

AMERICAN SHUTTER SYSTEMS ASSOCIATION

55 MMR ROLL SHUTTER

(WZ3) (MISSILE LEVEL E IMPACT RATED)

GENERAL NOTES:

1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH THE CURRENT FLORIDA BUILDING CODE (FBC), EXCLUDING HVHZ AND HAS BEEN EVALUATED ACCORDING TO THE FOLLOWING:
 - ASTM E330-14
 - ASTM E1886-19
 - ASTM E1996-20
2. ADEQUACY OF THE EXISTING STRUCTURAL CONCRETE/MASONRY AND 2X STUD FRAMING AS A MAIN WIND FORCE RESISTING SYSTEM CAPABLE OF WITHSTANDING AND TRANSFERRING APPLIED PRODUCT LOADS TO THE FOUNDATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD FOR THE PROJECT OF INSTALLATION.
3. 2X BUCKS (WHEN USED) SHALL BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO THE STRUCTURE. BUCK DESIGN AND INSTALLATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD FOR THE PROJECT OF INSTALLATION.
4. THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC SITE. IF SITE CONDITIONS CAUSE INSTALLATION TO DEVIATE FROM THE REQUIREMENTS DETAILED HEREIN, A LICENSED ENGINEER OR ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE WITH THIS DOCUMENT.
5. INSTALLATION OF ROLL DOWN MAY EITHER BE INSIDE OR OUTSIDE OF THE TIE BEAM.
6. ALL EXTRUSION MATERIAL: 6063-T6 ALUMINUM ALLOY, UNLESS OTHERWISE NOTED.
7. DESIGN AND OPERATION OF ROLL UP MECHANISM IS NOT PART OF THIS APPROVAL, MANUFACTURER SPECIFICATIONS SHOULD BE FOLLOWED. CARE SHOULD BE TAKEN WHEN SHUTTER IS IN MOTION ENSURING THAT PERSONAL INJURY OR DAMAGE TO THIS PRODUCT DOES NOT OCCUR.
8. FOR DESIGN PRESSURES SEE SHEET 2. SEE SHEET 16, 18 AND 19 FOR DESIGN PRESSURES BASED ON MULLIONS.
9. HOOD ASSEMBLY IS IMPACT RATED AND CAN BE PLACED INSIDE FRAME OPENING AS AN EXPOSED FEATURE.
10. OPTIONAL BOTTOM LOCK IS NOT REQUIRED FOR STRUCTURAL OR FORCED ENTRY RESISTANCE PERFORMANCE. FOR USE ON MAXIMUM 20' WIDE UNIT.
- 11.VENTED OR UNVENTED SLATS QUALIFIED.
- 12.SHUTTER MANUFACTURER LABEL SHALL BE LOCATED IN A READILY VISIBLE LOCATION, PER FBC CHAPTER 17.

INSTALLATION NOTES:

1. ONE (1) INSTALLATION ANCHOR IS REQUIRED AT EACH ANCHOR LOCATION SHOWN, UNLESS OTHERWISE STATED.
2. THE NUMBER OF INSTALLATION ANCHORS DEPICTED IS THE MINIMUM NUMBER OF ANCHORS TO BE USED FOR PRODUCT INSTALLATION.
3. INSTALL INDIVIDUAL INSTALLATION ANCHORS WITHIN A TOLERANCE OF ±1/2 INCH OF THE DEPICTED LOCATION IN THE ANCHOR LAYOUT DETAIL (I.E., WITHOUT CONSIDERATION OF TOLERANCES). TOLERANCES ARE NOT CUMULATIVE FROM ONE INSTALLATION ANCHOR TO THE NEXT.
4. REFER TO ANCHOR SCHEDULE CHART ON SHEETS 5, 6, 7, 9, 11, 12, & 14 FOR ANCHOR TYPE, SUBSTRATE TYPE, EDGE DISTANCE AND MINIMUM EMBEDMENT.
5. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDE WALL FINISHES, INCLUDING BUT NOT LIMITED TO STUCCO, FOAM, BRICK VENEER, AND SIDING.
6. ASSEMBLY FASTENERS SHALL BE COATED WITH AN HV COATING SYSTEM AS MANUFACTURED BY AN APPROVED COATING APPLICATOR REGISTERED WITH THE AMERICAN SHUTTER SYSTEMS ASSOCIATION.
7. EDGE DISTANCE IS MEASURED FROM FREE EDGE OF BLOCK OR EDGE OF MORTAR JOINT INTO FACE SHELL OF BLOCK.
8. INSTALLATION ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ANCHOR MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND ANCHORS SHALL NOT BE USED IN SUBSTRATES WITH STRENGTHS LESS THAN THE MINIMUM STRENGTH SPECIFIED BY THE ANCHOR MANUFACTURER.
9. INSTALLATION ANCHOR CAPACITIES FOR PRODUCTS HEREIN ARE BASED ON SUBSTRATE MATERIALS WITH THE FOLLOWING PROPERTIES:

9.A. WOOD - MINIMUM SPECIFIC GRAVITY OF 0.55.

9.B. CONCRETE -MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI. SEE ANCHOR SCHEDULES, SHEETS 5, 6, 8, 12, 14, 17 AND 20 FOR ADDITIONAL REQUIREMENTS.

9.C. MASONRY - STRENGTH CONFORMANCE TO ASTM C-90, MIN 2000 PSI.

9.D. STEEL - MINIMUM A36, 3⁄16" THICKNESS

9.E. ALUMINUM - MINIMUM 6063-T6 1⁄4" THICKNESS.

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TITLE:
55 MMR ROLL SHUTTERS
(WZ3) (MISSILE LEVEL E IMPACT RATED)
GENERAL & INSTALLATION NOTES

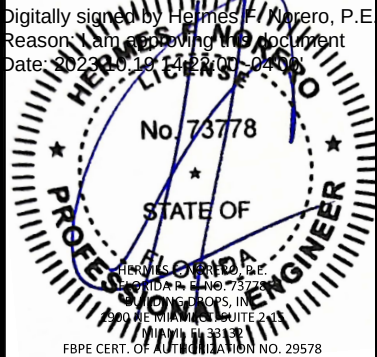
PREPARED BY:
BUILDING DROPS, INC.
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REMARKS	BY	DATE
2020 FBC UPDATES	NUS	08.18.20
ANCHOR UPDATE	SM	02.08.21
GUIDE RAIL UPDATE	MS	04.07.22
2023 FBC UPDATE	MS	09.18.23

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Reason: I am approving this document
Date: 2023.10.10 14:24:00 -0400



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TABLE 1 - MAX ALLOWABLE DESIGN PRESSURE		
W/ END RETENTION		
TT MAX	POSITIVE	NEGATIVE
286.5	40	40
264	45	45
240	50	50
216	55	55
204	75	75
168	100	100
144	125	125
132	135	135
120	150	150
108	160	160
96	175	175
84	185	185
72	200	200
NOTES: 1. DESIGN PRESSURES MUST NOT EXCEED 200 PSF FOR END RETENTION SYSTEM. 2. SHUTTER SIZE (TT) MUST NOT EXCEED 286.5".		
MULTIPLE SHUTTER NOTES: 1. USE TABLE 1 TO VERIFY MAXIMUM ALLOWABLE PRESSURE. 2. USE TABLE 2, 3 & 4 TO SELECT INTERMEDIATE AND END MULLIONS. 3. SELECT PROPER MULLION ANCHORAGE.		

DESIGN PRESSURE RATINGS

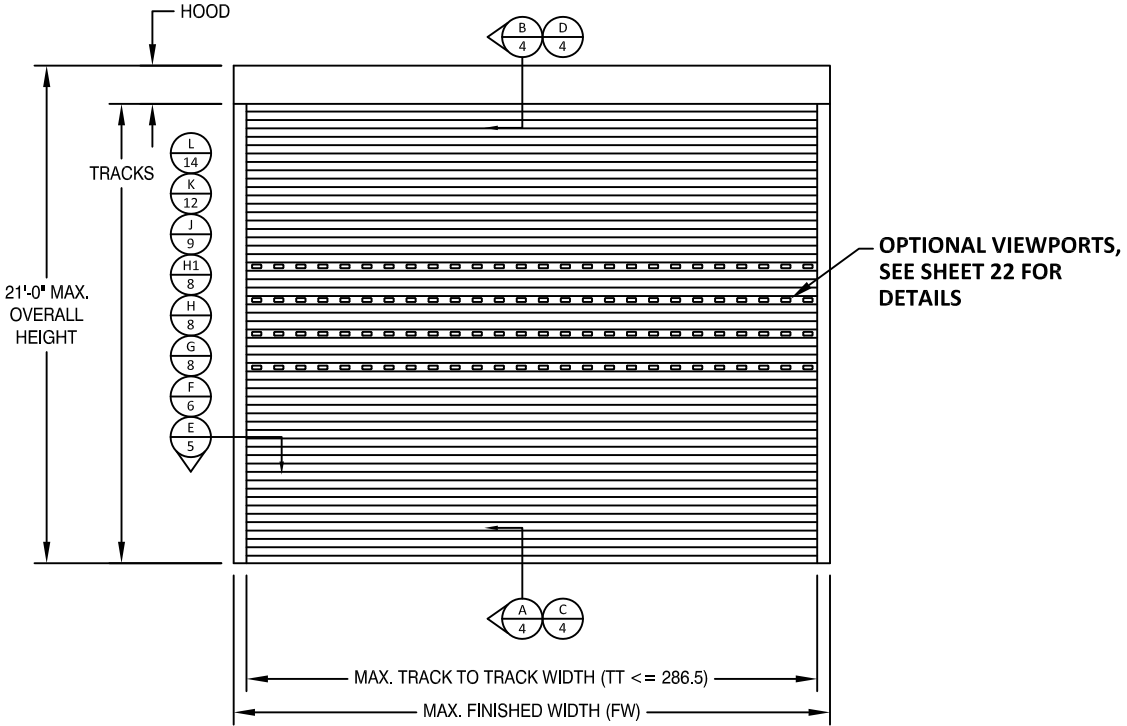
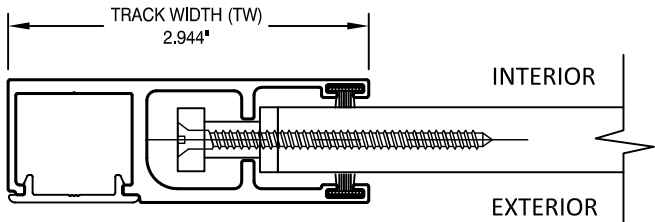


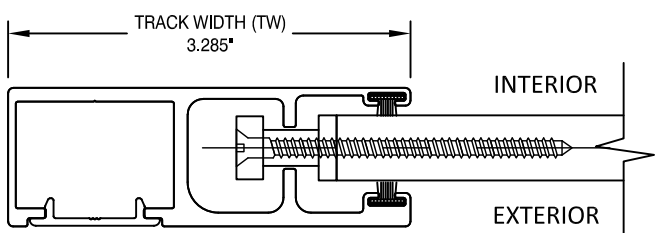
TABLE 2: GLASS SEPARATION (GS) INCHES													
LOAD (PSF)	TRACK TO TRACK (IN)												
	72	84	96	108	120	132	144	168	204	216	240	264	286.5
40	5.13	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	8.13	8.13	9.50	12.25
45	5.13	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.50	8.13	8.50	10.75	-
50	5.13	6.31	6.31	6.31	6.31	6.31	6.31	6.31	7.00	7.75	9.50	-	-
55	5.13	6.31	6.31	6.31	6.31	6.31	6.31	6.31	7.75	8.50	-	-	-
75	5.13	6.31	6.31	6.31	6.31	6.31	6.31	7.00	10.25	-	-	-	-
100	5.13	6.31	6.31	6.31	6.31	6.75	7.50	9.00	-	-	-	-	-
125	5.75	6.31	6.50	7.00	7.50	8.25	9.00	-	-	-	-	-	-
135	6.00	6.50	7.00	7.50	8.25	8.75	-	-	-	-	-	-	-
150	6.75	7.25	7.75	8.25	9.00	-	-	-	-	-	-	-	-
160	7.00	7.50	8.25	8.75	-	-	-	-	-	-	-	-	-
175	7.75	8.25	8.75	-	-	-	-	-	-	-	-	-	-
185	8.00	8.50	-	-	-	-	-	-	-	-	-	-	-
200	8.75	-	-	-	-	-	-	-	-	-	-	-	-

- NOTES:
- GLASS SEPARATION REQUIREMENTS PER ABOVE TABLE SHALL ONLY APPLY FOR ESSENTIAL FACILITIES IN WIND ZONES 1, 2 AND 3 PER THE FLORIDA BUILDING CODE AND ASTM E1996 REQUIREMENTS. FOR NON-ESSENTIAL FACILITIES IN WIND ZONES 1, 2 OR 3, INSTALLATION SHALL PROVIDE MINIMUM 1" SEPARATION FROM GLASS IN COMPLIANCE WITH FBC REQUIREMENTS FOR NON POROUS IMPACT PROTECTIVE SYSTEMS
 - MINIMUM GLASS SEPARATION BASED ON MAXIMUM DEFLECTION + 1".
 - ANALYSIS IS LIMITED BY DEFLECTION UNDER STRUCTURAL LOADS AS WELL AS DEFLECTION DUE TO MISSILE LEVEL E LARGE MISSILE IMPACTS.
 - APPROPRIATE INSTALLATION METHOD SHALL BE USED TO ACHIEVE THE REQUIRED SEPARATION IN THE ABOVE TABLE



SMALL GUIDE RAIL WITH END RETENTION

SECTION DETAILS ON FOLLOWING SHEETS SHOW LARGE GUIDE RAIL, SMALL GUIDE RAIL IS ALSO QUALIFIED FOR ANY MOUNTING CONDITION.



LARGE GUIDE RAIL WITH END RETENTION

DETAILS SHOWN HERE AND SECTION DETAILS ON FOLLOWING SHEETS SHOW OPEN GUIDE RAILS, ENCLOSED GUIDE RAILS ARE QUALIFIED FOR ANY APPROVED CONDITIONS. SEE B.O.M., SHEET 23 FOR DETAILS.

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TITLE:
55 MMER ROLL SHUTTERS
(WZ3) (MISSILE LEVEL E IMPACT RATED)
ELEVATION & DESIGN PRESSURE
TABLE

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BD
BUILDING DROPS

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HERMES F. NORERO
LICENSE
No. 73778
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
HERMES F. NORERO, P.E.
FLORIDA P.E. NO. 73778
BUILDING DROPS, INC.
1900 NE MIAMI CT. SUITE 2-15
MIAMI, FL 33132
FBPE CERT. OF AUTHORIZATION NO. 29578

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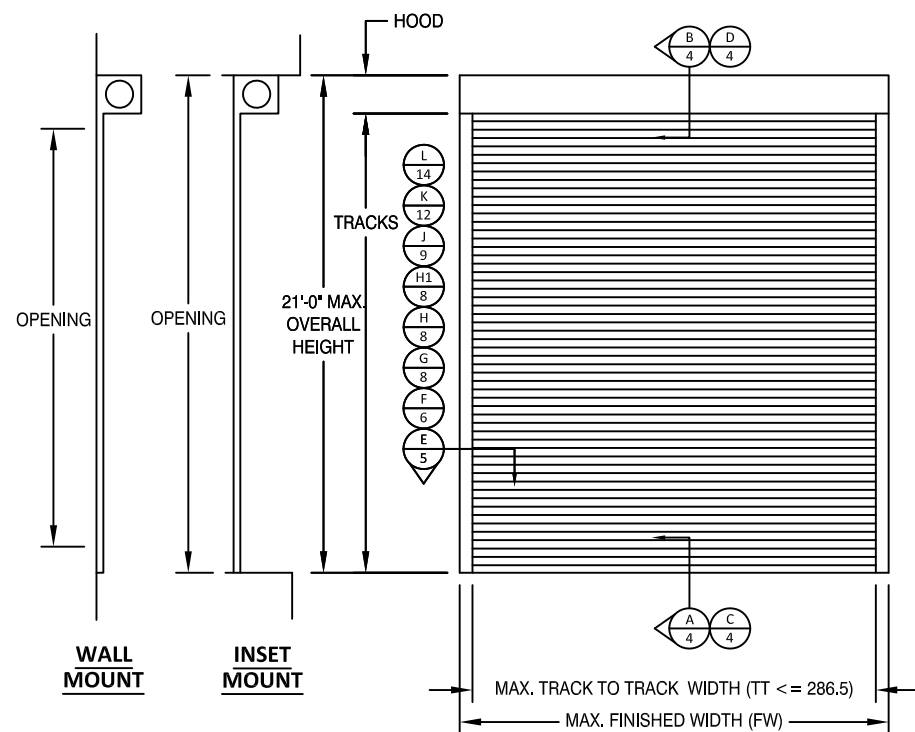
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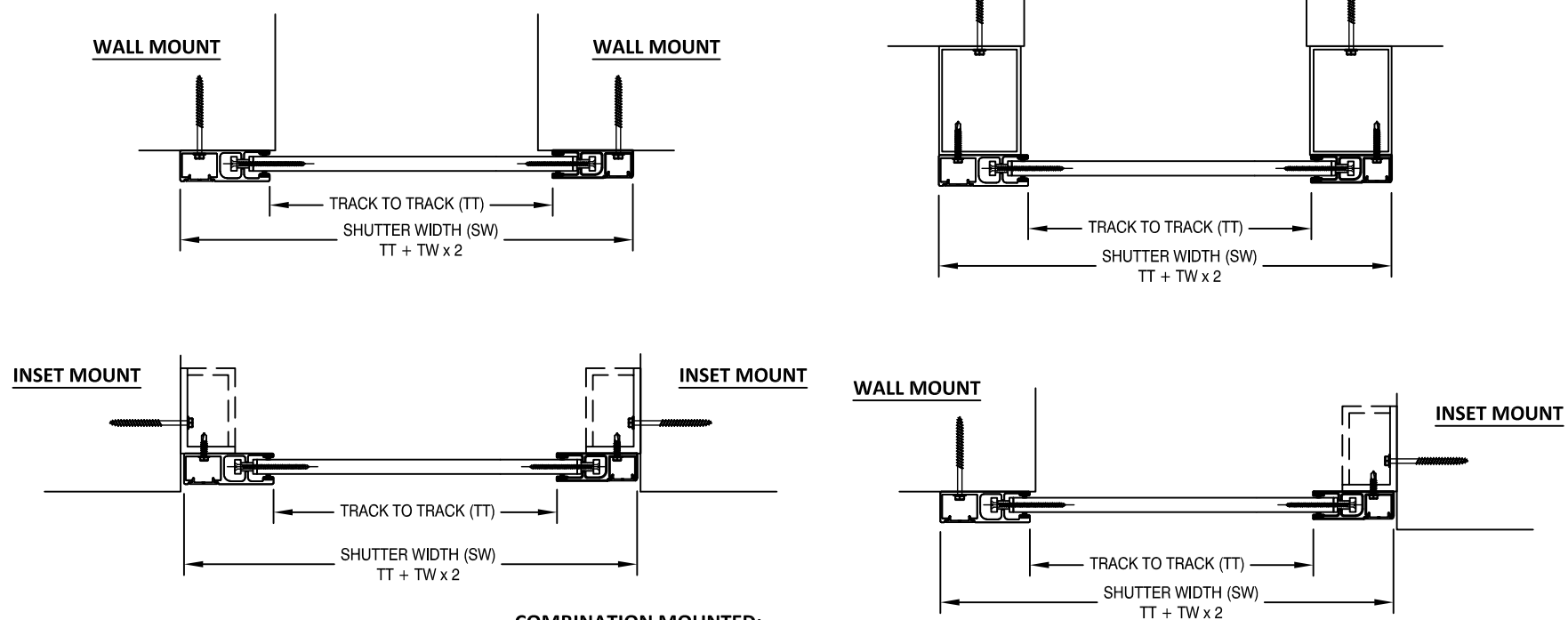
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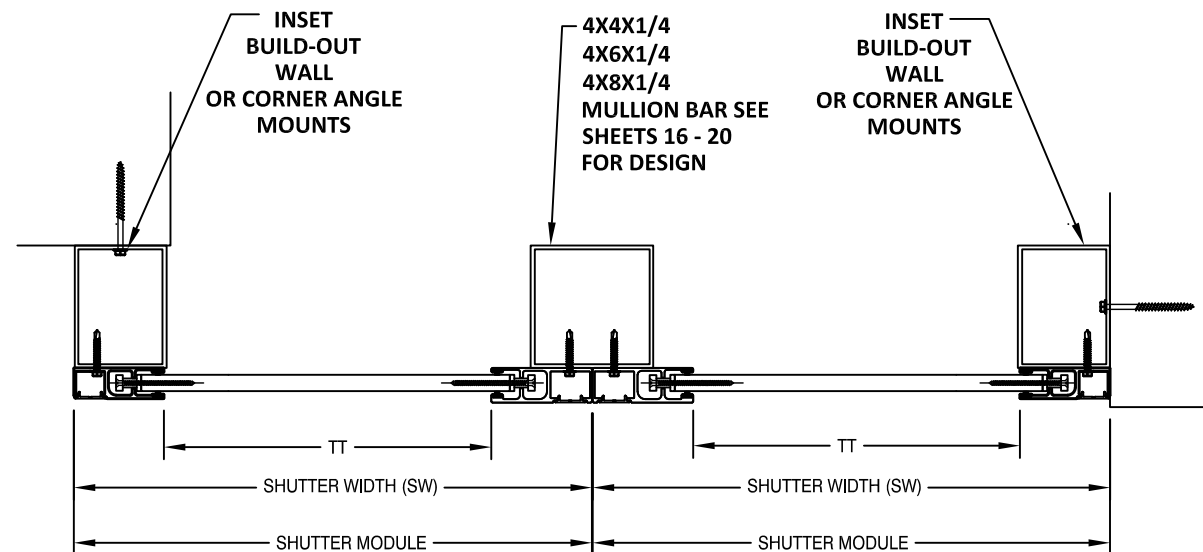
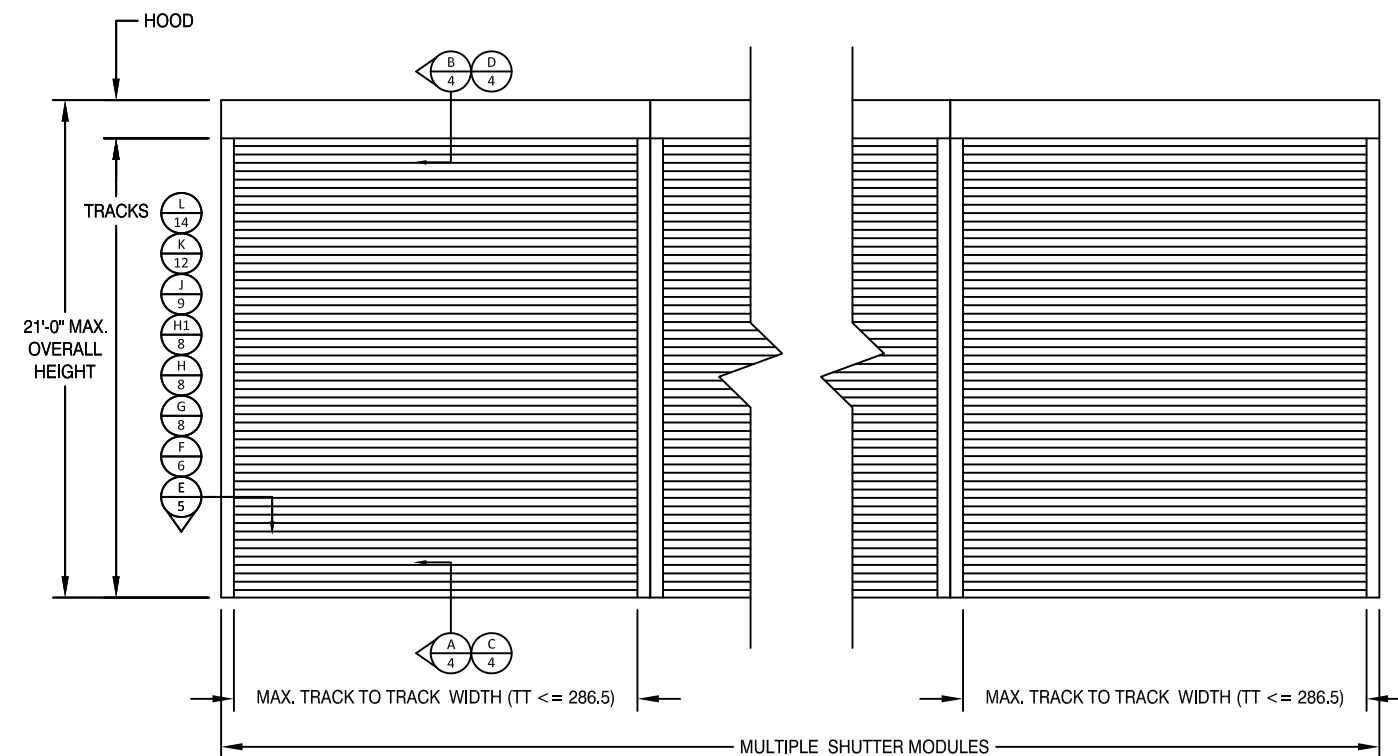
SHEET: 2 OF 23



TYPICAL SINGLE UNIT ELEVATION



TYPICAL MULTIPLE UNITS ELEVATION



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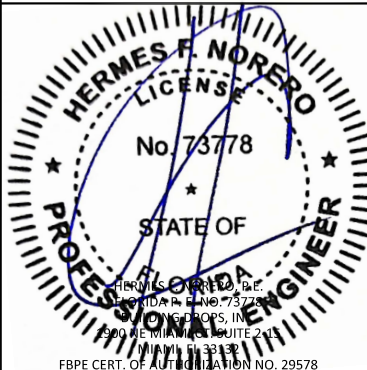
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TYPICAL VERTICAL SECTIONS



