



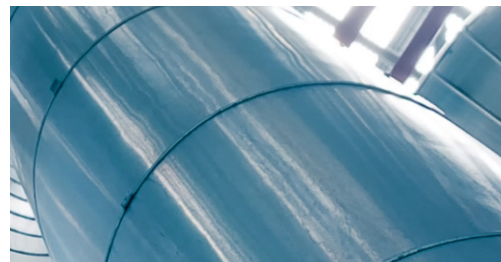
INSULATION
JUST GOT BETTER

ArmaGel HT

Flexible aerogel blanket for
high-temperature applications

- // ASTM C1728 compliant
- // Hot conditions up to 650 °C (1200 °F)
- // More choice: 5, 10, 15 and 20mm thicknesses
- // Up to five times better thermal performance than competing insulation materials
- // Mitigates the risk of corrosion under insulation (CUI)

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TECHNICAL DATA – ARMAGEL HT

Brief description	ArmaGel HT is a flexible aerogel blanket suitable for elevated temperature applications with maximum operating temperatures up to 650 °C (1200 °F). ArmaGel HT is compliant to ASTM C1728, Type 3, Grade 1A.
Material type	Silica-aerogel blanket
Colour	Grey
Special features	ArmaGel HT is resistant to elevated operating temperatures up to 650 °C (1200 °F). The product is suitable for use in multi-layer applications including ArmaSound® Industrial Systems.
Product range	Sheets in rolls, 5, 10, 15 and 20 mm (0.20, 0.39, 0.59, 0.79 in) thickness and width of 1.5 m (59.00 in). For further details, please refer to the product range tables at the end of this document. Also available in 0.75 m width (29.53 in) upon request.
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. ArmaGel HT is also used as a component of ArmaSound Industrial Systems to provide acoustic insulation on industrial pipework and vessels, ensuring reduction of sound transmission.
Installation	For industrial applications, it is recommended to consult the relevant Armacell application manual(s). Please consult our Technical Services for further information and support.

Property	Value/Assessment										Standard/Test method	
Temperature range^{1/2/3}												
Service temperature	Max. service temperature	+650 °C				+1200 °F				Tested according to ASTM C411 and ASTM C447		
	Min. service temperature	-40 °C				-40 °F						
Thermal conductivity												
Thermal conductivity ¹ (metric units)	θm	+24	+38	+93	+149	+204	+260	+316	+371	[°C]		Tested according to ASTM C177
	λd ≤	0.021	0.022	0.023	0.025	0.029	0.032	0.036	0.043	[W/(m·K)]		
Thermal conductivity ¹ (imperial units)	θm	+75	+100	+200	+300	+400	+500	+600	+700	[°F]		
	λd ≤	0.14	0.15	0.16	0.18	0.20	0.22	0.25	0.30	[Btu·in/(h·ft²·°F)]		
Temperature resistance												
Hot surface performance ²	Pass										Tested according to ASTM C411	
Linear shrinkage under soaking heat	< 2% in width and length										Tested according to ASTM C356	
Water absorption	Maximum 8% (before conditioning), maximum 16% (after conditioning for 24h at 316 °C/600 °F)										Tested according to ASTM C1763	
Reaction to fire												
	B-s1,d0 for ArmaGel HT 10mm Single Certificate										According to DIN EN 13501 - 1	
Fire performance & approvals												
Surface burning characteristics	< 5 flame spread index < 10 smoke development										Tested according to ASTM E84	
Density												
Density	160 to 240 kg/m³			10 to 15 lb/ft³							Tested according to ASTM C303	
Mechanical properties												
Compressive strength ⁴	>3 psi/ 20.7 kPa			at 10% compression							Tested according to ASTM C165	
Classifying the flexibility of mineral fibre blankets	Flexible										Tested according to ASTM C1101	
Sag resistance	≤ 5% thickness change										Tested according to ASTM C411	
Corrosion mitigation												
Stress corrosion cracking	Insulation for use over austenitic steel: no cracks, passed										Tested according to ASTM C692, ASTM C795	
Corrosiveness of steel	Passed, Mass Loss Corrosion Rate (MLCR) not exceeding that of 5 ppm chloride solution on carbon steel coupon										Tested according to ASTM C1617, procedure A	



