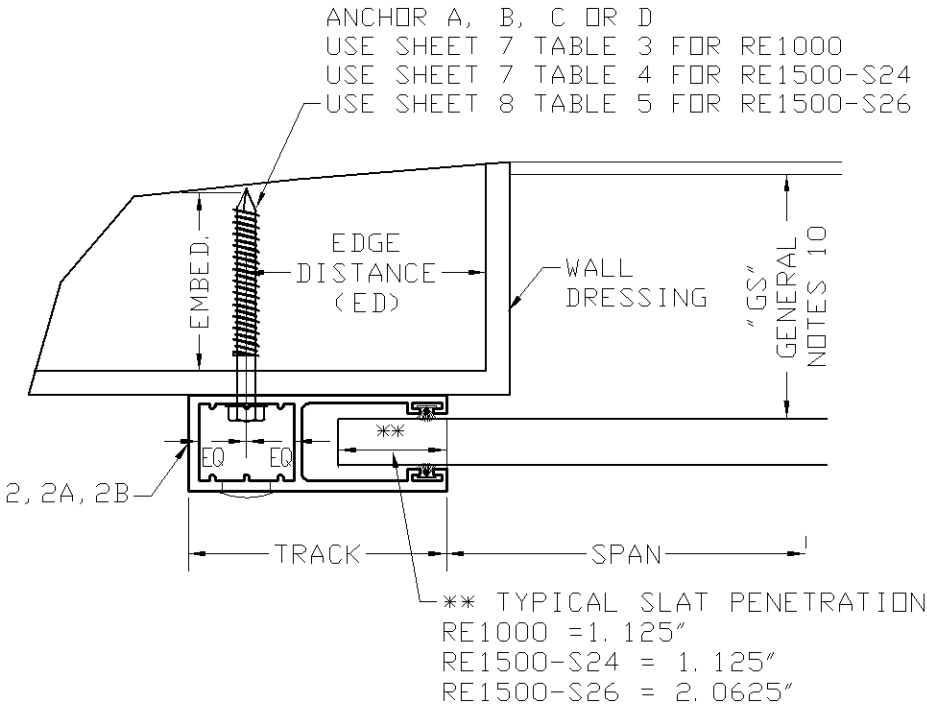
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LARGE MISSILE IMPACT RESISTANT

MANUFACTURER:
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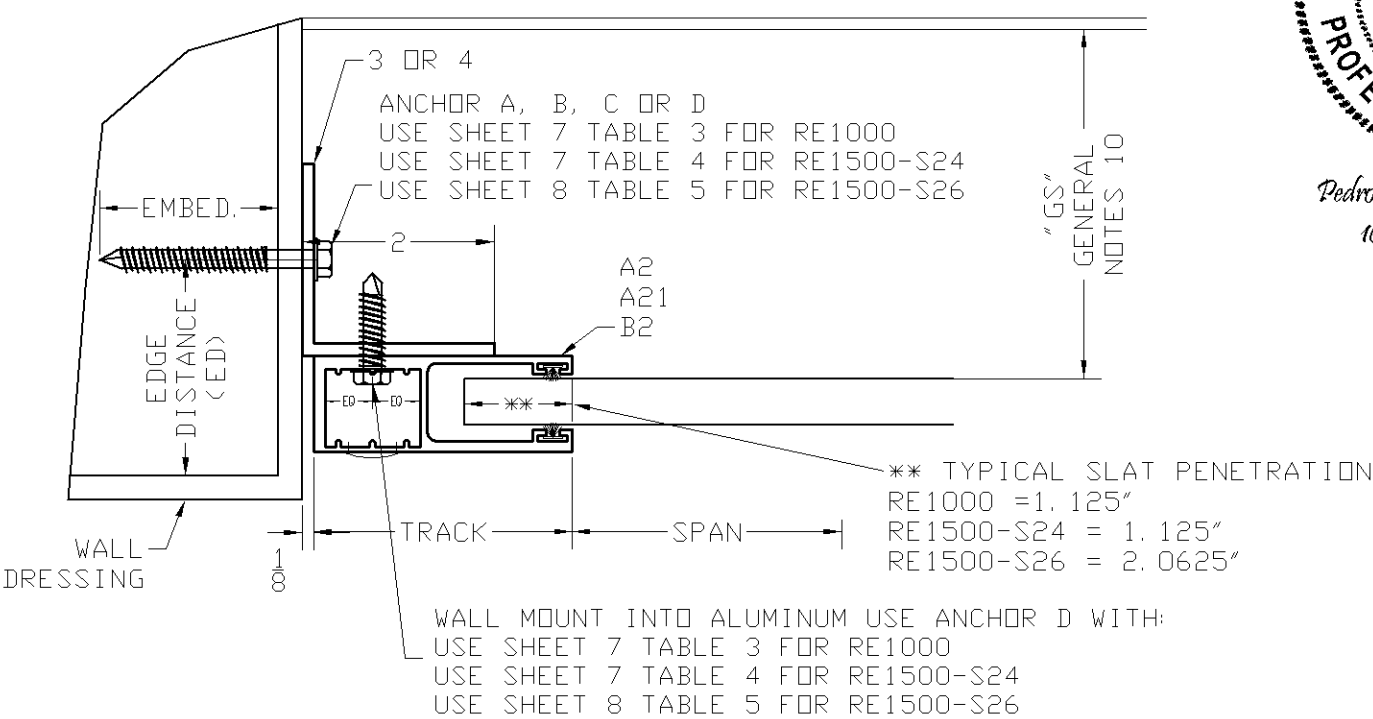
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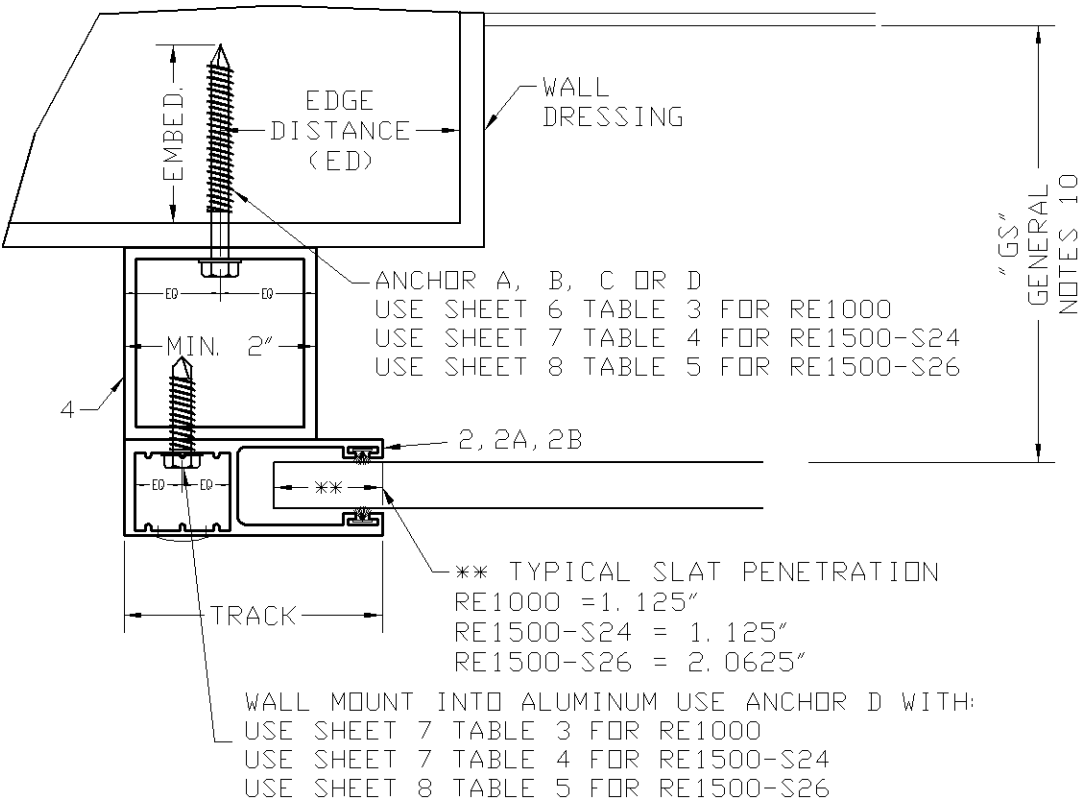
A- WALL MOUNT



