

Observation and Experience of Using Mechanically Activated Fly Ash in Concrete

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Abstract : Paper focuses on experimental testing of possibilities of mechanical activation of fly ash and observation of influence of specific surface and granulometry on final properties of fresh and hardened concrete. Mechanical grinding prepared various fineness of fly ash, which was classed by specific surface in accordance with Blain and their granulometry was determined by means of laser granulometer. Then, sets of testing specimens were made from mix designs of identical composition with 25% or Portland cement CEM I 42.5 R replaced with fly ash with various specific surface and granulometry. Mix design with only Portland cement was used as reference. Mix designs were tested on consistency of fresh concrete and compressive strength after 7, 28, 60, and 90 days.

Keywords : concrete, fly ash, latent hydraulicity, mechanically activated fly ash

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