

عنوان مقاله:

Experimental Investigation of the at Rest Lateral Pressure of an Artificially Prepared Sand-Bentonite Mixture

محل انتشار:

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خلاصه مقاله:

Sand-bentonite mixtures are usually utilized as a liner of municipal waste disposal facilities. These widespread liners are constructed in thin layers and therefore, indicate an oedometric behavior. Hence, experimental study of at rest lateral pressure of these soils is an important step for understanding the hydro-mechanical behavior of the abovementioned barriers. In this paper a novel oedometer is introduced to determine the coefficient of lateral pressure of soil. The almost rigid ring of the modified apparatus has three circular diaphragms with the diameter of 15mm and the thickness of 0.35mm. Three LVDTs are installed in contact with these diaphragms to measure the horizontal deformation of the thin diaphragms induced by the horizontal pressures. The diaphragms are calibrated using the water hydrostatic pressure and the pressure and deformations are correlated. Twenty five percent of the studied material is composed of bentonite and the rest of soil is the Estahban well graded sand. Coefficient of at rest lateral pressure of the material is determined at various stress states and the results at normally and over-consolidation conditions are discussed in details.

کلمات کلیدی:

At Rest Lateral Earth Pressure, Sand-Bentonite, Normally Consolidated soil, Over-Consolidated Soil

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