Code Compliance Research Report
CCRR-0239

Issue Date: 01-18-2017
Renewal Date: 01-18-2018

DIVISION: 08 00 00 – OPENINGS
Section: 08 95 43 – Vents/Foundation Flood Vents

USA Floodair Vents, LTD.
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REPORT SUBJECT:
Model FOSS (Stainless steel flood vent)
Model FASS (Stainless steel flood vent with ventilation)
Model FOAL (Aluminum flood vent)
Model FAAL (Aluminum flood vent with ventilation)
Model ROAL (Retro-fit Aluminum flood vent)

1.0 SCOPE OF EVALUATION

This research report addresses compliance with the following Codes:

2012 International Building Code (IBC)

2012 International Resident Code (IRC)

2014 Florida Building Code (FBC)

Foundation Flood Vents have been evaluated for the following properties:

- Physical Operation
- Water Flow
- Ventilation

2.0 USES

2.1. *USA Floodair Vents* units are flood vents that operate on hydrostatic pressure to equalize hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit for flood waters. These vents have been established in use where flood areas have been established in accordance with IBC Section 1612.3 or IRC Section R3222.1. Some *USA Floodair Vents* models have perforated doors to provide air ventilation in a crawl space in order to increase air flow while still providing flood protection *in accordance with Section 1203.3.1 of the IBC or Section 408.2 of the IRC.* See Ventilation in the Description Section for clarification.

3.0 DESCRIPTION

3.1. General: The *USA Floodair Vents* units are engineered openings when subjected to a hydrostatic force to open to allow flood waters to flow through the vent in order to equalize hydrostatic flood forces on the exterior walls. The solid or perforated doors swing open, disengaging from the bottom of the frame, allowing flood waters to flow through the frame. Each unit is fabricated from either stainless steel or aluminum. *USA Floodair Vents* models consist of two parts, a frame and a vent door.

3.2. Engineered Opening: The *USA Floodair Vents* units comply with the design principle noted in Section 2.6.2.2 of ASCE/SEI 24 for a maximum rate of rise and fall of 5.0 feet per hour (0.423 mm/s). In order to comply with the engineered opening requirements of ASCE/SEI 24, the *USA Floodair Vents* units must be installed in accordance with Section 4.0 of this report.

3.3. Model Sizes: Model FOSS, a stainless steel flood vent with no ventilation, measures 18 inches wide by 10 inches high (See Figure 1). Model FASS, a stainless steel flood vent with ventilation, measures 18 inches wide by 10 inches high (See Figure 2). Model FOAL, an aluminum flood vent with no ventilation, measures 18 inches wide by 10 inches high (See Figure 3). Model FAAL, an aluminum flood vent with ventilation, measures 18 inches wide by 10 inch high (See Figure 4). Model ROAL, an aluminum flood vent used for retrofitting with no ventilation, measures 16.37 inches wide by 10 inches high (See Figure 5).

3.4. Ventilation: *The USA Floodair Vents* models FASS and FAAL have ¼ inch diameter openings on the vent doors to provide air ventilation. Model FASS provides 28 square inches of net free area. Model FAAL provides 37 square inches of net free area. All other models in this report do not provide ventilation.

4.0 INSTALLATION AND PERFORMANCE

4.1. *USA Floodair Vents* units are to be installed in exterior walls in new and existing construction. Model ROAL is to be used for existing construction. Flood vents shall be installed in accordance with the manufacturer's instructions, the applicable code and this report. To meet the engineered opening design requirements found in Section 2.6.2.2 of ASCE/SEI 24, the *USA Floodair Vents* units must be installed as follows:

4.1.1. A minimum of two bi-directional flood vents are required for enclosed flood exposed areas and to be installed on opposite or adjacent walls.

4.1.2. Below the base flood elevation.

4.1.3. With the bottom of the *USA Floodair Vents* unit located at a maximum of 12 inches above grade.

4.1.4. With a minimum of one *USA Floodair Vents unit* for every 252 square feet for Models FOSS, FASS, FOAL, and FAAL and for every 224 square feet for Model ROAL.

