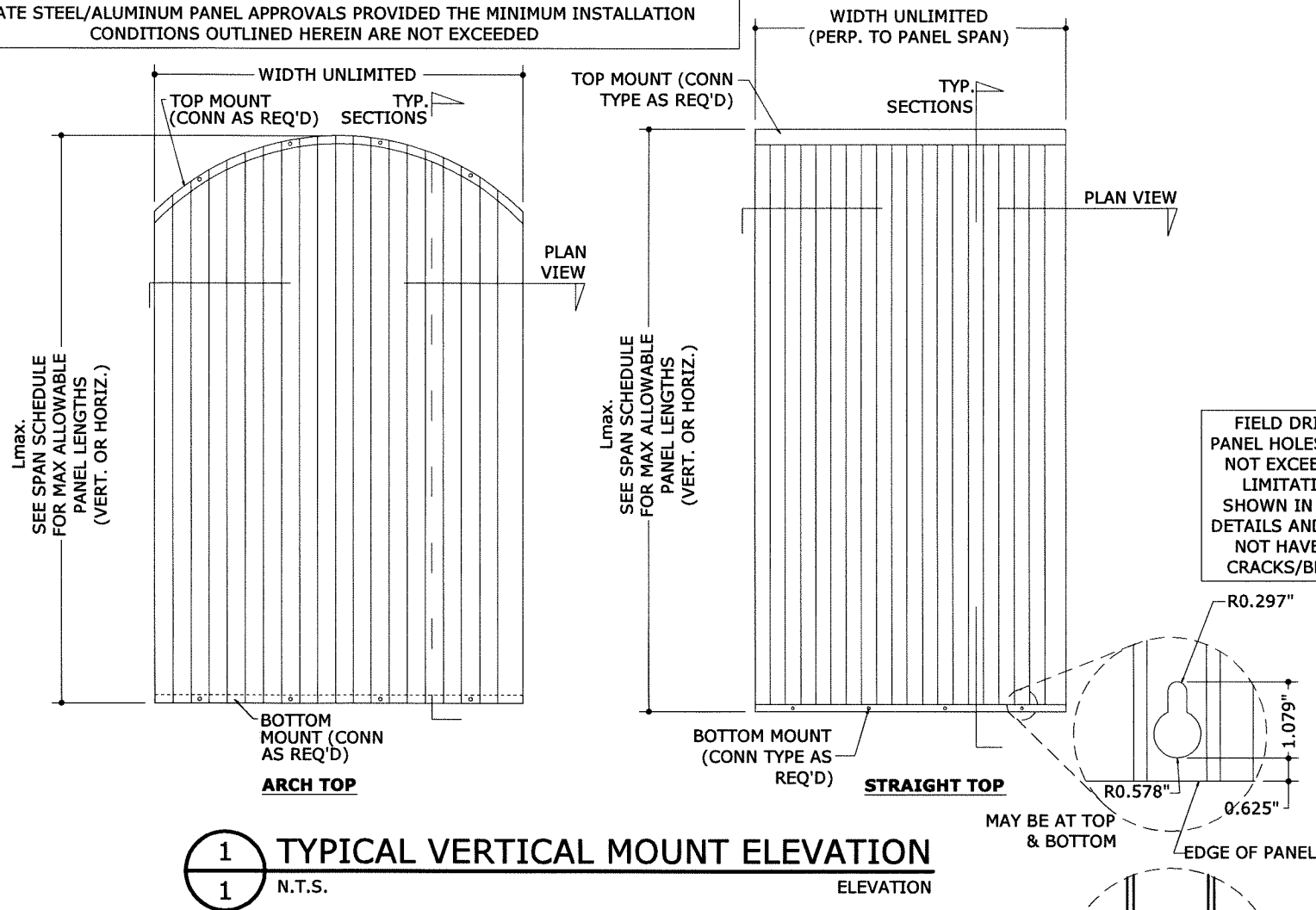


EASTERN METAL SUPPLY 2" CLEAR BERTHA STORM PANEL

(HVHZ & NON-HVHZ) - DIGITALLY ASSISTED EDITION

THIS DOCUMENT IS TO BE USED IN CONJUNCTION WITH FL 28390.1 AND BY INFORMATION FOUND ON WWW.ECALC.IO/FL28390 TO BE VALID FOR USE ANY ENGINEERING RESULTS OBTAINED FROM THE DIGITAL COMPONENT OF THIS APPROVAL IS ONLY VALID WHEN REVIEWED AND CERTIFIED BY THIS FIRM

