

Analytical and Statistical Study of the Parameters of Expansive Soil

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Abstract : The disorders caused by the shrinking-swelling phenomenon are prevalent in arid and semi-arid in the presence of swelling clay. This soil has the characteristic of changing state under the effect of water sollicitation (wetting and drying). A set of geotechnical parameters is necessary for the characterization of this soil type, such as state parameters, physical and chemical parameters and mechanical parameters. Some of these tests are very long and some are very expensive, hence the use or methods of predictions. The complexity of this phenomenon and the difficulty of its characterization have prompted researchers to use several identification parameters in the prediction of swelling potential. This document is an analytical and statistical study of geotechnical parameters affecting the potential of swelling clays. This work is performing on a database obtained from investigations swelling Algerian soil. The obtained observations have helped us to understand the soil swelling structure and its behavior.

Keywords : analysis, estimated model, parameter identification, swelling of clay

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