

# ULTIMATE EXPERIENCE

BRETT CONCRETE FOR CROSSRAIL TUNNELLING



**LAFARGE  
TARMAC**

CEMENT

*Product: PCRM CEM I 52,5N AND WEST BURTON EN450 S GRADE FLY ASH*

*Client: BRETT CONCRETE*

*Main Contractor: DRAGADOS SISK JV*

*Location: BRETT CONCRETE, CHATHAM DOCKS FOR CROSSRAIL TUNNELLING*

*Timescale: SEPTEMBER 2012 TO AUGUST 2014*

## SUMMARY

Crossrail, the new high frequency, high capacity railway, is set to revolutionise travel in London. Construction is due for completion in 2018. And with 26 miles of tunnels, building this new artery passing through 40 stations is one of Europe's biggest construction projects.

### THE CHALLENGE

Lafarge Tarmac customer Brett Concrete used PCRM CEM I 52,5N and EN450 S Grade fly ash to manufacture 110,000 of the 250,000 precast concrete segments that are being used to line the 26 miles of tunnels. The consistent high strength of our quality assured, CE marked bulk cement, which performs well with the West Burton fly ash, delivered the performance required by Brett Concrete to cast the vast number of segments required for timely construction. Bob Crisp the general manager of Brett Concrete commented: 'It was crucial that the concrete for the tunnel segments was made to a very high strength and specification given the end use, and to do this we had to have a constant supply of high quality materials, delivered at the right time. Lafarge Tarmac were integral when it came to helping us meet the demands of this exceptional project and in delivering for the customer.'

### OUR SOLUTION

To ensure smooth production at their facility at Chatham, Brett Concrete took delivery of 8 loads of Lafarge Tarmac bulk cement a day, at any time, 24 hours a day, 5.5 days a week via our Northfleet depot. Two loads of fly ash deliveries per day arrived directly from West Burton at Chatham Docks. Because material availability was key to Brett Concrete's commitment on the Crossrail project, we installed three temporary storage silos to hold a reserve consignment of 360 tonnes of bulk fly ash for exclusive use on this prestigious contract. Ian Bowhill, Distribution Manager at Lafarge Tarmac commented: 'The dedicated silos enabled us ensure constant supply of fly ash for Brett Concrete throughout the project. During times when the power station was off-line for maintenance, it provided the emergency backup needed to ensure Brett Concrete could continue to produce the tunnel segments around the clock.'

### RESULTS AND BENEFITS

Lafarge Tarmac's Northfleet site also played a key role in the recycling of excavated material produced during the massive tunnelling process. Jonathan Toyn, Senior Estates Manager at Lafarge Tarmac explained how we assisted Crossrail in providing a sustainable solution and reinstated the rail freight link at our Northfleet depot to enable the transfer and disposal of spoil from the tunnel construction sites in Central London to a nature reserve at Wallasea Island: 'We worked very closely with Crossrail from the project's inception to reinstate approximately 2km of rail siding at Northfleet and make this work for both parties.'

Lafarge Tarmac's involvement from end-to-end as both a materials supplier and a solutions provider to the Crossrail project shows how our expertise and capabilities help customers deliver on even the biggest construction projects.



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It's what Britain's built on.