## TRANSPARENT PROTECTION SYSTEMS, INC.

SAFEGUARD POLYCARBONATE STORM PANELS LARGE MISSILE IMPACT RESISTANT (MISSILE LEVEL D) VALID FOR USE OUTSIDE THE HVHZ ONLY (SEE LIMITATIONS HEREIN)

NON-SITE-SPECIFIC STRUCTURAL PERFORMANCE EVALUATION. A DESIGN PROFESSIONAL SHALL BE RESPONSIBLE FOR CERTIFYING THE APPLICATION OF THIS INFORMATION TO ANY SITE-SPECIFIC LOCATION.

### **GENERAL NOTES:**

- 1. THIS SYSTEM HAS BEEN TESTED AND EVALUATED AS A LARGE MISSILE IMPACT PROTECTIVE SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE EIGHTH EDITION (2023) AND THE INTERNATIONAL BUILDING/RESIDENTIAL CODE PER ASTM STANDARDS E330, E1886, & E1996. PANELS ARE APPROVED FOR USE OUTSIDE THE HIGH VELOCITY HURRICANE ZONE (HVHZ), OR THROUGHOUT OTHER AREAS GOVERNED BY THE IBC/IRC.
- 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 PRESSURE REQUIREMENTS AS DETERMINED IN ACCORDANCE WITH ASCE 7 AND CHAPTER 1609 OF THE FLORIDA BUILDING CODE SHALL BE LESS THAN OR EQUAL TO THE POSITIVE OR NEGATIVE DESIGN PRESSURE CAPACITY VALUES LISTED HEREIN FOR ANY ASSEMBLY AS SHOWN.
- DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY A 1.5 SAFETY FACTOR.
- 4. THE 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.
- THE ADEQUACY OF THE EXISTING STRUCTURE TO WITHSTAND SUPERIMPOSED LOADS IS OUTSIDE THE SCOPE OF THIS CERTIFICATION AND SHALL BE VERIFIED BY OTHERS. 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. CLEAR POLYCARBONATE STORM PANELS (FULL, HALF, & DOUBLE-WIDE) MAY VARY IN "COVERAGE" WIDTH UP TO THE RESPECTIVE MAXIMA SHOWN HEREIN, PROVIDED THAT THE PANEL PROFILE HEIGHT BE MAINTAINED. PANELS SHALL BE MOUNTED WITH FASTENERS OR STUDS AT MAXIMUM SPACING SHOWN FOR
- 7. ALL POLYCARBONATE PANELS SHALL BE MANUFACTURED BY TRANSPARENT
- 8. THIS PRODUCT APPROVAL IS FOR THE USE OF CLEAR POLYCARBONATE PANELS ONLY. ALL POLYCARBONATE PANELS SHALL BE EXTRUDED WITH THICKNESS t=0.100" (±0.010") AND SHALL BE MANUFACTURED FROM 100% SYNTHETIC THERMOPLASTIC POLYMER RESIN (UV STABILIZED). TYPICAL SYNTHETIC THERMOPLASTIC POLYMER TENSILE STRENGTH Fy=8.908 KSI, FLEXURAL STRENGTH Fby=12.90 KSI, & FLEXURAL MODULUS IS 328.7 KSI.
- 9. ALL EXTRUSIONS SHALL BE 6063-T6 ALUMINUM ALLOY, U.N.O.

\*NOTE: FOR ALTERNATE ARCH TOP INSTALLATIONS, THE TOP TRACK OR U-HEADER SHALL BE CUT INTO 6" MINIMUM ADJACENT SEGMENTS. EACH SEGMENT SHALL HAVE ANCHORS SPACED PER THE ANCHOR SCHEDULE, WITH A MINIMUM OF (2) ANCHORS PER SEGMENT. ANCHORS SHALL BE 1-1/2" MIN FROM ENDS OF EACH SEGMENT AND SPACED 3" MINIMUM FROM ADJACENT ANCHORS, FOR STUDDED TRACKS ONLY, THERE SHALL BE A MINIMUM OF (1) STUD PER SEGMENT FASTENED TO THE STORM PANEL. STUDS SHALL BE LOCATED 2" MINIMUM FROM ENDS OF EACH SEGMENT.

### GENERAL NOTES (CONTINUED):

10. PANELS SHALL BE PERMANENTLY LABELED WITH A MINIMUM OF ONE LABEL PER PANEL CONTAINING THE FOLLOWING:

> TRANSPARENT PROTECTION SYSTEMS, INC. BENSALEM, PENNSYLVANIA ASTM E330, E1886 & E1996 PRODUCT APPROVAL NUMBER

- TOP & BOTTOM MOUNTING SECTIONS MAY BE INTERCHANGED AS FIELD CONDITIONS DICTATE. PANELS MAY BE MOUNTED VERTICALLY OR HORIZONTALLY
- 12. USE OF KEYHOLE WASHERS IS OPTIONAL IN CONJUNCTION WITH ANY MOUNTING CONDITION. HOLES MAY BE FIELD DRILLED AT Ø3/8" (OR Ø5/8" WITH KEYHOLE WASHER) WITH ANY FASTENER TYPE. WASHERED WINGNUTS SHALL HAVE 0.865" MINIMUM WASHER DIAMETER.
- 13. ALL BOLTS & WASHERS SHALL BE ZINC COATED STEEL, GALVANIZED STEEL, OR STAINLESS STEEL WITH A MINIMUM TENSILE YIELD STRENGTH OF 60 KSI. 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 IN.C, AND ANY APPLICABLE FEDERAL, STATE AND OR LOCAL CODES.
- THE HURRI-OUT EGRESS STORM PANEL DETAILS ARE INTENDED TO ALLOW THE POSSIBILITY OF REMOVING PANELS FROM INSIDE OF DWELLING. RESULTS MAY VARY ACCORDING TO INSTALLATION, END-USER, AND TRAINING, ETC. ENGINEERING EXPRESS AND TRANSPARENT PROTECTION SYSTEMS DO NOT ASSUME ANY RESPONSIBILITY OR LIABILITY ASSOCIATED WITH USE OF THIS INSTALLATION AND OR ITS APPLICATIONS.
- 15. THE CONTRACTOR IS RESPONSIBLE TO INSULATE ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS.
- 16. REFER TO FASTENER MANUFACTURER'S PUBLISHED DATA SHEETS AND RECOMMENDATIONS FOR FASTENER INSTALLATION INSTRUCTIONS.
- ENGINEER SEAL AFFIXED HERETO VALIDATE 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.
- 18. EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED.
- 19. PRESSURE VALUES ON THIS APPROVAL ARE (ASD) ALLOWABLE DESIGN
- 20. ALTERATIONS ADDITIONS OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE THIS CERTIFICATION.

