Thin Is *In*

HIGH-PERFORMANCE AEROGEL INSULATION FOR APPLIANCES AND REFRIGERATED EQUIPMENT

Going Green:

Embodied Energy and CO_2 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