

## **Physical and Mechanical Properties of the Late Littoral Quaternary Deposits of the Casablanca-Mohammedia Coast (Morocco)**

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The sedimentological and geotechnical studies of the late quaternary littoral deposits of the Casablanca-Mohammedia coast made it possible to characterize the sediments and to specify the factors controlling their physical and mechanical properties.

The microfacies study of tidal and dune deposits showed a predominance of remains of shells, entirely or partially recrystallized out of sparite. The terrigenous fraction is represented by grains of quartz, feldspars and some heavy minerals. The phase of cementation corresponds to microsparite, localised at the points of contact between elements and characterizes a continental vadose environment.

The geotechnical study showed a strong porosity which represents one the third of the rock. The density indicates a low compactness to average. The unit weight is very close to the densities of the principal components of these littoral deposits (calcite, quartz and feldspars). The indices of quality and resistance mean that these tidal and dune deposits is of bad with average quality and low resistance. The index of sand equivalent shows a spectrum ranging between clayey sands and very clean sands.

The correlation of the results of the sedimentological and geotechnical studies revealed that the physical and mechanical properties of these littoral deposits are largely influenced by the sedimentological characteristics and especially by the diagenetic processes. Economically, the use of these tidal and dune deposits remains very limited because of its poor geotechnics properties. Generally they are used in work of civil engineering and construction.