



# Product Evaluation

RC581 | 0918

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-581

**Effective Date:** September 1, 2018

**Re-evaluation Date:** September 2022

**Product Name:** APEX 450 Snap Lock 24-gauge Steel Roof Panels Installed Over a Plywood Deck

**Manufacturer:** Apex Metals  
12319 Hammond Lane  
Santa Fe, TX 77510  
(281) 500-3701

## **General Description:**

The APEX 450 Snap Lock metal roofing panel is a 24-gauge galvalume steel panel with an optional paint finish. The 1-1/2" snap lock panels have a maximum nominal coverage of 16-5/8". The panel has a 1-1/2" tall snap lock rib. The 24-gauge steel material is ASTM A 792, AZ55, Grade 50, with a minimum 50 ksi yield strength. The panel rollformer is manufactured by New Tech Machinery.

This evaluation report is for metal roofing panels that are secured to nominal 15/32" plywood decks. A thicker plywood deck may be used; however, the design pressure rating for the panels is as specified in the evaluation report.

## **Limitations:**

**Design Wind Pressures:** The design wind pressure uplift resistance is specified in Table 1.

**Roof Framing:** Roof framing (rafters or trusses) must not exceed 24" on center.

**Roof Deck:** Install the metal roof panels over minimum 15/32" plywood deck.

**Roof Deck Attachment:** The roof deck must be secured to the roof framing to resist the required wind uplift design pressures.

**Table 1**

Attachment of 24-gauge APEX 450 Snap Lock Steel Roof Panels to Plywood Deck

Wind Pressure	Clip Spacing	Fasteners per Clip
-52.5 psf	18" on center	Two fasteners
-69.3 psf	12" on center	Two fasteners
-86.0 psf	6" on center	Two fasteners

**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. The existing roof deck must be minimum 15/32" plywood. Note: Inspection of the existing roof deck must be made before installing the roof panels. The condition of the existing roof deck must be acceptable to receive the roof panels before the roof panel installation can proceed.

**Roof Slope:** The metal roof panels may be installed on roofs with a roof slope as low as 3:12.

**Installation:**

**Roof Deck:** Install the metal roof panels over minimum 15/32" plywood deck.

**Panels:** The metal roof panels must be attached to the plywood deck in accordance with Table 1 and the manufacturer's recommended installation instructions.

**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 minimum 6" side laps and minimum 3" end laps. The underlayment must be applied with corrosion-resistant fasteners in accordance with manufacturer's installation instructions. Fasteners must be applied along the overlaps not farther apart than 36" on center.

**Attachment of Panels to Roof Deck:** The panels must be secured to the deck in accordance with Table 1 with 1-3/4" long x 1-1/4" high, 24-gauge galvanized steel fixed clips (manufactured by Logan Stamping, Inc.). Each clip is secured to the roof deck with two minimum No. 10-12 x 1" long Pancake Head Type A screws. The fasteners must be long enough to penetrate completely through the deck. The spacing of the clips is as specified in Table 1.

**Panel Ends:** As required by the manufacturer.

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**Trim:** Components such as eave trim, rake trim, hip trim, and valley trim 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, the IBC, and the Texas Revisions.