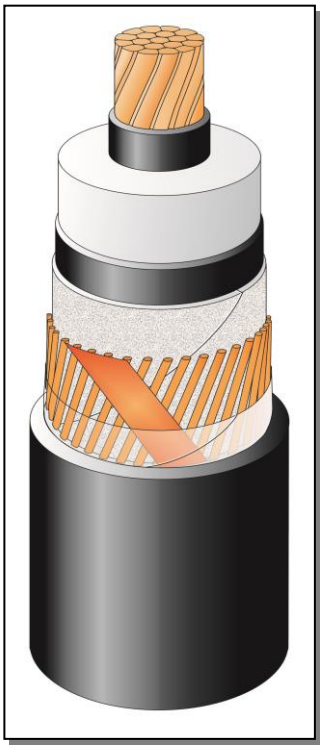
TECHNICAL SPECIFICATION
N2XSY 1x150RM/25 26/45 (52)kV IEC 60840

CONSTRUCTION (x)

- Round, stranded copper conductor. Class 2
- Extruded semi-conducting conductor screen
- Insulation XLPE – dry cured
- Extruded semi-conducting insulation screen, solidly bonded
- Semi-conducting tape
- Metallic screen:
  copper wires screen and
  copper equalizing tapes
- Separator tape
- Outer sheath – black PVC
  ST2 type

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 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	**$U_o/U/U_m$**	**26/45 (52)kV**
Conductor ❑ material ❑ number of wires	 No	 Copper 36
Nominal cross sectional area	mm^2	150
Conductor diameter and tolerance	mm	$14.25^{-0,2+0,3}$
Min./Nom. thickness semi-conducting XLPE on conductor	mm	0.3 / 0.6
Nominal insulation thickness – XLPE	mm	9.0
Insulation thickness: minimum at a point	mm	8.1
Diameter over insulation – nominal	mm	33.4
Min./Nom. thickness semi-conducting XLPE on insulation	mm	0.3 / 0.6
Thickness of semi-conducting tape	No x mm	1 x ~ 0.3
Metallic screen ❑ Copper wires ❑ Copper equalizing tapes	mm^2 No x mm No x mm x mm	25 30 x 1.04 2 x 10 x 0.10
Mean diameter over metallic screen	mm	37.0
Thickness of separator tape	No x mm	1 x ~ 0.1
Nominal outer sheath thickness / min.	mm	2.3 / 1.85
Approximate overall diameter completed cable (D_e)	mm	42.0
Weight of complete cable (approx.)	kg/km	2800
DELIVERY DATA		
Diameter of wooden drum ❑ type	m	2.4 24OS
Maximum length per drum	m	1000
Weight of heaviest reel, including cable	kg	3800

(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	0.1240 0.1590
Maximum D.C. metallic screen resistance at 20°C	Ω/km	0.759
Operating inductance ❑ trefoil formation ❑ flat formation (*)	 mH/km mH/km	 0.408 0.592
Induction reactance ❑ trefoil formation ❑ flat formation (*)	 Ω/km Ω/km	 0.128 0.186
Capacitance	μF/km	0.175 (+ 8 %)
Capacitance reactance	kΩ/km	18.44
Impedance ❑ trefoil formation ❑ flat formation (*)	 Ω/km Ω/km	 0.204 0.245
Zero sequence reactance	Ω/km	0.077
Max. electric stress at conductor screen / (at insulation)	kV/mm	4.4 / 2.0
Dielectric losses (tg δ = 0.001) – per phase	W/m	0.037
Partial discharge test – at 1.5Uo	pC	≤ 5
Charging current – per phase	A/km	1.41
Charging power	kVA/km	37
Earth fault current – per phase	A/km	4.23
MECHANICAL DATA		
Recommended min. bending radius for laying	m	0.84
Recommended permissible bending radius at final installation	m	0.68
Maximum permissible pulling force:	kN	7.5
SHORT CIRCUIT CURRENTS		
Maximum permissible thermal short-circuit (IEC 60949) *Current for 1,0 sec.* Phase conductor 90 → 250°C Metallic screen 80 → 350°C	 kA kA	 21.8 5.2
AMPACITY (**) – Bonding of the metallic screens		**Single-point / Both-ends**
in earth ❑ flat formation (*) ❑ trefoil formation in air – shaded ❑ flat formation ❑ trefoil formation	 A A A A	 438 / 424 417 / 414 541 / 525 467 / 464
TESTS		
AC Test voltage – (2.5Uo; 30min) Impulse test Partial discharge test (1.5Uo)	kV kV kV	65 250 39

