

Product Evaluation

RC472 | 0123

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-472

Effective Date: January 1, 2023

Re-evaluation Date: January 2027

Product Name: Concealed Fastener Standing Seam Steel Roofing Panel Installed over Steel Purlins or Roof Joists

Manufacturer: Nucor Building Systems
600 Apache Trail
Terrell, TX 75160
(972) 524-5407

General Description:

The concealed fastener roof (CFR) panels are minimum 24-gauge Galvalume steel with optional paint finishes. The roofing panels have a minimum material grade of 50 ksi and can be installed on cold rolled steel purlins and standard roofjoists. Each panel is 24" wide with a 3" high seam and are connected to adjacent panels via a manual crimp and mechanical seam as required by design.

Limitations:

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

Design Wind Pressures: The design pressure negative wind load resistance must be as specified in the Assemblies listed in this evaluation report.

Installation over an Existing Roof Covering: Not permitted.

Assembly No. 1

Design Pressure:	92.75 psf (2'-0" on center purlin/joist spacing). 45.95 psf (5'-0" on center purlin/joist spacing).
Roof Framing:	Minimum 16-gauge steel purlins or joists.
Panel Clips:	MPS602. Clip base is 0.060" 50 ksi steel with G90 galvanized coating. Clip tab is 0.031" 50 ksi steel with G90 galvanized coating.
Roof Panels:	CFR standing seam roofing panels, 3" high seam, 24" wide trapezoidal profile, minimum 24 gauge produced from ASTM A792 SS Grade 50, Class 1 steel having a yield strength of 50 ksi.
Seam Attachment:	Adjacent panels are seamed together mechanically along the side laps with a Vise Lock 360 seam.
Installation:	Installed perpendicular to the steel supporting members. Secured to each supporting member with one (1) MPS602 panel clip and two (2) 1/4-14 x 1-1/4" SDS fasteners at each standing seam.
NOTE:	ENCON Project C1169-4

Assembly No. 2

Design Pressure:	72.8 psf (2'-0" on center purlin/joist spacing). 36.4 psf (5'-0" on center purlin/joist spacing).
Roof Framing:	Minimum 16-gauge steel purlins or joists.
Panel Clips:	MPS602. Clip base is 0.060" 50 ksi steel with G90 galvanized coating. Clip tab is 0.031" 50 ksi steel with G90 galvanized coating.
Roof Panels:	CFR standing seam roofing panels, 3" high seam, 24" wide trapezoidal profile, minimum 24 gauge produced from ASTM A792 SS Grade 50, Class 1 steel having a yield strength of 50 ksi.
Seam Attachment:	Adjacent panels are seamed together mechanically along the side laps with a Vise Lock Plus seam.
Installation:	Installed perpendicular to the steel supporting members. Secured to each supporting member with one (1) MPS602 panel clip and two (2) 1/4-14 x 1-1/4" SDS fasteners at each standing seam.
NOTE:	ENCON Project C1169-3

Assembly No. 3

Design Pressure:	52.0 psf (2'-0" on center purlin/joist spacing). 24.3 psf (5'-0" on center purlin/joist spacing).
Roof Framing:	Minimum 16-gauge steel purlins or joists.
Panel Clips:	MPS602. Clip base is 0.060" 50 ksi steel with G90 galvanized coating. Clip tab is 0.031" 50 ksi steel with G90 galvanized coating.
Roof Panels:	CFR standing seam roofing panels, 3" high seam, 24" wide trapezoidal profile, minimum 24 gauge produced from ASTM A792 SS Grade 50, Class 1 steel having a yield strength of 50 ksi.
Seam Attachment:	Adjacent panels are seamed together mechanically along the side laps with a Roll Lock seam.

Installation: Installed perpendicular to the steel supporting members. Secured to each supporting member with one (1) MPS602 panel clip and two (2) 1/4-14 x 1/4" SDS fasteners at each standing seam.

NOTE: ENCON Project C1169-2

Assembly No. 4

Design Pressure: 156.0 psf (2'-0" on center purlin/joist spacing).

71.9 psf (5'-0" on center purlin/joist spacing).

Roof Framing: Minimum 14-gauge steel purlins or joists.

Panel Clips: BL-12. Clip base is 0.060" 50 ksi steel with G90 galvanized coating. Clip tab is 0.036" 50 ksi steel with G90 galvanized coating.

