



# COUNTY OF PRINCE WILLIAM

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DEPARTMENT OF  
PUBLIC WORKS  
Division of  
Building Development

Thomas Bruun  
Director

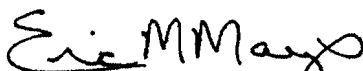
## Product Approval 03-01 December 18, 2006

<b><u>Division 7:</u></b>	<b><u>Thermal and Moisture Protection</u></b>	<b><u>Section 07210:</u></b>	<b><u>Building Insulation</u></b>
<b><u>Product:</u></b>	<b><u>Sealection™ 500 Spray Foam Insulation</u></b>	<b><u>Manufacturer:</u></b>	<b><u>Demilec USA 2925 Galleria Dr. Arlington, TX 76011</u></b>
<b><u>Report:</u></b>	<b><u>ES Report No. ERS 1172</u></b>		

### **Conditions of Use:**

This report is limited to the applications and products as stated in the ES Report #ERS 1172 (attached). The ICC-ES Subcommittee on National Codes intends that the report be used by the Code Official to determine that it complies with the code requirements specifically addressed, provided that this product is installed in accordance with the following conditions:

1. The Sealection™ 500 Spray Foam Insulation shall be installed in accordance with this report, the manufacturer's installation instructions and the appropriate code.
2. The Sealection™ 500 Spray Foam Insulation shall be separated from the interior of the building by an approved 15 minute thermal barrier, except when installed in attics or crawl spaces as described in Section 4.3 of the ERS Report.
3. The Sealection™ 500 Spray Foam Insulation shall not exceed the thickness and density noted in Sections 3.0 and 4.3.2 of the ERS Report.
4. The Sealection™ 500 Spray Foam Insulation shall be protected from the weather after application.
5. The Sealection™ 500 Spray Foam Insulation shall only be used in IRC Dwellings and Type V-B IBC Buildings.
6. The use of Sealection™ 500 Spray Foam Insulation shall be identified on the plans submitted to Plans Review for approval.
7. The use of Sealection™ 500 Spray Foam Insulation shall be inspected by the project superintendent and identified on the County's Energy Envelope and Roof Covering Certification for residential projects and will be inspected by County Inspectors on commercial projects. Manufacturer's installation instructions and a copy of ES Report No. ERS 1172 must be on site for either inspection.

  
Eric M. Mays, P.E., C.B.O.  
Building Official

Cc: Product Approval Folder  
Building Plan Review Branch  
Construction Inspections Branch

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**DIVISION: 07—THERMAL AND MOISTURE PROTECTION**  
**Section: 07210—Building Insulation**

**REPORT HOLDER:**

**DEMILEC USA**  
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**EVALUATION SUBJECT:**

**SEALECTION™ 500 SPRAY FOAM INSULATION**

**1.0 EVALUATION SCOPE**

**Compliance with the following codes:**

- 2003 *International Building Code*® (IBC)
- 2003 *International Residential Code*® (IRC)
- BOCA® *National Building Code*/1999 (BNBC)
- 1999 *Standard Building Code*® (SBC)
- 1997 *Uniform Building Code*™ (UBC)

**Properties evaluated:**

- Surface burning characteristics
- Thermal transmission
- Attic and crawl space installation

**2.0 USES**

Sealection™ 500 Spray Foam Insulation is used as a thermal insulating material.

**3.0 DESCRIPTION**

**3.1 General:**

Sealection™ 500 is a spray-applied, semi-rigid, low-density, cellular polyurethane foam plastic that is installed as a nonstructural component of floor/ceiling and wall assemblies. The material is a two-component, open cell spray-applied semi-rigid polyurethane foam plastic system, fully-water-blown with a density of 0.5 pcf (8 kg/m<sup>3</sup>). The polyurethane foam is produced by combining a polymeric isocyanate (A500) and a resin (B500). By-products of the reaction include carbon dioxide and steam which act together as a blowing agent.

