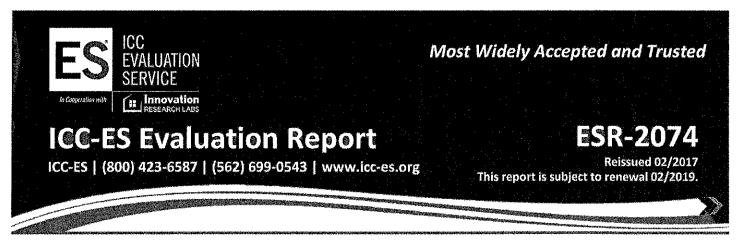
J.S. DEPARTMENT OF HOMELAND SECURITY FEDERAL EMERGENCY MANAGEMENT AGENCY

# **ELEVATION CERTIFICATE**

OMB No. 1660-0008

National Flood Insurance Program Important: Read the instructions on pages 1	<b>_9.</b> Expiration Date: July 31, 2015
SECTION A - PROPERTY INFORMATION	N FOR INSURANCE COMPANY USE
A uilding Owner's Name BILL AND KELLY OWENS	Policy Number
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 426 NORTH THURLOW AVENUE	Company NAIC Number:
City MARGATE CITY State NJ ZIP Code 08402	
A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.) BLOCK 621 LOT 26	
a) Square footage of crawlspace or enclosure(s) 1400 sq ft b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade 7 within 1.0 c) Total net area of flood openings in A8.b	with an attached garage: otage of attached garage sq ft f permanent flood openings in the attached garage foot above adjacent grade sq in d flood openings? Yes No
SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INF	ORMATION
B1. NFIP Community Name & Community Number MARGATE 345304  B2. County Name ATLANTIC	B3. State NEW JERSEY
	8. Flood B9. Base Flood Elevation(s) (Zone AO, use base flood depth) AE 9.00'
s the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Are Designation Date: CBRS DPA  SECTION C – BUILDING ELEVATION INFORMATION (SURVE	
C1. Building elevations are based on: ☐ Construction Drawings* ☐ Building Under Construction of the building is complete.  C2. Elevations – Zones A1–A30, AE, AH, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1 below according to the building diagram specified in Item A7. In Puerto Rico only, enter meters.  Benchmark Utilized: ☐ Vertical Datum: NAVD 1988  Indicate elevation datum used for the elevations in items a) through h) below. ☐ NGVD 1929 ☑ NAVD Datum used for building elevations must be the same as that used for the BFE.	uction* ☐ Finished Construction  I–A30, AR/AH, AR/AO. Complete Items C2.a–h  1988 ☐ Other/Source:
a) Top of bottom floor (including basement, assurances or analogues floor)	Check the measurement used.
a) Top of bottom floor (including basement, crawlspace, or enclosure floor)  b) Top of the next higher floor  c) Bottom of the lowest horizontal structural member (V Zones only)  d) Attached garage (top of slab)  e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments)  f) Lowest adjacent (finished) grade next to building (LAG)  g) Highest adjacent (finished) grade next to building (HAG)  h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support  4.63	Seet   meters     Seet   meters
SECTION D – SURVEYOR, ENGINEER, OR ARCHITECT CERT  This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by law to certificate represents my best efforts to interpret the data avail understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section  Check here if comments are provided on back of form.  Were latitude and longitude in Section A pro  Check here if attachments.	rtify elevation ilable. n 1001.
er's Name ARTHUR W. PONZIO, JR. License Number GS28314	HERE
itle LAND SURVEYOR Company Name ARTHUR W. PONZIO COMPANY	
ddress 400 NORTH-BOVER AVENUE City ATLANTIC CITY State NJ ZIP Code 0840	received
Date 10/7/14 Telephone 609-344-8194	701171

		rom Soction A	FOR INCLIDANCE COMPANY LICE
//PORTANT: In these space	es, copy the corresponding information f	on Section A.	FOR INSURANCE COMPANY USE
Building Street Address (including 426 NORTH THURLOW AVENUE	Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route	and Box No.	Policy Number:
City MARGATE CITY	State NJ	ZIP Code 08402	Company NAIC Number:
SECT	ION D – SURVEYOR, ENGINEER, OR ARG	CHITECT CERTIFICATION (	CONTINUED)
Cupy both sides of this Elevation	Certificate for (1) community official, (2) insurance	agent/company, and (3) building	g owner.
Comments PROJECT# 31355	*A/C UNIT ELEVETION = 10.71' MECHANIC	CALS =11.29' SMART VENT	MODEL 1540-510
atthese			
Signature	Da	ate 10/7/14	
SECTION E - BUILDING E	LEVATION INFORMATION (SURVEY NO	T REQUIRED) FOR ZONE A	O AND ZONE A (WITHOUT BFE)
For Zones AO and A (without BFE and C. For Items E1–E4, use natu	), complete Items E1–E5. If the Certificate is inter ral grade, if available. Check the measurement us	nded to support a LOMA or LOM sed. In Puerto Rico only, enter m	R-F request, complete Sections A, B, eters.
E1. Provide elevation information grade (HAG) and the lowest	n for the following and check the appropriate boxe	es to show whether the elevation	is above or below the highest adjacent
a) Top of bottom floor (include	ing basement, crawlspace, or enclosure) is		above or below the HAG.
	ing basement, crawlspace, or enclosure) is ith permanent flood openings provided in Section		☐ above or ☐ below the LAG.  3–9 of Instructions), the next higher floor
(elevation C2.b in the diagram	ns) of the building is feet [	meters 🗌 above or 🗌 below	the HAG.
<ul><li>E3. Attached garage (top of slab)</li><li>E4. Top of platform of machinery</li></ul>	is feet meters ab	ove or below the HAG.	ahove or □ below the HAG
	oth number is available, is the top of the bottom fl		
	☐ Unknown. The local official must certify this		
			A STOCK CONTRACTOR AS TO THE C
	ON F – PROPERTY OWNER (OR OWNER)		
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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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"2014 Recipient of Prestigious Western States Seismic Policy Council (WSSPC) Award in Excellence"





