

Countryside Properties Uses Insulslab to Drive Carbon Reduction at Affordable Homes Development

Having been targeted to achieve an additional 25% carbon reduction on top of the Building Regulations, Countryside Properties turned to Insulslab SFRC, a super insulated and fully integrated foundation system, to increase energy efficiency at Saxon Park – a new affordable homes development in Warrington.



KEY DRIVER: THERMAL & SPEED

At the time of plot registration, the development was required to meet Level 3 of the Code for Sustainable Homes, with specific employer requirements mandating that it must also significantly improve on the current Building Regulations for carbon reduction.

As a system that integrates insulation into its design using lightweight expanded polystyrene (EPS) pods, Insulslab achieves very low U-values, typically 0.10 – 0.12W/m²K (depending on P/A ratio). With steel fibre reinforced concrete (SFRC) poured on top of the pods, Insulslab delivers the foundation up to ground floor level, contributing to the overall thermal performance of the building envelope.

Used in conjunction with a standard open panel timber frame system at Saxon Park, Insulslab offered increased speed of construction, improved airtightness and the virtual eradication of thermal bridging at ground-level due to the two systems efficiently integrating together.

As the site was also a former steelworks, there were additional challenges with regards to ground preparation and foundation construction. Requiring minimal ground excavation and no trenches, Insulslab provided an efficient foundation technique that could also easily accommodate sloping parts of the site. This included a stepped construction of 2.2 metres in one area, which would not have been possible with a traditional raft.

Andrew Fox, Countryside Properties' Technical Standards Manager, comments:

"Given the challenges facing us on the site and the stringent energy efficiency criteria set by the client, we needed a solution that would deliver the required performance without significantly impacting on build cost. The flexibility of the Insulslab system and its proven thermal insulation credentials made it the best specification for Saxon Park, as the higher levels of insulation in the floor made it easier for us to meet the required performance without having to increase floor depth or insulation in the wall cavities."

Although Countryside Properties originally looked to Insulslab as a solution to help achieve the specified carbon reduction, the system also proved a key factor in increasing on-site efficiency. While ground-workers Caldwell Construction originally anticipated one week per plot based on traditional raft techniques, using Insulslab the team was able to construct a plot foundation in just three days.

"We have been extremely impressed with the speed of installation because in spite of a late start on-site, we were able to make the time back by using timber frame in conjunction with the Insulslab system – two very efficient and modern methods of construction."

The simplicity of Insulslab system installation is facilitated by the components being easy to manage. For example, the expanded polystyrene pods minimise manual handling as they are sufficiently light for a one-man lift, while the use of steel fibre reinforced concrete removes the need for traditional steel reinforcement, which can often prove difficult to manoeuvre on-site.

Mark Gray, Insulslab Technical Manager, concludes:

"The Insulslab system is specified for three reasons – time saving, cost saving and enhanced thermal performance. The installation programme at Saxon Park demonstrates how the system can simultaneously deliver on all three counts, even under the most challenging of site conditions or timescales."

ENQUIRIES:

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