### SYSTEM PERFORMANCE DERIVATIONS

STORM PANELS HAVE BEEN DESIGNED AND TESTED TO THE MAXIMUM SPANS AND CORRESPONDING LOADS SHOWN HEREIN. REFERENCE CONSTRUCTION TESTING CORPORATION (CTC OF MIAMI, FL) TEST REPORTS #04-009-FE-ASTM & #04-009-LE-ASTM, AS WELL AS HURRICANE TEST LAB (HTL OF RIVIERA BEACH, FL) TEST REPORTS #0239-0107-05, #0239-1013-07, #0239-0312-06, #0239-0110-07 & #0239-0813-06.

### NOTE REGARDING USE OF THIS DOCUMENT & USE OUTSIDE FLORIDA:

FRANK BENNARDO, P.E.

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CERTIFICATION BY A LOCAL DESIGN PROFESSIONAL WHO SHALL BE RESPONSIBLE FOR THE PROPER ADAPTATION OF THIS GENERAL PERFORMANCE EVALUATION TO ANY SITE-SPECIFIC PROJECT. CONTACT THIS OFFICE AT ENGINEERINGEXPRESS.COM/QUOTE FOR ASSISTANCE WITH YOUR PROJECT-SPECIFIC NEEDS & FOR ADAPTATION & CERTIFICATION OF THIS DOCUMENT OUTSIDE OF FLORIDA.

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### **TERMINOLOGY:**

THE FOLLOWING ABBREVIATIONS APPEAR IN THIS APPROVAL: "CORP." FOR "CORPORATION", "ALUM" FOR "ALUMINUM, "ASD" FOR "ALLOWABLE STRESS DESIGN", "ASTM" FOR "AMERICAN SOCIETY FOR TESTING AND MATERIALS", "CS" FOR "CARBON STEEL", "CONN" FOR "CONNECTION", "EMBED" FOR "EMBEDMENT", "DIST." FOR "DISTANCE", "GA" FOR "GAUGE", "HVHZ" FOR "HIGH-VELOCITY HURRICANE ZONE", "LB" FOR "POUND", "MAX" FOR "MAXIMUM, "N.T.S." FOR "NOT TO SCALE", "PSF" FOR "POUNDS PER SQUARE FOOT (lb/ft2)", "SPECS" FOR "SPECIFICATIONS", "&" FOR "AND", "MAX" FOR "MAXIMUM", "W/" FOR "WITH", "EXIST" FOR "EXISTING, "STRUCT" FOR "STRUCTURE", "CONC." FOR "CONCRETE", CONTACT ENGINEERING EXPRESS FOR ADDITIONAL ABBREVIATION/TERMINOLOGY CLARIFICATIONS.

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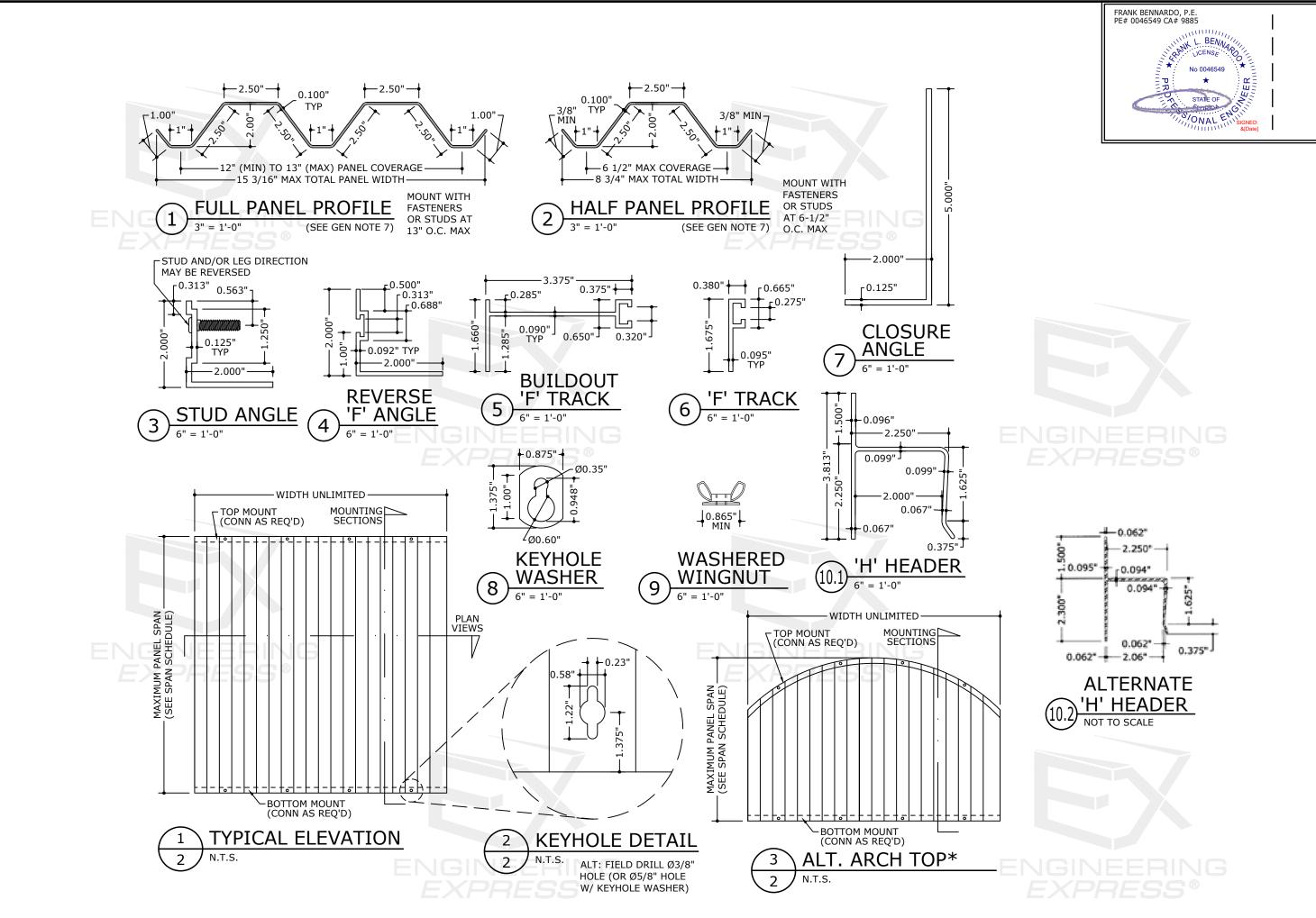
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### VISIT ECALC.IO/65075