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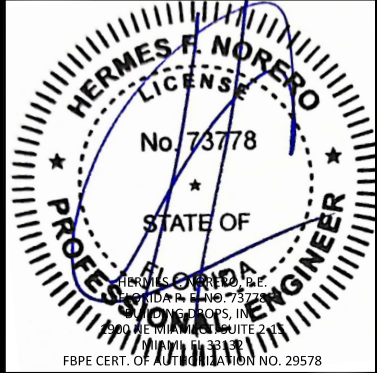
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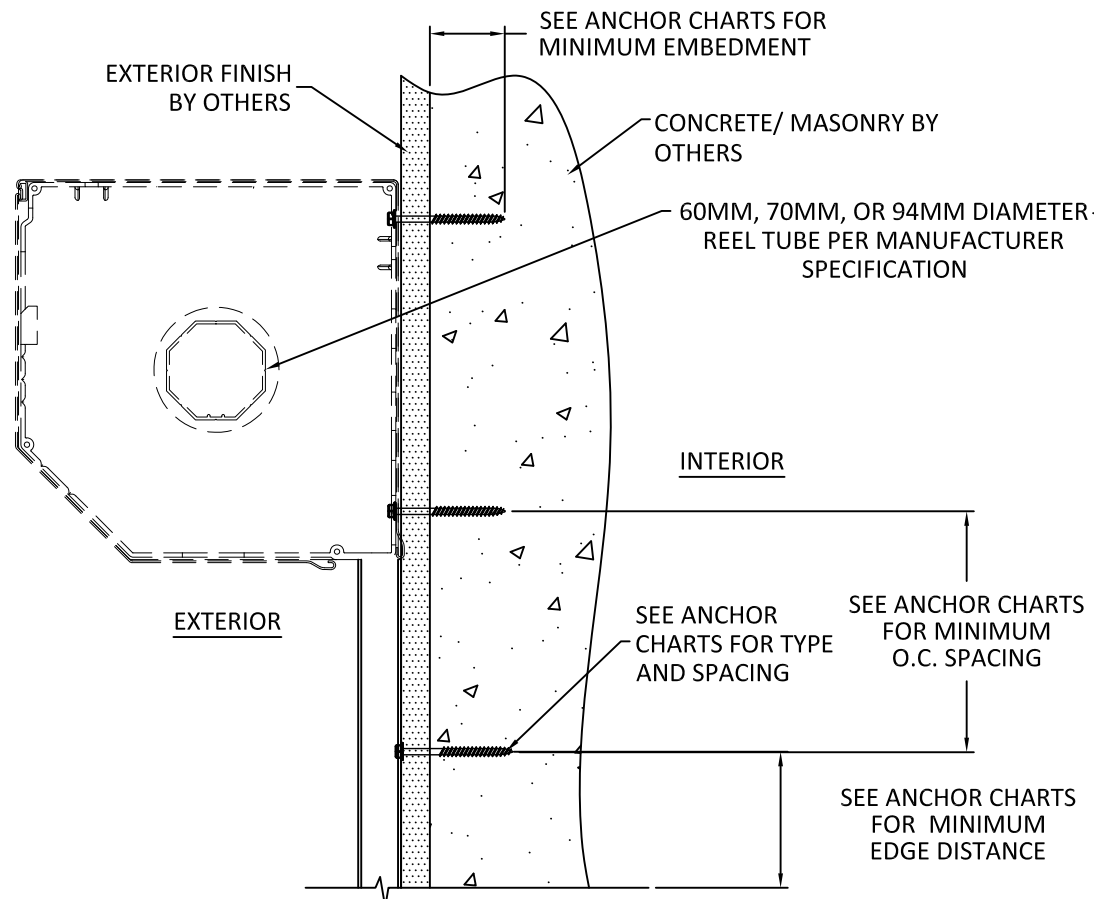
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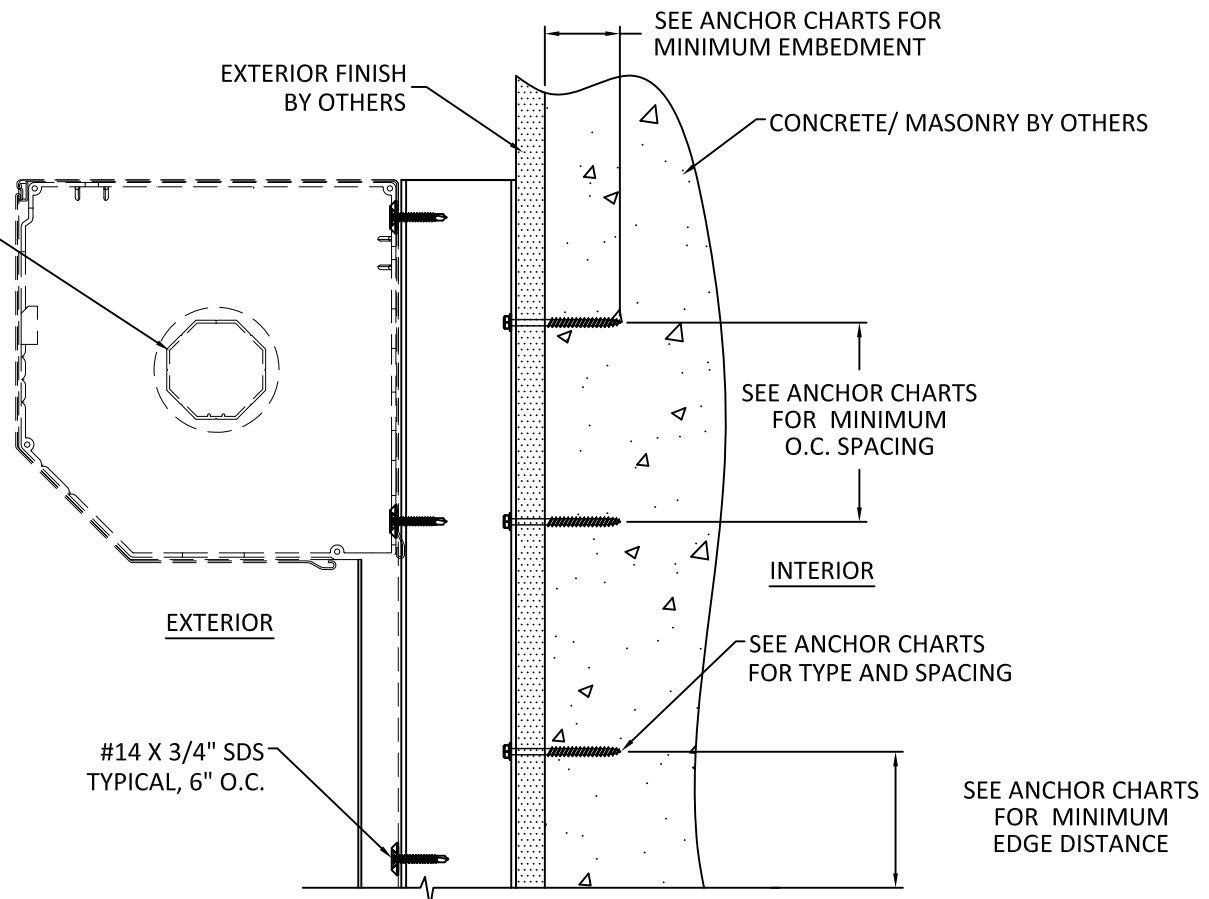


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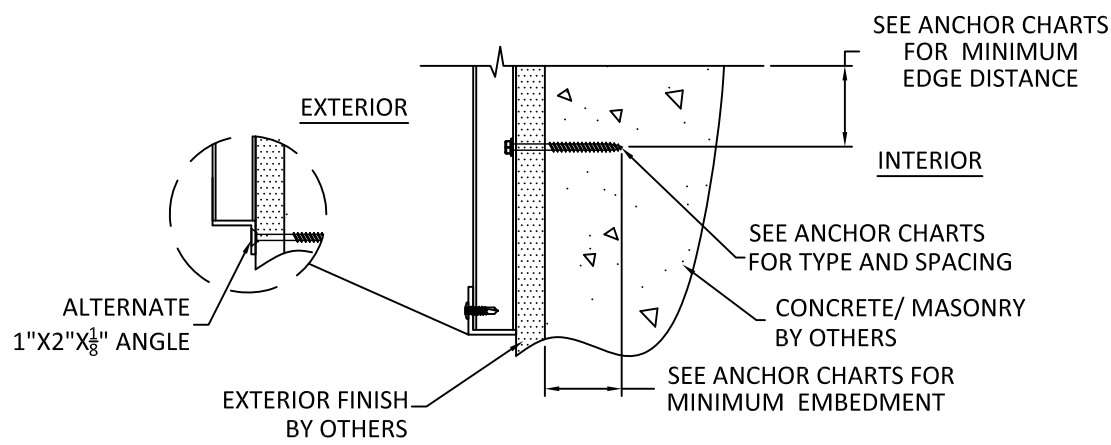
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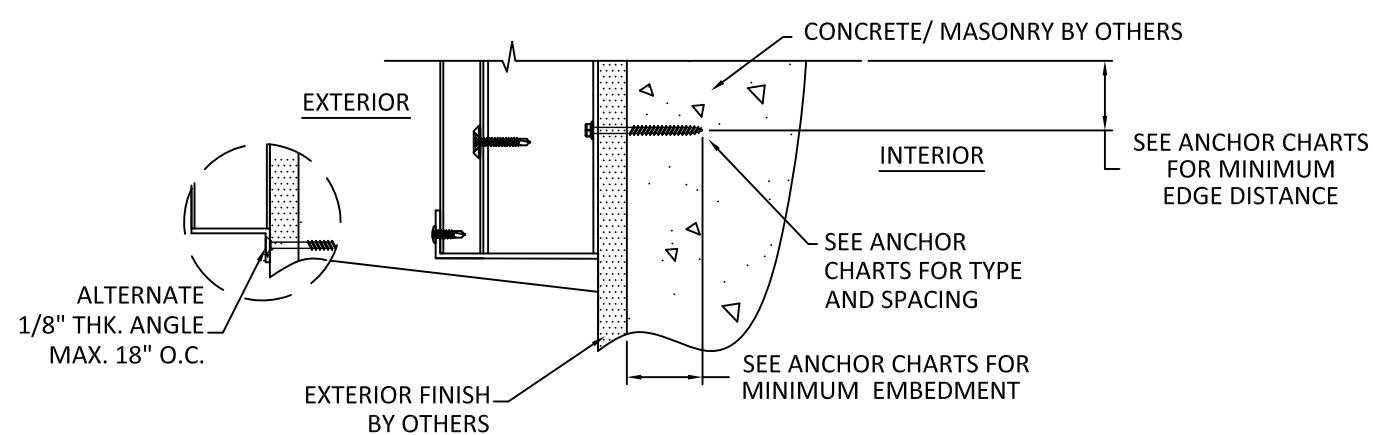
B
4 VERTICAL SECTION
MASONRY/CONCRETE SUBSTRATE - WALL MOUNT
SEE CHARTS ON SHEETS 5, 6, 8, 12 & 14
FOR OTHER SUBSTRATES



D
4 VERTICAL SECTION
MASONRY/CONCRETE SUBSTRATE - BUILDOUT
SEE CHARTS ON SHEETS 5, 6, 8, 12 & 14
FOR OTHER SUBSTRATES



A
4 VERTICAL SECTION
MASONRY/CONCRETE SUBSTRATE - WALL MOUNT
SEE CHARTS ON SHEETS 5, 6 & 8, 12 & 14
FOR OTHER SUBSTRATES

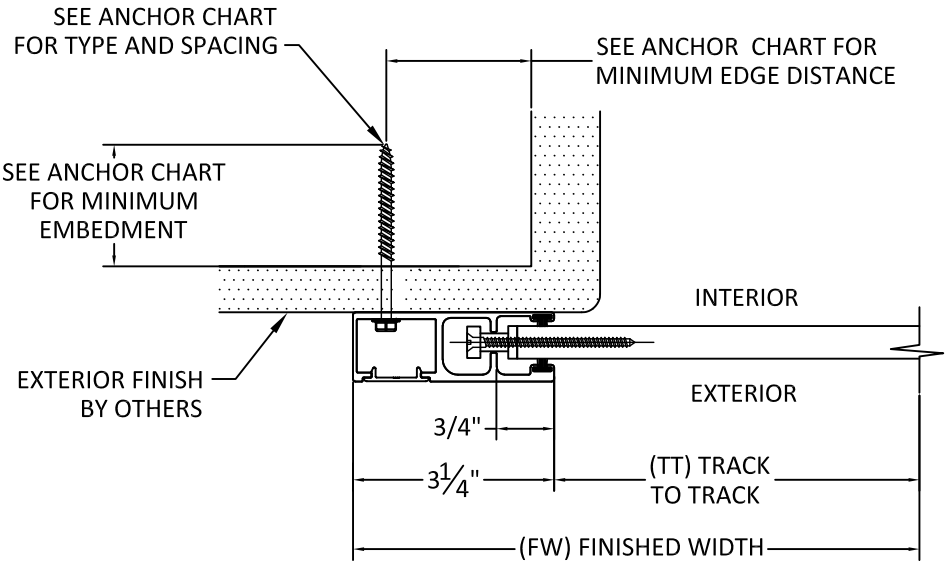


C
4 VERTICAL SECTION
MASONRY/CONCRETE SUBSTRATE - BUILDOUT
SEE CHARTS ON SHEETS 5, 6, 8, 12 & 14
FOR OTHER SUBSTRATES

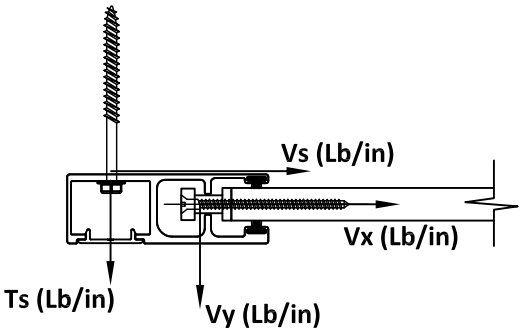
- NOTES:
1. SLATS NOT SHOWN FOR CLARITY
 2. REVERSED INSTALLATION IS ACCEPTABLE

TABLE 3 - ANCHOR SPACING				ANCHOR TYPE & SPACING										ANCHOR TYPE & SPACING									
				WALL - MOUNT 1										1x3, 1x4, 2X4, 3X4, 3X3 OR 4X4 BO - MOUNT 2									
TT	PD	Vx	Vy	Vs	Ts	A	B	C	D	E	F	G	H	Vs	Ts	A	B	C	D	E	F	G	H
72	40	0.0	10.9	0.0	39.3	10	10	10	10	10	10	10	10	0.0	9.3	10	10	10	10	10	10	10	10
	45	0.0	12.3	0.0	44.2	10	10	10	10	10	10	10	10	0.0	10.4	10	10	10	10	10	10	10	10
	50	0.0	13.6	0.0	49.1	10	10	10	10	10	10	10	10	0.0	11.6	10	10	10	10	10	10	10	10
	55	0.0	15.0	0.0	54.0	10	10	10	10	10	10	10	10	0.0	12.8	10	10	10	10	10	10	10	10
	60	0.0	16.4	0.0	58.9	10	10	10	10	10	10	10	10	0.0	13.9	10	10	10	10	10	10	10	10
	65	0.0	17.7	0.0	63.9	10	10	10	10	10	10	10	10	0.0	15.1	10	10	10	10	10	10	10	10
	70	0.0	19.1	0.0	68.8	10	10	10	10	10	10	10	10	0.0	16.2	10	10	10	10	10	10	10	10
	75	0.0	20.5	0.0	73.7	10	10	10	10	10	10	10	10	0.0	17.4	10	10	10	10	10	10	10	10
	80	0.0	21.8	0.0	78.6	10	10	10	10	10	10	10	10	0.0	18.6	10	10	10	10	10	10	10	10
	85	0.0	23.2	0.0	83.5	10	10	10	10	10	10	10	9	0.0	19.7	10	10	10	10	10	10	10	10
	90	0.0	24.6	0.0	88.4	10	10	10	10	10	10	10	8	0.0	20.9	10	10	10	10	10	10	10	10
	95	138.3	25.9	138.3	38.9	10	10	4	10	10	10	10	4	138.3	333.8	10	3	-	-	-	-	3	-
	100	138.3	27.3	138.3	39.4	10	10	4	10	10	10	10	4	138.3	334.5	10	3	-	-	-	-	3	-
	105	138.3	28.6	138.3	40.0	10	10	4	10	10	10	10	4	138.3	335.1	10	3	-	-	-	-	3	-
	110	138.3	30.0	138.3	40.6	10	10	4	10	10	10	10	4	138.3	335.7	10	3	-	-	-	-	3	-
	115	138.3	31.4	138.3	41.1	10	10	4	10	10	10	10	4	138.3	336.4	10	3	-	-	-	-	3	-
	120	138.3	32.7	138.3	41.7	10	10	4	10	10	10	10	4	138.3	337.0	10	3	-	-	-	-	3	-
	125	138.3	34.1	138.3	42.2	10	10	4	10	10	10	10	4	138.3	337.7	10	3	-	-	-	-	3	-
	130	138.3	35.5	138.3	42.8	10	10	4	10	10	10	10	4	138.3	338.3	10	3	-	-	-	-	3	-
	135	138.3	36.8	138.3	43.4	10	10	4	10	10	10	10	4	138.3	338.9	10	3	-	-	-	-	3	-
	140	138.3	38.2	138.3	43.9	10	10	4	10	10	10	10	4	138.3	339.6	10	3	-	-	-	-	3	-
84	145	138.3	39.6	138.3	44.5	10	10	4	10	10	10	10	4	138.3	340.2	10	3	-	-	-	-	3	-
	150	138.3	40.9	138.3	45.0	10	10	4	10	10	10	10	4	138.3	340.8	10	3	-	-	-	-	3	-
	155	138.3	42.3	138.3	45.6	10	10	4	10	10	10	10	4	138.3	341.5	10	3	-	-	-	-	3	-
	160	138.3	43.7	138.3	46.2	10	10	4	10	10	10	10	4	138.3	342.1	10	3	-	-	-	-	3	-
	165	138.3	45.0	138.3	46.7	10	10	4	10	10	10	10	4	138.3	342.8	10	3	-	-	-	-	3	-
	170	138.3	46.4	138.3	47.3	10	10	4	10	10	10	10	4	138.3	343.4	10	3	-	-	-	-	3	-
	175	138.3	47.7	138.3	47.8	10	10	4	10	10	10	10	4	138.3	344.0	10	3	-	-	-	-	3	-
	180	138.3	49.1	138.3	48.4	10	10	4	10	10	10	10	4	138.3	344.7	10	3	-	-	-	-	3	-
	185	138.3	50.5	138.3	49.0	10	10	4	10	10	10	10	4	138.3	345.3	10	3	-	-	-	-	3	-
	190	138.3	51.8	138.3	49.5	10	10	4	10	10	10	10	4	138.3	346.0	10	3	-	-	-	-	3	-
	195	138.3	53.2	138.3	50.1	10	10	4	10	10	10	10	4	138.3	346.6	10	3	-	-	-	-	3	-
	200	138.3	54.6	138.3	50.7	10	10	4	10	10	10	10	4	138.3	347.2	10	3	-	-	-	-	3	-
	40	0.0	12.6	0.0	45.3	10	10	10	10	10	10	10	10	0.0	10.7	10	10	10	10	10	10	10	10
	45	0.0	14.2	0.0	51.0	10	10	10	10	10	10	10	10	0.0	12.0	10	10	10	10	10	10	10	10
	50	0.0	15.7	0.0	56.6	10	10	10	10	10	10	10	10	0.0	13.4	10	10	10	10	10	10	10	10
	55	0.0	17.3	0.0	62.3	10	10	10	10	10	10	10	10	0.0	14.7	10	10	10	10	10	10	10	10
	60	0.0	18.9	0.0	67.9	10	10	10	10	10	10	10	10	0.0	16.1	10	10	10	10	10	10	10	10
	65	0.0	20.4	0.0	73.6	10	10	10	10	10	10	10	10	0.0	17.4	10	10	10	10	10	10	10	10
	70	0.0	22.0	0.0	79.3	10	10	10	10	10	10	10	10	0.0	18.7	10	10	10	10	10	10	10	10
	75	0.0	23.6	0.0	84.9	10	10	10	10	10	10	10	9	0.0	20.1	10	10	10	10	10	10	10	10
	80	0.0	25.2	0.0	90.6	10	10	10	10	10	10	10	8	0.0	21.4	10	10	10	10	10	10	10	10
	85	0.0	26.7	0.0	96.3	10	10	10	10	10	10	10	7	0.0	22.7	10	10	10	10	10	10	10	10
	90	0.0	28.3	0.0	101.9	10	10	10	10	10	10	10	6	0.0	24.1	10	10	10	10	10	10	10	10
	95	170.2	29.9	170.2	47.0	10	10	3	8	8	7	10	3	170.2	409.9	8	-	-	-	-	-	-	-
	100	170.2	31.4	170.2	47.7	10	10	3	8	8	7	10	3	170.2	410.6	8	-	-	-	-	-	-	-
	105	170.2	33.0	170.2	48.3	10	10	3	8	8	7	10	3	170.2	411.4	8	-	-	-	-	-	-	-
	110	170.2	34.6	170.2	49.0	10	10	3	8	8	7	10	3	170.2	412.1	8	-	-	-	-	-	-	-
	115	170.2	36.2	170.2	49.6	10	10	3	8	8	7	10	3	170.2	412.8	8	-	-	-	-	-	-	-
	120	170.2	37.7	170.2	50.2	10	10	3	8	8	7	10	3	170.2	413.6	8	-	-	-	-	-	-	-
	125	170.2	39.3	170.2	50.9	10	10	3	8	8	7	10	3	170.2	414.3	8	-	-	-	-	-	-	-
	130	170.2	40.9	170.2	51.5	10	10	3	8	8	7	10	3	170.2	415.1	8	-	-	-	-	-	-	-
	135	170.2	42.5	170.2	52.2	10	10	3	8	8	7	10	3	170.2	415.8	8	-	-	-	-	-	-	-
	140	170.2	44.0	170.2	52.8	10	10	3	8	8	7	10	3	170.2	416.5	8	-	-	-	-	-	-	-
	145	170.2	45.6	170.2	53.5	10	10	3	8	8	7	10	3	170.2	417.3	8	-	-	-	-	-	-	-
	150	170.2	47.2	170.2	54.1	10	10	3	8	8	7	10	3	170.2	418.0	8	-	-	-	-	-	-	-
	155	170.2	48.7	170.2	54.8	10	10	3	8	8	7	10	3	170.2	418.7	8	-	-	-	-	-	-	-
	160	170.2	50.3	170.2	55.4	10	10	3	8	8	7	10	3	170.2	419.5	8	-	-	-	-	-	-	-
	165	170.2	51.9	170.2	56.1	10	10	3	7	8	7	10	3	170.2	420.2	8	-	-	-	-	-	-	-
	170	170.2	53.5	170.2	56.7	10	10	3	7	8	7	10	3	170.2	420.9	8	-	-	-	-	-	-	-
	175	170.2	55.0	170.2	57.4	10	10	3	7	8	7	10	3	170.2	421.7	8	-	-	-	-	-	-	-
	180	170.2	56.6	170.2	58.0	10	10	3	7	8	7	10	3	170.2	422.4	8	-	-	-	-	-	-	-
	185	170.2	58.2	170.2	58.6	10	10	3	7	8	7	10	3	170.2	423.1	8	-	-	-	-	-	-	-

TYPICAL HORIZONTAL SECTIONS
WALL MOUNT



E
5
HORIZONTAL SECTION
MOUNT TYPE 1
WALL MOUNT
*WITH END RETENTION

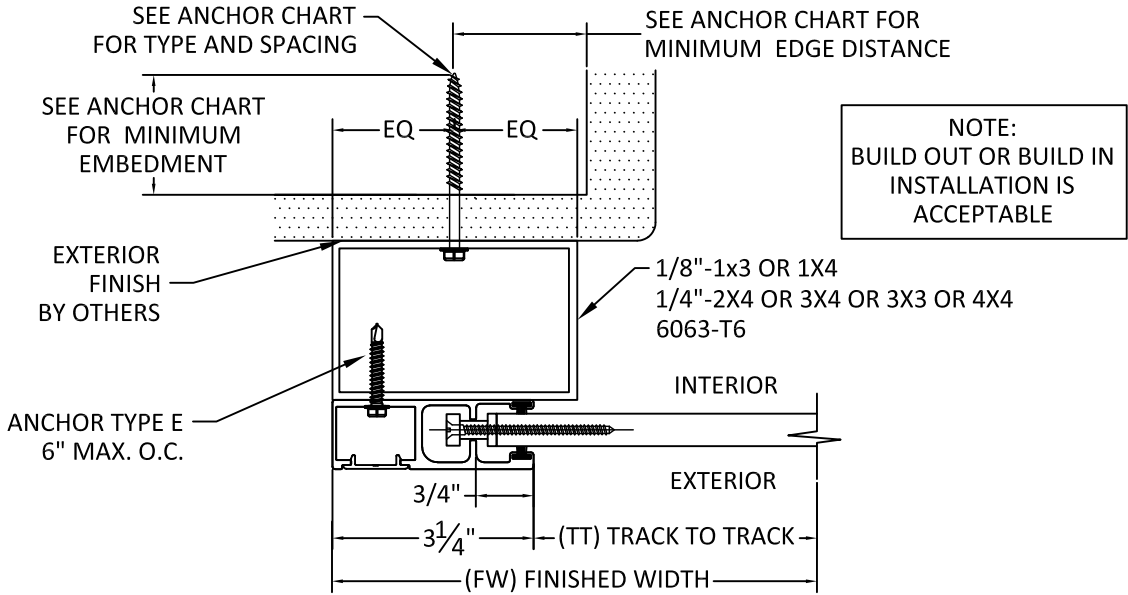


CONTRACTOR TO VERIFY ADEQUACY OF STRUCTURE
NOTE: LOADS Vy AND Vx ARE LOADS IMPOSED BY
SLAT ON TRACK. LOADS Ts AND Vs ARE LOADS
IMPOSED ON STRUCTURE BY ANCHORS.