**3.2 Surface-burning Characteristics:**

The insulation, at a thickness of 6 inches (152 mm) and a density of 0.5 pcf (8 kg/m<sup>3</sup>), has a flame-spread index of less

than 25 and a smoke-developed index of less than 450 when tested in accordance with ASTM E 84.

**3.3 Thermal Transmission, R-Values:**

The insulation has a thermal transmission (*R*-value) of 3.81 ft<sup>2</sup>·h·°F/Btu (0.67 m<sup>2</sup>·K/W) at a 1-inch (25.4 mm) thickness and a density of 0.5 pcf (8 kg/m<sup>3</sup>).

**3.4 Andek Firegard Intumescent Coating:**

Andek Firegard intumescent coating (Andek Firegard) is a water-based liquid coating with specific gravity of 1.37. Andek Firegard is supplied in 5-gallon (19 L) pails and has a shelf life of one year when stored in a factory-sealed container at temperatures between 45°F (7°C) and 90°F (32°C).

**4.0 INSTALLATION**

**4.1 General:**

Sealection™ 500 Spray Foam Insulation shall be installed in accordance with the manufacturer's published installation instructions and this report.

The manufacturer's published installation instructions and this report shall be strictly adhered to and a copy of these instructions shall be available at all times on the jobsite during installation.

The instructions within this report shall govern if there are any conflicts between the manufacturer's published installation instructions and this report.

**4.2 Application:**

Sealection™ 500 is spray-applied on the jobsite using a volumetric positive displacement pump as identified in the Demilec application manual. The Sealection™ 500 Resin B500 component shall not be stored, before installation, at temperatures below 59°F (15°C) or above 86°F (30°C). Sealection™ 500 shall not be used in areas that have a maximum service temperature greater than 180°F (82°C). The foam plastic shall not be used in electrical outlet or junction boxes or in contact with rain, water, or soil. The foam plastic shall not be sprayed onto a substrate that is wet, or covered with frost or ice, loose scales, rust, oil, or grease. The insulation shall be protected from the weather after application.

**4.2.1 Andek Firegard:** When required by Section 4.3.2, the Andek Firegard intumescent fluid-applied coating must be applied in accordance with the coating manufacturer's instructions and this report. Surfaces to be coated must be dry, clean, and free of dirt, loose debris and any other substances that could interfere with adhesion of the coating. The Andek Firegard coating is applied with a 3/8-inch (0.4 mm) nap roller, nylon bristle brush or airless sprayer to a recommended thickness of 10 mils (0.25mm) dry film (16 wet mils or 0.4 mm). The coating must be applied within a temperature range of 45°F (7°C) and 90°F (32°C) and has a two-hour curing time.

### 4.3 Thermal Barrier:

Sealection™ 500 shall be separated from the interior of the building by an approved thermal barrier of 0.5-inch (12.7 mm) gypsum wallboard or an equivalent 15-minute thermal barrier complying and installed in accordance with the applicable code, except where installation is in an attic or crawl space as described in Section 4.3.1 or 4.3.2 of this report.

**4.3.1 Assembly No. 1, Attics and Crawl Spaces:** When Sealection™ 500 Spray Foam Insulation is installed within attics or crawl spaces where entry is made only for service of utilities, an ignition barrier must be installed in accordance with IBC Section 2603.4.1.6, IRC Section R314.2.3, BNBC Section 2603.4.1.4, SBC Section 2603.5.1.6, and UBC Section 2602.4, as applicable. The ignition barrier must be consistent with the requirements for the type of construction required by the applicable code, and must be installed in a manner so that the foam plastic insulation is not exposed.

