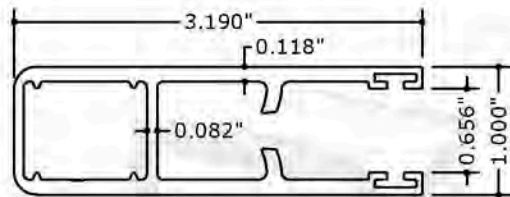


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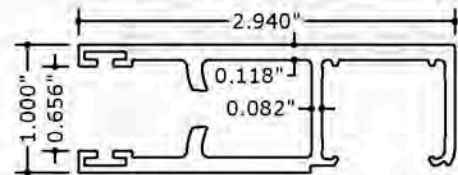
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MAGNUM 3.57

END-RETENTION RAIL

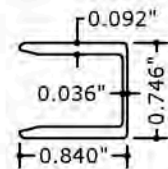
① 8" = 1'-0" 6063-T5 ALUM.



SNAP RAIL

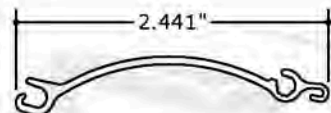
END-RETENTION RAIL

② 8" = 1'-0" 6063-T5 ALUM.



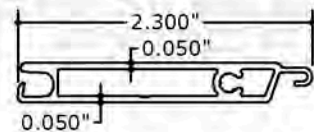
END-RETENTION RAIL INSERT

③ 8" = 1'-0" PLASTIC



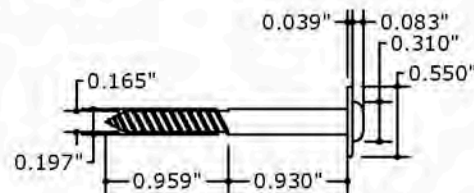
SINGLE WALL SLAT

④ 8" = 1'-0" 6063-T5 ALUM.



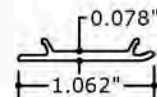
BASE SLAT

⑤ 8" = 1'-0" 6063-T5 ALUM.



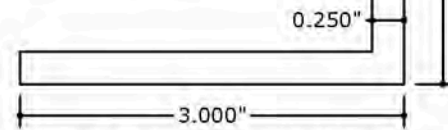
RETAINING SCREW

⑥ 8" = 1'-0" 304 S.S.



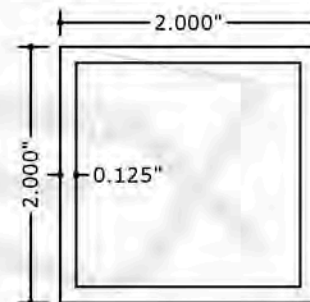
END-RETENTION RAIL SNAP COVER

⑦ 8" = 1'-0" 6063-T5 ALUM.



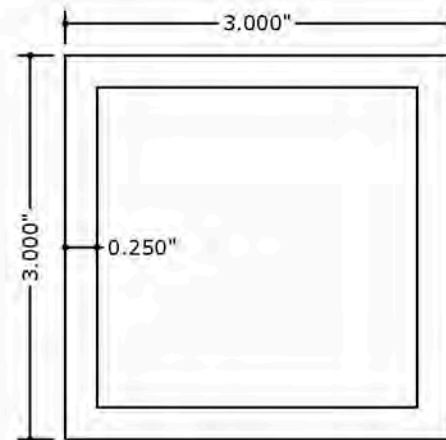
3"x3"x0.250" ANGLE

⑧ 8" = 1'-0" 6063-T5 ALUM.



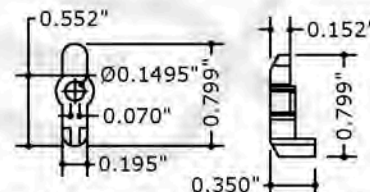
2"x2"x0.125" TUBE

⑨ 8" = 1'-0" 6063-T5 ALUM.



3"x3"x0.250" TUBE

⑩ 8" = 1'-0" 6063-T5 ALUM.



SLAT SIDE LOCK

⑪ 8" = 1'-0" BAYBLEND T85 POLYCARB.

ALLOWABLE SLAT SPAN SCHEDULES:

SPAN SCHEDULE 1 MAGNUM 3.57 RETENTION SHUTTER WITH SINGLE WALL SLATS

SLAT SPAN	ALLOWABLE DESIGN PRESSURE
48.0"	± 206.7 PSF
56.0"	± 163.4 PSF
64.0"	± 139.9 PSF
72.0"	± 125.6 PSF
80.0"	± 116.1 PSF
88.0"	± 109.3 PSF
96.0"	± 104.2 PSF
104.0"	± 100.0 PSF
112.0"	± 96.6 PSF
120.0"	± 93.6 PSF
128.0"	± 91.1 PSF
136.0"	± 88.8 PSF
144.0"	± 86.7 PSF
152.0"	± 81.3 PSF
160.0"	± 76.6 PSF
168.0"	± 72.4 PSF
176.0"	± 68.7 PSF
184.0"	± 65.4 PSF
192.0"	± 62.4 PSF
200.0"	± 59.7 PSF
208.0"	± 57.3 PSF
216.0"	± 55.0 PSF

SPAN SCHEDULE 2 SNAP RAIL RETENTION SHUTTER WITH SINGLE WALL SLATS

SLAT SPAN	ALLOWABLE DESIGN PRESSURE
48.0"	± 130.0 PSF
56.0"	± 95.0 PSF
64.0"	± 77.7 PSF
72.0"	± 68.3 PSF
80.0"	± 62.8 PSF
88.0"	± 59.3 PSF
96.0"	± 56.9 PSF
104.0"	± 55.1 PSF
112.0"	± 53.8 PSF
120.0"	± 52.6 PSF
128.0"	± 51.7 PSF
136.0"	± 50.8 PSF
144.0"	± 50.0 PSF

SEPARATION FROM GLAZING SCHEDULES*:

GLASS SEPARATION SCHEDULE

MAGNUM 3.57 END RETENTION SHUTTER WITH SINGLE WALL SLATS*

SLAT SPAN	INSTALLATIONS ≤ 30' ABOVE GRADE	INSTALLATIONS > 30' ABOVE GRADE
48.0"	6.1"	6.1"
56.0"	14.0"	6.4"
64.0"	14.0"	6.8"
72.0"	14.0"	7.2"
80.0"	14.0"	7.5"
88.0"	14.0"	7.9"
96.0"	14.0"	8.3"
104.0"	14.0"	8.6"
112.0"	14.0"	8.9"
120.0"	14.0"	9.3"
128.0"	14.0"	9.6"
136.0"	14.0"	9.9"
144.0"	14.0"	10.3"
152.0"	12.2"	10.6"
160.0"	12.2"	11.0"
168.0"	12.2"	11.3"
176.0"	12.2"	11.7"
184.0"	12.2"	12.0"
192.0"	12.4"	12.4"
200.0"	12.7"	12.7"
208.0"	13.1"	13.1"
216.0"	13.4"	13.4"

GLASS SEPARATION SCHEDULE

SNAP RAIL END RETENTION SHUTTER WITH SINGLE WALL SLATS*

SLAT SPAN	INSTALLATIONS ≤ 30' ABOVE GRADE	INSTALLATIONS > 30' ABOVE GRADE
48.0"	9.0"	5.6"
56.0"	10.2"	6.0"
64.0"	10.2"	6.4"
72.0"	10.2"	6.8"
80.0"	10.2"	7.2"
88.0"	10.2"	7.5"
96.0"	10.2"	7.8"
104.0"	10.2"	8.1"
112.0"	10.2"	8.5"
120.0"	10.2"	8.8"
128.0"	10.2"	9.1"
136.0"	10.2"	9.4"
144.0"	10.2"	9.7"

SPAN AND GLAZING SEPARATION NOTES:

- SLAT SPAN IS DEFINED AS THE DISTANCE BETWEEN RAILS.
- SEPARATION FROM GLAZING IS ONLY REQUIRED IN ASTM WIND ZONE 4 OR ESSENTIAL FACILITIES AS DEFINED IN ASTM E1996.
- LINEAR INTERPOLATION BETWEEN SHUTTER SPANS IS NOT PERMITTED. FOR SPANS BETWEEN THOSE INDICATED ABOVE, THE SEPARATION FROM GLASS AND/OR DESIGN PRESSURE FOR THE NEXT HIGHER SPAN SHALL BE USED.

* NOTE: APPLIES TO INSTALLATIONS
LOCATED WITHIN WIND ZONE 4 OR
ESSENTIAL FACILITIES.

FRANK BENNARDI, P.E.
PE# 0046549 CA# 9885

AUGUST 21, 2023



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FLORIDA BUILDING CODE EIGHTH EDITION (2023)
FLORIDA STATEWIDE APPROVAL (FSA FL #17344.1)

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2023 FBC UPDATE	MRT	ER/RN	08/10/23

