



1315 N. 13th Street  
Rogers, AR 72756

Phone: (800) 803-5189  
Fax: (479) 246-9524

Email: info@biobased.net  
Website: www.biobased.net

## Product Specification - BioBased 501 Spray Foam

### A. Product

BioBased 501 (0.5 lb/ft<sup>3</sup> spray foam polyurethane semi-open celled insulation)

### B. Manufacturer

The chemical components are manufactured by BioBased Systems, LLC.

### C. Product Description

BioBased 501 spray foam insulation is a two-part, soy-based product installed by Certified Dealers using custom designed application equipment. When installed, BioBased 501 expands to completely fill all voids to effectively seal against air infiltration—often the major source of heat/cooling loss. BioBased 501 also provides superior acoustical and thermal performance when compared to other insulation products. While offering superior performance in conventional construction, it is especially effective in steel-framed structures, older homes and metal buildings.

BioBased 501 is applied by spraying liquid chemical components onto open wall, ceiling, and floor surfaces; or into wall and other cavities. When applied, the components quickly expand to make a foam layer of millions of air pockets—covering surfaces and filling cracks and voids. The foam adheres to almost all surfaces, and when cured can be trimmed off to provide a surface that is ready for drywall or other finishing.

### D. Technical Data

**Note:** BioBased Systems warrants that the physical properties of BioBased 501 meet or exceed the numbers listed in the following technical data, and that they have been verified through testing by independent laboratories. Further testing and product development is ongoing and those results will be listed in the most current specification literature.

#### FOAM DENSITY - MINIMUM

- Test Standard .....ASTM D1622
- Density (pounds per cubic foot)..... 0.45–0.50

#### THERMAL PERFORMANCE - RESISTIVITY

- Test Standard .....ASTM C518
- Resistivity (R) per inch ..... 4.0

#### BURN CHARACTERISTICS

- Test Standard .....ASTM E84
- Average Flamespread Index..... 20
- Average Smoke Developed Index ..... 400
- Fuel Contribution ..... 1

#### OXYGEN INDEX

- Test Standard .....ASTM D2863
- Oxygen Index ..... 23.5%

#### AIR PERMEABILITY

- Test Standard .....ASTM E283
- Unit of measure ..... liters / second / meter<sup>2</sup>
- Test at 3.25" and 75 Pa pressure ..... .0080
- Test at 5.25" and 75 Pa pressure ..... .0049

#### WATER PERMEABILITY

- Test Standard .....ASTM E96
- Test at 3.5" thickness..... 16 perms
- Test at 5.5" thickness..... 10 perms

#### ACOUSTICAL PROPERTIES - SOUND TRANSMISSION CLASS

- Test Standard .....ASTM E90
- STC Sound Transmission Class ..... 37

#### ACOUSTICAL PROPERTIES - NOISE REDUCTION COEFFICIENT

- Test Standard .....ASTM C423
- NRC Noise Reduction Coefficient ..... 70

#### RESISTANCE TO THE GROWTH OF FUNGI

- Test Standard .....ASTM C1338
- Test Result.....pass—no growth of fungi



### E. Containers

A set of chemicals for *BioBased 501* spray foam insulation consists of the following:

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

The shipping weight for each set is 1082 lbs (491 kg).

### F. Storage

For both 'A' and 'B' components — store between 60° and 90°F (16° and 32°C).

### G. Installation

*BioBased 501* is installed by certified technicians that specialize in the installation of soy-based spray foam. Application of the product can generally occur independent of environmental conditions—it can be installed in hot, humid, or freezing conditions—and surface preparation is generally not necessary. Once *BioBased 501* has been sprayed, curing takes only a few seconds.

**Please refer to application manual for maximum operating efficiencies.**

### H. Installation Specifications

- Pressure ..... 1100 psi ±200 psi  
(76 bar ±14 bar)
- Drum temperatures..... 80°F ±5°F  
(27°C ±3°C)
- Temperature of block  
heaters and hose..... 120°F ±15°F  
(49°C ±8°C)

Complete, thorough, and accurate recirculation of the components prior to spraying is critical for good foam and high yields. Contact *BioBased Systems* for a list of approved recirculation equipment.

**Please refer to application manual for detailed information on installation specifications and techniques.**

### I. Warranty


*BioBased Systems* warrants that *BioBased 501* spray foam insulation, when installed according to *BioBased Systems* certified installation instructions and by a *BioBased Systems* Certified Dealer, will perform as indicated in the current product specification sheet.

### J. Technical Support

*BioBased Systems* Certified Dealers and *BioBased Systems, LLC* both provide information for technical and regulatory issues. Architectural specifications in CSI three-part format are available upon request.

### K. Disclaimers

- *BioBased Systems, LLC* does not endorse open combustion appliances located in attic space.
- *BioBased Systems, LLC* recommends that smoke detection devices be inter-tied to living areas located in attic space.
- *BioBased 501* must be separated from living areas by a 15 minute thermal fire barrier.

	<b>BUILDING INSULATION</b>
	<b>Bio Based Chemicals, LLC</b> <b>Rogers, AR</b>
	Listing #16664-1
	BioBase 501
	<b>Tested per:</b>
	ASTM E84
	Flame Spread Index: 20 or less
	Smoke Developed Index: 400 or less
	Maximum Thickness: 6 inches
	Maximum Density: 0.5 lb/ft <sup>3</sup>
<i>Listed</i> <small>Omega Point Laboratories (NER QA337 &amp; ICBO ES AA-657) Reference Directory of Listed Building Products, Materials &amp; Assemblies for Specifics</small>	

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