



Behaviour of Hybrid Fibre Reinforced Self Compacting Concrete using Foundry Sand

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Abstract : The construction activities in the last few decades have increased many folds in almost all the developing countries of the world. Sand is becoming a scarce commodity globally because of its growing demand day by day. It is the need of time to search such alternative materials that would partially or fully replace sand used in concretes without affecting its quality, strength and other characteristics. In order to reduce time and to improve the filling capacity of highly congested structural members by its own weight without any vibration self-compacting concrete (SCC) is adopted.

The primary aim of this study is to explore the feasibility of SCC using foundry sand and hybrid fibres^{2,5}.As the mix design was designed based on finding the optimum percentage of replacement of foundry sand and hybrid fibres based on literature review and development of a suitable mix for SCC using code requirements, that would satisfy the requirements of the plastic state. This offers a unique area of application of self-compacting concrete which can flow through every corner of extensively reinforced area without any vibration and more effective for seismic lo.

This research consists of: (i) finding out the percentage of replacement of optimum percentage of foundry sand and hybrid fibres based on literature review; (ii) development of a suitable mix for SCC that would satisfy the requirements of the plastic state.