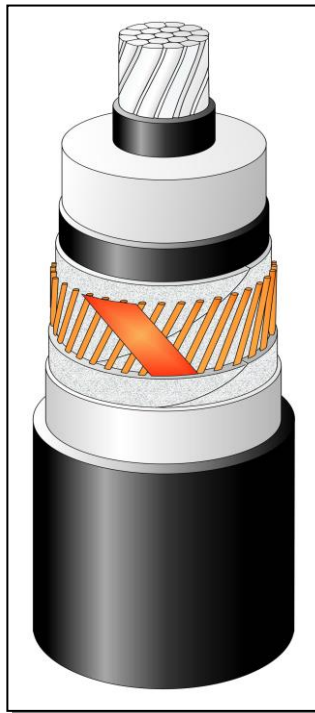


TECHNICAL SPECIFICATION

A2XS(FL)2Y 1x240RM/95 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 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 -5°C, with Tele-Fonika supervising

MARKING

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

DESCRIPTION	UNIT	DETAILS	
CONSTRUCTION DATA	U_o/U/U_m	76/132 (145) kV	
Conductor		Aluminium	
<input type="checkbox"/> Material		34	
<input type="checkbox"/> Number of wires	No	34	
Nominal cross sectional area	mm ²	240	
Conductor diameter and tolerance	mm	17.9 ^{-0.2 +0.2}	
Min./ Nom. thickness semi-conducting XLPE on conductor	mm	1.2 / 2.0	
Insulation thickness XLPE – nominal	mm	19.0	
Insulation thickness: minimum at a point	mm	17.1	
Diameter over insulation – nominal	mm	59.9 ^{+0.8}	
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	mm ²	95	
<input type="checkbox"/> Copper wires	No x mm	60 x 1.44	
<input type="checkbox"/> Copper equalizing tape	No x mm x mm	2 x 10 x 0.18	
Mean diameter over metallic screen	mm	65.7	
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	3.4 / 2.79	
Approximate overall diameter completed cable (D _e)	mm	74.3	
Weight of complete cable (approx.)	kg/km	5260	
DELIVERY DATA			
Diameter of wooden drum	m	2.5	3.2
<input type="checkbox"/> type		250P	320P
Maximum length per drum	m	410	1000
Weight of heaviest reel, including cable	kg	3250	7450

^(x) Diameters are calculated values and subject to manufacturing tolerances

ELECTRICAL DATA at 50 Hz		
Maximum D.C. conductor resistance at 20°C	Ω/km	0.125
Maximum A.C. conductor resistance at 90°C	Ω/km	0.1609
Maximum D.C. metallic screen resistance at 20°C	Ω/km	0.188
Maximum D.C. aluminum foil resistance at 20°C	Ω/km	0.614
Operating inductance		
<input type="checkbox"/> trefoil formation	mH/km	0.473
<input type="checkbox"/> flat formation (*)	mH/km	0.658
Induction reactance		
<input type="checkbox"/> trefoil formation	Ω/km	0.149
<input type="checkbox"/> flat formation (*)	Ω/km	0.207
Capacitance	μF/km	0.133 (+ 8 %)
Capacitance reactance	kΩ/km	24.02
Impedance		
<input type="checkbox"/> trefoil formation	Ω/km	0.219
<input type="checkbox"/> flat formation (*)	Ω/km	0.262
Zero sequence reactance	Ω/km	0.094
Max. electric stress at conductor screen / (at insulation)	kV/mm	6.90 / 2.52
Dielectric losses (tg δ = 0.001) – per phase	W/m	0.240
Partial discharge test – at 1.5U ₀	pC	≤ 5
Charging current – per phase	A/km	3.16
Charging power	kVA/km	240
Earth fault current – per phase	A/km	9.49
MECHANICAL DATA		
Recommended min. bending radius for laying	m	1.85
Recommended permissible bending radius at final installation	m	1.48
Maximum permissible pulling force:	kN	7.2
SHORT CIRCUIT CURRENTS		
Maximum permissible thermal short-circuit (IEC 60949) <i>Current for 1.0 sec.</i>		
Phase conductor 90 → 250°C	kA	23.0
Metallic screen 80 → 350°C	kA	19.5
AMPACITY (**) – Bonding of the metallic screens		Single-point / Both-ends
in earth		
<input type="checkbox"/> flat formation (*)	A	441 / 404
<input type="checkbox"/> trefoil formation	A	416 / 404
in air		
<input type="checkbox"/> flat formation	A	537 / 502
<input type="checkbox"/> trefoil formation	A	487 / 478
ROUTINE TESTS		
AC – Test voltage – (2.5U ₀ ; 30min)	kV	190
Impulse test 1.2/50 μs	kV	650
Partial discharge test	kV	114

