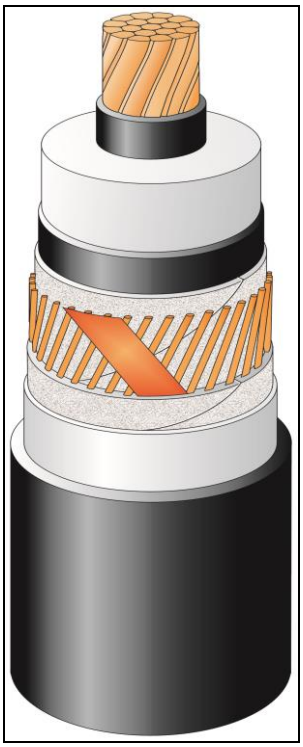
TECHNICAL SPECIFICATION
N2XS(FL)2Y 1x300RM/65 36/69(72.5)kV DIN VDE 0276-632

CONSTRUCTION (x)

- Round, stranded, compacted copper conductor, class 2.
- Extruded semi-conducting conductor screen
- Insulation XLPE – dry cured
- Extruded semi-conducting insulation screen
- Semi-conducting swelling tapes
- Metallic screen:
  copper wire screen and
  copper equalizing tapes
- Semi-conducting swelling tapes
- Longitudinal aluminum foil
- Sheath – black HDPE

MARKING

TF KABLE, product name, year of manufacture, standard, meter marking



The picture is informative only – not in scale

APPLICATION

- Laying in ground (wet or dry locations)
- Laying in air
- Laying in ducts

Highest permissible conductor temperature

- Continuous operation 90°C
- Overload 105°C
- Short circuit 250°C (duration max 5s)

Laying is possible without any special measures at natural cable temperatures and ambient temperature not lower than -5ºC, with Tele-Fonika supervising

DESCRIPTION	UNIT	DETAILS
CONSTRUCTION DATA	**$U_o/U/U_m$**	**36/69(72.5)kV**
Conductor ❑ material ❑ number of wires	 No	 Copper 37
Nominal cross sectional area	mm^2	300
Conductor diameter and tolerance	mm	$20.3^{+0.4/-0.2}$
Min./Nom. thickness semi-conducting XLPE on conductor	mm	0.4 / 0.8
Nominal insulation thickness XLPE	mm	9.0
Insulation thickness: minimum at a point	mm	8.1
Diameter over insulation – nominal	mm	$39.9^{\pm 0.5}$
Min./Nom. thickness semi-conducting XLPE on insulation	mm	0.4 / 0.8
Thickness of semi-conducting swelling tape	No x mm	1 x ~ 0.35
Metallic screen ❑ Copper wires ❑ Copper equalizing tapes	mm^2 No x mm No x mm x mm	65 77 x 1.04 2 x 10 x 0.10
Mean diameter over metallic screen	mm	44.1
Thickness of semi-conducting swelling tape	No x mm	1 x ~ 0.35
Thickness of aluminum foil	mm	0.2
Nominal outer sheath thickness / min	mm	2.6 / 2.11
Approximate overall diameter completed cable (D_e)	mm	50.6
Weight of complete cable (approx.)	kg/km	4830
DELIVERY DATA		
Diameter of wooden drum ❑ type	m	2.8 280P
Length per drum	m	1000
Weight of heaviest reel, including cable	kg	6420

(x) Diameters are calculated values and subject to manufacturing tolerances

ELECTRICAL DATA at 50Hz		
Maximum D.C. conductor resistance at 20°C Maximum A.C. conductor resistance at 90°C	Ω/km Ω/km	0.0601 0.0784
Maximum D.C. metallic screen resistance at 20°C	Ω/km	0.284
Maximum D.C. aluminum foil resistance at 20°C	Ω/km	0.888
Operating inductance ❑ trefoil formation ❑ flat formation (*)	 mH/km mH/km	 0.371 0.556
Induction reactance ❑ trefoil formation ❑ flat formation (*)	 Ω/km Ω/km	 0.117 0.175
Capacitance	μF/km	0.222 (+8%)
Capacitance reactance	kΩ/km	14.32
Impedance ❑ trefoil formation ❑ flat formation (*)	 Ω/km Ω/km	 0.141 0.192
Zero sequence reactance	Ω/km	0.064
Max. electric stress at conductor screen / (at insulation)	kV/mm	5.48 / 3.01
Dielectric losses (tgδ = 0.001) – per phase	W/m	0.090
Partial discharge test – at 2.5Uo	pC	≤ 5
Charging current – per phase	A/km	2.51
Charging power	kVA/km	91
Earth fault current – per phase	A/km	7.54
MECHANICAL DATA		
Recommended min. bending radius for laying	m	1.27
Recommended permissible bending radius at final installation	m	1.01
Maximum permissible pulling force:	kN	15
SHORT CIRCUIT CURRENTS		
Maximum permissible thermal short-circuit (IEC 60949) Phase conductor 90 → 250°C Metallic screen 80 → 350°C	*Current for →* kA kA	***1 s*** 43.4 13.7
AMPACITY (**) – Bonding of the metallic screens		**Single-point / Both-ends**
In earth ❑ trefoil formation ❑ flat formation (*) In air ❑ trefoil formation ❑ flat formation	 A A A A	 615 / 581 652 / 555 725 / 695 835 / 716
TESTS		
AC – test voltage (3Uo, 30min) Partial discharge test	kV kV	108 90

Marking: TF-KABLE 5 N2XS(FL)2Y 1x300RM/65 36/69(72.5)kV DIN VDE 0276-632 2023

(*) Distance between cable axes laid in flat formation D_e+D_e mm

(**) Current rating guideline (Calculated with CymCap 8.2 based on IEC Pub. 60287 and the following conditions)

- ❑ Ground temperature +20°C
- ❑ Ground thermal resistivity 1.0 K · m/W
- ❑ Laying depth 1.0m
- ❑ Load factor 1.0
- ❑ Air temperature +35°C

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