

EX

VISIT ECA/GIO/595



AS NOTED IN
SCHEDULES

POSITIVE AND NEGATIVE DESIGN PRESSURES CALCULATED FOR USE WITH THIS SYSTEM SHALL BE DETERMINED BY OTHERS ON A JOB-SPECIFIC BASIS IN ACCORDANCE WITH THE GOVERNING CODE. SITE-SPECIFIC WIND LOAD REQUIREMENTS SHALL BE DETERMINED IN ACCORDANCE WITH ASCE 7 AND THE GOVERNING BUILDING CODE BY SEPARATE ENGINEERING CERTIFICATION AND SHALL BE LESS THAN OR EQUAL TO THE POSITIVE OR NEGATIVE DESIGN PRESSURE CAPACITY VALUE LISTED HEREIN FOR ANY ASSEMBLY WITHIN THE LIMITATIONS STATED HEREIN.

1. THE SYSTEM DESCRIBED HEREIN HAS BEEN DESIGNED AND TESTED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE EIGHTH EDITION (2023), FOR USE INSIDE AND OUTSIDE THE HIGH VELOCITY HURRICANE ZONE. THIS SYSTEM HAS BEEN TESTED IN ACCORDANCE WITH TAS 201, 202, AND 203 TESTING STANDARDS PER TEST REPORT BT-ATC-19-002 BY BLACKWATER TECHNICAL SERVICES INC.
2. PRESSURE VALUES ON THIS APPROVAL ARE (ASD) ALLOWABLE DESIGN PRESSURES.
3. WIND LOAD DURATION FACTOR $C_d = 1.6$ HAS BEEN USED FOR WOOD ANCHOR DESIGN.
4. THE ARCHITECT/ENGINEER OF RECORD FOR THE PROJECT SUPERSTRUCTURE WITH WHICH THIS DESIGN IS USED SHALL BE RESPONSIBLE FOR THE INTEGRITY OF ALL SUPPORTING SURFACES TO THIS DESIGN WHICH SHALL BE COORDINATED BY THE PERMITTING CONTRACTOR. WOOD BUCKS (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER LOADS TO EXISTING STRUCTURE.
5. POSITIVE AND NEGATIVE DESIGN PRESSURES CALCULATED FOR USE WITH THIS SYSTEM SHALL BE DETERMINED PER SEPARATE ENGINEERING IN ACCORDANCE WITH THE GOVERNING CODE. PRESSURE REQUIREMENTS SHALL BE LESS THAN OR EQUAL TO THE POSITIVE OR NEGATIVE DESIGN PRESSURE CAPACITY VALUES LISTED HEREIN FOR ANY ASSEMBLY AS SHOWN.
6. DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY A 1.5 SAFETY FACTOR.
7. THE SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. FOR SITE CONDITIONS DIFFERENT FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE IN CONJUNCTION WITH THIS DOCUMENT.
8. PERMIT HOLDER SHALL VERIFY THE ADEQUACY OF THE EXISTING STRUCTURE TO WITHSTAND SUPERIMPOSED LOADS.
9. THE CONTRACTOR IS RESPONSIBLE TO INSULATE ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS.
10. FASTENERS SHALL BE CADMIUM-PLATED OR OTHERWISE CORROSION-RESISTANT MATERIAL AND SHALL COMPLY WITH "SPECIFICATIONS FOR ALUMINUM STRUCTURES" SECTION J.3.7.2 BY THE ALUMINUM ASSOCIATION INC, AND ANY APPLICABLE FEDERAL, STATE AND OR LOCAL CODES.
11. CONCRETE ANCHORS NOTED HEREIN SHALL BE EMBEDDED TO UN-CRACKED CONCRETE ONLY. INSTALL ALL CONCRETE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS.
12. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. MINIMUM EMBEDMENT SHALL BE AS NOTED HEREIN. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES.
13. MAXIMUM SLAT SPAN: 24'-0".
14. MAXIMUM ALLOWABLE DESIGN PRESSURE: PER DESIGN SCHEDULES.
15. ENGINEER SEAL AFFIXED HERETO VALIDATES STRUCTURAL DESIGN AS SHOWN ONLY. USE OF THIS SPECIFICATION BY CONTRACTOR, et. al. INDEMNIFIES & SAVES HARMLESS THIS ENGINEER FOR ALL COST & DAMAGES INCLUDING LEGAL FEES & APPELLATE FEES RESULTING FROM MATERIAL FABRICATION, SYSTEM ERECTION, & CONSTRUCTION PRACTICES BEYOND THAT WHICH IS CALLED FOR BY LOCAL, STATE, & FEDERAL CODES & FROM DEVIATIONS OF THIS PLAN.
16. EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED.
17. ALTERATIONS, ADDITIONS, HIGHLIGHTING, OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE THIS CERTIFICATION.
18. END RETENTION SHUTTER ASSEMBLY WITH SINGLE WALL SLATS SHALL BEAR A PERMANENT LABEL ON THE BOTTOM OF THE HOOD OR ON THE BOTTOM SLAT FACING THE EXTERIOR WITH THE FOLLOWING MINIMUM INFORMATION:
ALUTECH UNITED, INC.
SELBYVILLE, DE
MISSILE LEVEL D, WIND ZONE 4 - TAS 201, 202, & 203
FLORIDA PRODUCT APPROVAL #17344.2

FL 17344.2

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 DELRAY BEACH, FL 33444
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ALUTECH UNITED, INC.

11/ DIXON STREET
SELBYVILLE, DE 19975
(302) 436-6005

Magnum Security Star Roll Down Shutter
FLORIDA BUILDING CODE EIGHTH EDITION (2023)
FLORIDA STATEWIDE APPROVAL (FSA FL#17344.2)

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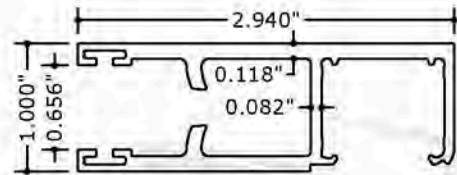
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23-59551

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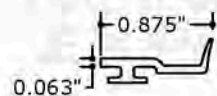
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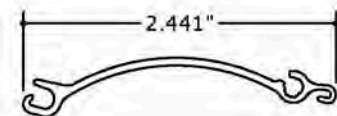


SNAP RAIL

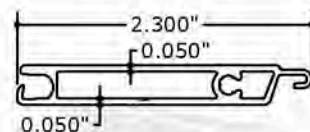
1 END-RETENTION RAIL
8" = 1'-0" 6063-T5 ALUM.



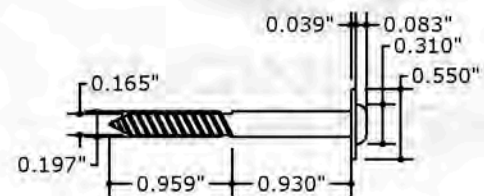
3 END-RETENTION RAIL INSERT
8" = 1'-0" PLASTIC



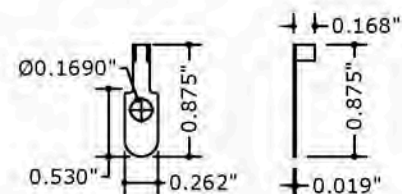
4 SINGLE WALL SLAT
8" = 1'-0" 6063-T5 ALUM.



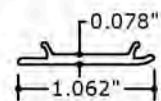
5 BASE SLAT
8" = 1'-0" 6063-T5 ALUM.



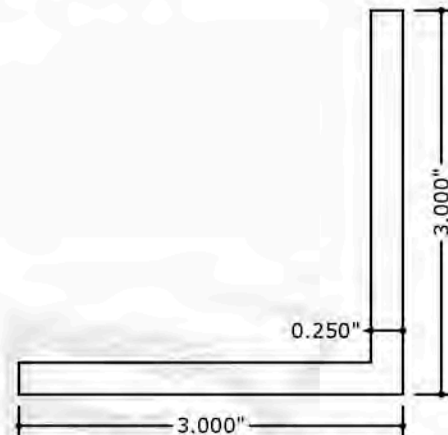
6 RETAINING SCREW
8" = 1'-0" 304 S.S.



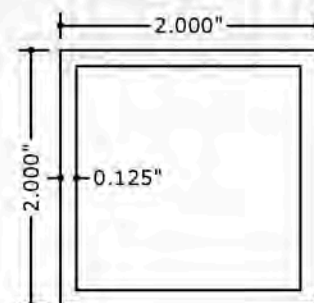
7 SLAT SIDE LOCK
8" = 1'-0" 316 STAINLESS STEEL



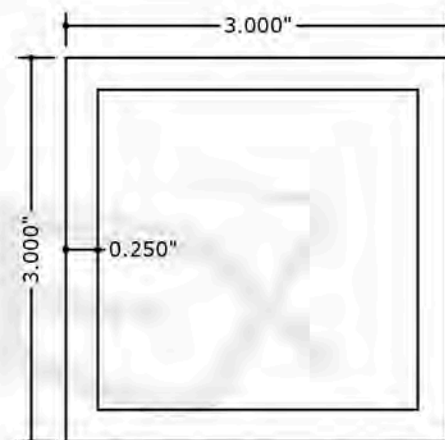
2 END-RETENTION RAIL SNAP COVER
8" = 1'-0" 6063-T5 ALUM.



8 3"x3"x0.250" ANGLE
8" = 1'-0" 6063-T5 ALUM.



9 2"x2"x0.125" TUBE
8" = 1'-0" 6063-T5 ALUM.



10 3"x3"x0.250" TUBE
8" = 1'-0" 6063-T5 ALUM.

ALLOWABLE SLAT SPAN SCHEDULES:

SPAN SCHEDULE 1	
MAGNUM 3.57 RETENTION SHUTTER WITH SINGLE WALL SLATS	
SLAT SPAN	ALLOWABLE DESIGN PRESSURE
48.0"	± 200.0 PSF
60.0"	± 145.1 PSF
72.0"	± 121.7 PSF
84.0"	± 109.3 PSF
96.0"	± 101.4 PSF
108.0"	± 95.9 PSF
120.0"	± 91.6 PSF
132.0"	± 88.0 PSF
144.0"	± 85.0 PSF
156.0"	± 76.3 PSF
168.0"	± 69.1 PSF
180.0"	± 63.1 PSF
192.0"	± 58.0 PSF
204.0"	± 53.6 PSF
216.0"	± 49.9 PSF
228.0"	± 46.6 PSF
240.0"	± 43.7 PSF
252.0"	± 41.2 PSF
264.0"	± 38.9 PSF
276.0"	± 36.8 PSF
288.0"	± 35.0 PSF

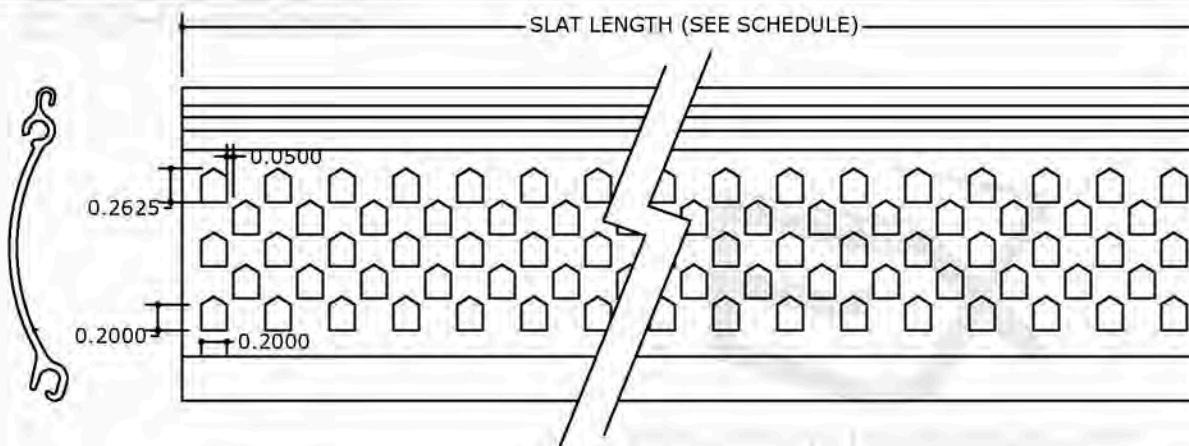
SPAN AND GLAZING SEPARATION NOTES:

- 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.

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"	6.4"	6.4"
60.0"	9.8"	6.8"
72.0"	9.8"	7.3"
84.0"	9.8"	7.9"
96.0"	9.8"	8.5"
108.0"	9.8"	9.0"
120.0"	9.8"	9.5"
132.0"	10.0"	10.0"
144.0"	10.6"	10.6"
156.0"	13.2"	10.9"
168.0"	13.2"	11.3"
180.0"	13.2"	11.6"
192.0"	13.2"	12.0"
204.0"	13.2"	12.3"
216.0"	13.2"	12.6"
228.0"	13.2"	13.0"
240.0"	13.3"	13.3"
252.0"	13.6"	13.6"
264.0"	13.9"	13.9"
276.0"	14.2"	14.2"
288.0"	14.5"	14.5"



4b PERFORATED SINGLE WALL SLAT
12" = 1'-0" 6063-T5 ALUM.

