

Vacuum Insulation Panels in Construction

Scheme: Floor Insulation Upgrade
Architect: Arboreal Architecture
Completed: July 2014
Location: Brockenhurst, Hampshire



When looking for a high performing and space saving flooring insulation Arboreal Architecture turned to Kevothermal Ltd, a UK manufacturer of Vacuum Insulation Panels (VIPs).

The project was a retro-fit of a 1920's semi-detached property which included the thermal upgrade of the existing ground floor slab. By using 20mm thick VIPs this allowed the existing floor slab to be left in place and the VIPs laid over the top.

Kevothermal's Vacuum Insulation Panels have an aged thermal conductivity design value of 0.007W/mK, making them the best form of insulation on the market. 20mm thick VIPs would equate to approximately 70mm of traditional PUR insulation.

The process of installing the VIPs was a simple one. Firstly the existing floor slab was rubbed down to remove any snags then a liquid asphaltic compound put down to form a waterproof layer. This was then followed with a 3mm rubber crumb matting which was loose laid as a base protection for the VIPs. It is crucial that VIPs are protected from puncture in order to maintain their high insulation value. In the early stages of the project Kevothermal had been supplied with the floor plan layout of the property which enabled them to design a bespoke panel layout. Unlike many VIP manufacturers Kevothermal offer bespoke panel sizes which is necessary in order to achieve maximum floor coverage.

The VIPs were then laid over the base rubber crumb matting layer and all joints taped with a suitable foil tape to form a vapour control layer. The next step was to loose lay a further 3mm rubber crumb matting layer which would act as a protection over the VIPs. When doing this process it was important to work from a foot board and not to walk directly on the VIPs.

Over the top of the rubber matting came an 18mm T & G Chipboard which was the base layer for a 20mm solid ash flooring, adhered with SIKA T54 adhesive. For further information on this project contact -

Arboreal Architecture (www.arborealarchitecture.com) or Kevothermal Ltd (www.kevothermal.eu)

