

## Product Evaluation

RC13 | 1120

Engineering Services Program

The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

For more information, contact TDI Engineering Services Program at (800) 248-6032.

**Evaluation ID:** RC-13

**Effective Date:** November 1, 2020

**Re-evaluation Date:** November 2024

**Product Name:** 5V-Crimp Steel Roof Panels Installed over a Plywood Deck

**Manufacturer:** McElroy Metal, Inc.  
P.O. Box 1148  
Shreveport, LA 71163  
(318) 747-8000

**Distributed By:** McElroy Metal, Inc.  
Metal Mart

### General Description:

The 5V-crimp roof panels are a minimum 26-gauge galvalume steel panel with an optional paint finish. The 26-gauge panels are 0.019" thick. The panel is 26-1/16" in width with an actual coverage of 24". Each panel has five (5) V-crimps, two (2) at each edge, and one (1) at the center of the panel. The V-crimps are 0.40" deep. The panels conform to ASTM A792, with an 80,000 psi yield point. The panels have an AZ 55 hot-dip aluminum zinc alloy coating. The panels are available in lengths up to 40'.

### Limitations:

**Roof Framing:** The 5V crimp roof panels must be installed over a minimum 5/8" plywood roof deck. All plywood butt joints are to be sealed with caulk or with one-part urethane sealant.

**New Roof Framing Attachment:** The roof framing must meet or exceed the uplift requirements of the IRC or IBC and must be installed as required for resistance to wind loads.

**Design Wind Pressures:** The design pressure uplift load resistance must be as specified in Table 1.

**Roof Slope:** The roof panels must be installed on roofs with a roof slope not less than 3:12.

**Installation Over an Existing Roof Covering:** Installation over an existing roof covering is limited to a maximum of one existing layer of composition shingles, wood shingles or shakes, built-up roofing, or roll roofing applied over an existing, solid roof deck of nominal 5/8" plywood (minimum). Note: Inspection of the existing roof deck must be made prior to the installation of the roof panels. The condition of the existing roof deck must be acceptable to receive the roof panels before the roof panel installation proceeds.

**Table 1:**

Attachment of Minimum 26-Gauge Steel 5V Crimp Roof Panels to a Minimum 5/8" Plywood Roof Deck

Design Pressure (psf)	Fastener Pattern	Fastener Spacing
-52.5	2"-9"-2"-9"	36" on center

**Installation:**

**General:** The 5V crimp steel roof panels must be installed in accordance with the manufacturer's recommended installation instructions and this evaluation report.

**Panels:** The 5V crimp steel roof panels must be secured to the roof deck as specified in Table 1 and in this section. Refer to Figure 1 for an illustration of the required fastener pattern.

**Underlayment:** A minimum of one layer of No. 30 (Type II) asphalt felt must be used. The underlayment used must comply with one or more of the following: ASTM D 226, ASTM D 4869, or ASTM D 1970. The felt must be installed with 6" side laps and 3" end laps. The underlayment must be applied with corrosion-resistant fasteners in accordance with the manufacturer's installation instructions. Fasteners must be applied along the overlaps not farther apart the 36" on center.

**Anchorage:**

**Fastener Type:** The panels must be fastened to the roof deck with either No. 14-10 x 1-1/2" long, Type A hex head screws, with separate 5/8" OD steel washer and a bonded neoprene washer or No 9-15 x 1-1/2" longlife or Woodmac screws with sealing washer. The fasteners must be long enough to ensure a minimum penetration of 1/4" below the roof deck. If the metal panels are installed over an existing roof covering, then the fastener length must be increased so that the fasteners are long enough to ensure a minimum penetration of 1/4" below the existing plywood roof deck.

**Fastener Spacing:** A line of fasteners are to be installed beginning at the center line of the double V at the side lap in a 2-9-2-9 pattern for a total of four (4) fasteners across the width of the panel. The fastener spacing is to be 36" on center along the length of the panel.

**Trims, Closures, and Accessories:** Components, such as the eave trim, rake trim, rake tie-in, ridge flashing, high-side trim, high-side tie-in, hip flashing, and valley flashing must be installed as required by the manufacturer.

**Note:** Keep the manufacturer's installation instructions available on the job site during installation. Use corrosion resistant fasteners as specified in the IRC and the IBC.

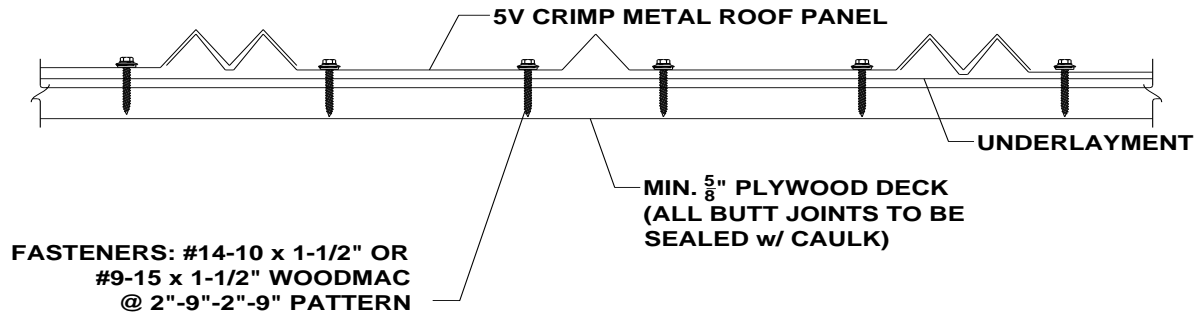


Figure 1. 5V Crimp Panel Detail