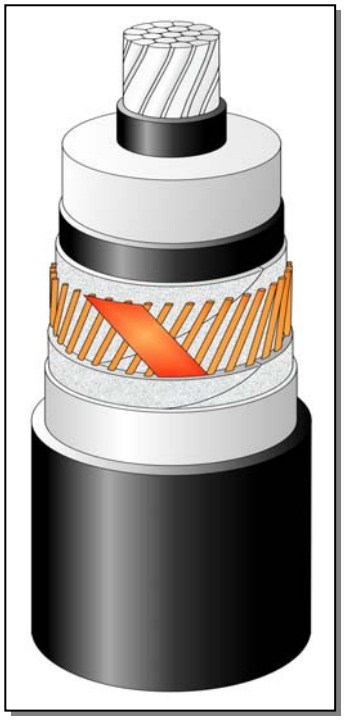
TECHNICAL SPECIFICATION
A2XS(FL)2Y 1x630RM/105 40/69(72.5)kV acc. to IEC 60840

CONSTRUCTION (x)

- Round, stranded and compressed aluminum conductor. Class 2.
- Semi-conducting swelling tapes
- Extruded semi-conducting conductor screen
- Insulation XLPE – dry cured
- Extruded semi-conducting insulation screen
- Semi-conducting swelling tape
- Metallic screen:
  copper wires screen and
  copper equalizing tapes
- Semi-conducting swelling tape
- Longitudinal aluminum foil
- Sheath – Black HDPE type ST7

MARKING

TF KABLE, product name, date 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 5 s)

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

D E S C R I P T I O N	UNIT	DETAILS
CONSTRUCTION DATA	**$U_o/U/U_m$**	**40/69 (72.5)kV**
Conductor ❑ material ❑ number of wires	 No	 Aluminum 58
Nominal cross sectional area	mm^2	630
Conductor diameter and tolerance	mm	$29.5^{+0.4}$
Min./Nom. thickness semi-conducting XLPE on conductor	mm	0.4 / 0.8
Insulation thickness XLPE – nominal	mm	10.0
Insulation thickness: minimum at a point	mm	9.0
Diameter over insulation – nominal	mm	51.3
Min./Nom. thickness semi-conducting XLPE on insulation	mm	1.0 /1.5
Thickness of semi-conducting swelling tape	No x mm	1 x ~ 0.35
Metallic screen ❑ Copper wires ❑ Copper equalizing tape	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	56.0
Thickness of semi-conducting swelling tape	No x mm	1 x ~ 0.35
Thickness of aluminum foil	mm	0.2
Diameter over aluminum foil	mm	57.2
Nominal outer sheath thickness / min.	mm	3.0 / 2.45
Approximate overall diameter completed cable (D_e)	mm	63.5
Weight of complete cable (approx.)	kg/km	4950
DELIVERY DATA		
Diameter of wooden drum ❑ type	m	3.0 30
Maximum length per drum	m	950
Weight of heaviest reel, including cable	kg	6500

(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	0.0469 0.0620
Maximum D.C. metallic screen resistance at 20°C	Ω/km	0.171
Maximum D.C. aluminum foil resistance at 20°C	Ω/km	0.700
Operating inductance ❑ trefoil formation ❑ flat formation (*)	 mH/km mH/km	 0.344 0.529
Induction reactance ❑ trefoil formation ❑ flat formation (*)	 Ω/km Ω/km	 0.108 0.166
Capacitance	μF/km	0.280 (+ 8 %)
Capacitance reactance	kΩ/km	11.56
Impedance ❑ trefoil formation ❑ flat formation (*)	 Ω/km Ω/km	 0.125 0.177
Zero sequence reactance	Ω/km	0.057
Max. electric stress at conductor screen / (at insulation)	kV/mm	5.20 / 3.20
Dielectric losses (tg δ = 0.001) – per phase	W/m	0.136
Partial discharge test – at 1.5Uo	pC	≤ 5
Charging current – per phase	A/km	3.39
Charging power	kVA/km	136
Earth fault current – per phase	A/km	10.17
MECHANICAL DATA		
Recommended min. bending radius for laying	m	1.6
Recommended permissible bending radius at final installation	m	1.2
Maximum permissible pulling force:	kN	18.9
SHORT CIRCUIT CURRENTS		
Maximum permissible thermal short-circuit (IEC 60949) *Current for 1.0s* Phase conductor 90 → 250°C Metallic screen 80 → 350°C	 kA kA	 60.2 21.1
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	 766 / 577 719 / 664 1044 / 830 894 / 840
TESTS		
AC – Test voltage – (2.5Uo; 30min) Impulse test Partial discharge test – 1,5Uo	kV kV kV	90 325 54

