Performance of Ultra-fine Fly Ash in Concrete

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ABSTRACT

In this paper, ultra-fine fly ash (UFA, 4μm in average particle size) was prepared and used to make concrete. Investigations in detail were carried out to understand the performance of UFA in concrete, including the effect of the introduce of UFA on the workability and mechanical properties of concrete, as well as on the erosion resistance property of concrete. It was found that with the intervention of UFA, the working performance, mechanical properties and the resistance to sulfate attack and chloride penetration of concrete were significantly improved. Base on the chemical analyses and the microstructure characteristics, the reasons caused the performance of UFA in concrete were analysed.

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