



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599

NOTICE OF ACCEPTANCE (NOA)

www.miamidade.gov/economy

Alutech United, Inc.
117 Dixon Street
Selbyville, Delaware 19975

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER-Product Control Section to be used in Miami-Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Division (In Miami-Dade County) and/or the AHJ (in areas other than Miami-Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein and has been designed to comply with the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Magnum Security Star Aluminum Roll-Down Shutter – L.M.I.

APPROVAL DOCUMENT: Drawing No. **20-30244**, titled "Magnum Security Star Roll-Down Shutter", prepared by Engineering Express, dated 06/05/20, sheets 1 through 15 of 15, signed and sealed by Frank Bennardo, P.E., on 03/05/21, bearing the Miami-Dade County Product Control Approval stamp with the Notice of Acceptance number and the approval date by Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LIMITATIONS:

1. Roll-up Mechanism is NOT part of this approval and must be certified by independent testing agency.
2. Minimum separation to existing glass shall be as shown on sheet 2 of 15.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state, the following statement: "Miami-Dade County Product Control Approved", and NOA number, per TAS-201, TAS-202, and TAS-203, unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA consists of this page 1 and evidence submitted page E-1 as well as approval document mentioned above.

The submitted documentation was reviewed by **Helmy A. Makar, P.E., M.S.**



Helmy A. Makar
06/10/2021

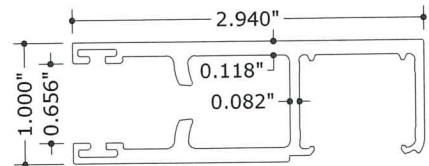
NOA No. 21-0312.10
Expiration Date: 06/10/2026
Approval Date: 06/10/2021
Page 1

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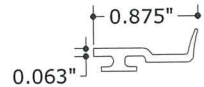
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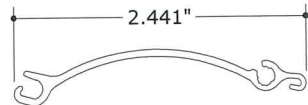
SNAP RAIL END-RETENTION RAIL

1 8" = 1'-0" 6063-T5 ALUM.



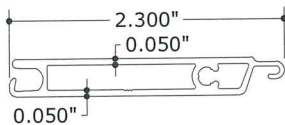
END-RETENTION RAIL INSERT

3 8" = 1'-0" PLASTIC



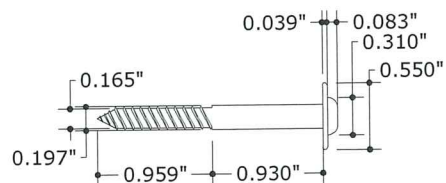
SINGLE WALL SLAT

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



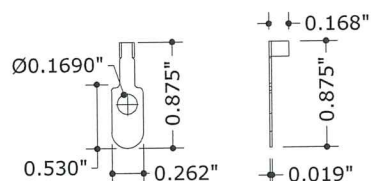
BASE SLAT

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



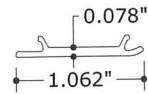
RETAINING SCREW

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



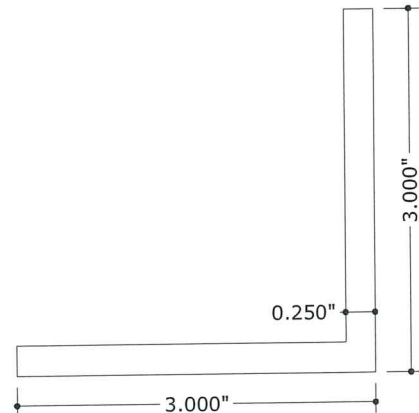
SLAT SIDE LOCK

7 8" = 1'-0" 316 STAINLESS STEEL



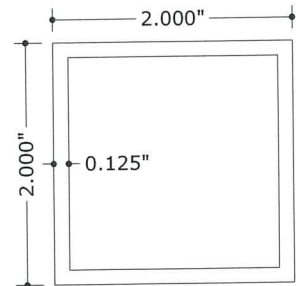
END-RETENTION RAIL SNAP COVER

2 8" = 1'-0" 6063-T5 ALUM.



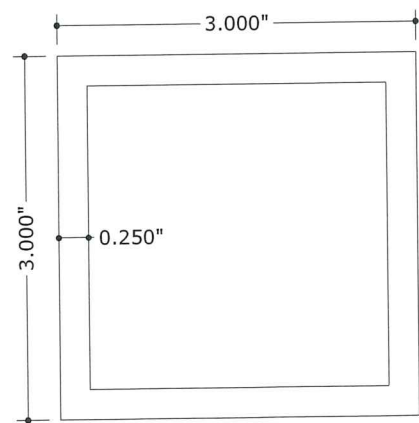
3"x3"x0.250" ANGLE

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.

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

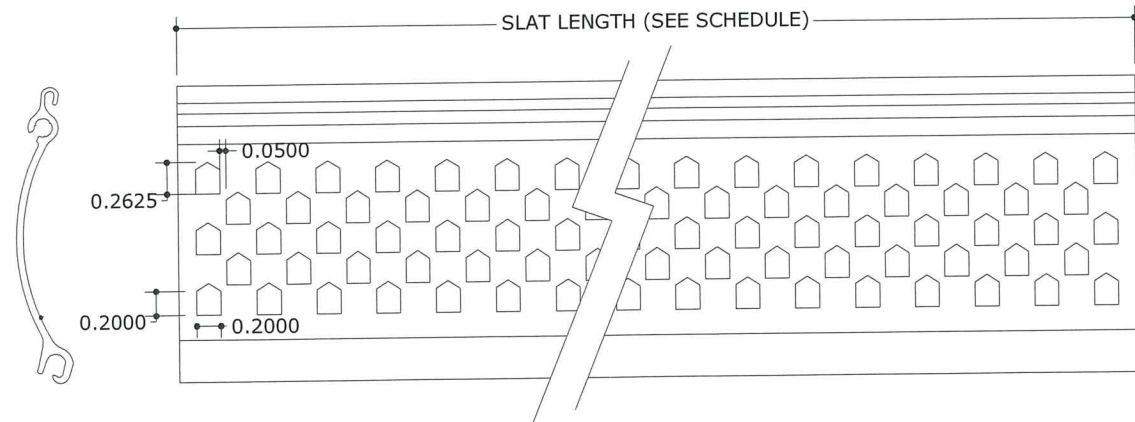
SEPARATION FROM GLAZING SCHEDULES*:

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"

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 UNLESS LOCAL AUTHORITY ADOPTS ADDITIONAL CRITERIA.
- 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.



PERFORATED SINGLE WALL SLAT

4b 12" = 1'-0" 6063-T5 ALUM.



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ALUTECH UNITED, INC.
1537 NORTHGATE BLVD
SARASOTA, FL
(941) 355-0970
MAGNUM SECURITY STAR ROLL-DOWN SHUTTER

