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ESR-2074

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DIVISION: 08 00 00—OPENINGS

SECTION: 08 95 43—VENTS/FOUNDATION FLOOD VENTS

REPORT HOLDER:

SMARTVENT PRODUCTS, INC.

430 ANDBRO DRIVE, UNIT 1
PITMAN, NEW JERSEY 08071

EVALUATION SUBJECT:

SMART VENT® AUTOMATIC FOUNDATION FLOOD VENTS: MODELS #1540-520; #1540-521; #1540-510;
#1540-511; #1540-570; #1540-574; #1540-524; #1540-514



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DIVISION: 08 00 00—OPENINGS**Section: 08 95 43—Vents/Foundation Flood Vents****REPORT HOLDER:****SMARTVENT PRODUCTS, INC.****430 ANDBRO DRIVE, UNIT 1****PITMAN, NEW JERSEY 08071****(877) 441-8368**www.smartvent.cominfo@smartvent.com**EVALUATION SUBJECT:****SMART VENT® AUTOMATIC FOUNDATION FLOOD VENTS:****MODELS #1540-520; #1540-521; #1540-510; #1540-511;****#1540-570; #1540-574; #1540-524; #1540-514****1.0 EVALUATION SCOPE****Compliance with the following codes:**

- 2012, 2009 and 2006 *International Building Code*® (IBC)
- 2012, 2009 and 2006 *International Residential Code*® (IRC)
- 2013 *Abu Dhabi International Building Code* (ADIBC)[†]

[†]The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

Properties evaluated:

- Physical operation
- Water flow

2.0 USES

The Smart Vent® units are engineered mechanically operated flood vents (FVs) employed to equalize hydrostatic pressure on walls of enclosures subject to rising or falling flood waters. Certain models also allow natural ventilation.

3.0 DESCRIPTION**3.1 General:**

When subjected to rising water, the Smart Vent® FVs internal floats are activated, then pivot open to allow flow in either direction to equalize water level and hydrostatic pressure from one side of the foundation to the other. The FV pivoting door is normally held in the closed position by a buoyant release device. When subjected to rising water, the buoyant release device causes the unit to unlatch, allowing the door to rotate out of the way and allow flow.

The water level stabilizes, equalizing the lateral forces. Each unit is fabricated from stainless steel. Smart Vent® Automatic Foundation Flood Vents are available in various models and sizes as described in Table 1. The SmartVENT® Stacking Model #1540-511 and FloodVENT® Stacking Model #1540-521 units each contain two vertically arranged openings per unit.

3.2 Engineered Opening:

The FVs 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 requirement of ASCE/SEI 24, Smart Vent FVs must be installed in accordance with Section 4.0.

3.3 Ventilation:

The SmartVENT® Model #1540-510 and SmartVENT® Overhead Door Model #1540-514 both have screen covers with 1/4-inch-by-1/4-inch (6.35 by 6.35 mm) openings, yielding 51 square inches (32 903 mm²) of net free area to supply natural ventilation. The SmartVENT® Stacking Model #1540-511 consists of two Model #1540-510 units in one assembly, and provides 102 square inches (65 806 mm²) of net free area to supply natural ventilation. Other FVs recognized in this report do not offer natural ventilation.

4.0 DESIGN AND INSTALLATION

SmartVENT® and FloodVENT® are designed to be installed into walls or overhead doors of existing or new construction from the exterior side. Installation of the vents must be in accordance with the manufacturer's instructions, the applicable code and this report. The mounting straps allow mounting in masonry and concrete walls up to 12 inches (305 mm) thick. In order to comply with the engineered opening design principle noted in Section 2.6.2.2 of ASCE/SEI 24, the Smart Vent® FVs must be installed as follows:

- With a minimum of two openings on different sides of each enclosed area.
- With a minimum of one FV for every 200 square feet (18.6 m²) of enclosed area, except that the SmartVENT® Stacking Model #1540-511 and FloodVENT® Stacking Model #1540-521 must be installed with a minimum of one FV for every 400 square feet (37.2 m²) of enclosed area.
- Below the base flood elevation.
- With the bottom of the FV located a maximum of 12 inches (305.4 mm) above the higher of the final

*Revised July 2015

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grade or floor and finished exterior grade immediately under each opening.

