

Study of Physico-Chimical Properties of a Silty Soil

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Abstract : Soil treatment is to make use soil that does not have the characteristics required in a given context. We limit ourselves in this work to the field of road earthworks where we have chosen to develop a local material in the region of Sidi Bel Abbes (Algeria). This material has poor characteristics not meeting the standards used in road geo technics. To remedy this, firstly, we were trying to improve the Proctor Standard characteristics of this material by mechanical treatment increasing the compaction energy. Then, by a chemical treatment, adding some cement dosages, our results show that this material classified A1h a increase maximum dry density and a reduction in the water content of compaction. A comparative study is made on the optimal properties of the material between the two modes of treatment. On the other hand, after treatment, one finds a decrease in the plasticity index and the methylene blue value. This material exhibits a change of class. Therefore, soil class CL turned into a soil class composed CL-ML (Silt of low plasticity). This observation allows this material to be used as backfill or sub grade.

Keywords : treatment of soil, cement, subgrade, Atteberg limits, classification, optimum proctor properties

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