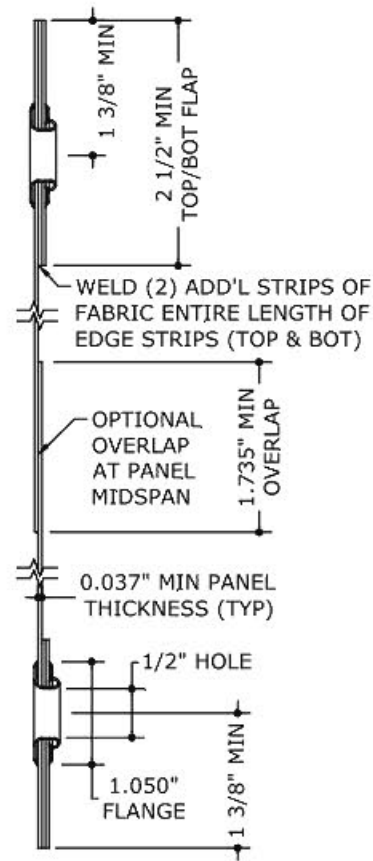
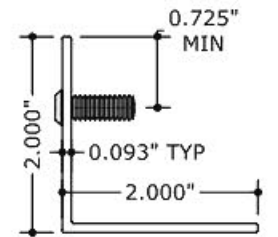


ARMOR PANEL

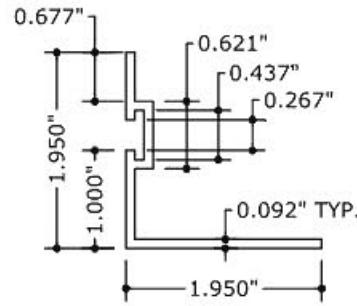
PVC-COATED FABRIC STORM PANEL WITH KEVLAR GROMMET REINFORCEMENT



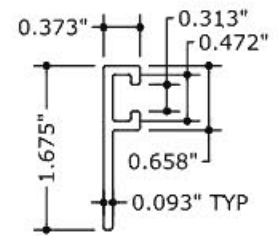
1 PANEL PROFILE
6" = 1'-0"



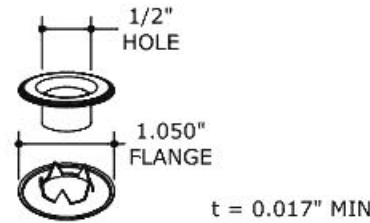
2 STUDDED ANGLE
6" = 1'-0"



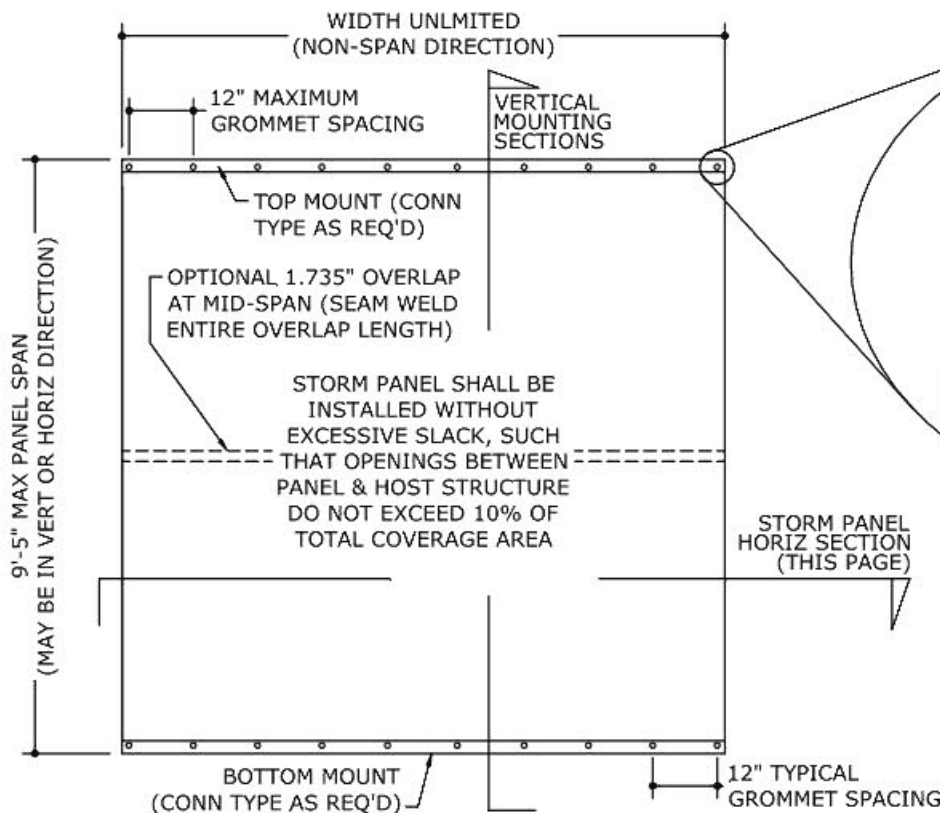
3 "F" ANGLE
6" = 1'-0"



