

# PROJECT REPORT

## **“AN EXPERIMENTAL STUDY ON HARDENED PROPERTY OF CONCRETE BY USING COCONUT COIR AS AN ADDITIVE”**

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**In partial fulfillment  
Of the requirements for the degree of**

**“BACHELOR OF ENGINEERING”**

**In**

**“CIVIL ENGINEERING”**

**UNDER THE GUIDANCE OF**

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CHIKMAGALUR-577102

2013-2014



## ABSTRACT

Concrete is the most widely used construction material. Apart from its excellent properties concrete is very poor in tensile strength. To improve its tensile strength, fibers are added to concrete which is known as fiber added concrete. In our study we focused on structural behavior of coir fiber added concrete. Coir is abundantly available at low cost in the tropical areas especially Kerala. In this study coir fiber of aspect ratio 50 is randomly dispersed in M25 concrete for the preparation of 48 specimens. Two different varieties of concrete with different fiber cement ratio (0.5% and 1.5%) were casted. The specimens were tested for its compressive strength, splitting tensile strength, flexural strength and modulus of elasticity. From the test results obtained it can be seen that compressive strength, splitting tensile strength, flexural strength are greater than those of PCC. The optimum percentage  $f/c$  ratio may be occurring very near to 0.5%. From the cost benefit analysis coir fiber is proved to be far economical than any other fibers for a strength comparable to that obtained for 0.5% fiber cement ratio coir fiber added concrete. This study also focus on the comparative study among presently using fiber added concrete which their structural strength and cost of production.