

MEDIUM VOLTAGE CABLES

Physical & electrical characteristics

Copper 12.7/22kV – Three core heavy duty screened armoured									
Product code: 3CCUX22HDA									
Nominal conductor area mm ²	35	50	70	95	120	150	185		
Nominal conductor diameter mm	7.0	8.2	9.8	11.5	12.9	14.3	16.1		
Nominal insulation thickness mm	5.5	5.5	5.5	5.5	5.5	5.5	5.5		
Approx cable diameter mm	63.6	66.5	70.6	74.5	79.4	82.8	87.0		
Approx mass kg/100m	615	680	805	915	1110	1230	1380		
Max pulling tension on conductors kN	7.4	11	15	20	25	25	25		
Max pulling tension on stocking grip kN	7.4	11	15	19	22	24	25		
Max pulling tension on amour wires kN	17	18	20	23	25	25	25		
Min bending radius* during installation mm	1150	1200	1270	1340	1430	1490	1570		
Min bending radius* set in position mm	760	800	850	890	950	990	1040		
Max conductor resistance, dc @ 20°C Ohm/km	0.524	0.387	0.268	0.193	0.153	0.124	0.0991		
Conductor resistance, ac @ 90°C & 50 Hz Ohm/km	0.668	0.494	0.342	0.247	0.196	0.159	0.128		
Inductance mH/km	0.438	0.418	0.386	0.367	0.351	0.340	0.328		
Inductive reactance, @ 50Hz Ohm/km	0.138	0.131	0.121	0.115	0.110	0.107	0.103		
Zero seq. impedance @ 20°C & 50 Hz Ohm/km	2.16+ j0.0916	1.56+ j0.0854	1.11+ j0.0754	1.03+ j0.0695	0.995+ j0.0647	0.966+ j0.0613	0.941+ j0.0577		
Capacitance, phase to earth µF/km	0.164	0.179	0.201	0.223	0.242	0.260	0.283		
Min insulation resistance @ 20°C MOhm.km	16,000	14,000	13,000	11,000	10,000	9,700	8,900		
Electric stress at conductor screen kV/mm	3.64	3.49	3.33	3.21	3.12	3.06	2.99		
Charging current @ rated voltage & 50 Hz A/phase/km	0.655	0.715	0.802	0.891	0.964	1.04	1.13		
Short circuit rating	Phase conductor kA, 1 sec	5.0	7.2	10.0	13.6	17.2	21.5	26.5	
	Metallic screen kA, 1 sec	5.1	7.1	10	10	10	10	10	
Contin-uous current rating	In ground, direct buried A	170	200	240	290	330	365	410	
	In ground, in singleway ducts A	145	170	210	245	285	320	360	
	In free air, unenclosed & spaced from wall A	170	200	250	305	350	390	445	

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.