



INSULATION JUST GOT EVEN
BETTER

ArmaGel XGH

Breakthrough, flexible, aerogel blanket for high-temperature applications

- // ASTM C1728 compliant
- // IOGP S-738 (JIP33) compliant
- // Hot conditions up to 650°C (1200°F)
- // Up to five times better thermal performance than traditional insulation materials
- // Mitigates the risk of corrosion under insulation (CUI)

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ArmaGel[®]

INSULATION JUST GOT EVEN BETTER.

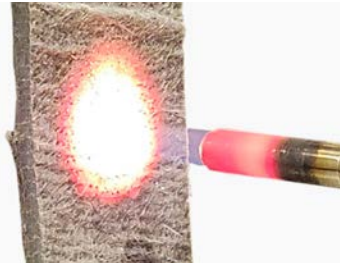
ArmaGel XGH

Breakthrough aerogel blanket technology. Superior thermal performance with excellent CUI protection and non-combustibility. ASTM C1728 compliant. Designed for safety and conditions up to 650°C (1200°F). ArmaGel XGH is the reliable solution for high-temperature applications.

Proprietary dust control



High-temperature /
Non-combustible



Flexible



Hydrophobic



Did you know
that an **ArmaGel**
blanket of 20 mm
**delivers more insulation
coverage** per man-hour
than conventional
aerogel insulation?

UP TO
80%
THINNER
than traditional
insulation products

UP TO
5 ×
SUPERIOR THERMAL
PERFORMANCE
than traditional
insulation products



YOUR BENEFITS

// Superior thermal performance

Offering up to 5 times superior thermal performance versus traditional insulation products.

// Save space & weight

Up to 80% saving in insulation thickness and reduce insulation system weight.

// CUI defence

Hydrophobicity and breathability enhances protection against corrosion under insulation (CUI).

// Reduce downtime and save money

Product installation and removal is made simple, reducing the downtime. Reusable due to durable format to save money during regular maintenance cycles.

// Versatile format

Can be cut and fit into any pipe and equipment.

// Reduce labour cost

Cuts easily and conforms to preferred shapes, with less wastage, making it the right fit for installers.

// Optimised inventory management

Sheet in roll form reduces inventory management and logistic costs relative to rigid/preformed insulation. Available in 5, 10 and 20 mm thicknesses.

// Dust control

Proprietary dust control technology ensures a cleaner, more efficient work environment.

// Non-combustible

Enhance asset safety with ArmaGel XGH.

// Acoustic performance

When used in a system configuration, ArmaGel XGH meets and exceeds the insertion loss classifications according to ISO 15665 at reduced thickness and/or weight*.

**compared to traditional systems*

TECHNICAL DATA - ARMAGEL XGH

Brief description	ArmaGel XGH is a flexible aerogel blanket suitable for elevated temperature applications with maximum operating temperatures up to 650°C (1200°F). ArmaGel XGH is compliant to ASTM C1728, Type III, Grade 1A. ArmaGel XGH is also compliant to IOGP S-738 (JIP33).
Material type	Aerogel blanket.
Product color range	Grey
Special features	ArmaGel XGH is resistant to elevated operating temperatures up to 650 °C (1200 °F).
Product range	Sheets in rolls, 5 mm (0.2 in), 10 mm (0.4 in) and 20 mm (0.8 in) thickness, width of 1.5 m (59 in). For further details, please refer to the product range tables at the end of this document.
Applications	Thermal insulation/protection of pipes, vessels and ducts (including elbows, fittings, flanges etc.) in offshore, industrial (typically oil and gas) and process equipment facilities.
Installation	For industrial applications it is recommended to consult the relevant Armacell application manual(s). For further information please contact our Technical Services.

