TOWN & COUNTRY ALUMINUM & STEEL W-PAN ROOF PANELS

ALLOWABLE SPAN TABLES. NON-IMPACT. NOT FOR USE IN HVHZ

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COLBY BENNARDO LICENSE No 95197 STATE OF FLORIDA PROFESSIONAL ENGINEER

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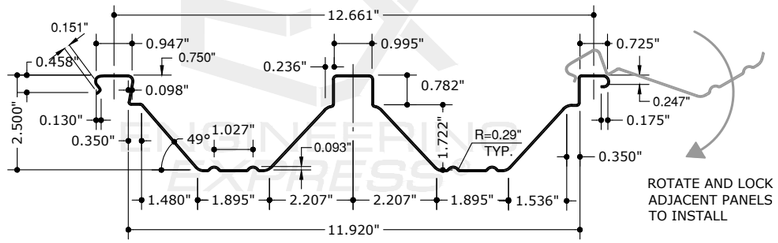
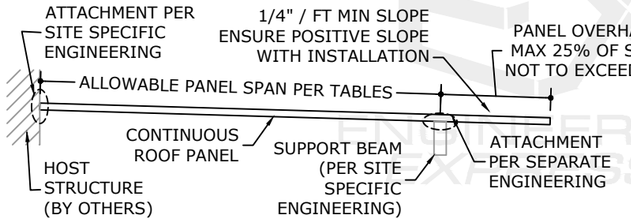


1/1 STEEL OR ALUMINUM W-PAN ROOF PANEL
NOT TO SCALE — DETAIL



2/1 ROOF PANEL GENERAL INSTALLATION
NOT TO SCALE — VIEW

Town & Country W-Pan Roof Panels		0.030" 3105-H14 Alum Roof Panel	0.040" 3105-H14 Alum Roof Panel	0.024" 24 GA Grade 40 Steel Roof Panel
Deflection Limit:	Total ASD Gravity Loading	Allowable Panel Span	Allowable Panel Span	Allowable Panel Span
Δ = L/60	± 10 PSF	12 ft, 0 in	12 ft, 0 in	12 ft, 0 in
	± 15 PSF	12 ft, 0 in	12 ft, 0 in	12 ft, 0 in
	± 20 PSF	12 ft, 0 in	12 ft, 0 in	12 ft, 0 in
	± 25 PSF	11 ft, 1 in	12 ft, 0 in	12 ft, 0 in
	± 30 PSF	10 ft, 5 in	11 ft, 5 in	12 ft, 0 in
	± 35 PSF	9 ft, 11 in	10 ft, 10 in	12 ft, 0 in
	± 40 PSF	9 ft, 6 in	10 ft, 5 in	12 ft, 0 in
	± 45 PSF	9 ft, 2 in	10 ft, 0 in	11 ft, 10 in
	± 50 PSF	8 ft, 10 in	9 ft, 8 in	11 ft, 5 in
	± 55 PSF	8 ft, 6 in	9 ft, 4 in	11 ft, 1 in
	± 60 PSF	8 ft, 3 in	9 ft, 1 in	10 ft, 9 in
	± 65 PSF	8 ft, 1 in	8 ft, 10 in	10 ft, 6 in
	± 70 PSF	7 ft, 10 in	8 ft, 7 in	10 ft, 3 in
	± 75 PSF	7 ft, 8 in	8 ft, 5 in	10 ft, 0 in
	± 80 PSF	7 ft, 6 in	8 ft, 3 in	9 ft, 9 in
Δ = L/120	± 10 PSF	12 ft, 0 in	12 ft, 0 in	12 ft, 0 in
	± 15 PSF	10 ft, 5 in	11 ft, 5 in	12 ft, 0 in
	± 20 PSF	9 ft, 6 in	10 ft, 5 in	12 ft, 0 in
	± 25 PSF	8 ft, 10 in	9 ft, 8 in	11 ft, 5 in
	± 30 PSF	8 ft, 3 in	9 ft, 1 in	10 ft, 9 in
	± 35 PSF	7 ft, 10 in	8 ft, 7 in	10 ft, 3 in
	± 40 PSF	7 ft, 6 in	8 ft, 3 in	9 ft, 9 in
	± 45 PSF	7 ft, 3 in	7 ft, 11 in	9 ft, 5 in
	± 50 PSF	7 ft, 0 in	7 ft, 8 in	9 ft, 1 in
	± 55 PSF	6 ft, 9 in	7 ft, 5 in	8 ft, 9 in
	± 60 PSF	6 ft, 7 in	7 ft, 2 in	8 ft, 6 in
	± 65 PSF	6 ft, 5 in	7 ft, 0 in	8 ft, 4 in
	± 70 PSF	6 ft, 3 in	6 ft, 10 in	8 ft, 1 in
	± 75 PSF	6 ft, 1 in	6 ft, 8 in	7 ft, 11 in
	± 80 PSF	6 ft, 0 in	6 ft, 6 in	7 ft, 9 in

