

ENHANCEMENT IN MECHANICAL PROPERTIES OF CONCRETE DUE TO BLENDED ASH

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ABSTRACT

This study was carried out to evaluate the effects of blended ash mixture on mechanical properties of concrete. In this study two reference mixtures were used. One of the mixtures was a no-fly ash mixture, and the other mixture contained 35% unblended Class C fly ash. Additional mixtures were composed of three blends of Class C and Class F fly ash while maintaining a total fly ash content of 40% of the total cementitious materials. Mechanical properties such as compressive strength, tensile strength, flexural strength, and modulus of elasticity were determined as a function of age ranging from 1 to 91 days. The results showed that blending of Class F fly ash with Class C fly ash showed either comparable or better results compared to either the reference mixture without fly ash or the unblended Class C fly ash concrete mixture at a fly ash concentration of 40% of total cementitious materials.