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(*) Distance between cable axes laid in flat formation D_e+D_e 0mm

(**) Current rating guideline (Calculated with Cymcap 5.3 based on IEC Pub. 60287 and the following conditions)

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

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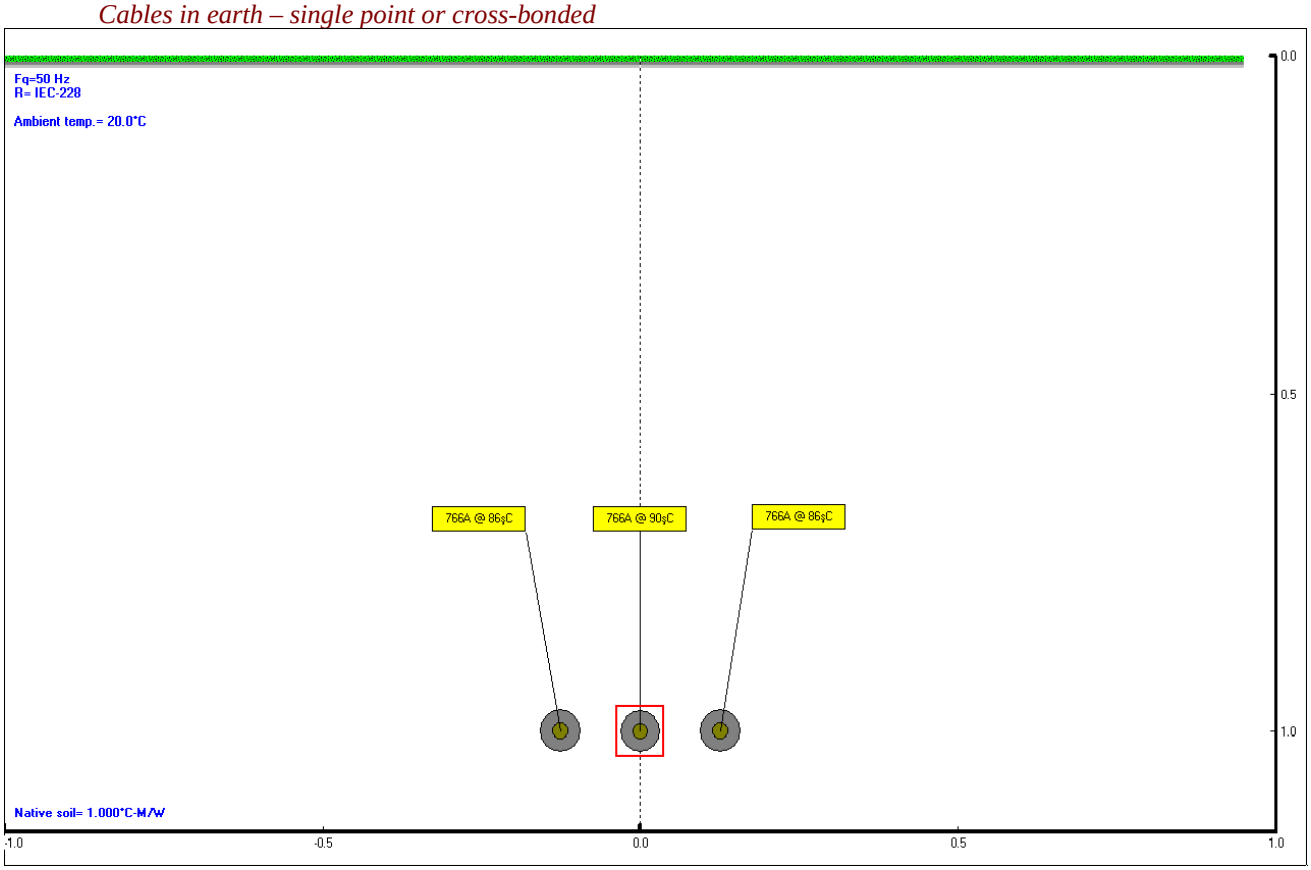

