BioBased 501w®

Open Cell Insulation Quick Reference

For additional technical data see BioBased 501w® Technical Data Sheet.

Properties	Value	Test Method
Water Vapor Permeability†		
3.5″ (89 mm)	9.2 perms	ASTM E96
5.5″ (140 mm)	6.1 perms	ASTM E96
Air Leakage∆		
5.5″ (140 mm) @ 75 PA	< 0.02 L/s/m²	ASTM E283
Closed Cell Content	3.00%	ASTM D2856
Core Density (nominal)	0.5 pcf (8 kg/m³)	ASTM D1622
Fungi Resistance	Pass	ASTM C1338
Dimensional Stability	< -5.0%	ASTM D2126
Finished Foam Bio-Content	3%	ASTM D6866
Sound Transmission Class (STC)		
2 x 4 (50.8 mm x 101.6 mm) wood studs, 1/2″ (12.7 mm) gypsum	38	ASTM E90
Tensile Strength	3.0 psi (29.7 kPa)	ASTM D1623
Surface Burning Characteristics*	4″ (101.6 mm)	ASTM E84
Flame Spread Index	≤ 25	ASTM E84
Smoke Developed Index	≤ 450	ASTM E84

Full-Scale Room Corner Tests

Test Method	Walls	Ceilings	Covering	Report Number
NFPA 286	7″ (178 mm)	11.5″ (292 mm)	1/2″ Gypsum	01.13544.01.218
NFPA 286 (AC 377 Appendix X)	5.5″ (140 mm)	11.5″ (292 mm)	Foam Kote 50-50a (11 mil WFT, 6 mil DFT)	3184159-SAT-004
NFPA 286 (AC 377 Appendix X)	11.5″ (292 mm)	11.5″ (292 mm)	Flame Seal TB™ (4 mil WFT, 3 mil DFT)	100294098-SAT-002A
UL 1715	5.5″ (140 mm)	11.5″ (292 mm)	Flame Seal TB™ (30 mil WFT, 18mil DFT)	3184159-SAT-003-A

R-Value Aged 90 days @ 140°F (60°C)	ft²·°F·h/Btu	(K·m²/W)	
1″ (25.4 mm)	R – 3.8	RSI – 0.67	ASTM C518
3.5″ (88.9 mm)	R – 13	RSI – 2.29	ASTM C518
5.5″ (139.7 mm)	R – 20	RSI – 3.52	***
7.5″ (190.5 mm)	R – 28	RSI – 4.93	***
10″ (254 mm)	R – 37	RSI – 6.52	***
11.5″ (292.1 mm)	R – 43	RSI – 7.57	***

∆ The International Residential Code defines air impermeable as having less than 0.02 L/m-s at 75 Pa.
* 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.
† ASHRAE defines a Class III vapor retarder as a material having between 1 and 10 perms.
** Coating applied to vertical surfaces only.
*** Calculated Per ICC AC-377 and FTC Guidelines based on the K-Value at 3.5″ (88.9 mm).

Read This Before You Buy - What You Should Know About R-Values

The chart shows the R-value of this insulation. R means resistance to heat flow. The higher the R-value, the greater the insulating power. Compare insulation R-values before you buy. There are other factors to consider. The amount of insulation you need depends mainly on the climate you live in. Also, your fuel savings from insulation will depend upon the climate, the type and size of your house, the amount of insulation already in your house, and your fuel use patterns and family size. If you buy too much insulation, it will cost you more than what you'll save on fuel. To get the marked R-value, it is essential that this insulation be installed properly.

BUILD HEALTHY. BUILD SMART.®

BioBased® 502
Open Cell Insulation Quick Reference

For additional technical data see BioBased® 502 Technical Data Sheet.

Properties	Value	Test Method	
Water Vapor Permeability†			
3.5″ (89 mm)	4.807 perms	ASTM E96	
Air Leakage∆			
4″ (101.6 mm) @ 75 PA	0.008 L/s/m^2	ASTM E283	
Closed Cell Content	0.8%	ASTM D2856	
Core Density (nominal)	0.5 pcf (8 kg/m^3)	ASTM D1622	
Dimensional Stability	1.34%	ASTM D2126	
Finished Foam Bio-Content	12%	ASTM D6866	
Tensile Strength	4.2 psi (29 kPa)	ASTM D1623	
Surface Burning Characteristics*	4″ (101.6 mm)	ASTM E84	
Flame Spread Index	25	ASTM E84	
Smoke Developed Index	325	ASTM E84	
R-Value Aged 90 days @ 140°F (60°C)	ft^2·°F·h/Btu	(K·m^2/W)	
1.2″ (25.4 mm)	R – 3.9	RSI – 0.67	ASTM C518
3.5″ (88.9 mm)	R – 13	RSI – 2.29	ASTM C518

∆ The International Residential Code defines air impermeable as having less than 0.02 L/m-s at 75 Pa.
* 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.
† ASHRAE defines a Class III vapor retarder as a material having between 1 and 10 perms.

Read This Before You Buy - What You Should Know About R-Values
The chart shows the R-value of this insulation. R means resistance to heat flow. The higher the R-value, the greater the insulating power. Compare insulation R-values before you buy. There are other factors to consider. The amount of insulation you need depends mainly on the climate you live in. Also, your fuel savings from insulation will depend upon the climate, the type and size of your house, the amount of insulation already in your house, and your fuel use patterns and family size. If you buy too much insulation, it will cost you more than what you'll save on fuel. To get the marked R-value, it is essential that this insulation be installed properly.

BUILD HEALTHY. BUILD SMART.®