

The effectiveness of electrodes types on electro-osmosis of Malaysian soil

Abstract:

Electro osmosis technique is known as an effective method for stabilizing clay. The process involves passing an electrical current through soil mass by dissolution of electrode material or by introduction of chemical solution at the electrode. The dewatering process induced by the introduction of chemical at the electrode would results in the improvement of shear strength properties. This paper presents the results of a series of laboratory tests on the electro osmosis treatment of Kahang clay by the dissolution of different anode materials i.e. ferum, aluminium, and cuprum. A constant voltage at 30 V was applied for 672 hours to each different electrodes cell. The dewatering process was monitored and the shear strength was measured both before and after treatment. The results revealed that the different types of electrodes resulted in the same cumulative water discharge. However, the improvement in strength is dependent on the type of electrodes.