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An Experimental Study on Mechanical Properties of Conventional Concrete Low Calcium Fly Ash Blended Concrete Incorporation with Natural Admixture

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Abstract: This research work reveled that effect of Natural admixture (NAD) on Conventional Concrete (CC) and low calcium fly ash (Class F Fly Ash) blended concrete.Broiler hen egg white albumen and yellow yolk was used as Natural Admixture. Cement was replaced by Class F fly ash at various levels of 0% to 45% by its mass and NAD was added to concrete at different replacement dosages of 0%, 0.25%, 0.5%, 0.75%and 1.00% by its volume to water content and liquid to binder ratio was maintained at 0.5. For all replacement levels of FA and NAD, the mechaincal properites viz unit weight, compressive strength, splitting tensile strength and modulus of elasticity of CC and Class F fly ash (FA) were studied at 7, 28, 56 and 112 days. From the results, it was concluded that 0.25% of NAD dosage was considered as optimum dosage for both CC and Class F fly ash blended concrete. The studies reveled that 35% Class F fly ash blended concrete mix is concluded as optimum mix.

Keywords: Natural Admixture; Class F fly ash, Unit weight,Compressive Strength,Splitting tensile strength and Modulus of Elasticity.

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