

INSULATION JUST GOT BETTER

ArmaGel[®] HT

Our vision has always been to create innovative technical insulation solutions and components to conserve energy and make a difference around the world. With aerogel that vision is now a reality. Say hello to the future of insulation today. ArmaGel. Insulation just got better. **Your questions answered.**

Discover more at
www.armacell.com/armagel



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ArmaGel[®]

LEARN MORE. YOUR QUESTIONS ANSWERED.

Questions and Answers

General

- **What is aerogel?**

As the name suggests, aerogel is a solid derived from gel in which the liquid component of the gel has been replaced with air, making it dry and porous. In fact, over 90% of the volume is empty space, which makes aerogel the world's lightest solid material. It is also one thousand times less dense than glass, which makes it the world's lowest density solid material. This amorphous silica-based aerogel powder serves as the backbone of our ArmaGel HT blanket. It's tightly distributed particle sizes are excellent for use in thermal insulation applications due to their extremely low thermal conductivity, high resistance to shear and hydrophobicity.

- **What is ArmaGel HT?**

As part of our new ArmaGel range, ArmaGel HT is the next-generation flexible aerogel insulation blanket optimised for high-temperature applications. It is compatible with our existing product range for use in composite insulation applications and suitable for all types and configurations of steel equipment with operating temperatures of up to 650°C (1,200°F).

- **How is ArmaGel HT manufactured?**

Our Armacell manufacturing process is completely unique. Nowadays, conventional manufacturing production flows for aerogel blankets takes 72 hours. ArmaGel HT takes just 2 hours. We use a "roll-to-roll" blanket production line for scale and efficiency and a "needle injection" technique to infuse aerogel evenly into the blanket.

- **How does ArmaGel HT differ from conventional aerogel blankets?**

Conventional aerogel blanket manufacturing is reliant on a process that creates the aerogel particles in situ or within the blanket itself. Consequently, this process restricts both scalability and blanket thickness offerings. In comparison, ArmaGel HT manufacturing is completed in two simple steps. The first step is the creation of the aerogel particles and the second step is to mechanically introduce those particles into the blanket. The outcome of this innovative, patented process is improved scalability and production efficiency, as well as new sizes and more choice for the customer - a thicker layer gives more insulation coverage per man hour than conventional aerogel insulation.

- **How is ArmaGel HT classified according to the industry standards?**

ArmaGel HT is compliant to the ASTM C1728 aerogel standard and meets the ASTM C177 thermal conductivity requirements.

- **Is ArmaGel HT a superior thermal insulator?**

Yes. Thanks to its exceptionally low thermal conductivity, it is one of the best performing insulation materials available today, offering equal thermal performance at a fraction of the thickness - up to 80% thinner than competing insulation products.

- **What is the maximum operating temperature of ArmaGel HT?**

ArmaGel HT is suitable for high-temperature applications up to 650°C (1,200°F). Nevertheless, all customers installing ArmaGel HT directly onto "live" or "hot" pipework above 400°C (752°F) must contact our technical services team. All high-temperature insulation materials have the potential to self-heat and/or display exothermic behaviour when first in contact with temperatures near their maximum range - this is normal. To effectively manage this self-heating behaviour, a layer of metallic foil (minimum thickness 0.05mm/0.002in) should be placed between the final two layers of the ArmaGel HT insulation system, taking care not to leave any gaps.

- **Why is ArmaGel HT a good acoustic insulator?**

Its low dynamic stiffness and high sound absorption properties result in a blanket with excellent sound isolation and decoupling capabilities. When ArmaGel HT blankets are used in a system configuration, they offer superior acoustic insertion loss at reduced thickness and weight compared to conventional acoustic and other aerogel-based acoustic insulation systems. ArmaGel HT acoustic insulation systems are compliant with ISO 15665 class A,B,C and Shell DEP 31.46.00.31 class D.

- **Is ArmaGel HT waterproof?**

Yes. ArmaGel HT is both hydrophobic and breathable. It repels liquid water, but allows vapour to escape, helping to keep equipment drier for longer.

- **Is ArmaGel HT open- or closed-celled?**

ArmaGel HT blankets are open-celled by nature, but contain an even distribution of aerogel powder, enabling them to perform extremely well in environments that are prone to corrosion under insulation.

- **Is ArmaGel HT flexible?**

Yes. The unique production process of our ArmaGel HT blanket creates one of the most flexible aerogel insulation materials available on the market today. Its heightened flexibility offers a multitude of benefits including improved handling and easier transportation. For maintenance purposes, product removal is made simple reducing both downtime and the need to purchase replacement insulation during regular maintenance cycles. ArmaGel HT cuts easily and conforms to preferred shapes, with less wastage, making it the right fit for installers.

- **Where is ArmaGel HT made?**

It is made in South Korea on our new aerogel blanket production line within our existing Cheonan facility.

Commercial availability

- **Where can I purchase ArmaGel HT?**

Simply visit www.armacell.com/armagel, complete the 'contact us' form and one of our experts will be in touch.

- **What sizes are available for ArmaGel HT?**

ArmaGel HT offers new sizes and more choice to improve performance and reduce installation time. 5, 10, 15, and 20mm thicknesses are available today. For details of the full product range please download the technical datasheet from our website: www.armacell.com/armagel.

- **Can I get a sample of materials for a trial or project?**

Absolutely. To discuss your project simply complete the "contact us" form on www.armacell.com/armagel and we will be in touch.

Health, safety and the environment

- **Is ArmaGel HT safe?**

Yes. The aerogel within the ArmaGel HT blanket has been researched by many third party experts over a number of years and has been proven to be safe for human health. ArmaGel HT also features our innovative dust-reducing technology, LoDust. For working comfort when handling and installing ArmaGel HT, we recommend that personal protective equipment is worn at all times. If a minimal amount of dust escapes when working with the blanket, simply wash it off your skin and clothing using soap and water.

- **Is ArmaGel HT safe for the environment?**

ArmaGel HT is environmentally safe and chloride-free. Silica aerogel materials are found in nature and do not have any harmful or dangerous chemicals. ArmaGel HT is not biodegradable and should be disposed of according to company and/or local regulations.

- **Where can I find the material safety datasheets (MSDS) for ArmaGel HT?**

To find the MSDS, simply visit www.armacell.com/armagel and download your copy today.



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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 3,000 employees and 23 production plants in 15 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:
www.armacell.com/armagel