THE CLEAR POLYCARBONATE PANELS APPROVED IN THIS DOCUMENT MAY BE INTEGRATED WITH ALTERNATE STEEL/ALUMINUM PANEL APPROVALS PROVIDED THE MINIMUM INSTALLATION CONDITIONS OUTLINED HEREIN ARE NOT EXCEEDED



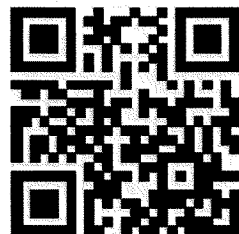
1 TYPICAL VERTICAL MOUNT ELEVATION
1 N.T.S. ELEVATION

ABOUT THIS APPROVAL DOCUMENT

ASIDE FROM A COMPLETE APPROVAL REPORT COUNTERPART OF THE SAME FL NUMBER, THIS APPROVAL USES A DIGITALLY AVAILABLE COMPONENT USEFUL FOR FURTHER INFORMATION ABOUT THE PRODUCT SPECIFICATIONS, LIMITATIONS, AND AVAILABILITY.

THE WEB PAGE COUNTERPART ALSO CONTAINS A DESIGN AID THAT PERFORMS INTERPOLATION OF SPAN, PRESSURE, AND ANCHOR DATA FOR HIGHER RESOLUTION RESULTS. AS THAT INFORMATION RESIDES OUTSIDE THIS EVALUATION, ANY RESULTS OBTAINED FROM THE WEB PAGE SHALL BE REVIEWED AND CERTIFIED BY AN ENGINEER FROM THIS FIRM.

MORE INSTRUCTIONS CAN BE FOUND BY VISITING THAT WEB SITE. THIS APPROVAL SHALL ONLY BE VALID IF THAT INFORMATION IS AVAILABLE ONLINE.



VISIT ECALC.IO/FL28390 OR SCAN THE QR CODE TO ACCESS THE WEB COUNTERPART

MAXIMUM ALLOWABLE DESIGN PRESSURES:

AS NOTED IN DESIGN SCHEDULES & DIGITAL ACCOMPANIMENT

DESIGN NOTES:

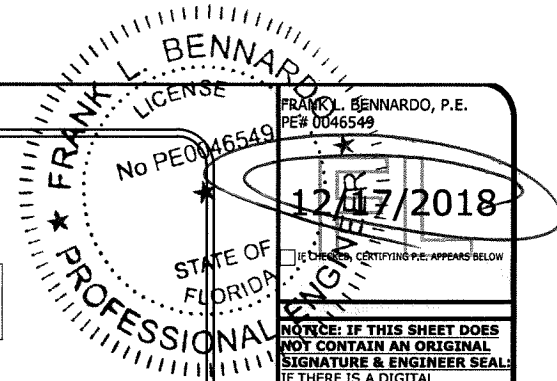
POSITIVE & NEGATIVE (ASD) DESIGN PRESSURES FOR USE WITH THIS SYSTEM SHALL BE DETERMINED ON A SITE-SPECIFIC BASIS AND COMPARED TO LIMITING FACTORS AS STIPULATED HEREIN. THEY SHALL BE CALCULATED IN ACCORDANCE WITH THE GOVERNING CODE REQUIREMENTS & IN ACCORDANCE WITH ASCE 7-10 AND CHAPTER 1609 OF THE FLORIDA BUILDING CODE. THEY SHALL BE LESS THAN OR EQUAL TO THE POSITIVE OR NEGATIVE DESIGN PRESSURE CAPACITY VALUES LISTED HEREIN FOR ANY ASSEMBLY AS SHOWN.