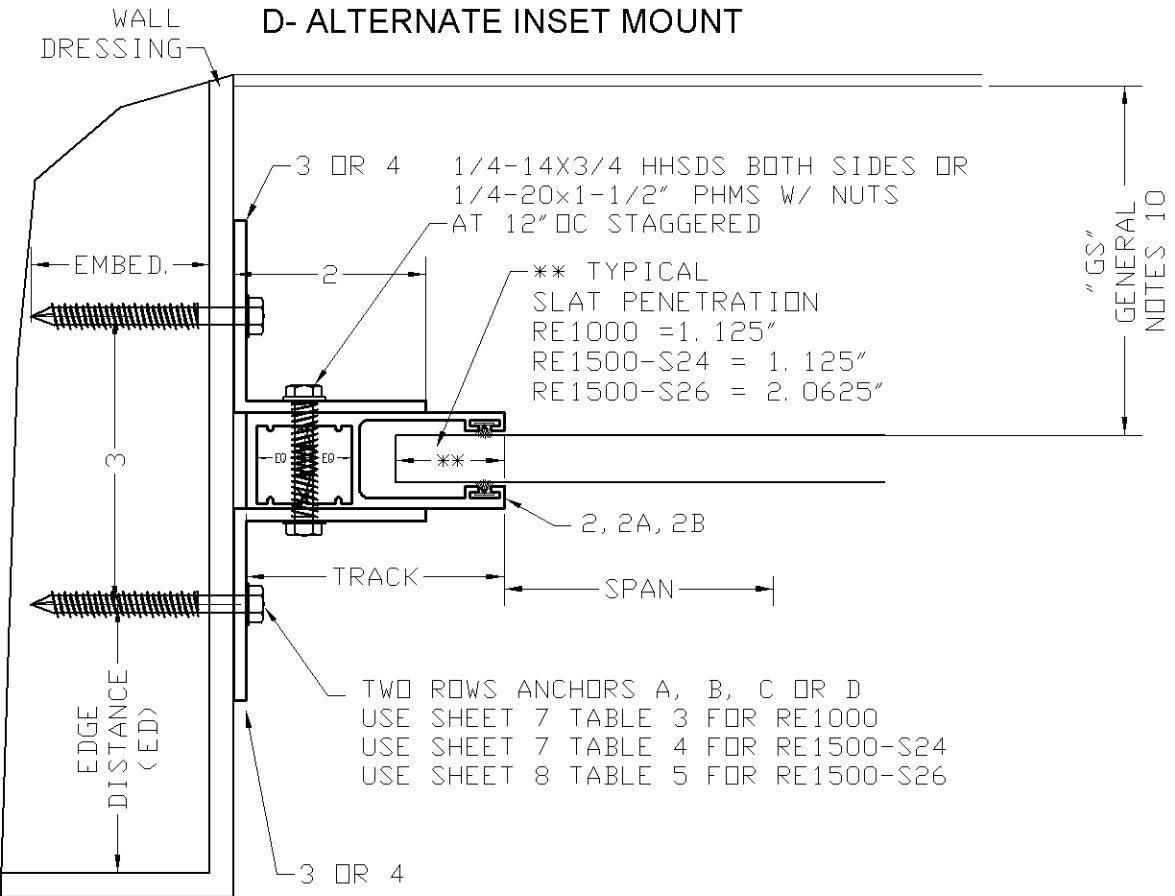
C- INSET MOUNT



B- BUILT-OUT MOUNT

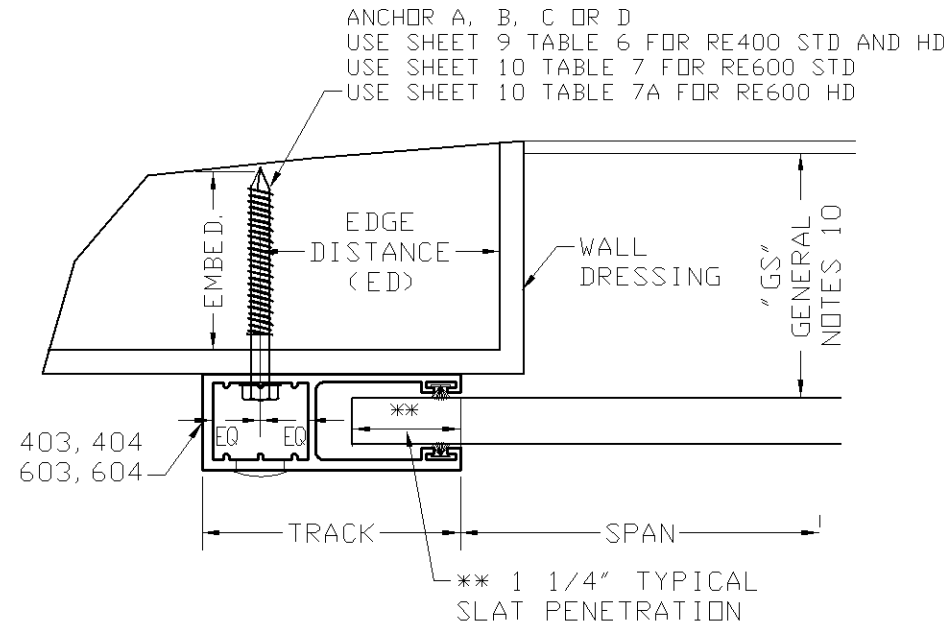


D- ALTERNATE INSET MOUNT

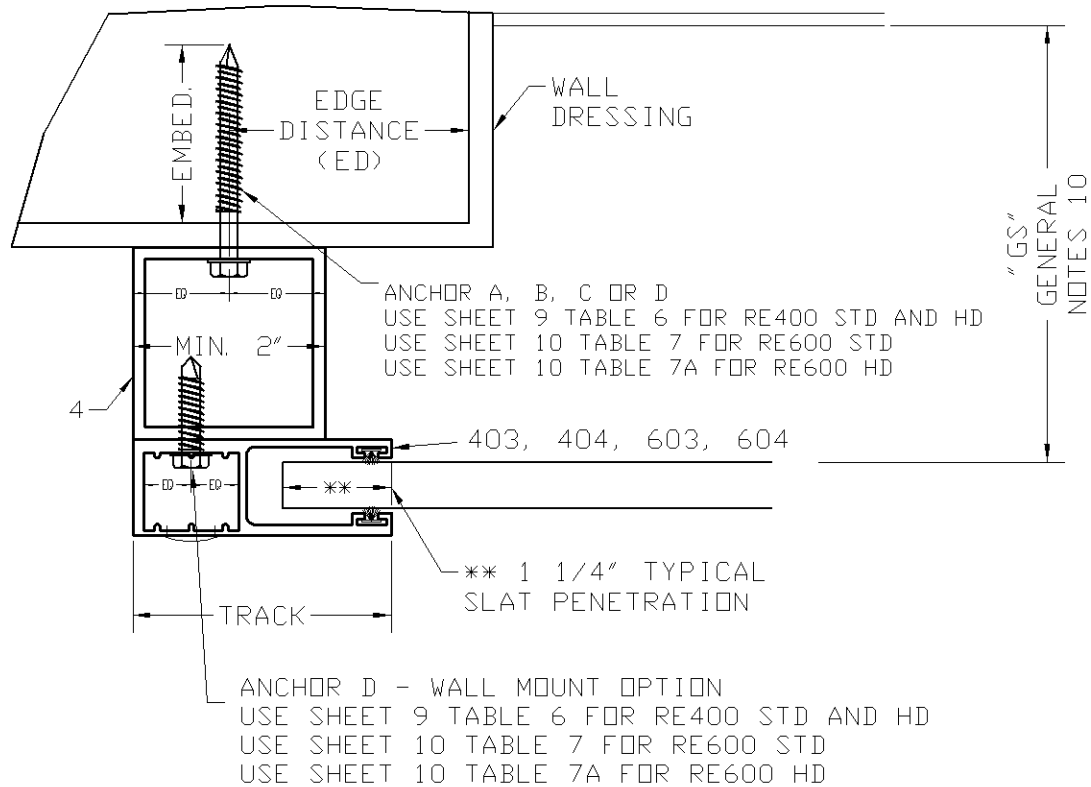


RE400 AND RE600 - GUIDE RAILS MOUNTING OPTIONS

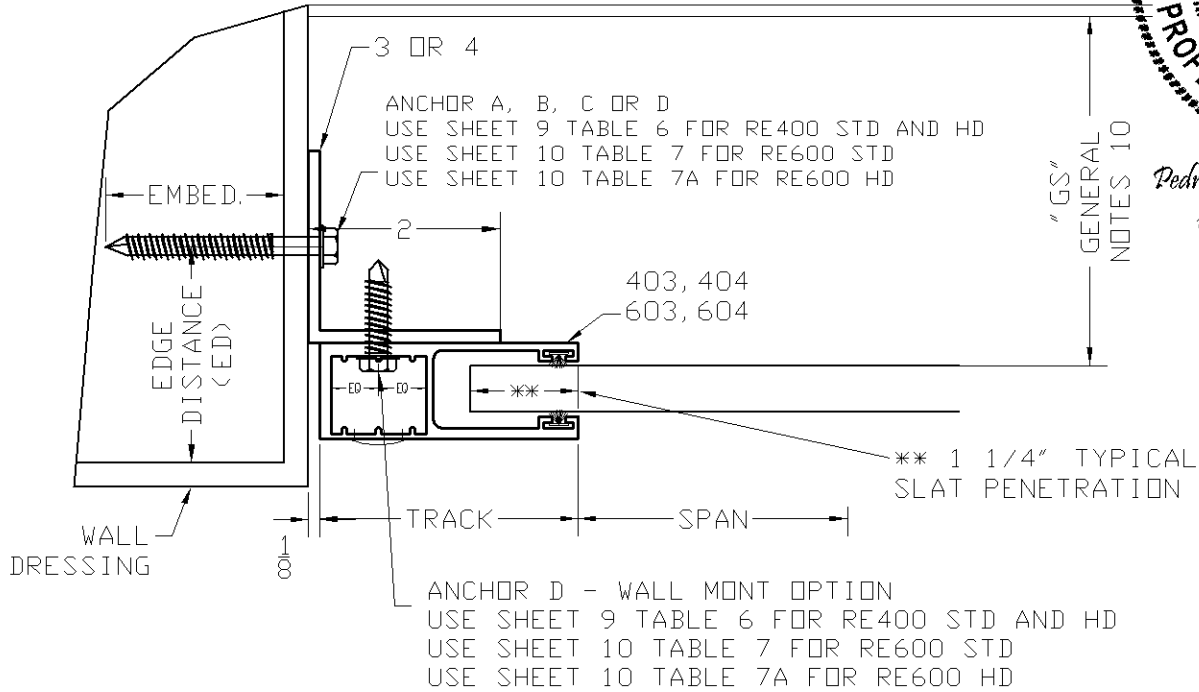
A- WALL MOUNT



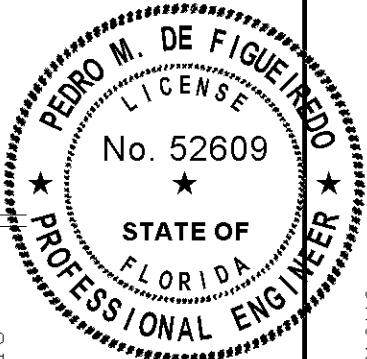
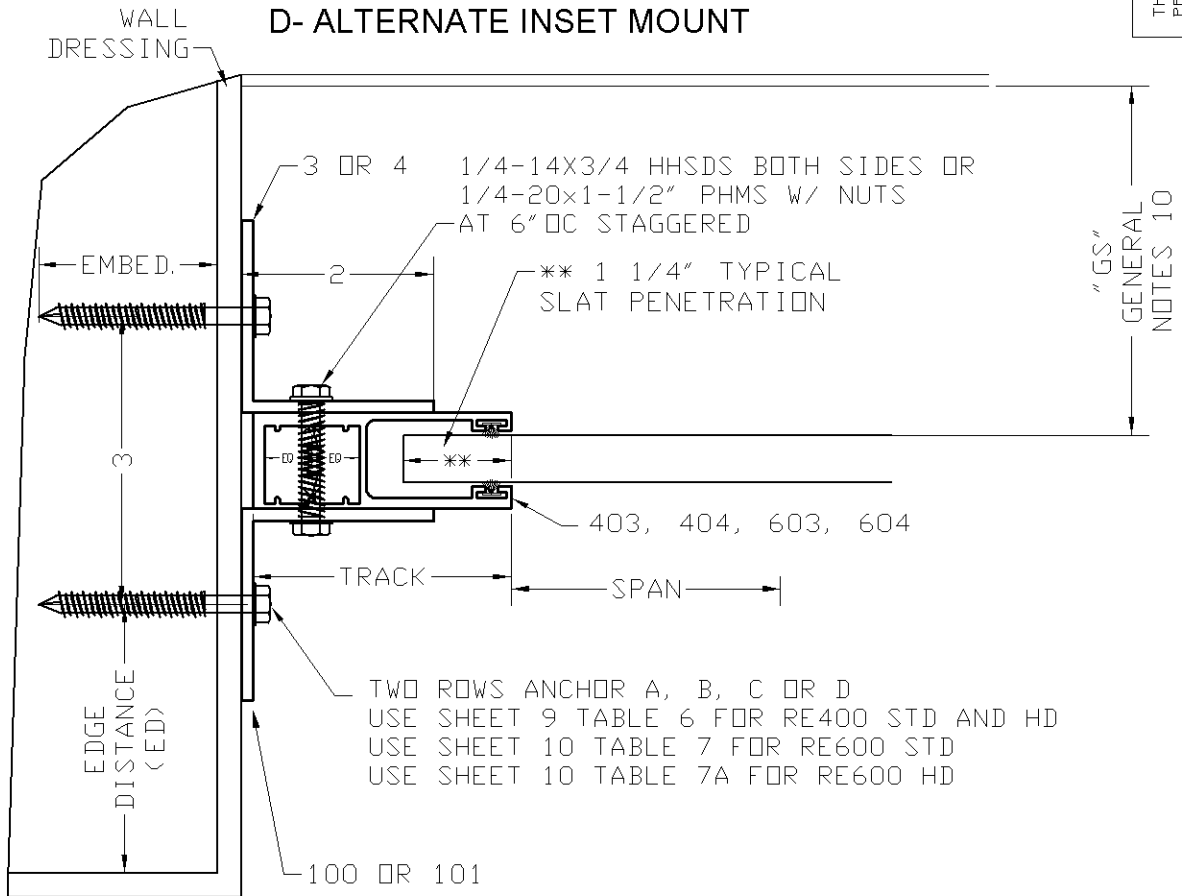
B- BUILT-OUT MOUNT



C- INSET MOUNT



D- ALTERNATE INSET MOUNT



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PRODUCT:

ROLL UP SHUTTER SYSTEMS
RE1000, RE1500, RE600 & RE400
LARGE MISSILE IMPACT RESISTANT

MANUFACTURER:

ROLLER STAR USA

6278 N. FEDERAL HWY #162
FORT LAUDERDALE, FL 33308
TEL: 954-972-4772
WWW.ROLLERSTARUSA.COM

SCALE:

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DATE:

10/13/2020

DRAWING #

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ENGINEERING
ENGCO INC. - CA 8116
9715 W. BROWARD BLVD.
PLANTATION, FL 33324
ENGCO@AOL.COM

ENGINEER SEAL
PEDRO DE FIGUEIREDO
PE 52609

TABLES 3 AND 4 - RE1000 AND RE1500-S24 - GUIDE RAIL ANCHORAGE DESIGN

TABLE 3 - RE1000 MAXIMUM TRACK ANCHORAGE SPACING

Pd	SPAN	WALL MOUNT ANCHOR TYPE				BUILT-OUT MOUNT ANCHOR TYPE				INSET MOUNT ANCHOR TYPE				ALTERNATE INSET MOUNT ANCHOR TYPE			
		B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A
30	73	12	4	11	12	12	6	12	12	12	5	11	12	12	12	12	12
	60	12	4	12	12	12	8	12	12	12	6	12	12	12	12	12	12
	50	12	5	12	12	12	9	12	12	12	7	12	12	12	12	12	12
	40	12	7	12	12	12	12	12	12	12	9	12	12	12	12	12	12
45	30	12	9	12	12	12	12	12	12	12	12	12	12	12	12	12	12
	73	11	-	7	8	12	4	12	12	12	-	7	10	12	8	12	12
	60	12	-	9	10	12	5	12	12	12	4	9	12	12	10	12	12
	50	12	-	10	12	12	6	12	12	12	5	11	12	12	12	12	12
55	40	12	4	12	12	12	8	12	12	12	6	12	12	12	12	12	12
	30	12	6	12	12	12	10	12	12	12	8	12	12	12	12	12	12
	73	9	-	6	7	12	-	10	12	10	-	6	8	12	7	12	12
	60	11	-	7	8	12	4	12	12	12	-	7	10	12	8	12	12
