MECHANICAL PROPERTIES OF HIGH STRENGTH CONCRETE (HSC) WITH AND WITHOUT CHOPPED CARBON FIBER (CCF)

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ABSTRACT

In this investigation the mechanical properties of high strength carbon fiber concrete are studied. For this purpose number of high strength concrete samples with compressive strengths ranged from 60 MPa to 100 MPa with different volume fractions (0%, 0.25% and 0.50%) of chopped carbon fibers were tested, for studying the effect of the chopped carbon fibers on the mechanical properties (compressive strength, splitting tensile strength, flexural strengths and modulus of elasticity) of the high strength concretes. The analysis of test results showed that the compressive strength slightly increases with increasing of volume fraction of CCF while the splitting tensile strength, flexural strengths and modulus of elasticity were significantly increased with increasing in the volume of fraction of the chopped carbon fiber.

KEYWORDS: High Strength Concrete (HSC), Chopped Carbon Fiber (CCF), Volume of fraction (Vf), Super Plasticizer, Silica Fume