DATE	DRWN	CHKD	INIT	ISSUE
06/05/20	RN			

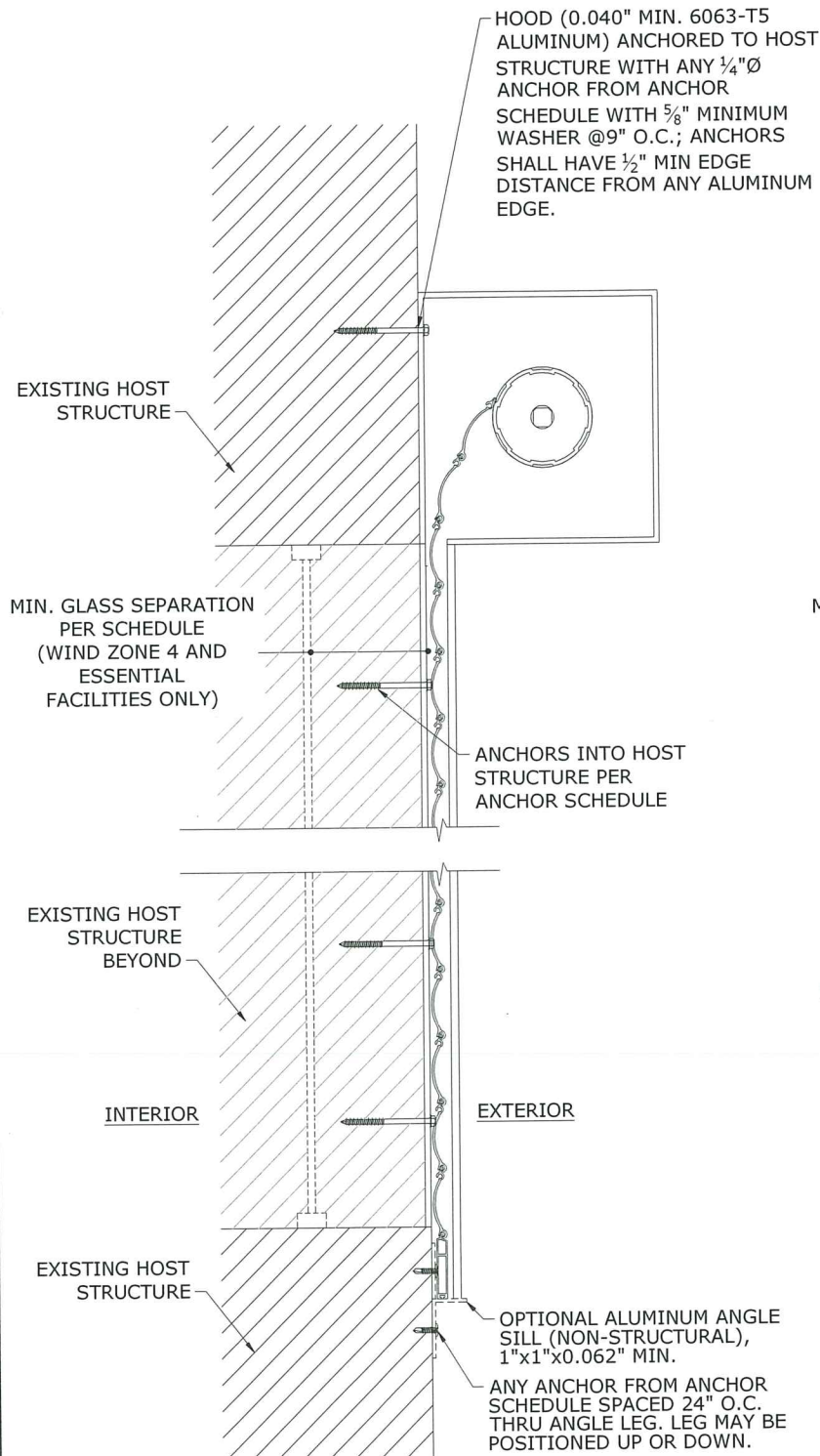
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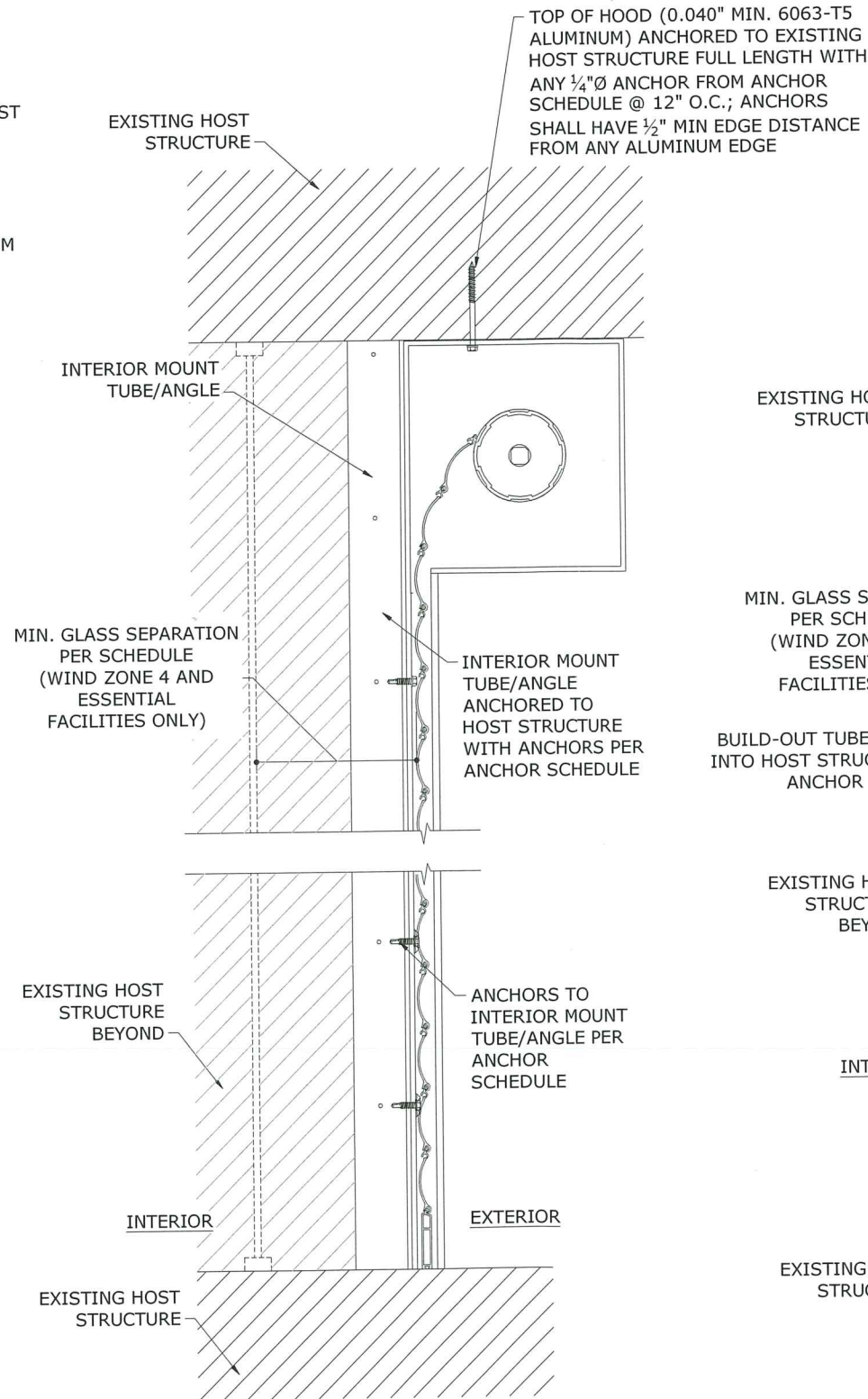
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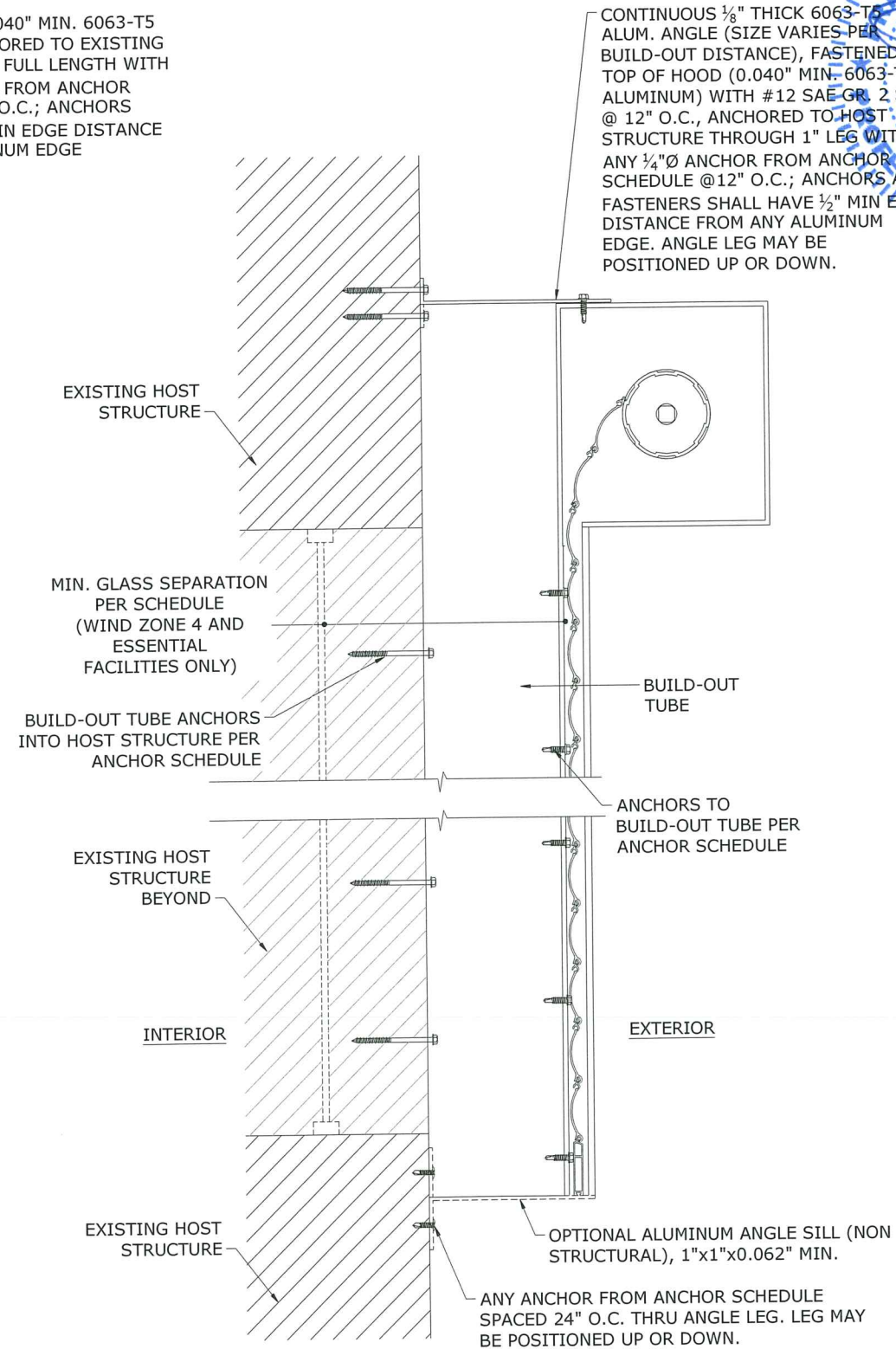
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1
3
TYPICAL WALL MOUNT
N.T.S. VERT SECTION



2
3
TYPICAL INTERIOR MOUNT
N.T.S. VERT SECTION



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

Approved as complying with the
Florida Building Code
Date 06/10/2026
NOA# 26-6312-10
Miami Dade Product Control
By Hedy A. Miller

FRANK BENNARDI PE
PE# 46549
03/05/2021
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MAGNUM SECURITY STAR ROLL-DOWN SHUTTER

