

**TOPROC ES**

# Proven performance

## RADYR-WEIR HYDRO-SCHEME

### The challenge

Dawnus Civil Engineering were commissioned by Cardiff CC to construct a hydro electric power station at Radyr Weir. The £2.6m scheme comprised of damming the section of works from the River Taff and constructing the structure to house the Archimedes turbine screws. The deadline was tight and Dawnus had to work 24 hour days, 7 days a week to enable them to have a chance of being ready for the date when the turbine screws were being delivered. Despite the busy schedule the team was working to they struggled to get the soffit constructed in time to gain the strength required to bear the weight of the two huge turbine screws. Dawnus required a concrete that could take the weight of the screws 3 days after pouring and asked for a 3 day strength of 50N.

### Our solution

Tarmac suggested TOPROC ES which is a high performance readymixed concrete suitable for use in industrial, commercial and infrastructure construction where high early strength is required. TOPROC ES is a very cohesive concrete with a dense micro structure and improved bond between paste and aggregate imparting benefits including high early and ultimate strength, reduced permeability and increased durability. This ideal solution allowed Dawnus to strip the shuttering and prepare the area for the transfer of load from the screws with confidence that the product would be fit for purpose.

### Results and benefits

85m<sup>3</sup> of TOPROC ES was supplied which achieved in excess of 50N at 2 days. Stripping early for maximum use of the shuttering was another benefit that enabled the contractor to have the area ready to accept the colossal Archimedes turbines. These were offloaded, crane lifted and seated onto the TOPROC ES which performed exactly as intended.