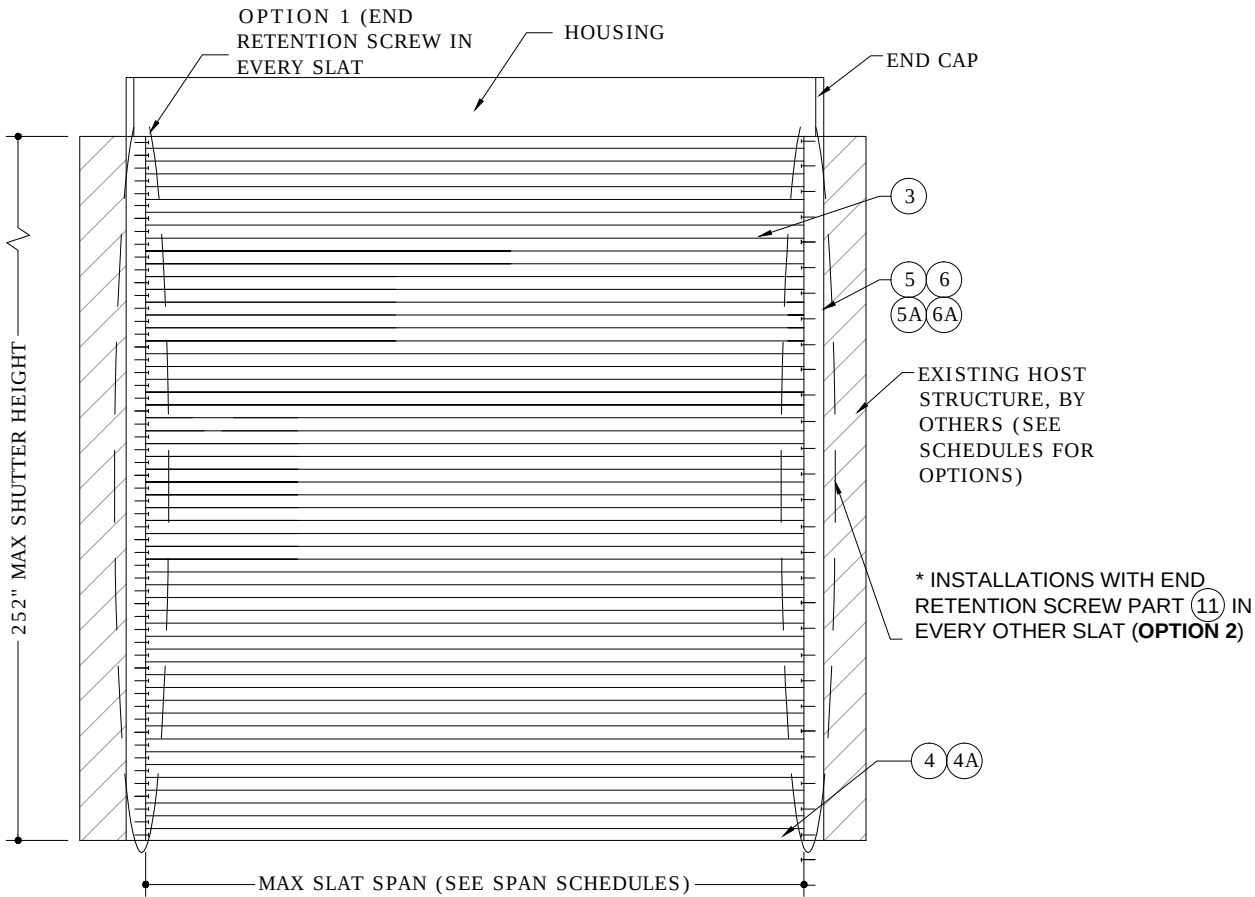


SINGLE WALL ROLL-UP HURRICANE SHUTTER



1 TYPICAL ROLL-UP SHUTTER
N.T.S. EXTERIOR ELEV
SEE REMAINING SHEETS FOR COMPLETE ELEVATION OPTIONS

- THE SYSTEM DESCRIBED HEREIN HAS BEEN DESIGNED AND TESTED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE SEVENTH EDITION (2020), FOR USE INSIDE AND OUTSIDE OUTSIDE THE HIGH VELOCITY HURRICANE ZONE, PER ASTM E330, E1886, AND E1996 AND TAS 201, 202 & 203 STANDARDS. SEE PRODUCT APPROVAL EVALUATION FOR ADDITIONAL INFORMATION.
- NO 33-1/3% INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS SYSTEM. WIND LOAD DURATION FACTOR $C_d=1.6$ HAS BEEN USED FOR WOOD ANCHOR DESIGN.
- 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 AS DETERMINED IN ACCORDANCE WITH ASCE 7 AND CHAPTER 1609 OF THE FLORIDA BUILDING CODE SHALL BE LESS THAN OR EQUAL TO THE POSITIVE OR NEGATIVE ASD DESIGN PRESSURE CAPACITY VALUES LISTED HEREIN FOR ANY ASSEMBLY AS SHOWN.
- DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY A 1.5 SAFETY FACTOR.
- 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.
- ROLL-UP MECHANISM AND HOOD ASSEMBLY ARE NOT PART OF THIS APPROVAL.
- THIS DOCUMENT CONTAINS INFORMATION RELEVANT TO THE NECESSARY STRUCTURAL REQUIREMENTS OF THE SYSTEM INSTALLATION. COMPONENTS AND FASTENERS NOT REFERENCED WHICH ARE PART OF THE INTERNAL FABRICATION OF THE SPECIFIED SYSTEMS OR ASSEMBLIES SHALL BE PER MANUFACTURER PUBLISHED SPECIFICATIONS.
- THE STRUCTURAL ADEQUACY OF THE EXISTING STRUCTURE TO WITHSTAND SUPERIMPOSED LOADS BY THIS SYSTEM SHALL BE VERIFIED BY OTHERS.

SINGLE WALL SLATS ③

SLAT SPAN SCHEDULE		
SLAT SPAN	ALLOWABLE DESIGN PRESSURE	
	OPTION 1	OPTION 2
	END RET. SCREW ⑪ EVERY SLAT	END RET. SCREW ⑪ EVERY OTHER SLAT*
75.0"	Ñ150.0 PSF	Ñ150.0 PSF
80.0"	Ñ143.1 PSF	Ñ143.1 PSF
83.5"	Ñ137.0 PSF	Ñ137.0 PSF
87.0"	Ñ131.7 PSF	Ñ131.7 PSF
90.5"	Ñ127.0 PSF	Ñ127.0 PSF
94.0"	Ñ122.7 PSF	Ñ122.7 PSF
97.5"	Ñ118.9 PSF	Ñ118.9 PSF
101.0"	Ñ115.5 PSF	Ñ115.0 PSF
104.5"	Ñ112.3 PSF	Ñ110.0 PSF
108.0"	Ñ109.4 PSF	Ñ105.0 PSF
111.5"	Ñ106.8 PSF	Ñ100.0 PSF
115.0"	Ñ104.3 PSF	Ñ95.0 PSF
118.5"	Ñ102.1 PSF	Ñ90.0 PSF
120.0"	Ñ100.0 PSF	Ñ85.0 PSF
134.0"	Ñ94.4 PSF	Ñ76.9 PSF
146.0"	Ñ88.9 PSF	Ñ68.1 PSF
158.0"	Ñ83.4 PSF	Ñ60.3 PSF
170.0"	Ñ77.9 PSF	Ñ52.2 PSF
182.0"	Ñ72.4 PSF	Ñ45.0 PSF
194.0"	Ñ66.8 PSF	
206.0"	Ñ61.3 PSF	
218.0"	Ñ55.8 PSF	
230.0"	Ñ50.3 PSF	
241.5"	Ñ45.0 PSF	

* SEE ELEVATION VIEW ON THIS SHEET FOR ADDITIONAL REQUIREMENTS AS WELL AS PART ⑪ DETAIL IN THIS DRAWING

GLASS SEPARATION SCHEDULE		
SLAT SPAN	INSTALLATIONS 0'30" ABOVE GRADE	INSTALLATIONS > 30' ABOVE GRADE
75.0"	5.8"	5.8"
80.0"	7.0"	5.9"
83.5"	7.0"	6.1"
87.0"	7.0"	6.2"
90.5"	7.0"	6.4"
94.0"	7.0"	6.5"
97.5"	7.0"	6.7"
101.0"	7.0"	6.9"
104.5"	7.0"	7.0"
108.0"	7.2"	7.2"
111.5"	7.5"	7.5"
115.0"	7.7"	7.7"
118.5"	8.0"	8.0"
120.0"	8.3"	8.3"
134.0"	10.5"	8.6"
146.0"	10.5"	8.8"
158.0"	10.5"	9.0"
170.0"	10.5"	9.2"
182.0"	10.5"	9.4"
194.0"	10.5"	9.6"
206.0"	10.5"	9.9"
218.0"	10.5"	10.1"
230.0"	10.5"	10.3"
241.5"	10.5"	10.5"

SPAN SCHEDULE NOTES:

- SLAT SPAN IS DEFINED AS THE DISTANCE BETWEEN RAILS FOR SINGLE SPAN ASSEMBLIES.
- LINEAR INTERPOLATION BETWEEN SHUTTER SPANS IS NOT PERMITTED. FOR SPANS BETWEEN THOSE INDICATED ABOVE, THE DESIGN PRESSURES FOR THE NEXT HIGHER SPAN SHALL BE USED.
- = CONDITION NOT APPROVED FOR USE

GLASS SEPARATION NOTES:

- SLAT SPAN IS DEFINED AS THE DISTANCE BETWEEN RAILS FOR SINGLE SPAN ASSEMBLIES
- SEPARATION FROM GLAZING IS REQUIRED ONLY IN ASTM WIND ZONE 4.
- LINEAR INTERPOLATION BETWEEN SHUTTER SPANS IS NOT PERMITTED. FOR SPANS BETWEEN THOSE INDICATED ABOVE, THE SEPARATION FROM GLASS FOR THE NEXT HIGHER SPAN SHALL BE USED.

- ALL EXTRUSIONS SHALL BE MINIMUM 6063-T6 ALUMINUM ALLOY, UNLESS NOTED OTHERWISE.
- EACH SHUTTER ASSEMBLY SHALL BEAR A PERMANENT LABEL ON THE BOTTOM OF THE HOOD FACING THE EXTERIOR, OR ANYWHERE ELSE ALLOWED PER SECTION 1709.9 OF THE FBC 2020 WITH THE FOLLOWING MINIMUM INFORMATION:
AMERICAN SHUTTER SYSTEMS ASSOC., INC.
WEST PALM BEACH, FL
MISSILE LEVEL D - ASTM E1886, E1996 & E330 - TAS 201, 202 & 203
FLORIDA PRODUCT APPROVAL NUMBER
- ALL BOLTS & WASHERS SHALL BE ZINC COATED STEEL, GALVANIZED STEEL, OR STAINLESS STEEL WITH A MINIMUM TENSILE YIELD STRENGTH OF 60 KSI. ALL ALUMINUM 3/16" $\bar{I}$ OR 1/4" $\bar{I}$ POP RIVETS SHALL BE 7075-T6 OR STRONGER.
- ALL STEEL IN CONTACT WITH ALUMINUM SHALL BE PAINTED OR PLATED AS PRESCRIBED IN THE ABOVE-NOTED BUILDING CODE.

VISIT [ECALC.IO/31266](https://ecalculator.com/31266)

FOR SITE SPECIFIC DEVIATIONS
& MORE INFORMATION ABOUT THIS DOCUMENT
OR SCAN THIS QR CODE

VISIT [ENGINEERINGEXPRESS.COM/EASTERN](https://engineeringexpress.com/eastern)
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AMERICAN SHUTTER SYSTEMS ASSOCIATION, INC.

4268 WESTROADS DR
WEST PALM BEACH, FL

SINGLE WALL ROLL-UP HURRICANE SHUTTER

FLORIDA BUILDING CODE

REMARKS	DRWN	CHKD	DATE
INIT ISSUE	RWN	RWN	2/18/20
REV	RWN	RWN	4/14/21

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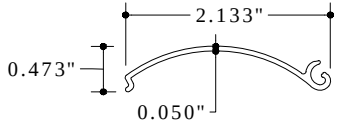
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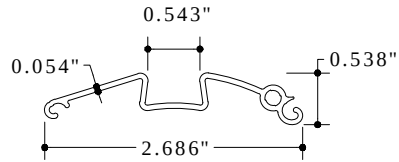
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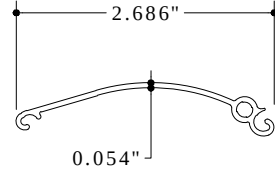
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04/14/2021 - 11:00am rickn



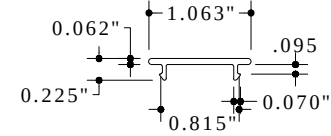
1 **STARTER SLAT**
N.T.S. 6063-T6 ALUM



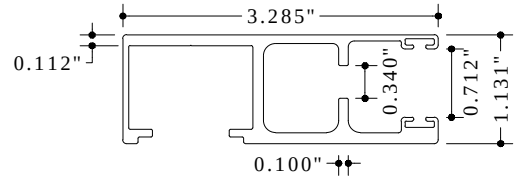
2 **FINGER PULL SLAT**
N.T.S. 6063-T6 ALUM
(1) PER SHUTTER AS APPLICABLE



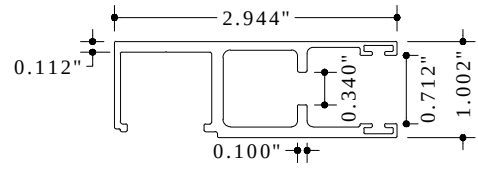
3 **SINGLE WALL SLAT**
N.T.S. 6063-T6 ALUM



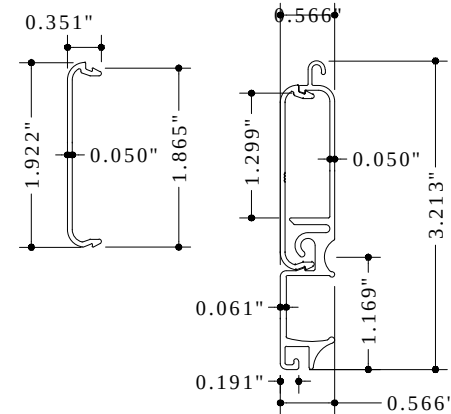
7 **SNAP CAP**
N.T.S. 6063-T6 ALUM



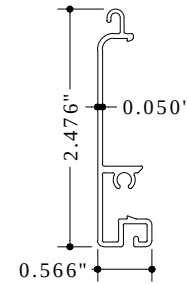
6 **SIDE RAIL TYPE 2**
N.T.S. 6063-T6 ALUM



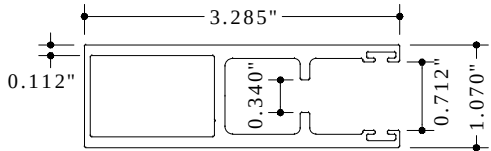
5 **SIDE RAIL TYPE 1**
N.T.S. 6063-T6 ALUM



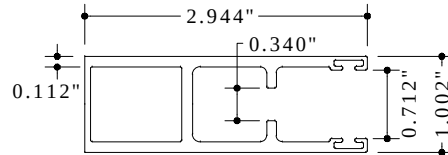
4 **BASE SLAT**
N.T.S. 6063-T6 ALUM
(OPTIONAL COMPONENT)



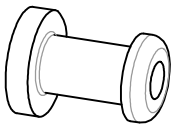
4A **SHORT BASE SLAT**
N.T.S. 6063-T6 ALUM
(OPTIONAL COMPONENT)



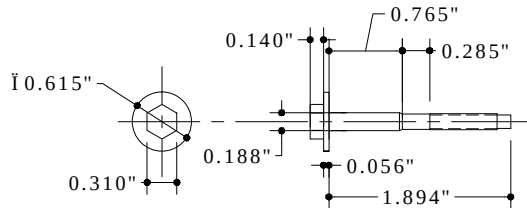
6A **SIDE RAIL TYPE 2 (CLOSED)**
N.T.S. 6063-T6 ALUM



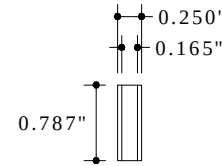
5A **SIDE RAIL TYPE 1 (CLOSED)**
N.T.S. 6063-T6 ALUM



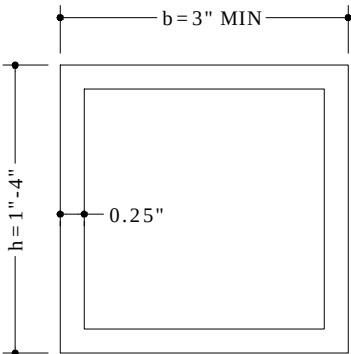
8 **END CAP W/ MONOLITHIC SCREW SLEEVE**
N.T.S. (LEFT SHOWN, RIGHT IS MIRROR)
RIGID NYLON, 76-78 TYPE "O" SHORE HARDNESS



