

Groundsource Heating System Installation



“Drilling at the site of a working hospital meant there was a requirement to minimise disruption in spite of restricted access, in order to provide a cost-effective and environmentally-friendly solution.”

Steve Wherry, Director

Overview

High energy prices and a desire to minimise environmental impact means clients such as Heartlands Hospital are turning to groundsource heating as the solution. Groundsource heating uses underground pipes to transfer energy naturally stored in the ground into structures above, so when the new dialysis wing at Birmingham’s Heartlands Hospital required an environmentally-friendly heating system, the design team opted for a geothermal installation that would reduce winter heating bills, cut CO₂ emissions by up to 75% and offer natural cooling properties during the summer.

Project Description

Working in partnership with REHAU, the premium brand for polymer-based solutions to the construction industry (including groundsource heating probes), Hydrock designed and constructed a groundsource heating solution which met the client’s specific requirements.

The scale of the project called for the installation of 29 groundsource heating probes, to depths of 100m. DTH (down-the-hole) drilling was undertaken using Hydrock’s Hutte 205 GT rotary rig, specifically designed for such installations. The Hutte 205 rig has a twin head rotary system and drill rod carousel to enable casing of boreholes to full depth and ensure loop installation is possible. A

Project Overview

Client

Heartlands Hospital
The Dodd Group

Location

Heartlands Hospital, Birmingham

Project Value

£350K

Services Provided

Drilling
Installation of groundsource heating probes
Installation of surface pipework

Added Value

Hydrock’s seamless design, supply and install package offered time, cost and environmental efficiencies, thereby ensuring that the hospital was able to continue operating during works.



specially engineered probe handling system was employed to provide ease of placement to full borehole depth, thereby minimising the risk of damage to probes during the works.

Despite restricted access, the work was undertaken with care to minimise disruption at the site of a working hospital. The project was completed on time and to budget.

Hydrock completed the feasibility, thermal modelling and design of the borehole field and heat pump system, supply and installation of the groundsource heat pump system, surface pipework and manifolds, and the underfloor heating system.

Photographs

1. Groundsource heating probes
2. Hydrock's Hutte 205 GT rig in action
3. Feeding the probes underground
4. Heartlands Hospital, Birmingham

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