

# TEXAS DEPARTMENT OF INSURANCE

Engineering Services Program / MC 103-3A 333 Guadalupe Street P.O. Box 149104 Austin, Texas 78714-9104  
Phone No. (512) 322-2212 Fax No. (512) 463-6693

---

## PRODUCT EVALUATION RC-347

Effective Date: September 1, 2012

*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 shall be subject to reevaluation in **May 2016**.*

*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.*

### **Tite-Loc Plus, 18" Wide, 24 gauge Steel Standing Seam Metal Roof Panel Installed Over Steel Deck**, manufactured by

**Petersen Aluminum Corporation**  
**1005 Tonne Road**  
**Elk Grove Village, IL 60007**  
**(800) 441-8661**

will be accepted for use in areas along the Texas Gulf Coast when installed in accordance with the manufacturer's installation instructions and this product evaluation.

## PRODUCT DESCRIPTION

The Tite-Loc Plus roof panel is a 24 gauge steel panel that has a mechanically-seamed double-lock sidejoint. The panel has an effective width of 18". The panel material has a yield strength,  $F_y = 50$  ksi.

## LIMITATIONS

**Roof Decking:** The metal roof panels shall be installed over a minimum 22 gauge metal B-deck attached to structural steel supports spaced a maximum of 5'-0" o.c.

**New Roof Deck Attachment:** The roof decking shall meet or exceed the uplift requirements of the International Residential Code and International Building Code, and the decking shall be installed in a manner to resist lateral loads.

**Design Wind Pressures:** For installations to minimum 22 gauge metal B-deck roof decks, design wind pressure limitations are specified in Table 1.

**Installation Over an Existing Roof Covering:** Installation over an existing roof covering is not permitted.

**Roof Slope:** The panels shall not be installed on roofs with a roof slope less than 2:12 or on roof slopes greater than 8:12.

**Table 1  
Attachment of 18" wide Steel Roof Panels  
to minimum 22 gauge Steel B Deck**

System	Design Pressure (psf)	Panel Seam	Panel Clip	Clip Spacing	Clip Fastener
1	-78.8	Tite-Loc Plus	18 gauge, 4.3" wide SFS Intec 2-piece Steel Clip	6"	Two (2) Dekfast #14-10 x 5" SFS Intec self drilling fasteners with #3 drive slot or Two (2) 14-13 x 4 1/2" Triangle Fastener Corporation DP1 Concealor pancake head with #3 square drive. The clips use a 5" x 6" x 24 gauge metal bearing plate.
2	-36.4	Tite-Loc Plus	18 gauge, 4.3" wide SFS Intec 2-piece Steel Clip	4'-0"	Two (2) Dekfast #14-10 x 5" SFS Intec self drilling fasteners with #3 drive slot or Two (2) 14-13 x 4 1/2" Triangle Fastener Corporation DP1 Concealor pancake head with #3 square drive. The clips use a 5" x 6" x 24 gauge metal bearing plate.

**INSTALLATION INSTRUCTIONS**

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

**Deck:** The roof deck shall be minimum 22 gauge metal B-deck.

**Insulation:** 2" rigid insulation, AC II roof insulation by Atlas Roof Corporation, over the steel deck. The insulation is attached to the steel deck with Dekfast #14 x 4 1/2" long insulation deck fasteners and Dekfast steel stress insulation plates. The insulation plates shall measure a minimum of 2 7/8" across the plate and can be hexagonal, square or circular. The insulation shall be secured to the roof deck with a minimum of five (5) fasteners per 4 x 4 ft board or ten (10) fasteners per 4 x 8 ft board. The fasteners shall have a minimum thread penetration of 5 threads through the bottom of the deck. Refer to Figure 1 for insulation fastening patterns.

**Underlayment:** A minimum of one layer of 40 mil W.R. Grace Ice and Water Shield self-adhered underlayment or other equivalent self adhering underlayment complying with ASTM D 1970 applied continuously over the 2" ISO rigid insulation board without interruptions.

**Anchorage to Roof Decking:** The metal roof panels shall be fastened in accordance with Table 1. The metal roofing panels shall be secured to the roof deck with an 18 gauge, two piece hook-style, steel clip manufactured by SFS Intec, measuring 4.3" wide x 2.155" high . The clips are located at panel ends and are spaced either 6 inches on center or 5'-0" on center in accordance with Table 1. The clips are secured with two (2) Dekfast #14-10 x 5" SFS Intec self drilling fasteners with #3 drive slot or two (2) 14-13 x 4 1/2" Triangle Fastener Corporation DP1 Concealor pancake head with #3 square drive. The clips use a 5" x 6" x 24 gauge metal bearing plate. The screws must penetrate the sheathing a minimum of 3/8". The female rib of the panel is engaged over the male rib and field-seamed.

**Trims, Closures, and Accessories:** Components, such as the eave trim, rake trim, ridge trim, hip trim, and valley trim shall be installed as required by the manufacturer.

**Panel Ends and End Laps:** As required by the manufacturer.

**Panel Edges:** As required by the manufacturer.

**Note:** The manufacturer's installation instructions shall be available on the job site during the installation. All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC), the International Building Code (IBC), and the Texas Revisions.

Figure 1 – Insulation Fastening Patterns

