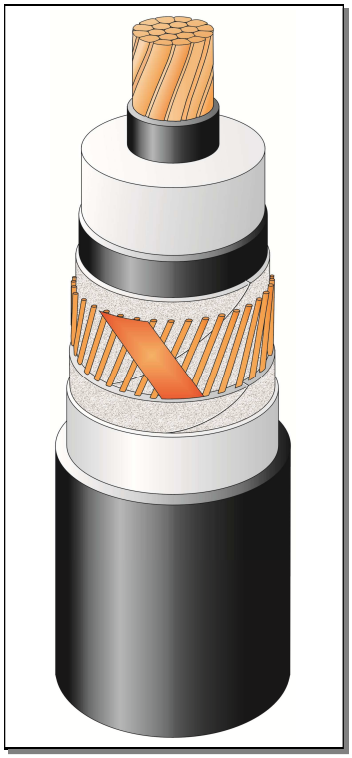
TECHNICAL SPECIFICATION
N2XS(FL)2Y 1x500RM/120 76/132(145)kV IEC 60840

CONSTRUCTION(x)

- Round, stranded and compacted, copper 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 - black PE

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		Cu
❑ number of wires	No	60
Conductor nominal cross sectional area	mm²	500
Conductor diameter and tolerance	mm	26,5 +0,4
Min./Nom. thickness of semi-conducting screen on conductor	mm	0,6 / 1,0
Aproximate diameter over screen on conductor	mm	28,1
XLPE Insulation thickness: nominal	mm	15,0
XLPE Insulation thickness: minimum at point	mm	13,5
Nominal diameter over insulation	mm	58,5
Min./Nom. thickness of semi-conducting screen on insulation	mm	0,6 / 1,0
Aproximate diameter over screen on insulation	mm	60,1
Thickness of semi-conducting swelling tape	No x mm	2 x ~ 0,35
Metallic screen	mm²	120
❑ copper wires	No x mm	58 x 1,63
❑ copper equalizing tapes	No x mm x mm	2 x 0,18 x 10
Nominal diameter over metallic screen	mm	64,7
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	66,1
Outer sheath thickness nominal / minimum at point	mm	3,3 / 2,7
Approximate overall diameter ((Dk)	mm	73,1
Approximate weight of complete cable	kg/km	8787
DELIVERY DATA		
Diameter of wooden drum	m	3,0
❑ type		30
Maximum lenght per drum	m	1000
Overall weight (drum + cable)	kg	11300

(x) all dimensions are calculated values

ELECTRICAL DATA at 50 [Hz]		
Maximum D.C. conductor resistance at 20˚C	Ω/km	0,0366
Maximum A.C. conductor resistance at 90˚C	Ω/km	0,0489
Maximum D.C. metallic screen resistance at 20˚C	Ω/km	0,149
Maximum D.C. longitudinal aluminium tape resistance at 20˚C	Ω/km	0,628
Inductance		
❑ flat formation (*)	mH/km	0,578
❑ trefoil formation	mH/km	0,393
Induction reactance		
❑ flat formation (*)	Ω/km	0,182
❑ trefoil formation	Ω/km	0,124
Capacitance	μF/km	0,178
Capacitance reactance	kΩ/km	17,91
Impedance		
❑ flat formation (*)	Ω/km	0,188
❑ trefoil formation	Ω/km	0,133
Zero sequence reactance	Ω/km	0,072
Max. electric stress on conductor screen / insulation	kV/mm	7,42 / 3,61
Dielectric losses (tg = 0.001) - per phase	W/m	0,322
Partial discharges level - at 1.5 Uo	pC	≤5
Charging current - per phase	A/km	4,24
Charging power - per phase	kVA/km	322,4
Capacitive earth fault current	A/km	12,73
MECHANICAL DATA		
Recommended min. bending radius for laying	m	1,83
Recommended permissible bending radius at final installation	m	1,46
Maximum permissible pulling force	kN	25,0
SHORT CIRCUIT CURRENTS		
Maximum permissible short circuit current (acc. to IEC 60949)		
Duration time 1.0 sec.		
Conductor 90 → 250˚C	kA	72,2
Metallic screen 80 → 350˚C	kA	23,5
AMPACITY(**) - bonding of metallic screen		**Single-point / Both-ends**
In earth		
❑ flat formation (*)	A	848 / 607
❑ trefoil formation	A	797 / 718
In air		
❑ flat formation (*)	A	1107 / 870
❑ trefoil formation	A	974 / 903
ELECTRICAL TESTS		
AC voltage test (2.5 Uo / 30 minutes)	kV	190
Partial discharge test at 1.5 Uo	kV	114

Marking: **TF KABLE 5 N2XS(FL)2Y 1x500RM/120 76/132(145)kV IEC 60840 2013**

(*) 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: 08.07.2013
Prepared by: Łukasz Tomaszewski

(x) all dimensions are calculated values