

Self Compacting Concrete(SCC) – Energy Conservation Technique

Development of Self-compacting concrete (SCC) is considered as the most sought development in construction industry due to its numerous inherited benefits. In India, this technology is yet to realize its full potential. **Central Road Research Institute (CRRI)** New Delhi, has been working on SCC technology since the year 2000 and carried out significant research work on various aspects of SCC starting from selection of suitable ingredients including superplasticizer, viscosity modifying agent, mineral admixtures, mix proportion optimization, evaluation of the characteristic properties at fresh stage and hardened properties such as compressive strength, splitting tensile strength, flexural strength, Young's modulus of elasticity. Further, in-situ performance evaluation of the structural element cast by using SCC in comparison with conventional plastisized concrete of similar strength i.e. 50 MPa at 28 days were carried out by using semi-destructive and non-destructive test methods. Structural behaviour of SCC in heavily reinforced T beams was conducted to study cracking pattern, deflection and ultimate load bearing capacity. On the basis of manufacturing cost, SCC is about 20% costlier than the conventional concrete of similar compressive strength which is compensated by several benefits of using it such as saving in electricity, saving in labor cost related to compaction work, increase in productivity etc. SCC technology is considered as an energy conservation technique in construction industry as it eliminates electricity requirement for compaction of concrete and providing ample opportunity to use by product materials such as fly ash, quarry dust etc.

With a wide knowledge and experience on the technology, CRRI can provide technical advice/ suggestion related to the manufacturing of SCC, quality control & quality assurance services related to construction with this technology.

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