ASX ANNOUNCEMENT

18th March 2025

Pathway to commercialisation advances for graphene enhanced cement

Highlights

- **Development of graphene enhanced cement usage at major UK project to commence with Breedon Group**
- **PureGRAPH® delivered to multinational chemical manufacturer to test durability and cost effectiveness of graphene enhanced repair mortar**
- **Improvement in durability of graphene enhanced concrete slabs confirmed at fire training simulation project in South Africa**

First Graphene Limited (ASX:FGR; "First Graphene" or "the Company") is pleased to provide an update on its pathway to commercialisation of graphene in the global cement and concrete industry.

PureGRAPH® permanently added to UK concrete foundations

More than three tonnes of First Graphene's dedicated PureGRAPH-CEM® product has arrived in the United Kingdom ahead of the next phase of trials with the nation's largest cement producer, Breedon Group.

The project will see the Company's graphene used in a permanent real-world environment, which forms part of a major road infrastructure project in the UK. The graphene enhanced concrete is scheduled to be produced and poured in May.

This work will aim to validate at an industrial scale the results achieved through laboratory work by Kirton Concrete Services, which showcased an increase in compressive strength of up to 16%.

Importantly, this application will also be using a simplified process of adding PureGRAPH-CEM® to cement, which will reduce both the overall cost and complexity for future commercial opportunities.

The permanent concrete slabs using the enhanced cement will be verified through material testing to industry standards and will support larger scale programs scheduled for mid-year.

Data collected will be compiled and distributed to other potential end users to validate future commercialisation opportunities of both the simplified mixing process and the Company's PureGRAPH-CEM® product.

Demonstrating use of graphene enhanced repair mortar in a live environment

First Graphene has supplied PureGRAPH® enhanced mortar to a leading fine chemical manufacturer, Lianhetech Seal Sands, based on Teesside, Northeast England.

The material will be used to assess the durability, cost-effectiveness and ease of application in a

live environment under controlled conditions in a small-scale trial. Its performance will be closely monitored over several months and benchmarked against commercial repair mortars over 28 days.

The trial will demonstrate whether the material will shows improved chemical resistance in a challenging environment, whilst also delivering additional potential benefits to the site, by trialling a product with a lower carbon footprint.

Repair mortar is used to repair corroded concrete in a variety of structures, with the global market reportedly valued at more than USD $2.5 billion in 2025[1].

Durability improvements further validated in South Africa

First Graphene also supplied PureGRAPH® to develop a graphene enhanced concrete slab as part of a large-scale working platform for a fire testing project in Southern Africa, in collaboration with Stellenbosch University, Glade Chemicals, AFRIMAT, and Kindling Inc.

Graphene enhanced cement was poured alongside a reference concrete slab and tested for permeability by measuring oxygen penetration.

Results showed a significant reduction in permeability of more than 33% between the PureGRAPH® slab and the reference slab, further validating the ability of First Graphene's product to increase longevity of concrete structures.

These results have been supplied to interested clients and partners, including Lianhetech, as a real-world example of the commercial opportunity presented by PureGRAPH® in developing longer-lasting concrete infrastructure.

First Graphene Managing Director and CEO Michael Bell said:

"First Graphene is making exceptional progress in the cement and concrete sector, with trial results and subsequent commercial interest further reiterating the need for our PureGRAPH®.

We look forward to collaborating with all of our partners involved in these projects as we collectively work towards delivering graphene products to this growing global industry."

References:

[1]Mordor Intelligence

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This release has been approved for release by the Chairman.

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About First Graphene Ltd (ASX: FGR)

First Graphene Limited is focused on the development of advanced materials to help industry improve. The Company is a leading supplier of graphitic materials and product formulations with a specific commercial focus on large, high-growth global markets including cement and concrete; composites and plastics; coatings, adhesives, sealants and elastomers (CASE); and energy storage applications.

One of the key outcomes these advanced materials offer is the reduction of carbon dioxide emissions, whether directly through a reduction in output of these harmful greenhouse gases or lower energy usage requirements in manufacturing, or indirectly due to enhanced performance characteristics and extending the usable life of products.

First Graphene has a robust manufacturing platform based on captive and abundant supply of high-purity raw materials, and readily scalable technologies to meet growing market demand. As well as being the world's leading supplier of its own high performance PureGRAPH® graphene product range, the Company works with multiple industry partners around the world as a supplier of graphitic materials and partner to research, develop, test and facilitate the commercial marketing of a wide range of sector-specific chemical solutions.

First Graphene Ltd is publicly listed in Australia (ASX:FGR) and has a primary manufacturing base in Henderson, near Perth, WA. The Company is incorporated in the UK as First Graphene (UK) Ltd where it has a strong R&D capability.