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Compression Strength of Treated Fine-Grained Soils with Epoxy or Cement

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Abstract : Geotechnical engineers face many problematic soils upon construction and they have the choice for replacing these soils with more appropriate soils or attempting to improve the engineering properties of the soil through a suitable soil stabilization technique. Mostly, improving soils is environmental, easier and more economical than other solutions. Stabilization soils technique is applied by introducing a cementing agent or by injecting a substance to fill the pore volume. Chemical stabilizers are divided into two groups: traditional agents such as cement or lime and non-traditional agents such as polymers. This paper studies the effect of epoxy additives on the compression strength of four types of soil and then compares with the effect of cement on the compression strength for the same soils. Overall, the epoxy additives are more effective in increasing the strength for different types of soils regardless its classification. On the other hand, there was no clear relation between studied parameters liquid limit, passing No.200, unit weight and between the strength of samples for different types of soils.

Keywords : additives, clay, compression strength, epoxy, stabilization
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