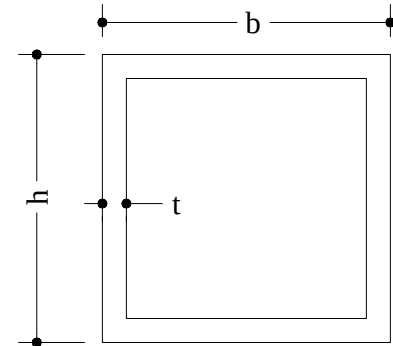
11 **#8-32 410 S.S. SCREW**
#8-32 X 1.894" AISI 410 S.S. SCREW W/ 0.31" DIAM HV MARKED HEAD & T=0.064" X 0.620" DIAM MONOLITHIC WASHER W/ BERTHA H.V. DACROSHIELD COATING SYSTEM AS MANUFACTURED BY APPROVED COATING APPLICATORS REGISTERED WITH AMERICAN SHUTTER SYSTEM ASSOCIATION. SEE SHEET 1 FOR SCREW REQUIREMENTS, ALWAYS REQUIRED FOR BASE SLAT FOR ALL INSTALLATIONS



9 **EXTENDED SCREW SLEEVE W/O END CAP**
N.T.S. RIGID NYLON, 76-78 TYPE "O" SHORE HARDNESS

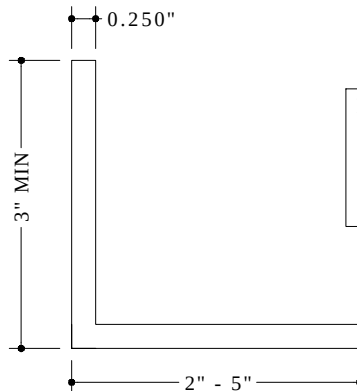


12 **BUILD-OUT MOUNTED TUBES**
N.T.S. 6063-T6



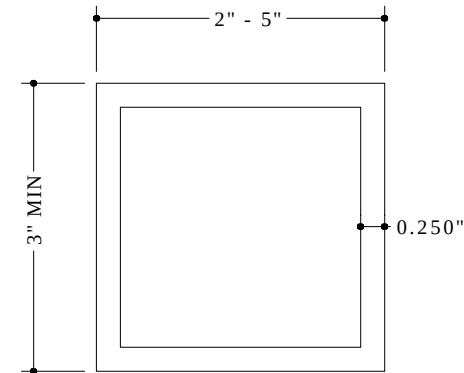
MULLIONS	b	h	t
24	4"	6"	0.250"
25	4"	8"	0.250"
26	4"	4"	0.250"

MULLIONS
N.T.S. 6061-T6 OR 6005-T5



13 **TRAPPED ANGLE**
N.T.S. 6063-T6 ALUM

BUILD-OUT TUBES AND TRAPPED ANGLE NOTES: FOR 2X ANGLES OR TUBES, THE LONG SIDE OF THE ANGLE OR TUBE SHALL BE FLUSH AGAINST THE HOST WALL



14 **OPTIONAL TRAPPED MOUNTED TUBE TO (13)**
N.T.S. 6063-T6 ALUM

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PE# 86488 CA9885



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AMERICAN SHUTTER SYSTEMS ASSOCIATION, INC.

4268 WESTROADS DR
WEST PALM BEACH, FL

SINGLE WALL ROLL-UP HURRICANE SHUTTER

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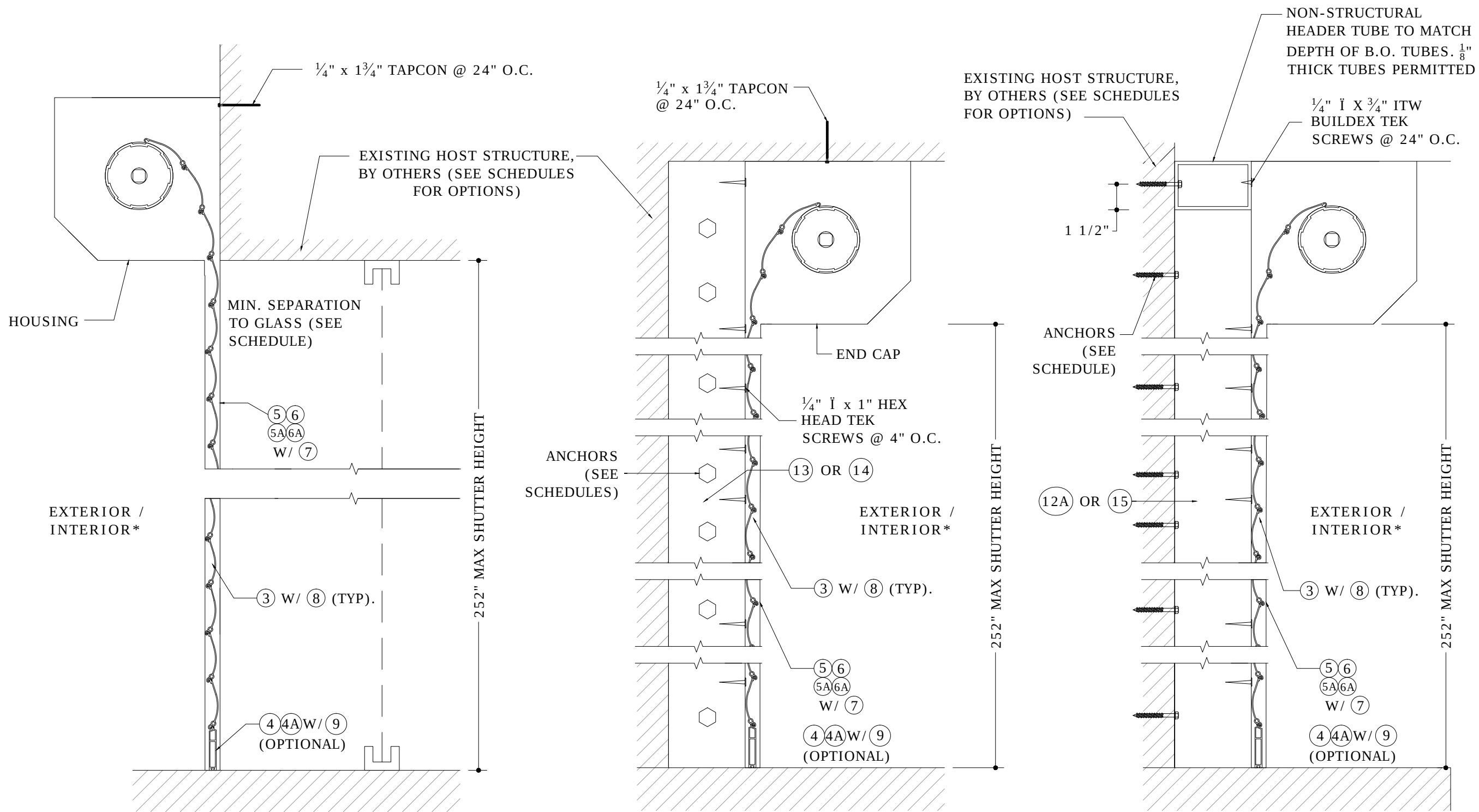
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OF
16

SHUTTER ATTACHMENT TO HOST



* WHEN REVERSE MOUNTED ADD 1" OF GLASS SEPARATION PER "GLASS SEPARATION SCHEDULE" ON SHEET 1

- 1

WALL MOUNT

4

N.T.S.

SECTION VIEW
- 2

INSIDE/TRAPPED MOUNT

4

N.T.S.

SECTION VIEW
- 3

BUILD-OUT MOUNT

4

N.T.S.

SECTION VIEW

- HOUSING NOTES:
- HOUSING (0.040" THICK ALUM, 3105-H14 MIN)
 - END CAP (CAST ALUM, SHALL BE CAPABLE OF SUPPORTING SLAT AND LIFT MECHANISM WEIGHT)
 - 3/16" ALUM POP RIVETS (6 TOTAL PER SIDE CAP, 2 AT TO, 2 AT REAR, 2 AT BOTTOM)
 - HOOD HAS BEEN TESTED FOR IMPACT / CYCLING AND MAY BE INSTALLED WITHIN OPENING

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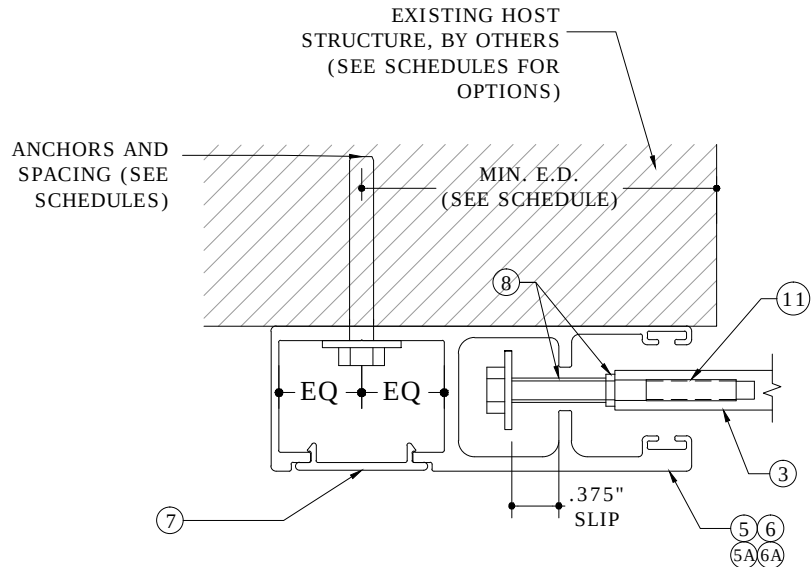
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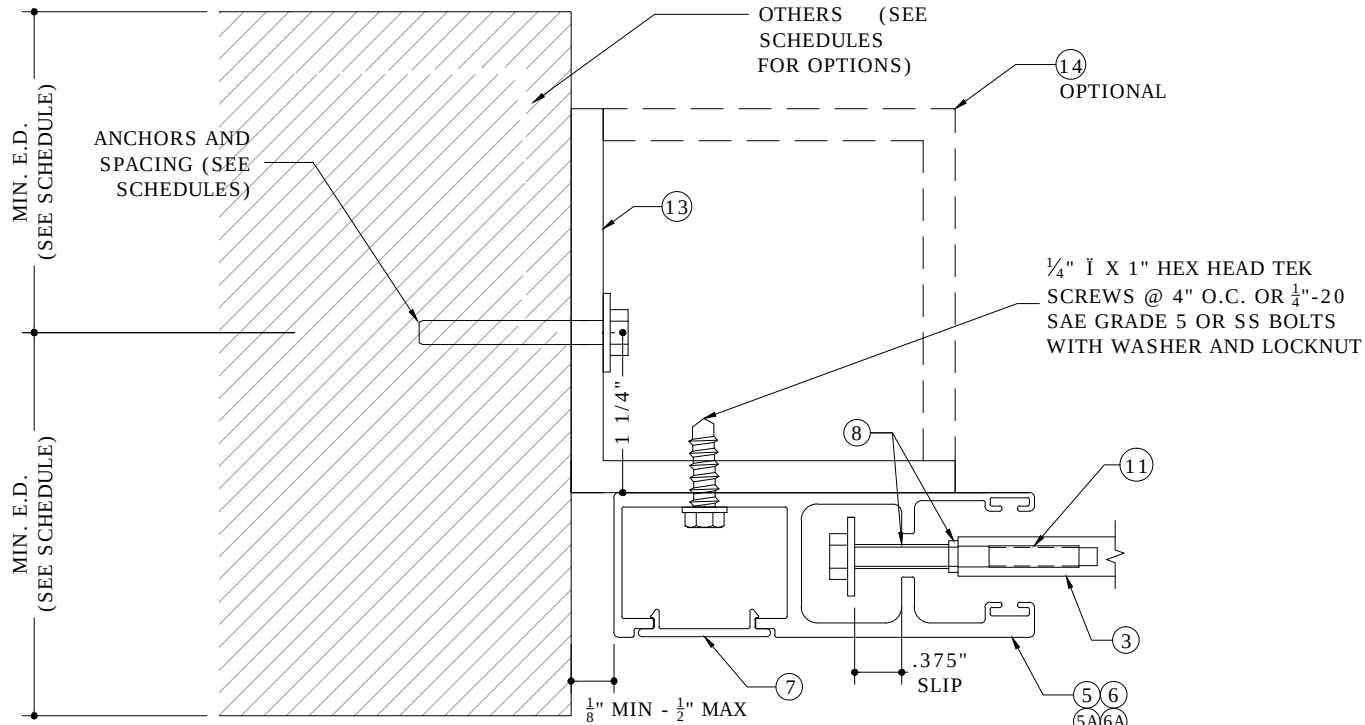
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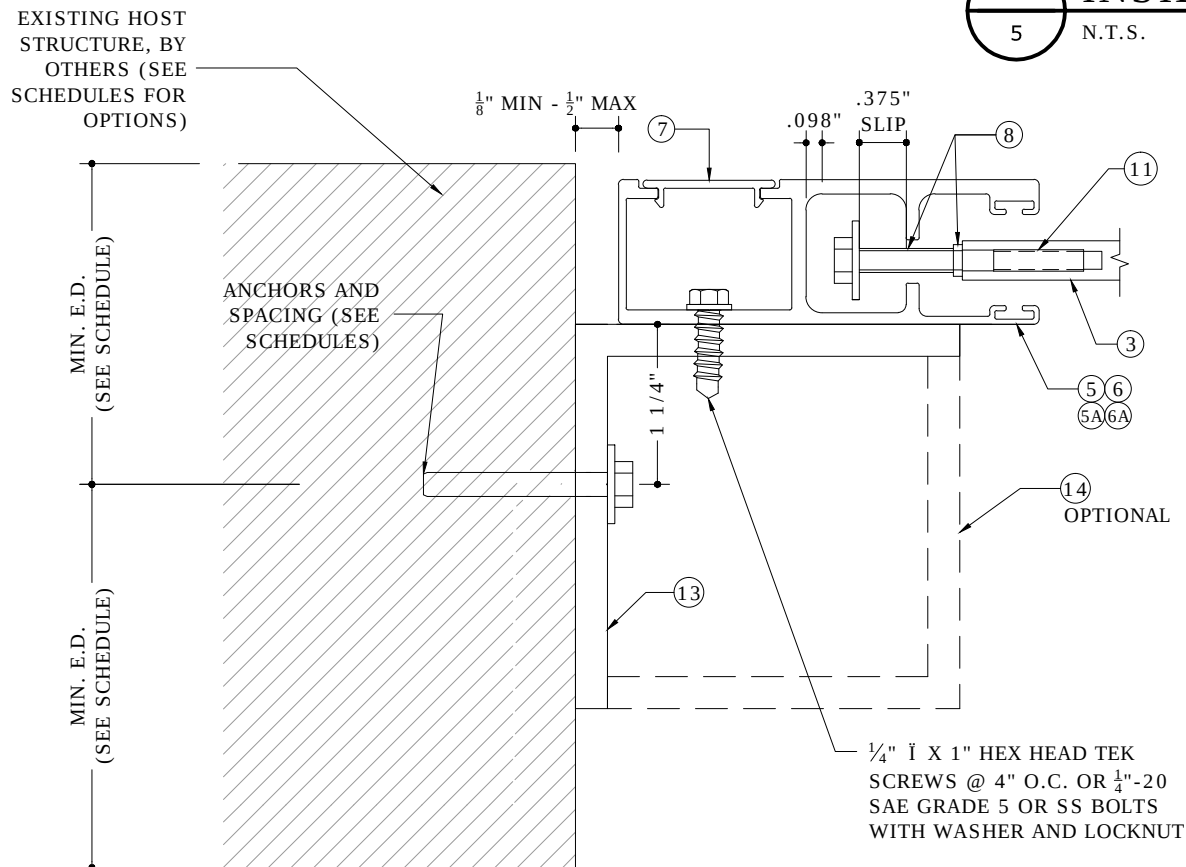
SHUTTER ATTACHMENT TO HOST