ANCHOR	DESCRIPTION	MATERIAL	EDGE DISTANCE	EMBEDMENT
A	3/8" DEWALT/POWERS SCREW-BOLT+	MIN. 3000 PSI CONCRETE	3 3/4"	3 1/2"
B	5/16" ITW TAPCON	MIN. 3000 PSI CONCRETE	2 3/16"	2 1/4"
C	3/8" DEWALT/POWERS SCREW-BOLT+	GROUT FILLED C-90 BLOCK, f'm ≥ 1500 PSI	2"	2 1/2"
D	5/16" ITW TAPCON	GROUT FILLED C-90 BLOCK, f'm ≥ 2000 PSI	4"	2 1/4"
E	#14 DEWALT/ELCO DRIL-FLEX SELF-DRILLING SCREW	MIN. 1/4" 6063-T6 ALUM.	1/2"	3 THREADS PENETRATION
		MIN. 3/16" A36 STEEL	3/8"	
F	5/16" DEWALT/ELCO ULTRACON	WOOD, MIN. SG = 0.55	1 1/2"	2"
G	5/16" DEWALT/ELCO ULTRACON	MIN. 3515 PSI CONCRETE	3 1/8"	2"
H	5/16" DEWALT/ELCO ULTRACON	GROUT FILLED C-90 BLOCK, f'm ≥ 1500 PSI	2 1/2"	2 1/4"

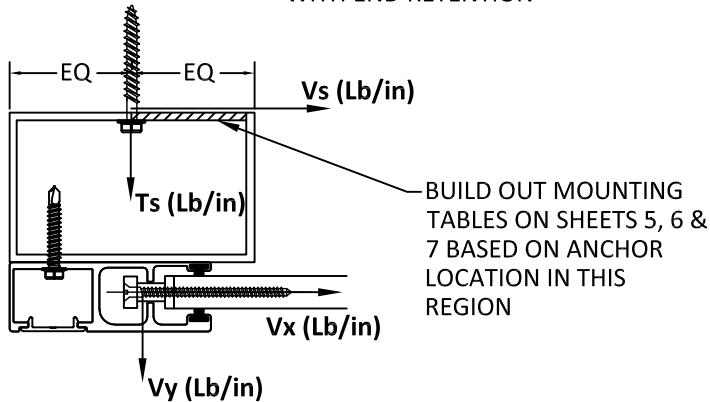
TABLE 3 - ANCHOR SPACING				ANCHOR TYPE & SPACING WALL - MOUNT 1										ANCHOR TYPE & SPACING 1x3, 1x4, 2X4, 3X4, 3X3 OR 4X4 BO - MOUNT 2									
TT	PD	Vx	Vy	Vs	Ts	A	B	C	D	E	F	G	H	Vs	Ts	A	B	C	D	E	F	G	H
96	40	0.0	14.2	0.0	51.3	10	10	10	10	10	10	10	10	0.0	12.1	10	10	10	10	10	10	10	10
	45	0.0	16.0	0.0	57.7	10	10	10	10	10	10	10	10	0.0	13.6	10	10	10	10	10	10	10	10
	50	0.0	17.8	0.0	64.1	10	10	10	10	10	10	10	10	0.0	15.1	10	10	10	10	10	10	10	10
	55	0.0	19.6	0.0	70.5	10	10	10	10	10	10	10	10	0.0	16.7	10	10	10	10	10	10	10	10
	60	0.0	21.4	0.0	76.9	10	10	10	10	10	10	10	10	0.0	18.2	10	10	10	10	10	10	10	10
	65	0.0	23.1	0.0	83.4	10	10	10	10	10	10	10	9	0.0	19.7	10	10	10	10	10	10	10	10
	70	0.0	24.9	0.0	89.8	10	10	10	10	10	10	10	8	0.0	21.2	10	10	10	10	10	10	10	10
	75	0.0	26.7	0.0	96.2	10	10	10	10	10	10	10	7	0.0	22.7	10	10	10	10	10	10	10	10
	80	0.0	28.5	0.0	102.6	10	10	10	10	10	10	10	6	0.0	24.2	10	10	10	10	10	10	10	10
	85	0.0	30.3	0.0	109.0	10	10	10	10	10	10	10	6	0.0	25.8	10	10	10	10	10	10	10	10
	90	0.0	32.1	0.0	115.4	10	10	10	10	10	10	10	5	0.0	27.3	10	10	10	10	10	10	10	10
	95	201.5	33.8	201.5	55.0	10	9	-	6	6	5	9	-	201.5	484.6	6	-	-	-	-	-	-	-
	100	201.5	35.6	201.5	55.8	10	9	-	6	6	5	9	-	201.5	485.4	6	-	-	-	-	-	-	-
	105	201.5	37.4	201.5	56.5	10	9	-	6	6	5	9	-	201.5	486.3	6	-	-	-	-	-	-	-
	110	201.5	39.2	201.5	57.2	10	9	-	6	6	5	9	-	201.5	487.1	6	-	-	-	-	-	-	-
	115	201.5	41.0	201.5	58.0	10	9	-	6	6	5	9	-	201.5	487.9	6	-	-	-	-	-	-	-
	120	201.5	42.7	201.5	58.7	10	9	-	6	6	5	9	-	201.5	488.8	6	-	-	-	-	-	-	-
	125	201.5	44.5	201.5	59.4	10	9	-	6	6	5	9	-	201.5	489.6	6	-	-	-	-	-	-	-
	130	201.5	46.3	201.5	60.2	10	9	-	6	6	5	9	-	201.5	490.4	6	-	-	-	-	-	-	-
	135	201.5	48.1	201.5	60.9	10	9	-	6	6	5	9	-	201.5	491.3	6	-	-	-	-	-	-	-
	140	201.5	49.9	201.5	61.6	10	9	-	6	6	5	9	-	201.5	492.1	6	-	-	-	-	-	-	-
	145	201.5	51.6	201.5	62.4	10	9	-	6	6	5	9	-	201.5	492.9	6	-	-	-	-	-	-	-
108	150	201.5	53.4	201.5	63.1	10	8	-	6	6	5	9	-	201.5	493.8	6	-	-	-	-	-	-	-
	155	201.5	55.2	201.5	63.8	10	8	-	6	6	5	9	-	201.5	494.6	6	-	-	-	-	-	-	-
	160	201.5	57.0	201.5	64.5	10	8	-	6	6	5	9	-	201.5	495.4	6	-	-	-	-	-	-	-
	165	201.5	58.8	201.5	65.3	10	8	-	6	6	5	9	-	201.5	496.3	6	-	-	-	-	-	-	-
	170	201.5	60.5	201.5	66.0	10	8	-	6	6	5	9	-	201.5	497.1	6	-	-	-	-	-	-	-
	175	201.5	62.3	201.5	66.7	10	8	-	6	6	5	9	-	201.5	497.9	6	-	-	-	-	-	-	-
	40	0.0	15.9	0.0	57.3	10	10	10	10	10	10	10	10	0.0	13.5	10	10	10	10	10	10	10	10
	45	0.0	17.9	0.0	64.5	10	10	10	10	10	10	10	10	0.0	15.2	10	10	10	10	10	10	10	10
	50	0.0	19.9	0.0	71.6	10	10	10	10	10	10	10	10	0.0	16.9	10	10	10	10	10	10	10	10
	55	0.0	21.9	0.0	78.8	10	10	10	10	10	10	10	10	0.0	18.6	10	10	10	10	10	10	10	10
	60	0.0	23.9	0.0	85.9	10	10	10	10	10	10	10	9	0.0	20.3	10	10	10	10	10	10	10	10
	65	0.0	25.9	0.0	93.1	10	10	10	10	10	10	10	7	0.0	22.0	10	10	10	10	10	10	10	10
	70	0.0	27.8	0.0	100.3	10	10	10	10	10	10	10	7	0.0	23.7	10	10	10	10	10	10	10	10
	75	0.0	29.8	0.0	107.4	10	10	10	10	10	10	10	6	0.0	25.4	10	10	10	10	10	10	10	10
	80	0.0	31.8	0.0	114.6	10	10	10	10	10	10	10	5	0.0	27.1	10	10	10	10	10	10	10	10
	85	0.0	33.8	0.0	121.8	10	10	10	10	10	10	10	5	0.0	28.8	10	10	10	10	10	10	10	10
	90	0.0	35.8	0.0	128.9	10	10	10	10	10	10	10	4	0.0	30.5	10	10	10	10	10	10	10	10
	95	231.2	37.8	231.2	62.7	10	7	-	4	5	4	7	-	231.2	555.5	5	-	-	-	-	-	-	-
	100	231.2	39.8	231.2	63.5	10	7	-	4	5	4	7	-	231.2	556.5	5	-	-	-	-	-	-	-
	105	231.2	41.8	231.2	64.4	10	7	-	4	5	4	7	-	231.2	557.4	5	-	-	-	-	-	-	-
	110	231.2	43.8	231.2	65.2	10	7	-	4	5	4	7	-	231.2	558.3	5	-	-	-	-	-	-	-
	115	231.2	45.7	231.2	66.0	10	7	-	4	5	4	7	-	231.2	559.3	5	-	-	-	-	-	-	-
	120	231.2	47.7	231.2	66.8	10	7	-	4	5	4	7	-	231.2	560.2	5	-	-	-	-	-	-	-
	125	231.2	49.7	231.2	67.6	10	7	-	4	5	4	7	-	231.2	561.1	5	-	-	-	-	-	-	-
	130	231.2	51.7	231.2	68.4	10	7	-	4	5	4	7	-	231.2	562.1	5	-	-	-	-	-	-	-
	135	231.2	53.7	231.2	69.3	10	7	-	4	5	4	7	-	231.2	563.0	5	-	-	-	-	-	-	-
	140	231.2	55.7	231.2	70.1	10	7	-	4	5	4	7	-	231.2	563.9	5	-	-	-	-	-	-	-
	145	231.2	57.7	231.2	70.9	10	7	-	4	5	4	7	-	231.2	564.8	5	-	-	-	-	-	-	-
	150	231.2	59.7	231.2	71.7	10	7	-	4	5	4	7	-	231.2	565.8	5	-	-	-	-	-	-	-
	155	231.2	61.7	231.2	72.5	10	7	-	4	5	4	7	-	231.2	566.7	5	-	-	-	-	-	-	-
	160	231.2	63.7	231.2	73.3	10	7	-	4	5	4	7	-	231.2	567.6	5	-	-	-	-	-	-	-

TYPICAL HORIZONTAL SECTIONS
BUILD OUT



F
6
HORIZONTAL SECTION

MOUNT TYPE 2
BUILD-OUT MOUNT
*WITH END RETENTION



CONTRACTOR TO VERIFY ADEQUACY OF STRUCTURE
NOTE: LOADS Vy AND Vx ARE LOADS IMPOSED BY
SLAT ON TRACK. LOADS Ts AND Vs ARE LOADS
IMPOSED ON STRUCTURE BY ANCHORS.

ANCHOR	DESCRIPTION	MATERIAL	EDGE DISTANCE	EMBEDMENT
A	3/8" DEWALT/POWERS SCREW-BOLT+	MIN. 3000 PSI CONCRETE	3 3/4"	3 1/2"
B	5/16" ITW TAPCON	MIN. 3000 PSI CONCRETE	2 3/16"	2 1/4"
C	3/8" DEWALT/POWERS SCREW-BOLT+	GROUT FILLED C-90 BLOCK, f'm ≥ 1500 PSI	2"	2 1/2"
D	5/16" ITW TAPCON	GROUT FILLED C-90 BLOCK, f'm ≥ 2000 PSI	4"	2 1/4"
E	#14 DEWALT/ELCO DRIL-FLEX SELF-DRILLING SCREW	MIN. 1/4" 6063-T6 ALUM.	1/2"	3 THREADS PENETRATION
		MIN. 3/16" A36 STEEL	3/8"	
F	5/16" DEWALT/ELCO ULTRACON	WOOD, MIN. SG = 0.55	1 1/2"	2"
G	5/16" DEWALT/ELCO ULTRACON	MIN. 3515 PSI CONCRETE	3 1/8"	2"
H	5/16" DEWALT/ELCO ULTRACON	GROUT FILLED C-90 BLOCK, f'm ≥ 1500 PSI	2 1/2"	2 1/4"

ASSA

4268 WESTROADS DRIVE
WEST PALM BEACH, FL 33407
PH: 1-800-432-2204
FAX: 561-841-0852

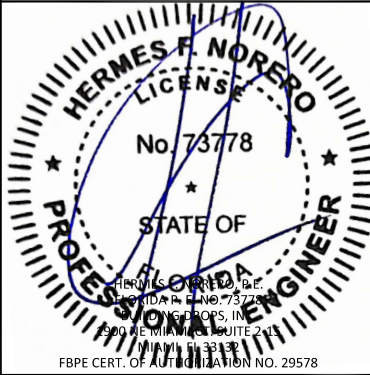
TITLE:
55 MMER ROLL SHUTTERS
(WZ3) (MISSILE LEVEL E IMPACT RATED)
WALL MOUNT & BUILD OUT
ANCHOR SPACING

PREPARED BY:
BUILDING DROPS, INC.
1900 NE MIAMI CT. SUITE 2-15
MIAMI, FL 33132
PH: (954) 399-8478
FAX: (954) 744-4738
WEB: www.buildingdrops.com



REMARKS	BY	DATE
2020 FBC UPDATES	NUS	08.18.20
ANCHOR UPDATE	SM	02.08.21
GUIDE RAIL UPDATE	MS	04.07.22
2023 FBC UPDATE	MS	09.18.23

THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC
AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC
SITE. IF SITE CONDITIONS CAUSE INSTALLATION TO DEVIATE
FROM THE REQUIREMENTS DETAILED HEREIN, A LICENSED
ENGINEER OR ARCHITECT SHALL PREPARE SITE SPECIFIC
DOCUMENTS FOR USE WITH THIS DOCUMENT.



FL22558

DATE: 06.06.17

DWG. BY: SM
CHK. BY: HFN

SCALE: NTS

DWG. #: EMS002

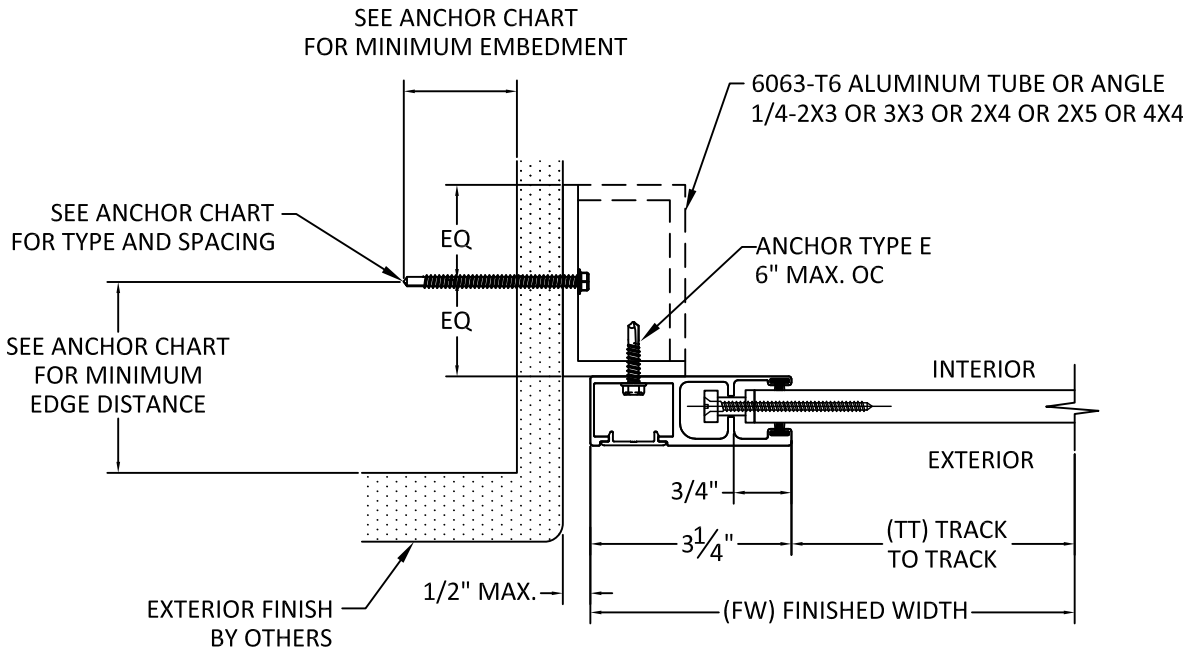
SHEET: OF 23

6

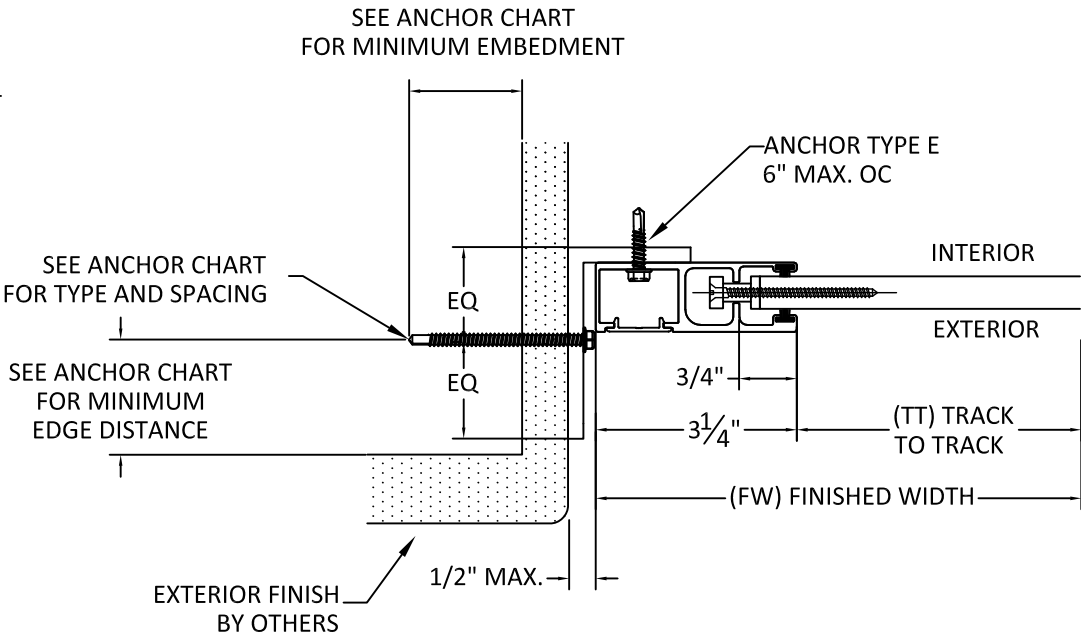
TABLE 3 - ANCHOR SPACING				ANCHOR TYPE & SPACING WALL - MOUNT 1										ANCHOR TYPE & SPACING 1x3, 1x4, 2X4, 3X4, 3X3 OR 4X4 BO - MOUNT 2									
TT	PD	Vx	Vy	Vs	Ts	A	B	C	D	E	F	G	H	Vs	Ts	A	B	C	D	E	F	G	H
120	40	0.0	17.6	0.0	63.3	10	10	10	10	10	10	10	10	0.0	15.0	10	10	10	10	10	10	10	10
	45	0.0	19.8	0.0	71.2	10	10	10	10	10	10	10	10	0.0	16.8	10	10	10	10	10	10	10	10
	50	0.0	22.0	0.0	79.1	10	10	10	10	10	10	10	10	0.0	18.7	10	10	10	10	10	10	10	10
	55	0.0	24.2	0.0	87.0	10	10	10	10	10	10	10	8	0.0	20.6	10	10	10	10	10	10	10	10
	60	0.0	26.4	0.0	94.9	10	10	10	10	10	10	10	7	0.0	22.4	10	10	10	10	10	10	10	10
	65	0.0	28.6	0.0	102.9	10	10	10	10	10	10	10	6	0.0	24.3	10	10	10	10	10	10	10	10
	70	0.0	30.8	0.0	110.8	10	10	10	10	10	10	10	5	0.0	26.2	10	10	10	10	10	10	10	10
	75	0.0	33.0	0.0	118.7	10	10	10	10	10	10	10	5	0.0	28.0	10	10	10	10	10	10	10	10
	80	0.0	35.2	0.0	126.6	10	10	10	10	10	10	10	4	0.0	29.9	10	10	10	10	10	10	10	10
	85	0.0	37.4	0.0	134.5	10	10	10	10	10	10	10	4	0.0	31.8	10	10	10	10	10	10	10	10
	90	258.3	39.6	258.3	69.0	9	6	-	4	4	3	6	-	258.3	619.5	4	-	-	-	-	-	-	-
	95	258.3	41.8	258.3	69.9	9	6	-	4	4	3	6	-	258.3	620.6	4	-	-	-	-	-	-	-
	100	258.3	43.9	258.3	70.8	9	6	-	4	4	3	6	-	258.3	621.6	4	-	-	-	-	-	-	-
	105	258.3	46.1	258.3	71.7	9	6	-	4	4	3	6	-	258.3	622.6	4	-	-	-	-	-	-	-
	110	258.3	48.3	258.3	72.6	9	6	-	4	4	3	6	-	258.3	623.6	4	-	-	-	-	-	-	-
	115	258.3	50.5	258.3	73.5	9	6	-	4	4	3	6	-	258.3	624.7	4	-	-	-	-	-	-	-
	120	258.3	52.7	258.3	74.4	9	6	-	4	4	3	6	-	258.3	625.7	4	-	-	-	-	-	-	-
	125	258.3	54.9	258.3	75.3	9	6	-	4	4	3	6	-	258.3	626.7	4	-	-	-	-	-	-	-
	130	258.3	57.1	258.3	76.2	9	6	-	4	4	3	6	-	258.3	627.8	4	-	-	-	-	-	-	-
132	40	0.0	19.2	0.0	69.3	10	10	10	10	10	10	10	10	0.0	16.4	10	10	10	10	10	10	10	10
	45	0.0	21.7	0.0	78.0	10	10	10	10	10	10	10	10	0.0	18.4	10	10	10	10	10	10	10	10
	50	0.0	24.1	0.0	86.6	10	10	10	10	10	10	10	8	0.0	20.5	10	10	10	10	10	10	10	10
	55	0.0	26.5	0.0	95.3	10	10	10	10	10	10	10	7	0.0	22.5	10	10	10	10	10	10	10	10
	60	0.0	28.9	0.0	103.9	10	10	10	10	10	10	10	6	0.0	24.6	10	10	10	10	10	10	10	10
	65	0.0	31.3	0.0	112.6	10	10	10	10	10	10	10	5	0.0	26.6	10	10	10	10	10	10	10	10
	70	0.0	33.7	0.0	121.3	10	10	10	10	10	10	10	5	0.0	28.7	10	10	10	10	10	10	10	10
	75	0.0	36.1	0.0	129.9	10	10	10	10	10	10	10	4	0.0	30.7	10	10	10	10	10	10	10	10
	80	0.0	38.5	0.0	138.6	10	10	10	10	10	10	10	4	0.0	32.7	10	10	10	10	10	10	10	10
	85	282.0	40.9	282.0	74.4	8	5	-	3	3	3	5	-	282.0	675.3	3	-	-	-	-	-	-	-
	90	282.0	43.3	282.0	75.4	8	5	-	3	3	3	5	-	282.0	676.5	3	-	-	-	-	-	-	-
	95	282.0	45.7	282.0	76.4	8	5	-	3	3	3	5	-	282.0	677.6	3	-	-	-	-	-	-	-
	100	282.0	48.1	282.0	77.3	8	5	-	3	3	3	5	-	282.0	678.7	3	-	-	-	-	-	-	-
	105	282.0	50.5	282.0	78.3	8	5	-	3	3	3	5	-	282.0	679.9	3	-	-	-	-	-	-	-
	110	282.0	52.9	282.0	79.3	8	5	-	3	3	3	5	-	282.0	681.0	3	-	-	-	-	-	-	-
	115	282.0	55.3	282.0	80.3	8	5	-	3	3	3	5	-	282.0	682.1	3	-	-	-	-	-	-	-
	120	282.0	57.7	282.0	81.3	8	5	-	3	3	3	5	-	282.0	683.2	3	-	-	-	-	-	-	-
	125	282.0	60.1	282.0	82.3	8	5	-	3	3	3	5	-	282.0	684.4	3	-	-	-	-	-	-	-
	130	282.0	62.5	282.0	83.3	8	5	-	3	3	3	5	-	282.0	685.5	3	-	-	-	-	-	-	-
	135	282.0	65.0	282.0	84.3	8	5	-	3	3	3	5	-	282.0	686.6	3	-	-	-	-	-	-	-