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

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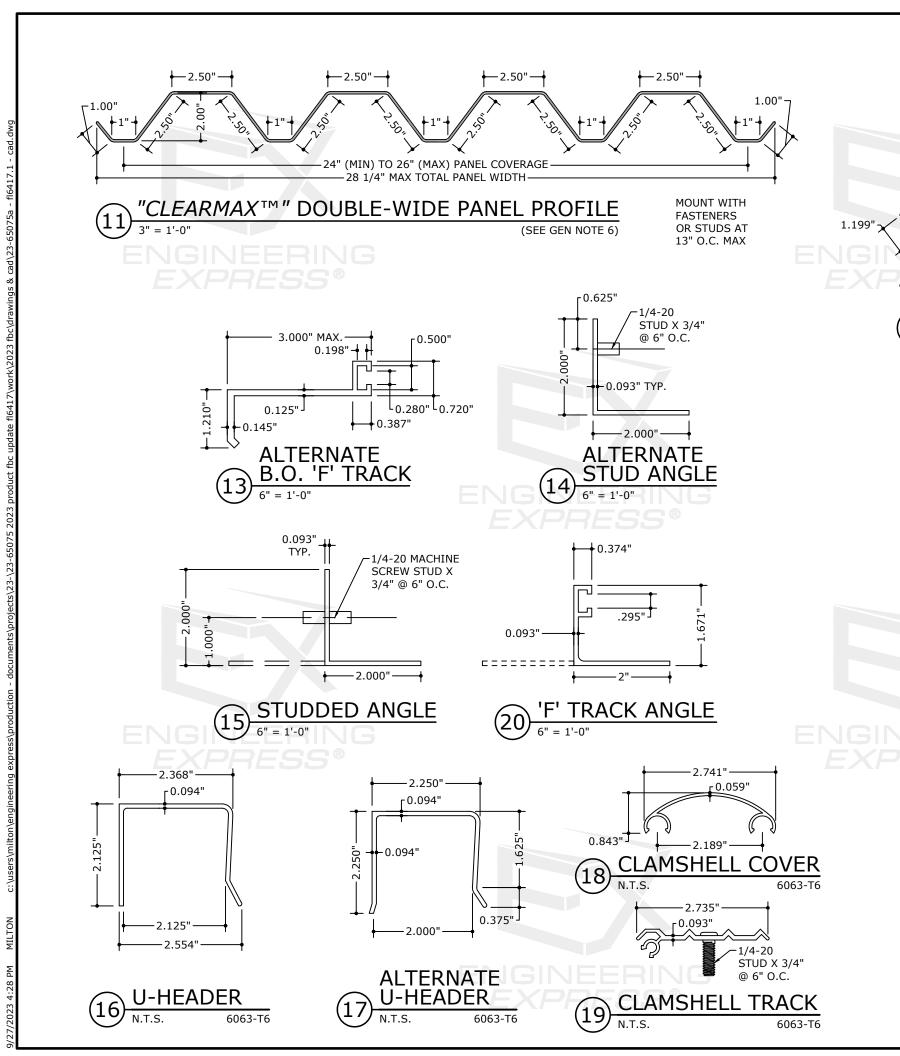
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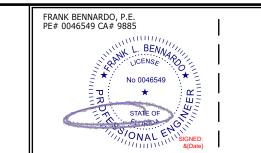
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## MAXIMUM SPAN SCHEDULE NOTES:

-2.000"

(SEE GEN NOTE 6)

12.000" 14.394"

ALT. FULL PANEL PROFILE

MAXIMUM PANEL

SPAN SCHEDULE

(POSITIVE CONN.)

