

# TEXAS DEPARTMENT OF INSURANCE

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## PRODUCT EVALUATION RC-144

Effective March 1, 2013

*The following product has been evaluated for compliance with the wind loads specified in **International Residential Code (IRC)** and the **International Building Code (IBC)**. This product shall be subject to reevaluation **October 2015**.*

*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.*

**Weather Guard Roof Panels** manufactured by

**Whirlwind Building Systems**  
**8234 Hansen Road**  
**Houston, TX 77075-1002**  
**(713) 946-7140**

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

## PRODUCT DESCRIPTION

Weather Guard roof panels are snap lock metal panels that are manufactured from 26 gauge thickness aluminum-zinc alloy coated Galvalume steel conforming to ASTM A792-83 AZ50. The metal roof panel conforms to ASTM A446 Grade D, with a minimum yield strength of 50 ksi. The metal roof panels are manufactured with a  $\frac{7}{8}$  inch tall rib and a 12 inch wide panel coverage.

## LIMITATIONS

**Roof Deck:** The roof deck shall be solidly sheathed with minimum  $\frac{15}{32}$ " plywood panels.

**Roof Deck Attachment:** The roof deck shall be secured to the roof framing to resist the required wind uplift design pressures.

**Design Wind Pressures:** For installation to nominal  $\frac{15}{32}$  inch plywood decks, with fastener attachment in the nail strip, design wind pressure limitations are specified in Table 1. For installation to nominal  $\frac{15}{32}$  inch plywood decks, with fastener attachment in the nail strip and in the pan, design wind pressure limitations are specified in Table 2.

**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. The minimum thickness of the existing roof deck shall be as required for a new roof panel installation. Note: Inspection of the existing roof deck must be made before installing the roof panels.

**LIMITATIONS (Continued)**

The condition of the existing roof deck must be acceptable to receive the roof panels before the roof panel installation can proceed. Note: A new underlayment installation is not required when installing panels over an existing roof covering.

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

**INSTALLATION INSTRUCTIONS**

**General Installation Requirements:**

The Weather Guard metal roof panel shall be installed as specified in this evaluation report and as specified in the Weather Guard Technical/Erection Information Manual published by Whirlwind Building Systems.

Roof panels shall overhang the eave as required by the selected eave detail.

**Panel Installation Requirements**

**Panels:** Panels shall be attached the roof deck in accordance with Tables 1-2.

**Table 1**

Attachment of 26 gauge Weather Guard roof panels to minimum  $\frac{15}{32}$  inch wood structural panel roof decking with fasteners located in the nail strip:

Wind Pressure (psf)	Fastener Type and Quantity	Fastener Spacing Along the Nail Strip
-64.3	One (1) #10-12 x 1"	10 $\frac{3}{8}$ " o.c.

**Table 2**

Attachment of 26 gauge Weather Guard roof panels to minimum  $\frac{15}{32}$  inch wood structural panel roof decking with fasteners located in the nail strip and in the pan:

Wind Pressure (psf)	Fastener Location	Fastener Type and Quantity	Fastener Spacing
-153.5	Nail Strip	One (1) #10-12 x 1"	10 $\frac{3}{8}$ " o.c.
	Pan	Two (2) #10-12 x 1"	12" o.c.

**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 minimum 6 inch side laps and minimum 3 inch end laps. The underlayment shall be applied with corrosion-resistant fasteners in accordance with the manufacturer's installation instructions.

**Anchorage:** The Weather Guard roof panels shall be secured to the roof decking in accordance with either Table 1 or Table 2 with #10-12 x 1" Pancake head screws, manufactured by Buildex. If the panels are laid directly over an existing roof covering, then #10-12 x 2" Pancake head screws are required. The fasteners shall be long enough to penetrate completely through the wood structural panels with a minimum exposure of  $\frac{1}{4}$  inch below the underside of the wood structural panels. Refer to the Weather Guard Technical/Erection Information Manual published by Whirlwind Building Systems for specific installation details.

### **INSTALLATION INSTRUCTIONS (Continued)**

**Trim:** Trim shall be installed as specified in the Weather Guard Technical/Erection Information Manual published by Whirlwind Building Systems

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

#10-12 Pancake head screws, manufactured by Buildex  
Ultimate withdrawal (pullout)  $\geq$  364 lbs. in  $1\frac{5}{32}$  inch plywood

**Note:** The Weather Guard Technical/Erection Information Manual published by Whirlwind Building Systems 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.