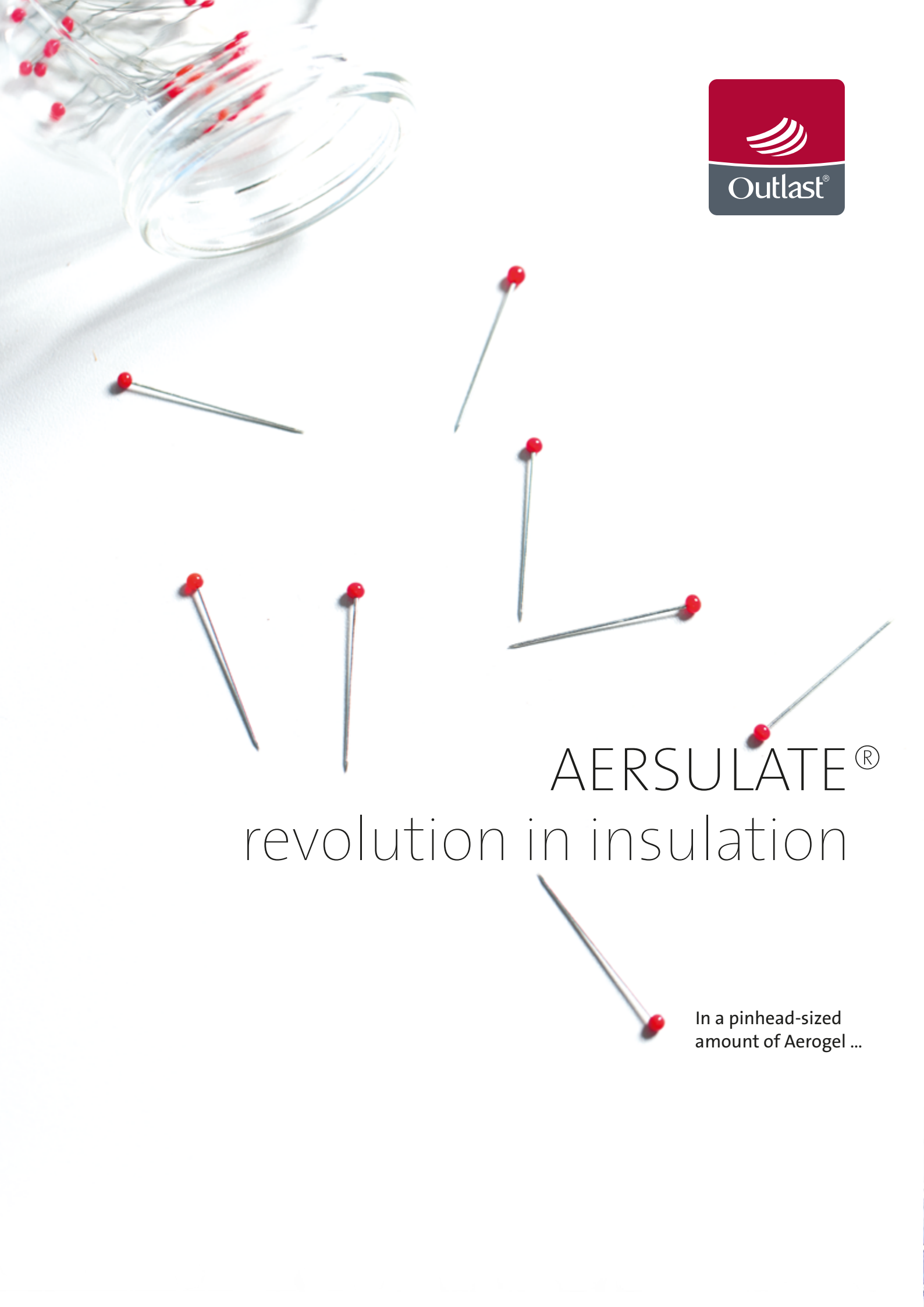