65	50	12	-	8	10	12	5	12	12	12	4	9	12	12	10	12	12
	40	12	4	11	12	12	6	12	12	12	5	11	12	12	12	12	12
	30	12	5	12	12	12	8	12	12	12	7	12	12	12	12	12	12
	73	8	-	5	6	11	-	8	10	8	-	5	7	11	6	11	11
75	60	9	-	6	7	12	-	10	12	10	-	6	9	12	7	12	12
	50	11	-	7	9	12	4	12	12	12	-	7	10	12	9	12	12
	40	12	-	9	11	12	5	12	12	12	4	9	12	12	11	12	12
	30	12	4	12	12	12	7	12	12	12	5	12	12	12	12	12	12
85	73	7	-	4	5	9	-	7	8	7	-	4	6	9	5	9	9
	60	8	-	5	6	12	-	8	10	8	-	5	7	12	6	12	12
	50	10	-	6	7	12	-	10	12	10	-	6	9	12	7	12	12
	40	12	-	8	9	12	4	12	12	12	-	8	11	12	9	12	12
95	30	12	-	10	12	12	6	12	12	12	5	11	12	12	12	12	12
	60	7	-	4	5	10	-	7	9	7	-	5	6	10	5	10	10
	50	9	-	5	6	12	-	9	11	9	-	6	8	12	6	12	12
	40	11	-	7	8	12	4	11	12	11	-	7	10	12	8	12	12
135	30	12	-	9	11	12	5	12	12	12	4	10	12	12	11	12	12
	50	8	-	5	6	11	-	8	10	8	-	5	7	11	6	11	11
	40	10	-	6	7	12	-	10	12	10	-	6	9	12	7	12	12
	30	12	-	8	10	12	5	12	12	12	4	8	12	12	10	12	12
155	24	12	-	10	12	12	6	12	12	12	5	11	12	12	12	12	12
	40	7	-	4	5	10	-	7	8	7	-	4	6	10	5	10	10
	30	9	-	6	7	12	-	9	11	9	-	6	8	12	7	12	12
	24	11	-	7	9	12	4	12	12	12	-	7	10	12	9	12	12
175	40	6	-	3	4	8	-	6	7	6	-	4	5	8	4	8	8
	30	8	-	5	6	11	-	8	10	8	-	5	7	11	6	11	11
	24	10	-	6	7	12	-	10	12	10	-	6	9	12	7	12	12
	40	5	-	3	4	7	-	5	6	5	-	3	5	7	4	7	7
195	30	7	-	4	5	10	-	7	9	7	-	4	6	10	5	10	10
	24	9	-	5	7	12	-	9	11	9	-	6	8	12	7	12	12
	40	4	-	3	3	7	-	5	6	5	-	3	4	7	3	7	7
	30	6	-	4	5	9	-	6	8	6	-	4	6	9	5	9	9
205	24	8	-	5	6	11	-	8	10	8	-	5	7	11	6	11	11
	40	4	-	3	3	6	-	4	5	4	-	3	4	6	3	6	6
	30	6	-	4	4	8	-	6	7	6	-	4	5	8	4	8	8
	24	7	-	5	5	11	-	8	9	8	-	5	7	11	5	11	11

ANCHOR SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	EMBEDMENT	ED	BASE MATERIAL
A	1/4" ss TAPCON	ITW	1 3/4"	3"	3000 psi CONCRETE
B	1/4" ss TAPCON	ITW	1 1/4"	4"	HOLLOW BLOCK
C	1/4"-14 ss HHSMS	GENERIC	1 1/2"	1"	WOOD (SG) = .46)
D	1/4"-14 ss HHSMS	GENERIC	1/8"	3/4"	1/8" METAL STRUCTURE