LOAD

(psf)

38

40

45

50

55

60

65

70 75

80

90

100

110

120

MAX

**SPAN** 

(ft)

12'-0'

11'-5'

10'-1'

9'-1"

8'-3'

7'-7''

7'-0'

6'-7'

6'-1'

5'-9'

5'-1"

4'-7'

4'-2'

3'-10'

1.000"

MOUNT WITH

OR STUDS AT

13" O.C. MAX

MAXIMUM PANEL

SPAN SCHEDULE

(W/ "H" HEADER)

LOAD

(psf)

24.2

34.6

41.6

55.4

104

MAX

**SPAN** 

(ft)

6'-3''

5'-3''

4'-4''

MAX

SPAN

(ft)

8'-7"

7'-9"

7'-0''

6'-0''

5'-0''

4'-0''

MAX DESIGN PRESSURES

POSITIVE NEGATIVE

(psf)

38

48

80

MAXIMUM PANEL SPAN SCHEDULE (W/ "U" HEADER)

(psf)

35

48

78

**FASTENERS** 

1. SPANS SHOWN IN "MAX PANEL SPAN SCHEDULES" ARE MAXIMUM ALLOWABLE SPANS AT EACH RESPECTIVE DESIGN PRESSURE.

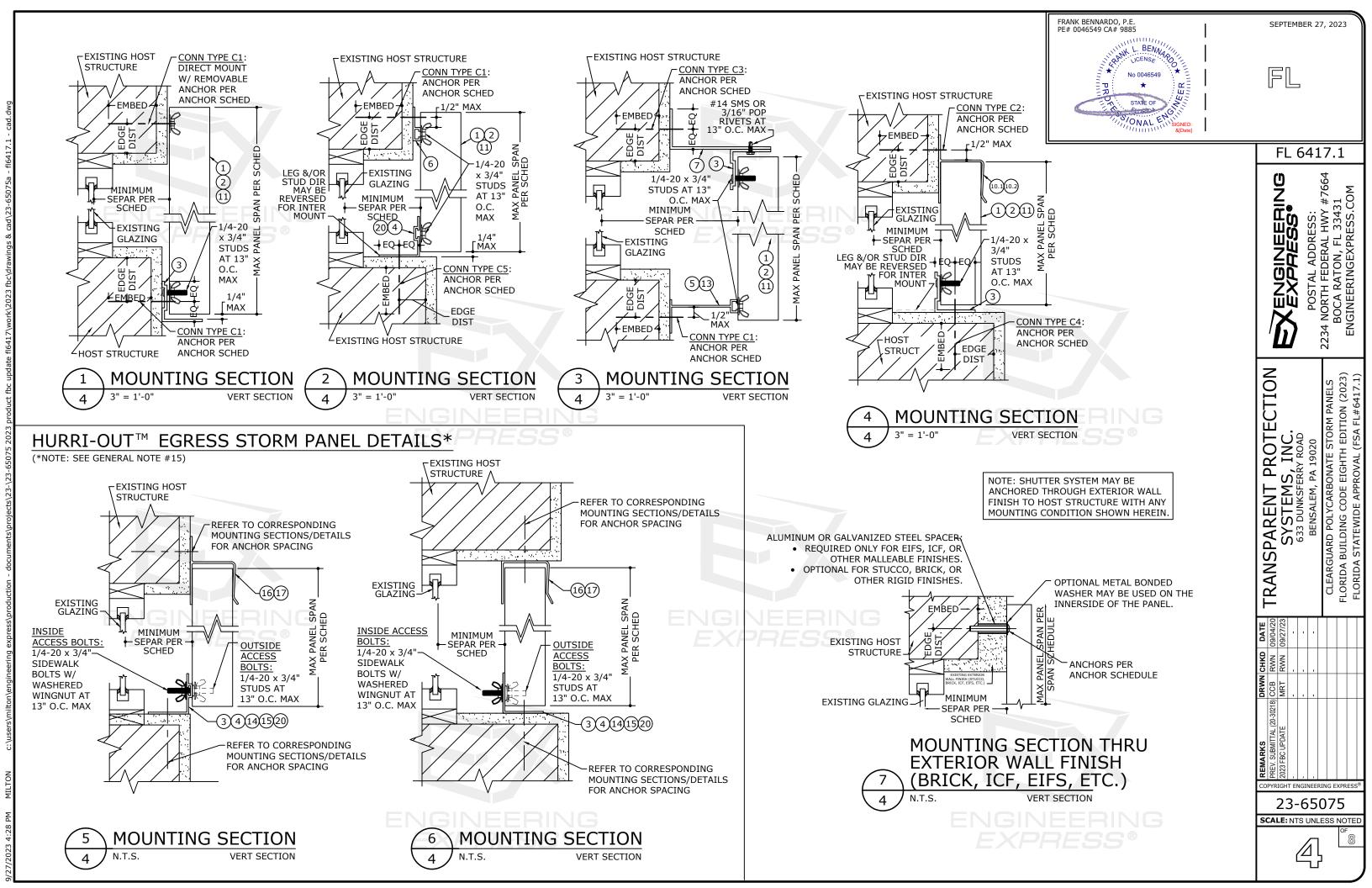
2. THE <POSITIVE CONNECTION > SPAN SCHEDULE MAY BE USED TO DETERMINE MAXIMUM ALLOWABLE SPANS FOR PANELS INSTALLED USING ANY COMBINATION OF MOUNTING EXTRUSIONS INVOLVING A POSITIVE CONNECTION - i.e. ALL INSTALLATIONS WHICH DO NOT INCLUDE AN "H" OR "U" HEADER.

