

**TOPPROOF**

Proven performance

BBC STUDIOS, CARDIFF

The challenge

BBC Cymru Wales has picked Cardiff for its new state-of-the-art headquarters - 150,000ft² and designed to accommodate 1,200 staff. Having developed another building in an adjacent area in Cardiff Centre, within close vicinity of the River Taff and the high water table, Tarmac were well known to the developers RightAcres. Being aware of the challenge to keep the basement areas and cores dry, they would have to dig sink holes at strategic areas and run pumps 24/7 to extract water until the basement was complete. Keeping the water out to Grade 3 standard BS8102 after they were turned off would be down to construction materials and building expertise. The amount of pile caps provided a challenge on its own due to the complex detailing of membranes – this was converted to TOPPROOF.

Our solution

To create TOPPROOF, Tarmac teamed up with their waterproof partners Sika who have more than 50 years track record of BBA certificate approved waterproof solutions. TOPPROOF waterproof concrete contains two specially formulated admixtures. The first reduces the water/cement ratio, increasing the density of the mix and minimizing the size of the pores. The second fills the remaining pores to ensure a completely watertight finish. This means there is no need for external membranes, reducing cost and labour. Client engagement early on allowed the solution to be specified.

Results and benefits

Over 1,500m³ of TOPPROOF was supplied to the contract and all parties were extremely happy with the results. TOPPROOF is laid in exactly the same way as ordinary concrete so no special skills or equipment are required. However, Tarmac also offered professional, on site support. TOPPROOF is less susceptible to early age and drying shrinkage cracks which are both common problems when external membranes are applied. It is also better for the environment compared to conventional methods of waterproofing.