

ULTIMATE EXPERIENCE

NATIONAL FOOTBALL CENTRE –
ST GEORGE'S PARK – BURTON ON TRENT



**LAFARGE
TARMAC**

CEMENT

Product: ECO PHOENIX® – POZZOLANIC CEMENT (FLY ASH BASED) CEM IV/B-V 32,5N LH

Client: THE FOOTBALL ASSOCIATION

Main Contractor: BOWMER AND KIRKLAND

Location: NATIONAL FOOTBALL CENTRE – ST GEORGE'S PARK – BURTON ON TRENT

Completion: JUNE 2013

“A prestigious project for the FA, the National Football Centre will become the focal point for the hopes and dreams of a footballing nation. With the future in mind, it was very important that we could provide a sustainable, locally sourced solution. Eco Phoenix is an innovative product that combines all the benefits of increased sustainability – by using low carbon fly ash – workability and low heat of hydration, especially on the large pours required to lay the foundations and floor slabs. The perfect basis upon which to build a new centre of excellence.”

Sabine Nyszczota, Strategic Marketing Manager, Lafarge Tarmac

SUMMARY

The FA's new state of the art facility near Burton on Trent in Staffordshire acts both as a training base for England's national football team and as a focal point for player and coach development. It also houses sports science and medicine facilities.

THE CHALLENGE

Including 2 hotels, indoor football pitch, fitness and rehabilitation centre, swimming pool, spectator seating and basic infrastructure, this high-profile project required a sustainable, locally sourced solution. One of the major challenges for supplying concrete to the project was the semi-rural location and the need to avoid increased traffic in nearby villages. Consequently, the actual journey from the Alrewas concrete plant to the construction site was considerably longer than the distance 'as the crow flies' and required a longer concrete open time.

OUR SOLUTION

For the foundations, footings, retaining walls, drainage and floor slabs of the National Football Centre, Eco Phoenix concrete was supplied from Lafarge Tarmac's Alrewas Readymix plant, using the plant's own local aggregate supply and Lafarge Tarmac's innovative and sustainable Eco Phoenix cement from the nearby Dewsbury blending plant. Eco Phoenix is CE marked, conforms fully to BS EN 197-1 and contains around 45% of specially selected fly ash – a by-product of power generation at coal fired power stations which might otherwise have gone to landfill – and produces a very workable, pumpable concrete with certified low heat of hydration characteristics. The construction processes on site – time of pouring, protection from cold, curing, etc – were modified to maximise the beneficial characteristics of the cement.

RESULTS AND BENEFITS

With less than 70% of the embodied CO₂ of conventional Portland cement, Eco Phoenix is the only factory-produced cement in the UK that met the specified minimum of 40% fly ash for the project. Producing a very workable yet highly durable concrete, the extended setting characteristics of Eco Phoenix were ideally suited to the supply situation, ensuring that concrete delivered to site was still sufficiently workable to be placed correctly. Its certified low heat of hydration characteristics minimised the risk of early-age thermal cracking on the large pours required to construct the foundations and floor slabs.



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