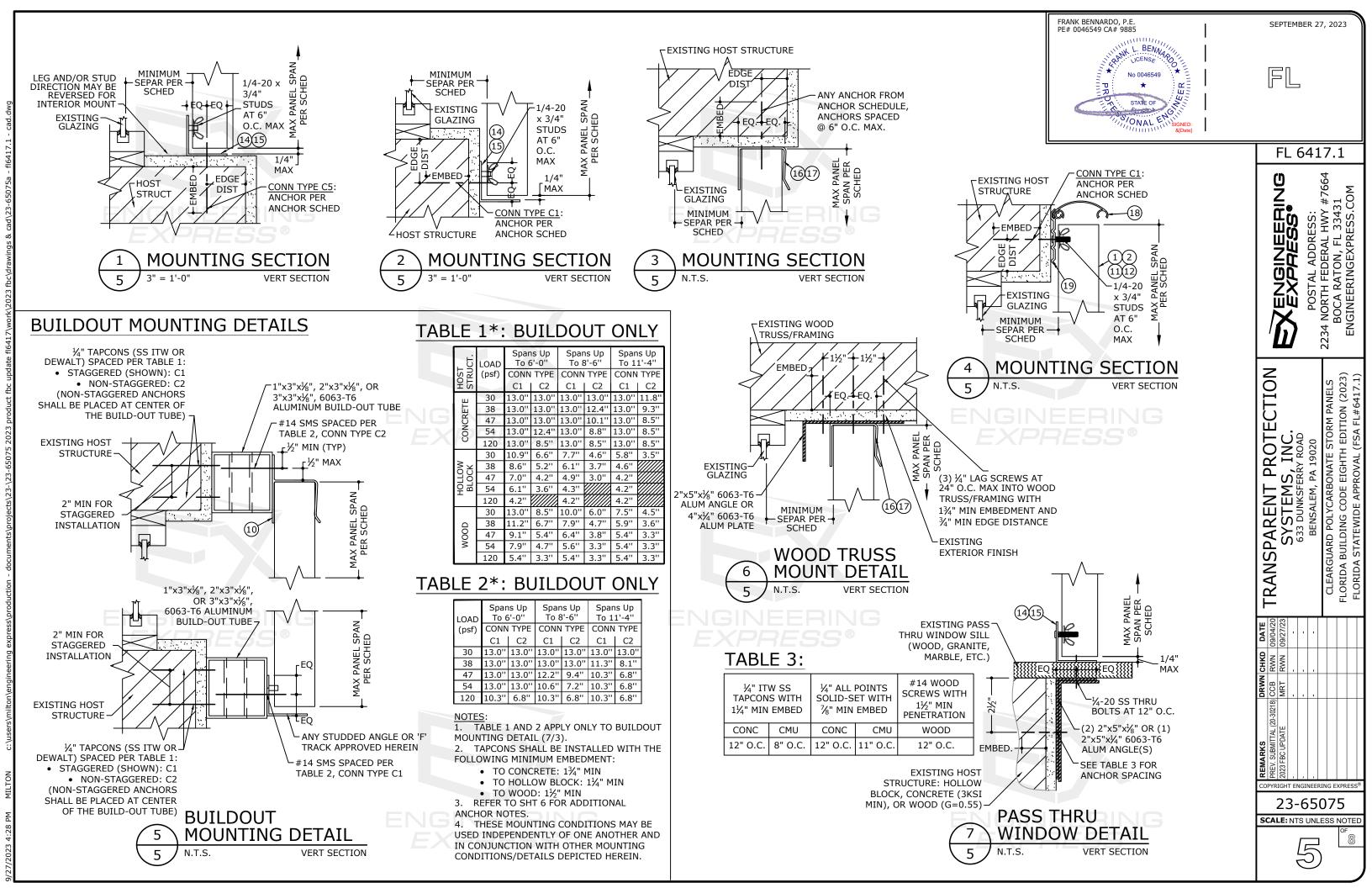
3. THE <WITH "H" HEADER > SPAN SCHEDULE SHALL BE USED FOR ALL INSTALLATIONS WHICH INCLUDE AN "H" HEADER.

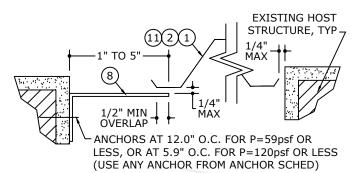
4. THE <WITH "U" HEADER > SPAN SCHEDULE SHALL BE USED FOR ALL INSTALLATIONS WHICH INCLUDE A "U" HEADER.

5. TABLES ARE VALID FOR PANELS MOUNTED HORIZONTALLY OR VERTICALLY. SPAN DIRECTION IS ALWAYS PERPENDICULAR TO LINE OF ANCHORAGE.

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HOST STRUCTURE OR

TO STUDDED ANGLE

(TOP & BOTTOM) AT

**CORRUGATION VALLEY** 

**CLOSEST TO CORNER** 

(EACH SIDE)

### MINIMUM SPAN **SCHEDULE**

DIRECT MOUNT

B.O. "F" TRACK

"H" HEADER

REVERSE "F" ANGLE

B.O. 2x5 + STUD ANGLE

STUD ANGLE (TRAP MOUNT)

"F" TRACK

STUD ANGLE (WALL MOUNT)

ONE (1) CLOSURE AT TOP OR BOTTOM

유리

MOUNT

	WITHOUT CLOSURE										
DIRECT MOUNT	STUD ANGLE (WALL MOUNT)	"F" TRACK	REVERSE "F" ANGLE	B.O. 2x5 + STUD ANGLE	B.O. "F" TRACK	"H" HEADER	STUD ANGLE (TRAP MOUNT)				
32"	30"	33"	30"	30"	32"	30"	30"	ŀ			
32"	30"	33"	30"	30"	32"	30"	30"	ŀ			
33"	30"	35"	30"	30"	33"	30"	30"	l			
32"	30"	33"	30"	30''	32"	30''	30''				
32"	30"	33''	30"	30''	32"	30''	30''				
32"	30"	33''	30"	30''	32"	30''	30''				
30"	30"	30''	30"	30"	30"	30''	30''				
32"	30''	33''	30''	30''	32"	30''	30''				