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

AUGUST 21, 2023



FL 17344.2

ALUTECH UNITED, INC.
117 DIXON STREET
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(302) 436-6005
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FLORIDA STATEWIDE APPROVAL (FSA FL #17344.2)

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REMARKS	DRWN	CHKD	DATE
PREV. SUBMITTAL (20-302440)	CCB	RWN	08/10/20
2023 FBC UPDATE	MRT	ER/RN	08/10/23

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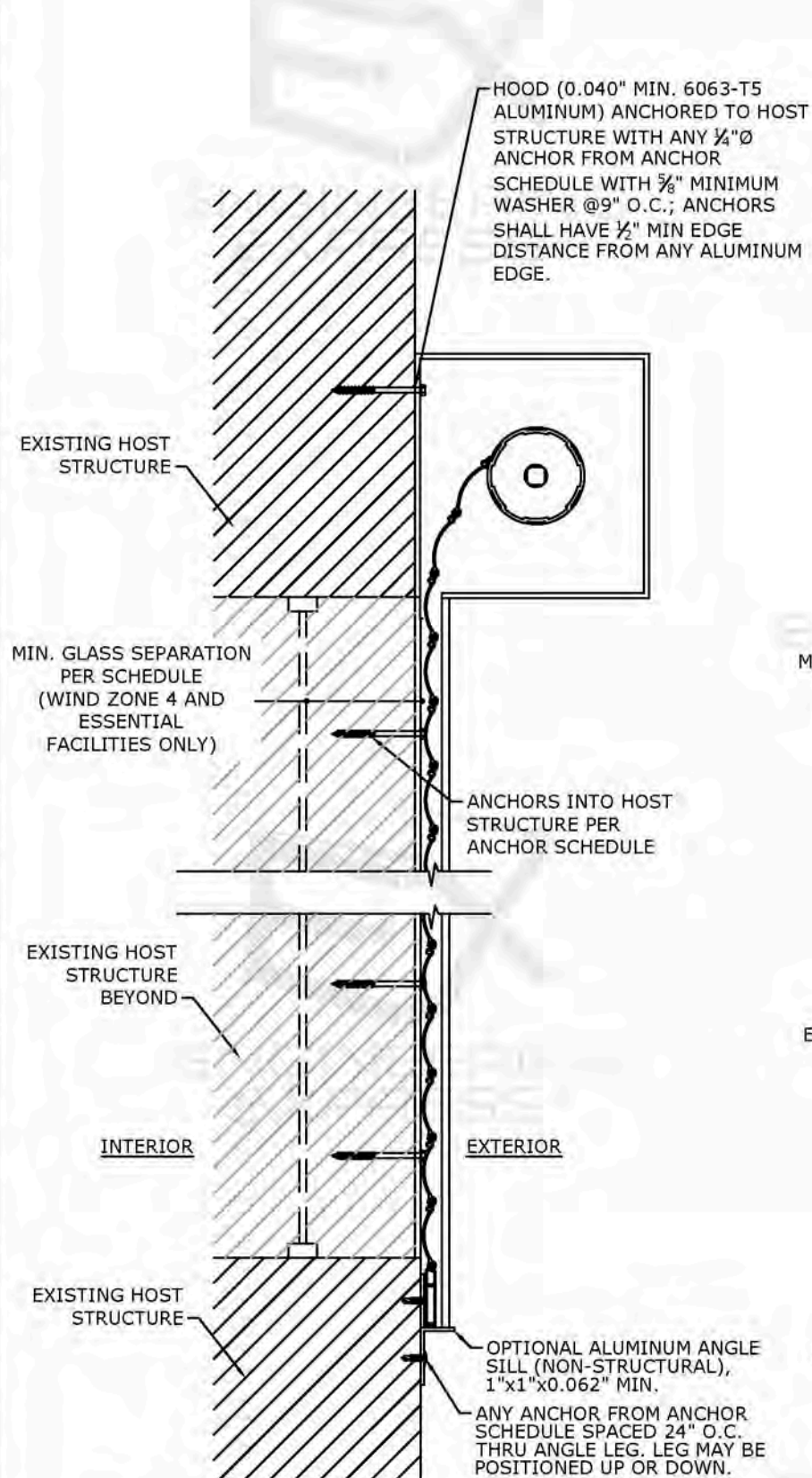
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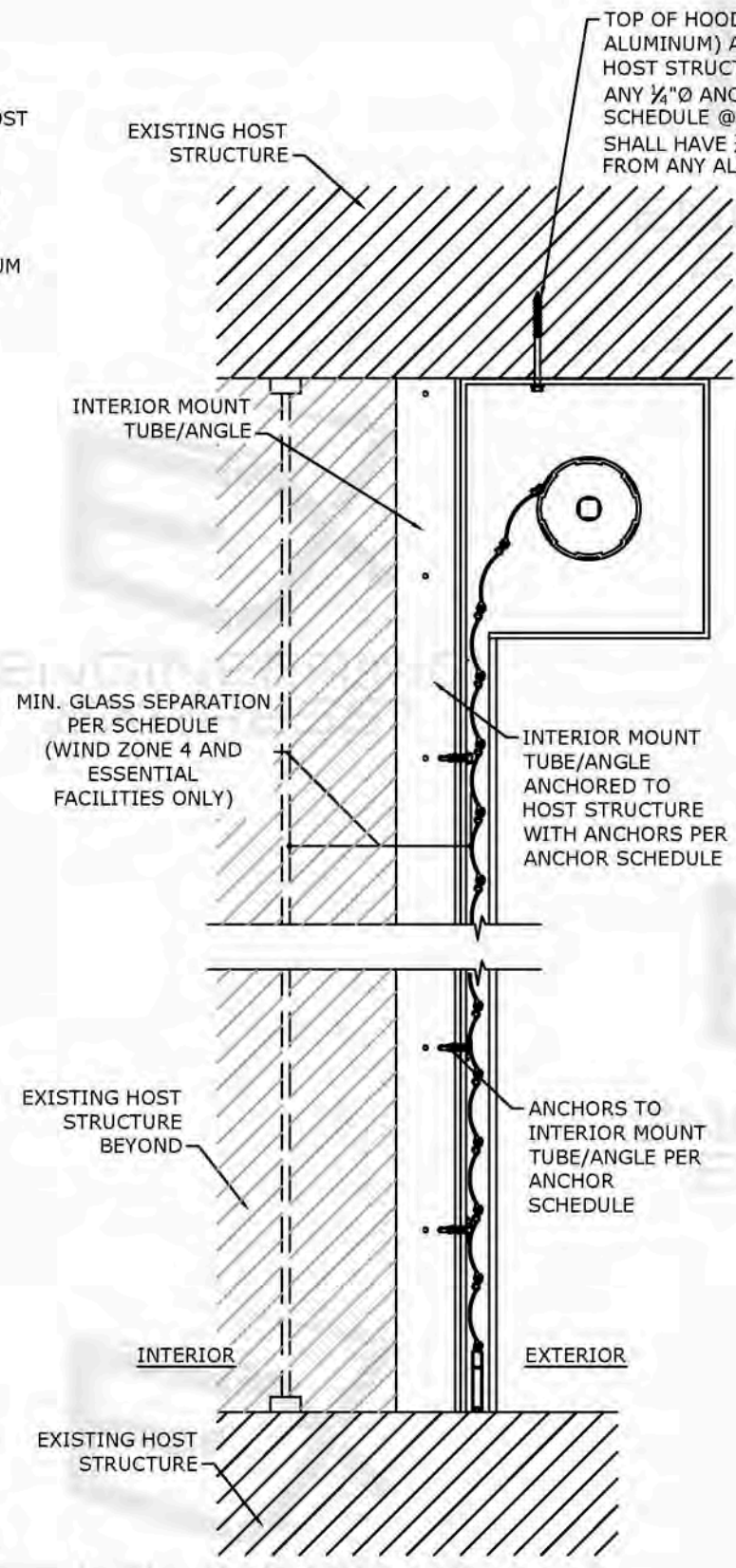
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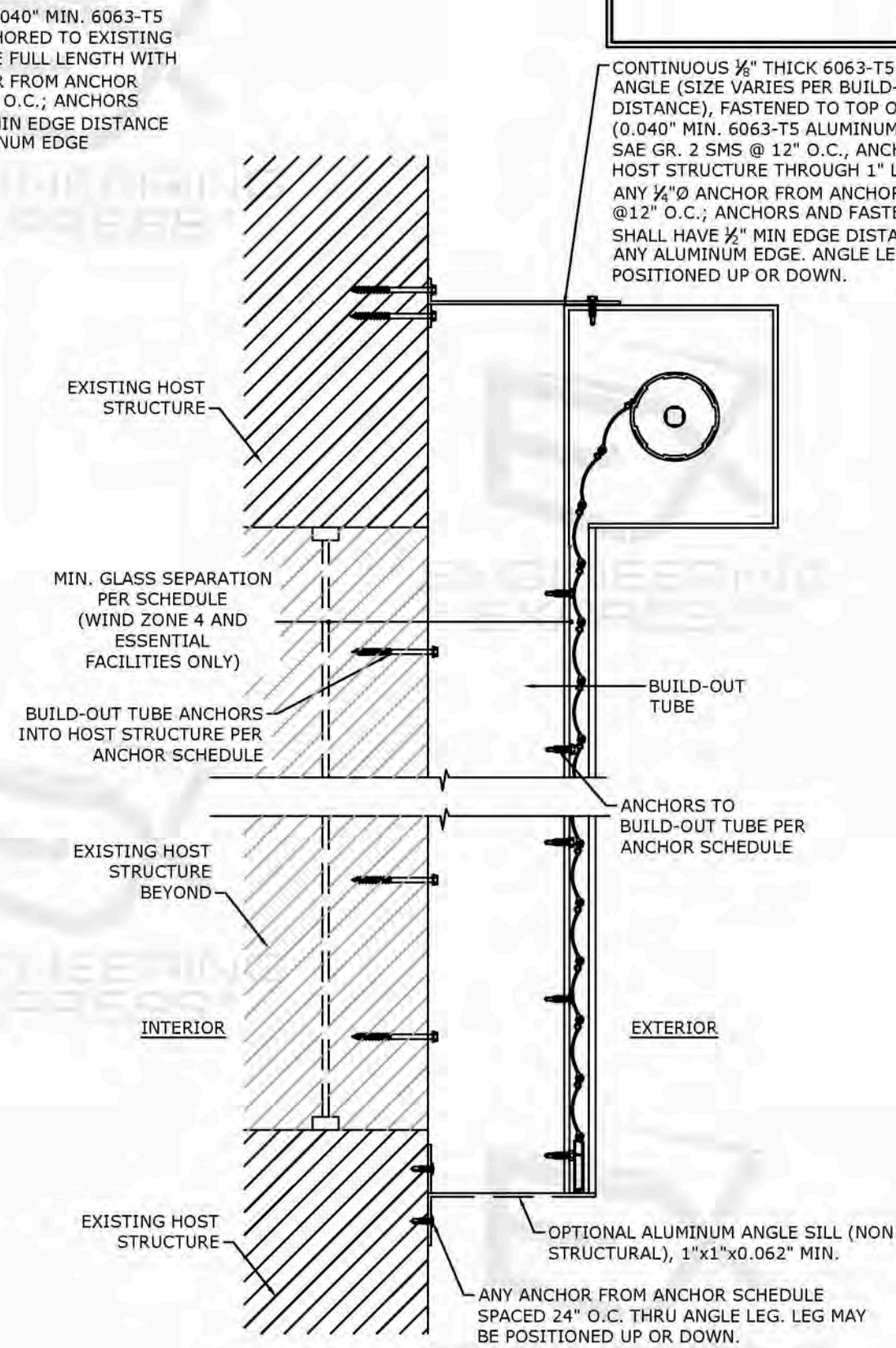
AUGUST 21, 2023



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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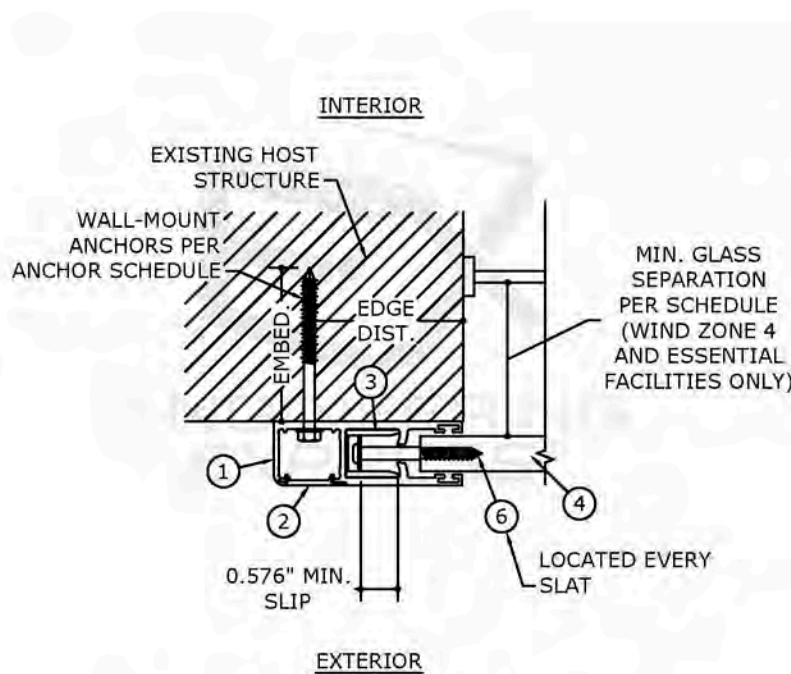
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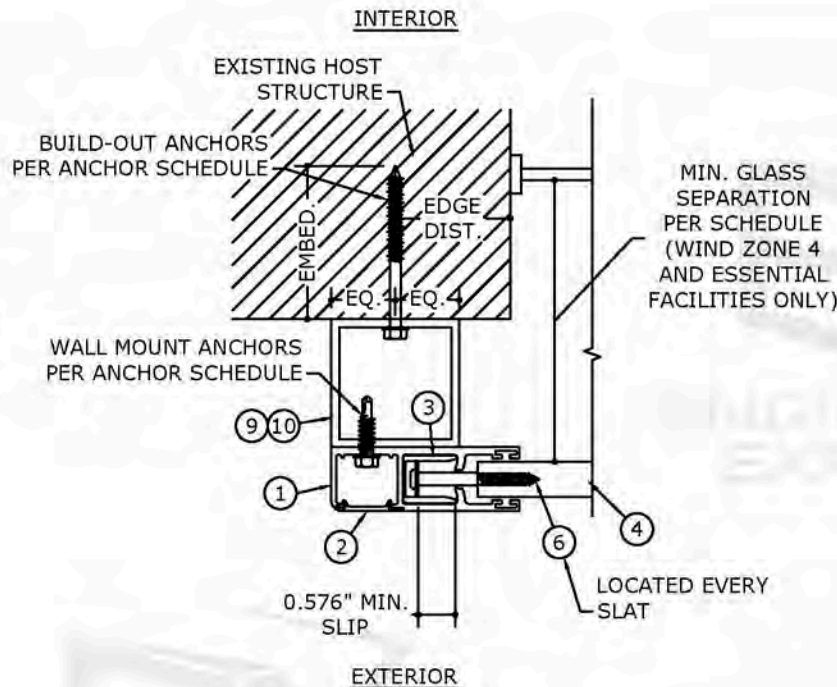
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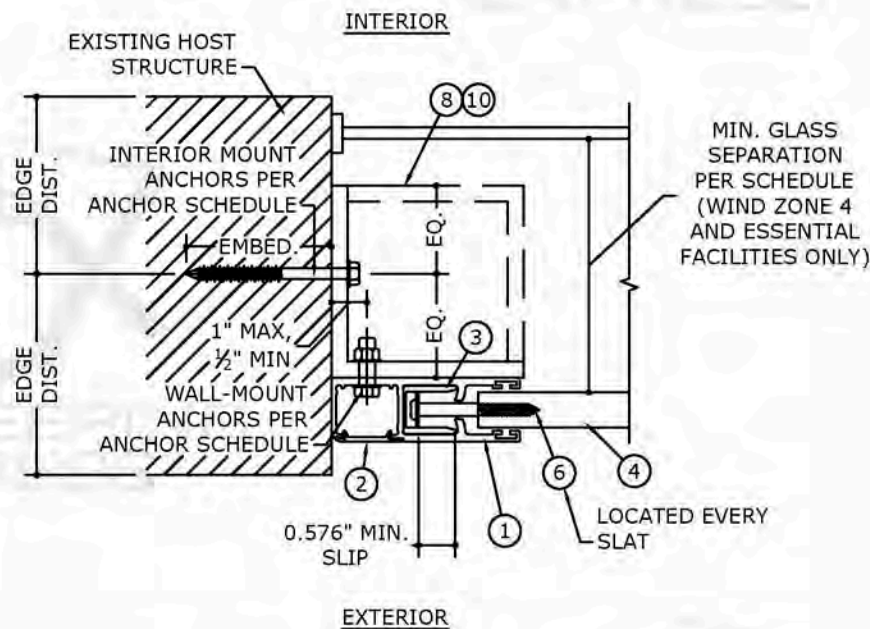
AUGUST 21, 2023



1
5
END RETENTION
TYPICAL WALL MOUNT
N.T.S. HORIZ SECTION



2
5
END RETENTION
TYP. BUILD-OUT MOUNT
N.T.S. HORIZ SECTION



3
5
END RETENTION
TYP. INTERIOR MOUNT
N.T.S. HORIZ SECTION

ANCHOR SCHEDULE:

(SEE DESIGN SCHEDULES ON SHEETS 6-14 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 SCREWBOLT	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.