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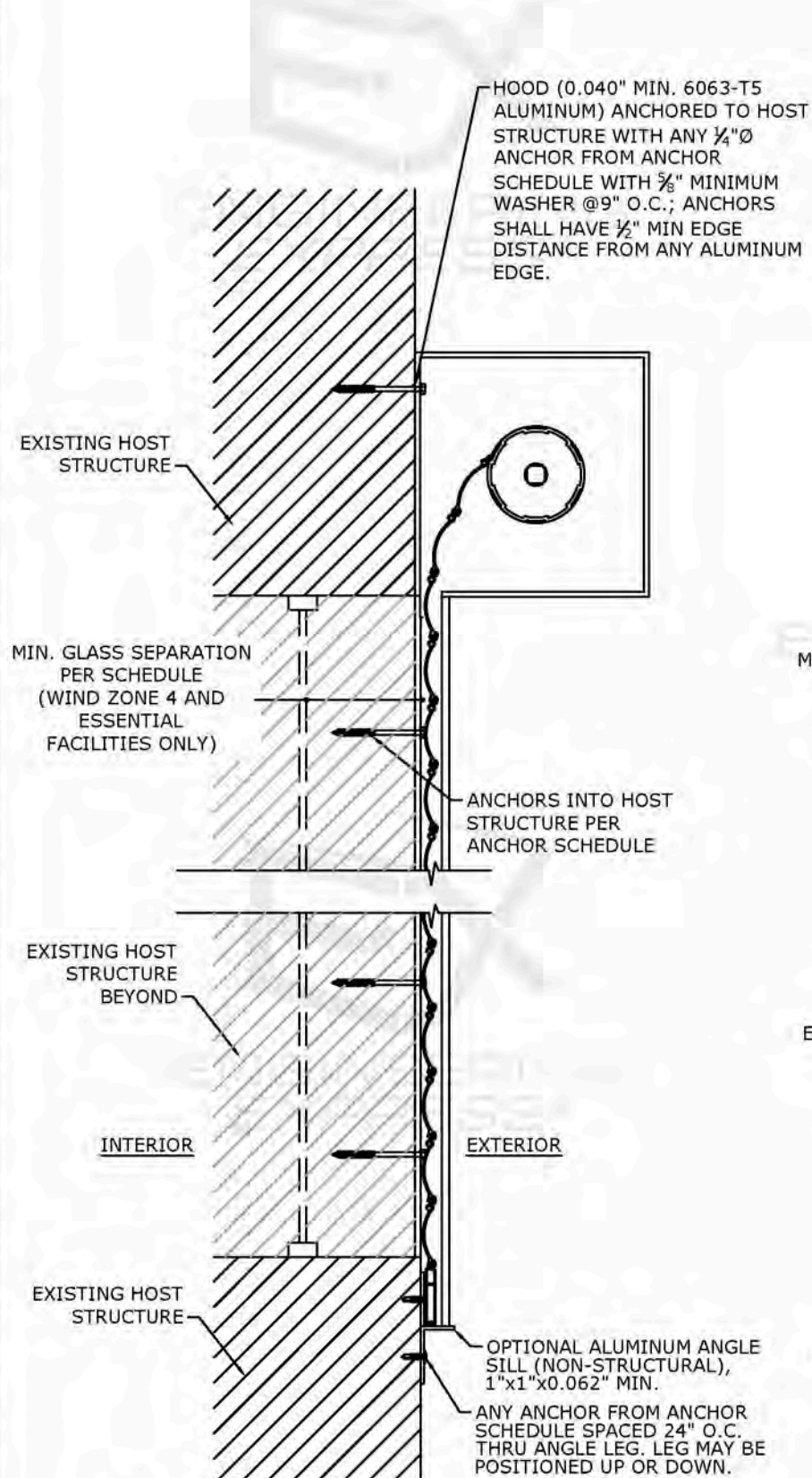
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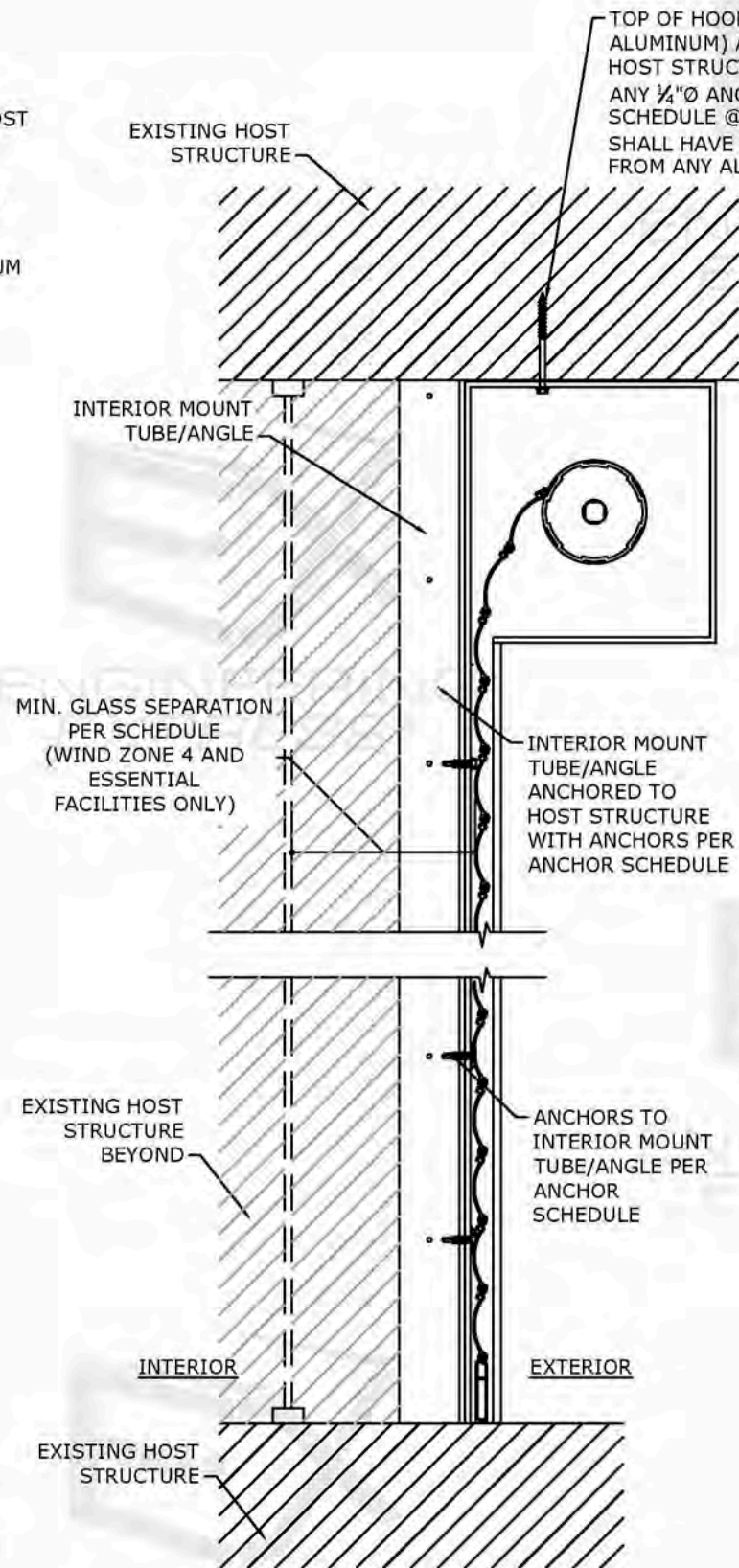
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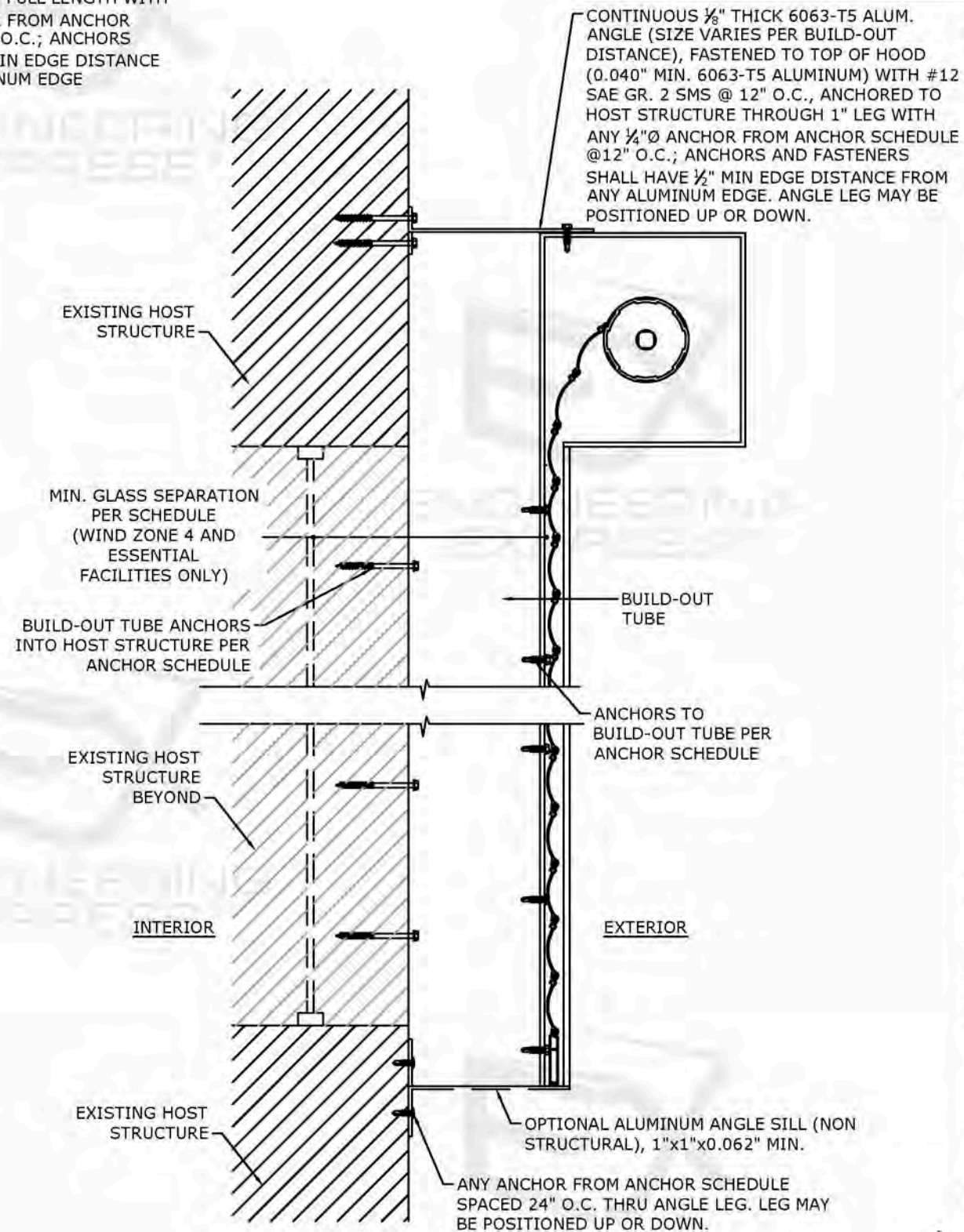
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1 TYPICAL WALL MOUNT
4 N.T.S. VERT SECTION



2 TYPICAL INTERIOR MOUNT
4 N.T.S. VERT SECTION



3 BUILD-OUT WALL MOUNT
4 N.T.S. VERT SECTION

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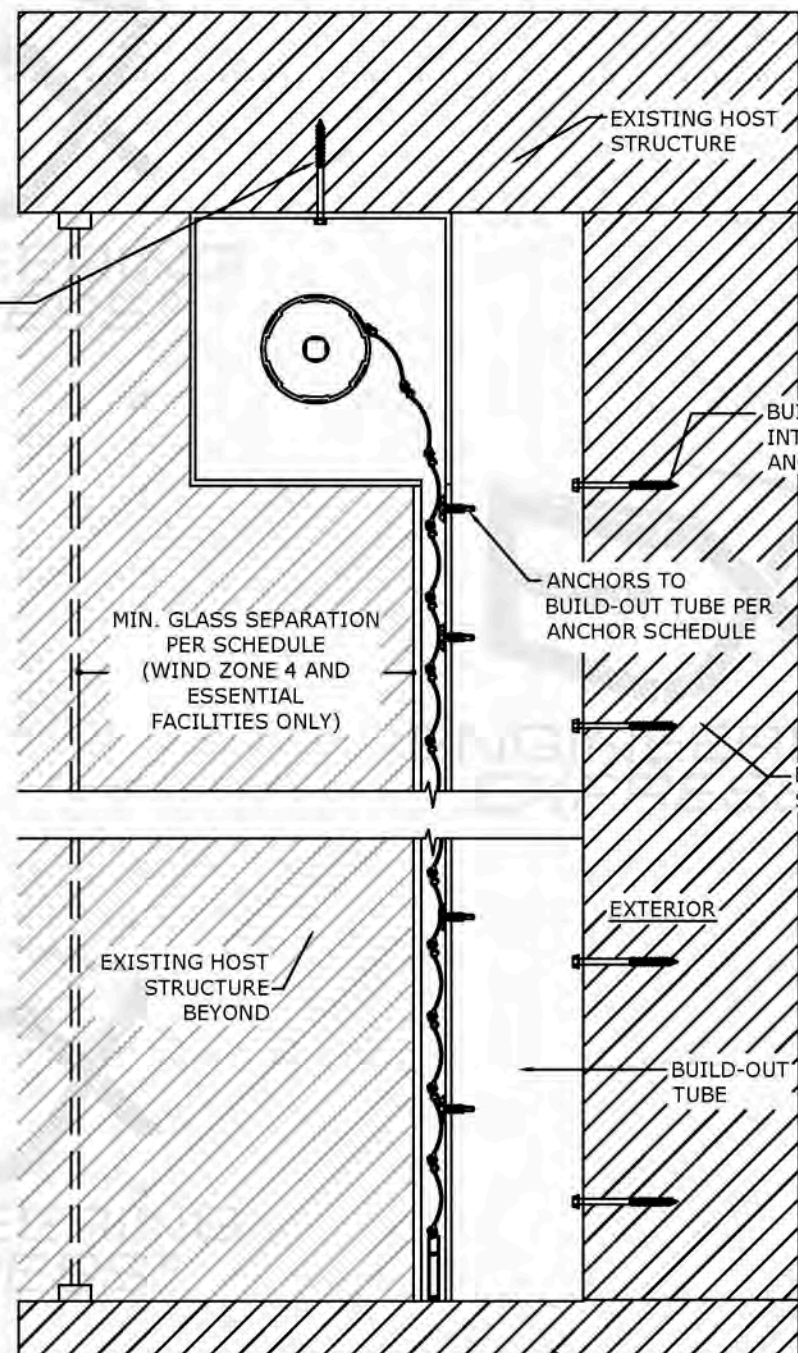
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AUGUST 21, 2023



HOOD (0.040" MIN. 6063-T5 ALUMINUM) ANCHORED TO HOST STRUCTURE WITH ANY 1/4"Ø ANCHOR FROM ANCHOR SCHEDULE WITH 3/8" MINIMUM WASHER @6" O.C.; ANCHORS SHALL HAVE 1/2" MIN EDGE DISTANCE FROM ANY ALUMINUM EDGE.

INTERIOR



REVERSE BUILD-OUT WALL MOUNT

1
5

N.T.S.

VERT SECTION

NOTE: THIS DETAIL IS INTENDED FOR SHUTTERS WITH THE MAGNUM 3.57 END RETENTION RAIL ONLY.

TOP OF HOOD (0.040" MIN. 6063-T5 ALUMINUM) ANCHORED TO EXISTING HOST STRUCTURE FULL LENGTH WITH ANY 1/4"Ø ANCHOR FROM ANCHOR SCHEDULE @ 12" O.C.; ANCHORS SHALL HAVE 1/2" MIN EDGE DISTANCE FROM ANY ALUMINUM EDGE

EXISTING HOST STRUCTURE

INTERIOR MOUNT TUBE/ANGLE

INTERIOR MOUNT TUBE/ANGLE ANCHORED TO HOST STRUCTURE WITH ANCHORS PER ANCHOR SCHEDULE

MIN. GLASS SEPARATION PER SCHEDULE (WIND ZONE 4 AND ESSENTIAL FACILITIES ONLY)

ANCHORS TO INTERIOR MOUNT TUBE/ANGLE PER ANCHOR SCHEDULE

EXISTING HOST STRUCTURE BEYOND

INTERIOR

EXTERIOR

EXISTING HOST STRUCTURE

REVERSE INTERIOR MOUNT

2
5

N.T.S.

