

# **PROVEN PERFORMANCE**

*TOPROC AA. COASTAL DEFENCE SCHEME,  
BLACKPOOL*

**TOPROC**  
AA

**Product** TOPROC AA (all purpose)  
**Client** BLACKPOOL TOWN COUNCIL  
**Main contractor** BIRSE COASTAL  
**Location** BLACKPOOL COASTAL DEFENCE SCHEME  
**Date of completion** 4-YEAR DURATION

## *A technologically advanced concrete delivering high strength and performance in the harshest conditions.*

### THE CHALLENGE

For over 100 years the old sea wall has provided Blackpool with protection from coastal erosion and flood alleviation. Constant bombardment from winter storms had taken its toll on the structures and much of the defensive structure needed to be replaced. Funded by DEFRA, the four-year, £62 million contract to construct the new seawall, with Tarmac providing both bespoke precast concrete units and readymix concrete, was the town's biggest ever civil engineering project. In addition to the architectural and aesthetic demands of the sea defences, the project created unusual operational and handling challenges. Certain concretes needed the addition of large amounts of colour conditioners and fibres, while separate storage was required for white cement. In addition, where construction was taking place within the tidal zone, this provided only a narrow window for deliveries, creating an overriding need for all supplies to be handled efficiently.

### OUR SOLUTION

Tarmac undertook a long period of pre-contract trials and experimentation to optimise the concrete mixes. These were filed and processed through the electronic distribution system that coordinated daily requirements and was linked directly to the concrete plants, ensuring that only approved mixes were sent to site. The considerable volumes of concrete required were met through Lafarge Tarmac's existing readymix concrete plants on the Fylde coast. The commitment to the project, however, required considerable refurbishment of existing cement silos including the installation of a new, freestanding silo for white cement; new admixture tanks; new aggregate storage bays; hot water facilities; and a new admixture dispenser system to give a combined output of 90m<sup>3</sup> of readymix concrete per hour. Precast concrete was specified as its benefits are well accepted, including low whole-life costs, fast and efficient builds, low maintenance, strength and durability and good environmental

credentials. Tarmac's Toproc AA was supplied as the project required a concrete capable of withstanding the constant abrasion and scouring

### RESULTS AND BENEFITS

To ensure that the solution met performance and aesthetic demands, each of the concretes was developed by Tarmac specifically to meet client specifications and the limiting factors for durability including water:cement ratio, minimum cement content, colour and inclusion of structural fibres. Tarmac supplied a total of 44,000m<sup>3</sup> of precast concrete and 65,000m<sup>3</sup> of readymix concrete in grey, white and sand colours to blend in with the sea, beach and promenade.

This included:

- 2,791 5m by 3.5m step units to cover a 3.3km stretch of beach - each unit weighing 20 tonnes and containing 8m<sup>3</sup> of 'macro fibre' reinforced concrete and placed using a specially designed vacuum lift system
- 16 tonne 'wave wall' sections 2.5m by 1.5m

# TOPROC

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