

## The Mechanical Behavior of a Chemically Stabilized Soil

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**Abstract :** The direct shear test was used to determine the shear strength parameters  $C$  and  $\phi$  of a series of samples with different cement content. Samples stabilized with a certain percentage of cement showed a substantial gain in compressive strength and a significant increase in shear strength parameters.  $C$  and  $\phi$ . The laboratory equipment used in UCS tests consisted of a conventional 102mm diameter sample triaxial loading machine. Beyond 4% cement content a very important increase in shear strength was observed. It can be deduced from a comparative study of shear strength of soil samples with 4%, 7%, and 10% cement with sample containing 2 %, that the sample with a 4% cement content showed 90% increase in shear strength while those with 7% and 10% showed an increase of around 13 and 21 fold.

**Keywords :** cement, compression strength, shear stress, cohesion, angle of internal friction

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