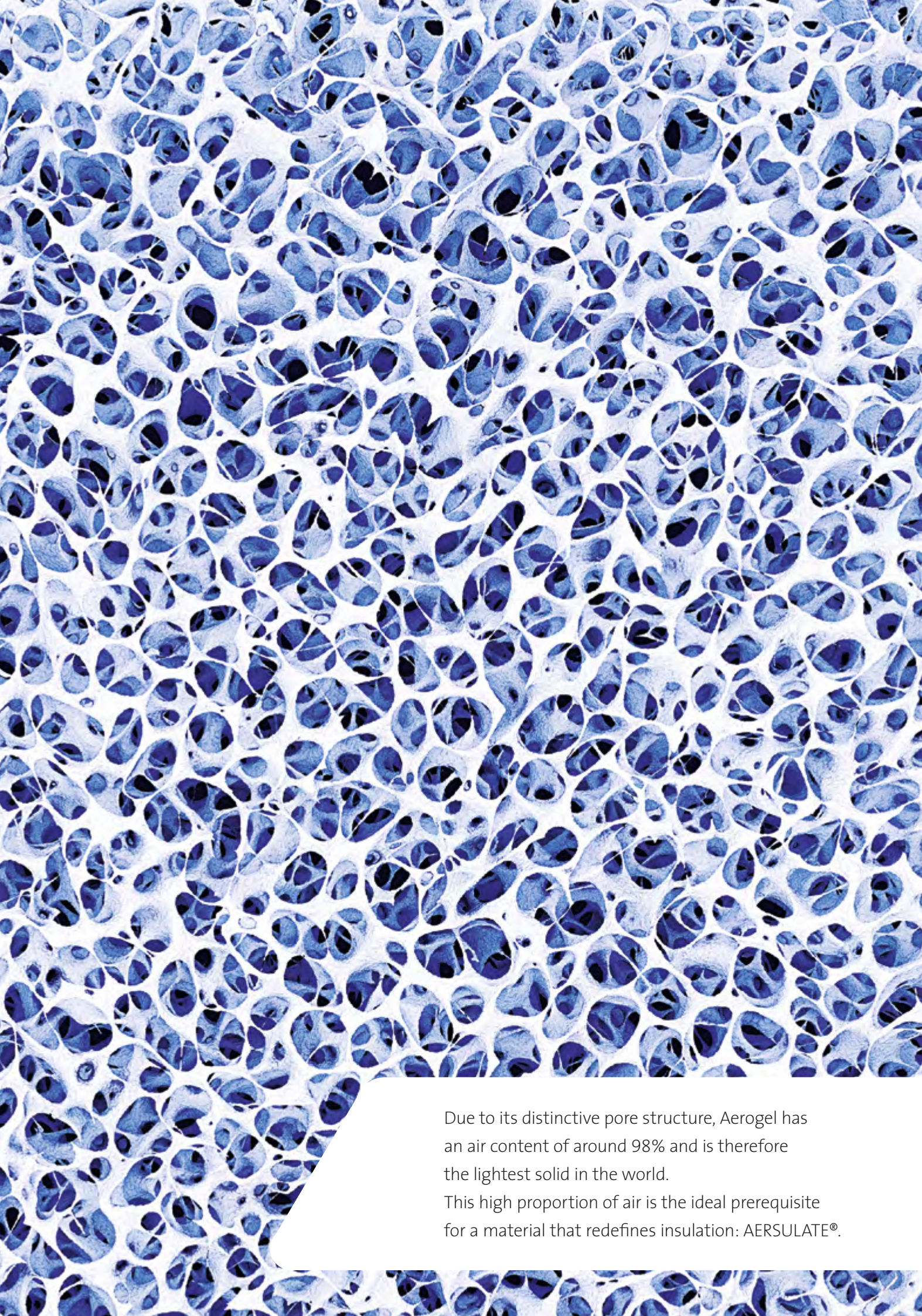


