Technical Note

Effect of Freeze—Thaw Cycles on Mechanical Behavior of Lime-Stabilized Soil

Gabriele Tebaldi, Ph.D., P.E.[1]; Michele Orazi, Ph.D.[2]; and Ugo Sergio Orazi[3]

Abstract: Lime stabilization of clay soils is becoming, if not already, one of the most used construction techniques for road embankments and for subbase stabilization. In warm countries, lime stabilization is used without any problems; but in cold countries, some concerns are still present in relation to behavior of lime-stabilized soils at low temperatures, particularly in conditions of freezing and thawing. The research in this paper presents the results of an experimental campaign made on a typical Italian clay soil stabilized with lime. The research studies the evolution of mechanical performances of lime-stabilized soil under the effect of freeze and thaw cycles and after a series of several freezes and thaws. The results of the research clearly show that lime-stabilized soils can have proper mechanical performances after freeze and thaw cycles. In particular, the test campaign shows that lime-stabilized soils have decreased resistance after freeze and thaw cycles and that they almost fully recover their resistance if the temperature comes back constantly to 20°C. **DOI: 10.1061/(ASCE)MT.1943-5533.0001509.**

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[1]Associate Professor, Dept. of Civil and Environmental Engineering and Architecture, Univ. of Parma, Parco Area delle Scienze 181/A, I-43125 Parma, Italy; Adjunct Professor, Dept. of Civil and Coastal Engineering, Univ. of Florida – E.S.S.I.E., Stadium Rd. 1949, Gainesville, FL 32611 (corresponding author). E-mail: gtebaldi@unipr.it; gtebaldi@ufl.edu

[2]Senior Consultant, Laboratorio Geomeccanico Orazi, via Cairo snc, I-61024 Mombaroccio, Italy. E-mail: info@laborazi.it

[3]Technical Director, Laboratorio Geomeccanico Orazi, via Cairo snc, I-61024 Mombaroccio, Italy. E-mail: info@laborazi.it

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