FL 17344.2

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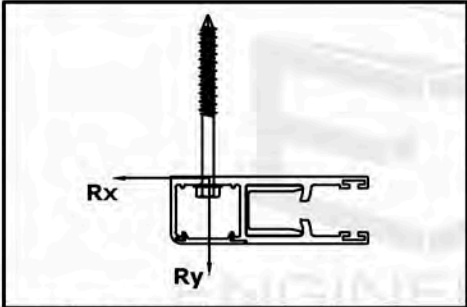
ANCHOR SCHEDULE:  : INDICATES VALUES NOT APPROVED FOR USE.

WALL MOUNT: MAGNUM END RETENTION SHUTTER WITH SINGLE WALL SLATS

ANCHOR NOTES: SEE SHEET 5 FOR ANCHOR NOTES.

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

AUGUST 21, 2023



SLAT SPAN	DESIGN PRESSURE	R _x	R _y	DISTANCE	DISTANCE	DISTANCE	EDGE DISTANCE	DISTANCE	EDGE DISTANCE	DISTANCE	DISTANCE	DISTANCE	DISTANCE	DISTANCE	DISTANCE	0.5" MIN. EDGE	0.5" MIN. EDGE	DISTANCE
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"
	+/- 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"
	+/- 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"
	+/- 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"
	+/- 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"
	+/- 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"
	+/- 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"
	+/- 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"
	+/- 120 PSF	51.9 LB/FT	260.4 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"
	+/- 130 PSF	102.2 LB/FT	301.1 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"
	+/- 140 PSF	152.3 LB/FT	342.6 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"
	+/- 150 PSF	202.0 LB/FT	384.8 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"
	+/- 160 PSF	251.4 LB/FT	427.8 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"
	+/- 170 PSF	300.4 LB/FT	471.5 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"
60"	+/- 180 PSF	349.1 LB/FT	515.9 LB/FT	4.0"	4.0"	4.0"	4.0"	3.7"	4.0"	4.0"	4.0"	4.0"	3.8"	4.0"	3.8"	4.0"	4.0"	4.0"
	+/- 190 PSF	397.5 LB/FT	561.0 LB/FT	4.0"	4.0"	4.0"	4.0"	3.4"	4.0"	4.0"	4.0"	3.9"	3.4"	3.8"	3.5"	4.0"	4.0"	4.0"
	+/- 200 PSF	445.6 LB/FT	606.9 LB/FT	4.0"	4.0"	4.0"	4.0"	3.1"	4.0"	4.0"	3.6"	3.5"	3.1"	3.5"	3.2"	4.0"	4.0"	4.0"
	+/- 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"
	+/- 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"
	+/- 60 PSF	68.7 LB/FT	173.9 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"
	+/- 70 PSF	139.8 LB/FT	224.4 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"
	+/- 80 PSF	210.8 LB/FT	275.6 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"
	+/- 90 PSF	281.5 LB/FT	327.5 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"
	+/- 100 PSF	351.9 LB/FT	380.1 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"
72"	+/- 110 PSF	422.1 LB/FT	433.4 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"
	+/- 120 PSF	492.0 LB/FT	487.3 LB/FT	4.0"	4.0"	4.0"	4.0"	3.5"	4.0"	4.0"	3.9"	3.4"	3.0"	3.5"	3.8"	4.0"	4.0"	4.0"
	+/- 130 PSF	561.7 LB/FT	541.9 LB/FT	4.0"	4.0"	4.0"	4.0"	3.1"	4.0"	4.0"	3.4"	3.0"	2.6"	3.1"	3.4"	4.0"	4.0"	4.0"
	+/- 145 PSF	665.7 LB/FT	625.0 LB/FT	4.0"	4.0"	4.0"	4.0"	2.7"	4.0"	4.0"	2.9"	2.6"	2.2"	2.6"	2.9"	4.0"	4.0"	4.0"
	+/- 40 PSF	125.8 LB/FT	160.1 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"
	+/- 50 PSF	219.8 LB/FT	221.2 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"
	+/- 60 PSF	313.6 LB/FT	283.0 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"
	+/- 70 PSF	407.1 LB/FT	345.7 LB/FT	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"
84"	+/- 80 PSF	500.3 LB/FT	409.2 LB/FT	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"
	+/- 90 PSF	593.2 LB/FT	473.5 LB/FT	4.0"	4.0"	4.0"	4.0"	3.4"	4.0"	4.0"	3.6"	3.0"	2.6"	3.1"	3.7"	4.0"	4.0"	4.0"
	+/- 110 PSF	778.2 LB/FT	604.5 LB/FT	4.0"	4.0"	4.0"	4.0"	2.9"	4.0"	4.0"	2.6"	2.3"	2.0"	2.3"	2.8"	4.0"	4.0"	4.0"
	+/- 122 PSF	888.6 LB/FT	684.6 LB/FT	3.5"	3.8"	4.0"	4.0"	2.5"	4.0"	4.0"	2.4"	2.0"	1.7"	2.1"	2.5"	4.0"	4.0"	4.0"
	+/- 40 PSF	291.1 LB/FT	227.5 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"
	+/- 50 PSF	409.7 LB/FT	300.1 LB/FT	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"
96"	+/- 60 PSF	528.0 LB/FT	373.7 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"
	+/- 70 PSF	645.9 LB/FT	448.3 LB/FT	4.0"	4.0"	4.0"	4.0"	3.4"	4.0"	4.0"	3.5"	2.8"	2.4"	2.9"	3.7"	4.0"	4.0"	4.0"
	+/- 80 PSF	763.6 LB/FT	523.9 LB/FT	4.0"	4.0"	4.0"	4.0"	2.9"	4.0"	4.0"	3.0"	2.4"	2.0"	2.5"	3.2"	4.0"	4.0"	4.0"
	+/- 90 PSF	880.8 LB/FT	600.6 LB/FT	3.7"	4.0"	4.0"	4.0"	2.5"	4.0"	4.0"	2.6"	2.1"	1.6"	2.1"	2.7"	4.0"	4.0"	4.0"
	+/- 109 PSF	1102.7 LB/FT	749.0 LB/FT	3.2"	3.2"	4.0"	4.0"	2.0"	4.0"	3.6"	2.1"	1.6"	1.4"	1.7"	2.2"	4.0"	4.0"	4.0"
	+/- 40 PSF	441.0 LB/FT	285.5 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"
96"	+/- 50 PSF	586.1 LB/FT	369.7 LB/FT	4.0"	4.0"	4.0"	4.0"	3.9"	4.0"	4.0"	4.0"	4.0"	3.1"	2.7"	3.3"	4.0"	4.0"	4.0"
	+/- 60 PSF	730.8 LB/FT	455.1 LB/FT	4.0"	4.0"	4.0"	4.0"	3.2"	4.0"	4.0"	3.2"	2.5"	2.1"	2.6"	3.5"	4.0"	4.0"	4.0"
	+/- 70 PSF	875.1 LB/FT	541.8 LB/FT	3.9"	4.0"	4.0"	4.0"	2.7"	4.0"	4.0"	2.7"	2.1"	1.6"	2.2"	3.0"	4.0"	4.0"	4.0"
	+/- 80 PSF	1019.0 LB/FT	629.8 LB/FT	3.3"	3.6"	4.0"	4.0"	2.3"	4.0"	4.0"	2.3"	1.9"	1.6"	1.9"	2.5"	4.0"	4.0"	4.0"
	+/- 90 PSF	1162.5 LB/FT	719.0 LB/FT	2.9"	3.2"	4.0"	4.0"	2.0"	4.0"	3.6"	2.0"	1.6"	1.4"	1.6"	2.2"	4.0"	4.0"	4.0"
	+/- 101 PSF	1319.9 LB/FT	818.7 LB/FT	2.6"	2.9"	4.0"	3.8"	1.6"	4.0"	3.1"	1.6"	1.4"	1.2"	1.5"	2.0"	3.7"	4.0"	4.0"

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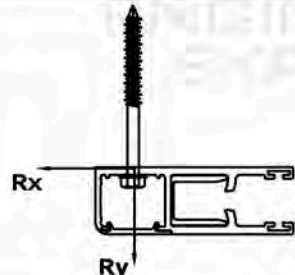
AUGUST 21, 2023



ANCHOR SCHEDULE: : INDICATES VALUES NOT APPROVED FOR USE.

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

ANCHOR NOTES: SEE SHEET
5 FOR ANCHOR NOTES.

				MAXIMUM SPACING (O.C.)													
				1/4" DEWALT ULTRACON TO 2846 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT	1/4" SS ITW TAPCON TO 3192 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT	5/16" ITW TAPCON			1/4" POWERS POWER- BOLT TO 3000 PSI MIN. CONCRETE; 2.5" MIN. EMBEDMENT	1/4" ALL-POINTS SOLID- SET		1/4" LAG SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT	5/16" LAG SCREW TO G=0.42 MIN WOOD; 2" MIN. EMBEDMENT	#14 WOOD SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT	#14 316 SS SMS W/ FULL THREAD PENETRATIO N (OR 1/4-20 316 SS THRU- BOLT) W/ 5/8" WASHER TO 0.125" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE	#14 316 SS SMS W/ FULL THREAD PENETRATIO N (OR 1/4-20 316 SS THRU- BOLT) W/ 5/8" WASHER TO 0.25" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE	3/8" DEWALT SCREWBOL TO 3000 PS MIN. CONCRETE 3.5" MIN. EMBEDMENT
SLAT SPAN	DESIGN PRESSURE	R _x	R _y	2.5" MIN. EDGE DISTANCE	2.5" MIN. EDGE DISTANCE	3.125" MIN. EDGE DISTANCE	4" MIN. EDGE DISTANCE	4" MIN. EDGE DISTANCE	3" MIN. EDGE DISTANCE	3" MIN. EDGE DISTANCE	3" MIN. EDGE DISTANCE	0.75" MIN. EDGE DISTANCE	0.75" MIN. EDGE DISTANCE	0.75" MIN. EDGE DISTANCE	0.75" MIN. EDGE DISTANCE	0.75" MIN. EDGE DISTANCE	4.5" MIN. EDGE DISTANCE
108"	+/- 40 PSF	584.5 LB/FT	338.5 LB/FT	4.0"	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"
	+/- 50 PSF	757.9 LB/FT	434.3 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.2"	2.5"	2.1"	2.6"	3.6"	4.0"	4.0"
	+/- 60 PSF	930.7 LB/FT	531.8 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.2"	2.3"	1.9"	2.1"	2.9"	4.0"	4.0"
	+/- 70 PSF	1103.2 LB/FT	630.8 LB/FT	4.0"	3.4"	4.0"	4.0"	4.0"	4.0"	3.9"	2.7"	1.7"	1.4"	1.8"	2.5"	4.0"	4.0"
	+/- 80 PSF	1275.1 LB/FT	731.4 LB/FT	4.0"	3.0"	4.0"	4.0"	4.0"	4.0"	3.3"	1.9"	1.5"	1.2"	1.5"	2.1"	4.0"	4.0"
	+/- 90 PSF	1446.5 LB/FT	833.7 LB/FT	4.0"	2.6"	4.0"	4.0"	4.0"	4.0"	2.9"	1.7"	1.2"	1.0"	1.3"	1.9"	3.5"	4.0"
120"	+/- 96 PSF	1549.1 LB/FT	895.7 LB/FT	4.0"	2.4"	4.0"	4.0"	4.0"	4.0"	2.7"	1.6"	1.2"	1.0"	1.3"	1.7"	3.3"	4.0"
	+/- 30 PSF	522.5 LB/FT	283.0 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"
	+/- 40 PSF	726.3 LB/FT	388.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.4"	2.6"	2.2"	2.7"	3.9"	4.0"	4.0"
	+/- 50 PSF	929.5 LB/FT	496.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.7"	2.0"	1.7"	2.1"	3.1"	4.0"	4.0"
	+/- 60 PSF	1132.2 LB/FT	606.1 LB/FT	4.0"	3.4"	4.0"	4.0"	4.0"	4.0"	3.8"	2.2"	1.7"	1.4"	1.7"	2.5"	4.0"	4.0"
	+/- 70 PSF	1334.3 LB/FT	717.7 LB/FT	4.0"	3.0"	4.0"	3.9"	4.0"	4.0"	3.3"	1.9"	1.4"	1.2"	1.5"	2.1"	3.9"	4.0"
132"	+/- 80 PSF	1535.9 LB/FT	831.3 LB/FT	4.0"	2.6"	4.0"	3.6"	4.0"	4.0"	2.9"	1.6"	1.2"	1.0"	1.3"	3.4"	4.0"	4.0"
	+/- 92 PSF	1776.9 LB/FT	970.3 LB/FT	4.0"	2.2"	4.0"	3.2"	4.0"	4.0"	2.4"	1.4"	1.0"	0.9"	1.2"	2.9"	4.0"	4.0"
	+/- 30 PSF	633.4 LB/FT	319.9 LB/FT	4.0"	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"
	+/- 40 PSF	868.8 LB/FT	437.3 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"	2.2"	1.9"	2.3"	3.4"	4.0"	4.0"
	+/- 50 PSF	1103.4 LB/FT	557.1 LB/FT	4.0"	3.6"	4.0"	4.0"	4.0"	4.0"	4.0"	2.4"	1.7"	1.3"	1.2"	2.7"	4.0"	4.0"
	+/- 60 PSF	1337.5 LB/FT	679.3 LB/FT	4.0"	3.2"	4.0"	4.0"	4.0"	4.0"	3.3"	1.9"	1.4"	1.2"	1.5"	2.2"	3.9"	4.0"
144"	+/- 70 PSF	1570.8 LB/FT	803.9 LB/FT	4.0"	2.8"	4.0"	3.4"	4.0"	4.0"	2.8"	1.6"	1.2"	1.0"	1.3"	3.3"	4.0"	4.0"
	+/- 80 PSF	1803.5 LB/FT	930.8 LB/FT	4.0"	2.2"	4.0"	2.8"	4.0"	4.0"	2.4"	1.4"	1.0"	0.9"	1.1"	2.9"	4.0"	4.0"
	+/- 88 PSF	1989.2 LB/FT	1034.1 LB/FT	4.0"	2.0"	4.0"	2.6"	4.0"	4.0"	2.2"	1.3"	0.9"	0.8"	1.0"	2.6"	4.0"	4.0"
	+/- 20 PSF	476.1 LB/FT	229.6 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"
	+/- 30 PSF	745.1 LB/FT	355.8 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"	2.6"	2.2"	2.7"	4.0"	4.0"	4.0"
	+/- 40 PSF	1013.5 LB/FT	485.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.9"	1.8"	1.5"	2.0"	3.0"	4.0"	4.0"
156"	+/- 50 PSF	1281.0 LB/FT	617.1 LB/FT	4.0"	3.1"	4.0"	4.0"	4.0"	4.0"	3.5"	2.5"	1.5"	1.2"	1.6"	2.4"	4.0"	4.0"
	+/- 60 PSF	1547.9 LB/FT	752.1 LB/FT	4.0"	2.6"	4.0"	3.5"	4.0"	4.0"	2.9"	1.7"	1.2"	1.0"	1.3"	3.5"	4.0"	4.0"
	+/- 70 PSF	1813.9 LB/FT	890.0 LB/FT	4.0"	2.2"	4.0"	3.1"	4.0"	4.0"	2.5"	1.4"	1.0"	0.9"	1.1"	2.9"	4.0"	4.0"
	+/- 85 PSF	2211.5 LB/FT	1102.2 LB/FT	4.0"	1.8"	4.0"	2.4"	4.0"	4.0"	2.0"	1.1"	0.9"	0.7"	0.9"	2.4"	4.0"	4.0"
	+/- 20 PSF	554.9 LB/FT	253.4 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"
	+/- 30 PSF	858.4 LB/FT	391.1 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.0"	2.2"	1.9"	2.4"	3.7"	4.0"	4.0"
168"	+/- 40 PSF	1161.2 LB/FT	532.3 LB/FT	4.0"	3.5"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"	2.3"	1.4"	1.2"	2.7"	4.0"	4.0"
	+/- 50 PSF	1463.1 LB/FT	676.9 LB/FT	4.0"	3.0"	4.0"	3.7"	4.0"	4.0"	3.1"	1.8"	1.3"	1.1"	1.4"	2.1"	3.7"	4.0"
	+/- 60 PSF	1764.1 LB/FT	825.1 LB/FT	4.0"	2.6"	3.8"	3.1"	4.0"	4.0"	2.6"	1.5"	1.1"	0.9"	1.1"	3.1"	4.0"	4.0"
	+/- 70 PSF	2064.2 LB/FT	976.6 LB/FT	4.0"	2.2"	3.5"	2.4"	4.0"	4.0"	2.2"	1.3"	0.9"	0.7"	1.0"	2.6"	4.0"	4.0"
	+/- 76 PSF	2243.8 LB/FT	1069.2 LB/FT	4.0"	1.8"	3.3"	2.4"	4.0"	4.0"	1.9"	1.1"	0.8"	0.7"	0.9"	2.4"	4.0"	4.0"
	+/- 20 PSF	634.5 LB/FT	276.7 LB/FT	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"
180"	+/- 30 PSF	973.9 LB/FT	426.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.7"	2.8"	2.1"	2.1"	3.3"	4.0"	4.0"
	+/- 40 PSF	1312.4 LB/FT	579.4 LB/FT	4.0"	3.1"	4.0"	4.0"	4.0"	4.0"	3.5"	2.6"	1.5"	1.2"	1.5"	2.4"	4.0"	4.0"
	+/- 50 PSF	1649.9 LB/FT	736.9 LB/FT	4.0"	2.6"	4.0"	3.2"	4.0"	4.0"	2.9"	1.6"	1.2"	1.0"	1.2"	3.3"	4.0"	4.0"
	+/- 60 PSF	1986.5 LB/FT	898.5 LB/FT	4.0"	2.2"	3.5"	2.5"	4.0"	4.0"	2.3"	1.3"	1.0"	0.8"	1.0"	2.8"	4.0"	4.0"
	+/- 69 PSF	2288.4 LB/FT	1047.3 LB/FT	4.0"	1.8"	3.3"	2.4"	4.0"	4.0"	2.0"	1.1"	0.9"	0.7"	0.9"	2.4"	4.0"	4.0"
	+/- 20 PSF	715.3 LB/FT	299.6 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.7"	2.3"	2.9"	4.0"	4.0"	4.0"
180"	+/- 30 PSF	1091.9 LB/FT	460.7 LB/FT	4.0"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	3.2"	2.5"	1.8"	1.9"	3.0"	4.0"	4.0"
	+/- 40 PSF	1467.5 LB/FT	626.6 LB/FT	4.0"	3.2"	4.0"	3.8"	4.0"	4.0"	3.2"	2.5"	1.5"	1.2"	1.4"	2.2"	3.8"	4.0"
	+/- 50 PSF	1841.9 LB/FT	797.2 LB/FT	4.0"	2.7"	3.8"	3.2"	4.0"	4.0"	2.5"	1.4"	1.0"	0.8"	1.1"	3.0"	4.0"	4.0"
	+/- 63 PSF	2327.0 LB/FT	1026.1 LB/FT	4.0"	2.4"	3.6"	2.8"	4.0"	4.0"	2.0"	1.1"	0.8"	0.7"	0.9"	2.4"	4.0"	4.0"

