



Contribution ID: 992

Type: Poster

Experiments of Microbially Induced Carbonate Precipitation in Calcareous Sand by Mixing Method

Wednesday, 16 May 2018 18:30 (15 minutes)

Calcareous sand is often used as the filling material in marine geotechnical engineering, and it is to be reinforced in practice. The technology of Microbial Induced Carbonate Precipitation (MICP) provides a new cement way to reinforce the calcareous sand. In this paper, we study how to use MICP by the mixing method to reinforce the calcareous sand. The mixing method is very different from the grouting method often used in previous studies. Experiments of direct shear tests and oedometer tests of calcareous sand samples were carried out. The different particle size composition and the different reaction solution concentrations were considered. The test results showed that high concentration of reaction solution led to more precipitation of calcium carbonate, and the shear strength and the stiffness of calcareous sand were improved. It is shown that the mixing method of MICP technology has certain feasibility in the dredged fill treatment of calcareous sand.

References

Acceptance of Terms and Conditions

[Click here to agree](#)

Primary authors: MA, Ruinan; GUO, Hongxian; CHENG, Xiaohui

Presenter: GUO, Hongxian

Session Classification: Poster 3

Track Classification: MS 4.05: Biochemical mineral precipitation for subsurface applications