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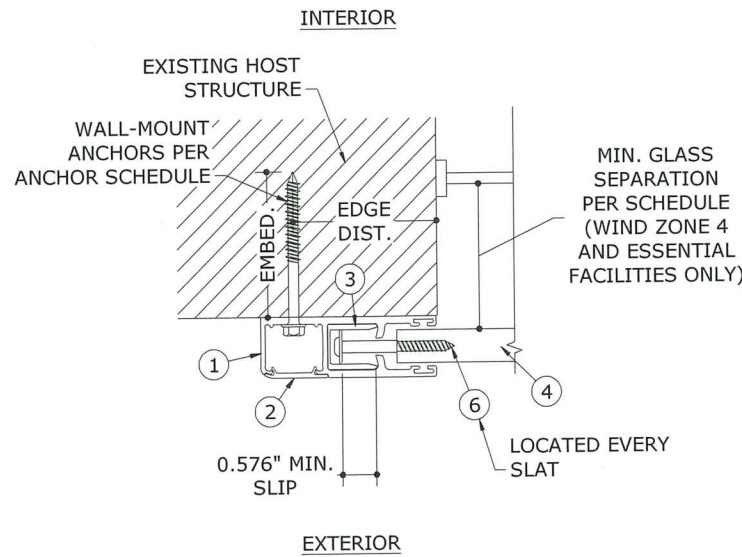
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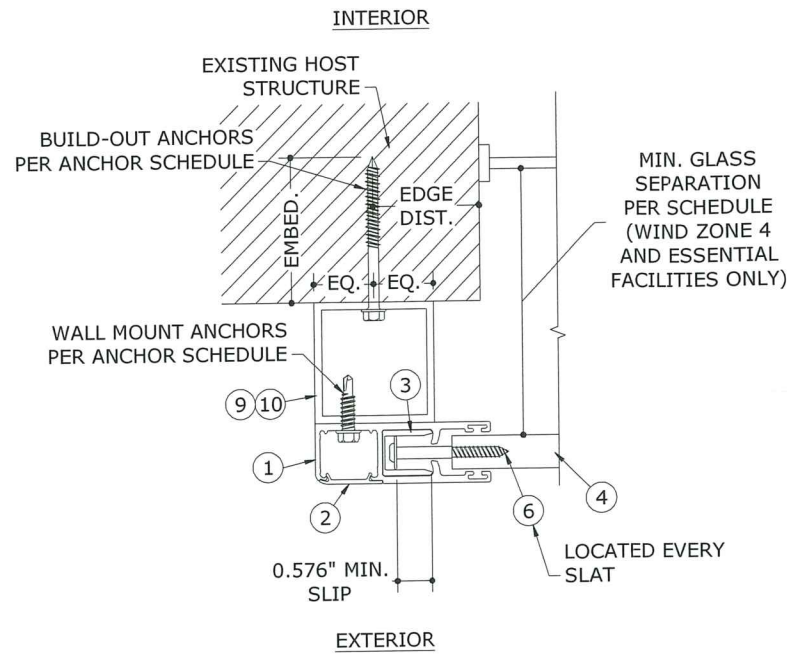
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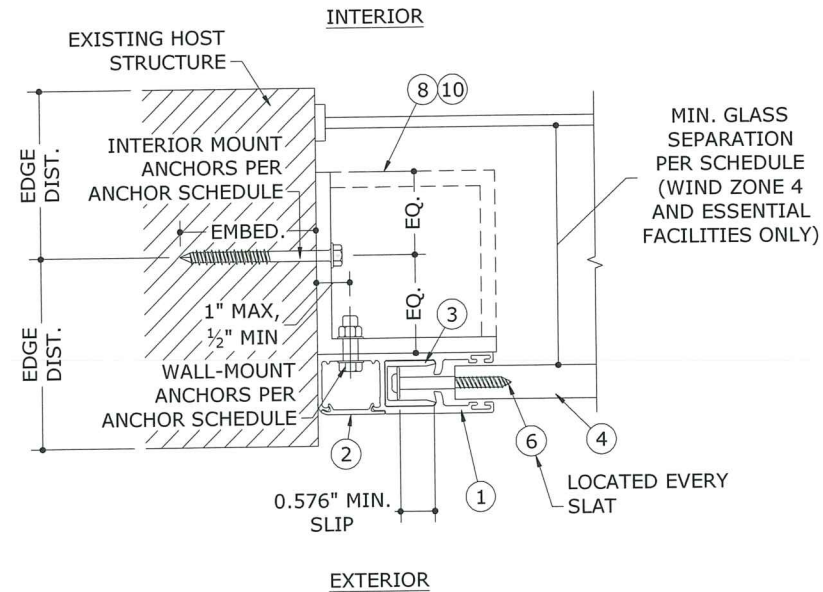
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1
4
END RETENTION
TYPICAL WALL MOUNT
N.T.S. HORIZ SECTION



2
4
END RETENTION
TYP. BUILD-OUT MOUNT
N.T.S. HORIZ SECTION



3
4
END RETENTION
TYP. INTERIOR MOUNT
N.T.S. HORIZ SECTION

ANCHOR SCHEDULE:

(SEE DESIGN SCHEDULES ON SHEETS 5-13 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"
	2899 PSI MIN. CONCRETE	2.25"	3.125"
5/16" ITW TAPCON	GROUT-FILLED CONCRETE BLOCK	2.25"	4.0"
	HOLLOW CONCRETE BLOCK	1.75"	4.0"
1/4" DEWALT POWER-BOLT	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.

Approved as complying with the
Florida Building Code
Date 06/10/2026
NOA# 21-0312-10
Miami Dade Product Control
By Hely A. M...

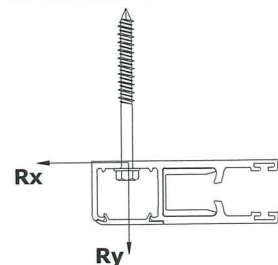


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MAGNUM SECURITY STAR ROLL-DOWN SHUTTER

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4 OF 15

ANCHOR NOTES: SEE SHEET 4 FOR ANCHOR NOTES.

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Date 06/10/2026
NOA# 21-0312-10
Miami Dade Product Control
By H. G. A. M. M.



FRANK BENNARDO PÉ
PE# 46549

03/05/2021

CERTIFYING ENGINEER IS THE NAME LISTED ON THE SE



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OF
1

FRANK BENNARDO PE
PE# 46549
03/05/2021
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Date 06/10/2026
NOA# 21-6312.90
Miami Dade Product Control
By Heidi A. Mc...

REMARKS	DRWN	CHKD	DATE
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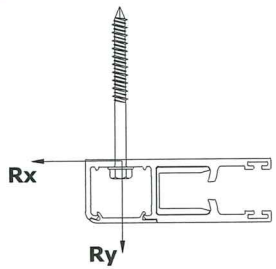
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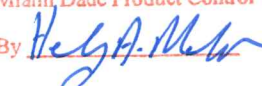
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ANCHOR SCHEDULE: : INDICATES VALUES NOT APPROVED FOR USE.
WALL MOUNT: MAGNUM END RETENTION SHUTTER WITH SINGLE WALL SLATS (CONTINUED)

