

High Voltage XLPE Cable Data Sheet

44kV Aluminium Stranded

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

Specification: SANS/IEC 60840/ NRS 077, Core Water Blocked Only

Last updated: December 2025

PHYSICAL													
Conductor size	mm ²	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	24,1	27,4	30,6	33,8	37,6	42,1						
Diameter over XLPE insulation	mm	39,9	42,8	45,7	48,7	52,3	56,6						
Diameter over s/c core screen	mm	41,3	44,2	47,1	50,1	53,7	58,1						
Diameter over CSA sheath	mm	59,8	62,8	65,9	69,1	72,9	77,4						
Final diameter of cable (D)	mm	70,8	73,8	76,9	80,1	83,9	88,4						
Cable mass (approximate)	kg/m	6,6	7,6	8,8	10,4	12,3	14,5						
Gross mass (500 m) (approximate)	kg	4560	5050	5660	6440	7390	8510						
Minimum installation bending radius	m	1,42	1,48	1,54	1,60	1,68	1,77						
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	4,19	4,16	4,14	4,12	4,10	4,08						
Min Electric stress at insulation screen	kV/mm	2,53	2,66	2,77	2,86	2,95	3,04						
Capacitance	µF/km	0,276	0,311	0,346	0,380	0,421	0,470						
Zero Sequence Resistance @ 90 °C	Ω/km	0,1750	0,1540	0,1370	0,1220	0,1100	0,0995						
Zero Sequence Reactance @ 90 °C	Ω/km	0,0759	0,0696	0,049	0,0611	0,0574	0,0536						
ELECTRICAL RATINGS (FORMATION BASED)													
		Tref	*Flat	Tref	*Flat	Tref	*Flat	Tref	*Flat	Tref	*Flat	Tref	*Flat
Current rating in ground	Amps	543	580	615	662	691	753	772	853	849	957	918	1056
Current rating in air in shade	Amps	755	891	871	1040	998	1206	1134	1393	1273	1595	1406	1802
AC Resistance @ 90 °C	Ω/km	0,0781	0,0778	0,061	0,061	0,049	0,048	0,039	0,0385	0,0323	0,0312	0,0275	0,0261
Reactance	Ω/km	0,138	0,196	0,130	0,189	0,125	0,183	0,121	0,179	0,116	0,174	0,112	0,170
Impedance	Ω/km	0,158	0,210	0,144	0,198	0,134	0,189	0,127	0,183	0,121	0,177	0,115	0,172
Sheath standing voltage outer phases	V/km	33,5	76,9	37,4	87,2	41,6	98,7	45,9	111,0	49,9	124,0	53,2	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)	28,0		29,4		30,8		32,2		34,0		36,1	

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



DISCLAIMER: CBI reserves the right to change product specifications from time to time to effect improvements and /or enhancements and accepts no liability arising from any difference between the published parameters of this data sheet and the finished product, unless by prior written agreement.

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CBI electric: african cables | a division of ATC Pty Ltd | Registration No. 1955/003773/07
 PO Box 172, Vereeniging 1930 | 1 Steel Road, Peacehaven, Vereeniging, 1939, South Africa
 Tel: +27 16 430 6000 | www.cbi-electric.com | a Reunert company | B-BBEE Level 1
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