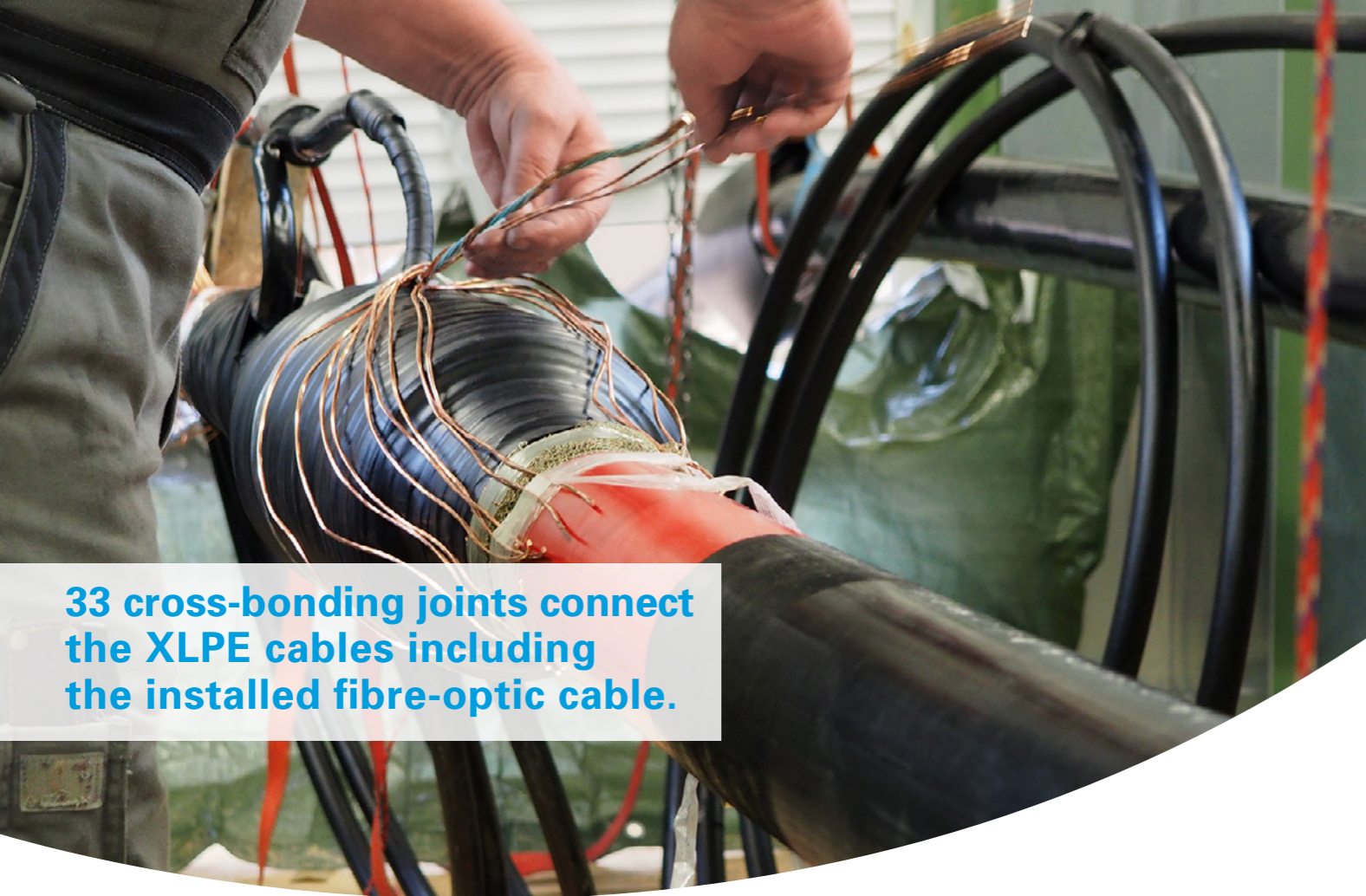


Sophisticated new construction project for E.DIS

Case study turnkey project cable system
High-voltage cables and accessories





33 cross-bonding joints connect the XLPE cables including the installed fibre-optic cable.

