

**SUPERPLASTICIZED STRUCTURAL CONCRETE CONTAINING HIGH
VOLUME OF CLASS C
FLY ASH**

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ABSTRACT

This research was carried out to develop structural grade concrete containing high-volumes of ASTM Class C fly ash. A Portland cement concrete, proportioned to have 28-day compressive strength of 6000 psi (41 MPa) was used in this study. Concrete mixes were also proportioned to have various levels of cement replacement by fly ash ranging from 40-70% by weight. Properties of concrete, namely, compressive strength, splitting tensile strength, and modulus of elasticity were measured as a function of fly ash amounts and age. Analysis of results showed that ASTM Class C fly ash could be substituted for cement replacement up to 70% for high strength structural grade concretes without sacrificing its performance significantly.