

## MEDIUM VOLTAGE CABLES

### Physical & electrical characteristics

Copper 1.9/3.3kV – Three core heavy duty screened armoured										
Product code: 3CCUX3HDA										
Nominal conductor area mm <sup>2</sup>	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Approx cable diameter mm	43.0	45.2	49.7	53.6	57.5	61.0	64.4	68.6	73.7	
Approx mass kg/100m	325	380	490	600	700	805	915	1050	1250	
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	7.2	8.6	10	12	13	15	16	19	
Max Pulling Tension On Armour Wires kN	7.5	8.3	9.8	12	13	15	17	19	22	
Min bending radius*: during installation mm	770	810	890	970	1040	1100	1160	1230	1330	
Min bending radius*: set in position mm	520	540	600	640	690	730	770	820	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	
Conductor resistance, ac @ 90°C & 50 Hz Ohm/km	0.927	0.668	0.494	0.342	0.247	0.196	0.160	0.128	0.0987	
Inductance mH/km	0.380	0.364	0.348	0.321	0.307	0.295	0.287	0.278	0.270	
Inductive Reactance, @ 50Hz Ohm/km	0.119	0.114	0.109	0.101	0.0964	0.0926	0.0900	0.0874	0.0847	
Zero seq. impedance @ 20°C & 50 Hz Ohm/km	3.07+ j0.0720	2.16+ j0.0671	1.56+ j0.0624	1.11+ j0.0542	1.03+ j0.0499	0.995+ j0.0463	0.966+ j0.0440	0.941+ j0.0415	0.917+ j0.0390	
Capacitance, phase to earth µF/km	0.319	0.352	0.391	0.449	0.509	0.558	0.607	0.668	0.745	
Min insulation resistance @ 20°C MOhm.km	8,200	7,300	6,600	5,700	5,000	4,600	4,200	3,800	3,400	
Electric stress at conductor screen kV/mm	1.19	1.17	1.14	1.11	1.09	1.08	1.07	1.06	1.04	
Charging current @ rated voltage & 50 Hz A/phase/km	0.190	0.210	0.234	0.268	0.304	0.333	0.362	0.399	0.445	
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	3.5	5.1	7.1	10	10	10	10	10	10
Continuous current rating	In ground, direct buried A	140	165	195	240	290	335	365	410	475
	In ground, in singleway ducts A	120	140	165	205	240	275	310	350	400
	In free air, unenclosed & spaced from wall A	135	160	190	240	290	340	380	435	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.