VERT SECTION

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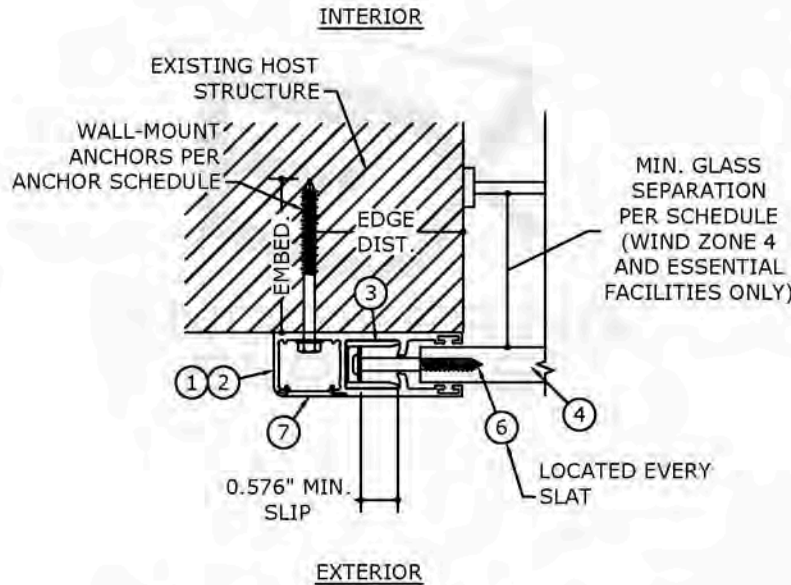
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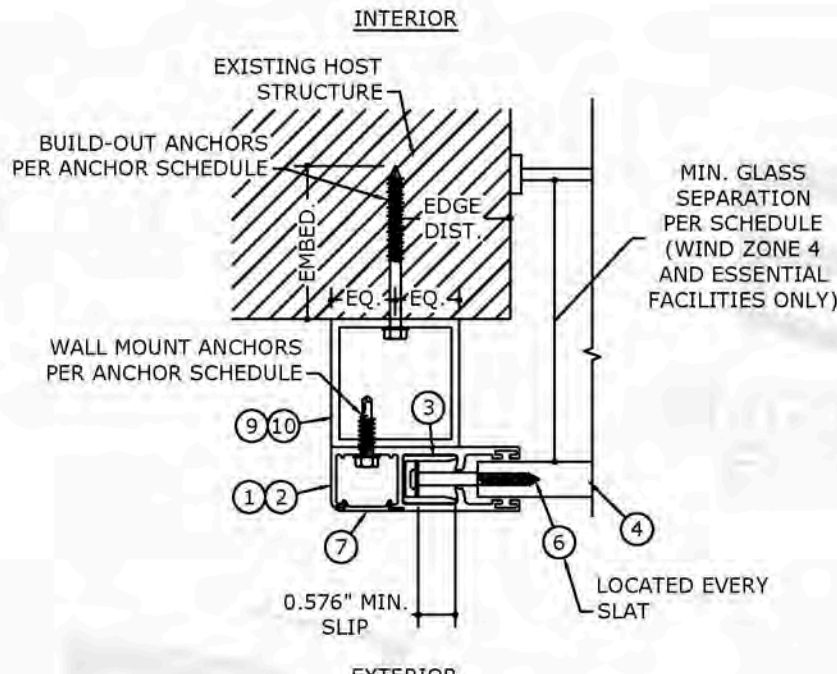
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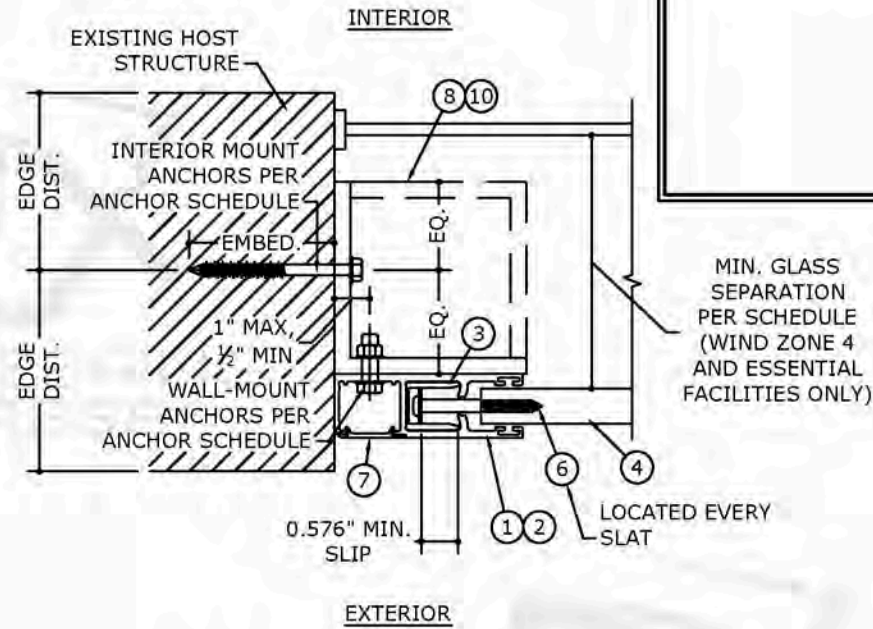
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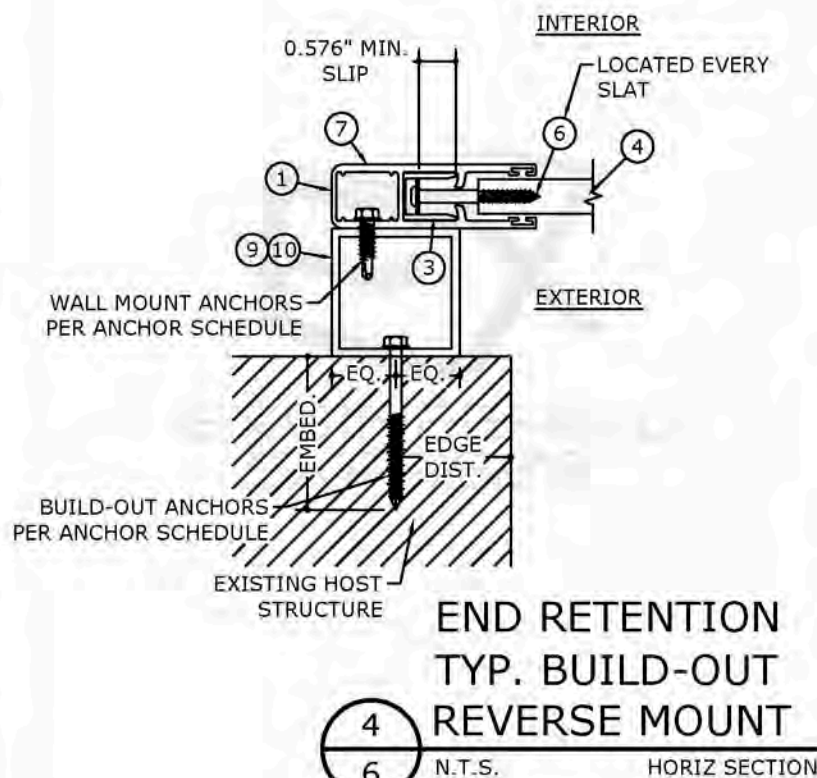
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6
END RETENTION
TYPICAL WALL MOUNT
N.T.S. HORIZ SECTION



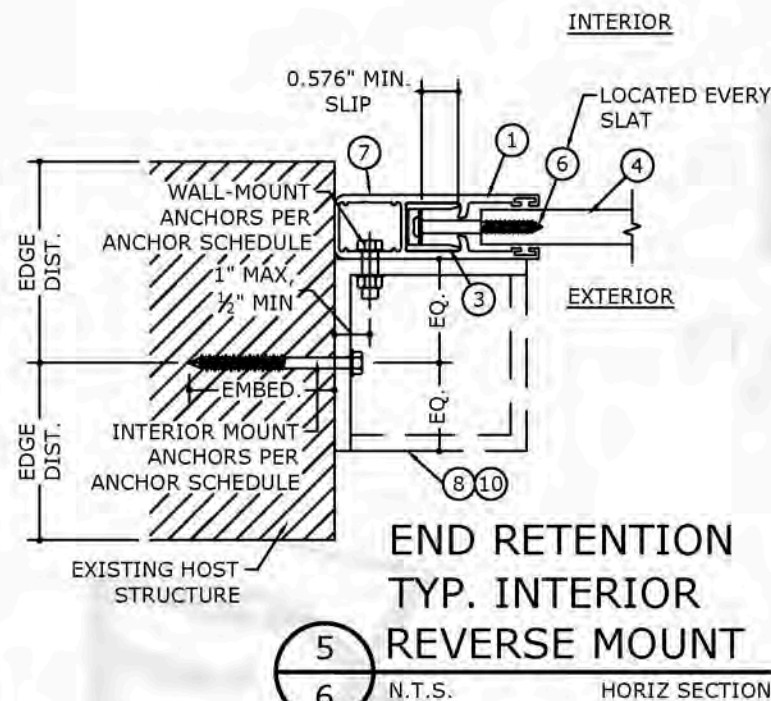
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END RETENTION
TYP. BUILD-OUT MOUNT
N.T.S. HORIZ SECTION



3
6
END RETENTION
TYP. INTERIOR MOUNT
N.T.S. HORIZ SECTION



4
6
END RETENTION
TYP. BUILD-OUT
REVERSE MOUNT
N.T.S. HORIZ SECTION



5
6
END RETENTION
TYP. INTERIOR
REVERSE MOUNT
N.T.S. HORIZ SECTION

ANCHOR SCHEDULE:

(SEE DESIGN SCHEDULES ON SHEETS 7-18 FOR REQUIRED ANCHOR SPACING)

ANCHOR	SUBSTRATE	MINIMUM EMBEDMENT	MINIMUM EDGE DISTANCE
1/4" DEWALT ULTRACON	2846 PSI MIN. CONCRETE	1.75"	2.5"
1/4" SS ITW TAPCON	3192 PSI MIN. CONCRETE	1.75"	2.5"
5/16" ITW TAPCON	2899 PSI MIN. CONCRETE	2.25"	3.125"
	GROUT-FILLED CONCRETE BLOCK	2.25"	4.0"
1/4" DEWALT POWER-BOLT	HOLLOW CONCRETE BLOCK	1.75"	4.0"
	3000 PSI MIN. CONCRETE	2.5"	3.0"
1/4" ALL-POINTS SOLID-SET	3000 PSI MIN. CONCRETE	0.875"	3.0"
	HOLLOW CONCRETE BLOCK	0.875"	3.0"
1/4" LAG SCREW	G=0.55 MIN. WOOD	1.5"	0.75"
5/16" LAG SCREW	G=0.42 MIN. WOOD	2.0"	0.75"
#14 WOOD SCREW	G=0.55 MIN. WOOD	1.5"	0.75"
#14 316 SS SMS (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER	1/8" THICK MIN. 6063-T5 ALUMINUM OR A36 STEEL	FULL THREAD PENETRATION	0.5"
#14 316 SS SMS (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER	0.25" THICK MIN. 6063-T5 ALUMINUM OR A36 STEEL	FULL THREAD PENETRATION	0.5"
3/8" DEWALT SCREW BOLT	3000 PSI MIN. CONCRETE	3.5"	4.5"

ANCHOR NOTES:

- ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
- WHERE ANCHORS FASTEN TO NARROW FACE OF STUD FRAMING, ANCHOR SHALL BE LOCATED IN CENTER OF NOMINAL 2x (MIN) WOOD STUD (i.e. 3/4" EDGE DISTANCE IS ACCEPTABLE FOR ANCHORS TO WOOD FRAMING).
- MINIMUM EMBEDMENT SHALL BE AS NOTED IN ANCHOR SCHEDULE. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES.
- ANCHOR SCHEDULE APPLIES TO ALL PRODUCTS CERTIFIED HEREIN, BUT ONLY PROVIDES MAXIMUM ALLOWABLE ANCHOR SPACING. MAXIMUM ALLOWABLE SPANS AND PRESSURES INDICATED IN SPAN SCHEDULE SHALL APPLY.
- WHERE EXISTING STRUCTURE IS WOOD FRAMING, EXISTING CONDITIONS MAY VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT INTO PLYWOOD.
- SHEET METAL SCREWS SHALL BE INSTALLED WITH FULL ENGAGEMENT OF THREADS INTO METAL HOST STRUCTURE.

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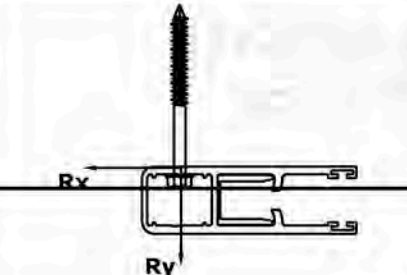
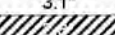
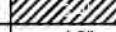
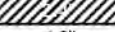
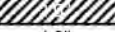


ANCHOR SCHEDULE:
WALL MOUNT: MAGNUM 3.57 END RETENTION SHUTTER WITH SINGLE WALL SLATS

: INDICATES VALUES NOT APPROVED FOR USE.

ANCHOR NOTES: SEE SHEET
6 FOR ANCHOR NOTES.

