TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION Effective June 1, 2009
RC- 201

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 2013.

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.

R Panel manufactured by

Building Components Inc.
11919 North Garden
Houston, Texas 77071
Telephone: (713) 995-9224

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 R panel is minimum 26 gauge galvalume steel with an optional paint finish. The 26 gauge metal roofing panels have an actual coverage of 36". Each metal roof panel has ribs that are 1 ¼" deep. The metal roof panels are manufactured from minimum 29 gauge Galvalume steel that conform to ASTM A792, Grade 80, with a minimum yield strength of 80,000 psi.

LIMITATIONS

Roof Framing: The metal roofing panels shall be installed over one of the following types of roof framing:

- Minimum 15/32" plywood roof deck,
- Minimum 1x4 No. 2 Southern Yellow Pine wood purlins, or
- Minimum 2x4 No. 2 Southern Yellow Pine wood purlins.

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 pressure uplift load resistance shall be as specified in Tables 1-3.

Roof Slope: The metal roofing panels may be installed on roofs with a roof slope as low as ½:12 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.

Table 1

Attachment of minimum 26 gauge R Panel metal roofing panels to
minimum $^{15}/_{32}$" plywood roof deck

Design Wind Pressure	Panel Fastener Pattern	Panel Fastener Spacing
-63.5 psf	12"-12"-12"	24" o.c.
-172.75 psf	7"-5"-7"-5"-7"	12" o.c.

Table 2

Attachment of minimum 26 gauge R Panel metal roofing panels to
Minimum 1x4 No. 2 Southern Yellow Pine wood purlin

Design Wind Pressure	Panel Fastener Pattern	Panel Fastener Spacing	Number of Screws Per Purlin to Truss/Rafter
-55.0 psf	12"-12"-12"	24" o.c.	Two (2) No. 8 x 2 $^1/_2$"
-110.0 psf	7"-5"-7"-5"-7"	12" o.c.	Two (2) No. 8 x 2 $^1/_2$"

Table 3

Attachment of minimum minimum 26 gauge R Panel metal roofing panels to
Minimum 2x4 No. 2 Southern Yellow Pine wood purlin

Design Wind Pressure	Panel Fastener Pattern	Panel Fastener Spacing	Number of Screws Per Purlin to Truss/Rafter
-63.5 psf	12"-12"-12"	24" o.c.	Two (2) No. 8 x 3"
-172.75 psf	7"-5"-7"-5"-7"	12" o.c.	Three (3) No. 8 x 3"

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 $^{15}/_{32}$" plywood. 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 metal roofing panels shall be installed in accordance with the manufacturer's recommended installation instructions and this evaluation report.

Panels: The metal roofing panels shall be secured to the roof framing as specified in Tables 1-4 and in accordance with this section.

Wood Purlins: The wood purlins shall be secured to minimum Southern Yellow Pine rafters or trusses roof framing using minimum No. 8 x 2 $^1/_2$" long wood screws as specified in Table 2 for 1x4 purlins and minimum No. 8 x 3" long wood screws as specified in Table 3 for 2x4 purlins.

Underlayment: For installations over a solid deck, 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 roofing nails and tin caps spaced 12 inches on center in the field and 6 inches on center at the side lap.

Attachment of Metal Roof Panels to the Roof Deck: The metal roofing panels shall be secured to the roof framing in one of the following ways:

Roofing Panels to Plywood Deck: Minimum No. 10-16" x 1 ½" long, Kwikseal Woodbinder screws, manufactured by Sealtite. The fasteners shall be long enough to ensure a minimum penetration of ¼" 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 ¼" below the existing plywood roof decking.) The required quantity of fasteners as well as the maximum allowable spacing is specified in Table 1.

Roofing Panels to the 1x4 Wood Purlins: Minimum No. 10-16" x 1 ½" long, Kwikseal Woodbinder screws, manufactured by Sealtite. The required quantity of fasteners as well as the maximum allowable spacing is specified in Table 2.

Roofing Panels to the 2x4 Wood Purlins: Minimum No. 10-16" x 1 ½" long, Kwikseal Woodbinder screws, manufactured by Sealtite. The required quantity of fasteners as well as the maximum allowable spacing is specified in Table 3.

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. 10-16 Kwikseal Woodbinder screws, manufactured by Sealtite

- Ultimate withdrawal (pullout) $\geq$ 400 lbs. in minimum $^{15}/_{32}$" plywood roof deck

No. 8 x 2 ½" Dec-King screws, manufactured by Buildex

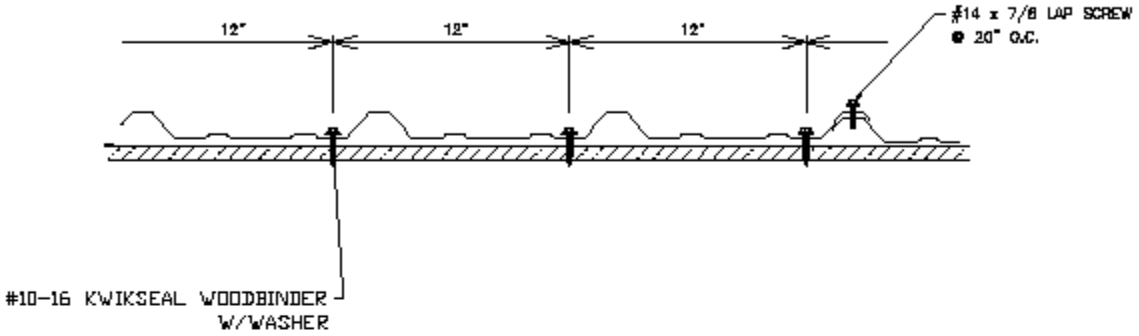
- Ultimate withdrawal (pullout) $\geq$ 630 lbs. in Southern Yellow Pine (minimum 1 ¼" embedment)

No. 8 x 3" Dec-King screws, manufactured by Buildex

- Ultimate withdrawal (pullout) $\geq$ 645 lbs. in Southern Yellow Pine (minimum 1 ¼" embedment)

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.

12"–12"–12" FASTENER PATTERN



7"–5"–7"–5"–7" FASTENER PATTERN