



Concrete Repair & Cathodic Protection

Billingham Forum Swimming Pool

Client

Tees Active Ltd

Principle Contractor

Morgan Ashurst

Engineer

Mott McDonald

Value

£300,000

Works Completed

May 2011

Billingham Forum is Tees Active's latest re-development. Tees Active is one of the new breed of charitable leisure management organisations operating in the UK. Set up with the intention of taking on the management of facilities provided by Stockton-on-Tees Borough Council, the organisation works very closely with the council as its main funding partner.

Billingham Forum swimming pool was to undergo a full refurbishment as part of the re-development. A condition survey was carried out by Freyssinet Ltd's sister company, specialist Corrosion Control Services Limited (CCSL). Evidence of spalling concrete and corroded reinforcement was noted.

Freyssinet proposed a solution of concrete repair to service voids surrounding the pool, and the installation of cathodic protection (CP) system, as concrete repairs alone were considered inadequate to provide the clients desired 20-year design life. Mott McDonald were commissioned to design a suitable system and worked in conjunction with Freyssinet to develop a suitable economic solution to the corrosion problem.

Due to the service voids status as a confined space it was necessary to minimise any dust producing activities such as chasing of concrete, which may normally be associated with concrete repair and cathodic protection.

Concrete repairs were carried out in October/November 2010. Repairs were specified and completed in full accordance with the relevant sections of EN 1504 Products and Systems for the Protection and Repair of Concrete Structures – definitions, requirements, quality control and evaluation of conformity.

The CP works were carried out over a 6 week period up to commissioning. Freyssinet installed a Protector Cassette anode system within the service voids at a spacing defined by the Mott McDonald design which minimised the cost and confined space risks associated with the structure. The system was commissioned in May 2011 and is performing to the full requirements of BS EN 12696:2000 Cathodic Protection of Steel in Concrete.

The doors to the Forum re-opened on Friday 3rd June. Thousands of visitors came to view the new surroundings and enjoy the activities on offer including in addition to the 25 metre pool, an Ice Arena, Activ8 gym, spinning studio, play barn and bowls club.



- 1 Corroded reinforcement
- 2 Protector Cassette anode system
- 3 The refurbished Billingham Forum building
- 4 Repair to reinforcement

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