TOP & BOTTOM DETAILS SHOWN MAY BE INTERCHANGED AS FIELD CONDITIONS DICTATE. PANELS MAY BE MOUNTED VERTICALLY OR HORIZONTALLY AS APPLICABLE.

GENERAL NOTES:

- THIS SPECIFICATION HAS BEEN DESIGNED AND SHALL BE FABRICATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE SIXTH EDITION (2017) FOR USE INSIDE AND OUTSIDE OF THE HVHZ, PER TAS 201, 202 & 203 AND ASTM E330, E1886 & E1996 TEST PROTOCOLS. CONTRACTOR SHALL INVESTIGATE AND CONFORM TO ALL LOCAL BUILDING CODE AMENDMENTS WHICH MAY APPLY. DESIGN CRITERIA BEYOND AS STATED HEREIN MAY REQUIRE ADDITIONAL SITE-SPECIFIC SEALED ENGINEERING.
- NO 33-1/3% INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS SYSTEM.
- THE ARCHITECT/ENGINEER OF RECORD FOR THE PROJECT SUPERSTRUCTURE WITH WHICH THIS DESIGN IS USED SHALL BE RESPONSIBLE FOR THE INTEGRITY OF ALL SUPPORTING SURFACES TO THIS DESIGN WHICH SHALL BE COORDINATED BY THE PERMITTING CONTRACTOR.
- SEPARATE 'SITE-SPECIFIC' SIGNED AND SEALED ENGINEERING SHALL BE REQUIRED IN ORDER TO DEVIATE, INTERPOLATE, AND EXTRAPOLATE FROM LOADS, DEFLECTIONS, OR SPANS CONTAINED HEREIN. CONTACT THIS ENGINEER AND VISIT THE ACCOMPANYING DIGITAL INFORMATION REFERENCED HEREIN FOR ALTERNATE SPAN CALCULATIONS AS MAY BE REQUIRED.
- THE SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. FOR SITE CONDITIONS DIFFERENT FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE IN CONJUNCTION WITH THIS DOCUMENT.
- DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY A 1.5 SAFETY FACTOR.
- ALL FASTENERS TO BE 1/4"Ø OR GREATER SAE GRADE 5 UNLESS NOTED OTHERWISE. FASTENERS SHALL BE CADMIUM-PLATED OR OTHERWISE CORROSION-RESISTANT MATERIAL AND SHALL COMPLY WITH "SPECIFICATIONS FOR ALUMINUM STRUCTURES" SECTION J.3.7.2 BY THE ALUMINUM ASSOCIATION, INC., & ANY APPLICABLE FEDERAL, STATE, AND/OR LOCAL CODES.
- ALL STORM PANELS SHALL BE CLEAR POLYCARBONATE, t=0.100" AND CONFORM TO THE SPECIFICATIONS LISTED HEREIN.
- ALL ALUMINUM EXTRUSIONS SHALL BE 6063-T6 ALUMINUM ALLOY OR BETTER, UNLESS NOTED OTHERWISE.
- CONCRETE ANCHORS NOTED HEREIN SHALL BE EMBEDDED TO NON-CRACKED CONCRETE ONLY. INSTALL ALL CONCRETE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS.
- THE CONTRACTOR IS RESPONSIBLE TO INSULATE OR PROTECT ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS.
- ENGINEER SEAL AFFIXED HERE TO VALIDATES STRUCTURAL DESIGN AS SHOWN ONLY. USE OF THIS SPECIFICATION BY CONTRACTOR, et. al, INDEMNIFIES & SAVES HARMLESS THIS ENGINEER FOR ALL COST & DAMAGES INCLUDING LEGAL FEES & APPELLATE FEES RESULTING FROM MATERIAL FABRICATION, SYSTEM ERECTION, & CONSTRUCTION PRACTICES BEYOND THAT WHICH IS CALLED FOR BY LOCAL, STATE, & FEDERAL CODES & FROM DEVIATIONS OF THIS PLAN.
- EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED.
- ALTERATIONS, ADDITIONS, OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE THIS CERTIFICATION.
- PANELS SHALL BE PERMANENTLY LABELED WITH A MINIMUM OF (1) LABEL PER PANEL, CONTAINING THE FOLLOWING INFORMATION:

EASTERN METAL SUPPLY, INC.
WEST PALM BEACH, FL
TAS 201, TAS 202 & TAS 203
ASTM E330, ASTM E1886 & ASTM E1996
FLORIDA PRODUCT APPROVAL NUMBER



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EASTERN METAL SUPPLY
4268 WESTROADS DR
WEST PALM BEACH, FL
(800) 432-2204
2" CLEAR BERTHA STORM PANEL
FLORIDA BUILDING CODE
***** FL28390.2 *****

REMARKS	DATE	DRWN	CHKD
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TABLE NOTES:

THESE TABLES HELP FIND SEVERAL WORST-CASE RESULTS COMBINING ALLOWABLE TESTED SPANS, SEPARATION FROM GLASS, ANCHORS AND SPACING. FOR INTERPOLATION, EXTRAPOLATION, AND MORE PRECISE RESULTS AS APPLICABLE, REFER TO THE DIGITAL COUNTERPART TO THIS DOCUMENT LISTED ON S1. ALL RESULTS FROM THAT SOURCE MUST BE CERTIFIED BY THIS FIRM.

MAX. ALLOWABLE PANEL SPAN & GLASS SEPARATION

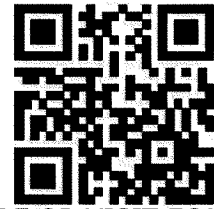


TABLE 1 (HVHZ):

SCAN CODE OR VISIT EALC.IO/FL28390 TO INTERACT WITH THESE TABLES

MINIMUM STORM PANEL SEPARATION FROM GLASS (HVHZ, WIND ZONE 4 & ESSENTIAL FACILITIES)

MAXIMUM DESIGN PRESSURE (PSF)	ALLOWABLE SPAN (Lmax) FOR THIS PRESSURE	INSTALLATIONS LESS THAN 30' ABOVE GRADE	INSTALLATIONS GREATER THAN 30' ABOVE GRADE	ANCHOR SPACING PER COLUMN LIMITATION
+/-21	132.0 in	10.50 in	9.75 in	A
+/-41	84.5 in	8.50 in	7.25 in	B
+/-60	40.0 in	6.50 in	4.75 in	C

ANCHOR SPACING TABLE 2:

