

NanoPore Insulation



Who, What, Where & Why?

NanoPore Insulation Limited was formed in 2006, to produce Vacuum Insulation Panels (VIPs) in the United Kingdom for the European market.

Located in Shropshire, we are close to our major raw material suppliers and within easy reach of distribution networks.

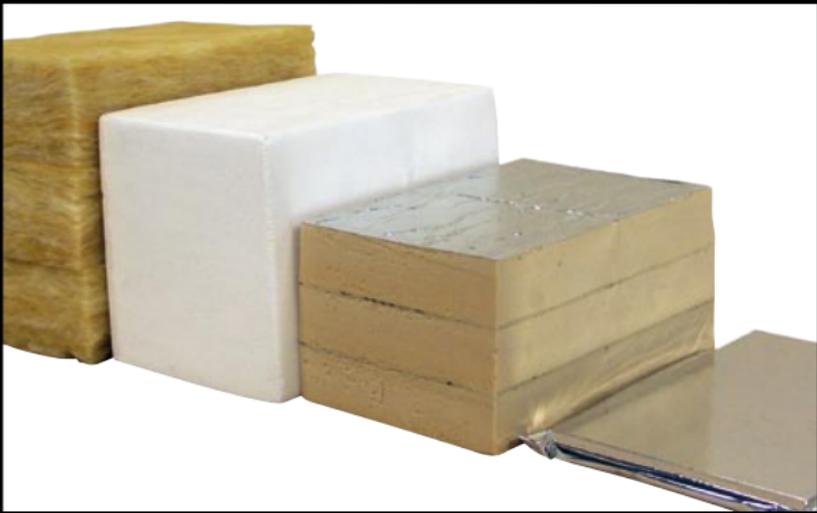
Although we are an independent company, we work closely with NanoPore Insulation LLC of the United States (www.nanopore.com), sharing technology and utilising the benefit of combined raw material supplies.

With similar production plants, our products are available from centres in either Europe or the USA, thereby controlling the costs and timings associated with intercontinental shipping.

These days we all need to take our environmental impact seriously. NanoPore VIPs can help reduce energy costs for both industrial and domestic applications.

By using NanoPore VIPs, you too can reduce the risk of climate change.





Relative thickness and volume of Fibreglass, EPS, PU and NanoPore VIPs

The Technology

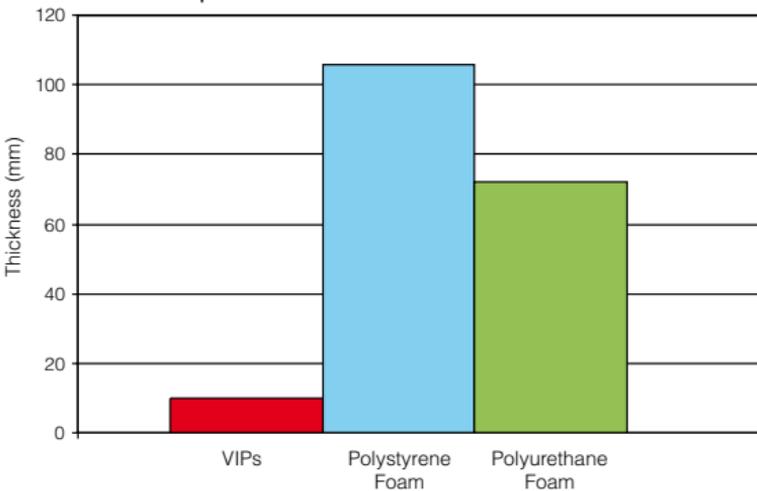
NanoPore Insulation Limited produces VIPs offering very low thermal conductance. Hence much thinner insulation can be used when compared with conventional insulation.

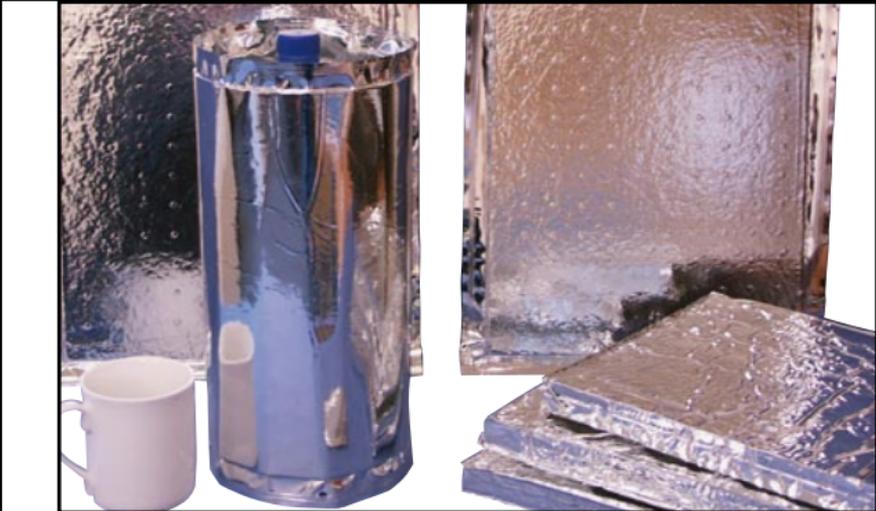
The core material is a composition of silica with either carbon or titania, to produce a low-density, porous nano structure. These cores are encapsulated under vacuum in a multi-layer metallized film, thus offering a rigid flat insulating panel.