ANCHOR NOTES: SEE SHEET 4 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	R _x	R _y														
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"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 30 PSF	1212.6 LB/FT	495.4 LB/FT	3.2"	3.5"	4.0"	4.0"	4.0"	3.9"	3.4"	2.4"	2.1"	2.6"	4.0"	4.0"	4.0"	4.0"
	+/- 40 PSF	1626.5 LB/FT	674.0 LB/FT	2.4"	2.6"	4.0"	4.0"	4.0"	3.9"	3.4"	2.4"	2.1"	2.6"	4.0"	4.0"	4.0"	4.0"
	+/- 50 PSF	2039.1 LB/FT	858.0 LB/FT	1.9"	2.0"	3.4"	2.7"	2.0"	2.3"	1.9"	0.9"	0.8"	1.0"	2.7"	4.0"	4.0"	4.0"
	+/- 58 PSF	2368.3 LB/FT	1009.2 LB/FT	1.6"	1.7"	3.0"	2.5"	1.7"	2.0"	1.7"	0.9"	0.9"	1.4"	2.3"	4.0"	4.0"	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"	4.0"	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"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 30 PSF	1336.2 LB/FT	530.2 LB/FT	2.5"	3.2"	4.0"	4.0"	4.0"	3.6"	3.1"	2.2"	1.9"	2.3"	4.0"	4.0"	4.0"	4.0"
	+/- 40 PSF	1789.6 LB/FT	721.6 LB/FT	2.2"	2.3"	4.0"	4.0"	4.0"	3.6"	3.1"	2.2"	1.9"	2.3"	4.0"	4.0"	4.0"	4.0"
	+/- 50 PSF	2241.6 LB/FT	919.4 LB/FT	1.7"	1.9"	3.2"	2.5"	1.9"	2.1"	1.2"	0.9"	0.7"	0.9"	2.5"	4.0"	4.0"	4.0"
	+/- 54 PSF	2421.9 LB/FT	1000.2 LB/FT	1.6"	1.7"	2.9"	2.5"	1.7"	2.0"	1.1"	0.8"	0.7"	0.9"	2.3"	4.0"	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"	4.0"	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"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 30 PSF	1462.6 LB/FT	565.1 LB/FT	2.7"	2.9"	4.0"	3.9"	2.9"	3.3"	1.9"	1.3"	1.1"	1.4"	3.9"	4.0"	4.0"	4.0"
	+/- 40 PSF	1956.7 LB/FT	769.7 LB/FT	2.0"	2.2"	3.7"	2.9"	2.6"	3.3"	1.9"	1.3"	1.1"	1.4"	3.9"	4.0"	4.0"	4.0"
	+/- 50 PSF	2449.2 LB/FT	981.4 LB/FT	1.6"	1.7"	2.9"	2.5"	1.7"	2.0"	1.1"	0.8"	0.7"	0.9"	2.3"	4.0"	4.0"	4.0"
	+/- 54 PSF	2629.5 LB/FT	1071.7 LB/FT	1.6"	1.7"	2.9"	2.5"	1.7"	2.0"	1.1"	0.8"	0.7"	0.9"	2.3"	4.0"	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"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 20 PSF	1054.4 LB/FT	390.4 LB/FT	3.9"	4.0"	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	1592.1 LB/FT	600.2 LB/FT	2.5"	2.7"	4.0"	4.0"	4.0"	3.6"	3.1"	2.2"	1.9"	2.3"	4.0"	4.0"	4.0"	4.0"
	+/- 40 PSF	2128.0 LB/FT	818.1 LB/FT	1.8"	2.0"	3.4"	2.7"	2.3"	2.8"	1.3"	0.9"	0.8"	1.0"	2.7"	4.0"	4.0"	4.0"
	+/- 47 PSF	2502.1 LB/FT	975.6 LB/FT	1.6"	1.7"	2.9"	2.5"	1.7"	2.0"	1.1"	0.8"	0.7"	0.9"	2.3"	4.0"	4.0"	4.0"
	+/- 50 PSF	2682.4 LB/FT	1065.9 LB/FT	1.6"	1.7"	2.9"	2.5"	1.7"	2.0"	1.1"	0.8"	0.7"	0.9"	2.3"	4.0"	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"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 20 PSF	1143.6 LB/FT	413.0 LB/FT	3.5"	3.8"	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	1724.4 LB/FT	635.5 LB/FT	2.3"	2.5"	4.0"	3.3"	2.5"	2.9"	1.6"	1.1"	0.9"	1.2"	3.4"	4.0"	4.0"	4.0"
	+/- 40 PSF	2303.3 LB/FT	867.1 LB/FT	1.7"	1.9"	3.2"	2.5"	1.9"	2.1"	1.2"	0.9"	0.7"	0.9"	2.5"	4.0"	4.0"	4.0"
	+/- 44 PSF	2534.3 LB/FT	962.3 LB/FT	1.6"	1.7"	2.9"	2.5"	1.7"	2.0"	1.1"	0.8"	0.7"	0.9"	2.3"	4.0"	4.0"	4.0"
	+/- 50 PSF	2714.6 LB/FT	1052.6 LB/FT	1.6"	1.7"	2.9"	2.5"	1.7"	2.0"	1.1"	0.8"	0.7"	0.9"	2.3"	4.0"	4.0"	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"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 20 PSF	1234.7 LB/FT	435.8 LB/FT	3.3"	3.5"	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	1859.7 LB/FT	671.0 LB/FT	2.1"	2.3"	4.0"	3.1"	2.3"	2.7"	1.5"	1.1"	0.9"	1.1"	3.1"	4.0"	4.0"	4.0"
	+/- 41 PSF	2544.7 LB/FT	941.6 LB/FT	1.6"	1.7"	2.9"	2.5"	1.7"	2.0"	1.1"	0.8"	0.7"	0.9"	2.3"	4.0"	4.0"	4.0"
	+/- 44 PSF	2725.0 LB/FT	1030.3 LB/FT	1.6"	1.7"	2.9"	2.5"	1.7"	2.0"	1.1"	0.8"	0.7"	0.9"	2.3"	4.0"	4.0"	4.0"
	+/- 50 PSF	2905.3 LB/FT	1120.6 LB/FT	1.6"	1.7"	2.9"	2.5"	1.7"	2.0"	1.1"	0.8"	0.7"	0.9"	2.3"	4.0"	4.0"	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"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 20 PSF	1327.7 LB/FT	458.6 LB/FT	3.0"	3.3"	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	1997.9 LB/FT	706.8 LB/FT	2.0"	2.2"	3.7"	2.9"	2.6"	3.3"	1.9"	1.3"	1.1"	1.4"	3.9"	4.0"	4.0"	4.0"
	+/- 39 PSF	2599.2 LB/FT	940.0 LB/FT	1.5"	1.7"	2.9"	2.5"	1.7"	2.0"	1.1"	0.8"	0.7"	0.9"	2.2"	4.0"	4.0"	4.0"
	+/- 42 PSF	2780.5 LB/FT	1030.3 LB/FT	1.5"	1.7"	2.9"	2.5"	1.7"	2.0"	1.1"	0.8"	0.7"	0.9"	2.2"	4.0"	4.0"	4.0"
	+/- 50 PSF	2960.8 LB/FT	1114.1 LB/FT	1.5"	1.7"	2.9"	2.5"	1.7"	2.0"	1.1"	0.8"	0.7"	0.9"	2.2"	4.0"	4.0"	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"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 20 PSF	1422.5 LB/FT	481.5 LB/FT	2.9"	3.1"	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	2139.0 LB/FT	742.9 LB/FT	1.9"	2.0"	3.5"	2.7"	2.3"	2.8"	1.3"	0.9"	0.8"	1.0"	2.7"	4.0"	4.0"	4.0"
	+/- 37 PSF	2639.1 LB/FT	933.5 LB/FT	1.6"	1.7"	2.9"	2.5"	1.7"	2.0"	1.1"	0.8"	0.7"	0.9"	2.2"	4.0"	4.0"	4.0"
	+/- 40 PSF	2819.4 LB/FT	1023.8 LB/FT	1.6"	1.7"	2.9"	2.5"	1.7"	2.0"	1.1"	0.8"	0.7"	0.9"	2.2"	4.0"	4.0"	4.0"
	+/- 50 PSF	2999.7 LB/FT	1102.6 LB/FT	1.6"	1.7"	2.9"	2.5"	1.7"	2.0"	1.1"	0.8"	0.7"	0.9"	2.2"	4.0"	4.0"	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"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 20 PSF	1519.2 LB/FT	504.5 LB/FT	2.7"	2.9"	4.0"	3.9"	2.9"	3.3"	1.9"	1.3"	1.1"	1.4"	3.9"	4.0"	4.0"	4.0"
	+/- 30 PSF	2283.0 LB/FT	779.3 LB/FT	1.9"	2.0"	3.5"	2.7"	2.3"	2.8"	1.3"	0.9"	0.8"	1.0"	2.6"	4.0"	4.0"	4.0"
	+/- 35 PSF	2663.9 LB/FT	922.0 LB/FT	1.6"	1.7"	2.9"	2.5"	1.7"	2.0"	1.1"	0.8"	0.7"	0.9"	2.2"	4.0"	4.0"	4.0"
	+/- 40 PSF	2844.2 LB/FT	1012.3 LB/FT	1.6"	1.7"	2.9"	2.5"	1.7"	2.0"	1.1"	0.8"	0.7"	0.9"	2.2"	4.0"	4.0"	4.0"
	+/- 50 PSF	3024.5 LB/FT	1102.6 LB/FT	1.6"	1.7"	2.9"	2.5"	1.7"	2.0"	1.1"	0.8"	0.7"	0.9"	2.2"	4.0"	4.0"	4.0"

Approved as complying with the
Florida Building Code
Date 06/10/2026
NOA# 21-0312.10
Miami Dade Product Control
By 

FRANK BENNARDO, PE
PE #46549
03/05/2021
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MAGNUM SECURITY STAR ROLL-DOWN SHUTTER

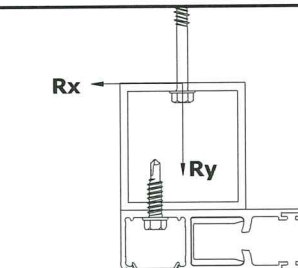
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ANCHOR SCHEDULE: : INDICATES VALUES NOT APPROVED FOR USE.
BUILD-OUT MOUNT: MAGNUM END RETENTION SHUTTER WITH SINGLE WALL SLATS

ANCHOR NOTES: SEE SHEET
4 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 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															
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"
	+/- 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"
	+/- 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"
	+/- 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"
	+/- 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"
	+/- 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"
	+/- 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"
	+/- 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"
	+/- 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"	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"	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"	4.0"
	+/- 150 PSF	202.0 LB/FT	641.5 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"
	+/- 160 PSF	251.4 LB/FT	713.1 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"
	+/- 170 PSF	300.4 LB/FT	786.0 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"
	+/- 180 PSF	349.1 LB/FT	860.0 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"
	+/- 190 PSF	397.5 LB/FT	935.3 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"
+/- 200 PSF	445.6 LB/FT	1011.7 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"	
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"	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"
	+/- 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"	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"	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"	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"	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"	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"	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"	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"	4.0"
+/- 145 PSF	665.7 LB/FT	1041.8 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"	
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"	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"	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"	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"	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"	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"	4.0"
	+/- 110 PSF	778.2 LB/FT	1007.6 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"
	+/- 122 PSF	888.6 LB/FT	1141.2 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"
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"	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"	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"	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"	4.0"
	+/- 80 PSF	763.6 LB/FT	873.4 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"
	+/- 90 PSF	880.8 LB/FT	1001.2 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"
	+/- 109 PSF	1102.7 LB/FT	1248.6 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"
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"	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"	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"	4.0"
	+/- 70 PSF	875.1 LB/FT	903.2 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"
	+/- 80 PSF	1019.0 LB/FT	1049.9 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"
	+/- 90 PSF	1162.5 LB/FT	1198.7 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"
	+/- 101 PSF	1319.9 LB/FT	1364.8 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"

Approved as complying with the
Florida Building Code
Date 06/10/2026
NOA# 24-0312.70
Miami Dade Product Control

By 

FRANK BENNARDO PE
PE# 46549
03/05/2021
CERTIFYING ENGINEER IS THE NAME LISTED ON THE SEAL

FLORIDA
PROFESSIONAL
ENGINEER
EXPRESS

ALUTECH UNITED, INC.
1537 NORTHGATE BLVD
SARASOTA, FL
(941) 355-0970
MAGNUM SECURITY STAR ROLL-DOWN SHUTTER

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06/05/20
CHKD
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ISSUE
REMARKS

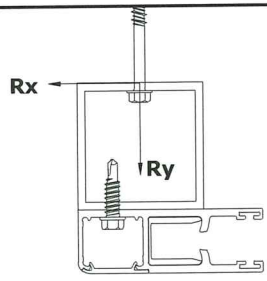
20-30244
SCALE: NTS UNLESS NOTED
OF 15

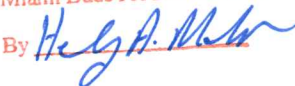
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03/05/2021 - 1:32pm
rickm

ANCHOR SCHEDULE: : INDICATES VALUES NOT APPROVED FOR USE.