**BOTTOM MOUNT** 

TOP OR BOTTOM MOUNT

### MINIMUM SPAN **SCHEDULE**

NO TO

_	P/BOTTOM CLOSURES	DIRECT MOUR	STUD ANGLE (WALL MOUN	"F" TRACK	REVERSE "F" ANGLE	B.O. 2x5 + STUD ANGLI	B.O. "F" TRA0	"H" HEADER	STUD ANGLE (TRAP MOUN
1	DIRECT MOUNT	53''	32"	55"	32"	32"	53''	30"	32''
	STUD ANGLE (WALL MOUNT)	32"	30"	33"	30"	30"	32''	30"	30''
Ī	"F" TRACK	55''	33"	57"	33"	33"	55''	30"	33''
	REVERSE "F" ANGLE	32"	30"	33"	30"	30"	32"	30"	30''
	B.O. 2x5 + STUD ANGLE	32"	30"	33"	30"	30"	32"	30"	30''
	B.O. "F" TRACK	53"	32"	55"	32"	32"	53''	30"	32''
	"H" HEADER	30"	30"	30"	30"	30"	30"	30"	30''
	STUD ANGLE (TRAP MOUNT)	32"	30"	33"	30"	30"	32''	30"	30''

### MINIMUM SPAN **SCHEDULE NOTES:**

- 1. SPANS SHOWN ABOVE ARE MINIMUM ALLOWABLE SPANS BASED ON ANY COMBINATION OF MOUNTING CONDITIONS AT TOP OR BOTTOM. PANEL LENGTHS LESS THAN THOSE NOTED IN TABLES ABOVE ARE NOT ACCEPTABLE.
- 2. NO SEPARATION FROM GLASS IS REQUIRED WHEN PANEL LENGTH IS GREATER THAN THAT NOTED FOR RESPECTIVE MOUNTING COMBINATIONS ABOVE.
- 3. SIDE CLOSURES REQUIRED IF GAP BETWEEN PANEL AND STRUCTURE EXCEEDS DISTANCE SHOWN IN HORIZONTAL SECTION DETAILS (REF. DETAILS 6/3, 7/3 AND 9/3).
- 4. TABLES ABOVE ARE VALID FOR PANELS MOUNTED HORIZONTALLY OR VERTICALLY.
- 5. TOP/BOTTOM CLOSURES MAY CONSIST OF NON-STRUCTURAL 28ga (0.018" MIN) GALV STEEL OR 0.022" MIN SHEET ALUMINUM OF ALLOY 5052-H32 OR 3004-H34. REFERENCE DETAILS HEREIN FOR DEPICTION OF TOP/BOTTOM CLOSURE MOUNTING REQUIREMENTS.
- 6. STORM PANELS MAY BE INSTALLED WITH A 12" MINIMUM SPAN WHEN INSTALLED WITH A CLOSURE ANGLE AT BOTH TOP AND BOTTOM.



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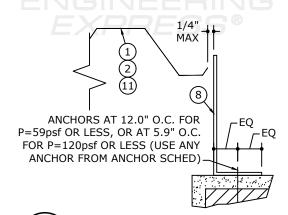
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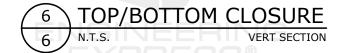
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6

BEND PANEL AROUND CORNER & STITCH TO ADJACENT PANEL WITH 1/4-20 BOLTS & WASHERED WINGNUTS AT 24" Q.C. (TYP) MIN. PANEL OVERLAP SHALL BE 1.5 TIMES THE PANEL PROJECTION -FASTEN PANELS TO **EXISTING HOST** FROM THE EXISTING STRUCTURE -PROJECTION HOST STRUCTURE **EXISTING HOST** STRUCTURE **CORNER CLOSURE** PANEL OVERLAP PLAN VIEW







-EXISTING HOST STRUCTURE

ANCHORAGE TO HOST

MOUNTING SECTIONS

STRUCTURE PER

ANY MOUNTING CONDITION MAY BE USED. END CLOSURE MAY ALSO CONSIST OF STUD ANGLES, U-HEADERS, OR H-HEADERS.

MAX

2"x2" (MINIMUM)

FASTENED WITH

SAME WINGNUT

**USED TO FASTEN** 

EXTRUSION OR

STRUCTURE

**DIRECTLY TO HOST** 

CONTINUOUS ANGLE

PANEL TO MOUNTING

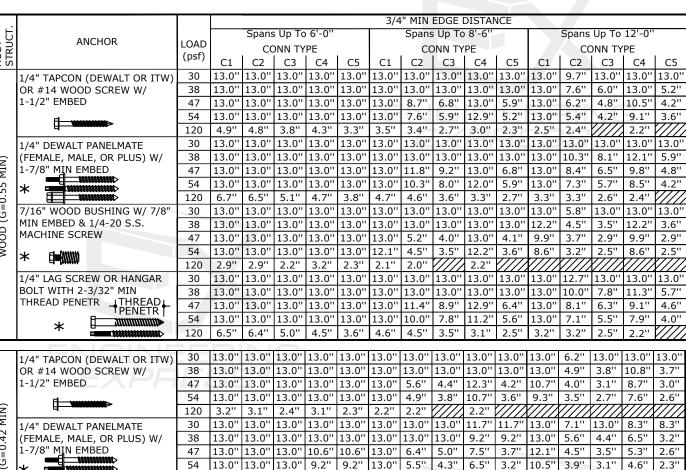
- 1. 1/4" TAPCONS MAY BE BY ITW (STAINLESS STEEL) OR BY DEWALT. "DEWALT PANELMATE" ANCHORS MAY BE MALE, FEMALE, OR PANELMATE PLUS, AS ILLUSTRATED. HEAD STYLE MAY BE STD 13/32" OR WASHERED 5/8" HEX HEAD.
- 2. ENSURE MINIMUM 2" EDGE DISTANCE FOR ALL ANCHORS TO CONCRETE & TO HOLLOW BLOCK. EDGE DISTANCE OF 3/4" IS ACCEPTABLE FOR ANCHORS TO WOOD.
- 3. MINIMUM EMBEDMENT SHALL BE AS NOTED IN ANCHOR SCHEDULE. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES.
- 4. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
- 5. WHERE EXISTING STRUCTURE IS WOOD FRAMING, EXISTING CONDITIONS MAY VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT INTO PLYWOOD.
- 6. WHERE ANCHORS FASTEN TO NARROW FACE OF STUD FRAMING, ANCHOR 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 STUD SHALL BE "SOUTHERN PINE" (FOR G=0.55 OR GREATER DENSITY) OR "SPRUCE-PINE-FIR" (FOR G=0.42 OR GREATER DENSITY).
- 7. 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. 8. MACHINE SCREWS SHALL HAVE MINIMUM OF 1/2" ENGAGEMENT OF THREADS IN BASE ANCHOR
- \* DESIGNATES REMOVABLE ANCHORS. PANELS SHALL BE MOUNTED DIRECTLY TO THE HOST STRUCTURE ONLY WITH THESE ANCHORS, LOCATED AT KEYHOLES AND LESS THAN OR EQUAL TO ALLOWABLE SPACING SHOWN IN ANCHOR SCHEDULE.
- 10. WILL DESIGNATES ANCHOR CONDITIONS WHICH ARE NOT ACCEPTABLE FOR USE.

