Physical & electrical characteristics

Copper 19/33kV – Three core heavy duty screened armoured										
Product code: 3CCUX33HDA										
Nominal conductor area mm²		50	70	95	120	150				
Nominal conductor diameter mm		8.2	9.8	11.5	12.9	14.3				
Nominal insulation thickness mm		8.0	8.0	8.0	8.0	8.0				
Approx cable diameter mm		80.1	84.1	88.0	91.4	94.8				
Approx mass kg/100m		940	1070	1190	1310	1430				
Max pulling tension on conductors kN		11	15	20	25	25				
Max pulling tension on stocking grip kN		11	15	20	25	25				
Max pulling tension on amour wires kN		25	25	25	25	25				
Min bending radius* during installation mm		1440	1510	1580	1640	1710				
Min bending radius* set in position mm		960	1010	1060	1100	1140				
Max conductor resistance, dc @ 20°C Ohm/km		0.387	0.268	0.193	0.153	0.124				
Conductor resistance, ac @ 90°C & 50 Hz Ohm/km		0.494	0.342	0.247	0.196	0.159				
Inductance mH/km		0.457	0.422	0.401	0.384	0.371				
Inductive reactance, @ 50Hz Ohm/km		0.143	0.133	0.126	0.121	0.117				
Zero seq. impedance @ 20°C & 50 Hz Ohm/km		1.56+ j0.0978	1.11+ j0.0871	1.03+ j0.0805	0.995+ j0.0752	0.966+ j0.0714				
Capacitance, phase to earth µF/km		0.140	0.155	0.171	0.184	0.197				
Min insulation resistance @ 20°C MOhm.km		18,000	16,000	15,000	14,000	13,000				
Electric stress at conductor screen kV/mm		4.07	3.85	3.67	3.55	3.46				
Charging current @ rated voltage & 50 Hz A/phase/km		0.834	0.927	1.02	1.10	1.17				
Short circuit rating	Phase conductor kA, 1 sec	7.2	10.0	13.6	17.2	21.5				
	Metallic screen kA, 1 sec	7.1	10	10	10	10				
Continuous current rating	In ground, direct buried A	195	240	285	330	370				
	In ground, in singleway ducts A	170	210	250	280	320				
	In free air, unenclosed & spaced from wall A	195	250	305	350	395				

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.