



CHALMERS

Kandidatarbete

Examenskod ACEX10



Drilling for bolting. courtesy of Nils Janestad

Rock block stability in tunnels and slopes

Falling rock blocks, both in the case of rock slopes and in underground constructions of caverns or tunnels, pose threats to human life and result in significant additional costs. To secure in place such rock blocks, different support measures are available. The most common of those are anchors, nets and concrete.

When evaluating the risk of rock block fall generally the in situ stress is not taken into account. It is however possible that it plays a very significant role. Answering the following questions could lead to increased safety, especially in tunnel construction:

- What is the role of the in situ stress on the rock block stability?
- How important is the timing for the introduction of the support?

To answer the questions software from the Rocscience suite will be used.

Suggested literature:

- B.H.G. Brady, E.T. Brown: Rock Mechanics for underground mining
- J.A. Hudson, J.P. Harrison: Engineering Rock Mechanics, an introduction to the principles

Målgrupp

Samhällsbyggnadsteknik

Gruppstorlek

3-6

Speciella förkunskaper

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Kan projektet dubblas?

Ja