TABLE 3 - ANCHOR SPACING				ANCHOR TYPE & SPACING										ANCHOR TYPE & SPACING									
				WALL - MOUNT 1										1x3, 1x4, 2X4, 3X4, 3X3 OR 4X4 BO - MOUNT 2									
TT	PD	Vx	Vy	Vs	Ts	A	B	C	D	E	F	G	H	Vs	Ts	A	B	C	D	E	F	G	H
144	40	0.0	20.9	0.0	75.3	10	10	10	10	10	10	10	10	0.0	17.8	10	10	10	10	10	10	10	10
	45	0.0	23.5	0.0	84.7	10	10	10	10	10	10	10	9	0.0	20.0	10	10	10	10	10	10	10	10
	50	0.0	26.1	0.0	94.1	10	10	10	10	10	10	10	7	0.0	22.2	10	10	10	10	10	10	10	10
	55	0.0	28.8	0.0	103.5	10	10	10	10	10	10	10	6	0.0	24.5	10	10	10	10	10	10	10	10
	60	0.0	31.4	0.0	113.0	10	10	10	10	10	10	10	5	0.0	26.7	10	10	10	10	10	10	10	10
	65	0.0	34.0	0.0	122.4	10	10	10	10	10	10	10	5	0.0	28.9	10	10	10	10	10	10	10	10
	70	0.0	36.6	0.0	131.8	10	10	10	10	10	10	10	4	0.0	31.1	10	10	10	10	10	10	10	10
	75	0.0	39.2	0.0	141.2	10	10	10	10	10	10	10	3	0.0	33.4	10	10	10	10	10	10	10	10
	80	301.5	41.8	301.5	78.7	7	4	-	3	3	-	5	-	301.5	721.1	3	-	-	-	-	-	-	-
	85	301.5	44.4	301.5	79.8	7	4	-	3	3	-	5	-	301.5	722.3	3	-	-	-	-	-	-	-
	90	301.5	47.1	301.5	80.9	7	4	-	3	3	-	5	-	301.5	723.5	3	-	-	-	-	-	-	-
	95	301.5	49.7	301.5	82.0	7	4	-	3	3	-	5	-	301.5	724.8	3	-	-	-	-	-	-	-
	100	301.5	52.3	301.5	83.0	7	4	-	3	3	-	5	-	301.5	726.0	3	-	-	-	-	-	-	-
	105	301.5	54.9	301.5	84.1	7	4	-	3	3	-	5	-	301.5	727.2	3	-	-	-	-	-	-	-
168	40	0.0	24.2	0.0	87.3	10	10	10	10	10	10	10	8	0.0	20.6	10	10	10	10	10	10	10	10
	45	0.0	27.3	0.0	98.2	10	10	10	10	10	10	10	7	0.0	23.2	10	10	10	10	10	10	10	10
	50	0.0	30.3	0.0	109.1	10	10	10	10	10	10	10	6	0.0	25.8	10	10	10	10	10	10	10	10
	55	0.0	33.3	0.0	120.0	10	10	10	10	10	10	10	5	0.0	28.4	10	10	10	10	10	10	10	10
	60	0.0	36.4	0.0	131.0	10	10	10	10	10	10	10	4	0.0	30.9	10	10	10	10	10	10	10	10
	65	0.0	39.4	0.0	141.9	10	10	10	10	10	10	10	3	0.0	33.5	10	10	10	10	10	10	10	10
	70	324.7	42.4	324.7	83.7	6	4	-	-	3	-	4	-	324.7	775.3	3	-	-	-	-	-	-	-
	75	324.7	45.5	324.7	85.0	6	4	-	-	3	-	4	-	324.7	776.7	3	-	-	-	-	-	-	-
	80	324.7	48.5	324.7	86.2	6	4	-	-	3	-	4	-	324.7	778.1	3	-	-	-	-	-	-	-
	85	324.7	51.5	324.7	87.4	6	4	-	-	3	-	4	-	324.7	779.5	3	-	-	-	-	-	-	-
204	40	0.0	29.2	0.0	105.3	10	10	10	10	10	10	10	6	0.0	24.9	10	10	10	10	10	10	10	10
	45	0.0	32.9	0.0	118.5	10	10	10	10	10	10	10	5	0.0	28.0	10	10	10	10	10	10	10	10
	50	93.0	36.6	93.0	34.0	10	10	8	10	10	10	10	8	93.0	233.4	10	6	3	5	4	5	6	-
216	55	112.7	40.2	112.7	39.5	10	10	5	10	10	10	10	5	112.7	281.0	10	4	-	3	3	3	5	-
	60	129.1	43.9	129.1	44.4	10	10	4	10	10	10	10	4	129.1	321.0	10	3	-	3	-	-	4	-
	65	143.0	47.5	143.0	48.7	10	10	4	10	10	9	10	4	143.0	355.0	10	3	-	-	-	-	3	-
	70	155.0	51.2	155.0	52.7	10	10	3	9	9	8	10	3	155.0	384.5	10	-	-	-	-	-	3	-
	75	165.3	54.8	165.3	56.3	10	10	3	8	8	7	10	3	165.3	410.2	9	-	-	-	-	-	-	-
240	40	0.0	30.9	0.0	111.3	10	10	10	10	10	10	10	5	0.0	26.3	10	10	10	10	10	10	10	10
	45	0.0	34.8	0.0	125.2	10	10	10	10	10	10	10	4	0.0	29.6	10	10	10	10	10	10	10	10
	50	93.9	38.6	93.9	35.1	10	10	8	10	10	10	10	7	94.0	236.9	10	6	3	5	4	4	6	-
	55	113.8	42.5	113.8	40.7	10	10	5	10	10	10	10	5	114.0	285.1	10	4	-	3	3	3	4	-
264	40	38.7	34.2	38.7	22.0	10	10	10	10	10	10	10	10	38.9	106.5	10	10	10	10	10	10	10	4
	45	68.8	38.5	68.8	29.9	10	10	10	10	10	10	10	10	69.2	178.9	10	9	5	8	7	8	10	-
	50	92.8	42.8	92.8	36.5	10	10	8	10	10	10	10	7	93.4	237.3	10	6	3	5	4	4	6	-
286.5	40	73.1	37.6	73.1	30.4	10	10	10	10	10	10	10	10	73.9	189.6	10	8	4	7	7	7	9	-
	45	97.5	42.3	97.5	37.3	10	10	7	10	10	10	10	7	98.6	249.1	10	5	3	4	4	4	6	-

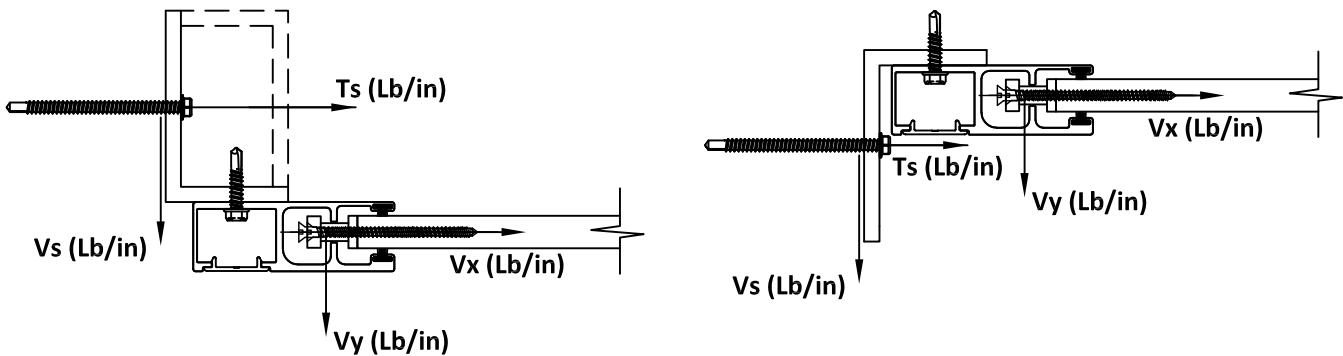
TYPICAL HORIZONTAL SECTIONS
INSET MOUNT



H
8 **HORIZONTAL SECTION**
MOUNT TYPE 3
INSET MOUNT
*WITH END RETENTION



H1
8 **HORIZONTAL SECTION**
MOUNT TYPE 3 - ALTERNATE
INSET MOUNT
*WITH END RETENTION



CONTRACTOR TO VERIFY ADEQUACY OF STRUCTURE
NOTE: LOADS V_y AND V_x ARE LOADS IMPOSED BY
SLAT ON TRACK. LOADS T_s AND V_s ARE LOADS
IMPOSED ON STRUCTURE BY ANCHORS.

SEE SHEETS 9, 10 & 11 FOR ANCHOR SPACING TABLES

ANCHOR	DESCRIPTION	MATERIAL	EDGE DISTANCE	EMBEDMENT
A	3/8" DEWALT/POWERS SCREW-BOLT+	MIN. 3000 PSI CONCRETE	3 3/4"	3 1/2"
B	5/16" ITW TAPCON	MIN. 3000 PSI CONCRETE	2 3/16"	2 1/4"
C	3/8" DEWALT/POWERS SCREW-BOLT+	GROUT FILLED C-90 BLOCK, f'm $\geq$ 1500 PSI	2"	2 1/2"
D	5/16" ITW TAPCON	GROUT FILLED C-90 BLOCK, f'm $\geq$ 2000 PSI	4"	2 1/4"
E	#14 DEWALT/ELCO DRIL-FLEX SELF-DRILLING SCREW	MIN. 1/4" 6063-T6 ALUM. MIN. 3/16" A36 STEEL	1/2" 3/8"	3 THREADS PENETRATION
F	5/16" DEWALT/ELCO ULTRA CON	WOOD, MIN. SG = 0.55	1 1/2"	2"
G	5/16" DEWALT/ELCO ULTRA CON	MIN. 3515 PSI CONCRETE	3 1/8"	2"
H	5/16" DEWALT/ELCO ULTRA CON	GROUT FILLED C-90 BLOCK, f'm $\geq$ 1500 PSI	2 1/2"	2 1/4"

ASSA

4268 WESTROADS DRIVE
WEST PALM BEACH, FL 33407
PH: 1-800-432-2204
FAX: 561-841-0852

TITLE: 55 MMER ROLL SHUTTERS
(WZ3) (MISSILE LEVEL E IMPACT RATED)

INSET MOUNT HORIZONTAL SECTIONS

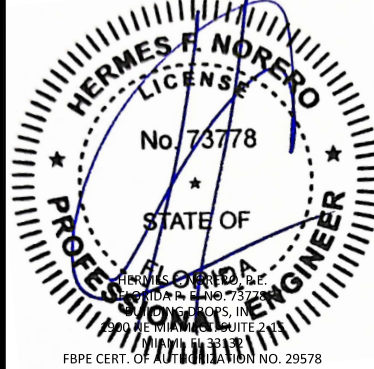
PREPARED BY:
BUILDING DROPS, INC.

1900 NE MIAMI CT. SUITE 2-15
MIAMI, FL 33132
PH: (954) 999-8478
FAX: (954) 744-4738
WEB: www.buildingdrops.com



REMARKS	BY	DATE
2020 FBC UPDATES	NUS	08.18.20
ANCHOR UPDATE	SM	02.08.21
GUIDE RAIL UPDATE	MS	04.07.22
2023 FBC UPDATE	MS	09.18.23

THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC
AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC
SITE. IF SITE CONDITIONS CAUSE INSTALLATION TO DEVIATE
FROM THE REQUIREMENTS DETAILED HEREIN, A LICENSED
ENGINEER OR ARCHITECT SHALL PREPARE SITE SPECIFIC
DOCUMENTS FOR USE WITH THIS DOCUMENT.



FL22558

DATE: 06.06.17

DWG. BY: SM
CHK. BY: HFN

SCALE: NTS

DWG. #: EMS002

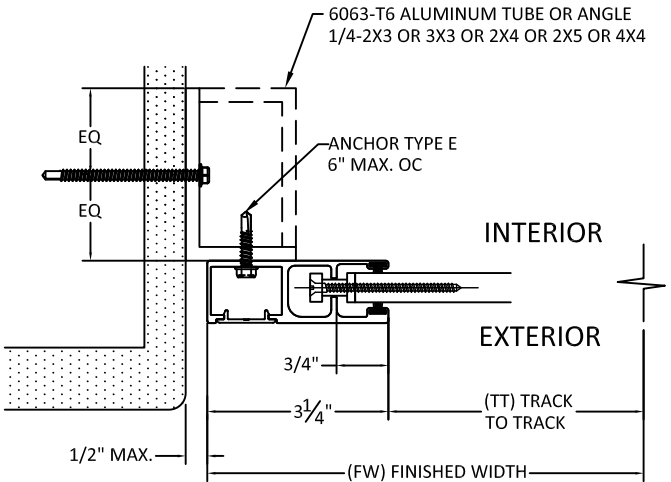
SHEET: OF 23

8

TABLE 4 - ANCHOR SPACING						ANCHOR TYPE & SPACING 2X3 OR 3X3 INSET - MOUNT 3								ANCHOR TYPE & SPACING 2X4 OR 4X4 INSET - MOUNT 3								ANCHOR TYPE & SPACING 2X5 INSET - MOUNT 3								
TT	PD	Vx	Vy	Vs	Ts	A	B	C	D	E	F	G	H	A	B	C	D	E	F	G	H	A	B	C	D	E	F	G	H	
72	40	0	10.91	10.91	20.36	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	45	0	12.28	12.28	22.90	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	50	0	13.64	13.64	25.44	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	55	0	15.00	15.00	27.99	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	60	0	16.37	16.37	30.53	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	65	0	17.73	17.73	33.08	10	10	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	70	0	19.10	19.10	35.62	10	10	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	75	0	20.46	20.46	38.17	10	10	8	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	80	0	21.83	21.83	40.71	10	10	8	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	85	0	23.19	23.19	43.26	10	10	7	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	90	0	24.55	24.55	45.80	10	10	7	10	9	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	95	138.268	25.92	25.92	370.04	5	-	-	-	-	-	3	-	10	3	-	3	3	3	4	-	10	4	3	3	3	3	3	4	-
	100	138.268	27.28	27.28	372.58	5	-	-	-	-	-	3	-	10	3	-	3	3	3	4	-	10	4	3	3	3	3	3	4	-
	105	138.268	28.65	28.65	375.13	5	-	-	-	-	-	3	-	10	3	-	3	3	3	4	-	10	4	3	3	3	3	3	4	-
	110	138.268	30.01	30.01	377.67	4	-	-	-	-	-	3	-	10	3	-	3	3	3	4	-	10	3	-	3	3	3	3	4	-
	115	138.268	31.37	31.37	380.22	4	-	-	-	-	-	3	-	10	3	-	3	-	3	4	-	10	3	-	3	3	3	3	4	-
	120	138.268	32.74	32.74	382.76	4	-	-	-	-	-	3	-	10	3	-	3	-	3	4	-	10	3	-	3	3	3	3	4	-
	125	138.268	34.10	34.10	385.31	4	-	-	-	-	-	3	-	10	3	-	3	-	3	4	-	10	3	-	3	3	3	3	4	-
	130	138.268	35.47	35.47	387.85	4	-	-	-	-	-	3	-	10	3	-	3	-	3	3	-	10	3	-	3	3	3	3	4	-
	135	138.268	36.83	36.83	390.39	4	-	-	-	-	-	3	-	10	3	-	3	-	3	3	-	10	3	-	3	3	3	3	4	-
	140	138.268	38.19	38.19	392.94	4	-	-	-	-	-	3	-	10	3	-	3	-	3	3	-	10	3	-	3	3	3	3	4	-
	145	138.268	39.56	39.56	395.48	4	-	-	-	-	-	3	-	10	3	-	3	-	3	3	-	10	3	-	3	3	3	3	4	-
150	138.268	40.92	40.92	398.03	4	-	-	-	-	-	3	-	10	3	-	3	-	3	3	-	10	3	-	3	3	3	3	4	-	
155	138.268	42.29	42.29	400.57	4	-	-	-	-	-	3	-	10	3	-	3	-	-	3	-	10	3	-	3	3	3	3	4	-	
160	138.268	43.65	43.65	403.12	4	-	-	-	-	-	3	-	10	3	-	3	-	-	3	-	10	3	-	3	-	3	3	4	-	
165	138.268	45.01	45.01	405.66	4	-	-	-	-	-	3	-	10	3	-	3	-	-	3	-	10	3	-	3	-	3	3	4	-	
170	138.268	46.38	46.38	408.21	4	-	-	-	-	-	3	-	10	3	-	3	-	-	3	-	10	3	-	3	-	3	3	4	-	
175	138.268	47.74	47.74	410.75	4	-	-	-	-	-	3	-	10	3	-	3	-	-	3	-	10	3	-	3	-	3	3	3	-	
180	138.268	49.11	49.11	413.29	4	-	-	-	-	-	3	-	10	3	-	3	-	-	3	-	10	3	-	3	-	3	3	3	-	
185	138.268	50.47	50.47	415.84	4	-	-	-	-	-	3	-	10	3	-	-	-	-	3	-	10	3	-	3	-	3	3	3	-	
190	138.268	51.83	51.83	418.38	4	-	-	-	-	-	3	-	10	3	-	-	-	-	3	-	10	3	-	3	-	3	3	3	-	
195	138.268	53.20	53.20	420.93	4	-	-	-	-	-	3	-	10	3	-	-	-	-	3	-	10	3	-	3	-	3	3	3	-	
200	138.268	54.56	54.56	423.47	4	-	-	-	-	-	3	-	10	3	-	-	-	-	3	-	10	3	-	3	-	-	3	3	-	
84	40	0	12.58	12.58	23.46	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	45	0	14.15	14.15	26.40	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	50	0	15.72	15.72	29.33	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	55	0	17.30	17.30	32.26	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	60	0	18.87	18.87	35.20	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	65	0	20.44	20.44	38.13	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	70	0	22.01	22.01	41.06	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	75	0	23.59	23.59	44.00	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	80	0	25.16	25.16	46.93	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	85	0	26.73	26.73	49.86	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	90	0	28.30	28.30	52.79	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	95	170.1704	29.88	29.88	451.65	10	-	-	-	-	-	-	-	10	-	-	-	-	-	3	-	10	-	-	-	-	-	3	-	
	100	170.1704	31.45	31.45	454.58	10	-	-	-	-	-	-	-	10	-	-	-	-	-	3	-	10	-	-	-	-	-	3	-	
	105	170.1704	33.02	33.02	457.51	10	-	-	-	-	-	-	-	10	-	-	-	-	-	3	-	10	-	-	-	-	-			

TABLE 4 - ANCHOR SPACING						ANCHOR TYPE & SPACING 2X3 OR 3X3 INSET - MOUNT 3								ANCHOR TYPE & SPACING 2X4 OR 4X4 INSET - MOUNT 3								ANCHOR TYPE & SPACING 2X5 INSET - MOUNT 3							
TT	PD	Vx	Vy	Vs	Ts	A	B	C	D	E	F	G	H	A	B	C	D	E	F	G	H	A	B	C	D	E	F	G	H
96	80	0	14.25	14.25	26.57	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	45	0	16.03	16.03	29.89	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	50	0	17.81	17.81	33.22	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	55	0	19.59	19.59	36.54	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	60	0	21.37	21.37	39.86	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	65	0	23.15	23.15	43.18	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	70	0	24.93	24.93	46.50	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	75	0	26.71	26.71	49.82	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	80	0	28.49	28.49	53.15	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	85	0	30.27	30.27	56.47	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	90	0	32.05	32.05	59.79	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	95	201.4766	33.83	33.83	531.87	10	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-
	100	201.4766	35.61	35.61	535.19	10	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-
	105	201.4766	37.40	37.40	538.51	10	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-
	110	201.4766	39.18	39.18	541.83	9	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-
	115	201.4766	40.96	40.96	545.15	9	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-
	120	201.4766	42.74	42.74	548.48	9	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-
	125	201.4766	44.52	44.52	551.80	9	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-
	130	201.4766	46.30	46.30	555.12	9	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-
	135	201.4766	48.08	48.08	558.44	9	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-
	140	201.4766	49.86	49.86	561.76	9	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-
108	145	201.4766	51.64	51.64	565.08	9	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-
	150	201.4766	53.42	53.42	568.41	8	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-
	155	201.4766	55.20	55.20	571.73	8	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-
	160	201.4766	56.98	56.98	575.05	8	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-
	165	201.4766	58.76	58.76	578.37	8	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-
	170	201.4766	60.54	60.54	581.69	8	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-
	175	201.4766	62.33	62.33	585.01	8	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-
	80	0	15.91	15.91	29.68	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	45	0	17.90	17.90	33.39	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	50	0	19.89	19.89	37.10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	55	0	21.88	21.88	40.81	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	60	0	23.87	23.87	44.52	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	65	0	25.86	25.86	48.23	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	70	0	27.85	27.85	51.94	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	75	0	29.84	29.84	55.65	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	80	0	31.83	31.83	59.36	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	85	0	33.81	33.81	63.07	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	90	0	35.80	35.80	66.78	10	10	10	10	10	10	10	10	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	95	231.1754	37.79	37.79	608.35	8	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-
	100	231.1754	39.78	39.78	612.06	8	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-
	105	231.1754	41.77	41.77	615.77	8	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-
	110	231.1754	43.76	43.76	619.48	7	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-
	115	231.1754	45.75	45.75	623.19	7	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-
	120	231.1754	47.74	47.74	626.90	7	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-
	125	231.1754	49.73	49.73	630.61	7	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-
	130	231.1754	51.72	51.72	634.32	7	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-
	135	231.1754	53.70	53.70	638.03	7	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-
	140	231.1754	55.69	55.69	641.74	7	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-
	145	231.1754	57.68	57.68	645.45	7	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-
	150	231.1754	59.67	59.67	649.16	7	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-
	155	231.1754	61.66	61.66	652.87	7	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-
	160	231.1754	63.65	63.65	656.58	7	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-

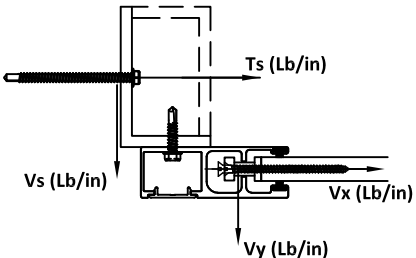
TYPICAL HORIZONTAL
SECTIONS
INSET MOUNT



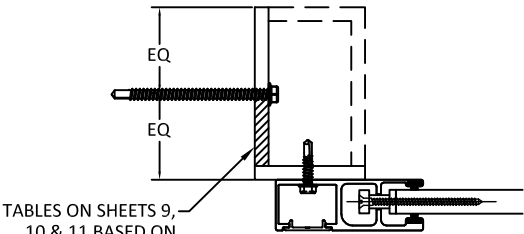
J
10

HORIZONTAL SECTION

MOUNT TYPE 3
INSET MOUNT
*WITH END RETENTION



CONTRACTOR TO VERIFY ADEQUACY OF STRUCTURE
NOTE: LOADS Vy AND Vx ARE LOADS IMPOSED BY
SLAT ON TRACK. LOADS Ts AND Vs ARE LOADS
IMPOSED ON STRUCTURE BY ANCHORS.



TABLES ON SHEETS 9,
10 & 11 BASED ON
ANCHOR LOCATION
IN THIS REGION



4268 WESTROADS DRIVE
WEST PALM BEACH, FL 33407
PH: 1-800-432-2204
FAX: 561-841-0852

TITLE:
55 MMER ROLL SHUTTERS
(WZ3) (MISSILE LEVEL E IMPACT RATED)
INSET MOUNT ANCHOR SPACING

PREPARED BY:
BUILDING DROPS, INC.
1900 NE MIAMI CT. SUITE 2-15
MIAMI, FL 33132
PH: (954) 399-8478
FAX: (954) 744-4738
WEB: www.buildingdrops.com



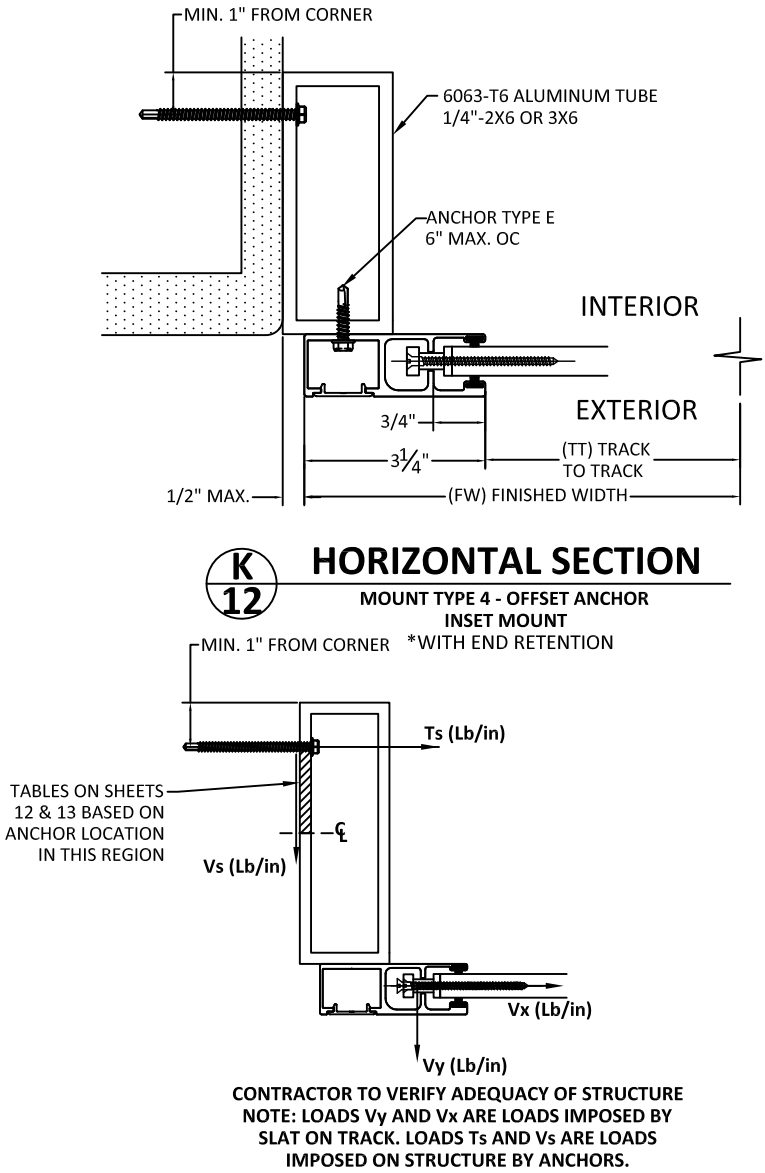
REMARKS	BY	DATE
2020 FBC UPDATES	NUS	08.18.20
ANCHOR UPDATE	SM	02.08.21
GUIDE RAIL UPDATE	MS	04.07.22
2023 FBC UPDATE	MS	09.18.23

TABLE 4 - ANCHOR SPACING						ANCHOR TYPE & SPACING 2X3 OR 3X3 INSET - MOUNT 3								ANCHOR TYPE & SPACING 2X4 OR 4X4 INSET - MOUNT 3								ANCHOR TYPE & SPACING 2X5 INSET - MOUNT 3								
TT	PD	Vx	Vy	Vs	Ts	A	B	C	D	E	F	G	H	A	B	C	D	E	F	G	H	A	B	C	D	E	F	G	H	
120	40	0	17.58	17.58	32.79	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	45	0	19.78	19.78	36.89	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	50	0	21.97	21.97	40.99	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	55	0	24.17	24.17	45.09	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	60	0	26.37	26.37	49.19	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	65	0	28.57	28.57	53.29	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	70	0	30.76	30.76	57.38	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	75	0	32.96	32.96	61.48	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	80	0	35.16	35.16	65.58	10	10	10	10	10	10	10	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	85	0	37.36	37.36	69.68	10	10	10	10	10	10	10	8	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	90	258.3246	39.55	39.55	674.80	6	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-
	95	258.3246	41.75	41.75	678.90	6	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-
	100	258.3246	43.95	43.95	683.00	6	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-
	105	258.3246	46.15	46.15	687.09	6	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-
	110	258.3246	48.34	48.34	691.19	6	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-
	115	258.3246	50.54	50.54	695.29	6	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-
	120	258.3246	52.74	52.74	699.39	6	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-
	125	258.3246	54.93	54.93	703.49	6	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-
130	258.3246	57.13	57.13	707.59	6	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	
135	258.3246	59.33	59.33	711.69	6	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	
140	258.3246	61.53	61.53	715.79	6	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	
145	258.3246	63.72	63.72	719.89	6	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	
150	258.3246	65.92	65.92	723.98	5	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	
132	40	0	19.25	19.25	35.90	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	45	0	21.65	21.65	40.39	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	50	0	24.06	24.06	44.87	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	55	0	26.46	26.46	49.36	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	60	0	28.87	28.87	53.85	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	65	0	31.27	31.27	58.34	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	70	0	33.68	33.68	62.82	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	75	0	36.09	36.09	67.31	10	10	10	10	10	10	10	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	80	0	38.49	38.49	71.80	10	10	10	10	10	10	10	8	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	85	282.0454	40.90	40.90	732.49	6	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-
	90	282.0454	43.30	43.30	736.98	6	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-
	95	282.0454	45.71	45.71	741.47	5	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-
	100	282.0454	48.11	48.11	745.96	5	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-
	105	282.0454	50.52	50.52	750.44	5	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-
	110	282.0454	52.93	52.93	754.93	5	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-
	115	282.0454	55.33	55.33	759.42	5	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-
	120	282.0454	57.74	57.74	763.91	5	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-
	125	282.0454	60.14	60.14	768.39	5	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-
130	282.0454	62.55	62.55	772.88	5	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	
135	282.0454	64.95	64.95	777.37	5	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	

