



GERMANY: MECHANIZED TUNNELLING SUPPORTS RESTRUCTURING OF THE EMSCHER.

- Project: Launch shaft for Pipe Jacking the Emscher canal system
- Location: Dortmund, Germany
- Background: New sewage tunnel for the Emscher River
- Customer: Consortium Icotekne S.p.A. – Implenia AG
- Contractor: Emschergenossenschaft/Lippeverband
- Machine: V-006, VSM9000
- Shaft construction: Shaft Lining
- Shaft depth: 23m
- Pioneering technology: Segmental Lining with integrated corrosion protection



Installing the VSM9000 at the construction site.



Shaft sinking and shaft lining carried out simultaneously.



23-meter deep shaft was sunk in 17 working days.

NEW SEWAGE TUNNEL FOR THE EMSCHER RIVER.

REQUIREMENT

EMSCHER CANAL, DORTMUND



Function: launch shaft for Pipe Jacking

Shaft depth: 23m

Diameter (ID): 9,000mm

Geology: sand, silt, clay

Special features: new sewage tunnel stretching 70km, start and target shafts for mechanized tunnelling

Customer: Consortium Icotekne S.p.A. - Implemia AG

Contractor: Emschergenossenschaft / Lippeverband

Thanks to the "Emscher restructuring" concept, the Emscher river once again has its blue splendor. The project got underway in the 90s, after the river had been contaminated by sewage and mine water for a good 100 years. It covered the entire course of the river, stretching 85 kilometers from Holzwickede to the mouth of the Rhine near Dinslaken, Germany. The Emscher underground tunnel, which extends over 70 kilometers, is the project's centerpiece. It channels sewage water to the treatment plants

in Bottrop and Dinslaken, allowing a cleaner Emscher river to flow through the city landscape of the "New Emscher valley" to come.



PREMIERE OF THE HERRENKNECHT VSM TECHNOLOGY IN GERMANY.

SOLUTION

VSM9000



Diameter (ID): 9,000mm

Driving power: 400kW

Total weight: 65t

Torque: max. 80kNm

Construction method: simultaneous shaft sinking and shaft lining

Shaft construction: shaft lining

Pioneering technology: segmental lining with integrated corrosion protection

The construction work for the 23-meter deep starting shaft, required for the pipe jacking work of the Emscher tunnel, kicked off in April 2008. A Herrenknecht VSM9000 machine mechanically sunk the shaft, completing another key step in restructuring the Emscher River. The Herrenknecht VSM technology fully demonstrated its advantages over conventional tunnelling for the first time in Germany. Thanks to the simultaneously sinking and lining of the shaft, the project was completed in only 17 working days – with marginal environmental noise pollution. This also provided the best prerequisites for employing the other launch and target shafts of the Emscher canal. Micro-tunnelling machines are to be subsequently used for the tunnelling work. The number of

securing devices and tunnelling kilometers of the canal are not yet known. The "New Emscher valley" is expected to be completed between 2020 and 2027.



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