



Evaluation of bagasse ash as supplementary cementitious material

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Bagasse is on the lateral product of sugarcane with a wan yellow color. after extracting cane, bagasse is produced like tiny particle. Average of bagasse production is 34 t/h with 55 percent humidity. In the other hand for each ton we have 340 kg pit and bagasse with the proportion 35% pit and 65% bagasse. Nowadays about one million ton pit and bagasse are produced in the khozestan region. The utilization of waste materials in concrete manufacture provides a satisfactory solution to some of the environmental concerns and problems associated with wastes management. Few studies have been reported on the use of bagasse ash (BA) as partial cement replacement material in respect of cement mortars. In this study, the effects of BA content as partial replacement of cement on physical and mechanical properties of hardened concrete are reported. The properties of concrete investigated included compressive strength, splitting tensile strength, water absorption, permeability characteristics, chloride diffusion and resistance to chloride ion penetration. The test results indicate that BA is an effective mineral admixture, and 20% application is optimal replacement ratio of cement.

Keywords: Bagasse ash; Concrete, Agricultural waste, Compressive strength and splitting tensile strength

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