As a comparison, the thermal conductivity compared with other materials, is demonstrated in the two graphs below.

VIPs can be used wherever thin insulation is required, together with the need to reduce heat-loss and reduce a carbon footprint.

Insulation Thickness Comparison
Nanopore VIPs vs Other Common Insulation





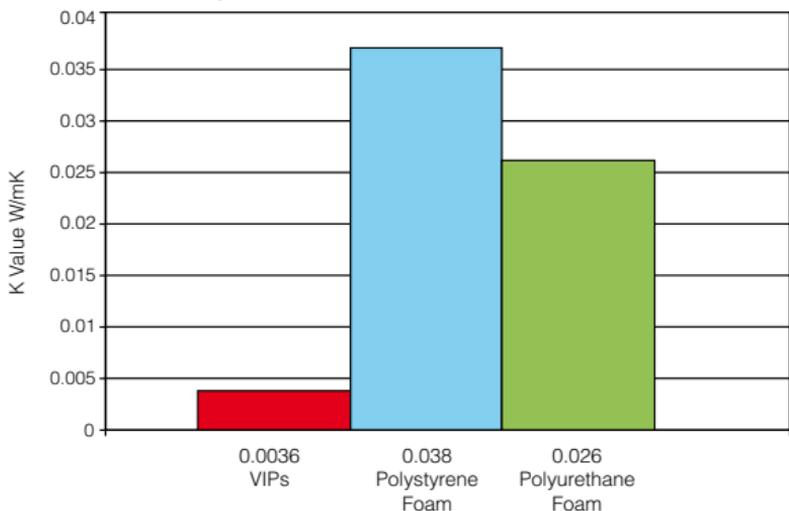
Curved and flat NanoPore VIPs

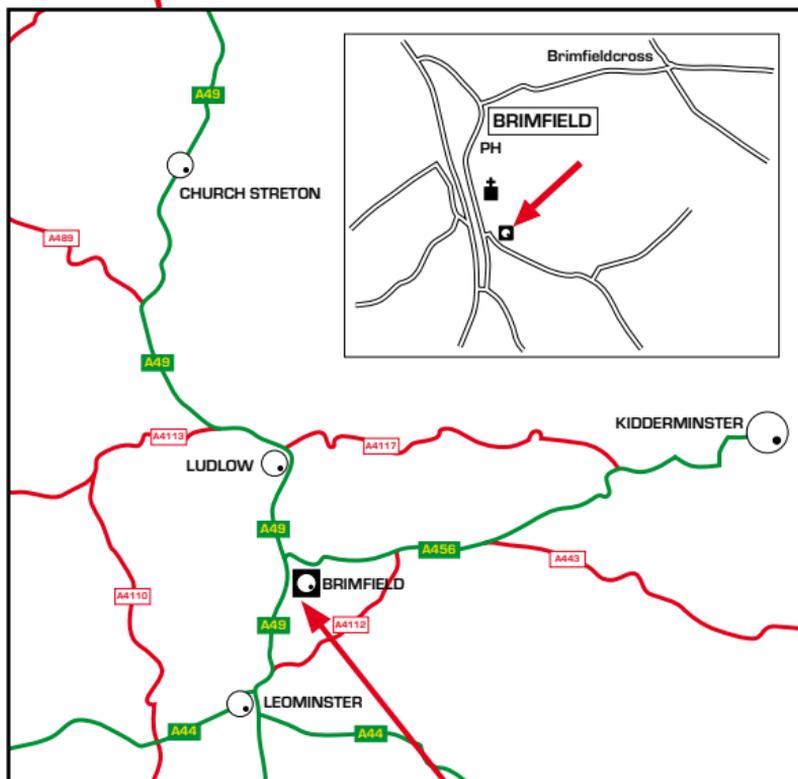
Typical applications include cold rooms, freezer stores, refrigerated vehicles, solar panels, low-energy buildings and cold chain packaging, to name but a few.

The use of VIPs need not be confined to new applications. A recent retrofit of 10mm of VIPs to the outside of an existing cold store, reduced the heat load by a factor of 2. The installation saved 50% of the annual electricity cost.

Panels of 6mm thickness and below, have a certain degree of flexibility, so they can be used in applications where some degree of curve needs to be accommodated.

Comparisons of Thermal Conductivity of Nanopore VIPs and Other Common Insulation





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