

# R-Values

An insulating material’s resistance to conductive heat flow is measured or rated in terms of its thermal resistance or R-value – the higher the R-value, the greater the insulating effectiveness. The R-value depends on the type of insulation, its thickness, and its density. When calculating the R-value of a multilayered installation, add the R-values of the individual layers. (<http://energy.gov/energysaver/insulation>)

As new building and insulation materials have entered the market, confusion over the nature and meaning of R-value has raised questions among building professionals and consumers alike. What exactly is R-value? Is it an effective and objective measure of the thermal performance of an insulation product or construction system? And how should the marketplace use it to compare the benefits of one insulation material over another? (<http://www.epsindustry.org/building-construction/r-value>)

KODIAKOTTON® Natural Foam Fiber Insulated Packaging provides thermal resistance similar or superior to expanded polystyrene (EPS) foam of the same thickness with a density of 1.00-1.25 pcf. Based on that density (<http://www.epsindustry.org/building-construction/r-value>) our ~1” natural fiber insulation would be rated at or about the 3.85 R-value for 1.00 pcf EPS. Increasing the thickness to ~1.5” increases the R-value to 5.175. Independent R-value test data available upon request.

	AGE	DENSITY	R-VALUE
EPS Foam	At time of manufacture	1.0 pcf	3.85
		1.25 pcf	3.92
KODIAKOTTON®	At time of manufacture	900 gsm (~1” thick)	3.979
		1400 gsm (~1.5” thick)	5.175