

## **Finite element modelling of tunnel excavation**

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### **SUMMARY**

Until a few years ago tunnel construction was based exclusively on experience. Numerical methods, however, constitute a very valuable supplement. Particularly the finite element method has now become a standard feature in calculation stresses and displacements in tunnels. But a calculation is only useful when the underlying numerical model correctly describes natural behaviour. The two-dimensional plane strain calculation, and the approximations necessary for it, represents still the most used and most suitable model for tunnel excavation. Important modelling objectives together with most important loading is pointed out and illustrated by an example of a subway tunnel.

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