LAPURAN PROJEK TAHUN AKHIR
KURSUS DIPLOMA LANJUTAN KEJURUTERAAN AWAM
KAJIAN KEJURUTERAAN, I.T.M. SHAH ALAM

INVESTIGATIVE STUDY OF SOIL STABILIZATION WITH CEMENT

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OCTOBER 1985

SYNOPSIS.

The addition of cement to soil improves the quality of the soil in term of its strength and durability. The strength and durability of soil-cement is a function of several variables. Among the important variables affecting the quality of soil-cement are nature of soil, compactive effort, cement content, moisture content and curing period. In this study, tests have been carried out on specimens of soil with varying cement content (2.5 %, 5.0 %, 7.5 %, 10.0 %), compacted with different energy levels(standard Proctor and Modified Proctor) at curing period of 1, 7 and 28 days to study the simultaneous effects of those variables on the compressive strength, shear strength parameters, modulus of elasticity, durability and coefficient of permeability of the soil-cement. Effect of coconut husk fibres at 0.1 %, 0.25 % and 0.5 % on the compressive strength of soil-cement has also been investigated. It shows that the addition of coconut husk fibres decreases the compressive strength of the soil-cement. It has also been found that increase in the compactive effort, cement content and curing time causes the strength parameters, durability and modulus of elasticity to increase and the coefficient of permeability to decrease. Tests results also show that the effect of those variables are interdependent upon one another.

ACKNOWLEDGEMENT

The student wishes to thank his project supervisor, Mr. Hariral Prasad Agrawal for his concerned and fruitful advices for making this project a success. Thanks are also due to all other staffs and friends who have given their supports for making this project to complete.

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