

MEDIUM VOLTAGE CABLES

Physical & electrical characteristics

Copper 6.35/11kV – Three core heavy duty screened unarmoured										
Product code: 3CCUX11HD										
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	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Approx cable diameter mm	42.6	44.8	47.5	51.2	55.1	58.3	61.5	65.5	70.6	76.3
Approx mass kg/100m	195	245	300	390	480	560	645	765	945	1140
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	5.3	7.0	7.9	9.2	11	12	13	15	17	20
Min bending radius* during installation mm	770	810	850	920	990	1050	1110	1180	1270	1370
Min bending radius* set in position mm	510	540	570	610	660	700	740	790	850	920
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	0.0984	0.0796
Inductance mH/km	0.415	0.397	0.379	0.350	0.333	0.319	0.310	0.300	0.290	0.282
Inductive reactance, @ 50Hz Ohm/km	0.130	0.125	0.119	0.110	0.105	0.100	0.0973	0.0942	0.0910	0.0885
Zero seq. impedance @ 20°C & 50 Hz Ohm/km	3.07+ j0.0836	2.16+ j0.0781	1.56+ j0.0726	1.11+ j0.0635	1.03+ j0.0585	0.995+ j0.0543	0.966+ j0.0515	0.941+ j0.0485	0.917+ j0.0454	0.902+ j0.0431
Capacitance, phase to earth µF/km	0.212	0.231	0.255	0.290	0.325	0.354	0.383	0.419	0.465	0.518
Min insulation resistance @ 20°C MOhm.km	12,000	11,000	10,000	8,900	7,900	7,200	6,600	6,000	5,400	4,900
Electric stress at conductor screen kV/mm	2.64	2.56	2.49	2.40	2.33	2.29	2.25	2.22	2.18	2.14
Charging current @ rated voltage & 50 Hz A/phase/km	0.422	0.461	0.509	0.578	0.648	0.706	0.764	0.837	0.927	1.03
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	135	165	195	245	290	330	370	410	530
	In ground, in singleway ducts A	120	145	170	205	245	280	310	350	460
	In free air, unenclosed & spaced from wall A	135	165	195	245	295	345	385	440	520

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.