Physical & electrical characteristics

Copper 3.8/6.6kV – Three core light duty screened unarmoured										
Product code: 3CCUX6LD										
Nominal conductor area mm²		25	35	50	70	95	120	150	185	240	300
Nominal conductor diameter mm		6.1	7.0	8.2	9.8	11.5	12.9	14.3	16.1	18.2	20.6
Nominal insulation thickness mm		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.8
Approx cable diameter mm		38.3	40.5	43.2	46.9	50.8	54.0	57.4	61.4	66.8	73.3
Approx mass kg/100m		170	210	250	320	405	485	575	695	880	1080
Max pulling tension on conductors kN		5.3	7.4	11	15	20	25	25	25	25	25
Max pulling tension on stocking grip kN		5.1	5.8	6.5	7.7	9.0	10	12	13	16	19
Min bending radius* during installation mm		690	730	780	840	910	970	1030	1110	1200	1320
Min bending radius* set in position mm		460	490	520	560	610	650	690	740	800	880
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
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	0.0986	0.0797
Inductance mH/km		0.393	0.377	0.360	0.332	0.317	0.304	0.295	0.286	0.278	0.273
Inductive Reactance, @ 50Hz Ohm/km		0.124	0.118	0.113	0.104	0.0994	0.0954	0.0927	0.0899	0.0875	0.0857
Zero seq. impedance @ 20°C & 50 Hz Ohm/km		3.46+ j0.0764	3.26+ j0.0713	3.12+ j0.0662	3.00+ j0.0577	2.72+ j0.0531	2.50+ j0.0493	2.47+ j0.0467	2.29+ j0.0441	2.13+ j0.0418	1.88+ j0.0402
Capacitance, phase to earth µF/km		0.267	0.293	0.325	0.372	0.420	0.459	0.499	0.548	0.588	0.610
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
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
Charging current @ rated voltage & 50 Hz A/phase/km		0.319	0.350	0.388	0.444	0.501	0.548	0.595	0.654	0.702	0.728
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
	Metallic screen kA, 1 sec	3.0	3.0	3.0	3.0	3.3	3.5	3.5	3.8	4.0	4.6
Continuous current rating	In ground, direct buried A	140	170	200	245	290	325	365	410	465	530
	In ground, in singleway ducts A	125	140	170	205	240	280	310	350	405	450
	In free air, unenclosed & spaced from wall A	140	160	190	230	290	335	380	430	510	590

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.