

AMERICAN SHUTTER SYSTEMS ASSOCIATION

55 MMR ROLL SHUTTER (HVHZ) (IMPACT) ESSENTIAL FACILITIES APPROVED

GENERAL NOTES:

- THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH THE CURRENT FLORIDA BUILDING CODE (FBC), INCLUDING HVHZ AND HAS BEEN EVALUATED ACCORDING TO THE FOLLOWING:
 - TAS 201-94
 - TAS 202-94
 - TAS 203-94
 - ASTM E330-14
 - ASTM E1886-19
 - ASTM E1996-20
- 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.
- 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.
- 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.
- INSTALLATION OF ROLL DOWN MAY EITHER BE INSIDE OR OUTSIDE OF THE TIE BEAM.
- ALL EXTRUSION MATERIAL: 6063-T6 ALUMINUM ALLOY, UNLESS OTHERWISE NOTED.
- 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.
- FOR DESIGN PRESSURES SEE SHEET 2. SEE SHEET 16, 18 AND 19 FOR DESIGN PRESSURES BASED ON MULLIONS.
- HOOD ASSEMBLY IS IMPACT RATED AND CAN BE PLACED INSIDE FRAME OPENING AS AN EXPOSED FEATURE.
- OPTIONAL BOTTOM LOCK IS NOT REQUIRED FOR STRUCTURAL OR FORCED ENTRY RESISTANCE PERFORMANCE. FOR USE ON MAXIMUM 20' WIDE UNIT.
- VENTED OR UNVENTED SLATS QUALIFIED.
- SHUTTER MANUFACTURER LABEL SHALL BE LOCATED IN A READILY VISIBLE LOCATION, PER FBC CHAPTER 17.

INSTALLATION NOTES:

- ONE (1) INSTALLATION ANCHOR IS REQUIRED AT EACH ANCHOR LOCATION SHOWN, UNLESS OTHERWISE STATED.
- THE NUMBER OF INSTALLATION ANCHORS DEPICTED IS THE MINIMUM NUMBER OF ANCHORS TO BE USED FOR PRODUCT INSTALLATION.
- 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.
- REFER TO ANCHOR SCHEDULE CHART ON SHEETS 5, 6, 7, 9, 11, 12, & 14 FOR ANCHOR TYPE, SUBSTRATE TYPE, EDGE DISTANCE AND MINIMUM EMBEDMENT.
- MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDE WALL FINISHES, INCLUDING BUT NOT LIMITED TO STUCCO, FOAM, BRICK VENEER, AND SIDING.
- ASSEMBLY FASTENERS SHALL BE COATED WITH AN HV COATING SYSTEM AS MANUFACTURED BY AN APPROVED COATING APPLICATOR REGISTERED WITH THE AMERICAN SHUTTER SYSTEMS ASSOCIATION.
- EDGE DISTANCE IS MEASURED FROM FREE EDGE OF BLOCK OR EDGE OF MORTAR JOINT INTO FACE SHELL OF BLOCK.
- 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.
- INSTALLATION ANCHOR CAPACITIES FOR PRODUCTS HEREIN ARE BASED ON SUBSTRATE MATERIALS WITH THE FOLLOWING PROPERTIES:
 - WOOD - MINIMUM SPECIFIC GRAVITY OF 0.55.
 - CONCRETE -MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI. SEE ANCHOR SCHEDULES, SHEETS 5, 6, 8, 12, 14, 17 AND 20 FOR ADDITIONAL REQUIREMENTS.
 - MASONRY - STRENGTH CONFORMANCE TO ASTM C-90, MIN 2000 PSI.
 - STEEL - MINIMUM A36, $\frac{3}{16}$ " THICKNESS
 - ALUMINUM - MINIMUM 6063-T6 $\frac{1}{4}$ " THICKNESS.

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TITLE: 55 MMR ROLL SHUTTERS
(HVHZ) (IMPACT)
ESSENTIAL FACILITIES APPROVED
GENERAL & INSTALLATION NOTES

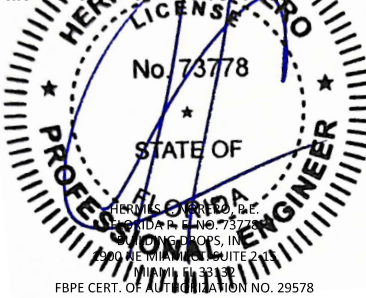
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REMARKS	BY	DATE
2020 FBC UPDATE	NUS	08.18.20
ANCHOR UPDATE	SM	02.08.21
GUIDE RAIL UPDATE	MS	04.07.22
2023 FBC UPDATE	MS	09.18.23

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Reason: I am approving this document
Date: 2023.10.19 14:15:00 -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

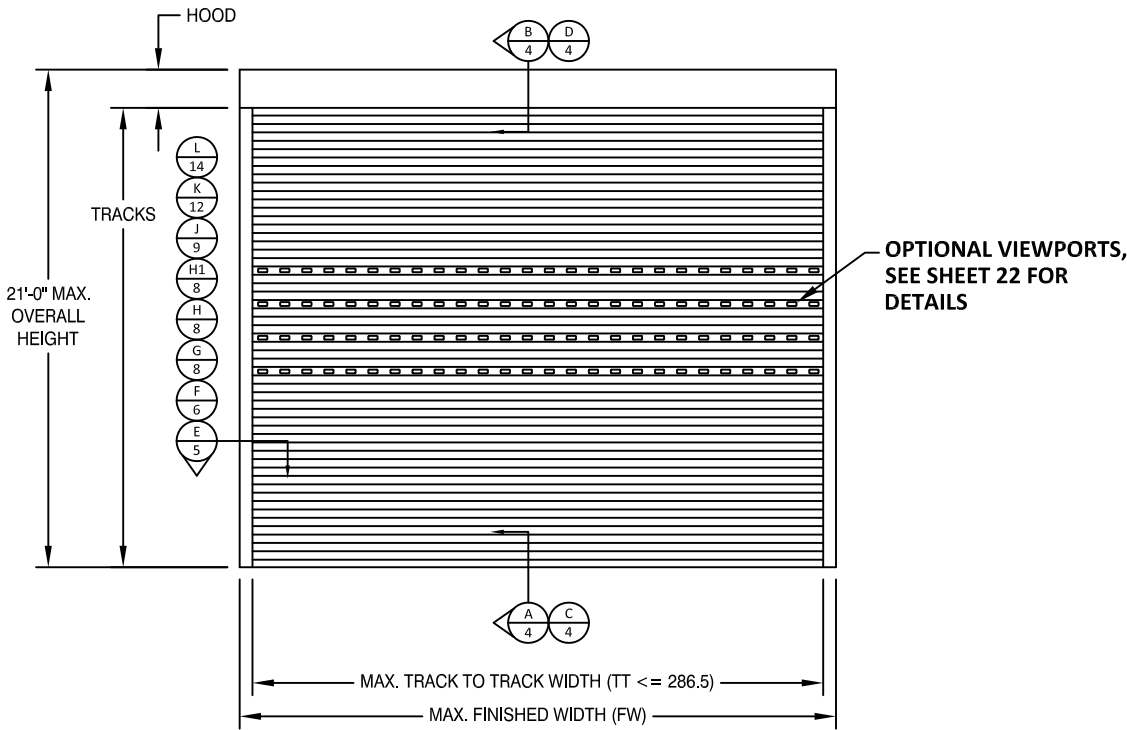
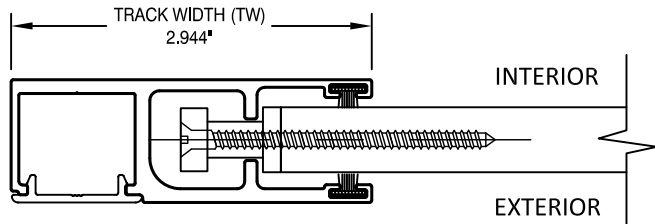
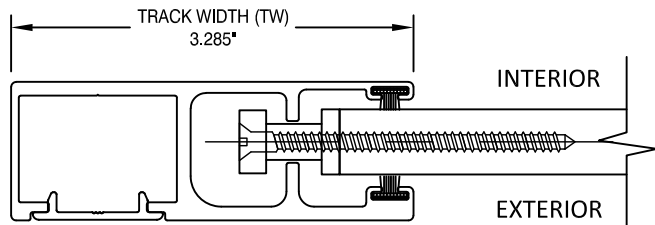


TABLE 2: GLASS SEPARATION (GS) INCHES													
LOAD (PSF)	TRACK TO TRACK (IN)												
	72	84	96	108	120	132	144	168	204	216	240	264	286.5
40	5.13	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	8.13	8.13	9.50	12.25
45	5.13	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.50	8.13	8.50	10.75	-
50	5.13	6.31	6.31	6.31	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:
1. MINIMUM GLASS SEPARATION BASED ON MAXIMUM DEFLECTION + 1".
 2. ANALYSIS IS LIMITED BY DEFLECTION UNDER STRUCTURAL LOADS AS WELL AS DEFLECTION DUE TO MISSILE LEVEL E LARGE MISSILE IMPACTS.
 3. APPROPRIATE INSTALLATION METHOD SHALL BE USED TO ACHIEVE THE REQUIRED SEPARATION IN THE ABOVE TABLE



SMALL GUIDE RAIL WITH END RETENTION



LARGE GUIDE RAIL WITH END RETENTION

ASSA

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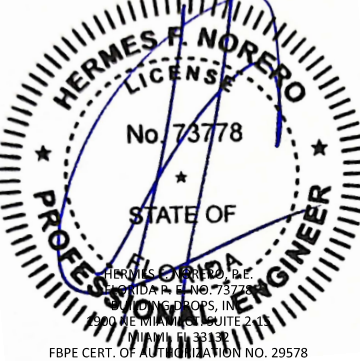
TITLE: 55 MMER ROLL SHUTTERS (HVHZ) (IMPACT) ESSENTIAL FACILITIES APPROVED ELEVATION & DESIGN PRESSURE TABLE

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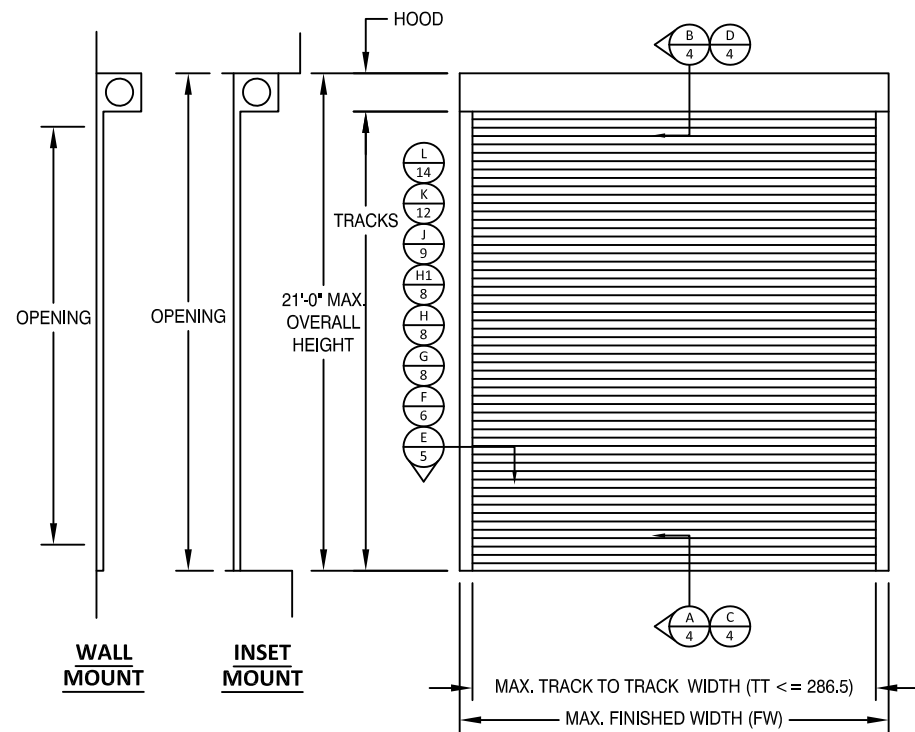
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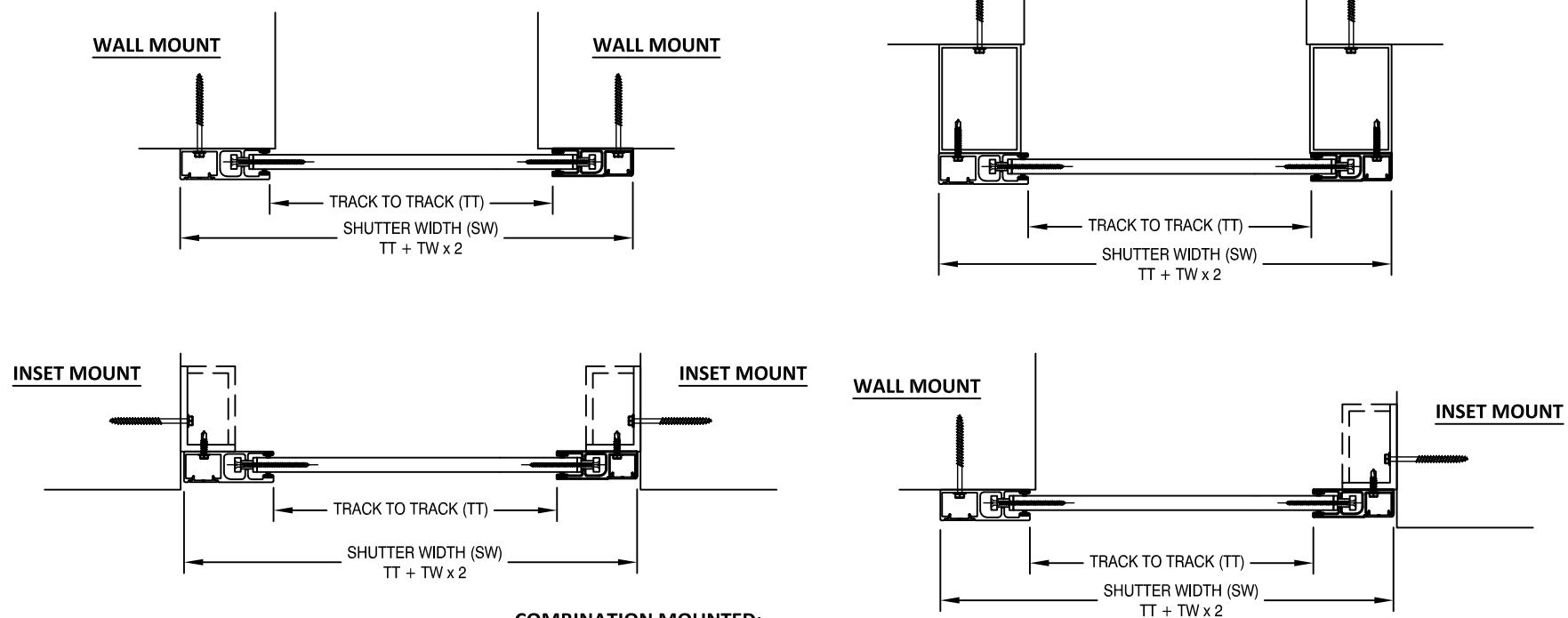
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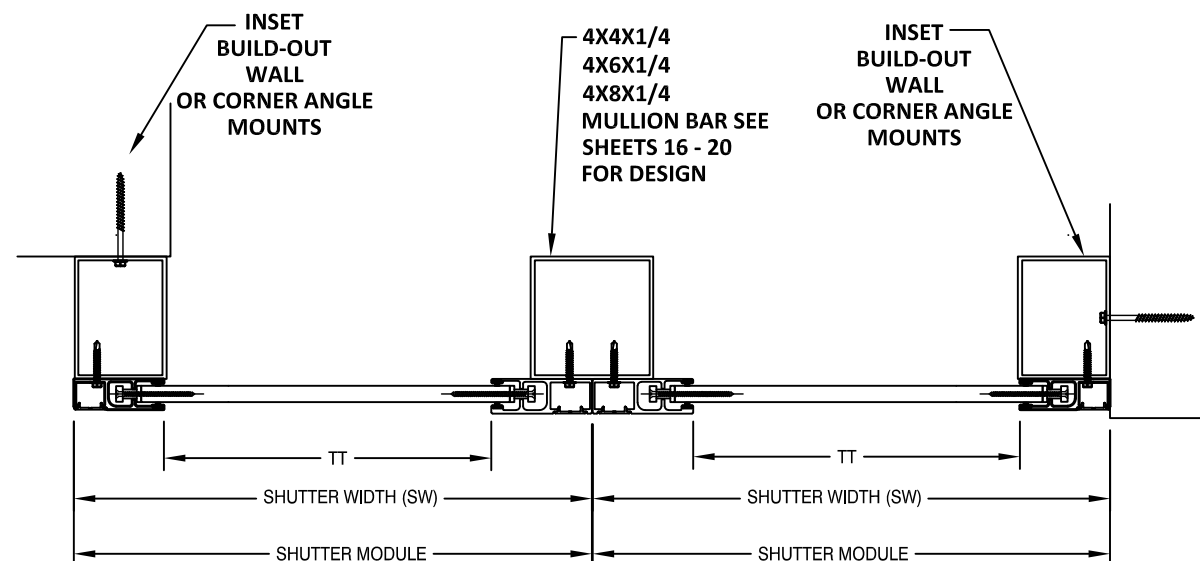
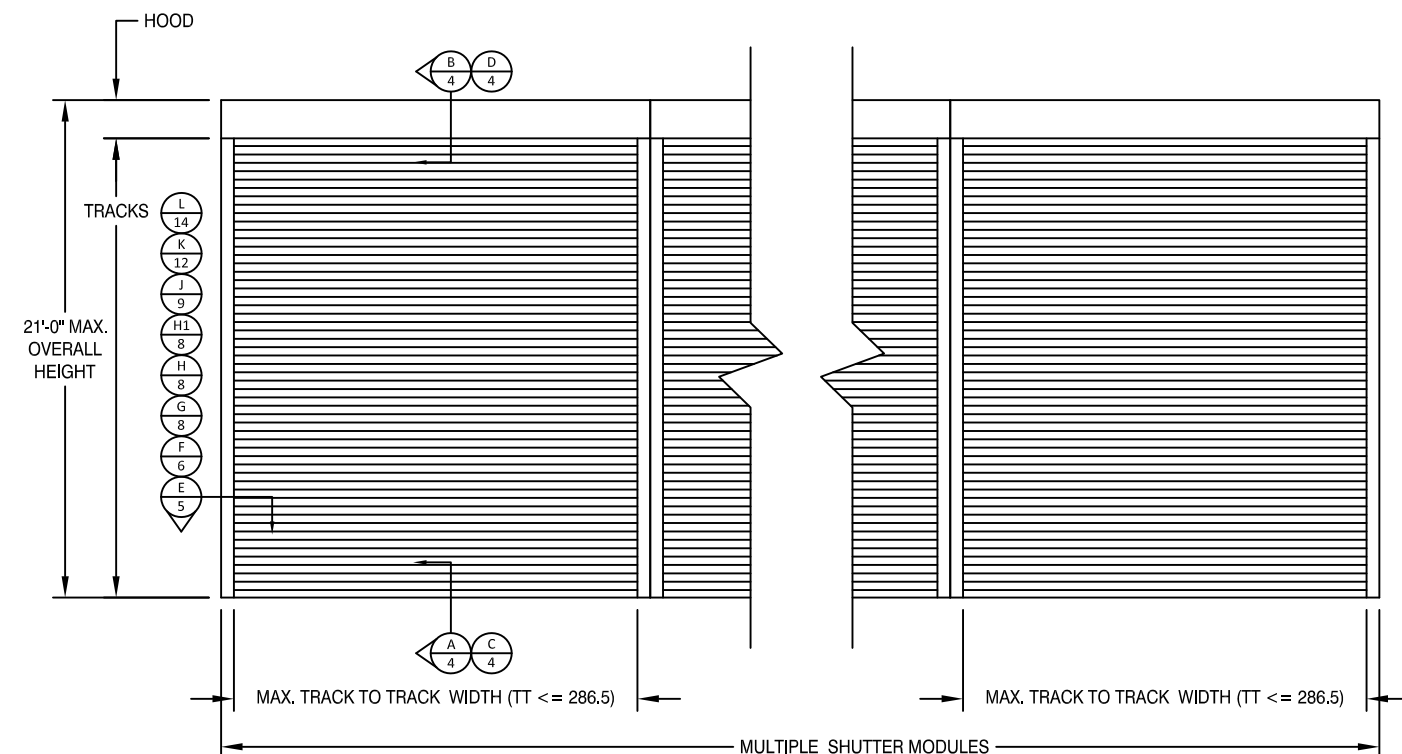
REVERSED INSTALLATION IS ACCEPTABLE

TYPICAL SINGLE UNIT ELEVATION



COMBINATION MOUNTED:
WALL, INSET, BUILD-OUT, AND CORNER ANGLE MOUNTS CAN
BE INSTALLED BY MIXING ANY POSSIBLE COMBINATIONS. SEE
PAGE 12 FOR FURTHER DETAILS OF OFFSET INSET MOUNT
AND PAGE 14 FOR CORNER ANGLE MOUNTING.