FL 17344.2

ALUTECH UNITED, INC.

117 DIXON STREET
SELBYVILLE, DE 19975

(302) 436-6005

Magnum Security Star Roll Down Shutter

FLORIDA BUILDING CODE EIGHTH EDITION (2023)

FLORIDA STATEWIDE APPROVAL (FSA FL #17344.2)

REMARKS	DRWN	CHKD	DATE
PREV. SUBMITTAL (20-302440)	OCB	RWVN	09/10/20
2023 FBC UPDATE	MRT	ER/RN	08/10/23
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23-59551

SCALE: NTS UNLESS NOTED

7

OF 16

c:\users\milton\engineering\express\production - documents\projects\23-123-59550 multiple products 2023 fbc update fl17344\work\2023 fbc\drawings & cad\23-59551a - fl17344.2 - doc.dwg
8/21/2023 2:26 PM MILTON

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

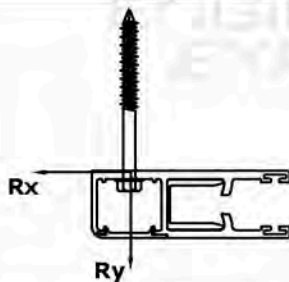
AUGUST 21, 2023



ANCHOR SCHEDULE: : INDICATES VALUES NOT APPROVED FOR USE.

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

ANCHOR NOTES: SEE SHEET
5 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" POWERS POWER- BOLT TO 3000 PSI MIN. CONCRETE; 2.5" MIN. EMBEDMENT 3" MIN. EDGE DISTANCE	1/4" ALL-POINTS SOLID- SET 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	#14 316 SS SMS W/ FULL THREAD PENETRATIO N (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 PENETRATIO N (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 SCREWBOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT 4.5" MIN. EDGE DISTANCE	
SLAT SPAN	DESIGN PRESSURE	Rx	Ry															
192"	+/- 10 PSF	381.2 LB/FT	155.0 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"	
	+/- 20 PSF	797.5 LB/FT	322.4 LB/FT	4.0"	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"	
	+/- 30 PSF	1212.6 LB/FT	495.4 LB/FT	4.0"	3.5"	4.0"	4.0"	4.0"	4.0"	3.9"	3.2"	2.4"	2.1"	2.6"	2.8"	4.0"	4.0"	
	+/- 40 PSF	1626.5 LB/FT	674.0 LB/FT	4.0"	3.5"	4.0"	4.0"	4.0"	4.0"	3.9"	3.2"	2.4"	2.1"	2.6"	2.0"	3.4"	4.0"	
	+/- 50 PSF	2039.1 LB/FT	858.0 LB/FT	4.0"	3.5"	4.0"	4.0"	4.0"	4.0"	3.9"	3.2"	2.4"	2.1"	2.6"	2.0"	2.7"	4.0"	
	+/- 58 PSF	2368.3 LB/FT	1009.2 LB/FT	4.0"	3.5"	4.0"	4.0"	4.0"	4.0"	3.9"	3.2"	2.4"	2.1"	2.6"	2.0"	2.3"	4.0"	
204"	+/- 10 PSF	425.3 LB/FT	166.4 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"	
	+/- 20 PSF	881.4 LB/FT	345.1 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.1"	2.2"	1.9"	2.3"	3.9"	4.0"	4.0"	
	+/- 30 PSF	1336.2 LB/FT	530.2 LB/FT	4.0"	3.2"	4.0"	4.0"	4.0"	4.0"	3.6"	2.8"	1.9"	1.5"	2.5"	4.0"	4.0"	4.0"	
	+/- 40 PSF	1789.6 LB/FT	721.6 LB/FT	4.0"	3.2"	4.0"	4.0"	4.0"	4.0"	3.6"	2.8"	1.9"	1.5"	2.5"	3.2"	4.0"	4.0"	
	+/- 50 PSF	2241.6 LB/FT	919.4 LB/FT	4.0"	3.2"	4.0"	4.0"	4.0"	4.0"	3.6"	2.8"	1.9"	1.5"	2.5"	2.5"	4.0"	4.0"	
	+/- 54 PSF	2421.9 LB/FT	1000.2 LB/FT	4.0"	3.2"	4.0"	4.0"	4.0"	4.0"	3.6"	2.8"	1.9"	1.5"	2.5"	2.3"	4.0"	4.0"	
216"	+/- 10 PSF	469.9 LB/FT	177.7 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"	
	+/- 20 PSF	967.0 LB/FT	367.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.0"	1.7"	2.1"	3.6"	4.0"	4.0"	
	+/- 30 PSF	1462.6 LB/FT	565.1 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.3"	1.9"	1.5"	1.2"	2.4"	3.9"	4.0"	4.0"	
	+/- 40 PSF	1956.7 LB/FT	769.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.3"	1.9"	1.5"	1.2"	2.4"	2.9"	4.0"	4.0"	
	+/- 50 PSF	2449.2 LB/FT	981.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.3"	1.9"	1.5"	1.2"	2.4"	2.9"	2.3"	4.0"	
	+/- 54 PSF	2639.1 LB/FT	1072.6 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.3"	1.9"	1.5"	1.2"	2.4"	2.3"	4.0"	4.0"	
228"	+/- 10 PSF	515.1 LB/FT	188.8 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.8"	3.2"	4.0"	4.0"	4.0"	4.0"	
	+/- 20 PSF	1054.4 LB/FT	390.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.8"	3.2"	4.0"	4.0"	4.0"	4.0"	
	+/- 30 PSF	1592.1 LB/FT	600.2 LB/FT	4.0"	3.5"	4.0"	4.0"	4.0"	4.0"	3.1"	1.7"	1.2"	1.0"	2.2"	3.6"	4.0"	4.0"	
	+/- 40 PSF	2128.0 LB/FT	818.1 LB/FT	4.0"	3.5"	4.0"	4.0"	4.0"	4.0"	3.1"	1.7"	1.2"	1.0"	2.2"	3.6"	2.7"	4.0"	
	+/- 47 PSF	2502.1 LB/FT	975.6 LB/FT	4.0"	3.5"	4.0"	4.0"	4.0"	4.0"	3.1"	1.7"	1.2"	1.0"	2.2"	2.3"	4.0"	4.0"	
	+/- 54 PSF	2639.1 LB/FT	1072.6 LB/FT	4.0"	3.5"	4.0"	4.0"	4.0"	4.0"	3.1"	1.7"	1.2"	1.0"	2.2"	2.3"	4.0"	4.0"	
240"	+/- 10 PSF	561.1 LB/FT	199.9 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"	3.0"	3.7"	4.0"	4.0"	4.0"	
	+/- 20 PSF	1143.6 LB/FT	413.0 LB/FT	4.0"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"	3.0"	3.7"	4.0"	4.0"	4.0"	
	+/- 30 PSF	1724.4 LB/FT	635.5 LB/FT	4.0"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"	3.0"	3.7"	4.0"	4.0"	4.0"	4.0"	
	+/- 40 PSF	2303.3 LB/FT	867.1 LB/FT	4.0"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"	3.0"	3.7"	4.0"	4.0"	2.5"	4.0"	
	+/- 44 PSF	2534.3 LB/FT	962.3 LB/FT	4.0"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"	3.0"	3.7"	4.0"	4.0"	2.3"	4.0"	
	+/- 54 PSF	2639.1 LB/FT	1072.6 LB/FT	4.0"	3.8"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"	3.0"	3.7"	4.0"	4.0"	2.3"	4.0"	
252"	+/- 10 PSF	607.8 LB/FT	210.9 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.2"	2.7"	3.5"	4.0"	4.0"	4.0"	
	+/- 20 PSF	1234.7 LB/FT	435.8 LB/FT	4.0"	3.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.2"	2.7"	3.5"	4.0"	4.0"	4.0"	
	+/- 30 PSF	1859.7 LB/FT	671.0 LB/FT	4.0"	3.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.2"	2.7"	3.5"	4.0"	4.0"	4.0"	
	+/- 41 PSF	2544.7 LB/FT	941.6 LB/FT	4.0"	3.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.2"	2.7"	3.5"	4.0"	4.0"	2.3"	4.0"
	+/- 54 PSF	2639.1 LB/FT	1072.6 LB/FT	4.0"	3.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.2"	2.7"	3.5"	4.0"	4.0"	2.3"	4.0"
	+/- 54 PSF	2639.1 LB/FT	1072.6 LB/FT	4.0"	3.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.2"	2.7"	3.5"	4.0"	4.0"	2.3"	4.0"
264"	+/- 10 PSF	655.3 LB/FT	221.9 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.0"	2.5"	3.2"	4.0"	4.0"	4.0"	
	+/- 20 PSF	1327.7 LB/FT	458.6 LB/FT	4.0"	3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.0"	2.5"	3.2"	4.0"	4.0"	4.0"	
	+/- 30 PSF	1997.9 LB/FT	706.8 LB/FT	4.0"	3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.0"	2.5"	3.2"	4.0"	4.0"	4.0"	
	+/- 39 PSF	2599.2 LB/FT	940.0 LB/FT	4.0"	3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.0"	2.5"	3.2"	4.0"	4.0"	2.2"	4.0"
	+/- 54 PSF	2639.1 LB/FT	1072.6 LB/FT	4.0"	3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.0"	2.5"	3.2"	4.0"	4.0"	2.2"	4.0"
	+/- 54 PSF	2639.1 LB/FT	1072.6 LB/FT	4.0"	3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.0"	2.5"	3.2"	4.0"	4.0"	2.2"	4.0"
276"	+/- 10 PSF	703.6 LB/FT	232.9 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.8"	2.4"	3.0"	4.0"	4.0"	4.0"	
	+/- 20 PSF	1422.5 LB/FT	481.5 LB/FT	4.0"	3.1"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.8"	2.4"	3.0"	4.0"	4.0"	4.0"	
	+/- 30 PSF	2139.0 LB/FT	742.9 LB/FT	4.0"	3.1"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.8"	2.4"	3.0"	4.0"	4.0"	4.0"	
	+/- 37 PSF	2639.1 LB/FT	933.5 LB/FT	4.0"	3.1"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.8"	2.4"	3.0"	4.0"	4.0"	2.2"	4.0"
	+/- 54 PSF	2639.1 LB/FT	1072.6 LB/FT	4.0"	3.1"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.8"	2.4"	3.0"	4.0"	4.0"	2.2"	4.0"
	+/- 54 PSF	2639.1 LB/FT	1072.6 LB/FT	4.0"	3.1"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.8"	2.4"	3.0"	4.0"	4.0"	2.2"	4.0"
288"	+/- 10 PSF	752.7 LB/FT	243.9 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.8"	2.6"	2.8"	4.0"	4.0"	4.0"	
	+/- 20 PSF	1519.2 LB/FT	504.5 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.8"	2.6"	2.8"	4.0"	4.0"	4.0"	
	+/- 30 PSF	2283.0 LB/FT	779.3 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.8"	2.6"	2.8"	4.0"	4.0"	4.0"	
	+/- 35 PSF	2663.9 LB/FT	922.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.8"	2.6"	2.8"	4.0"	4.0"	2.6"	4.0"
	+/- 54 PSF	2639.1 LB/FT	1072.6 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.8"	2.6"	2.8"	4.0"	4.0"	2.2"	4.0"
	+/- 54 PSF	2639.1 LB/FT	1072.6 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.8"	2.6"	2.8"	4.0"	4.0"	2.2"	4.0"

FL 17344.2

ALUTECH UNITED, INC.

