

Product Evaluation

RC485 | 0720

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-485

Effective Date: July 1, 2020

Re-evaluation Date: July 2024

Product Name: Super Seam-Plus Standing Seam Steel Roof Panels (24-Gauge) Installed over Steel Purlins

Manufacturer: Whirlwind Building Components
8234 Hansen Road
Houston, Texas 77075
(713) 946-7140

General Description:

The Super Seam-Plus Standing Seam metal roof panels have 24" of coverage. The metal roof panels have a 3" rib height and a mechanically seamed side lap. The metal roof panels are manufactured from 24-gauge Galvalume coated steel that conforms to ASTM A792, Grade 50, with a minimum yield strength of 50,000 psi. The metal roofing panels can be painted with Kynar 500 Fluoropolymer finish coating.

Limitations:

Roof Framing: The metal roofing panels must be installed over a minimum 16-gauge (0.056") steel purlins.

New Roof Framing Attachment: The roof framing must meet or exceed the uplift requirements of the IRC or IBC and must be installed in a manner to resist wind loads as required.

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

Roof Slope: The metal roof panels may be installed on roofs with a roof slope as low as 1/2:12 if sealant is used on the panel side laps. If sealant is not used on the panel side laps, then the minimum roof slope is 3:12.

Installation Over an Existing Roof Covering: Not Permitted.

Table 1 Attachment of Minimum 24-gauge Super Seam-Plus Steel Roofing Panels (with a 180-Degree Double-Lock Seam) to 16-gauge Steel Purlins

Design Wind Pressure (psf)	Maximum Allowable Purlin and Clip Spacing	Number and Type of Screws per Clip
-30.0	60" on center	Two (2) 1/4-14 x 1" HWH
-36.9	54" on center	Two (2) 1/4-14 x 1" HWH
-43.8	48" on center	Two (2) 1/4-14 x 1" HWH
-50.6	42" on center	Two (2) 1/4-14 x 1" HWH
-57.5	36" on center	Two (2) 1/4-14 x 1" HWH
-64.4	30" on center	Two (2) 1/4-14 x 1" HWH
-71.3	24" on center	Two (2) 1/4-14 x 1" HWH
-78.1	18" on center	Two (2) 1/4-14 x 1" HWH
-85.0	12" on center	Two (2) 1/4-14 x 1" HWH

Table 2 Attachment of Minimum 24-gauge Super Seam-Plus Steel Roofing Panels (with a 180-Degree Double-Lock Seam and S5 Wind Clamps Fastened to the Panel Seam over each Clip) to 16-gauge Steel Purlins

Design Wind Pressure (psf)	Maximum Allowable Purlin and Clip Spacing	Number and Type of Screws per Clip
-48.3	60" on center	Two (2) 1/4-14 x 1" HWH
-62.3	54" on center	Two (2) 1/4-14 x 1" HWH
-76.2	48" on center	Two (2) 1/4-14 x 1" HWH
-90.2	42" on center	Two (2) 1/4-14 x 1" HWH
-104.2	36" on center	Two (2) 1/4-14 x 1" HWH
-118.1	30" on center	Two (2) 1/4-14 x 1" HWH
-132.1	24" on center	Two (2) 1/4-14 x 1" HWH
-146.0	18" on center	Two (2) 1/4-14 x 1" HWH
-160.0	12" on center	Two (2) 1/4-14 x 1" HWH

Installation:

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

Steel Purlins: The steel purlin roof framing must meet or exceed the uplift requirements of the IRC or IBC and must be installed in a manner to resist wind loads as required.

Panels: The metal roof panels must be secured to the roof framing as specified in Tables 1 and 2 and in accordance with this section.

Clips: The panels must be secured to the roof framing with Whirlwind Standard, Low-Floating Clips (HW-3140), 5" L x 3-3/8" H x 1-3/8" W, galvanized steel, as specified in Tables 1 and 2 and double-locked in accordance with the manufacturer's installation instructions.

Additional Wind Clamps: Attach S5 DL Wind Clamps (HW-569) over each HW-3140 clip to acquire the additional uplift pressure capacities listed in Table 2.

Attachment of Metal Roof Panels to the Roof Deck: The metal roof panels must be secured to the roof framing as follows:

Roof Panels to the Steel Purlins: Fasten each clip to the purlins using minimum 1/4-14 x 1-1/4" Hex Washer Head (HWH) SD #3 self-drilling screws manufactured by Buildex (or approved equal). Figures 1 and 2 illustrate the panel secured to the 16-gauge steel purlins. The fasteners must be long enough to ensure a minimum penetration of 3 pitches of thread below the steel hat purlins. The required size and quantity of fasteners as well as the maximum allowable spacing of the clips (purlin spacing) is specified in Tables 1 and 2.

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.

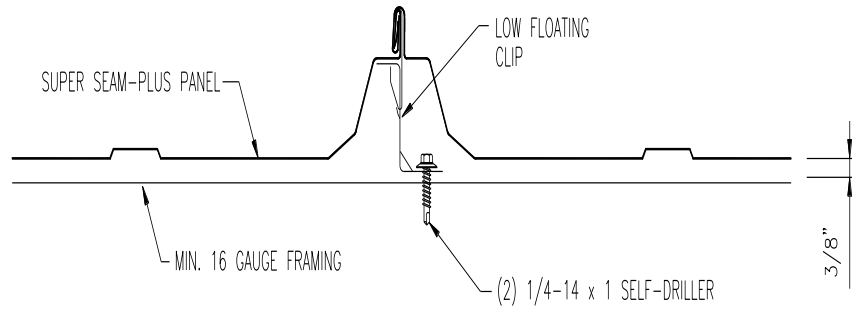


Figure 1. Super Seam Plus Metal Roof Panel Secured to 16-gauge steel purlins (Table 1)

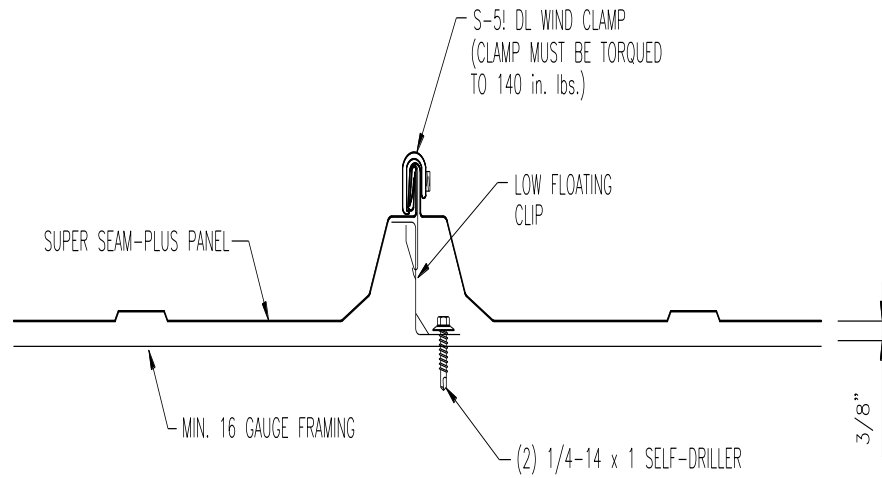


Figure 2. Super Seam Plus Metal Roof Panel with S5 DL Wind Clamps Secured to 16-gauge steel purlins (Table 2)