

XDRCU-ALT Single-core Cable 500/290 (550) kV

500/290 kV

with Copper wire screen and Aluminium laminated sheath

Construction

- Copper conductor, round stranded or segmented, optionally with longitudinal water barrier
- Inner semi-conductive layer firmly bonded to the XLPE insulation
- XLPE main insulation, cross-linked
- Outer semi-conductive layer firmly bonded to the XLPE insulation
- Copper wire screen with semi-conductive swelling tapes above and below as longitudinal water barrier
- Aluminium foil, overlapped and glued as radial diffusion barrier bonded to the overshath
- Thermoplastic overshath as mechanical protection, optionally with semi-conductive and/or flame-retardant layer

Remarks

The inner semi-conductive layer, the XLPE main insulation and the outer semi-conductive layer are extruded in a single operation applying a dry curing and a water or nitrogen cooling method.

Features

- Low weight
- Low losses
- Low cost
- Internationally proven design
- Suitable for most applications

Standards

IEC 62067



Technical data

Conductor cross-section	Outer diameter (approx.)	Cable weight (approx.)	AC resistance	AC resistance	Reactance	Reactance	Capacitance	Min. bending radius	Max. pulling force
mm ²	mm	kg/m	$\frac{\text{m}\Omega}{\text{km}}$	$\frac{\text{m}\Omega}{\text{km}}$	$\frac{\text{m}\Omega}{\text{km}}$	$\frac{\text{m}\Omega}{\text{km}}$	$\frac{\mu\text{F}}{\text{km}}$	mm	kN
800	124	19.9	31.6	31.0	139	209	0.130	2500	48
1000	126	21.6	26.7	25.9	130	200	0.148	2600	60
1200	128	23.6	20.3	20.1	126	194	0.165	2600	72
1400	131	25.9	17.7	17.4	122	188	0.176	2700	84
1600	132	27.5	15.9	15.5	118	185	0.191	2700	96
2000	136	31.7	13.2	12.8	116	180	0.201	2800	120
2500	144	37.1	11.3	10.6	110	171	0.225	2900	150

Capacity

Installation Amb. temp. Soil resist. Load factor	$\frac{\text{m}\Omega}{\text{km}}$	$\frac{\text{m}\Omega}{\text{km}}$	$\frac{\text{m}\Omega}{\text{km}}$	$\frac{\text{m}\Omega}{\text{km}}$	$\frac{\text{m}\Omega}{\text{km}}$	$\frac{\text{m}\Omega}{\text{km}}$	$\frac{\text{m}\Omega}{\text{km}}$
	20 °C 1.0 Km/W				35 °C in air		
Cross-section mm ²	1.0	1.0	0.7	0.7	-	-	-
	A	A	A	A	A	A	A
800	946	1036	1128	1213	1197	1326	1326
1000	1038	1150	1247	1356	1350	1518	1518
1200	1187	1310	1432	1552	1575	1765	1765
1400	1274	1414	1545	1684	1720	1940	1940
1600	1343	1501	1634	1793	1842	2096	2096
2000	1465	1654	1790	1985	2044	2348	2348
2500	1583	1815	1948	2201	2283	2663	2663

Calculation basis: Conductor temperature: 90°C, Frequency: 50 Hz, Laying depth: 1200 mm, Phase distance at flat formation: 30 cm, Earthing method: Single-Point Bonding or Cross-bonding