

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 E 96
5.5" (140 mm)	6.1 perms	ASTM E 96
Air Leakage^Δ		
5.5" (140 mm) @ 75 PA	< 0.02 L/s/m ²	ASTM E 283
Closed Cell Content	3.00%	ASTM D 2856
Core Density (nominal)	0.5 pcf (8 kg/m ³)	ASTM D 1622
Fungi Resistance	Pass	ASTM C 1338
Dimensional Stability	< -5.0%	ASTM D 2126
Surface Burning Characteristics*	4" (101.6 mm)	ASTM E 84
Flame Spread Index	≤ 25	ASTM E 84
Smoke Developed Index	≤ 450	ASTM E 84
Sound Transmission Class (STC)		
2 x 4 (50.8 mm x 101.6 mm) wood studs, 1/2" (12.7 mm) gypsum	38	ASTM E 90
Tensile Strength	3.0 psi (29.7 kPa)	ASTM D 1623
Room Corner	Pass	NFPA 286
Wall: 2 x 8 (50.8 mm x 203.2 mm) studs 24" (609.6 mm) o.c., Full Fill Foam. Ceiling: 2 x 12 (50.8 mm x 304.8 mm) studs 24" (609.6 mm) o.c., Full Fill Foam. Covered with 1/2" (12.7 mm) Gypsum.		
Alternate Ignition Barrier	Pass	SWRI 99-02
Wall: 2 x 6 (50.8 mm x 152.4 mm) studs 24" (609.6 mm) o.c., Full Fill Foam Ceiling: 2 x 10 (50.8 mm x 254 mm) studs 24" (609.6 mm) o.c., Full Fill Foam Covered with Flame Control Foam Kote 50-50 at 100 ft²/gal (2.54m²/L) in two coats		
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
3.5" (88.9 mm)	R – 13	RSI – 2.29
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
^Δ 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. ^{***} 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.		

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For additional technical data see BioBased 1701s® Technical Data Sheet.

Properties	Value		Test Method
Water Vapor Permeability†			
1" (25 mm)	2.06 perms		ASTM E 96
2.5" (63.5 mm)	0.73 perms		ASTM E 96
Water Absorption	0.2%		ASTM D 2842
Air Leakage^Δ			
1" (25 mm) thick foam @ 75 PA	< 0.02 L/s/m ²		ASTM E 283
Closed Cell Content	> 90%		ASTM D 2856
Core Density (nominal)	1.7 lbs./ft ³		ASTM D 1622
Compressive Strength	23 p.s.i. (1.6 bar)		ASTM D 1623
Tensile Strength	19 p.s.i. (1.3 bar)		ASTM D 1621
Fungi Resistance	Pass		ASTM C 1338
Dimensional Stability			
180°F (82°C), Ambient Humidity	< 1%		ASTM D 2126
73°F (23°C), 50% Relative Humidity	< 1%		ASTM D 2126
-4°F (-20°C), Ambient Humidity	< 1%		ASTM D 2126
Surface Burning Characteristics	1.625" (41 mm)		ASTM E 84
Flame Spread Index	≤ 25		ASTM E 84
Smoke Developed Index	≤ 450		ASTM E 84
Room Corner	Pass		NFPA 286
Wall: 2"x6" (38 mm x 140 mm) studs 24" (610 mm) o.c., Full Fill Foam. Ceiling: 2"x10" (38 mm x 241 mm) studs 24" (610 mm) o.c., Full Fill Foam. Covered with 1/2" (12.7 mm) Gypsum.			
Alternate Ignition Barrier	Pass		SWRI 99-02
Wall: 2"x6" (38 mm x 140 mm) studs 24" (610 mm) o.c., 6" (152 mm) foam. Ceiling: 2"x10" (38 mm x 241 mm) studs 24" (610 mm) o.c., 10" (254 mm) foam. Covered with Flame Control Foam Kote 50-50 at 100 sq ft/gal in two coats.			
Initial R-Value	°F·h·ft²/BTU	(K·m²/W)	
1" (25 mm) nominal thickness	R – 5.9	RSI – 1.04	ASTM C 518
2" (51 mm) nominal thickness	R – 12	RSI – 2.11	***
3" (76 mm) nominal thickness	R – 18	RSI – 3.17	***
3.5" (89 mm) nominal thickness	R – 19	RSI – 3.35	***
5" (127 mm) nominal thickness	R – 28	RSI – 4.93	***
7" (178 mm) nominal thickness	R – 39	RSI – 6.87	***
8" (203 mm) nominal thickness	R – 44	RSI – 7.75	***
9" (229 mm) nominal thickness	R – 50	RSI – 8.81	***

^Δ 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 II vapor retarder as a material having between 0.1 and 1 perms.
^{***} Calculated based on the K-Value at 3.5".

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.

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