TABLE 4 - ANCHOR SPACING						ANCHOR TYPE & SPACING 2X3 OR 3X3 INSET - MOUNT 3								ANCHOR TYPE & SPACING 2X4 OR 4X4 INSET - MOUNT 3								ANCHOR TYPE & SPACING 2X5 INSET - MOUNT 3								
TT	PD	Vx	Vy	Vs	Ts	A	B	C	D	E	F	G	H	A	B	C	D	E	F	G	H	A	B	C	D	E	F	G	H	
144	40	0	20.91	20.91	39.01	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	45	0	23.53	23.53	43.88	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	50	0	26.14	26.14	48.76	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	55	0	28.75	28.75	53.64	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	60	0	31.37	31.37	58.51	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	65	0	33.98	33.98	63.39	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	70	0	36.60	36.60	68.27	10	10	10	10	10	10	10	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	75	0	39.21	39.21	73.14	10	10	10	10	10	10	10	8	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	80	301.517	41.83	41.83	779.53	5	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-
	85	301.517	44.44	44.44	784.40	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-
	90	301.517	47.05	47.05	789.28	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-
	95	301.517	49.67	49.67	794.16	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-
	100	301.517	52.28	52.28	799.03	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-
	105	301.517	54.90	54.90	803.91	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-
110	301.517	57.51	57.51	808.78	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	
115	301.517	60.12	60.12	813.66	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	
120	301.517	62.74	62.74	818.54	4	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	
125	301.517	65.35	65.35	823.41	4	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	
168	40	0	24.25	24.25	45.23	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	45	0	27.28	27.28	50.88	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	50	0	30.31	30.31	56.53	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	55	0	33.34	33.34	62.19	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	60	0	36.37	36.37	67.84	10	10	10	10	10	10	10	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	65	0	39.40	39.40	73.49	10	10	10	10	10	10	10	8	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	70	324.6913	42.43	42.43	834.57	4	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	
	75	324.6913	45.46	45.46	840.23	4	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	
	80	324.6913	48.49	48.49	845.88	4	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	
	85	324.6913	51.52	51.52	851.53	4	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	
	90	324.6913	54.55	54.55	857.19	4	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	
95	324.6913	57.58	57.58	862.84	4	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-		
100	324.6913	60.61	60.61	868.49	4	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-		
204	40	0	29.25	29.25	54.55	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	45	0	32.90	32.90	61.37	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	50	92.97349	36.56	36.56	284.50	10	5	3	4	4	4	5	-	10	6	4	5	4	5	6	-	10	6	4	6	5	5	7	-	
	55	112.6951	40.21	40.21	337.21	10	3	-	3	3	3	4	-	10	4	3	4	3	3	5	-	10	4	3	4	4	4	5	-	
	60	129.1298	43.87	43.87	382.26	10	3	-	-	-	-	3	-	10	3	-	3	-	3	4	-	10	4	-	3	3	3	4	-	
	65	143.0361	47.52	47.52	421.44	10	-	-	-	-	-	3	-	10	3	-	-	-	-	3	-	10	3	-	3	-	-	3	-	
	70	154.9558	51.18	51.18	455.99	10	-	-	-	-	-	-	-	10	-	-	-	-	-	3	-	10	-	-	-	-	-	3	-	
75	165.2862	54.84	54.84	486.84	10	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-		
216	40	0	30.91	30.91	57.66	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	45	0	34.78	34.78	64.87	10	10	10	10	10	10	10	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	50	93.89875	38.64	38.64	290.54	10	5	3	4	4	4	5	-	10	5	4	5	4	5	6	-	10	6	4	5	5	5	7	-	
	55	113.8167	42.50	42.50	344.09	10	3	-	3	3	3	4	-	10	4	3	4	3	3	4	-	10	4	3	4	3	4	5	-	
240	40	38.68479	34.25	34.25	153.88	10	10	9	10	10	10	-	10	10	10	10	10	10	10	3	10	10	10	10	10	10	10	10	3	
	45	68.77296	38.53	38.53	231.87	10	7	5	6	5	6	8	-	10	8	5	7	6	7	9	-	10	9	6	8	7	8	10	-	
	50	92.8435	42.81	42.81	295.86	10	4	3	4	3	4	5	-	10	5	4	5	4	4	6	-	10	6	4	5	5	5	7	-	
264	40	73.11576	37.58	37.58	240.21	10	6	4	6	5	5	7	-	10	8	5	7	6	7	8	-	10	8	6	8	7	7	10	-	
	45	97.48768	42.28	42.28	305.67	10	4	3	4	3	4	5	-	10	5	3	4	4	4	6	-	10	5	4	5	4	5	6	-	
286.5	40	65.92552	40.70	40.70	229.31	10	7	5	6	5	6	8	-	10	8	5	8	7	7	9	-	10	9	6	8	7	8	10	-	

TABLE 5 - ANCHOR SPACING						ANCHOR TYPE & SPACING 2X6 OR 3X6 OFFSET ANCHOR INSET - MOUNT 4							
TT	PD	Vx	Vy	Vs	Ts	A	B	C	D	E	F	G	H
72	40	0	10.91	10.91	30.53	10	10	10	10	10	10	10	10
	45	0	12.28	12.28	34.35	10	10	10	10	10	10	10	10
	50	0	13.64	13.64	38.17	10	10	10	10	10	10	10	10
	55	0	15.00	15.00	41.98	10	10	10	10	10	10	10	10
	60	0	16.37	16.37	45.80	10	10	10	10	10	10	10	10
	65	0	17.73	17.73	49.62	10	10	10	10	10	10	10	10
	70	0	19.10	19.10	53.43	10	10	10	10	10	10	10	10
	75	0	20.46	20.46	57.25	10	10	10	10	10	10	10	10
	80	0	21.83	21.83	61.07	10	10	10	10	10	10	10	10
	85	0	23.19	23.19	64.88	10	10	10	10	10	10	10	10
	90	0	24.55	24.55	68.70	10	10	10	10	10	10	10	9
	95	138.268	25.92	25.92	969.86	3	-	-	-	-	-	-	-
	100	138.268	27.28	27.28	973.68	3	-	-	-	-	-	-	-
	105	138.268	28.65	28.65	977.50	3	-	-	-	-	-	-	-
	110	138.268	30.01	30.01	981.31	3	-	-	-	-	-	-	-
	115	138.268	31.37	31.37	985.13	3	-	-	-	-	-	-	-
	120	138.268	32.74	32.74	988.95	3	-	-	-	-	-	-	-
	125	138.268	34.10	34.10	992.76	3	-	-	-	-	-	-	-
	130	138.268	35.47	35.47	996.58	3	-	-	-	-	-	-	-
	135	138.268	36.83	36.83	1000.40	3	-	-	-	-	-	-	-
	140	138.268	38.19	38.19	1004.21	3	-	-	-	-	-	-	-
84	145	138.268	39.56	39.56	1008.03	3	-	-	-	-	-	-	-
	150	138.268	40.92	40.92	1011.85	3	-	-	-	-	-	-	-
	155	138.268	42.29	42.29	1015.66	3	-	-	-	-	-	-	-
	160	138.268	43.65	43.65	1019.48	3	-	-	-	-	-	-	-
	165	138.268	45.01	45.01	1023.30	3	-	-	-	-	-	-	-
	170	138.268	46.38	46.38	1027.11	3	-	-	-	-	-	-	-
	175	138.268	47.74	47.74	1030.93	3	-	-	-	-	-	-	-
	180	138.268	49.11	49.11	1034.75	3	-	-	-	-	-	-	-
	185	138.268	50.47	50.47	1038.56	3	-	-	-	-	-	-	-
	190	138.268	51.83	51.83	1042.38	3	-	-	-	-	-	-	-
96	195	138.268	53.20	53.20	1046.19	3	-	-	-	-	-	-	-
	200	138.268	54.56	54.56	1050.01	3	-	-	-	-	-	-	-
	40	0	12.58	12.58	35.20	10	10	10	10	10	10	10	10
	45	0	14.15	14.15	39.60	10	10	10	10	10	10	10	10
	50	0	15.72	15.72	44.00	10	10	10	10	10	10	10	10
	55	0	17.30	17.30	48.40	10	10	10	10	10	10	10	10
	60	0	18.87	18.87	52.79	10	10	10	10	10	10	10	10
	65	0	20.44	20.44	57.19	10	10	10	10	10	10	10	10
	70	0	22.01	22.01	61.59	10	10	10	10	10	10	10	10
	75	0	23.59	23.59	65.99	10	10	10	10	10	10	10	10
96	80	0	25.16	25.16	70.39	10	10	10	10	10	10	10	9
	85	0	26.73	26.73	74.79	10	10	10	10	10	10	10	8
	90	0	28.30	28.30	79.19	10	10	10	10	10	10	10	7
	80	0	14.25	14.25	39.86	10	10	10	10	10	10	10	10
	45	0	16.03	16.03	44.84	10	10	10	10	10	10	10	10
	50	0	17.81	17.81	49.82	10	10	10	10	10	10	10	10
	55	0	19.59	19.59	54.81	10	10	10	10	10	10	10	10
	60	0	21.37	21.37	59.79	10	10	10	10	10	10	10	10
	65	0	23.15	23.15	64.77	10	10	10	10	10	10	10	10
	70	0	24.93	24.93	69.75	10	10	10	10	10	10	10	9
96	75	0	26.71	26.71	74.74	10	10	10	10	10	10	10	8
	80	0	28.49	28.49	79.72	10	10	10	10	10	10	10	7
	85	0	30.27	30.27	84.70	10	10	10	10	10	10	10	6
	90	0	32.05	32.05	89.68	10	10	10	10	10	10	10	6

TYPICAL HORIZONTAL
SECTIONS
OFFSET ANCHOR INSET
MOUNT



ANCHOR	DESCRIPTION	MATERIAL	EDGE DISTANCE	EMBEDMENT
A	3/8" DEWALT/POWERS SCREW-BOLT+	MIN. 3000 PSI CONCRETE	3 3/4"	3 1/2"
B	5/16" ITW TAPCON	MIN. 3000 PSI CONCRETE	2 3/16"	2 1/4"
C	3/8" DEWALT/POWERS SCREW-BOLT+	GROUT FILLED C-90 BLOCK, f'm ≥ 1500 PSI	2"	2 1/2"
D	5/16" ITW TAPCON	GROUT FILLED C-90 BLOCK, f'm ≥ 2000 PSI	4"	2 1/4"
E	#14 DEWALT/ELCO DRIL-FLEX SELF-DRILLING SCREW	MIN. 1/4" 6063-T6 ALUM.	1/2"	3 THREADS PENETRATION
		MIN. 3/16" A36 STEEL	3/8"	
F	5/16" DEWALT/ELCO ULTRACON	WOOD, MIN. SG = 0.55	1 1/2"	2"
G	5/16" DEWALT/ELCO ULTRACON	MIN. 3515 PSI CONCRETE	3 1/8"	2"
H	5/16" DEWALT/ELCO ULTRACON	GROUT FILLED C-90 BLOCK, f'm ≥ 1500 PSI	2 1/2"	2 1/4"

ASSA
4268 WESTROADS DRIVE
WEST PALM BEACH, FL 33407
PH: 1-800-432-2204
FAX: 561-841-0852

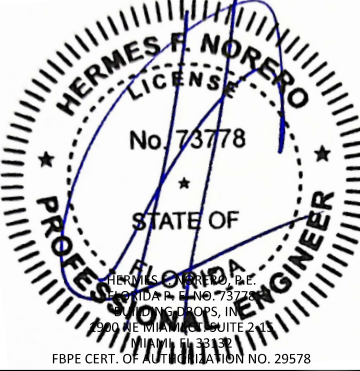
TITLE:
55 MMER ROLL SHUTTERS
(WZ3) (MISSILE LEVEL E IMPACT RATED)
OFFSET ANCHOR INSET MOUNT
ANCHOR SPACING

PREPARED BY:
BUILDING DROPS, INC.
1900 NE MIAMI CT. SUITE 2-15
MIAMI, FL 33132
PH: (954) 999-8478
FAX: (954) 744-4738
WEB: www.buildingdrops.com

BD
BUILDING DROPS

REMARKS	BY	DATE
2020 FBC UPDATES	NUS	08.18.20
ANCHOR UPDATE	SM	02.08.21
GUIDE RAIL UPDATE	MS	04.07.22
2023 FBC UPDATE	MS	09.18.23

THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC SITE. IF SITE CONDITIONS CAUSE INSTALLATION TO DEVIATE FROM THE REQUIREMENTS DETAILED HEREIN, A LICENSED ENGINEER OR ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE WITH THIS DOCUMENT.



FL22558

DATE:	06.06.17	
DWG. BY:	SM	CHK. BY: HFN
SCALE:	NTS	
DWG. #:	EMS002	
SHEET:	OF 23	

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TABLE 5 - ANCHOR SPACING						ANCHOR TYPE & SPACING 2X6 OR 3X6 OFFSET ANCHOR INSET - MOUNT 4							
TT	PD	Vx	Vy	Vs	Ts	A	B	C	D	E	F	G	H
108	80	0	15.91	15.91	44.52	10	10	10	10	10	10	10	10
	45	0	17.90	17.90	50.09	10	10	10	10	10	10	10	10
	50	0	19.89	19.89	55.65	10	10	10	10	10	10	10	10
	55	0	21.88	21.88	61.22	10	10	10	10	10	10	10	10
	60	0	23.87	23.87	66.78	10	10	10	10	10	10	10	10
	65	0	25.86	25.86	72.35	10	10	10	10	10	10	10	9
	70	0	27.85	27.85	77.92	10	10	10	10	10	10	10	8
	75	0	29.84	29.84	83.48	10	10	10	10	10	10	10	7
	80	0	31.83	31.83	89.05	10	10	10	10	10	10	10	6
	85	0	33.81	33.81	94.61	10	10	10	10	10	10	10	5
	90	0	35.80	35.80	100.18	10	10	10	10	10	10	10	5
120	40	0	17.58	17.58	49.19	10	10	10	10	10	10	10	10
	45	0	19.78	19.78	55.33	10	10	10	10	10	10	10	10
	50	0	21.97	21.97	61.48	10	10	10	10	10	10	10	10
	55	0	24.17	24.17	67.63	10	10	10	10	10	10	10	10
	60	0	26.37	26.37	73.78	10	10	10	10	10	10	10	8
	65	0	28.57	28.57	79.93	10	10	10	10	10	10	10	7
	70	0	30.76	30.76	86.08	10	10	10	10	10	10	10	6
	75	0	32.96	32.96	92.22	10	10	10	10	10	10	10	6
	80	0	35.16	35.16	98.37	10	10	10	10	10	10	10	5
	85	0	37.36	37.36	104.52	10	10	10	10	10	10	10	4
132	40	0	19.25	19.25	53.85	10	10	10	10	10	10	10	10
	45	0	21.65	21.65	60.58	10	10	10	10	10	10	10	10
	50	0	24.06	24.06	67.31	10	10	10	10	10	10	10	10
	55	0	26.46	26.46	74.04	10	10	10	10	10	10	10	8
	60	0	28.87	28.87	80.77	10	10	10	10	10	10	10	7
	65	0	31.27	31.27	87.51	10	10	10	10	10	10	10	6
	70	0	33.68	33.68	94.24	10	10	10	10	10	10	10	5
	75	0	36.09	36.09	100.97	10	10	10	10	10	10	10	5
	80	0	38.49	38.49	107.70	10	10	10	10	10	10	10	4

TABLE 5 - ANCHOR SPACING						ANCHOR TYPE & SPACING 2X6 OR 3X6 OFFSET ANCHOR INSET - MOUNT 4							
TT	PD	Vx	Vy	Vs	Ts	A	B	C	D	E	F	G	H
144	40	0	20.91	20.91	58.51	10	10	10	10	10	10	10	10
	45	0	23.53	23.53	65.83	10	10	10	10	10	10	10	10
	50	0	26.14	26.14	73.14	10	10	10	10	10	10	10	8
	55	0	28.75	28.75	80.46	10	10	10	10	10	10	10	7
	60	0	31.37	31.37	87.77	10	10	10	10	10	10	10	6
	65	0	33.98	33.98	95.08	10	10	10	10	10	10	10	5
	70	0	36.60	36.60	102.40	10	10	10	10	10	10	10	5
	75	0	39.21	39.21	109.71	10	10	10	10	10	10	10	4
168	40	0	24.25	24.25	67.84	10	10	10	10	10	10	10	10
	45	0	27.28	27.28	76.32	10	10	10	10	10	10	10	8
	50	0	30.31	30.31	84.80	10	10	10	10	10	10	10	6
	55	0	33.34	33.34	93.28	10	10	10	10	10	10	10	5
	60	0	36.37	36.37	101.76	10	10	10	10	10	10	10	5
204	65	0	39.40	39.40	110.24	10	10	10	10	10	10	10	4
	40	0	29.25	29.25	81.83	10	10	10	10	10	10	10	7
	45	0	32.90	32.90	92.06	10	10	10	10	10	10	10	6
	50	92.97349	36.56	36.56	705.68	6	-	-	-	-	-	-	-
	55	112.6951	40.21	40.21	843.90	4	-	-	-	-	-	-	-
	60	129.1298	43.87	43.87	960.78	3	-	-	-	-	-	-	-
	65	143.0361	47.52	47.52	1061.26	3	-	-	-	-	-	-	-
216	40	0	30.91	30.91	86.49	10	10	10	10	10	10	10	6
	45	0	34.78	34.78	97.30	10	10	10	10	10	10	10	5
	50	93.89875	38.64	38.64	717.51	6	-	-	-	-	-	-	-
	55	113.8167	42.50	42.50	857.59	4	-	-	-	-	-	-	-
240	40	38.68479	34.25	34.25	346.88	10	3	-	3	3	3	4	-
	45	68.77296	38.53	38.53	554.13	9	-	-	-	-	-	-	-
	50	92.8435	42.81	42.81	722.32	6	-	-	-	-	-	-	-
264	40	73.11576	37.58	37.58	3.00	10	10	10	10	10	10	10	10
	45	97.48768	42.28	42.28	750.98	5	-	-	-	-	-	-	-
286.5	40	65.92552	40.70	40.70	541.74	9	-	-	-	-	-	-	-

ASSA

4268 WESTROADS DRIVE
WEST PALM BEACH, FL 33407
PH: 1-800-432-2204
FAX: 561-841-0852

TITLE:
55 MMER ROLL SHUTTERS
(WZ3) (MISSILE LEVEL E IMPACT RATED)
INSET MOUNT ANCHOR SPACING

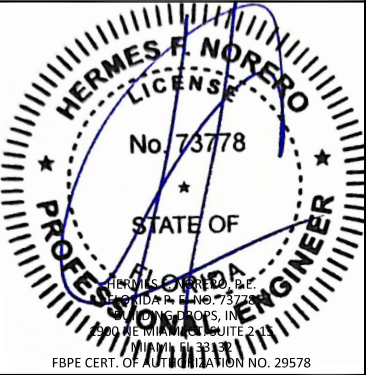
PREPARED BY:

BUILDING DROPS, INC.
1900 NE MIAMI CT. SUITE 2-15
MIAMI, FL 33132
PH: (954) 999-8478
FAX: (954) 744-4738
WEB: www.buildingdrops.com



REMARKS	BY	DATE
2020 FBC UPDATES	NUS	08.18.20
ANCHOR UPDATE	SM	02.08.21
GUIDE RAIL UPDATE	MS	04.07.22
2023 FBC UPDATE	MS	09.18.23

THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC SITE. IF SITE CONDITIONS CAUSE INSTALLATION TO DEVIATE FROM THE REQUIREMENTS DETAILED HEREIN, A LICENSED ENGINEER OR ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE WITH THIS DOCUMENT.



HERMES F. NORERO
LICENSE
No. 73778
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
HERMES F. NORERO, P.E.
FLORIDA P.E. NO. 73778
BUILDING DROPS, INC.
1900 NE MIAMI CT. SUITE 2-15
MIAMI, FL 33132
FBPE CERT. OF AUTHORIZATION NO. 29578

FL22558

DATE: 06.06.17

DWG. BY:
SM

CHK. BY:
HFN

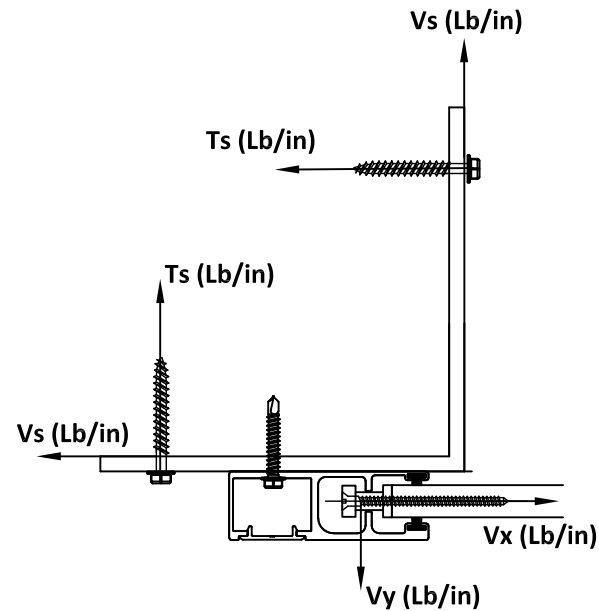
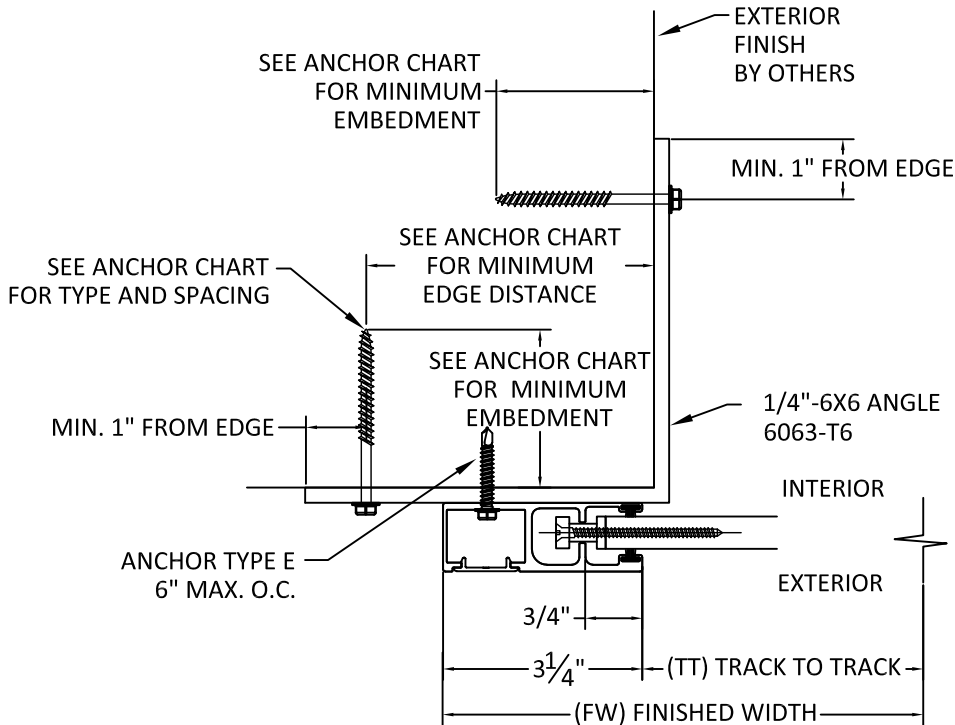
SCALE: NTS

DWG. #: EMS002

SHEET: OF 23

TABLE 6 - ANCHOR SPACING						ANCHOR TYPE & SPACING 6X6 CORNER ANGLE ANCHOR - MOUNT 5							
TT	PD	Vx	Vy	Vs	Ts	A	B	C	D	E	F	G	H
72	40	0	10.91	0.00	10.91	10	10	10	10	10	10	10	10
	45	0	12.28	0.00	12.28	10	10	10	10	10	10	10	10
	50	0	13.64	0.00	13.64	10	10	10	10	10	10	10	10
	55	0	15.00	0.00	15.00	10	10	10	10	10	10	10	10
	60	0	16.37	0.00	16.37	10	10	10	10	10	10	10	10
	65	0	17.73	0.00	17.73	10	10	10	10	10	10	10	10
	70	0	19.10	0.00	19.10	10	10	10	10	10	10	10	10
	75	0	20.46	0.00	20.46	10	10	10	10	10	10	10	10
	80	0	21.83	0.00	21.83	10	10	10	10	10	10	10	10
	85	0	23.19	0.00	23.19	10	10	10	10	10	10	10	10
	90	0	24.55	0.00	24.55	10	10	10	10	10	10	10	10
	95	138.268	25.92	138.27	25.92	10	10	4	10	10	10	10	4
	100	138.268	27.28	138.27	27.28	10	10	4	10	10	10	10	4
	105	138.268	28.65	138.27	28.65	10	10	4	10	10	10	10	4
	110	138.268	30.01	138.27	30.01	10	10	4	10	10	10	10	4
	115	138.268	31.37	138.27	31.37	10	10	4	10	10	10	10	4
	120	138.268	32.74	138.27	32.74	10	10	4	10	10	10	10	4
	125	138.268	34.10	138.27	34.10	10	10	4	10	10	10	10	4
	130	138.268	35.47	138.27	35.47	10	10	4	10	10	10	10	4
	135	138.268	36.83	138.27	36.83	10	10	4	10	10	10	10	4
	140	138.268	38.19	138.27	38.19	10	10	4	10	10	10	10	4
84	145	138.268	39.56	138.27	39.56	10	10	4	10	10	10	10	4
	150	138.268	40.92	138.27	40.92	10	10	4	10	10	10	10	4
	155	138.268	42.29	138.27	42.29	10	10	4	10	10	10	10	4
	160	138.268	43.65	138.27	43.65	10	10	4	10	10	10	10	4
	165	138.268	45.01	138.27	45.01	10	10	4	10	10	10	10	4
	170	138.268	46.38	138.27	46.38	10	10	4	10	10	10	10	4
	175	138.268	47.74	138.27	47.74	10	10	4	10	10	10	10	4
	180	138.268	49.11	138.27	49.11	10	10	4	10	10	10	10	4
	185	138.268	50.47	138.27	50.47	10	10	4	10	10	9	10	4
	190	138.268	51.83	138.27	51.83	10	10	4	10	10	9	10	4
	195	138.268	53.20	138.27	53.20	10	10	4	10	10	9	10	4
	200	138.268	54.56	138.27	54.56	10	10	4	10	10	9	10	3
	40	0	12.58	0.00	12.58	10	10	10	10	10	10	10	10
	45	0	14.15	0.00	14.15	10	10	10	10	10	10	10	10
	50	0	15.72	0.00	15.72	10	10	10	10	10	10	10	10
	55	0	17.30	0.00	17.30	10	10	10	10	10	10	10	10
	60	0	18.87	0.00	18.87	10	10	10	10	10	10	10	10
	65	0	20.44	0.00	20.44	10	10	10	10	10	10	10	10
	70	0	22.01	0.00	22.01	10	10	10	10	10	10	10	10
	75	0	23.59	0.00	23.59	10	10	10	10	10	10	10	10
	80	0	25.16	0.00	25.16	10	10	10	10	10	10	10	10
	85	0	26.73	0.00	26.73	10	10	10	10	10	10	10	10
	90	0	28.30	0.00	28.30	10	10	10	10	10	10	10	10
	95	170.1704	29.88	170.17	29.88	10	10	3	8	9	7	10	3
	100	170.1704	31.45	170.17	31.45	10	10	3	8	9	7	10	3
	105	170.1704	33.02	170.17	33.02	10	10	3	8	9	7	10	3
	110	170.1704	34.59	170.17	34.59	10	10	3	8	9	7	10	3
	115	170.1704	36.17	170.17	36.17	10	10	3	8	9	7	10	3
	120	170.1704	37.74	170.17	37.74	10	10	3	8	9	7	10	3
	125	170.1704	39.31	170.17	39.31	10	10	3	8	8	7	10	3
	130	170.1704	40.88	170.17	40.88	10	10	3	8	8	7	10	3
	135	170.1704	42.45	170.17	42.45	10	10	3	8	8	7	10	3
	140	170.1704	44.03	170.17	44.03	10	10	3	8	8	7	10	3
	145	170.1704	45.60	170.17	45.60	10	10	3	8	8	7	10	3
	150	170.1704	47.17	170.17	47.17	10	10	3	8	8	7	10	3
	155	170.1704	48.74	170.17	48.74	10	10	3	8	8	7	10	3
	160	170.1704	50.32	170.17	50.32	10	10	3	8	8	7	10	3
	165	170.1704	51.89	170.17	51.89	10	10	3	7	8	7	10	3
	170	170.1704	53.46	170.17	53.46	10	10	3	7	8	7	10	3
	175	170.1704	55.03	170.17	55.03	10	10	3	7	8	7	10	3
	180	170.1704	56.61	170.17	56.61	10	10	3	7	8	7	10	-
	185	170.1704	58.18	170.17	58.18	10	10	3	7	8	7	10	-

TYPICAL HORIZONTAL SECTIONS
CORNER ANGLE



CONTRACTOR TO VERIFY ADEQUACY OF STRUCTURE
NOTE: LOADS Vy AND Vx ARE LOADS IMPOSED BY
SLAT ON TRACK. LOADS Ts AND Vs ARE LOADS
IMPOSED ON STRUCTURE BY ANCHORS.

