

## The Effect of the Water and Fines Content on Shear Strength of Soils

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**Abstract :** This work Contains an experimental study of the behavior of Chlef sand under the effect of various parameters influencing on shear strength. Because of their distinct nature, sands, silts, and clays exhibit completely different behavior (shear strength, the Contracting and dilatancy, the angle of internal friction and cohesion...). By cons when these materials are mixed, their behavior will become different from each considered alone. The behavior of these mixtures (silty sands...) is currently the state of several studies to better use. We have studied in this work: The influence of the following factors on the shear strength: The density (loose and dense), the fines content (silt), The water content. The apparatus used for the tests is the casagrande shear box. This device, although one may have some disadvantages and modern instrumentation is appropriately used to study the shear strength of soils.

**Keywords :** shear strength, sand, silt, contractancy, dilatancy, friction angle, cohesion, fines content

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