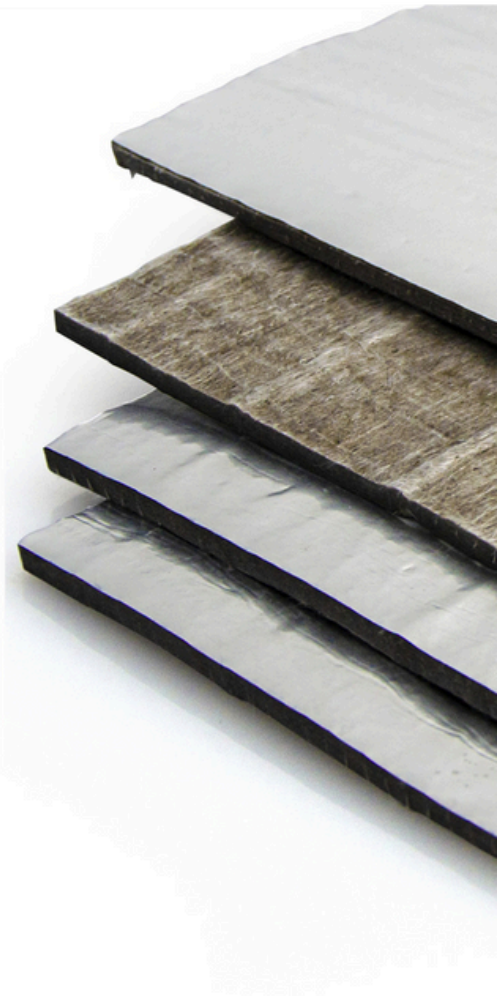
INSULATION JUST GOT EVEN COOLER

ArmaGel XGC

Flexible aerogel insulation blanket for combined cryogenic and dual-temperature applications

// ASTM C1728 compliant
// 5, 10 and 20 mm thicknesses
// Integrated zero-perm vapour barrier
// Flexible at cryogenic temperatures



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CRYOGENIC AND DUAL-TEMPERATURE APPLICATIONS FROM -180°C TO +250°C

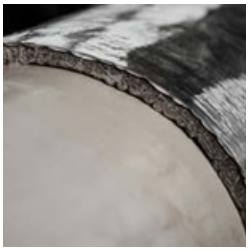
ArmaGel XGC

Our vision has always been to deliver advanced insulation solutions and components that conserve energy and create real impact worldwide. Today, that vision is reality. Discover the next generation of insulation – welcome to ArmaGel XGC.

Insulation just got even cooler

ArmaGel XGC – The Next Generation of Cryogenic and Dual-Temperature Aerogel Blanket Technology. Engineered for flexibility and enhanced work safety, ArmaGel XGC delivers reliable performance in cryogenic conditions down to -180 °C (-292 °F)*. When it comes to cryogenic and dual-temperature applications, ArmaGel XGC is the solution you can trust.

Cryogenic and dual-temperature



Flexible

Hydrophobic

Note:
ArmaGel XGC is compliant with ASTM C1728 Type I Grade 1B and Type IV Grade 1A with minimum use temperature of -196°C (-321°F). For operating temperatures below -180°C (-292°F), special attention must be given to the system design and craftsmanship during installation to ensure that the material does not come in contact with liquid oxygen. For further information and support, please contact Technical Services.

YOUR BENEFITS

// Reduce installation cost
Cuts easily and adapts to complex shapes, ensuring maximum operational efficiency while reducing labor costs.

// Lower operational downtime
Simplified removal minimizes downtime and eliminates the need for replacement insulation during routine maintenance.

// Superior thermal performance
Delivers up to twice the thermal performance compared to equivalent insulation products.

// Hydrophobic
Repels liquid water to help prevent corrosion under insulation.

