EFFICIENT AND SAFE ELECTRICAL POWER TRANSMISSION SYSTEM

N2XS(FL)2Y 1x2500 400kV

To fulfil the strictest requirements of transmission system operators and under the close scrutiny of the independent German Testing and Certification Institute VDE. TELE-FONIKA Kable S A, at its world class manufacturing plant in Bydgoszcz, have designed, manufactured and successfully completed their type test of their 400kV cable system. Along with the necessary type test requirements, close consideration was given to the environmental impact, reliability and the safety of the installation transmission system operator requiements, ensuring a safe operating environment.

Our engineers have designed an innovative 2XS(FL)2Y-2T4FM 1x2,500 RMS /150 220/400kV cable construction capable of transmitting approximately 1,400 MVA at voltage level of 400 kV.

In addition to the abovementioned cable, the cable system consists of the following accessories: ESS420-C166 composite overhead termination, ESP420-C156 porcelain overhead termination, CONNEX plug-in terminations (size 8), together with MSA420-XKMG and MSA420-DOG cable joints.

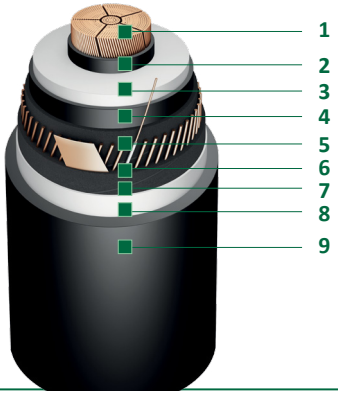
Both the cable and the accessories forming the complete cable system were subjected to thorough type test in TFKable Group's Faraday chamber in accordance with the IEC 62067 standard. Additionally, the cable system underwent annual Prequalification test in a specially constructed test field, in which natural operating conditions of cable system were simulated, i.e. the cable was installed in a tunnel, in the open air, as well as underground.

The tests were conducted in the TFKable Group manufacturing plant in Bydgoszcz in the recently specifically constructed test field in accordance with the requirements of IEC 62027 international standard resulting in a Certification Institute issued. As a result, we are now able to offer a cable design with fully compatible technology that ensures safe and reliable power transmission at 400 kV.

DESIGN-RELATED AND INNOVATIVE APPROACH

N2XS(FL)2Y 1x2500 400kV description:

1. Conductor – copper Milliken type
2. Inner semi-conductive screen over the conductor
3. XLPE Insulation
4. Outer semi-conductive screen over insulation
5. Water-blocking semi-conductive tape applied over the insulation semi-con screen
6. Metallic screen – copper wires and tapes and optical fibres in tubes for cable temperature measurement
7. Water-blocking semi-conductive tape applied over the metallic screen
8. Radial sealing – aluminum film
9. Outer sheath – black: MDPE, HDPE, LSOH



Due to unavoidable interfering in an already existing infrastructure as well as impact on natural environment, 400 kV cable systems constitute a real challenge for cable manufacturers and suppliers of cable accessories.

TFKable Group has over 25 years of experience in production High Voltage cables. Cable Systems for power transmission research and development programme was initiated in the Bydgoszcz plant in 1988. The first 110 kV cable system was supplied in 1992. Thanks to subsequent research connected with testing of high-end materials as well as numerous investments improving technological potential of the plant we were able to include into our product portfolio 400 kV cable system design ensuring safe and reliable operation of power transmission lines.

We are able to provide full support regarding design and supply of High Voltage and Extra High Voltage cable systems:

- designing and optimization of cable design and all crucial electrical parameters, including current carrying capacity calculations
- consulting in the field of cable system design including selection of additional elements of the cable system and optimization of cable operating conditions
- preparation of complete quotations for HV and EHV and cable systems, including supply of cable and accessories, installation and on-site acceptance tests.