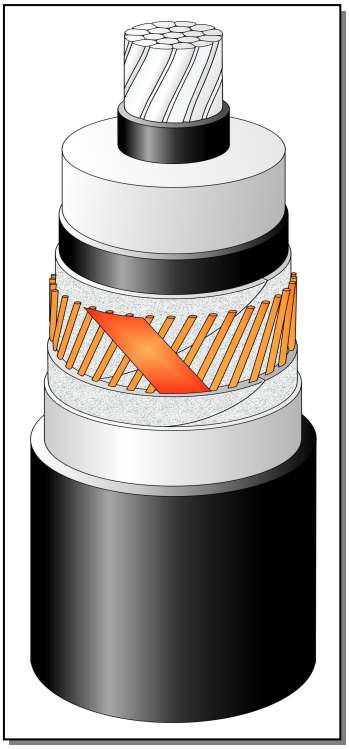
TECHNICAL SPECIFICATION
A2XS(FL)2Y-WTC 1x300RM/95 76/132 (145)kV IEC 60840

CONSTRUCTION (x)

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



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

MARKING

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

DESCRIPTION	UNIT	DETAILS	
CONSTRUCTION DATA		**76 / 132 (145)kV**	
Conductor ❑ Material ❑ Number of wires	 No	 Aluminum 34	
Nominal cross sectional area	mm^2	300	
Conductor diameter and tolerance	mm	$20.0^{-0.2\ +0.3}$	
Min./Nom. thickness semi-conducting XLPE on conductor	mm	0.6 / 1.0	
Insulation thickness XLPE – nominal value	mm	15.5	
Insulation thickness: minimum at a point	mm	13.95	
Diameter over insulation – nominal	mm	$53.0^{\pm0.5}$	
Min./Nom. thickness semi-conducting XLPE on insulation	mm	0.6 / 1.0	
Thickness of semi-conducting swelling tape	No x mm	2 x ~ 0.35	
Metallic screen ❑ Copper wires ❑ Copper equalizing tape	mm^2 No x mm No x mm x mm	95 60 x 1.44 2 x 10 x 0.18	
Mean diameter over metallic screen	mm	58.8	
Thickness of semi-conducting swelling tape	No x mm	2 x ~ 0.35	
Thickness of aluminum foil	mm	0.2	
Nominal outer sheath thickness / min.	mm	3.1 / 2.53	
Approximate overall diameter completed cable (D_e)	mm	66.8	
Weight of complete cable (approx.)	kg/km	4600	
DELIVERY DATA			
Diameter of wooden drum ❑ type	m	2.8 28	3.0 30
Maximum length per drum	m	750	1090
Weight of heaviest reel, including cable	kg	5040	7140

(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	0.1 0.129
Maximum D.C. metallic screen resistance at 20 °C	Ω/km	0.188
Maximum D.C. aluminum foil resistance at 20 °C	Ω/km	0.689
Operating inductance ❑ trefoil formation ❑ flat formation (*)	 mH/km mH/km	 0.43 0.615
Induction reactance ❑ trefoil formation ❑ flat formation (*)	 Ω/km Ω/km	 0.135 0.193
Capacitance	µF/km	0.152 (+ 8 %)
Capacitance reactance	kΩ/km	20.99
Impedance ❑ trefoil formation ❑ flat formation (*)	 Ω/km Ω/km	 0.187 0.232
Zero sequence reactance	Ω/km	0.083
Max. electric stress at conductor screen / (at insulation)	kV/mm	7.86 / 3.26
Dielectric losses (tg δ = 0.001) – per phase	W/m	0.275
Partial discharge test – at 1.5Uo	pC	≤ 5
Charging current – per phase	A/km	3.62
Charging power	kVA/km	275
Earth fault current – per phase	A/km	10.86
MECHANICAL DATA		
Recommended min. bending radius for laying	m	1.67
Recommended permissible bending radius at final installation	m	1.34
Maximum permissible pulling force:	kN	9
SHORT CIRCUIT CURRENTS		
Maximum permissible thermal short-circuit Current for 1.0 sec. (IEC 60949) Phase conductor 90 → 250 °C Metallic screen 80 → 350 °C	 kA kA	 28.8 19.5
AMPACITY (**) – Bonding of the metallic screens		**Single-point / Both-ends**
in earth ❑ flat formation (*) ❑ trefoil formation in air ❑ flat formation ❑ trefoil formation	 A A A A	 500 / 450 475 / 465 630 / 580 560 / 550
TESTS		
AC Test voltage – (2.5Uo; 30min) Partial discharge test	kV kV	190 114

Marking: TF-KABLE 5 A2XS(FL)2Y-WTC 1x300RM/95 76/132kV IEC 60840 2020

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

(**) Current rating guideline (Calculated with Cymcap 7.2 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

Date: 2020-02-19; MK18045
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