

Product Evaluation

RC605 | 0224

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-605

Effective Date: February 1, 2024

Re-evaluation Date: February 2028

Product Name: 1.5" Aluminum and Steel Acadian-M-Lock Standing Seam Roof Panels Installed Over a Plywood Deck

Manufacturer: Acadian Roofing, LLC
15036 Boudreaux Rd.
Tomball, TX 77377
(713) 463-7663

General Description:

The 1.5" aluminum Acadian-M-Lock standing seam roofing panel is minimum 0.032" aluminum with an optional paint finish. The roofing panels have a maximum coverage of 16-1/4". The panels have a 1-1/2" tall mechanical double lock standing seam rib. The aluminum material conforms to ASTM B 209, with a minimum 21 ksi yield strength. Panels must be formed within the panel rollformer specifications and tolerances. The panel rollformer is Zimmerman SS-1500 mobile roll former SN #1216697.

The 1.5" steel Acadian-M-Lock standing seam roofing panel is minimum 24-gauge galvalume steel panels with an optional paint finish. The metal roofing panels have a maximum coverage of 17". The panel has a 1-1/2" tall mechanical double lock standing seam rib. The 24-gauge steel material is ASTM A792 Grade 50 steel with optional painted finishes. Panels must be formed within the rollformer specifications and tolerances. Panel Rollformer: Zimmerman SS-1500 mobile roll former SN #1216697.

This evaluation report is for residential metal roofing panels that are secured to nominal 19/32" plywood roof decks. Thicker plywood may be used; however, the design pressure rating for the metal panels must be as specified in this evaluation report.

Limitations:

Roof Deck: The metal roofing panels must be installed over a minimum 19/32" plywood deck. Roof framing must not exceed 24" on center.

New Roof Decking 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.

Roof Slope: The metal roof panels may be installed on roofs with a roof slope as low as 2:12.

Design Wind Pressures: The design pressure uplift load resistance must be as specified in Table 1 and Table 2.

Table 1: Attachment of 1.5" Aluminum Acadian-M-Lok Roof Panels to Minimum 19/32" Plywood

Design Wind Pressure (psf)	Panel Seam	Panel Clip	Panel Clip Fasteners	Panel Clip Spacing
-108.5	Double Lock	24-Gauge Fixed Clip	Two (2); No. 10-9x1"	12" on center

Table 2: Attachment of 1.5" Steel Acadian-M-Lok Roof Panels to Minimum 19/32" Plywood

Design Wind Pressure (psf)	Panel Seam	Panel Clip	Panel Clip Fasteners	Panel Clip Spacing
-123.5	Double Lock	24-Gauge Fixed Clip	Two (2); No. 10-9x1"	12" on center

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 19/32" 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.

Installation:

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

Panels: Attach panels in accordance with the installation details in Table 1 or Table 2.

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

Attachment of Metal Roofing Panels to the Roof Deck: Secure the metal roofing panels to the wood roof deck with clips in accordance with Table 1 or Table 2. The fasteners must be No. 10-9 x 1" long Ultra Low Profile. Use two (2) fasteners per clip. Use fasteners long enough to penetrate a minimum of 1/4" below the roof deck. Note: If installing metal roofing panels over an existing roof covering, then increase the fastener length so that they penetrate a minimum of 1/4" below the roof deck. Table 1 and 2 specifies the spacing of the clips.

Panel Clip: Table 1 and Table 2 use 24-gauge 33 ksi steel clip: Fixed clip, 0.023" (nominal) thick, 2" long.

Panel Seam: The panel is to be seamed to a 180-degree seam (double lock) with a mechanical seamer.

Panel Ends and Edges: As required by the manufacturer.

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 alternative fasteners of equal or greater strength may be substituted.

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