

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

500/290 kV

with Copper wire screen and Aluminium laminated sheath

Construction

- Aluminium 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

- Very 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	15	49.3	48.8	139	209	0.130	2500	24
1000	124	15	40.2	39.5	132	203	0.144	2500	30
1200	126	16	35.1	34.3	127	197	0.157	2600	36
1400	132	17	27.6	27.5	122	188	0.176	2700	42
1600	132	18	24.3	24.2	119	185	0.191	2700	48
2000	136	20	19.6	19.5	116	180	0.201	2800	60
2500	142	21	17.0	16.8	111	173	0.220	2900	75

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	754	825	898	966	962	1058	1058
1000	840	928	1006	1092	1093	1215	1215
1200	903	1005	1087	1188	1196	1339	1339
1400	1025	1132	1241	1348	1390	1552	1552
1600	1090	1211	1325	1447	1502	1688	1688
2000	1211	1353	1478	1623	1696	1921	1921
2500	1307	1468	1603	1772	1875	2142	2142

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