TYPICAL MULTIPLE UNITS ELEVATION



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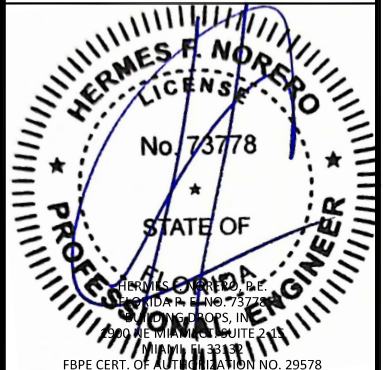
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TYPICAL VERTICAL SECTIONS



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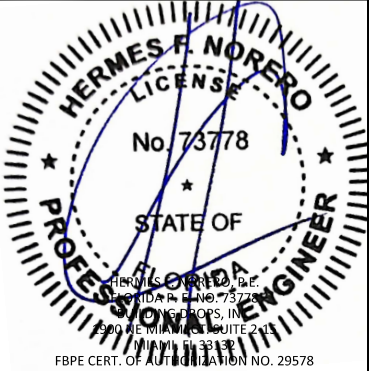
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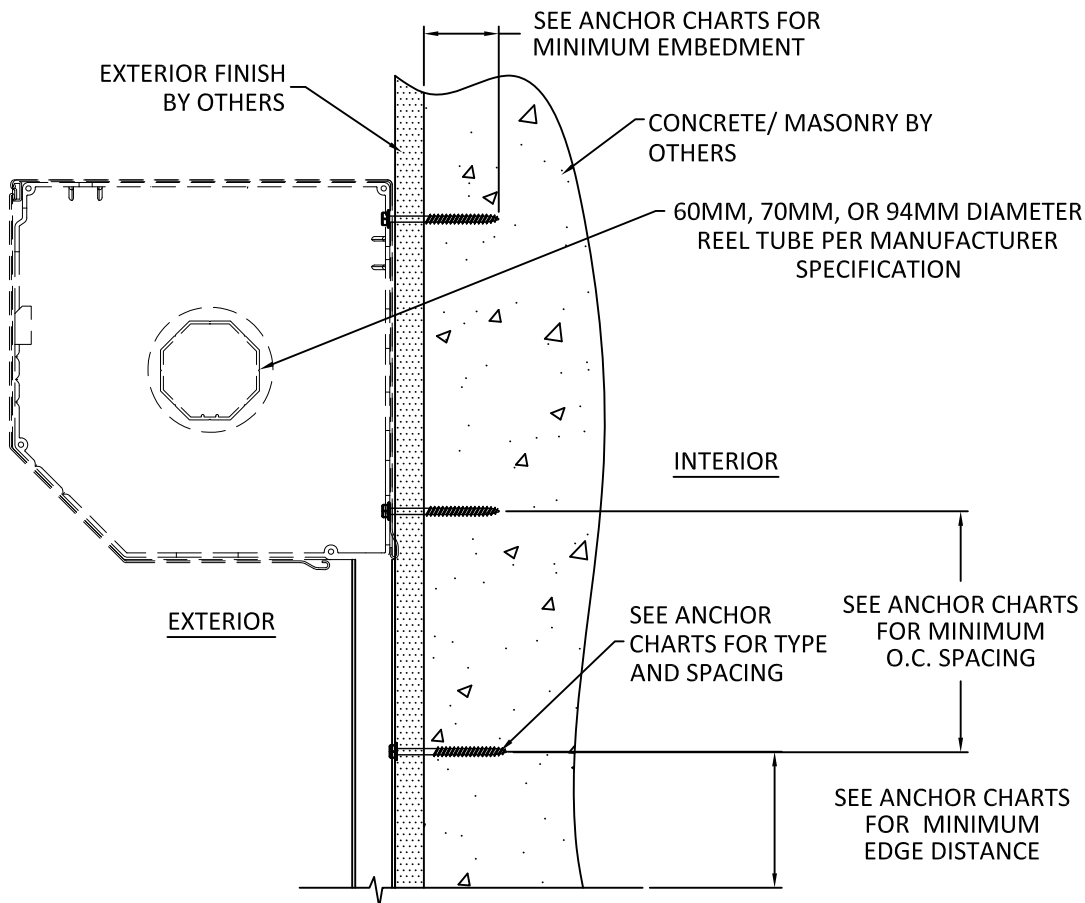
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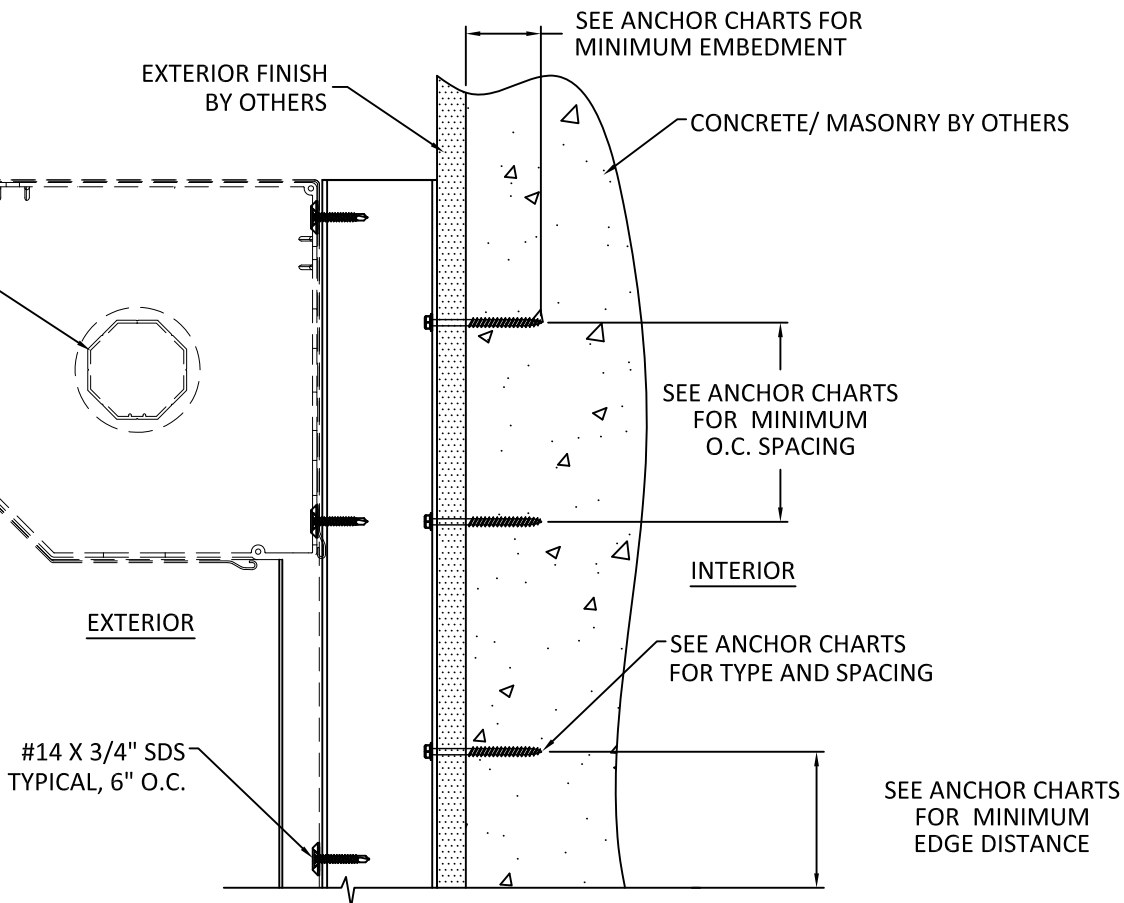


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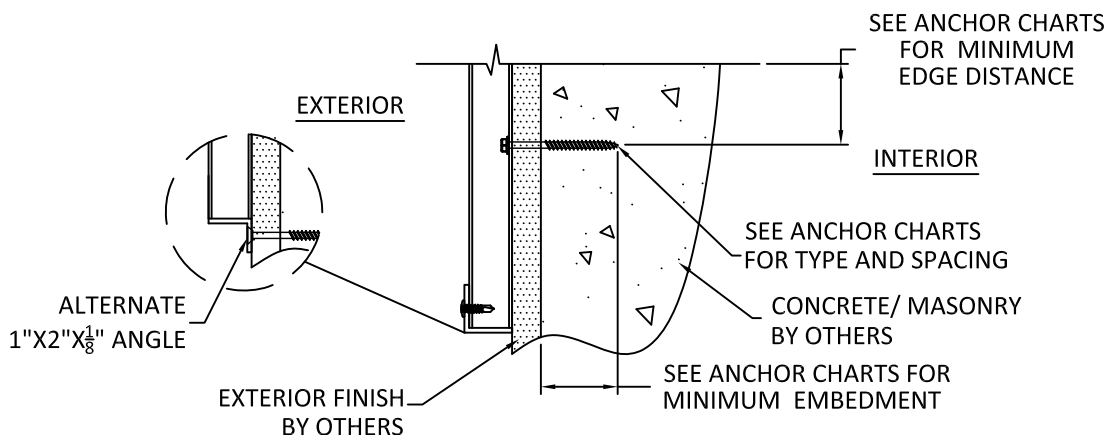
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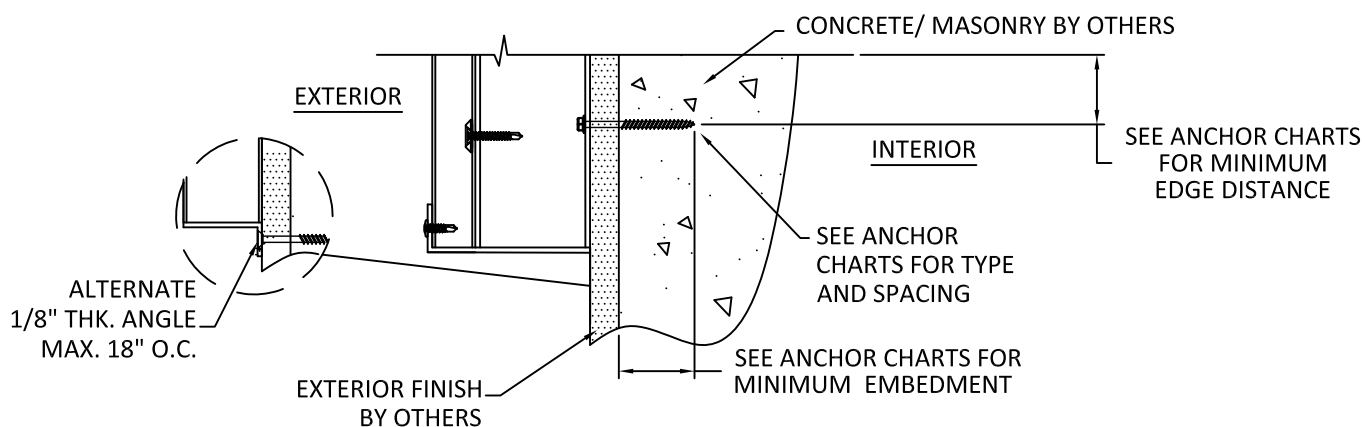
B
4 VERTICAL SECTION
MASONRY/CONCRETE SUBSTRATE - WALL MOUNT
SEE CHARTS ON SHEETS 5, 6, 8, 12 & 14
FOR OTHER SUBSTRATES



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

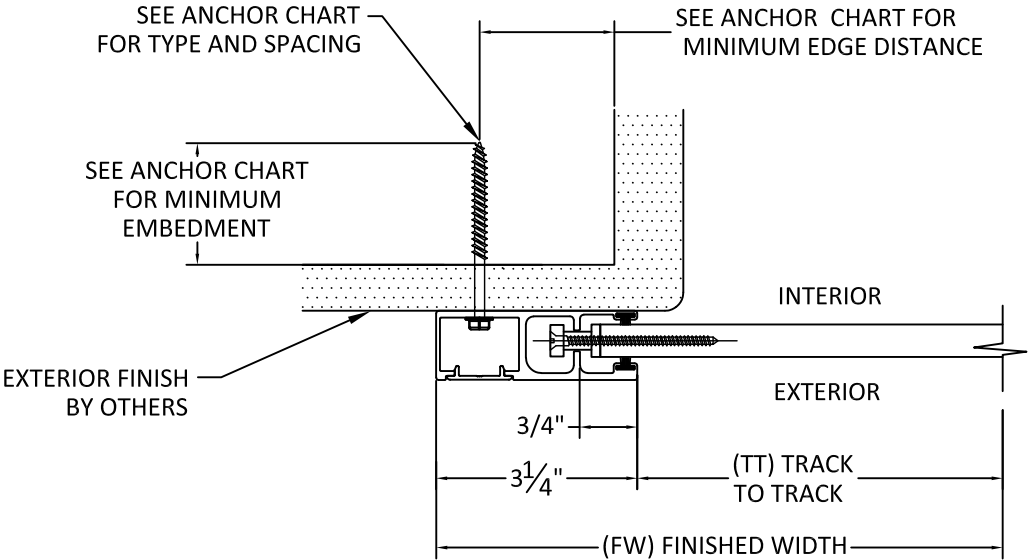


C
4 VERTICAL SECTION
MASONRY/CONCRETE SUBSTRATE - BUILDOUT
SEE CHARTS ON SHEETS 5, 6, 8, 12 & 14
FOR OTHER SUBSTRATES

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

TABLE 3 - ANCHOR SPACING				ANCHOR TYPE & SPACING 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
72	40	0.0	10.9	0.0	39.3	5	5	5	5	5	5	5	5	0.0	9.3	5	5	5	5	5	5	5	5
	45	0.0	12.3	0.0	44.2	5	5	5	5	5	5	5	5	0.0	10.4	5	5	5	5	5	5	5	5
	50	0.0	13.6	0.0	49.1	5	5	5	5	5	5	5	5	0.0	11.6	5	5	5	5	5	5	5	5
	55	0.0	15.0	0.0	54.0	5	5	5	5	5	5	5	5	0.0	12.8	5	5	5	5	5	5	5	5
	60	0.0	16.4	0.0	58.9	5	5	5	5	5	5	5	5	0.0	13.9	5	5	5	5	5	5	5	5
	65	0.0	17.7	0.0	63.9	5	5	5	5	5	5	5	5	0.0	15.1	5	5	5	5	5	5	5	5
	70	0.0	19.1	0.0	68.8	5	5	5	5	5	5	5	5	0.0	16.2	5	5	5	5	5	5	5	5
	75	0.0	20.5	0.0	73.7	5	5	5	5	5	5	5	5	0.0	17.4	5	5	5	5	5	5	5	5
	80	0.0	21.8	0.0	78.6	5	5	5	5	5	5	5	5	0.0	18.6	5	5	5	5	5	5	5	5
	85	0.0	23.2	0.0	83.5	5	5	5	5	5	5	5	5	0.0	19.7	5	5	5	5	5	5	5	5
	90	0.0	24.6	0.0	88.4	5	5	5	5	5	5	5	5	0.0	20.9	5	5	5	5	5	5	5	5
	95	138.3	25.9	138.3	38.9	5	5	4	5	5	5	5	4	138.3	333.8	5	3	-	-	-	-	3	-
	100	138.3	27.3	138.3	39.4	5	5	4	5	5	5	5	4	138.3	334.5	5	3	-	-	-	-	3	-
	105	138.3	28.6	138.3	40.0	5	5	4	5	5	5	5	4	138.3	335.1	5	3	-	-	-	-	3	-
	110	138.3	30.0	138.3	40.6	5	5	4	5	5	5	5	4	138.3	335.7	5	3	-	-	-	-	3	-
	115	138.3	31.4	138.3	41.1	5	5	4	5	5	5	5	4	138.3	336.4	5	3	-	-	-	-	3	-
	120	138.3	32.7	138.3	41.7	5	5	4	5	5	5	5	4	138.3	337.0	5	3	-	-	-	-	3	-
	125	138.3	34.1	138.3	42.2	5	5	4	5	5	5	5	4	138.3	337.7	5	3	-	-	-	-	3	-
	130	138.3	35.5	138.3	42.8	5	5	4	5	5	5	5	4	138.3	338.3	5	3	-	-	-	-	3	-
	135	138.3	36.8	138.3	43.4	5	5	4	5	5	5	5	4	138.3	338.9	5	3	-	-	-	-	3	-
	140	138.3	38.2	138.3	43.9	5	5	4	5	5	5	5	4	138.3	339.6	5	3	-	-	-	-	3	-
	145	138.3	39.6	138.3	44.5	5	5	4	5	5	5	5	4	138.3	340.2	5	3	-	-	-	-	3	-
	150	138.3	40.9	138.3	45.0	5	5	4	5	5	5	5	4	138.3	340.8	5	3	-	-	-	-	3	-
	155	138.3	42.3	138.3	45.6	5	5	4	5	5	5	5	4	138.3	341.5	5	3	-	-	-	-	3	-
	160	138.3	43.7	138.3	46.2	5	5	4	5	5	5	5	4	138.3	342.1	5	3	-	-	-	-	3	-
	165	138.3	45.0	138.3	46.7	5	5	4	5	5	5	5	4	138.3	342.8	5	3	-	-	-	-	3	-
	170	138.3	46.4	138.3	47.3	5	5	4	5	5	5	5	4	138.3	343.4	5	3	-	-	-	-	3	-
	175	138.3	47.7	138.3	47.8	5	5	4	5	5	5	5	4	138.3	344.0	5	3	-	-	-	-	3	-
	180	138.3	49.1	138.3	48.4	5	5	4	5	5	5	5	4	138.3	344.7	5	3	-	-	-	-	3	-
	185	138.3	50.5	138.3	49.0	5	5	4	5	5	5	5	4	138.3	345.3	5	3	-	-	-	-	3	-
	190	138.3	51.8	138.3	49.5	5	5	4	5	5	5	5	4	138.3	346.0	5	3	-	-	-	-	3	-
	195	138.3	53.2	138.3	50.1	5	5	4	5	5	5	5	4	138.3	346.6	5	3	-	-	-	-	3	-
	200	138.3	54.6	138.3	50.7	5	5	4	5	5	5	5	4	138.3	347.2	5	3	-	-	-	-	3	-
84	40	0.0	12.6	0.0	45.3	5	5	5	5	5	5	5	5	0.0	10.7	5	5	5	5	5	5	5	5
	45	0.0	14.2	0.0	51.0	5	5	5	5	5	5	5	5	0.0	12.0	5	5	5	5	5	5	5	5
	50	0.0	15.7	0.0	56.6	5	5	5	5	5	5	5	5	0.0	13.4	5	5	5	5	5	5	5	5
	55	0.0	17.3	0.0	62.3	5	5	5	5	5	5	5	5	0.0	14.7	5	5	5	5	5	5	5	5
	60	0.0	18.9	0.0	67.9	5	5	5	5	5	5	5	5	0.0	16.1	5	5	5	5	5	5	5	5
	65	0.0	20.4	0.0	73.6	5	5	5	5	5	5	5	5	0.0	17.4	5	5	5	5	5	5	5	5
	70	0.0	22.0	0.0	79.3	5	5	5	5	5	5	5	5	0.0	18.7	5	5	5	5	5	5	5	5
	75	0.0	23.6	0.0	84.9	5	5	5	5	5	5	5	5	0.0	20.1	5	5	5	5	5	5	5	5
	80	0.0	25.2	0.0	90.6	5	5	5	5	5	5	5	5	0.0	21.4	5	5	5	5	5	5	5	5
	85	0.0	26.7	0.0	96.3	5	5	5	5	5	5	5	5	0.0	22.7	5	5	5	5	5	5	5	5
	90	0.0	28.3	0.0	101.9	5	5	5	5	5	5	5	5	0.0	24.1	5	5	5	5	5	5	5	5
	95	170.2	29.9	170.2	47.0	5	5	3	5	5	5	5	3	170.2	409.9	5	-	-	-	-	-	-	-
	100	170.2	31.4	170.2	47.7	5	5	3	5	5	5	5	3	170.2	410.6	5	-	-	-	-	-	-	-
	105	170.2	33.0	170.2	48.3	5	5	3	5	5	5	5	3	170.2	411.4	5	-	-	-	-	-	-	-
	110	170.2	34.6	170.2	49.0	5	5	3	5	5	5	5	3	170.2	412.1	5	-	-	-	-	-	-	-
	115	170.2	36.2	170.2	49.6	5	5	3	5	5	5	5	3	170.2	412.8	5	-	-	-	-	-	-	-
	120	170.2	37.7	170.2	50.2	5	5	3	5	5	5	5	3	170.2	413.6	5	-	-	-	-	-	-	-
	125	170.2	39.3	170.2	50.9	5	5	3	5	5	5	5	3	170.2	414.3	5	-	-	-	-	-	-	-
	130	170.2	40.9	170.2	51.5	5	5	3	5	5	5	5	3	170.2	415.1	5	-	-	-	-	-	-	-
	135	170.2	42.5	170.2	52.2	5	5	3	5	5	5	5	3	170.2	415.8	5	-	-	-	-	-	-	-
	140	170.2	44.0	170.2	52.8	5	5	3	5	5	5	5	3	170.2	416.5	5	-	-	-	-	-	-	-
	145	170.2	45.6	170.2	53.5	5	5	3	5	5	5	5	3	170.2	417.3	5	-	-	-	-	-	-	-
	150	170.2	47.2	170.2	54.1	5	5	3	5	5	5	5	3	170.2	418.0	5	-	-	-	-	-	-	-
	155	170.2	48.7	170.2	54.8	5	5	3	5	5	5	5	3	170.2	418.7	5	-	-	-	-	-	-	-
	160	170.2	50.3	170.2	55.4	5	5	3	5	5	5	5	3	170.2	419.5	5	-	-	-	-	-	-	-
	165	170.2	51.9	170.2	56.1	5	5	3	5	5	5	5	3	170.2	420.2	5	-	-	-	-	-	-	-
	170	170.2	53.5	170.2	56.7	5	5	3	5	5	5	5	3	170.2	420.9	5	-	-	-	-	-	-	-
	175	170.2	55.0	170.2	57.4	5	5	3	5	5	5	5	3	170.2	421.7	5	-	-	-	-	-	-	-
	180	170.2	56.6	170.2	58.0	5	5	3	5	5	5	5	3	170.2	422.4	5	-	-	-	-	-	-	-
	185	170.2	58.2	170.2	58.6	5	5	3	5	5	5	5	3	170.2	423.1	5	-	-	-	-	-	-	-

