

MEDIUM VOLTAGE CABLES

Physical & electrical characteristics

Copper 3.8/6.6kV – Three core heavy duty screened unarmoured										
Product code: 3CCUX6HD										
Nominal conductor area mm ²	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	51.0	54.2	57.4	61.4	67.0	73.3
Approx mass kg/100m	175	220	275	360	450	530	615	735	920	1120
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	9.1	10	12	13	16	19
Min bending radius* during installation mm	690	730	780	840	920	980	1030	1110	1210	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	3.07+ j0.0764	2.16+ j0.0713	1.56+ j0.0662	1.11+ j0.0577	1.03+ j0.0531	0.995+ j0.0493	0.966+ j0.0467	0.941+ j0.0441	0.917+ j0.0418	0.902+ 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
	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	170	200	245	290	325	370	410	530
	In ground, in singleway ducts A	120	145	170	205	240	280	310	350	455
	In free air, unenclosed & spaced from wall A	135	165	195	245	295	340	385	435	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.