117 DIXON STREET
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(302) 436-6005

Magnum Security Star Roll Down Shutter

FLORIDA BUILDING CODE EIGHTH EDITION (2023)

FLORIDA STATEWIDE APPROVAL (FSA FL #17344.2)

REMARKS	DRWN	CHKD	DATE
PREV. SUBMITTAL (20-302446)	CCB	RWVN	09/10/20
2023 FBC UPDATE	MRT	ERVRN	08/10/23
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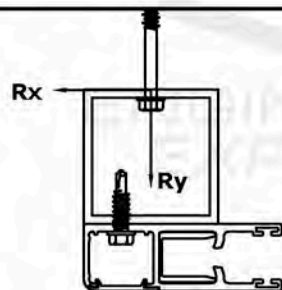
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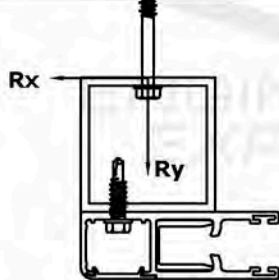
SCALE: NTS UNLESS NOTED



ANCHOR NOTES: SEE SHEET
5 FOR ANCHOR NOTES.

FL 17344.2



				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" POWERS 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 PENETRATIO N (OR 1/4-20 316 SS THRU- BOLT) W/ 5/8" WASHER TO 0.125" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE	#14 316 SS SMS W/ FULL THREAD PENETRATIO N (OR 1/4-20 316 SS THRU- BOLT) W/ 5/8" WASHER TO 0.125" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE	3/8" DEWALT SCREWBOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT 4.5" 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"	
	+/- 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"	
	+/- 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"	
	+/- 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"	
	+/- 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"	
	+/- 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"	
	+/- 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"	
	+/- 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"	
	+/- 120 PSF	51.9 LB/FT	434.1 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"	
	+/- 130 PSF	102.2 LB/FT	501.9 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"	
	+/- 140 PSF	152.3 LB/FT	571.1 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"	
	+/- 150 PSF	202.0 LB/FT	641.5 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"	
60"	+/- 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"	
	+/- 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"	
	+/- 60 PSF	68.7 LB/FT	289.9 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"	
	+/- 70 PSF	139.8 LB/FT	374.1 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"	
	+/- 80 PSF	210.8 LB/FT	459.5 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"	
	+/- 90 PSF	281.5 LB/FT	546.0 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"	
	+/- 100 PSF	351.9 LB/FT	633.7 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"	
	+/- 110 PSF	422.1 LB/FT	722.4 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"	
	+/- 120 PSF	492.0 LB/FT	812.3 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"	
	+/- 130 PSF	561.7 LB/FT	903.3 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"	
	+/- 145 PSF	665.7 LB/FT	1041.8 LB/FT	4.0"	3.6"	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"	+/- 40 PSF	125.8 LB/FT	266.9 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"
+/- 50 PSF		219.8 LB/FT	368.7 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"	
+/- 60 PSF		313.6 LB/FT	471.8 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"	
+/- 70 PSF		407.1 LB/FT	576.3 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"	
+/- 80 PSF		500.3 LB/FT	682.1 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"	
+/- 90 PSF		593.2 LB/FT	789.3 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"	
+/- 110 PSF		778.2 LB/FT	1007.6 LB/FT	4.0"	3.4"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	
+/- 122 PSF		888.6 LB/FT	1141.2 LB/FT	4.0"	3.0"	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"		+/- 40 PSF	291.1 LB/FT	379.2 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"
		+/- 50 PSF	409.7 LB/FT	500.2 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"
		+/- 60 PSF	528.0 LB/FT	622.9 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"
		+/- 70 PSF	645.9 LB/FT	747.3 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"
	+/- 80 PSF	763.6 LB/FT	873.4 LB/FT	4.0"	3.7"	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	880.8 LB/FT	1001.2 LB/FT	4.0"	3.2"	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"	+/- 40 PSF	441.0 LB/FT	476.0 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"	
	+/- 50 PSF	586.1 LB/FT	616.2 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"	
	+/- 60 PSF	730.8 LB/FT	758.6 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"	
	+/- 70 PSF	875.1 LB/FT	903.2 LB/FT	4.0"	3.4"	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	1019.0 LB/FT	1049.9 LB/FT	4.0"	3.0"	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	1162.5 LB/FT	1198.7 LB/FT	4.0"	2.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	

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23-59551

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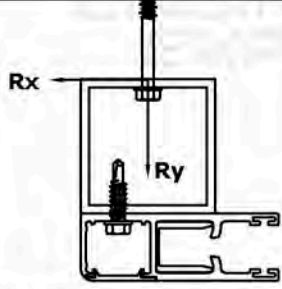
AUGUST 21, 2023



ANCHOR SCHEDULE:  : INDICATES VALUES NOT APPROVED FOR USE.

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

ANCHOR NOTES: SEE SHEET
5 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" POWERS 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 PENETRATIO N (OR 1/4-20 316 SS THRU- BOLT) W/ 5/8" WASHER TO 0.125" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE	#14 316 SS SMS W/ FULL THREAD PENETRATIO N (OR 1/4-20 316 SS THRU- BOLT) W/ 5/8" WASHER TO 0.25" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE	3/8" DEWALT SCREWBOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT 4.5" MIN. EDGE DISTANCE
SLAT SPAN	DESIGN PRESSURE	Rx	Ry														
108"	+/- 40 PSF	584.5 LB/FT	564.3 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"
	+/- 50 PSF	757.9 LB/FT	724.1 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.8"	2.2"	1.8"	2.3"	2.5"	4.0"	4.0"	4.0"
	+/- 60 PSF	930.7 LB/FT	886.5 LB/FT	4.0"	3.3"	4.0"	4.0"	4.0"	3.7"	2.1"	1.8"	1.5"	1.9"	2.0"	4.0"	4.0"	4.0"
	+/- 70 PSF	1103.2 LB/FT	1051.6 LB/FT	4.0"	2.8"	4.0"	3.8"	4.0"	3.1"	1.8"	1.5"	1.2"	1.6"	1.7"	3.7"	4.0"	4.0"
	+/- 80 PSF	1275.1 LB/FT	1219.3 LB/FT	4.0"	2.4"	3.9"	3.5"	4.0"	2.7"	1.6"	1.2"	1.2"	1.4"	1.3"	3.2"	4.0"	4.0"
	+/- 90 PSF	1446.5 LB/FT	1389.7 LB/FT	4.0"	2.1"	3.5"	3.2"	4.0"	2.5"	1.3"	1.2"	1.0"	1.2"	1.3"	2.8"	4.0"	4.0"
120"	+/- 96 PSF	1549.1 LB/FT	1493.2 LB/FT	4.0"	2.0"	3.2"	2.7"	4.0"	2.2"	1.2"	1.0"	0.8"	1.1"	1.2"	2.6"	4.0"	4.0"
	+/- 30 PSF	522.5 LB/FT	471.8 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"
	+/- 40 PSF	726.3 LB/FT	648.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.8"	2.4"	2.1"	2.4"	2.7"	4.0"	4.0"	4.0"
	+/- 50 PSF	929.5 LB/FT	827.5 LB/FT	4.0"	3.4"	4.0"	4.0"	4.0"	3.8"	2.7"	1.9"	1.6"	1.9"	2.2"	4.0"	4.0"	4.0"
	+/- 60 PSF	1132.2 LB/FT	1010.3 LB/FT	4.0"	2.8"	4.0"	3.8"	4.0"	3.1"	1.8"	1.5"	1.2"	1.6"	1.7"	3.7"	4.0"	4.0"
	+/- 70 PSF	1334.3 LB/FT	1196.4 LB/FT	4.0"	2.4"	3.9"	3.5"	4.0"	2.8"	1.7"	1.3"	1.1"	1.3"	1.5"	3.2"	4.0"	4.0"
132"	+/- 80 PSF	1535.9 LB/FT	1385.8 LB/FT	4.0"	2.1"	3.5"	3.2"	4.0"	2.5"	1.5"	1.2"	1.0"	1.1"	1.3"	2.7"	4.0"	4.0"
	+/- 92 PSF	1776.9 LB/FT	1617.4 LB/FT	4.0"	1.8"	2.8"	2.4"	4.0"	2.2"	1.2"	1.0"	0.8"	1.0"	1.2"	2.4"	4.0"	4.0"
	+/- 30 PSF	633.4 LB/FT	533.3 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.3"	2.7"	2.4"	2.8"	3.3"	4.0"	4.0"	4.0"
	+/- 40 PSF	868.8 LB/FT	729.0 LB/FT	4.0"	3.8"	4.0"	4.0"	4.0"	3.5"	2.8"	2.0"	1.7"	2.1"	2.4"	4.0"	4.0"	4.0"
	+/- 50 PSF	1103.4 LB/FT	928.6 LB/FT	4.0"	3.3"	4.0"	4.0"	4.0"	3.3"	2.5"	1.8"	1.4"	1.8"	1.9"	3.9"	4.0"	4.0"
	+/- 60 PSF	1337.5 LB/FT	1132.3 LB/FT	4.0"	2.8"	4.0"	4.0"	4.0"	2.7"	1.8"	1.3"	1.0"	1.3"	1.5"	3.2"	4.0"	4.0"
144"	+/- 70 PSF	1570.8 LB/FT	1340.0 LB/FT	4.0"	2.4"	3.8"	3.5"	4.0"	2.5"	1.5"	1.1"	0.9"	1.1"	1.3"	2.8"	4.0"	4.0"
	+/- 80 PSF	1803.5 LB/FT	1551.7 LB/FT	4.0"	2.1"	3.5"	3.2"	4.0"	2.2"	1.3"	0.9"	0.8"	1.0"	1.1"	2.4"	4.0"	4.0"
	+/- 88 PSF	1989.2 LB/FT	1723.9 LB/FT	4.0"	1.8"	2.8"	2.4"	4.0"	2.0"	1.0"	0.8"	0.6"	0.9"	1.0"	2.2"	4.0"	4.0"
	+/- 20 PSF	476.1 LB/FT	382.7 LB/FT	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"
	+/- 30 PSF	745.1 LB/FT	593.2 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.7"	2.4"	2.0"	2.4"	2.9"	4.0"	4.0"	4.0"
	+/- 40 PSF	1013.5 LB/FT	808.5 LB/FT	4.0"	3.3"	4.0"	4.0"	4.0"	3.7"	2.8"	1.7"	1.5"	1.8"	2.1"	4.0"	4.0"	4.0"
156"	+/- 50 PSF	1281.0 LB/FT	1028.7 LB/FT	4.0"	2.8"	4.0"	3.5"	4.0"	3.3"	2.5"	1.4"	1.2"	1.6"	1.7"	3.5"	4.0"	4.0"
	+/- 60 PSF	1547.9 LB/FT	1253.7 LB/FT	4.0"	2.4"	3.5"	3.2"	4.0"	2.7"	1.3"	1.0"	0.8"	1.0"	1.2"	2.9"	4.0"	4.0"
	+/- 70 PSF	1813.9 LB/FT	1483.6 LB/FT	4.0"	2.1"	3.2"	2.8"	4.0"	2.5"	1.2"	0.9"	0.7"	0.9"	1.0"	2.4"	4.0"	4.0"
	+/- 85 PSF	2211.5 LB/FT	1837.3 LB/FT	4.0"	1.8"	2.8"	2.0"	4.0"	2.2"	1.0"	0.8"	0.6"	0.8"	1.0"	2.0"	4.0"	4.0"
	+/- 20 PSF	554.9 LB/FT	422.4 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"
	+/- 30 PSF	858.4 LB/FT	651.9 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.8"	2.1"	1.7"	2.1"	2.6"	4.0"	4.0"	4.0"
168"	+/- 40 PSF	1161.2 LB/FT	887.3 LB/FT	4.0"	3.3"	4.0"	4.0"	4.0"	3.3"	2.5"	1.5"	1.2"	1.6"	1.7"	3.9"	4.0"	4.0"
	+/- 50 PSF	1463.1 LB/FT	1128.5 LB/FT	4.0"	2.8"	3.8"	3.1"	4.0"	2.8"	1.4"	1.0"	0.8"	1.2"	1.3"	3.1"	4.0"	4.0"
	+/- 60 PSF	1764.1 LB/FT	1375.4 LB/FT	4.0"	2.4"	3.5"	2.8"	4.0"	2.5"	1.2"	0.9"	0.7"	1.0"	1.2"	2.6"	4.0"	4.0"
	+/- 70 PSF	2064.2 LB/FT	1628.0 LB/FT	4.0"	2.1"	3.2"	2.5"	4.0"	2.2"	1.0"	0.8"	0.6"	0.9"	1.1"	2.2"	4.0"	4.0"
	+/- 76 PSF	2243.8 LB/FT	1782.3 LB/FT	4.0"	1.8"	2.8"	2.0"	4.0"	2.0"	0.9"	0.7"	0.5"	0.8"	1.0"	2.0"	4.0"	4.0"
	+/- 20 PSF	634.5 LB/FT	461.2 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"	2.8"	2.4"	2.9"	3.6"	4.0"	4.0"	4.0"
180"	+/- 30 PSF	973.9 LB/FT	710.1 LB/FT	4.0"	3.6"	4.0"	4.0"	4.0"	4.0"	3.2"	2.4"	1.8"	2.4"	2.4"	4.0"	4.0"	4.0"
	+/- 40 PSF	1312.4 LB/FT	965.9 LB/FT	4.0"	3.3"	4.0"	3.5"	4.0"	3.7"	2.5"	1.4"	1.2"	1.4"	1.7"	3.5"	4.0"	4.0"
	+/- 50 PSF	1649.9 LB/FT	1228.4 LB/FT	4.0"	2.8"	3.5"	2.8"	4.0"	3.3"	1.3"	0.9"	0.7"	1.0"	1.4"	2.8"	4.0"	4.0"
	+/- 60 PSF	1986.5 LB/FT	1497.8 LB/FT	4.0"	2.4"	3.2"	2.5"	4.0"	2.8"	1.1"	0.8"	0.6"	0.9"	1.1"	2.3"	4.0"	4.0"
	+/- 69 PSF	2288.4 LB/FT	1745.9 LB/FT	4.0"	2.1"	2.8"	2.0"	4.0"	2.5"	0.9"	0.7"	0.5"	0.8"	1.0"	2.0"	4.0"	4.0"
	+/- 20 PSF	715.3 LB/FT	499.5 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.1"	2.5"	2.2"	2.6"	3.3"	4.0"	4.0"	4.0"
180"	+/- 30 PSF	1091.9 LB/FT	768.0 LB/FT	4.0"	3.2"	4.0"	4.0"	4.0"	3.6"	2.8"	1.6"	1.4"	1.7"	2.2"	4.0"	4.0"	4.0"
	+/- 40 PSF	1467.5 LB/FT	1044.5 LB/FT	4.0"	2.8"	3.9"	3.1"	4.0"	3.2"	1.5"	1.0"	0.8"	1.1"	1.3"	3.2"	4.0"	4.0"
	+/- 50 PSF	1841.9 LB/FT	1329.0 LB/FT	4.0"	2.4"	3.5"	2.8"	4.0"	2.8"	1.2"	0.9"	0.7"	0.9"	1.1"	2.5"	4.0"	4.0"
	+/- 63 PSF	2327.0 LB/FT	1710.5 LB/FT	4.0"	2.1"	2.8"	2.0"	4.0"	2.5"	1.0"	0.8"	0.6"	0.8"	1.0"	2.0"	4.0"	4.0"

FL 17344.2

ALUTECH UNITED, INC.
117 DIXON STREET
SELBYVILLE, DE 19975
(302) 436-6005

Magnum Security Star Roll Down Shutter
FLORIDA BUILDING CODE EIGHTH EDITION (2023)
FLORIDA STATEWIDE APPROVAL (FSA FL #17344.2)

REMARKS	DRWN	CHKD	DATE
PREV. SUBMITTAL (20-302446)	OCB	RWVN	08/10/20
2023 FBC UPDATE	MRT	ER/RN	08/10/23
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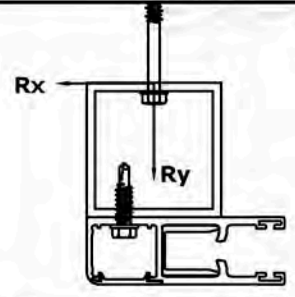
AUGUST 21, 2023



ANCHOR SCHEDULE:  : INDICATES VALUES NOT APPROVED FOR USE.

