

COMBINING OUR EXPERIENCE – JET GROUTING ENABLING MAJOR PROJECTS NORTH AND SOUTH OF SWEDEN

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Abstract

This presentation covers the experience gained from two challenging international projects north and south of Sweden using Jet Grouting (JG).

The 1st project Sandbukta-Moss-Såstad is a part of the Intercity development project, which is one of the largest transport projects in Norway. Jet Grouting was used to allow for excavation of the quick clay and stability for the excavation support, by replacing partially DDSM. In other areas low strength JG was used to match the originally intended design as well as to enable tunnel excavation works by creating an artificial rock by having limited head room conditions on the surface. In the presentation the detailed process from concept to the quality controlled execution of inclined JG with sophisticated measurement techniques and gap-analysis will be shown.

For the 2nd project, innovative JG-anchors with permanent loads up to 2 500kN were particularly developed. This measure was required for the construction of the 5th sealock-chamber, representing the entrance from the river Elbe to the North Sea and Baltic Canal in Germany. For the purpose of a reliable and permanent load transfer into the soil, micro piles combined with Jet Grouting columns as extended and grouted bodies were chosen. Due to the existing soil conditions, only the deeper sand layer was able to fulfil these requirements, whereby drilling lengths up to 50m had to be executed. To design these new type of jetted micro piles, extensive tests have been executed to confirm the novel anchoring-system.

Both projects involve a combination of local and international knowledge to solve project specific problems. In conclusion, this presentation provides an overview of the opportunities for applying technical knowledge from all involved parties in a project to optimize time & costs and finding solutions.

