



UNDERGROUND POWER LINES

HORIZONTAL DIRECTIONAL DRILLINGS

Three-phase power line project Emden-Conneforde,
Germany



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Client: TenneT TSO GmbH

On behalf of TenneT TSO GmbH, the joint-venture EmCo, consisting of the companies MAX STREICHER GmbH & Co. KG aA and DE ROMEIN GmbH, carried out several PEHD empty conduit constructions between Emden and Conneforde (East Frisia). The empty conduit constructions are used for the insertion of 380 kV alternating current high voltage lines. With this project it is possible to expand the German power supply as part of the energy policy. Twelve empty conduits for the extra-high voltage cable and two empty conduits for fibre optic lines were laid. The diameters of the empty conduits varied between da 75 mm and da 315 mm.

The total length of the drillings was about 32,250 m which was realised by the use of two 50 t HDD plants and the self-developed, fully electric driven HDD plant HDD80-E.

The construction project is considered as pilot project in order to examine the effect of underground cables within the 380 kV three-phase sector on the electric transmission system in network operation.

Project details

Client	TenneT TSO GmbH
Scope of work	Execution of horizontal directional drillings
Location	Emden - Conneforde
Total length	About 32,250 m 5 drilling sections with lengths between 380 and 650 m Execution of 14 parallel drillings per section
Pipe diameter	from da 75 mm to da 315 mm
Plants	2 HDD plants 50 t 1 HDD plant 80 t (HDD80-E, self-development)
Construction period	Beginning of 2020 - middle of 2021



Challenges

- Low deviation tolerances

Location:
Emden-Conneforde, Germany