L
14
HORIZONTAL SECTION
MOUNT TYPE 5
CORNER ANGLE MOUNT
*WITH END RETENTION

ANCHOR	DESCRIPTION	MATERIAL	EDGE DISTANCE	EMBEDMENT
A	3/8" DEWALT/POWERS SCREW-BOLT+	MIN. 3000 PSI CONCRETE	3 3/4"	3 1/2"
B	5/16" ITW TAPCON	MIN. 3000 PSI CONCRETE	2 3/16"	2 1/4"
C	3/8" DEWALT/POWERS SCREW-BOLT+	GROUT FILLED C-90 BLOCK, f'm ≥ 1500 PSI	2"	2 1/2"
D	5/16" ITW TAPCON	GROUT FILLED C-90 BLOCK, f'm ≥ 2000 PSI	4"	2 1/4"
E	#14 DEWALT/ELCO DRIL-FLEX SELF-DRILLING SCREW	MIN. 1/4" 6063-T6 ALUM.	1/2"	3 THREADS PENETRATION
		MIN. 3/16" A36 STEEL	3/8"	
F	5/16" DEWALT/ELCO ULTRA CON	WOOD, MIN. SG = 0.55	1 1/2"	2"
G	5/16" DEWALT/ELCO ULTRA CON	MIN. 3515 PSI CONCRETE	3 1/8"	2"
H	5/16" DEWALT/ELCO ULTRA CON	GROUT FILLED C-90 BLOCK, f'm ≥ 1500 PSI	2 1/2"	2 1/4"



4268 WESTROADS DRIVE
WEST PALM BEACH, FL 33407
PH: 1-800-432-2204
FAX: 561-841-0852

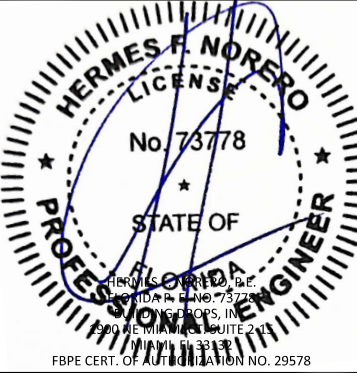
TITLE:
55 MMER ROLL SHUTTERS
(WZ3) (MISSILE LEVEL E IMPACT RATED)
CORNER ANGLE MOUNT
ANCHOR SPACING

PREPARED BY:
BUILDING DROPS, INC.
1900 NE MIAMI CT, SUITE 2-15
MIAMI, FL 33132
PH: (954) 399-8478
FAX: (954) 744-4738
WEB: www.buildingdrops.com



REMARKS	BY	DATE
2020 FBC UPDATES	NUS	08.18.20
ANCHOR UPDATE	SM	02.08.21
GUIDE RAIL UPDATE	MS	04.07.22
2023 FBC UPDATE	MS	09.18.23

THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC
AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC
SITE. IF SITE CONDITIONS CAUSE INSTALLATION TO DEVIATE
FROM THE REQUIREMENTS DETAILED HEREIN, A LICENSED
ENGINEER OR ARCHITECT SHALL PREPARE SITE SPECIFIC
DOCUMENTS FOR USE WITH THIS DOCUMENT.



FL22558

DATE:	06.06.17
DWG. BY:	CHK. BY:
SM	HFN
SCALE:	NTS
DWG. #:	EMS002
SHEET:	OF 23

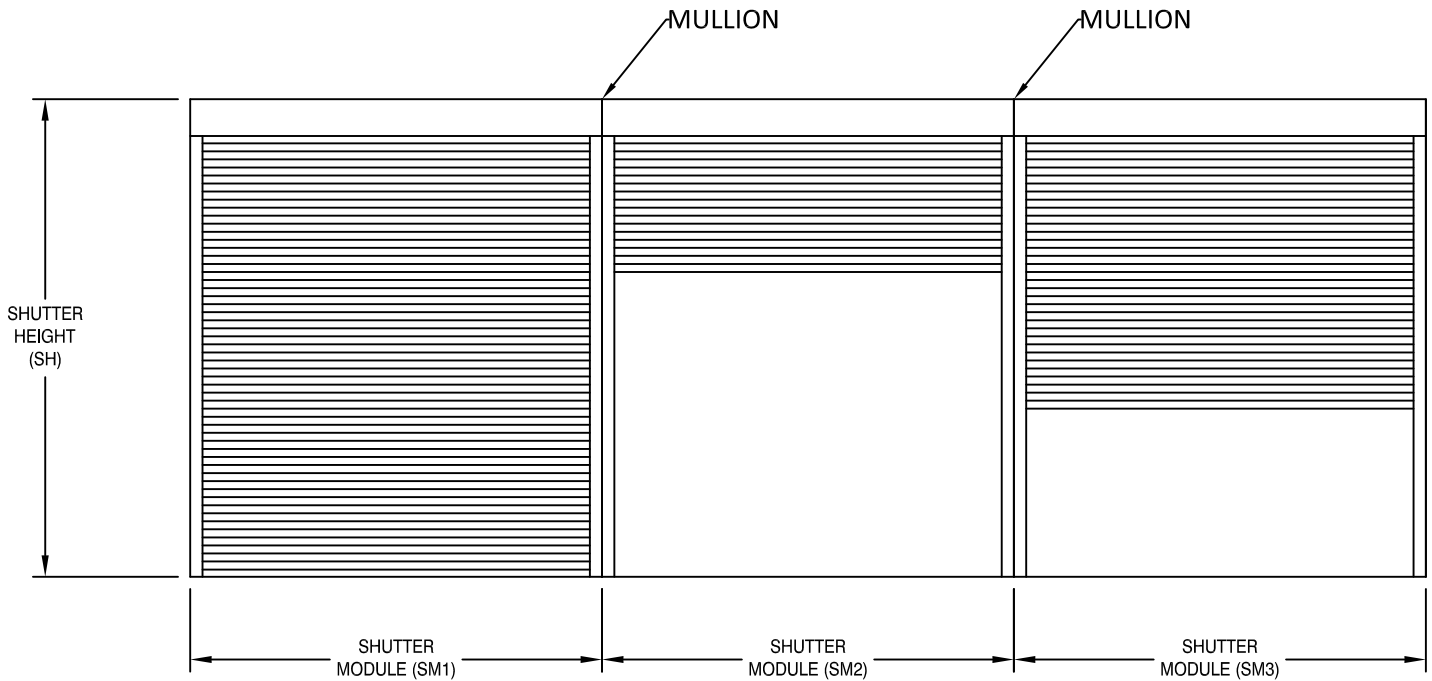
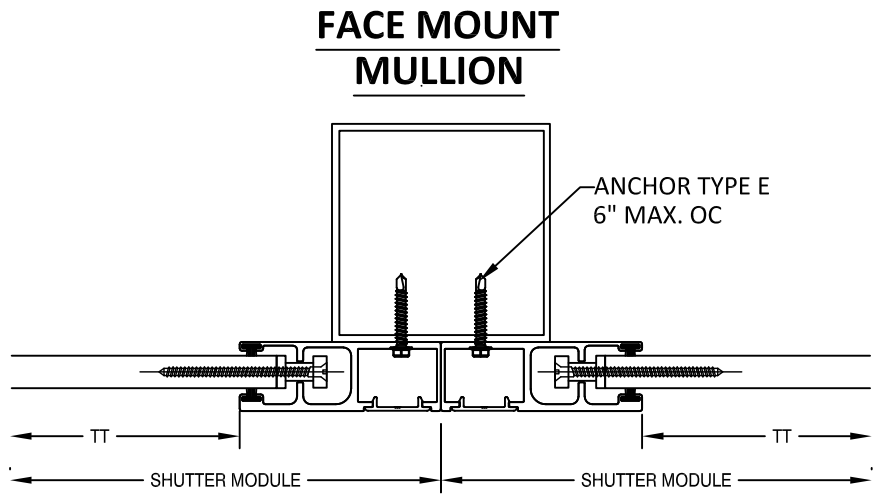
14

TABLE 6 - ANCHOR SPACING						ANCHOR TYPE & SPACING 6X6 CORNER ANGLE ANCHOR - MOUNT 5							
TT	PD	Vx	Vy	Vs	Ts	A	B	C	D	E	F	G	H
96	80	0	14.25	0.00	14.25	10	10	10	10	10	10	10	10
	45	0	16.03	0.00	16.03	10	10	10	10	10	10	10	10
	50	0	17.81	0.00	17.81	10	10	10	10	10	10	10	10
	55	0	19.59	0.00	19.59	10	10	10	10	10	10	10	10
	60	0	21.37	0.00	21.37	10	10	10	10	10	10	10	10
	65	0	23.15	0.00	23.15	10	10	10	10	10	10	10	10
	70	0	24.93	0.00	24.93	10	10	10	10	10	10	10	10
	75	0	26.71	0.00	26.71	10	10	10	10	10	10	10	10
	80	0	28.49	0.00	28.49	10	10	10	10	10	10	10	10
	85	0	30.27	0.00	30.27	10	10	10	10	10	10	10	10
	90	0	32.05	0.00	32.05	10	10	10	10	10	10	10	10
	95	201.4766	33.83	201.48	33.83	10	9	-	6	6	5	10	-
	100	201.4766	35.61	201.48	35.61	10	9	-	6	6	5	10	-
	105	201.4766	37.40	201.48	37.40	10	9	-	6	6	5	10	-
	110	201.4766	39.18	201.48	39.18	10	9	-	6	6	5	10	-
	115	201.4766	40.96	201.48	40.96	10	9	-	6	6	5	10	-
	120	201.4766	42.74	201.48	42.74	10	9	-	6	6	5	10	-
	125	201.4766	44.52	201.48	44.52	10	9	-	6	6	5	10	-
	130	201.4766	46.30	201.48	46.30	10	9	-	6	6	5	10	-
	135	201.4766	48.08	201.48	48.08	10	9	-	6	6	5	10	-
	140	201.4766	49.86	201.48	49.86	10	9	-	6	6	5	10	-
	145	201.4766	51.64	201.48	51.64	10	9	-	6	6	5	9	-
108	150	201.4766	53.42	201.48	53.42	10	9	-	6	6	5	9	-
	155	201.4766	55.20	201.48	55.20	10	9	-	6	6	5	9	-
	160	201.4766	56.98	201.48	56.98	10	9	-	6	6	5	9	-
	165	201.4766	58.76	201.48	58.76	10	8	-	6	6	5	9	-
	170	201.4766	60.54	201.48	60.54	10	8	-	6	6	5	9	-
	175	201.4766	62.33	201.48	62.33	10	8	-	6	6	5	9	-
	80	0	15.91	0.00	15.91	10	10	10	10	10	10	10	10
	45	0	17.90	0.00	17.90	10	10	10	10	10	10	10	10
	50	0	19.89	0.00	19.89	10	10	10	10	10	10	10	10
	55	0	21.88	0.00	21.88	10	10	10	10	10	10	10	10
	60	0	23.87	0.00	23.87	10	10	10	10	10	10	10	10
	65	0	25.86	0.00	25.86	10	10	10	10	10	10	10	10
	70	0	27.85	0.00	27.85	10	10	10	10	10	10	10	10
	75	0	29.84	0.00	29.84	10	10	10	10	10	10	10	10
	80	0	31.83	0.00	31.83	10	10	10	10	10	10	10	10
	85	0	33.81	0.00	33.81	10	10	10	10	10	10	10	10
	90	0	35.80	0.00	35.80	10	10	10	10	10	10	10	10
	95	231.1754	37.79	231.18	37.79	10	7	-	5	5	4	8	-
	100	231.1754	39.78	231.18	39.78	10	7	-	5	5	4	8	-
	105	231.1754	41.77	231.18	41.77	10	7	-	5	5	4	8	-
	110	231.1754	43.76	231.18	43.76	10	7	-	5	5	4	8	-
	115	231.1754	45.75	231.18	45.75	10	7	-	5	5	4	8	-
	120	231.1754	47.74	231.18	47.74	10	7	-	5	5	4	8	-
	125	231.1754	49.73	231.18	49.73	10	7	-	5	5	4	8	-
	130	231.1754	51.72	231.18	51.72	10	7	-	4	5	4	8	-
	135	231.1754	53.70	231.18	53.70	10	7	-	4	5	4	8	-
	140	231.1754	55.69	231.18	55.69	10	7	-	4	5	4	7	-
	145	231.1754	57.68	231.18	57.68	10	7	-	4	5	4	7	-
	150	231.1754	59.67	231.18	59.67	10	7	-	4	5	4	7	-
	155	231.1754	61.66	231.18	61.66	10	7	-	4	5	4	7	-
	160	231.1754	63.65	231.18	63.65	10	7	-	4	5	4	7	-

TABLE 6 - ANCHOR SPACING						ANCHOR TYPE & SPACING 6X6 CORNER ANGLE ANCHOR - MOUNT 5							
TT	PD	Vx	Vy	Vs	Ts	A	B	C	D	E	F	G	H
120	40	0	17.58	0.00	17.58	10	10	10	10	10	10	10	10
	45	0	19.78	0.00	19.78	10	10	10	10	10	10	10	10
	50	0	21.97	0.00	21.97	10	10	10	10	10	10	10	10
	55	0	24.17	0.00	24.17	10	10	10	10	10	10	10	10
	60	0	26.37	0.00	26.37	10	10	10	10	10	10	10	10
	65	0	28.57	0.00	28.57	10	10	10	10	10	10	10	10
	70	0	30.76	0.00	30.76	10	10	10	10	10	10	10	10
	75	0	32.96	0.00	32.96	10	10	10	10	10	10	10	10
	80	0	35.16	0.00	35.16	10	10	10	10	10	10	10	10
	85	0	37.36	0.00	37.36	10	10	10	10	10	10	10	10
	90	258.3246	39.55	258.32	39.55	9	6	-	4	4	3	6	-
	95	258.3246	41.75	258.32	41.75	9	6	-	4	4	3	6	-
	100	258.3246	43.95	258.32	43.95	9	6	-	4	4	3	6	-
	105	258.3246	46.15	258.32	46.15	9	6	-	4	4	3	6	-
	110	258.3246	48.34	258.32	48.34	9	6	-	4	4	3	6	-
	115	258.3246	50.54	258.32	50.54	9	6	-	4	4	3	6	-
	120	258.3246	52.74	258.32	52.74	9	6	-	4	4	3	6	-
	125	258.3246	54.93	258.32	54.93	9	6	-	4	4	3	6	-
	130	258.3246	57.13	258.32	57.13	9	6	-	4	4	3	6	-
	135	258.3246	59.33	258.32	59.33	9	6	-	4	4	3	6	-
	140	258.3246	61.53	258.32	61.53	9	6	-	4	4	3	6	-
	145	258.3246	63.72	258.32	63.72	9	6	-	4	4	3	6	-
	150	258.3246	65.92	258.32	65.92	9	6	-	4	4	3	6	-
132	40	0	19.25	0.00	19.25	10	10	10	10	10	10	10	10
	45	0	21.65	0.00	21.65	10	10	10	10	10	10	10	10
	50	0	24.06	0.00	24.06	10	10	10	10	10	10	10	10
	55	0	26.46	0.00	26.46	10	10	10	10	10	10	10	10
	60	0	28.87	0.00	28.87	10	10	10	10	10	10	10	10
	65	0	31.27	0.00	31.27	10	10	10	10	10	10	10	10
	70	0	33.68	0.00	33.68	10	10	10	10	10	10	10	10
	75	0	36.09	0.00	36.09	10	10	10	10	10	10	10	10
	80	0	38.49	0.00	38.49	10	10	10	10	10	10	10	10
	85	282.0454	40.90	282.05	40.90	8	5	-	3	4	3	6	-
	90	282.0454	43.30	282.05	43.30	8	5	-	3	4	3	6	-
	95	282.0454	45.71	282.05	45.71	8	5	-	3	3	3	5	-
	100	282.0454	48.11	282.05	48.11	8	5	-	3	3	3	5	-
	105	282.0454	50.52	282.05	50.52	8	5	-	3	3	3	5	-
	110	282.0454	52.93	282.05	52.93	8	5	-	3	3	3	5	-
	115	282.0454	55.33	282.05	55.33	8	5	-	3	3	3	5	-
	120	282.0454	57.74	282.05	57.74	8	5	-	3	3	3	5	-
	125	282.0454	60.14	282.05	60.14	8	5	-	3	3	3	5	-
	130	282.0454	62.55	282.05	62.55	8	5	-	3	3	3	5	-
	135	282.0454	64.95	282.05	64.95	8	5	-	3	3	3	5	-

TABLE 6 - ANCHOR SPACING						ANCHOR TYPE & SPACING 6X6 CORNER ANGLE ANCHOR - MOUNT 5							
TT	PD	Vx	Vy	Vs	Ts	A	B	C	D	E	F	G	H
144	40	0	20.91	0.00	20.91	10	10	10	10	10	10	10	10
	45	0	23.53	0.00	23.53	10	10	10	10	10	10	10	10
	50	0	26.14	0.00	26.14	10	10	10	10	10	10	10	10
	55	0	28.75	0.00	28.75	10	10	10	10	10	10	10	10
	60	0	31.37	0.00	31.37	10	10	10	10	10	10	10	10
	65	0	33.98	0.00	33.98	10	10	10	10	10	10	10	10
	70	0	36.60	0.00	36.60	10	10	10	10	10	10	10	10
	75	0	39.21	0.00	39.21	10	10	10	10	10	10	10	10
	80	301.517	41.83	301.52	41.83	7	5	-	3	3	-	5	-
	85	301.517	44.44	301.52	44.44	7	4	-	3	3	-	5	-
	90	301.517	47.05	301.52	47.05	7	4	-	3	3	-	5	-
	95	301.517	49.67	301.52	49.67	7	4	-	3	3	-	5	-
	100	301.517	52.28	301.52	52.28	7	4	-	3	3	-	5	-
	105	301.517	54.90	301.52	54.90	7	4	-	3	3	-	5	-
110	301.517	57.51	301.52	57.51	7	4	-	3	3	-	5	-	
115	301.517	60.12	301.52	60.12	7	4	-	3	3	-	5	-	
120	301.517	62.74	301.52	62.74	7	4	-	3	3	-	5	-	
125	301.517	65.35	301.52	65.35	7	4	-	3	3	-	5	-	
168	40	0	24.25	0.00	24.25	10	10	10	10	10	10	10	10
	45	0	27.28	0.00	27.28	10	10	10	10	10	10	10	10
	50	0	30.31	0.00	30.31	10	10	10	10	10	10	10	10
	55	0	33.34	0.00	33.34	10	10	10	10	10	10	10	10
	60	0	36.37	0.00	36.37	10	10	10	10	10	10	10	10
	65	0	39.40	0.00	39.40	10	10	10	10	10	10	10	10
	70	324.6913	42.43	324.69	42.43	6	4	-	-	3	-	4	-
	75	324.6913	45.46	324.69	45.46	6	4	-	-	3	-	4	-
	80	324.6913	48.49	324.69	48.49	6	4	-	-	3	-	4	-
	85	324.6913	51.52	324.69	51.52	6	4	-	-	3	-	4	-
	90	324.6913	54.55	324.69	54.55	6	4	-	-	3	-	4	-
	95	324.6913	57.58	324.69	57.58	6	4	-	-	3	-	4	-
100	324.6913	60.61	324.69	60.61	6	4	-	-	3	-	4	-	
204	40	0	29.25	0.00	29.25	10	10	10	10	10	10	10	10
	45	0	32.90	0.00	32.90	10	10	10	10	10	10	10	10
	50	92.97349	36.56	92.97	36.56	10	10	8	10	10	10	10	7
	55	112.6951	40.21	112.70	40.21	10	10	5	10	10	10	10	5
	60	129.1298	43.87	129.13	43.87	10	10	4	10	10	10	10	4
	65	143.0361	47.52	143.04	47.52	10	10	4	10	10	9	10	4
	70	154.9558	51.18	154.96	51.18	10	10	3	9	9	8	10	3
	75	165.2862	54.84	165.29	54.84	10	10	3	8	8	7	10	3
216	40	0	30.91	0.00	30.91	10	10	10	10	10	10	10	10
	45	0	34.78	0.00	34.78	10	10	10	10	10	10	10	10
	50	93.89875	38.64	93.90	38.64	10	10	7	10	10	10	10	7
	55	113.8167	42.50	113.82	42.50	10	10	5	10	10	10	10	5
240	40	38.68479	34.25	38.68	34.25	10	10	10	10	10	10	10	10
	45	68.77296	38.53	68.77	38.53	10	10	10	10	10	10	10	10
	50	92.8435	42.81	92.84	42.81	10	10	7	10	10	10	10	7
264	40	73.11576	37.58	73.12	37.58	10	10	10	10	10	10	10	10
	45	97.48768	42.28	97.49	42.28	10	10	7	10	10	10	10	6
286.5	40	65.92552	40.70	65.93	40.70	10	10	10	10	10	10	10	10

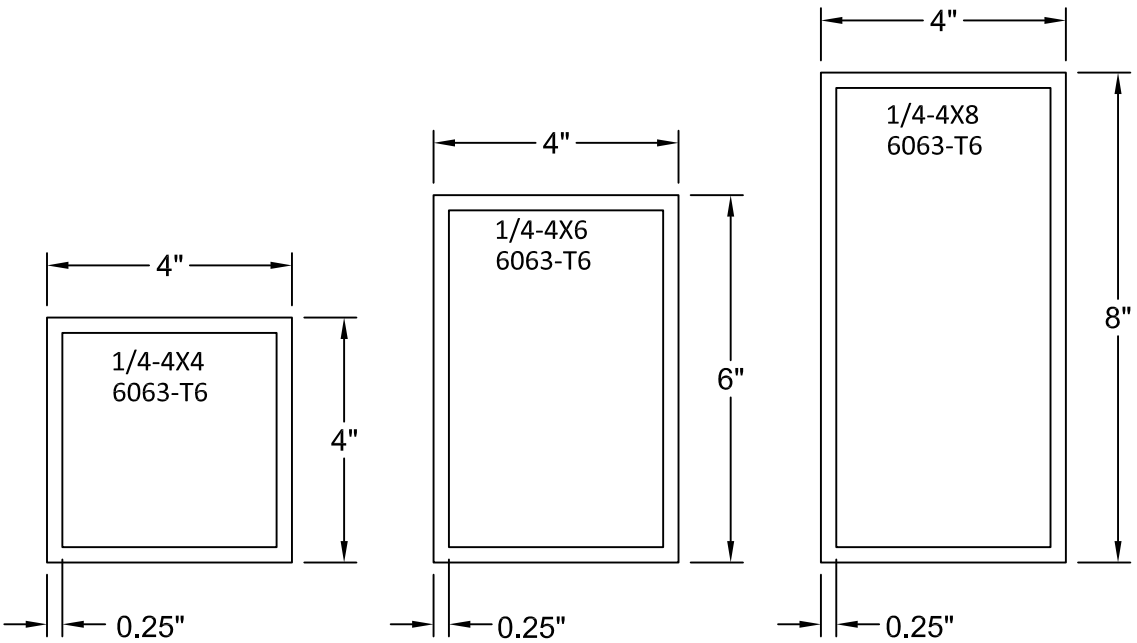
EQUALLY SPACED MULLIONS SELECTION



SM1 = SM2 = SM3

TT Max.	1/4-4x8 MULLION SPAN			1/4-4x6 MULLION SPAN			1/4-4x4 MULLION SPAN		
	144	120	96	144	120	96	144	120	96
286.5	35	40	40	N/A	30	40	N/A	N/A	22
264	38	45	45	N/A	32	45	N/A	N/A	24
240	42	50	50	20	36	50	N/A	N/A	26
216	47	55	55	23	40	55	N/A	N/A	29
204	49	75	75	24	42	75	N/A	N/A	31
168	60	100	100	29	51	100	N/A	N/A	37
144	70	122	125	34	60	117	N/A	22	44
132	77	133	135	38	65	128	N/A	24	48
120	84	146	150	41	72	141	N/A	27	53
108	94	160	160	46	80	156	N/A	30	58
96	106	175	175	52	90	175	N/A	33	66
84	121	185	185	59	103	185	22	38	75
72	141	200	200	69	120	200	26	45	88

- NOTES:
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 - DEFLECTION CRITERIA: MAX. SPAN/175
 - VALUES ABOVE ARE APPLICABLE ONLY FOR EQUAL MODULES SM1=SM2=SM3
 - UNEQUAL MODULES ARE TO BE DESIGNED BY RATIONAL ANALYSIS IN A CASE BY CASE BASIS.



