
Versarien Jumps As Tests Show Cementene-enhanced Concrete Helps Reduce CO2 Emissions

2023-05-20

Versarien PLC shares jumped 9% higher to 1.25p on Wednesday morning after it said trials of a precast concrete containing its Cementene water-based graphene mixture were shown to maintain its strength with 20% of the cement removed.

The initial results, carried out in tests at the accredited laboratory of [Ireland](#)-based Banagher Precast Concrete, “demonstrate the significant potential to reduce CO2 emissions without impacting the performance of the concrete”, the AIM-listed company said.

This is because producing 1kg of ordinary Portland cement emits around 0.8-0.9kg of CO2 and roughly 500kg of cement is used per cubic metre of Banagher's precast concrete.

Producing 1kg of Cementene is estimated to generate a higher level of CO2 emissions, at 1.44 kg, but [Versarien](#) said because only around 5kg of Cementene is used per cubic metre of concrete and allows the removal of 20% of cement in the precast concrete mix, this would equate to a net saving of almost 73kg of CO2 emissions per cubic metre of concrete poured.

The company said that, based on Banagher's average 60,000 cubic metre output of concrete per year, the savings achieved in the trials suggest that incorporating Cementene in the mix could offer “almost 4.4mIn kg of CO2 savings per year”.

The cost of adding Cementene is “competitive” for the potential level of emissions reduction, Versarien’s chief technology officer Stephen Hodge said.

Banagher’s technical director, Peter Deegan, said the company’s new laboratory has allowed

it to quantify any improvements in performance based on compression testing, chloride migration, water absorption and more.

“While still at an early stage, we are finding very positive results and aim to continue with the research right through to scaling up at our production plant. We are confident that graphene will play a major role in carbon reduction in the future,” he said, noting that the firm has been trialing many alternative additions to its concrete mixes to reach net zero.

Hodge added that the company will continue working with Banagher and potentially other concrete suppliers to roll out Cementene enhanced concrete “as soon as possible”.

Read the [original article](#) on Proactive Investors.