AND MAY HAVE EITHER A PAN HEAD, TRUSS HEAD, OR WAFER HEAD ("SIDEWALK BOLT") U.N.O.

### **ANCHOR SCHEDULES**

									_									
								2" MIN EDGE DISTANCE										
5	ANCHOR		Spans Up To 6'-0"						Spans	Up To	8'-6''		Spans Up To 12'-0"					1. {
STRUCT	ANCHOR	LOAD		CC	NN TY	PE			CC	NN TY	PE			CC	NN TY	PE		HOST
ST		(psf)	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	문 [
	1/4" DEWALT ULTRACON OR	30	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	10.6"	13.0"	13.0"	13.0"	
	ITW SS TAPCON WITH 1-3/4"	38	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	8.3"	6.5"	13.0"	9.0"	
	EMBED (3192 PSI MIN CONC)	47	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	9.5"	7.4"	13.0"	13.0"	13.0"	6.7''	5.3"	13.0"	7.2"	
	f	54	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	8.3"	6.5"	13.0"	8.9"	13.0"	5.9"	4.6"	11.7"	6.3"	
	H	120	5.4"	5.3''	4.1"	5.1"	5.7"	3.8"	3.7"		3.6"	4.0''						
	1/4" DEWALT PANELMATE WITH	30	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	
	1-3/4" MIN EMBED (3350 PSI MIN CONC)	38	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	10.7"	8.3"	13.0"	11.5"	1 9
		47	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	12.2"	9.5"	13.0"	13.0"	13.0"	8.6"	6.7"	13.0"	9.3"	MIN)
Щ		54	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	10.6"	8.3"	13.0"	11.4"	13.0"	7.5''	5.9"	13.0"	8.1"	55
Ä	1000000000	120	6.9"	6.8''	5.3"	6.5"	7.3"	4.9"	4.8"	3.7"	4.6"	5.1"	3.4"	3.4"		3.3"	3.6"	0.5
CONCRETE	1/4-20 ALL POINTS SOLID- SET	30	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	10.6"	13.0"	13.0"	13.0"	9
8	WITH 7/8" MIN EMBED (3000	38	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	8.4"	6.6"	13.0"	10.5"	$\sim$
	PSI MIN CONC)	47	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	9.6"	7.5''	13.0"	13.0"	13.0"	6.8''	5.3"	13.0"	8.5"	WOOD
	* 1	54	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	8.3"	6.5''	13.0"	10.4"	13.0"	5.9"	4.6"	13.0"	7.4"	×
		120	5.4"	5.3"	4.1"	5.9"	6.6"	3.8"	3.8"		4.1"	4.7"					3.3"	
	1/4-20 DEWALT CALK-IN WITH	30	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	6.7''	13.0"	11.5"	11.5"	
	7/8" MIN EMBED (3000 PSI MIN	38	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	12.8"	12.8"	13.0"	5.3"	4.1"	9.1"	5.2"	
	CONC)	47	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	6.0"	4.7"	10.4"	10.4"	11.5"	4.3"	3.3"	7.4"	4.2"	
	* 6	54	13.0"	13.0"	13.0"	12.8"	12.8"	13.0"	5.3"	4.1"	9.0''	5.2"	10.0"	3.7"		6.4"	3.7"	
		120	3.4"	3.4"		3.0"	3.3"											
					N 1													,