Marking: TF-Kable 5 N2XY 1x150RM/25 26/45(52)kV IEC 60840 2019

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

(**) 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
- ❑ Load factor 1.0
- ❑ Air temperature +35°C

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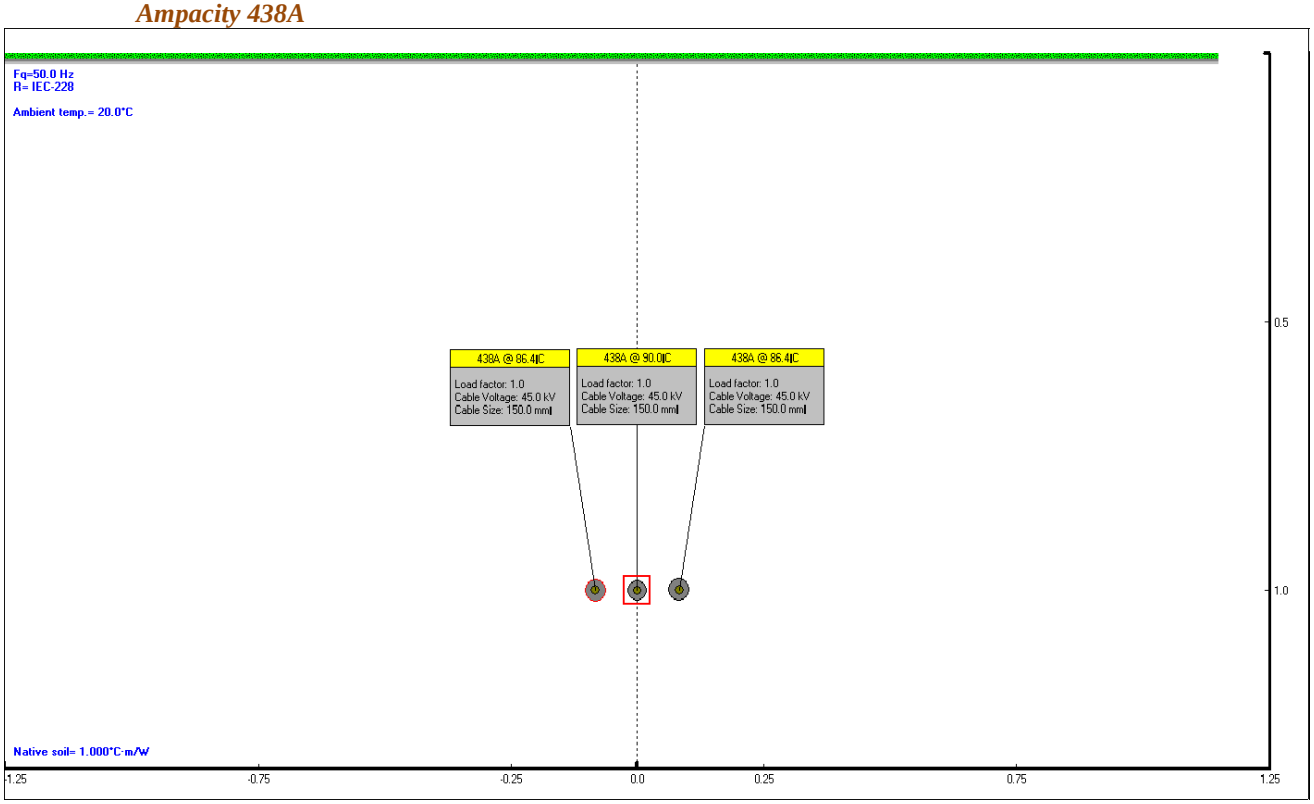
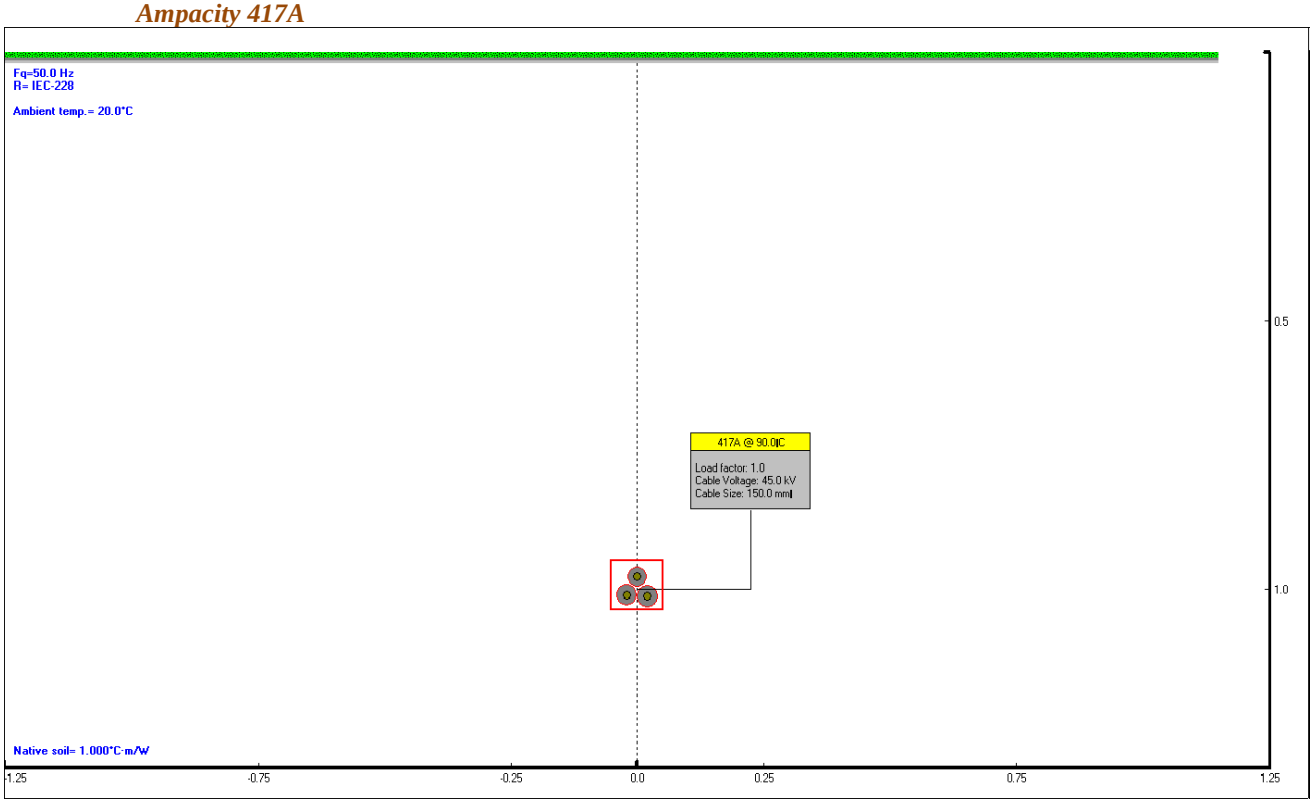
Cables in earth → Single-point
Ampacity 438A