Town & Country W-Pan Roof Panels		0.030" 3105-H14 Alum Roof Panel	0.040" 3105-H14 Alum Roof Panel	0.024" 24 GA Grade 40 Steel Roof Panel
Deflection Limit:	Total ASD Gravity Loading	Allowable Panel Span	Allowable Panel Span	Allowable Panel Span
Δ = L/180	± 10 PSF	10 ft, 5 in	11 ft, 5 in	12 ft, 0 in
	± 15 PSF	9 ft, 2 in	10 ft, 0 in	11 ft, 10 in
	± 20 PSF	8 ft, 3 in	9 ft, 1 in	10 ft, 9 in
	± 25 PSF	7 ft, 8 in	8 ft, 5 in	10 ft, 0 in
	± 30 PSF	7 ft, 3 in	7 ft, 11 in	9 ft, 5 in
	± 35 PSF	6 ft, 10 in	7 ft, 6 in	8 ft, 11 in
	± 40 PSF	6 ft, 7 in	7 ft, 2 in	8 ft, 6 in
	± 45 PSF	6 ft, 4 in	6 ft, 11 in	8 ft, 2 in
	± 50 PSF	6 ft, 1 in	6 ft, 8 in	7 ft, 11 in
	± 55 PSF	5 ft, 11 in	6 ft, 6 in	7 ft, 8 in
	± 60 PSF	5 ft, 9 in	6 ft, 3 in	7 ft, 5 in
	± 65 PSF	5 ft, 7 in	6 ft, 1 in	7 ft, 3 in
	± 70 PSF	5 ft, 5 in	6 ft, 0 in	7 ft, 1 in
	± 75 PSF	5 ft, 4 in	5 ft, 10 in	6 ft, 11 in
	± 80 PSF	5 ft, 2 in	5 ft, 8 in	6 ft, 9 in
Δ = L/240	± 10 PSF	9 ft, 6 in	10 ft, 5 in	12 ft, 0 in
	± 15 PSF	8 ft, 3 in	9 ft, 1 in	10 ft, 9 in
	± 20 PSF	7 ft, 6 in	8 ft, 3 in	9 ft, 9 in
	± 25 PSF	7 ft, 0 in	7 ft, 8 in	9 ft, 1 in
	± 30 PSF	6 ft, 7 in	7 ft, 2 in	8 ft, 6 in
	± 35 PSF	6 ft, 3 in	6 ft, 10 in	8 ft, 1 in
	± 40 PSF	6 ft, 0 in	6 ft, 6 in	7 ft, 9 in
	± 45 PSF	5 ft, 9 in	6 ft, 3 in	7 ft, 5 in
	± 50 PSF	5 ft, 6 in	6 ft, 1 in	7 ft, 2 in
	± 55 PSF	5 ft, 4 in	5 ft, 10 in	7 ft, 0 in
	± 60 PSF	5 ft, 2 in	5 ft, 8 in	6 ft, 9 in
	± 65 PSF	5 ft, 1 in	5 ft, 7 in	6 ft, 7 in
	± 70 PSF	4 ft, 11 in	5 ft, 5 in	6 ft, 5 in
	± 75 PSF	4 ft, 10 in	5 ft, 3 in	6 ft, 3 in
	± 80 PSF	4 ft, 9 in	5 ft, 2 in	6 ft, 2 in

NOTE REGARDING USE OF THIS DOCUMENT & USE OUTSIDE FLORIDA:

NON-SITE-SPECIFIC STRUCTURAL PERFORMANCE EVALUATION. THIS PRODUCT EVALUATION IS VALID FOR USE IN **FLORIDA ONLY**. USE OF THIS EVALUATION REQUIRES A REVIEW & 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.

