Physical & electrical characteristics

Copper 3.8/6.6kV – Three core light duty screened armoured										
Product code: 3CCUX6LDA										
Nominal conductor area mm²		25	35	50	70	95	120	150	185	240
Nominal conductor diameter mm		6.1	7.0	8.2	9.8	11.5	12.9	14.3	16.1	18.2
Nominal insulation thickness mm		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.6
Approx cable diameter mm		45.4	49.2	51.8	55.8	60.2	63.4	66.8	70.8	78.0
Approx mass kg/100m		340	435	490	580	695	790	900	1040	1340
Max pulling tension on conductors kN		5.3	7.4	11	15	20	25	25	25	25
Max pulling tension on stocking grip kN		5.3	7.4	9.4	11	13	14	16	18	21
Max pulling tension on amour wires kN		8.3	9.7	11	13	15	16	18	21	25
Min bending radius* during installation mm		820	890	930	1000	1080	1140	1200	1270	1400
Min bending radius* set in position mm		540	590	620	670	720	760	800	850	940
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
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
Inductance mH/km		0.393	0.377	0.360	0.332	0.317	0.304	0.295	0.286	0.278
Inductive Reactance, @ 50Hz Ohm/km		0.124	0.118	0.113	0.104	0.0994	0.0954	0.0927	0.0899	0.0875
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
Capacitance, phase to earth µF/km		0.267	0.293	0.325	0.372	0.420	0.459	0.499	0.548	0.588
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
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
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
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
	Metallic screen kA, 1 sec	3.0	3.0	3.0	3.0	3.3	3.5	3.5	3.8	4.0
Continuous current rating	In ground, direct buried A	140	170	200	245	290	325	365	410	465
	In ground, in singleway ducts A	125	140	170	205	240	280	310	350	405
	In free air, unenclosed & spaced from wall A	140	160	190	230	290	335	380	430	510

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.