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

ANCHOR NOTES: SEE SHEET
5 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" POWERS POWER- BOLT TO 3000 PSI MIN. CONCRETE; 2.5" MIN. EMBEDMENT 3" MIN. EDGE DISTANCE	1/4" ALL-POINTS SOLID- SET 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	#14 316 SS SMS W/ FULL THREAD PENETRATIO N (OR 1/4-20 316 SS THRU- BOLT) W/ 5/8" WASHER TO 0.125" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE	#14 316 SS SMS W/ FULL THREAD PENETRATIO N (OR 1/4-20 316 SS THRU- BOLT) W/ 5/8" WASHER TO 0.25" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE	3/8" DEWALT SCREWBOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT 4.5" MIN. EDGE DISTANCE	
SLAT SPAN	DESIGN PRESSURE	R _x	R _y														
192"	+/- 10 PSF	381.2 LB/FT	258.4 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"
	+/- 20 PSF	797.5 LB/FT	537.5 LB/FT	4.0"	4.0"	4.0"	4.0"	2.3"	4.0"	4.0"	2.3"	2.3"	1.9"	2.4"	3.1"	4.0"	4.0"
	+/- 30 PSF	1212.6 LB/FT	825.9 LB/FT	2.7"	2.7"	4.0"	4.0"	1.6"	2.3"	1.6"	1.5"	1.5"	1.5"	2.0"	3.9"	4.0"	4.0"
	+/- 40 PSF	1626.5 LB/FT	1123.5 LB/FT	2.0"	2.0"	2.6"	2.6"	1.0"	2.4"	1.0"	1.1"	1.0"	1.0"	1.5"	2.9"	4.0"	4.0"
	+/- 50 PSF	2039.1 LB/FT	1430.3 LB/FT	1.6"	1.7"	2.3"	2.3"	1.1"	1.6"	1.1"	0.9"	0.9"	0.8"	1.2"	2.3"	4.0"	4.0"
204"	+/- 58 PSF	2368.3 LB/FT	1682.3 LB/FT	1.4"	1.5"	2.3"	2.3"	0.9"	1.4"	0.9"	0.7"	0.7"	0.6"	1.0"	2.0"	4.0"	4.0"
	+/- 10 PSF	425.3 LB/FT	277.4 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"
	+/- 20 PSF	881.4 LB/FT	575.3 LB/FT	3.8"	4.0"	4.0"	4.0"	2.3"	4.0"	2.3"	2.1"	1.9"	2.2"	2.8"	4.0"	4.0"	4.0"
	+/- 30 PSF	1336.2 LB/FT	883.9 LB/FT	2.5"	2.7"	4.0"	4.0"	1.7"	3.0"	1.7"	1.5"	1.2"	1.6"	1.8"	3.6"	4.0"	4.0"
	+/- 40 PSF	1789.6 LB/FT	1203.0 LB/FT	1.9"	1.9"	2.6"	2.6"	1.0"	2.5"	1.0"	1.0"	0.9"	1.1"	1.4"	2.7"	4.0"	4.0"
216"	+/- 50 PSF	2241.6 LB/FT	1532.6 LB/FT	1.6"	1.6"	2.3"	2.3"	1.0"	1.9"	1.0"	0.8"	0.7"	0.9"	1.2"	2.1"	4.0"	4.0"
	+/- 54 PSF	2421.9 LB/FT	1667.4 LB/FT	1.3"	1.3"	2.4"	2.4"	0.8"	1.4"	0.8"	0.7"	0.6"	0.8"	1.0"	2.0"	4.0"	4.0"
	+/- 10 PSF	469.9 LB/FT	296.1 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.9"	3.3"	4.0"	4.0"	4.0"	4.0"
	+/- 20 PSF	967.0 LB/FT	613.0 LB/FT	3.5"	3.8"	4.0"	4.0"	2.4"	4.0"	2.4"	1.9"	1.5"	2.0"	2.6"	4.0"	4.0"	4.0"
	+/- 30 PSF	1462.6 LB/FT	942.0 LB/FT	2.2"	2.5"	4.0"	4.0"	1.6"	3.0"	1.6"	1.2"	1.1"	1.3"	1.7"	3.3"	4.0"	4.0"
228"	+/- 40 PSF	1956.7 LB/FT	1283.1 LB/FT	1.5"	1.6"	2.3"	2.3"	1.1"	2.1"	1.2"	0.9"	0.8"	1.0"	1.5"	2.5"	4.0"	4.0"
	+/- 50 PSF	2449.2 LB/FT	1636.0 LB/FT	1.3"	1.3"	2.4"	2.4"	1.0"	1.6"	1.0"	0.7"	0.6"	0.8"	1.0"	2.0"	4.0"	4.0"
	+/- 10 PSF	515.1 LB/FT	314.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.6"	3.1"	3.7"	4.0"	4.0"	4.0"
	+/- 20 PSF	1054.4 LB/FT	650.8 LB/FT	3.2"	3.5"	4.0"	4.0"	2.2"	3.9"	2.2"	1.7"	1.5"	1.9"	2.5"	4.0"	4.0"	4.0"
	+/- 30 PSF	1592.1 LB/FT	1000.5 LB/FT	2.1"	2.3"	3.8"	3.8"	1.4"	2.2"	1.4"	1.2"	1.0"	1.2"	1.8"	3.1"	4.0"	4.0"
240"	+/- 40 PSF	2128.0 LB/FT	1363.8 LB/FT	1.6"	1.7"	2.6"	2.6"	1.1"	1.9"	1.1"	0.9"	0.7"	0.9"	1.2"	2.3"	4.0"	4.0"
	+/- 47 PSF	2502.1 LB/FT	1626.2 LB/FT	1.3"	1.3"	2.3"	2.3"	1.0"	1.6"	1.0"	0.7"	0.6"	0.8"	1.0"	2.0"	4.0"	4.0"
	+/- 10 PSF	561.1 LB/FT	333.2 LB/FT	4.0"	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"
	+/- 20 PSF	1143.6 LB/FT	688.5 LB/FT	3.0"	3.3"	4.0"	4.0"	2.1"	3.6"	2.1"	1.6"	1.4"	1.7"	2.3"	4.0"	4.0"	4.0"
	+/- 30 PSF	1724.4 LB/FT	1059.3 LB/FT	2.0"	2.3"	3.8"	3.8"	1.4"	2.4"	1.4"	1.1"	0.9"	1.1"	1.5"	2.9"	4.0"	4.0"
252"	+/- 40 PSF	2303.3 LB/FT	1445.4 LB/FT	1.5"	1.6"	2.6"	2.6"	1.0"	1.6"	1.0"	0.8"	0.7"	0.8"	1.1"	2.1"	4.0"	4.0"
	+/- 44 PSF	2534.3 LB/FT	1604.1 LB/FT	1.2"	1.3"	2.6"	2.6"	1.0"	1.6"	1.0"	0.7"	0.6"	0.8"	1.0"	2.0"	4.0"	4.0"
	+/- 10 PSF	607.8 LB/FT	351.6 LB/FT	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"
	+/- 20 PSF	1234.7 LB/FT	726.4 LB/FT	2.0"	3.0"	4.0"	4.0"	1.9"	3.4"	1.9"	1.5"	1.3"	1.6"	2.2"	4.0"	4.0"	4.0"
	+/- 30 PSF	1859.7 LB/FT	1118.6 LB/FT	1.6"	2.0"	3.8"	3.8"	1.3"	2.6"	1.3"	1.0"	0.8"	1.0"	1.4"	2.7"	4.0"	4.0"
264"	+/- 41 PSF	2544.7 LB/FT	1569.7 LB/FT	1.3"	1.5"	2.4"	2.4"	1.0"	1.4"	1.0"	0.7"	0.6"	0.8"	1.0"	2.0"	4.0"	4.0"
	+/- 10 PSF	655.3 LB/FT	369.9 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.7"	2.8"	3.0"	4.0"	4.0"	4.0"	4.0"
	+/- 20 PSF	1327.7 LB/FT	764.5 LB/FT	2.0"	2.9"	4.0"	3.8"	1.9"	3.2"	1.9"	1.4"	1.2"	1.6"	2.0"	3.8"	4.0"	4.0"
	+/- 30 PSF	1997.9 LB/FT	1178.3 LB/FT	1.7"	1.9"	3.8"	3.8"	1.5"	2.6"	1.5"	1.0"	0.8"	1.0"	1.3"	2.5"	4.0"	4.0"
	+/- 39 PSF	2599.2 LB/FT	1567.0 LB/FT	1.3"	1.4"	2.3"	2.3"	1.0"	1.6"	1.0"	0.7"	0.6"	0.8"	1.0"	2.0"	4.0"	4.0"
276"	+/- 10 PSF	703.6 LB/FT	388.3 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"	2.7"	2.3"	2.8"	4.0"	4.0"	4.0"
	+/- 20 PSF	1422.5 LB/FT	802.7 LB/FT	2.5"	2.7"	4.0"	4.0"	1.7"	3.0"	1.7"	1.3"	1.1"	1.4"	1.9"	3.6"	4.0"	4.0"
	+/- 30 PSF	2139.0 LB/FT	1238.4 LB/FT	1.9"	1.9"	2.6"	2.6"	1.1"	2.4"	1.1"	0.9"	0.8"	0.9"	1.3"	2.4"	4.0"	4.0"
	+/- 37 PSF	2639.1 LB/FT	1556.1 LB/FT	1.5"	1.6"	2.3"	2.3"	1.0"	1.6"	1.0"	0.7"	0.6"	0.8"	1.0"	2.0"	4.0"	4.0"
	+/- 10 PSF	752.7 LB/FT	406.6 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.3"	2.5"	2.1"	2.6"	3.8"	4.0"	4.0"
288"	+/- 20 PSF	1519.2 LB/FT	841.1 LB/FT	2.4"	2.5"	4.0"	4.0"	1.8"	2.4"	1.8"	1.2"	1.0"	1.3"	1.6"	3.4"	4.0"	4.0"
	+/- 30 PSF	2283.0 LB/FT	1299.2 LB/FT	1.5"	1.7"	2.6"	2.6"	1.1"	1.9"	1.1"	0.8"	0.7"	0.8"	1.2"	2.2"	4.0"	4.0"
	+/- 35 PSF	2663.9 LB/FT	1537.0 LB/FT	1.3"	1.4"	2.3"	2.3"	1.0"	1.6"	1.0"	0.7"	0.6"	0.8"	1.0"	2.0"	4.0"	4.0"

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(302) 436-6005

Magnum Security Star Roll Down Shutter

FLORIDA BUILDING CODE EIGHTH EDITION (2023)

FLORIDA STATEWIDE APPROVAL (FSA FL #17344.2)

REMARKS	DRWN	CHKD	DATE
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2023 FBC UPDATE	MRT	ER/RN	08/10/23
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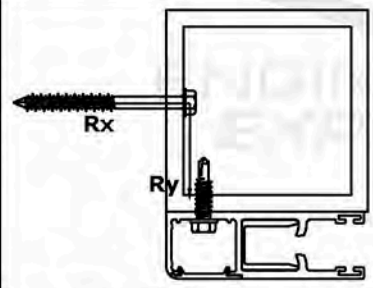
AUGUST 21, 2023



ANCHOR SCHEDULE:  : INDICATES VALUES NOT APPROVED FOR USE.

INTERIOR MOUNT: MAGNUM END RETENTION SHUTTER WITH SINGLE WALL SLATS

ANCHOR NOTES: SEE SHEET
5 FOR ANCHOR NOTES.