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FAX: 561-841-0852

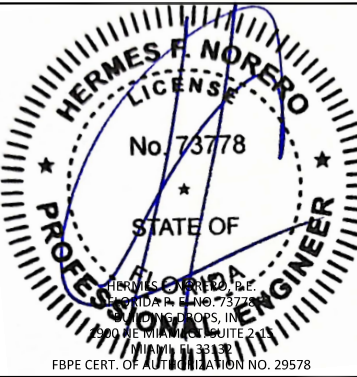
TITLE: 55 MMER ROLL SHUTTERS
(WZ3) (MISSILE LEVEL E IMPACT RATED)
EQUALLY SPACED MULLION

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1900 NE MIAMI CT. SUITE 2-15
MIAMI, FL 33132
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FAX: (954) 744-4738
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REMARKS	BY	DATE
2020 FBC UPDATES	NUS	08.18.20
ANCHOR UPDATE	SM	02.08.21
GUIDE RAIL UPDATE	MS	04.07.22
2023 FBC UPDATE	MS	09.18.23

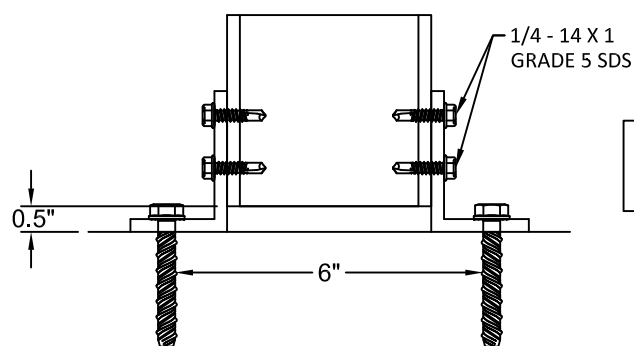
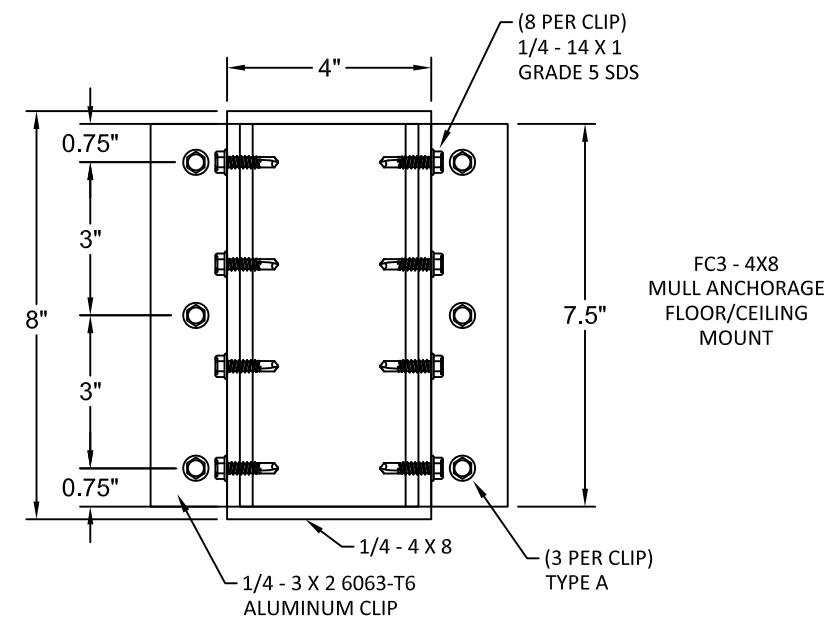
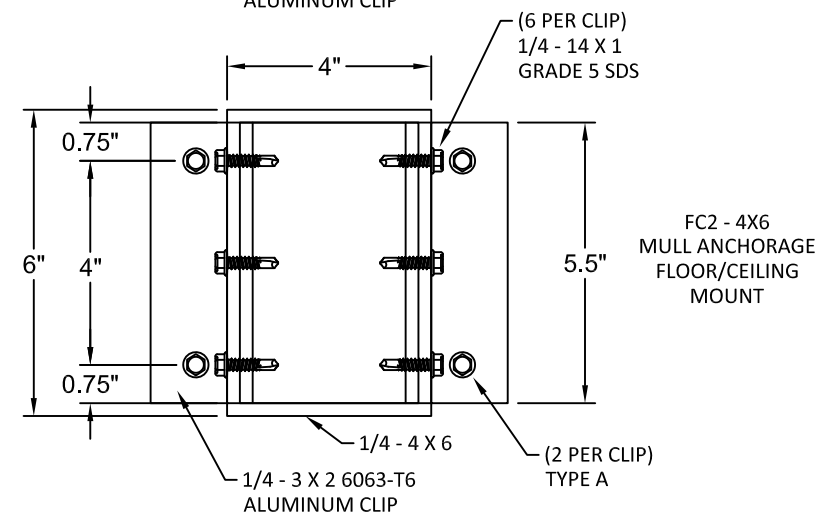
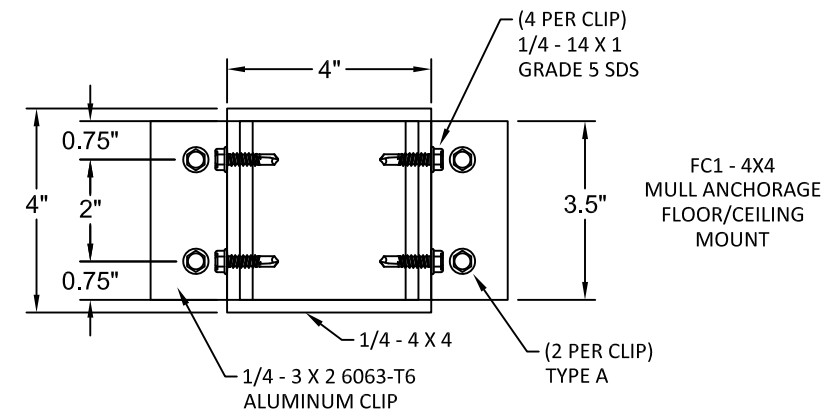
THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC SITE. IF SITE CONDITIONS CAUSE INSTALLATION TO DEVIATE FROM THE REQUIREMENTS DETAILED HEREIN, A LICENSED ENGINEER OR ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE WITH THIS DOCUMENT.



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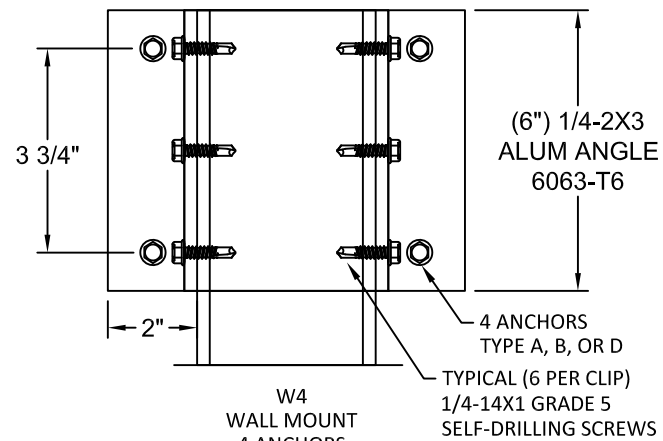
DATE:	06.06.17
DWG. BY:	CHK. BY:
SM	HFN
SCALE:	NTS
DWG. #:	EMS002
SHEET:	OF 23

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NOTE: ANGLE CLIP TO
BE PLACED OUTSIDE OR
INSIDE TUBE

EQUALLY SPACED MULLIONS WALL AND INSET CONNECTIONS



ANCHOR TYPE	WALL MOUNT ANCHOR SELECTION		
	MULLION TYPE		
	4X4	4X6	4X8
A	W4	W4	W4
B	W4	N/A	N/A
D	W4	N/A	N/A
G	W4	N/A	N/A

ANCHOR TYPE	FLOOR/CEILING MOUNT ANCHOR SELECTION		
	MULLION TYPE		
	4X4	4X6	4X8
A	FC1	FC2	FC3

ANCHOR	DESCRIPTION	MATERIAL	EDGE DISTANCE	EMBEDMENT
A	3/8" DEWALT/POWERS SCREW-BOLT+	MIN. 3000 PSI CONCRETE	3 3/4"	3 1/2"
B	5/16" ITW TAPCON	MIN. 3000 PSI CONCRETE	2 3/16"	2 1/4"
D	5/16" ITW TAPCON	GROUT FILLED C-90 BLOCK, f'm ≥ 2000 PSI	4"	2 1/4"
G	5/16" DEWALT/ELCO ULTRA CON	MIN. 3515 PSI CONCRETE	3 1/8"	2"

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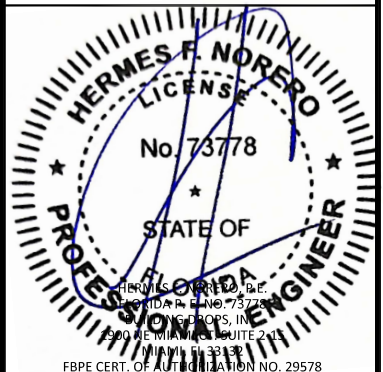
TITLE: 55 MMER ROLL SHUTTERS
(WZ3) (MISSILE LEVEL E IMPACT RATED)
EQUALLY SPACED MULLION
ANCHORS

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REMARKS	BY	DATE
2020 FBC UPDATES	NUS	08.18.20
ANCHOR UPDATE	SM	02.08.21
GUIDE RAIL UPDATE	MS	04.07.22
2023 FBC UPDATE	MS	09.18.23

THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC
AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC
SITE. IF SITE CONDITIONS CAUSE INSTALLATION TO DEVIATE
FROM THE REQUIREMENTS DETAILED HEREIN, A LICENSED
ENGINEER OR ARCHITECT SHALL PREPARE SITE SPECIFIC
DOCUMENTS FOR USE WITH THIS DOCUMENT.

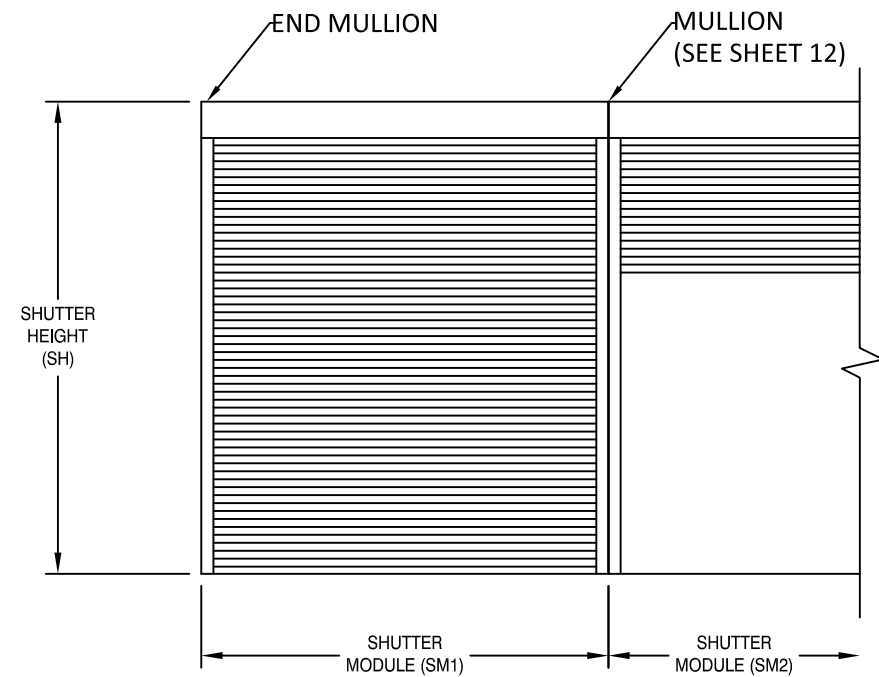
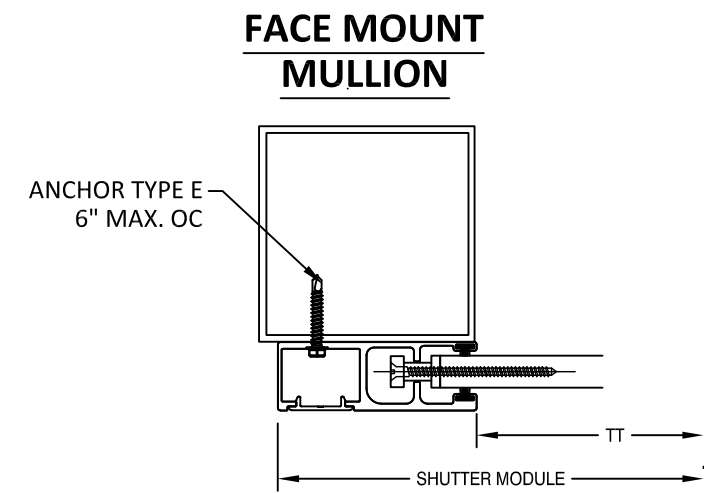


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DATE:	06.06.17
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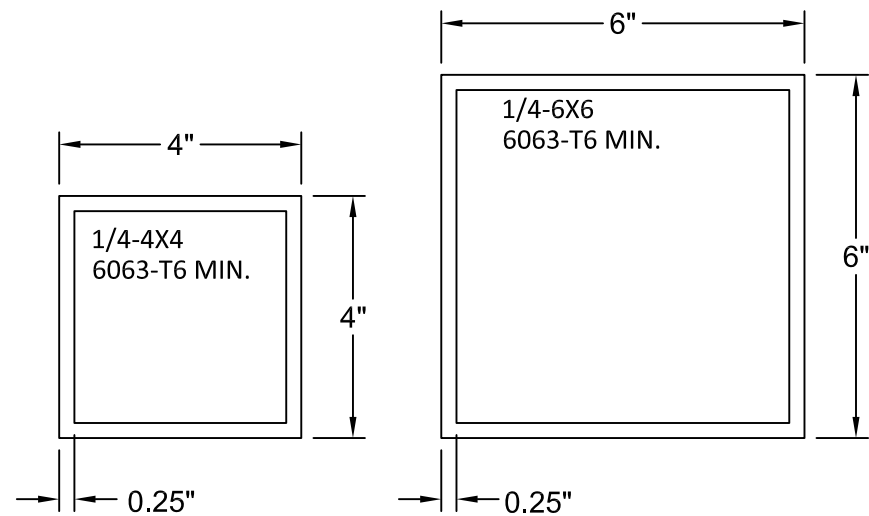
END MULLION SELECTION



SM1 = SM2

MAXIMUM END MULLION SPANS AND DESIGN PRESSURES			
TT MAX (in)	ALLOWABLE DP (PSF)	ALLOWABLE MULLION SPANS (FT)	
		4" x 4" X 0.25" 6063-T6 MIN.	6" x 6" X 0.25" 6063-T6 MIN.
72	200	12.00	12.00
84	185	12.00	12.00
96	175	12.00	12.00
108	160	11.93	12.00
120	150	11.49	12.00
132	135	11.16	12.00
144	125	10.92	12.00
168	100	10.65	12.00
204	75	10.04	12.00
216	55	9.70	12.00
240	50	10.82	12.00
264	45	11.03	12.00
286.5	40	11.41	12.00

- NOTES:
- MULLIONS WERE DESIGNED BY RATIONAL ANALYSIS BASED ON THE ALUMINUM DESIGN MANUAL AND THE FLORIDA BUILDING CODE. ABOVE LOADS ARE ALSO LIMITED BY THE MAX. CAPACITY OF THE PRODUCT.
 - VALUES ABOVE ARE APPLICABLE FOR END MULLIONS ONLY



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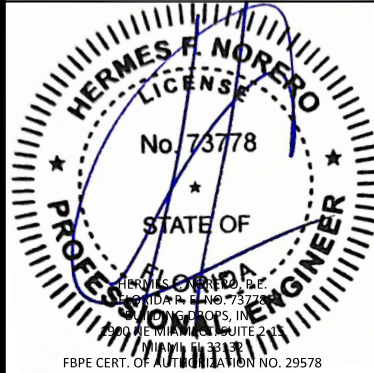
TITLE: 55 MMER ROLL SHUTTERS
(WZ3) (MISSILE LEVEL E IMPACT RATED)
END MULLION

PREPARED BY:
BUILDING DROPS, INC.
1900 NE MIAMI CT. SUITE 2-15
MIAMI, FL 33132
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REMARKS	BY	DATE
2020 FBC UPDATES	NUS	08.18.20
ANCHOR UPDATE	SM	02.08.21
GUIDE RAIL UPDATE	MS	04.07.22
2023 FBC UPDATE	MS	09.18.23

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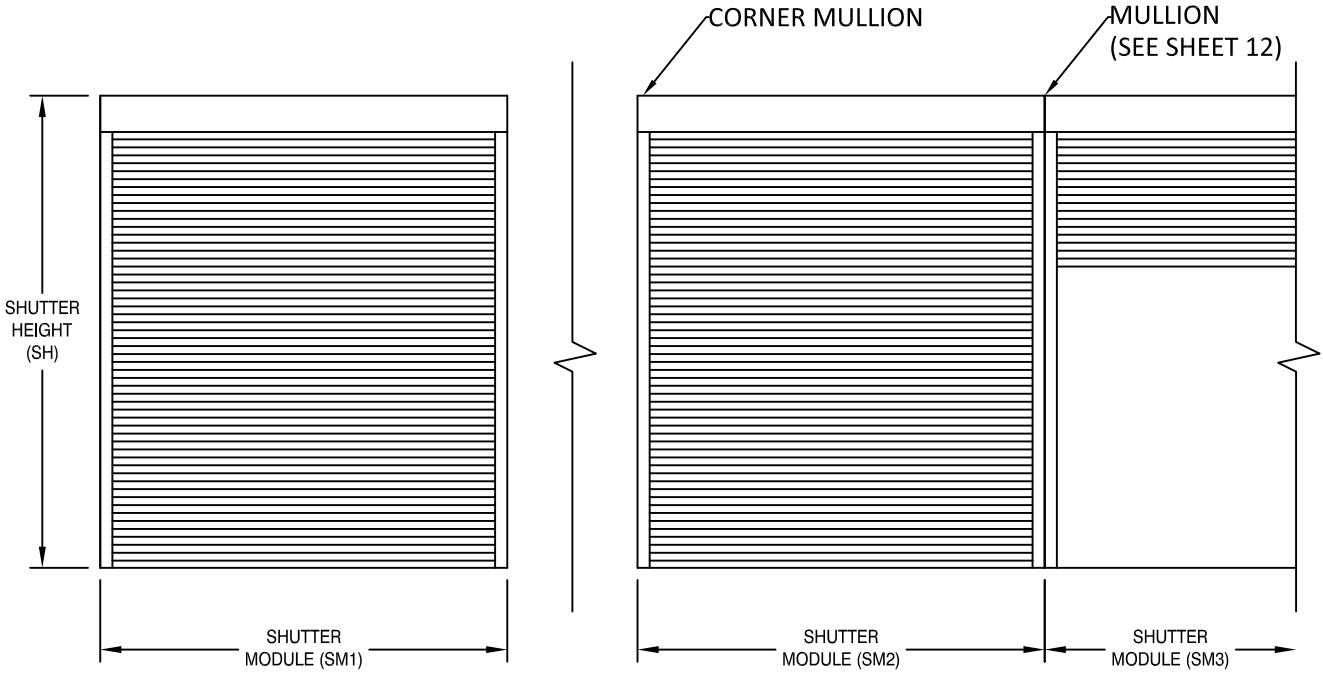
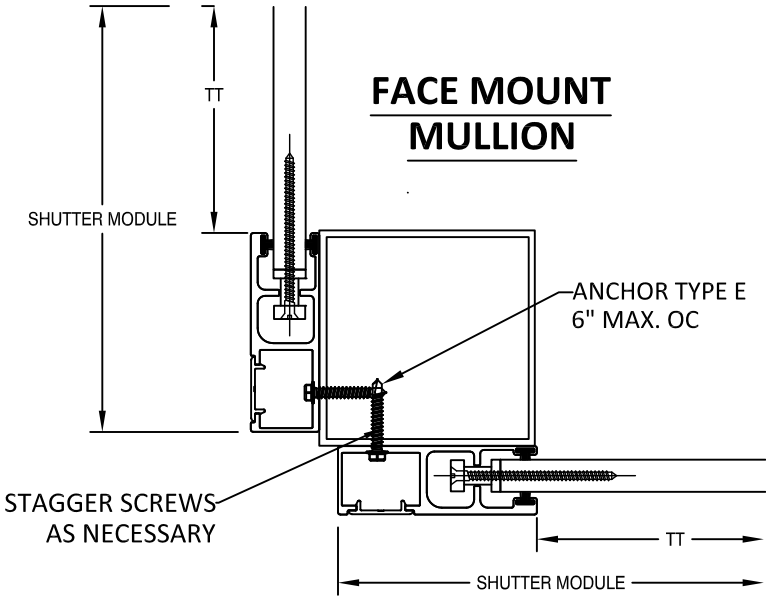
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18

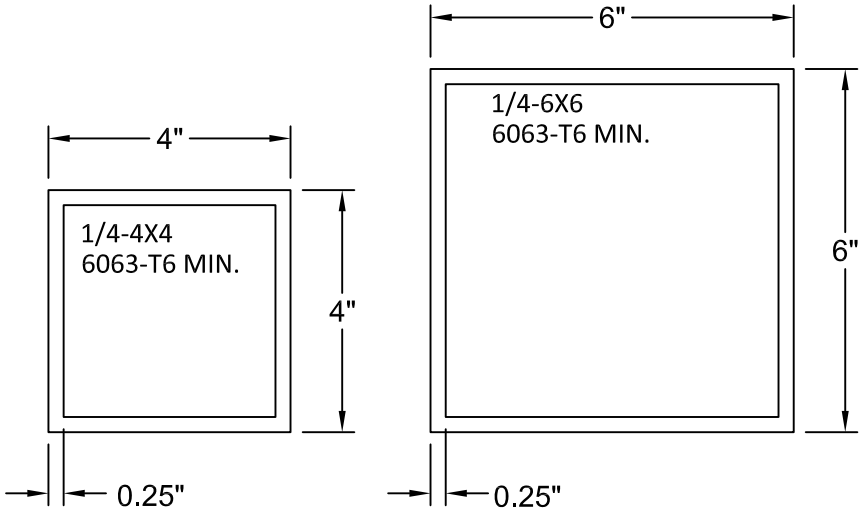
CORNER MULLION SELECTION



SM1 = SM2 = SM3

MAXIMUM CORNER MULLION SPANS AND DESIGN PRESSURES			
TT MAX (in)	ALLOWABLE DP (PSF)	ALLOWABLE MULLION SPANS (FT)	
		4" x 4" X 0.25" 6063-T6 MIN.	6" x 6" X 0.25" 6063-T6 MIN.
72	200	10.75	12.00
84	185	9.88	12.00
96	175	9.19	12.00
108	160	8.70	12.00
120	150	8.29	12.00
132	135	8.02	12.00
144	125	7.80	12.00
168	100	7.61	11.78
204	75	7.10	10.99
216	55	6.87	10.63
240	50	7.95	12.00
264	45	8.16	12.00
286.5	40	8.56	12.00

- NOTES:
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 - VALUES ABOVE ARE APPLICABLE FOR CORNER MULLIONS ONLY WITH EQUAL WIDTH SHUTTERS ON BOTH SIDES, UNEQUAL SHUTTERS SHALL BE EVALUATED ON A CASE BY CASE BASIS.



