

TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION RC-260

Effective September 1, 2010

*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 **August 2014**.*

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.

UC-4 Standing Seam Metal Roofing Panels Installed Over Wood Deck, manufactured by

Firestone Building Products, LLC
250 West 96th Street
Indianapolis, Indiana 46260
Telephone: (800) 428-4442

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

This evaluation report is for the UC-4 standing seam metal roofing panels installed over a plywood deck. The standing seam metal roof panels in the evaluation report are either 26 gauge steel, 0.032" aluminum, or 16 oz copper. The UC-4 metal roof panels have a maximum width of 9 $\frac{3}{4}$ inches for the 26 gauge steel standing seam panels and the 0.032" aluminum standing seam panels and a maximum width of 14 inches for the 16 oz copper standing seam panels. The metal roof panels have a 1 $\frac{1}{2}$ " tall standing seam rib with an integral snap lock and have a nailing fin on the male leg with pre-punched slots. The 26 gauge steel material is ASTM A 792 AZ-50 hot dipped Galvalume or ASTM A 653 G-90 galvanized steel with an optional Kynar 500/Hylar 5000 painted finish. The aluminum is ASTM B 209 minimum 0.032" thick. The copper is 16 oz/ft.

LIMITATIONS

Roof Framing: The steel and aluminum standing seam metal roofing panels shall be installed over minimum $\frac{19}{32}$ " thick APA rated plywood and the copper standing seam metal roof panels shall be installed over minimum $\frac{23}{32}$ " thick APA rated plywood.

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

Design Wind Pressures: The design pressures shall be as specified in Table 1.

Roof Slope: The metal roofing panels may be installed on roofs with a roof slope as low as 3:12.

Table 1

Design Pressure	Panel Gauge	Panel Width	Substrate	Panel Fastener	Fastener Spacing
-52.5	0.032" Aluminum	9 ³ / ₄	¹⁹ / ₃₂ " plywood	Two (2) No. 10	12"
-52.5	26 Gauge Steel	9 ³ / ₄	¹⁹ / ₃₂ " plywood	Two (2) No. 10	12"
-52.5	16 oz Copper	14	²³ / ₃₂ " plywood	One (1) No. 10 with ⁹ / ₁₆ " OD washer	9"

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 minimum ¹⁹/₃₂" plywood (for steel and aluminum roof panel installations) and ²³/₃₂" plywood (for copper roof panel installations). 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 metal roofing panels before the metal roofing panel installation proceeds. NOTE: Underlayment is not required to be installed.

INSTALLATION INSTRUCTIONS

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

Roof Framing Members: The roof framing members shall be spaced a maximum of 24" on center.

Wood Deck: Minimum ¹⁹/₃₂" thick APA rated plywood (for steel and aluminum roof panels) and minimum ²³/₃₂" thick APA rated plywood (for copper roof panels). The butt and side joints on the ²³/₃₂" thick APA rated plywood shall be sealed with a one part urethane caulk sealant.

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 underlayment 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 than 36 inches on center. **NOTE:** One the ²³/₃₂" thick APA rated plywood, a self adhering polymer modified bitumen sheet complying with ASTM D 1970 may be used (in such cases, the butt and side joints do not need to be sealed with the urethane caulk sealant).

Attachment of Metal Roof Panels to the Wood Deck: The panels are secured to the wood deck with fasteners through the pre-punched slots in the nailing fin of the standing seam panel. The panels are secured to the plywood deck with No. 10-12 x 1" long Pancake Type A screws (Stainless steel screws are required for the aluminum and copper panels). The quantity and spacing of the fasteners shall be as specified in Table 1. The fasteners shall be long enough to ensure a minimum penetration of 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 ¹/₄" below the existing plywood roof decking).

Panel Ends and End Laps: The panel ends and endlaps shall be secured to the wood deck as required by the manufacturer.

Panel Edges: The panel edges shall be secured to the wood deck as required by the manufacturer.

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.

Alternative Fasteners: Substitution of equivalent fasteners shall meet the following requirements:

No. 10-12 x 1" Pancake, Type A

- Ultimate withdrawal (pullout) \geq 300 lbs. in minimum $\frac{15}{32}$ " plywood.
- Ultimate withdrawal (pullout) \geq 617 lbs. in minimum $\frac{3}{4}$ " plywood.

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.