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MATEMATICKÉ MODELOVÁNÍ HLUBOKÉ STAVEBNÍ JÁMY V PÍSCÍCH

diplomová práce

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Vedoucí diplomové práce: RNDr. David Mašín, PhD, MPhil.

Praha, Srpen, 2012

Abstract

Nowadays, mathematical modeling is a very discussed in geotechnics and used in many geotechnical applications. And it became more popular. The main aim of this work is to show suitability of constitutive modeling for prediction of deep ground excavation behavior in sandy soil. The temporary excavation is part of a tunnel portal 513 on an outer road bypass in Prague. In places the pit reaches almost 30 m depth. Mohr-Coulomb constitutive model and advanced hypoplastic model for coarse grain soils supplemented by intergranular strain concept were chosen for this application. Calculations demonstrated different results in soil behavior predicted by each model. Calculated results were compared with measured data from excavations monitoring. These show hypoplastic model as more realistic for deformation prediction.