TYPICAL HORIZONTAL SECTIONS
WALL MOUNT

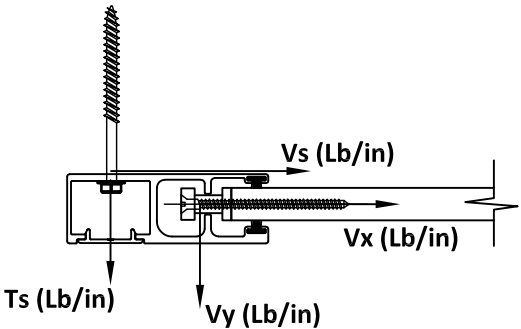


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HORIZONTAL SECTION

**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.

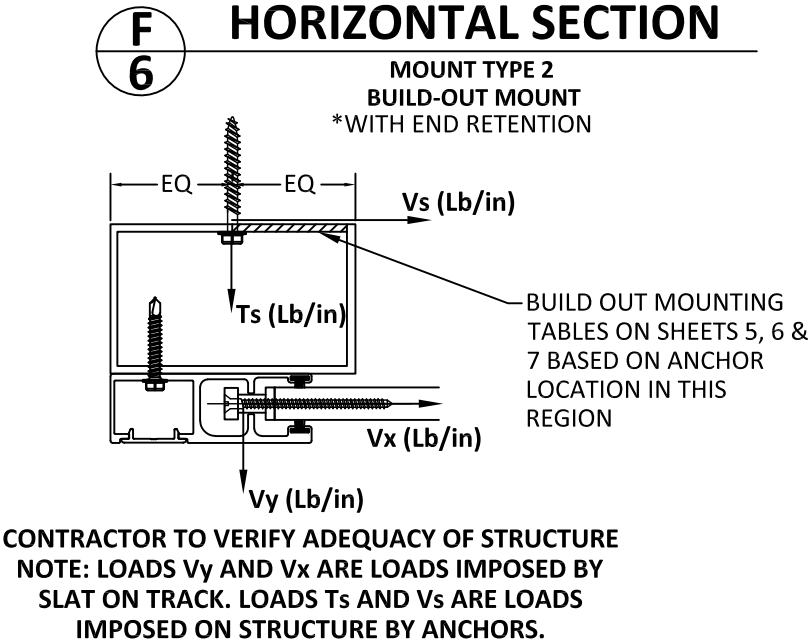
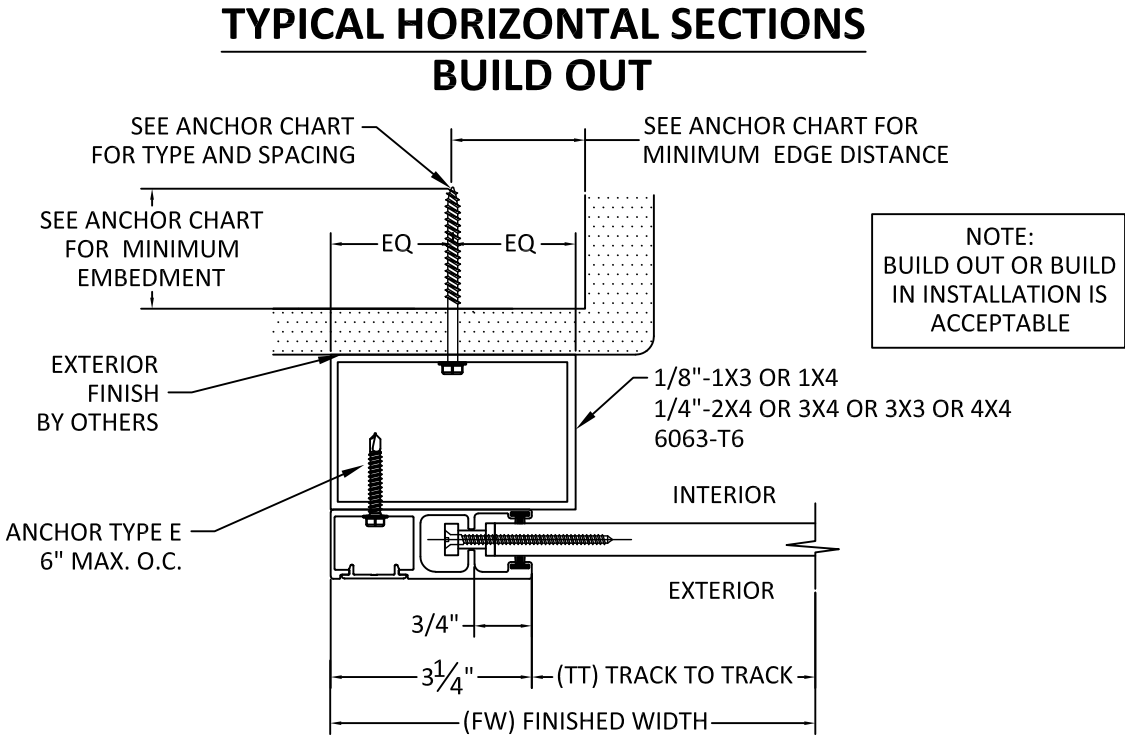
ANCHOR	DESCRIPTION	MATERIAL	EDGE DISTANCE	EMBEDMENT
A	3/8" DEWALT/POWERS SCREW-BOLT+	MIN. 3000 PSI CONCRETE	3 3/4"	3 1/2"
B	5/16" ITW TAPCON	MIN. 3000 PSI CONCRETE	2 3/16"	2 1/4"
C	3/8" DEWALT/POWERS SCREW-BOLT+	GROUT FILLED C-90 BLOCK, f'm ≥ 1500 PSI	2"	2 1/2"
D	5/16" ITW TAPCON	GROUT FILLED C-90 BLOCK, 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 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"

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

TITLE: 55 MMER ROLL SHUTTERS
(HVHZ) (IMPACT)
ESSENTIAL FACILITIES APPROVED
WALL MOUNT & BUILD OUT
ANCHOR SPACING

PREPARED BY:
BUILDING DROPS

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



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

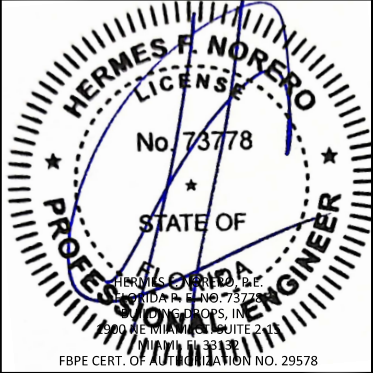
TITLE: 55 MMER ROLL SHUTTERS
(HVHZ) (IMPACT)
ESSENTIAL FACILITIES APPROVED
WALL MOUNT & BUILD OUT
ANCHOR SPACING

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 UPDATE	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.



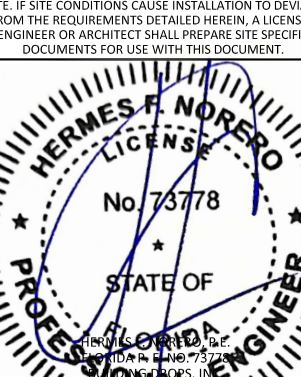
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SCALE:	NTS
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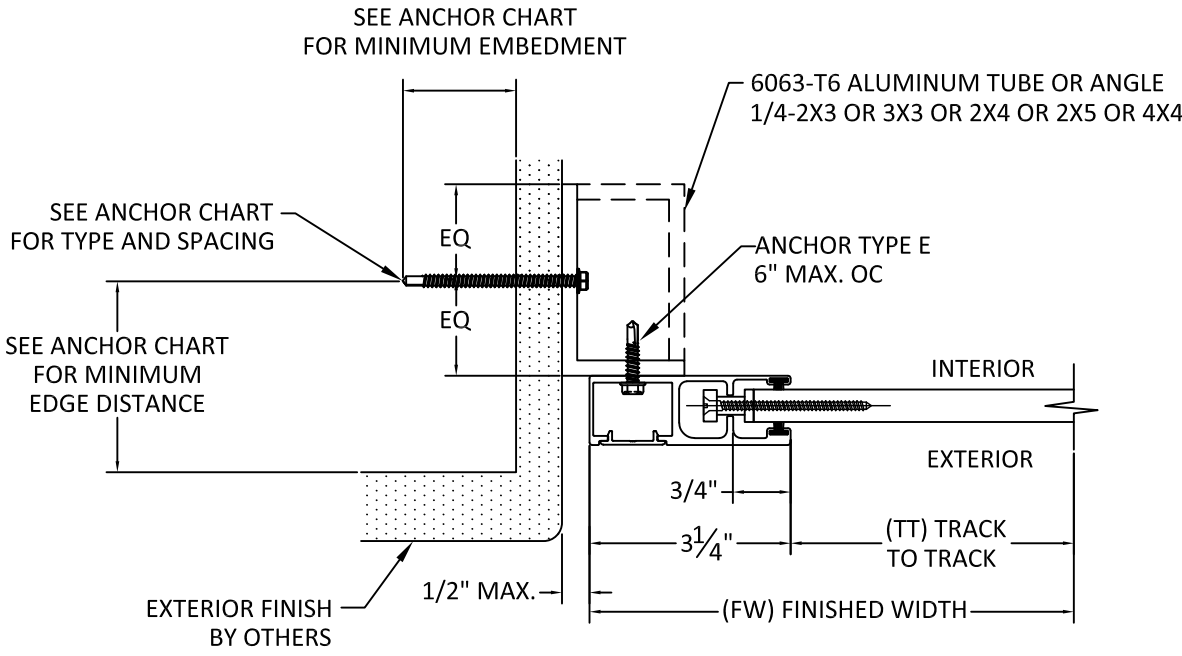
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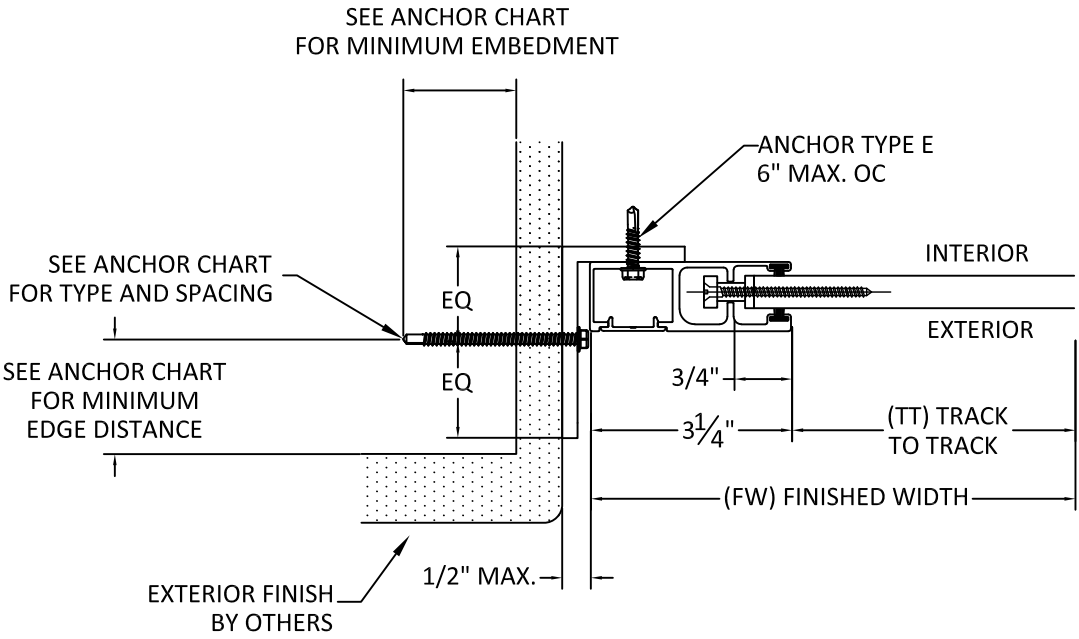
TABLE 3 - ANCHOR SPACING				ANCHOR TYPE & SPACING											ANCHOR TYPE & SPACING										
				WALL - MOUNT 1											1x3, 1x4, 2X4, 3X4, 3X3 OR 4X4 BO - MOUNT 2										
TT	PD	Vx	Vy	Vs	Ts	A	B	C	D	E	F	G	H	Vs	Ts	A	B	C	D	E	F	G	H		
144	40	0.0	20.9	0.0	75.3	5	5	5	5	5	5	5	5	0.0	17.8	5	5	5	5	5	5	5	5		
	45	0.0	23.5	0.0	84.7	5	5	5	5	5	5	5	5	0.0	20.0	5	5	5	5	5	5	5	5		
	50	0.0	26.1	0.0	94.1	5	5	5	5	5	5	5	5	0.0	22.2	5	5	5	5	5	5	5	5		
	55	0.0	28.8	0.0	103.5	5	5	5	5	5	5	5	5	0.0	24.5	5	5	5	5	5	5	5	5		
	60	0.0	31.4	0.0	113.0	5	5	5	5	5	5	5	5	0.0	26.7	5	5	5	5	5	5	5	5		
	65	0.0	34.0	0.0	122.4	5	5	5	5	5	5	5	5	0.0	28.9	5	5	5	5	5	5	5	5		
	70	0.0	36.6	0.0	131.8	5	5	5	5	5	5	5	4	0.0	31.1	5	5	5	5	5	5	5	5		
	75	0.0	39.2	0.0	141.2	5	5	5	5	5	5	5	3	0.0	33.4	5	5	5	5	5	5	5	5		
	80	301.5	41.8	301.5	78.7	5	4	-	3	3	-	5	-	301.5	721.1	3	-	-	-	-	-	-	-		
	85	301.5	44.4	301.5	79.8	5	4	-	3	3	-	5	-	301.5	722.3	3	-	-	-	-	-	-	-		
	90	301.5	47.1	301.5	80.9	5	4	-	3	3	-	5	-	301.5	723.5	3	-	-	-	-	-	-	-		
	95	301.5	49.7	301.5	82.0	5	4	-	3	3	-	5	-	301.5	724.8	3	-	-	-	-	-	-	-		
	100	301.5	52.3	301.5	83.0	5	4	-	3	3	-	5	-	301.5	726.0	3	-	-	-	-	-	-	-		
	105	301.5	54.9	301.5	84.1	5	4	-	3	3	-	5	-	301.5	727.2	3	-	-	-	-	-	-	-		
	110	301.5	57.5	301.5	85.2	5	4	-	3	3	-	5	-	301.5	728.4	3	-	-	-	-	-	-	-		
115	301.5	60.1	301.5	86.3	5	4	-	3	3	-	5	-	301.5	729.6	3	-	-	-	-	-	-	-			
120	301.5	62.7	301.5	87.3	5	4	-	3	3	-	5	-	301.5	730.9	3	-	-	-	-	-	-	-			
125	301.5	65.4	301.5	88.4	5	4	-	3	3	-	5	-	301.5	732.1	3	-	-	-	-	-	-	-			
168	40	0.0	24.2	0.0	87.3	5	5	5	5	5	5	5	5	0.0	20.6	5	5	5	5	5	5	5	5		
	45	0.0	27.3	0.0	98.2	5	5	5	5	5	5	5	5	0.0	23.2	5	5	5	5	5	5	5	5		
	50	0.0	30.3	0.0	109.1	5	5	5	5	5	5	5	5	0.0	25.8	5	5	5	5	5	5	5	5		
	55	0.0	33.3	0.0	120.0	5	5	5	5	5	5	5	5	0.0	28.4	5	5	5	5	5	5	5	5		
	60	0.0	36.4	0.0	131.0	5	5	5	5	5	5	5	4	0.0	30.9	5	5	5	5	5	5	5	5		
	65	0.0	39.4	0.0	141.9	5	5	5	5	5	5	5	3	0.0	33.5	5	5	5	5	5	5	5	5		
	70	324.7	42.4	324.7	83.7	5	4	-	-	3	-	4	-	324.7	775.3	3	-	-	-	-	-	-	-		
	75	324.7	45.5	324.7	85.0	5	4	-	-	3	-	4	-	324.7	776.7	3	-	-	-	-	-	-	-		
	80	324.7	48.5	324.7	86.2	5	4	-	-	3	-	4	-	324.7	778.1	3	-	-	-	-	-	-	-		
	85	324.7	51.5	324.7	87.4	5	4	-	-	3	-	4	-	324.7	779.5	3	-	-	-	-	-	-	-		
	90	324.7	54.6	324.7	88.7	5	4	-	-	3	-	4	-	324.7	781.0	3	-	-	-	-	-	-	-		
95	324.7	57.6	324.7	89.9	5	4	-	-	3	-	4	-	324.7	782.4	3	-	-	-	-	-	-	-			
100	324.7	60.6	324.7	91.2	5	4	-	-	3	-	4	-	324.7	783.8	3	-	-	-	-	-	-	-			
204	40	0.0	29.2	0.0	105.3	5	5	5	5	5	5	5	5	0.0	24.9	5	5	5	5	5	5	5	5		
	45	0.0	32.9	0.0	118.5	5	5	5	5	5	5	5	5	0.0	28.0	5	5	5	5	5	5	5	5		
	50	93.0	36.6	93.0	34.0	5	5	5	5	5	5	5	5	93.0	233.4	5	5	3	5	4	5	5	-		
	55	112.7	40.2	112.7	39.5	5	5	5	5	5	5	5	5	112.7	281.0	5	4	-	3	3	3	5	-		
	60	129.1	43.9	129.1	44.4	5	5	4	5	5	5	5	4	129.1	321.0	5	3	-	3	-	-	4	-		
	65	143.0	47.5	143.0	48.7	5	5	4	5	5	5	5	4	143.0	355.0	5	3	-	-	-	-	3	-		
	70	155.0	51.2	155.0	52.7	5	5	3	5	5	5	5	3	155.0	384.5	5	-	-	-	-	-	3	-		
75	165.3	54.8	165.3	56.3	5	5	3	5	5	5	5	3	165.3	410.2	5	-	-	-	-	-	-	-			
216	40	0.0	30.9	0.0	111.3	5	5	5	5	5	5	5	5	0.0	26.3	5	5	5	5	5	5	5	5		
	45	0.0	34.8	0.0	125.2	5	5	5	5	5	5	5	4	0.0	29.6	5	5	5	5	5	5	5	5		
	50	93.9	38.6	93.9	35.1	5	5	5	5	5	5	5	5	94.0	236.9	5	5	3	5	4	4	5	-		
	55	113.8	42.5	113.8	40.7	5	5	5	5	5	5	5	5	114.0	285.1	5	4	-	3	3	3	4	-		
240	40	38.7	34.2	38.7	22.0	5	5	5	5	5	5	5	5	38.9	106.5	5	5	5	5	5	5	5	4		
	45	68.8	38.5	68.8	29.9	5	5	5	5	5	5	5	5	69.2	178.9	5	5	5	5	5	5	5	-		
	50	92.8	42.8	92.8	36.5	5	5	5	5	5	5	5	5	93.4	237.3	5	5	3	5	4	4	5	-		
264	40	73.1	37.6	73.1	30.4	5	5	5	5	5	5	5	5	73.9	189.6	5	5	4	5	5	5	5	-		
	45	97.5	42.3	97.5	37.3	5	5	5	5	5	5	5	5	98.6	249.1	5	5	3	4	4	4	5	-		
286.5	40	65.9	40.7	65.9	30.2	5	5	5	5	5	5	5	5	65.9	172.4	5	5	5	5	5	5	5	-		

 4268 WESTROADS DRIVE WEST PALM BEACH, FL 33407 PH: 1-800-432-2204 FAX: 561-841-0852		
TITLE: 55 MMER ROLL SHUTTERS (HVHZ) (IMPACT) ESSENTIAL FACILITIES APPROVED 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
2022 FBC UPDATE	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, 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. #: EMS003		
SHEET: OF 23		

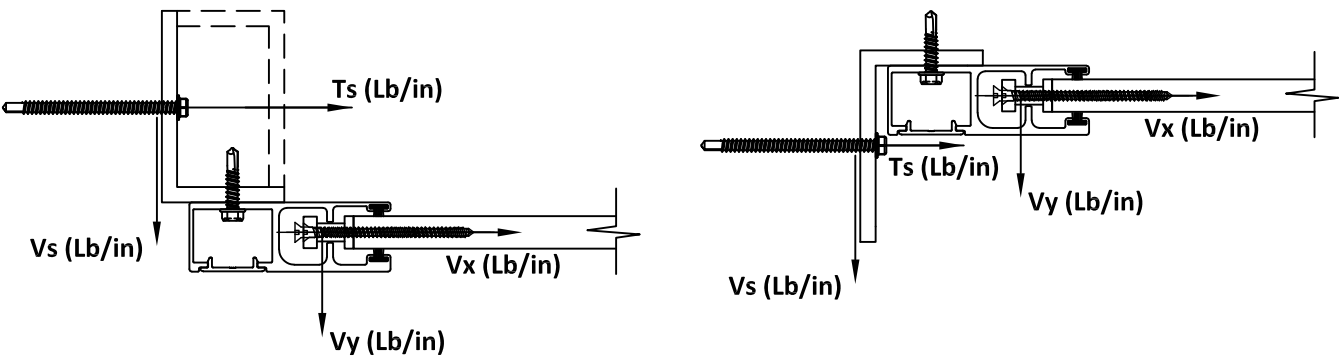
TYPICAL HORIZONTAL SECTIONS
INSET MOUNT



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 Vy AND Vx ARE LOADS IMPOSED BY
SLAT ON TRACK. LOADS Ts AND Vs 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 ≥ 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 ULTRAACON	WOOD, MIN. SG = 0.55	1 1/2"	2"
G	5/16" DEWALT/ELCO ULTRAACON	MIN. 3515 PSI CONCRETE	3 1/8"	2"
H	5/16" DEWALT/ELCO ULTRAACON	GROUT FILLED C-90 BLOCK, f'm ≥ 1500 PSI	2 1/2"	2 1/4"



4268 WESTROADS DRIVE
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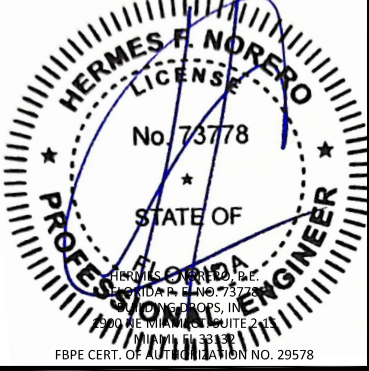
TITLE: 55 MMER ROLL SHUTTERS
(HVHZ) (IMPACT)
ESSENTIAL FACILITIES APPROVED
INSET MOUNT HORIZONTAL SECTIONS

PREPARED BY:
BUILDING DROPS, INC.
1900 NE MIAMI CT, SUITE 2-15
MIAMI, FL 33132
PH: (954)399-8478
FAX: (954)744-4738
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REMARKS	BY	DATE
2020 FBC UPDATE	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
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DOCUMENTS FOR USE WITH THIS DOCUMENT.