The company and the challenge

E.DIS Netz GmbH is one of Germany's largest regional energy grid operators and operates the electricity grid in Brandenburg and Mecklenburg-Western Pomerania over an area spanning of 36,000 km². The high-voltage grid consists of 5,522 km, approx. 135 km of which are cables. Decentralised feeding-in of renewable energies is becoming increasingly important in the context of the energy transition. The distribution grids have to be adapted to this development through corresponding grid expansion projects.

Part of E.DIS Netz GmbH's grid expansion plan is the construction of a new 110 kV 'Putlitz Süd – Falkenhagen Damm' high-voltage cable: an underground route between two substations with a total length of approx. 12 km and 11 joint pits. What made the project particularly challenging was the tight schedule from commissioning to completion, combined with its size, comparatively large cable length and complexity.

The Brugg Cables solution

The demanding schedule meant the focus was on the accuracy of planning and coordinating the deliveries and all the maintenance groups. So the project was planned and implemented as a turnkey project by Brugg Cables.

Planning was carried out by engineers from the company's head office in Brugg. Project management and coordination were ensured on site by the German Brugg subsidiary. XLPE cables and joints were transported directly from the production site in Brugg, Switzerland, by HGVs to the relevant

construction sites just in time. A certified partner company was used for pulling the cables. The technical experts from Brugg Cables in Germany were deployed to install the joints. So competent contacts were at the customer's disposal on site at all times. Following various partial tests conducted during construction, after completion the entire system was inspected and voltage-tested by an independent institute engaged by Brugg Cables, and the faultless operating condition was reported to the customer. E.DIS Netz GmbH therefore managed to commission the route on schedule.

Hardware and equipment

A 110 kV XLPE cable measuring approx. 36 km long was installed, supplied on 36 steel rollers (approx. 1,000 m per roller, each weighing approx. 35 t) as well as a total of 33 cross-bonding joints. A fibre-optic cable is installed in the cable's shield for temperature measurement so as to measure and control the operating temperature and thus the load. The demanding fibre-optic cable splicing work and the associated attenuation measurements were performed in full by the specialists from Brugg Cables.

The XLPE cable was pulled into previously installed empty tubes via the joint pits and connected in shielded, weather-proof joint containers with the aid of shrink joints. The maximum technical laying length was used for economic reasons. At both ends of the route, the underground cable was connected to the 'Putlitz Süd' and 'Falkenhagen Damm' substations via 3 outdoor sealing ends each.

Customer feedback

“ Brugg Cables met the project requirements and once again confirmed in this project its reputation as a highly reliable partner that supplies high-quality products. ”

Ralf Sickert,
Special Grids Planning/
Construction Department

e.dis



The cable system's faultless operating condition was reported to the customer following a successful voltage test.

Brugg Cables

Brugg Cables is an innovative Swiss cable manufacturer with an extensive range of services in the field of power transfer and distribution. Founded over 120 years ago by Gottlieb Suhner, Brugg Cables has become one of the world's leading cable manufacturers. It is our strong customer orientation and the expertise of our employees that continue to set us apart as a company. We focus on innovation and outstanding Swiss quality – and have done so since 1896.

Cable projects

Brugg Cables is the high-performance partner for high-voltage cable projects. From planning, production and logistics to installation and commissioning. As a general contractor, we coordinate all trades, monitor all phases and, with our experts, are the central point of contact for the customer on site.

Asset Management & Services

Our Asset Management & Services package is specifically designed for the demands of energy suppliers, transmission system operators and electricity customers in the high and extra-high voltage sector. This encompasses diverse services to ensure that the planning, construction, operation and maintenance of high-voltage cable systems is safe, efficient and cost-effective.

