

Product Evaluation

RC270 | 0823

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-270

Effective Date: August 1, 2023

Re-evaluation Date: August 2027

Product Name: ABC 238T 24-Gauge 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 ABC 238T roofing panel has a maximum net coverage of 18" and a 2-3/8" tall "T" seam. The panel is minimum 24-gauge minimum 50 ksi Alum-Zinc coated steel. The metal panels are available in acrylic coated galvalume and Kynar 500 finishes.

Limitations:

Roof Decking: The metal roofing panels must be installed over the following type of roof decking:

- Minimum 15/32" plywood roof decking

New Roof Decking Attachment: The roof decking 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: Install the metal roofing panels on roofs with a roof slope as low as 1/4:12. Use lap sealant if the roof slope is less than 3:12.

Table 1: Attachment of minimum 24-gauge ABC 238T metal roofing panels to plywood deck

Design Wind Pressure (psf)	Panel Seam	Panel Clip	Clip Spacing	Clip Fastener
-20.84	"T" Seam	6" long fixed	48"	(2) #10
-37.95	"T" Seam	6" long fixed	42"	(2) #10
-55.06	"T" Seam	6" long fixed	36"	(2) #10
-72.17	"T" Seam	6" long fixed	30"	(2) #10
-89.28	"T" Seam	6" long fixed	24"	(2) #10
-106.39	"T" Seam	6" long fixed	18"	(2) #10
-123.50	"T" Seam	6" long fixed	12"	(2) #10

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 minimum 15/32" plywood. Note: Inspect the existing roof deck prior to the installation of the roof panels. The condition of the existing roof deck must be acceptable to receive the metal roofing panels before the metal roofing panel installation proceeds. NOTE: Underlayment is not required to be installed.

Installation:

General: Install the metal roofing panels in accordance with the manufacturer's recommended installation instructions and this evaluation report.

Panels: Secure the metal roofing panels to the roof covering as specified in Table 1 and in accordance with this section.

Underlayment: Use a minimum of one layer of No. 30 (Type II) asphalt felt. The underlayment used must comply with one or more of the following: ASTM D 226, ASTM D 4869, or ASTM D 1970. Install the underlayment per manufacturer's installation instructions.

Attachment of Metal Roof Panels to the Roof Deck: Secure the metal roofing panels to the roof substrate in the following way:

Roofing Panels to Plywood Deck: Secure the panels to the roof deck with minimum 16-gauge, 6" long, fixed panel clips. Each clip is secured to the roof deck with two minimum No. 10-12 x 1" long Pancake Head Type A screws. Use fasteners long enough to ensure a minimum penetration of 1/4" below the roof deck. (Note: If the metal roofing 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 decking.) Table 1 specifies the required quantity of fasteners as well as the maximum allowable spacing of the panel clips.

Trims, Closures, and Accessories: Install components, such as the eave trim, rake trim, ridge trim, hip trim, and valley trim as required by the manufacturer.

Alternative Fasteners: Substitution of equivalent fasteners must meet the following requirements:

No. 10-12 x 1" Pancake Head Type A, Ultimate withdrawal (pullout) \geq 339 lbs in 15/32" plywood

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