

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

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Project Report

On

“Stabilization of Black Cotton Soil by using Briquette Fuel Ash made of Blended Groundnut Shell Husk, Coffee Husk & Rice Husk”

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ABSTRACT

Black cotton soil which is highly sensitive to seasonal moisture content variations is responsible for substantial distress in the structures that are built over it. Civil engineering infrastructures especially pavements suffer from premature failures. Stabilizing black cotton soil with chemicals, industrial wastes, geo textiles etc. have been found to be effective in improving their engineering properties, strength characteristics and CBR value. Use of briquette fuel ash as stabilizing agent is one of the admixtures that can alter the weak properties of black cotton soil apart from partly solving disposal problem of briquette fuel ash.

In this context an attempt is made to study the effect of briquette fuel ash made of blended groundnut shellhusk, rice husk and coffee husk is added for altering the weak properties of black cotton soil. In the present work, experiments were conducted by mixing briquette fuel ash in various percentages (0-8%) to BC soil. In addition that study of compaction, strength characteristics of black cotton were made. Undrained triaxial shear tests were conducted on remolded samples which is a mixture of BC soil having various percentages of briquette fuel ash. Triaxial samples were prepared at OMC and MDD of corresponding soil mixtures and various Percentages (0-8%) of briquette fuel ash. In the present work it is observed that the strength of BC soil increases by increasing the briquette fuel ash mixing with the BC soil upto 6%. Further increase of ash decreases the strength of BC soil indicating the threshold percentage as 6%.