FL 17344.1

				MAXIMUM SPACING (O.C.)																		
				1/4" DEWALT ULTRACON TO 2846 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT; 2.5" MIN. EDGE DISTANCE	1/4" SS ITW TAPCON TO 3192 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT; 2.5" MIN. EDGE DISTANCE	5/16" ITW TAPCON			1/4" DEWALT POWER-BOLT TO 3000 PSI MIN. CONCRETE; 2.5" MIN. EMBEDMENT; 3" MIN. EDGE DISTANCE	1/4" ALL-POINTS SOLID-SET		1/4" LAG SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	5/16" LAG SCREW TO G=0.42 MIN WOOD; 2" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	#14 WOOD SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.125" MIN. ALUM; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.125" MIN. ALUM; 0.5" MIN. EDGE DISTANCE	3/8" DEWALT SCREW BOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 4.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.125" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.1875" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.25" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.5" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	
SLAT SPAN	DESIGN PRESSURE	R _x	R _y																			
48"	+/- 40 PSF	0.0 LB/FT	80.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	0.0 LB/FT	100.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 60 PSF	0.0 LB/FT	120.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 70 PSF	0.0 LB/FT	140.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 80 PSF	0.0 LB/FT	160.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 90 PSF	0.0 LB/FT	180.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 100 PSF	0.0 LB/FT	200.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 110 PSF	1.2 LB/FT	220.5 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 120 PSF	51.9 LB/FT	260.2 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 130 PSF	102.5 LB/FT	300.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 140 PSF	152.9 LB/FT	341.1 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 150 PSF	203.0 LB/FT	382.2 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 160 PSF	253.0 LB/FT	423.8 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"		
+/- 170 PSF	302.8 LB/FT	465.8 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"		
+/- 180 PSF	352.5 LB/FT	508.2 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.8"	4.0"	3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 190 PSF	401.9 LB/FT	551.1 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.9"	3.4"	3.8"	3.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 206 PSF	480.6 LB/FT	620.6 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"	3.3"	2.9"	3.3"	3.1"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
60"	+/- 40 PSF	0.0 LB/FT	100.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	0.0 LB/FT	125.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 60 PSF	68.7 LB/FT	173.8 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 70 PSF	140.0 LB/FT	224.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 80 PSF	211.1 LB/FT	274.8 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 90 PSF	282.0 LB/FT	326.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 100 PSF	352.8 LB/FT	377.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 110 PSF	423.4 LB/FT	429.9 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.4"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 120 PSF	493.8 LB/FT	482.6 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.9"	3.4"	3.0"	3.5"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 130 PSF	564.0 LB/FT	535.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"	3.0"	2.6"	3.1"	3.4"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 140 PSF	634.1 LB/FT	589.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.1"	2.7"	2.3"	2.7"	3.1"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 150 PSF	703.9 LB/FT	643.5 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"		2.4"	2.1"	2.5"	2.8"	4.0"	4.0"	4.0"	4.0"	4.0"	
72"	+/- 40 PSF	125.9 LB/FT	159.9 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	220.0 LB/FT	220.6 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 60 PSF	314.0 LB/FT	281.9 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 70 PSF	407.7 LB/FT	343.8 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.7"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 80 PSF	501.2 LB/FT	406.3 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	3.9"	4.0"	4.0"	4.0"	3.5"	3.0"	3.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 90 PSF	594.6 LB/FT	469.5 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.6"	3.0"	2.6"	3.1"	3.7"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 100 PSF	687.7 LB/FT	533.2 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.1"	2.6"	2.2"	2.7"	3.2"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 110 PSF	780.6 LB/FT	597.5 LB/FT		4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"		2.3"		2.3"	2.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 125 PSF	919.5 LB/FT	695.2 LB/FT		3.7"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"				2.4"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	84"	+/- 40 PSF	291.3 LB/FT	226.8 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
		+/- 50 PSF	410.1 LB/FT	298.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
		+/- 60 PSF	528.7 LB/FT	371.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.4"	2.9"	3.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
+/- 70 PSF		647.0 LB/FT	444.8 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"	2.8"	2.4"	2.9"	3.7"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 80 PSF		765.1 LB/FT	519.1 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.4"	2.0"	2.5"	3.2"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 90 PSF		882.9 LB/FT	594.2 LB/FT		4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"		2.1"		2.1"	2.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
+/- 112 PSF		1141.1 LB/FT	762.1 LB/FT		3.1"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"				2.2"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	

ALUTECH UNITED, INC.

117 DIXON STREET
SELBYVILLE, DE 19975

(302) 436-6005

Magnum 3.57 Security Star Roll Down Shutter

FLORIDA BUILDING CODE EIGHTH EDITION (2023)

FLORIDA STATEWIDE APPROVAL (FSA FL #17344.1)

REMARKS	DRWN	CHKD	DATE
PREV. SUBMITTAL (20-30244)	CCB	RWN	09/03/20
2023 FBC UPDATE	MRT	ER/RN	08/10/23

23-59550

SCALE: NTS UNLESS NOTED

7

OF

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c:\users\milton\engineering\express\production - documents\projects\23-59550 multiple products 2023 fbc update fl17344\work\2023 fbc\drawings & cad\23-59550a - fl17344.1 - doc.dwg
8/21/2023 2:22 PM MILTON

FRANK BENNARDI, P.E.
PE# 0046549 CA# 9885

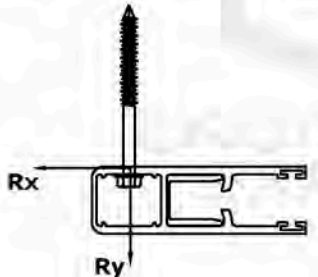
AUGUST 21, 2023



ANCHOR NOTES: SEE SHEET
6 FOR ANCHOR NOTES.

ANCHOR SCHEDULE:  INDICATES VALUES NOT APPROVED FOR USE.

WALL MOUNT: MAGNUM 3.57 END RETENTION SHUTTER WITH SINGLE WALL SLATS (CONTINUED)

				MAXIMUM SPACING (O.C.)																	
				1/4" DEWALT ULTRACON TO 2846 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT; 2.5" MIN. EDGE DISTANCE	1/4" SS ITW TAPCON TO 3192 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT; 2.5" MIN. EDGE DISTANCE	5/16" ITW TAPCON			1/4" DEWALT POWER-BOLT TO 3000 PSI MIN. CONCRETE; 2.5" MIN. EMBEDMENT; 3" MIN. EDGE DISTANCE	1/4" ALL-POINTS SOLID-SET		1/4" LAG SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	5/16" LAG SCREW TO G=0.42 MIN WOOD; 2" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	#14 WOOD SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.125" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.25" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE DISTANCE	3/8" DEWALT SCREW BOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 4.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.125" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.1875" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.25" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.5" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE
SLAT SPAN	DESIGN PRESSURE	R _x	R _y																		
96"	+/- 40 PSF	441.4 LB/FT	284.2 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 50 PSF	586.8 LB/FT	367.4 LB/FT	4.0"	4.0"	4.0"	4.0"	3.9"	4.0"	4.0"	4.0"	3.1"	2.7"	3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 60 PSF	731.8 LB/FT	451.6 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	3.2"	2.5"	2.1"	2.6"	3.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 70 PSF	876.6 LB/FT	536.8 LB/FT		4.0"	4.0"	4.0"		4.0"			2.1"		2.2"	3.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 80 PSF	1021.1 LB/FT	623.0 LB/FT		3.6"	4.0"	4.0"			4.0"					2.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 90 PSF	1165.2 LB/FT	710.2 LB/FT		3.2"	4.0"	4.0"			3.6"					2.2"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
108"	+/- 104 PSF	1366.5 LB/FT	834.0 LB/FT			4.0"			3.0"						3.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 40 PSF	585.0 LB/FT	336.6 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.2"	2.7"	3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 50 PSF	758.7 LB/FT	431.2 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	2.5"	2.1"	2.6"	3.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 60 PSF	932.1 LB/FT	527.0 LB/FT		4.0"	4.0"	4.0"		4.0"				2.1"	2.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 70 PSF	1105.1 LB/FT	624.1 LB/FT		3.4"	4.0"	4.0"		3.9"					2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 80 PSF	1277.7 LB/FT	722.5 LB/FT			4.0"	4.0"		3.3"					2.1"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
120"	+/- 90 PSF	1449.9 LB/FT	822.1 LB/FT			4.0"									3.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 98 PSF	1587.4 LB/FT	902.7 LB/FT			4.0"									3.2"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 30 PSF	522.8 LB/FT	281.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.6"	3.1"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 40 PSF	726.9 LB/FT	386.2 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	3.4"	2.6"	2.2"	2.7"	3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 50 PSF	930.6 LB/FT	492.2 LB/FT		4.0"	4.0"	4.0"		4.0"		2.0"		2.1"	3.1"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 60 PSF	1133.8 LB/FT	599.9 LB/FT		3.4"	4.0"	4.0"		3.9"					2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
132"	+/- 70 PSF	1336.6 LB/FT	709.1 LB/FT			4.0"	3.9"		3.3"					2.1"	3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 80 PSF	1539.0 LB/FT	820.0 LB/FT			4.0"									3.4"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 90 PSF	1740.9 LB/FT	932.4 LB/FT												3.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 93 PSF	1801.4 LB/FT	966.4 LB/FT												2.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 30 PSF	633.9 LB/FT	318.2 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.0"	2.5"	3.1"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 40 PSF	869.6 LB/FT	434.0 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"		2.2"		2.3"	3.4"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
144"	+/- 50 PSF	1104.8 LB/FT	551.8 LB/FT		3.6"	4.0"	4.0"		4.0"					2.7"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 60 PSF	1338.3 LB/FT	676.1 LB/FT			4.0"	4.0"		3.3"					2.2"	3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 70 PSF	1573.6 LB/FT	793.2 LB/FT			4.0"									3.4"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 80 PSF	1805.1 LB/FT	925.1 LB/FT												2.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 90 PSF	2040.4 LB/FT	1042.4 LB/FT												2.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 20 PSF	476.3 LB/FT	228.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.4"	2.9"	3.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
156"	+/- 30 PSF	745.6 LB/FT	353.6 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	3.5"	2.6"	2.2"	2.7"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 40 PSF	1014.4 LB/FT	481.0 LB/FT		4.0"	4.0"	4.0"		4.0"					3.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 50 PSF	1282.6 LB/FT	610.7 LB/FT		3.1"	4.0"	4.0"		3.5"					2.4"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 60 PSF	1547.4 LB/FT	754.0 LB/FT			4.0"									3.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 70 PSF	1817.2 LB/FT	877.1 LB/FT												2.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 86 PSF	2243.0 LB/FT	1097.0 LB/FT												2.4"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
168"	+/- 20 PSF	555.0 LB/FT	252.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.4"	2.9"	3.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 30 PSF	858.8 LB/FT	389.5 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	3.0"	2.2"		2.4"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 40 PSF	1161.8 LB/FT	529.4 LB/FT		3.5"	4.0"	4.0"		4.0"					2.7"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 50 PSF	1464.1 LB/FT	672.4 LB/FT			4.0"			3.1"					2.1"	3.7"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 60 PSF	1761.7 LB/FT	834.4 LB/FT			3.8"								3.1"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 70 PSF	2066.4 LB/FT	967.6 LB/FT											2.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
180"	+/- 78 PSF	2306.4 LB/FT	1089.0 LB/FT											2.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 20 PSF	634.5 LB/FT	276.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.0"	2.6"	3.2"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 30 PSF	974.0 LB/FT	425.4 LB/FT		4.0"	4.0"	4.0"		4.0"				2.1"	3.3"	4.0"						

ANCHOR SCHEDULE:

WALL MOUNT: MAGNUM 3.57 END RETENTION SHUTTER WITH SINGLE WALL SLATS (CONTINUED)

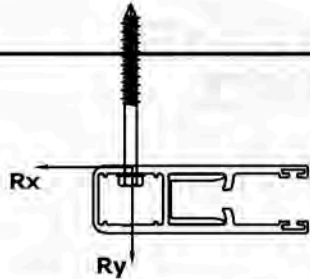
ANCHOR NOTES: SEE SHEET 6 FOR ANCHOR NOTES.

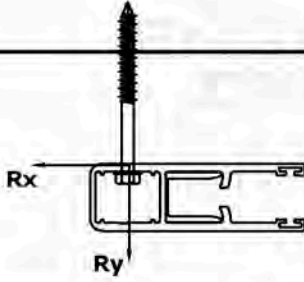
FRANK BENNARDO, P.E.
PE# 0046549 CA# 9885

AUGUST 21, 2023



: INDICATES VALUES NOT APPROVED FOR USE.



				MAXIMUM SPACING (O.C.)																		
				5/16" ITW TAPCON					1/4" ALL-POINTS SOLID-SET								#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.125" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.25" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE DISTANCE	3/8" DEWALT SCREW BOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 4.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.125" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.1875" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.25" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE
SLAT SPAN	DESIGN PRESSURE	Rx	Ry	1/4" DEWALT ULTRA-CON TO 2846 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT; 2.5" MIN. EDGE DISTANCE	1/4" SS ITW TAPCON TO 3192 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT; 2.5" MIN. EDGE DISTANCE	TO 2899 PSI MIN. CONCRETE; 2.25" MIN. EMBEDMENT; 3.125" MIN. EDGE DISTANCE	TO GROUT- FILLED CONCRETE BLOCK; 2.25" MIN. EMBEDMENT; 4" MIN. EDGE DISTANCE	TO HOLLOW CONCRETE BLOCK; 1.75" MIN. EMBEDMENT; 4" MIN. EDGE DISTANCE	1/4" DEWALT POWER-BOLT TO 3000 PSI MIN. CONCRETE; 2.5" MIN. EMBEDMENT; 3" MIN. EDGE DISTANCE	TO 3000 PSI MIN. CONCRETE; 0.875" MIN. EMBEDMENT; 3" MIN. EDGE DISTANCE	TO HOLLOW BLOCK; 0.875" MIN. EMBEDMENT; 3" MIN. EDGE DISTANCE	1/4" LAG SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	5/16" LAG SCREW TO G=0.42 MIN WOOD; 2" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	#14 WOOD SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE								
180"	+/- 20 PSF	715.2 LB/FT	300.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.7"	2.7"	2.3"	2.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 30 PSF	1091.7 LB/FT	461.6 LB/FT		3.8"	4.0"	4.0"			4.0"					3.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	1467.1 LB/FT	628.1 LB/FT			4.0"	3.8"			3.2"						2.2"	3.8"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	1841.4 LB/FT	799.6 LB/FT			3.8"											3.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 67 PSF	2474.8 LB/FT	1102.4 LB/FT														2.2"	4.0"	4.0"	4.0"	4.0"	
192"	+/- 10 PSF	381.2 LB/FT	155.3 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 20 PSF	797.3 LB/FT	323.6 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	3.4"	2.4"	2.1"	2.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 30 PSF	1212.0 LB/FT	498.2 LB/FT		3.4"	4.0"	4.0"			3.9"						2.7"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	1625.4 LB/FT	678.9 LB/FT			4.0"										2.0"	3.4"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	2037.4 LB/FT	865.7 LB/FT														2.7"	4.0"	4.0"	4.0"	4.0"	
204"	+/- 62 PSF	2529.7 LB/FT	1097.9 LB/FT														2.2"	4.0"	4.0"	4.0"	4.0"	
	+/- 10 PSF	425.2 LB/FT	166.9 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 20 PSF	880.9 LB/FT	347.3 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	3.1"	2.2"	2.3"	3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 30 PSF	1335.1 LB/FT	535.3 LB/FT		3.2"	4.0"	4.0"			3.6"						2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	1787.6 LB/FT	730.8 LB/FT			4.0"											3.1"	4.0"	4.0"	4.0"	4.0"	
216"	+/- 50 PSF	2238.3 LB/FT	933.8 LB/FT														2.5"	4.0"	4.0"	4.0"	4.0"	
	+/- 58 PSF	2597.6 LB/FT	1101.4 LB/FT														2.1"	4.0"	4.0"	4.0"	4.0"	
	+/- 10 PSF	469.7 LB/FT	178.5 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 20 PSF	966.3 LB/FT	371.3 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	2.0"	2.1"	3.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 30 PSF	1461.0 LB/FT	573.2 LB/FT			4.0"	3.9"			3.3"						2.3"	3.9"	4.0"	4.0"	4.0"	4.0"	
216"	+/- 40 PSF	1953.7 LB/FT	784.1 LB/FT														2.9"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	2444.2 LB/FT	1004.0 LB/FT														2.3"	4.0"	4.0"	4.0"	4.0"	
	+/- 55 PSF	2688.7 LB/FT	1117.3 LB/FT														2.1"	4.0"	4.0"	4.0"	4.0"	