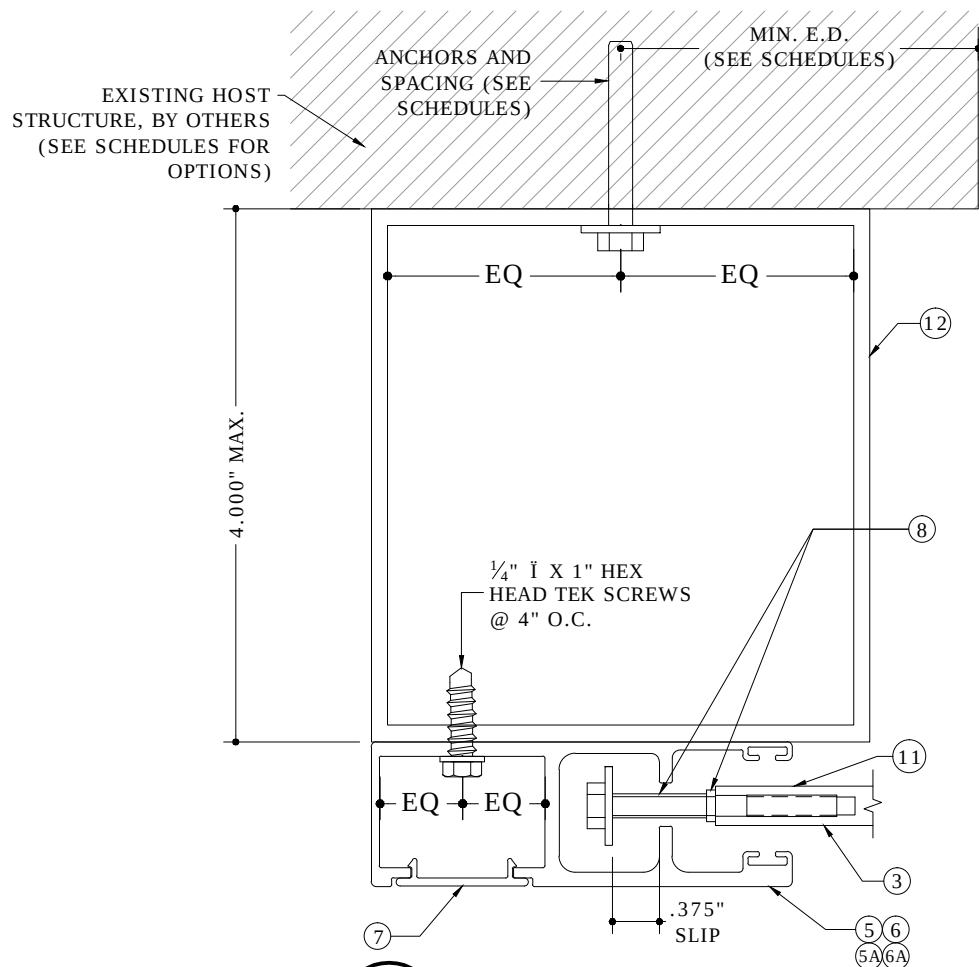
1 WALL MOUNT
5 N.T.S. SECTION VIEW



2 INSIDE/TRAPPED MOUNT
5 N.T.S. SECTION VIEW



3 INSIDE/TRAPPED MOUNT (REVERSED)
5 N.T.S. SECTION VIEW



4 BUILD-OUT MOUNT
5 N.T.S. SECTION VIEW

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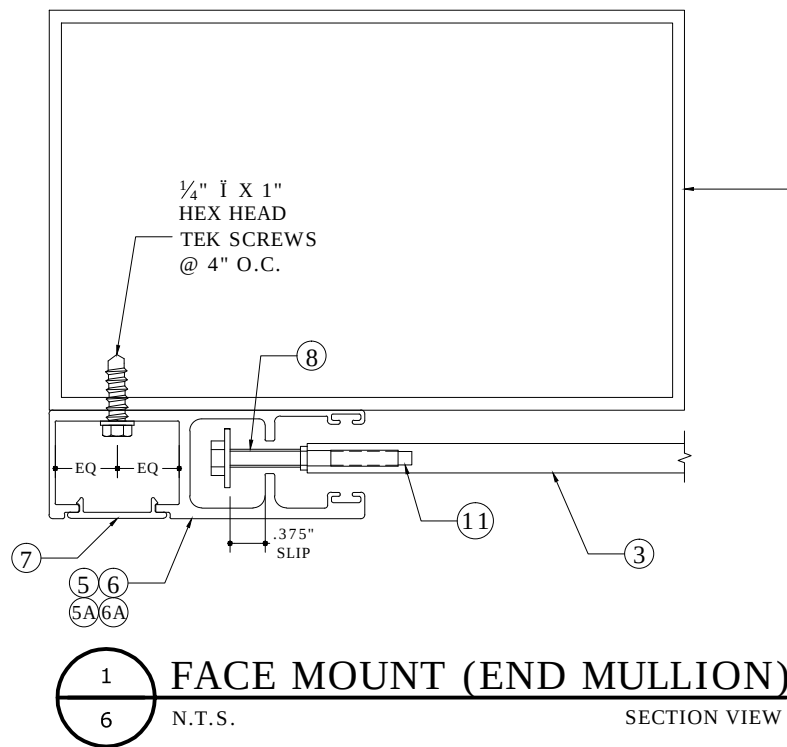
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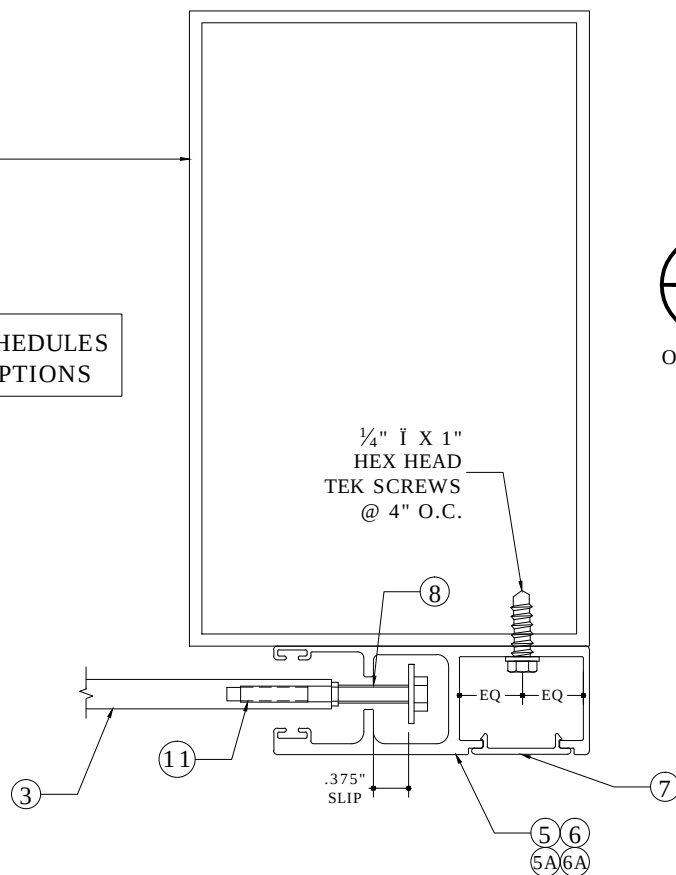
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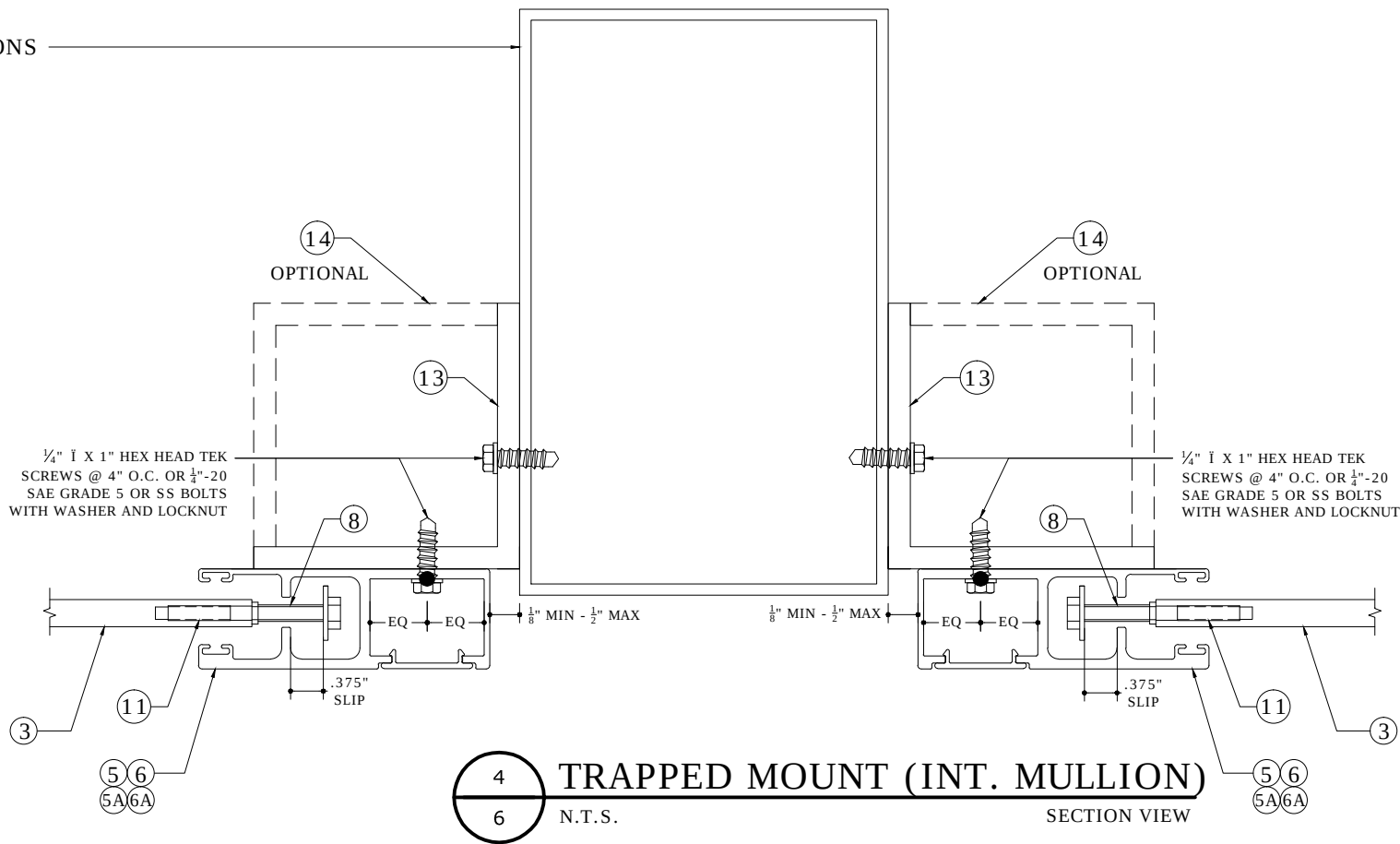
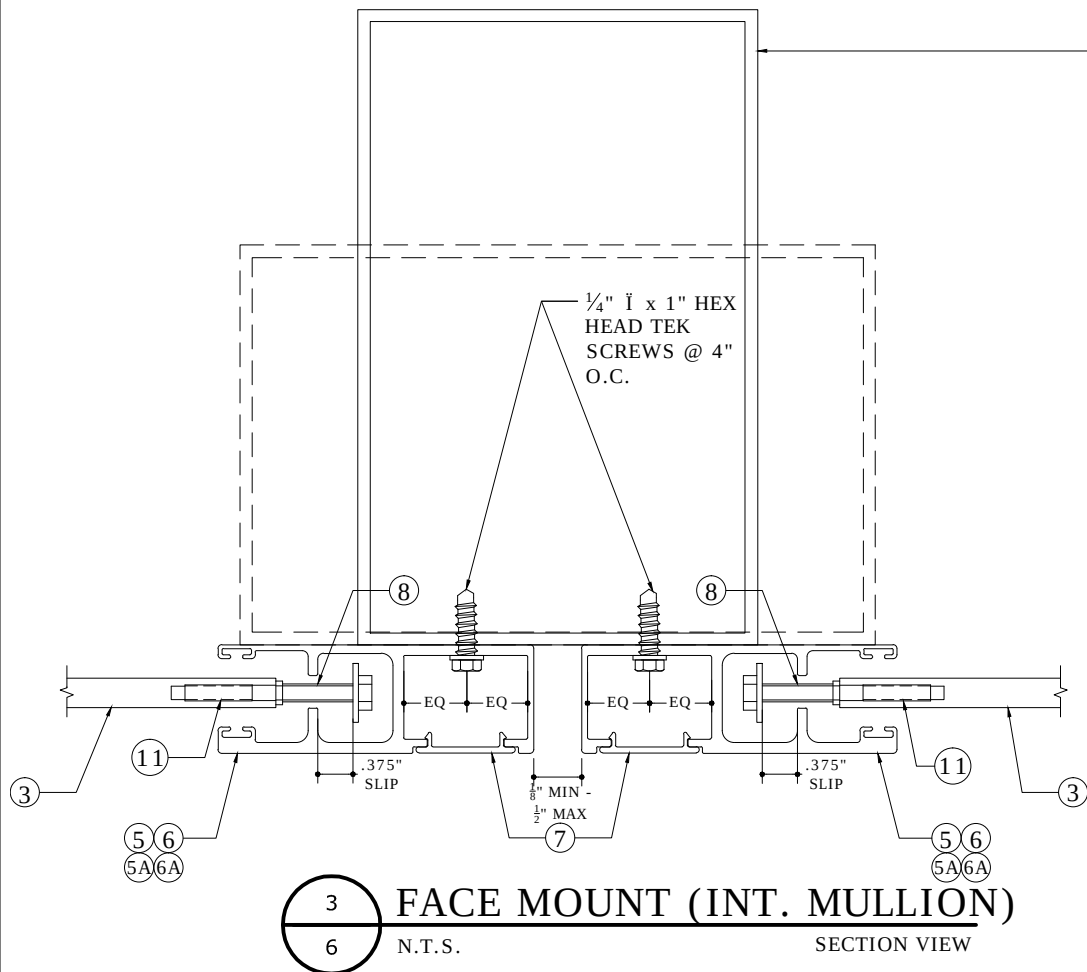
SHUTTER ATTACHMENT OPTION TO ALUMINUM MULLIONS



SEE MULLION SCHEDULES FOR MULLION OPTIONS



ORIENTATION #2 FACE MOUNT END MULLION



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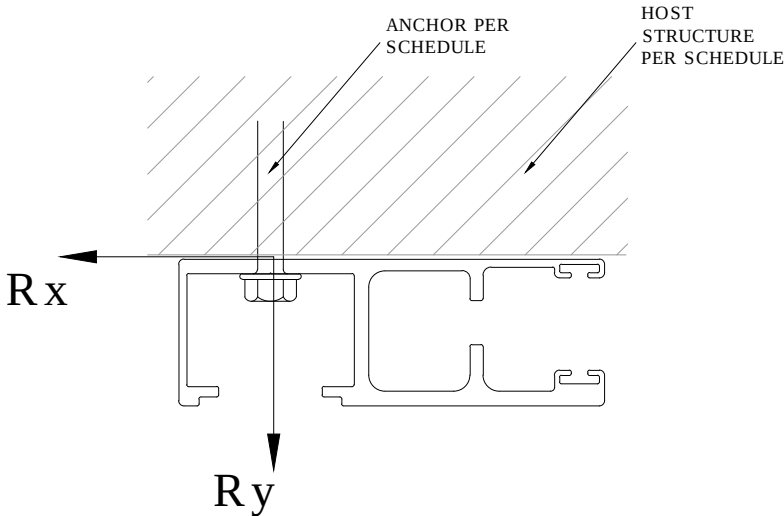
OPTION 1 ANCHOR SCHEDULE: WALL MOUNT