5.0 SUPPORTING EVIDENCE

5.1. Manufacturer's drawings and installation instructions.

5.2. Reports of testing in accordance with ICC-ES AC364, Acceptance Criteria for Mechanically Operated Flood Vents, approved August 2015. The reports of testing and engineering analysis demonstrating compliance with the performance requirements of AC364 and ASCE/SEI 24-05.

5.3. Documentation of an Intertek approved quality control system for the manufacturing of products recognized in this report.

6.0 CONDITION OF USE

The *USA Floodair Vents* units applications identified in this report are deemed to comply with the intent of the provisions of the referenced building codes subject to the following conditions:

6.1. Installation shall be in accordance with the manufacturer's installation instructions and this report. Where the difference occur between this report and the manufacturer's installation instructions, this report shall govern.

6.2. The *USA Floodair Vents* units must not be used in the place of breakaway walls in coastal high hazard areas, but are permitted for use in conjunction with breakaway walls in other areas.

6.3. All products are manufactured in West Columbia, South Carolina by *USA Floodair Vents, LTD* in accordance with the manufacturer's approved quality control system with inspections by Intertek (IAS AA-676).

7.0 IDENTIFICATION

USA Floodair Vents units produced in accordance with this report shall be identified with labeling on the individual vents and/or packaging that includes the following information:

7.1. Name and/or trademark of manufacturer;

7.2. The Intertek Code Compliance Research Report mark and number (CCRR-0239).

CODE COMPLIANCE
Intertek
CCRR-0239

8.0 CODE COMPLIANCE RESEARCH REPORT USE

8.1. Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

8.2. Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product by Architectural Testing.

8.3. Reference to the Intertek website address: whdirectory.intertek.com is recommended to ascertain the current version and status of this report.