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# **ICC-ES Evaluation Report**

## ESR-2074

Reissued February 2017 Revised November 2017

This report is subject to renewal February 2019.

www.icc-es.org | (800) 423-6587 | (562) 699-0543

A Subsidiary of the International Code Council®

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.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 EVALUATION SCOPE

#### Compliance with the following codes:

- 2015, 2012, 2009 and 2006 International Building Code® (IBC)
- 2015, 2012, 2009 and 2006 International Residential Code® (IRC)
- 2013 Abu Dhabi International Building Code (ADIBC)<sup>†</sup>

<sup>†</sup>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<sup>®</sup> 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 2.7.2.2 and Section 2.7.3 of ASCE/SEI 24-14 [Section 2.6.2.2 of ASCE/SEI 24-05 (2012, 2009, 2006 IBC and IRC)] 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. Installation clips allow mounting in masonry and concrete walls of any thickness. In order to comply with the engineered opening design principle noted in Section 2.7.2.2 and 2.7.3 of ASCE/SEI 24-14 [Section 2.6.2.2 of ASCE/SEI 24-05 (2012, 2009, 2006 IBC and IRC)], 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  $400 \text{ square feet } (37.2 \text{ m}^2) \text{ of enclosed area.}$ 

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

## 5.0 CONDITIONS OF USE

The Smart Vent<sup>®</sup> 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 August 2015.

# 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 <sup>®</sup>	1540-520	15 <sup>3</sup> / <sub>4</sub> " X 7 <sup>3</sup> / <sub>4</sub> "	200
SmartVENT <sup>®</sup>	1540-510	15 <sup>3</sup> / <sub>4</sub> " X 7 <sup>3</sup> / <sub>4</sub> "	200
FloodVENT <sup>®</sup> Overhead Door	1540-524	15 <sup>3</sup> / <sub>4</sub> " X 7 <sup>3</sup> / <sub>4</sub> "	200
SmartVENT <sup>®</sup> Overhead Door	1540-514	15 <sup>3</sup> / <sub>4</sub> " X 7 <sup>3</sup> / <sub>4</sub> "	200
Wood Wall FloodVENT®	1540-570	14" X 8 <sup>3</sup> / <sub>4</sub> "	200
Wood Wall FloodVENT® Overhead Door	1540-574	14" X 8 <sup>3</sup> / <sub>4</sub> "	200
SmartVENT <sup>®</sup> Stacker	1540-511	16" X 16"	400
FloodVent <sup>®</sup> Stacker	1540-521	16" X 16"	400

For SI: 1 inch = 25.4 mm; 1 square foot = m<sup>2</sup>

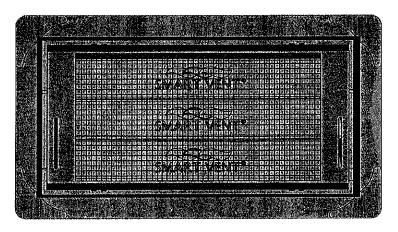


FIGURE 1—SMART VENT: MODEL 1540-510

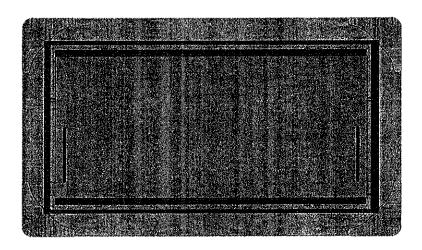


FIGURE 2-SMART VENT MODEL 1540-520

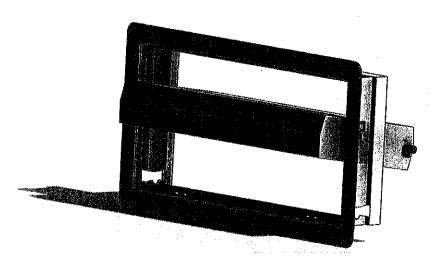


FIGURE 3—SMART VENT: SHOWN WITH FLOOD DOOR PIVOTED OPEN