VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELGAUM-590018

PROJECT REPORT ON

"STUDY OF STRENGTH PARAMETERS OF RECYCLED AGGREGATE CONCRETE USING VARIOUS FINE AGGREGATES"

submitted by

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in
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under the guidance of
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SYNOPSIS

The construction industry has been improvising through the advances in technology and methodology. Concrete, which is the integral part in construction industry, is being used more than any other man-made material on the planet and it consumes more raw material than any other product. Concrete is of considerable volume in any structure and consumes bulk quantities in the construction of infrastructure projects. India being one of the world's top concrete consumers as well as producer, the raw materials being used in manufacturing of concrete is getting depleted and causing a global crisis.

Cement, fine aggregate and coarse aggregate are the vital ingredients of concrete. The hydration of cement being an exothermic reaction and results in liberation of CO2 and Heat. From the stage of quarrying the raw materials, erecting the structure to the completion of a project has resulted in stripping of mother earth for the use of exhaustible resources and has caused an adverse effect on the nature. This has resulted in an acute shortage of fine as well as coarse aggregates, obligating to explore the replacement for these materials without compromising the quality, environmental and economical factors.

An earnest attempt is made through this project to fulfill all the pre and post factor of concrete by partial/full replacement of the original constituents like sand and coarse aggregates. Fine aggregates are replaced by Iron Ore Tailings obtained from Mining Industry and stone dust obtained from the local quarry. Coarse aggregates are replaced by Recycled Construction waste obtained by crushing and sieving the concrete of the demolished concrete structures. Blended cement is being used in the place of widely used OPC. Individual material tests are carried out to arrive at the proper mix design of the concrete.

In this study project, the comprehensive effort is made to study the Strength Parameters of Recycled Aggregate Concrete of grade M45 using various Fine Aggregates. The effort of this project for the construction industry would certainly be much effective and useful for the future.