

Prysmian Group, the world leader in the energy and telecom cable systems industry, will support Germany and Europe in their energy transition goals through the development of three vital HVDC cable projects, including the **SuedLink** project.



540 km
Prysmian
cable route



Planned
completion:
2026



1200 km
of Prysmian
HVDC underground
cables



Type of cable:
**±525
kV XLPE**

XLPE



XLPE insulation up to
600 kV DC for underground and
submarine applications



Lower system costs and
lighter cables for voltage
levels up to **320 kV**



New material with low electrical
conductivity



High material cleanliness



Same thermal performance of DC
XLPE used so far up to **320 kV**



Same technological platform
used for XLPE AC and DC cables

The SuedLink will transmit High Voltage Power on underground cable on a route of 700 km.

The project was awarded to Prysmian Group by German transmission Grid Operators TransnetBW GmbH and TenneT with the assignment to design, manufacture, supply, lay, joint, test and commission 540-km cable system that will deliver a ±525 kV High Voltage Direct Current with the capacity to transmit 2GW of electrical power in the largest ever cable project.

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from Wilster in Schleswig-Holstein, to the north-west of Hamburg, shall run the length of Germany to the southern connection point at Bergheimfeld, close to Schweinfurt in Bavaria.

XLPE

XLPE is a cross linked polyethylene-based insulation, with a dedicated formula for DC systems application.

XLPE technology requires a cross-linking process, essential for stabilizing the insulation material as the process determines the presence of cross-linking by-products, such as methane, cumyl alcohol, acetophenone. These by-products should be removed, after the cross-linking with a specific thermal treatment process, known as “degassing”, that decreases the amount of residual by-products present in the cable. Electrical and thermomechanical working performance should be selected accordingly, to guarantee reliable system operations at the ever-increasing voltage levels.

CABLE LAYERS

1 Conductor - The conductor is built of bare copper wires, its nominal cross-section area is 3000 mm².

3 Insulation
Material: XLPE.

8 Welded Aluminum Foil - The smooth metallic sheath is constituted by a longitudinally welded aluminium tape applied over the insulation screen and semi-conducting longitudinal water barrier to provide radial water-tightness, mechanical protection and to carry fault currents.
Material: Aluminum

2 Inner semi-conductive layer -
It works as barrier to avoid inter-layer contamination.

4 Outer semi-conductive layer -
It works as barrier to avoid inter-layer contamination.

6 Fiber optic elements - HVDC cable will include 4 integrated fiber optic elements, with in each one both multi-mode and single-mode fibers.

9 Outer sheath - An extruded layer of red coloured polyethylene compound is provided over the metallic sheath. An extruded black semi conductive layer will be applied over the outer sheath.
Material: HDPE



↔ Indicative outer diameter: **152 mm**
📦 Indicative cable weight: **41 kg/m**