

Valorization of Local Materials in the Waterproofing Technique of Landfills Site "TLS"

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Abstract : This paper deals with the use two locals materials abundant in our country, with the view to use a mixture in the waterproofing the landfills. Our interest comes from the necessity to the environment protection, which has recently considerably grown. The site's waterproofing technique, in the landfills sites, is nowadays a very necessary condition to protect the environment, which requires the use of appropriate materials. To this end, an optimal mixture ensuring good performance in terms of hydraulic conductivity, durability and shear strength, mixtures based of sand at different concentrations of sodium bentonite, at compact state are prepared and studied. This study showed that a low permeability of mixture (sand / bentonite) can be achieved 6% of sodium bentonite. This mixture confers also good mechanical behavior, expressed by the recorded, reduction of friction (φ) and the increase of the cohesion (C). Thus, the selected formulation represents an optimal mixture for waterproofing systems. It guarantees an economical and ecological advantages.

Keywords : hydraulic conductivity, sand, sodium bentonite, sustainability

Conference Title : ICCGE 2015 : International Conference on Civil and Geological Engineering

Conference Location : Istanbul, Türkiye

Conference Dates : August 17-18, 2015