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Applicator Specification BioBased 1701 Spray Foam

A. Product

BioBased 1701 is a nominal 1.7 lb/ft³ density spray applied polyurethane foam insulation formulated with water as the sole blowing agent. BioBased 1701 provides exceptional performance in reducing heat transfer, moisture gain, and improving racking loads.

B. Manufacturer

The resin is blended by BioBased Systems, LLC.

C. Product Description

BioBased 1701 spray foam insulation is a two-part, soy-based product installed using custom designed application equipment.

BioBased 1701 is applied by spraying liquid chemical components directly onto wall, ceiling and floor surfaces. When applied, the components quickly expand to create a foam layer covering surfaces, filling cracks, and sealing voids. The foam adheres to almost all clean surfaces and when cured can be trimmed as desired.

D. Foam Physical Properties (ICC Acceptance Criteria)

| Typical Properties | Test Method | BioBased 1701 Results |
|--------------------------------------|-------------|---------------------------|
| “A” Component: | | |
| Viscosity at 77°F (25°C), cps | ASTM D 4878 | 225 |
| Specific Gravity at 77°F (25°C) | ASTM D 4669 | 1.24 |
| “B” Component: | | |
| Viscosity at 77°F (25°C), cps | ASTM D 4878 | 1800 |
| Specific Gravity at 77°F (25°C) | ASTM D 4669 | 1.24 |
| Sprayed Foam Density, pcf | ASTM D 1622 | 1.7 nominal |
| Open-Cell Content, % | ASTM D 2856 | 14.5% |
| R-Value per inch | ASTM C 518 | 5.5 |
| Initial | | TBD* |
| Aged | | >0.10 m ² ·K/W |
| Thermal Conductivity | | |
| Maximum Service Temperature, °F (°C) | ASTM C 411 | 180°F (82°C) |
| Surface Burning Characteristics | ASTM E 84 | Class 1 |
| Class Rated | | 25 |
| Flame Spread Index | | <250 |
| Smoke Developed | | |

TBD = To Be Determined

Caution: These physical property results are typical for this material as applied in our development facility under controlled conditions. The foam and resultant physical properties can vary with changes in the application parameters; e.g. temperature, thickness, processing equipment, mix head variations, throughput, etc. As a result, these published properties are for evaluation guidelines and physical property specifications should be determined from the actual production processed foam.



E. Containers

A set of chemicals for **BioBased 1701** spray foam insulation consists of the following:

- one (1) 55 gallon drum of 'A' component
- one (1) 55 gallon drum of 'B' component

F. Storage

For both 'A' and 'B' components — store between 64°F and 86°F (18°C and 30°C).

G. Installation Specifications

| | |
|---------------------------|---------------------------------------|
| Pressure | 1000 psi ±100 psi (69 bar ± 7 bar) |
| A Drum Temperatures | 80°F (27°C) |
| B Drum Temperatures | 110°F (43°C) |
| Temperature of block | |
| A Side heaters | 140°F ±10°F (60°C ±6°C) |
| B Side heaters | 150°F ±15°F (66°C ±6°C) |
| Hose..... | 140°F ±10°F (60°C ±6°C) |

The shipping weight for each set is 1032 lbs (468 kg).

Complete and thorough mixing of the B-Side component prior to spraying is critical to obtain optimum foam characteristics. Contact BioBased Insulation for a list of approved mixing equipment.

H: Applicator Testing Procedure

The recommended application and handling procedures for the **BioBased 1701** should be known and followed by the foam applicator. BioBased Insulation recommends a small "test area" of spray foam should be applied and inspected prior to commencing the project. This simple, low-cost test area can indicate inadequate adhesion, improper surface preparation or need for primer, surface contamination, improper substrate, ambient temperature outside recommended application temperatures, equipment malfunctions, material contamination, or improper application technique. The visual inspection of a sample cut from a test spray and periodic job samples can reveal potential problems that may be due to one or more of the above conditions.

I. Cautions

Polyurethane foam insulation systems must be protected with a 15-minute thermal barrier or suitable ignition barrier solely dependent on the application. Some building codes allow for specific exceptions. BioBased Insulation recommends that the applicator check with your local code official for final determination.

For the Surface Burning Characteristics, ASTM E84 Test Standard, the resultant numerical value for flame spread rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

BioBased 1701 should only be applied in ½ inch to 1 ½ inch passes. This application procedure is in compliance with the SPFA foam application guidelines. Thin passes (1/4 inch or less) should be avoided. They may result in reduced yield and loss of adhesion.

All rigid urethane foam products must not be applied with a thickness exceeding 4 inches in a 24 hour period. If this thickness is exceeded, the temperature buildup within the foam may cause internal charring of the applied foam, seriously affecting the quality and physical properties of the foam. Under certain conditions, applications exceeding this maximum recommended thickness may cause spontaneous combustion of the foam, often hours after the application time.

J: Disclaimer

The data presented herein is not intended for use by non-professional applicators, or those persons who do not purchase or utilize this product in the normal course of their business. The potential user must perform any pertinent tests in order to determine the product's performance and suitability in the intended application, since final determination of fitness of the product for any particular use is the responsibility of the buyer.

BioBased Insulation, LLC does not endorse open combustion appliances located in attic spaces.

K. Warranty

The information herein is to assist customers in determining whether our products are suitable for their applications. Our products are intended for sale to industrial and commercial customers. We request that customers inspect and test our products before use and satisfy themselves as to contents and suitability. We warrant good title and that our products will meet our written liquid component specifications. Nothing herein shall constitute any other warranty, express or implied, including any warranty of merchantability of fitness or that the products will be suitable for the purposes intended.

L. Technical Support

For technical support, please contact BioBased Insulation.