NanoSolar

Experience the Future of High-Performance Insulation

NanoGels
ADVANCED MATERIALS

PRODUCT DATA SHEET

NanoSolar is a high-performance fibre reinforced silica aerogel blanket insulation engineered for high-temperature applications in industrial and construction sectors.

Utilizing nanoporous silica aerogel technology, NanoSolar delivers exceptional thermal performance in extremely thin profiles, maximizing space efficiency and energy savings. This product is manufactured to the stringent specifications of NanoGels Advanced Materials, ensuring consistent, premium quality for Operators, OEMs, Contractors, and Engineering firms.

The superior hydrophobicity of the product mitigates corrosion under insulation (CUI) and maintains R-value. Keeps insulation dry, preserving performance and protecting piping/equipment from CUI, extending asset life.



SPECIAL FEATURES & KEY DIFFERENTIATORS

- **Superior Thermal Performance:** Outperforms traditional insulation materials by a factor up to 5 with longer service life.
- **Thin and Space-Saving:** Equal thermal resistance at a fraction of thickness, freeing up valuable design space.
- **Hydrophobicity & High Vapor Permeability:** Repels liquid water while allowing moisture vapor to pass, prevents the risk of corrosion under insulation (CUI).
- **Ease of Installation:** Less time and less labour to install saving both time and cost.
- **High-Temperature Stability:** Continuous service up to 650°C
- **Non-Combustible:** Meets ASTM E84
- **Superior Fire Resistance.**
- **Extremely Low Dust, Safe, Environmentally Friendly, and Non-Toxic.**
- **Resistant to Most Chemicals.**

APPLICATIONS

Ideal for insulating piping, equipment, and exhaust ductwork to reduce heat loss, prevent corrosion, enhance energy efficiency, and sound control in industrial, offshore, building & construction facilities.

NanoGels
ADVANCED MATERIALS

TYPICAL PROPERTIES

Test Method	Property	Result
ASTM C1728, Type III, Grade 1A	Standard specification for flexible aerogel insulation	Complies
ASTM C447	Estimating the max. use temperature	+650°C
ASTM C411	Hot surface performance	Pass
ASTM C165	Compressive strength	≥ 7.8 psi (54 kPa) 10% compression ≥ 20.3 psi (140 kPa) 25% compression
ASTM C303	Density	180±20 kg/m³
ASTM C356	Linear shrinkage under soaking heat	< 1 % @ 650°C
ASTM C795	Insulation for use in contact with austenitic stainless steel	Pass
ASTM C1101	Classifying the flexibility of mineral fiber blankets	Flexible
ASTM C1104	Water vapor sorption	≤1%
ASTM C1338	Fungi resistance	Pass
ASTM C1617	Corrosiveness of carbon steel	Pass
ASTM C1763	Water absorption	Pass
ASTM E84	Surface burning characteristics	Class A Flame Spread Index = 0 Smoke Developed Index = 0
EN 13501-1:2018	Reaction to fire test performance	Pass Class A2
IMO 2010 FTP Code Part 1,2 & 5	Testing surface flammability, smoke, & toxicity	In accordance with Parts 1, 2 and 5 of annex 1

THERMAL CONDUCTIVITY (ASTM C518)

Mean Temperature	+24	+38	+93	+149	+204	+260	+316	+371	[°C]
Thermal Conductivity (≤)	0.021	0.022	0.023	0.025	0.029	0.032	0.036	0.043	[W/(m·K)]

DIMENSIONS

Thickness	5 mm	10 mm	20 mm
Dimensions W x L (m)	1.5 x 45	1.5 x 25	1.5 x 15
Sqm/roll	67.5	37.5	22.5
Tolerances			
Thickness		±10%	
Width /Length		±5%	
Other dimensions		Available on request	

KEY INFORMATION

Package Type	Shrink wrapped
Storage	Store indoors in cool, dry, and sealed conditions away from direct sunlight.
Shelf-Life	Maximum 3 years. Once installed, can last over 20 years
Installation	Refer to our application manuals. Please contact our technical team for more information and support on installation.
Safety	Please refer to the Safety Data Sheet and product label prior to using this product.

The product technical information and all related data described above are based on test values obtained from our company's trials. They are supplied as a technical service and are subject to change without notice. They are for reference only and do not constitute legal interpretations or guarantees. Before use, please test and confirm according to your company's required working conditions. Any person using the product for any purpose other than that specifically recommended in this data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at their own risk.
NanoSolar 012026 V1.0

NanoGels Advanced Insulating Materials LLC
P.O Box 91485, Building LT01-A11,
Al Markaz Phase 1,
Abu Dhabi, U.A.E
Tel: +971 2 4429786
Email: info@nanogelx.com
Web: www.nanogelx.com