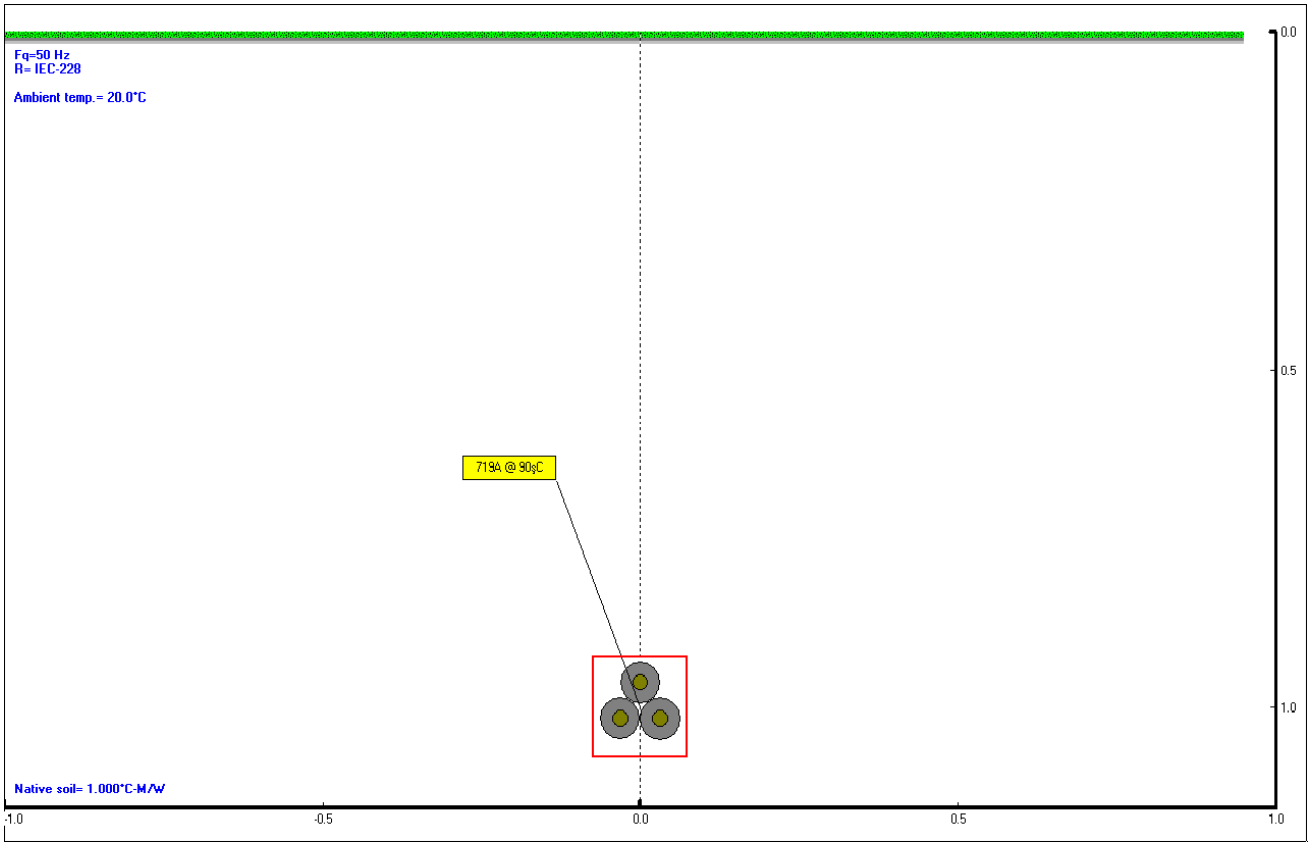

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