

Product Evaluation

RC507 | 1021

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-507

Effective Date: October 1, 2021

Re-evaluation Date: October 2025

Product Name: 275 New Lock 24-Gauge Steel Standing Seam Roofing Panels Installed over an Insulated Steel Deck

Manufacturer: North Texas Metal Roofing & Construction, Inc.
P.O. Box 1699
Mansfield, TX 76063
(817) 845-8900

General Description:

The 275 New Lock metal roofing panels are steel standing seam roofing panels. The steel roofing panels have a maximum 17-1/2" of coverage. The steel roofing panels have a 2" rib height and a mechanically seamed side lap. The steel roofing panels are manufactured from minimum 24-gauge Galvalume coated steel that conform to ASTM A792, with a minimum yield strength of 50,000 psi. Panel Rollformer New Tech Machinery, Corp.

Limitations:

Roof Framing: The steel roofing panels must be installed over a minimum 22-gauge, 1-1/2" Grade 40, B-deck.

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.

Table 1

Attachment of 17-1/2" Wide, Minimum 24-gauge Steel 275 New Lock Standing Seam Roofing Panels to Steel Deck

| Design Wind Pressure | Purlins | Deck | Attachment of Panel to Deck |
|----------------------|------------------------------------|----------------------------------|-----------------------------|
| -52.5 psf | 12-Gauge Steel; 5'-0" on center | Minimum 22-Gauge Steel B-Deck | Clips @ 36" o.c. |

Roof Slope: The steel roofing panels may be installed on roofs with a roof slope as low as 1/2:12.

Installation Over an Existing Roof Covering: Not permitted.

Installation:

General: The steel roofing panels must be installed in accordance with the manufacturer's recommended installation instructions and this evaluation report.

Steel Purlins: The minimum thickness of the steel and the maximum spacing of the purlins must be as specified in Table 1.

Structural Steel Deck: Minimum 22-gauge steel B-deck. The steel deck is secured to the steel purlins with 1/4-14 x 1-1/4" HWH fasteners in a 36/7 pattern.

Insulation: Minimum 1" thick, maximum 4" thick rigid insulation with polyisocyanurate foam core with fiber reinforced facers laid on top of the steel deck. Minimum 20 psi compressive strength. Secured to the steel deck with minimum five (5) #14-13 x 9" DP1 Concealor screws with 3" diameter steel disks per sheet. The fasteners must be long enough to ensure a minimum penetration of 3 pitches of thread below the steel deck.

Underlayment: A minimum of one layer of No. 30 (Type II) felt must be used. The underlayment must comply with one of the following: ASTM D 226, ASTM D 4869, or ASTM D 1970. The felt must be installed with minimum 2" side laps and minimum 2" end laps. The felt must be fastened to the roof deck with corrosion resistant fasteners in accordance with the manufacturer's installation instructions. Fasteners to be applied along the overlaps a maximum of 36" on center.

Attachment of Steel Roofing Panels to the Steel Deck: The steel roofing panels must be secured to the steel deck with NC-33003 sliding clips (2-1/2" tall, 22-gauge top, 16-gauge bottom, 50 ksi, G90 galvanized) by Logan Stamping, Inc/BPD and a 4" x 5" x 16-gauge galvanized steel bearing plate. Each clip and bearing plate are secured to the steel deck with two (2) minimum #14-13 DP1 Concealor screws manufactured by Triangle Fastener Corporation. The spacing of

the clips is as specified in Table 1. The fasteners must be long enough to ensure a minimum penetration of 3 pitches of thread below the steel deck.

Panel Seam: The panel ribs are seamed with a mechanical seamer to a single lock, 90-degree seam.

Trims, Closures, and Accessories: Components, such as the eave trim, rake trim, ridge 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 the installation. Use corrosion resistant fasteners as specified in the IRC and the IBC.