FL 17344.1

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Magnum 3.57 Security Star Roll Down Shutter
FLORIDA BUILDING CODE EIGHTH EDITION (2023)
FLORIDA STATEWIDE APPROVAL (FSA FL #17344.1)

REMARKS	DRWN	CHKD	DATE
PREV. SUBMITTAL (20-30244)	CCB	RWN	09/03/20
2023 FBC UPDATE	MRT	ER/RN	08/10/23
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23-59550

SCALE: NTS UNLESS NOTED

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8/21/2023 2:22 PM MILTON

FRANK BENNARDO, P.E.
PE# 0046549 CA# 9885

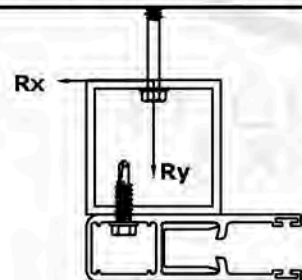
AUGUST 21, 2023



ANCHOR SCHEDULE: : INDICATES VALUES NOT APPROVED FOR USE.

ANCHOR NOTES: SEE SHEET
6 FOR ANCHOR NOTES.

BUILD-OUT MOUNT: MAGNUM 3.57 END RETENTION SHUTTER WITH SINGLE WALL SLATS

				MAXIMUM SPACING (O.C.)																		
				1/4" DEWALT ULTRA-CON TO 2846 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT; 2.5" MIN. EDGE DISTANCE	1/4" SS ITW TAPCON TO 3192 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT; 2.5" MIN. EDGE DISTANCE	5/16" ITW TAPCON			1/4" DEWALT POWER-BOLT TO 3000 PSI MIN. CONCRETE; 2.5" MIN. EMBEDMENT; 3" MIN. EDGE DISTANCE	1/4" ALL-POINTS SOLID-SET		1/4" LAG SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	5/16" LAG SCREW TO G=0.42 MIN WOOD; 2" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	#14 WOOD SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.125" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.25" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE DISTANCE	3/8" DEWALT SCREW BOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 4.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.125" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.1875" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.25" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.5" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	
SLAT SPAN	DESIGN PRESSURE	R _x	R _y																			
48"	+/- 40 PSF	0.0 LB/FT	133.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	0.0 LB/FT	166.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 60 PSF	0.0 LB/FT	200.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 70 PSF	0.0 LB/FT	233.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 80 PSF	0.0 LB/FT	266.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 90 PSF	0.0 LB/FT	300.1 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 100 PSF	0.0 LB/FT	333.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 110 PSF	1.2 LB/FT	367.5 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 120 PSF	51.9 LB/FT	433.8 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 130 PSF	102.5 LB/FT	500.8 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 140 PSF	152.9 LB/FT	568.6 LB/FT	4.0"	4.0"	4.0"	4.0"	3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 150 PSF	203.0 LB/FT	637.2 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.4"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
60"	+/- 160 PSF	253.0 LB/FT	706.5 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.1"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 170 PSF	302.8 LB/FT	776.5 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	4.0"	4.0"	4.0"	3.7"	3.9"	2.8"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 180 PSF	352.5 LB/FT	847.2 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	3.5"	3.6"	3.3"	3.5"	2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 190 PSF	401.9 LB/FT	918.7 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"		3.2"	2.9"	3.1"	2.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 206 PSF	480.6 LB/FT	1034.6 LB/FT		4.0"	4.0"	4.0"		4.0"		2.8"	2.5"	2.7"	2.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	0.0 LB/FT	166.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	0.0 LB/FT	208.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 60 PSF	68.7 LB/FT	289.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 70 PSF	140.0 LB/FT	373.5 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 80 PSF	211.1 LB/FT	458.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 90 PSF	282.0 LB/FT	543.4 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	72"	+/- 100 PSF	352.8 LB/FT	629.6 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	3.9"	3.6"	4.0"	3.2"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
+/- 110 PSF		423.4 LB/FT	716.6 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	3.3"	3.4"	3.1"	3.4"	2.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 120 PSF		493.8 LB/FT	804.5 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"			3.0"	2.6"	2.9"	2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 130 PSF		564.0 LB/FT	893.1 LB/FT		4.0"	4.0"	4.0"		4.0"			2.6"	2.3"	2.6"	2.2"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 140 PSF		634.1 LB/FT	982.5 LB/FT		3.8"	4.0"	4.0"		4.0"			2.4"	2.1"	2.3"	2.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 150 PSF		703.9 LB/FT	1072.6 LB/FT		3.5"	4.0"	4.0"		3.7"			2.1"		2.1"		4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 40 PSF		125.9 LB/FT	266.6 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 50 PSF		220.0 LB/FT	367.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 60 PSF		314.0 LB/FT	469.9 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 70 PSF		407.7 LB/FT	573.1 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	3.9"	3.8"	3.3"	3.8"	3.4"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
84"		+/- 80 PSF	501.2 LB/FT	677.3 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	3.2"	3.1"	2.7"	3.1"	2.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
		+/- 90 PSF	594.6 LB/FT	782.6 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"			2.6"	2.3"	2.6"	2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 100 PSF	687.7 LB/FT	888.8 LB/FT		3.9"	4.0"	4.0"		4.0"			2.3"	2.0"	2.3"	2.2"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 110 PSF	780.6 LB/FT	996.1 LB/FT		3.5"	4.0"	4.0"		3.7"			2.0"		2.0"		4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 125 PSF	919.5 LB/FT	1158.9 LB/FT			4.0"	4.0"		3.2"						3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	291.3 LB/FT	378.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	410.1 LB/FT	497.9 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	3.9"	3.4"	3.9"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	

FL 17344.1

ALUTECH UNITED, INC.

117 DIXON STREET
SELBYVILLE, DE 1975

(302) 436-6005

Magnum 3.57 Security Star Roll Down Shutter

FLORIDA BUILDING CODE EIGHTH EDITION (2023)

FLORIDA STATEWIDE APPROVAL (FSA FL#17344.1)

REMARKS	DRWN	CHKD	DATE
PREV SUBMITTAL (20-30244) COB	FRWN		09/03/20
2023 FBC UPDATE	MRT	ER/WRN	08/10/23

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8/21/2023 2:22 PM MILTON

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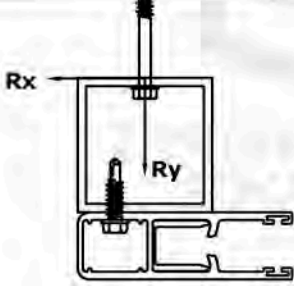
AUGUST 21, 2023



ANCHOR NOTES: SEE SHEET
6 FOR ANCHOR NOTES.

ANCHOR SCHEDULE: : INDICATES VALUES NOT APPROVED FOR USE.

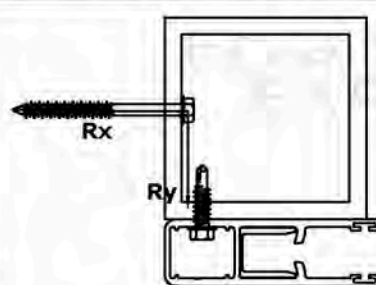
BUILD-OUT MOUNT: MAGNUM 3.57 END RETENTION SHUTTER WITH SINGLE WALL SLATS (CONTINUED)

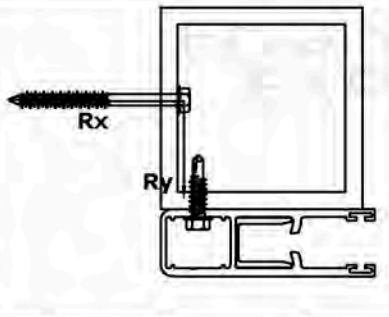
				MAXIMUM SPACING (O.C.)																	
				1/4" DEWALT ULTRACON TO 2846 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT; 2.5" MIN. EDGE DISTANCE	1/4" SS ITW TAPCON TO 3192 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT; 2.5" MIN. EDGE DISTANCE	5/16" ITW TAPCON			1/4" DEWALT POWER-BOLT TO 3000 PSI MIN. CONCRETE; 2.5" MIN. EMBEDMENT; 3" MIN. EDGE DISTANCE	1/4" ALL-POINTS SOLID-SET		1/4" LAG SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	5/16" LAG SCREW TO G=0.42 MIN WOOD; 2" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	#14 WOOD SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.125" MIN. ALUM; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.25" MIN. ALUM; 0.5" MIN. EDGE DISTANCE	3/8" DEWALT SCREW BOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 4.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.125" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.1875" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.25" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.5" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE
SLAT SPAN	DESIGN PRESSURE	R _x	R _y																		
96"	+/- 30 PSF	295.7 LB/FT	336.9 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	441.4 LB/FT	473.8 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	4.0"	3.7"	3.3"	3.8"	3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	586.8 LB/FT	612.4 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	3.2"	2.8"	2.5"	2.9"	3.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 60 PSF	731.8 LB/FT	752.8 LB/FT		4.0"	4.0"	4.0"		4.0"		2.3"		2.3"	2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 70 PSF	876.6 LB/FT	894.8 LB/FT		3.4"	4.0"	4.0"		4.0"	3.8"				2.1"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 80 PSF	1021.1 LB/FT	1038.5 LB/FT			4.0"	4.0"		4.0"	3.2"					3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 90 PSF	1165.2 LB/FT	1183.9 LB/FT			4.0"									3.4"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 104 PSF	1366.5 LB/FT	1390.2 LB/FT												2.9"	4.0"	4.0"	4.0"	4.0"	4.0"		
108"	+/- 30 PSF	411.0 LB/FT	405.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	585.0 LB/FT	561.2 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	3.3"	2.9"	2.5"	3.0"	3.2"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	758.7 LB/FT	718.7 LB/FT		4.0"	4.0"	4.0"		4.0"	4.0"	2.2"		2.3"	2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 60 PSF	932.1 LB/FT	878.5 LB/FT		3.4"	4.0"	4.0"		4.0"	3.7"				2.1"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 70 PSF	1105.1 LB/FT	1040.4 LB/FT			4.0"	3.8"		4.0"	3.1"					3.7"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 80 PSF	1277.7 LB/FT	1204.3 LB/FT			4.0"									3.2"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 90 PSF	1449.9 LB/FT	1370.5 LB/FT												2.9"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 98 PSF	1587.4 LB/FT	1504.9 LB/FT												2.6"	4.0"	4.0"	4.0"	4.0"	4.0"		
120"	+/- 20 PSF	318.3 LB/FT	298.1 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 30 PSF	522.8 LB/FT	469.6 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	3.8"	3.3"	2.8"	3.4"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	726.9 LB/FT	643.7 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"		2.4"	2.1"	2.4"	2.8"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	930.6 LB/FT	820.5 LB/FT		3.5"	4.0"	4.0"		4.0"	3.8"				2.2"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 60 PSF	1133.8 LB/FT	1000.0 LB/FT			4.0"	3.8"		4.0"	3.1"					3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 70 PSF	1336.6 LB/FT	1182.1 LB/FT			3.9"									3.2"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 80 PSF	1539.0 LB/FT	1366.9 LB/FT												2.8"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 90 PSF	1740.9 LB/FT	1554.3 LB/FT												2.4"	4.0"	4.0"	4.0"	4.0"	4.0"		
+/- 93 PSF	1801.4 LB/FT	1611.0 LB/FT												2.4"	4.0"	4.0"	4.0"	4.0"	4.0"		
132"	+/- 20 PSF	397.7 LB/FT	340.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 30 PSF	633.9 LB/FT	530.5 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	3.3"	2.8"	2.4"	2.8"	3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	869.6 LB/FT	723.5 LB/FT		3.8"	4.0"	4.0"		4.0"	4.0"		2.0"		2.1"	2.4"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	1104.8 LB/FT	919.9 LB/FT			4.0"	4.0"		4.0"	3.3"					4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 60 PSF	1338.3 LB/FT	1127.1 LB/FT			4.0"									3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 70 PSF	1573.6 LB/FT	1322.3 LB/FT												2.8"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 80 PSF	1805.1 LB/FT	1542.2 LB/FT												2.4"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 90 PSF	2040.4 LB/FT	1737.7 LB/FT												2.1"	4.0"	4.0"	4.0"	4.0"	4.0"		
144"	+/- 20 PSF	476.3 LB/FT	381.2 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.7"	3.2"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 30 PSF	745.6 LB/FT	589.5 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"		2.4"	2.0"	2.4"	2.9"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	1014.4 LB/FT	801.8 LB/FT		3.3"	4.0"	4.0"		4.0"	3.7"				2.2"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	1282.6 LB/FT	1018.0 LB/FT			4.0"									3.5"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 60 PSF	1547.4 LB/FT	1256.9 LB/FT												2.9"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 70 PSF	1817.2 LB/FT	1462.2 LB/FT												2.4"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 86 PSF	2243.0 LB/FT	1828.7 LB/FT													4.0"	4.0"	4.0"	4.0"	4.0"		
156"	+/- 10 PSF	250.5 LB/FT	198.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 20 PSF	555.0 LB/FT	421.3 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	3.9"	3.2"	2.8"	3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 30 PSF	858.8 LB/FT	649.3 LB/FT		4.0"	4.0"	4.0"		4.0"		2.1"			2.1"	2.6"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	1161.8 LB/FT	882.5 LB/FT			4.0"	4.0"		4.0"	3.3"					3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	1464.1 LB/FT	1120.9 LB/FT			3.8"									3.1"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 60 PSF	1761.7 LB/FT	1391.0 LB/FT												2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 70 PSF	2066.4 LB/FT	1612.9 LB/FT												2.2"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 78 PSF	2306.4 LB/FT	1815.4 LB/FT													4.0"	4.0"	4.0"	4.0"	4.0"		



ANCHOR NOTES: SEE SHEET
6 FOR ANCHOR NOTES.

