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PO Box 12030 | Austin, TX 78711 | 800-578-4677 | tdi.texas.gov

Product Evaluation

RC744 | 0324

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-744

Effective Date: March 1, 2024
Re-evaluation Date: October 2027

Product Name: Maxima ADV Metal Roof Panel Installed Over Insulated Steel Deck

Manufacturer: McElroy Metal, Inc
1500 Hamilton Road
Bossier City, LA 71111
(318) 747-8000

General Description:
The Maxima ADV is a concealed fastener architectural roof panel. The panels are minimum 24-gauge steel. The panels have a maximum width of 18" and a minimum width of 12". The panels have a rib height of 2". The panels conform to ASTM A792, with a 50 ksi yield point.

Limitations:
Roof Deck: The Maxima ADV metal roof panels must be installed over an insulated steel 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: The metal roof panels may be installed on roofs with a roof slope as low as 1/2:12. Sealant is required in the panel sidelap per the manufacturer's instructions.

Table 1: Attachment of Minimum 24-gauge Steel Roofing Panels to Insulated Steel Roof Deck.

Design Wind Pressure	Panel Clips	Clip Spacing
52.5 psf	Fixed or floating clips with fasteners as specified below	48" on center 36" on center(when attached to plywood)

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

Roof framing: Roof framing consists of steel purlins/joists, steel deck, and steel sub-purlins:

- Steel Purlins/Joists: 6'-0" max on center.
- Steel Deck (Liner Panel): 22-gauge steel deck supported by steel purlins/joists.
- Sub-Purlin: 16-gauge min thick coated steel, 50 ksi. Hat section, min 3/4" deep, 2" wide or Zee section, 2" wide, flanges 2" deep. Sub-purlins are parallel to steel purlins/joists and 48" max on center.

Panel clips (one of the followings)

- Fixed Clips: One-piece assembly fabricated from 22-gauge minimum thick steel; 3-1/2" wide.

- Floating Clips: Two-piece assembly with a base fabricated from 16-gauge minimum thick steel, 2" wide and a top fabricated from 22-gauge minimum thick steel, 4-1/4" wide.

Underlayment: N/A

Insulation (optional) (one of the followings):

- Rigid Insulation (Foamed Plastic): Max thickness 6" when gypsum board, plywood or OSB is used and 10" when bearing plates are used. Minimum bearing strength to be 20 psi. 1.8 pcf minimum density or see products Classified under TJBX.

- Compressible Insulation: Compressible blanket insulation 8" maximum thickness before compression. Used with sub-purlins only.

Attachment of Metal Roof Panels to Roof Deck:
Fasteners (one of the followings):

- Fasteners used to attach panel clips to sub-purlins to be No. 1/4-14 by 1" long self-drilling, self-tapping, hex-washer-head, plated steel screws. Two fasteners per clip.

- Fasteners used to attach panel clips through gypsum board, plywood, OSB, or bearing plate and foamed plastic into liner panel to be No. 12 or No. 14 dia. with Phillips or square drive, coated steel screws. Fastener length to penetrate liner panel min 1/2" Two fasteners per clip.

- Fasteners used to attach plywood deck through rigid insulation to liner panel to be No. 14-13, No. 3 Phillips drive truss head screws. Fastener length to penetrate liner panel min 1/2". Total of 33 fasteners per 4 by 8 ft plywood sheet to be used. Fasteners located in five rows along the 4 ft length in a 3"-9"-12"-12"-9"-3" pattern. The two outer rows are in a 3"-9"-12"-12"-12"-12"-12"-12"-9"-3" pattern and the three center rows are in a 2"-21"-24"-24"-21"-3" pattern. All spacing from board edges. Fasteners used to attach panel clips to plywood (when plywood is fastened to liner panel as indicated above) to be No. 10-12 by 1" long pancake head wood screw with No. 2 Phillips drive, or No. 10-12 by 1" long hex-head wood screw. Two fasteners per clip.

Panel Ends and End Laps:

An end lap back-up-plate to be used. A bead of sealant may be used at panel end laps and side ribs. Ribs to be seamed with an electric or hand seaming tool to form a flange with a tight hem. Seaming process to include the upper portion of the Panel Clips. They must be installed 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.

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.