

# TEXAS DEPARTMENT OF INSURANCE

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## PRODUCT EVALUATION RV-49

Effective October 1, 2009

*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 February 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.*

**DC-AGV Aluminum Gravity Ventilator**, manufactured by

**Leader Industries, Inc.**  
**2509 Cruzen Street**  
**Nashville, Tennessee 37211**  
**Telephone: (615) 256-3500**  
**www.leaderindustries.com**

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 Model DC-AGV ventilator is a roof mounted, aluminum gravity ventilator. The ventilators are comprised of a curb, a curb skirt, a baffle, hood support truss, hood skin, an optional 3-piece hinge to lift the hood, and an optional EAD damper assembly. The hood skin is manufactured of 12 gauge aluminum. The rain baffle is manufactured of 14 gauge aluminum. The curb is manufactured of 14 gauge galvanized steel. The gravity relief ventilators are available in several throat sizes and overall dimensions ranging from 24" x 24" to 96" x 144". This evaluation report is for gravity ventilators based on the following tested configurations:

### General Description:

System	Description	Maximum Dimensions
1	Model DC-AGV Ventilator	96" x 144"
2	Model DC-AGV Ventilator	48" x 48"

### Ventilator Construction:

**Frame:** The outer perimeter frame is manufactured of aluminum angles with welds at each corner. The throat frame is made of two pieces of aluminum channel running the length of the shell and two pieces running the width of the throat of the ventilator. The channel is welded together at the intersections on the outer and inner corners and then welded to the outer perimeter frame with welds where the frames meet together. The throat frame has a channel connecting the throat frame to the outer perimeter frame with welds on each end. The connecting channels are inline with the arches on the length side and two (2) on the width side. Welded arches are constructed of aluminum angle welded together on the inside face of the angle. The arches are welded to the outer perimeter frame on the inside face of the angles, with a maximum arch spacing of 24 inches on center. The arches have an aluminum angle running vertical from the long channel of the throat frame to the top horizontal

angle on the arch, welded on both ends. There is an expanded flattened aluminum bird screen around the perimeter between the throat frame and the outer perimeter frame. The screen is held in place around the outer perimeter frame with aluminum strips that are secured with screws. The screen is held in place on the inside throat perimeter by means of a formed piece of aluminum acting as a rain baffle. The baffle is held in place with screws. The hats are secured to the horizontal angle of the arches with screws at each intersection and on both ends. The hats are spaced 10 inches on center and equally spaced from the edge of the horizontal angle. The shell is welded to the hats.

**Hood:** The hood is formed aluminum fastened to the outer perimeter frame and end arches with screws around the perimeter. The joints running the length of the hood are formed to interlock and the joints running the width of the hood require a cover plate that is secured with screws with rubber washers. The hood on the 45-degree bend side is welded to the arches.

**Curb:** The roof curb is manufactured from, 14 gauge galvanized steel with corners that are fully welded. The curb for System 1 is 42" tall. The curb for System 2 is 12" tall. The length side has three (3) steel angles. The width side has two (2) steel angles. The angles are welded to the curb.

**Curb Skirt:** The ventilator is fastened to the roof curb with a frame manufactured of aluminum. The skirt is secured to the roof curb with screws. The hood is secured to the skirt with welds located 16 inches on center, staggered. As an option, the hood has the curb skirt secured to the ventilator frame with hinges. For System 1, four (4) hinges on each length side are required. For System 2, two (2) hinges on each side are required.

**EAD Damper and Blades:** The EAD damper is mounted in the top throat of the roof curb. The dampers are held in place with Z bars. The EAD damper is 5" deep with blades closed and 6.38" deep when the blades are open. The blades, head, bottom, and jambs are all extruded aluminum. Frame parts are secured together with screws. The blades are spaced 6 inches on center. The damper is held closed with a manual hand quadrant. The damper blade axles rotate in nylon bushings. As an option, the damper may be mounted in the bottom of the curb on a damper tray.

### LIMITATIONS

**Design Wind Pressures (DP):**

System	Maximum Dimensions	Design Pressures
1	96" x 144"	± 120 psf
2	48" x 48"	± 120 psf

**Acceptance of Smaller Assemblies:** Ventilator assemblies with dimensions equal to or smaller than those specified above are acceptable within the limitations specified in this report.

**Design Drawings:** The DC-AGV gravity ventilator shall be installed in accordance with Drawing No. 08-00721, entitled "DC-AGV Aluminum Gravity Ventilator", by Leader Industries, Inc., Sheets 1-10 of 10, dated April 13, 2009, with each sheet signed and sealed by Luis Lomas, P.E. The stated drawings will be referred to as approved drawings in this report. A copy of the approved drawings shall be available at the job site.

**Roof Framing:** The roof framing required to secure the vent shall be as specified on Sheet 1 of 10 of the approved drawings. Roof framing may be wood, concrete, masonry, or steel.

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

**Impact Resistance:** These ventilator assemblies satisfy the Texas Department of Insurance's criteria for protection from windborne debris in the **Inland I** and the **Seaward zone**. The ventilator assemblies passed Missile Level D specified in ASTM E 1996-04. The ventilator 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:**

**Roof Framing:** The roof framing required to secure the vent shall be as specified on Sheet 1 of 10 of the approved drawings. Roof framing may be wood, concrete, masonry, or steel.

**Anchorage:** The ventilator shall be anchored to the roof framing using the curb as specified on Sheets 1, 3, and 4 of the approved drawings.

**Note:** The manufacturer's installation instructions and the approved drawings referenced in this evaluation report 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.