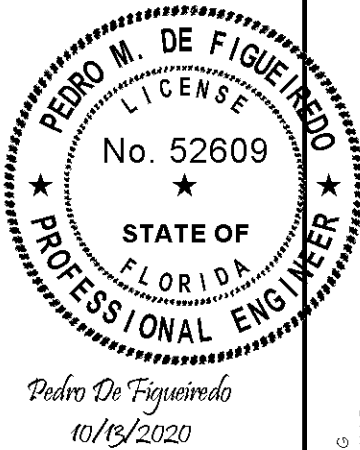
ANCHOR NOTES:

- 1- 1/4" TAPCONS CAN BE USED AS TYPE C INTO WOOD
- 2- 1/4" CARBON STEEL TAPCONS CAN BE USED AS AN ALTERNATE TO THE STAINLESS STEEL
- 3- METAL STRUCTURES ARE MADE OF MINIMUM 6063-T6 ALUMINUM OR ASTM A36 STEEL

TABLE 4 - RE1500 S24 MAXIMUM TRACK ANCHORAGE SPACING

		WALL MOUNT ANCHOR TYPE				BUILT-OUT MOUNT ANCHOR TYPE				INSET MOUNT ANCHOR TYPE				ALTERNATE INSET MOUNT ANCHOR TYPE				
Pd	SPAN A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D		
30	92	12	-	11	12	12	4	12	12	12	-	8	11	12	10	12	12	
	72	12	5	12	12	12	6	12	12	12	5	11	12	12	12	12	12	
	60	12	6	12	12	12	7	12	12	12	6	12	12	12	12	12	12	
	48	12	7	12	12	12	9	12	12	12	7	12	12	12	12	12	12	
	36	12	10	12	12	12	12	12	12	12	10	12	12	12	12	12	12	
45	92	11	-	7	8	12	-	9	10	9	-	5	7	12	6	12	12	
	72	12	-	9	11	12	4	11	12	11	-	7	10	12	8	12	12	
	60	12	4	11	12	12	4	12	12	12	4	8	12	12	10	12	12	
	48	12	5	12	12	12	6	12	12	12	5	11	12	12	12	12	12	
	36	12	6	12	12	12	8	12	12	12	6	12	12	12	12	12	12	
55	84	10	-	6	7	11	-	8	9	8	-	5	7	11	6	11	11	
	72	12	-	7	9	12	-	9	11	9	-	6	8	12	7	12	12	
	60	12	-	9	11	12	4	11	12	11	-	7	10	12	8	12	12	
	48	12	4	11	12	12	5	12	12	12	4	9	12	12	10	12	12	
	36	12	5	12	12	12	6	12	12	12	5	12	12	12	12	12	12	
65	84	8	-	5	6	9	-	6	8	7	-	4	6	9	5	9	9	
	72	10	-	6	7	11	-	8	9	8	-	5	7	11	5	11	11	
	60	12	-	7	9	12	-	9	11	9	-	6	8	12	7	12	12	
	48	12	-	9	11	12	4	12	12	12	-	7	10	12	8	12	12	
	36	12	4	12	12	12	5	12	12	12	4	10	12	12	11	12	12	
75	84	7	-	4	5	8	-	5	7	6	-	3	5	8	4	8	8	
	72	8	-	5	6	9	-	6	8	7	-	4	6	9	5	9	9	
	60	10	-	6	8	11	-	8	9	8	-	5	7	11	6	11	11	
	48	12	-	8	10	12	-	10	12	10	-	6	9	12	7	12	12	
	36	12	4	11	12	12	4	12	12	12	4	8	12	12	10	12	12	
85	72	7	-	5	5	8	-	6	7	6	-	3	5	8	4	8	8	
	60	9	-	6	7	10	-	7	8	7	-	4	6	10	5	10	10	
	48	11	-	7	8	12	-	9	10	9	-	5	8	12	6	12	12	
	36	12	-	10	11	12	4	12	12	12	-	7	10	12	9	12	12	
	95	72	7	-	4	5	7	-	5	6	5	-	3	4	7	4	7	7
60		8	-	5	6	9	-	6	7	6	-	4	5	9	4	9	9	
48		10	-	6	8	11	-	8	9	8	-	5	7	11	6	11	11	
36		12	-	8	10	12	-	10	12	11	-	7	9	12	8	12	12	
135		60	5	-	3	4	6	-	4	5	4	-	-	4	6	3	6	6
	48	7	-	4	5	8	-	5	6	5	-	3	5	8	4	8	8	
	36	9	-	6	7	10	-	7	9	7	-	4	6	10	5	10	10	
	155	60	5	-	3	3	5	-	4	4	4	-	-	3	5	-	5	5
		48	6	-	4	4	7	-	5	6	5	-	3	4	7	3	7	7
36		8	-	5	6	9	-	6	8	6	-	4	5	9	4	9	9	
175		48	5	-	3	4	6	-	4	5	4	-	-	3	6	3	6	6
		36	7	-	4	5	8	-	5	7	6	-	3	5	8	4	8	8
	30	9	-	5	6	10	-	7	8	7	-	4	6	10	5	10	10	
	195	48	5	-	3	3	5	-	4	4	4	-	-	3	5	-	5	5
		36	6	-	4	5	7	-	5	6	5	-	3	4	7	3	7	7
30		8	-	5	6	9	-	6	7	6	-	4	5	9	4	9	9	
205		48	4	-	3	3	5	-	3	4	-	-	-	3	5	-	5	5
		36	6	-	4	4	7	-	5	6	5	-	3	4	7	3	7	7
	30	7	-	4	5	8	-	6	7	6	-	3	5	8	4	8	8	

TABLE 5 - RE I 500-S26 - GUIDE RAIL ANCHORAGE DESIGN



ENGINEER SEAL
PEDRO DE FIGUEIREDO
PE 52609

ENGINEERING
ENGCO INC. - CA 8116
9715 W. BROWARD BLVD.
PLANTATION, FL 33324
ENGCO@AOL.COM

PRODUCT:
ROLL UP SHUTTER SYSTEMS
RE I 500, RE 500, RE 600 & RE 400
LARGE MISSILE IMPACT RESISTANT

MANUFACTURER:
ROLLER STAR USA
6278 N. FEDERAL HWY #162
FORT LAUDERDALE, FL 33308
TEL: 954-972-4772
WWW.ROLLERSTARUSA.COM

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TABLE 5 - RE I 500 S26 MAXIMUM TRACK ANCHORAGE SPACING

Pd	SPAN A	WALL MOUNT ANCHOR TYPE				BUILT-OUT MOUNT ANCHOR TYPE				INSET MOUNT ANCHOR TYPE				ALTERNATE INSET MOUNT ANCHOR TYPE			
		B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	
30	132	6	-	6	6	6	-	6	6	6	-	5	6	6	5	6	6
	108	6	-	6	6	6	-	6	6	6	-	6	6	6	6	6	6
	84	6	-	6	6	6	4	6	6	6	-	6	6	6	6	6	6
	60	6	4	6	6	6	5	6	6	6	4	6	6	6	6	6	6
	48	6	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6
45	132	6	-	4	4	6	-	4	5	5	-	3	4	6	3	6	6
	108	6	-	4	5	6	-	5	6	6	-	4	5	6	4	6	6
	84	6	-	6	6	6	-	6	6	6	-	5	6	6	6	6	6
	60	6	-	6	6	6	-	6	6	6	-	6	6	6	6	6	6
	48	6	-	6	6	6	4	6	6	6	4	6	6	6	6	6	6
55	108	6	-	4	4	6	-	4	5	5	-	3	4	6	3	6	6
	84	6	-	5	6	6	-	6	6	6	-	4	5	6	4	6	6
	60	6	-	6	6	6	-	6	6	6	-	6	6	6	6	6	6
	48	6	-	6	6	6	-	6	6	6	-	6	6	6	6	6	6
	36	6	4	6	6	6	5	6	6	6	4	6	6	6	6	6	6
65	108	5	-	3	4	6	-	4	4	4	-	-	3	6	3	6	6
	84	6	-	4	5	6	-	5	6	5	-	3	4	6	4	6	6
	60	6	-	6	6	6	-	6	6	6	-	5	6	6	5	6	6
	48	6	-	6	6	6	-	6	6	6	-	6	6	6	6	6	6
	36	6	-	6	6	6	4	6	6	6	-	6	6	6	6	6	6
75	96	5	-	3	3	6	-	4	4	4	-	-	3	6	3	6	6
	84	5	-	3	4	6	-	4	5	5	-	3	4	6	3	6	6
	60	6	-	5	6	6	-	6	6	6	-	4	6	6	5	6	6
	48	6	-	6	6	6	-	6	6	6	-	5	6	6	6	6	6
	36	6	-	6	6	6	-	6	6	6	-	6	6	6	6	6	6
85	96	4	-	-	3	5	-	3	4	-	-	-	3	6	-	6	6
	84	5	-	3	3	6	-	4	4	4	-	-	3	6	3	6	6
	60	6	-	4	5	6	-	5	6	6	-	4	5	6	4	6	6
	48	6	-	5	6	6	-	6	6	6	-	5	6	6	5	6	6
	36	6	-	6	6	6	-	6	6	6	-	6	6	6	6	6	6
95	84	4	-	-	3	5	-	3	4	4	-	-	3	6	-	6	6
	60	6	-	4	4	6	-	5	6	5	-	3	4	6	3	6	6
	48	6	-	5	6	6	-	6	6	6	-	4	5	6	4	6	6
	36	6	-	6	6	6	-	6	6	6	-	5	6	6	6	6	6
	84	-	-	-	-	4	-	-	3	-	-	-	-	4	-	4	4
135	60	4	-	-	3	5	-	3	4	-	-	-	3	6	-	6	6
	48	5	-	3	4	6	-	4	5	4	-	3	4	6	3	6	6
	36	6	-	4	5	6	-	5	6	5	-	3	4	6	4	6	6
	60	4	-	-	3	4	-	3	3	-	-	-	-	5	-	5	5
	48	5	-	3	3	6	-	3	4	4	-	-	3	6	3	6	6
155	36	6	-	4	5	6	-	5	6	5	-	3	4	6	4	6	6
	60	-	-	-	-	4	-	-	3	-	-	-	-	4	-	4	4
	48	4	-	-	3	5	-	3	4	-	-	-	3	6	-	6	6
	36	5	-	3	4	6	-	4	5	5	-	3	4	6	3	6	6
	60	-	-	-	-	-	-	-	-	-	-	-	-	4	-	4	4
175	48	-	-	-	3	4	-	3	3	-	-	-	-	5	-	5	5
	36	5	-	3	4	6	-	4	4	4	-	-	3	6	3	6	6
	60	-	-	-	-	-	-	-	-	-	-	-	-	4	-	4	4
	48	-	-	-	3	4	-	3	3	-	-	-	-	5	-	5	5
	36	5	-	3	4	6	-	4	4	4	-	-	3	6	3	6	6
195	60	-	-	-	-	-	-	-	-	-	-	-	-	4	-	4	4
	48	-	-	-	3	4	-	3	3	-	-	-	-	5	-	5	5
	36	5	-	3	4	6	-	4	4	4	-	-	3	6	3	6	6
	60	-	-	-	-	-	-	-	-	-	-	-	-	4	-	4	4
	48	-	-	-	-	4	-	-	3	-	-	-	-	5	-	5	5
205	36	5	-	3	3	6	-	3	4	4	-	-	3	6	3	6	6