				MAXIMUM SPACING (O.C.)																
				1/4" DEWALT ULTRACON TO 3000 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. EMBEDMEN T; 2.5" MIN. EDGE DISTANCE	5/16" HILLMAN GROUP (ALL- POINTS) SCREW TO 3000 CONCRETE; 2.25" MIN. EMBEDMENT; 3.125" MIN. EDGE DISTANCE	5/16" HILLMAN GROUP (ALL- POINTS) SCREW TO GROUT- FILLED BLOCK; 2.25" MIN. EMBEDMENT; 3.125" MIN. EDGE DISTANCE	5/16" DEWALT ULTRACON TO 3500 PSI MIN. CONCRETE; 2" MIN. EMBEDMENT; 3.125" MIN. EDGE DISTANCE	5/16" ITW TAPCON TO 3000 PSI MIN. CONCRETE; 2.25" MIN. EMBEDMEN T; 3.125" MIN. EDGE DISTANCE	TO GROUT- FILLED CONCRETE BLOCK; 2.25" MIN. EMBEDMEN T; 4" MIN. EDGE DISTANCE	TO HOLLOW CONCRETE BLOCK; 1.75" MIN. EMBEDMEN T; 4" MIN. EDGE DISTANCE	1/4" DEWALT POWER-BOLT TO 3000 PSI MIN. CONCRETE; 2.5" 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	#14 410 SS SMS W/ FULL THREAD PENETRATION OR 1/4-20 410 SS THRU-BOLT TO 0.125" MIN. 6063- T6 ALUM; 0.5" MIN. EDGE DISTANCE	5/16" 410 SS SMS W/ FULL THREAD PENETRATION OR 5/16-18 410 SS THRU-BOLT TO 0.25" MIN. 6063-T6 ALUM; 0.625" MIN. EDGE DISTANCE	3/8" DEWALT SCREW BOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 4.5" MIN. EDGE DISTANCE	3/8" ELCO/DEWALT CONFLX TO 1819 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 3.75" MIN. EDGE DISTANCE	TO 4510 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 3.75" MIN. EDGE DISTANCE
SLAT SPAN	DESIGN PRESSURE	R _x	R _y																	
76.5"	+/- 40 PSF	225.4 LB/FT	127.5 LB/FT	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	+/- 68 PSF	623.6 LB/FT	215.2 LB/FT	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	5.00"	6.00"	3.00"	2.50"	3.25"	6.00"	6.00"	6.00"	6.00"	6.00"
	+/- 95 PSF	1021.3 LB/FT	302.8 LB/FT	4.00"	4.25"	6.00"	6.00"	6.00"	6.00"	5.75"		5.00"			2.00"	4.25"	6.00"	6.00"	6.00"	6.00"
	+/- 123 PSF	1418.6 LB/FT	390.5 LB/FT	3.00"	3.00"	5.75"	4.50"	5.50"	5.50"	4.25"		3.75"			4.25"	3.00"	6.00"	6.00"	6.00"	6.00"
	+/- 150 PSF	1815.4 LB/FT	478.1 LB/FT	2.25"	2.50"	4.50"	3.50"	4.25"	4.25"	3.25"		2.75"				2.50"	5.75"	6.00"	6.00"	6.00"
108"	+/- 40 PSF	796.9 LB/FT	180.0 LB/FT	5.50"	5.75"	6.00"	6.00"	6.00"	6.00"	6.00"	4.50"	6.00"	2.50"	2.00"	2.50"	6.00"	6.00"	6.00"	6.00"	6.00"
	+/- 57 PSF	1219.4 LB/FT	258.1 LB/FT	3.50"	3.75"	6.00"	5.50"	6.00"	6.00"	5.25"		4.50"				4.00"	6.00"	6.00"	6.00"	6.00"
	+/- 75 PSF	1641.3 LB/FT	336.2 LB/FT	2.50"	2.75"	5.25"	4.00"	5.00"	5.00"	3.75"		3.25"				3.00"	6.00"	6.00"	6.00"	6.00"
	+/- 92 PSF	2062.6 LB/FT	414.4 LB/FT	2.00"		4.25"		4.00"	4.00"	3.00"		2.75"				2.25"	5.25"	6.00"	6.00"	6.00"
	+/- 109 PSF	2483.2 LB/FT	492.5 LB/FT			3.50"			3.25"							2.00"	4.25"	6.00"	6.00"	6.00"
120"	+/- 40 PSF	998.5 LB/FT	200.0 LB/FT	4.25"	4.75"	6.00"	6.00"	6.00"	6.00"	6.00"	3.75"	5.75"	2.00"		2.00"	5.00"	6.00"	6.00"	6.00"	6.00"
	+/- 55 PSF	1426.2 LB/FT	275.0 LB/FT	3.00"	3.25"	6.00"	4.75"	5.75"	5.75"	4.50"		4.00"				3.50"	6.00"	6.00"	6.00"	6.00"
	+/- 70 PSF	1853.3 LB/FT	350.0 LB/FT	2.25"	2.50"	4.75"	3.75"	4.50"	4.50"	3.50"		3.00"				2.50"	6.00"	6.00"	6.00"	6.00"
	+/- 85 PSF	2279.7 LB/FT	425.0 LB/FT			3.75"		3.75"	3.50"			2.50"				2.00"	4.75"	6.00"	6.00"	6.00"
	+/- 100 PSF	2705.5 LB/FT	500.0 LB/FT						3.00"								4.00"	6.00"	6.00"	6.00"
146"	+/- 40 PSF	1436.7 LB/FT	243.3 LB/FT	3.00"	3.25"	6.00"	4.75"	6.00"	6.00"	4.50"		4.00"				3.50"	6.00"	6.00"	6.00"	6.00"
	+/- 52 PSF	1903.7 LB/FT	317.7 LB/FT	2.25"	2.50"	4.75"	3.75"	4.50"	4.50"	3.25"		3.00"				2.75"	6.00"	6.00"	6.00"	6.00"
	+/- 64 PSF	2369.7 LB/FT	392.1 LB/FT			3.75"		3.50"	3.50"			2.50"				2.00"	4.75"	6.00"	6.00"	6.00"
	+/- 77 PSF	2834.6 LB/FT	466.5 LB/FT						3.00"								4.00"	5.75"	6.00"	6.00"
	+/- 89 PSF	3298.3 LB/FT	540.9 LB/FT														3.25"	5.00"	5.25"	6.00"
170"	+/- 40 PSF	1850.9 LB/FT	283.3 LB/FT	2.25"	2.50"	4.75"	3.75"	4.75"	4.50"	3.50"		3.25"				2.75"	6.00"	6.00"	6.00"	6.00"
	+/- 49 PSF	2301.8 LB/FT	350.4 LB/FT			4.00"		3.75"	3.75"			2.50"				2.25"	5.00"	6.00"	6.00"	6.00"
	+/- 59 PSF	2750.7 LB/FT	417.5 LB/FT						3.00"								4.00"	6.00"	6.00"	6.00"
	+/- 68 PSF	3197.6 LB/FT	484.5 LB/FT														3.50"	5.00"	5.50"	6.00"
	+/- 78 PSF	3642.4 LB/FT	551.6 LB/FT														3.00"	4.50"	4.75"	6.00"
206"	+/- 35 PSF	2212.8 LB/FT	300.4 LB/FT	2.00"		4.00"		4.00"	4.00"	3.00"		2.75"				2.25"	5.25"	6.00"	6.00"	6.00"
	+/- 42 PSF	2638.2 LB/FT	356.9 LB/FT			3.50"			3.25"							2.00"	4.25"	6.00"	6.00"	6.00"
	+/- 48 PSF	3063.5 LB/FT	413.4 LB/FT														3.75"	5.25"	6.00"	6.00"
	+/- 55 PSF	3488.8 LB/FT	469.9 LB/FT														3.25"	4.75"	5.25"	6.00"
	+/- 61 PSF	3914.1 LB/FT	526.3 LB/FT														3.00"	4.25"	4.50"	5.50"
241.5"	+/- 30 PSF	2427.4 LB/FT	301.9 LB/FT			3.75"		3.50"	3.50"			2.50"				2.25"	4.75"	6.00"	6.00"	6.00"
	+/- 34 PSF	2735.3 LB/FT	339.6 LB/FT						3.25"							2.00"	4.25"	6.00"	6.00"	6.00"
	+/- 38 PSF	3043.3 LB/FT	377.3 LB/FT														3.75"	5.50"	6.00"	6.00"
	+/- 41 PSF	3351.2 LB/FT	415.1 LB/FT														3.50"	5.00"	5.50"	6.00"
	+/- 45 PSF	3659.1 LB/FT	452.8 LB/FT														3.00"	4.50"	5.00"	6.00"

ANCHOR NOTES:

1. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
2. 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).
3. MINIMUM EMBEDMENT SHALL BE AS NOTED IN ANCHOR SCHEDULE. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES.
4. 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.
5. WHERE EXISTING STRUCTURE IS WOOD FRAMING, EXISTING CONDITIONS MAY VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT INTO PLYWOOD.
6. WOOD BUCKS (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE EXISTING STRUCTURE.
7. MACHINE SCREWS SHALL HAVE MINIMUM OF 1/2" ENGAGEMENT OF THREADS IN BASE ANCHOR AND MAY HAVE EITHER A PAN HEAD, TRUSS HEAD, OR WAFER HEAD ("SIDEWALK BOLT") U.N.O.
8. SHEET METAL SCREWS SHALL BE INSTALLED WITH FULL ENGAGEMENT OF THREADS INTO METAL HOST STRUCTURE.
9. DESIGNATES ANCHOR CONDITIONS WHICH ARE NOT ACCEPTABLE FOR USE.
10. ANCHORS TO GROUT-FILLED BLOCK SHALL PENETRATE THROUGH FACE SHELL INTO GROUTED CELL.

WALL MOUNT DIRECTIVE



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4268 WESTROADS DR
WEST PALM BEACH, FL

SINGLE WALL ROLL-UP HURRICANE SHUTTER

FLORIDA BUILDING CODE

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			2/18/20				
			4/14/21				

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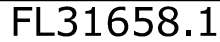
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OF
16

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ANCHOR NOTES: SEE SHEET
7 FOR ANCHOR NOTES.

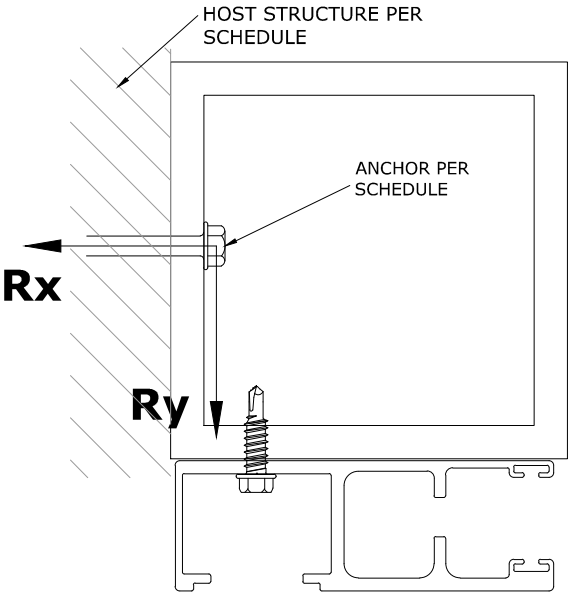
Diagram illustrating a host structure (shaded area) with an anchor (labeled ANCHOR PER SCHEDULE) and reaction forces R_x and R_y . The anchor is shown with a vertical rod and a base. The reaction forces are indicated by arrows: R_x (horizontal) and R_y (vertical).

OPTION 1 ANCHOR SCHEDULE: INTERIOR MOUNT

				MAXIMUM SPACING (O.C.)																	
				1/4" DEWALT ULTRACON TO 3000 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. EMBEDMEN T; 2.5" MIN. EDGE DISTANCE	5/16" HILLMAN GROUP (ALL- POINTS) SCREW TO 3000 CONCRETE; 2.25" MIN. EMBEDMENT; 3.125" MIN. EDGE DISTANCE	5/16" HILLMAN GROUP (ALL- POINTS) SCREW TO GROUT- FILLED BLOCK; 2.25" MIN. EMBEDMENT; 3.125" MIN. EDGE DISTANCE	5/16" DEWALT ULTRACON TO 3500 PSI MIN. CONCRETE; 2" MIN. EMBEDMENT; 3.125" MIN. EDGE DISTANCE	5/16" ITW TAPCON			1/4" DEWALT POWER-BOLT TO 3000 PSI MIN. CONCRETE; 2.5" MIN. EMBEDMENT; 3" MIN. EDGE DISTANCE	1/4" 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	#14 410 SS SMS W/ FULL THREAD PENETRATION OR 1/4-20 410 SS THRU-BOLT TO 0.125" MIN. 6063- T6 ALUM; 0.5" MIN. EDGE DISTANCE	5/16" 410 SS SMS W/ FULL THREAD PENETRATION OR 5/16-18 410 SS THRU-BOLT TO 0.25" MIN. 6063-T6 ALUM; 0.625" MIN. EDGE DISTANCE	3/8" DEWALT SCREW BOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 4.5" MIN. EDGE DISTANCE	3/8" ELCO/DEWALT CONFLX		
SLAT SPAN	DESIGN PRESSURE	Rx	Ry																		
76.5"	+/- 40 PSF	225.4 LB/FT	127.5 LB/FT	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	+/- 68 PSF	623.6 LB/FT	215.2 LB/FT	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"		6.00"	4.75"	4.25"	4.50"	4.75"	6.00"	6.00"	6.00"	6.00"	6.00"
	+/- 95 PSF	1021.3 LB/FT	302.8 LB/FT	4.50"	4.25"	6.00"	5.50"	6.00"	6.00"	6.00"		4.50"	3.00"	2.75"	2.75"	3.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	+/- 123 PSF	1418.6 LB/FT	390.5 LB/FT	3.25"	3.25"	6.00"	4.00"	5.25"	5.00"	4.50"		3.25"	2.25"	2.00"	2.00"	2.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	+/- 150 PSF	1815.4 LB/FT	478.1 LB/FT	2.50"	2.50"	4.50"		4.00"	3.75"	3.50"		2.50"					5.50"	6.00"	6.00"	6.00"	6.00"
108"	+/- 40 PSF	796.9 LB/FT	180.0 LB/FT	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"		6.00"	4.50"	4.25"	4.25"	4.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	+/- 57 PSF	1219.4 LB/FT	258.1 LB/FT	4.00"	4.00"	6.00"	5.00"	6.00"	6.00"	5.50"		4.00"	3.00"	2.75"	2.75"	2.50"	6.00"	6.00"	6.00"	6.00"	6.00"
	+/- 75 PSF	1641.3 LB/FT	336.2 LB/FT	3.00"	3.00"	5.50"	3.75"	4.75"	4.50"	4.00"		2.75"	2.25"	2.25"	2.00"	2.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	+/- 92 PSF	2062.6 LB/FT	414.4 LB/FT	2.50"		4.25"		3.75"	3.50"	3.25"							5.00"	6.00"	6.00"	6.00"	6.00"
	+/- 109 PSF	2483.2 LB/FT	492.5 LB/FT	2.00"		3.50"			3.00"								4.25"	6.00"	6.00"	6.00"	6.00"
120"	+/- 40 PSF	998.5 LB/FT	200.0 LB/FT	5.25"	5.00"	6.00"	6.00"	6.00"	6.00"	6.00"		4.75"	3.75"	3.75"	3.50"	3.25"	6.00"	6.00"	6.00"	6.00"	6.00"
	+/- 55 PSF	1426.2 LB/FT	275.0 LB/FT	3.50"	3.50"	6.00"	4.25"	5.50"	5.25"	4.75"		3.25"	2.75"	2.50"	2.50"	2.25"	6.00"	6.00"	6.00"	6.00"	6.00"
	+/- 70 PSF	1853.3 LB/FT	350.0 LB/FT	2.75"	2.75"	5.00"		4.25"	4.00"	3.75"		2.50"	2.00"	2.00"	2.00"		5.75"	6.00"	6.00"	6.00"	6.00"
	+/- 85 PSF	2279.7 LB/FT	425.0 LB/FT	2.25"		4.00"		3.50"	3.25"	3.00"							4.50"	6.00"	6.00"	6.00"	6.00"
	+/- 100 PSF	2705.5 LB/FT	500.0 LB/FT														3.75"	6.00"	6.00"	5.75"	6.00"
146"	+/- 40 PSF	1436.7 LB/FT	243.3 LB/FT	3.75"	3.50"	6.00"	4.50"	5.75"	5.50"	5.00"		3.50"	2.75"	2.75"	2.50"	2.25"	6.00"	6.00"	6.00"	6.00"	6.00"
	+/- 52 PSF	1903.7 LB/FT	317.7 LB/FT	2.75"	2.75"	5.00"		4.25"	4.00"	3.75"		2.50"	2.25"	2.00"	2.00"		5.75"	6.00"	6.00"	6.00"	6.00"
	+/- 64 PSF	2369.7 LB/FT	392.1 LB/FT	2.25"		4.00"		3.50"	3.25"	3.00"							4.50"	6.00"	6.00"	6.00"	6.00"
	+/- 77 PSF	2834.6 LB/FT	466.5 LB/FT														3.75"	6.00"	6.00"	5.75"	6.00"
	+/- 89 PSF	3298.3 LB/FT	540.9 LB/FT														3.25"	6.00"	6.00"	4.75"	6.00"
170"	+/- 40 PSF	1850.9 LB/FT	283.3 LB/FT	3.00"	2.75"	5.25"	3.50"	4.50"	4.25"	3.75"		2.75"	2.25"	2.25"	2.00"		6.00"	6.00"	6.00"	6.00"	6.00"
	+/- 49 PSF	2301.8 LB/FT	350.4 LB/FT	2.25"		4.00"		3.50"	3.25"	3.00"							4.75"	6.00"	6.00"	6.00"	6.00"
	+/- 59 PSF	2750.7 LB/FT	417.5 LB/FT	2.00"		3.50"											4.00"	6.00"	6.00"	6.00"	6.00"
	+/- 68 PSF	3197.6 LB/FT	484.5 LB/FT														3.50"	6.00"	6.00"	5.00"	6.00"
	+/- 78 PSF	3642.4 LB/FT	551.6 LB/FT														3.00"	5.50"	4.50"	6.00"	6.00"
206"	+/- 35 PSF	2212.8 LB/FT	300.4 LB/FT	2.50"		4.25"		3.75"	3.50"	3.25"			2.00"	2.00"			5.00"	6.00"	6.00"	6.00"	6.00"
	+/- 42 PSF	2638.2 LB/FT	356.9 LB/FT	2.00"		3.75"			3.00"								4.25"	6.00"	6.00"	6.00"	6.00"
	+/- 48 PSF	3063.5 LB/FT	413.4 LB/FT														3.50"	6.00"	6.00"	5.50"	6.00"
	+/- 55 PSF	3488.8 LB/FT	469.9 LB/FT														3.25"	6.00"	6.00"	4.75"	6.00"
	+/- 61 PSF	3914.1 LB/FT	526.3 LB/FT														2.75"	5.25"			6.00"
241.5"	+/- 30 PSF	2427.4 LB/FT	301.9 LB/FT	2.25"		4.00"		3.50"	3.25"	3.00"							4.50"	6.00"	6.00"	6.00"	6.00"
	+/- 34 PSF	2735.3 LB/FT	339.6 LB/FT	2.00"		3.50"			3.00"								4.00"	6.00"	6.00"	6.00"	6.00"
	+/- 38 PSF	3043.3 LB/FT	377.3 LB/FT														3.75"	6.00"	6.00"	5.50"	6.00"
	+/- 41 PSF	3351.2 LB/FT	415.1 LB/FT														3.25"	6.00"	6.00"	5.00"	6.00"
	+/- 45 PSF	3659.1 LB/FT	452.8 LB/FT														3.00"	5.75"	4.50"	6.00"	6.00"

ANCHOR NOTES: SEE SHEET 7 FOR ANCHOR NOTES.

