DESIGN OF CONCRETE OF GRADE 40 USING ADMIXTURES

by

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Project Report

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SUMMARY

This project is an experimental one and the main purpose of it, is to design Concrete of Grade 40 using Admixtures and local aggregates and cement. In order to achieve this, some trial mixes with various values of water/cement ratio are performed, following the design Mix Method of Concrete. Mix proportions are combined with a suitable quantity of super plasticizer.

The project begins with a reference to the materials using in concrete (aggregates, cement, water). Aggregates is the section mainly discussed, especially their influence on concrete strength.

In the second chapter the properties of concrete are discussed. Strength workability and durability are explained analytically and their importance to concrete technology is mentioned.

Chapter 3 referred to the various types of admixtures especially to superplasticizers indicating their effects on concrete properties. In addition the applications of these chemical compounds are mentioned.

Chapter 4 explains Mix Design method and the relative data, graphs and tables are provided.

In the experimental part the designing of the mixes and the necessary adjustments which are performed to this project are provided. Also the procedures for making and curing concrete cubes as well as the compressive tests are written. Moreover the apparatus are explained and photographs provided.

Results are provided in tables are comments are written about these results. Finally conclusions are written and the main points of the project mentioned.

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