

Development of Impervious Concrete Using Micro Silica and GGBS as Cement Replacement Materials

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Abstract : This paper describes the aim of research to evaluate the performance of ordinary Portland concretes containing cement replacement materials in both binary and ternary system. Blocks of concrete were prepared to have a constant water-binder ratio of 0.30. The test variables included the type and the amount of the supplementary cementitious materials (SCMs) such as class of Silica Fume (SF) and ground granulated blast furnace slag (GGBS). Portland cement was replaced with Silica Fume (SF) upto 7.5% and GGBS up to a level of 50%. Then physical properties are assessed from the compressive strength and permeability tests.

Keywords : silica fume, GGBS, compressive strength, permeability

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