1315 N. 13th Street
Rogers, AR 72756

Phone: (800) 803-5189
Fax: (479) 636-5810
Email: info@biobased.net
Website: www.biobased.net

Product Specification - BioBased 501 Spray Foam

A. Product

BioBased 501 (0.5 lb/ft^3 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. Foam Physical Properties (ICC Acceptance Criteria)

International Code Council (ICC) Acceptance Criteria (AC12) Testing Requirements for Non-Structural Foam		Required Test Results	BBS 501 Test Results
Thermal Resistance at 75°F (24°C) mean temperature: • ASTM C518		As reported	3.83 R (resistivity) per inch of thickness
Core Density: • ASTM D1622		0.5 – 1.0 lbf/ft^3 (pounds per cubic foot)	0.5 lbf/ft^3
Closed cell content: • ASTM 2856		As reported	15.5%
Tensile Strength: • ASTM D1623	With a minimum closed cell content of 90%.	5 lbf/in^2 minimum (pounds per square inch)	n/a
	With a closed cell content of less than 90%.	3 lbf/in^2 minimum (pounds per square inch)	3.2 lbf/in^2 minimum
Dimensional Stability: • ASTM D2126		15% maximum total change	–2.8%
Surface Burning Characteristics: • International Building Code (IBC) ASTM E84		75 or less flamespread index	<25 flamespread index
		450 or less smoke developed index	<450 smoke developed index

BioBased 501 has met or exceeded all evaluation criteria for ICC (International Code Council) approval as a building insulation. Its ICC approval number is ESR-1383, and is in full compliance with the following codes:

- 2003 *International Building Code*® (IBC)
- 2003 *International Residential Code*® (IRC)
- 1997 *Uniform Building Code*® (UBC)

E. Additional Testing

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

AIR PERMEABILITY
- Test Standard..... ASTM E283
- Unit of measure .....liters / second / meter^2
- 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

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 1032 lbs (468 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.

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 contact *BioBased Systems* for building science (application) information.

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 atticspaces.
- *BioBased 2000 NB* must be separated from living areas by a 15 minute thermal barrier.
- For proper use of this insulating material, refer to *BioBased Systems* application information and any of the following codes or guides:
  - ICC, International Building Code, Section 2603
  - ICC, International Building Code, Section R314
  - API publication AX-230: *Fire and Safety Guidelines for Use of Rigid Polyurethane and Polyisocyanurate Foam Insulation in Building Construction.*

The above data should only be used as a guide since the actual foam properties are influenced by the efficiency of the spray gun, component temperatures, foam thicknesses, and amibient conditions. While the above technical information is based on results of actual tests conducted by BioBased Systems LLC, it should only be used as a guideline for typical chemical and physical properties. The user must test and qualify the product. Final determination of suitability is the responsibility of the user.

BioBased Systems warrants that the physical properties of *BioBased 501* meet or exceed the numbers listed in the 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.

Eco-$mart, Inc.
Sarasota, FL 34233 USA
Phone:(888) 329-2705
Email: info@ecosmartinc.com
Website: www.ecosmartinc.com