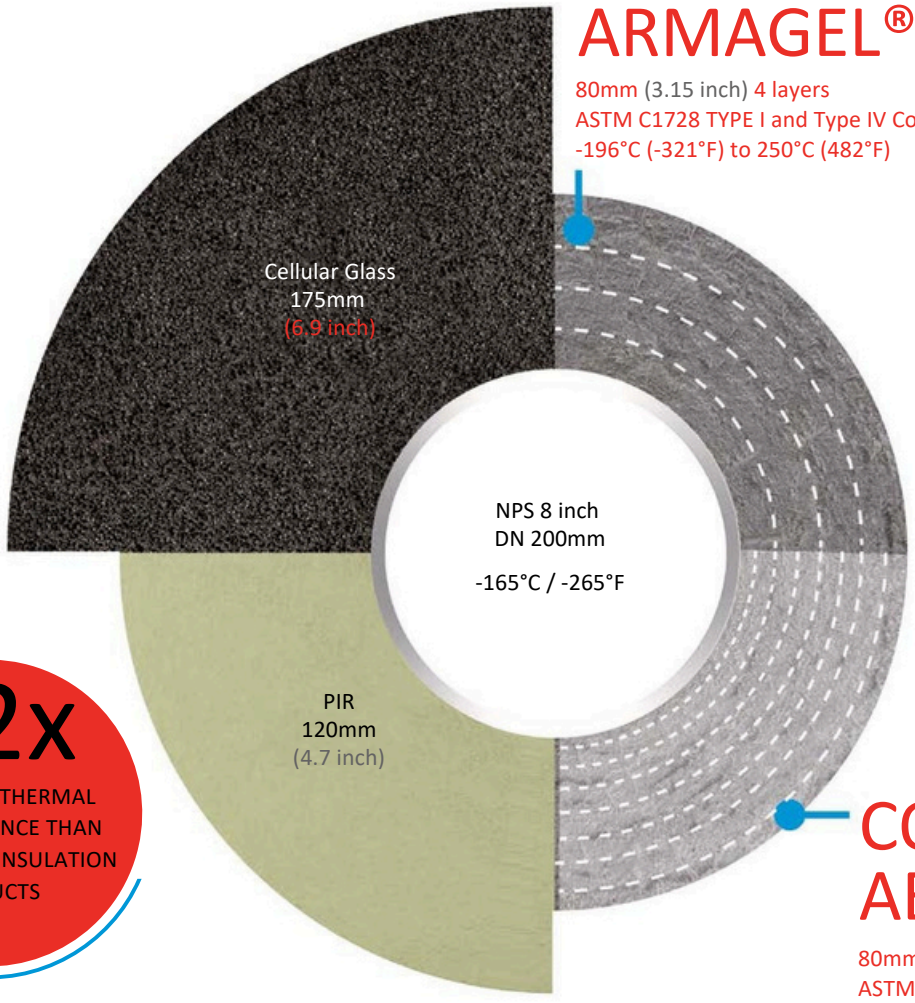
// Ultra-thin and ultra-light
Equal thermal performance at a fraction of the thickness. Improved handling and easier transport.

// Improved work safety
Proprietary low-dust technology.

// CUI defence
Hydrophobic properties provide superior protection against corrosion under insulation (CUI).

// Acoustic performance
In system configurations, ArmaGel XGC meets and exceeds ISO 15665 insertion loss classifications at reduced thickness and/or weight.*

**compared to traditional systems*



ARMAGEL® XGC

80mm (3.15 inch) 4 layers
ASTM C1728 TYPE I and Type IV Compliant
-196°C (-321°F) to 250°C (482°F)

UP TO **50%** THINNER THAN COMPETING INSULATION PRODUCTS

UP TO **2x** SUPERIOR THERMAL PERFORMANCE THAN COMPETING INSULATION PRODUCTS

COMPETITOR AEROGEL

80mm (3.15 inch) 8 layers
ASTM C1728 TYPE I Compliant
-196°C (-321°F) to 125°C (257°F)

NOTE: Insulation thickness to satisfy same condensation control criteria for all three designs

TECHNICAL DATA - ARMAGEL XGC

Brief description	ArmaGel XGC is a flexible aerogel insulation blanket suitable for cryogenic and dual-temperature insulation applications. ArmaGel XGC is compliant with ASTM C1728 Type I, Grade 1B & Type IV, Grade 1A.
Material type	Aerogel insulation blanket with integrated zero-perm vapour barrier.
Product colour range	Grey
Special features	The product is suitable for use in multi-layer applications including ArmaSound Industrial Systems. ArmaGel XGC is intended for use in cryogenic and cyclic operating conditions.
Product range	Sheets in rolls, 5, 10 and 20 mm (0.2, 0.4, 0.8 in.) thickness and width of 1.5 m (59 in.). For further details, please refer to the product range tables at the end of this document.
Applications	Cold, cryogenic and dual-temperature insulation/protection of pipes, vessels, equipment and fittings in offshore, industrial (typically oil and gas) and process facilities.
Installation	For industrial applications it is recommended to consult the relevant Insulcon application manual(s). For further information please contact our Technical Services.

