

Mechanical Properties and Shrinkage and Expansion Assessment of Rice Husk Ash Concrete and Its Comparison with the Control Concrete

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Abstract : The possibility of using of rice husk ash (RHA) of Guilan (a province located in the north of Iran) (RHA) in concrete was studied by performing experiments. Mechanical properties and shrinkage and expansion of concrete containing different percentage of RHA and the control concrete consisting of cement type II were investigated. For studying, a number of cube and prism concrete specimens containing of 5 to 30% of RHA with constant water to binder ratio of 0.4 were casted and the compressive strength, tensile strength, shrinkage and expansion for water curing conditions up to 360 days were measured. The tests results show that the cement replacement of rice husk ash (RHA) caused both the quality and mechanical properties alterations. It is shown that the compressive strength, tensile strength increase also shrinkage and expansion of specimens were increased that should be controlled in mass concrete structures.

Keywords : rice husk ash, mechanical properties, shrinkage and expansion, Pozzolan

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