Roof Panels: CFR standing seam roofing panels, 3" high seam, 24" wide trapezoidal profile, minimum 24 gauge produced from ASTM A792 SS Grade 50, Class 1 steel having a yield strength of 50 ksi.

Seam Attachment: Adjacent panels are seamed together mechanically along the side laps with a Vise Lock 360 seam.

Installation: Installed perpendicular to the steel supporting members. Secured to each supporting member with one (1) BL-12 clip and three (3) 1/4-14 x 1-1/2" SDS fasteners at each standing seam.

NOTE: ENCON Project C1417-2

Assembly No. 5

Design Pressure: 127.4 psf (2'-0" on center purlin/joist spacing).

60.85 psf (5'-0" on center purlin/joist spacing).

Roof Framing: Minimum 14-gauge steel purlins or joists.

Panel Clips: BL-16. Clip base is 0.060" 50 ksi steel with G90 galvanized coating. Clip tab is 0.036" 50 ksi steel with G90 galvanized coating.

Roof Panels: CFR standing seam roofing panels, 3" high seam, 24" wide trapezoidal profile, minimum 24 gauge produced from ASTM A792 SS Grade 50, Class 1 steel having a yield strength of 50 ksi.

Seam Attachment: Adjacent panels are seamed together mechanically along the side laps with a Vise Lock seam.

Installation: Installed perpendicular to the steel supporting members. Secured to each supporting member with one (1) BL-16 clip and two (2) 1/4-14 x 1-1/2" SDS fasteners at each standing seam.

NOTE: ENCON Project C1417-1

Assembly No. 6

Design Pressure: 117.0 psf (2'-0" on center purlin/joist spacing).

Roof Framing: Minimum 14-gauge steel purlins or joists.

Panel Clips: BL-12. Clip base is 0.060" 50 ksi steel with G90 galvanized coating. Clip tab is 0.036" 50 ksi steel with G90 galvanized coating.

Roof Panels:	CFR standing seam roofing panels, 3" high seam, 24" wide trapezoidal profile, minimum 24 gauge produced from ASTM A792 SS Grade 50, Class 1 steel having a yield strength of 50 ksi.
Seam Attachment:	Adjacent panels are seamed together mechanically along the side laps with a Vise Lock seam.
Installation:	Installed perpendicular to the steel supporting members. Secured to each supporting member with one (1) BL-12 clip and two (2) 1/4-14 x 1-1/2" SDS fasteners at each standing seam.
NOTE:	ENCON Project C1417-4

Assembly No. 7

Design Pressure:	124.8 psf (2'-0" on center purlin/joist spacing).
Roof Framing:	Minimum 14-gauge steel purlins or joists.
Panel Clips:	BL-8. Clip base is 0.060" 50 ksi steel with G90 galvanized coating. Clip tab is 0.036" 50 ksi steel with G90 galvanized coating.
Roof Panels:	CFR standing seam roof panels, 3" high seam, 24" wide trapezoidal profile, minimum 24 gauge produced from ASTM A792 SS Grade 50, Class 1 steel having a yield strength of 50 ksi.
Seam Attachment:	Adjacent panels are seamed together mechanically along the side laps with a Vise Lock 360 seam.
Installation:	Installed perpendicular to the steel supporting members. Secured to each supporting member with one (1) BL-8 clip and three (3) 1/4-14 x 1-1/2" SDS fasteners at each standing seam.
NOTE:	ENCON Project C1417-4

Assembly No. 8

Design Pressure:	43.7 psf (5'-0" on center purlin/joist spacing).
Roof Framing:	Minimum 14-gauge steel purlins or joists.
Panel Clips:	BL-8. Clip base is 0.060" 50 ksi steel with G90 galvanized coating. Clip tab is 0.036" 50 ksi steel with G90 galvanized coating.
Roof Panels:	CFR standing seam roofing panels, 3" high seam, 24" wide trapezoidal profile, minimum 24 gauge produced from ASTM A792 SS Grade 50, Class 1 steel having a yield strength of 50 ksi.
Seam Attachment:	Adjacent panels are seamed together mechanically along the side laps with a Vise Lock seam.
Installation:	Installed perpendicular to the steel supporting members. Secured to each supporting member with one (1) BL-8 clip and two (2) 1/4-14 x 1-1/2" SDS fasteners at each standing seam.
Note:	ENCON Project C1417-4

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.