

## **HIGH-VOLUME FLY ASH CONCRETE**

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### **ABSTRACT**

This investigation was carried out to review high-volume fly ash concrete technologies developed to date. This paper includes literature information concerning mixture proportioning techniques, fresh concrete properties, and hardened concrete properties. The properties of fresh concrete include workability, pumpability, cohesiveness, bleeding, water demand, time of set, etc. The hardened concrete properties reviewed are compressive strength, splitting tensile strength, flexural strength, modulus of elasticity, shrinkage, creep, fatigue strength, permeability, and abrasion resistance.

Previous studies have substantiated that performance of high-volume fly ash concrete systems are either comparable to or better than that for concrete without fly ash with respect to strength properties and durability of concrete. Long-term strength and durability performance data on fly ash concrete systems are lacking, especially high-volume fly ash concrete systems. Therefore, more research is needed to develop a data bank on mechanical properties and durability of HVFA concrete to establish mixture proportions for commercial production.