

## Abstract

Mixing soil with additive materials such as cement can provide the required soil properties. Therefore, in this study, the sample soils were mixed with different cements and their effects on the moisture required for compacting the soil-cement mixture was investigated. The tested soil was selected from three regions of Sistan and the tested cements included Portland Zabol cement Type 2, Pozzolanic Khash cement (pozzolana) and Portland Qaen cement Type 5. Cements with mixing percentages 3, 5 and 8% to each soil were added. In total, the experiment was performed on 27 soil-cement mixtures and three control soil samples. Studies showed that the soil texture is sandy and its density is  $G_s=2.63 \text{ gr/cm}^3$ . The maximum optimum with 8% of cement added to natural soils in type 1, 2 and 3 soils was 40, 38% and 36%, respectively. In addition, the results show that the highest dry specific weight and the lowest optimum moisture content belong to the natural soil.

Keywords: Optimal humidity, Soil density, Cement, Hydrometry



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