

Thin Is In

**HIGH-PERFORMANCE AEROGEL INSULATION
FOR APPLIANCES AND REFRIGERATED EQUIPMENT**

Going Green:

Embodied Energy and CO₂ Values for Aerogel and Other Insulations

Material	Thermal Conductivity (mW/m-K) ¹	Thermal Resistance (R-value per inch) ¹	Embodied Energy (EE) (MJ/kg)	Embodied CO ₂ (ECO ₂) (kg of CO ₂ /kg)	EE per Thermal Resistance (EE/R-value per inch)	ECO ₂ per Thermal Resistance (ECO ₂ /R-value per inch)
Aspen Aerogels' Spaceloft®	12	12.0	53.0 ¹	4.2 ¹	4.42	0.35
Fiberglass (Recycled Glass)	40	3.8	28.0 ²	1.4 ²	7.37	0.36
Fiberglass (Virgin Glass)	40	3.8	39.2 ²	1.9 ²	10.32	0.50
Mineral Wool	40	3.8	16.6 ²	1.2 ²	4.37	0.32
Expanded Polystyrene	32	4.5	111.6 ³	3.0 ²	24.80	0.67
Polysocyanurate	24	6.0	69.8 ³	5.5 ²	11.63	0.92

¹ Manufacturer data

² Inventory of Carbon and Energy, University of Bath, UK

³ Comparison of Energy Evaluation of Plastic Products and Their Alternatives for the Building, Construction and Transportation Industries - The Society of the Plastics Industry