Marking: TF-Kable 5 A2XS(FL)2Y 1x240RM/95 76/132 (145) kV IEC 60840 2021

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

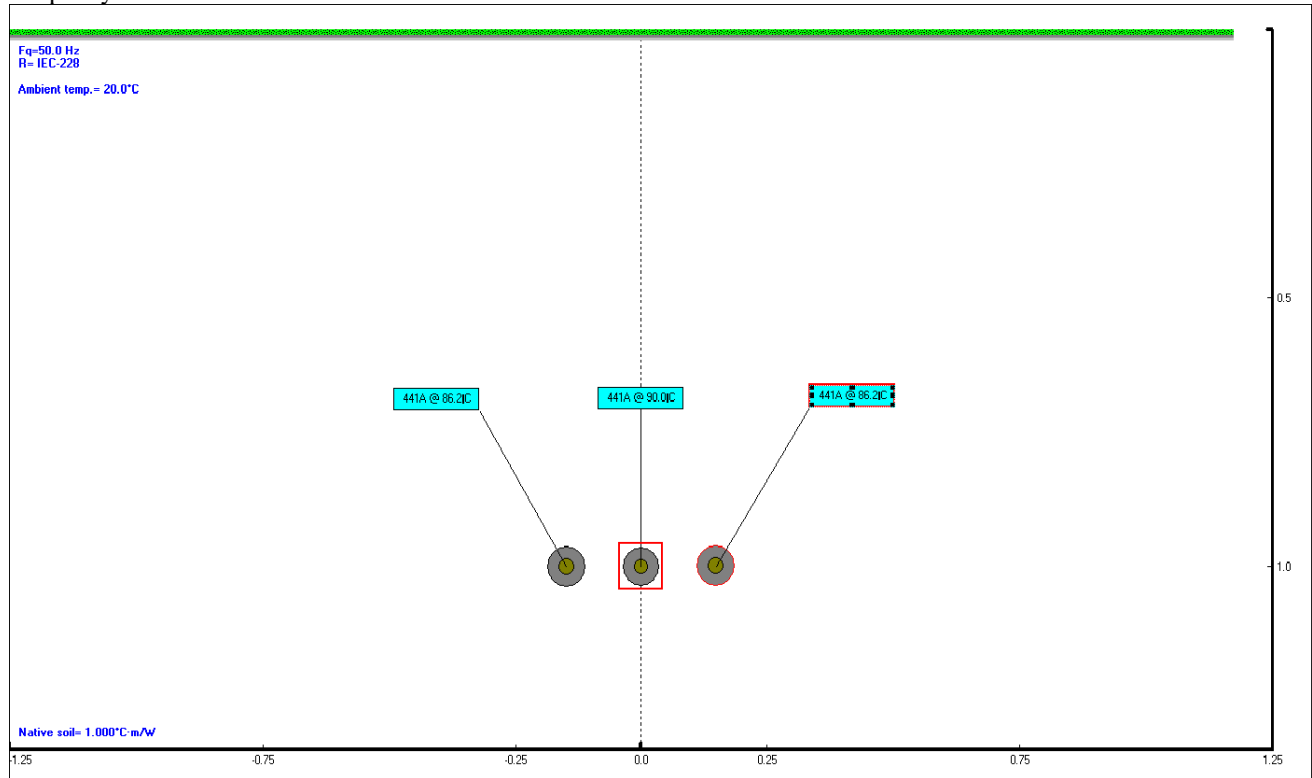
(**) Current rating guideline (Calculated with Cymcap 8.0 based on IEC Pub. 60287 and the following conditions)

