

## 220/127 kV XLPE Cable

### Single-core XLPE High Voltage Cable with Aluminium laminated sheath

#### Cable layout

- *Copper* conductor, stranded, cross-sections of 1000 sqmm and above segmented, optionally with longitudinal water barrier
- Inner semiconductive layer, firmly bonded to the XLPE insulation
- XLPE main insulation, cross-linked
- Outer semiconductive layer, firmly bonded to the XLPE insulation
- *Copper* wire screen with semi-conductive swelling tapes as longitudinal water barrier
- *Aluminium* laminated sheath
- HDPE oversheath, halogen-free, as mechanical protection, optionally: with semi-conductive and/or flame-retardant layer

#### Production process

The inner semiconductive layer, the XLPE main insulation and the outer semiconductive layer are extruded in a single operation.

#### Special features of metallic sheath

- *Copper* wire screen as short-circuit current carrying component
- *Aluminium* foil, overlapped, 0,25 mm thick, as radial diffusion barrier
- Low weight, low cost, internationally proven design

#### Applicable standards

IEC 62067 (2001)  
ANSI / ICEA S-108-720-2004

#### XDRCU-ALT 220/127 kV



### Technical data

Copper conductor cross-section		Outer diameter approx. mm	Cable weight approx. kg/m	Capacitance µF/km	Impedance (90°C, 50 Hz) Ω/km	Surge impedance Ω	Min. bending radius mm	Max. pulling force kN
mm <sup>2</sup>	kcmil							
300	600	99	12	0.11	0.25	59	2000	18
500	1000	99	13	0.13	0.23	54	2000	30
630	1250	100	15	0.15	0.22	51	2000	38
800	1600	105	17	0.18	0.20	46	2100	48
1000	2000	111	20	0.19	0.19	44	2250	60
1200	2400	112	22	0.22	0.19	41	2250	72
1400	2750	115	24	0.22	0.18	40	2300	84
1600	3200	116	26	0.25	0.18	38	2350	96
2000	4000	119	30	0.27	0.17	36	2400	120
2500	5000	129	37	0.28	0.17	34	2600	150

### Ampacity

Load Factor	Buried in soil ∴		Buried in soil ∴		In free air ∴		In free air ∴	
	0.7	1.0	0.7	1.0	-	-	-	-
mm <sup>2</sup>	kcmil	A	A	A	A	A	A	A
300	600	670	571	714	621	707	768	
400	800	877	739	945	813	944	1038	
500	1000	1001	838	1090	930	1092	1213	
630	1250	1130	939	1241	1051	1252	1405	
800	1600	1339	1106	1462	1231	1508	1687	
1000	2000	1450	1192	1595	1336	1651	1863	
1200	2400	1561	1280	1725	1440	1791	2031	
1400	2750	1657	1353	1847	1536	1919	2195	
1600	3200	1824	1482	2060	1703	2147	2490	
2000	4000	2002	1618	2282	1876	2397	2815	
2500	5000	670	571	714	621	707	768	

#### Calculation basis:

Conductor temperature 90°C, soil temperature 25°C, laying depth 1200 mm, 50 Hz; phase distance flat 30 cm, air temperature 35°

Earthing method: Single-end bonding or Cross-bonding

Values apply for cables with rated voltages from 220 kV to 230 kV acc. to IEC 62067