

# PROVEN PERFORMANCE

TOPROC ES. WOLVERCOTE VIADUCT, OXFORD

**TOPROC**  
ES

**Product** TOPROC  
**Client** HIGHWAYS AGENCY  
**Main contractor** COSTAIN  
**Location** WOLVERCOTE VIADUCT, A34, OXFORD  
**Date of completion** JULY 2010

## *Toproc ES delivers early strength when curing time is critical, to provide ultimate rapid strength development.*

### THE CHALLENGE

When a major viaduct linking the Midlands and the South Coast needed a unique concrete 'stitch' pour to join the north and south carriageways – all carried out within a tight possession window – it was the Tarmac team that rose to the challenge. The Wolvercote Viaduct is a vital piece of infrastructure, carrying not only the busy A34 dual carriageway trunk road (Oxford Western Bypass) over the River Thames flood plain, but also the Oxford to Birmingham mainline railway, the Oxford Canal and the A40. Once the new viaduct was complete, the Lafarge Tarmac team had just a 24-hour window to supply the concrete, working mostly out of hours, at night. Another challenge of the project was generating sufficient heat within the concrete to enable curing to take place, as site temperatures had been as low as 4°C.

### OUR SOLUTION

Once a southbound deck had been slid into position on new foundations with minimal disruption to traffic, Costain poured 160m<sup>3</sup> of Toproc high early strength concrete to secure the two carriageways together within the needed timescale of 24 hours. Using laboratory data from temperature tests carried out prior to the 'live' pouring, it was clear that a temperature of 5°C was needed to give the strength needed within the tight time constraints. Therefore, by monitoring the site weather conditions, the optimum pour moment was identified and acted upon.

### RESULTS AND BENEFITS

To allow for the concrete to reach the strength required, Costain poured all of the concrete within a three hour time frame. Toproc attained a structural strength of 20N/mm<sup>2</sup> within the following 20 hours. Keeping to accurate, planned timings and disciplined pouring strategies resulted in Costain being able to exceed their program schedule and reopen the carriageway one hour ahead of schedule.

# TOPROC

For more details contact your [toproc@tarmac.com](mailto:toproc@tarmac.com) or call **0800 1 218 218**

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