

PROJECT

NECKARGEMÜND CITY ROAD TUNNEL HORIZONTAL JET GROUTING IN TUNNEL



PROJECT NAME

Neckargemünd city road tunnel

CLIENT

Road Works Department of the Rhein-Neckar County
(Germany)

ENGINEER

Road Dept. Rhein-Neckar

GENERAL CONTRACTOR

BARESEL GmbH

SPECIALIST CONTRACTOR

RODIO GmbH

CONTRACT VALUE

EURO 2,2 Mio CHF 3,5 Mio

BEGINNING OF WORKS

FEBRUARY 2009

END OF WORKS

JULY 2009

■ JOB DESCRIPTION

RODIO has executed here 7 jet grouting umbrellas with an average of 110 sub-horizontal columns d. 60 cm in each umbrella. The jet grouting umbrellas consist of a double crown of jet grouting columns. Each jet grouting column has a drill length of 15 m and a jet length of 14 m. The excavation length under the jet grouting umbrella is of 10 m. The excavation of the double track tunnel with an area of 120 m² was done as full face. The jet grouting treatment was performed inside silty and clayey sedimentary deposits filled with sandstone cobbles and blocks having a minimum overburden of only 4-5 meters from existing buildings.

■ WORK QUANTITIES

Approx. 700 sub-horizontal Jet Grouting Columns with a diameter of 60 cm. Total length of jet grouting columns: 10.200 m,
Total cement consumption: approx. 3.000 ton

■ MAIN EQUIPMENT

1 Tunnel drill rig EGT JM140 equipped with 22 m long twin mast,
Total weight of 70 ton and a max. drill height of 10,0 meters.
2 Full automatic mixing plants RODIO JM 30
2 High pressure pumps MP7 CIMA with 650 HP Diesel Motor
Full automatic recording of drilling and jet grouting parameters by means of LT3 LUTZ System (one unit on each mast).



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Horizontal Jet Grouting



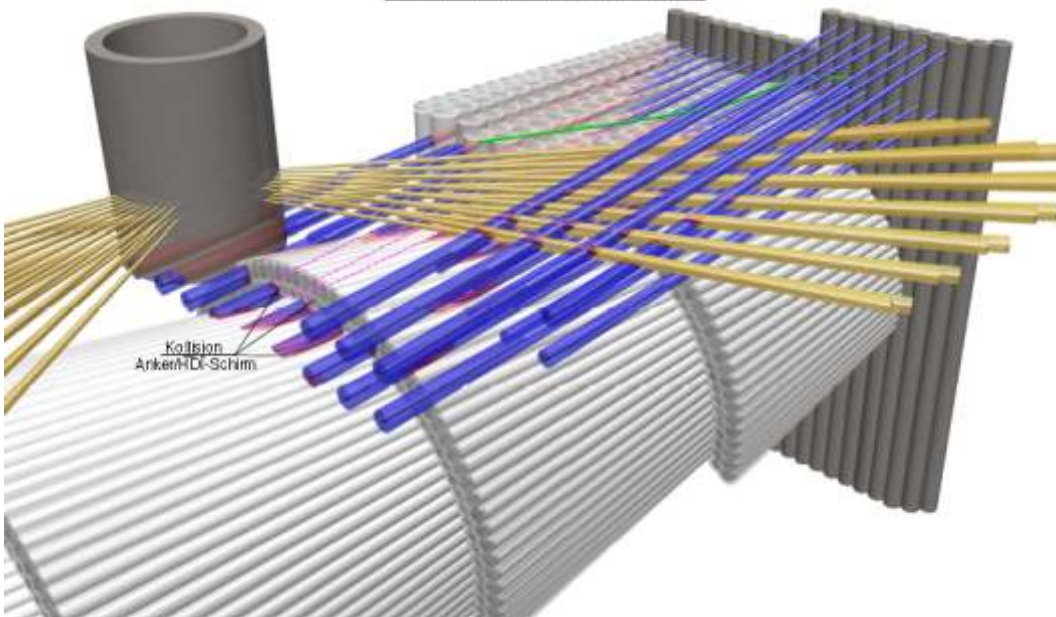
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Tunnel drill rig JM140 with twin boom inside the start shaft

Perspektive Augpunkt 1



3D view of the overlapping between jet grouting umbrellas, compensation grouting and ground anchors



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