Property	Value / Assessment									Standard / Test method
Temperature range										
Service temperature[1,2]	Min. °C		Min. °F		Max. °C		Max. °F			ASTM C411
	-180		-292		250		482			
Thermal conductivity										
Declared thermal conductivity[3]	Θm	-192°C (-200°F)	-73.3°C (-100°F)	-17.8°C (0°F)	+23.9°C (+75°F)	+37.8°C (+100°F)	+93.3°C (+200°F)	+149°C (+300°F)	+204°C (+400°F)	ASTM C177
	λd ≤ [W/(m·K)]	0,014	0,015	0,016	0,017	0,017	0,019	0,025	0,029	
	k ≤ [Btu·in/(h·ft²·°F)]	0,096	0,10	0,11	0,12	0,12	0,13	0,17	0,20	
Temperature resistance										
Linear shrinkage under soaking heat	< 2% in width and length									ASTM C356
Fire Performance and Approvals										
Reaction to fire	B-s1,d0									EN 13501-1
Surface burning characteristics	≤ 50 smoke development ≤ 25 flame spread index									ASTM E84
Surface flammability characteristics	Complies with IMO Part 5 standards									IMO 2010 FTP Code, Part 5
Smoke Production and Toxicity Test[4]	Complies with IMO Part 2 standards									IMO 2010 FTP Code, Part 2
Resistance to water vapour										
Water vapour sorption	≤ 5% by weight									ASTM C1104
Water vapour permeance of integrated vapour barrier	0.00 perm									ASTM E96
Resistance to water										
Hydrophobic	Yes									
Water absorption	Pass									ASTM C1763
Corrosion mitigation										
Corrosiveness to steel	Pass									ASTM C1617, Procedure A
Stress corrosion cracking	Pass, no cracks									ASTM C692, ASTM C795
Physical attributes										
Nominal density	170 kg/m³ (10.6 lb/ft³)									ASTM C303
Mechanical properties										
Compressive strength[5]	≥ 5 psi / 34.5 kPa at 10% compression									ASTM C165

Property	Value / Assessment	Standard / Test method
Flexibility of insulation 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 limitations and specific 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[6]	Max. 3 years	
Storage	Material shall be stored indoors, in clean and dry conditions, away from direct sunlight.	

[1] ArmaGel XGC complies with ASTM C1728 Type I Class 1B and Type IV Class 1A, with a minimum service temperature of -196 °C.
[2] For operating temperatures below -180 °C, special attention must be paid during installation to system design and workmanship to ensure that the material does not come into contact with liquid oxygen. For more information and support, please contact our Technical Service Department.
[3] Measured under a load of 1.5 kPa (0.22 psi).
[4] Only applicable to ArmaGel XGC IMO grade.
[5] Test performed with a preload of 13.8 kPa (2 psi).
[6] Shelf 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.

Roll - standard

Short name	Thickness [mm]]	Width [m]	Length [m]	EAN	Primary content [metric]
AXC-05-00/150S	5	1,5	18	7612207573367	27 m²
AXC-10-00/150S	10	1,5	10	7612207570755	15 m²
AXC-20-00/150S	20	1,5	5	7612207576191	7.5 m²

Other information	
Thickness tolerance	5 mm (0.2 in): ± 1 mm 10 mm (0.4 in): ± 2,5 mm 20 mm (0.8 in): ± 5 mm
Length tolerance	± 5%
Width tolerance	± 3%

Roll - jumbo. Items starting with AXCM are IMO grade.

Short name	Thickness [mm]	Width [m]	Length [m]	EAN	Primary content [metric]
AXC-05-00/150P	5	1,5	54	7612207573374	81 m²
AXC-10-00/150P	10	1,5	30	7612207570762	45 m²
AXC-20-00/150P	20	1,5	15	7612207576399	22.5 m²

Other information	
Thickness tolerance	5 mm (0.2 in): ± 1 mm 10 mm (0.4 in): ± 2,5 mm 20 mm (0.8 in): ± 5 mm
Length tolerance	± 5%
Width tolerance	± 3%
Remarks	Items starting with AXCM are IMO grade.

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ABOUT INSULCON

The Insulcon Group is a leading international manufacturer and supplier of high-temperature and energy-saving solutions for the thermal process industry. With a strong focus on heat management, process optimization, and workplace safety, we deliver reliable and durable insulation systems for extreme conditions. Our product portfolio includes high-performance refractories, technical fibres, low thermal mass insulation systems, and engineered components. Across Europe, we operate multiple production facilities – including two of the most advanced industrial textile plants in Europe (Insulcon N.V.,Belgium and Tespe in Italy), a vacuum forming plant (DualInvest, Hungary and Insulcon, Netherlands), and in-house die-cutting and machining lines. With global sales, service, and inspection capabilities, we support industries such as petrochemical, energy, metals, ceramics, domestic appliances, and waste treatment. Our huge warehouse, strategically located between the ports of Rotterdam and Antwerp, but also Italy, UK, Germany and Hungary enables fast worldwide logistics. We are committed to delivering solutions that reduce energy consumption, improve process control, and enhance safety – helping our customers meet the demands of a more sustainable future.

For more information, please visit:
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