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

ANCHOR NOTES: SEE SHEET
4 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"	3.0"	4.0"	4.0"	3.3"	2.9"	2.5"	3.0"	3.2"	4.0"	4.0"
	+/- 50 PSF	757.9 LB/FT	724.1 LB/FT	3.7"	4.0"	4.0"	4.0"	2.3"	3.7"	4.0"	2.5"	2.2"	1.9"	2.3"	2.5"	4.0"	4.0"
	+/- 60 PSF	930.7 LB/FT	886.5 LB/FT	3.0"	3.3"	4.0"	4.0"	1.6"	3.0"	3.7"	2.1"	1.5"	1.5"	1.5"	2.0"	4.0"	4.0"
	+/- 70 PSF	1103.2 LB/FT	1051.6 LB/FT	2.6"	2.6"	4.0"	3.8"	1.6"	2.5"	3.1"	1.6"	1.5"	1.3"	1.6"	1.7"	3.7"	4.0"
	+/- 80 PSF	1275.1 LB/FT	1219.3 LB/FT	2.2"	2.4"	3.9"	3.8"	1.4"	2.2"	2.7"	1.5"	1.3"	1.2"	1.4"	1.5"	3.2"	4.0"
	+/- 90 PSF	1446.5 LB/FT	1389.7 LB/FT	1.9"	2.1"	3.5"	2.9"	1.2"	1.9"	2.3"	1.3"	1.2"	1.0"	1.3"	1.3"	2.8"	4.0"
120"	+/- 96 PSF	1549.1 LB/FT	1493.2 LB/FT	1.8"	2.0"	3.2"	2.7"	1.1"	1.6"	2.2"	1.2"	1.0"	0.9"	1.1"	1.2"	2.6"	4.0"
	+/- 30 PSF	522.5 LB/FT	471.8 LB/FT	4.0"	4.0"	4.0"	4.0"	3.5"	4.0"	4.0"	3.8"	3.3"	2.8"	3.4"	3.8"	4.0"	4.0"
	+/- 40 PSF	726.3 LB/FT	648.0 LB/FT	4.0"	4.0"	4.0"	4.0"	2.6"	4.0"	4.0"	2.8"	2.4"	2.1"	2.4"	2.7"	4.0"	4.0"
	+/- 50 PSF	929.5 LB/FT	827.5 LB/FT	3.1"	3.4"	4.0"	4.0"	2.0"	3.1"	3.8"	2.2"	1.6"	1.6"	1.6"	2.2"	4.0"	4.0"
	+/- 60 PSF	1132.2 LB/FT	1010.3 LB/FT	2.6"	2.6"	4.0"	3.8"	1.6"	2.6"	3.1"	1.8"	1.5"	1.3"	1.6"	1.6"	3.7"	4.0"
	+/- 70 PSF	1334.3 LB/FT	1196.4 LB/FT	2.2"	2.4"	3.9"	3.8"	1.4"	2.2"	2.6"	1.5"	1.3"	1.1"	1.3"	1.5"	3.2"	4.0"
132"	+/- 80 PSF	1535.9 LB/FT	1385.8 LB/FT	1.9"	2.1"	3.4"	2.8"	1.2"	1.9"	2.3"	1.3"	1.2"	1.0"	1.1"	1.3"	2.7"	4.0"
	+/- 92 PSF	1776.9 LB/FT	1617.4 LB/FT	1.6"	1.8"	2.9"	2.4"	1.0"	1.6"	2.0"	1.1"	1.0"	0.8"	1.0"	1.1"	2.4"	4.0"
	+/- 30 PSF	633.4 LB/FT	533.3 LB/FT	4.0"	4.0"	4.0"	4.0"	3.0"	4.0"	4.0"	3.3"	2.7"	2.4"	2.8"	3.3"	4.0"	4.0"
	+/- 40 PSF	868.8 LB/FT	729.0 LB/FT	3.4"	3.8"	4.0"	4.0"	2.5"	3.5"	4.0"	2.4"	2.0"	1.7"	2.1"	2.4"	4.0"	4.0"
	+/- 50 PSF	1103.4 LB/FT	928.6 LB/FT	2.7"	3.0"	4.0"	4.0"	1.7"	2.7"	3.3"	1.6"	1.4"	1.2"	1.6"	1.6"	3.9"	4.0"
	+/- 60 PSF	1337.5 LB/FT	1132.3 LB/FT	2.3"	2.4"	4.0"	3.5"	1.4"	2.2"	2.7"	1.5"	1.3"	1.1"	1.3"	1.6"	3.2"	4.0"
144"	+/- 70 PSF	1570.8 LB/FT	1340.0 LB/FT	1.9"	2.1"	3.4"	2.8"	1.2"	1.9"	2.3"	1.3"	1.1"	1.0"	1.1"	1.3"	2.8"	4.0"
	+/- 80 PSF	1803.5 LB/FT	1551.7 LB/FT	1.6"	1.8"	2.9"	2.4"	1.1"	1.7"	2.0"	1.1"	1.0"	0.8"	1.0"	1.1"	2.4"	4.0"
	+/- 88 PSF	1989.2 LB/FT	1723.9 LB/FT	1.5"	1.6"	2.7"	2.2"	1.0"	1.5"	1.9"	1.0"	0.9"	0.8"	0.9"	1.0"	2.2"	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"	4.0"	3.7"	3.2"	3.8"	4.0"	4.0"	4.0"
	+/- 30 PSF	745.1 LB/FT	593.2 LB/FT	4.0"	4.0"	4.0"	4.0"	2.7"	4.0"	4.0"	2.8"	2.4"	2.0"	2.4"	2.9"	4.0"	4.0"
	+/- 40 PSF	1013.5 LB/FT	808.5 LB/FT	3.0"	3.3"	4.0"	4.0"	2.0"	3.0"	3.7"	2.1"	1.5"	1.5"	1.5"	2.1"	4.0"	4.0"
156"	+/- 50 PSF	1281.0 LB/FT	1028.7 LB/FT	2.4"	2.6"	4.0"	3.5"	1.4"	2.4"	2.9"	1.6"	1.4"	1.2"	1.4"	1.7"	3.5"	4.0"
	+/- 60 PSF	1547.9 LB/FT	1253.7 LB/FT	2.0"	2.2"	3.5"	2.9"	1.3"	2.0"	2.4"	1.4"	1.1"	1.0"	1.2"	1.4"	2.9"	4.0"
	+/- 70 PSF	1813.9 LB/FT	1483.6 LB/FT	1.7"	1.9"	3.0"	2.5"	1.1"	1.7"	2.0"	1.2"	1.0"	0.8"	1.0"	1.1"	2.4"	4.0"
	+/- 85 PSF	2211.5 LB/FT	1837.3 LB/FT	1.4"	1.5"	2.4"	2.0"	0.9"	1.4"	1.6"	0.9"	0.8"	0.7"	0.8"	1.0"	2.0"	4.0"
	+/- 20 PSF	554.9 LB/FT	422.4 LB/FT	4.0"	4.0"	4.0"	4.0"	3.7"	4.0"	4.0"	3.9"	3.2"	2.8"	3.3"	4.0"	4.0"	4.0"
	+/- 30 PSF	858.4 LB/FT	651.9 LB/FT	3.6"	4.0"	4.0"	4.0"	2.4"	3.7"	4.0"	2.5"	2.1"	1.8"	2.1"	2.6"	4.0"	4.0"
168"	+/- 40 PSF	1161.2 LB/FT	887.3 LB/FT	2.7"	2.9"	4.0"	4.0"	1.6"	2.7"	3.3"	1.9"	1.5"	1.3"	1.6"	1.9"	3.9"	4.0"
	+/- 50 PSF	1463.1 LB/FT	1128.5 LB/FT	2.1"	2.3"	3.8"	3.1"	1.4"	2.1"	2.6"	1.6"	1.2"	1.0"	1.2"	1.5"	3.1"	4.0"
	+/- 60 PSF	1764.1 LB/FT	1375.4 LB/FT	1.7"	1.9"	3.1"	2.6"	1.1"	1.6"	2.1"	1.2"	1.0"	0.9"	1.0"	1.2"	2.6"	4.0"
	+/- 70 PSF	2064.2 LB/FT	1628.0 LB/FT	1.5"	1.6"	2.7"	2.2"	1.0"	1.6"	1.8"	1.0"	0.9"	0.7"	0.9"	1.1"	2.2"	4.0"
	+/- 76 PSF	2243.8 LB/FT	1782.3 LB/FT	1.4"	1.5"	2.5"	2.0"	0.9"	1.4"	1.7"	0.9"	0.8"	0.7"	0.8"	1.0"	2.0"	4.0"
	+/- 20 PSF	634.5 LB/FT	461.2 LB/FT	4.0"	4.0"	4.0"	4.0"	3.3"	4.0"	4.0"	3.5"	2.8"	2.4"	2.9"	3.6"	4.0"	4.0"
180"	+/- 30 PSF	973.9 LB/FT	710.1 LB/FT	3.3"	3.6"	4.0"	4.0"	2.2"	3.3"	4.0"	2.3"	1.9"	1.6"	1.9"	2.4"	4.0"	4.0"
	+/- 40 PSF	1312.4 LB/FT	965.9 LB/FT	2.4"	2.6"	4.0"	3.6"	1.6"	2.5"	2.9"	1.7"	1.4"	1.2"	1.4"	1.7"	3.5"	4.0"
	+/- 50 PSF	1649.9 LB/FT	1228.4 LB/FT	1.9"	2.1"	3.4"	2.8"	1.3"	1.9"	2.3"	1.3"	1.1"	0.9"	1.1"	1.4"	2.8"	4.0"
	+/- 60 PSF	1986.5 LB/FT	1497.8 LB/FT	1.6"	1.7"	2.8"	2.3"	1.0"	1.6"	1.9"	1.1"	0.9"	0.8"	0.9"	1.1"	2.3"	4.0"
	+/- 69 PSF	2288.4 LB/FT	1745.9 LB/FT	1.4"	1.5"	2.4"	2.0"	0.9"	1.4"	1.7"	0.9"	0.8"	0.7"	0.8"	1.0"	2.0"	4.0"
	+/- 20 PSF	715.3 LB/FT	499.5 LB/FT	4.0"	4.0"	4.0"	4.0"	3.0"	4.0"	4.0"	3.1"	2.5"	2.2"	2.6"	3.3"	4.0"	4.0"
180"	+/- 30 PSF	1091.9 LB/FT	768.0 LB/FT	2.9"	3.2"	4.0"	4.0"	2.0"	3.0"	3.6"	2.0"	1.6"	1.4"	1.7"	2.2"	4.0"	4.0"
	+/- 40 PSF	1467.5 LB/FT	1044.5 LB/FT	2.2"	2.4"	3.9"	3.2"	1.5"	2.2"	2.7"	1.5"	1.2"	1.1"	1.3"	1.5"	3.2"	4.0"
	+/- 50 PSF	1841.9 LB/FT	1329.0 LB/FT	1.7"	1.9"	3.1"	2.6"	1.2"	1.8"	2.1"	1.2"	1.0"	0.9"	1.0"	1.3"	2.5"	4.0"
	+/- 63 PSF	2327.0 LB/FT	1710.5 LB/FT	1.4"	1.5"	2.4"	2.0"	0.9"	1.4"	1.7"	0.9"	0.8"	0.7"	0.8"	1.0"	2.0"	4.0"