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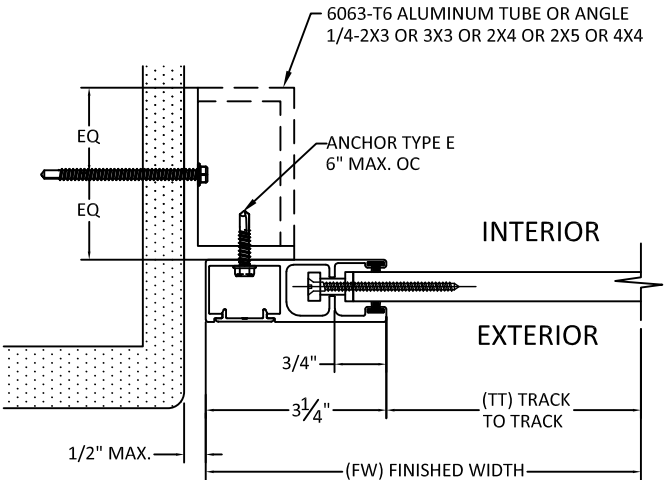
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SCALE:	NTS
DWG. #:	EMS003
SHEET:	OF 23

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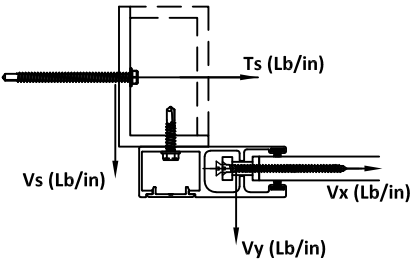
TABLE 4 - ANCHOR SPACING						ANCHOR TYPE & SPACING 2X3 OR 3X3 INSET - MOUNT 3								ANCHOR TYPE & SPACING 2X4 OR 4X4 INSET - MOUNT 3								ANCHOR TYPE & SPACING 2X5 INSET - MOUNT 3								
TT	PD	Vx	Vy	Vs	Ts	A	B	C	D	E	F	G	H	A	B	C	D	E	F	G	H	A	B	C	D	E	F	G	H	
72	40	0	10.91	10.91	20.36	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	45	0	12.28	12.28	22.90	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	50	0	13.64	13.64	25.44	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	55	0	15.00	15.00	27.99	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	60	0	16.37	16.37	30.53	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	65	0	17.73	17.73	33.08	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	70	0	19.10	19.10	35.62	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	75	0	20.46	20.46	38.17	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	80	0	21.83	21.83	40.71	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	85	0	23.19	23.19	43.26	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	90	0	24.55	24.55	45.80	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	95	138.268	25.92	25.92	370.04	5	-	-	-	-	-	3	-	5	3	-	3	3	3	4	-	5	4	3	3	3	3	3	4	-
	100	138.268	27.28	27.28	372.58	5	-	-	-	-	-	3	-	5	3	-	3	3	3	4	-	5	4	3	3	3	3	3	4	-
	105	138.268	28.65	28.65	375.13	5	-	-	-	-	-	3	-	5	3	-	3	3	3	4	-	5	4	3	3	3	3	3	4	-
	110	138.268	30.01	30.01	377.67	4	-	-	-	-	-	3	-	5	3	-	3	3	3	4	-	5	3	-	3	3	3	3	4	-
	115	138.268	31.37	31.37	380.22	4	-	-	-	-	-	3	-	5	3	-	3	-	3	4	-	5	3	-	3	3	3	3	4	-
	120	138.268	32.74	32.74	382.76	4	-	-	-	-	-	3	-	5	3	-	3	-	3	4	-	5	3	-	3	3	3	3	4	-
	125	138.268	34.10	34.10	385.31	4	-	-	-	-	-	3	-	5	3	-	3	-	3	4	-	5	3	-	3	3	3	3	4	-
	130	138.268	35.47	35.47	387.85	4	-	-	-	-	-	3	-	5	3	-	3	-	3	3	-	5	3	-	3	3	3	3	4	-
	135	138.268	36.83	36.83	390.39	4	-	-	-	-	-	3	-	5	3	-	3	-	3	3	-	5	3	-	3	3	3	3	4	-
	140	138.268	38.19	38.19	392.94	4	-	-	-	-	-	3	-	5	3	-	3	-	3	3	-	5	3	-	3	3	3	3	4	-
	145	138.268	39.56	39.56	395.48	4	-	-	-	-	-	3	-	5	3	-	3	-	3	3	-	5	3	-	3	3	3	3	4	-
	150	138.268	40.92	40.92	398.03	4	-	-	-	-	-	3	-	5	3	-	3	-	3	3	-	5	3	-	3	3	3	3	4	-
	155	138.268	42.29	42.29	400.57	4	-	-	-	-	-	3	-	5	3	-	3	-	-	3	-	5	3	-	3	3	3	3	4	-
	160	138.268	43.65	43.65	403.12	4	-	-	-	-	-	3	-	5	3	-	3	-	-	3	-	5	3	-	3	-	3	3	4	-
	165	138.268	45.01	45.01	405.66	4	-	-	-	-	-	3	-	5	3	-	3	-	-	3	-	5	3	-	3	-	3	3	4	-
	170	138.268	46.38	46.38	408.21	4	-	-	-	-	-	3	-	5	3	-	3	-	-	3	-	5	3	-	3	-	3	3	4	-
	175	138.268	47.74	47.74	410.75	4	-	-	-	-	-	3	-	5	3	-	3	-	-	3	-	5	3	-	3	-	3	3	3	-
180	138.268	49.11	49.11	413.29	4	-	-	-	-	-	3	-	5	3	-	3	-	-	3	-	5	3	-	3	-	3	3	3	-	
185	138.268	50.47	50.47	415.84	4	-	-	-	-	-	3	-	5	3	-	-	-	-	3	-	5	3	-	3	-	3	3	3	-	
190	138.268	51.83	51.83	418.38	4	-	-	-	-	-	3	-	5	3	-	-	-	-	3	-	5	3	-	3	-	3	3	3	-	
195	138.268	53.20	53.20	420.93	4	-	-	-	-	-	3	-	5	3	-	-	-	-	3	-	5	3	-	3	-	3	3	3	-	
200	138.268	54.56	54.56	423.47	4	-	-	-	-	-	3	-	5	3	-	-	-	-	3	-	5	3	-	3	-	-	3	3	-	
84	40	0	12.58	12.58	23.46	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	45	0	14.15	14.15	26.40	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	50	0	15.72	15.72	29.33	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	55	0	17.30	17.30	32.26	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	60	0	18.87	18.87	35.20	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	65	0	20.44	20.44	38.13	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	70	0	22.01	22.01	41.06	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	75	0	23.59	23.59	44.00	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	80	0	25.16	25.16	46.93	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	85	0	26.73	26.73	49.86	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	90	0	28.30	28.30	52.79	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	95	170.1704	29.88	29.88	451.65	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	3	-	5	-	-	-	-	-	3	-
	100	170.1704	31.45	31.45	454.58	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	3	-	5	-	-	-	-	-	3	-
	105	170.1704	33.02	33.02	457.51	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	3	-	5	-	-	-	-	-	3	-
	110	170.1704	34.59	34.59	460.45	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	5	-	-	-	-	-	3	-
	115	170.1704	36.17	36.17	463.38	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	5	-	-	-	-	-	3	-
	120	170.1704	37.74	37.74	466.31	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	5	-	-	-	-	-	3	-
	125	170.1704	39.31	39.31	469.24	5	-	-	-	-	-	-	-	5	-	-	-	-	-											

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	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	45	0	16.03	16.03	29.89	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	50	0	17.81	17.81	33.22	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	55	0	19.59	19.59	36.54	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	60	0	21.37	21.37	39.86	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	65	0	23.15	23.15	43.18	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	70	0	24.93	24.93	46.50	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	75	0	26.71	26.71	49.82	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	80	0	28.49	28.49	53.15	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	85	0	30.27	30.27	56.47	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	90	0	32.05	32.05	59.79	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	95	201.4766	33.83	33.83	531.87	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	100	201.4766	35.61	35.61	535.19	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	105	201.4766	37.40	37.40	538.51	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	110	201.4766	39.18	39.18	541.83	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	115	201.4766	40.96	40.96	545.15	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	120	201.4766	42.74	42.74	548.48	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	125	201.4766	44.52	44.52	551.80	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	130	201.4766	46.30	46.30	555.12	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	135	201.4766	48.08	48.08	558.44	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	140	201.4766	49.86	49.86	561.76	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	145	201.4766	51.64	51.64	565.08	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	150	201.4766	53.42	53.42	568.41	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	155	201.4766	55.20	55.20	571.73	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	160	201.4766	56.98	56.98	575.05	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	165	201.4766	58.76	58.76	578.37	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	170	201.4766	60.54	60.54	581.69	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	175	201.4766	62.33	62.33	585.01	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
108	80	0	15.91	15.91	29.68	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	45	0	17.90	17.90	33.39	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	50	0	19.89	19.89	37.10	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	55	0	21.88	21.88	40.81	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	60	0	23.87	23.87	44.52	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	65	0	25.86	25.86	48.23	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	70	0	27.85	27.85	51.94	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	75	0	29.84	29.84	55.65	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	80	0	31.83	31.83	59.36	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	85	0	33.81	33.81	63.07	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	90	0	35.80	35.80	66.78	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	95	231.1754	37.79	37.79	608.35	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	100	231.1754	39.78	39.78	612.06	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	105	231.1754	41.77	41.77	615.77	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	110	231.1754	43.76	43.76	619.48	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	115	231.1754	45.75	45.75	623.19	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	120	231.1754	47.74	47.74	626.90	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	125	231.1754	49.73	49.73	630.61	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	130	231.1754	51.72	51.72	634.32	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	135	231.1754	53.70	53.70	638.03	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	140	231.1754	55.69	55.69	641.74	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	145	231.1754	57.68	57.68	645.45	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	150	231.1754	59.67	59.67	649.16	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	155	231.1754	61.66	61.66	652.87	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	160	231.1754	63.65	63.65	656.58	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-

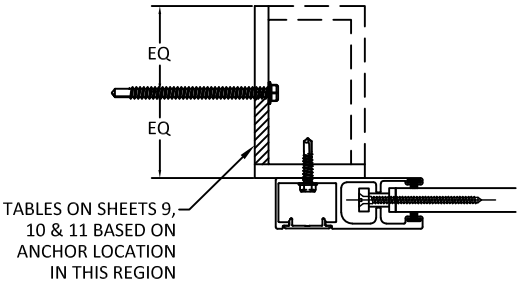
TYPICAL HORIZONTAL
SECTIONS
INSET MOUNT



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

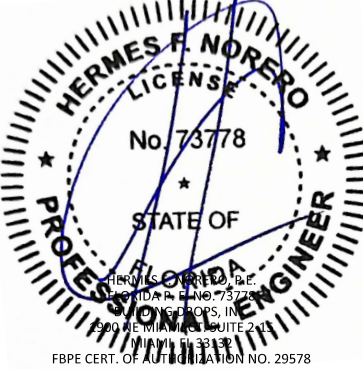
TITLE: 55 MMER ROLL SHUTTERS
(HVHZ) (IMPACT)
ESSENTIAL FACILITIES APPROVED
INSET MOUNT ANCHOR SPACING

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 UPDATE	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. #:	EMS003
SHEET:	OF 23

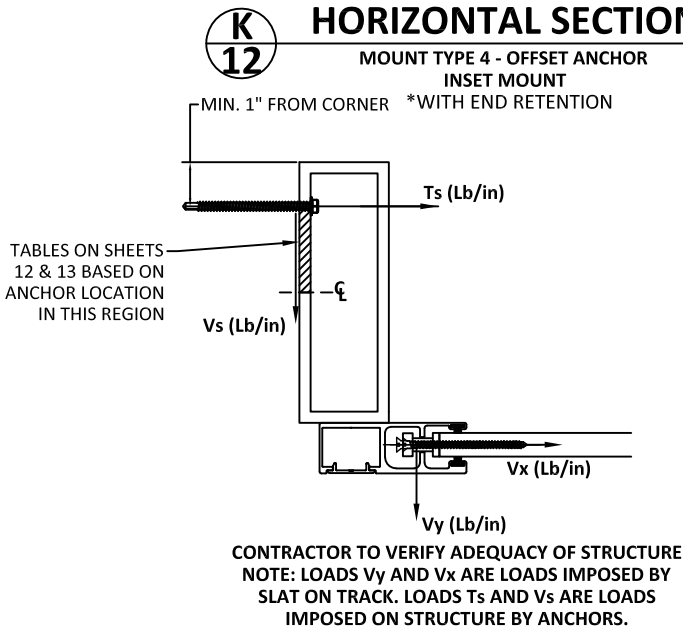
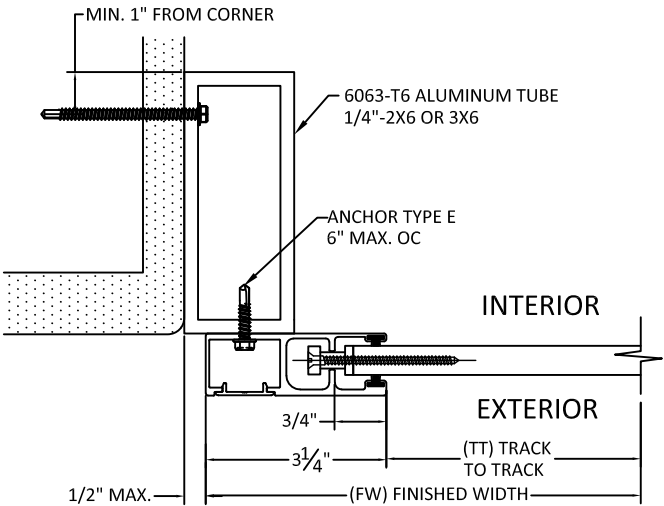
10

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
120	40	0	17.58	17.58	32.79	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	45	0	19.78	19.78	36.89	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	50	0	21.97	21.97	40.99	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	55	0	24.17	24.17	45.09	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	60	0	26.37	26.37	49.19	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	65	0	28.57	28.57	53.29	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	70	0	30.76	30.76	57.38	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	75	0	32.96	32.96	61.48	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	80	0	35.16	35.16	65.58	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	85	0	37.36	37.36	69.68	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	90	258.3246	39.55	39.55	674.80	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	95	258.3246	41.75	41.75	678.90	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	100	258.3246	43.95	43.95	683.00	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	105	258.3246	46.15	46.15	687.09	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	110	258.3246	48.34	48.34	691.19	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	115	258.3246	50.54	50.54	695.29	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	120	258.3246	52.74	52.74	699.39	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	125	258.3246	54.93	54.93	703.49	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	130	258.3246	57.13	57.13	707.59	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	135	258.3246	59.33	59.33	711.69	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	140	258.3246	61.53	61.53	715.79	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	145	258.3246	63.72	63.72	719.89	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	150	258.3246	65.92	65.92	723.98	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
132	40	0	19.25	19.25	35.90	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	45	0	21.65	21.65	40.39	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	50	0	24.06	24.06	44.87	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	55	0	26.46	26.46	49.36	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	60	0	28.87	28.87	53.85	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	65	0	31.27	31.27	58.34	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	70	0	33.68	33.68	62.82	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	75	0	36.09	36.09	67.31	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	80	0	38.49	38.49	71.80	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	85	282.0454	40.90	40.90	732.49	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	90	282.0454	43.30	43.30	736.98	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	95	282.0454	45.71	45.71	741.47	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	100	282.0454	48.11	48.11	745.96	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	105	282.0454	50.52	50.52	750.44	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	110	282.0454	52.93	52.93	754.93	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	115	282.0454	55.33	55.33	759.42	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	120	282.0454	57.74	57.74	763.91	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	125	282.0454	60.14	60.14	768.39	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	130	282.0454	62.55	62.55	772.88	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	135	282.0454	64.95	64.95	777.37	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-

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	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	45	0	23.53	23.53	43.88	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	50	0	26.14	26.14	48.76	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	55	0	28.75	28.75	53.64	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	60	0	31.37	31.37	58.51	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	65	0	33.98	33.98	63.39	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	70	0	36.60	36.60	68.27	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	75	0	39.21	39.21	73.14	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	80	301.517	41.83	41.83	779.53	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	85	301.517	44.44	44.44	784.40	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	90	301.517	47.05	47.05	789.28	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	95	301.517	49.67	49.67	794.16	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	100	301.517	52.28	52.28	799.03	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	105	301.517	54.90	54.90	803.91	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
	110	301.517	57.51	57.51	808.78	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
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	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	45	0	27.28	27.28	50.88	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	50	0	30.31	30.31	56.53	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	55	0	33.34	33.34	62.19	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	60	0	36.37	36.37	67.84	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	65	0	39.40	39.40	73.49	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	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	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	45	0	32.90	32.90	61.37	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	50	92.97349	36.56	36.56	284.50	5	5	3	4	4	4	5	-	5	5	4	5	4	5	5	-	5	5	4	5	5	5	5	-
	55	112.6951	40.21	40.21	337.21	5	3	-	3	3	3	4	-	5	4	3	4	3	3	5	-	5	4	3	4	4	4	5	-
	60	129.1298	43.87	43.87	382.26	5	3	-	-	-	-	3	-	5	3	-	3	-	3	4	-	5	4	-	3	3	4	-	
	65	143.0361	47.52	47.52	421.44	5	-	-	-	-	-	3	-	5	3	-	-	-	-	3	-	5	3	-	3	-	-	3	-
	70	154.9558	51.18	51.18	455.99	5	-	-	-	-	-	-	5	-	-	-	-	-	-	3	-	5	-	-	-	-	3	-	
	75	165.2862	54.84	54.84	486.84	5	-	-	-	-	-	-	5	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	
216	40	0	30.91	30.91	57.66	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	45	0	34.78	34.78	64.87	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	50	93.89875	38.64	38.64	290.54	5	5	3	4	4	4	5	-	5	5	4	5	4	5	5	-	5	5	4	5	5	5	5	-
	55	113.8167	42.50	42.50	344.09	5	3	-	3	3	3	4	-	5	4	3	4	3	3	4	-	5	4	3	4	3	4	5	-
240	40	38.68479	34.25	34.25	153.88	5	5	5	5	5	5	5	-	5	5	5	5	5	5	5	3	5	5	5	5	5	5	5	3
	45	68.77296	38.53	38.53	231.87	5	5	5	5	5	5	5	-	5	5	5	5	5	5	5	-	5	5	5	5	5	5	5	-
	50	92.8435	42.81	42.81	295.86	5	4	3	4	3	4	5	-	5	5	4	5	4	4	5	-	5	5	4	5	5	5	5	-
264	40	73.11576	37.58	37.58	240.21	5	5	4	5	5	5	5	-	5	5	5	5	5	5	5	-	5	5	5	5	5	5	5	-
	45	97.48768	42.28	42.28	305.67	5	4	3	4	3	4	5	-	5	5	3	4	4	4	5	-	5	5	4	5	4	5	5	-
286.5	40	65.92552	40.70	40.70	229.31	5	5	5	5	5	5	5	-	5	5	5	5	5	5	5	-	5	5	5	5	5	5	5	-

