عنوان مقاله:

The elasto-plastic analysis of a circular opening excavated in a generalized Hoek-Brown rock material

محل انتشار:

هشتمین کنگره بین المللی مهندسی عمران (سال: 1388)

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خلاصه مقاله:

A new rigorous approach for calculating the distribution of stresses and displacements around a circular opening excavated in a strain-softening generalized Hoek-Brown rock mass is presented. After the yield criterion, the plastic potential function, and the evolution of Hoek-Brown strength parameters are defined, the differential equilibrium equation and equation of compatibility of deformations are solved simultaneously by means of Runge-Kutta forth-order method. In addition, the applicability and accuracy of the proposed method is shown through an example. Finally, the influence of the softening parameter, appearing in the evolution of Hoek-Brown parameters, is examined through the establishment of the ground response curves.

کلمات کلیدی:

Circular opening, elasto-plastic analysis, strain-softening, Hoek-Brown criterion.