

Behavior of Acrylic Polymer Addition on the Permeability of the Anbar Soils

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Abstract

The soil is considered the most abundant building material in the world and after the only local resource available to the engineer for his work. On the other hand, the inclusion of materials such as soil stabilizing agents allowed improving some of its properties (mainly strength, permeability), reducing costs and environmental effects. This research investigated the effect of Acrylic polymer addition on permeability to four types of fill soils from different areas in Anbar government by laboratory tests working (i.e. the addition of different percentage of Acrylic polymer 25%, 50%, 75%, and 90% from optimum moisture content (O.M.C)). The addition of acrylic to the soils lead to significant decrease in soil permeability and this serves in improving the soil layers that are effect on stability of foundation and very necessary for sensitive structures such as hydraulic structures (reservoir dams, earth dams , ... etc.). Descriptive statistical analysis including mean comparison using Duncan's Multiple Range Test (DMRT) was conducted using SPSS software.