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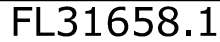
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SCALE: NTS UNLESS NOTED

RICHARD NEET, P.E.
PE# 86488 CA9885



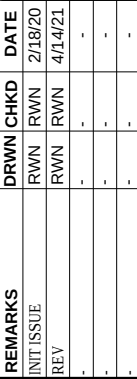
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4268 WESTROADS DR
WEST PALM BEACH, FL

SINGLE WALL ROLL-UP HURRICANE SHUTTER

FLORIDA BUILDING CODE

ANCHOR NOTES: SEE SHEET
7 FOR ANCHOR NOTES.



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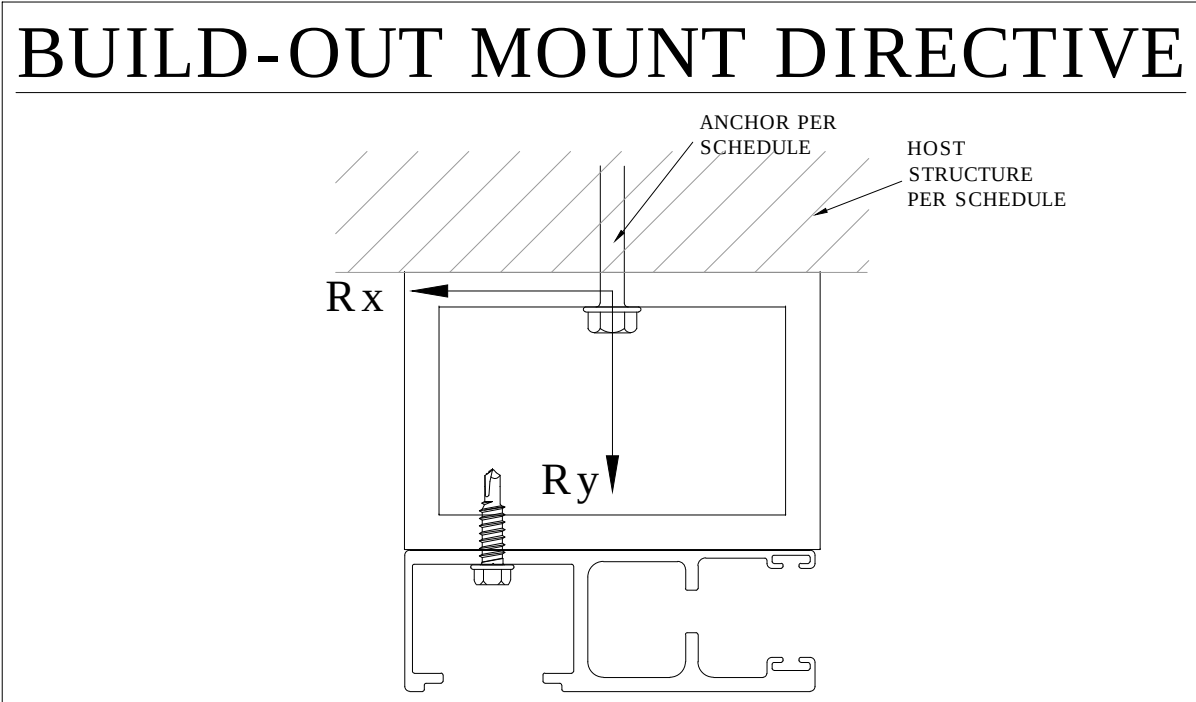
10

OF
16

OPTION 2 ANCHOR SCHEDULE: BUILD-OUT MOUNT

				MAXIMUM SPACING (O.C.)																	
				1/4" DEWALT ULTRACON TO 3000 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. EMBEDMEN T; 2.5" MIN. EDGE DISTANCE	5/16" HILLMAN GROUP (ALL- POINTS) SCREW TO 3000 CONCRETE; 2.25" MIN. EMBEDMENT; 3.125" MIN. EDGE DISTANCE	5/16" HILLMAN GROUP (ALL- POINTS) SCREW TO GROUT- FILLED BLOCK; 2.25" MIN. EMBEDMENT; 3.125" MIN. EDGE DISTANCE	5/16" DEWALT ULTRACON TO 3500 PSI MIN. CONCRETE; 2" MIN. EMBEDMENT; 3.125" MIN. EDGE DISTANCE	5/16" ITW TAPCON			1/4" DEWALT POWER-BOLT TO 3000 PSI MIN. CONCRETE; 2.5" MIN. EMBEDMENT; 3" MIN. EDGE DISTANCE	1/4" 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	#14 410 SS SMS W/ FULL THREAD PENETRATION OR 1/4-20 410 SS THRU-BOLT TO 0.125" MIN. 6063- T6 ALUM; 0.5" MIN. EDGE DISTANCE	5/16" 410 SS SMS W/ FULL THREAD PENETRATION OR 5/16-18 410 SS THRU-BOLT TO 0.25" MIN. 6063-T6 ALUM; 0.625" MIN. EDGE DISTANCE	3/8" DEWALT SCREW BOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 4.5" MIN. EDGE DISTANCE	3/8" ELCO/DEWALT CONFLX		
SLAT SPAN	DESIGN PRESSURE	R _x	R _y						TO 3000 PSI MIN. CONCRETE; 2.25" MIN. EMBEDMEN T; 3.125" MIN. EDGE DISTANCE	TO GROUT- FILLED CONCRETE BLOCK; 2.25" MIN. EMBEDMEN T; 4" MIN. EDGE DISTANCE	TO HOLLOW CONCRETE BLOCK; 1.75" MIN. EMBEDMEN T; 4" MIN. EDGE DISTANCE										
76.5"	+/- 40 PSF	225.4 LB/FT	127.5 LB/FT	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	5.75"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	+/- 68 PSF	623.6 LB/FT	215.2 LB/FT	5.25"	5.75"	6.00"	6.00"	6.00"	6.00"	6.00"	4.25"	6.00"	2.50"	2.00"	2.50"	5.75"	6.00"	6.00"	6.00"	6.00"	
	+/- 95 PSF	1021.3 LB/FT	302.8 LB/FT	3.25"	3.50"	6.00"	5.25"	6.00"	6.00"	4.75"		4.75"				3.50"	6.00"	6.00"	6.00"	6.00"	
	+/- 123 PSF	1418.6 LB/FT	390.5 LB/FT	2.25"	2.50"	4.75"	3.75"	4.50"	4.50"	3.50"		3.50"				2.50"	6.00"	6.00"	6.00"	6.00"	
	+/- 150 PSF	1815.4 LB/FT	478.1 LB/FT			3.75"		3.50"	3.50"			2.75"				2.00"	4.75"	6.00"	6.00"	6.00"	
108"	+/- 40 PSF	796.9 LB/FT	180.0 LB/FT	4.50"	4.75"	6.00"	6.00"	6.00"	6.00"	6.00"	3.75"	6.00"	2.00"		2.00"	5.00"	6.00"	6.00"	6.00"	6.00"	
	+/- 56 PSF	1192.4 LB/FT	253.1 LB/FT	3.00"	3.25"	6.00"	4.75"	5.75"	5.75"	4.25"		4.25"				3.50"	6.00"	6.00"	6.00"	6.00"	
	+/- 73 PSF	1587.3 LB/FT	326.3 LB/FT	2.25"		4.50"	3.50"	4.25"	4.25"	3.25"		3.25"				2.50"	5.75"	6.00"	6.00"	6.00"	
	+/- 89 PSF	1981.8 LB/FT	399.4 LB/FT			3.50"		3.50"	3.50"			2.50"				2.00"	4.50"	6.00"	6.00"	6.00"	
	+/- 105 PSF	2375.7 LB/FT	472.5 LB/FT														3.75"	5.50"	6.00"	6.00"	
120"	+/- 40 PSF	998.5 LB/FT	200.0 LB/FT	3.50"	3.75"	6.00"	5.75"	6.00"	6.00"	5.25"		5.25"				4.00"	6.00"	6.00"	6.00"	6.00"	
	+/- 51 PSF	1319.3 LB/FT	256.3 LB/FT	2.75"	3.00"	5.50"	4.25"	5.25"	5.25"	4.00"		4.00"				3.00"	6.00"	6.00"	6.00"	6.00"	
	+/- 63 PSF	1639.8 LB/FT	312.5 LB/FT	2.00"		4.25"	3.50"	4.25"	4.25"	3.25"		3.25"				2.50"	5.50"	6.00"	6.00"	6.00"	
	+/- 74 PSF	1959.9 LB/FT	368.8 LB/FT			3.75"		3.50"	3.50"			2.75"				2.00"	4.50"	6.00"	6.00"	6.00"	
	+/- 85 PSF	2279.7 LB/FT	425.0 LB/FT						3.00"								4.00"	5.75"	6.00"	6.00"	
146"	+/- 40 PSF	1436.7 LB/FT	243.3 LB/FT	2.50"	2.75"	5.00"	4.00"	4.75"	4.75"	3.75"		3.75"				3.00"	6.00"	6.00"	6.00"	6.00"	
	+/- 47 PSF	1705.1 LB/FT	286.1 LB/FT	2.00"		4.25"		4.00"	4.00"	3.00"		3.00"				2.50"	5.50"	6.00"	6.00"	6.00"	
	+/- 54 PSF	1973.3 LB/FT	328.8 LB/FT			3.75"		3.50"	3.50"			2.75"				2.00"	4.75"	6.00"	6.00"	6.00"	
	+/- 61 PSF	2241.0 LB/FT	371.5 LB/FT						3.00"								4.00"	6.00"	6.00"	6.00"	
	+/- 68 PSF	2508.4 LB/FT	414.3 LB/FT														3.75"	5.25"	5.75"	6.00"	
170"	+/- 35 PSF	1612.1 LB/FT	247.9 LB/FT	2.25"	2.50"	4.50"	3.50"	4.50"	4.25"	3.25"		3.25"				2.75"	5.75"	6.00"	6.00"	6.00"	
	+/- 39 PSF	1817.5 LB/FT	278.4 LB/FT	2.00"		4.00"		3.75"	3.75"	3.00"		3.00"				2.25"	5.00"	6.00"	6.00"	6.00"	
	+/- 44 PSF	2022.6 LB/FT	308.8 LB/FT			3.50"		3.50"	3.50"			2.75"				2.00"	4.50"	6.00"	6.00"	6.00"	
	+/- 48 PSF	2227.2 LB/FT	339.3 LB/FT						3.00"			2.50"				2.00"	4.25"	6.00"	6.00"	6.00"	
	+/- 52 PSF	2431.5 LB/FT	369.8 LB/FT														3.75"	5.50"	6.00"	6.00"	
182"	+/- 30 PSF	1545.9 LB/FT	227.5 LB/FT	2.25"	2.50"	4.75"	3.75"	4.50"	4.50"	3.50"		3.50"				2.75"	6.00"	6.00"	6.00"	6.00"	
	+/- 34 PSF	1747.0 LB/FT	255.9 LB/FT	2.00"		4.25"		4.00"	4.00"	3.00"		3.00"				2.50"	5.25"	6.00"	6.00"	6.00"	
	+/- 38 PSF	1948.1 LB/FT	284.4 LB/FT			3.75"		3.50"	3.50"			2.75"				2.25"	4.75"	6.00"	6.00"	6.00"	
	+/- 41 PSF	2149.3 LB/FT	312.8 LB/FT			3.50"			3.25"			2.50"				2.00"	4.25"	6.00"	6.00"	6.00"	
	+/- 45 PSF	2350.4 LB/FT	341.3 LB/FT						3.00"								4.00"	5.75"	6.00"	6.00"	

ANCHOR NOTES: SEE SHEET
7 FOR ANCHOR NOTES.



RICHARD NEET, P.E.
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FL31658.1



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AMERICAN SHUTTER SYSTEMS ASSOCIATION, INC.

4268 WESTROADS DR
WEST PALM BEACH, FL

SINGLE WALL ROLL-UP HURRICANE SHUTTER

FLORIDA BUILDING CODE

DRWN	CHKD	DATE
RWN	RWN	2/18/20
RWN	RWN	4/14/21
RWN	RWN	
RWN	RWN	
RWN	RWN	
RWN	RWN	
RWN	RWN	
RWN	RWN	
RWN	RWN	

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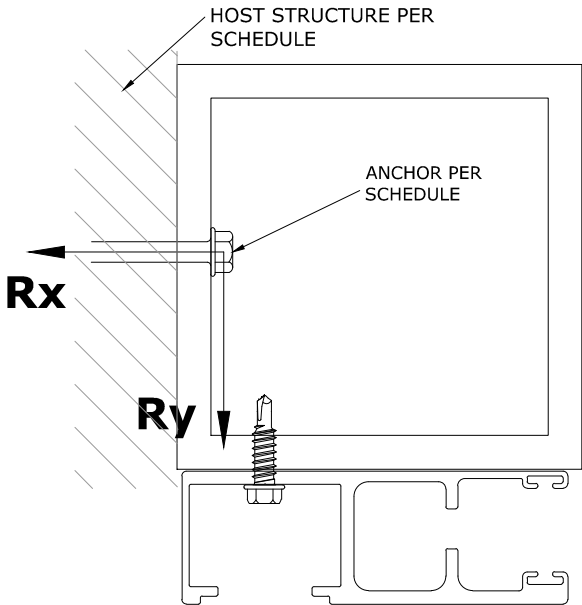
11 OF 16

