

"EXPERIMENTAL STUDY ON EFFECT OF POLYMER FIBERS ON TENSILE, COMPRESSIVE AND FLEXURAL STRENGTH OF PLIABLE CONCRETE"



PROJECT REPORT

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In partial fulfillment of the requirements for the degree of

BACHELOR OF ENGINEERING

In

CIVIL ENGINEERING

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI-590018

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CERTIFICATE

Certified that the project work entitled 'Experimental study on effect of Polymer Fibers on Tensile, Compressive and Flexural strength of Pliable Concrete' is a bonafide work carried out by

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Are bonafide students of Department of Civil Engineering of Alva's Institute of Engineering and Technology in partial fulfillment for the award of BACHELOR OF ENGINEERING in CIVIL ENGINEERING of the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI during the year 2019-2020. It is certified that all corrections/suggestions indicated for internal assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

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Experimental study on effect of Polymer Fibers on Tensile, Compressive and Flexural strength of Pliable Concrete

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ABSTRACT

Pliable Concrete also known as Engineered Cementitious Composites RCC is class of ultra ductile fiber reinforced cementitious composites, characterized by high ductility and tight crack width control. This material is capable to exhibit considerably enhanced flexibility. An ECC has a strain capacity of more like a ductile metal rather than like a brittle glass. A pliable concrete is reinforced with micromechanically designed polymer fibers. The aim of this study is to investigate the effect of polymer fibers on tensile, compressive and flexural strength of pliable concrete. Polypropylene fibers are used in this experiment.

This composites replaces coarse aggregate and fine aggregate with sand and fly ash respectively. ECC is made up of OPC, sand, fly ash with addition of Polypropylene fibers on different percentage i.e. 0%, 0.25%, 0.5%, 0.75%, 1% were studied. Tensile strength of ECC is measured by casting and testing cylinders in Universal Testing Machine. The study concludes that this composite could substitute the normal concrete where high tension is the ultimate requirement with higher strain capacity.