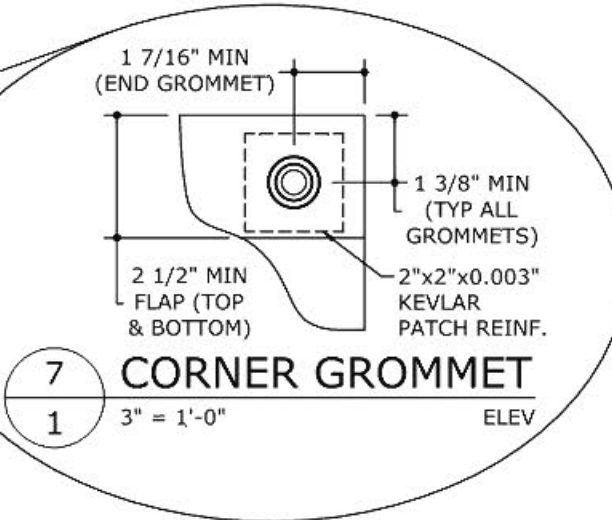
4 "F" TRACK
6" = 1'-0"



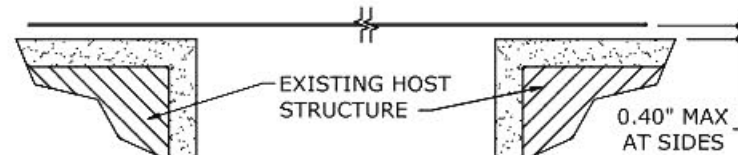
5 #4 GROMMET
6" = 1'-0"



6 TYPICAL VERTICAL MOUNT
1 N.T.S. ELEV



7 CORNER GROMMET
1 N.T.S. ELEV



8 HORIZONTAL SECTION
1 N.T.S. HORIZ SECTION

MAXIMUM ALLOWABLE DESIGN PRESSURES: -66.0 PSF / +62.0 PSI

DESIGN NOTES:

POSITIVE AND NEGATIVE DESIGN PRESSURES CALCULATED FOR USE WITH THIS SYSTEM SHALL BE DETERMINED BY OTHERS ON A JOB-SPECIFIC BASIS IN ACCORDANCE WITH THE GOVERNING CODE. SITE-SPECIFIC WIND LOAD REQUIREMENTS SHALL BE DETERMINED IN ACCORDANCE WITH ASCE 7 AND THE FLORIDA BUILDING CODE SEVENTH EDITION (2020) BY SEPARATE ENGINEERING CERTIFICATION AND SHALL BE LESS THAN OR EQUAL TO THE POSITIVE OR NEGATIVE DESIGN PRESSURE CAPACITY VALUE LISTED HEREIN FOR ANY ASSEMBLY WITHIN THE LIMITATIONS STATED HEREIN.

SYSTEM NOTES:

MAXIMUM ALLOWABLE SPAN: 9'-5"
MINIMUM ALLOWABLE WIDTH (NON-SPAN DIMENSION): 12.0"
MINIMUM ALLOWABLE SPAN: 12.0"
(FOR ALL MOUNTING CONDITIONS)

1. MAX ALLOWABLE PRESSURES SHALL NOT BE EXCEEDED.
2. PANEL SPANS LONGER THAN MAXIMUM NOTED ABOVE ARE NOT ACCEPTABLE.
3. PANEL SPANS LESS THAN MINIMUM NOTED ABOVE ARE NOT ACCEPTABLE.
4. VALID FOR PANELS MOUNTED VERTICALLY OR HORIZONTALLY.