DESIGN & CALCULATION NOTES

1. THIS ROOF PANEL SYSTEM HAS BEEN DESIGNED AND TESTED TO ASTM E1592 STANDARDS IN ACCORDANCE WITH THE FLORIDA BUILDING CODE EIGHTH EDITION (2023), THE INTERNATIONAL BUILDING & RESIDENTIAL CODES (IBC / IRC 2021)
2. FOR USE OUTSIDE THE HIGH VELOCITY HURRICANE ZONE (HVHZ) ONLY. USE WITHIN HVHZ SHALL REQUIRE SITE-SPECIFIC REVIEW & SEPARATE APPROVAL.
2. POSITIVE AND NEGATIVE DESIGN PRESSURES FOR USE WITH THIS DRAWING SHALL BE CALCULATED PER SEPARATE, CERTIFIED ENGINEERING PER ASCE 7 AND CHAPTER 1609 OF THE FLORIDA BUILDING CODE EIGHTH EDITION (2023) & FOLLOW THE TABLE NOTES LISTED HEREIN.
3. THIS PRODUCT IS APPROVED FOR NON-HABITABLE STRUCTURES ONLY.
4. THE DESIGN PRESSURE VALUES LISTED IN THE TABLES HEREIN ARE ALLOWABLE DESIGN PRESSURES (ASD). IF ULTIMATE DESIGN PRESSURES ARE REQUIRED, MULTIPLY THE ULTIMATE DESIGN PRESSURES BY 0.6 (ULTIMATE PRESSURE * 0.6 = ASD ALLOWABLE PRESSURE).
5. DESIGN PRESSURES & CALCULATED SPAN VALUES AS DETAILED HEREIN ARE BASED ON INTERTEK TEST REPORTS R6177.01-450-44 R0, R6177.02-450-44 R0, & R6177.03-450-44 R0 & CONSIDER A SAFETY FACTOR of 2.0.
6. LINEAR INTERPOLATION OF THE ROOF PANEL SPANS LISTED HEREIN IS PERMITTED BETWEEN ADJACENT VALUES.
7. A 300LB POINT LOAD HAS NOT BEEN CONSIDERED IN THESE CALCULATIONS DUE TO THE NATURE OF THE INTENDED APPLICATION. END USER SHALL BE NOTIFIED THAT PANELS ARE NOT DESIGNED FOR HUMAN LOADING.

GENERAL NOTES

8. THIS IS A NON-SITE-SPECIFIC PERFORMANCE EVALUATION. A DESIGN PROFESSIONAL SHALL BE RESPONSIBLE FOR CERTIFYING THE APPLICATION OF THIS INFORMATION TO ANY SITE-SPECIFIC LOCATION. NO CERTIFICATION IS OFFERED FOR USE WITHOUT A CORRESPONDING SITE SPECIFIC PLAN UNDER SEPARATE CERTIFICATION.
9. THIS PRODUCT IS APPROVED FOR DESIGN & INSTALLATION OF NON-HABITABLE STRUCTURES ONLY.
10. POSITIVE AND NEGATIVE DESIGN PRESSURES CALCULATED FOR USE WITH THIS SYSTEM SHALL BE DETERMINED SEPARATELY PER ASCE 7 AND IBC / FBC CHAPTER 1609 PER THE TABLE NOTES HEREIN. DESIGN PRESSURES SHALL BE CALCULATED ON A SITE SPECIFIC BASIS AND MUST BE LESS THAN OR EQUAL TO THE POSITIVE AND NEGATIVE DESIGN PRESSURES DETAILED IN THE TABLES HEREIN.
11. A DESIGN PROFESSIONAL SHALL VERIFY THE ADEQUACY OF THE EXISTING STRUCTURE TO WITHSTAND SUPERIMPOSED LOADS & CONFIRM THAT ANY NEW ROOF SYSTEM IS PROPERLY ANCHORED TO THE EXISTING HOST TO PROPERLY TRANSFER ANY APPLICABLE LOADS TO THE EXISTING HOST STRUCTURE.
12. ALUMINUM ROOF PANELS SHALL BE OF 3004 H34 OR 3105-H14 ALLOY, AND OF THICKNESS 0.024", 0.030" OR 0.040" AS DETAILED IN TABLES HEREIN.
13. STEEL ROOF PANELS SHALL BE GRADE 40 ALLOY AND OF THICKNESS 0.024" (24 GA) AS DETAILED IN TABLES HEREIN
14. ALL PANEL ATTACHMENTS SHALL BE CERTIFIED PER SEPARATE ENGINEERING ON A SITE SPECIFIC BASIS.
15. CONTRACTOR IS RESPONSIBLE TO INSULATE OR PROTECT ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS.
16. THE CONTRACTOR IS RESPONSIBLE FOR WATER/WEATHER PROOFING MATERIALS AND INSTALLATION SUCH AS FLASHING, CAULKING, ETC.
17. UNITS SHALL BE LABELED IN ACCORDANCE WITH THE FLORIDA BUILDING COMMISSION AND THE FLORIDA DEPARTMENT OF BUSINESS & PROFESSIONAL REGULATION SPECIFICATIONS.