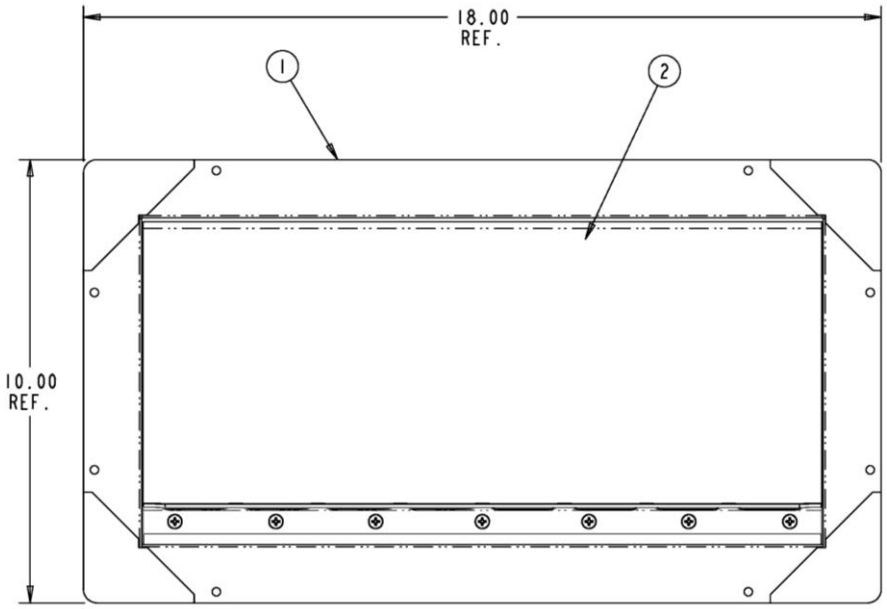

FIGURE 1 – FOSS Flood Vent

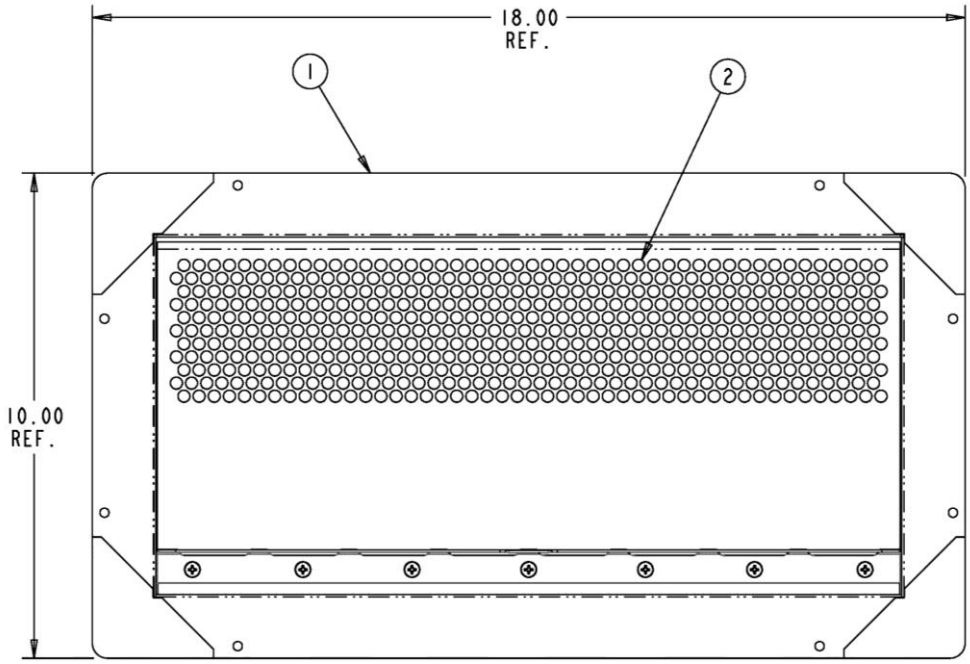

FIGURE 2 – FASS Flood Vent

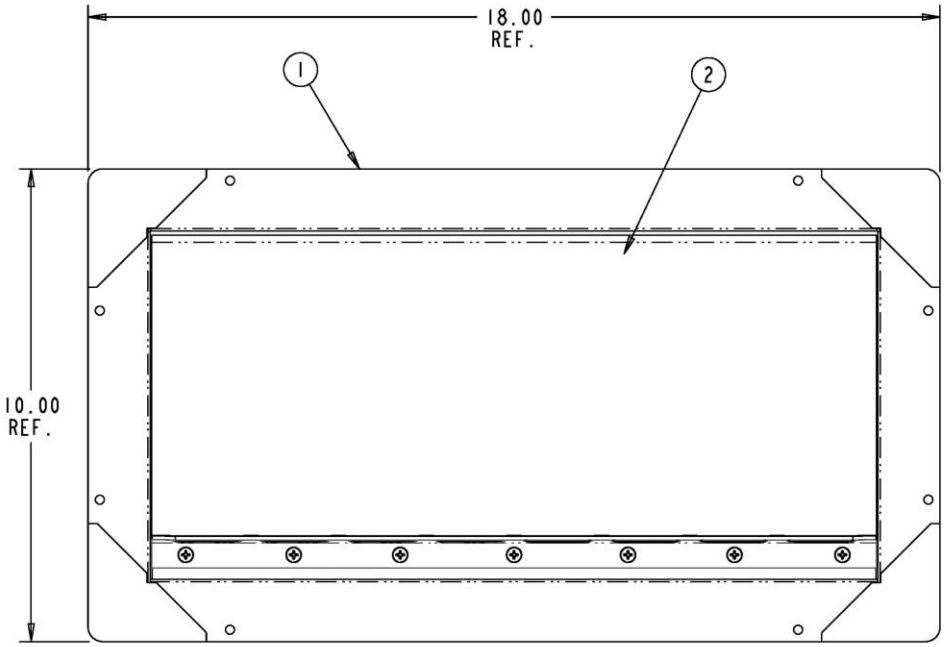