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

^(s) Diameters are calculated values and subject to manufacturing tolerances

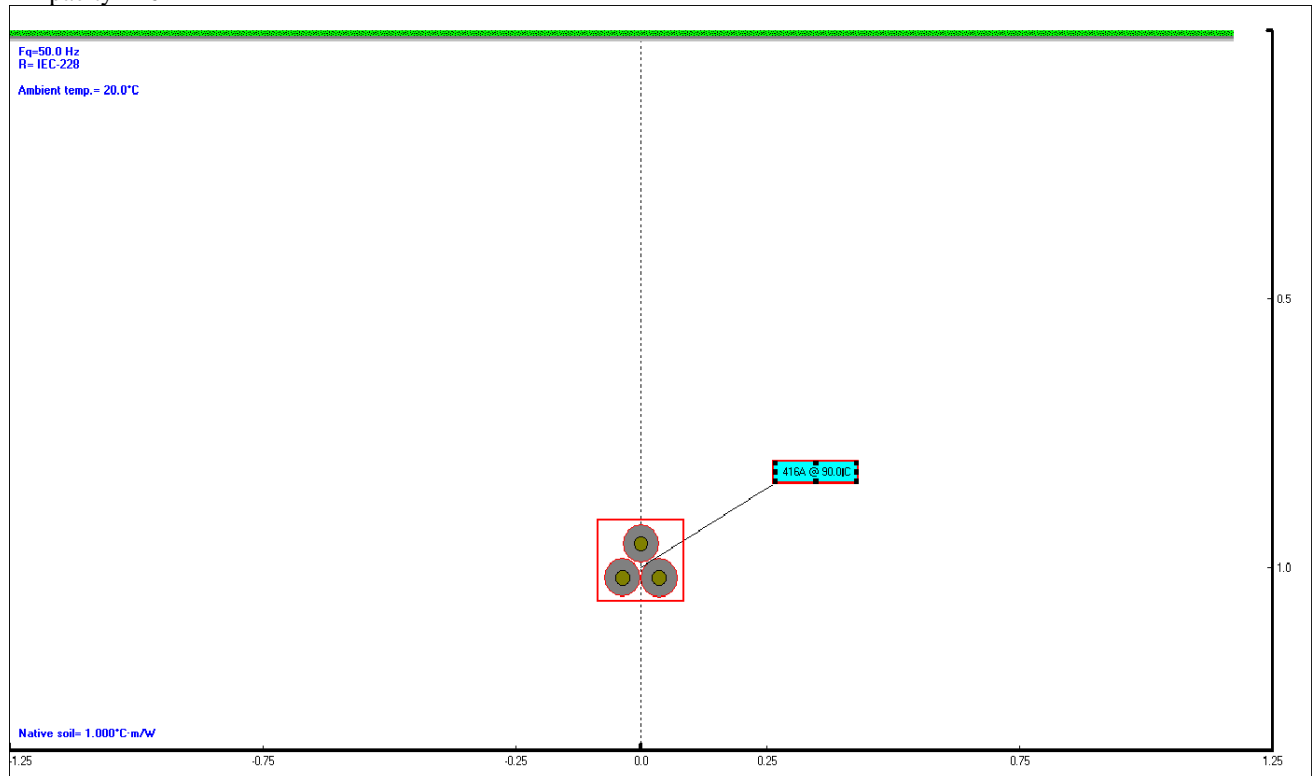
Cables in earth, Single-point, flat

Ampacity 441 A



Cables in earth, Single-point, trefoil

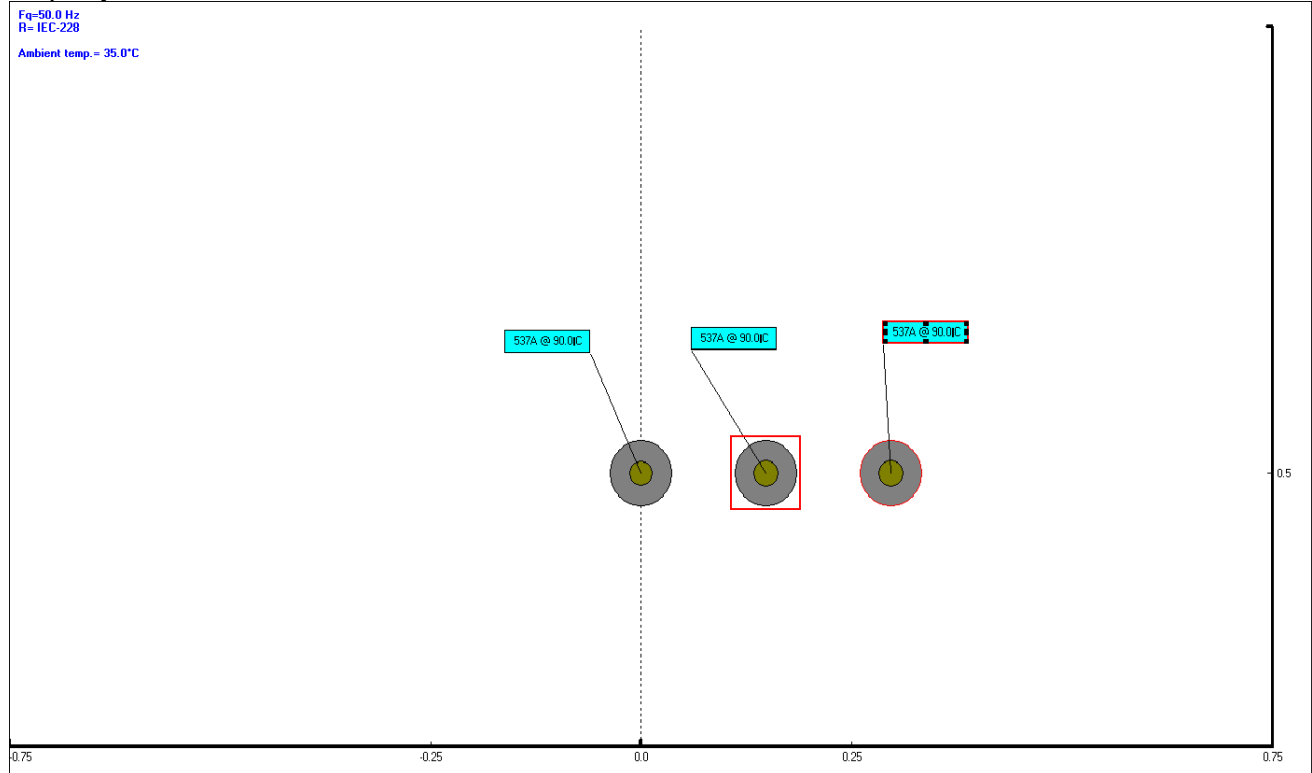
