Thesis Title	Stress-Strain Characteristics of Cement Treated Materials under Unconfined Compression Test
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Abstract

The objective of this research is to study stress-strain characteristics of cement treated materials under unconfined compression test. Bangkok Clay, Silty Sand, Lateritic Soil and Crushed Rock were mixed with different cement contents. The Bangkok clay, cement mixture were at 5, 7.5 and 10 percent by weight of dry soil, while the percent for Silty Sand and Lateritic Soil, cement mixture were at 4, 6 and 8 by weight of dry soil. For Crushed Rock, cement mixture were at 2, 4 and 6 by weight of dry soil. All meterials were compacted according to standard and modified proctor methods. Then, they were tested to find out unconfined compression test at 7 days curing period. The test results show that unconfined compressive strength (UCS), initial tangent modulus of elasticity (E_i) and slope of stress-strain curves for four materials vary with amounts of cement content. The relationship between UCS and elastic modulus (E_i) of cement treated materials tend to be linear relation.

The stress-strain curve of cement treated materials, tested in unconfined compression test, may be represented by a straight line portion up to 34 percent of

the maximum stress and 25 percent of the strain at failure. The values above of percent stress ratio and percent strain ratio are in accordance with Otte (1972)'s study which define the test result of flexural test.

Keywords : Percent Stress Ratio / Percent Strain Ratio