				MAXIMUM SPACING (O.C.)													
				1/4" DEWALT ULTRACON TO 2846 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT	1/4" SS ITW TAPCON TO 3192 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT	5/16" ITW TAPCON			1/4" POWERS POWER- BOLT TO 3000 PSI MIN. CONCRETE; 2.5" MIN. EMBEDMENT	1/4" ALL-POINTS SOLID- SET		1/4" LAG SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT	5/16" LAG SCREW TO G=0.42 MIN WOOD; 2" MIN. EMBEDMENT	#14 WOOD SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT	#14 316 SS SMS W/ FULL THREAD PENETRATIO N (OR 1/4-20 316 SS THRU- BOLT) W/ 5/8" WASHER TO 0.125" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE	#14 316 SS SMS W/ FULL THREAD PENETRATIO N (OR 1/4-20 316 SS THRU- BOLT) W/ 5/8" WASHER TO 0.25" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE	3/8" DEWALT SCREWBOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT
SLAT SPAN	DESIGN PRESSURE	Rx	Ry	2.5" MIN. EDGE DISTANCE	2.5" MIN. EDGE DISTANCE	TO 2899 PSI MIN. CONCRETE; 2.25" MIN. EMBEDMENT	TO GROUT- FILLED CONCRETE BLOCK; 2.25" MIN. EMBEDMENT	TO HOLLOW CONCRETE BLOCK; 1.75" MIN. EMBEDMENT	3" MIN. EDGE DISTANCE	3" MIN. EDGE DISTANCE	3" MIN. EDGE DISTANCE	0.75" MIN. EDGE DISTANCE	0.75" MIN. EDGE DISTANCE	0.75" MIN. EDGE DISTANCE	0.5" MIN. EDGE	0.5" MIN. EDGE	4.5" 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"
	+/- 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"
	+/- 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"
	+/- 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"
	+/- 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"
	+/- 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"
	+/- 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"
	+/- 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"
	+/- 120 PSF	225.6 LB/FT	260.4 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"
	+/- 130 PSF	303.1 LB/FT	301.1 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"
	+/- 140 PSF	380.8 LB/FT	342.6 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.9"	3.9"	4.0"	4.0"	4.0"
	+/- 150 PSF	458.6 LB/FT	384.8 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.8"	3.8"	3.9"	4.0"	4.0"	4.0"
60"	+/- 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"
	+/- 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"
	+/- 60 PSF	184.6 LB/FT	173.9 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"
	+/- 70 PSF	289.5 LB/FT	224.4 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"
	+/- 80 PSF	394.6 LB/FT	275.6 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"
	+/- 90 PSF	500.0 LB/FT	327.5 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.6"	3.8"	4.0"	4.0"	4.0"
	+/- 100 PSF	605.5 LB/FT	380.1 LB/FT	4.0"	4.0"	4.0"	4.0"	3.8"	4.0"	4.0"	4.0"	3.9"	3.0"	3.2"	4.0"	4.0"	4.0"
	+/- 110 PSF	711.2 LB/FT	433.4 LB/FT	4.0"	4.0"	4.0"	4.0"	3.8"	4.0"	4.0"	4.0"	3.3"	2.6"	2.7"	3.7"	4.0"	4.0"
	+/- 120 PSF	817.1 LB/FT	487.3 LB/FT	4.0"	4.0"	4.0"	4.0"	3.8"	4.0"	4.0"	4.0"	2.3"	2.3"	2.4"	3.2"	4.0"	4.0"
	+/- 130 PSF	923.1 LB/FT	541.9 LB/FT	4.0"	4.0"	4.0"	4.0"	3.8"	4.0"	4.0"	4.0"	2.0"	2.0"	2.1"	2.9"	4.0"	4.0"
	+/- 140 PSF	1082.5 LB/FT	625.0 LB/FT	4.0"	3.5"	4.0"	4.0"	3.8"	4.0"	4.0"	3.9"	2.0"	2.0"	2.1"	2.9"	4.0"	4.0"
	+/- 150 PSF	1241.9 LB/FT	709.4 LB/FT	4.0"	3.5"	4.0"	4.0"	3.8"	4.0"	4.0"	3.9"	1.7"	1.7"	1.8"	2.5"	4.0"	4.0"
72"	+/- 40 PSF	232.6 LB/FT	160.1 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"
	+/- 50 PSF	367.4 LB/FT	221.2 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"
	+/- 60 PSF	502.4 LB/FT	283.0 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.7"	3.2"	4.0"	4.0"	4.0"
	+/- 70 PSF	637.7 LB/FT	345.7 LB/FT	4.0"	4.0"	4.0"	4.0"	3.9"	4.0"	4.0"	4.0"	3.9"	2.9"	2.5"	3.1"	4.0"	4.0"
	+/- 80 PSF	773.2 LB/FT	409.2 LB/FT	4.0"	4.0"	4.0"	4.0"	3.9"	4.0"	4.0"	4.0"	3.2"	2.4"	2.1"	2.6"	4.0"	4.0"
	+/- 90 PSF	909.0 LB/FT	473.5 LB/FT	4.0"	4.0"	4.0"	4.0"	3.9"	4.0"	4.0"	4.0"	2.9"	2.1"	1.8"	2.2"	3.2"	4.0"
	+/- 100 PSF	1044.8 LB/FT	537.9 LB/FT	4.0"	4.0"	4.0"	4.0"	3.9"	4.0"	4.0"	4.0"	2.5"	1.9"	1.5"	2.5"	4.0"	4.0"
	+/- 110 PSF	1181.3 LB/FT	604.5 LB/FT	4.0"	3.3"	4.0"	4.0"	3.9"	4.0"	4.0"	3.7"	2.1"	1.6"	1.4"	1.7"	2.5"	4.0"
	+/- 120 PSF	1342.5 LB/FT	684.6 LB/FT	4.0"	3.3"	4.0"	4.0"	3.9"	4.0"	4.0"	3.3"	1.8"	1.4"	1.2"	1.5"	2.2"	3.9"
	+/- 130 PSF	1503.9 LB/FT	764.0 LB/FT	4.0"	3.3"	4.0"	4.0"	3.9"	4.0"	4.0"	3.3"	1.6"	1.3"	1.1"	1.3"	2.2"	3.9"
	+/- 140 PSF	1665.3 LB/FT	843.4 LB/FT	4.0"	3.3"	4.0"	4.0"	3.9"	4.0"	4.0"	3.3"	1.4"	1.1"	0.9"	1.1"	2.2"	3.9"
	+/- 150 PSF	1826.7 LB/FT	922.8 LB/FT	4.0"	3.3"	4.0"	4.0"	3.9"	4.0"	4.0"	3.3"	1.2"	0.9"	0.7"	1.0"	2.2"	3.9"
84"	+/- 40 PSF	442.9 LB/FT	227.5 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"
	+/- 50 PSF	609.9 LB/FT	300.1 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"
	+/- 60 PSF	777.2 LB/FT	373.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.4"	2.1"	2.6"	3.9"	4.0"
	+/- 70 PSF	945.0 LB/FT	448.3 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.0"	1.7"	2.1"	3.2"	4.0"
	+/- 80 PSF	1113.0 LB/FT	523.9 LB/FT	4.0"	3.6"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.7"	1.7"	1.3"	1.9"	2.8"	4.0"
	+/- 90 PSF	1281.4 LB/FT	600.6 LB/FT	4.0"	3.1"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.4"	1.3"	1.0"	1.6"	2.4"	4.0"
	+/- 100 PSF	1450.0 LB/FT	678.0 LB/FT	4.0"	2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.0"	1.0"	0.8"	1.3"	2.0"	4.0"
	+/- 110 PSF	1618.6 LB/FT	755.4 LB/FT	4.0"	2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.6"	0.8"	0.6"	1.0"	1.7"	3.4"
	+/- 120 PSF	1787.2 LB/FT	832.8 LB/FT	4.0"	2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.2"	0.7"	0.5"	0.9"	1.5"	3.4"
	+/- 130 PSF	1955.8 LB/FT	910.2 LB/FT	4.0"	2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	1.9"	0.6"	0.4"	0.8"	1.3"	3.4"
	+/- 140 PSF	2124.4 LB/FT	987.6 LB/FT	4.0"	2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	1.6"	0.5"	0.3"	0.7"	1.1"	3.4"
	+/- 150 PSF	2293.0 LB/FT	1065.0 LB/FT	4.0"	2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	1.3"	0.4"	0.2"	0.6"	0.9"	3.4"
96"	+/- 40 PSF	631.5 LB/FT	285.5 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.0"	3.2"	4.0"	4.0"	4.0"
	+/- 50 PSF	832.7 LB/FT	369.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.3"	2.4"	3.8"	4.0"	4.0"
	+/- 60 PSF	1034.4 LB/FT	455.1 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	1.9"	1.8"	3.1"	4.0"	4.0"
	+/- 70 PSF	1236.5 LB/FT	541.8 LB/FT	4.0"	3.3"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.8"	1.6"	1.3"	2.6"	4.0"	4.0"
	+/- 80 PSF	1439.1 LB/FT	629.8 LB/FT	4.0"	3.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.2"	1.3"	1.0"	2.2"	3.8"	4.0"
	+/- 90 PSF	1642.1 LB/FT	719.0 LB/FT	4.0"	2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.6"	1.0"	0.8"	1.6"	3.4"	4.0"
	+/- 100 PSF	1845.1 LB/FT	808.2 LB/FT	4.0"	2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.2"	0.8"	0.6"	1.2"	3.0"	4.0"
	+/- 110 PSF	2048.1 LB/FT	897.4 LB/FT	4.0"	2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	1.8"	0.7"	0.5"	1.0"	2.6"	4.0"
	+/- 120 PSF	2251.1 LB/FT	986.6 LB/FT	4.0"	2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	1.5"	0.6"	0.4"	0.9"	2.2"	4.0"
	+/- 130 PSF	2454.1 LB/FT	1075.8 LB/FT	4.0"	2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	1.2"	0.5"	0.3"	0.7"	1.8"	4.0"
	+/- 140 PSF	2657.1 LB/FT	1165.0 LB/FT	4.0"	2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	1.0"	0.4"	0.2"	0.6"	1.4"	4.0"
	+/- 150 PSF	2860.1 LB/FT	1254.2 LB/FT	4.0"	2.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	0.8"	0.3"	0.1"	0.5"	1.0"	4.0"

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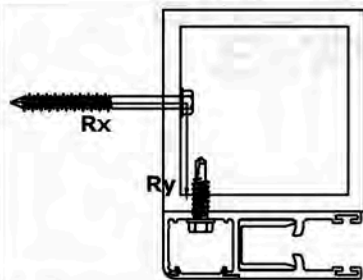
AUGUST 21, 2023



ANCHOR SCHEDULE: : INDICATES VALUES NOT APPROVED FOR USE.

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

ANCHOR NOTES: SEE SHEET
5 FOR ANCHOR NOTES.

				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" POWERS 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 PENETRATIO N (OR 1/4-20 316 SS THRU- BOLT) W/ 5/8" WASHER TO 0.125" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE	#14 316 SS SMS W/ FULL THREAD PENETRATIO N (OR 1/4-20 316 SS THRU- BOLT) W/ 5/8" WASHER TO 0.25" MIN. 6063-T5 ALUM; 0.5" MIN. EDGE	3/8" DEWALT SCREWBOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT 4.5" MIN. EDGE DISTANCE
SLAT SPAN	DESIGN PRESSURE	Rx	Ry														
108"	+/- 40 PSF	810.3 LB/FT	338.5 LB/FT	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"
	+/- 50 PSF	1047.6 LB/FT	434.3 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	2.5"	1.8"	1.5"	2.2"	3.2"	4.0"	4.0"
	+/- 60 PSF	1285.4 LB/FT	531.8 LB/FT	4.0"	3.2"	4.0"	4.0"	4.0"	4.0"	3.7"	2.5"	1.5"	1.3"	1.9"	2.6"	4.0"	4.0"
	+/- 70 PSF	1523.9 LB/FT	630.8 LB/FT	4.0"	2.7"	4.0"	4.0"	4.0"	4.0"	3.1"	1.8"	1.3"	1.2"	1.8"	2.2"	3.7"	4.0"
	+/- 80 PSF	1763.0 LB/FT	731.4 LB/FT	4.0"	2.4"	4.0"	4.0"	4.0"	4.0"	2.7"	1.5"	1.1"	1.0"	1.7"	1.9"	3.2"	4.0"
	+/- 90 PSF	2002.6 LB/FT	833.7 LB/FT	4.0"	2.1"	4.0"	4.0"	4.0"	4.0"	2.4"	1.3"	1.0"	0.8"	1.5"	1.7"	2.8"	4.0"
120"	+/- 96 PSF	2146.6 LB/FT	895.7 LB/FT	4.0"	1.8"	4.0"	4.0"	4.0"	4.0"	2.2"	1.2"	0.9"	0.6"	1.4"	1.5"	2.6"	4.0"
	+/- 30 PSF	711.3 LB/FT	283.0 LB/FT	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"
	+/- 40 PSF	985.5 LB/FT	388.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.8"	2.6"	2.1"	2.1"	3.5"	4.0"	4.0"
	+/- 50 PSF	1260.6 LB/FT	496.4 LB/FT	4.0"	3.4"	4.0"	4.0"	4.0"	4.0"	3.8"	2.7"	1.9"	1.6"	2.7"	4.0"	4.0"	4.0"
	+/- 60 PSF	1536.4 LB/FT	606.1 LB/FT	4.0"	2.8"	4.0"	4.0"	4.0"	4.0"	3.1"	1.6"	1.3"	1.1"	2.2"	3.7"	4.0"	4.0"
	+/- 70 PSF	1813.0 LB/FT	717.7 LB/FT	4.0"	2.3"	3.9"	4.0"	4.0"	4.0"	2.7"	1.5"	1.0"	0.8"	1.9"	3.1"	4.0"	4.0"
132"	+/- 80 PSF	2090.4 LB/FT	831.3 LB/FT	4.0"	2.0"	3.9"	4.0"	4.0"	4.0"	2.5"	1.3"	0.8"	0.6"	1.9"	2.7"	4.0"	4.0"
	+/- 92 PSF	2424.1 LB/FT	970.3 LB/FT	4.0"	1.7"	3.9"	4.0"	4.0"	4.0"	2.0"	1.1"	0.8"	0.5"	1.6"	2.3"	4.0"	4.0"
	+/- 30 PSF	846.9 LB/FT	319.9 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.3"	2.3"	1.9"	2.5"	4.0"	4.0"	4.0"
	+/- 40 PSF	1160.4 LB/FT	437.3 LB/FT	4.0"	3.7"	4.0"	4.0"	4.0"	4.0"	4.0"	3.3"	2.3"	1.7"	1.9"	3.0"	4.0"	4.0"
	+/- 50 PSF	1475.0 LB/FT	557.1 LB/FT	4.0"	2.9"	4.0"	3.9"	4.0"	4.0"	3.3"	2.3"	1.7"	1.3"	2.4"	3.9"	4.0"	4.0"
	+/- 60 PSF	1790.5 LB/FT	679.3 LB/FT	4.0"	2.4"	4.0"	4.0"	4.0"	4.0"	3.3"	2.3"	1.5"	1.0"	2.7"	3.2"	4.0"	4.0"
144"	+/- 70 PSF	2107.0 LB/FT	803.9 LB/FT	4.0"	2.0"	4.0"	4.0"	4.0"	4.0"	3.3"	2.3"	1.3"	0.8"	2.7"	2.7"	4.0"	4.0"
	+/- 80 PSF	2424.4 LB/FT	930.8 LB/FT	4.0"	1.7"	4.0"	4.0"	4.0"	4.0"	3.3"	2.3"	1.0"	0.6"	2.4"	2.4"	4.0"	4.0"
	+/- 88 PSF	2678.9 LB/FT	1034.1 LB/FT	4.0"	1.5"	4.0"	4.0"	4.0"	4.0"	3.3"	2.3"	0.9"	0.5"	2.1"	2.1"	4.0"	4.0"
	+/- 20 PSF	629.2 LB/FT	229.6 LB/FT	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"
	+/- 30 PSF	982.5 LB/FT	355.8 LB/FT	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"
	+/- 40 PSF	1336.9 LB/FT	485.0 LB/FT	4.0"	3.2"	4.0"	4.0"	4.0"	4.0"	3.7"	2.6"	1.5"	1.0"	2.7"	4.0"	4.0"	4.0"
156"	+/- 50 PSF	1692.6 LB/FT	617.1 LB/FT	4.0"	2.5"	4.0"	4.0"	4.0"	4.0"	3.7"	2.6"	1.3"	0.8"	2.1"	3.4"	4.0"	4.0"
	+/- 60 PSF	2049.5 LB/FT	752.1 LB/FT	4.0"	2.1"	4.0"	4.0"	4.0"	4.0"	3.7"	2.6"	1.0"	0.6"	1.7"	2.8"	4.0"	4.0"
	+/- 70 PSF	2407.5 LB/FT	890.0 LB/FT	4.0"	1.8"	4.0"	4.0"	4.0"	4.0"	3.7"	2.6"	0.8"	0.5"	1.5"	2.4"	4.0"	4.0"
	+/- 85 PSF	2946.6 LB/FT	1102.2 LB/FT	4.0"	1.5"	4.0"	4.0"	4.0"	4.0"	3.7"	2.6"	0.7"	0.4"	1.3"	2.4"	4.0"	4.0"
	+/- 20 PSF	723.9 LB/FT	253.4 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.9"	2.7"	2.3"	2.9"	4.0"	4.0"	4.0"
	+/- 30 PSF	1119.3 LB/FT	391.1 LB/FT	4.0"	3.9"	4.0"	4.0"	4.0"	4.0"	4.0"	3.9"	2.7"	1.9"	1.4"	3.3"	4.0"	4.0"
168"	+/- 40 PSF	1516.2 LB/FT	532.3 LB/FT	4.0"	3.4"	4.0"	3.8"	4.0"	4.0"	3.9"	2.7"	1.7"	1.1"	2.4"	3.9"	4.0"	4.0"
	+/- 50 PSF	1914.6 LB/FT	676.9 LB/FT	4.0"	2.8"	3.9"	3.8"	4.0"	4.0"	3.9"	2.7"	1.3"	0.9"	2.4"	3.9"	4.0"	4.0"
	+/- 60 PSF	2314.4 LB/FT	825.1 LB/FT	4.0"	2.4"	3.9"	3.8"	4.0"	4.0"	3.9"	2.7"	1.0"	0.7"	2.1"	3.0"	4.0"	4.0"
	+/- 70 PSF	2715.6 LB/FT	976.6 LB/FT	4.0"	2.1"	3.9"	3.8"	4.0"	4.0"	3.9"	2.7"	0.8"	0.5"	1.9"	2.5"	4.0"	4.0"
	+/- 76 PSF	2956.9 LB/FT	1069.2 LB/FT	4.0"	1.8"	3.9"	3.8"	4.0"	4.0"	3.9"	2.7"	0.7"	0.4"	1.6"	2.1"	4.0"	4.0"
	+/- 20 PSF	819.0 LB/FT	276.7 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"	2.4"	2.0"	2.6"	4.0"	4.0"	4.0"
180"	+/- 30 PSF	1258.0 LB/FT	426.0 LB/FT	4.0"	3.5"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"	2.4"	2.0"	2.6"	4.0"	4.0"	4.0"
	+/- 40 PSF	1698.9 LB/FT	579.4 LB/FT	4.0"	2.8"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"	2.4"	1.9"	1.4"	2.9"	4.0"	4.0"
	+/- 50 PSF	2141.5 LB/FT	736.9 LB/FT	4.0"	2.4"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"	2.4"	1.5"	1.2"	2.2"	3.5"	4.0"
	+/- 60 PSF	2585.7 LB/FT	898.5 LB/FT	4.0"	2.1"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"	2.4"	1.0"	0.8"	2.2"	3.5"	4.0"
	+/- 69 PSF	2987.0 LB/FT	1047.3 LB/FT	4.0"	1.8"	4.0"	4.0"	4.0"	4.0"	4.0"	3.5"	2.4"	0.8"	0.5"	2.3"	3.5"	4.0"
	+/- 20 PSF	915.1 LB/FT	299.6 LB/FT	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	3.1"	2.2"	1.8"	1.3"	4.0"	4.0"	4.0"
180"	+/- 30 PSF	1399.2 LB/FT	460.7 LB/FT	4.0"	3.2"	4.0"	4.0"	4.0"	4.0"	3.6"	2.2"	1.8"	1.3"	2.7"	4.0"	4.0"	4.0"
	+/- 40 PSF	1885.4 LB/FT	626.6 LB/FT	4.0"	2.5"	4.0"	4.0"	4.0"	4.0"	3.6"	2.2"	1.5"	1.0"	2.7"	4.0"	4.0"	4.0"
	+/- 50 PSF	2373.7 LB/FT	797.2 LB/FT	4.0"	2.1"	4.0"	4.0"	4.0"	4.0"	3.6"	2.2"	1.2"	0.8"	2.5"	4.0"	4.0"	4.0"
180"	+/- 63 PSF	3011.4 LB/FT	1026.1 LB/FT	4.0"	1.8"	4.0"	4.0"	4.0"	4.0"	3.6"	2.2"	1.0"	0.7"	2.5"	4.0"	4.0"	4.0"

