

High Voltage XLPE Cable Data Sheet

66kV Copper Stranded, Water Blocked

Description: 66 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 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	25,4	28,7	31,9	35,1	38,9	43,4						
Diameter over XLPE insulation	mm	45,5	48,1	50,9	54,0	58,0	62,8						
Diameter over s/c core screen	mm	47,3	49,9	52,5	55,7	59,9	64,7						
Diameter over CSA sheath	mm	66,0	68,8	71,6	74,9	79,2	84,3						
Final diameter of cable (D)	mm	77,0	79,8	82,6	85,9	90,2	97,5						
Cable mass (approximate)	kg/m	7,2	8,2	9,4	11,0	13,0	15,7						
Gross mass (500 m) (approximate)	kg	4880	5360	5970	6770	7770	9100						
Minimum installation bending radius	m	1,54	1,60	1,65	1,72	1,80	1,95						
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	5,14	5,13	5,12	5,04	4,90	4,76						
Min Electric stress at insulation screen	kV/mm	2,87	3,05	3,21	3,28	3,29	3,30						
Capacitance	μF/km	0,238	0,268	0,297	0,322	0,347	0,377						
Zero Sequence Resistance @ 90 °C	Ω/km	0,1650	0,1450	0,1280	0,1140	0,1020	0,0926						
Zero Sequence Reactance @ 90 °C	Ω/km	0,0827	0,0757	0,0706	0,0667	0,0630	0,0594						
ELECTRICAL RATINGS (FORMATION BASED)													
		Tref	*Flat	Tref	*Flat	Tref	*Flat	Tref	*Flat	Tref	*Flat	Tref	*Flat
Current rating in ground	Amps	540	578	611	659	687	750	767	849	844	952	915	1053
Current rating in air in shade	Amps	746	870	861	1015	986	1179	1121	1360	1258	1553	1385	1742
AC Resistance @ 90 °C	Ω/km	0,078	0,078	0,0618	0,0614	0,049	0,049	0,039	0,039	0,032	0,031	0,027	0,026
Reactance	Ω/km	0,143	0,201	0,135	0,193	0,130	0,188	0,125	0,183	0,121	0,179	0,118	0,176
Impedance	Ω/km	0,163	0,215	0,149	0,203	0,139	0,194	0,131	0,187	0,125	0,182	0,121	0,178
Sheath standing voltage outer phases	V/km	32,5	75,7	36,4	86,0	40,5	97,4	44,8	110,0	48,7	122,0	53,4	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	32,8	34,0	35,6	37,7	40,1						

*Note LLDPE default, datasheet applicable for MDPE and HDPE where required.

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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