Formulation and characterization of self compacting concrete with silica fume

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Publication date
2013

Description
Self-compacting concrete (SCC) was elaborated using local materials and silica fume (SF) as admixture in 15% of cement quantity, two different Portland cements (PC) and two different superplasticizer that the chemical nature is polycarboxylate and plynaphtalene, the aggregates used are (AG 3/8 mm, AG 8/15 mm), coarse and fine sand (SC, SF) witch fineness modulus 3.2 and 1 in the order. The dosage of the different superplasticizer used is chosen after experimental spreading tests of each self compacting concrete formulation. Results of fresh concrete tests executed, as L-box and segregation resistance are on concordance whit values recommended by the French association of civil engendering. Also the mechanical characterization was conducted by compressive strength and splitting compression testing procedure, results values are in the range higher than 20 Mpa at the seven day by the compressive test …