

Study on the Behavior of Axially Loaded Coconut Shell Concrete Column Using M-Sand in its Place of R-Sand

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Abstract

In Current Construction Industry many developments are happening towards green concept, where the waste materials are reused to avoid the accumulation of Waste and reducing the conception or destroying the environment. In Line with the same green concept this study is done such that Manufacture Sand called as M Sand has been used as the replacement for Fine Aggregate. Coconut Shell has been used as replacement for Coarse Aggregate. The Replacement of M Sand as Fine Aggregate has helped in reducing the exploitation of riverbeds. Manufactured Sand are produced by crushing the rocks that are obtained from hills and mountains. The Coconut shell has been used as the aggregates for producing lightweight concrete. As the Coconut shell has the properties of storing water this helps in internal curing of the Concrete. In this research have done the analysis of short column and long column with normal concrete and coconut shell concrete using M-sand in its place of R-sand. 12 Columns with different reinforcements have casted and tested. 6 columns for Short Columns and 6 for long columns. In the short columns both normal concrete and coconut shell concrete are casted with 3 different types of reinforcements. The same different types of reinforcements are done for long column too. These columns are casted and cured using gunny bags for 28 days.

Keywords: Coconut shell; M-sand; Density; Strength; Column; buckling; stiffness

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