OPTION 2 ANCHOR SCHEDULE: INTERIOR MOUNT

SLAT SPAN				MAXIMUM SPACING (O.C.)																	
				1/4" DEWALT ULTRACON TO 3000 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. EMBEDMEN T; 2.5" MIN. EDGE DISTANCE	5/16" HILLMAN GROUP (ALL- POINTS) SCREW TO 3000 CONCRETE; 2.25" MIN. EMBEDMENT; 3.125" MIN. EDGE DISTANCE	5/16" HILLMAN GROUP (ALL- POINTS) SCREW TO GROUT- FILLED BLOCK; 2.25" MIN. EMBEDMENT; 3.125" MIN. EDGE DISTANCE	5/16" DEWALT ULTRACON TO 3500 PSI MIN. CONCRETE; 2" MIN. EMBEDMENT; 3.125" MIN. EDGE DISTANCE	5/16" ITW TAPCON			1/4" DEWALT POWER-BOLT TO 3000 PSI MIN. CONCRETE; 2.5" MIN. EMBEDMENT; 3" MIN. EDGE DISTANCE	1/4" 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	#14 410 SS SMS W/ FULL THREAD PENETRATION OR 1/4-20 410 SS THRU-BOLT TO 0.125" MIN. 6063- T6 ALUM; 0.5" MIN. EDGE DISTANCE	5/16" 410 SS SMS W/ FULL THREAD PENETRATION OR 5/16-18 410 SS THRU-BOLT TO 0.25" MIN. 6063-T6 ALUM; 0.625" MIN. EDGE DISTANCE	3/8" DEWALT SCREW BOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 4.5" MIN. EDGE DISTANCE	3/8" ELCO/DEWALT CONFLX		
									TO 3000 PSI MIN. CONCRETE; 2.25" MIN. EMBEDMEN T; 4" MIN. EDGE DISTANCE	TO GROUT- FILLED CONCRETE BLOCK; 2.25" MIN. EMBEDMEN T; 4" MIN. EDGE DISTANCE	TO HOLLOW CONCRETE BLOCK; 1.75" MIN. EMBEDMEN T; 4" MIN. EDGE DISTANCE								TO 1819 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 3.75" MIN. EDGE DISTANCE	TO 4510 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 3.75" MIN. EDGE DISTANCE	
DESIGN PRESSURE	R _x	R _y																			
76.5"	+/- 40 PSF	225.4 LB/FT	127.5 LB/FT	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	
	+/- 68 PSF	623.6 LB/FT	215.2 LB/FT	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"		6.00"	4.75"	4.25"	4.50"	4.75"	6.00"	6.00"	6.00"	6.00"	
	+/- 95 PSF	1021.3 LB/FT	302.8 LB/FT	4.50"	4.25"	6.00"	5.50"	6.00"	6.00"	6.00"		4.50"	3.00"	2.75"	2.75"	3.00"	6.00"	6.00"	6.00"	6.00"	
	+/- 123 PSF	1418.6 LB/FT	390.5 LB/FT	3.25"	3.25"	6.00"	4.00"	5.25"	5.00"	4.50"		3.25"	2.25"	2.00"	2.00"	2.00"	6.00"	6.00"	6.00"	6.00"	
	+/- 150 PSF	1815.4 LB/FT	478.1 LB/FT	2.50"	2.50"	4.50"		4.00"	3.75"	3.50"		2.50"					5.50"	6.00"	6.00"	6.00"	
108"	+/- 40 PSF	796.9 LB/FT	180.0 LB/FT	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	4.50"	4.25"	4.25"	4.00"	6.00"	6.00"	6.00"	6.00"	
	+/- 56 PSF	1192.4 LB/FT	253.1 LB/FT	4.25"	4.00"	6.00"	5.25"	6.00"	6.00"	5.75"		4.00"	3.25"	3.00"	2.75"	2.50"	6.00"	6.00"	6.00"	6.00"	
	+/- 73 PSF	1587.3 LB/FT	326.3 LB/FT	3.25"	3.00"	5.75"	3.75"	5.00"	4.75"	4.25"		3.00"	2.25"	2.25"	2.25"	2.00"	6.00"	6.00"	6.00"	6.00"	
	+/- 89 PSF	1981.8 LB/FT	399.4 LB/FT	2.50"	2.50"	4.50"		4.00"	3.75"	3.50"			2.00"				5.25"	6.00"	6.00"	6.00"	
	+/- 105 PSF	2375.7 LB/FT	472.5 LB/FT	2.00"		3.75"			3.00"								4.25"	6.00"	6.00"	6.00"	
120"	+/- 40 PSF	998.5 LB/FT	200.0 LB/FT	5.25"	5.00"	6.00"	6.00"	6.00"	6.00"	6.00"		4.75"	3.75"	3.75"	3.50"	3.25"	6.00"	6.00"	6.00"	6.00"	
	+/- 51 PSF	1319.3 LB/FT	256.3 LB/FT	4.00"	3.75"	6.00"	4.75"	6.00"	5.75"	5.25"		3.75"	3.00"	2.75"	2.75"	2.50"	6.00"	6.00"	6.00"	6.00"	
	+/- 63 PSF	1639.8 LB/FT	312.5 LB/FT	3.00"	3.00"	5.50"	3.75"	4.75"	4.50"	4.25"		3.00"	2.25"	2.25"	2.25"	2.00"	6.00"	6.00"	6.00"	6.00"	
	+/- 74 PSF	1959.9 LB/FT	368.8 LB/FT	2.50"	2.50"	4.75"		4.00"	3.75"	3.50"		2.50"	2.00"				5.25"	6.00"	6.00"	6.00"	
	+/- 85 PSF	2279.7 LB/FT	425.0 LB/FT	2.25"		4.00"		3.50"	3.25"	3.00"							4.50"	6.00"	6.00"	6.00"	
146"	+/- 40 PSF	1436.7 LB/FT	243.3 LB/FT	3.75"	3.50"	6.00"	4.50"	5.75"	5.50"	5.00"		3.50"	2.75"	2.75"	2.50"	2.25"	6.00"	6.00"	6.00"	6.00"	
	+/- 47 PSF	1705.1 LB/FT	286.1 LB/FT	3.00"	3.00"	5.50"	3.75"	4.75"	4.50"	4.00"		2.75"	2.50"	2.25"	2.25"		6.00"	6.00"	6.00"	6.00"	
	+/- 54 PSF	1973.3 LB/FT	328.8 LB/FT	2.75"	2.50"	4.75"		4.00"	4.00"	3.50"		2.50"	2.00"	2.00"			5.50"	6.00"	6.00"	6.00"	
	+/- 61 PSF	2241.0 LB/FT	371.5 LB/FT	2.25"		4.25"		3.50"	3.50"	3.00"							4.75"	6.00"	6.00"	6.00"	
	+/- 68 PSF	2508.4 LB/FT	414.3 LB/FT	2.00"		3.75"			3.00"								4.25"	6.00"	6.00"	6.00"	
170"	+/- 35 PSF	1612.1 LB/FT	247.9 LB/FT	3.25"	3.25"	6.00"	4.00"	5.00"	4.75"	4.50"		3.00"	2.75"	2.50"	2.25"	2.00"	6.00"	6.00"	6.00"	6.00"	
	+/- 39 PSF	1817.5 LB/FT	278.4 LB/FT	3.00"	2.75"	5.25"	3.50"	4.50"	4.25"	4.00"		2.75"	2.25"	2.25"	2.00"		6.00"	6.00"	6.00"	6.00"	
	+/- 44 PSF	2022.6 LB/FT	308.8 LB/FT	2.75"	2.50"	4.75"		4.00"	3.75"	3.50"		2.50"	2.00"	2.00"			5.50"	6.00"	6.00"	6.00"	
	+/- 48 PSF	2227.2 LB/FT	339.3 LB/FT	2.50"		4.25"		3.75"	3.50"	3.25"			2.00"				5.00"	6.00"	6.00"	6.00"	
	+/- 52 PSF	2431.5 LB/FT	369.8 LB/FT	2.25"		4.00"			3.25"	3.00"							4.50"	6.00"	6.00"	6.00"	
182"	+/- 30 PSF	1545.9 LB/FT	227.5 LB/FT	3.50"	3.25"	6.00"	4.25"	5.50"	5.00"	4.75"		3.25"	2.75"	2.75"	2.50"	2.00"	6.00"	6.00"	6.00"	6.00"	
	+/- 34 PSF	1747.0 LB/FT	255.9 LB/FT	3.00"	3.00"	5.50"	3.75"	4.75"	4.50"	4.00"		2.75"	2.50"	2.50"	2.25"		6.00"	6.00"	6.00"	6.00"	
	+/- 38 PSF	1948.1 LB/FT	284.4 LB/FT	2.75"	2.75"	5.00"		4.25"	4.00"	3.75"		2.50"	2.25"	2.00"	2.00"		5.75"	6.00"	6.00"	6.00"	
	+/- 41 PSF	2149.3 LB/FT	312.8 LB/FT	2.50"	2.50"	4.50"		3.75"	3.75"	3.25"			2.00"	2.00"			5.00"	6.00"	6.00"	6.00"	
	+/- 45 PSF	2350.4 LB/FT	341.3 LB/FT	2.25"		4.00"		3.50"	3.25"	3.00"							4.75"	6.00"	6.00"	6.00"	

ANCHOR NOTES: SEE SHEET 7 FOR ANCHOR NOTES.

INTERIOR MOUNT DIRECTIVE



RICHARD NEET, P.E.
PE# 86488 CA9885



FL31658.1



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AMERICAN SHUTTER SYSTEMS ASSOCIATION, INC.

4268 WESTROADS DR
WEST PALM BEACH, FL

SINGLE WALL ROLL-UP HURRICANE SHUTTER

FLORIDA BUILDING CODE

REMARKS	DATE	DRWN	CHKD	DATE
INIT ISSUE	2/18/20	RWN	RWN	4/14/21
REV		RWN	RWN	

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SCALE: NTS UNLESS NOTED

INTERMEDIATE MULLION SCHEDULES

MULLION SCHEDULE: INTERMEDIATE MULLIONS											
		4"x6"x0.25" ALUM TUBE		6"x4"x0.25" ALUM TUBE		4"x8"x0.25" ALUM TUBE		8"x4"x0.25" ALUM TUBE		4"x4"x0.25" ALUM TUBE	
SLAT SPAN	DESIGN PRESSURE	MAX MULLION LENGTH	END REACTION Rt	MAX MULLION LENGTH	END REACTION Rt	MAX MULLION LENGTH	END REACTION Rt	MAX MULLION LENGTH	END REACTION Rt	MAX MULLION LENGTH	END REACTION Rt
77"	+/- 40 PSF	144.0"	1530.0 LB	144.0"	1530.0 LB	144.0"	1530.0 LB	144.0"	1530.0 LB	139.0"	1476.8 LB
	+/- 68 PSF	144.0"	2581.9 LB	130.6"	2341.1 LB	144.0"	2581.9 LB	142.0"	2545.2 LB	116.7"	2093.3 LB
	+/- 95 PSF	144.0"	3633.8 LB	116.5"	2940.1 LB	144.0"	3633.8 LB	126.7"	3196.5 LB	104.2"	2628.9 LB
	+/- 123 PSF	132.6"	4314.8 LB	107.0"	3483.1 LB	144.0"	4685.6 LB	116.4"	3786.9 LB	95.7"	3114.5 LB
	+/- 150 PSF	123.7"	4929.7 LB	100.1"	3986.6 LB	138.9"	5534.0 LB	108.8"	4334.3 LB	89.5"	3564.7 LB
108"	+/- 40 PSF	144.0"	2160.0 LB	138.6"	2078.6 LB	144.0"	2160.0 LB	144.0"	2160.0 LB	123.9"	1858.5 LB
	+/- 57 PSF	144.0"	3139.2 LB	122.3"	2666.9 LB	144.0"	3139.2 LB	133.0"	2899.5 LB	109.4"	2384.6 LB
	+/- 75 PSF	136.5"	4069.4 LB	110.2"	3285.1 LB	144.0"	4291.7 LB	119.8"	3571.5 LB	98.6"	2937.3 LB
	+/- 92 PSF	125.9"	4787.6 LB	101.6"	3864.8 LB	142.2"	5406.7 LB	110.5"	4201.9 LB	90.9"	3455.8 LB
	+/- 109 PSF	114.5"	5324.7 LB	95.0"	4418.2 LB	128.6"	5977.4 LB	103.3"	4803.5 LB	85.0"	3950.5 LB
146"	+/- 40 PSF	144.0"	3331.5 LB	119.9"	2774.7 LB	144.0"	3331.5 LB	130.4"	3016.7 LB	107.2"	2481.0 LB
	+/- 52 PSF	134.0"	4226.7 LB	108.2"	3412.1 LB	144.0"	4543.0 LB	117.6"	3709.6 LB	96.7"	3050.9 LB
	+/- 64 PSF	122.9"	4962.8 LB	99.6"	4022.4 LB	138.0"	5571.2 LB	108.3"	4373.2 LB	89.1"	3596.7 LB
	+/- 77 PSF	110.9"	5502.0 LB	93.0"	4615.4 LB	124.4"	6176.4 LB	101.1"	5017.9 LB	83.1"	4126.9 LB
	+/- 89 PSF	101.4"	6013.9 LB	87.6"	5196.7 LB	113.9"	6751.1 LB	95.3"	5649.9 LB	76.2"	4516.9 LB
170"	+/- 40 PSF	134.6"	4188.1 LB	108.7"	3380.9 LB	144.0"	4480.9 LB	118.1"	3675.8 LB	97.2"	3023.1 LB
	+/- 49 PSF	122.7"	4971.4 LB	99.5"	4031.7 LB	137.7"	5580.8 LB	108.2"	4383.3 LB	89.0"	3605.0 LB
	+/- 59 PSF	109.8"	5555.6 LB	92.4"	4675.5 LB	123.2"	6236.7 LB	100.5"	5083.3 LB	82.5"	4172.7 LB
	+/- 68 PSF	99.7"	6117.6 LB	86.6"	5316.6 LB	111.9"	6867.6 LB	94.2"	5780.2 LB	74.9"	4594.8 LB
	+/- 78 PSF	91.5"	6662.8 LB	81.3"	5918.7 LB	102.8"	7479.5 LB	89.0"	6477.0 LB	68.8"	5004.3 LB
206"	+/- 35 PSF	140.5"	3843.8 LB	113.4"	3102.9 LB	144.0"	3939.8 LB	123.3"	3373.5 LB	101.4"	2774.5 LB
	+/- 42 PSF	132.5"	4322.9 LB	106.9"	3489.7 LB	144.0"	4698.8 LB	116.3"	3794.0 LB	95.6"	3120.3 LB
	+/- 48 PSF	126.0"	4777.0 LB	101.7"	3856.3 LB	142.4"	5397.7 LB	110.6"	4192.6 LB	91.0"	3448.1 LB
	+/- 55 PSF	118.8"	5132.2 LB	97.4"	4206.5 LB	133.4"	5761.3 LB	105.9"	4573.4 LB	87.1"	3761.3 LB
	+/- 61 PSF	112.2"	5437.1 LB	93.7"	4543.0 LB	125.9"	6103.6 LB	101.9"	4939.2 LB	83.8"	4062.1 LB
242"	+/- 30 PSF	140.0"	3873.5 LB	113.0"	3126.9 LB	144.0"	3985.5 LB	122.8"	3399.6 LB	101.0"	2796.0 LB
	+/- 34 PSF	134.5"	4194.8 LB	108.6"	3386.3 LB	144.0"	4491.6 LB	118.0"	3681.6 LB	97.1"	3027.9 LB
	+/- 38 PSF	129.8"	4504.3 LB	104.8"	3636.1 LB	144.0"	4997.7 LB	113.9"	3953.2 LB	93.7"	3251.3 LB
	+/- 41 PSF	125.7"	4803.5 LB	101.5"	3877.7 LB	141.8"	5420.1 LB	110.3"	4215.9 LB	90.7"	3467.3 LB
	+/- 45 PSF	120.9"	5045.5 LB	98.5"	4112.0 LB	135.7"	5664.0 LB	107.1"	4470.6 LB	88.1"	3676.8 LB

MULLION SCHEDULE NOTES:

1.

VALUES SHOWN IN MULLION SCHEDULES ARE MAXIMUM ALLOWABLE MULLION LENGTHS AT EACH RESPECTIVE SLAT SPAN AND DESIGN PRESSURE.
2.

"INTERMEDIATE MULLIONS" ARE AS DEFINED IN ELEVATION 2/3.
3.

"END MULLIONS" ARE AS DEFINED IN ELEVATION 2/3
4.

ALL MULLIONS SHALL BE 6061-T6 ALUMINUM OR EQUIVALENT.
5.

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.
6.

"END REACTIONS" ARE LISTED FOR EACH COMBINATION OF DESIGN LOAD, MULLION TYPE, SLAT TYPE (OPEN OR CLOSED) & SLAT SPAN. CHOOSE MOUNTING CONNECTIONS (PER APPLICABLE CONNECTION DETAILS HEREIN) THAT PROVIDES "CONNECTION CAPACITY" GREATER THAN OR EQUAL TO "END REACTIONS" GIVEN ABOVE.
7.

"INTERMEDIATE MULLIONS" SHALL HAVE EQUAL SLAT SPANS (+/- 12") ON ADJACENT SIDES OF MULLION. OTHERWISE, USE "END MULLION" TABLES.