GENERAL NOTES:

1. THIS STORM PANEL SYSTEM HAS BEEN TESTED AND EVALUATED AS A LARGE MISSILE IMPACT PROTECTIVE SYSTEM IN ACCORDANCE WITH THE STRUCTURAL PROVISIONS OF THE FLORIDA BUILDING CODE SEVENTH EDITION (2020), FOR USE OUTSIDE FLORIDA'S HIGH VELOCITY HURRICANE ZONE (NON-HVHZ), OUTSIDE OF WIND ZONE 4 AND ESSENTIAL FACILITIES, PER ASTM STANDARDS E330, E1886 AND E1996.
2. NO 33-1/3% INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS PRODUCT. WIND LOAD DURATION FACTOR Cd=1.6 HAS BEEN USED FOR WOOD ANCHOR DESIGN.
3. POSITIVE AND NEGATIVE DESIGN PRESSURES TO BE USED WITH THESE DRAWINGS SHALL BE DETERMINED BY OTHERS FOR SPECIFIC JOBS IN ACCORDANCE WITH THE GOVERNING CODE.
4. THE SHUTTER SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. IF SITE CONDITIONS DEVIATE FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS TO BE USED IN CONJUNCTION WITH THIS DOCUMENT.
5. 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.
6. STORM PANELS SHALL BE PVC COATED WOVEN POLYESTER FABRIC (MINIMUM THICKNESS t=0.037") WITH A MIN. Fu=17.212 KSI. EACH GROMMET IS REINFORCED WITH (1) 2"x2"x0.003" KEVLAR PATCH.
7. PANELS SHALL BE PERMANENTLY LABELED WITH A MINIMUM OF ONE LABEL PER PANEL CONTAINING AT A MINIMUM THE FOLLOWING INFORMATION:
SOLARA INDUSTRIES, INC.
LAKELAND, FL
ASTM E330, E1886, & E1996 - MISSILE LEVEL 'D'
FLORIDA PRODUCT APPROVAL NUMBER
8. PANELS MAY BE MOUNTED HORIZONTALLY WHERE APPLICABLE (i.e. WITH LINE OF ANCHORAGE IN VERTICAL DIRECTION).
9. ALL BOLTS & WASHERS SHALL BE ZINC COATED, GALVANIZED OR STAINLESS STEEL WITH A MINIMUM TENSILE STRENGTH OF 60 KSI.
10. TOP AND BOTTOM DETAILS SHOWN ON THIS DRAWING MAY BE INTERCHANGED AS FIELD CONDITIONS DICTATE.
11. ALL ACCEPTANCE CRITERIA HAVE BEEN MET FOR THIS SHUTTER AS A NON-POROUS SYSTEM, AS DEFINED IN ASTM E1996. IN KEEPING WITH THIS STANDARD, NO MINIMUM SEPARATION FROM GLAZING IS REQUIRED, AND BREAKING OF THIS GLAZING DOES NOT COMPROMISE THE BUILDING ENVELOPE.

VISIT [ECALC.IO/33881](https://ecalculator.com/33881)

FOR SITE SPECIFIC DEVIATIONS
& MORE INFORMATION ABOUT THIS DOCUMENT
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Bennardo
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SOLARA INDUSTRIES, INC.