Ampacity 416 A



⁽⁶⁾ Diameters are calculated values and subject to manufacturing tolerances

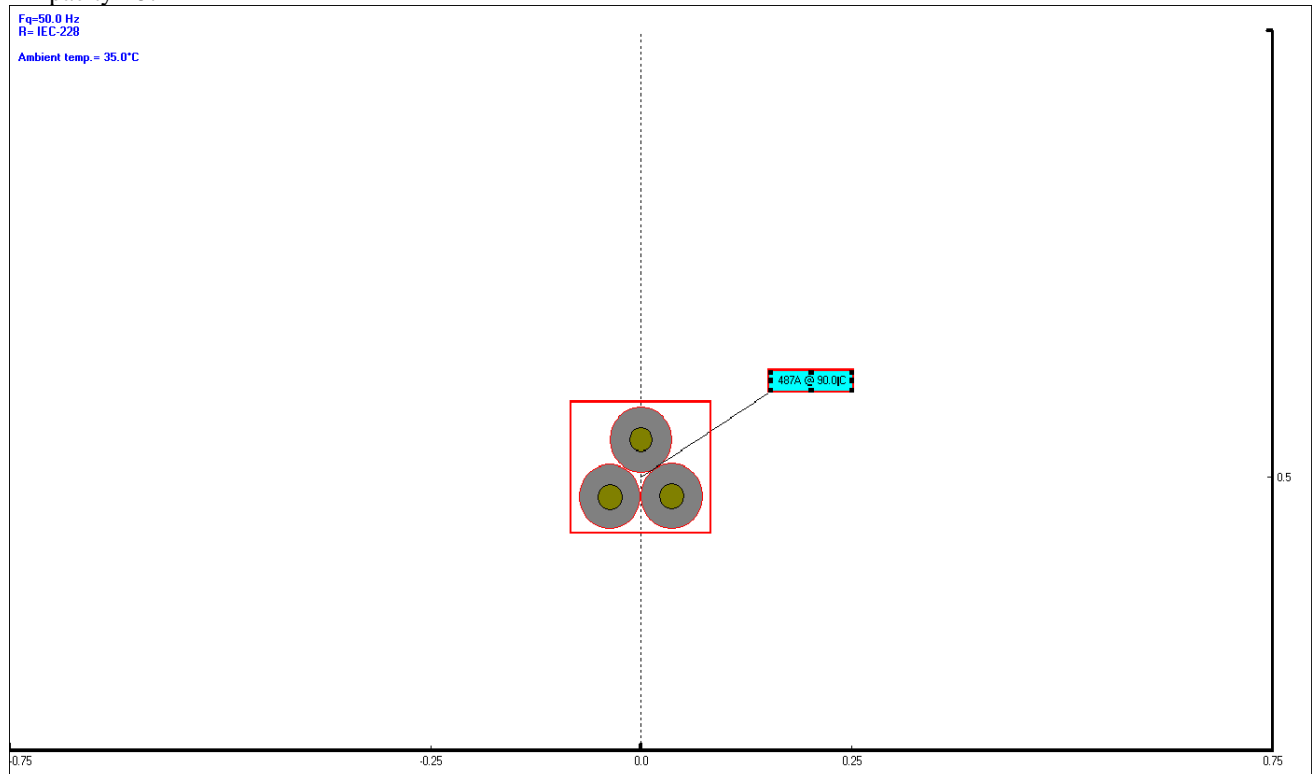
Cables in air, Single-point, flat

Ampacity 537 A



Cables in air, Single-point, trefoil

Ampacity 487 A



^(s) Diameters are calculated values and subject to manufacturing tolerances