

# High Voltage XLPE Cable Data Sheet

## 44kV Copper Stranded, Water Blocked

**Description:** 44 kV Copper, XLPE, Corrugated Seamless Aluminium (CSA), LLDPE Graphite

**Specification:** SANS/IEC 60840/ NRS 077, Fully Water Blocked

*Last updated: December 2025*

PHYSICAL													
Conductor size	mm <sup>2</sup>	300	400	500	630	800	1000						
Conductor diameter	mm	20,7	24,0	27,2	30,4	34,2	38,7						
Diameter over s/c conductor screen	mm	25,2	28,5	31,7	34,9	38,7	43,2						
Diameter over XLPE insulation	mm	40,9	43,9	46,8	49,8	53,3	57,7						
Diameter over s/c core screen	mm	42,4	45,3	48,2	51,2	54,8	59,2						
Diameter over CSA sheath	mm	60,8	63,9	67,1	70,2	74,0	78,5						
Final diameter of cable (D)	mm	71,8	74,9	78,1	81,2	85,0	89,5						
Cable mass (approximate)	kg/m	6,7	7,7	8,9	10,5	12,4	14,6						
Gross mass (500 m) (approximate)	kg	4610	5100	5720	6490	7450	8560						
Minimum installation bending radius	m	1,44	1,50	1,56	1,62	1,70	1,79						
ELECTRICAL RATINGS													
DC Resistance @ 20°C	Ω/km	0,0601	0,0470	0,0366	0,0283	0,0221	0,0176						
Max Electric stress at conductor screen	kV/mm	4,15	4,13	4,12	4,10	4,08	4,07						
Min Electric stress at insulation screen	kV/mm	2,55	2,68	2,79	2,87	2,96	3,05						
Capacitance	μF/km	0,285	0,321	0,356	0,391	0,432	0,480						
Zero Sequence Resistance @ 90 °C	Ω/km	0,1730	0,1520	0,1350	0,1200	0,1080	0,0983						
Zero Sequence Reactance @ 90 °C	Ω/km	0,0771	0,0708	0,0661	0,0622	0,0584	0,0546						
ELECTRICAL RATINGS (FORMATION BASED)													
		Tref	*Flat	Tref	*Flat	Tref	*Flat	Tref	*Flat	Tref	*Flat	Tref	*Flat
Current rating in ground	Amps	543	580	614	662	691	753	771	853	849	956	917	1056
Current rating in air in shade	Amps	754	887	870	1036	997	1202	1133	1388	1272	1589	1405	1795
AC Resistance @ 90 °C	Ω/km	0,0781	0,0778	0,0618	0,0614	0,0492	0,0486	0,0394	0,0385	0,0323	0,0312	0,0274	0,0261
Reactance	Ω/km	0,138	0,197	0,131	0,189	0,126	0,184	0,122	0,180	0,117	0,175	0,112	0,170
Impedance	Ω/km	0,159	0,211	0,145	0,199	0,135	0,190	0,128	0,184	0,121	0,178	0,116	0,172
Sheath standing voltage outer phases	V/km	33,3	76,7	37,2	87,0	41,4	98,5	45,7	111,0	49,7	124,0	53,0	136,0
SHORT CIRCUIT RATINGS													
Symmetrical fault rating (250 °C)	kA (1 s)	42,9	57,2	71,5	90,1	114,0	143,0						
Earth fault rating (150 °C )	kA (1 s)	31,6	30,0	31,4	32,9	34,6	36,8						

The current ratings above are based on standard laying conditions for a single circuit in isolation as follows:

- Conductor temperature = 90 °C
- Soil thermal resistance = 1,2 K·m/W
- Soil temperature = 25 °C
- Air temperature = 30 °C
- Depth of burial = 1200 mm
- \* Flat spacing 2D
- ±5% tolerance on dimensions



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