Outlast®

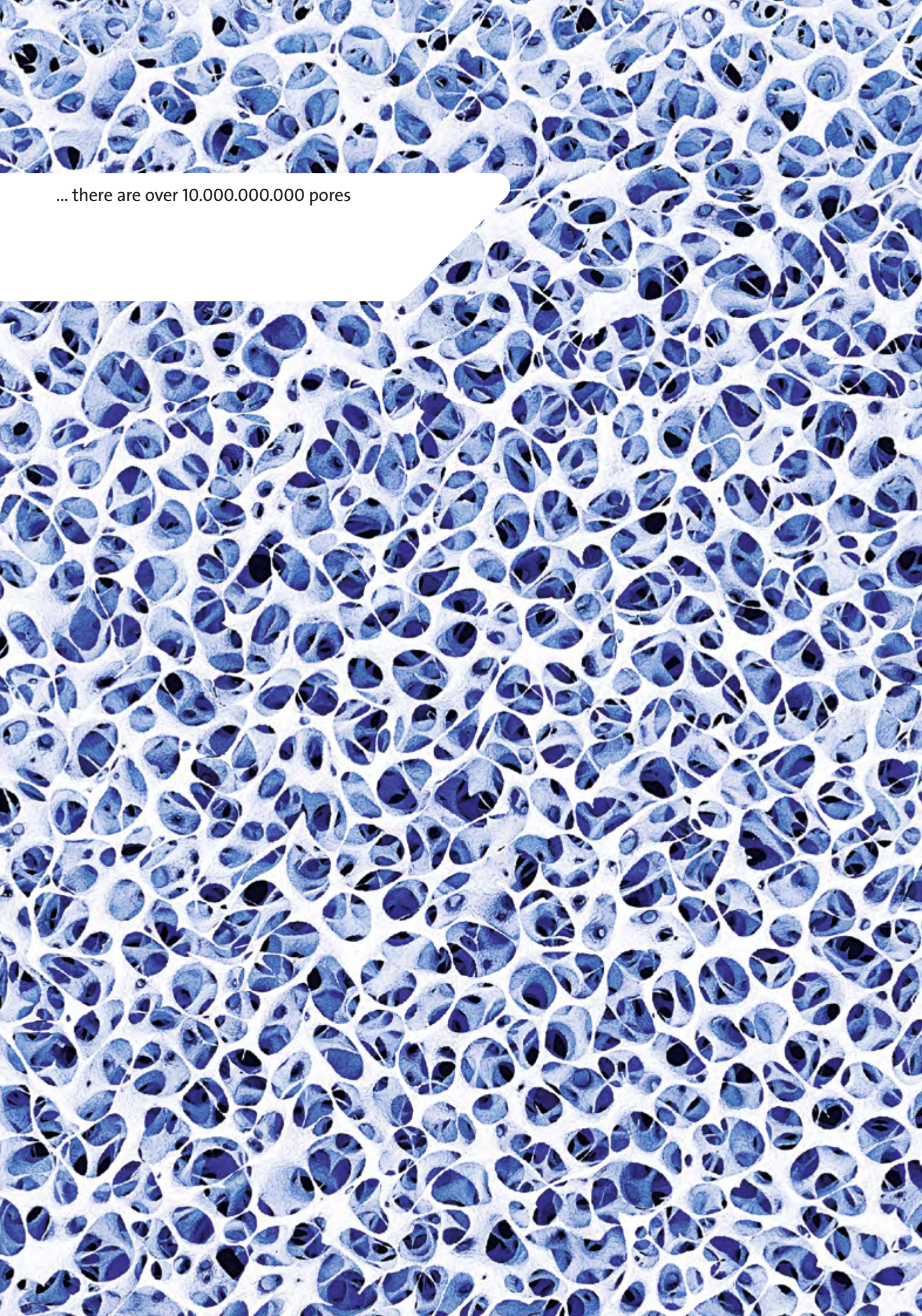
AERSULATE®

revolution in insulation

In a pinhead-sized
amount of Aerogel ...



Due to its distinctive pore structure, Aerogel has an air content of around 98% and is therefore the lightest solid in the world.
This high proportion of air is the ideal prerequisite for a material that redefines insulation: AERSULATE®.



... there are over 10.000.000.000 pores

Outlast Technologies Redefines Insulation

Based on extensive research and development, we succeeded in permanently bonding aerogel to textile substrates in astonishingly high concentrations, without affecting the original properties of the textile or modifying subsequent processing procedures, leading to excellent insulating performances. The AERSULATE® technology is patent pending.