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	5	5	5	5	5	5	5	5
	45	0	12.28	12.28	34.35	5	5	5	5	5	5	5	5
	50	0	13.64	13.64	38.17	5	5	5	5	5	5	5	5
	55	0	15.00	15.00	41.98	5	5	5	5	5	5	5	5
	60	0	16.37	16.37	45.80	5	5	5	5	5	5	5	5
	65	0	17.73	17.73	49.62	5	5	5	5	5	5	5	5
	70	0	19.10	19.10	53.43	5	5	5	5	5	5	5	5
	75	0	20.46	20.46	57.25	5	5	5	5	5	5	5	5
	80	0	21.83	21.83	61.07	5	5	5	5	5	5	5	5
	85	0	23.19	23.19	64.88	5	5	5	5	5	5	5	5
	90	0	24.55	24.55	68.70	5	5	5	5	5	5	5	5
	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	5	5	5	5	5	5	5	5
	45	0	14.15	14.15	39.60	5	5	5	5	5	5	5	5
	50	0	15.72	15.72	44.00	5	5	5	5	5	5	5	5
	55	0	17.30	17.30	48.40	5	5	5	5	5	5	5	5
	60	0	18.87	18.87	52.79	5	5	5	5	5	5	5	5
	65	0	20.44	20.44	57.19	5	5	5	5	5	5	5	5
	70	0	22.01	22.01	61.59	5	5	5	5	5	5	5	5
	75	0	23.59	23.59	65.99	5	5	5	5	5	5	5	5

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 ULTRAACON	WOOD, MIN. SG = 0.55	1 1/2"	2"
G	5/16" DEWALT/ELCO ULTRAACON	MIN. 3515 PSI CONCRETE	3 1/8"	2"
H	5/16" DEWALT/ELCO ULTRAACON	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

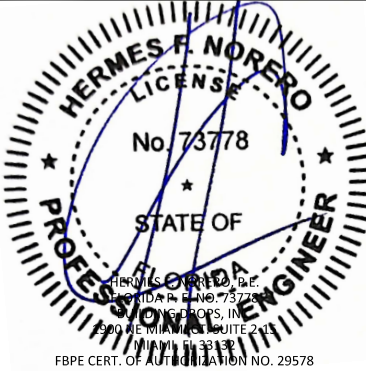
TITLE: 55 MMER ROLL SHUTTERS
(HVHZ) (IMPACT)
ESSENTIAL FACILITIES APPROVED
OFFSET ANCHOR INSET MOUNT
ANCHOR SPACING

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 UPDATE	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. #:	EMS003	
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	5	5	5	5	5	5	5	5
	45	0	17.90	17.90	50.09	5	5	5	5	5	5	5	5
	50	0	19.89	19.89	55.65	5	5	5	5	5	5	5	5
	55	0	21.88	21.88	61.22	5	5	5	5	5	5	5	5
	60	0	23.87	23.87	66.78	5	5	5	5	5	5	5	5
	65	0	25.86	25.86	72.35	5	5	5	5	5	5	5	5
	70	0	27.85	27.85	77.92	5	5	5	5	5	5	5	5
	75	0	29.84	29.84	83.48	5	5	5	5	5	5	5	5
	80	0	31.83	31.83	89.05	5	5	5	5	5	5	5	5
	85	0	33.81	33.81	94.61	5	5	5	5	5	5	5	5
	90	0	35.80	35.80	100.18	5	5	5	5	5	5	5	5
120	40	0	17.58	17.58	49.19	5	5	5	5	5	5	5	5
	45	0	19.78	19.78	55.33	5	5	5	5	5	5	5	5
	50	0	21.97	21.97	61.48	5	5	5	5	5	5	5	5
	55	0	24.17	24.17	67.63	5	5	5	5	5	5	5	5
	60	0	26.37	26.37	73.78	5	5	5	5	5	5	5	5
	65	0	28.57	28.57	79.93	5	5	5	5	5	5	5	5
	70	0	30.76	30.76	86.08	5	5	5	5	5	5	5	5
	75	0	32.96	32.96	92.22	5	5	5	5	5	5	5	5
132	80	0	35.16	35.16	98.37	5	5	5	5	5	5	5	5
	85	0	37.36	37.36	104.52	5	5	5	5	5	5	5	4
	40	0	19.25	19.25	53.85	5	5	5	5	5	5	5	5
	45	0	21.65	21.65	60.58	5	5	5	5	5	5	5	5
	50	0	24.06	24.06	67.31	5	5	5	5	5	5	5	5
	55	0	26.46	26.46	74.04	5	5	5	5	5	5	5	5
	60	0	28.87	28.87	80.77	5	5	5	5	5	5	5	5
	65	0	31.27	31.27	87.51	5	5	5	5	5	5	5	5
	70	0	33.68	33.68	94.24	5	5	5	5	5	5	5	5
	75	0	36.09	36.09	100.97	5	5	5	5	5	5	5	5
	80	0	38.49	38.49	107.70	5	5	5	5	5	5	5	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	5	5	5	5	5	5	5	5
	45	0	23.53	23.53	65.83	5	5	5	5	5	5	5	5
	50	0	26.14	26.14	73.14	5	5	5	5	5	5	5	5
	55	0	28.75	28.75	80.46	5	5	5	5	5	5	5	5
	60	0	31.37	31.37	87.77	5	5	5	5	5	5	5	5
	65	0	33.98	33.98	95.08	5	5	5	5	5	5	5	5
	70	0	36.60	36.60	102.40	5	5	5	5	5	5	5	5
	75	0	39.21	39.21	109.71	5	5	5	5	5	5	5	4
	40	0	24.25	24.25	67.84	5	5	5	5	5	5	5	5
168	45	0	27.28	27.28	76.32	5	5	5	5	5	5	5	5
	50	0	30.31	30.31	84.80	5	5	5	5	5	5	5	5
	55	0	33.34	33.34	93.28	5	5	5	5	5	5	5	5
	60	0	36.37	36.37	101.76	5	5	5	5	5	5	5	5
	65	0	39.40	39.40	110.24	5	5	5	5	5	5	5	4
204	40	0	29.25	29.25	81.83	5	5	5	5	5	5	5	5
	45	0	32.90	32.90	92.06	5	5	5	5	5	5	5	5
	50	92.97349	36.56	36.56	705.68	5	-	-	-	-	-	-	-
	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	5	5	5	5	5	5	5	5
	45	0	34.78	34.78	97.30	5	5	5	5	5	5	5	5
	50	93.89875	38.64	38.64	717.51	5	-	-	-	-	-	-	-
	55	113.8167	42.50	42.50	857.59	4	-	-	-	-	-	-	-
240	40	38.68479	34.25	34.25	346.88	5	3	-	3	3	3	4	-
	45	68.77296	38.53	38.53	554.13	5	-	-	-	-	-	-	-
	50	92.8435	42.81	42.81	722.32	5	-	-	-	-	-	-	-
264	40	73.11576	37.58	37.58	3.00	5	5	5	5	5	5	5	5
	45	97.48768	42.28	42.28	750.98	5	-	-	-	-	-	-	-
286.5	40	65.92552	40.70	40.70	541.74	5	-	-	-	-	-	-	-

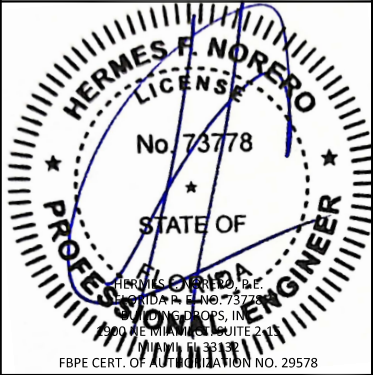
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FL22558

DATE: 06.06.17

DWG. BY: SM

CHK. BY: HFN

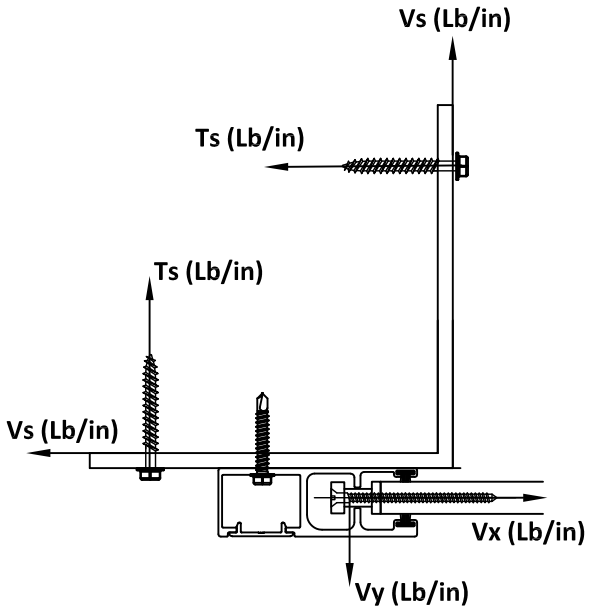
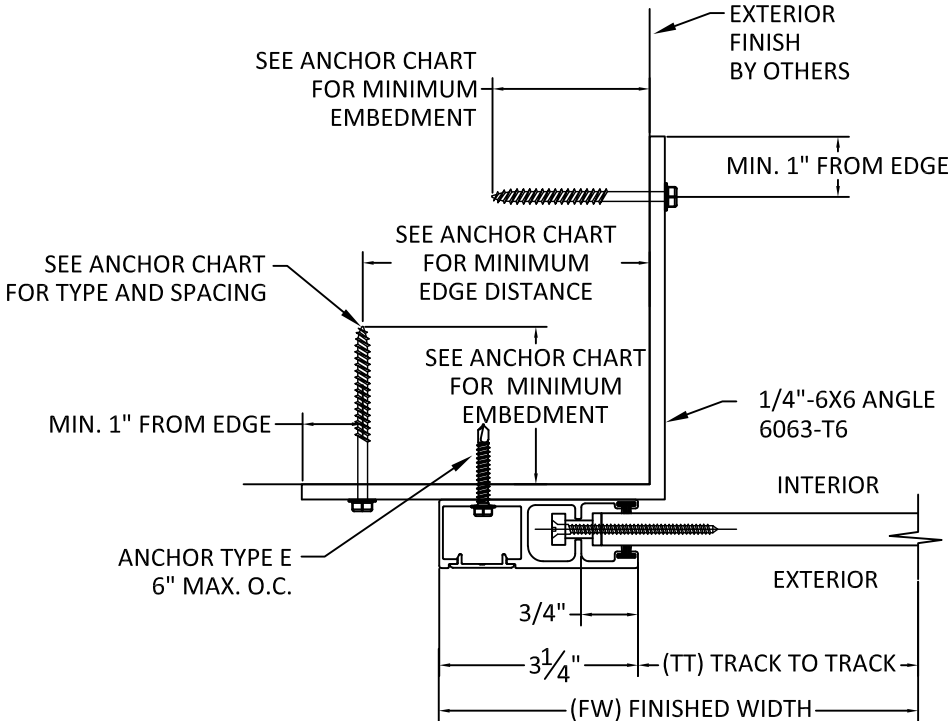
SCALE: NTS

DWG. #: EMS003

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	5	5	5	5	5	5	5	5
	45	0	12.28	0.00	12.28	5	5	5	5	5	5	5	5
	50	0	13.64	0.00	13.64	5	5	5	5	5	5	5	5
	55	0	15.00	0.00	15.00	5	5	5	5	5	5	5	5
	60	0	16.37	0.00	16.37	5	5	5	5	5	5	5	5
	65	0	17.73	0.00	17.73	5	5	5	5	5	5	5	5
	70	0	19.10	0.00	19.10	5	5	5	5	5	5	5	5
	75	0	20.46	0.00	20.46	5	5	5	5	5	5	5	5
	80	0	21.83	0.00	21.83	5	5	5	5	5	5	5	5
	85	0	23.19	0.00	23.19	5	5	5	5	5	5	5	5
	90	0	24.55	0.00	24.55	5	5	5	5	5	5	5	5
	95	138.268	25.92	138.27	25.92	5	5	4	5	5	5	5	4
	100	138.268	27.28	138.27	27.28	5	5	4	5	5	5	5	4
	105	138.268	28.65	138.27	28.65	5	5	4	5	5	5	5	4
	110	138.268	30.01	138.27	30.01	5	5	4	5	5	5	5	4
	115	138.268	31.37	138.27	31.37	5	5	4	5	5	5	5	4
	120	138.268	32.74	138.27	32.74	5	5	4	5	5	5	5	4
	125	138.268	34.10	138.27	34.10	5	5	4	5	5	5	5	4
	130	138.268	35.47	138.27	35.47	5	5	4	5	5	5	5	4
	135	138.268	36.83	138.27	36.83	5	5	4	5	5	5	5	4
	140	138.268	38.19	138.27	38.19	5	5	4	5	5	5	5	4
84	145	138.268	39.56	138.27	39.56	5	5	4	5	5	5	5	4
	150	138.268	40.92	138.27	40.92	5	5	4	5	5	5	5	4
	155	138.268	42.29	138.27	42.29	5	5	4	5	5	5	5	4
	160	138.268	43.65	138.27	43.65	5	5	4	5	5	5	5	4
	165	138.268	45.01	138.27	45.01	5	5	4	5	5	5	5	4
	170	138.268	46.38	138.27	46.38	5	5	4	5	5	5	5	4
	175	138.268	47.74	138.27	47.74	5	5	4	5	5	5	5	4
	180	138.268	49.11	138.27	49.11	5	5	4	5	5	5	5	4
	185	138.268	50.47	138.27	50.47	5	5	4	5	5	5	5	4
	190	138.268	51.83	138.27	51.83	5	5	4	5	5	5	5	4
	195	138.268	53.20	138.27	53.20	5	5	4	5	5	5	5	4
	200	138.268	54.56	138.27	54.56	5	5	4	5	5	5	5	3
	40	0	12.58	0.00	12.58	5	5	5	5	5	5	5	5
	45	0	14.15	0.00	14.15	5	5	5	5	5	5	5	5
	50	0	15.72	0.00	15.72	5	5	5	5	5	5	5	5
	55	0	17.30	0.00	17.30	5	5	5	5	5	5	5	5
	60	0	18.87	0.00	18.87	5	5	5	5	5	5	5	5
	65	0	20.44	0.00	20.44	5	5	5	5	5	5	5	5
	70	0	22.01	0.00	22.01	5	5	5	5	5	5	5	5
	75	0	23.59	0.00	23.59	5	5	5	5	5	5	5	5
	80	0	25.16	0.00	25.16	5	5	5	5	5	5	5	5
	85	0	26.73	0.00	26.73	5	5	5	5	5	5	5	5
	90	0	28.30	0.00	28.30	5	5	5	5	5	5	5	5
	95	170.1704	29.88	170.17	29.88	5	5	3	5	5	5	5	3
	100	170.1704	31.45	170.17	31.45	5	5	3	5	5	5	5	3
	105	170.1704	33.02	170.17	33.02	5	5	3	5	5	5	5	3
	110	170.1704	34.59	170.17	34.59	5	5	3	5	5	5	5	3
	115	170.1704	36.17	170.17	36.17	5	5	3	5	5	5	5	3
	120	170.1704	37.74	170.17	37.74	5	5	3	5	5	5	5	3
	125	170.1704	39.31	170.17	39.31	5	5	3	5	5	5	5	3
	130	170.1704	40.88	170.17	40.88	5	5	3	5	5	5	5	3
	135	170.1704	42.45	170.17	42.45	5	5	3	5	5	5	5	3
	140	170.1704	44.03	170.17	44.03	5	5	3	5	5	5	5	3
	145	170.1704	45.60	170.17	45.60	5	5	3	5	5	5	5	3
	150	170.1704	47.17	170.17	47.17	5	5	3	5	5	5	5	3
	155	170.1704	48.74	170.17	48.74	5	5	3	5	5	5	5	3
	160	170.1704	50.32	170.17	50.32	5	5	3	5	5	5	5	3
	165	170.1704	51.89	170.17	51.89	5	5	3	5	5	5	5	3
	170	170.1704	53.46	170.17	53.46	5	5	3	5	5	5	5	3
	175	170.1704	55.03	170.17	55.03	5	5	3	5	5	5	5	3
	180	170.1704	56.61	170.17	56.61	5	5	3	5	5	5	5	-
	185	170.1704	58.18	170.17	58.18	5	5	3	5	5	5	5	-

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.

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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. MIN. 3/16" A36 STEEL	1/2" 3/8"	3 THREADS PENETRATION
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"



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

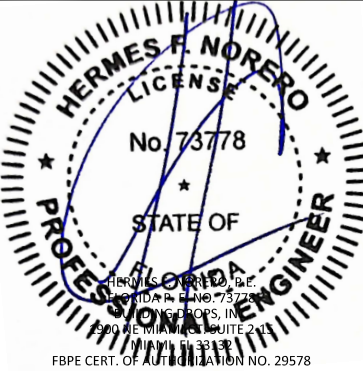
TITLE: 55 MMER ROLL SHUTTERS
(HVHZ) (IMPACT)
ESSENTIAL FACILITIES APPROVED
CORNER ANGLE MOUNT
ANCHOR SPACING

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 UPDATE	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. #:	EMS003
SHEET:	OF 23