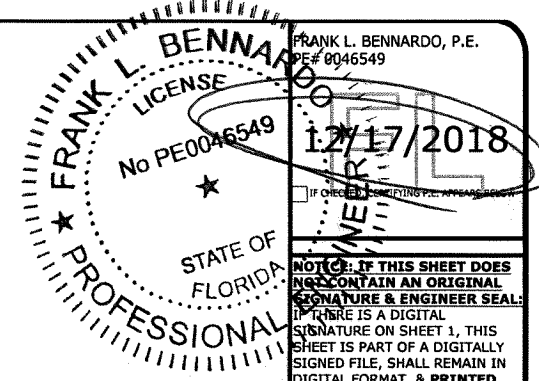
2" CLEAR PANELS; HVHZ

ANCHOR	SUBSTRATE	PLACEMENT OF ANCHOR	LIMITATION A			LIMITATION B			LIMITATION C		
			C1	C2	C3	C1	C2	C3	C1	C2	C3
	CONCRETE	1-3/4" EMBED AND 1-1/2" MIN. EDGE DISTANCE (3192 psi MIN CONCRETE)	12"	12"	12"	12"	12"	12"	12"	12"	12"
	BLOCK *	1" EMBED AND 2" MIN. EDGE DISTANCE (1900 psi MIN CMU)	12"	12"	7"	6"	12"	5"	12"	12"	8"
	WOOD	1-3/8" THREAD PEN. AND 3/4" MIN. EDGE DISTANCE (G=0.42 MIN)	12"	12"	10"	12"	12"	8"	12"	12"	12"
	CONCRETE	1-3/4" EMBED AND 1" MIN. EDGE DISTANCE (2846 psi MIN CONCRETE)	12"	12"	12"	12"	12"	12"	12"	12"	12"
	BLOCK *	1-1/4" EMBED AND 1" MIN. EDGE DISTANCE (1900 psi MIN CMU)	12"	12"	7"	6"	12"	5"	12"	12"	8"
	WOOD	1-3/8" THREAD PEN. AND 3/4" MIN. EDGE DISTANCE (G=0.42 MIN)	12"	12"	10"	12"	12"	8"	12"	12"	12"
	CONCRETE	2" EMBED AND 2-1/2" MIN. EDGE DISTANCE (3350 psi MIN CONC)	12"	12"	12"	12"	12"	12"	12"	12"	12"
	BLOCK *	1-1/4" EMBED AND 2" MIN. EDGE DISTANCE (2000 psi MIN CMU)	12"	12"	11"	12"	12"	9"	12"	12"	12"
	WOOD	W/ 1-7/8" EMBED AND 3/4" MIN. EDGE DISTANCE (G=0.54 MIN.)	12"	12"	12"	12"	12"	12"	12"	12"	12"
	CONCRETE	1-3/4" EMBED AND 1-1/4" MIN. EDGE DISTANCE (3295 psi MIN CONCRETE)	12"	12"	12"	12"	12"	12"	12"	12"	12"
	BLOCK *	N/A									
	WOOD	1-3/4" EMBED AND 1-1/4" MIN. EDGE DISTANCE (G=0.42 MIN)	12"	12"	10"	12"	12"	8"	12"	12"	12"
	CONCRETE	7/8" EMBED AND 1-1/4" MIN. EDGE DISTANCE (3000 psi MIN CONCRETE)	12"	12"	12"	12"	12"	10"	12"	12"	12"
	BLOCK *	7/8" EMBED AND 1-1/4" MIN. EDGE DISTANCE (1800 psi MIN CMU)	12"	12"	7"	12"	12"	5"	12"	12"	8"
	WOOD	N/A									
	CONCRETE	N/A									
	BLOCK *	N/A									
	WOOD	1-5/8" EMBED AND 3/4" MIN. EDGE DISTANCE (G=0.42 MIN.)	12"	12"	11"	12"	12"	9"	12"	12"	12"
	CONCRETE	N/A									
	BLOCK *	N/A									
	WOOD	1-3/8" MIN THREAD PEN. AND 3/4" MIN. EDGE DISTANCE (G=0.42 MIN.)	12"	12"	9"	12"	12"	7"	12"	12"	11"



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* HOLLOW OR GROUT FILLED BLOCK



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 FLORIDA BUILDING CODE
 ***** FL28390.2 *****

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TABLE NOTES:

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MAX. ALLOWABLE PANEL SPAN & GLASS SEPARATION

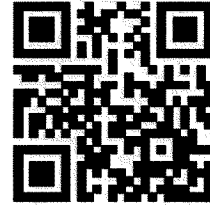


TABLE 3 (NON-HVHZ):





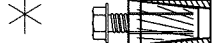

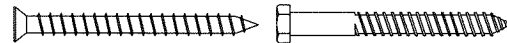
SCAN CODE OR VISIT ECALC.IO/FL28390 TO INTERACT WITH THESE TABLES

MINIMUM STORM PANEL SEPARATION FROM GLASS (WIND ZONE 4 & ESSENTIAL FACILITIES)

MAXIMUM DESIGN PRESSURE (PSF)	ALLOWABLE SPAN (Lmax) FOR THIS PRESSURE	INSTALLATIONS LESS THAN 30' ABOVE GRADE	INSTALLATIONS GREATER THAN 30' ABOVE GRADE	ANCHOR SPACING PER COLUMN LIMITATION
+/-35	144.0 in	10.25 in	7.00 in	A
+/-45	122.0 in	9.50 in	5.50 in	B
+/-60	89.0 in	8.00 in	3.00 in	C

ANCHOR SPACING TABLE 4:

