

MEDIUM VOLTAGE CABLES

Physical & electrical characteristics

Copper 6.35/11kV – Single core light duty screened unarmoured														
Product code: 1CCUX11LD														
Nominal conductor area mm²	25	35	50	70	95	120	150	185	240	300	400	500	630	
Nominal conductor diameter mm	6.1	7.0	8.2	9.8	11.5	12.9	14.3	16.1	18.2	20.6	23.5	26.6	30.3	
Nominal insulation thickness mm	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	
Approx cable diameter mm	21.4	22.4	23.5	25.1	26.8	28.2	29.8	31.6	34.0	36.7	40.4	43.7	47.6	
Approx mass kg/100m	75	85	100	120	150	175	200	240	295	360	445	555	690	
Max pulling tension on conductor kN	1.8	2.5	3.5	4.9	6.7	8.4	11	13	17	21	25	25	25	
Max pulling tension on stocking grip kN	1.6	1.7	1.9	2.2	2.5	2.8	3.1	3.5	4.0	4.7	5.7	6.7	7.9	
Min bending radius* during installation mm	390	400	420	450	480	510	540	570	610	660	730	790	860	
Min bending radius* set in position mm	260	270	280	300	320	340	360	380	410	440	480	520	570	
Max conductor resistance, dc @ 20°C Ohm/km	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283	
Conductor resistance, ac @ 90°C & 50 Hz Ohm/km	0.927	0.668	0.494	0.342	0.247	0.196	0.159	0.128	0.0981	0.0791	0.0632	0.0509	0.0415	
Inductance, trefoil touching mH/km	0.477	0.456	0.435	0.402	0.382	0.365	0.355	0.343	0.332	0.322	0.314	0.304	0.296	
Inductive reactance, trefoil touching @ 50Hz Ohm/km	0.150	0.143	0.137	0.126	0.120	0.115	0.112	0.108	0.104	0.101	0.0985	0.0955	0.0930	
Zero seq. impedance @ 20°C & 50 Hz Ohm/km	1.66+ j0.0833	1.46+ j0.0778	1.32+ j0.0724	1.20+ j0.0633	1.13+ j0.0583	1.09+ j0.0541	1.06+ j0.0513	1.03+ j0.0483	1.01+ j0.0453	0.995+ j0.0430	0.982+ j0.0409	0.973+ j0.0385	0.965+ j0.0366	
Capacitance, phase to earth µF/km	0.211	0.230	0.254	0.289	0.324	0.353	0.382	0.418	0.463	0.516	0.586	0.650	0.725	
Min insulation resistance @ 20°C MOhm.km	12,000	11,000	10,000	8,900	7,900	7,200	6,600	6,000	5,400	4,900	4,300	3,900	3,400	
Electric stress at conductor screen kV/mm	2.64	2.56	2.49	2.40	2.33	2.29	2.25	2.22	2.18	2.14	2.11	2.08	2.06	
Charging current @ rated voltage & 50 Hz A/phase/km	0.420	0.460	0.507	0.576	0.646	0.704	0.762	0.834	0.924	1.03	1.17	1.30	1.45	
Short circuit rating	Phase conductor kA, 1 sec	3.6	5.0	7.2	10.0	13.6	17.2	21.5	26.5	34.3	42.9	57.2	71.5	90.1
	Metallic screen kA, 1 sec	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Continuous current rating	In ground, direct buried A	145	175	205	250	300	335	375	425	490	550	620	700	780
	In ground, in singleway ducts A	145	170	200	245	285	325	360	400	460	515	575	645	720
	In free air, unenclosed & spaced from wall A	145	175	210	265	320	370	420	480	570	650	755	870	995

The cables described in this technical manual are designed to be used for the supply of electrical energy in fixed applications up to the rated voltages at a nominal power frequency between 49Hz and 61Hz. All values in this catalogue are for XLPE cables only. *Increased radius required for HDPE and nylon incorporating designs.