Property	Value / Assessment								Standard / Test method
Temperature range									
Service temperature ^{1,2,3,4,5}	Max. °C				Max. °F				ASTM C411, ASTM C447
	650				1,200				
Thermal conductivity									
1 - Declared thermal conductivity W/(m·K) ^{6,7}	θm	0°C (32°F)*	24°C (75°F)	38°C (100°F)*	93°C (200°F)*	149°C (300°F)*	204°C (400°F)*	260°C (500°F)	ASTM C177
	λd ≤ [W/ [m·K]]	0.0195	0.0199	0.0202	0.0216	0.0238	0.0267	0.0303	
	k ≤ [Btu·in/ [h·ft²·°F]]	0.135	0.138	0.140	0.150	0.165	0.185	0.210	
2 - Declared thermal conductivity W/(m·K) ^{6,7}	θm	316°C (600°F)*	371°C (700°F)	400°C (752°F)*	500°C (932°F)*	600°C (1112°F)*	650°C (1202°F)*		ASTM C177
	λd ≤ [W/(m·K)]	0.0353	0.0418	0.0457	0.0627	0.0865	0.0995		
	k ≤ [Btu·in/ [h·ft²·°F]]	0.245	0.290	0.317	0.435	0.600	0.690		
	2 - Formula	SI units: λd (θm) = 0.01947 + 1.567 x 10 ⁻⁵ x θm + 5.913 x 10 ⁻⁸ x (θm) ² + 1.651 x 10 ⁻¹⁰ x (θm) ³ IP units: k (θm) = 0.1333 + 5.135 x 10 ⁻⁵ x θm + 1.115 x 10 ⁻⁷ x (θm) ² + 1.942 x 10 ⁻¹⁰ x (θm) ³ where θm is mean temperature in °C or °F, respectively							
Temperature resistance									
Hot surface performance ²	Pass								ASTM C411
Linear shrinkage under soaking heat	<2% in width and length								ASTM C356
Fire Performance and Approvals									
Reaction to fire ²	A2-s1,d0, Non-combustible								EN 13501-1
Surface burning characteristics	≤ 5 flame spread index ≤ 10 smoke development								ASTM E84
Resistance to water vapour									
Water vapor sorption	≤ 5% by weight								ASTM C1104
Resistance to water									
Hydrophobic	Yes								

Property	Value / Assessment	Standard / Test method
Water absorption	Pass	ASTM C1763
Corrosion mitigation		
Corrosiveness of steel	Pass	ASTM C1617, Procedure A
Stress corrosion cracking	Pass, no cracks	ASTM C692, ASTM C795
Physical attributes		
Nominal density	180 kg/m ³ (11 lb/ft ³)	ASTM C303
Mechanical properties		
Compressive strength ⁶	≥ 3 psi/ 20.7 kPa at 10% compression	ASTM C165
Flexibility of mineral fiber blankets	Flexible	ASTM C1101
Weather and UV resistance		
Weather resistance	In all industrial applications the outer layer of the material must be protected with an adequate covering like metal jacketing or preformed UV-cured GRP (Glass-Reinforced Plastic) cladding. Please contact Technical Services for guidance on the temperature construction considerations which need to be made for each jacketing system.	
Health and environment		
Fungal growth	No growth	ASTM C1338
Health aspects	Neutral	
Other technical features		
Shelf life	Material shall be stored indoors, in clean and dry conditions, away from direct sunlight.	
Storage ⁹	Max. 3 years	

¹For temperatures above the published value, please contact Technical Services to request the corresponding technical information.

²For operating temperatures above 400 °C (752 °F) a metallic foil barrier with 0.05 mm (0.002 inch) thickness must be additionally installed. For details please contact Technical Services.

³For live line installations, refer to the ArmaGel HT and HTL application manual.

⁴For design/installation above 80 mm thickness, contact Armacell technical services.

⁵ArmaGel XGH is designed for application where the operating temperatures are above ambient. In the event that the operating temperatures are below ambient please consult our technical services for further information and support.

⁶Measured under a load of 1.5 kPa (0.22 psi).

⁷*These values are recommended for use as inputs in calculation programs (e.g., 3EPlus) to approximate the thermal conductivity curve using a second-degree polynomial.

⁸Test performed with a preload of 13.8 kPa (2 psi).

⁹Shelf life (maximum storage time) is limited to ensure that only currently manufactured products are installed on projects. This limitation is restricted solely to storage of the product and does not affect the lifetime of product after it has been installed.

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ABOUT ARMACELL

As the inventor of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal and mechanical insulation solutions that create sustainable value for its customers. Armacell's products significantly contribute to driving energy efficiency worldwide. With more than 3,100 employees and 26 production plants in 20 countries, Armacell operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for acoustic and lightweight applications, recycled PET products, next-generation aerogel technology and passive fire protection systems.



For more information, please visit:
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