

# TEXAS DEPARTMENT OF INSURANCE

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## PRODUCT EVALUATION

Effective December 1, 2011

RV-54

*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 **November 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.*

**Upblast Metal Roof Exhauster, Models ACRU, VCR, and ACSC, manufactured by**

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will be acceptable for use in designated catastrophe zones along the Texas Gulf Coast when installed in accordance to manufacturer's installation instructions and this product evaluation.

## PRODUCT DESCRIPTION

The Models ACRU, VCR, and ACSC roof vents are roof mounted, belt driven, upblast metal exhaust ventilators. The ventilators have an all aluminum housing with a two-piece top cap with stainless steel quick release latches. Refer to Figures 1 and 2 for illustrations of the upblast metal roof exhausters. The upblast metal roof exhauster is available in sizes 60-300. The upblast metal roof exhausters have a maximum diameter of 54  $\frac{1}{4}$ " and a maximum height of 49  $1\frac{5}{16}$ ". The base has a maximum dimension of 36" x 36".

**Ventilator Construction:** The roof exhauster is manufactured from extruded aluminum. The vent base overlaps the curb mount and is fastened at 2 inches from corners and 5  $\frac{1}{2}$  inches thereafter with No. 12 x 2" self-drilling screws with a  $\frac{1}{4}$ " washer and a neoprene grommet. The vent base is sealed to the curbing with three rows of foam gasket, one on top of the curb mount and two on the side. A motor plate is secured to the base with a two-piece aluminum post. The two-piece aluminum post is secured to the motor plate with a  $\frac{3}{8}$ " threaded rod and to the base with one (1)  $\frac{3}{8}$ " x  $\frac{3}{4}$ " flange nut at each end. There are a total of eight (8) aluminum posts. A bird screen is wrapped around the pipes at the interior. A baffle is welded to the base. A 1" conduit tube and a 2  $\frac{3}{16}$ " vent tube exits through the top cap cylinder and the wind band. A top cap lid is secured to the top cap cylinder eight (8) angle braces with eight (8)  $\frac{5}{16}$ " x  $\frac{3}{4}$ " flange bolts and speed nuts. A top cap cylinder is fastened to the motor plate with eight (8)  $\frac{5}{16}$ " x  $\frac{1}{2}$ " flange bolts and speed nuts.

## LIMITATIONS

**Design Wind Pressure:** +53 psf / -112 psf

**Roof Framing:** The roof framing required to secure the vent shall be minimum nominal 2 inch wide Spruce-Pine-Fir dimension lumber with a minimum nominal  $1\frac{5}{32}$ " plywood deck.

**Roof Slope:** The vent shall be installed on a flat roof. Positive drainage of the roof is required.

**Impact Resistance:** These vent assemblies satisfy the Texas Department of Insurance's criteria for protection from windborne debris in the **Inland I** and the **Seaward zone**. The vent assemblies passed Missile Level D specified in ASTM E 1996-04. The vent assemblies may be installed at any height on the structure as long as the design pressure rating for the assemblies is not exceeded.

### INSTALLATION INSTRUCTIONS

**General Installation Requirements:**

All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC) and the International Building Code (IBC). All IRC/IBC requirements must be satisfied and manufacturer's installation instructions followed, unless otherwise specified by this product evaluation.

**Installation:**

The aluminum curbing of the vent set is secured to the nominal 2" wide Spruce-Pine-Fir roof framing at the 2" wide bottom fin with sealant and with minimum  $\frac{5}{16}$ " x  $1\frac{1}{2}$ " lag bolts. The fasteners shall be located approximately 4 inches from each corner and 10 inches on center. The fastener shall be long enough to penetrate a minimum of  $1\frac{1}{2}$  inches into the wood wall framing.



Figure 1. Upblast metal exhaust ventilator, Model ACRU/VCR



Figure 2. Upblast metal exhaust ventilator, Model ACSC

**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.