

TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION RC-160

Effective August 1, 2014

*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 **August 2018**.*

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.

5V-Crimp Metal Roof Panel manufactured by

Metal Sales Manufacturing Corporation
3838 North General Bruce Drive
Temple, Texas 76501-6505
(254) 791-6650

is acceptable in designated catastrophe zones along the Texas Gulf Coast when installed in accordance with the distributor's installation instructions and this product evaluation.

PRODUCT DESCRIPTION

5V-Crimp roof panels are minimum 26 gauge (0.019" thick) aluminum-zinc alloy-coated steel with a Galvalume or painted finish. The nominal panel width is 2'-0" and covers 24". Ribs are $\frac{1}{2}$ " high and are spaced approximately 12" on center.

LIMITATIONS

Design Wind Pressures: For installation to minimum nominal $\frac{7}{16}$ " OSB roof decks, design wind pressure limitations are specified in Table 1. For installation to minimum nominal $1\frac{5}{32}$ " plywood roof decks, design wind pressure limitations are specified in Table 2. For installation on minimum nominal $\frac{5}{8}$ " plywood roof decks, design wind pressure limitations are specified in Table 3.

Roof Slope: 5V-Crimp roof panel shall not be installed on roofs with a roof slope greater than 3:12, unless minimum No. 30 (Type II) asphalt felt underlayment is installed under the panels. 5V-Crimp roof panel shall not be installed on roofs with a roof slope less than 3:12 and greater than or equal to $\frac{1}{2}$:12, unless Metal Sales Hi-Temp (MS-HT) underlayment is installed underneath the panels. 5V-Crimp roof panel shall not be installed on roofs with a roof slope less than $\frac{1}{2}$:12. 5V-Crimp roof panel shall be installed in accordance with the 5V-Crimp Metal Roof Panel Details and the IRC, Section R905.10.2, or the IBC, Section 1507.4.2.

INSTALLATION INSTRUCTIONS

General Installation Requirements: The installation of the panels shall be limited to extending one to two inches beyond the plane of the fascia board. All IRC and IBC requirements must be satisfied and the 5V-Crimp Metal Roof Panel Details followed, unless otherwise specified by this product evaluation.

PANEL INSTALLATION REQUIREMENTS

Panels: Panels shall be attached and secured to the roof deck in accordance with Tables 1 - 3. Refer to the 5V-Crimp Metal Roof Panel Details for illustrations of the screw patterns.

Table 1

Attachment of 26 gauge 5V-Crimp Roof Panel to $\frac{7}{16}$ " OSB roof decking:

Wind Pressure (psf)	Attachment of Roof Panel to deck
-30	Screw Pattern #1 @ 3'-0" o.c.
-58.5	Screw Pattern #1 @ 2'-6" o.c.
-87	Screw Pattern #1 @ 2'-0" o.c.
-115.5	Screw Pattern #1 @ 1'-6" o.c.
-144	Screw Pattern #1 @ 1'-0" o.c.
-172.5	Screw Pattern #1 @ 0'-6" o.c.

Table 2

Attachment of 26 gauge 5V-Crimp Roof Panel to $\frac{15}{32}$ " plywood roof decking:

Wind Pressure (psf)	Attachment of Roof Panel to $\frac{15}{32}$ " thick plywood deck
-60	Screw Pattern #1 @ 2'-0" o.c.
-68	Screw Pattern #1 @ 1'-9" o.c.
-76	Screw Pattern #1 @ 1'-6" o.c.
-84	Screw Pattern #1 @ 1'-3" o.c.

Table 3

Attachment of 26 gauge 5V-Crimp Roof Panel to $\frac{5}{8}$ " plywood roof decking:

Wind Pressure (psf)	Attachment of Roof Panel to $\frac{5}{8}$ " thick plywood deck
-41	Screw Pattern #1 @ 3'-0" o.c.
-53	Screw Pattern #1 @ 2'-6" o.c.
-65	Screw Pattern #1 @ 2'-0" o.c.
-77	Screw Pattern #1 @ 1'-6" o.c.
-88	Screw Pattern #1 @ 1'-0" o.c.
-100	Screw Pattern #1 @ 0'-6" o.c.

Underlayment: A minimum of one layer of No. 30 (Type II) asphalt felt underlayment shall be used. The underlayment shall comply with one or more of the following: ASTM D 226 or ASTM D 4869 if used over the field or perimeter of the roof, or ASTM D 1970 if Metal Sales Hi-Temp (MS-HT) underlayment is used. The felt shall be installed with 6" side laps and 3" end laps. The nailable felt shall be fastened to the roof deck with corrosion resistant fasteners in accordance with the manufacturer's installation instructions. Fasteners shall be applied along the overlaps not farther apart than 36" on center.

Tables 1 and 2 Installation:

Anchorage: The panels shall be fastened in accordance with Tables 1 and 2 with #10-14 x 2", HWH sharp point hex washer head wood screws (#10-14 x 2" wood screws) to nominal (minimum) $\frac{7}{16}$ " OSB or minimum $\frac{1}{2}$ " plywood roof decking. The panels shall be fastened at the panel ends in accordance with Screw Pattern No. 2 with the #10-14 x 2" wood screws. The panels shall be fastened along the rake at 6" on center with the #10-14 x 2" wood screws. The wood screws shall be corrosion resistant, with a painted or plated finish, and shall be properly driven, so that the sealing material is slightly visible at the edge of the washer.

Ridge Cap and Rake Trim: The ridge cap and the rake trim shall be attached to the panels with the #10-14 x 2" wood screws as indicated in the 5V-Crimp Metal Roof Panel Details. Elastic butyl tape sealant is required at the panel end laps and trim, and in addition, an inside closure is required where the panel end lap is fastened to a flat surface.

Table 3 Installation:

Anchorage: The panels shall be fastened in accordance with Table 3 with #9-15 x $1\frac{1}{2}$ ", woodgrip HWH sharp point $\frac{1}{4}$ " hex washer head screws (#9-15 x $1\frac{1}{2}$ " woodgrip screws) to plywood roof decking. The panels shall be fastened at the panel ends in accordance with Screw Pattern No. 2 with the #9-15 x $1\frac{1}{2}$ " woodgrip screws. The panels shall be fastened along the rake at 6" on center with the #9-15 x $1\frac{1}{2}$ " woodgrip screws. Panel woodgrip screws shall be corrosion resistant, with a painted or plated finish, and shall be properly driven, so that the sealing material is slightly visible at the edge of the washer.

Ridge Cap and Rake Trim: The ridge cap and the rake trim shall be attached to the panels with the #9-15 x $1\frac{1}{2}$ " Woodgrip screws as indicated in the 5V-Crimp Metal Roof Panel Details. Elastic butyl tape sealant is required at the panel end laps and trim, and in addition, an inside closure is required where the panel end lap is fastened to a flat surface.

Note: The 5V-Crimp Metal Roof Panel Details 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.