DIVISION 10 – SPECIALTIES
Section 10230 – Vents

FloodVENT™ Model #1540-520
Smart VENT® Model #1540-510

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1.0 SUBJECT
1.1 FloodVENT™ Model #1540-520
1.2 Smart VENT® Model #1540-510

2.0 PROPERTY FOR WHICH EVALUATION IS SOUGHT
2.1 Floodwater Venting
2.2 Natural Ventilation

3.0 DESCRIPTION
Smart VENT®, Inc.’s Smart VENT® Model #1540-510 and FloodVENT™ Model #1540-520 reduce hydrostatic pressures of floodwaters on foundations and buildings caused by rising and falling floodwater. They open automatically to rising floodwater pressure from any direction, quickly equalizing hydrostatic forces on both sides of the foundation wall.

The vents are designed to fit an 8 × 16 inch (203 × 406 mm) opening and provide a 76 square inches (49 020 mm²) net free area for flood mitigation. The vents are made from Type 304 Stainless Steel or better and have a screen cover with 1/4 square inch (161 mm²) holes. The vents have been tested to show that they meet the design principle of ASCE 24-98 and FEMA Technical Bulletin 1-93 for a minimum rate of rise and fall of 5.0 feet per hour (152 mm/s).

4.0 INSTALLATION
Smart VENT® and FloodVENT™ are designed to be installed into foundation walls of existing and new construction without the use of tools completely from the exterior side of the wall. The installation of the vents shall be in accordance with the manufacturer’s instructions dated February 21, 2003, and this evaluation report. The patented mounting straps allow mounting in wood and masonry walls up to 12 inches (305 mm) thick. One vent unit is required for every 200 square feet (19 m) of enclosed area below the base flood elevation to meet flood mitigation requirements.

4.1 EXISTING BUILDING INSTALLATION
Smart VENT® and FloodVENT™ are installed into foundation walls of existing buildings located in flood prone areas. Remove existing 8 × 16 inch (203 × 406 mm) foundation vents found within 12 inches (305 mm) of the ground and clean the opening in accordance with the instructions. If there are not sufficient number of existing vents as required by code for the size of the enclosed area, cut an additional 8 × 16 inch (203 × 406 mm) opening in the foundation walls for each vent required. Install in accordance with the instructions.
4.2 NEW CONSTRUCTION INSTALLATION

For each vent required, provide a standard 8 × 16 inch (203 × 406 mm) hole in the foundation walls, 12 inches (305 mm) or less above grade. The wall face must be vertical, flat and smooth. The vent’s frame is first installed into the wall using the patented mounting straps. The vent’s door can be installed immediately thereafter or later when construction has been completed.

5.0 IDENTIFICATION

Smart VENT®, Inc.’s Smart VENT® Model #1540-510 and FloodVENT™ Model #1540-520 described in this report shall be identified by a label bearing the manufacturer’s name, model number, and this report number for field identification.

6.0 EVIDENCE SUBMITTED

6.1 Smart VENT®, Inc.’s Smart VENT® Model #1540-510 and FloodVENT™ Model #1540-520 installation instructions, dated February 21, 2003.

6.2 Letter of analysis on “Performance of Stainless Steels in Seacoast Environments”, dated April 5, 2001, and signed by James D. Fritz, Ph.D.

6.3 Architectural Testing Inc., Report No. 01-38957.01, dated June 1, 2001, signed by Steven Urich, P.E., and Allen N. Reeves, P.E., covers the following items:

- Installation Test
- Floodwater Rise Test
- Submerged Flow Test
- Floodwater Recession Test
- Structural Integrity Test
- Surge Test
- Salt Spray Test

6.4 Metallurgical Test Report from AK Steel, dated July 18, 2000, signed by R. A. West.

6.5 Architectural Testing Inc., Report No. 01-42966.01, dated November 15, 2002, signed by Steven Urich, P.E., covering the following items:

- Installation Test
- Floodwater Rise Test
- Submerged Flow Test
- Floodwater Recession Test
- Structural Integrity Test
- Debris Test


6.7 Net free ventilation opening calculations, dated February 20, 2003, signed and sealed by Steven Urich, P.E.

7.0 CONDITIONS OF USE

The ICC-ES Subcommittee on the National Evaluation Service finds that Smart VENT® Inc.’s FloodVENT™ Model #1540-520 and Smart VENT® Model #1540-510 as described in this report comply with or are suitable alternates to that specified in the 2000 International Building Code®, the 2000 International Residential Code™ for One- and Two-Family Dwellings, the 2002 Accumulative Supplement to the International Codes®, the BOCA® National Building Code1999, the 1999 Standard Building Code®, the 1997 Uniform Building Code®, the 1998 International™ One- and Two-Family Dwelling Code®, the 1995 CABO One- and Two-Family Dwelling Code, the 1998 International Mechanical Code®, and the 1996 International Mechanical Code® subject to the following conditions:

7.1 Installation of the Smart VENT® and FloodVENT™ referenced herein shall be in accordance with this report and manufacturer’s installation instructions referenced herein.

7.2 To conform with supplemental ventilation requirements, Smart VENT® and FloodVENT™ shall only be used to provide 50 square inches (0.30 m²) of net free area of supplemental natural ventilation to occupiable and habitable rooms and spaces, and as a supplemental opening to an under-floor space between the bottom of the floor joists and the earth under any building. Smart VENT® and FloodVENT™ shall only be used to provide supplemental openings, which provide ventilation to an under-floor space between the bottom of the floor joist and the earth under any building. Primary net free area used to provide natural ventilation to occupiable and habitable rooms and spaces, and openings, which provide ventilation air to an under-floor space between the bottom of the floor joist and the earth under any building shall comply with the applicable Codes.

7.3 Smart VENT® and FloodVENT™ shall not be used in the place of “Breakaway Walls” in coastal high hazard areas, but is permitted for use in conjunction with breakaway walls.

7.4 One Smart VENT® and/or FloodVENT™ shall vent unit shall be installed for every 200 square feet (19 m²) of enclosed area below the base flood elevation to meet flood mitigation requirements.

7.5 This report is subject to periodic re-examination. For information on the current status of this report, contact the ICC-ES.