## U.S. DEPARTMENT OF HOMELAND SECURITY FEDERAL EMERGENCY MANAGEMENT AGENCY National Flood Insurance Program

# **ELEVATION CERTIFICATE**

Important: Read the instructions on pages 1-9.

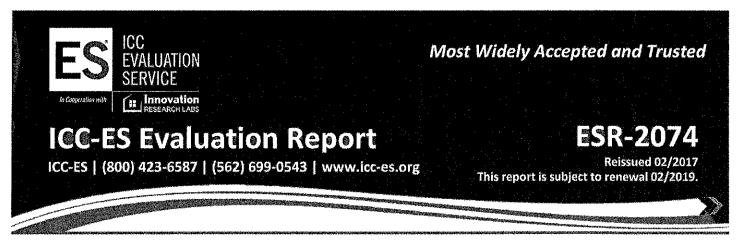
OMB No. 1660-0008

Expiration Date: July 31, 2015

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A1. Building Owner's Nan	ne The Siegal's	SECTI	ON A – PROPE	RIYINFORM	MATION	Measurement in the	NSURANCE COMPANY USE Number:
3uilding Street Addre 18 S. Knight Ave.	ss (including Apt	., Unit, Suite, and/or B	ldg. No.) or P.O. F	Route and Box N	No.	Compa	iny NAIC Number:
City CITY OF MARG	ATE CITY		State NJ	ZIP Code	08402		
A3. Property Description ( BLOCK 112.02 LOT 21	Lot and Block N	umbers, Tax Parcel Nu	umber, Legal Desc	ription, etc.)	-		
A4. Building Use (e.g., Re A5. Latitude/Longitude: La A6. Attach at least 2 photo A7. Building Diagram Num A8. For a building with a c a) Square footage of b) Number of permar or enclosure(s) wit c) Total net area of fi	at. N 39.3269 Longraphs of the bunder 8 crawlspace or encrawlspace or entent flood opening him 1.0 foot above openings?	ong. W 074.5031 Hori: closure(s): nclosure(s)  ggs in the crawlspace e adjacent grade  A8.b  Yes No	zontal Datum:  is being used to contain the second	NAD 1927 🖂 btain flood insu  A9. For a a) So b) Nu wi c) To d) Er	building with an atta quare footage of atta umber of permanent thin 1.0 foot above a otal net area of flood ngineered flood oper	ached ga t flood op adjacent l opening nings?	rage <u>N/A</u> sq ft penings in the attached garage grade <u>N/A</u>
	SEC	TION B - FLOOD II	NSURANCE RA	TE MAP (FIR	M) INFORMATIO	N	
B1. NFIP Community Name CITY OF MARGATE	e & Community N 345304		B2. County Name ATLANTIC COUN	ГΥ		B3. Sta NJ	te
B4. Map/Panel Number 345304 / 0001	B5. Suffix	B6. FIRM Index Da	Effective/F	RM Panel Revised Date 8/1983	B8. Flood Zone(s) A8		Base Flood Elevation(s) (Zone AO, use base flood depth) 10
B10. Indicate the source of  FIS Profile  B11. Indicate elevation datu B12. Is the building located Designation Date:	☑ FIRM m used for BFE	Elevation (BFE) data o  Community Deter in Item B9:  NGVD	r base flood depth mined	entered in Iten Other/Source: <sub>-</sub> NAVD 1988	1 B9. Other/Source:		☐ Yes
	SECTIO	N C – BUILDING E	LEVATION INF	ORMATION (	SURVEY REQUIF	RED)	
C1. Building elevations are  *A new Elevation Certific  C2. Elevations – Zones A1– below according to the language Benchmark Utilized: priv  Indicate elevation datun Datum used for building	cate will be requing A30, AE, AH, A obtained and a control of the control of the clean contro	(with BFE), VE, V1–V3 specified in Item A7. I evations in items a) thr	of the building is 30, V (with BFE), An Puerto Rico only Vertical Datum: ough h) below.	complete. AR, AR/A, AR/A , enter meters. <u>NGVD 1929</u>		AH, AR/	inished Construction  AO. Complete Items C2.a-h  urce:
Datum used for building	*	be the same as that t	ised for the Di L.		Check	the mea	asurement used.
a) Top of bottom floor (ii b) Top of the next highe c) Bottom of the lowest d) Attached garage (top e) Lowest elevation of m (Describe type of equ	r floor horizontal structu of slab) nachinery or equi ipment and locat	ral member (V Zones pment servicing the bi ion in Comments)	only)	8.4 14.3 N/A N/A 10.6	- - -	<ul><li>☐ feet</li><li>☐ feet</li><li>☐ feet</li><li>☐ feet</li><li>☐ feet</li></ul>	meters meters meters meters meters meters
<ul><li>f) Lowest adjacent (finisg) Highest adjacent (finish) Lowest adjacent grad</li></ul>	shed) grade next	to building (HAG)	including structura	<u>8.3</u> 8. <u>7</u> Il support <u>N/A.</u>	_	<ul><li> feet</li><li> feet</li><li> feet</li></ul>	☐ meters ☐ meters ☐ meters
	SECTIO	N D - SURVEYOR	, ENGINEER, O	R ARCHITEC	T CERTIFICATION	ON N	
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C: diffier's Name Paul M. Ko		Company Name Pa			NJ24GS 04328800		* Nort Nin
Address 2161 Shore Road		City Linwood			Code 08221		
Signature	200	Date 8/19/14	Tel	ephone (609)	927-0279		

