

Hydro-Mechanical Behavior of a Tuff and Calcareous Sand Mixture for Use in Pavement in Arid Region

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Abstract : The aim of the paper is to study the hydro-mechanical behavior of a tuff and calcareous sand mixture. A first experimental phase was carried out in order to find the optimal mixture. This showed that the material composed of 80% tuff and 20% calcareous sand provides the maximum mechanical strength. The second experimental phase concerns the study of the drying-wetting behavior of the optimal mixture was carried out on slurry samples and compacted samples at the MPO. Experimental results let to deduce the parameters necessary for the prediction of the hydro-mechanical behavior of pavement formulated from tuff and calcareous sand mixtures, related to moisture. This optimal mixture satisfies the regulation rules and hence constitutes a good local eco-material, abundantly available, for the conception of pavements.

Keywords : tuff, sandy calcareous, road engineering, hydro mechanical behaviour, suction

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