



Effect of Lime on characteristics of consolidation, strength, swelling and plasticity of fine grained soil

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Using Lime as an additive material to clayey soil is one of the best effective technique in building the soil structures to get some purposes such as soil stabilization, soil reinforcement and decreasing soil swelling.

In this research the effect of Lime on geotechnical characteristics of a clayey soil was investigated. Soil specimen types used in this study were consisted of clayey soil as the control treatment and clay mixed with different weight fractions of lime, 4, 6, 8 & 10 percent.

Some experiments such as CBR, atterburg limits, compaction, consolidation and swelling was conducted on specimens. Results revealed that adding lime to soil would change its physical and mechanical properties. Adding lime increase the compression strength and consolidation coefficient and decrease swelling potential and maximum dry density.

According to the results, Atterburg experiments show that presence of lime in soil increase the liquid limit of low plasticity soil and decrease the liquid limit of high plasticity soil, but totally it decreases the plasticity index of soils.

Key words: soil stabilization, lime, compression strength, swelling, atterburg limits, compaction