Approved as complying with the
Florida Building Code
Date 06/19/2026
NOA# 21-0312.10
Miami Dade Product Control
By 

FRANK BERNARDO PE
PE# 46549
03/05/2021
CERTIFYING ENGINEER IS THE NAME LISTED ON THE SEAL

STATE OF FLORIDA
PROFESSIONAL ENGINEER
EXPRESS

ALUTECH UNITED, INC.
1537 NORTHGATE BLVD
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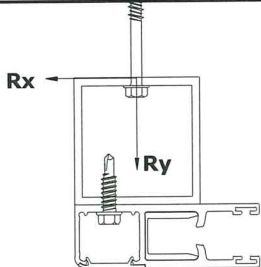
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03/05/2021 - 1:32pm rickn

ANCHOR SCHEDULE: : INDICATES VALUES NOT APPROVED FOR USE.

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

ANCHOR NOTES: SEE SHEET
4 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 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	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"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 30 PSF	1212.6 LB/FT	825.9 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"
	+/- 40 PSF	1626.5 LB/FT	1123.5 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"
	+/- 50 PSF	2039.1 LB/FT	1430.3 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"
204"	+/- 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	4.0"	4.0"	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	1336.2 LB/FT	883.9 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"
	+/- 40 PSF	1789.6 LB/FT	1203.0 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	2241.6 LB/FT	1532.6 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"
216"	+/- 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"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 20 PSF	967.0 LB/FT	613.0 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"
	+/- 30 PSF	1462.6 LB/FT	942.0 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"
	+/- 40 PSF	1956.7 LB/FT	1283.1 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	2449.2 LB/FT	1636.0 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"
228"	+/- 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"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 20 PSF	1054.4 LB/FT	650.8 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"
	+/- 30 PSF	1592.1 LB/FT	1000.5 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"
	+/- 40 PSF	2128.0 LB/FT	1363.8 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"
	+/- 47 PSF	2502.1 LB/FT	1626.2 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"
240"	+/- 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"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 20 PSF	1143.6 LB/FT	688.5 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"
	+/- 30 PSF	1724.4 LB/FT	1059.3 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"
	+/- 40 PSF	2303.3 LB/FT	1445.4 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"
	+/- 44 PSF	2534.3 LB/FT	1604.1 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"
252"	+/- 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"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"
	+/- 20 PSF	1234.7 LB/FT	726.4 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"
	+/- 30 PSF	1859.7 LB/FT	1118.6 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"
	+/- 41 PSF	2544.7 LB/FT	1569.7 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"
	+/- 10 PSF	655.3 LB/FT	369.9 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"
264"	+/- 20 PSF	1327.7 LB/FT	764.5 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"
	+/- 30 PSF	1997.9 LB/FT	1178.3 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"
	+/- 39 PSF	2599.2 LB/FT	1567.0 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"
	+/- 10 PSF	703.6 LB/FT	388.3 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"
	+/- 20 PSF	1422.5 LB/FT	802.7 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"
276"	+/- 30 PSF	2139.0 LB/FT	1238.4 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"
	+/- 37 PSF	2639.1 LB/FT	1556.1 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"
	+/- 10 PSF	752.7 LB/FT	406.6 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"
	+/- 20 PSF	1519.2 LB/FT	841.1 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"
	+/- 30 PSF	2283.0 LB/FT	1299.2 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"
288"	+/- 35 PSF	2663.9 LB/FT	1537.0 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"

Approved as complying with the
Florida Building Code
Date 06/10/2026
NOA# 24-0312.10
Miami Dade Product Control
By 

FRANK BERNARDO PE
PE # 46549
03/05/2021
CERTIFYING ENGINEER IS THE NAME LISTED ON THE SEAL

ENGINEERING EXPRESS
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160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
P: (954) 354-0660 F: (954) 354-0443
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ALUTECH UNITED, INC.
1537 NORTHGATE BLVD
SARASOTA, FL
(941) 355-0970
MAGNUM SECURITY STAR ROLL-DOWN SHUTTER

REMARKS
INIT ISSUE
DATE
06/05/20
DRWN
CHKD
RN
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SCALE: NTS UNLESS NOTED
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OF 15

FRANK BENNARDO PE
PE# 46549

03/05/2021

NO 46549

CERTIFIED ENGINEER IS THE NAME LISTED ON THE SEAL



**ENGINEERING
EXPRESS**

STATE OF FLORIDA
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ALUTECH UNITED, INC.
1537 NORTHGATE BLVD

1537 NORTHGATE BLVD

SARASOTA, FL

(941) 355-0970

ITY STAR ROLL-

MAGNUM SECURITY STAR ROLL-DOWN SHUTTER

Approved as complying with the
Florida Building Code
Date 06/10/2026
NOA# 25-0312-10
Miami Dade Product Control
By Hely A. M. M.

REMARKS	DRWN	CHKD	DATE
INIT ISSUE	1	RN	06/05/20
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	1	1	1
	1	1	1
	1	1	1

20-30244

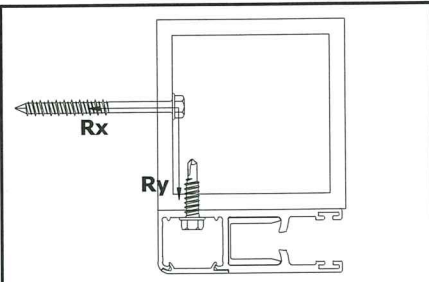
SALE: NTS UNLESS NOTE

11

C:\Users\rickn\Engineering Express\Production - Documents\Projects\20-30244 - FL17344_1 - Magnum III (Security Star) Slat roll up Shutter Security Star (non HVHZ)WPINOA Submittal\20-30244a Security Star Roll Shutter.dwg 03/05/2021 - 1:32pm rickn

ANCHOR SCHEDULE: : INDICATES VALUES NOT APPROVED FOR USE.
INTERIOR MOUNT: MAGNUM END RETENTION SHUTTER WITH SINGLE WALL SLATS (CONTINUED)

ANCHOR NOTES: SEE SHEET 4 FOR ANCHOR NOTES.



