



## Influence of Soil Grading on the Mechanical Behavior of Earth Cement Blocks

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*The characteristics of earth cement blocks depend on soil composition, grading of the soil, cement-soil ratio and water content, etc... In the present study, an experimental program is conducted to evaluate the influence of soil grading in the mechanical properties of earth cement blocks. Five gradings of soil used for the preparation of earth cement blocks. Soil grading effect on following properties of earth-cement blocks such as block density, compressive strength in wet and dry condition, flexural tensile strength in wet and dry condition, and water absorption was compared. Results show that the properties of the earth cement blocks are dependent upon the fine content and uniformity coefficient of the soil. The increase in the finer content in mortar improves water absorption, compressive strength and flexural tensile strength.*

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### INTRODUCTION

Cement-sand blocks and fired bricks are used widely in Sri Lanka's construction industry. More building construction raises the demand for river sand further. This demand for the sand results in illegal river sand mining and has generated both environmental and social problems. Illegal river sand mining has caused depletion of natural sand deposits, riverbed degradation, lowering of river water quality and mushrooming of the river [1]. On the other hand, Production of fired bricks is one of the reasons for the increase in greenhouse gas content in the atmosphere and also bricks are considered energy-intensive and not eco-friendly.

The sustainable solution to this issue is more focused on earthen construction such as stabilized earth blocks or earth cement blocks. Now a day's construction industry