4343 FRONTAGE ROAD NORTH
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(863) 688-3330

ARMOR PANEL
FABRIC STORM PANEL

FLORIDA BUILDING CODE PRODUCT APPROVAL FL#16788.1

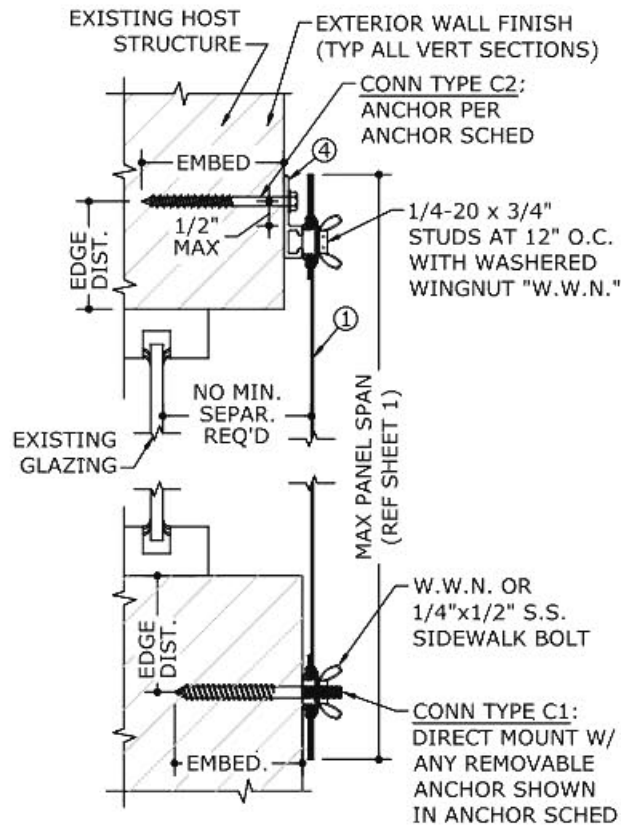
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REV. FOR FBC 5TH (2014)	RWN	CSL	04/15/15
REV. FOR FBC 6TH (2017)	RWN	FLB	10/12/17
REV. FOR FBC 7TH (2020)	CCB	RWN	12/03/20

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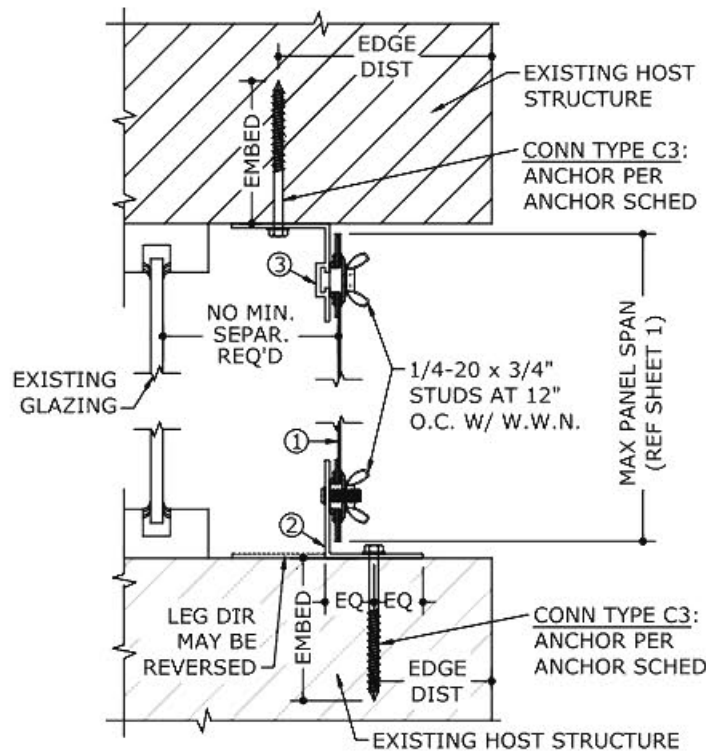
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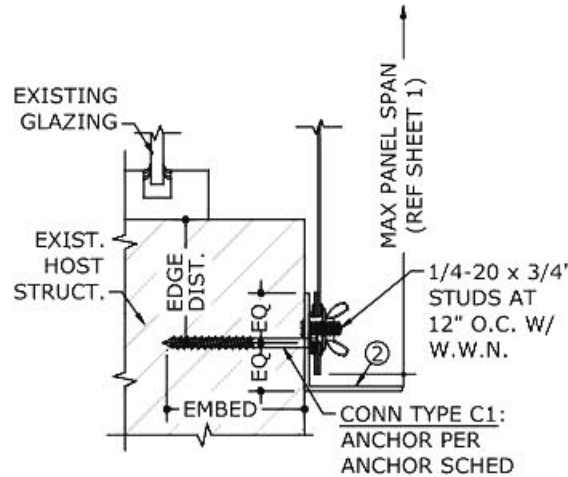
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12/03/2020 - 11:40am colby



1 MOUNTING SECTION
2 3" = 1'-0" VERT SECTION



3 MOUNTING SECTION
2 3" = 1'-0" VERT SECTION



2 MOUNTING SECTION
2 3" = 1'-0" VERT SECTION

ANCHOR NOTES:

- 1/4" STAINLESS STEEL TAPCONS SHALL BE BY ITW & 1/4" ULTRACONS SHALL BE BY DEWALT, AS LISTED IN APPROPRIATE ANCHOR SCHEDULE. "DEWALT PANELMATE" ANCHORS MAY BE MALE OR FEMALE ONLY, AS ILLUSTRATED.
- ENSURE MINIMUM EDGE DISTANCE FOR ALL ANCHORS PER RESPECTIVE ANCHOR SCHEDULE. EDGE DISTANCE OF 3/4" IS ACCEPTABLE FOR ANCHORS TO WOOD. REFERENCE ANCHOR SCHEDULE FOR MINIMUM EDGE DISTANCE REQUIREMENTS FOR THESE ANCHORS.
- ALL CONCRETE ANCHORS SPECIFIED HEREIN SHALL BE INSTALLED TO NON-CRACKED CONCRETE ONLY.
- MINIMUM EMBEDMENT SHALL BE AS NOTED IN ANCHOR SCHEDULE. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES.
- ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
- WHERE EXISTING STRUCTURE IS WOOD FRAMING, EXISTING CONDITIONS MAY VARY. FIELD VERIFY THAT ANCHORS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT INTO PLYWOOD.
- ANCHORS FASTENED TO NARROW FACE OF STUD FRAMING SHALL BE LOCATED IN CENTER OF NOMINAL 2x4 (MIN) WOOD STUD (i.e. 3/4" EDGE DISTANCE IS ACCEPTABLE FOR ANCHORS TO WOOD FRAMING). WOOD STRUCTURE SHALL BE "SOUTHERN PINE" G=0.55 OR GREATER DENSITY.
- ANCHOR SCHEDULE APPLIES FOR ALL PRODUCTS CERTIFIED HEREIN, BUT ONLY PROVIDES MAXIMUM ALLOWABLE ANCHOR SPACING. MAXIMUM ALLOWABLE SPANS AND PRESSURES INDICATED IN SPAN SCHEDULE SHALL APPLY.
- MACHINE SCREWS SHALL HAVE MINIMUM OF 1/4" ENGAGEMENT OF THREADS IN BASE ANCHOR AND MAY HAVE A PAN HEAD, TRUSS HEAD, OR WAFER HEAD ("SIDEWALK BOLT") U.N.O.
- "N/A" - DESIGNATES ANCHOR CONDITIONS WHICH ARE NOT ACCEPTABLE FOR USE.
- * DESIGNATES ANCHORS WHICH ARE REMOVABLE AND MAY BE USED FOR DIRECT MOUNT INSTALLATIONS.

ANCHOR SCHEDULE

HOST STRUCT.	ANCHOR	LOAD (psf)	2-1/2" MIN EDGE DISTANCE								
			Spans Up To 4'-0"			Spans Up To 6'-0"			Spans Up To 9'-5"		
			CONN TYPE			CONN TYPE			CONN TYPE		
CONCRETE	1/4" SS ITW TAPCON OR 1/4" DEWALT ULTRACON WITH 1-3/4" EMBED (3192psi MIN CONC)	30	C1	C2	C3	C1	C2	C3	C1	C2	C3
		38	12"	12"	12"	12"	12"	12"	12"	12"	9"
		47	12"	12"	12"	12"	12"	12"	12"	12"	7"
		54	12"	12"	12"	12"	12"	8"	10"	10"	5"
		66	12"	12"	10"	12"	12"	6"	8"	7"	4"
	1/4" DEWALT PANELMATE (MALE OR FEMALE) WITH 1-3/4" EMBED (3350psi)	30	12"	12"	12"	12"	12"	12"	12"	12"	11"
		38	12"	12"	12"	12"	12"	12"	12"	12"	8"
		47	12"	12"	12"	12"	12"	11"	12"	12"	6"
		54	12"	12"	12"	12"	12"	9"	11"	11"	5"
		66	12"	12"	12"	12"	12"	7"	9"	8"	4"
	1/4-20 DEWALT CALK-IN WITH 7/8" EMBEDMENT (MIN 3000psi CONC)	30	12"	12"	12"	12"	12"	11"	12"	12"	7"
		38	12"	12"	12"	12"	12"	9"	12"	12"	5"
		47	12"	12"	11"	12"	12"	7"	10"	10"	4"
		54	12"	12"	9"	12"	12"	6"	8"	8"	4"
		66	12"	12"	8"	11"	11"	5"	7"	6"	3"

