International Journal of Civil, Structural, Environmental and Infrastructure Engineering Research and Development (IJCSEIERD)
ISSN(P): 2249-6866; ISSN(E): 2249-7978
Vol. 5, Issue 1, Feb 2015, 83-92

DEVELOPMENT OF SELF-COMPACTING CONCRETE WITH INDIGENOUS JORDANIAN MATERIALS USING JORPHOS AS A FILLER

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ABSTRACT

The objective of this research is to determine the effect of adding the JORPHOS (Jordanian phosphate) as filler on fresh and hardened properties of SCC. Construction companies that use SCC having trouble with importing fly ash to Jordan because it is environmental impact and prohibited from entering Jordan. The European method was used for design of SCC, fresh properties such as flow-ability, pass-ability and segregation resistance were tested. The ingredients were coarse aggregate limestone, sand, cement, water, super-plasticizer and JORPHOS. The research gave good results by addition of different percentages of JORPHOS(4%, 8%,12%,16%). It concluded that 8% of JORPHOS by volume gave the optimum value.

KEYWORDS: JORPHOS, Compressive Strength, Self-Compacting Concrete, Slump Flow, V-Funnel, J-Ring