CERTIFICATION & LIABILITY

18. THIS DOCUMENT SHALL NOT BE USED OR REPRODUCED WITHOUT THE ORIGINAL SIGNATURE & RAISED SEAL OF THE CERTIFYING P.E. ALTERATIONS, ADDITIONS OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE OUR CERTIFICATION. PHOTOCOPIES AND UNSEALED DOCUMENTS ARE NOT TO BE ACCEPTED.
19. ENGINEER SEAL AFFIXED HERETO 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.
20. ALTERATIONS, ADDITIONS, HIGHLIGHTING, OR OTHER MARKINGS TO THIS DOCUMENT ARE ONLY PERMITTED TO SHOW SITE-SPECIFIC CONDITIONS, HOWEVER ANY CHANGES, ALTERATIONS OR ADDITIONS MADE TO THE CONTENT OF THIS DOCUMENT WILL INVALIDATE THIS CERTIFICATION.
21. EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED

TABLE USE INSTRUCTIONS:
1. DETERMINE TYPE OF ENCLOSURE TO BE COVERED (OPEN, SCREENED WALLS) AND CORRESPONDING DEFLECTION LIMIT.
2. DETERMINE THE SITE SPECIFIC REQUIRED DESIGN LOAD PER BY SEPARATE ENGINEERING, CERTIFIED BY A DESIGN PROFESSIONAL IN ACCORDANCE WITH THE LOCAL BUILDING CODE AND ANY GOVERNING CODE, MUNICIPALITY, AND BUILDING CODES IN EFFECT FOR THE PROJECT LOCATION.
2. CALCULATED PRESSURES SHALL CONSIDER THE CONTROLLING LOAD COMBINATION, USING ALL APPLICABLE ASCE 7 LOADS INCLUDING DEAD, LIVE, SNOW, WIND, AND ANY OTHER LOADING APPLICABLE TO THE INSTALLATION, DETERMINED PER SEPARATE CERTIFICATION.
3. TABLE CONSIDERS ASD DESIGN PRESSURES. TO CONVERT SEPARATELY CALCULATED ULTIMATE PRESSURES TO DESIGN PRESSURES, P(ULT)*0.6 = P(ASD).
4. UNLESS OTHERWISE NOTED HEREIN, LOADS HAVE BEEN MULTIPLIED BY 0.7 PER THE ABOVE REFERENCED BUILDING CODES (TABLE 1604.3 FOOTNOTE f) FOR THE DETERMINATION OF DEFLECTIONS ONLY
5. BASED ON THE PROJECT DESIGN CONDITIONS DETERMINED, SELECT A SUITABLE ROOFING PANEL WITH AN ALLOWABLE SPAN GREATER THAN OR EQUAL TO THE PROJECT REQUIREMENTS.
6. COMPONENT FRONT CONNECTION TO SUPPORTING BEAM AND BACK CONNECTION TO HOST STRUCTURE TO BE DETERMINED SEPARATELY ON A SITE SPECIFIC BASIS BY A DESIGN PROFESSIONAL.
7. MAXIMUM PANEL OVERHANGS FOR DESIGN PRESSURES ABOVE +/- 45 PSF = 24.0" MAXIMUM AND LIMITED TO 25% OF CLEAR SPAN
8. FOR PRESSURES AND SPANS BEYOND VALUES STATED HEREIN, CONTACT THIS OFFICE FOR SITE-SPECIFIC CONSULTATION

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ALUMINUM & STEEL ROOF PANEL
ALLOWABLE SPAN PERFORMANCE EVALUATION
FLORIDA STATEWIDE APPROVAL (FSA FL#17638.2)

REMARKS	DRWN	CHKD	DATE
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SCALE: NTS UNLESS NOTED

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