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY PEDRO DE FIGUEIREDO ON THE DATE INDICATED HERE. PRINTED COPIES OF THIS DOCUMENTS ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES

ANCHOR SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	EMBEDMENT	ED	BASE MATERIAL
A	1/4" ss TAPCON	ITW	1 3/4"	3"	3000 psi CONCRETE
B	1/4" ss TAPCON	ITW	1 1/4"	4"	HOLLOW BLOCK
C	1/4"-14 ss HHSMS	GENERIC	1 1/2"	1"	WOOD (SG>=. 46)
D	1/4"-14 ss HHSMS	GENERIC	1/8"	3/4"	1/8" METAL STRUCTURE

ANCHOR NOTES:
1- 1/4" TAPCONS CAN BE USED AS TYPE C INTO WOOD
2- 1/4" CARBON STEEL TAPCONS CAN BE USED AS AN ALTERNATE TO THE STAINLESS STEEL
3- METAL STRUCTURES ARE MADE OF MINIMUM 6063-T6 ALUMINUM OR ASTM A36 STEEL

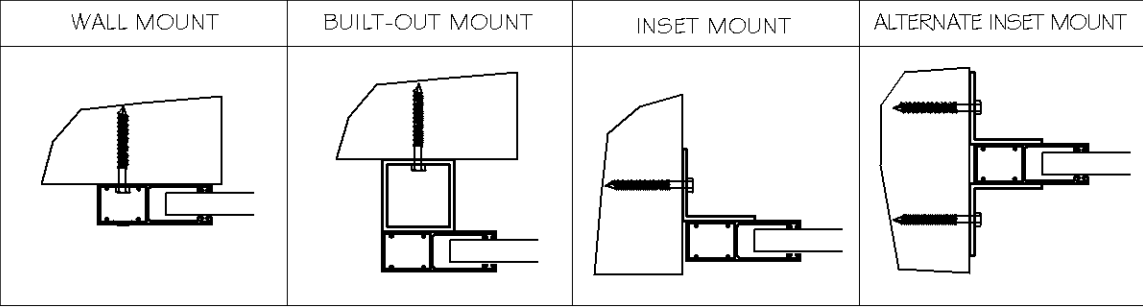
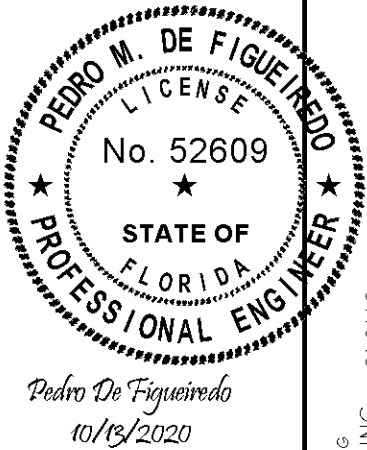


TABLE 6 - RE400 STD AND HD - GUIDE RAIL ANCHORAGE DESIGN



ENGINEERING
ENGCO INC. - CA 8116
9715 W. BROWARD BLVD.
PLANTATION, FL 33324
ENGCO@AOL.COM
ENGINEER SEAL
PEDRO DE FIGUEIREDO
PE 52609

TABLE 6 - RE400 STD AND HD MAXIMUM TRACK ANCHORAGE SPACING

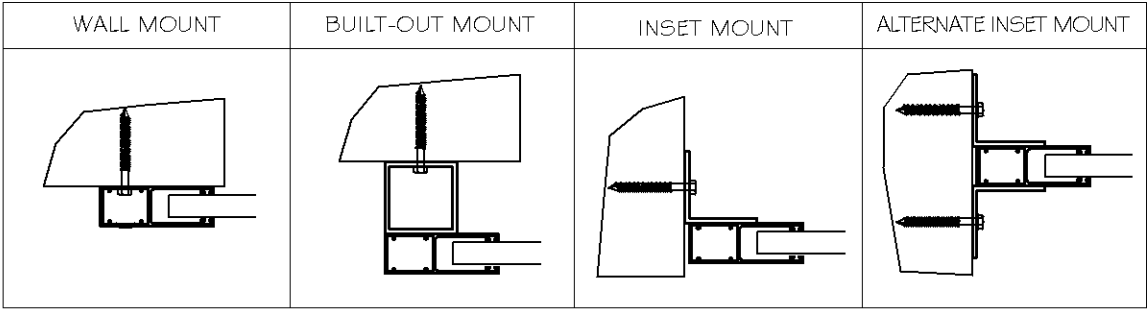
Pd	SPAN/A	WALL MOUNT ANCHOR TYPE				BUILT-OUT MOUNT ANCHOR TYPE				INSET MOUNT ANCHOR TYPE				ALTERNATE INSET MOUNT ANCHOR TYPE			
		B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	
30	73	9	-	9	9	6	-	6	6	6	5	6	6	9	9	9	9
	60	9	4	9	9	6	4	6	6	6	6	6	6	9	9	9	9
	50	9	5	9	9	6	5	6	6	6	7	6	6	9	9	9	9
	40	9	6	9	9	6	6	6	6	6	9	6	6	9	9	9	9
	30	9	8	9	9	6	6	6	6	6	9	6	6	9	9	9	9
45	73	9	-	6	8	6	-	6	6	6	-	6	6	9	8	9	9
	60	9	-	8	9	6	-	6	6	6	4	6	6	9	9	9	9
	50	9	-	9	9	6	-	6	6	6	5	6	6	9	9	9	9
	40	9	4	9	9	6	4	6	6	6	6	6	6	9	9	9	9
	30	9	5	9	9	6	5	6	6	6	8	6	6	9	9	9	9
55	73	8	-	5	6	6	-	5	6	6	-	6	6	9	6	9	9
	60	9	-	6	8	6	-	6	6	6	-	6	6	9	8	9	9
	50	9	-	8	9	6	-	6	6	6	4	6	6	9	9	9	9
	40	9	-	9	9	6	-	6	6	6	5	6	6	9	9	9	9
	30	9	4	9	9	6	4	6	6	6	7	6	6	9	9	9	9
65	73	7	-	4	5	6	-	4	5	6	-	5	6	9	5	9	9
	60	9	-	5	6	6	-	5	6	6	-	6	6	9	7	9	9
	50	9	-	6	8	6	-	6	6	6	-	6	6	9	8	9	9
	40	9	-	8	9	6	-	6	6	6	4	6	6	9	9	9	9
	30	9	4	9	9	6	4	6	6	6	5	6	6	9	9	9	9
75	73	6	-	4	4	6	-	4	4	6	-	4	6	9	4	9	9
	60	7	-	4	5	6	-	4	5	6	-	5	6	9	6	9	9
	50	9	-	5	7	6	-	5	6	6	-	6	6	9	7	9	9
	40	9	-	7	8	6	-	6	6	6	-	6	6	9	9	9	9
	30	9	-	9	9	6	-	6	6	6	5	6	6	9	9	9	9
85	60	6	-	4	5	6	-	4	5	6	-	5	6	9	5	9	9
	50	8	-	5	6	6	-	5	6	6	-	6	6	9	6	9	9
	40	9	-	6	7	6	-	6	6	6	-	6	6	9	8	9	9
	30	9	-	8	9	6	-	6	6	6	4	6	6	9	9	9	9
	24	9	-	9	9	6	-	6	6	6	5	6	6	9	9	9	9
95	50	7	-	4	5	6	-	4	5	6	-	5	6	9	5	9	9
	40	9	-	5	7	6	-	5	6	6	-	6	6	9	7	9	9
	30	9	-	7	9	6	-	6	6	6	4	6	6	9	9	9	9
	24	9	-	9	9	6	-	6	6	6	5	6	6	9	9	9	9
	40	6	-	4	4	6	-	4	4	6	-	4	6	9	5	9	9
135	30	8	-	5	6	6	-	5	6	6	-	6	6	9	6	9	9
	24	9	-	6	8	6	-	6	6	6	-	6	6	9	8	9	9
	40	5	-	3	4	5	-	3	4	6	-	4	5	9	4	9	9
	30	7	-	4	5	6	-	4	5	6	-	5	6	9	5	9	9
	24	9	-	6	7	6	-	6	6	6	-	6	6	9	7	9	9
155	40	5	-	3	4	5	-	3	4	6	-	4	5	9	4	9	9
	30	7	-	4	5	6	-	4	5	6	-	5	6	9	5	9	9
	24	9	-	6	7	6	-	6	6	6	-	6	6	9	7	9	9
	40	5	-	3	4	5	-	3	4	6	-	4	5	9	4	9	9
	30	7	-	4	5	6	-	4	5	6	-	5	6	9	5	9	9
160	24	9	-	5	6	6	-	5	6	6	-	6	6	9	7	9	9

