

“ENHANCING THE STRENGTH PROPERTIES OF RECYCLED AGGREGATE CONCRETE THROUGH THE USE OF SUPPLEMENTARY CEMENTING MATERIALS”

**A Project Report submitted in partial fulfillment of
the requirements of Eighth Semester Course in
Degree of Bachelor of Engineering in Civil Engineering
of Visvesvaraya Technological University, Belgaum.**

(Sponsored by KSCST Bangalore)

Submitted by

By

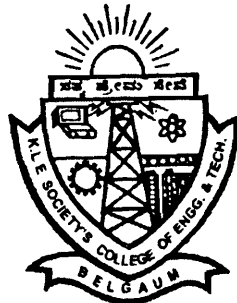
**Mr. ANUP M. KAKATKAR
Mr. ROHAN S. GURAV**

**Mr. YOGESH P. TERGAONKAR
Mr. MD. AYAAZ AKTHAR**

Under the guidance of

Prof. M. Manjunath

Dr. K. B. Prakash



DEPARTMENT OF CIVIL ENGINEERING

K.L.E. Society's

COLLEGE OF ENGINEERING AND TECHNOLOGY

Udyambag, Belgaum – 590008

(NBA Accredited & ISO 9001:2008 Certified Institution)

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM

2009-2010

ABSTRACT

The studies on the use of recycled aggregates have been going on for 50 years. In fact, none of the results showed that recycled aggregates are unsuitable for structural use. Only having inadequate number of studies in durability aspects, made recycled aggregates to be preferred just as stuffing material for road construction.

The use of recycled aggregates in concrete opens a whole new range of possibilities in the reuse of materials in the building industry. This could be an important breakthrough for our society in our endeavors towards sustainable development.

Waste concrete can be produced from a number of different sources. The most common are demolition projects. Many concrete structures like buildings, bridges, sidewalks and roads are razed after a period of time into their service life for purpose of replacement or landscape changes. Other sources of waste include natural disasters like earthquakes, avalanches, and tornadoes; human causes like war and bombing; and structural failures. All these contribute to vast quantities of waste concrete that must be managed in some way.

The use of recycled aggregate in concrete is gaining momentum these days. In the years to come, the recycled aggregate concrete may become the need of the day. With an increase in our environmental consciousness, the concrete industry is coming under intense scrutiny and criticism. Many practices within the concrete industry that pose a potential threat to our environment are becoming matters of serious consideration and with increased consumption, there is also an increase in the amount of waste that concrete societies have to deal with.

The building industry has the ability to act in a bilateral manner. On the one hand it has to be considered as a clear generator of a great quantity of residues and on the other, its long tradition defines its capability of re-using not only its own waste but also the waste from other branches of industry, this capacity of recovery is precisely what is needed to promote in our current society.

The main aim of the present experimentation is to evaluate the effect of admixtures on the strength and durability properties of the concrete produced by replacing natural aggregates by recycled aggregates in various percentages. Two different admixtures are used for investigation. The objective of the investigation is to improve the properties of concrete produced with recycled aggregate.