	*	54	13.0"	13.0"	13.0"	12.8"	12.8"	13.0"	5.3"	4.1"	9.0"	5.2"	10.0"	3./"	V//L	6.4"	3./"
			3.4"	3.4"		3.0"	3.3"		<i>\///</i>				X///		<u> </u>	<u> </u>	
	ENIONIEEDINIO																
	1/4" DEWALT ULTRACON OR	30	13.0"	13.0"	13.0"	13.0"	13.0"	11.7"	11.7"	11.7"	9.4"	9.4''	8.3"	3.1"	8.3"	6.7''	6.7''
$\subseteq$	ITW SS TAPCON WITH 1-1/4"	38	13.0"	13.0"	13.0"	10.5"	10.5"	9.3"	9.3"	9.3"	7.4"	7.4''	6.6''			5.3"	
MIN)	EMBED	47	10.6"	10.6"	10.6"	8.5''	8.5"	7.5"			6.0"	6.0"	5.3"			4.3"	
0	<b></b>	54	9.2"	9.2"	9.2"	7.4"	7.4"	6.5"			5.2"		4.6''			3.7"	
6-0	6.																
Σ	1/4" DEWALT PANELMATE WITH	30	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	5.4"	13.0"	13.0"	13.0"
ST	1-1/4" MIN EMBED	38	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	11.5"	4.3"	3.3"	10.5"	5.1"
₹)		47	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	4.9"	3.8"	11.9"	11.9"	9.3"	3.5"		8.5"	4.1"
S	* = ***********************************	54	13.0"	13.0"	13.0"	13.0"	13.0"	11.4"	4.3"	3.3"	10.4"	5.1"	8.1"	3.0"		7.4"	3.6"
$\Box$	9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						3.2"									<i>\///</i>	
W B	1/4-20 ALL POINTS SOLID- SET	30	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	8.9"	13.0"	13.0"	13.0"
Ŏ.	WITH 7/8" MIN EMBED	38	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	7.0"	5.5"	13.0"	7.3"
٦		47	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	8.0"	6.3"	13.0"	13.0"	13.0"	5.7"	4.4"	10.6"	5.9''
오	*	54	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	7.0"	5.4"	13.0"	7.2"	13.0"	4.9"	3.9"	9.2"	5.1"
	T - Laminum	120	4.5"	4.4"	3.5"	4.2"	4.6"	3.2"	3.1"			3.2"					



120 | 3.6" | 3.5" | 2.8" | 2.5" | 2.0" | 2.5" | 2.5" |

30 | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 12.7" | 13.0" | 13.0" | 13.0

38 | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 10.0" | 7.8" | 11.3" | 5.7"

47 | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 11.4" | 8.9" | 12.9" | 6.4" | 13.0" | 8.1" | 6.3" | 9.1" | 4.6" 54 | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 13.0" | 10.0" | 7.8" | 11.2" | 5.6" | 13.0" | 7.1" | 5.5" | 7.9" | 4.0" 6.5" 6.4" 5.0" 4.5" 3.6" 4.6" 4.5" 3.5" 3.1" 2.5" 3.2" 3.2" 2.5" 2.2"

FRANK BENNARDO, P.E. PE# 0046549 CA# 9885 L. BENNA

SEPTEMBER 27, 2023 FL

FL 6417.1

POSTAL ADDRESS: 2234 NORTH FEDERAL HWY #7664 BOCA RATON, FL 33431 ENGINEERINGEXPRESS.COM

TRANSPARENT PROTECTION SYSTEMS, INC. CLEARGUARD POLYCARBONATE STORM PANELS FLORIDA BUILDING CODE EIGHTH EDITION (2023) FLORIDA STATEWIDE APPROVAL (FSA FL#6417.1)

23-65075 SCALE: NTS UNLESS NOTED

1/4" LAG SCREW WITH OR

THREAD PENETR

HANGAR BOLT 2-3/32" MIN

THREAD PENETR







FL 6417.1

TRANSPARENT PROTECTION SYSTEMS, INC.

23-65075 SCALE: NTS UNLESS NOTED





LOAD (PSF)	SPAN LESS THAN	MINIMUM SEPARATION AT OR BELOW 30' ABOVE GRADE	MINIMUM SEPARATION AT ELEVATION > 30' ABOVE GRADE			
	4'-0"	7.73"	1.65"			
38	7'-0"	7.73"	4.38"			
	12'-0"	8.78''	8.78"			
	4'-0"	7.73"	1.69"			
40	7'-0"	7.73"	4.56"			
	11'-5"	8.33"	8.33"			
	4'-0"	7.73"	1.77"			
45	7'-0"	7.73"	5.01"			
	10'-1"	7.73"	7.39''			
	4'-0"	7.73"	1.86"			
50	7'-0"	7.73"	5.45"			
	9'-1"	7.73"	6.87''			
	4'-0"	7.73"	2.03''			
60	7'-0"	7.73"	6.34''			
	7'-7"	7.73"	6.57''			
70	4'-0"	7.73"	2.20''			
70	6'-7"	7.73"	6.38"			
120	3'-10"	7.73"	2.74''			

### H-HEADER MINIMUM GLASS SEPARATION SCHEDULE

SPAN LESS THAN	MINIMUM SEPARATION AT OR BELOW 30' ABOVE GRADE	MINIMUM SEPARATION AT ELEVATION > 30' ABOVE GRADE
8'-7"	8.60"	7.17"
7'-9"	8.60"	6.69''
7'-0"	8.60''	5.97''
6'-0"	8.60''	4.94''
5'-0"	8.60"	4.10''
4'-0"	8.60"	3.58"

- 1. GLASS SEPARATION SCHEDULE FACE OF GLAZING (OR OTHER PRODUCT BEING PROTECTED) AND INTERIOR FACE OF INSTALLED STORM PANEL.
- 3. SEPARATION FROM GLASS IS REQUIRED ONLY WHEN INSTALLED WITHIN ASTM WIND ZONE 4 AND ESSENTIAL FACILITIES.

# U-HEADER MINIMUM GLASS SEPARATION SCHEDULE

SP/ LES TH/	SS	MINIMUM SEPARATION AT OR BELOW 30' ABOVE GRADE	MINIMUM SEPARATION AT ELEVATION > 30' ABOVE GRADE
6'-	3"	3.98"	3.21"
5'-	3"	3.98''	2.58''
4'-	4"	3.98''	2.24"
,			

## GLASS SEPARATION SCHEDULE NOTES:

- PROVIDES MINIMUM SEPARATION
  DISTANCE REQUIRED BETWEEN EXTERIOR
- 2. SEPARATION DISTANCE PER THIS SCHEDULE IS REQUIRED FOR USE WITH POSITIVE LOADS ONLY.