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ANCHOR SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	EMBEDMENT	ED	BASE MATERIAL
A	1/4" ss TAPCON	ITW	1 3/4"	3"	3000 psi CONCRETE
B	1/4" ss TAPCON	ITW	1 1/4"	4"	HOLLOW BLOCK
C	1/4"-14 ss HHSMS	GENERIC	1 1/2"	1"	WOOD (SG>= .46)
D	1/4"-14 ss HHSMS	GENERIC	1/8"	3/4"	1/8" METAL STRUCTURE

ANCHOR NOTES:
1- 1/4" TAPCONS CAN BE USED AS TYPE C INTO WOOD
2- 1/4" CARBON STEEL TAPCONS CAN BE USED AS AN ALTERNATE TO THE STAINLESS STEEL
3- METAL STRUCTURES ARE MADE OF MINIMUM 6063-T6 ALUMINUM OR ASTM A36 STEEL



PRODUCT:

ROLL UP SHUTTER SYSTEMS
RE1000, RE1500, RE600 & RE400
LARGE MISSILE IMPACT RESISTANT

MANUFACTURER:

ROLLER STAR USA

6278 N. FEDERAL HWY #162
FORT LAUDERDALE, FL 33308
TEL: 954-972-4772
WWW.ROLLERSTARUSA.COM

SCALE:
NA
DATE:
10/13/2020
DRAWING #
20-165
SHEET
9 OF 12

TABLE 7 AND 7A - REGOO STD AND HD - GUIDE RAIL ANCHORAGE DESIGN

TABLE 7 - RE600 STD MAXIMUM TRACK ANCHORAGE SPACING

Pd	SPAN A	WALL MOUNT ANCHOR TYPE				BUILT-OUT MOUNT ANCHOR TYPE				INSET MOUNT ANCHOR TYPE				ALTERNATE INSET MOUNT ANCHOR TYPE			
		B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	
30	92	9	-	9	9	6	4	6	6	6	-	6	6	9	9	9	9
	72	9	4	9	9	6	6	6	6	6	4	6	6	9	9	9	9
	60	9	5	9	9	6	6	6	6	6	5	6	6	9	9	9	9
	48	9	6	9	9	6	6	6	6	6	6	6	6	9	9	9	9
	36	9	8	9	9	6	6	6	6	6	6	6	6	9	9	9	9
45	92	9	-	6	7	6	-	6	6	6	-	5	6	9	7	9	9
	72	9	-	8	9	6	4	6	6	6	-	6	6	9	9	9	9
	60	9	-	9	9	6	4	6	6	6	-	6	6	9	9	9	9
	48	9	4	9	9	6	6	6	6	6	4	6	6	9	9	9	9
	36	9	5	9	9	6	6	6	6	6	6	6	6	9	9	9	9
55	84	8	-	5	6	6	-	6	6	6	-	5	6	9	6	9	9
	72	9	-	6	7	6	-	6	6	6	-	6	6	9	7	9	9
	60	9	-	7	9	6	-	6	6	6	-	6	6	9	9	9	9
	48	9	-	9	9	6	4	6	6	6	4	6	6	9	9	9	9
	36	9	4	9	9	6	6	6	6	6	5	6	6	9	9	9	9
65	84	7	-	4	5	6	-	6	6	6	-	4	5	9	5	9	9
	72	8	-	5	6	6	-	6	6	6	-	5	6	9	6	9	9
	60	9	-	6	7	6	-	6	6	6	-	6	6	9	7	9	9
	48	9	-	8	9	6	4	6	6	6	-	6	6	9	9	9	9
	36	9	-	9	9	6	5	6	6	6	4	6	6	9	9	9	9
75	84	6	-	4	4	6	-	5	6	5	-	3	5	9	4	9	9
	72	7	-	4	5	6	-	6	6	6	-	4	6	9	5	9	9
	60	9	-	5	6	6	-	6	6	6	-	5	6	9	6	9	9
	48	9	-	7	8	6	-	6	6	6	-	6	6	9	8	9	9
	36	9	-	9	9	6	4	6	6	6	-	6	6	9	9	9	9
85	72	6	-	4	5	6	-	5	6	6	-	3	5	9	4	9	9
	60	8	-	5	6	6	-	6	6	6	-	4	6	9	5	9	9
	48	9	-	6	7	6	-	6	6	6	-	5	6	9	7	9	9
	36	9	-	8	9	6	4	6	6	6	-	6	6	9	9	9	9
	72	5	-	3	4	6	-	5	6	5	-	3	4	9	4	9	9
95	60	7	-	4	5	6	-	6	6	6	-	4	5	9	5	9	9
	48	8	-	5	6	6	-	6	6	6	-	5	6	9	6	9	9
	36	9	-	7	9	6	-	6	6	6	-	6	6	9	8	9	9
	72	5	-	3	4	6	-	5	6	5	-	3	4	9	4	9	9
135	60	5	-	3	3	6	-	4	5	4	-	-	4	9	3	7	9
	48	6	-	4	4	6	-	5	6	5	-	3	5	9	4	9	9
	36	8	-	5	6	6	-	6	6	6	-	4	6	9	6	9	9
	72	5	-	3	4	6	-	5	6	5	-	3	4	9	4	9	9
155	60	4	-	3	3	6	-	3	4	4	-	-	3	9	3	6	9
	48	5	-	3	4	6	-	4	5	5	-	3	4	9	3	8	9
	36	7	-	4	5	6	-	6	6	6	-	4	5	9	5	9	9
	72	5	-	3	4	6	-	5	6	5	-	3	4	9	4	9	9
160	50	5	-	3	3	6	-	4	5	4	-	-	4	9	3	7	9
	36	7	-	4	5	6	-	6	6	6	-	4	5	9	5	9	9
	72	5	-	3	4	6	-	5	6	5	-	3	4	9	4	9	9
	30	8	-	5	6	6	-	6	6	6	-	4	6	9	6	9	9

ANCHOR SCHEDULE

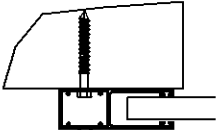
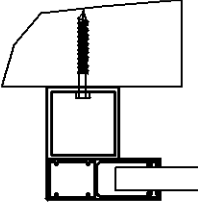
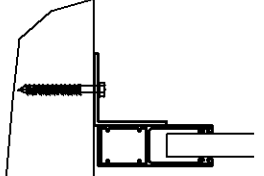
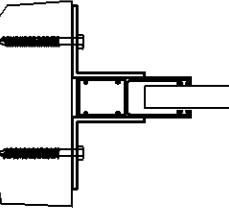
TYPE	DESCRIPTION	MANUFACTURER	EMBEDMENT	ED	BASE MATERIAL
A	1/4" ss TAPCON	ITW	1 3/4"	3"	3000 psi CONCRETE
B	1/4" ss TAPCON	ITW	1 1/4"	4"	HOLLOW BLOCK
C	1/4"-14 ss HHSMS	GENERIC	1 1/2"	1"	WOOD (<SG>= .46)
D	1/4"-14 ss HHSMS	GENERIC	1/8"	3/4"	1/8" METAL STRUCTURE

ANCHOR NOTES:

- 1- 1/4" TAPCONS CAN BE USED AS TYPE C INTO WOOD
2- 1/4" CARBON STEEL TAPCONS CAN BE USED AS AN ALTERNATE TO THE STAINLESS STEEL
3- METAL STRUCTURES ARE MADE OF MINIMUM 6063-T6 ALUMINUM OR ASTM A36 STEEL

