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IfG Cavern Design Concept
Rockmechanical aspects for the development and
operation of rock salt caverns

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Abstract

In summary of the outcome of more than four decades of rock-mechanical experiences in gas storage in salt caverns the IfG concept for cavern design in general and for gas storage cavern in special has been developed. This concept represents an ongoing and more than 40 years lasting evolution process of knowledge where the numerical approaches as well as laboratory and in situ measurements are reaching a new and higher quality. The evaluation of limiting conditions regarding stability, integrity and geological tightness can be performed by means of assessment criteria which were elaborated on the various experiences obtained from conventional salt mining as well from various underground storage projects for different locations and types of deposits.

The details of the IfG-concept will be presented and, in addition, its practical capability will be demonstrated on base of already long-lasting or new planned storage projects.

Key words: Rock salt, gas storage, liquid storage, salt caverns, numerical modeling, rock mechanics

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