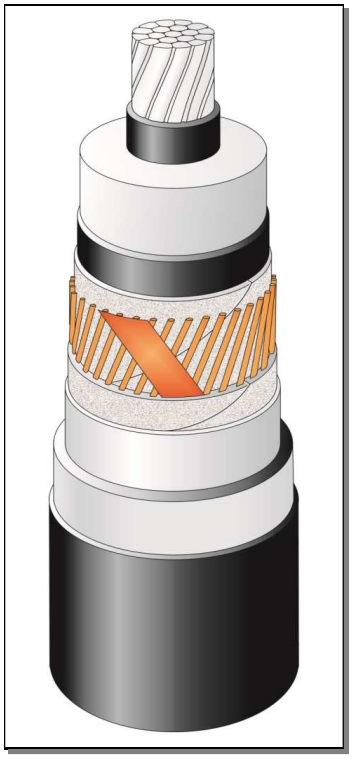
TECHNICAL SPECIFICATION
A2XS(FL)2Y 1x300RM/105 76/132(145)kV IEC 60840

CONSTRUCTION(x)

- Round, stranded and compacted, aluminium conductor - class 2
- Extruded semi-conducting conductor screen
- Insulation XLPE- dry cured
- Extruded semi-conducting insulation screen
- Semi-conducting swelling tape(s)
- Metallic screen:
  - copper wire screen
  - copper equalizing tape(s)
- Semi-conducting swelling tape(s)
- Longitudinal aluminium tape
- Outer sheath - natural HDPE
- Extruded semi-conducting layer - black

MARKING

Cable manufacturer, product name, standard, year of manufacture, meter marking



The picture is informative only - not in scale

Highest permissible conductor temperature

- Continuous operation 90˚C
- Short circuit 250˚C (duration max 5 sec.)

APPLICATION

- Laying in ground
- Laying in ducts
- Laing in air

Laying under Tele-Fonika supervising. Ambient laying temperature not lower than - 5˚C, cable temperature during laying not lower than 0˚C.

DESCRIPTION	UNIT	DETAILS	
CONSTRUCTION DATA			
Conductor			
❑ material		Al	
❑ number of wires	No	34	
Conductor nominal cross sectional area	mm²	300	
Conductor diameter and tolerance	mm	20,0 +0,3	
Min./Nom. thickness of semi-conducting screen on conductor	mm	0,8 / 1,2	
XLPE Insulation thickness: nominal	mm	18,0	
XLPE Insulation thickness: minimum at point	mm	16,2	
Nominal diameter over insulation	mm	58,4	
Min./Nom. thickness of semi-conducting screen on insulation	mm	0,6 / 1,0	
Thickness of semi-conducting swelling tape	No x mm	2 x ~ 0,35	
Metallic screen	mm²	105	
❑ copper wires	No x mm	66 x 1,44	
❑ copper equalizing tapes	No x mm x mm	2 x 0,18 x 10	
Nominal diameter over metallic screen	mm	64,2	
Thickness of semi-conducting swelling tape	No x mm	2 x ~ 0,35	
Thickness of aluminium tape	mm	0,2	
Nominal diameter over aluminium tape	mm	65,7	
Outer sheath thickness nominal / minimum at point	mm	3,3 / 2,7	
Approximate thickness of semi-conducting layer	mm	~ 0,8	
Approximate overall diameter of complete cable (Dk)	mm	74,3	
Approximate weight of complete cable	kg/km	5470	
DELIVERY DATA			
Diameter of wooden drum	m	2,8	3,0
❑ type		28	30
Offered lenght per drum	m	550	850
Overall weight (drum + cable)	kg	4600	6800

(x) all dimensions are calculated values

ELECTRICAL DATA at 50 [Hz]		
Maximum D.C. conductor resistance at 20˚C	Ω/km	0,1000
Maximum A.C. conductor resistance at 90˚C	Ω/km	0,1290
Maximum D.C. metallic screen resistance at 20˚C	Ω/km	0,171
Maximum D.C. longitudinal aluminium tape resistance at 20˚C	Ω/km	0,628
Inductance		
❑ flat formation (*)	mH/km	0,639
❑ trefoil formation	mH/km	0,454
Induction reactance		
❑ flat formation (*)	Ω/km	0,201
❑ trefoil formation	Ω/km	0,143
Capacitance	µF/km	0,139
Capacitance reactance	kΩ/km	22,9
Impedance		
❑ flat formation (*)	Ω/km	0,239
❑ trefoil formation	Ω/km	0,192
Zero sequence reactance	Ω/km	0,090
Max. electric stress on conductor screen / insulation	kV/mm	7,08 / 2,72
Dielectric losses (tg = 0.001) - per phase	W/m	0,25
Partial discharges level - at 1.5 Uo	pC	≤5
Charging current - per phase	A/km	3,3
Charging power - per phase	kVar/km	252,5
Capacitive earth fault current	A/km	10,0
MECHANICAL DATA		
Recommended min. bending radius for laying	m	1,86
Recommended permissible bending radius at final installation	m	1,49
Maximum permissible pulling force	kN	9,0
SHORT CIRCUIT CURRENTS		
Maximum permissible short circuit current (acc. to IEC 60949)		
Duration time	s	1,0
Conductor 90 → 250˚C	kA	28,8
Metallic screen 80 → 350˚C	kA	21,1
AMPACITY(**) - bonding of metallic screen		**Single-point / Both-ends**
In earth		
❑ flat formation (*)	A	502 / 440
❑ trefoil formation	A	477 / 458
In air		
❑ flat formation (*)	A	623 / 567
❑ trefoil formation	A	562 / 547
ELECTRICAL TESTS		
AC voltage test (2.5 Uo / 30 minutes)	kV	160
Partial discharge test at 1.5 Uo	kV	96

Marking: **TF KABLE 5 A2XS(FL)2Y 1x300RM/105 76/132(145)kV IEC 60840 2015**

(*) Distance between cable axes laid in flat formation Dk+Dk mm
(**) Current rating guideline (Calculated by CymCap 5.3 according to IEC Pub. 60287)

Natural operating conditions:

- ❑ ground temperature 20˚C
- ❑ laying depth 1.0 m
- ❑ ground termal resistivity 1.0 K•m/W
- ❑ ambient air temperature 35˚C

Date: 16.02.2015 Specificaton ID: LT15031
Prepared by: Łukasz Tomaszewski

(x) all dimensions are calculated values