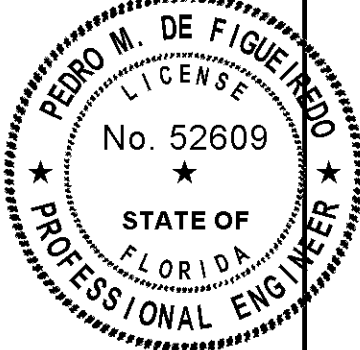
TABLE 7A - RE600 HD MAXIMUM TRACK ANCHORAGE SPACING

Pd	SPAN A	WALL MOUNT ANCHOR TYPE				BUILT-OUT MOUNT ANCHOR TYPE				INSET MOUNT ANCHOR TYPE				ALTERNATE INSET MOUNT ANCHOR TYPE			
		B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	
30	106	9	-	7	8	6	-	6	6	6	-	6	6	9	7	9	9
	102	9	-	7	9	6	-	6	6	6	-	6	6	9	8	9	9
	84	9	-	9	9	6	4	6	6	6	-	6	6	9	9	9	9
	60	9	4	9	9	6	5	6	6	6	4	6	6	9	9	9	9
	48	9	5	9	9	6	6	6	6	6	6	6	6	9	9	9	9
45	132	6	-	3	4	6	-	4	5	5	-	3	4	9	4	9	9
	108	7	-	4	5	6	-	5	6	6	-	4	5	9	5	9	9
	84	9	-	6	7	6	-	6	6	6	-	5	6	9	6	9	9
	60	9	-	8	9	6	-	6	6	6	-	6	6	9	9	9	9
	48	9	-	9	9	6	4	6	6	6	4	6	6	9	9	9	9
55	108	6	-	3	4	6	-	4	5	5	-	3	4	9	4	9	9
	84	8	-	5	6	6	-	6	6	6	-	4	5	9	5	9	9
	60	9	-	7	8	6	-	6	6	6	-	6	6	9	7	9	9
	48	9	-	8	9	6	-	6	6	6	-	6	6	9	9	9	9
	36	9	4	9	9	6	5	6	6	6	4	6	6	9	9	9	9
65	108	5	-	3	3	6	-	4	4	4	-	-	3	9	3	7	9
	84	6	-	4	5	6	-	5	6	5	-	3	4	9	4	9	9
	60	9	-	6	7	6	-	6	6	6	-	5	6	9	6	9	9
	48	9	-	7	8	6	-	6	6	6	-	6	6	9	7	9	9
	36	9	-	9	9	6	4	6	6	6	-	6	6	9	9	9	9
75	96	5	-	3	3	6	-	4	4	4	-	-	3	9	3	7	9
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	60	8	-	5	6	6	-	6	6	6	-	4	6	9	5	9	9
	48	9	-	6	7	6	-	6	6	6	-	5	6	9	6	9	9
	36	9	-	8	9	6	-	6	6	6	-	6	6	9	9	9	9
85	96	4	-	-	3	5	-	3	4	-	-	-	3	9	3	6	9
	84	5	-	3	3	6	-	4	4	4	-	-	3	9	3	7	9
	60	7	-	4	5	6	-	5	6	6	-	4	5	9	4	9	9
	48	9	-	5	6	6	-	6	6	6	-	5	6	9	6	9	9
	36	9	-	7	9	6	-	6	6	6	-	6	6	9	8	9	9
95	84	4	-	-	3	5	-	3	4	4	-	-	3	9	3	6	9
	60	6	-	4	4	6	-	5	6	5	-	3	4	9	4	9	9
	48	8	-	5	6	6	-	6	6	6	-	4	5	9	5	9	9
	36	9	-	6	8	6	-	6	6	6	-	5	6	9	7	9	9
	72	5	-	3	3	6	-	4	5	4	-	-	4	9	3	7	9
135	84	-	-	-	-	4	-	-	3	-	-	-	7	-	4	6	9
	60	4	-	-	3	5	-	3	4	-	-	-	3	9	3	6	9
	48	5	-	3	4	6	-	4	5	4	-	3	4	9	3	8	9
	36	7	-	4	5	6	-	5	6	6	-	4	5	9	5	9	9
	72	5	-	3	3	6	-	4	5	4	-	-	3	9	3	7	9
155	60	-	-	-	3	4	-	3	3	-	-	-	-	9	-	5	8
	48	4	-	3	3	6	-	3	4	4	-	-	3	9	3	7	9
	36	6	-	4	5	6	-	5	6	5	-	3	4	9	4	9	9
	72	5	-	3	3	6	-	4	5	4	-	-	3	9	3	7	9
	36	6	-	4	4	6	-	5	6	5	-	3	4	9	4	9	9
160	60	-	-	-	-	4	-	3	3	-	-	-	-	8	-	5	7
	48	4	-	3	3	5	-	3	4	4	-	-	3	9	3	7	9
	36	6	-	4	4	6	-	5	6	5	-	3	4	9	4	9	9
	72	5	-	3	3	6	-	4	5	4	-	-	3	9	3	7	9

WALL MOUNT	BUILT-OUT MOUNT	INSET MOUNT	ALTERNATE INSET MOUNT
			

PRODUCT COMPONENTS

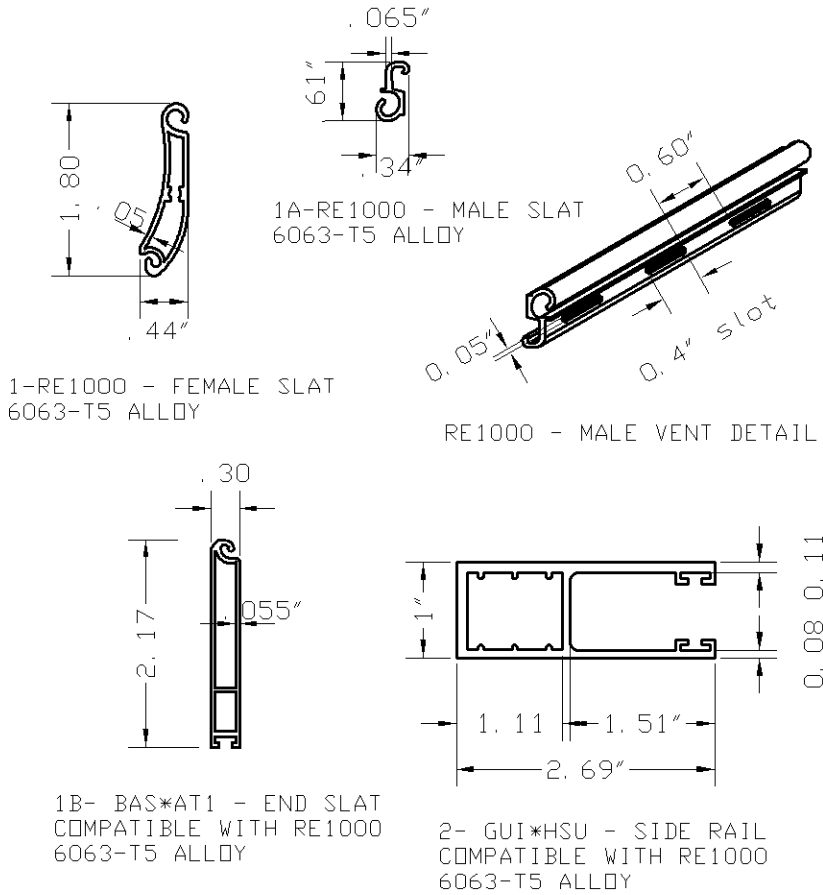
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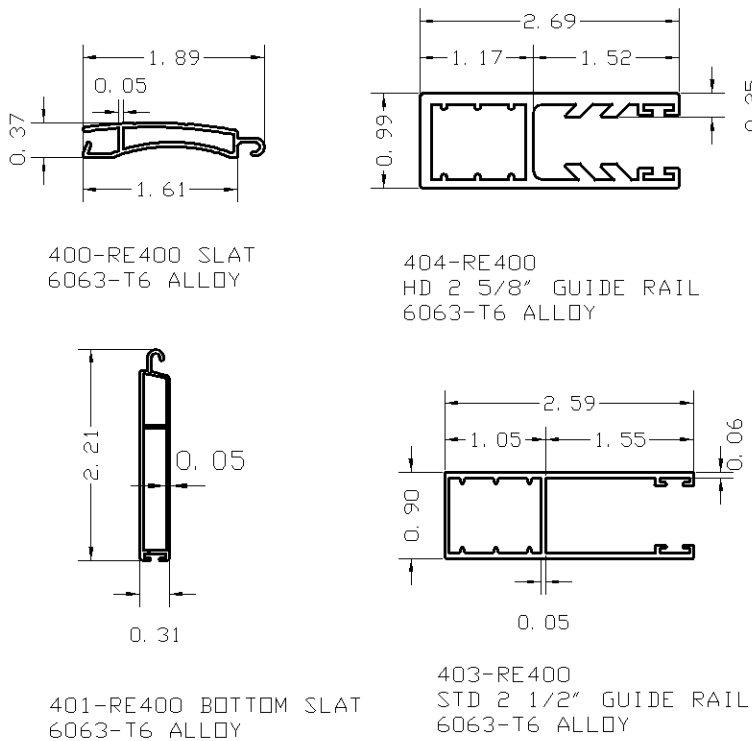
Pedro De Figueiredo
10/13/2020

ENGINEERING
ENGCO INC. - CA 8116
9715 W. BROWARD BLVD.
PLANTATION, FL 33324
ENGCO@AOL.COM
ENGINEER SEAL
PEDRO DE FIGUEIREDO
PE 52609

