



Laying solid foundations for affordable, energy efficient homes

Project overview >

The Abbey Road development at Sandbach in Cheshire is a new development of 165 homes offering a mix of two-bedroom apartments and two, three and four bedroom houses for private sale, shared ownership and affordable rent. Situated in a semi-rural location, east of Chester and to the south of Manchester, the site was secured by the Lane End Group. Insulslab and ArcelorMittal Fibres are combining their technologies to construct the foundations upon which this exciting development is being built. Completion is expected by March 2022.

ArcelorMittal Fibres solution >

- TAB®House

Project partners >

- Insulslab Limited: Specialist manufacturer of Expanded Polystyrene System (EPS) for use in residential construction. A “No Dig System” suitable for brown field sites and contaminated land.
- GHW Consulting: Structural Engineers and Designers for the construction industry
- Lane End Group: Groundwork Contractors and market leader in the construction and housing sector in the North West of England.
- Latimer Homes / Clarion Housing Group: Clarion Housing Group is a social landlord that uses public and private investment to provide affordable homes. Clarion Housing Group also build homes for sale.
- Bulcon Concrete (part of Mincrete Ltd.): A leading supplier of ready mixed concrete, with expertise and product knowledge that covers the whole spectrum of the construction industry, including the use of steel fibre reinforced concrete.
- ArcelorMittal Sheffield Limited – Specialist suppliers of steel fibre reinforced concrete solutions for the construction industry, including structural applications such as the Insulslab system.

“Insulslab and ArcelorMittal steel fibre reinforced concrete is becoming the preferred foundation system, supporting developers’ commitment to building energy efficient affordable homes.”

Michael Gilliead
Sales Director, Insulslab Ltd

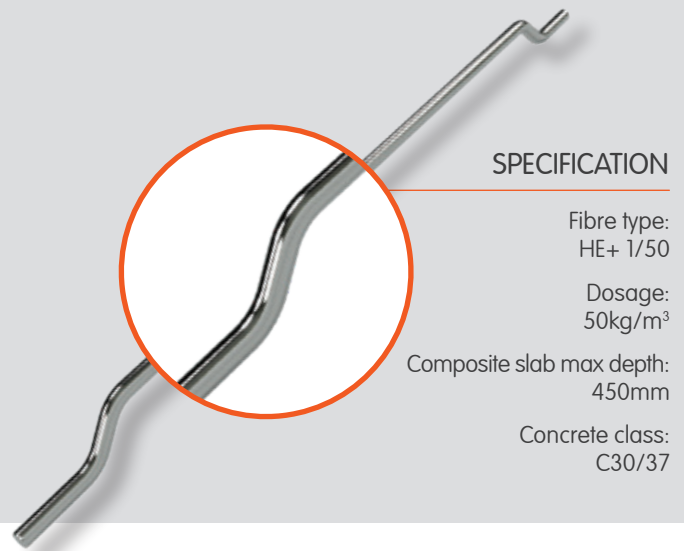
The challenge >

The Sandbach development is being constructed in the Cheshire salt mine zone. The need to mitigate against the risk of any adverse ground conditions caused by mine works has led GHW Consulting (the appointed Structural Engineers for the Sandbach project) to select an innovative and well proved foundation system.



The result >

Project cost savings are being realised through the significant reduction in labour time and the simplicity of the installation procedure. The Insulslab solution is light weight and therefore no mechanical vehicles or lifting machinery is required. The use of steel fibres eliminates the requirement for rebar steel mesh. Compared with traditional foundation techniques, the combination of Insulslab with ArcelorMittal Fibres' reinforced concrete is a highly efficient, cost effective solution which can achieve typical U-values of around 0.10-0.13W/m²K (depending on P/A ratio conditions).



The solution >

The Insulslab foundation system, used in conjunction with steel fibre reinforced concrete from ArcelorMittal Fibres, was selected by Lane End Group.

Concrete that is mixed with ArcelorMittal steel fibres (HE+ 1/50 fibre with a dosage of 50kg/m³) is poured over the Insulslab 'waffle' foundation system to form the finished foundation.

The solution offers labour and materials savings, as well as excellent thermal performance. By using Insulslab and ArcelorMittal Fibres' reinforced concrete to replace the traditional raft foundation with stability piles, Latimer Homes is benefiting from a fully integrated and super insulated steel fibre reinforced concrete foundation system.

When compared to traditional foundation construction methods, the Insulslab/ArcelorMittal Fibres solution offers many advantages including:

- Increased speed of construction and earlier completion times.
- No rebar or mesh required.
- Less volume of concrete required with minimal waste.
- Shallow foundation system requiring minimal excavation with less disruption, reduced 'cart-away' and less site traffic.
- Contributes to the Code for Sustainable Homes & BREEAM credit scores and Green Guide Rating.
- Ideal for brownfield sites.

The world is building on our expertise.

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