

## MEDIUM VOLTAGE CABLES

### Physical & electrical characteristics

Copper 3.8/6.6kV – Single core light duty screened unarmoured													
Product code: 1CCUX6LD													
Nominal conductor area mm <sup>2</sup>	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	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.8	3.0	3.2	3.2
Approx cable diameter mm	19.6	20.6	21.7	23.3	25.0	26.4	27.8	29.8	32.2	35.1	39.2	43.1	47.0
Approx mass kg/100m	70	80	90	115	140	165	190	230	285	350	440	550	685
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	1.3	1.5	1.6	1.9	2.2	2.4	2.7	3.1	3.6	4.3	5.4	6.5	7.7
Min bending radius* during installation mm	350	370	390	420	450	480	500	540	580	630	700	770	850
Min bending radius* set in position mm	240	250	260	280	300	320	330	360	390	420	470	520	560
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	0.0982	0.0793	0.0633	0.0510	0.0416
Inductance, trefoil touching mH/km	0.459	0.439	0.418	0.386	0.367	0.352	0.341	0.331	0.320	0.313	0.307	0.301	0.293
Inductive reactance, trefoil touching @ 50Hz Ohm/km	0.144	0.138	0.131	0.121	0.115	0.110	0.107	0.104	0.101	0.0984	0.0965	0.0946	0.0922
Zero seq. impedance @ 20°C & 50 Hz Ohm/km	1.66+ j0.0761	1.46+ j0.0710	1.32+ j0.0660	1.20+ j0.0575	1.13+ j0.0530	1.09+ j0.0491	1.06+ j0.0466	1.03+ j0.0439	1.01+ j0.0417	0.995+ j0.0401	0.982+ j0.0391	0.973+ j0.0375	0.965+ j0.0356
Capacitance, phase to earth µF/km	0.266	0.292	0.324	0.371	0.418	0.458	0.497	0.546	0.586	0.607	0.651	0.682	0.762
Min insulation resistance @ 20°C MOhm.km	9,700	8,800	8,000	6,900	6,100	5,500	5,100	4,600	4,300	4,100	3,800	3,700	3,300
Electric stress at conductor screen kV/mm	2.00	1.95	1.90	1.84	1.80	1.78	1.75	1.73	1.65	1.52	1.41	1.32	1.30
Charging current @ rated voltage & 50 Hz A/phase/km	0.317	0.349	0.387	0.443	0.499	0.546	0.593	0.651	0.699	0.725	0.777	0.814	0.910
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	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
Continuous current rating	In ground, direct buried A	145	175	205	250	295	335	375	425	490	550	620	780
	In ground, in singleway ducts A	145	170	200	245	285	325	360	400	460	510	575	720
	In free air, unenclosed & spaced from wall A	145	175	210	260	320	365	415	480	565	650	755	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.