
First Graphene Reports Positive Results from Graphene-enhanced Cement Trials in the UK

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First Graphene has announced that continued positive results have been reported in field trials of its graphene enhanced cement.

The graphene enhanced concrete slab, which incorporates the Company's PureGRAPH, reportedly continues to perform well, reaching over 200 days in operation at a wheel washing facility at a major highway infrastructure project in South East England.

The slab has maintained its strength and integrity, with a complete absence of defects, damage or deterioration reported by scientists and engineers investigating the project. The concrete slab was prepared using a graphene enhanced CEM II A/L concrete mixture, produced by Breedon during site trials last year.

The highway project provides, according to [First Graphene](#), an optimal and challenging environment to test the strength and permeability of the graphene enhanced concrete slab.

The slab has been subjected to more than 150 heavy vehicle movements each day, as well as considerable abrasion and wetting from washed wheels. It has also undergone exposure testing across a wide range of weather conditions.

Core samples extracted from the graphene enhanced concrete reportedly indicate good compressive strength performance for the grade of concrete specified.

The Company stated that these further results mean the long-term strength of graphene enhanced cement has been demonstrated in a real-world aggressive environment.

As previously reported by the Company, the enhanced cement had an immediate 15% reduction in CO2 emissions during production as a result of its lower clinker factor.

The Company since reported early-stage strength gain, with the slab meeting specifications for the concrete pad (37 MPa after 28 days, based on cube strengths) and continuing to perform well after successive core tests.

The trial has been conducted with a range of partners, including the [UK](#)'s largest cement producer, Breedon Group plc, Morgan Sindall Infrastructure and the University of Manchester. It was also supported by the [United Kingdom](#) Government, through Innovate [UK](#), under their Transforming Foundation Industries Program.

These positive results have provided the opportunity for First Graphene to continue collaborating with Breedon and Morgan Sindall Infrastructure on future projects.

The trials reinforce the potential use of graphene enhanced cement as an emission reducing and higher performing solution for the cement and concrete industry.

First Graphene Managing Director and CEO, Michael Bell, said: "These 200-day results represent a significant milestone in the trials of graphene enhanced cement, with the integrity of the slab continuing to go from strength to strength. First Graphene is contributing to the development of cost effective, ready-to-use solutions to help decarbonize the construction industry, providing a 'greener' solution. I look forward to providing further updates as we continue our journey with key players in the [UK](#) construction industry, such as Breedon and Morgan Sindall Infrastructure."

Read the [original article](#) on Graphene-Info.