

عنوان مقاله:

Stability analysis of the eastern portal of TehranShomal Freeway tunnel using rock mass classification systems and numerical modeling with UDEC

محل انتشار:

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خلاصه مقاله:

Stability analysis and design of the support systems according to physical and mechanical properties of the surrounding rock mass are significant steps in tunneling projects. There are several methods to assure the stability of tunnels which numerical modeling is of great importance due to its high accuracy, ability to utilize various material behavior models, and comprehensiveness of result interpretation. In this paper, besides applying RMR and Q classification systems to obtain an overview of rock mass stability condition, the numerical modeling approach is conducted using UDEC program to investigate the effect of change in joints angle of friction and installation of cable and concrete lining on static and quasi-static stability of the eastern portal of Tehran-Shomal Freeway tunnel. Both approaches show that the surrounding rock mass requires cable bolts and shotcrete with ۱۰ cm thickness to acquire stability.

کلمات کلیدی:

Stability analysis Tehran-Shomal freeway Rock mass classification Numerical modelling UDEC

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