

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"JNANA SANGAMA", MACHHE, BELAGAVI - 590018, KARNATAKA



Project Report on

" LABORATORY INVESTIGATION ON PHYSICAL PROPERTIES OF STEEL FIBRE REINFORCED CONCRETE"

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

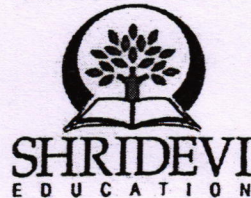
BACHELOR OF ENGINEERING
IN
CIVIL ENGINEERING

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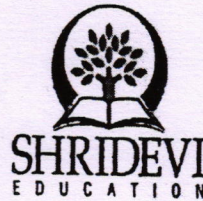
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CERTIFICATE

Certified that a project report on entitled “LABORATORY INVESTIGATION ON PHYSICAL PROPERTIES OF STEEL FIBRE REINFORCED CONCRETE” has been successfully carried out by KIRAN KUMAR K S (1SV19CV012), GOVINDARAJU N (1SV19CV009), MONISHA B P (1SV19CV016), LEKHANA K S (1SV19CV014), students of Shridevi Institute of Engineering and Technology, Tumakuru -572106, in partial fulfillment of project for the award of Bachelor of Engineering in Civil Engineering of the Visvesvaraya Technological University, Jnana Sangama, Belagavi - 590018 during the academic year 2022-2023. It is certified that all corrections and suggestions indicated for internal assessment have been incorporated in the report deposited in the Department library. The report has been approved as it satisfies the academic requirement in respect of project on current topic prescribed for B.E Degree.

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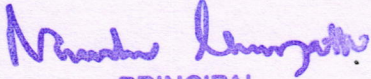
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CONTENT
ABSTRACT

Massive development in the infrastructure sector has given an unforeseen rise in the demand for cement, and to accommodate this demand, the world expends 30 billion tonnes of cement concrete every year. In an effort to transform industrial wastes into a sustainable solution, researchers around the globe are providing several solutions for achieving carbon-neutral construction practices. Sugarcane bagasse ash is residual waste ash from sugar mills, rich in amorphous silica that can be accommodated as a pozzolanic material in concrete. A comprehensive review on the physical and chemical properties of sugarcane bagasse ash is presented in this study. The impact of different processing methods on sugarcane bagasse ash and its effect on the performance of concrete are deliberated. This review discusses the performance of concrete containing sugarcane bagasse ash (SCBA) with its varying dosage and evaluates the properties of concrete in terms of fresh and hardened properties. Durability properties have been evaluated on the basis of permeability, chloride penetration, electrical resistivity, thermal conductivity, acid and sulfate attack. Centered on an explicit review, regulations for the succeeding investigations on the effective employment of bagasse ash are highlighted. The results from the study suggest improvement in the performance of concrete containing sugarcane bagasse; strength gain was noticed due to increased pozzolanic reactions, low heat of hydration, reduced permeability could be due to pore refinement bagasse ash blended concrete.


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