VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"JnanaSangama" Belagavi – 590010

PROJECT REPORT ON

"COMPARATIVE STUDY ON SCC WITH PARTICLE PACKING DENSITY AND EFNARC DESIGN"

Submitted in partial fulfillment of the requirements for the award of degree

BACHELOR OF ENGINEERING
IN
CIVIL ENGINEERING

Submitted By

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Certificate

This is to certify that following students

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This is to certify that the above students have submitted Project Report on the topic "COMPARATIVE STUDY ON SCC WITH PARTICLE PACKING DENSITY AND EFNARC DESIGN" for VIIIth semester B.E in Civil Engineering during the academic year 2018 -19. The Project has been approved as it satisfies the academic requirements in report of Project work prescribed by Visvesvaraya Technological University for the award of degree in Bachelor of Engineering Degree.

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ABSTRACT

Self-compacting concrete (SCC) is an innovative concrete that does not require vibration for placing and compaction. It is able to flow under its own weight, completely filling formwork and achieving full compaction, even in the presence of congested reinforcement. The hardened concrete is dense, homogeneous and has the same engineering properties and durability as traditional vibrated concrete. The self-compacting concrete flows easily at suitable speed into formwork without blocking through the reinforcement without being heavily vibrated.

This project deals with the self- compacting concrete where the cement is partially replaced with fly-ash Here Ordinary Portland Cement is replaced with 20% of fly-ash. The new mix design particle packing density is used to determine the proportion of concrete ingredient and comparing with the EFNARC 2005 guideline. This work summarizes the experiments for evaluating the performance of self-compacting concrete including V-funnel, L-box, J-ring and slump flow tests as well as the recent achievements of the fresh and hardened properties of self-compacting concrete such as slump flow, segregation resistance is studied for the different water cement ratio and compressive strength and tensile strength for corresponding mix determined.

Keywords: Self Compacting Concrete, flowability, passing ability, resistance to segregation, fly ash, Superplasticizer.