Cables in earth → Single-point
Ampacity 417A



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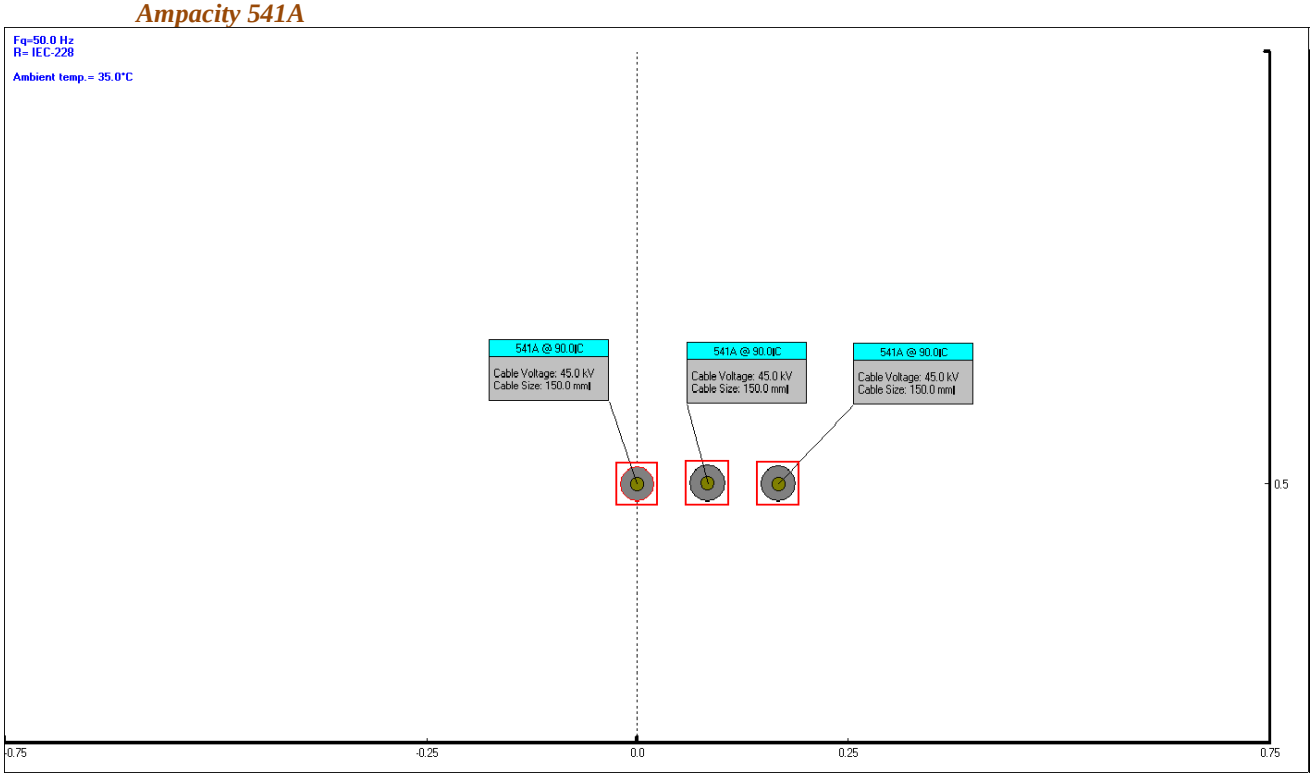
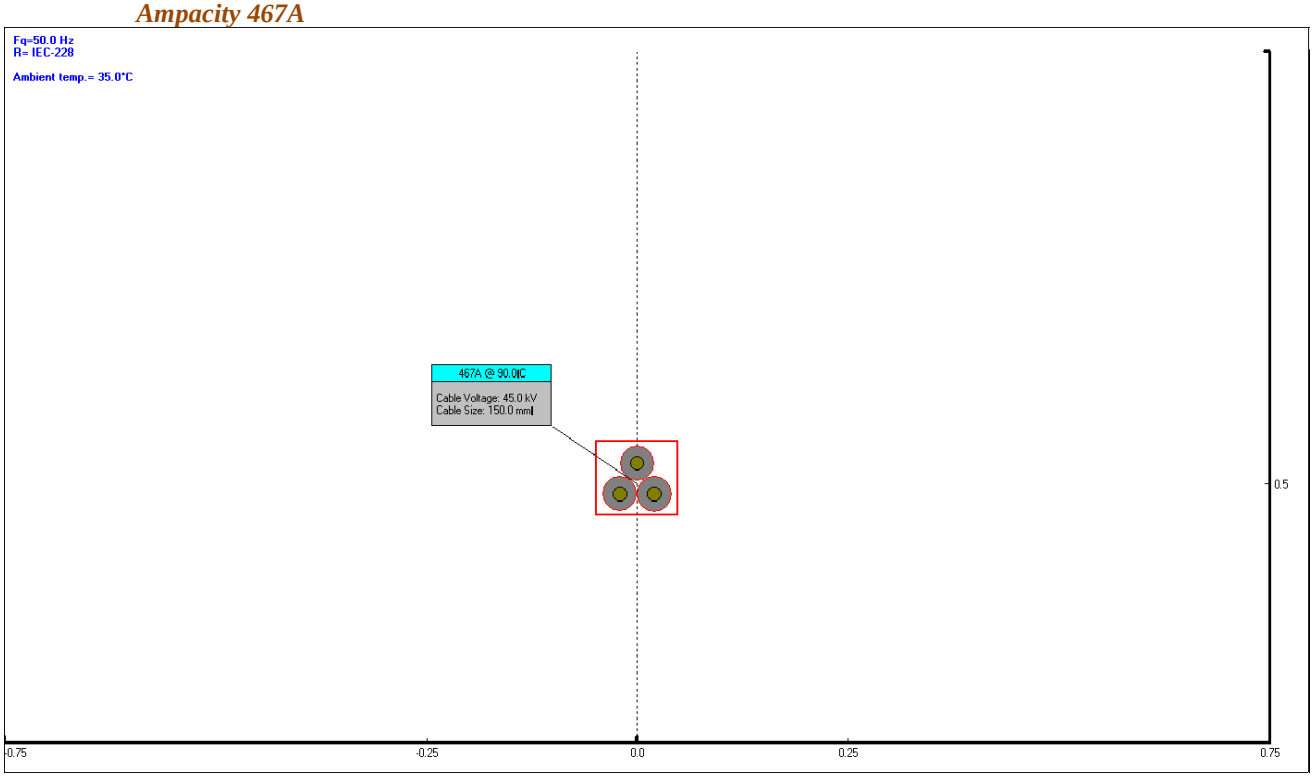
Cables in air → Single-point
shaded
Ampacity 541A



Cables in air → Single-point
shaded
Ampacity 467A



Date: 2019-09-23; Mp19259
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