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
108"	+/- 40 PSF	810.3 LB/FT	338.5 LB/FT	4.0"	4.0"	4.0"	4.0"	3.5"	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	3.7"	4.0"	4.0"	4.0"	2.7"	3.9"	4.0"	2.6"	1.9"	1.6"	2.0"	3.2"	4.0"	4.0"	
	+/- 60 PSF	1285.4 LB/FT	531.8 LB/FT	3.0"	3.2"	4.0"	4.0"	2.2"	3.2"	3.7"	2.1"	1.5"	1.3"	1.6"	2.6"	4.0"	4.0"	
	+/- 70 PSF	1523.9 LB/FT	630.8 LB/FT	2.5"	2.7"	4.0"	3.7"	1.9"	2.7"	3.1"	1.6"	1.3"	1.1"	1.3"	2.2"	3.7"	4.0"	
	+/- 80 PSF	1763.0 LB/FT	731.4 LB/FT	2.2"	2.4"	4.0"	3.2"	1.6"	2.3"	2.7"	1.5"	1.1"	0.9"	1.2"	1.9"	3.2"	4.0"	
	+/- 90 PSF	2002.6 LB/FT	833.7 LB/FT	1.9"	2.1"	3.5"	2.6"	1.4"	2.1"	2.4"	1.3"	1.0"	0.8"	1.0"	1.7"	2.8"	4.0"	
	+/- 96 PSF	2146.6 LB/FT	895.7 LB/FT	1.6"	1.8"	3.2"	2.6"	1.2"	1.9"	2.2"	1.3"	0.9"	0.7"	0.9"	1.5"	2.6"	4.0"	
120"	+/- 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"	3.0"	4.0"	4.0"	2.9"	2.0"	1.7"	2.1"	3.5"	4.0"	4.0"	
	+/- 50 PSF	1260.6 LB/FT	496.4 LB/FT	3.4"	3.4"	4.0"	4.0"	2.3"	3.3"	3.8"	2.2"	1.5"	1.3"	1.6"	2.7"	4.0"	4.0"	
	+/- 60 PSF	1536.4 LB/FT	606.1 LB/FT	2.6"	2.6"	4.0"	3.7"	1.8"	2.7"	3.1"	1.9"	1.3"	1.1"	1.3"	2.2"	3.7"	4.0"	
	+/- 70 PSF	1813.0 LB/FT	717.7 LB/FT	2.1"	2.3"	3.9"	3.1"	1.6"	2.3"	2.7"	1.5"	1.1"	0.9"	1.1"	1.9"	3.1"	4.0"	
	+/- 80 PSF	2090.4 LB/FT	831.3 LB/FT	1.9"	2.0"	3.4"	2.7"	1.4"	2.0"	2.3"	1.3"	0.9"	0.8"	1.0"	1.9"	2.7"	4.0"	
	+/- 92 PSF	2424.1 LB/FT	970.3 LB/FT	1.6"	1.7"	2.9"	2.3"	1.2"	1.7"	2.0"	1.1"	0.8"	0.7"	0.8"	1.4"	2.3"	4.0"	
132"	+/- 30 PSF	846.9 LB/FT	319.9 LB/FT	4.0"	4.0"	4.0"	4.0"	3.5"	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	3.4"	3.7"	4.0"	4.0"	2.6"	3.7"	4.0"	2.4"	1.7"	1.4"	1.9"	3.0"	4.0"	4.0"	
	+/- 50 PSF	1475.0 LB/FT	557.1 LB/FT	2.7"	2.9"	4.0"	3.9"	2.0"	2.9"	3.3"	1.9"	1.3"	1.1"	1.4"	2.4"	3.9"	4.0"	
	+/- 60 PSF	1790.5 LB/FT	679.3 LB/FT	2.2"	2.4"	4.0"	3.2"	1.7"	2.4"	2.7"	1.5"	1.1"	0.9"	1.2"	1.9"	3.2"	4.0"	
	+/- 70 PSF	2107.0 LB/FT	803.9 LB/FT	1.9"	2.0"	3.4"	2.7"	1.4"	2.0"	2.3"	1.3"	0.9"	0.8"	1.0"	1.9"	2.7"	4.0"	
	+/- 80 PSF	2424.4 LB/FT	930.8 LB/FT	1.6"	1.6"	3.0"	2.4"	1.2"	1.6"	2.0"	1.1"	0.8"	0.7"	0.8"	1.4"	2.4"	4.0"	
	+/- 88 PSF	2678.9 LB/FT	1034.1 LB/FT	1.5"	1.6"	2.7"	2.1"	1.1"	1.6"	1.9"	1.0"	0.7"	0.6"	0.8"	1.3"	2.1"	4.0"	
144"	+/- 20 PSF	629.2 LB/FT	229.6 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"	
	+/- 30 PSF	982.5 LB/FT	355.8 LB/FT	4.0"	4.0"	4.0"	4.0"	3.1"	4.0"	4.0"	2.9"	2.0"	1.7"	2.1"	3.6"	4.0"	4.0"	
	+/- 40 PSF	1336.9 LB/FT	485.0 LB/FT	3.0"	3.2"	4.0"	4.0"	2.3"	3.2"	3.7"	2.1"	1.5"	1.2"	1.6"	2.7"	4.0"	4.0"	
	+/- 50 PSF	1692.6 LB/FT	617.1 LB/FT	2.4"	2.5"	4.0"	3.4"	1.6"	2.6"	2.9"	1.6"	1.2"	1.0"	1.2"	2.1"	3.4"	4.0"	
	+/- 60 PSF	2049.5 LB/FT	752.1 LB/FT	1.9"	2.1"	3.6"	2.6"	1.5"	2.1"	2.4"	1.4"	1.0"	0.8"	1.0"	1.7"	2.8"	4.0"	
	+/- 70 PSF	2407.5 LB/FT	890.0 LB/FT	1.6"	1.8"	3.0"	2.4"	1.3"	1.8"	2.0"	1.2"	0.8"	0.7"	0.9"	1.5"	2.4"	4.0"	
	+/- 85 PSF	2946.6 LB/FT	1102.2 LB/FT	1.3"	1.5"	2.6"	1.9"	1.0"	1.5"	1.7"	0.9"	0.7"	0.6"	0.7"	1.2"	2.0"	4.0"	
156"	+/- 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	3.6"	3.9"	4.0"	4.0"	2.6"	3.6"	4.0"	2.5"	1.9"	1.5"	1.9"	3.3"	4.0"	4.0"	
	+/- 40 PSF	1516.2 LB/FT	532.3 LB/FT	2.7"	2.9"	4.0"	3.8"	2.0"	2.9"	3.3"	1.9"	1.3"	1.1"	1.4"	2.4"	3.9"	4.0"	
	+/- 50 PSF	1914.6 LB/FT	676.9 LB/FT	2.1"	2.3"	3.9"	3.0"	1.6"	2.3"	2.6"	1.5"	1.0"	0.8"	1.1"	1.9"	3.0"	4.0"	
	+/- 60 PSF	2314.4 LB/FT	825.1 LB/FT	1.7"	1.9"	3.2"	2.5"	1.3"	1.9"	2.1"	1.2"	0.8"	0.7"	0.9"	1.6"	2.5"	4.0"	
	+/- 70 PSF	2715.6 LB/FT	976.6 LB/FT	1.5"	1.6"	2.7"	2.1"	1.1"	1.6"	1.8"	1.0"	0.7"	0.6"	0.8"	1.3"	2.1"	4.0"	
	+/- 76 PSF	2956.9 LB/FT	1069.2 LB/FT	1.3"	1.5"	2.5"	2.0"	1.0"	1.5"	1.7"	0.9"	0.7"	0.6"	0.7"	1.2"	2.0"	4.0"	
168"	+/- 20 PSF	819.0 LB/FT	276.7 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"	
	+/- 30 PSF	1258.0 LB/FT	426.0 LB/FT	3.7"	3.5"	4.0"	4.0"	2.5"	3.5"	4.0"	2.3"	1.6"	1.3"	1.7"	2.9"	4.0"	4.0"	
	+/- 40 PSF	1698.9 LB/FT	579.4 LB/FT	2.4"	2.6"	4.0"	3.5"	1.6"	2.6"	2.9"	1.7"	1.0"	0.8"	1.0"	2.2"	3.5"	4.0"	
	+/- 50 PSF	2141.5 LB/FT	736.9 LB/FT	1.9"	2.0"	3.6"	2.7"	1.5"	2.1"	2.3"	1.3"	0.9"	0.8"	1.0"	1.7"	2.7"	4.0"	
	+/- 60 PSF	2585.7 LB/FT	898.5 LB/FT	1.6"	1.7"	2.9"	2.3"	1.0"	1.7"	1.9"	1.1"	0.8"	0.7"	0.8"	1.4"	2.3"	4.0"	
	+/- 69 PSF	2987.0 LB/FT	1047.3 LB/FT	1.3"	1.5"	2.5"	2.0"	1.0"	1.5"	1.7"	0.9"	0.7"	0.6"	0.7"	1.2"	2.0"	4.0"	
180"	+/- 20 PSF	915.1 LB/FT	299.6 LB/FT	4.0"	4.0"	4.0"	4.0"	3.5"	4.0"	4.0"	3.1"	2.2"	1.6"	2.3"	4.0"	4.0"	4.0"	
	+/- 30 PSF	1399.2 LB/FT	460.7 LB/FT	2.9"	3.2"	4.0"	4.0"	2.3"	3.2"	3.6"	2.3"	1.4"	1.2"	1.5"	2.7"	4.0"	4.0"	
	+/- 40 PSF	1885.4 LB/FT	626.6 LB/FT	2.2"	2.4"	4.0"	3.1"	1.7"	2.4"	2.7"	1.5"	1.0"	0.8"	1.1"	2.0"	3.1"	4.0"	
	+/- 50 PSF	2373.7 LB/FT	797.2 LB/FT	1.7"	1.9"	3.2"	2.5"	1.3"	1.9"	2.1"	1.2"	0.8"	0.7"	0.8"	1.6"	2.5"	4.0"	
	+/- 63 PSF	3011.4 LB/FT	1026.1 LB/FT	1.3"	1.5"	2.5"	1.9"	1.0"	1.5"	1.7"	0.9"	0.7"	0.6"	0.7"	1.2"	2.0"	4.0"	

Approved as complying with the
Florida Building Code
Date 06/10/2020
NOA# 21-0712-16
Miami Dade Product Control
By Heby A. Mabe

FRANK BENNARDO PE
PE# 46549

03/05/2021

CERTIFYING ENGINEER IS THE NAME LISTED ON THE SEAL

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ALUTECH UNITED, INC.
1537 NORTHGATE BLVD
SARASOTA, FL
(941) 355-0970
MAGNUM SECURITY STAR ROLL-DOWN SHUTTER

REMARKS	DATE
INITIALS	06/05/20
CHKD	
DRWN	
DATE	

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20-30244

SCALE: NTS UNLESS NOTED

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ANCHOR SCHEDULE: : INDICATES VALUES NOT APPROVED FOR USE.

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

ANCHOR NOTES: SEE SHEET
4 FOR ANCHOR NOTES.