5.0 CONDITIONS OF USE

The Smart Vent® FVs described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The Smart Vent® FVs must be installed in accordance with this report, the applicable code and the manufacturer's installation instructions. In the event of a conflict, the instructions in this report govern.
- 5.2 The Smart Vent® FVs 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.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Mechanically Operated Flood Vents (AC364), dated October 2013 (editorially revised May 2014).

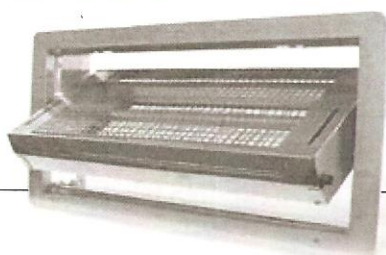
7.0 IDENTIFICATION

The Smart VENT® models recognized in this report must be identified by a label bearing the manufacturer's name (Smartvent Products, Inc.), the model number, and the evaluation report number (ESR-2074).

TABLE 1—MODEL SIZES

MODEL NAME	MODEL NUMBER	MODEL SIZE (in.)	COVERAGE (sq. ft.)
FloodVENT®	1540-520	15 ³ / ₄ " X 7 ³ / ₄ "	200
SmartVENT®	1540-510	15 ³ / ₄ " X 7 ³ / ₄ "	200
FloodVENT® Overhead Door	1540-524	15 ³ / ₄ " X 7 ³ / ₄ "	200
SmartVENT® Overhead Door	1540-514	15 ³ / ₄ " X 7 ³ / ₄ "	200
Wood Wall FloodVENT®	1540-570	14" X 8 ³ / ₄ "	200
Wood Wall FloodVENT® Overhead Door	1540-574	14" X 8 ³ / ₄ "	200
SmartVENT® Stacker	1540-511	16" X 16"	400
FloodVent® Stacker	1540-521	16" X 16"	400

For SI: 1 inch = 25.4 mm; 1 square foot = m²



ONE YEAR LIMITED WARRANTY LIMITED, NON-PRORATED AND TRANSFERABLE

Any and all product(s) as manufactured by SMART VENT® are subject to a one year limited warranty in accordance with the following, provided that the products covered by this warranty have been installed in strict accordance with the SMART VENT® written installation instructions and in accordance with all local codes and standards. Cleaning and lubrication may be required, and is not covered by this warranty. SMART VENT® warrants to the original purchaser or a subsequent owner of the property that parts are free from manufacturing defects for 1 (one) year from the date of purchase. Security Clips must be installed to validate warranty.

Should any defect occur during the one-year period following the date of purchase, SMART VENT® will provide a replacement for that part deemed to be defective (but not including labor costs incurred in removing the part, installing the replacement part, or shipping).

In the event of replacement according to the terms of this warranty, the warranty on the replacement part will extend for the balance of the original warranty period, which is in effect at the time the part proves defective.

LIMITATIONS

SMART VENT® shall not be liable for, and this warranty does not apply to, any failure, defect or damage resulting from or connected with painting, misuse, abuse, neglect or improper handling or storage, or installation not in strict adherence to SMART VENT® written instructions. SMART VENT® reserves the right to discontinue or modify any of its products, including color, and shall not be liable as a result of such discontinuance or modification. If SMART VENT® replaces any part under this warranty, it may substitute parts designated by SMART VENT® to be of comparable quality or price range in the event the product initially installed has been discontinued or modified.

