

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-188

Effective September 1, 2013

*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 **September 2017**.*

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.

Grandrib 3 and Alu-Tuff II Metal Roofing Panels manufactured by

Fabral, Inc.
A Euromax Company
P.O. Box 4608
Lancaster, Pennsylvania 17604-4608
Telephone: (717) 397-2741

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 Grandrib 3 and the Alu-Tuff II metal roofing panels are a minimum 29 gauge galvalume steel with an optional paint finish. The 29 gauge metal roofing panels are 0.0134 inches thick. The metal roofing panels are 37 $\frac{3}{4}$ inches in width with an actual coverage of 36 inches. Each metal roofing panel has five major ribs, two at each edge, and three spaced 9 inches on center across the panel. The ribs are $\frac{3}{4}$ inches deep. Refer to Figure 1 for an illustration of the Grandrib 3 metal roofing panel and to Figure 2 for an illustration of the Alu-Tuff II metal roofing panel. The metal roofing panels conform to ASTM A792, with an 80,000 psi yield point. The metal roofing panels have an AZ 55 hot-dip aluminum zinc alloy coating. The metal roofing panels are available in lengths up to 40 feet.

LIMITATIONS

Roof Decking: The Grandrib 3 and the Alu-Tuff II metal roof panels shall be installed over minimum nominal $\frac{5}{8}$ " plywood decking. All plywood butt joints are to be sealed with caulk or with one-part urethane sealant.

New Roof Deck Attachment: The roof decking shall meet or exceed the uplift requirements of the International Residential Code and shall be installed as required for resistance to lateral wind loads.

Design Wind Pressures: The design pressure uplift load resistance shall be as specified in Table 1.

Table 1

Attachment of minimum 29 gauge Grandrib 3 or Alu-Tuff II metal roofing panels to minimum $\frac{5}{8}$ " plywood roof decks

Design Wind Pressure	Fastener Pattern	Fastener Spacing
-52.5 psf	9"-9"-9"-9"	24 inches on center

Installation Over an Existing Roof Covering: Installation over an existing roof covering is limited to a maximum of one existing layer of composition shingles, wood shingles or shakes, built-up roofing, or roll roofing applied over an existing, solid roof deck of nominal $\frac{5}{8}$ inch plywood (minimum). Note: Inspection of the existing roof deck must be made prior to the installation of the roof panels. The condition of the existing roof deck must be acceptable to receive the roof panels before the roof panel installation proceeds.

Roof Slope: The metal roof panels shall not be installed on roofs with a roof slope less than 3:12.

INSTALLATION INSTRUCTIONS

General: The Grandrib 3 and the Alu-Tuff II metal roofing panels shall be installed in accordance with the manufacturer's recommended installation instructions and this evaluation report.

Panels: The Grandrib 3 and the Alu-Tuff II metal roofing panels shall be secured to the roof deck as specified in Table 1 and in accordance with this section. Refer to Figure 3 for an illustration of the required fastener pattern.

Underlayment: A minimum of one layer of No. 30 (Type II) asphalt felt shall be used. The underlayment used shall comply with one or more of the following: ASTM D 226, ASTM D 4869, or ASTM D 1970. The felt shall be installed with 6-inch side laps and 3-inch end laps. The underlayment shall be applied with corrosion-resistant fasteners in accordance with the manufacturer's installation instructions. Fasteners shall be applied along the overlaps not farther apart the 36 inches on center.

Attachment of Metal Roofing Panels to Roof Deck: The Grandrib 3 and the Alu-Tuff II metal roofing panels shall be secured to the roof deck as follows:

Roofing Panels: Minimum $\frac{1}{4}$ "-14 x $1\frac{1}{2}$ " long, Type A Woodgrip screws with a sealing washer or minimum No. 14-10 x $1\frac{1}{2}$ " long Type A Woodgrip screws with a sealing washer. The fasteners shall be long enough to ensure a minimum penetration of $\frac{1}{4}$ " below the roof deck. (Note: If the metal roofing panels are installed over an existing roof covering, then the fastener length shall be increased so that the fasteners are long enough to ensure a minimum penetration of $\frac{1}{4}$ " below the existing plywood roof decking.) A line of fasteners are to be installed beginning $1\frac{3}{4}$ inches from the center line on one side of each major rib in a 9"-9"-9"-9" pattern as specified in Table 1. The spacing of the line of fasteners along the length of the panel shall be 24 inches on center as specified in Table 1. Refer to Figure 3 of this evaluation report.

Panel Side Laps: Minimum $\frac{1}{4}$ "-14 x $\frac{7}{8}$ " long, hex head screws with a sealing washer. The fasteners shall be spaced 20 inches on center along the length of the side lap.