[illegible]

Approved as complying with the
Florida Building Code
Date 06/10/2026
NOA# 21-0312.10
Miami Dade Product Control
By H. A. Mohr

FRANK BENNARDO PE
PE# 46549

03/05/2021

No 46549

ENGINEERING EXPERTS
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REMARKS	DRWN	CHKD	DATE
INIT ISSUE		RN	06/05/20

20-30244

SCALE: NTS UNLESS NOTED

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C:\Users\rickn\Engineering\Express\Production - Documents\Projects\20-30244 - FL17344.1 - Magnum III (Security Star) Slat roll up Shutter Security Star (non HVHZ)VVPINOA Submittal\20-30244a Security Star Roll Shutter.dwg
03/05/2021 - 1:32pm rickn

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 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	88.4"	8121 LB	66.6"	6138 LB	3059 LB	6858 LB
	UP TO 85 PSF	38.6"	3545 LB	31.5"	2901 LB	1446 LB	3241 LB	71.9"	6800 LB	56.2"	5175 LB	2579 LB	5782 LB	90.7"	7917 LB	66.3"	6432 LB	2895 LB	7053 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	93.7"	7664 LB	66.1"	6751 LB	2705 LB	7273 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	96.7"	7428 LB	65.1"	7229 LB	2502 LB	7650 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						

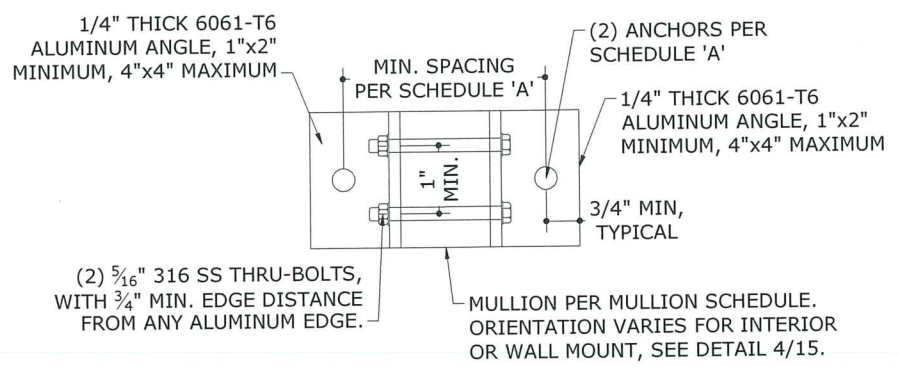
- "END RETENTION MULLION SCHEDULE" IS APPLICABLE TO ALL END RETENTION MULLIONS.
- "INTERMEDIATE MULLIONS" AND "END MULLIONS" ARE AS DEFINED IN ELEVATION 1/15.
- ALLOWABLE DESIGN PRESSURES AND SLAT SPANS INDICATED ARE FOR DETERMINING PERMISSIBLE MULLION LENGTHS ONLY. ACTUAL SLAT SPANS AND DESIGN PRESSURES SHALL NOT EXCEED THOSE INDICATED IN SPAN SCHEDULES.
- "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.
- THIS SCHEDULE MAY BE USED FOR ALL MOUNTING CONDITIONS LISTED HEREIN.
- SEE MULLION HORIZONTAL SECTIONS ON SHEET 14 FOR REQUIRED MULLION ORIENTATIONS.

SCHEDULE 'A'

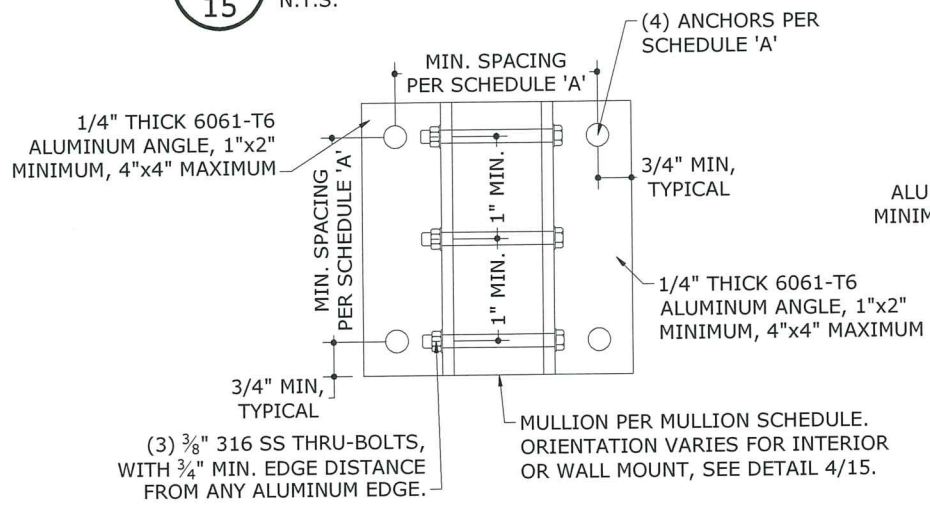
ANCHOR TYPE	MINIMUM SPACING	MINIMUM EDGE DISTANCE	CONNECTION DETAIL	CONNECTION CAPACITY	
				Tcap	Vcap
3/8" DEWALT SCREWBOLTS W/ 3-1/2" EMBED TO 3KSI MIN. CONCRETE	4.5"	4.5"	1/15	4261 LB	2998 LB
			2/15	8523 LB	5995 LB
3/8" DEWALT STEEL DROPIN W/ 1-9/16" EMBED TO 3KSI MIN. CONCRETE	4.5"	5.25"	1/15	1340 LB	2293 LB
			2/15	2680 LB	4585 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	1560 LB	1625 LB
			2/15	3120 LB	3250 LB

SCHEDULE 'A' NOTES:

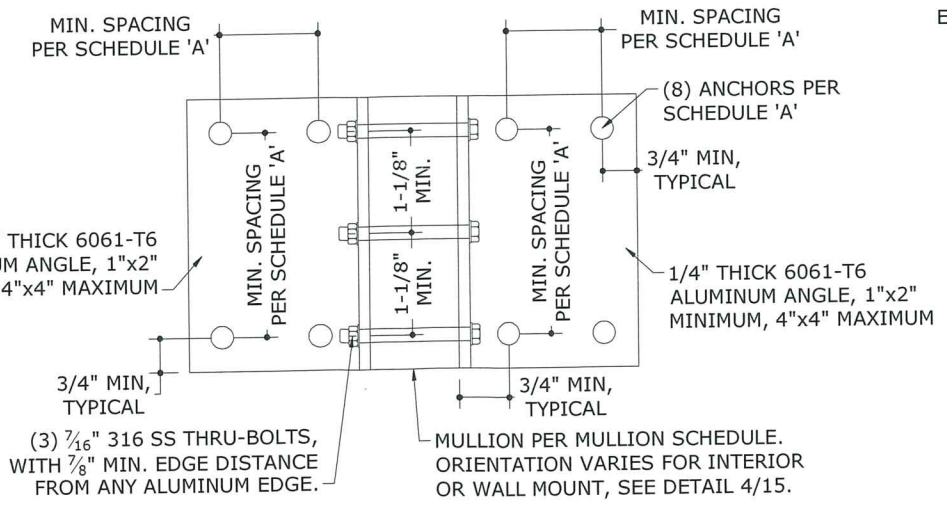
- INTERIOR MOUNT:
 - FOR ALL MULLIONS, 'Rsum' VALUES IN MULLION SCHEDULE SHALL NOT EXCEED MAX 'Vcap' VALUES NOTED IN SCHEDULE 'A'.
- WALL MOUNT:
 - FOR INTERMEDIATE END RETENTION MULLIONS AND ALL NON-END RETENTION MULLIONS, 'Rsum' VALUES IN MULLION SCHEDULE SHALL NOT EXCEED MAX 'Tcap' VALUES NOTED IN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



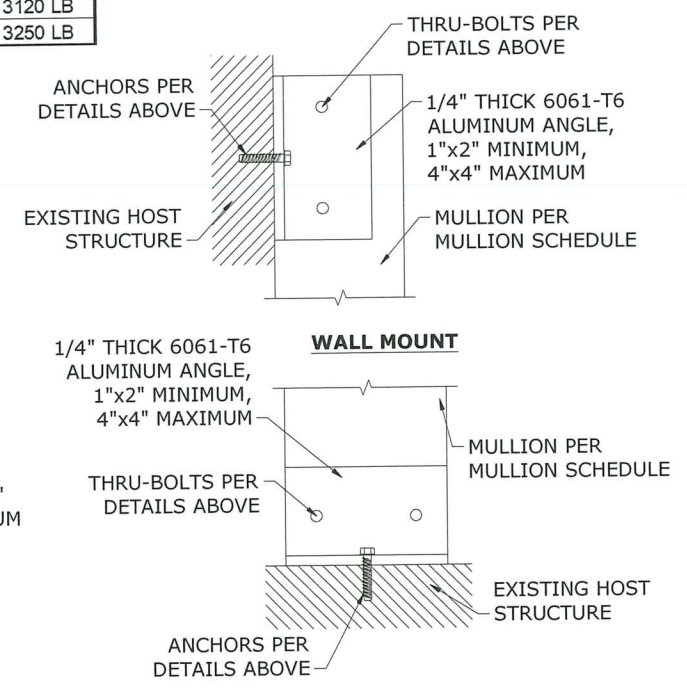
1 INTERIOR OR WALL MOUNT
15 N.T.S.



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



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



4 INTERIOR MOUNT
15 N.T.S.

MOUNTING CONDITIONS VERTICAL SECTIONS

FRANK BENNARDO PE
No. 46549
03/05/2021
CERTIFYING ENGINEER AS THE NAME LISTED ON THE SEAL
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MAGNUM SECURITY STAR ROLL-DOWN SHUTTER

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