Numerical Analyses of Plate Loading Test

Author(s): Iancu-Bogdan Teodoru • Ionuț-Ovidiu Toma

Abstract text:

A numerical simulation of plate loading test, in order to underlines the size effect on settlements and derived values of geotechnical parameters, is shown. The study is based on the comparison between the results obtained by Finite Element Method (FEM) using the Mohr-Coulomb soil model and by some observations from literature. The obtained numerical results revealed that the subgrade reaction coefficient is strictly dependent on parameters like size of the loaded area and loading magnitude, and thus completely general and generic, and not a fundamental material property of soil that can somehow be determined rationally, as often one claims to be.

Key Words:

Plate Loading Test; Finite Element Method; Winkler Model; Coefficient of Subgrade Reaction; Elastic Continuum Model.

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Author(s) Information

Iancu-Bogdan Teodoru
Affiliation: „Gheorghe Asachi" Technical University, Jassy, Department of Transportation Infrastructure and Foundations.
Email: bteodoru@ce.tuiasi.ro

Ionuț-Ovidiu Toma
Affiliation: „Gheorghe Asachi" Technical University, Jassy, Department of Structural Mechanics.
Email: iotoma@ce.tuiasi.ro

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