RICHARD NEET, P.E.
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4268 WESTROADS DR
WEST PALM BEACH, FL

SINGLE WALL ROLL-UP HURRICANE SHUTTER

FLORIDA BUILDING CODE

REMARKS

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13

OF 16

END MULLION SCHEDULES

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MULLION SCHEDULE: END MULLIONS																					
		4"x6"x0.25" ALUM TUBE				6"x4"x0.25" ALUM TUBE				4"x8"x0.25" ALUM TUBE				8"x4"x0.25" ALUM TUBE				4"x4"x0.25" ALUM TUBE			
SLAT SPAN	DESIGN PRESSURE	MAX MULLION LENGTH	END REACTION Rv	END REACTION Rt	END REACTION Rsum	MAX MULLION LENGTH	END REACTION Rv	END REACTION Rt	END REACTION Rsum	MAX MULLION LENGTH	END REACTION Rv	END REACTION Rt	END REACTION Rsum	MAX MULLION LENGTH	END REACTION Rv	END REACTION Rt	END REACTION Rsum	MAX MULLION LENGTH	END REACTION Rv	END REACTION Rt	END REACTION Rsum
77"	+/- 40 PSF	144.0"	1352.6 LB	765.0 LB	1553.9 LB	144.0"	1352.6 LB	765.0 LB	1553.9 LB	144.0"	1352.6 LB	765.0 LB	1553.9 LB	144.0"	1352.6 LB	765.0 LB	1553.9 LB	144.0"	1352.6 LB	765.0 LB	1553.9 LB
	+/- 68 PSF	120.7"	3135.0 LB	1081.7 LB	3316.4 LB	115.4"	2997.8 LB	1034.4 LB	3171.3 LB	136.5"	3546.5 LB	1223.7 LB	3751.7 LB	125.4"	3259.3 LB	1124.6 LB	3447.8 LB	99.2"	2578.0 LB	889.5 LB	2727.2 LB
	+/- 95 PSF	95.7"	4073.9 LB	1208.0 LB	4249.2 LB	97.9"	4165.3 LB	1235.1 LB	4344.6 LB	108.3"	4609.7 LB	1366.8 LB	4808.1 LB	106.4"	4528.6 LB	1342.8 LB	4723.5 LB	79.0"	3360.5 LB	996.4 LB	3505.1 LB
	+/- 123 PSF	81.8"	4834.4 LB	1330.7 LB	5014.2 LB	87.5"	5169.9 LB	1423.0 LB	5362.1 LB	92.6"	5470.7 LB	1505.9 LB	5674.2 LB	95.4"	5637.7 LB	1551.8 LB	5847.4 LB	67.6"	3993.4 LB	1099.2 LB	4141.9 LB
	+/- 150 PSF	72.6"	5490.2 LB	1445.9 LB	5677.4 LB	77.8"	5881.5 LB	1549.0 LB	6082.0 LB	82.1"	6213.3 LB	1636.4 LB	6425.2 LB	87.5"	6618.5 LB	1743.1 LB	6844.2 LB	60.0"	4538.8 LB	1195.4 LB	4693.6 LB
108"	+/- 40 PSF	110.9"	3682.8 LB	831.9 LB	3775.6 LB	106.3"	3530.4 LB	797.4 LB	3619.3 LB	125.6"	4168.7 LB	941.6 LB	4273.7 LB	115.6"	3838.3 LB	867.0 LB	3935.0 LB	91.9"	3052.7 LB	689.6 LB	3129.7 LB
	+/- 57 PSF	90.0"	4573.0 LB	981.1 LB	4677.1 LB	92.3"	4688.0 LB	1005.7 LB	4794.6 LB	101.9"	5176.7 LB	1110.6 LB	5294.5 LB	100.3"	5096.8 LB	1093.5 LB	5212.8 LB	74.7"	3793.9 LB	813.9 LB	3880.2 LB
	+/- 75 PSF	77.5"	5299.5 LB	1154.8 LB	5423.8 LB	83.6"	5714.9 LB	1245.3 LB	5849.1 LB	87.7"	5999.0 LB	1307.2 LB	6139.7 LB	90.9"	6213.4 LB	1353.9 LB	6359.2 LB	64.3"	4395.4 LB	957.8 LB	4498.6 LB
	+/- 92 PSF	69.0"	5934.1 LB	1313.0 LB	6077.6 LB	74.5"	6398.2 LB	1415.7 LB	6553.0 LB	78.2"	6717.2 LB	1486.3 LB	6879.7 LB	83.8"	7197.9 LB	1592.7 LB	7372.0 LB	57.3"	4920.6 LB	1088.8 LB	5039.6 LB
	+/- 109 PSF	62.9"	6503.9 LB	1461.0 LB	6665.9 LB	67.7"	7008.8 LB	1574.4 LB	7183.5 LB	71.2"	7362.0 LB	1653.8 LB	7545.5 LB	76.2"	7884.9 LB	1771.2 LB	8081.4 LB	52.1"	5391.7 LB	1211.2 LB	5526.0 LB
146"	+/- 40 PSF	83.5"	4999.9 LB	966.2 LB	5092.4 LB	87.4"	5229.5 LB	1010.6 LB	5326.3 LB	94.6"	5660.6 LB	1093.9 LB	5765.3 LB	95.0"	5685.6 LB	1098.7 LB	5790.8 LB	69.4"	4154.6 LB	802.8 LB	4231.5 LB
	+/- 52 PSF	72.4"	5744.4 LB	1142.4 LB	5856.9 LB	78.4"	6216.2 LB	1236.2 LB	6338.0 LB	82.0"	6503.3 LB	1293.3 LB	6630.7 LB	86.5"	6859.2 LB	1364.1 LB	6993.5 LB	60.2"	4771.3 LB	948.8 LB	4864.7 LB
	+/- 64 PSF	64.8"	6396.8 LB	1308.1 LB	6529.2 LB	70.0"	6915.8 LB	1414.2 LB	7058.9 LB	73.3"	7241.6 LB	1480.8 LB	7391.5 LB	78.8"	7779.1 LB	1590.7 LB	7940.1 LB	53.8"	5310.8 LB	1086.0 LB	5420.7 LB
	+/- 77 PSF	59.1"	6982.8 LB	1467.2 LB	7135.3 LB	63.9"	7542.5 LB	1584.8 LB	7707.2 LB	66.9"	7904.8 LB	1660.9 LB	8077.4 LB	71.8"	8484.4 LB	1782.7 LB	8669.6 LB	49.1"	5795.0 LB	1217.6 LB	5921.5 LB
	+/- 89 PSF	54.7"	7518.1 LB	1621.9 LB	7691.1 LB	59.0"	8113.3 LB	1750.3 LB	8300.0 LB	61.9"	8510.5 LB	1836.0 LB	8706.3 LB	66.4"	9126.9 LB	1969.0 LB	9336.9 LB	45.4"	6236.6 LB	1345.5 LB	6380.1 LB
170"	+/- 40 PSF	73.4"	5658.7 LB	1141.6 LB	5772.7 LB	79.4"	6120.5 LB	1234.8 LB	6243.8 LB	83.1"	6406.1 LB	1292.4 LB	6535.2 LB	87.3"	6731.8 LB	1358.1 LB	6867.4 LB	60.9"	4699.0 LB	948.0 LB	4793.7 LB
	+/- 49 PSF	65.6"	6290.0 LB	1328.8 LB	6428.8 LB	70.8"	6792.8 LB	1435.0 LB	6942.8 LB	74.2"	7120.4 LB	1504.2 LB	7277.6 LB	79.7"	7641.2 LB	1614.2 LB	7809.8 LB	54.4"	5219.5 LB	1102.6 LB	5334.7 LB
	+/- 59 PSF	59.8"	6854.0 LB	1513.1 LB	7019.1 LB	64.5"	7390.7 LB	1631.6 LB	7568.7 LB	67.7"	7758.5 LB	1712.8 LB	7945.4 LB	72.5"	8314.3 LB	1835.5 LB	8514.5 LB	49.6"	5683.6 LB	1254.7 LB	5820.4 LB
	+/- 68 PSF	55.3"	7366.4 LB	1696.3 LB	7559.1 LB	59.5"	7931.2 LB	1826.4 LB	8138.8 LB	62.6"	8338.0 LB	1920.1 LB	8556.3 LB	67.0"	8923.0 LB	2054.8 LB	9156.6 LB	45.8"	6104.2 LB	1405.7 LB	6263.9 LB
	+/- 78 PSF	51.6"	7837.2 LB	1879.3 LB	8059.3 LB	55.5"	8425.7 LB	2020.4 LB	8664.5 LB	58.4"	8870.5 LB	2127.1 LB	9121.9 LB	62.5"	9480.0 LB	2273.2 LB	9748.7 LB	42.8"	6489.8 LB	1556.2 LB	6673.8 LB
206"	+/- 35 PSF	68.4"	6302.8 LB	935.1 LB	6371.8 LB	74.6"	6880.1 LB	1020.8 LB	6955.4 LB	77.4"	7137.6 LB	1059.0 LB	7215.8 LB	82.2"	7583.0 LB	1125.1 LB	7666.0 LB	57.0"	5256.0 LB	779.8 LB	5313.5 LB
	+/- 42 PSF	62.6"	6881.8 LB	1021.4 LB	6957.2 LB	68.3"	7512.0 LB	1115.0 LB	7594.3 LB	70.9"	7793.3 LB	1156.7 LB	7878.7 LB	76.8"	8445.9 LB	1253.6 LB	8538.4 LB	52.2"	5738.8 LB	851.8 LB	5801.6 LB
	+/- 48 PSF	58.1"	7415.6 LB	1101.1 LB	7496.9 LB	63.4"	8094.7 LB	1201.9 LB	8183.4 LB	65.8"	8397.9 LB	1246.9 LB	8489.9 LB	71.3"	9101.0 LB	1351.3 LB	9200.7 LB	48.4"	6183.9 LB	918.2 LB	6251.7 LB
	+/- 55 PSF	54.4"	7913.5 LB	1175.5 LB	8000.3 LB	59.4"	8638.1 LB	1283.1 LB	8732.9 LB	61.6"	8961.7 LB	1331.2 LB	9060.0 LB	66.8"	9711.9 LB	1442.6 LB	9818.5 LB	45.4"	6599.1 LB	980.2 LB	6671.5 LB
	+/- 61 PSF	51.4"	8381.8 LB	1245.5 LB	8473.8 LB	56.1"	9149.2 LB	1359.5 LB	9249.6 LB	58.2"	9492.0 LB	1410.5 LB	9596.2 LB	63.1"	10286.5 LB	1528.5 LB	10399.5 LB	42.9"	6989.6 LB	1038.6 LB	7066.3 LB
242"	+/- 30 PSF	65.5"	6628.4 LB	906.9 LB	6690.1 LB	71.7"	7250.7 LB	992.1 LB	7318.3 LB	74.2"	7506.9 LB	1027.1 LB	7576.8 LB	79.7"	8065.6 LB	1103.6 LB	8140.7 LB	54.7"	5532.8 LB	757.0 LB	5584.3 LB
	+/- 34 PSF	61.7"	7036.2 LB	962.8 LB	7101.8 LB	67.5"	7696.8 LB	1053.2 LB	7768.6 LB	69.9"	7968.8 LB	1090.4 LB	8043.0 LB	75.9"	8652.8 LB	1184.0 LB	8733.4 LB	51.5"	5873.2 LB	803.7 LB	5927.9 LB
	+/- 38 PSF	58.5"	7421.7 LB	1015.7 LB	7490.8 LB	64.0"	8118.5 LB	1111.0 LB	8194.1 LB	66.3"	8405.3 LB	1150.3 LB	8483.6 LB	72.0"	9126.7 LB	1249.0 LB	9211.8 LB	48.9"	6194.9 LB	847.8 LB	6252.7 LB
	+/- 41 PSF	55.8"	7788.0 LB	1065.9 LB	7860.6 LB	61.0"	8519.2 LB	1166.0 LB	8598.6 LB	63.2"	8820.2 LB	1207.2 LB	8902.5 LB	68.6"	9577.3 LB	1310.8 LB	9666.6 LB	46.6"	6500.7 LB	889.7 LB	6561.3 LB
	+/- 45 PSF	53.4"	8137.9 LB	1113.9 LB	8213.8 LB	58.4"	8901.9 LB	1218.5 LB	8984.9 LB	60.5"	9216.5 LB	1261.5 LB	9302.5 LB	65.6"	10007.5 LB	1369.8 LB	10100.8 LB	44.6"	6792.8 LB	929.8 LB	6856.1 LB

MULLION SCHEDULE NOTES:
SEE SHEET 13 FOR MULLION
SCHEDULE NOTES.

AMERICAN SHUTTER SYSTEMS ASSOCIATION, INC.

4268 WESTROADS DR
WEST PALM BEACH, FL

SINGLE WALL ROLL-UP HURRICANE SHUTTER

FLORIDA BUILDING CODE

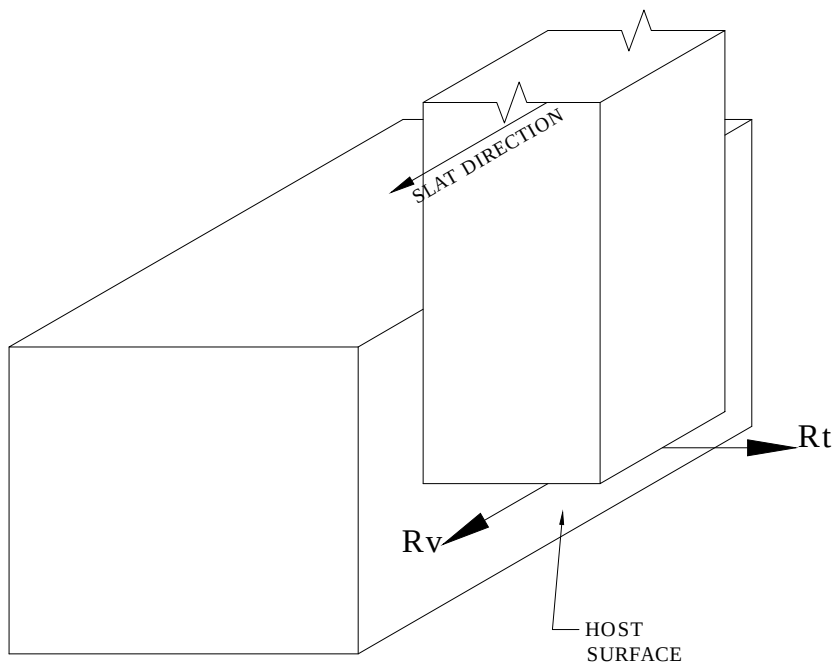
REMARKS	DRWN	CHKD	DATE			
				RWN	RWN	RWN
INIT ISSUE			2/18/20			
REV			4/14/21			

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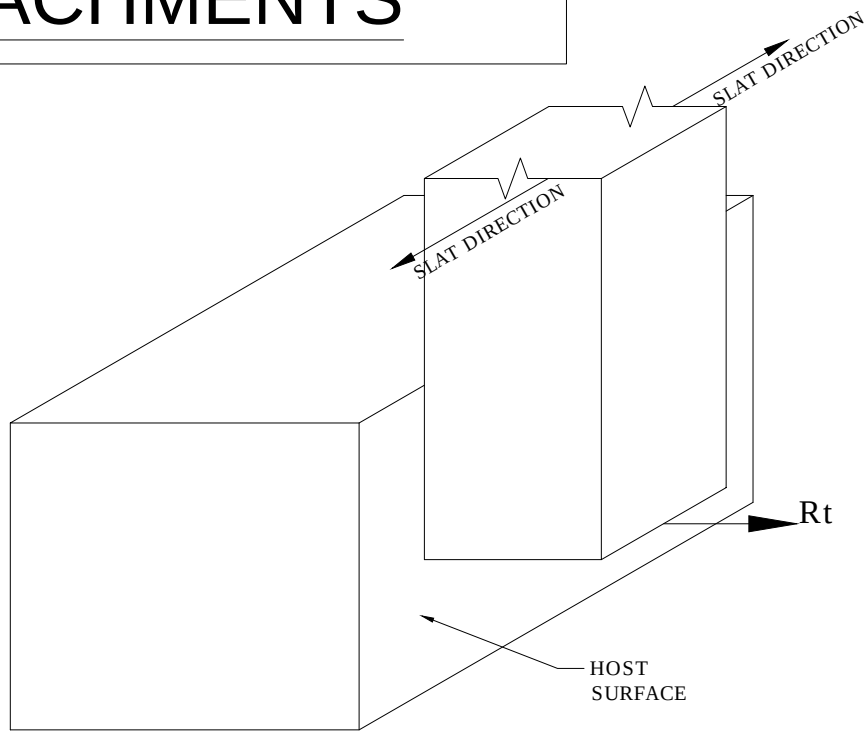
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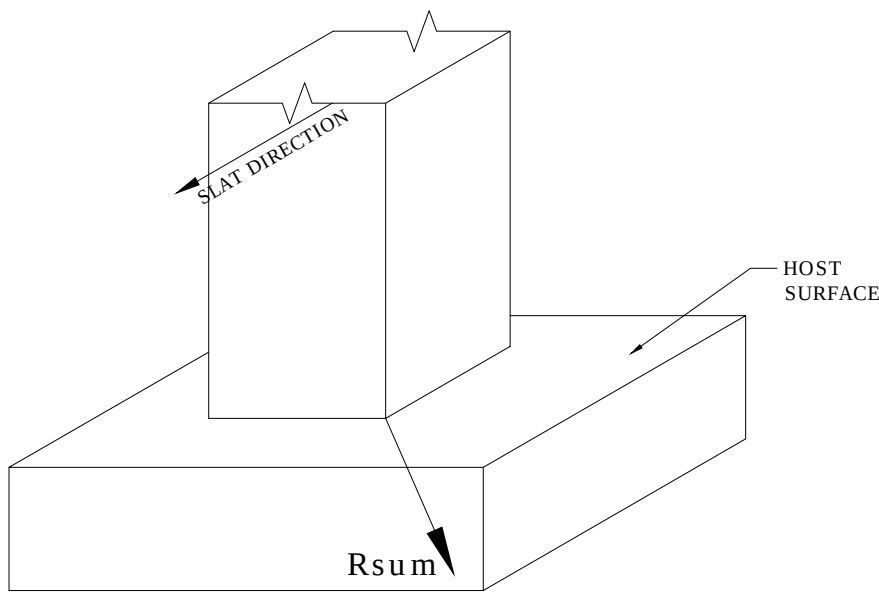
MULLION END ATTACHMENTS



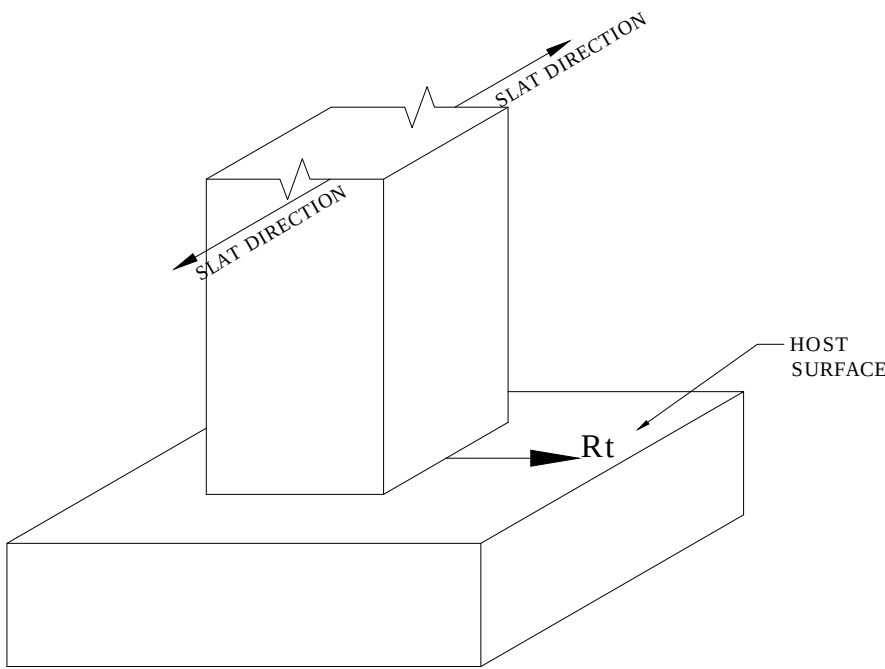
1
15
END MULLION "FACE MOUNT" DIAGRAM
N.T.S. ISOMETRIC



2
15
INTERIOR MULLION "FACE MOUNT" DIAGRAM
N.T.S. ISOMETRIC



3
15
END MULLION "TRAPPED MOUNT" DIAGRAM
N.T.S. ISOMETRIC



4
15
INTERIOR MULLION "TRAPPED MOUNT" DIAGRAM
N.T.S. ISOMETRIC

RICHARD NEET, P.E.
PE# 86488 CA9885

RICHARD NEET
LICENSE
No. R.E. 86488
04/14/2021
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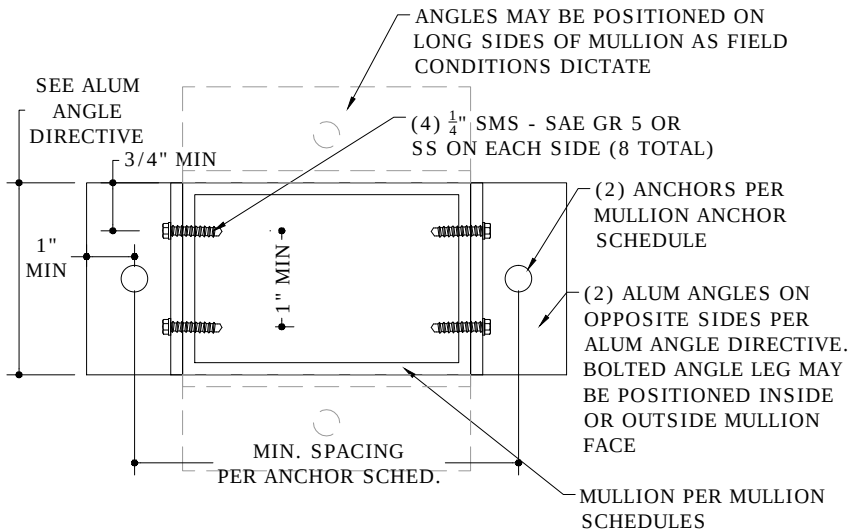
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INIT ISSUE			2/18/20						
REV			4/14/21						

