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EXPERIMENTAL STUDY ON COMPRESIVE STRENGTH OF SELF COMPACTING CONCRETE

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ABSTRACT

Self-Compacting Concrete (SCC) is a high performance concrete, it is able to flow under its own weight, completely filling formwork and achieving full compaction, even in the presence of congested reinforcement. Self Compacting Concrete has excellent high resistance to segregation and fluidity ensures a high level of homogeneity, minimal concrete voids and uniform concrete strength, providing the potential for a superior level of finish and durability to the structure. This project presents an experimental investigation of SCC properties workability for fresh state and mechanical properties of hardened SCC like compressive strength and impact strength. Fly ash is used as mineral admixture to replace 20% by weight of cement. Super plasticizer (Glenium B233) is used 0.5% to 1% of weight of cement. Viscosity Modifying Agent (Glenium Stream 2) is used 0.25% to 0.5% of weight of cement. Chemical admixtures confirming to the requirement of IS: 9103-1979. The trial mix design of SCC is focused on ability to flow under its own weight without vibration, flow through heavily congested reinforcement under its own weight, and retain homogeneity without segregation. Compressive strength for 7 days, 14 days, 28 days are determined. Impact strength test is to be conducted for SCC by ACI 544.2R-89 drop-weight method is adopted to test the specimens.

KEYWORDS: Self Compacting Concrete, Fly Ash, Super Plasticizer, Viscosity Modifying Agent