Other technical features

Dimensional tolerances	Tolerances according to ASTM C1728, for detailed values please refer to product range tables.	
Weather resistance	In all industrial applications the outer layer of the material must be protected with an adequate covering like metal jacketing, Arma-Chek® R flexible elastomeric jacketing or preformed UV-cured GRP (Glass-Reinforced Plastic) cladding. Please contact Technical Services for guidance on the temperature limitations and specific construction considerations which need to be made for each jacketing system.	
Health aspects	Neutral, MSDS available on request.	
Hydrophobic	Yes	
Water vapour sorption	≤ 5% by weight	Tested according to ASTM C1104
Fungal resistance	No growth	Tested according to ASTM C1338
Storage	Material shall be stored indoors, in clean and dry conditions, away from direct sunlight.	
Shelf (storage) life ¹⁵	Max. 3 years	

- For temperatures below or above those published please contact Technical Services to request the corresponding technical information.
- For 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.
- ArmaGel HT 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.
- Test performed with a preload of 2 psi.
- Shelf life (maximum storage time) is limited in order to make sure that only currently manufactured products are applied 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.

Sheets

		Metric sizes				Imperial sizes			
		Nominal thickness	Width	Length	Content per roll	Nominal thickness	Width	Length	Content per roll
		[mm]	[m]	[m]	[sqm]	[in]	[in]	[ft]	[sq ft]
Standard Rolls	AGH-05-00/150S	5	1.50	16.00	24.00	0.20	59.00	52.50	258.34
	AGH-10-00/150S	10	1.50	8.00	12.00	0.39	59.00	26.25	129.17
	AGH-15-00/150S	15	1.50	6.00	9.00	0.59	59.00	19.69	96.88
	AGH-20-00/150S	20	1.50	4.00	6.00	0.79	59.00	13.13	64.59
Jumbo Rolls	AGH-05-00/150P	5	1.50	65.00	97.50	0.20	59.00	213.26	1049.48
	AGH-10-00/150P	10	1.50	40.00	60.00	0.39	59.00	131.24	645.84
	AGH-15-00/150P	15	1.50	26.00	39.00	0.59	59.00	85.31	419.80
	AGH-20-00/150P	20	1.50	20.00	30.00	0.79	59.00	65.62	322.92
Tolerances According to ASTM C1728	Thickness tolerances	5 mm (0.20 in) nominal thickness				5.0 - 7.0 mm			
		10 mm (0.39 in) nominal thickness				10.0 - 12.5 mm			
		15 mm (0.59 in) nominal thickness				15.0 - 17.5 mm			
		20 mm (0.79 in) nominal thickness				20.0 - 22.5 mm			
	Width tolerances	± 5%							
	Length tolerances	± 5%							

* Rolls of 0.75 m (29.53 in) width are available upon request.

All data and technical information are based on results achieved under the specific conditions defined according to the testing standards referenced. It is the customer's responsibility to verify if the product is suitable for the intended application. The responsibility for professional and correct installation and compliance with relevant regulations and project specification lies with the customer. Armacell takes every precaution to ensure the accuracy of the data provided in this document and all statements, technical information and recommendations contained within are believed to be correct at the time of publication. By ordering/receiving product you accept the **Armacell General Terms and Conditions of Sale** applicable in the region. Please request a copy if you have not received these.

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ABOUT ARMACELL

As the inventors of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal, acoustic and mechanical solutions that create sustainable value for its customers. Armacell's products significantly contribute to global energy efficiency making a difference around the world every day. With 3,100 employees and 24 production plants in 16 countries, the company operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for high-tech and lightweight applications and next generation aerogel blanket technology.

For more information, please visit:
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