



# Influence of Humic Acid on the Strength Behavior of Cement-Treated Clay during Various Curing Stages

March 2017 Journal of Materials in Civil Engineering 29(8)

DOI: 10.1061/(ASCE)MT.1943-5533.0001919

 Gyeonggo Kang  Takashi Tsuchida  Young Sang Kim  Won-jin Baek

97 2 new

Reads

Recommendations

1 0 new

Citations

2 0 new

Recommend

Request full-text

Abstract

Overview

Comments

Citations (2)

the properties of cement-treated clay. Organic matter in soils can be classified into two categories: nonhumic and humic. This work aims to evaluate the effects of humic acid on the strength development and microstructure of cement-treated marine clay with various curing times ranging from 5 h to 90 days. Strength development was investigated through a vane shear and unconfined compression tests with different water, cement, and humic acid contents. The microstructure was examined by X-ray diffraction and scanning electron microscopy. The results indicate that the strength development was governed by the cement and humic contents. Further, a threshold cement content, at which the adverse effects of humic acid on strength development are overcome, existed for a given humic acid content. Finally, a new compound was observed to form when humic acid was added to cement-treated clay.