

# Historic production of graphene enhanced cement successfully completed

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## Highlights

- Production of 600 tonnes of low-carbon PureGRAPH® enhanced cement successfully completed by one of the UK's largest cement producers
- Graphene enhanced cement will be used by multiple end users in a range of applications, including concrete roof tiles for sustainable housing
- First Graphene will work with FP McCann, Morgan Sindall and Breedon to ensure streamlined pouring of PureGRAPH enhanced concrete across projects
- Several other UK and Australian organisations have requested volumes of the trial material for testing in their respective fields.

[First Graphene Ltd.](#) (ASX:FGR; "First Graphene" or "the Company") is pleased to announce the successful production of approximately 600 tonnes of graphene enhanced cement ahead of a raft of new trial projects rolling out in the United Kingdom.

The high tonnage of cement contains circa three tonnes of First Graphene's PureGRAPH-CEM® additive and was produced by commercial partner Breedon Group PLC ("Breedon") at its Hope Cement Works in Derbyshire.

Production of this historic volume of graphene enhanced cement marks a major milestone for the cement and concrete industry, showcasing the commercial viability of manufacturing a more environmentally friendly product at scale.

Manufacturing was completed efficiently at Hope Cement Works over one day, with PureGRAPH-CEM® being added in the final milling stage.

The graphene enhanced cement enables users to reduce their CO<sub>2</sub> footprint by up to 16% due to the reduced amount of carbon intensive 'clinker' required.

The PureGRAPH® enhanced cement is currently in storage ahead of despatch for use in concrete for three main projects across the United Kingdom, and for the University of Manchester to conduct compressive strength testing and analysis of concrete's performance.

First Graphene Managing Director and CEO Michael Bell said:

"Production of 600 tonnes of cement containing our PureGRAPH-CEM® is a historic milestone in our journey, showcasing our product's viability for production at scale.

Adding graphene into cement has proven to deliver performance benefits for a wide range of applications, and multiple uses of this cement batch reinforces PureGRAPH®'s versatility.

We look forward to working closely with our strategic commercial partner Breedon, Morgan Sindall, FP McCann and the University of Manchester as application trials roll out over coming months."

**Strong and sustainable concrete roof tiles**

The first trial will see 30 to 40 tonnes of graphene enhanced cement incorporated into thousands of roof tiles produced

FP McCann at its Cadeby manufacturing plant in Leicestershire.

These tiles will be tested for material use efficiencies and waste reduction benefits over five months at the company's research and development facility in Knockloughrim.

The trial is part of a Contracts for Innovation: Resource Efficient Construction Impacts project funded by Innovate UK<sup>[1]</sup> £15,000 allocated for the supply of graphene enhanced cement.

FP McCann designed the trial in response to ongoing housing shortages in the UK and to assist with the UK Government plan to deliver more than one million affordable and sustainable new homes by 2029.

The PureGRAPH® enhanced cement will also be used for two infrastructure projects in the UK, delivered in partnership with the high-end infrastructure division of Morgan Sindall Group PLC and Breedon.

First Graphene has also received requests from multiple other organisations across the UK and Australia for experimental volumes of the material for testing across a wide range of applications.

As one of the UK's largest cement producers, Breedon has a deep commitment to manufacturing sustainable construction materials, reinforced by the use of graphene enhanced cement at its production facility.

First Graphene has previously collaborated with both Breedon and Morgan Sindall to successfully test graphene enhanced concrete as part of a high use truck wash bay on a UK motorway.

[1] <https://iuk-business-connect.org.uk/opportunities/contracts-for-innovation-resource-efficient-construction-impacts/>

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Michael Bell, [michael.bell@firstgraphene.net](mailto:michael.bell@firstgraphene.net)

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