

The Increasing of Unconfined Compression Strength of Clay Soils Stabilized with Cement

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Abstract : The cement stabilization is one of the ground improvement method applied worldwide to increase the strength of clayey soils. The using of cement has got lots of advantages compared to other stabilization methods. Cement stabilization can be done quickly, the cost is low and creates a more durable structure with the soil. Cement can be used in the treatment of a wide variety of soils. The best results of the cement stabilization were seen on silts as well as coarse-grained soils. In this study, blocks of clay were taken from the Apa-Hotamış conveyance channel route which is 125km long will be built in Konya that take the water with 70m³/sec from Mavi tunnel to Hotamış storage. Firstly, the index properties of clay samples were determined according to the Unified Soil Classification System. The experimental program was carried out on compacted soil specimens with 0%, 7 %, 15% and 30 % cement additives and the results of unconfined compression strength were discussed. The results of unconfined compression tests indicated an increase in strength with increasing cement content.

Keywords : cement stabilization, unconfined compression test, clayey soils, unified soil classification system.

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