Force Engineering & Testing
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# Product Evaluation Report
## *TRI COUNTY METALS*

## *Min. 24 Ga. TCM-Lok Roof Panel over 15/32" Plywood*

## Florida Product Approval # 4595.14 R5

**Florida Building Code 2020**
**Per Rule 61920-3**
**Method: 1 –D**

**Category: Roofing**
**Subcategory: Metal Roofing**
**Compliance Method: 61G20-3.005(1)(d)**
**NON HVHZ**

**Product Manufacturer:**
**Tri County Metals**
**301 SE 16th Street**
**Trenton, Florida 32693**

**Engineer Evaluator:**
**Johnathan Green, P.E. #88223**
**Florida Evaluation ANE ID: 12901**

**Validator:**
**Brian Jaks P.E. #70159**

**Contents:**




OCT 02 2020

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**Compliance Statement:** The product as described in this report has demonstrated compliance with the Florida Building Code 2020, Sections 1504.3.2.

**Product Description:** TCM-Lok Roof Panel, Min. 24 Ga. Steel, 16" coverage, over one layer of asphalt shingles (optional) over min. 15/32" APA Plywood decking. Non-Structural Application.

**Panel Material/Standards:** Material: Min. 24 Ga. Steel, conforming to Florida Building Code 2020 Section 1507.4.3. Paint finish optional.
Yield Strength: Min. 50.0 ksi
Corrosion Resistance: Panel Material shall comply with Florida Building Code 2020, Section 1507.4.3.

**Panel Dimension(s):**

| | |
|---|---|
| Thickness: | 0.0225" Minimum |
| Width: | 16" maximum Coverage |
| Female Rib: | 15/16" tall |
| Male Rib: | 23/32" tall rib w/ slotted strip |
| Panel Seam: | Snap Lock |

**Panel Fastener:** Through Panel Slot: (1) #10-12x 1" Pancake Type A
¼" minimum penetration through plywood
Corrosion Resistance: Per Florida Building Code 2020, Section 1507.4.4.

**Substrate Description:** One layer of asphalt shingles/felt paper (optional) over min. 15/32" thick, APA Rated plywood over supports at maximum 24" O.C. Design of plywood and plywood supports are outside the scope of this evaluation. Substrate must be designed in accordance w/ Florida Building Code 2020.

**Allowable Design Uplift Pressures:**

**Table "A"**

| | |
|---|---|
| **Maximum Total Uplift Design Pressure:** | 116.0 psf |
| **Fastener Spacing:** | 5 ¼" O.C. |

*Design Pressure includes a Safety Factor = 2.0.


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**Code Compliance:**

The product described herein has demonstrated compliance with The Florida Building Code 2020, Section 1504.3.2.

**Evaluation Report Scope:**

The product evaluation is limited to compliance with the structural wind load requirements of the Florida Building Code 2020, as relates to Rule 61G20-3.

**Performance Standards:**

The product described herein has demonstrated compliance with:

- UL 580-06 - Test for Uplift Resistance of Roof Assemblies
- UL 1897-2012 - Uplift Test for Roof Covering Systems

**Reference Data:**

1. UL 580-06 / 1897-04 Uplift Test
   Force Engineering & Testing, Inc. (FBC Organization # TST-5328)
   Report No. 136-0299T-13
2. Certificate of Independence
   By Johnathan Green, P.E. (No. 88223) @ Force Engineering & Testing
   (FBC Organization # ANE ID: 12901)

**Test Standard Equivalency:**

The UL 1897-04 test standard is equivalent to the UL 1897-2012 test standard.

**Quality Assurance Entity:**

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.

**Minimum Slope Range:**

Minimum Slope shall comply with Florida Building Code 2020, 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.

**Installation:**

Install per manufacturer's recommended details.

**Underlayment:**

Per Florida Building Code 2020, Section 1507.1.1 and manufacturer's installation guidelines.

**Roof Panel Fire Classification:**

Fire classification is not part of this acceptance.

**Shear Diaphragm:**

Shear diaphragm values are outside the scope of this report.


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**Design Procedure**:

Based on the dimensions of the structure, appropriate wind loads are determined using Chapter 16 of the Florida Building Code 2020 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 2020 Chapter 22 for steel, Chapter 23 for wood and Chapter 16 for structural loading.


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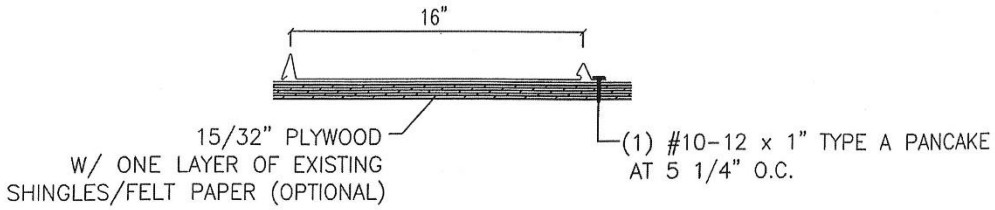
TCM-LOK 24 GA. ROOF PANEL





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