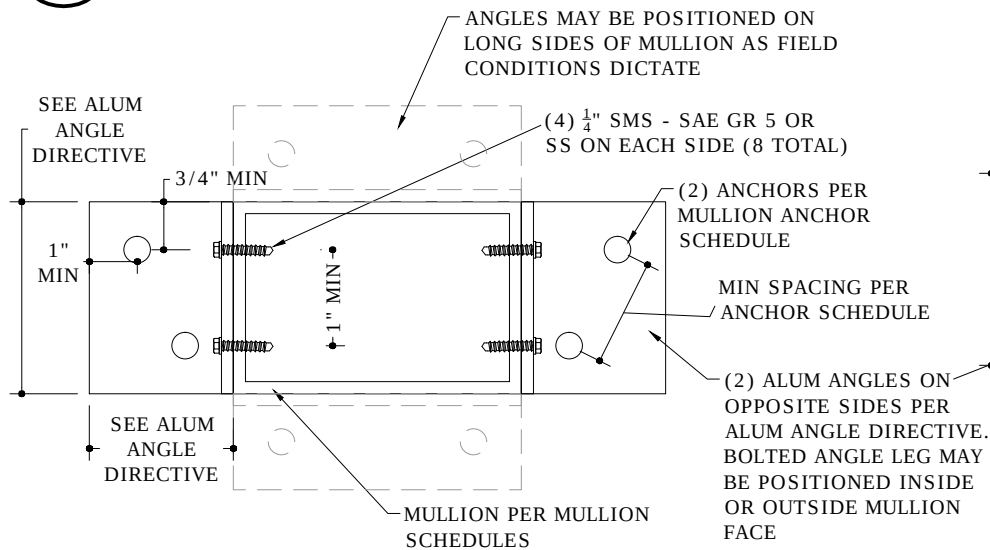
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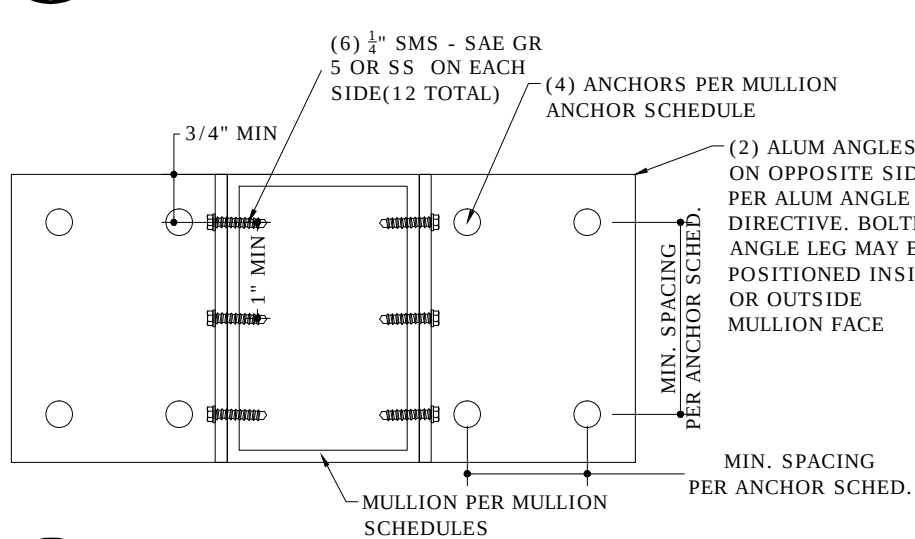
1A TRAPPED MOUNT OPTION 1

16 N.T.S.



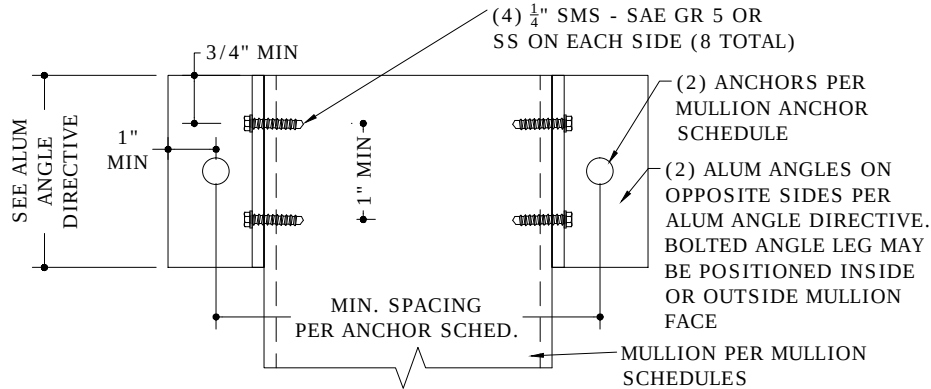
2A TRAPPED MOUNT OPTION 2

16 N.T.S.



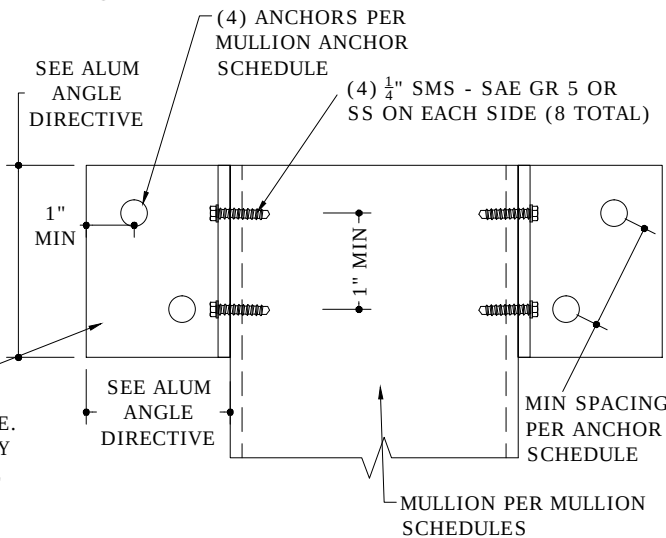
3A TRAPPED MOUNT OPTION 3

16 N.T.S.



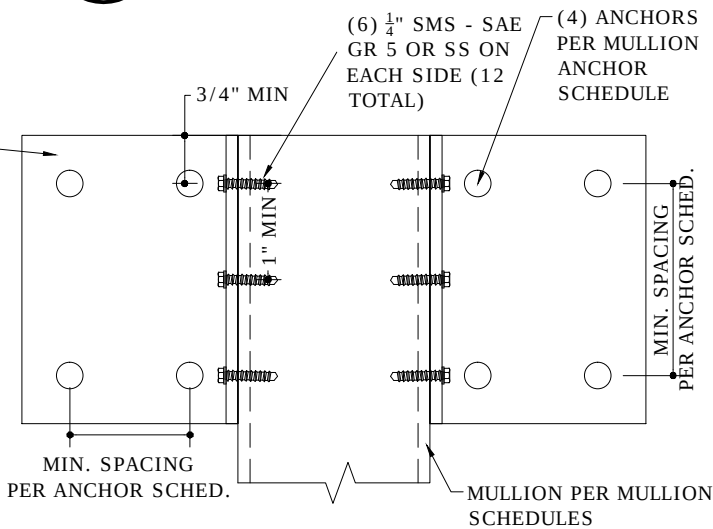
1B FACE MOUNT OPTION 1

16 N.T.S.



2B FACE MOUNT OPTION 2

16 N.T.S.



3B FACE MOUNT OPTION 3

16 N.T.S.

MULLION ANCHOR SCHEDULE

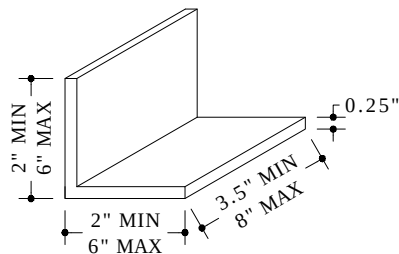
ANCHOR TYPE	MINIMUM SPACING	MINIMUM EDGE DISTANCE	CONNECTION DETAIL	CONNECTION CAPACITY	
				Tcap	3660 LB
1/2" DEWALT SCREW BOLTS (OR EQUIV.) W/ 2-1/2" EMBED TO 3KSI MIN. CONCRETE	6"	4.5"	1A/13, 1B/13	Vcap	2249 LB
	4.0"	4.5"	2A/13, 2B/13	Tcap	6442 LB
	4.0"	4.5"	3A/13, 3B/13	Vcap	4106 LB
3/8" DEWALT SCREW BOLTS (OR EQUIV.) W/ 2" EMBED TO 3KSI MIN. CONCRETE	6.0"	2.5"	1A/13, 1B/13	Tcap	12883 LB
	3.0"	2.5"	2A/13, 2B/13	Vcap	8213 LB
	3.0"	2.5"	3A/13, 3B/13	Tcap	1905 LB
3/8" DEWALT SCREW BOLTS (OR EQUIV.) W/ 3-1/4" EMBED TO GROUT-FILLED CONCRETE BLOCK*	6.0"	4.5"	1A/13, 1B/13	Vcap	1007 LB
	3.0"	4.5"	2A/13, 2B/13	Tcap	3801 LB
	3.0"	4.5"	3A/13, 3B/13	Vcap	1700 LB
5/16" LAG SCREW W/ 2" MIN. THREAD PENETRATION TO G=0.42 MIN WOOD	6.0"	4.5"	1A/13, 1B/13	Tcap	7622 LB
	2.0"	1.25"	2A/13, 2B/13	Vcap	3399 LB
	2.0"	1.25"	3A/13, 3B/13	Tcap	1953 LB
5/16" DEWALT ULTRACON (OR EQUIV.) W/ 2" EMBED TO 3.5KSI MIN CONCRETE	6.0"	4.5"	1A/13, 1B/13	Vcap	1233 LB
	3.0"	4.5"	2A/13, 2B/13	Tcap	3906 LB
	3.0"	4.5"	3A/13, 3B/13	Vcap	2467 LB
5/16" DEWALT ULTRACON (OR EQUIV.) W/ 2-1/4" EMBED TO GROUT-FILLED CONCRETE BLOCK	2.0"	1.25"	1A/13, 1B/13	Tcap	7812 LB
	2.0"	1.25"	2A/13, 2B/13	Vcap	4934 LB
	2.0"	1.25"	3A/13, 3B/13	Tcap	1310 LB
5/16" DEWALT ULTRACON (OR EQUIV.) W/ 2" EMBED TO 3.5KSI MIN CONCRETE	5.0"	3.125"	1A/13, 1B/13	Vcap	302 LB
	3.75"	3.125"	2A/13, 2B/13	Tcap	2620 LB
	3.75"	3.125"	3A/13, 3B/13	Vcap	604 LB
5/16" DEWALT ULTRACON (OR EQUIV.) W/ 2-1/4" EMBED TO GROUT-FILLED CONCRETE BLOCK	5.0"	2.5"	1A/13, 1B/13	Tcap	3930 LB
	5.0"	2.5"	2A/13, 2B/13	Vcap	906 LB
	5.0"	2.5"	3A/13, 3B/13	Tcap	1670 LB
5/16" DEWALT ULTRACON (OR EQUIV.) W/ 2-1/4" EMBED TO GROUT-FILLED CONCRETE BLOCK	5.0"	2.5"	1A/13, 1B/13	Vcap	1700 LB
	5.0"	2.5"	2A/13, 2B/13	Tcap	1820 LB
	5.0"	2.5"	3A/13, 3B/13	Vcap	2840 LB
5/16" DEWALT ULTRACON (OR EQUIV.) W/ 2-1/4" EMBED TO GROUT-FILLED CONCRETE BLOCK	5.0"	2.5"	1A/13, 1B/13	Tcap	3640 LB
	5.0"	2.5"	2A/13, 2B/13	Vcap	5680 LB
	5.0"	2.5"	3A/13, 3B/13	Tcap	580 LB
5/16" DEWALT ULTRACON (OR EQUIV.) W/ 2-1/4" EMBED TO GROUT-FILLED CONCRETE BLOCK	5.0"	2.5"	1A/13, 1B/13	Vcap	750 LB
	5.0"	2.5"	2A/13, 2B/13	Tcap	1160 LB
	5.0"	2.5"	3A/13, 3B/13	Vcap	1500 LB
5/16" DEWALT ULTRACON (OR EQUIV.) W/ 2-1/4" EMBED TO GROUT-FILLED CONCRETE BLOCK	5.0"	2.5"	1A/13, 1B/13	Tcap	2320 LB
	5.0"	2.5"	2A/13, 2B/13	Vcap	3000 LB
	5.0"	2.5"	3A/13, 3B/13	Tcap	3000 LB

MULLION ANCHOR SCHEDULE NOTES:

- FOR "TRAPPED MOUNT" CONDITIONS WITH END MULLIONS, 'Rsum' VALUES IN MULLION SCHEDULE SHALL NOT EXCEED MAX 'Vcap' VALUES NOTED IN THIS SCHEDULE.
- FOR "FACE MOUNT" CONDITIONS WITH END MULLIONS, 'Rv/Vcap + Rt/Tcap' SHALL BE LESS THAN OR EQUAL TO 1.0, WHERE 'Rv' AND 'Rt' ARE PER MULLION SCHEDULES, AND 'Tcap' AND 'Vcap' ARE PER THIS SCHEDULE.
- FOR "TRAPPED MOUNT" CONDITIONS WITH INTERMEDIATE MULLIONS, 'Rt' VALUES IN MULLION SCHEDULES SHALL NOT EXCEED 'Vcap' VALUES NOTED IN THIS SCHEDULE.
- FOR "FACE MOUNT" CONDITIONS WITH INTERMEDIATE MULLIONS, 'Rt' VALUES IN MULLION SCHEDULES SHALL NOT EXCEED 'Tcap' VALUES NOTED IN THIS SCHEDULE.
- * ANCHORS SHALL PENETRATE THROUGH FACE SHELL INTO GROUTED CELL.
- ALTERNATE ANCHORS AND OR END CONNECTION CONFIGURATIONS MAY BE DESIGNED/CERTIFIED ON A SITE SPECIFIC BASIS BASED ON THE END LOADINGS LISTED IN THE MULLION SCHEDULES.
- 1/2" UNC THRU BOLTS MAY BE USED IN LEIU OF 1/4" SMS PER THE FOLLOWING DIRECTIVE
 - (4) SMS PER SIDE = (2) 1/2" UNC THRU BOLTS / (6) SMS PER SIDE = (3) 1/2" UNC THRU BOLTS

ALUM ANGLE DIRECTIVE

N.T.S. 6061-T6 OR 6005-T5 ALUM



ANGLE DIMENSION NOTE:
MINIMUM REQUIRED
ANGLE LEG SIZES AND
LENGTH SHALL BE
DETERMINED BASED ON
THE ANCHOR
REQUIREMENTS IN THE
MULLION ANCHOR
SCHEDULE AND THE
MULLION ATTACHMENT
DETAILS HEREIN

RICHARD NEET, P.E.
PE# 86488 CA9885



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AMERICAN SHUTTER SYSTEMS ASSOCIATION, INC.

4268 WESTROADS DR
WEST PALM BEACH, FL

SINGLE WALL ROLL-UP HURRICANE SHUTTER

FLORIDA BUILDING CODE

REMARKS	DATE	DRWN	CHKD
INIT ISSUE	2/18/20	RWN	RWN
REV	4/14/21	RWN	RWN

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SCALE: NTS UNLESS NOTED

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