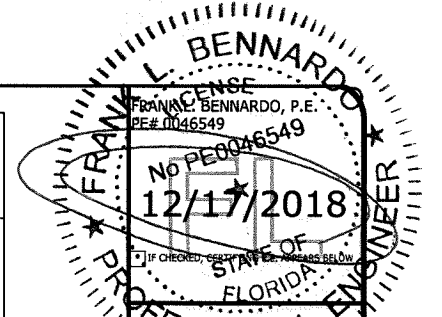
2" CLEAR PANELS; NON-HVHZ

ANCHOR	SUBSTRATE	PLACEMENT OF ANCHOR	LIMITATION A		LIMITATION B		LIMITATION C	
			C1	C2	C1	C2	C1	C2
1/4" ITW TAPCON 	CONCRETE	1-3/4" EMBED AND 1-1/2" MIN. EDGE DISTANCE (3192 psi MIN CONCRETE)	12"	12"	12"	12"	12"	12"
	BLOCK *	1" EMBED AND 2" MIN. EDGE DISTANCE (1900 psi MIN CMU)	12"	12"	6"	9"	6"	6"
	WOOD	1-3/8" THREAD PEN. AND 3/4" MIN. EDGE DISTANCE (G=0.42 MIN)	12"	12"	12"	12"	12"	12"
1/4" ELCO ULTRACON 	CONCRETE	1-3/4" EMBED AND 1" MIN. EDGE DISTANCE (2846 psi MIN CONCRETE)	12"	12"	12"	12"	12"	12"
	BLOCK *	1-1/4" EMBED AND 1" MIN. EDGE DISTANCE (1900 psi MIN CMU)	12"	12"	6"	10"	6"	7"
	WOOD	1-3/8" THREAD PEN. AND 3/4" MIN. EDGE DISTANCE (G=0.42 MIN)	12"	12"	12"	12"	12"	12"
1/4" ELCO PANELMATE (FEMALE, MALE, or PLUS) 	CONCRETE	2" EMBED AND 2-1/2" MIN. EDGE DISTANCE (3350 psi MIN CONC)	12"	12"	12"	12"	12"	12"
	BLOCK *	1-1/4" EMBED AND 2" MIN. EDGE DISTANCE (2000 psi MIN CMU)	12"	12"	12"	12"	12"	11"
	WOOD	W/ 1-7/8" EMBED AND 3/4" MIN. EDGE DISTANCE (G=0.54 MIN.)	12"	12"	12"	12"	12"	12"
1/4" ITW TAPCON STORM GAURD 	CONCRETE	1-3/4" EMBED AND 1-1/4" MIN. EDGE DISTANCE (3295 psi MIN CONCRETE)	12"	12"	12"	12"	12"	12"
	BLOCK *	N/A						
	WOOD	1-3/4" EMBED AND 1-1/4" MIN. EDGE DISTANCE (G=0.42 MIN)	12"	12"	12"	12"	12"	12"
1/4-20 ALL POINTS SOLID- SET 	CONCRETE	7/8" EMBED AND 1-1/4" MIN. EDGE DISTANCE (3000 psi MIN CONCRETE)	12"	12"	12"	12"	12"	12"
	BLOCK *	7/8" EMBED AND 1-1/4" MIN. EDGE DISTANCE (1800 psi MIN CMU)	12"	12"	12"	12"	6"	8"
	WOOD	N/A						
1/4-20 PANELMATE INSERT 	CONCRETE	N/A						
	BLOCK *	N/A						
	WOOD	1-5/8" EMBED AND 3/4" MIN. EDGE DISTANCE (G=0.42 MIN.)	12"	12"	12"	12"	12"	11"
1/4" WOOD OR LAG SCREW 	CONCRETE	N/A						
	BLOCK *	N/A						
	WOOD	1-3/8" MIN THREAD PEN. AND 3/4" MIN. EDGE DISTANCE (G=0.42 MIN.)	12"	12"	12"	12"	12"	11"



VALID FOR DIRECT MOUNTING CONDITIONS ONLY IF ANCHORS ARE TO BE REMOVABLE

* HOLLOW OR GROUT FILLED BLOCK



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