

PRODUCT EVALUATION REPORT
Horizon Structural Systems, Inc.

PanelCraft Standing Seam Roof Panel Over Open Framing

Florida Product Approval Number FL 46664.3

Category: Structural Components

Sub-Category: Roof Deck

Compliance Method: 61G20-3.005 (1)(D)

NON-HVHZ

Product Manufacturer

**Horizon Structural Systems, Inc.
1659 W. State Hwy 45, Ste 115 #622
New Braunfels, TX 78132**

Manufacturing Location

**Horizon Structural Systems, Inc.
3950 Hwy 46 West #200
New Braunfels, TX 78132**

Engineer Evaluator

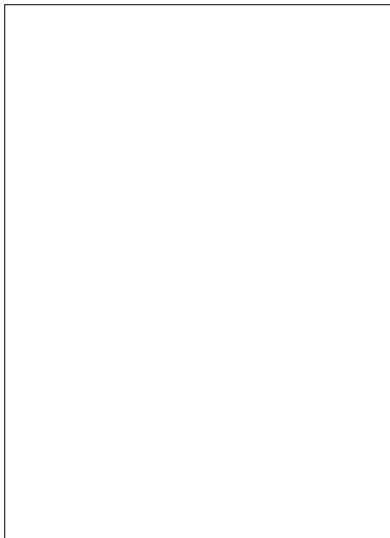
R. Keith Joyce, P.E., Florida 59081

Validator

**Dennis Johnson, P.E. Florida 54340
Florida C.O.A. 30308**

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Evaluation Report Pages 1-5 Dated 04-11-24



Compliance Statement

The product described in this report has demonstrated compliance with the 2023 (8th Edition) Florida Building Code Sections 1504.3.2, 1504.7, 1507.4 and 2210.1.

Product Description

PanelCraft Cold-Formed Standing Seam structural roof panels applied over open framing:

1. 24 Gauge Triple-Lok (0.0228 Sheet Thickness) with a minimum Fy = 50 ksi and Fu = 65 ksi
2. 24 Gauge Quad-Lok (0.0228 Sheet Thickness) with a minimum Fy = 50 ksi and Fu = 65 ksi
3. 22 Gauge Triple-Lok (0.0272 Sheet Thickness) with a minimum Fy = 50 ksi and Fu = 65 ksi
4. 22 Gauge Quad-Lok (0.0272 Sheet Thickness) with a minimum Fy = 50 ksi and Fu = 65 ksi

Panel Material Standard

Formed steel in compliance with the 2023 (8th Edition) Florida Building Code Section 1507.4.3 with optional painted finish.

Roof Panel Clips

Product Name: MC1213
Type: Sliding Standing Seam Clips
Corrosion Resistance: Per 2023 (8th Edition) Florida Building Code Table 1504.3(2)

Panel Fastener

(2) 1/4 – 14 HWH SD per clip as indicated in the **Load Tables** of this Evaluation Report

Substrate Description

Minimum 16 gauge (0.0596 steel thickness) open framing.
Framing must be designed in accordance with the 2023 (8th Edition) Florida Building Code

Reference Data

1. ASTM E1592-05
Encon Technology, Inc. (FBC Organization Number TST-6485) Report Numbers C456-6, C456-7, C905-3, C905-4
2. FM4470 Section 5.5 Foot Traffic Resistance Test

Quality Assurance Entity

The manufacturer has established compliance of products in accordance with the 2023 (8th Edition) Florida Building Code as relates to Rule 61G20-3.005(3) for manufacturing under a quality assurance program audited by an approved quality assurance entity.

Minimum Roof Slope

Minimum roof slope shall be ¼:12 in compliance with the 2023 (8th Edition) Florida Building Code, Including Section 1507.4.2 and in accordance with the Manufacturers recommendations.

