

## Product Evaluation

RC675 | 0921

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-675

**Effective Date:** September 1, 2021

**Re-evaluation Date:** September 2025

**Product Name:** Steel PBR Panel Roofing Panels Installed on Steel Purlins or Steel Girts

**Manufacturer:** Steel Tech Building Systems  
511 South Kyler St.  
Monett, MO 65708  
(417) 476-2600

### General Description:

This evaluation report is for PBR steel roofing panels installed over steel purlins or steel girts. The steel panels are minimum 26-gauge Galvalume coated steel. The steel panels have 36" of coverage. The steel panels have a 1-1/4" rib height. The steel panels conform to ASTM A792, SS Grade 80 for 26-gauge and ASTM SS Grade 50 for 24-gauge with an AZ 50 or AZ55 aluminum zinc alloy coating. The steel panels conform to ASTM A653, SS Grade 80 for 26-gauge and ASTM SS Grade 50 for 24-gauge with G90 coating. The steel panels can be supplied painted with silicone polyester products or with Fluropon paint systems.

### Limitations:

**Roof Framing:** The steel roofing panels must be installed over open minimum 16-gauge steel purlin or girts.

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

**Design Pressure:** The design pressure must be as specified in Table 1.

**Roof Slope:** The steel roofing 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 Existing Roof Coverings:** Not Permitted.

**Table 1.** Steel PBR Roofing Panels Installed on Steel Purlins or Steel Girts

Design Wind Pressure (psf)	Purlins or Girts	Attachment of Panels to Steel Purlins or Girts
-133.7	Minimum 16-gauge 2'-0" on center	Fasteners @ 12"-12"-12" 2'-0" on center
-119.1	Minimum 16-gauge 2'-6" on center	Fasteners @ 12"-12"-12" 2'-6" on center
-104.5	Minimum 16-gauge 3'-0" on center	Fasteners @ 12"-12"-12" 3'-0" on center
-89.9	Minimum 16-gauge 3'-6" on center	Fasteners @ 12"-12"-12" 3'-6" on center
-75.3	Minimum 16-gauge 4'-0" on center	Fasteners @ 12"-12"-12" 4'-0" on center
-60.7	Minimum 16-gauge 4'-6" on center	Fasteners @ 12"-12"-12" 4'-6" on center
-46.1	Minimum 16-gauge 5'-0" on center	Fasteners @ 12"-12"-12" 5'-0" on center
-42.0	Minimum 16-gauge 5'-6" on center	Fasteners @ 12"-12"-12" 5'-6" on center
-37.9	Minimum 16-gauge 6'-0" on center	Fasteners @ 12"-12"-12" 6'-0" on center
-33.9	Minimum 16-gauge 6'-6" on center	Fasteners @ 12"-12"-12" 6'-6" on center
-29.8	Minimum 16-gauge 7'-0" on center	Fasteners @ 12"-12"-12" 7'-0" on center
-25.7	Minimum 16-gauge 7'-6" on center	Fasteners @ 12"-12"-12" 7'-6" on center
-21.6	Minimum 16-gauge 8'-0" on center	Fasteners @ 12"-12"-12" 8'-0" on center

**Installation:**

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

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

**Underlayment:** N/A

**Attachment of Steel Roof Panels to Steel Purlins or Steel Girts:** The steel roofing panels must be secured to the steel purlins with No. 12-14 x 1-1/4" long hex head self-drilling screws with a sealing washer. A line of fasteners must be located along each steel purlin or steel girt. The fastener pattern must be as specified in Table 1. The fasteners must be long enough to ensure a minimum penetration of three pitches of thread below the steel purlin or steel girt.

**Panel Side Laps:** The panel side laps are stitched together with minimum 1/4-14 x 7/8" hex head lap screws with a sealing washer. The fasteners must be spaced a maximum of 24" on center along the length of the side lap.

**Panel Ends and End Laps to the Steel Purlins or Steel Girts:** Minimum No. 12-14 x 1-1/4" long hex head self-drilling with a sealing washer. A line of fasteners in a 7"-5"-7" pattern must be located along the steel purlins or steel girts. The fasteners must be long enough to ensure a minimum penetration of three pitches of thread below the steel purlin or steel girt.

**Panel Edges to Steel Purlins or Steel Girts:** Minimum No. 12-14 x 1-1/4" long hex head self-drilling screws with a sealing washer. The fastener pattern must be as specified in Table 1. The fasteners must be long enough to ensure a minimum penetration of three pitches of thread below the steel purlins or steel girts.

**Trims, Closures and Accessories:** Components such as eave, rake rim, rake trim, hip trim, and valley trim must be 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.