Panel Ends and End Laps: Minimum $\frac{1}{4}$ "-14 x $1\frac{1}{2}$ " long, Type A Woodgrip screws with a sealing washer or minimum No. 14-10 x $1\frac{1}{2}$ " long Type A Woodgrip screws with a sealing washer. The

fasteners shall be long enough to ensure a minimum penetration of $\frac{1}{4}$ " below the roof deck. (Note: If the metal roofing panels are installed over an existing roof covering, then the fastener length shall be increased so that the fasteners are long enough to ensure a minimum penetration of $\frac{1}{4}$ " below the existing plywood roof decking.) The fasteners are to be located $1\frac{3}{4}$ inches from the center line on each side of each major rib.

Trims, Closures, and Accessories: Components, such as the eave trim, rake trim, rake tie-in, ridge flashing, high-side trim, high-side tie-in, hip flashing, and valley flashing shall be installed as required by the manufacturer.

Note: The manufacturer's installation instructions shall be 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.

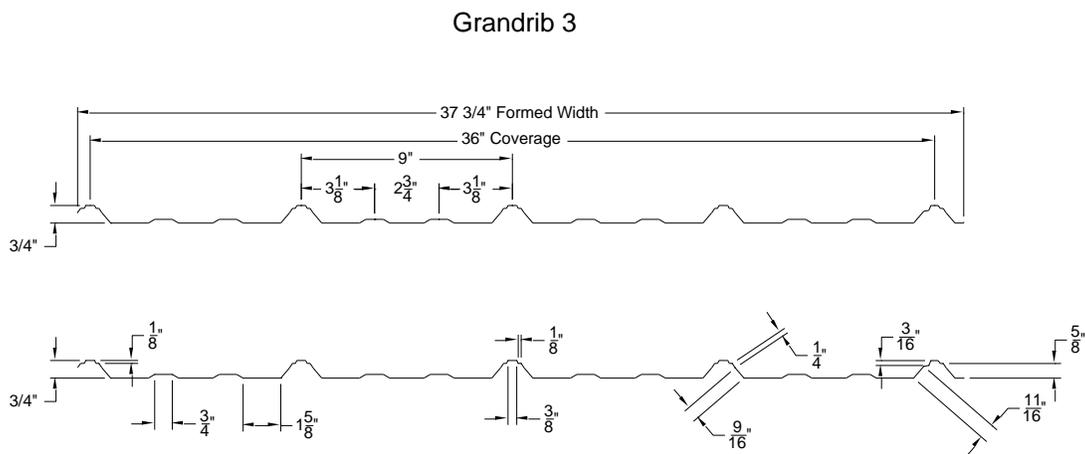


Figure 1. Grandrib 3 Metal Panel

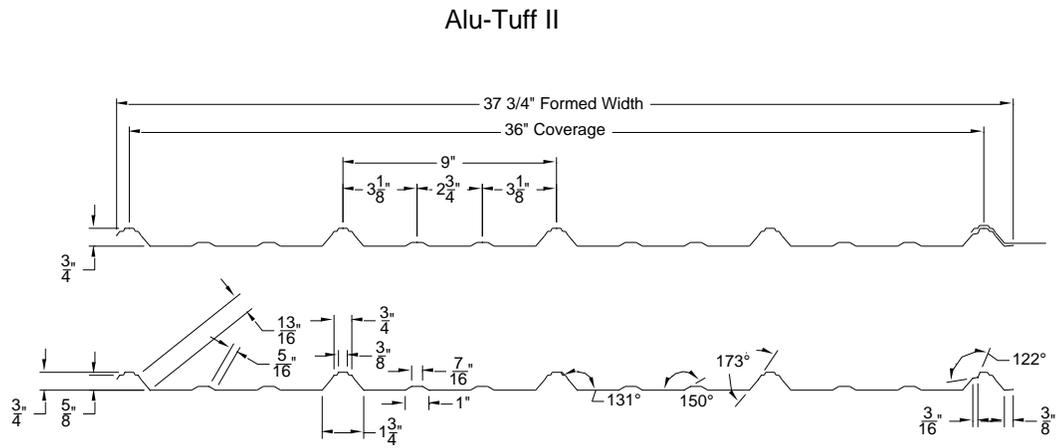


Figure 2. Alu-Tuff II Metal Panel

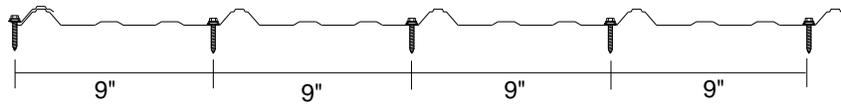


Figure 3. Fastener Locations, Grandrib 3 and Alu-Tuff II Metal Panels