Insulation

Manufacturer's approved products (optional)

Fire Classification

Fire Classification is outside the scope of this evaluation

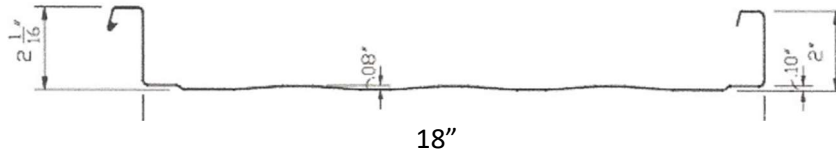
Shear Diaphragm

Shear Diaphragm is outside the scope of this evaluation

Design Procedure

Based on dimensions of the structure, appropriate wind loads are determined using chapter 16 of the 2023 (8th Edition) Florida Building Code for component loading of roof cladding. These component wind loads are compared to the allowable load listed in the **Load Tables** of this evaluation report. The design professional shall select appropriate fastener pattern and panel gauge to reference in the construction documents for proper installation. Design of support framing must be in compliance with the 2023 (8th Edition) Florida Building Code.

PanelCraft Panel



PanelCraft Panel			Section Properties						
Panel Gauge	Fy	Fu	Weight	Negative Bending			Positive Bending		
				Ixe	Sxe	Maxo	Ixe	Sxe	Maxo
	ksi	Ksi	Psf	In ⁴	In ³	Kip-in	In ⁴	In ³	Kip-in
24	50	65	1.30	0.130	0.107	3.22	0.238	0.161	4.83
22	50	65	1.56	0.161	0.135	4.06	0.351	0.202	6.06

Note: Section Properties shown are for one full panel width (18").

PanelCraft Panel (24 Gauge)		Allowable Gravity Load					
Span Type	Span (ft)						
	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"
Single	228	182	152	130	114	101	91.3
2 Span	179	114	79.7	58.6	44.8	35.4	28.7
3-Span	190	143	99.7	73.2	56.1	44.3	35.9

PanelCraft Panel (22 Gauge)		Allowable Gravity Load					
Span Type	Span (ft)						
	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"
Single	272	217	181	155	136	120	108
2 Span	217	144	100	73.7	56.5	44.6	36.1
3-Span	226	180	125	92.2	70.6	55.8	45.2

Notes:

1. Allowable loads are based on uniform span length and uniformly distributed load.
2. Allowable gravity load is limited by bending, shear or deflection.
3. Allowable gravity loads are computed for a maximum total load deflection of L/60.
4. Weight of the panel must be included with gravity load combinations as appropriate.
5. This material is subject to change without notice
6. This material has been developed in accordance with the 2016 North American Specification for Cold-Formed Structural Steel Members with Supplement 2 (2020).

The engineering data contained herein is for the express use of the customers of Horizon Structural Systems Inc. and qualified design professionals.

PanelCraft Design Uplift Allowable Load

24 Gauge Triple-Lok (C456-6)

Purlin Spacing	Ultimate Load psf	Allowable Load psf
2'-6"	135.2	67.6
3'-0"		61.4
3'-6"		55.1
4'-0"		48.9
4'-6"		44.6
5'-0"	72.8	36.4

24 Gauge Quad-Lok (C905-3)

Purlin Spacing	Ultimate Load psf	Allowable Load psf
2'-6"	156.0	78.0
3'-0"		71.8
3'-6"		65.5
4'-0"		59.3
4'-6"		53.0
5'-0"	93.6	46.8

22 Gauge Triple-Lok (C456-7)

Purlin Spacing	Ultimate Load psf	Allowable Load psf
2'-6"	156.0	78.0
3'-0"		72.8
3'-6"		67.6
4'-0"		64.4
4'-6"		57.2
5'-0"	104.0	52.0

22 Gauge Quad-Lok C905-4)

Purlin Spacing	Ultimate Load psf	Allowable Load psf
2'-6"	182.0	91.0
3'-0"		83.2
3'-6"		75.4
4'-0"		67.6
4'-6"		59.8
5'-0"	104.0	52.0

Notes:

1. Allowable Loads are Interpolated from test results for 2'-6" and 5'-0" spans using a safety factor of 2.0