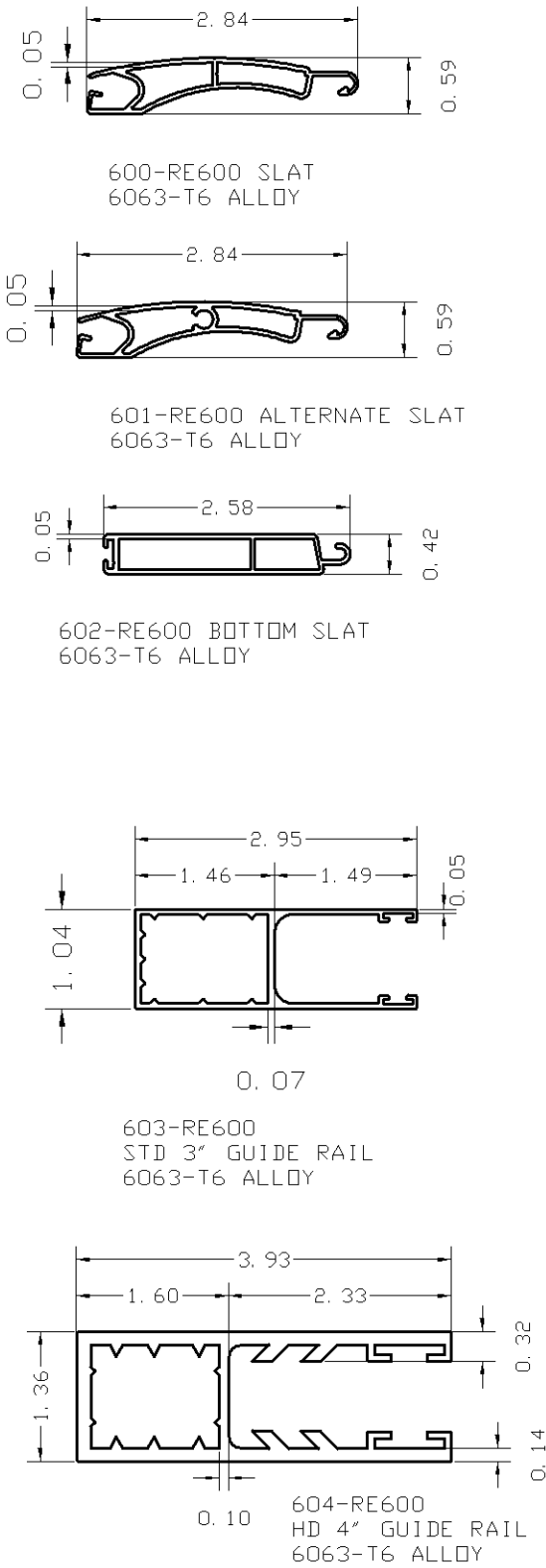
RE1000 PRODUCT COMPONENTS



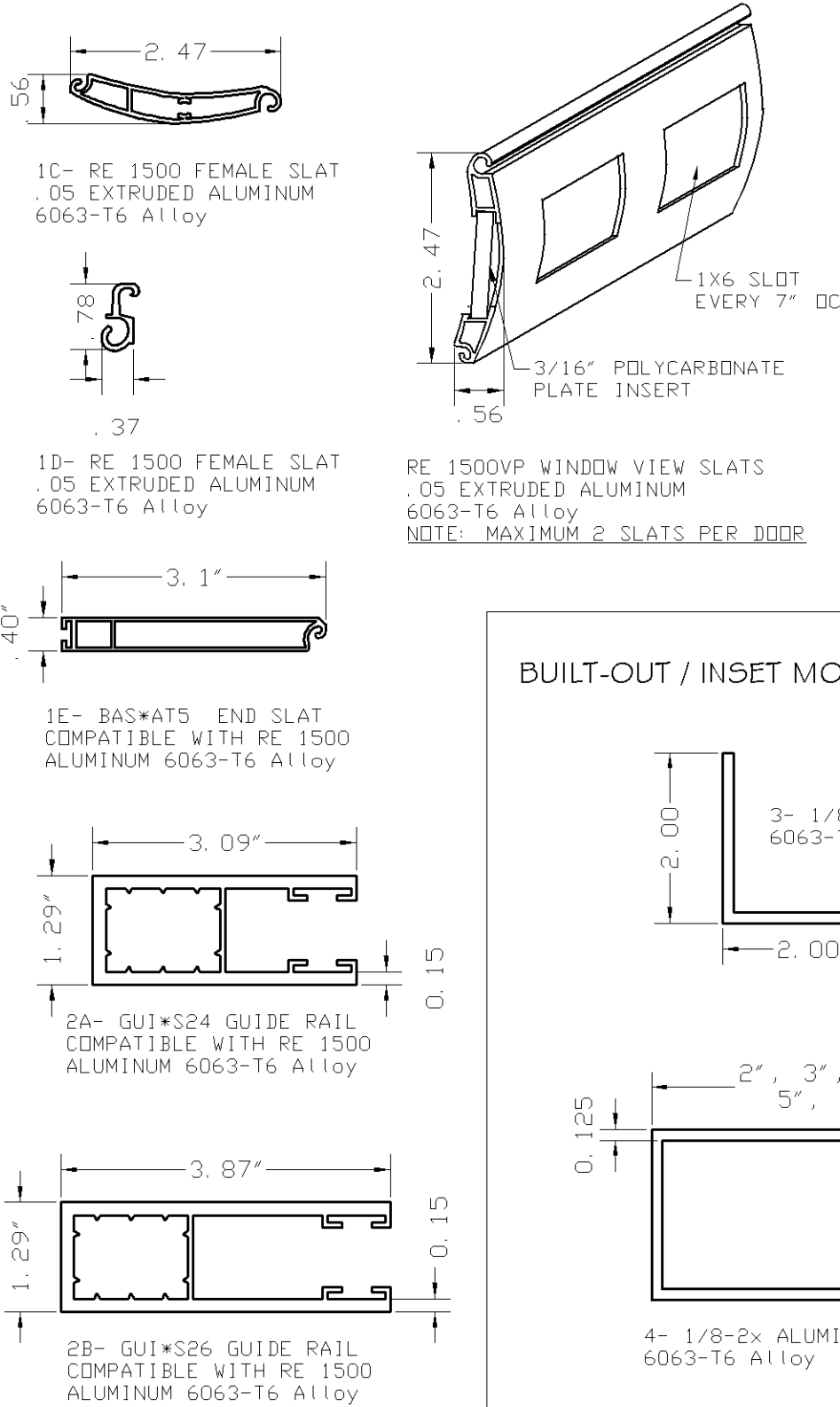
RE400 COMPONENTS



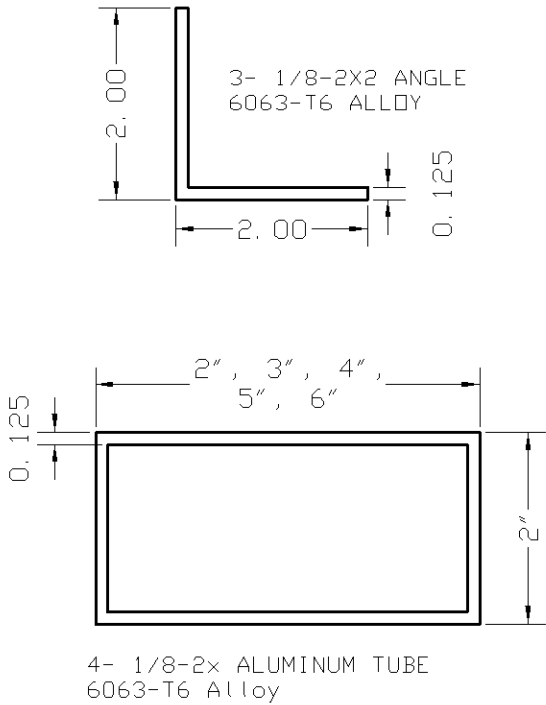
REG00 COMPONENTS



RE1500 PRODUCT COMPONENTS



BUILT-OUT / INSET MOUNT COMPONENTS



PRODUCT:
ROLL UP SHUTTER SYSTEMS
RE1000, RE1500, REG00 & RE400
LARGE MISSILE IMPACT RESISTANT

MANUFACTURER:
ROLLER STAR USA
6278 N. FEDERAL HWY #162
FORT LAUDERDALE, FL 33308
TEL: 954-972-4772
WWW.ROLLERSTARUSA.COM

SCALE:
NA

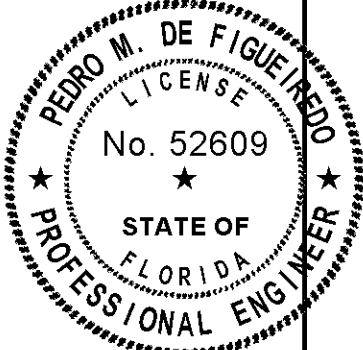
DATE:
10/13/2020

DRAWING #
20-165

SHEET
11 OF 12

HOUSING ASSEMBLY

STD. HOOD / END CAP
WALL MOUNT



Pedro De Figueiredo
10/13/2020

ENGINEERING
ENGCO INC. - CA 8116
9715 W. BROWARD BLVD.
PLANTATION, FL 33324
ENGCO@AOL.COM

PRODUCT:
ROLL UP SHUTTER SYSTEMS
RE1000, RE1500, RE600 & RE400
LARGE MISSILE IMPACT RESISTANT

MANUFACTURER:
ROLLER STAR USA

6278 N. FEDERAL HWY #162
FORT LAUDERDALE, FL 33308
TEL: 954-972-4772
WWW.ROLLERSTARUSA.COM

SCALE:
NA
DATE:
10/13/2020
DRAWING #
20-165
SHEET
12 OF 12

MINIMUM HOUSING THICKNESS
 $t \geq 0.04"$ FOR 8" OR GREATER HOUSING
 $t = 0.032$ FOR 8" OR LESSER HOUSING

#8 TEKS SCREWS

GALVANIZED STEEL
OR ALUMINUM TUBE

Slats

Gear Assembly

Motor Assembly

FRONT HOOD OPTIONS
SLOPED, ROUND & SQUARE

CUSTOM HOOD / BRACKET
WALL MOUNT

2 ANCHORS BRACKET

3 ANCHORS BRACKET

4 ANCHORS BRACKET

PIVOT

PRODUCT COVER

NON STRUCTURAL
HEADER (1X2 OR 1X3)
USE WHEN NECESSARY TO AVOID
HOOD SAGGING ON LARGER SPANS

1/4" TAPCON AT 12" OC

#10 TEKS AT 12" OC

HOUSING W/ BRACKETS

BUILT-OUT
OPTION

#14X3/4" SDS

STEEL OR
ALUMINUM REEL

PRODUCT FRONT
HOOD COVER

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 PRODUCT OPERATION.

BEARING
PLATE

1/4" TAPCONS AT 12" OC

HOUSING W/
END CAPS