Properties of Outlast AERSULATE® Products

Space miracle

Characteristic for our AERSULATE® textiles is their low thickness at highest performance. While conventional insulation materials usually achieve their functionality through increased thickness, AERSULATE® products are true space miracles. Materials as thin as 1-2 mm can provide excellent insulation. This offers completely new potentials.

Top Performance

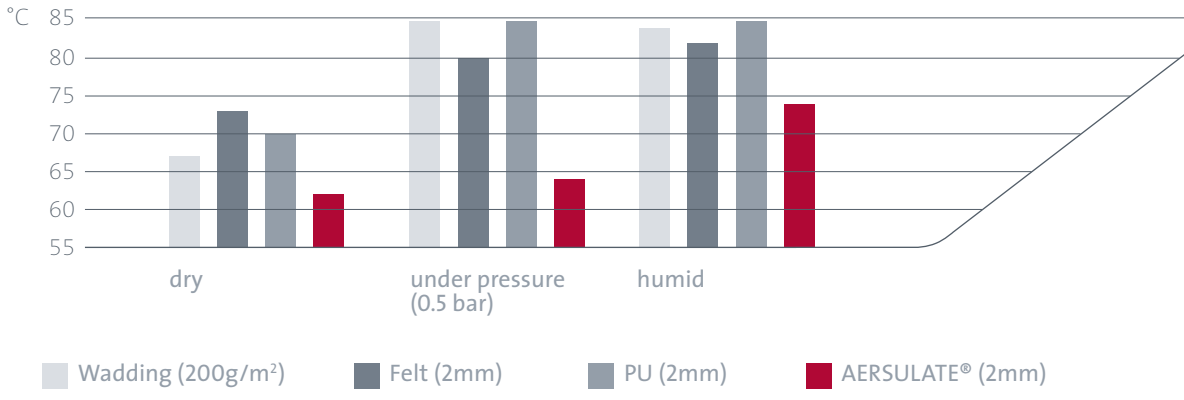
AERSULATE® products have an impressive thermal resistance. The German Institutes for Textile and Fiber Research Denkendorf (DITF) determined the following Alambeta key figures:

Material (thickness 1mm)	Alambeta-Value (mK*m²/W)
Non-Woven without AERSULATE®	20,4
Non-Woven with AERSULATE®	55,6

Result: When comparing identical non-woven substrates with and without AERSULATE®, Outlast Technologies achieves an increase in thermal resistance of more than 100%.

No problem with compression and humid conditions

Studies show that when AERSULATE® products are exposed to the thermal influence of a 90 °C hot heating plate, they can keep away the hot temperature significantly more than materials without AERSULATE® technology.
Under pressure and/or humidity, this effect even increases.* Of course, similar effects will be seen when exposed to cold.



Flame Retardant

We also offer flame retardant variants based on aramite constructions. These fabrics are therefore suitable for multiple technical applications and firefighting equipment.

Carrier Materials

We offer a wide variety of carrier materials, ranging from nonwovens and felts over multiple composite systems. The potential for AERSULATE® is immense.

Further processing

AERSULATE® materials are extremely robust and resistant, but can be further processed very easily in existing manufacturing processes.

Sustainability

Aerogel is made from quartz, the base material of sand, and is therefore harmless to health and environment. Aerogel and the AERSULATE® product range are Made in Germany, guaranteeing the highest environmental and safety production standards.

** We will be happy to discuss detailed information on further measurement results and the specific test setup if you are interested.*

Developed for Space – Proven on Earth

With its proactive heat and moisture management, Outlast Technologies already successfully established a NASA technology here on earth. Now the company is also making the unique properties of aerogel available to us earthlings. While aerogel was also used by NASA for operations in space, Outlast's intensive research and development work benefits us in a wide variety of potential applications such as in classic consumer goods, technical applications, security or construction.

AERSULATE® is the optimal solution for all applications where a very good insulation with little space or a functionality under pressure or moisture is required.

outlast.com

Learn more ...

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