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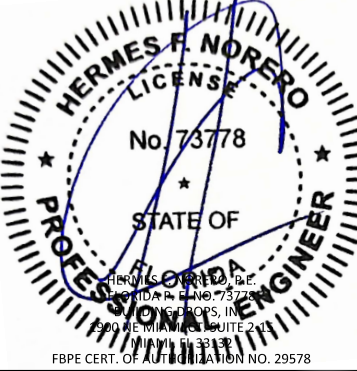
TITLE: 55 MMER ROLL SHUTTERS
(WZ3) (MISSILE LEVEL E IMPACT RATED)
CORNER MULLION

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REMARKS	BY	DATE
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GUIDE RAIL UPDATE	MS	04.07.22
2023 FBC UPDATE	MS	09.18.23

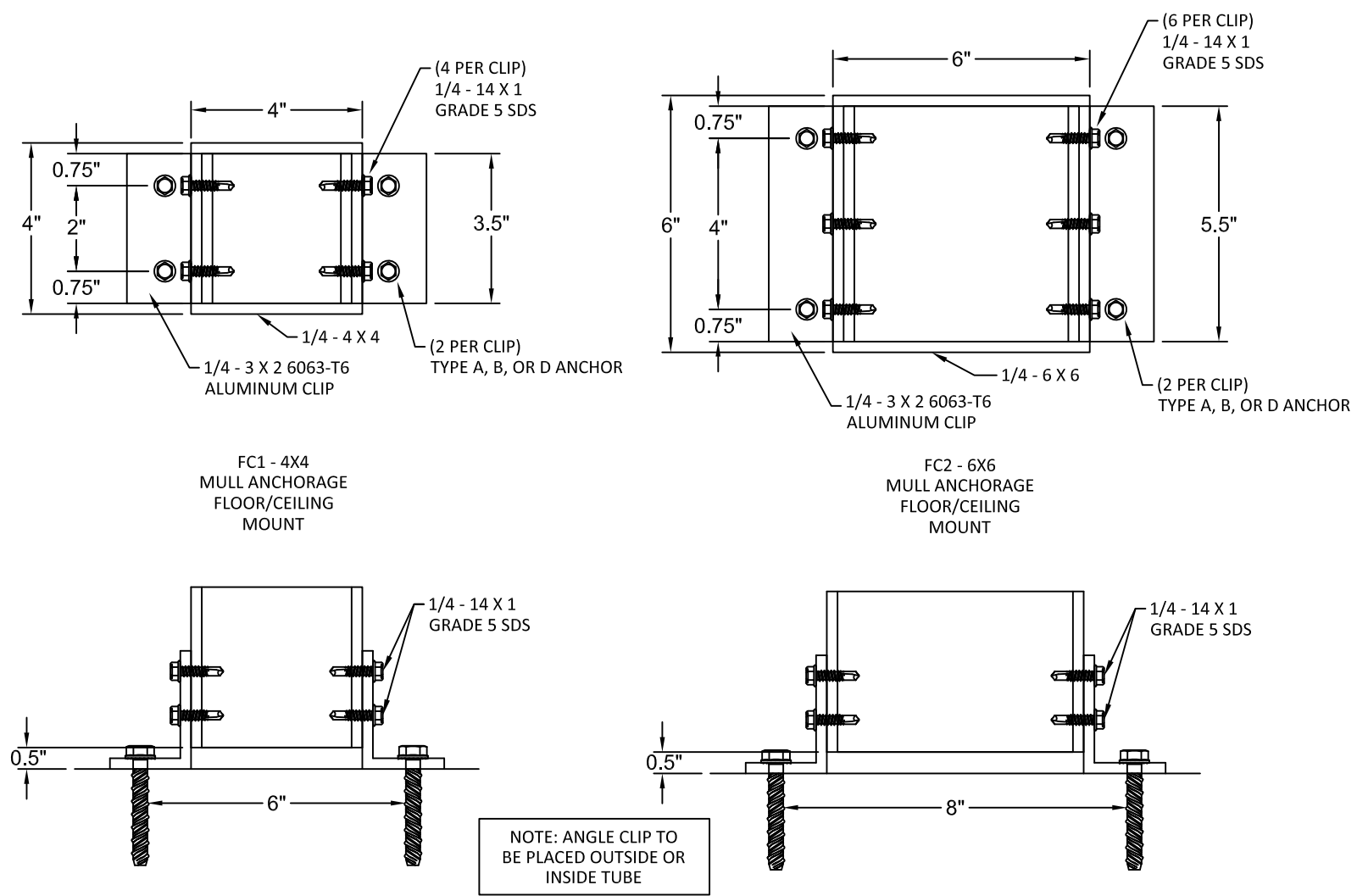
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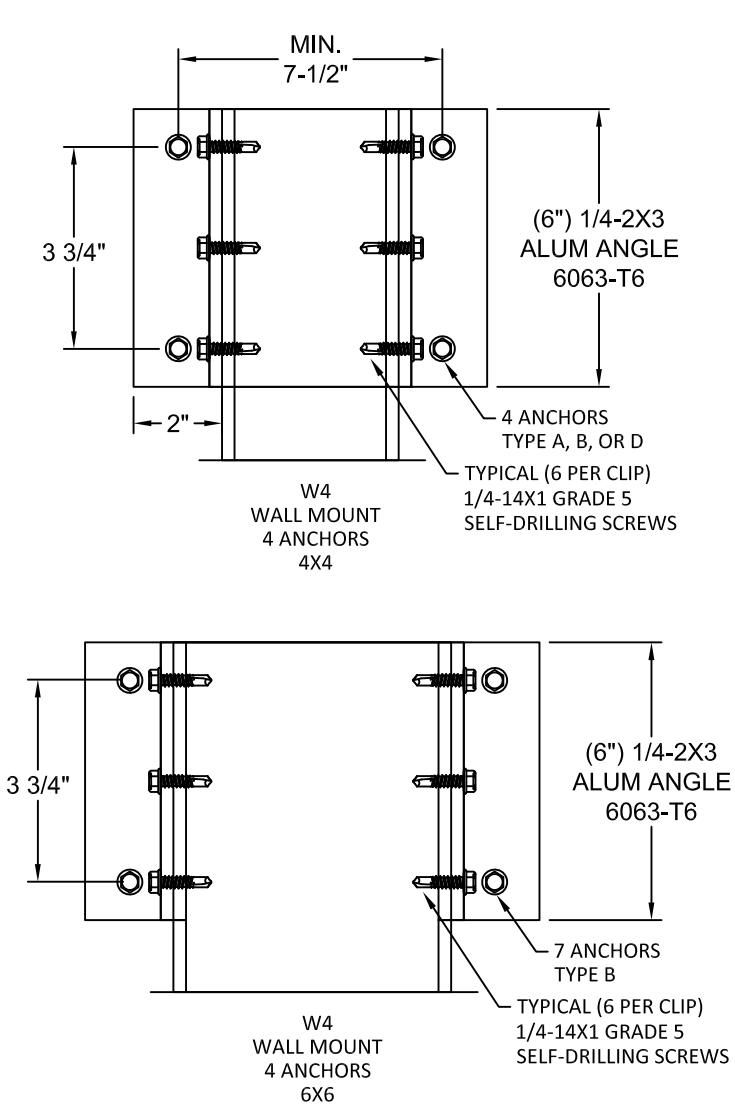
END MULLION AND CORNER MULLION WALL AND INSET CONNECTIONS



MULL FLOOR/CEILING MOUNT ANCHOR SELECTION				
ANCHOR TYPE	END MULLION TYPE		CORNER MULLION TYPE	
	4X4	6X6	4X4	6X6
A	FC1	FC2	FC1	FC2
B	N/A	FC2	N/A	N/A
D	N/A	FC2	N/A	N/A
G	N/A	FC2	N/A	N/A

ANCHOR	DESCRIPTION	MATERIAL	EDGE DISTANCE	EMBEDMENT
A	3/8" DEWALT/POWERS SCREW-BOLT+	MIN. 3000 PSI CONCRETE	3 3/4"	3 1/2"
B	5/16" ITW TAPCON	MIN. 3000 PSI CONCRETE	2 3/16"	2 1/4"
D	5/16" ITW TAPCON	GROUT FILLED C-90 BLOCK, f'm ≥ 2000 PSI	4"	2 1/4"
G	5/16" DEWALT/ELCO ULTRACON	MIN. 3515 PSI CONCRETE	3 1/8"	2"

END MULLION WALL CONNECTIONS



WALL MOUNT ANCHOR SELECTION		
ANCHOR TYPE	END MULLION TYPE	
	4X4	6X6
A	W4	W4
B	W4	W4
D	W4	W4
G	W4	W4



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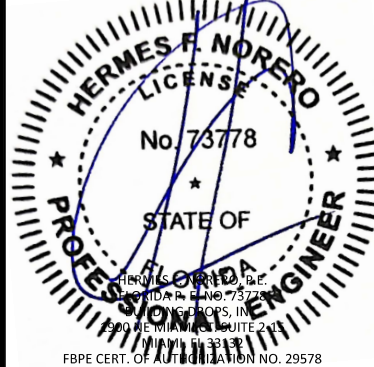
TITLE: 55 MMER ROLL SHUTTERS
(WZ3) (MISSILE LEVEL E IMPACT RATED)
END MULLION ANCHORS

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REMARKS	BY	DATE
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ANCHOR UPDATE	SM	02.08.21
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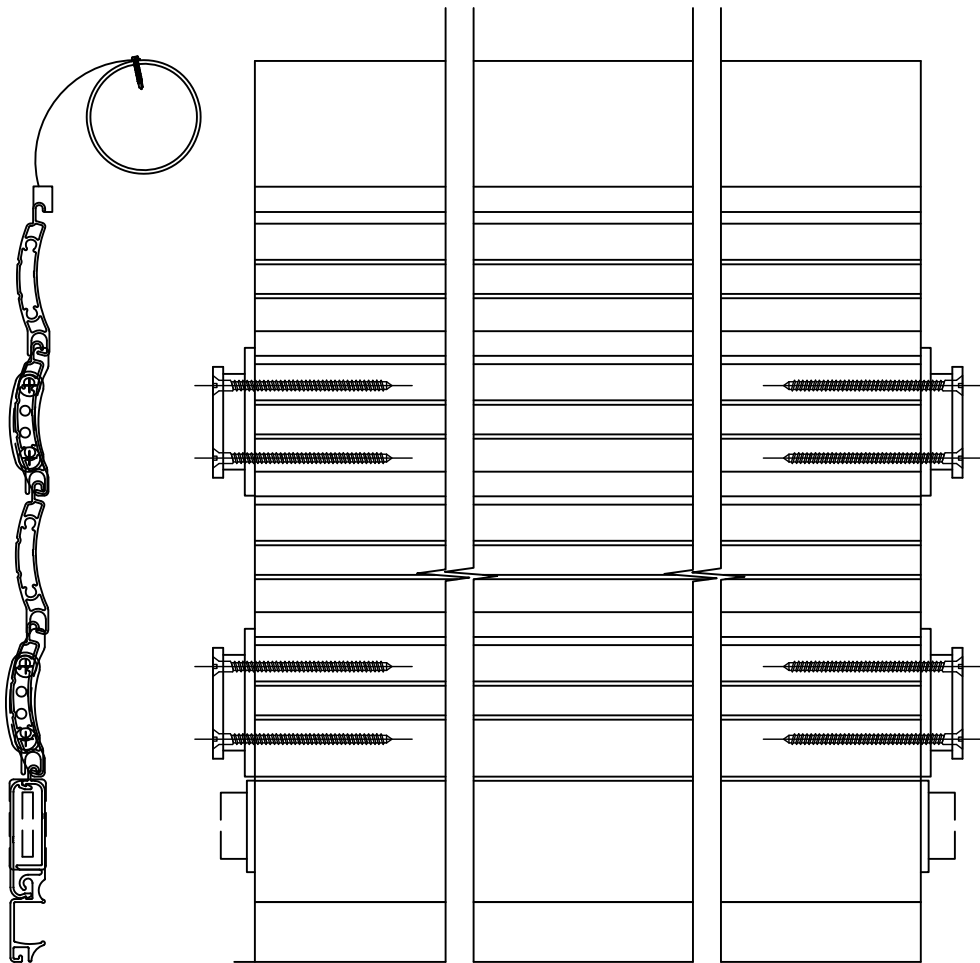


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SLAT END RETENTION LAY-OUT

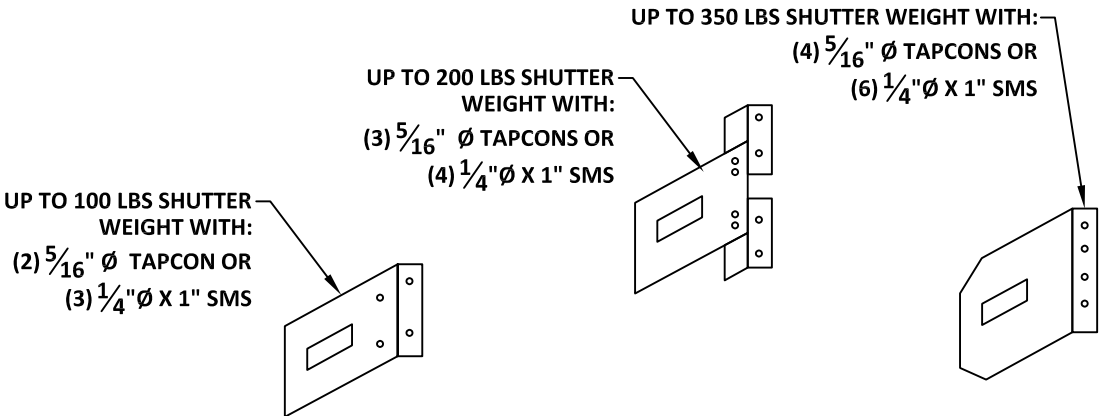


#10 X 2.5" PFH 18-8 S/S SMS , TWO (2) PER END RETENTION SLAT LOCK GUIDE, WITH A HV COATING SYSTEM AS MANUFACTURED BY AN APPROVED COATING APPLICATOR REGISTERED WITH THE AMERICAN SHUTTER SYSTEMS ASSOCIATION.

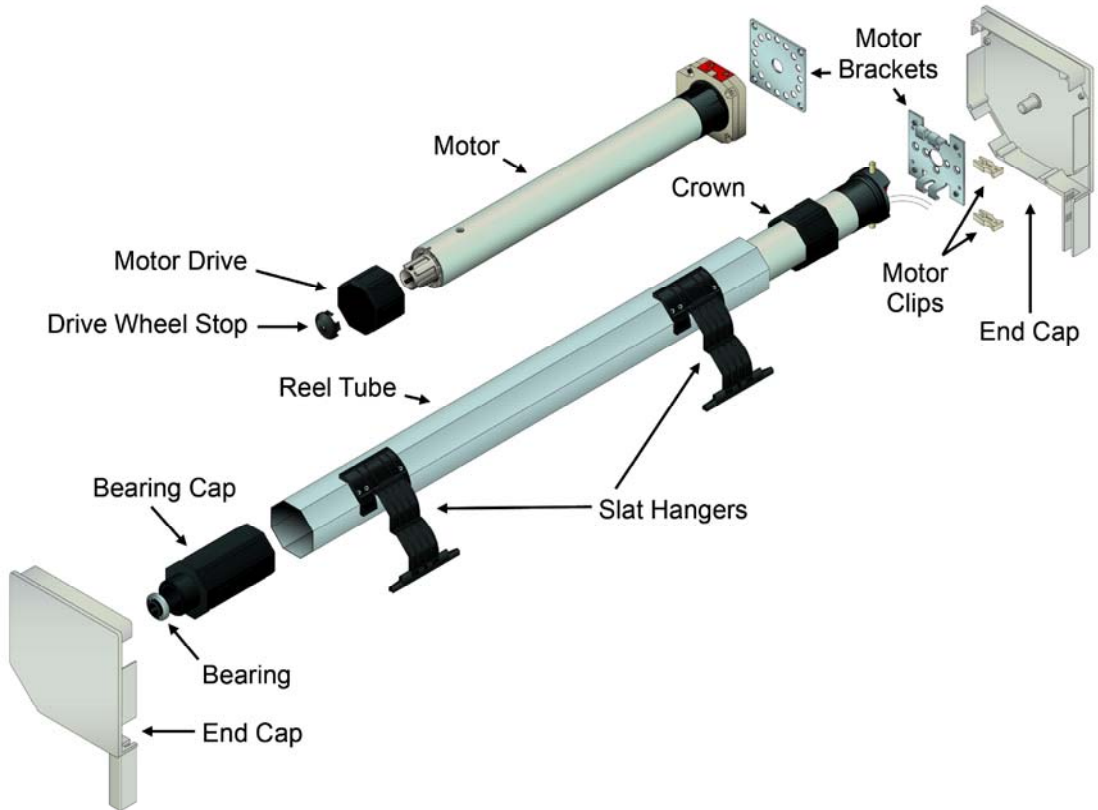
NOTES:

1. SLAT END RETENTION LOCK TO BE AT EVERY OTHER SLAT
2. INSTALLATION SCREWS SHALL BE COATED WITH A HV COATING SYSTEM AS MANUFACTURED BY AN APPROVED COATING APPLICATOR REGISTERED WITH THE AMERICAN SHUTTER SYSTEMS ASSOCIATION.

MOUNTING BRACKET



ROLL-UP MECHANISM EXPLODED



NOTES:

1. THE ROLL-UP MECHANISM (GEARS, MOTOR, SUPPORTING END PLATES) ARE NOT A PART OF THIS APPROVAL AND SHALL BE SELECTED BASED ON MANUFACTURER'S SPECIFICATIONS.
2. 60MM, 70MM, OR 94MM DIAMETER REEL TUBE PER MANUFACTURER SPECIFICATION
3. TUBULAR MOTOR MAY BE REPLACED WITH GEAR FOR MANUAL OPERATION.
4. OPTIONAL BOTTOM LOCK IS NOT REQUIRED FOR STRUCTURAL OR FORCED ENTRY RESISTANCE PERFORMANCE. FOR USE ON MAXIMUM 20' WIDE UNIT.
5. BASE SLAT IS OPTIONAL AND IS NOT REQUIRED FOR STRUCTURAL OR FORCED ENTRY RESISTANCE PERFORMANCE. FOR USE ON MAXIMUM 20' WIDE UNIT.



4268 WESTROADS DRIVE
WEST PALM BEACH, FL 33407
PH: 1-800-432-2204
FAX: 561-841-0852

TITLE: 55 MMER ROLL SHUTTERS
(WZ3) (MISSILE LEVEL E IMPACT RATED)

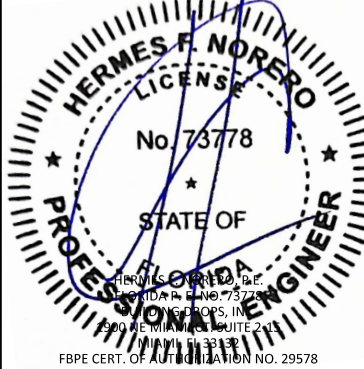
SLAT END RETENTION & HOOD
ASSEMBLY

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BUILDING DROPS, INC.
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MIAMI, FL 33132
PH: (954) 999-8478
FAX: (954) 744-4738
WEB: www.buildingdrops.com



REMARKS	BY	DATE
2020 FBC UPDATES	NUS	08.18.20
ANCHOR UPDATE	SM	02.08.21
GUIDE RAIL UPDATE	MS	04.07.22
2023 FBC UPDATE	MS	09.18.23

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(WZ3) (MISSILE LEVEL E IMPACT RATED)
VIEWPORT AND VENT DETAILS

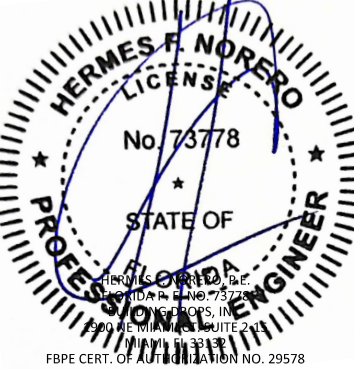
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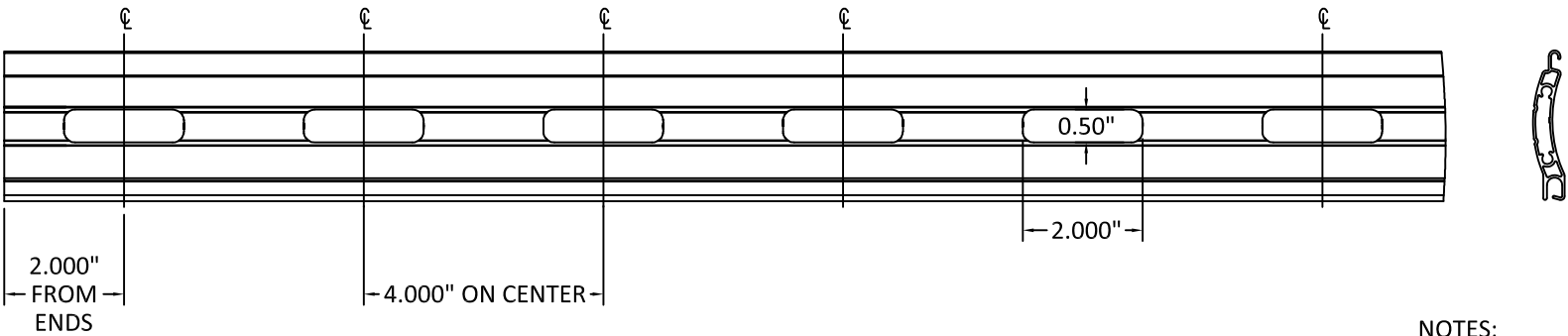
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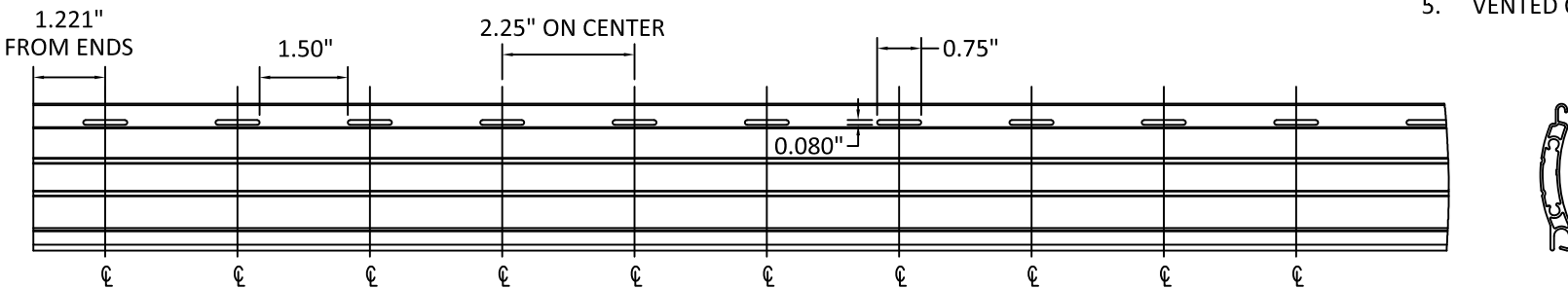
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VIEWPORT SLAT DETAIL



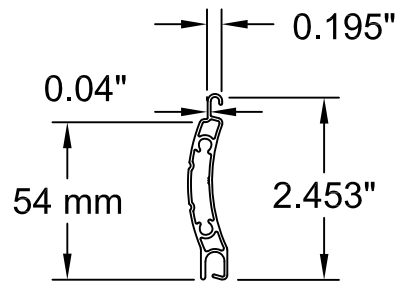
- NOTES:
1. USE OF VIEWPORT SLATS SHALL BE LIMITED TO EVERY OTHER SLAT. MAY BE USED FOR FULL DOOR HEIGHT, EXCEPT FOR WITHIN 36\"/>

VENTED SLAT DETAIL

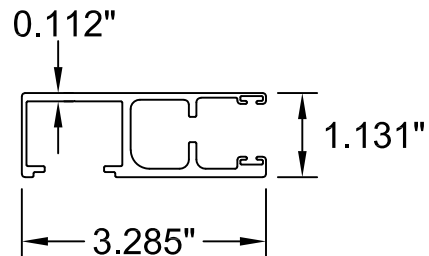


BILL OF MATERIALS		
ITEM NO.	DESCRIPTION	MATERIAL
1	55 mm SLAT	6063-T6
2	LARGE GUIDE RAIL	6063-T6
2A	LARGE GUIDE RAIL - ENCLOSED	6063-T6
3	SMALL GUIDE RAIL	6063-T6
3A	SMALL GUIDE RAIL - ENCLOSED	6063-T6
4	COVER CAP	6063-T6
5	SLAT LOCK - 2 PIECE	POLYACETAL
5A	SLAT LOCK - 1 PIECE	POLYACETAL
6	BOTTOM SLAT COVER	6063-T6
7	BOTTOM SLAT	6063-T6

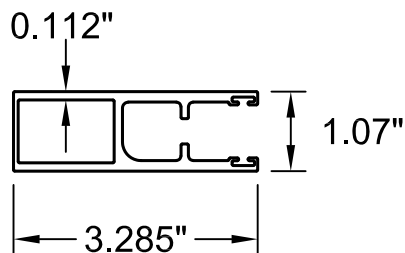
1 SLAT
6063-T6



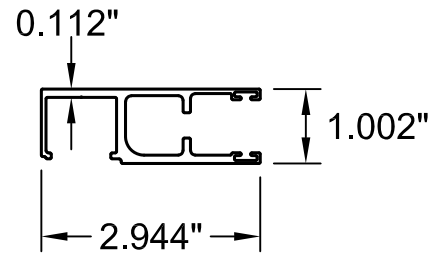
2 LARGE GUIDE RAIL
6063-T6



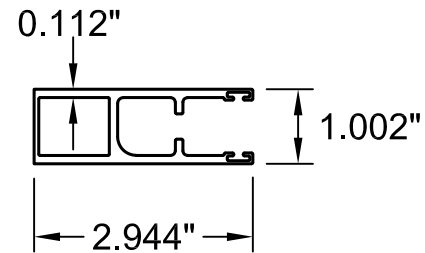
2A LARGE GUIDE RAIL
ENCLOSED
6063-T6



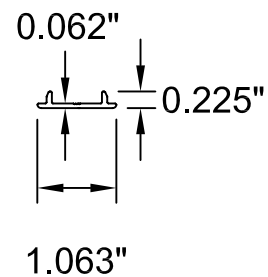
3 SMALL GUIDE RAIL
6063-T6



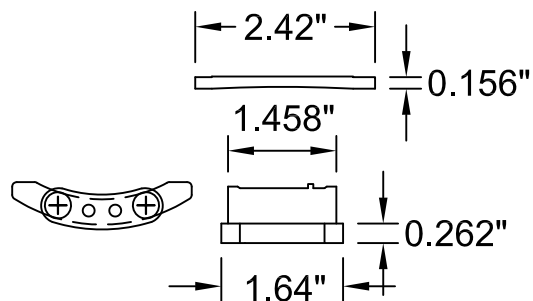
3A SMALL GUIDE RAIL
ENCLOSED
6063-T6



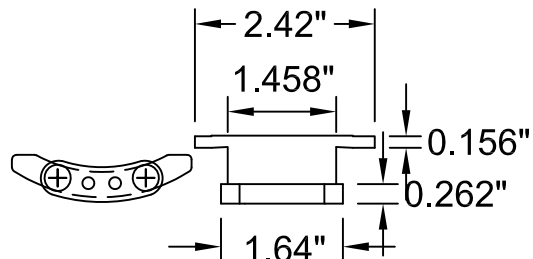
4 COVER CAP
6063-T6



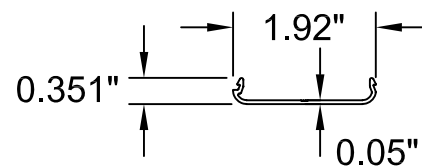
5 SLAT LOCK - 2 PIECE
POLYACETAL



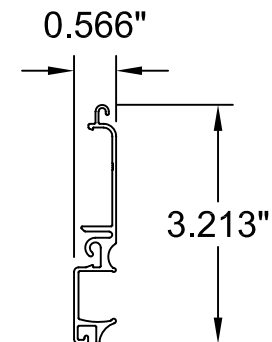
5A SLAT LOCK - 1 PIECE
POLYACETAL



6 BOTTOM SLAT
COVER



7 BOTTOM SLAT



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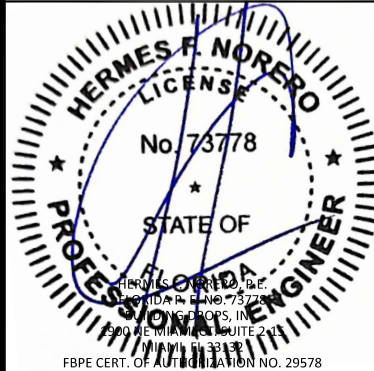
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BOM & COMPONENTS

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