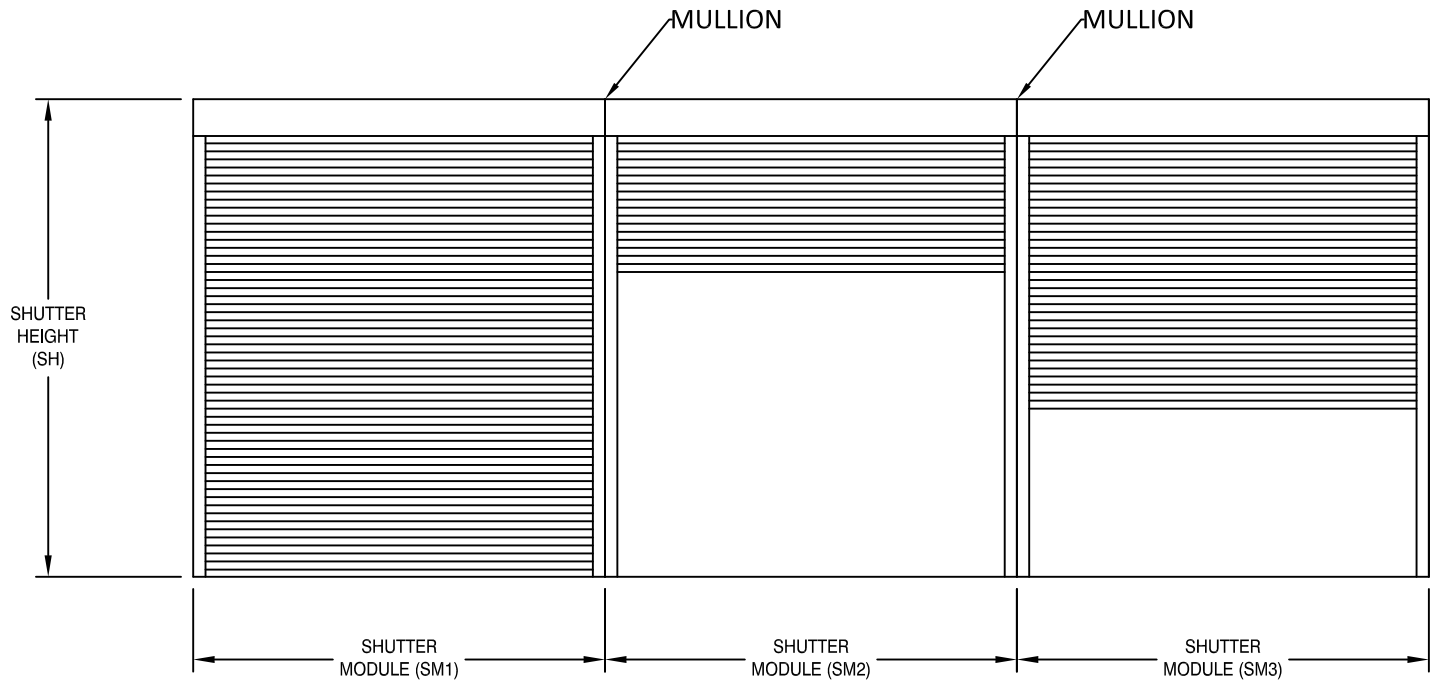
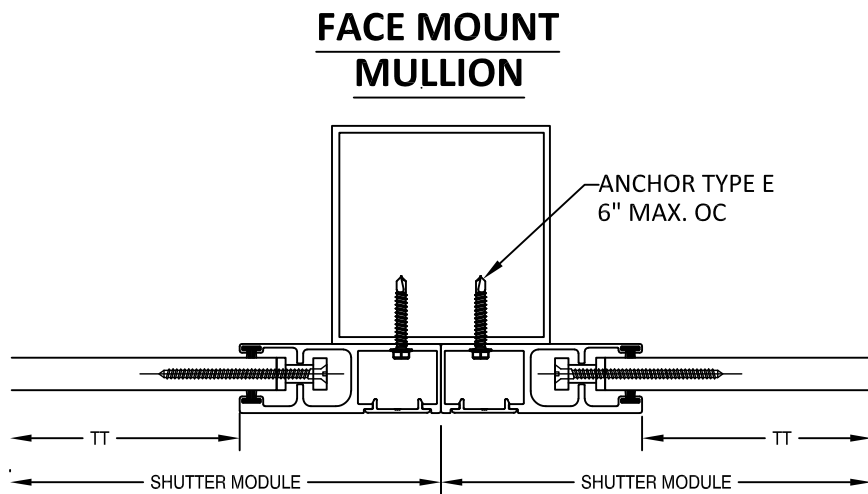
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TABLE 6 - ANCHOR SPACING						ANCHOR TYPE & SPACING 6X6 CORNER ANGLE ANCHOR - MOUNT 5							
TT	PD	Vx	Vy	Vs	Ts	A	B	C	D	E	F	G	H
96	80	0	14.25	0.00	14.25	5	5	5	5	5	5	5	5
	45	0	16.03	0.00	16.03	5	5	5	5	5	5	5	5
	50	0	17.81	0.00	17.81	5	5	5	5	5	5	5	5
	55	0	19.59	0.00	19.59	5	5	5	5	5	5	5	5
	60	0	21.37	0.00	21.37	5	5	5	5	5	5	5	5
	65	0	23.15	0.00	23.15	5	5	5	5	5	5	5	5
	70	0	24.93	0.00	24.93	5	5	5	5	5	5	5	5
	75	0	26.71	0.00	26.71	5	5	5	5	5	5	5	5
	80	0	28.49	0.00	28.49	5	5	5	5	5	5	5	5
	85	0	30.27	0.00	30.27	5	5	5	5	5	5	5	5
	90	0	32.05	0.00	32.05	5	5	5	5	5	5	5	5
	95	201.4766	33.83	201.48	33.83	5	5	-	5	5	5	5	-
	100	201.4766	35.61	201.48	35.61	5	5	-	5	5	5	5	-
	105	201.4766	37.40	201.48	37.40	5	5	-	5	5	5	5	-
	110	201.4766	39.18	201.48	39.18	5	5	-	5	5	5	5	-
	115	201.4766	40.96	201.48	40.96	5	5	-	5	5	5	5	-
	120	201.4766	42.74	201.48	42.74	5	5	-	5	5	5	5	-
	125	201.4766	44.52	201.48	44.52	5	5	-	5	5	5	5	-
	130	201.4766	46.30	201.48	46.30	5	5	-	5	5	5	5	-
	135	201.4766	48.08	201.48	48.08	5	5	-	5	5	5	5	-
	140	201.4766	49.86	201.48	49.86	5	5	-	5	5	5	5	-
108	145	201.4766	51.64	201.48	51.64	5	5	-	5	5	5	5	-
	150	201.4766	53.42	201.48	53.42	5	5	-	5	5	5	5	-
	155	201.4766	55.20	201.48	55.20	5	5	-	5	5	5	5	-
	160	201.4766	56.98	201.48	56.98	5	5	-	5	5	5	5	-
	165	201.4766	58.76	201.48	58.76	5	5	-	5	5	5	5	-
	170	201.4766	60.54	201.48	60.54	5	5	-	5	5	5	5	-
	175	201.4766	62.33	201.48	62.33	5	5	-	5	5	5	5	-
	80	0	15.91	0.00	15.91	5	5	5	5	5	5	5	5
	45	0	17.90	0.00	17.90	5	5	5	5	5	5	5	5
	50	0	19.89	0.00	19.89	5	5	5	5	5	5	5	5
	55	0	21.88	0.00	21.88	5	5	5	5	5	5	5	5
	60	0	23.87	0.00	23.87	5	5	5	5	5	5	5	5
	65	0	25.86	0.00	25.86	5	5	5	5	5	5	5	5
	70	0	27.85	0.00	27.85	5	5	5	5	5	5	5	5
	75	0	29.84	0.00	29.84	5	5	5	5	5	5	5	5
	80	0	31.83	0.00	31.83	5	5	5	5	5	5	5	5
	85	0	33.81	0.00	33.81	5	5	5	5	5	5	5	5
	90	0	35.80	0.00	35.80	5	5	5	5	5	5	5	5
	95	231.1754	37.79	231.18	37.79	5	5	-	5	5	4	5	-
	100	231.1754	39.78	231.18	39.78	5	5	-	5	5	4	5	-
	105	231.1754	41.77	231.18	41.77	5	5	-	5	5	4	5	-
	110	231.1754	43.76	231.18	43.76	5	5	-	5	5	4	5	-
	115	231.1754	45.75	231.18	45.75	5	5	-	5	5	4	5	-
	120	231.1754	47.74	231.18	47.74	5	5	-	5	5	4	5	-
	125	231.1754	49.73	231.18	49.73	5	5	-	5	5	4	5	-
	130	231.1754	51.72	231.18	51.72	5	5	-	4	5	4	5	-
	135	231.1754	53.70	231.18	53.70	5	5	-	4	5	4	5	-
	140	231.1754	55.69	231.18	55.69	5	5	-	4	5	4	5	-
	145	231.1754	57.68	231.18	57.68	5	5	-	4	5	4	5	-
	150	231.1754	59.67	231.18	59.67	5	5	-	4	5	4	5	-
	155	231.1754	61.66	231.18	61.66	5	5	-	4	5	4	5	-
	160	231.1754	63.65	231.18	63.65	5	5	-	4	5	4	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
120	40	0	17.58	0.00	17.58	5	5	5	5	5	5	5	5
	45	0	19.78	0.00	19.78	5	5	5	5	5	5	5	5
	50	0	21.97	0.00	21.97	5	5	5	5	5	5	5	5
	55	0	24.17	0.00	24.17	5	5	5	5	5	5	5	5
	60	0	26.37	0.00	26.37	5	5	5	5	5	5	5	5
	65	0	28.57	0.00	28.57	5	5	5	5	5	5	5	5
	70	0	30.76	0.00	30.76	5	5	5	5	5	5	5	5
	75	0	32.96	0.00	32.96	5	5	5	5	5	5	5	5
	80	0	35.16	0.00	35.16	5	5	5	5	5	5	5	5
	85	0	37.36	0.00	37.36	5	5	5	5	5	5	5	5
	90	258.3246	39.55	258.32	39.55	5	5	-	4	4	3	5	-
	95	258.3246	41.75	258.32	41.75	5	5	-	4	4	3	5	-
	100	258.3246	43.95	258.32	43.95	5	5	-	4	4	3	5	-
	105	258.3246	46.15	258.32	46.15	5	5	-	4	4	3	5	-
	110	258.3246	48.34	258.32	48.34	5	5	-	4	4	3	5	-
	115	258.3246	50.54	258.32	50.54	5	5	-	4	4	3	5	-
	120	258.3246	52.74	258.32	52.74	5	5	-	4	4	3	5	-
	125	258.3246	54.93	258.32	54.93	5	5	-	4	4	3	5	-
	130	258.3246	57.13	258.32	57.13	5	5	-	4	4	3	5	-
	135	258.3246	59.33	258.32	59.33	5	5	-	4	4	3	5	-
	140	258.3246	61.53	258.32	61.53	5	5	-	4	4	3	5	-
	145	258.3246	63.72	258.32	63.72	5	5	-	4	4	3	5	-
	150	258.3246	65.92	258.32	65.92	5	5	-	4	4	3	5	-
132	40	0	19.25	0.00	19.25	5	5	5	5	5	5	5	5
	45	0	21.65	0.00	21.65	5	5	5	5	5	5	5	5
	50	0	24.06	0.00	24.06	5	5	5	5	5	5	5	5
	55	0	26.46	0.00	26.46	5	5	5	5	5	5	5	5
	60	0	28.87	0.00	28.87	5	5	5	5	5	5	5	5
	65	0	31.27	0.00	31.27	5	5	5	5	5	5	5	5
	70	0	33.68	0.00	33.68	5	5	5	5	5	5	5	5
	75	0	36.09	0.00	36.09	5	5	5	5	5	5	5	5
	80	0	38.49	0.00	38.49	5	5	5	5	5	5	5	5
	85	282.0454	40.90	282.05	40.90	5	5	-	3	4	3	5	-
	90	282.0454	43.30	282.05	43.30	5	5	-	3	4	3	5	-
	95	282.0454	45.71	282.05	45.71	5	5	-	3	3	3	5	-
	100	282.0454	48.11	282.05	48.11	5	5	-	3	3	3	5	-
	105	282.0454	50.52	282.05	50.52	5	5	-	3	3	3	5	-
	110	282.0454	52.93	282.05	52.93	5	5	-	3	3	3	5	-
	115	282.0454	55.33	282.05	55.33	5	5	-	3	3	3	5	-
	120	282.0454	57.74	282.05	57.74	5	5	-	3	3	3	5	-
	125	282.0454	60.14	282.05	60.14	5	5	-	3	3	3	5	-
	130	282.0454	62.55	282.05	62.55	5	5	-	3	3	3	5	-
	135	282.0454	64.95	282.05	64.95	5	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	5	5	5	5	5	5	5	5
	45	0	23.53	0.00	23.53	5	5	5	5	5	5	5	5
	50	0	26.14	0.00	26.14	5	5	5	5	5	5	5	5
	55	0	28.75	0.00	28.75	5	5	5	5	5	5	5	5
	60	0	31.37	0.00	31.37	5	5	5	5	5	5	5	5
	65	0	33.98	0.00	33.98	5	5	5	5	5	5	5	5
	70	0	36.60	0.00	36.60	5	5	5	5	5	5	5	5
	75	0	39.21	0.00	39.21	5	5	5	5	5	5	5	5
	80	301.517	41.83	301.52	41.83	5	5	-	3	3	-	5	-
	85	301.517	44.44	301.52	44.44	5	4	-	3	3	-	5	-
	90	301.517	47.05	301.52	47.05	5	4	-	3	3	-	5	-
	95	301.517	49.67	301.52	49.67	5	4	-	3	3	-	5	-
	100	301.517	52.28	301.52	52.28	5	4	-	3	3	-	5	-
	105	301.517	54.90	301.52	54.90	5	4	-	3	3	-	5	-
	110	301.517	57.51	301.52	57.51	5	4	-	3	3	-	5	-
115	301.517	60.12	301.52	60.12	5	4	-	3	3	-	5	-	
120	301.517	62.74	301.52	62.74	5	4	-	3	3	-	5	-	
125	301.517	65.35	301.52	65.35	5	4	-	3	3	-	5	-	
168	40	0	24.25	0.00	24.25	5	5	5	5	5	5	5	5
	45	0	27.28	0.00	27.28	5	5	5	5	5	5	5	5
	50	0	30.31	0.00	30.31	5	5	5	5	5	5	5	5
	55	0	33.34	0.00	33.34	5	5	5	5	5	5	5	5
	60	0	36.37	0.00	36.37	5	5	5	5	5	5	5	5
	65	0	39.40	0.00	39.40	5	5	5	5	5	5	5	5
	70	324.6913	42.43	324.69	42.43	5	4	-	-	3	-	4	-
	75	324.6913	45.46	324.69	45.46	5	4	-	-	3	-	4	-
	80	324.6913	48.49	324.69	48.49	5	4	-	-	3	-	4	-
	85	324.6913	51.52	324.69	51.52	5	4	-	-	3	-	4	-
	90	324.6913	54.55	324.69	54.55	5	4	-	-	3	-	4	-
	95	324.6913	57.58	324.69	57.58	5	4	-	-	3	-	4	-
100	324.6913	60.61	324.69	60.61	5	4	-	-	3	-	4	-	
204	40	0	29.25	0.00	29.25	5	5	5	5	5	5	5	5
	45	0	32.90	0.00	32.90	5	5	5	5	5	5	5	5
	50	92.97349	36.56	92.97	36.56	5	5	5	5	5	5	5	5
	55	112.6951	40.21	112.70	40.21	5	5	5	5	5	5	5	5
	60	129.1298	43.87	129.13	43.87	5	5	4	5	5	5	5	4
	65	143.0361	47.52	143.04	47.52	5	5	4	5	5	5	5	4
	70	154.9558	51.18	154.96	51.18	5	5	3	5	5	5	5	3
	75	165.2862	54.84	165.29	54.84	5	5	3	5	5	5	5	3
216	40	0	30.91	0.00	30.91	5	5	5	5	5	5	5	5
	45	0	34.78	0.00	34.78	5	5	5	5	5	5	5	5
	50	93.89875	38.64	93.90	38.64	5	5	5	5	5	5	5	5
	55	113.8167	42.50	113.82	42.50	5	5	5	5	5	5	5	5
240	40	38.68479	34.25	38.68	34.25	5	5	5	5	5	5	5	5
	45	68.77296	38.53	68.77	38.53	5	5	5	5	5	5	5	5
	50	92.8435	42.81	92.84	42.81	5	5	5	5	5	5	5	5
264	40	73.11576	37.58	73.12	37.58	5	5	5	5	5	5	5	5
	45	97.48768	42.28	97.49	42.28	5	5	5	5	5	5	5	5
286.5	40	65.92552	40.70	65.93	40.70	5	5	5	5	5	5	5	5

EQUALLY SPACED MULLIONS SELECTION

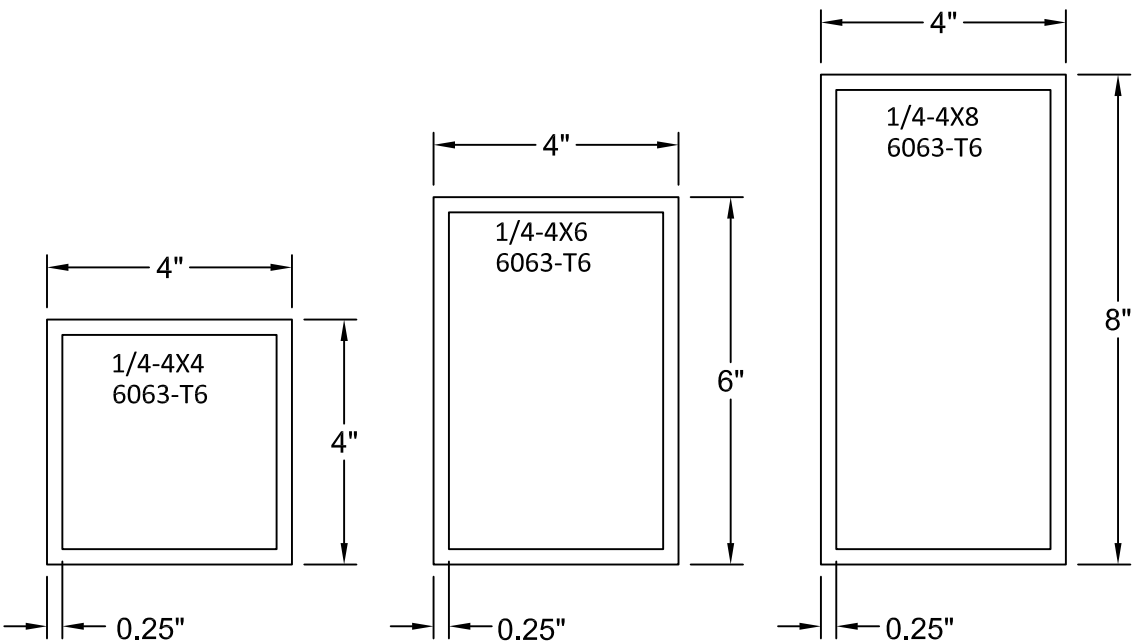


SM1 = SM2 = SM3

MAXIMUM MULLION DESIGN PRESSURE (PSF)

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	34	40	40	N/A	29	40	N/A	N/A	21
264	37	45	45	N/A	31	45	N/A	N/A	23
240	41	50	50	20	35	50	N/A	N/A	25
216	45	55	55	22	39	55	N/A	N/A	28
204	48	75	75	23	41	75	N/A	N/A	30
168	58	100	100	29	50	98	N/A	N/A	36
144	68	118	125	33	58	114	N/A	22	42
132	74	129	135	36	63	124	N/A	24	46
120	82	142	150	40	70	137	N/A	26	51
108	91	158	160	45	78	152	N/A	29	57
96	103	175	175	50	87	171	N/A	33	64
84	117	185	185	58	100	185	21	37	73
72	137	200	200	67	117	200	25	44	85

- 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.
 - DEFLECTION CRITERIA: MAX. SPAN/180
 - 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.



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

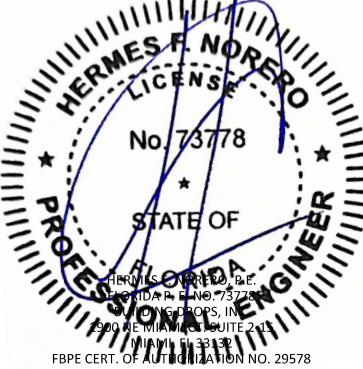
TITLE: 55 MMER ROLL SHUTTERS
(HVHZ) (IMPACT)
ESSENTIAL FACILITIES APPROVED
EQUALLY SPACED MULLION

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 UPDATE	NUS	08.18.20
ANCHOR UPDATE	SM	02.08.21
GUIDE RAIL UPDATE	MS	04.07.22
2023 FBC UPDATE	MS	09.18.23

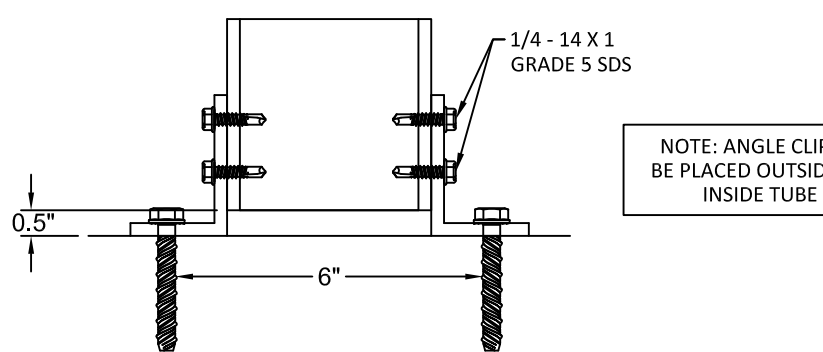
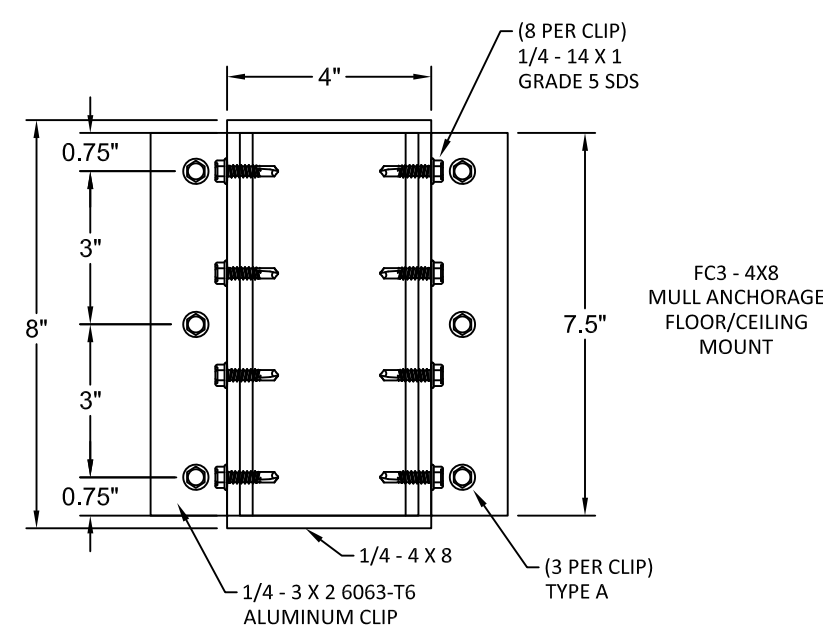
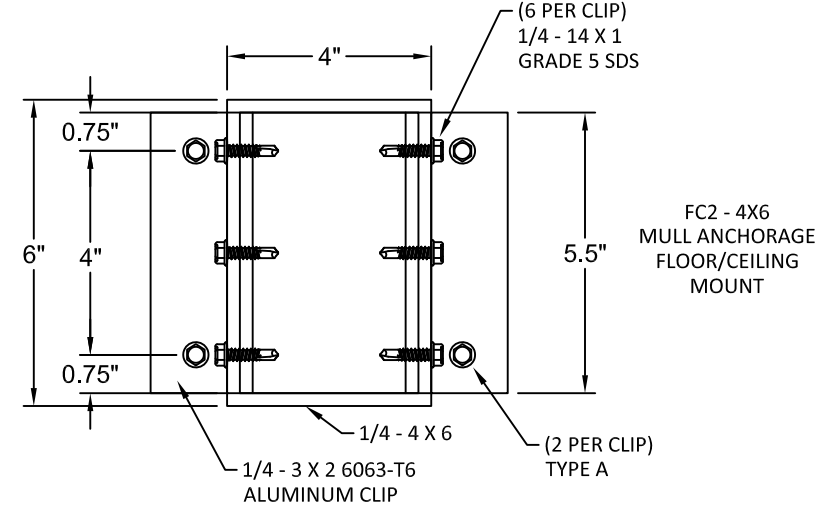
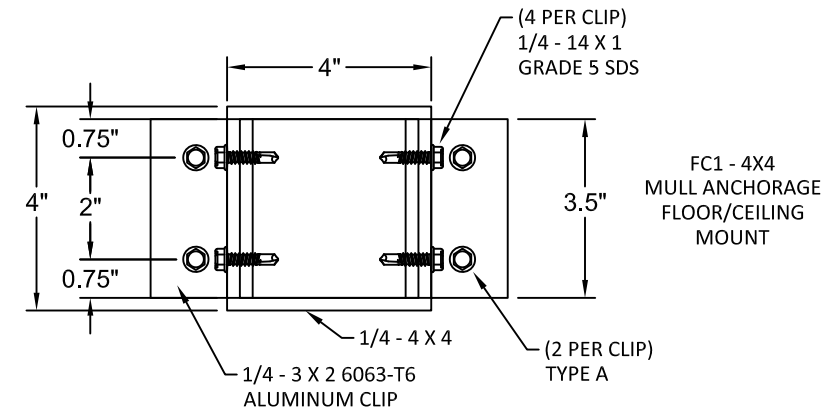
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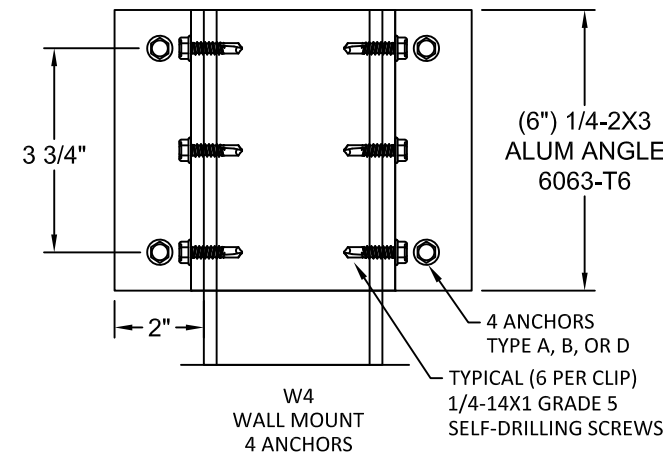
FL22558