FL 17344.2

ALUTECH UNITED, INC.

117 DIXON STREET
SELBYVILLE, DE 19975

(302) 436-6005

Magnum Security Star Roll Down Shutter

FLORIDA BUILDING CODE EIGHTH EDITION (2023)

FLORIDA STATEWIDE APPROVAL (FSA FL #17344.2)

REMARKS	DRWN	CHKD	DATE
PREV. SUBMITTAL (20-302440)	CCB	RWV	09/10/20
2023 FBC UPDATE	MRT	ER/RN	08/10/23
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23-59551

SCALE: NTS UNLESS NOTED

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END RETENTION MULLION SCHEDULE

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

AUGUST 21, 2023

FRANK L. BENNARDO
LICENSE
No. PE0046549
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
08/21/2023

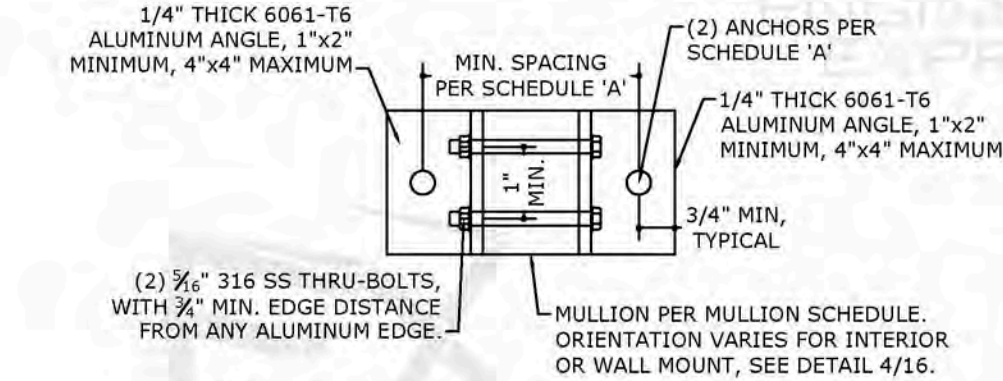
SLAT SPAN	DESIGN PRESSURE	3"x3"x0.25" 6063-T6 ALUMINUM TUBE						4"x6"x0.25" 6063-T6 ALUMINUM TUBE						4"x8"x0.25" 6063-T6 ALUMINUM TUBE					
		INTERMEDIATE MULLION		END MULLION				INTERMEDIATE MULLION		END MULLION				INTERMEDIATE MULLION		END MULLION			
		MAX MULLION LENGTH	END REACTION Rsum	MAX MULLION 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 N Rv	END REACTION N Rt	END REACTION Rsum
UP TO 96"	UP TO 60 PSF	58.3"	2213 LB	49.8"	1518 LB	945 LB	1788 LB	110.1"	4175 LB	88.9"	2706 LB	1685 LB	3188 LB	137.6"	5219 LB	96.6"	2942 LB	1832 LB	3466 LB
	UP TO 80 PSF	51.1"	2680 LB	44.6"	1894 LB	1171 LB	2227 LB	95.1"	4989 LB	79.1"	3360 LB	2077 LB	3950 LB	117.0"	6139 LB	86.7"	3681 LB	2275 LB	4327 LB
	UP TO 100 PSF	44.8"	3055 LB	39.2"	2155 LB	1337 LB	2536 LB	83.4"	5688 LB	69.5"	3821 LB	2370 LB	4496 LB	102.6"	7000 LB	79.4"	4369 LB	2710 LB	5141 LB
UP TO 144"	UP TO 60 PSF	46.7"	2928 LB	37.8"	2437 LB	1184 LB	2709 LB	87.0"	5452 LB	67.4"	4350 LB	2114 LB	4836 LB	107.0"	6709 LB	80.0"	5163 LB	2509 LB	5740 LB
	UP TO 85 PSF	38.6"	3545 LB	31.5"	2901 LB	1446 LB	3241 LB	71.9"	6600 LB	56.2"	5175 LB	2579 LB	5782 LB	88.4"	8121 LB	66.6"	6138 LB	3059 LB	6858 LB
UP TO 180"	UP TO 63 PSF	39.6"	3456 LB	31.2"	3025 LB	1362 LB	3317 LB	73.7"	6434 LB	55.8"	5411 LB	2435 LB	5934 LB	90.7"	7917 LB	66.3"	6432 LB	2895 LB	7053 LB
UP TO 216"	UP TO 50 PSF	40.9"	3345 LB	30.9"	3157 LB	1265 LB	3401 LB	76.1"	6228 LB	55.5"	5665 LB	2270 LB	6103 LB	93.7"	7664 LB	66.1"	6751 LB	2705 LB	7273 LB
UP TO 288"	UP TO 35 PSF	42.2"	3242 LB	30.3"	3359 LB	1163 LB	3555 LB	78.6"	6037 LB	54.5"	6048 LB	2094 LB	6400 LB	96.7"	7428 LB	65.1"	7229 LB	2502 LB	7650 LB

1. "END RETENTION MULLION SCHEDULE" IS APPLICABLE TO ALL END RETENTION MULLIONS.
2. "INTERMEDIATE MULLIONS" AND "END MULLIONS" ARE AS DEFINED IN ELEVATION 1/16.
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 15 FOR REQUIRED MULLION ORIENTATIONS.

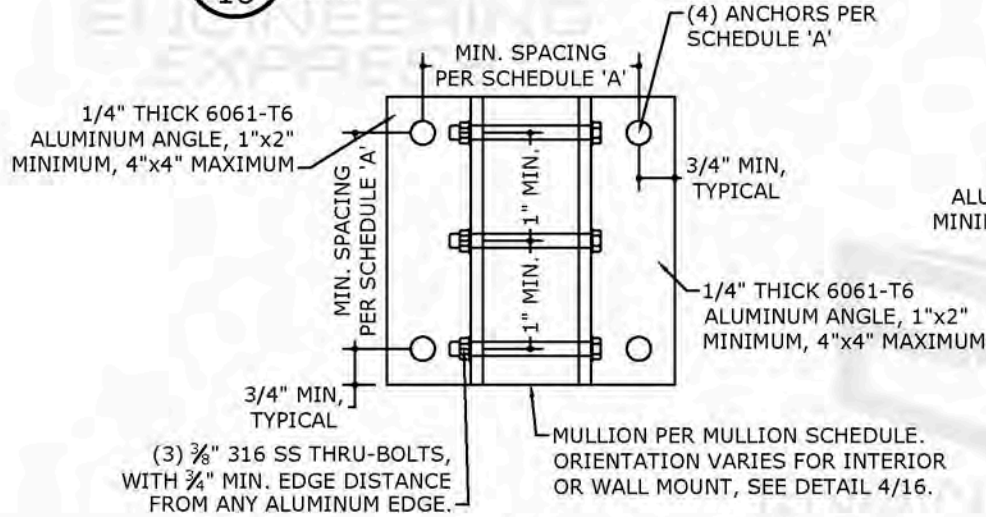
SCHEDULE 'A'

ANCHOR TYPE	MINIMUM SPACING	MINIMUM EDGE DISTANCE	CONNECTION DETAIL	CONNECTION CAPACITY	
3/8" DEWALT SCREWBOLTS W/ 3-1/2" EMBED TO 3KSI MIN. CONCRETE	4.5"	4.5"	1/15	Tcap	4261 LB
				Vcap	2998 LB
	2.5"	4.5"	2/15	Tcap	8523 LB
				Vcap	5995 LB
3/8" DEWALT STEEL DROPIN W/ 1-9/16" EMBED TO 3KSI MIN. CONCRETE	4.5"	5.25"	1/15	Tcap	11363 LB
				Vcap	9992 LB
	2.5"	5.25"	3/15	Tcap	1340 LB
				Vcap	2293 LB
5/16" ITW TAPCON XL OR DEWALT ULTRACON W/ 2-1/4" MIN. EMBED TO 3.5KSI MIN. CONCRETE	5.0"	3.125"	1/15	Tcap	2680 LB
				Vcap	4585 LB
	2.5"	5.25"	2/15	Tcap	2978 LB
				Vcap	5094 LB
			1/15	Tcap	1560 LB
				Vcap	1625 LB
			2/15	Tcap	3120 LB
				Vcap	3250 LB

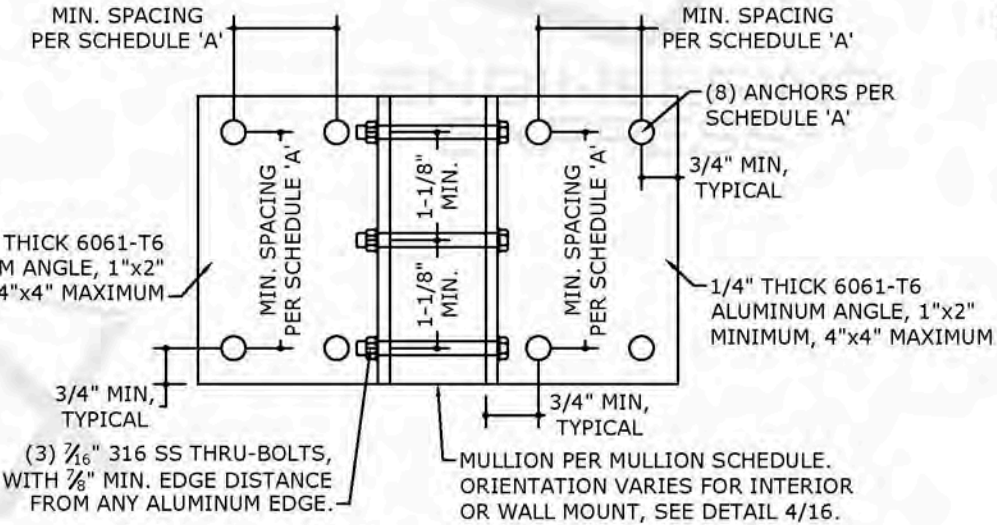
- SCHEDULE 'A' NOTES:
1. INTERIOR MOUNT:
- 1.1. FOR ALL MULLIONS, 'Rsum' VALUES IN MULLION SCHEDULE SHALL NOT EXCEED MAX 'Vcap' VALUES NOTED IN SCHEDULE 'A'.
2. WALL MOUNT:
- 2.1. FOR INTERMEDIATE END RETENTION MULLIONS AND ALL NON-END RETENTION MULLIONS, 'Rsum' VALUES IN MULLION SCHEDULE SHALL NOT EXCEED 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'.



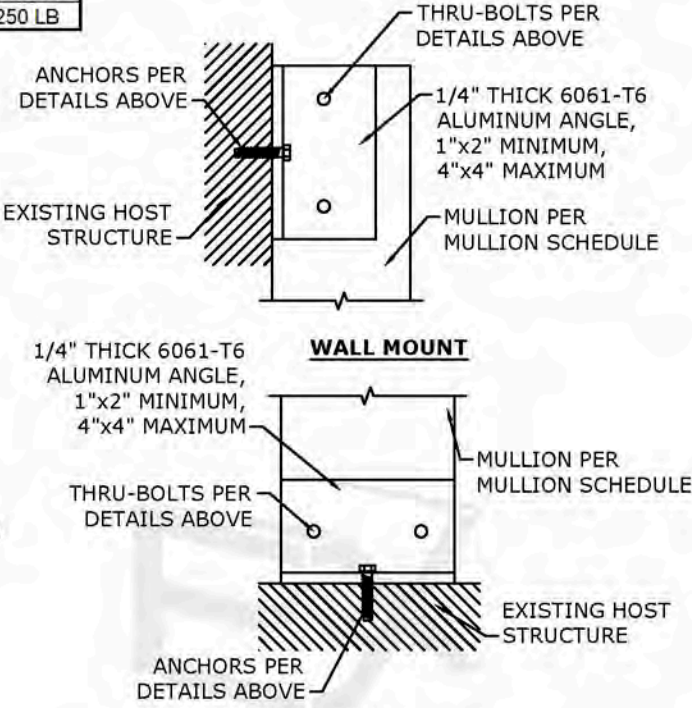
1 INTERIOR OR WALL MOUNT
16 N.T.S.



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



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



4 MOUNTING CONDITIONS VERTICAL SECTIONS
16 N.T.S.

FL 17344.2

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REMARKS	DATE	DRWN	CHKD	DATE	DRWN	CHKD	DATE	DRWN	CHKD
PREV. SUBMITTAL (20-302440)	08/10/20	CCB	RVN	08/10/20	CCB	RVN	08/10/20	CCB	RVN
2023 FBC UPDATE	08/10/23	MRT	ERVN	08/10/23	MRT	ERVN	08/10/23	MRT	ERVN

23-59551

SCALE: NTS UNLESS NOTED

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