**4.3.2 Assembly No. 2, Attics and Crawl Spaces:** The Sealection 500 Spray Foam Insulation may be spray-applied to the underside of wood floor and roof sheathing or roof rafters in attics and crawl spaces as described in this section. The thickness of the foam plastic applied to the underside of the top of the space must not exceed 10 inches (254 mm), and the foam plastic must have a density of 0.5 pcf (8 kg/m<sup>3</sup>). Foam plastic applied to vertical wall surfaces in attics and crawl spaces must not exceed 5½ inches (140 mm) in thickness and must be covered with a minimum nominal 10-mil dry film (0.25 mm) thickness of Andek Corporation's Firegard intumescent coating applied in two coats, or shall be protected as described in Section 4.3.1 of this report. The Andek Firegard intumescent coating described in Section 3.4 must be applied as described in Section 4.2.1. The foam plastic may be installed exposed in attic or crawl spaces without a thermal barrier or ignition barrier as described in this section, under the following conditions:

- Entry to the attic or crawl space is limited to service of utilities.
- There are no interconnected basement or attic areas.
- Air in the attic or crawl space is not circulated to other parts of the building.
- Ventilation of the attic or crawl space is provided in accordance with the applicable code.
- Combustion air must be provided in accordance with Section 701.4.2 of the *International Mechanical Code*® (IMC), Section 703 of the *Standard Mechanical Code*® and Sections 701 and 703.1 of the *Uniform Mechanical Code*.

### 5.0 CONDITIONS OF USE

The Sealection™ 500 Spray Foam Insulation described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 This evaluation report and the manufacturer's published installation instructions, when required by the code official, shall be submitted at the time of permit application.
- 5.2 The Sealection™ 500 Spray Foam Insulation shall be installed in accordance with the manufacturer's

published installation instructions, this evaluation report and the applicable code.

- 5.3 The Sealection™ 500 Spray Foam Insulation shall be separated from the interior of the building by an approved 15-minute thermal barrier, except when installed in attics and crawl spaces as described in Section 4.3.
- 5.4 The Sealection™ 500 Spray Foam Insulation shall not exceed the thickness and density noted in Sections 3.0 and 4.3.2 of this report.
- 5.5 The Sealection™ 500 Spray Foam Insulation shall be protected from the weather after application.
- 5.6 The Sealection™ 500 Spray Foam Insulation shall be applied by contractors certified by Demilec USA.
- 5.7 In jurisdictions that have adopted the SBC and the IRC, when installed in buildings of wood construction, the insulation shall not be installed on the exterior of foundation walls or below floor slabs on ground or in contact with the ground. The insulation shall have a clearance above grade and exposed earth of 6 inches (152 mm) or greater.
- 5.8 The Sealection™ 500 Spray Foam Insulation is limited to use in Type V-B construction under the IBC (Type 5B under the BNBC, Type VI under the SBC, Type V-N under the UBC) and dwellings under the IRC.
- 5.9 The Sealection™ 500 Spray Foam Insulation is produced in Arlington, Texas, under a quality control program with inspections by Intertek Testing Services NA, Ltd. (AA-689).
- 5.10 Use of Sealection™ 500 Spray Foam Insulation as fireblocking or draftstopping has not been evaluated and is outside the scope of this report.

### 6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with ICC-ES Acceptance Criteria for Foam Plastic Insulation (AC12), dated June 2006.
- 6.2 Test reports on crawl-space comparative fire testing of spray foam plastic for installation without ignition barriers in attics and crawl spaces.
- 6.3 Engineering fire risk analysis of comparative crawl-space fire testing.
- 6.4 A quality control manual.

### 7.0 IDENTIFICATION

Each package of components for the Sealection™ 500 Spray Foam Insulation is identified with the manufacturer's name (Demilec USA), the manufacturer's address and telephone number, the product trade name (Sealection™ 500), use instructions, the evaluation report number (ESR-1172), and the name of the inspection agency (Intertek Testing Services NA, Ltd.).

Each pail of Andek Corporation's Firegard intumescent coating is labeled with the manufacturer's name (Andek Corporation) and the product trade name (Andek Firegard).