

Thesis Title	Ground Improvement of Soft Bangkok Clay With Cement by Dry and Wet Mixing Methods
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Abstract

This thesis investigates the changes in engineering properties of soft Bangkok clay stabilized by cement. Dry and wet mixing methods are studied. The soil-cement samples are divided into 2 groups. They were mixed with some cement contents. After mixing with cement, they were put in to cylinder mold shape of soil-cement with light compaction. The strength development was measured by unconfined compression test, the consolidation characteristics were also measured by consolidation test after curing.

The experiment shows that for dry and wet mixing, the strength of soil-cement increases related to the amount of cement content and curing time. The most effective cement content for soft Bangkok clay stabilization is between 10 and 12.5 percent. The strength development rate by dry mixing method is higher than that obtained using wet mixing method. The unconfined compressive strength is higher by an average of 70 percent at 28 days curing time. The strength development of the wet mixing method increases gradually. The strength of stabilized soil is nearly the same at 56 days curing time, because the medium clay contains less water than the soft clay. This might be explained that the drier clay is quite difficult to mix than the wetter clay. The consolidation test results showed that the coefficient of consolidation, (C_v) increased 12~19 times than that of natural soft Bangkok clay. However, the compression index, (C_c) is reduced by an average of 30 percent. The results from dry mixing gave higher C_v by an

average of 20 percent and lower C_c by an average of 15 percent than that from wet mixing. From this experiment it can be summarized that the dry mixing method is suitable for improvement of very soft Bangkok clay while the wet mixing method is for medium to stiff Bangkok clay to enhance stability and reduce settlement.

Keywords : Soft Bangkok Clay / Soil Cement / Cement Column / Dry Mixing / Wet Mixing / Shear Strength / Compressibility