

Product Evaluation

RC430 | 1121

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-430

Effective Date: November 1, 2021

Re-evaluation Date: November 2025

Product Name: Classic Roof / R-Panel Steel Roofing Panels Installed over Steel Purlins

Manufacturer: Nucor Building Group
600 Apache Trail
Terrell, TX 75160
(888) 669-8165

General Description:

The Classic Roof / R-panels are formed steel roofing panels. The roofing panels have 36" of coverage. The roofing panels have a 1-1/4" rib height. The roofing panels are manufactured from minimum 26-gauge steel with a minimum yield strength of 50 ksi.

Limitations:

Wall Framing: The roofing panels must be installed over open steel purlins. The steel purlins are minimum 16-gauge steel.

New Roofing Framing Attachment: The roof framing must meet or exceed the design pressure requirements of the IRC or IBC and must be installed as required for resistance to wind loads.

Design Wind Pressures: The design pressure load resistance must be as specified in Table 1 and Table 2. Design pressures are based on a minimum triple span with equal length spans and a maximum deflection of span/60.

Table 1

Attachment of Minimum 24-gauge Classic Roof/R-Panel Roofing Panels to Steel Purlins

Span (ft)	Design Pressure (psf)		Attachment of Panel to Steel Purlins
	Gr 50	Gr 80	
1	-225	-225	Fasteners at 12"-12"-12"
1.5	-150	-150	Fasteners at 12"-12"-12"
2	-113	-113	Fasteners at 12"-12"-12"
2.5	-90	-90	Fasteners at 12"-12"-12"
3	-75	-75	Fasteners at 12"-12"-12"
3.5	-64	-64	Fasteners at 12"-12"-12"
4	-56	-56	Fasteners at 12"-12"-12"
4.5	-50	-50	Fasteners at 12"-12"-12"
5	-45	-45	Fasteners at 12"-12"-12"
5.5	-41	-41	Fasteners at 12"-12"-12"

Table 2

Attachment of Minimum 26-gauge Classic Roof/R-Panel Roofing Panels to Steel Purlins

Span (ft)	Design Pressure (psf)		Attachment of Panel to Steel Purlins
	Gr 50	Gr 80	
1	-217	-217	Fasteners at 12"-12"-12"
1.5	-145	-145	Fasteners at 12"-12"-12"
2	-109	-109	Fasteners at 12"-12"-12"
2.5	-87	-87	Fasteners at 12"-12"-12"
3	-72	-72	Fasteners at 12"-12"-12"
3.5	-62	-62	Fasteners at 12"-12"-12"
4	-54	-54	Fasteners at 12"-12"-12"
4.5	-48	-48	Fasteners at 12"-12"-12"
5	-39	-43	Fasteners at 12"-12"-12"
5.5	-33	-40	Fasteners at 12"-12"-12"

Installation:

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

Steel Purlins: The steel purlins are minimum 16-gauge steel.

Attachment of Steel Panels to the Steel Purlins: The steel panels must be secured to the open steel purlins with minimum No. 12-14 x 1-1/4" long HWH self-driller screws with a sealing washer manufactured by Atlas. A line of fasteners must be located along each steel purlin. The spacing of the fasteners must be as specified in Table 1 and Table 2. The fasteners must be long enough to ensure a minimum penetration of 3 pitches of thread below the steel purlins.

Panel Side Laps: The panels are stitched together with minimum 1/4-14 x 7/8" Lap Tek screws with a sealing washer. The fasteners must be spaced a maximum of 20" on center along the length of the side lap.

Panel Ends and End Laps to the Steel Purlins: The steel panels must be secured to the open steel purlins with minimum No. 12-14 x 1-1/4" long HWH self-driller screws with a sealing washer manufactured by Atlas. A line of fasteners must be located along the steel purlin. The spacing of the fasteners must be as specified in Table 1 and Table 2. The fasteners must be long enough to ensure a minimum penetration of 3 pitches of thread below the steel purlins.

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Trims, Closures, and Accessories: Trim, closure, and accessory components 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.