DATE:	06.06.17
DWG. BY:	SM
CHK. BY:	HFN
SCALE:	NTS
DWG. #:	EMS003
SHEET:	OF 23

EQUALLY SPACED MULLIONS WALL AND INSET CONNECTIONS



NOTE: ANGLE CLIP TO BE PLACED OUTSIDE OR INSIDE TUBE



ANCHOR TYPE	WALL MOUNT ANCHOR SELECTION		
	MULLION TYPE		
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		
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 ULTRACON	MIN. 3515 PSI CONCRETE	3 1/8"	2"



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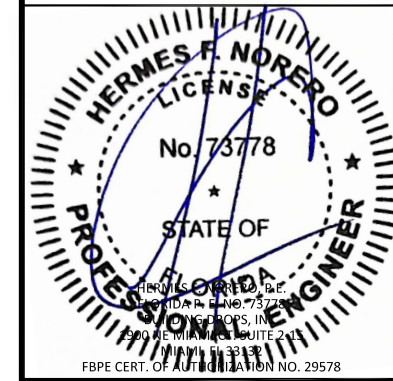
TITLE: 55 MMER ROLL SHUTTERS (HVHZ) (IMPACT) ESSENTIAL FACILITIES APPROVED EQUALLY SPACED MULLION ANCHORS

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
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GUIDE RAIL UPDATE	MS	04.07.22
2023 FBC UPDATE	MS	09.18.23

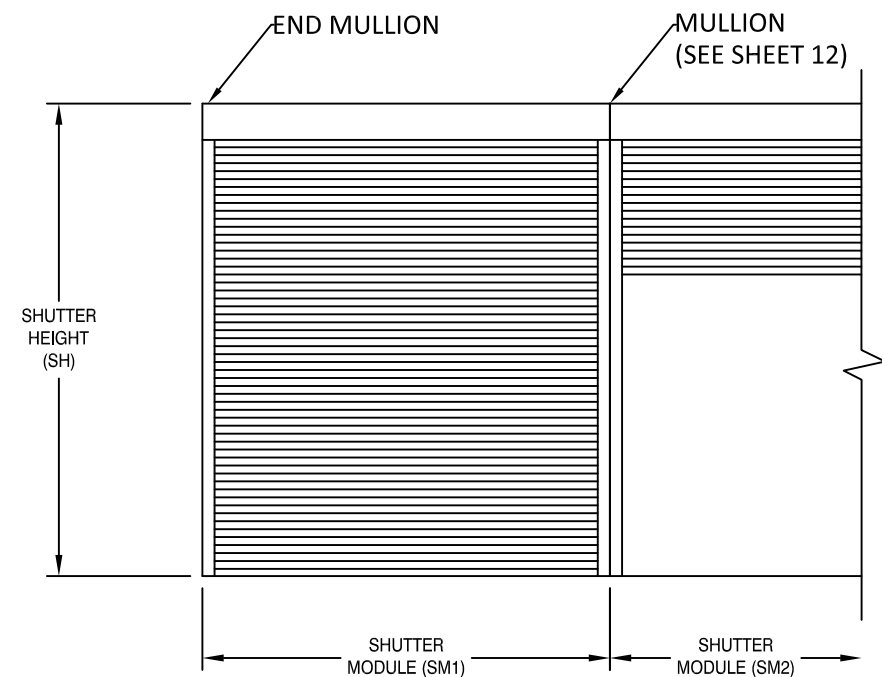
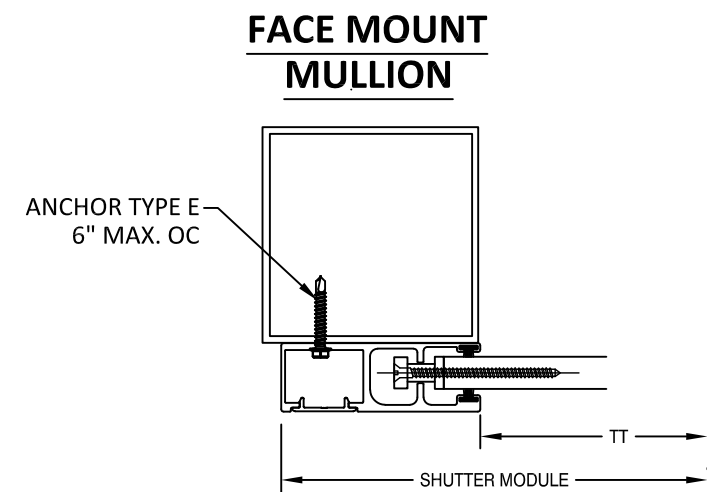
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DATE:	06.06.17
DWG. BY:	SM
CHK. BY:	HFN
SCALE:	NTS
DWG. #:	EMS003
SHEET:	OF 23

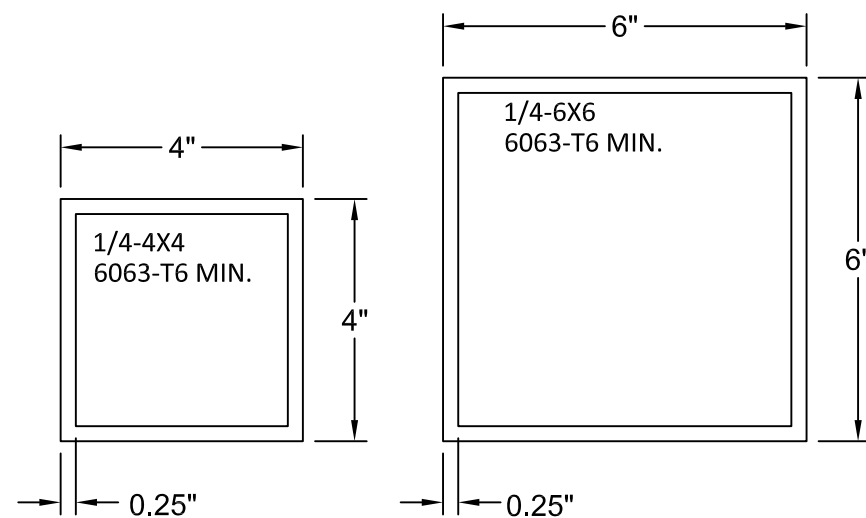
END MULLION SELECTION



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



ASSA

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

TITLE: 55 MMER ROLL SHUTTERS
(HVHZ) (IMPACT)
ESSENTIAL FACILITIES APPROVED
END MULLION

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

BD
BUILDING DROPS

REMARKS	BY	DATE
2020 FBC UPDATE	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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HERMES F. NORERO
LICENSE
No. 73778
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
HERMES F. NORERO, P.E.
FLORIDA LICENSE 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

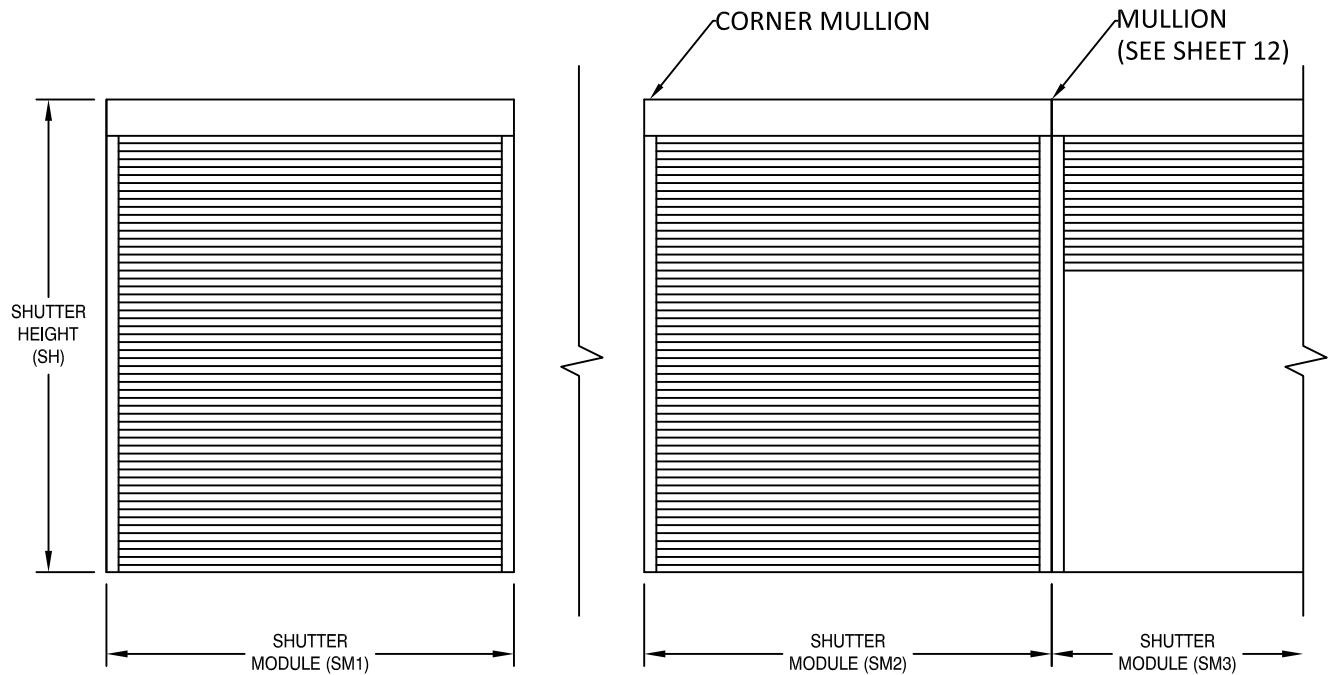
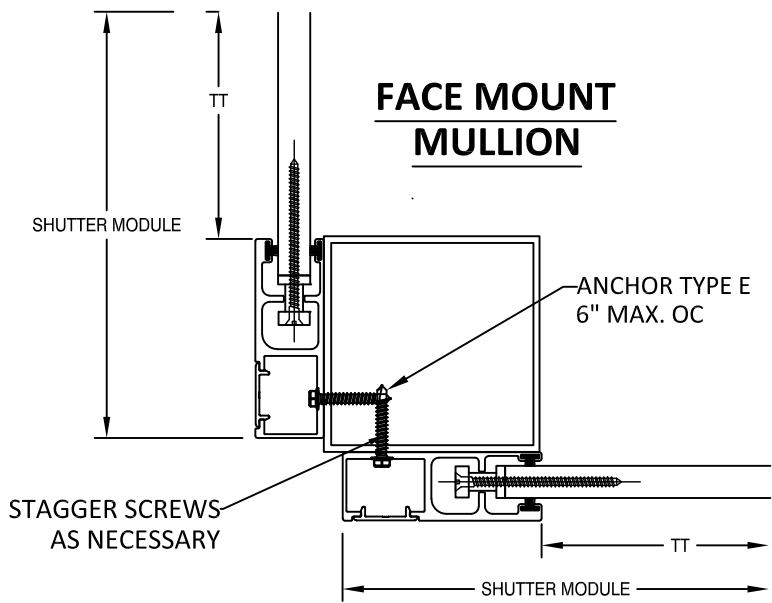
DWG. BY: SM
CHK. BY: HFN

SCALE: NTS

DWG. #: EMS003

SHEET: OF 23

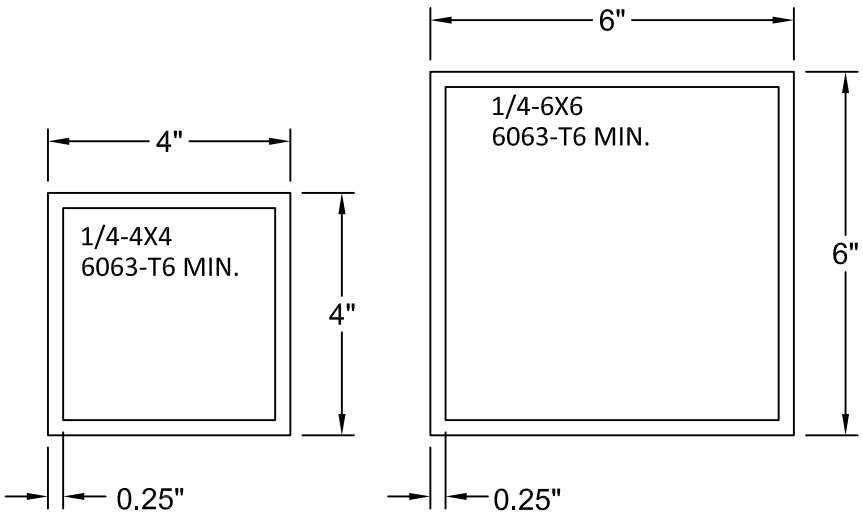
CORNER MULLION SELECTION



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:
- 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 CORNER MULLIONS ONLY WITH EQUAL WIDTH SHUTTERS ON BOTH SIDES, UNEQUAL SHUTTERS SHALL BE EVALUATED ON A CASE BY CASE BASIS.



4268 WESTROADS DRIVE
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FAX: 561-841-0852

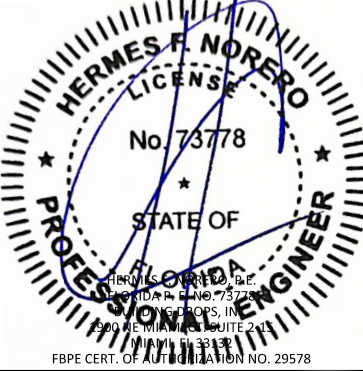
TITLE: 55 MMER ROLL SHUTTERS
(HVHZ) (IMPACT)
ESSENTIAL FACILITIES APPROVED
CORNER MULLION

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
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GUIDE RAIL UPDATE	MS	04.07.22
2023 FBC UPDATE	MS	09.18.23

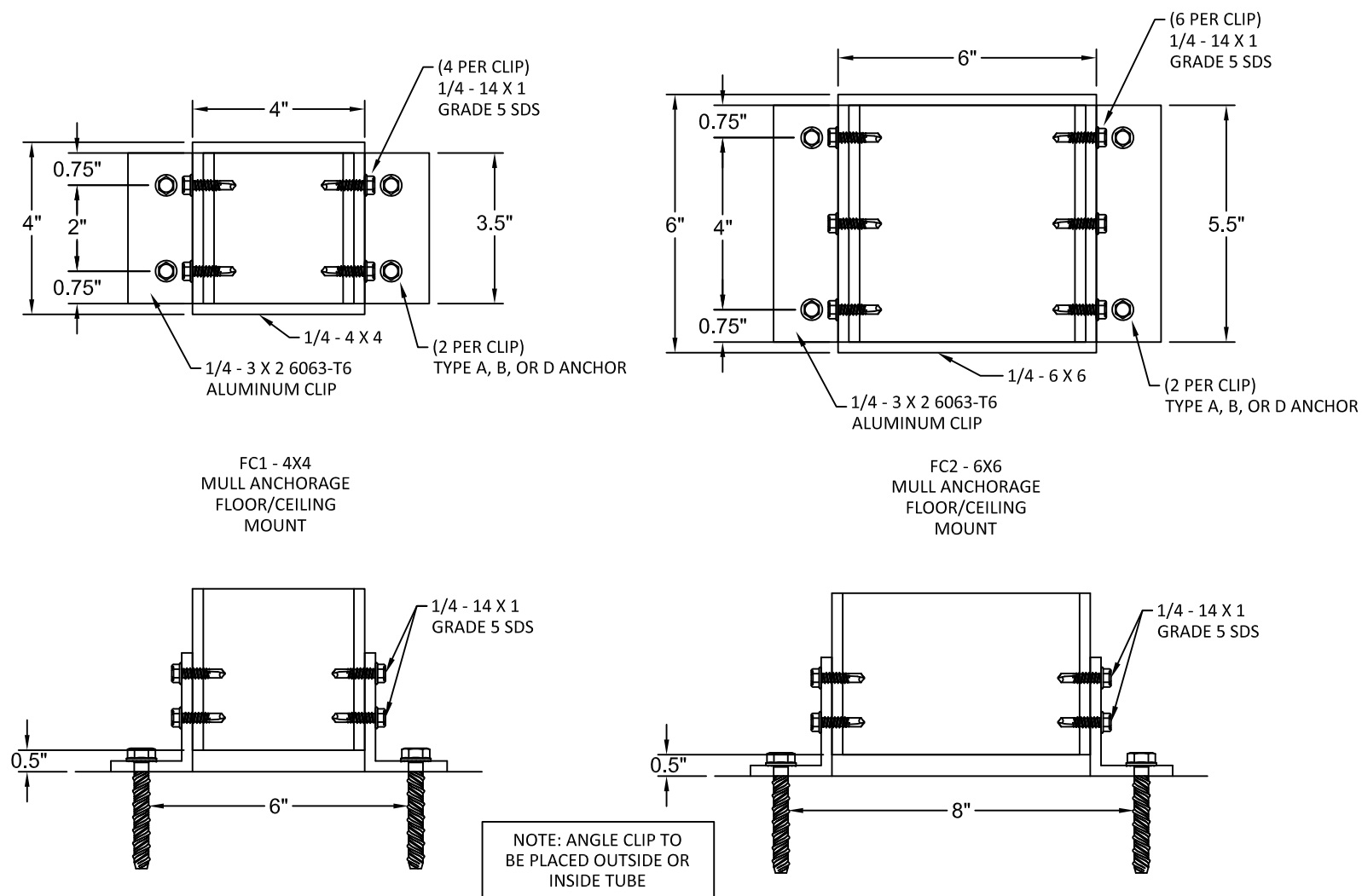
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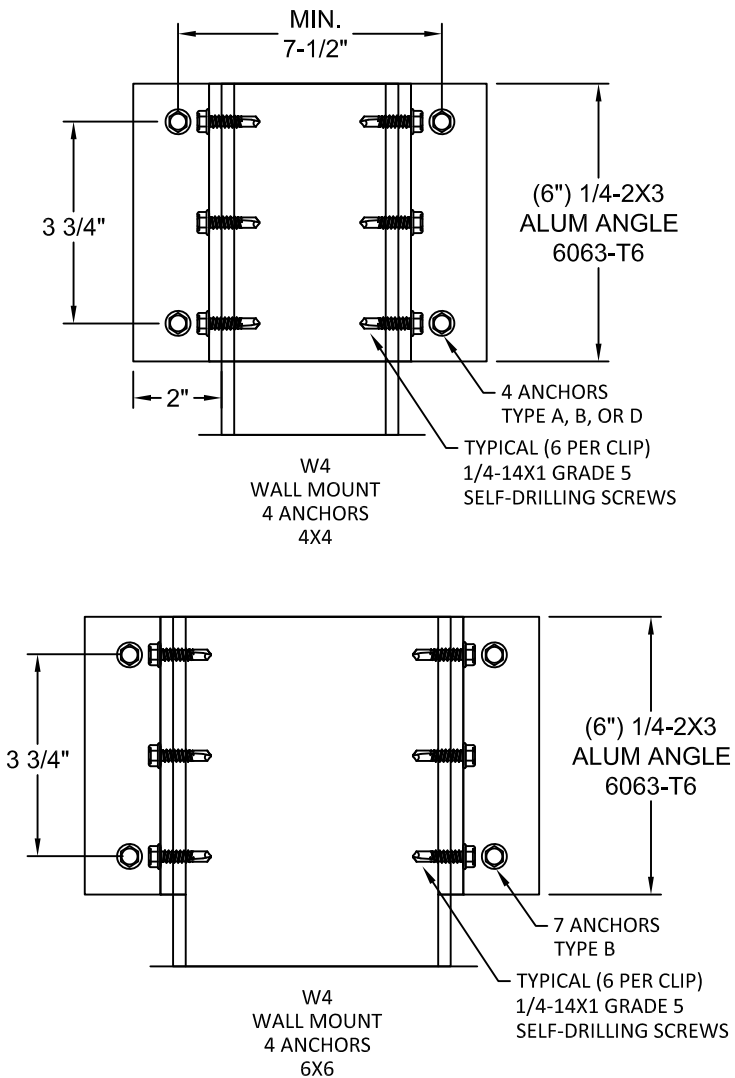
DATE:	06.06.17
DWG. BY:	SM
CHK. BY:	HFN
SCALE:	NTS
DWG. #:	EMS003
SHEET:	OF 23