	oo, oop) the corresponding	information from Section A.	FO	R INSURANCE COMPANY USE
Building Street Address (includin 8 S. Knight Ave.	ng Apt., Unit, Suite, and/or Bldg. No	o.) or P.O. Route and Box No.	Pol	cy Number:
City MARGATE		State NJ ZIP Code 0840	2 Cor	npany NAIC Number:
SEC.	TION D – SURVEYOR, ENGIN	IEER, OR ARCHITECT CERTIF	ICATION (CONT	INUED)
Copy both sides of this Elevation	Certificate for (1) community offic	ial, (2) insurance agent/company, and	d (3) building owne	r.
Comments A8b.) Smart Vents Model #154 *B8 & B9.) FEMA Flood Hazard **C2a.) crawlspace ***C2e.) Ductwork elevation	0-510 engineered for 200 square in d Resources Map Zone AEBase	nches of net area e Flood Elevation 9 ft. (NAVD88) con	verted = 10.3 ft. (I	NGVD29)
Signature /	telling	Date 8/19/14		
SECTION E – BUILDING	ELEVATION INFORMATION	(SURVEY NOT REQUIRED) FO	R ZONE AO AN	D ZONE A (WITHOUT BFE
For Zones AO and A (without BF	E), complete Items E1–E5. If the (	Certificate is intended to support a LC measurement used. In Puerto Rico o	DMA or LOMR-F re	quest, complete Sections A, B,
grade (HAG) and the lowes a) Top of bottom floor (inclub) Top of bottom floor (inclub) Top of bottom floor (included) E2. For Building Diagrams 6–9 (elevation C2.b in the diagrams) E3. Attached garage (top of slate) E4. Top of platform of machine E5. Zone AO only: If no flood of	st adjacent grade (LAG).  uding basement, crawlspace, or er  uding basement, crawlspace, or er  with permanent flood openings pr  rams) of the building is  ab) is feet [  ary and/or equipment servicing the  depth number is available, is the to	appropriate boxes to show whether the closure) is feet closure) is feet covided in Section A Items 8 and/or 9 feet meters above meters above or below the building is feet p of the bottom floor elevated in accolumnts certify this information in Section in Section floor elevated in accolumnts to the control of the bottom floor elevated in accolumnts to entire the control of the control of the control of the bottom floor elevated in accolumnts the control of	meters at meters at meters at	ove or ☐ below the HAG. ove or ☐ below the LAG. Instructions), the next higher flo AG.  or ☐ below the HAG.
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r Zone AO must sign here. The	statements in Sections A, B, and E	oletes Sections A, B, and E for Zone A are correct to the best of my knowle	A (without a FEMA dge.	issued or community-issued Bl
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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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# **ICC-ES Evaluation Report**

## ESR-2074

Reissued February 2017 Revised November 2017

This report is subject to renewal February 2019.

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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>

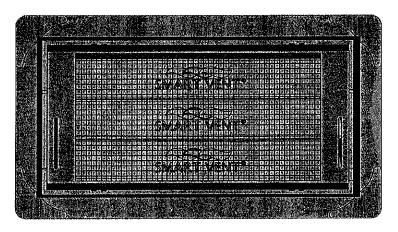


FIGURE 1—SMART VENT: MODEL 1540-510

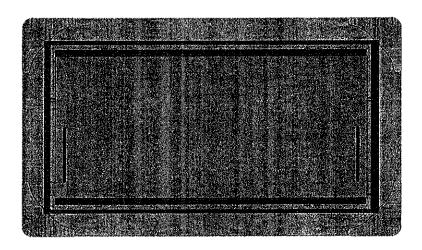


FIGURE 2-SMART VENT MODEL 1540-520

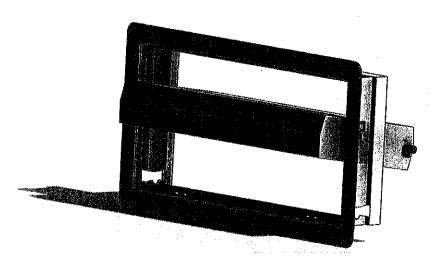


FIGURE 3—SMART VENT: SHOWN WITH FLOOD DOOR PIVOTED OPEN