ANALYTICAL AND EXPERIMENTAL STUDIES ON THE LOAD CARRYING CAPACITY OF LATERITE ARCHES IN FOUNDATIONS

A PROJECT REPORT

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Abstract

An attempt is made to investigate the performance of Laterite arch foundation using laterite stones . The laterite has been collected from the quarry located near Puttur town. The collected laterite was analyzed for the compressive strength, water transportation and chemical analysis and various other tests. The laterite soil is mainly used as the partial replacement for cement in cement mortar mixes.

Laterite soil was used to study the various properties like compressive strength of cement soil mix and laterite stones were used to study the young's modulus, Poisson's ratio and water absorption.

The laterite soil cement mix cubes were casted for the ratios of 1:6, 1:1:6, 1:2:9, 1:5:10 and cured for 3days, 7days, 14days, 28days and compressive strength was determined.

Arch was constructed for the ratio 1:6, 1:1:6, 1:2:9, 1:5:10 were in the cement was replaced for the same ratios.

From the study we found out that the arch constructed with the ratio 1:6 took more load compared to the others.