



Safety & Buildings Division
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Approval # **New Product #**
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Wisconsin

Building Products Evaluation

Material

Spray Foam Insulation
“Sealection™ 500” and “Heatlok 217-0”

Manufacturer

Demilec (USA) LLC
2925 Galleria Dr.
Arlington, TX 76011

SCOPE OF EVALUATION

GENERAL: This report evaluates the use of Sealection™ 500 and Heatlok 217-0 closed-cell rigid spray polyurethane insulation, manufactured by Demilec USA, LLC, evaluated as a foamed-in-place insulation for brick and block cavities, concrete block cavities, pre-cast hollow core block and plank, and new frame construction. Sealection™ 500 and Heatlok 217-0 foamed-in-place cellular plastic insulation was evaluated in accordance with the fire safety requirements for foam plastic, and thermal performance, for the codes listed below.

This review includes the cited **Comm** code requirements below in accordance with the current **Wisconsin Uniform Dwelling Code (UDC), for 1- & 2-family dwellings:**

- **Foam Plastic Material:** Sealection™ 500 and Heatlok 217-0 closed-cell rigid spray polyurethane insulation was evaluated in accordance with the fire safety requirements of **s. SPS 21.11**.
- **Thermal Performance:** Sealection™ 500 and Heatlok 217-0 closed-cell rigid spray polyurethane insulation was evaluated in accordance with the thermal performance requirements of **s. SPS 322.20**.

This review includes the cited **International Building Code (IBC)** requirements below in accordance with the current **Wisconsin Amended IBC Code:**

- **Foam Plastic:** Sealection™ 500 and Heatlok 217-0 closed-cell rigid spray polyurethane insulation was evaluated in accordance with the fire safety requirements of **ss. IBC 2603.1, 2603.2, 2603.3** and **s. IBC 2603.4**.
- **Thermal Performance:** Sealection™ 500 and Heatlok 217-0 closed-cell rigid spray polyurethane insulation was evaluated in accordance with the thermal performance requirements of **s. SPS 363.303**.

DESCRIPTION AND USE

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/m³). 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.

Heatlok 217-0 is a two component spray-applied rigid polyurethane foam system. For identification purposes, a dye is added to the resin to give the final product a green color.

Both Sealection™ 500 and Heatlok 217-0 closed-cell rigid spray polyurethane foam is spray applied on surfaces such as roof decks and perimeter walls of residential and commercial buildings over a variety of substrates such as wood, metal or concrete either above or below grade.

TESTS AND RESULTS

Tests for surface-burning characteristics for both Sealection™ 500 and Heatlok 217-0 closed-cell rigid spray polyurethane insulation were conducted in accordance with ASTM E84. The flame spread index was determined to be less than 25 and 20 respectively, and the smoke-developed value was determined to be less than 450 and 450 respectively for 6-inch thickness, and 3-inch thickness respectively.

A thermal conductivity test for was performed in accordance with ASTM C518 for both Sealection™ 500 and Heatlok 217-0 closed-cell rigid spray polyurethane insulation. The results were as follows: the R-value of Sealection™ 500 closed-cell rigid spray polyurethane insulation is 3.81 Btu-in./hr./ft.²/°F at a 1-inch thickness and a density of 0.5 pcf, and the R-value of Heatlok 217-0 closed-cell rigid spray polyurethane insulation is 7.14 Btu-in./hr./ft.²/°F at 1-inch thickness and a density of 2.2 pcf (32°F (0°C) / 77°F (25°C) and 6.74 Btu-in./hr./ft.²/°F at 1-inch thickness and a density of 2.2 pcf (50°F (10°C) / 95°F (35°C).

Water absorption testing was done in accordance with ASTM D2842 on the Heatlok 217-0 closed-cell rigid spray polyurethane insulation, having a 1.0% absorption by volume rating.

LIMITATIONS OF APPROVAL

General: Both Sealection™ 500 and Heatlok 217-0 closed-cell rigid spray polyurethane insulation is approved for installation in the cores of concrete-block, in the cavities between block and brick or double-brick walls, pre-cast hollow core block and plank, pre-cast panels and attics & crawl spaces.

The **Comm** limitation requirements below are in accordance with the current **Wisconsin Uniform Dwelling Code (UDC), for 1- & 2-family dwellings:**

- **Foam Plastic:** Both Sealection™ 500 and Heatlok 217-0 closed-cell rigid spray polyurethane insulation shall be separated from the building interior with a thermal barrier as required by **s. SPS 321.11 (1)**.
- **Thermal Performance:** Both Sealection™ 500 and Heatlok 217-0 closed-cell rigid spray polyurethane insulation shall meet the thermal performance requirements of **s. SPS 322.20** and the vapor retarder requirements of **s. SPS 322.38(2)**. Calculations shall be submitted in accordance with **s. SPS 320.09**.

The **IBC** limitations below are in accordance with the current **Wisconsin Amended ICC Code:**

- **Foam Plastic:** Both Sealection™ 500 and Heatlok 217-0 closed-cell rigid spray polyurethane insulation shall be separated from the building interior with a thermal barrier as required by **s. IBC 2603.4**. When Sealection™ 500 closed-cell rigid spray polyurethane insulation is installed within an attic or crawl space, where entry is made only for service utilities, the foam plastic insulation may instead be protected against ignition by 1-1/2" thick mineral fiber insulation, a 1/4" thick wood structural panel, particleboard or hardboard, gypsum wallboard, corrosion-resistant steel or other approved material installed so that the foam plastic is not exposed. The crawl space shall not be used for storage or air handling purposes, there shall not be any interconnected basement areas and entry to the crawl space shall only be for service of utilities.

- **Thermal Performance:** Both Sealection™ 500 and Heatlok 217-0 closed-cell rigid spray polyurethane insulation shall meet the thermal performance requirements of **s. SPS 363.303 and the vapor retarder requirements of s. IBC 1405.3**. Calculations shall be signed, sealed and submitted in accordance with **s. SPS 361.31**.

When installed outdoors, both Sealection™ 500 and Heatlok 217-0 closed-cell rigid spray polyurethane insulation shall be finished with an approved weather covering and must be protected from ultraviolet light.

Below grade masonry walls shall be damp-proofed per s. SPS 321.18(3) or s. IBC 1805. Damp-proofing and waterproofing materials shall be approved by Demilec USA and the local building official, and shall be free of solvents that will adversely affect the insulation.

Both Sealection™ 500 and Heatlok 217-0 closed-cell rigid spray polyurethane insulation shall be installed by contractors licensed and certified by Demilec USA.

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.

This approval will be valid through December 31, 2016, unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the department. The product approval is applicable to projects approved under the current edition of the applicable codes. This approval may be void for project approvals made under future applicable editions. The Wisconsin Building Product Evaluation number must be provided when plans that include this product are submitted for review.

DISCLAIMER

The department is in no way endorsing or advertising this product. This approval addresses only the specified applications for the product and does not waive any code requirement not specified in this document.

Approval Date: March 12, 2012 By: _____

Tom Kasper
Section Chief
Division of Safety & Buildings