OTHER CONDITIONS

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER ORAL OR WRITTEN WARRANTIES, LIABILITIES OR OBLIGATIONS OF SMART VENT®. PERTINENT STATE LAW SHALL CONTROL FOR WHAT PERIOD OF TIME SUBSEQUENT TO SALE A CONSUMER/HOMEOWNER MAY SEEK A REMEDY PURSUANT TO THE IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL SMART VENT® BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES OF ANY KIND, INCLUDING ANY DAMAGE TO THE BUILDING, ITS CONTENTS OR ANY PERSONS THEREIN, RESULTING FROM THE BREACH OF ANY WARRANTY SET FORTH HEREIN. NO REPRESENTATIVE OF SMART VENT® OR ITS DISTRIBUTORS OR DEALERS IS AUTHORIZED TO MAKE ANY CHANGE OR MODIFICATION TO THIS WARRANTY.

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SMART VENT

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MATERIAL REVIEW & MAINTENANCE INSTRUCTIONS

Objective:

When we set out to design our flood vent products, a comprehensive study was conducted to determine the most important design attributes that would be needed to insure that our customers received the best product available. Because our company started on the shores of the East Coast of New Jersey, everyone placed durability as their number one concern.

Durability:

After extensive research, including review of many less expensive materials, we choose to make the bulk of the components for our vents from stainless steel. Salt will pit stainless steel unless it is rinsed with water. We recommend that the vent be washed with fresh water twice a year. Any red rust or minor surface pitting can be removed with "commercial de-rusting solutions."

The mechanism that operates the automatic louvers on models 1540-510, 1540-511, 1540-514 and 1540-550 is also entirely made from stainless steel, and water rinsing will reduce corrosion and dirt build-up. Prior to final inspection and testing, the louver mechanism is lubricated with a dry film lubricant. This over the counter lubricant should be applied at minimum one time per year, or when needed. Rinse the louver mechanism, let dry, then spray all of the moving parts. Note: Wet lubricants or grease will allow dirt and sand to accumulate on the moving parts. Use only dry film lubricants.

The bi-metal coil is made from highly engineered materials. The composite contains a large portion of Nickel and the finished coil is secondarily heat-treated, which forms a protective barrier to protect it from the elements. A squirt of dry film lubricant into the coil chamber during maintenance will extend its life.

The floats are manufactured from engineered plastics. An ultra-violet inhibitor was blended into the raw material before molding to insure that the sun does not degrade the functional or dimensional characteristics of the material. Insert a thin blade or a credit card into each side of the vent door's float slot, and the door will easily push open. Rinse the float cavity, then apply a small amount of dry film lubricant on the float, where it contacts the frame.

Like any product, the care one gives will determine its life. We have used the best American materials, along with the best engineering and manufacturing professionals to build our products. With just a little care, your vents will function carefree for many years.



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ICC-ES Evaluation Report**ESR-2074 FBC Supplement***

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SMARTVENT PRODUCTS, INC.
430 ANDBRO DRIVE, UNIT 1
PITMAN, NEW JERSEY 08071
(877) 441-8368
www.smartvent.com
info@smartvent.com

EVALUATION SUBJECT:

SMART VENT® AUTOMATIC FOUNDATION FLOOD VENTS: MODELS #1540-520; #1540-521; #1540-510; #1540-511; #1540-570; #1540-574; #1540-524; #1540-514

1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that Smart Vent® Automatic Foundation Flood Vents, recognized in ICC-ES master report ESR-2074, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2014 *Florida Building Code—Building* (FBC)
- 2014 *Florida Building Code—Residential* (FRC)

2.0 CONCLUSIONS

The Smart Vent® Automatic Foundation Flood Vents, described in Sections 2.0 through 7.0 of the master evaluation report ESR-2074, comply with the FBC and the FRC, provided the design and installation are in accordance with the *International Building Code®* provisions noted in the master report.

Use of the Smart Vent® Automatic Foundation Flood Vents has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the FBC and the FRC.

For products falling under Florida Rule 9N-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the master report, reissued February 2015 and revised July 2015.

*Revised July 2015