

Bouygues UK

Barking, London



The Challenge

The Gascoigne Estate in Barking was first built in the 1960s and has become the subject of a massive redevelopment scheme to bring it into the 21st century. In the spirit of sustainable construction, Bouygues UK seized the opportunity to investigate the huge sustainability potential of Cemfree with some in-situ trials, conscious of the significant carbon saving that is achievable with this zero-cement concrete. Jean-Marie Perret, Bouygues UK Project Manager, decided to carry out a full scale on-site evaluation of Cemfree concrete to gain first-hand experience of this revolutionary new material and compare its properties to traditional concrete.

The Cemfree Solution

With the main proportion of this construction phase being carried out using a C32/40 blended concrete, Bouygues UK wanted to push the sustainability envelope further still by replacing this mix with a Cemfree equivalent. The Cemfree team fully evaluated the material, in this instance provided by Express Concrete, so a suitable mix design could be produced. Express Concrete and Cemfree then conducted a pre-trial at the batching plant in Barking to ensure everything was correct when the time came to use the mix on site.

A Carbon Saving of almost

80%

on this project



The Practicalities

Cemfree concrete was placed into 2 x 2.4m³ wall shutters and 4 x 0.5m³ slab sections to enable a full evaluation of the material, with key factors being workability retention, ease of placement and finish; in total 6m³ of Cemfree ultra-low carbon concrete was poured. Everything went according to schedule during the trial with the team placing the concrete commenting that the material was easier to place and finish than the conventional concrete they were using.

The Result

BYUK wanted to employ like-for-like striking times for the Cemfree wall panels, so the panels were struck 18 hours after placement. The concrete was self-supporting and exhibited no adverse effects from such an early strike, further highlighting Cemfree's versatility and compatibility as a building material.

This partnership between Cemfree and Bouygues UK was born out of a mutual passion for innovation and a desire to minimise the impact that construction has on our environment. The sustainability agenda of Bouygues UK declares low-carbon, green construction and the latest technologies are among the top priorities for the company. This is what makes Cemfree so attractive – it ticks both of these boxes whilst making a genuinely positive and significant impact on the carbon output of a project in its construction stage.

James Giles, Cemfree Business Development Manager, was thrilled about the collaboration with Bouygues, saying, "It's fabulous to see forward-thinking companies such as Bouygues UK embracing new technologies, daring to step outside the box of traditional materials & techniques and looking to the future and the possibilities that Cemfree presents to the construction industry."

Bouygues UK's Jean-Marie Perret, leading the Cemfree trials for the Gascoigne Estate, said, "We are always looking for new ways to innovate, and the carbon-saving potential of Cemfree is considerable. Initial trials have been very positive and we will continue to explore its potential as a sustainable alternative to traditional concrete – a hugely exciting possibility."

