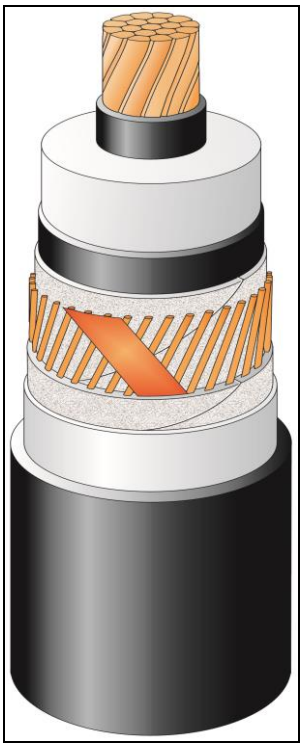
TECHNICAL SPECIFICATION
2XS(FL)2Y 1x300RMC/105 40/69kV acc. to IEC 60840

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 -5°C, with Tele-Fonika supervising

DESCRIPTION	UNIT	DETAILS
CONSTRUCTION DATA	**$U_o/U/U_m$**	**40/69(72.5)kV**
Conductor ❑ material ❑ number of wires	 No	 Copper 37
Nominal cross sectional area	mm^2	300
Conductor diameter and tolerance	mm	$20.3^{+0.4}$
Min./Nom. thickness semi-conducting XLPE on conductor	mm	0.4 / 0.8
Nominal insulation thickness XLPE	mm	11.0
Insulation thickness: minimum at a point	mm	9.9
Diameter over insulation – nominal	mm	43.9
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	105 66 x 1.44 2 x 10 x 0.10
Mean diameter over metallic screen	mm	48.9
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	2.7 / 2.19
Approximate overall diameter completed cable (D_e)	mm	55.6
Weight of complete cable (approx.)	kg/km	5560
DELIVERY DATA		
Diameter of wooden drum ❑ type	m	2.8 280P
Length per drum	m	1000
Weight of heaviest reel, including cable	kg	7200

(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 0.0783
Maximum D.C. metallic screen resistance at 20°C	Ω/km	0.175
Maximum D.C. aluminum foil resistance at 20°C	Ω/km	0.810
Operating inductance ❑ trefoil formation ❑ flat formation (*)	 mH/km mH/km	 0.390 0.575
Induction reactance ❑ trefoil formation ❑ flat formation (*)	 Ω/km Ω/km	 0.123 0.181
Capacitance	μF/km	0.192 (+8%)
Capacitance reactance	kΩ/km	16.60
Impedance ❑ trefoil formation ❑ flat formation (*)	 Ω/km Ω/km	 0.145 0.197
Zero sequence reactance	Ω/km	0.069
Max. electric stress at conductor screen / (at insulation)	kV/mm	5.25 / 2.65
Dielectric losses (tgδ = 0.001) – per phase	W/m	0.096
Partial discharge test – at 1.5Uo	pC	≤ 5
Charging current – per phase	A/km	2.41
Charging power	kVA/km	96
Earth fault current – per phase	A/km	7.23
MECHANICAL DATA		
Recommended min. bending radius for laying	m	1.39
Recommended permissible bending radius at final installation	m	1.11
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 21.5
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 / 577 652 / 539 725 / 690 835 / 699
TESTS		
AC – test voltage (2.5Uo, 30min) Partial discharge test	kV kV	100 60

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

(**) Current rating guideline (Calculated with CymCap 7.3 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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Prepared by: Maciej Ochocki

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