FIGURE 3 – FOAL Flood Vent

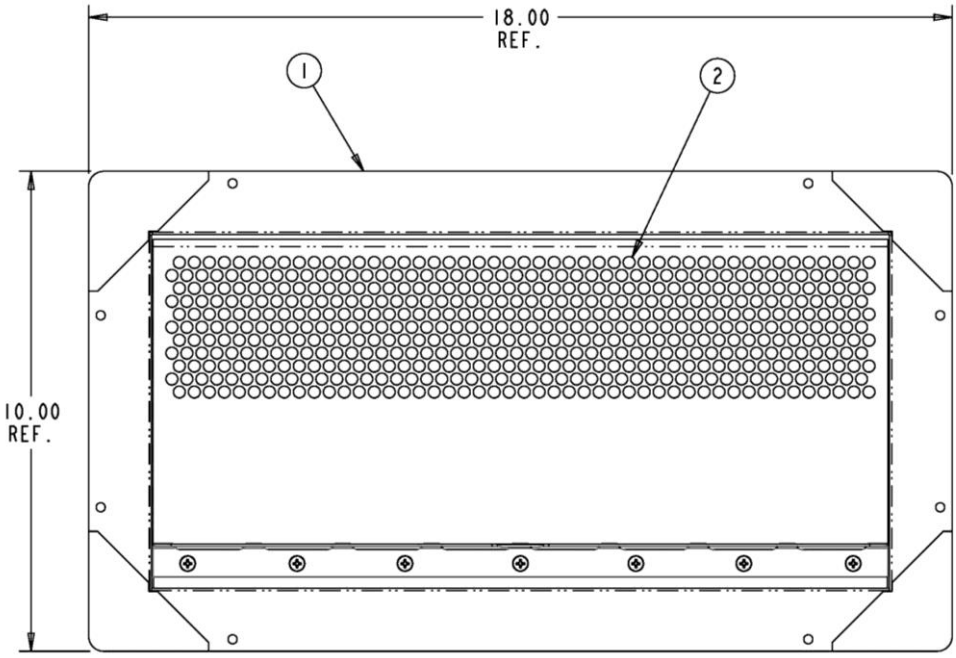

FIGURE 4 – FAAL Flood Vent

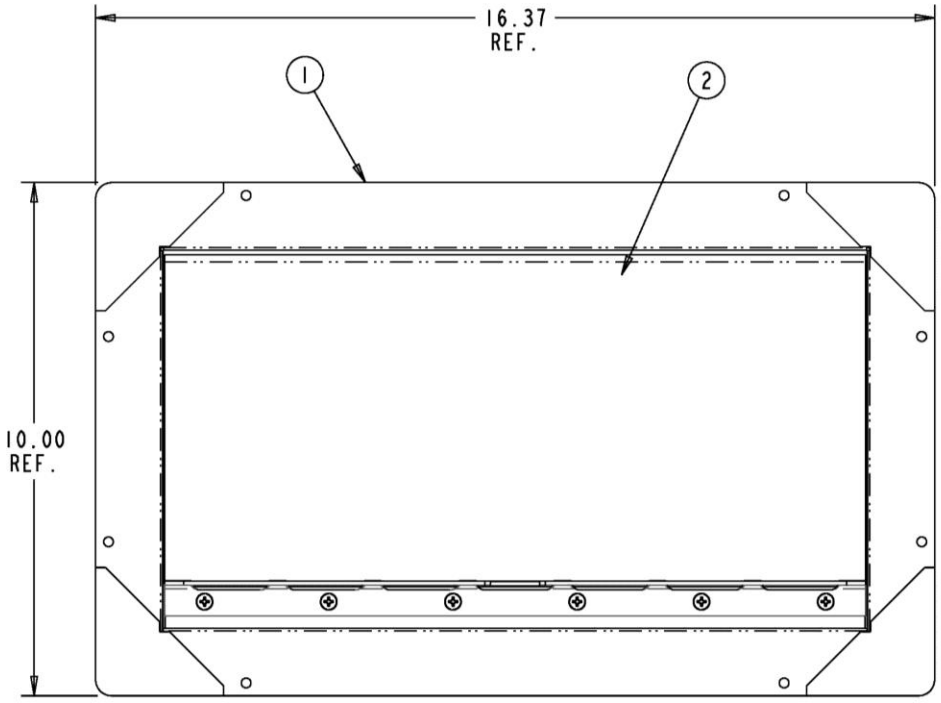

FIGURE 5 – ROAL Flood Vent