

ULTRA THIN

# SPACELOFT®

**DATA SHEET**

Spaceloft is a flexible, nanoporous aerogel blanket insulation that reduces energy loss while conserving interior space in residential and commercial building applications.

Spaceloft's unique properties – extremely low thermal conductivity, superior flexibility, compression resistance, hydrophobicity, and ease of use – make it essential for those seeking the ultimate in thermal protection.

Using patented nanotechnology, Spaceloft insulation combines a silica aerogel with reinforcing fibers to deliver industry-leading thermal performance in an easy-to-handle and environmentally safe product.

Spaceloft is a proven, effective insulator in building applications, providing the highest R-value of any insulation material for maximum energy efficiency in walls, floors, roofs, framing, and windows.

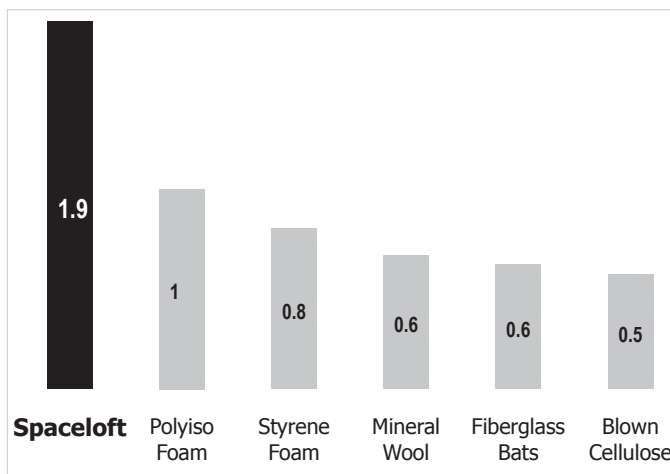


## Physical Properties

<b>Thicknesses*</b>	0.20 in (5 mm), 0.40 in (10 mm)
<b>Max. Use Temp.</b>	390°F (200°C)
<b>Color</b>	White
<b>Density*</b>	9.4 lb/ft <sup>3</sup> (0.15 g/cc)
<b>Hydrophobic</b>	Yes
<b>Material Form*</b>	57 in (1,450 mm) wide

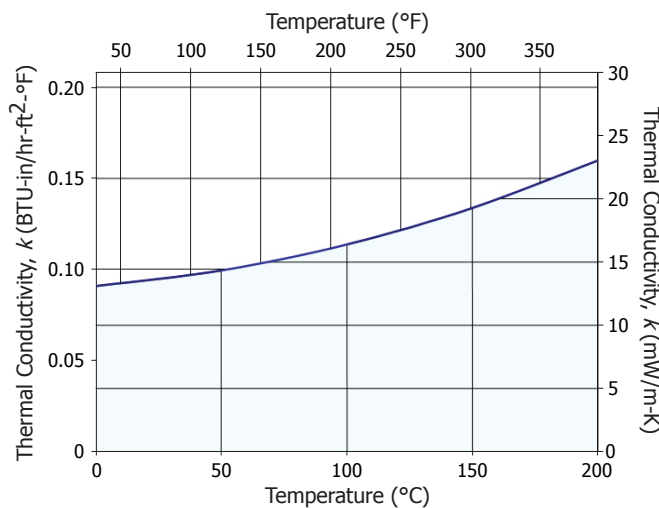
\* Nominal Values

## R-Value Per Inch Material value



## Thermal Conductivity

ASTM C 177 Results



Mean Temp. °C	0	25	50	75	100	125	150	175	200
°F	32	77	122	167	212	257	302	347	392
<i>k</i> mW/m-K	13.1	13.6	14.3	15.3	16.4	17.7	19.3	21.0	23.0
BTU-in/hr-ft²-°F	0.091	0.094	0.099	0.106	0.114	0.123	0.134	0.146	0.160

## Advantages

### Superior Thermal Performance

2 to 8 times better than competing insulation products

### Reduced Thickness and Profile

Equal thermal resistance at a fraction of the thickness

### Less Time and Labor to Install

Easily cut and conformed to complex shapes, tight curvatures, and spaces with restricted access

### Physically Robust

Soft and flexible but with excellent springback, Spaceloft recovers its thermal performance even after compression events as high as 50 psi

### Shipping and Warehousing Savings

Reduced material volume, high packing density, and low scrap rates can reduce logistics costs by a factor of five or more compared to rigid, pre-formed insulations

### Simplified Inventory

Unlike rigid pre-forms such as pipe cover or board, the same Spaceloft blanket can be kitted to fit any shape or design

### Hydrophobic Yet Breathable

Spaceloft repels liquid water but allows vapor to pass through

### Environmentally Safe

Landfill disposable, shot-free, with no respirable fiber content

### Non-Combustibility and Fire Performance

AS/NZ 1530.3:1999

EN 13501-1 - Reaction to Fire Classification

ASTM E 84 - Surface Burning Characteristics

### Mechanical and Dimensional Stability

ASTM C 165 - Compressive Resistance

ASTM C 1101 - Flexibility at Ambient Temperature

ASTM E 228 - Linear Co-efficient of Thermal Expansion

DIN 52275-2 - Determination of Linear Dimensions and Density

### Thermal Measurements

ASTM C 177 - Thermal Conductivity via Guarded Hot Plate, Full Curve

ASTM C 177 - Thermal Conductivity via Guarded Hot Plate, 10°C

EN 12667 - Thermal Conductivity via Guarded Hot Plate, 10°C

ASTM C 518 - Thermal Conductivity via Heat Flow Meter

EN ISO 8497 - Declaration of Conformity

AS/NZ 4859.1:2002

### Water Resistance

ASTM C 1104 - Water Vapour Sorption

ASTM C 1511 - Water Retention Repellency

ASTM E 96 - Water Vapour Transmission Rate

EN ISO 15148 - Determination of Water Absorption Co-efficient by Partial Immersion

EN ISO 12571 - Determination of Hygroscopic Sorption Properties

EN ISO 12572 - Determination of Water Vapour Transmission Properties

DIN 52103 - Determination of Water Absorption and Saturation Co-efficient of Natural Stone and Mineral Aggregates

EN ISO 12087 - Long Term Water Absorption By Total Immersion

## Characteristics

Spaceloft can be cut using conventional textile cutting tools including scissors, electric scissors, and razor knives. The material can be dusty, and it is recommended gloves, safety glasses, and dust mask be worn when handling material. See MSDS for complete health and safety information.

## Other Available Materials

Aspen Aerogels, Inc. produces several series of flexible aerogel blanket materials for thermal insulation, energy absorption, and fire protection. Please contact Aerogels Australia for additional information on these products.

## Contact Details

Postal Address: PO Box 433, Kent Town SA 5067, AUSTRALIA

Telephone: (International) +61 8 8363 7563

Email: [info@aerogel.com.au](mailto:info@aerogel.com.au)

Website: [www.aerogel.com.au](http://www.aerogel.com.au)