INTERIOR MOUNT: MAGNUM 3.57 END RETENTION SHUTTER WITH SINGLE WALL SLATS



				MAXIMUM SPACING (O.C.)																				
SLAT SPAN	DESIGN PRESSURE	Rx	Ry	1/4" DEWALT ULTRA-CON TO 2846 PSI MIN. CONCRETE; 1.75" MIN. EDGE DISTANCE	1/4" SS ITW TAPCON TO 3192 PSI MIN. CONCRETE; 1.75" MIN. EDGE DISTANCE	5/16" ITW TAPCON			1/4" DEWALT POWER-BOLT TO 3000 PSI MIN. CONCRETE; 2.5" MIN. EDGE DISTANCE	1/4" ALL-POINTS SOLID-SET		1/4" LAG SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EDGE DISTANCE	5/16" LAG SCREW TO G=0.42 MIN WOOD; 2" MIN. EDGE DISTANCE	#14 WOOD SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.125" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.25" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE DISTANCE	3/8" DEWALT SCREW BOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.125" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.1875" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.25" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.5" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE			
				TO 2899 PSI MIN. CONCRETE; 2.25" MIN. EDGE DISTANCE	TO GROUT- FILLED CONCRETE BLOCK; 2.25" MIN. EDGE DISTANCE	TO HOLLOW CONCRETE BLOCK; 1.75" MIN. EDGE DISTANCE	TO 3000 PSI MIN. CONCRETE; 0.875" MIN. EDGE DISTANCE	TO HOLLOW BLOCK; 0.875" MIN. EDGE DISTANCE	TO 3000 PSI MIN. CONCRETE; 0.875" MIN. EDGE DISTANCE	TO HOLLOW BLOCK; 0.875" MIN. EDGE DISTANCE	TO 3000 PSI MIN. CONCRETE; 0.875" MIN. EDGE DISTANCE	TO HOLLOW BLOCK; 0.875" MIN. EDGE DISTANCE	TO 3000 PSI MIN. CONCRETE; 0.875" MIN. EDGE DISTANCE	TO HOLLOW BLOCK; 0.875" MIN. EDGE DISTANCE	TO 3000 PSI MIN. CONCRETE; 0.875" MIN. EDGE DISTANCE	TO HOLLOW BLOCK; 0.875" MIN. EDGE DISTANCE	TO 3000 PSI MIN. CONCRETE; 0.875" MIN. EDGE DISTANCE	TO HOLLOW BLOCK; 0.875" MIN. EDGE DISTANCE	TO 3000 PSI MIN. CONCRETE; 0.875" MIN. EDGE DISTANCE	TO HOLLOW BLOCK; 0.875" MIN. EDGE DISTANCE	TO 3000 PSI MIN. CONCRETE; 0.875" MIN. EDGE DISTANCE	TO HOLLOW BLOCK; 0.875" MIN. EDGE DISTANCE	TO 3000 PSI MIN. CONCRETE; 0.875" MIN. EDGE DISTANCE	TO HOLLOW BLOCK; 0.875" MIN. EDGE DISTANCE
48"	+/- 40 PSF	53.4 LB/FT	80.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	66.7 LB/FT	100.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 60 PSF	80.0 LB/FT	120.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 70 PSF	93.4 LB/FT	140.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 80 PSF	106.7 LB/FT	160.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 90 PSF	120.1 LB/FT	180.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 100 PSF	133.4 LB/FT	200.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 110 PSF	148.3 LB/FT	220.5 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 120 PSF	225.5 LB/FT	260.2 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 130 PSF	302.9 LB/FT	300.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 140 PSF	380.4 LB/FT	341.1 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 150 PSF	458.0 LB/FT	382.2 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.8"	3.3"	3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
60"	+/- 160 PSF	535.7 LB/FT	423.8 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	4.0"	3.3"	2.8"	3.4"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 170 PSF	613.5 LB/FT	465.8 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	3.5"	2.9"	2.5"	3.0"	3.7"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 180 PSF	691.5 LB/FT	508.2 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	3.2"	2.6"	2.2"	2.7"	3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 190 PSF	769.5 LB/FT	551.1 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"		2.3"	2.0"	2.4"	3.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 206 PSF	894.5 LB/FT	620.6 LB/FT		4.0"	4.0"	4.0"			4.0"		2.0"		2.1"	2.7"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	66.7 LB/FT	100.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	83.4 LB/FT	125.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 60 PSF	184.6 LB/FT	173.8 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 70 PSF	289.4 LB/FT	224.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 80 PSF	394.4 LB/FT	274.8 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 90 PSF	499.5 LB/FT	326.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.6"	3.1"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	72"	+/- 100 PSF	604.7 LB/FT	377.7 LB/FT	4.0"	4.0"	4.0"	4.0"	3.8"	4.0"	4.0"	3.9"	3.0"	2.6"	3.2"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
+/- 110 PSF		710.1 LB/FT	429.9 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	3.3"	2.6"	2.2"	2.7"	3.7"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 120 PSF		815.7 LB/FT	482.6 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"		2.3"		2.4"	3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 130 PSF		921.4 LB/FT	535.7 LB/FT		4.0"	4.0"	4.0"			4.0"		2.0"		2.1"	2.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 140 PSF		1027.2 LB/FT	589.4 LB/FT		3.7"	4.0"	4.0"			4.0"					2.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 150 PSF		1133.1 LB/FT	643.5 LB/FT		3.4"	4.0"	4.0"			3.8"					2.4"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 40 PSF		232.5 LB/FT	159.9 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 50 PSF		367.2 LB/FT	220.6 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 60 PSF		502.0 LB/FT	281.9 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.7"	3.2"	3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 70 PSF		637.0 LB/FT	343.8 LB/FT	4.0"	4.0"	4.0"	4.0"	3.9"	4.0"	4.0"	3.9"	2.9"	2.5"	3.1"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
84"		+/- 80 PSF	772.3 LB/FT	406.3 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	3.2"	2.4"	2.1"	2.6"	3.7"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
		+/- 90 PSF	907.7 LB/FT	469.5 LB/FT		4.0"	4.0"	4.0"		4.0"	4.0"		2.1"		2.2"	3.2"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 100 PSF	1043.3 LB/FT	533.2 LB/FT		3.8"	4.0"	4.0"			4.0"					2.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 110 PSF	1179.1 LB/FT	597.5 LB/FT		3.3"	4.0"	4.0"			3.8"					2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 125 PSF	1383.2 LB/FT	695.2 LB/FT			4.0"	3.8"			3.2"					2.1"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	442.6 LB/FT	226.8 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	609.4 LB/FT	298.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.1"	2.6"	3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 60 PSF	776.4 LB/FT	371.4 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	3.3"	2.5"	2.1"	2.6"	3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 70 PSF	943.7 LB/FT	444.8 LB/FT		4.0"	4.0"	4.0"		4.0"	4.0"		2.0"		2.1"	3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 80 PSF	1111.3 LB/FT	519.1 LB/FT		3.6"	4.0"	4.0"			4.0"					2.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 90 PSF	1279.2 LB/FT	594.2 LB/FT		3.2"	4.0"	4.0"			3.6"					2.4"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 112 PSF	1649.4 LB/FT	762.1 LB/FT			4.0"											3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	

FL 17344.1

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Magnum 3.57 Security Star Roll Down Shutter
FLORIDA BUILDING CODE EIGHTH EDITION (2023)
FLORIDA STATEWIDE APPROVAL (FSA FL#17344.1)

[illegible]

23-59550

SCALE: NTS UNLESS NOTED

13

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Magnum 3.57 Security Star Roll Down Shutter
FLORIDA BUILDING CODE EIGHTH EDITION (2023)
FLORIDA STATEWIDE APPROVAL (FSA FL #17344.1)

REMARKS
PREV. SUBMITTAL (20-30244) CCB
2023 FBC UPDATE

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23-59550

SCALE: NTS UNLESS NOTED

15 OF 20

ANCHOR SCHEDULE:  : INDICATES VALUES NOT APPROVED FOR USE.

INTERIOR MOUNT: MAGNUM 3.57 END RETENTION SHUTTER WITH SINGLE WALL SLATS (CONTINUED)

ANCHOR NOTES: SEE SHEET
6 FOR ANCHOR NOTES.

				MAXIMUM SPACING (O.C.)																	
SLAT SPAN	DESIGN PRESSURE	Rx	Ry																		
				1/4" DEWALT ULTRACON TO 2846 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT; 2.5" MIN. EDGE DISTANCE	1/4" SS ITW TAPCON TO 3192 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT; 2.5" MIN. EDGE DISTANCE	5/16" ITW TAPCON			1/4" DEWALT POWER-BOLT TO 3000 PSI MIN. CONCRETE; 2.5" MIN. EMBEDMENT; 3" MIN. EDGE DISTANCE	1/4" ALL-POINTS SOLID-SET		1/4" LAG SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	5/16" LAG SCREW TO G=0.42 MIN WOOD; 2" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	#14 WOOD SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.125" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.25" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE DISTANCE	3/8" DEWALT SCREW BOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 4.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.125" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.1875" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.25" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.5" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE
168"	+/- 20 PSF	818.9 LB/FT	276.4 LB/FT	4.0"	4.0"	4.0"	4.0"	3.8"	4.0"	4.0"	3.5"	2.4"	2.0"	2.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 30 PSF	1257.8 LB/FT	425.4 LB/FT		3.5"	4.0"	4.0"			4.0"					2.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 40 PSF	1698.4 LB/FT	578.4 LB/FT			4.0"									2.2"	3.5"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 50 PSF	2140.8 LB/FT	735.3 LB/FT													2.7"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 60 PSF	2594.0 LB/FT	918.0 LB/FT													2.3"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 72 PSF	3119.6 LB/FT	1094.2 LB/FT														4.0"	4.0"	4.0"	4.0"	4.0"
180"	+/- 10 PSF	433.2 LB/FT	143.5 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 20 PSF	915.3 LB/FT	300.0 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	3.1"	2.2"		2.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 30 PSF	1399.6 LB/FT	461.6 LB/FT		3.2"	4.0"	4.0"			3.6"					2.7"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 40 PSF	1886.1 LB/FT	628.1 LB/FT			4.0"										3.1"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 50 PSF	2374.7 LB/FT	799.6 LB/FT													2.5"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 67 PSF	3210.1 LB/FT	1102.4 LB/FT														4.0"	4.0"	4.0"	4.0"	4.0"
192"	+/- 10 PSF	484.7 LB/FT	155.3 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.4"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 20 PSF	1013.1 LB/FT	323.6 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"			2.1"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 30 PSF	1544.3 LB/FT	498.2 LB/FT			4.0"	3.8"			3.3"					2.5"	3.9"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 40 PSF	2078.2 LB/FT	678.9 LB/FT													2.9"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 50 PSF	2614.8 LB/FT	865.7 LB/FT													2.3"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 62 PSF	3262.0 LB/FT	1097.9 LB/FT														4.0"	4.0"	4.0"	4.0"	4.0"
204"	+/- 10 PSF	536.5 LB/FT	166.9 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.7"	3.1"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 20 PSF	1112.6 LB/FT	347.3 LB/FT		4.0"	4.0"	4.0"		4.0"	4.0"					3.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 30 PSF	1692.2 LB/FT	535.3 LB/FT			4.0"				3.0"					2.3"	3.5"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 40 PSF	2275.1 LB/FT	730.8 LB/FT													2.6"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 50 PSF	2861.2 LB/FT	933.8 LB/FT													2.1"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 58 PSF	3332.3 LB/FT	1101.4 LB/FT														4.0"	4.0"	4.0"	4.0"	4.0"
216"	+/- 10 PSF	588.8 LB/FT	178.5 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.4"	2.8"	3.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 20 PSF	1214.0 LB/FT	371.3 LB/FT		3.7"	4.0"	4.0"		4.0"						3.2"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 30 PSF	1843.3 LB/FT	573.2 LB/FT			4.0"									2.1"	3.3"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 40 PSF	2476.7 LB/FT	784.1 LB/FT													2.4"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 50 PSF	3113.9 LB/FT	1004.0 LB/FT														4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 55 PSF	3433.9 LB/FT	1117.3 LB/FT														4.0"	4.0"	4.0"	4.0"	4.0"



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REMARKS	DRWN	CHKD	DATE
PREV. SUBMITTAL (20-30244)	OCB	RVN	09/03/20
2023 FBC UPDATE	MRT	ERVN	08/10/23

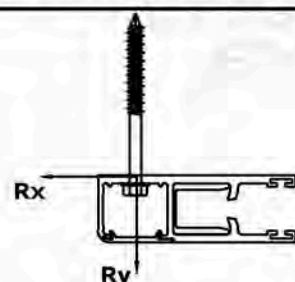
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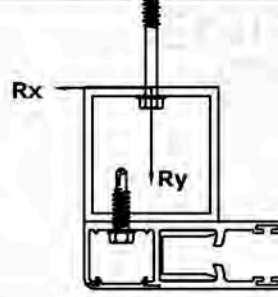
c:\users\milton\engineering\express\production - documents\projects\23-59550 multiple products 2023 fbc update fl17344\work\2023 fbc\drawings & cad\23-59550a - fl17344.1 - doc.dwg
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BUILD-OUT MOUNT: SNAP RAIL END RETENTION SHUTTER WITH SINGLE WALL SLATS

ANCHOR NOTES: SEE SHEET 6 FOR ANCHOR NOTES.