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

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

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"



4268 WESTROADS DRIVE
WEST PALM BEACH, FL 33407
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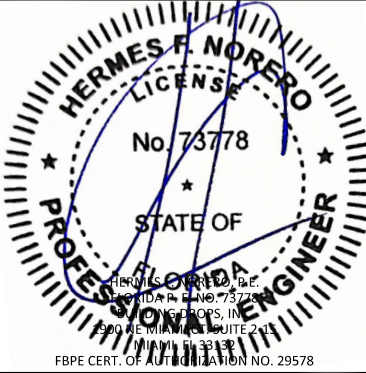
TITLE: 55 MMER ROLL SHUTTERS
(HVHZ) (IMPACT)
ESSENTIAL FACILITIES APPROVED
CORNER MULLION ANCHORS

PREPARED BY:
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1900 NE MIAMI CT, SUITE 2-15
MIAMI, FL 33132
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GUIDE RAIL UPDATE	MS	04.07.22
2023 FBC UPDATE	MS	09.18.23

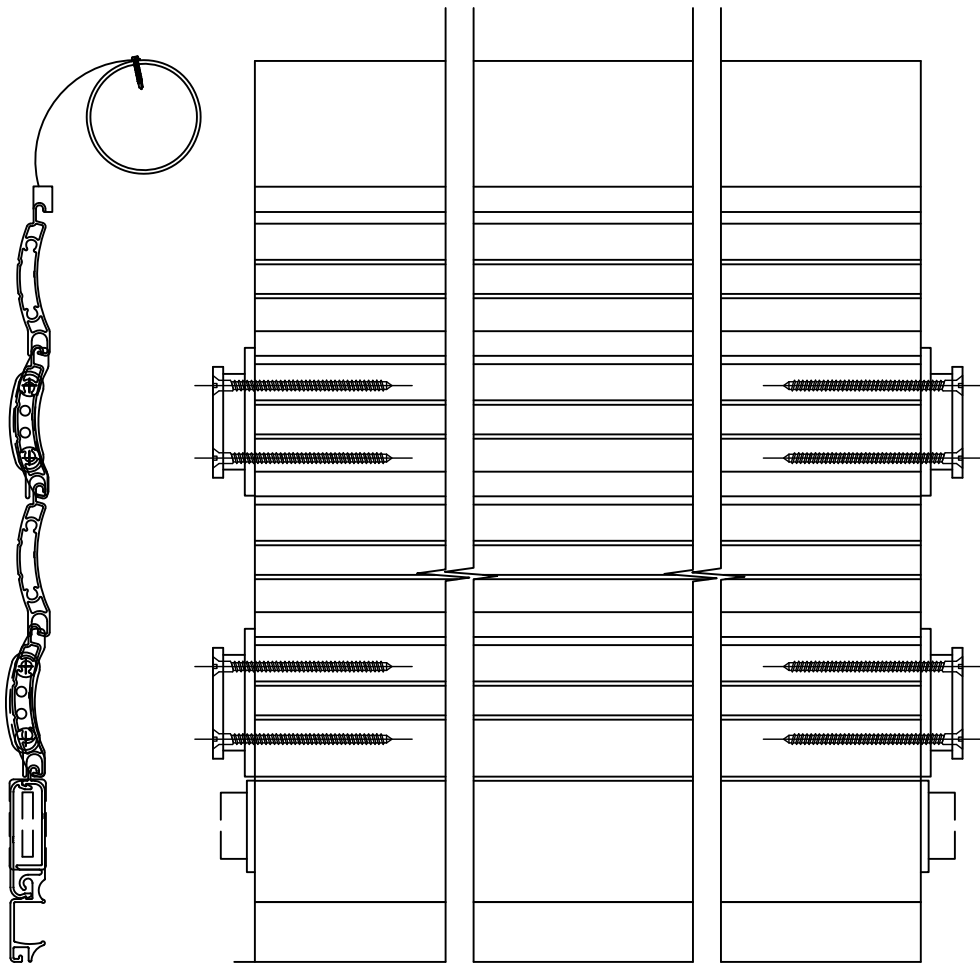
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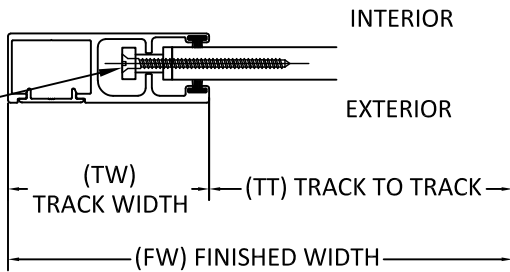
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DATE:	06.06.17
DWG. BY:	SM
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SCALE:	NTS
DWG. #:	EMS003
SHEET:	OF 23

SLAT END RETENTION LAY-OUT

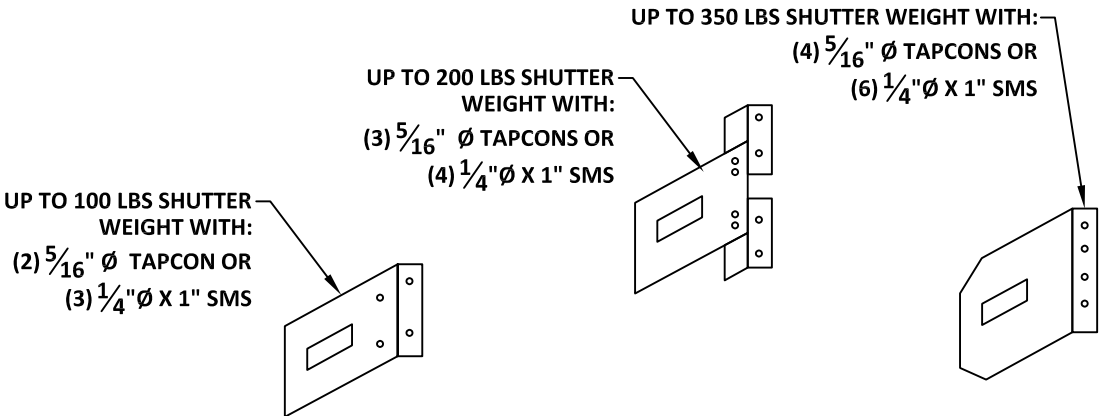


#10 X 2.5" PFH 18-8 S/S SMS , TWO (2) PER END RETENTION SLAT LOCK GUIDE, WITH A HV COATING SYSTEM AS MANUFACTURED BY AN APPROVED COATING APPLICATOR REGISTERED WITH THE AMERICAN SHUTTER SYSTEMS ASSOCIATION.

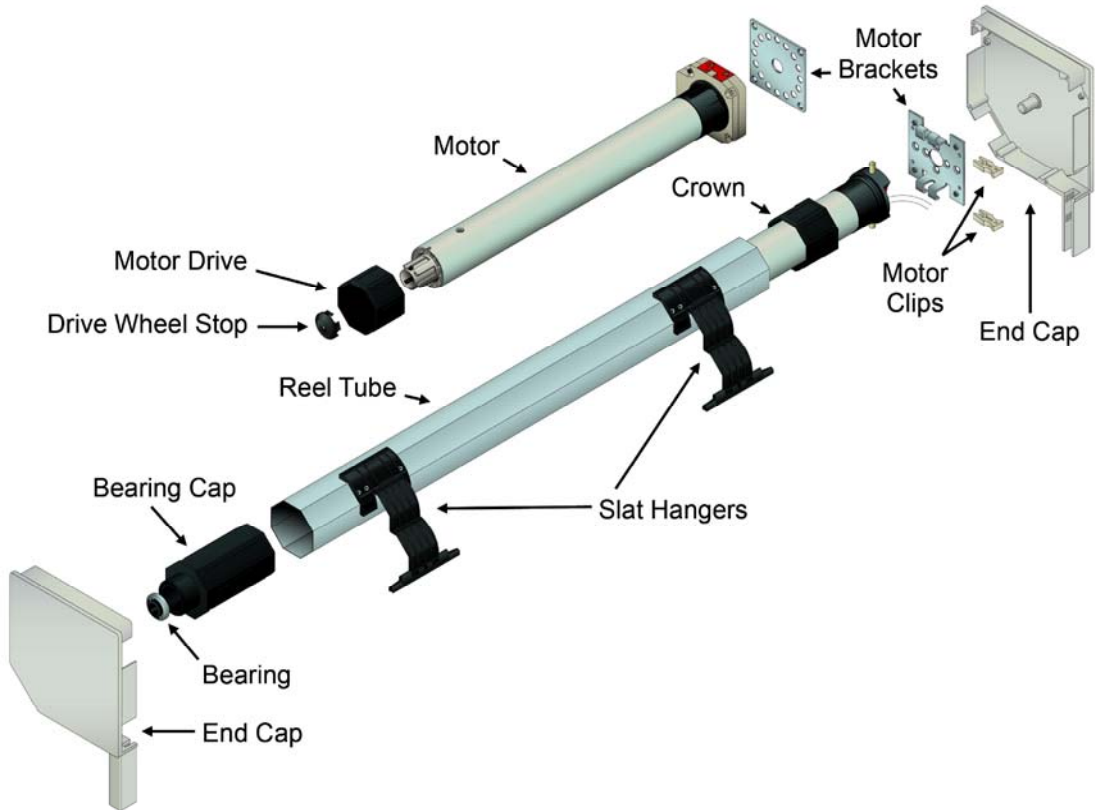


- NOTES:
1. SLAT END RETENTION LOCK TO BE AT EVERY OTHER SLAT
 2. INSTALLATION SCREWS SHALL BE COATED WITH A HV COATING SYSTEM AS MANUFACTURED BY AN APPROVED COATING APPLICATOR REGISTERED WITH THE AMERICAN SHUTTER SYSTEMS ASSOCIATION.

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
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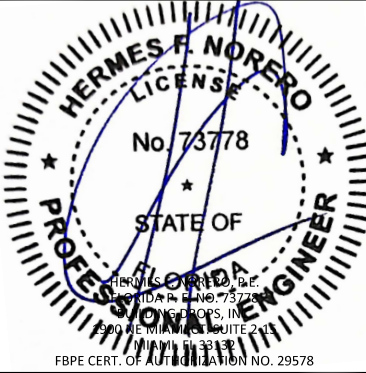
TITLE: 55 MMER ROLL SHUTTERS
(HVHZ) (IMPACT)
ESSENTIAL FACILITIES APPROVED
SLAT END RETENTION & HOOD
ASSEMBLY

PREPARED BY:
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MIAMI, FL 33132
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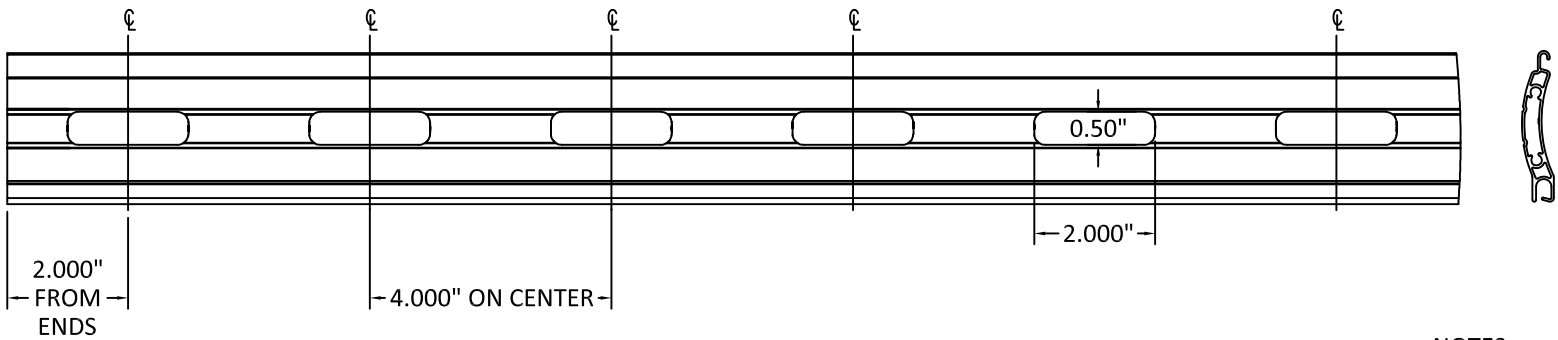
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CHK. BY:	HFN
SCALE:	NTS
DWG. #:	EMS003
SHEET:	OF 23

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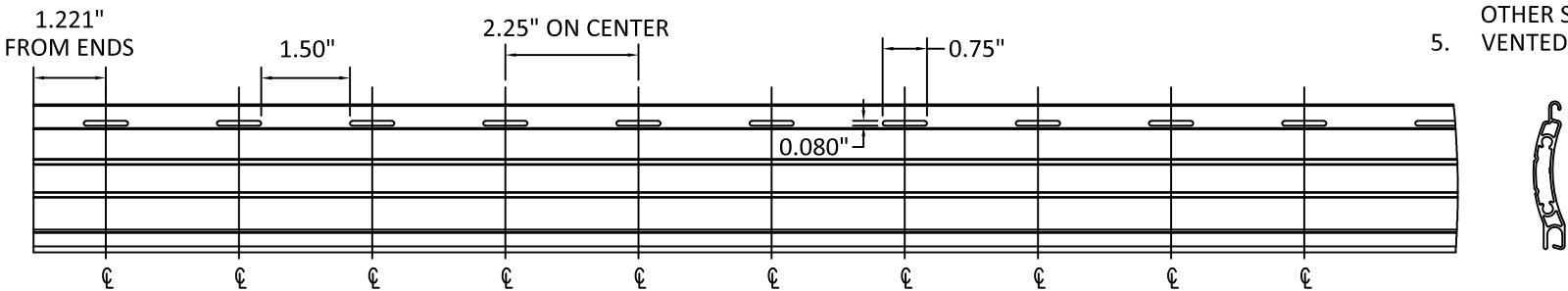


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WEST PALM BEACH, FL 33407
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FAX: 561-841-0852

VIEWPORT SLAT DETAIL



VENTED 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" OF BOTTOM OF FRAME.
 2. VIEWPORT SLATS MAY ONLY BE USED ON SLATS WITH END RETENTION.
 3. VIEWPORTS USE MAKROLON POLYCARBONATE INSERT WITH CURRENT NOA.
 4. END RETENTION LOCKS ARE REQUIRED EVERY OTHER SLAT.
 5. VENTED OR UN-VENTED SLATS QUALIFIED.

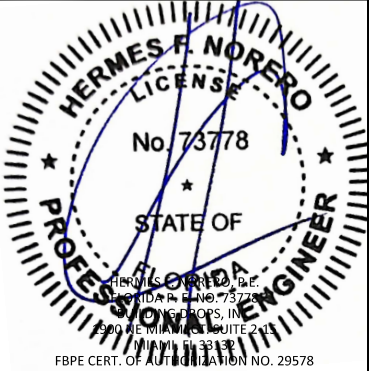
TITLE: 55 MMER ROLL SHUTTERS
(HVHZ) (IMPACT)
ESSENTIAL FACILITIES APPROVED
VIEWPORT AND VENT DETAILS

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 UPDATE	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.

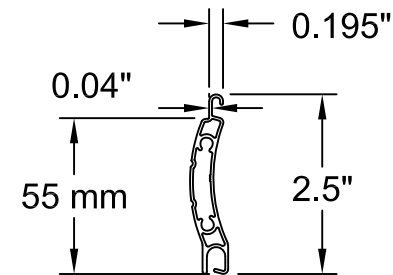


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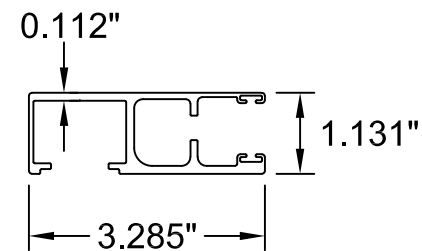
DATE:	06.06.17
DWG. BY:	CHK. BY:
SM	HFN
SCALE:	NTS
DWG. #:	EMS003
SHEET:	OF 23

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

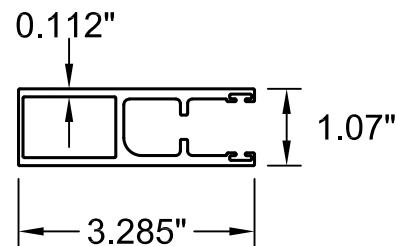
1 SLAT
6063-T6



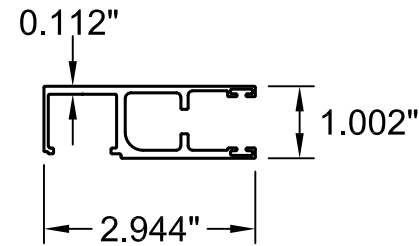
2 LARGE GUIDE RAIL
6063-T6



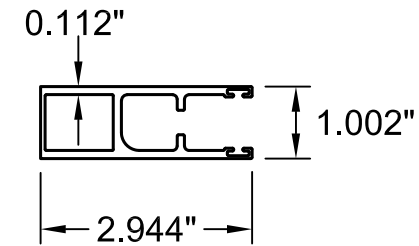
2A LARGE GUIDE RAIL
ENCLOSED
6063-T6



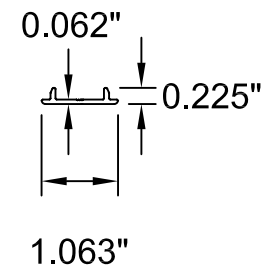
3 SMALL GUIDE RAIL
6063-T6



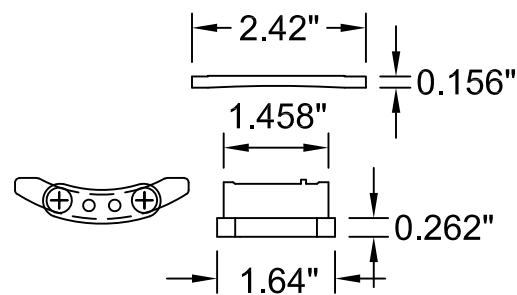
3A SMALL GUIDE RAIL
ENCLOSED
6063-T6



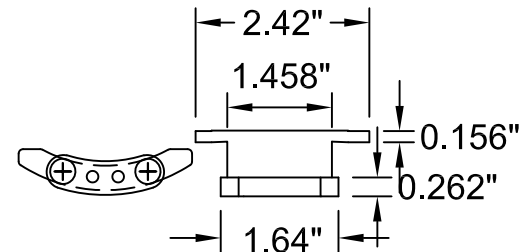
4 COVER CAP
6063-T6



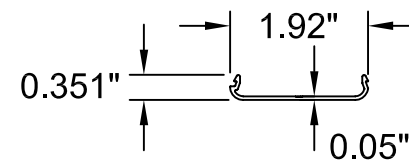
5 SLAT LOCK - 2 PIECE
POLYACETAL



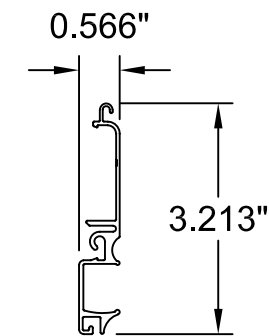
5A SLAT LOCK - 1 PIECE
POLYACETAL



6 BOTTOM SLAT
COVER



7 BOTTOM SLAT



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

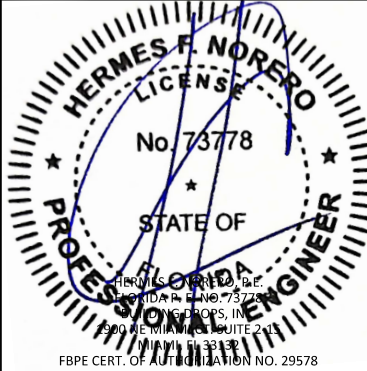
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FL22558

DATE:	06.06.17
DWG. BY:	SM
CHK. BY:	HFN
SCALE:	NTS
DWG. #:	EMS003
SHEET:	OF 23

23