



REHAU GROUND-SOURCE SYSTEMS

DOMESTIC INSTALLATION, HIGHLANDS OF SCOTLAND

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REHAU has completed a ground-source project in the Highlands of Scotland which is providing the long term sustainable energy requirements of a large stone property.

Six REHAU RAUGEO Pe-Xa probes have been installed at an average depth of 80m to tap the ground-source energy from the ground and feed an underfloor heating and hot water system via a Viessmann heat pump.

REHAU was approached by the installer to develop a sustainable energy solution for the property which is

too remote to be served by mains gas or even to be easily accessible for oil delivery vehicles.

REHAU's solution was to install the technically advanced probes and link them using REHAU's RAUPEX 50mm PE-Xa pipework in a square Tichelmann grid formation. This eliminated the need for a multi-port manifold system to be installed in the property's plant room.

The Tichelmann grid runs alongside the property's 50m drive delivering heat to the heat pump in the plant room



and then REHAU's RAUTHER-MEX pre-insulated district heating pipe distributes the warm water 90m further to the main house and 20m to a newly converted barn.

The renewable energy installation is providing the property's entire 29kW heating requirement with running costs around 50% those of an equivalent oil fired system.

REHAU's RAUGEO probes and RAUPEX pipework use the company's own PE-Xa pipe which is ideal for the rocky ground around the property. This offers long term reliability and resistance to notches as

well as optimum heat transfer.

The RAUGEO probes have no jointing tips and the base is protected by a special resin. They are stable up to 95°C so can be used for heating and cooling systems, where excess heat in the summer can be stored in the ground.

REHAU's drilling partner on the project was Albion Drilling Services who drilled all six 80m holes required and the architect was A-Priori Designs who also acted as an M&E consultant providing heat loss calculations for the complete installation.



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