				MAXIMUM SPACING (O.C.)																	
				1/4" DEWALT ULTRACON TO 2846 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT; 2.5" MIN. EDGE DISTANCE	1/4" SS ITW TAPCON TO 3192 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT; 2.5" MIN. EDGE DISTANCE	5/16" ITW TAPCON			1/4" DEWALT POWER-BOLT TO 3000 PSI MIN. CONCRETE; 2.5" MIN. EMBEDMENT; 3" MIN. EDGE DISTANCE	1/4" ALL-POINTS SOLID-SET		1/4" LAG SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	5/16" LAG SCREW TO G=0.42 MIN WOOD; 2" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	#14 WOOD SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.125" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.25" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE DISTANCE	3/8" DEWALT SCREW BOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 4.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.125" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.1875" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.25" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	#14 316 SS SMS W/ FULL THREAD PENETRATION (OR 1/4-20 316 SS THRU-BOLT) W/ 5/8" WASHER TO 0.5" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE
SLAT SPAN	DESIGN PRESSURE	R _x	R _y																		
48"	+/- 40 PSF	0.0 LB/FT	133.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 50 PSF	0.0 LB/FT	166.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 60 PSF	0.0 LB/FT	200.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 70 PSF	0.0 LB/FT	233.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 80 PSF	0.0 LB/FT	266.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 90 PSF	0.0 LB/FT	300.1 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 100 PSF	0.0 LB/FT	333.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 110 PSF	1.2 LB/FT	367.5 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
60"	+/- 120 PSF	51.9 LB/FT	433.8 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 130 PSF	102.5 LB/FT	500.8 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 40 PSF	0.0 LB/FT	166.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 50 PSF	0.0 LB/FT	208.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 60 PSF	68.7 LB/FT	289.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
72"	+/- 70 PSF	140.0 LB/FT	373.5 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 84 PSF	239.5 LB/FT	492.1 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 40 PSF	125.9 LB/FT	266.6 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
84"	+/- 50 PSF	220.0 LB/FT	367.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 68 PSF	389.0 LB/FT	552.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.9"	3.5"	3.9"	3.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 40 PSF	291.3 LB/FT	378.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
96"	+/- 50 PSF	410.1 LB/FT	497.9 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.9"	3.4"	3.9"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 60 PSF	528.7 LB/FT	619.1 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.1"	2.7"	3.1"	3.1"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 30 PSF	295.7 LB/FT	336.9 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
108"	+/- 40 PSF	441.4 LB/FT	473.8 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.7"	3.3"	3.8"	3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 50 PSF	586.8 LB/FT	612.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.2"	2.8"	2.9"	3.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 57 PSF	688.3 LB/FT	710.5 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.4"	2.1"	2.5"	2.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
120"	+/- 30 PSF	411.0 LB/FT	405.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 40 PSF	585.0 LB/FT	561.2 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.3"	2.9"	3.0"	3.2"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 50 PSF	758.7 LB/FT	718.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.2"	2.5"	2.3"	2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 54 PSF	828.1 LB/FT	782.4 LB/FT	4.0"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.1"	2.1"	2.1"	2.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
132"	+/- 20 PSF	318.3 LB/FT	298.1 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 30 PSF	522.8 LB/FT	469.6 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.8"	3.3"	3.4"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 40 PSF	726.9 LB/FT	643.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.4"	2.1"	2.4"	2.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 50 PSF	930.6 LB/FT	820.5 LB/FT	4.0"	3.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.8"	3.8"	3.8"	2.2"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
144"	+/- 52 PSF	971.3 LB/FT	856.2 LB/FT	4.0"	3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.6"	3.6"	3.6"	2.1"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 20 PSF	397.7 LB/FT	340.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 30 PSF	633.9 LB/FT	530.5 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.3"	2.8"	2.8"	3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 40 PSF	869.6 LB/FT	723.5 LB/FT	4.0"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.0"	2.0"	2.1"	2.4"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
156"	+/- 50 PSF	1104.8 LB/FT	919.9 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.3"	3.3"	3.3"	2.4"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 20 PSF	476.3 LB/FT	381.2 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.7"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 30 PSF	745.6 LB/FT	589.5 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.4"	2.0"	2.4"	2.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 40 PSF	1014.4 LB/FT	801.8 LB/FT	4.0"	3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.7"	3.7"	3.7"	2.2"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
168"	+/- 50 PSF	1282.6 LB/FT	1018.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.7"	3.7"	3.7"	2.2"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 20 PSF	476.3 LB/FT	381.2 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.7"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"

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PREV. SUBMITTAL (20-30244) COB	FRWN		09/03/2023
2023 FBC UPDATE	MRT		09/10/2023
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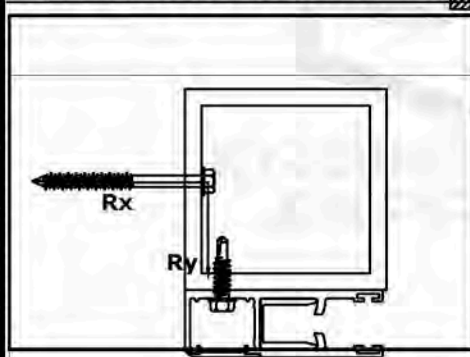
23-59550

SCALE: NTS UNLESS NOTED

c:\users\milton\engineering\express\production - documents\projects\23-59550 - multiple products 2023 fbc update fl17344\work\2023 fbc\drawings & cad\23-59550a - fl17344.1 - doc.dwg
8/21/2023 2:22 PM MILTON

ANCHOR SCHEDULE:

INTERIOR MOUNT: SNAP RAIL END RETENTION SHUTTER WITH SINGLE WALL SLATS



				MAXIMUM SPACING (O.C.)																			
SLAT SPAN	DESIGN PRESSURE	Rx	Ry	2.5" MIN. EDGE DISTANCE	2.5" MIN. EDGE DISTANCE	3.125" MIN. EDGE DISTANCE	EMBEDMENT; 4" MIN. EDGE DISTANCE	4" MIN. EDGE DISTANCE	3" MIN. EDGE DISTANCE	3" MIN. EDGE DISTANCE	3" MIN. EDGE DISTANCE	3" MIN. EDGE DISTANCE	EDGE DISTANCE	EDGE DISTANCE	EDGE DISTANCE	6063-T5 ALUM; 0.5" MIN. EDGE DISTANCE	6063-T5 ALUM; 0.5" MIN. EDGE DISTANCE	4.5" MIN. EDGE DISTANCE	WASHER TO 0.125" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	WASHER TO 0.1875" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	WASHER TO 0.25" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	WASHER TO 0.5" MIN. A36 STEEL; 0.5" MIN. EDGE DISTANCE	
				TO 2899 PSI MIN. CONCRETE; 2.25" MIN. EMBEDMENT; 3.125" MIN. EDGE DISTANCE	TO GROUT-FILLED CONCRETE BLOCK; 2.25" MIN. EMBEDMENT; 4" MIN. EDGE DISTANCE	TO HOLLOW CONCRETE BLOCK; 1.75" MIN. EMBEDMENT; 4" MIN. EDGE DISTANCE																	
48"	+/- 40 PSF	53.4 LB/FT	80.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	66.7 LB/FT	100.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 60 PSF	80.0 LB/FT	120.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 70 PSF	93.4 LB/FT	140.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 80 PSF	106.7 LB/FT	160.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 90 PSF	120.1 LB/FT	180.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 100 PSF	133.4 LB/FT	200.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 110 PSF	148.3 LB/FT	220.5 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 120 PSF	225.5 LB/FT	260.2 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
60"	+/- 130 PSF	302.9 LB/FT	300.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	66.7 LB/FT	100.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	83.4 LB/FT	125.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 60 PSF	184.6 LB/FT	173.8 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 70 PSF	289.4 LB/FT	224.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
72"	+/- 84 PSF	436.4 LB/FT	295.2 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	232.5 LB/FT	159.9 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	367.2 LB/FT	220.6 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
84"	+/- 68 PSF	610.0 LB/FT	331.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.1"	2.6"	3.2"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	442.6 LB/FT	226.8 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	609.4 LB/FT	298.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.1"	2.6"	3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
96"	+/- 60 PSF	776.4 LB/FT	371.4 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	4.0"	3.3"	2.5"	2.1"	2.6"	3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	631.0 LB/FT	284.2 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.0"	2.6"	3.2"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	831.8 LB/FT	367.4 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	4.0"	4.0"	3.2"	2.3"		2.4"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	
108"	+/- 57 PSF	972.6 LB/FT	426.2 LB/FT		4.0"	4.0"	4.0"		4.0"	4.0"	4.0"		3.2"	2.3"		2.1"	3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 30 PSF	573.3 LB/FT	243.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.4"	2.8"	3.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	809.6 LB/FT	336.6 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	4.0"	4.0"	3.3"	2.4"	2.0"	2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	1046.3 LB/FT	431.2 LB/FT		4.0"	4.0"	4.0"		4.0"	4.0"	4.0"					3.2"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
120"	+/- 54 PSF	1141.2 LB/FT	469.3 LB/FT		3.7"	4.0"	4.0"		4.0"	4.0"	4.0"					2.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 30 PSF	710.7 LB/FT	281.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.8"	2.7"	2.3"	2.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	984.5 LB/FT	386.2 LB/FT		4.0"	4.0"	4.0"		4.0"	4.0"	4.0"					2.1"	3.5"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 50 PSF	1258.9 LB/FT	492.2 LB/FT		3.4"	4.0"	4.0"		4.0"	4.0"	4.0"					2.7"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
132"	+/- 52 PSF	1313.9 LB/FT	513.6 LB/FT		3.2"	4.0"	4.0"		4.0"	4.0"	3.7"					2.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 20 PSF	534.0 LB/FT	204.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.7"	3.1"	3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 30 PSF	846.1 LB/FT	318.2 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	4.0"	4.0"	3.3"	2.3"		2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	1159.1 LB/FT	434.0 LB/FT		3.7"	4.0"	4.0"		4.0"	4.0"	4.0"					3.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
144"	+/- 50 PSF	1472.8 LB/FT	551.8 LB/FT			4.0"	3.9"		4.0"	4.0"	3.3"					2.4"	3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 20 PSF	628.8 LB/FT	228.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.1"	2.6"	3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 30 PSF	981.5 LB/FT	353.6 LB/FT	4.0"	4.0"	4.0"	4.0"		4.0"	4.0"	4.0"					2.1"	3.6"	4.0"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	1335.2 LB/FT	481.0 LB/FT		3.2"	4.0"	4.0"		4.0"	4.0"	3.7"					2.7"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
144"	+/- 50 PSF	1689.9 LB/FT	610.7 LB/FT			4.0"										2.1"	3.4"	4.0"	4.0"	4.0"	4.0"	4.0"	

ANCHOR NOTES: SEE SHEET 6 FOR ANCHOR NOTES.

FRANK BENNARD, P.E.
PE# 0046549 CA# 9885

AUGUST 21, 2023



FL 17344.1

ALUTECH UNITED, INC.

