



# Architectural Technical Data Sheet

## BioBased<sup>®</sup> 501w Insulation

### DESCRIPTION

BioBased<sup>®</sup> 501w Insulation is a water blown, two part, open cell, bio-based spray applied, polyurethane foam having a nominal density of 0.5 p.c.f.

BioBased<sup>®</sup> 501w Insulation expands 100:1, filling voids, crevices, and building cavities, and reduces energy consumption needed for climate control by reducing infiltration. Once installed, BioBased<sup>®</sup> 501w Insulation assists in increasing thermal resistance, minimizes sound transfer, and can reduce the risk of moisture accumulation within the building envelope.

### RECOMMENDED USES

BioBased<sup>®</sup> 501w Insulation can be used in residential, commercial and industrial applications.

### EVALUATION CRITERIA

BioBased<sup>®</sup> 501w Insulation meets or exceeds the evaluation criteria for ICC (International Code Council) approval as a building insulation. Its ICC approval number is ESR-1383, and shall be installed in full compliance with the following codes:

- 2006 International Building Code<sup>®</sup> (IBC)
- 2006 International Residential Code<sup>®</sup> (IRC)
- 1997 Uniform Building Code<sup>®</sup> (UBC)

For proper use of this material, refer to BioBased<sup>®</sup> 501w Insulation application guide and the following codes and guides:

- IBC, International Building Code, Chapter 26
- IRC, International Residential Code, Section R314
- API publication Ax-230: Fire and Safety Guidelines for Use of Rigid Polyurethane and Polyisocyanurate Foam Insulation in Building Construction.

### ARCHITECTURAL REFERENCE

Architectural specifications in CSI three-part format are available upon request.

### Technical Support: BioBased<sup>®</sup> Insulation, LLC

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### Notice

The technical data contained herein is true and accurate to the best of the BioBased<sup>®</sup> Insulation's knowledge, information and belief on the date of publication. The technical data is subject to change, however, and the user should contact BioBased<sup>®</sup> Insulation prior to use or application to verify that the technical data is current. In addition, the technical data is provided for your guidance only. Because many factors can affect the processing or application of the product and/or its use, it is the user's responsibility to first test the product to determine its suitability for the user's intended use. The sale and use of this product is subject to all of the terms and conditions set forth in the BioBased<sup>®</sup> Insulation sales order, including the LIMITED WARRANTY, DISCLAIMER OF WARRANTY AND RELEASE, and EXCLUSION OF CONSEQUENTIAL AND OTHER DAMAGES. This technical data does not create an express warranty of any kind. The only warranty applicable to this product is the written, limited express warranty contained in the BioBased<sup>®</sup> Insulation sales order, which is extended to the purchaser only.

### INSTALLATION

BioBased<sup>®</sup> 501w Insulation must be installed by certified dealers who have successfully completed a BioBased<sup>®</sup> Insulation approved training program or BioBased<sup>®</sup> Insulation approved field certification training which covers proper application techniques, environmental health and safety, building science, and building code standards.

BioBased<sup>®</sup> Insulation does not recommend nor endorse open combustion appliances located in attic or crawl spaces. BioBased<sup>®</sup> 501w Insulation must be separated from occupied spaces by ½" gypsum or an equivalent 15 minute thermal barrier.

Physical Properties	Value	ASTM Test Method
Air Leakage <sup>Δ</sup> :		
2" x 4" wall cavity @ 75 PA	< 0.02 L/s/m <sup>2</sup>	E 283
2" x 6" wall cavity @ 75 PA	< 0.02 L/s/m <sup>2</sup>	E 283
Closed Cell Content	3.0 %	D 2856
Core Density (nominal)	0.5 lbs/ft <sup>3</sup>	D 1622
Criteria for fungi resistance	Pass	C 1338
Dimensional Stability	< -5.0%	D 2126
Surface Burning Characteristics*:	4" thickness	E 84
Flamespread Index	≤ 25	
Smoke Developed Index	≤ 450	
Tensile Strength	3.0 p.s.i.	D 1623
Water Vapor Permeability <sup>†</sup> :		E 96
3.5" Thick Foam	9.2 perms	
5.5" Thick Foam	6.1 perms	

<sup>Δ</sup> The International Residential Code defines air impermeable as having less than 0.02 L/m-s at 75 Pa. BioBased<sup>®</sup> 501w Insulation qualifies under this definition as an air barrier.

\* This numerical flame spread and all other data presented is not intended to reflect the hazards presented by this or any other material under actual fire conditions

<sup>†</sup> ASHRAE defines a Class III vapor retarder as having between 1 and 10 perms. BioBased<sup>®</sup> 501w Insulation, when installed at 3-½", qualifies under this definition as a Class III vapor retarder.

Thermal Resistance, Aged 90 days @ 72°F, 50% relative humidity		
C 518, 75°F, °F h ft <sup>2</sup> /BTU	1" nominal thickness	R - 3.8
C 518, 75°F, °F h ft <sup>2</sup> /BTU	3.5" nominal thickness	R - 13
C 518, 75°F, °F h ft <sup>2</sup> /BTU	5.5" nominal thickness	R - 20
C 518, 75°F, °F h ft <sup>2</sup> /BTU	7.5" nominal thickness	R - 28
C 518, 75°F, °F h ft <sup>2</sup> /BTU	10" nominal thickness	R - 37

Sound Transmission Class (STC) — 38 (2"x4" wood stud, ½" gypsum)						
Hz. Freq.	250	500	1000	2000	4000	5000
ASTM E 90	26	40	49	56	50	56