

# A sustainable flooring solution



Extensia is a breakthrough in technology, meeting market needs based on the [understanding of hydration, shrinkage and cracking](#) associated with a concrete floor's structural behaviour. The unique, patented Extensia solution offers tangible advantages for floor designers, contractors and end-users AND delivers significant environmental benefits.

## Why has Lafarge conducted a Life Cycle Assessment?

Lafarge is looking to the future, responding to and anticipating the growing interest in products which demonstrate enhanced environmental performance.

Life Cycle Assessment (LCA) enables companies to establish an environmental profile called an '[eco-profile](#)' or '[footprint](#)' for a product or process, examining the use of energy, raw materials and releases to air, water and land, considering the whole life cycle.

Thanks to LCA it is possible to identify the major sources of environmental impact and the life cycle step for this impact.

The critical review process was conducted according to [ISO 14040 recommendations](#).

## How have we done this?

Ecobilan, part of PricewaterhouseCoopers Sustainable Business Solutions, conducted a Life Cycle Assessment to prepare the environmental profile of the developed product (concrete slab).

## Goal of this study

The main goal of the study is to compare the environmental profiles of three solutions produced by Lafarge and distributed on the UK market.

- ▶ A new concrete flooring product called Extensia
- ▶ Two conventional flooring solutions also offered by Lafarge that include metallic mesh and fibre solutions.

The study will enable Lafarge, its customers and industry regulators make better informed decisions in line with the principles of product choice and sustainable development.

## ▶ Results

The Extensia product **performs better** than the two alternative products for most of the indicators chosen. As compared to the traditional concrete with either steel mesh or steel fibre environmental performance is improved. Specifically:

- Up to **20% reduction** in CO<sub>2</sub> emissions
- Up to **46% reduction** in coal consumption
- Up to **16% reduction** in oil consumption
- Up to **85% reduction** in waste production

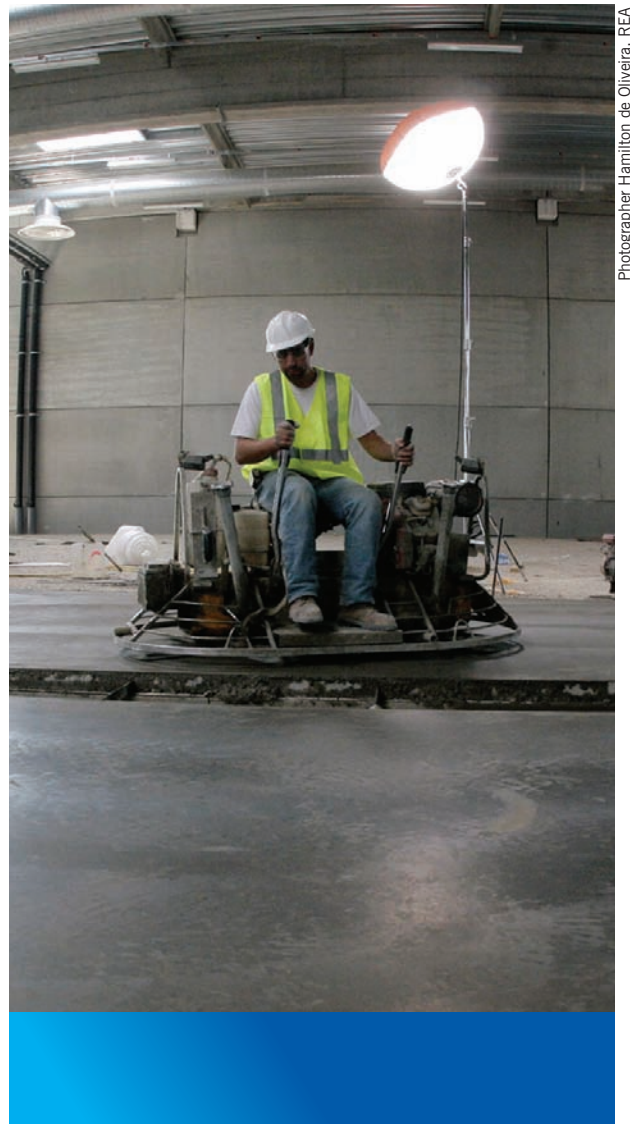
The peer review panel is independent from Lafarge and not involved in the making of the study, comprising of: Ginkgo 21 and GHA Livigunn.

## Peer Review

With Extensia, Lafarge has developed a high-strength, low-shrink concrete which meets the end users, commercial and environmental needs whilst reducing the whole life cost of the structural element.

Nathan Woods, GHA Livigunn

**For a copy of the full report or  
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