117 DIXON STREET
SELBYVILLE, DE 19975
(302) 436-6005
Magnum 3.57 Security Star Roll Down Shutter
FLORIDA BUILDING CODE EIGHTH EDITION (2023)
FLORIDA STATEWIDE APPROVAL (FSA FL #17344.1)

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Magnum 3.57 Security Star Roll Down Shutter
FLORIDA BUILDING CODE EIGHTH EDITION (2023)
FLORIDA STATEWIDE APPROVAL (FSA FL #17344.1)

REMARKS	DATE	DRWN	CHKD	CCB	RWVN	ER/RN	MRT
PREV SUBMITTAL (20-30244)	09/03/20						
2023 FBC UPDATE	08/10/23						

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END RETENTION MULLION SCHEDULE

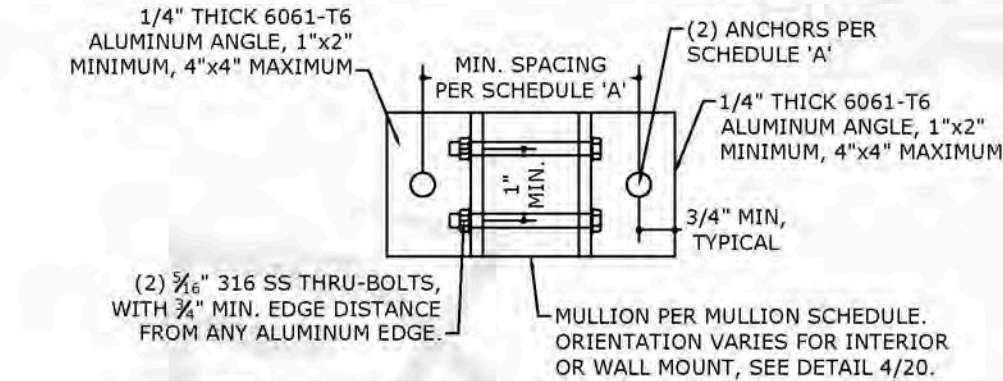
SLAT SPAN	DESIGN PRESSURE	3"x3"x0.25" 6063-T6 ALUMINUM TUBE								4"x6"x0.25" 6063-T6 ALUMINUM TUBE								4"x8"x0.25" 6063-T6 ALUMINUM TUBE							
		INTERMEDIATE MULLION		END MULLION						INTERMEDIATE MULLION		END MULLION						INTERMEDIATE MULLION		END MULLION					
		MAX MULLION LENGTH	END REACTION Rsum	MAX MULLION LENGTH	END REACTION Rv	END REACTION Rt	END REACTION Rsum	MAX MULLION LENGTH	END REACTION Rsum	MAX MULLION LENGTH	END REACTION Rv	END REACTION Rt	END REACTION Rsum	MAX MULLION LENGTH	END REACTION Rsum	MAX MULLION LENGTH	END REACTION Rv	END REACTION Rt	END REACTION Rsum	MAX MULLION LENGTH	END REACTION Rsum	MAX MULLION LENGTH	END REACTION Rv	END REACTION Rt	END REACTION Rsum
UP TO 96"	UP TO 60 PSF	58.5"	2202 LB	49.8"	1519 LB	937 LB	1785 LB	110.4"	4153 LB	89.1"	2717 LB	1677 LB	3193 LB	138.1"	5199 LB	96.9"	2954 LB	1823 LB	3471 LB						
	UP TO 80 PSF	51.3"	2665 LB	44.6"	1896 LB	1157 LB	2221 LB	95.6"	4962 LB	79.3"	3373 LB	2058 LB	3951 LB	117.6"	6106 LB	87.0"	3702 LB	2259 LB	4337 LB						
	UP TO 104 PSF	44.4"	3084 LB	38.6"	2200 LB	1343 LB	2578 LB	82.6"	5741 LB	68.5"	3902 LB	2381 LB	4571 LB	101.6"	7064 LB	78.9"	4496 LB	2744 LB	5267 LB						
UP TO 144"	UP TO 60 PSF	46.7"	2932 LB	37.8"	2436 LB	1187 LB	2710 LB	86.9"	5459 LB	67.4"	4347 LB	2119 LB	4836 LB	106.9"	6717 LB	80.0"	5159 LB	2514 LB	5739 LB						
	UP TO 86 PSF	38.7"	3537 LB	31.4"	2931 LB	1434 LB	3263 LB	72.0"	6585 LB	56.0"	5230 LB	2558 LB	5822 LB	88.6"	8102 LB	66.4"	6207 LB	3036 LB	6910 LB						
UP TO 180"	UP TO 67 PSF	38.6"	3545 LB	30.3"	3124 LB	1392 LB	3420 LB	71.8"	6601 LB	54.2"	5590 LB	2490 LB	6119 LB	88.4"	8122 LB	64.5"	6647 LB	2961 LB	7277 LB						
UP TO 216"	UP TO 55 PSF	38.3"	3569 LB	29.4"	3291 LB	1368 LB	3564 LB	71.4"	6645 LB	52.6"	5899 LB	2451 LB	6388 LB	87.8"	8177 LB	62.7"	7024 LB	2919 LB	7606 LB						

1. "END RETENTION MULLION SCHEDULE" IS APPLICABLE TO ALL END RETENTION MULLIONS.
2. "INTERMEDIATE MULLIONS" AND "END MULLIONS" ARE AS DEFINED IN ELEVATION 1/20.
3. ALLOWABLE DESIGN PRESSURES AND SLAT SPANS INDICATED ARE FOR DETERMINING PERMISSIBLE MULLION LENGTHS ONLY. ACTUAL SLAT SPANS AND DESIGN PRESSURES SHALL NOT EXCEED THOSE INDICATED IN SPAN SCHEDULES.
4. "END REACTIONS" ARE LISTED FOR EACH COMBINATION OF DESIGN LOAD, MULLION TYPE, & SLAT SPAN. CHOOSE MOUNTING CONNECTIONS (PER APPLICABLE CONNECTION DETAILS HEREIN) THAT PROVIDES "CONNECTION CAPACITY" GREATER THAN OR EQUAL TO "END REACTIONS" GIVEN ABOVE.
5. THIS SCHEDULE MAY BE USED FOR ALL MOUNTING CONDITIONS LISTED HEREIN.
6. SEE MULLION HORIZONTAL SECTIONS ON SHEET 19 FOR REQUIRED MULLION ORIENTATIONS.

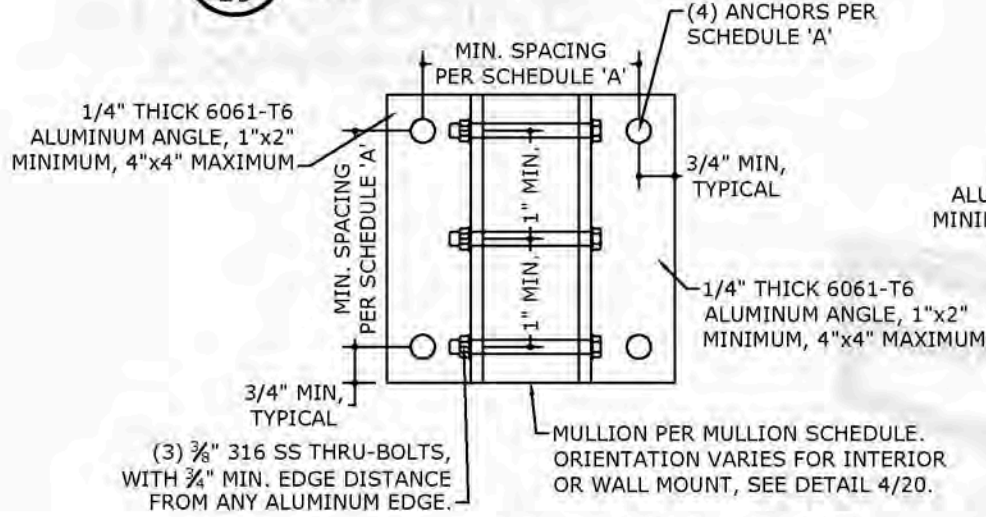
SCHEDULE 'A'

ANCHOR TYPE	MINIMUM SPACING	MINIMUM EDGE DISTANCE	CONNECTION DETAIL	CONNECTION CAPACITY	
3/8" DEWALT SCREW BOLTS W/ 3-1/2" EMBED TO 3KSI MIN. CONCRETE	4.5"	4.5"	1/12	Tcap	4410 LB
				Vcap	3065 LB
	2.5"	4.5"	3/12	Tcap	8820 LB
				Vcap	6130 LB
3/8" DEWALT STEEL DROPIN W/ 1-9/16" EMBED TO 3KSI MIN. CONCRETE	4.5"	5.25"	1/12	Tcap	11819 LB
				Vcap	10176 LB
	2.5"	5.25"	3/12	Tcap	1590 LB
				Vcap	2290 LB
5/16" ITW TAPCON XL OR DEWALT ULTRA CON W/ 2-1/4" MIN. EMBED TO 3.515 KSI MIN. CONCRETE	5.0"	3.125"	1/12	Tcap	3180 LB
				Vcap	4580 LB
	2.5"	5.25"	3/12	Tcap	3689 LB
				Vcap	5313 LB
			2/12	Tcap	1576 LB
				Vcap	1700 LB
				Tcap	3152 LB
				Vcap	3400 LB

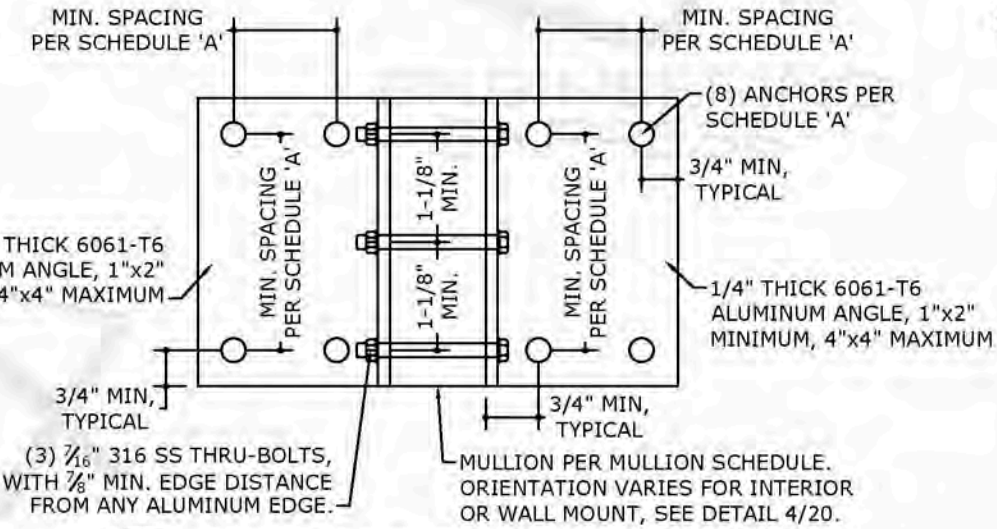
- SCHEDULE 'A' NOTES:
1. INTERIOR MOUNT:
- 1.1. FOR ALL MULLIONS, 'Rsum' VALUES IN MULLION SCHEDULE SHALL NOT EXCEED MAX 'Vcap' VALUES NOTED IN SCHEDULE 'A'.
2. WALL MOUNT:
- 2.1. FOR INTERMEDIATE END RETENTION MULLIONS AND ALL NON-END RETENTION MULLIONS, 'Rsum' VALUES IN MULLION SCHEDULE SHALL NOT EXCEED MAX 'Tcap' VALUES NOTED IN SCHEDULE 'A'.
- 2.2. FOR END RETENTION END MULLIONS, **Rv/Vcap + Rt/Tcap SHALL BE LESS THAN OR EQUAL TO 1.0**, WHERE 'Rv' AND 'Rt' ARE PER MULLION SCHEDULE, AND 'Tcap' AND 'Vcap' ARE PER SCHEDULE 'A'.



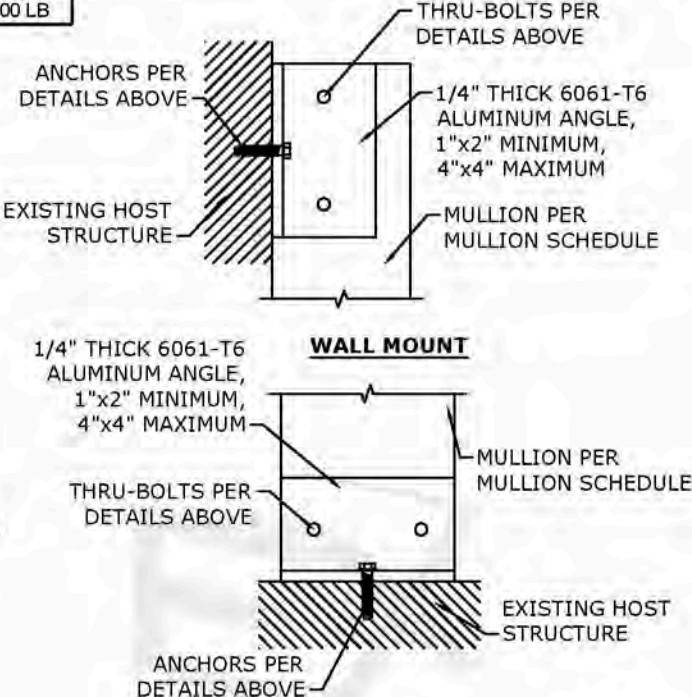
1 INTERIOR OR WALL MOUNT
19 N.T.S.



2 INTERIOR OR WALL MOUNT
20 N.T.S.



3 INTERIOR OR WALL MOUNT
20 N.T.S.



4 INTERIOR MOUNT
MOUNTING CONDITIONS
VERTICAL SECTIONS
20 N.T.S.

FRANK BENNARDO, P.E.
PE# 0046549 CA# 9885

AUGUST 21, 2023



FL 17344.1

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ALUTECH UNITED, INC.

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Magnum 3.57 Security Star Roll Down Shutter
FLORIDA BUILDING CODE EIGHTH EDITION (2023)
FLORIDA STATEWIDE APPROVAL (FSA FL#17344.1)

REMARKS	DRWN	CHKD	DATE
PREV. SUBMITTAL (20-30244) CCB	RVN		09/03/20
2023 FBC UPDATE	MRT		09/10/23

23-59550

SCALE: NTS UNLESS NOTED

20 OF 20