HOST STRUCT.	ANCHOR	LOAD (psf)	2-1/2" MIN EDGE DISTANCE								
			Spans Up To 4'-0"			Spans Up To 6'-0"			Spans Up To 9'-5"		
			CONN TYPE			CONN TYPE			CONN TYPE		
HOLLOW BLOCK (ASTM C-90)	1/4" ULTRACON (DEWALT) WITH 1-1/4" EMBED	30	12"	12"	7"	10"	10"	5"	6"	6"	N/A
		38	12"	12"	5"	8"	8"	4"	5"	5"	N/A
		47	10"	10"	4"	7"	7"	N/A	4"	4"	N/A
		54	8"	8"	4"	6"	6"	N/A	4"	4"	N/A
		66	7"	7"	3"	5"	5"	N/A	N/A	N/A	N/A
	1/4" SS TAPCON (ITW) WITH 1-1/4" EMBED	30	12"	12"	6"	12"	12"	4"	8"	8"	N/A
		38	12"	12"	5"	9"	9"	3"	6"	6"	N/A
		47	11"	11"	4"	8"	8"	N/A	5"	5"	N/A
		54	10"	10"	4"	7"	7"	N/A	4"	4"	N/A
		66	8"	8"	N/A	5"	5"	N/A	3"	N/A	N/A
	1/4" DEWALT PANELMATE (MALE OR FEMALE) WITH MIN 1-1/4" EMBEDMENT	30	12"	12"	10"	12"	12"	7"	9"	9"	4"
		38	12"	12"	8"	11"	11"	5"	7"	7"	3"
		47	12"	12"	7"	9"	9"	4"	6"	6"	N/A
		54	12"	12"	6"	8"	8"	4"	5"	5"	N/A
		66	10"	10"	5"	6"	6"	N/A	4"	4"	N/A
	1/4-20 DEWALT CALK-IN WITH MIN 7/8" EMBEDMENT	30	12"	12"	9"	12"	12"	6"	10"	10"	4"
		38	12"	12"	7"	12"	12"	5"	8"	8"	N/A
		47	12"	12"	6"	10"	10"	4"	6"	6"	N/A
		54	12"	12"	5"	8"	8"	3"	5"	5"	N/A
		66	10"	10"	4"	7"	7"	N/A	4"	4"	N/A

HOST STRUCT.	ANCHOR	LOAD (psf)	3/4" MIN EDGE DISTANCE								
			Spans Up To 4'-0"			Spans Up To 6'-0"			Spans Up To 9'-5"		
			CONN TYPE			CONN TYPE			CONN TYPE		
WOOD	1/4" LAG SCREW WITH 1-1/2" MIN. THREAD PENETR.	30	12"	12"	12"	12"	12"	12"	10"	10"	9"
		38	12"	12"	12"	12"	12"	11"	8"	8"	6"
		47	12"	12"	12"	10"	10"	9"	6"	6"	4"
		54	12"	12"	12"	8"	8"	8"	5"	5"	4"
		66	10"	10"	10"	7"	7"	5"	4"	4"	3"
	1/4" SS TAPCON OR ULTRACON (DEWALT OR ITW) OR #14 WOOD SCREW WITH 1-1/2" MIN THREAD PENETR.	30	12"	12"	12"	12"	12"	12"	9"	9"	7"
		38	12"	12"	12"	11"	11"	9"	7"	7"	5"
		47	12"	12"	11"	9"	9"	7"	6"	6"	4"
		54	12"	12"	10"	8"	8"	6"	5"	5"	3"
		66	10"	10"	8"	6"	6"	5"	4"	4"	2"
	1/4" DEWALT PANELMATE (MALE OR FEMALE) WITH 1-7/8" MIN THREAD PENETR.	30	12"	12"	12"	12"	12"	12"	12"	12"	12"
		38	12"	12"	12"	12"	12"	12"	12"	12"	9"
		47	12"	12"	12"	12"	12"	12"	10"	10"	6"
		54	12"	12"	12"	12"	12"	10"	8"	8"	5"
		66	12"	12"	12"	11"	11"	7"	7"	7"	4"

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ARMOR PANEL
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