

OVER 40 YEARS OF DEVELOPMENT OF DESIGN CRITERIA FOR SALT CAVERNS

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Abstract

Over 40 Years Development of the Design Criteria for Salt Caverns.

Today we use very complicated numerical models based on the finite element method or finite difference method. We have improved our material laws to simulate the behaviour of salt material. We can estimate the convergence of salt cavern and we believe that we know the stress- and strain-field of the salt mass in the surrounding of a cavern and between caverns.

But 10 years or 20 or 40 years ago the engineers were also convinced of their calculations, their models and their predictions although they used different models and different assumptions. In any case – in the past or today – the engineer needs design criteria.

The question is which criteria were used at the beginning of the salt industry. Do we use the same today? What has changed and why?

The paper will give an answer.