

**Force Engineering & Testing**

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**Product Evaluation Report**  
**WHIRLWIND STEEL BUILDINGS, INC.**

**29 Ga. Sturdi-Rib X Roof Panel over 1x4 Wood Purlins**

**Florida Product Approval # 17700.2 R4**

Florida Building Code 2023

Per Rule 61G20-3

Method: 1 -D

Category: Structural Components

Subcategory: Roof Deck

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

NON HVHZ

**Product Manufacturer:**

**Whirlwind Steel Buildings, Inc.**

8234 Hansen Road

Houston, TX 77075

**Engineer Evaluator:**

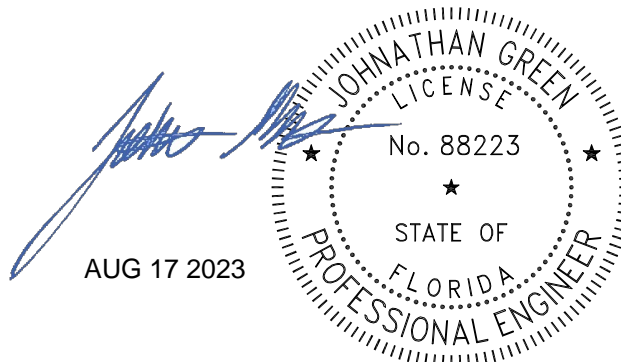
**Johnathan Green, P.E. #88223**

Florida Evaluation ANE ID: 12901

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THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY JOHNATHAN GREEN ON THE DATE ADJACENT TO THE SEAL.

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**Compliance Statement:** The product as described in this report has demonstrated compliance with the Florida Building Code 2023, Sections 1504.3.2, 1504.7.

**Product Description:** Sturdi-Rib X Min. 29 Ga. Steel, 36" Wide, through fastened roof panel over 1x4 wood purlins. Structural Application.

**Panel Material/Standards:** Material: Minimum 29 Ga. Steel, ASTM A792 or ASTM A653 G90 conforming to Florida Building Code 2023 Section 1507.4.3. Paint finish optional.  
 Yield Strength: Min. 80.0 ksi  
 Corrosion Resistance: Panel Material shall comply with Florida Building Code 2023, Section 1507.4.3.

**Panel Dimension(s):** Thickness: 0.015" min.  
 Width: 36" max coverage  
 Rib Height: ¾" major rib at 9" O.C.

**Panel Fastener:** #10-14 x 1-1/2" HWH Woodtite with sealing washer or approved equal ¼" minimum penetration through 1x4 wood purlins  
 Corrosion Resistance: Per Florida Building Code 2023, Section 1507.4.4.

**Substrate Description:** Min. 1x4 No. 2 SYP wood purlins over No. 2 SYP wood supports at maximum 24" O.C. The 1x4 wood purlins shall be fastened to the wood supports with minimum (2) #9x2 ½" Deck Screws at 24" O.C. Design of 1x4 wood purlins and wood supports are outside the scope of this evaluation. Substrate must be designed in accordance w/ Florida Building Code 2023.

**Allowable Design Uplift Pressures:**

Table "A"

<b>Maximum Total Uplift Design Pressure:</b>	-78.5 psf	-116.0 psf
<b>Fastener Pattern:</b>	9"-9"-9"-9"	9"-9"-9"-9"
<b>1x4 Wood Purlin Spacing:</b>	24" O.C.	12" O.C.

\*Design Pressure includes a Safety Factor = 2.0.



<b>Code Compliance:</b>	The product described herein has demonstrated compliance with The Florida Building Code 2023, Section 1504.3.2, 1504.7.
<b>Evaluation Report Scope:</b>	The product evaluation is limited to compliance with the structural wind load requirements of the Florida Building Code 2023, as relates to Rule 61G20-3.
<b>Performance Standards:</b>	The product described herein has demonstrated compliance with: <ul style="list-style-type: none"><li>▪ UL 580-06 - Test for Uplift Resistance of Roof Assemblies</li><li>▪ UL 1897-2015 - Uplift Test for Roof Covering Systems</li><li>▪ FM 4471, 1992- Foot Traffic Resistance Test</li></ul>
<b>Reference Data:</b>	<ol style="list-style-type: none"><li>1. UL 580-06 / 1897-04 Uplift Test Force Engineering &amp; Testing, Inc. (FBC Organization # TST-5328) Report No. 14-0283T-14C, D</li><li>2. FM 4471-10 Foot Traffic Resistance Test Force Engineering &amp; Testing, Inc. (FBC Organization # TST-5328) Report No. 14-0283T-14E</li><li>3. Certificate of Independence By Johnathan Green, P.E. (No. 88223) @ Force Engineering &amp; Testing (FBC Organization # ANE ID: 12901)</li></ol>
<b>Test Standard Equivalency:</b>	The UL 1897-04 test standard is equivalent to the UL 1897-2015 test standard  The FM 4471-10, Foot Traffic Resistance test standard is equivalent to the FM 4471-92, Foot Traffic Resistance test standard
<b>Quality Assurance Entity:</b>	The manufacturer has established compliance of roof panel products in accordance with the Florida Building Code and Rule 61G20-3.005 (3) for manufacturing under a quality assurance program audited by an approved quality assurance entity.
<b>Minimum Slope Range:</b>	Minimum Slope shall comply with Florida Building Code 2023, including Section 1507.4.2 and in accordance with Manufacturers recommendations. For slopes less than 3:12, lap sealant must be used in the panel side laps.
<b>Installation:</b>	Install per manufacturer's recommended details.
<b>Roof Panel Fire Classification:</b>	Fire classification is not part of this acceptance.

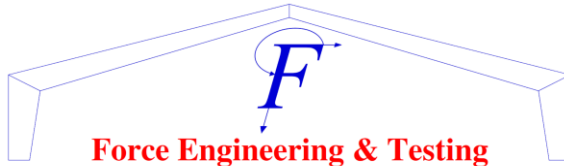


**Shear Diaphragm:**

Shear diaphragm values are outside the scope of this report.

**Design Procedure:**

Based on the dimensions of the structure, appropriate wind loads are determined using Chapter 16 of the Florida Building Code 2023 for roof cladding wind loads. These component wind loads for roof cladding are compared to the allowable pressure listed above. The design professional shall select the appropriate erection details to reference in his drawings for proper fastener attachment to his structure and analyze the panel fasteners for pullout and pullover. Support framing must be in compliance with Florida Building Code 2023 Chapter 22 for steel, Chapter 23 for wood and Chapter 16 for structural loading.



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FASTENER PATTERN 9"-9"-9"-9"

