

Influence of Fly Ash and Chemical Admixtures on Setting Time of Cement Paste
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ABSTRACT

Results of an experimental investigation to study the effects of ASTM Class C fly ash, and five chemical admixtures, air-entraining agent (AEA), water-reducer, retarder, high-range water-reducer (HRWRA), and hemihydrate gypsum on the setting characteristics of cement paste, are presented. Mixtures were proportioned to contain fly ash in the range of 0 to 100% by mass of cementitious materials. Test results indicated that initial and final setting times remained essentially the same or were slightly delayed up to 20% cement replacement with respect to 0% fly ash mixture. Beyond this range, the setting times were accelerated. Increased rate of setting occurred at cement replacement levels of 40% and above irrespective of type of chemical admixtures used.
