

MEDIUM VOLTAGE CABLES

Physical & electrical characteristics

Copper 1.9/3.3kV – Single core heavy duty screened unarmoured													
Product code: 1CCUX3HD													
Nominal conductor area mm ²	25	35	50	70	95	120	150	185	240	300	400	500	630
Nominal conductor diameter mm	6.1	7.0	8.2	9.8	11.5	12.9	14.3	16.1	18.2	20.6	23.5	26.6	30.3
Nominal insulation thickness mm	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.4
Approx cable diameter mm	18.6	20.9	22.0	24.3	26.0	26.7	28.1	30.1	32.3	34.8	38.5	42.2	46.5
Approx mass kg/100m	70	90	115	155	185	205	235	270	325	385	475	580	720
Max pulling tension on conductor kN	1.8	2.5	3.5	4.9	6.7	8.4	11	13	17	21	25	25	25
Max pulling tension on stocking grip kN	1.2	1.5	1.7	2.1	2.4	2.5	2.8	3.2	3.6	4.2	5.2	6.2	7.6
Min bending radius* during installation mm	340	380	400	440	470	480	510	540	580	630	690	760	840
Min bending radius* set in position mm	220	250	260	290	310	320	340	360	390	420	460	510	560
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	0.0470	0.0366	0.0283
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	0.0982	0.0793	0.0634	0.0511	0.0417
Inductance, trefoil touching mH/km	0.448	0.442	0.421	0.395	0.375	0.354	0.343	0.333	0.321	0.311	0.303	0.297	0.291
Inductive reactance, trefoil touching @ 50Hz Ohm/km	0.141	0.139	0.132	0.124	0.118	0.111	0.108	0.105	0.101	0.0978	0.0953	0.0932	0.0914
Zero seq. impedance @ 20°C & 50 Hz Ohm/km	1.51+ j0.0717	1.09+ j0.0696	0.783+ j0.0647	0.560+ j0.0575	0.485+ j0.0530	0.435+ j0.0481	0.406+ j0.0456	0.381+ j0.0430	0.358+ j0.0404	0.343+ j0.0381	0.330+ j0.0365	0.320+ j0.0351	0.312+ j0.0342
Capacitance, phase to earth µF/km	0.318	0.350	0.390	0.448	0.507	0.556	0.605	0.666	0.742	0.824	0.943	0.962	0.994
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	3,000	2,700	2,600	2,500
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	1.03	1.02	0.929	0.850
Charging current @ rated voltage & 50 Hz A/phase/km	0.190	0.209	0.233	0.267	0.303	0.332	0.361	0.398	0.443	0.492	0.563	0.574	0.594
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	42.9	57.2	90.1
	Metallic screen kA, 1 sec	3.5	5.0	7.1	10	10	10	10	10	10	10	10	10
Continuous current rating	In ground, direct buried A	145	175	205	250	295	335	370	415	475	530	595	735
	In ground, in singleway ducts A	145	170	195	230	270	300	325	360	405	440	490	595
	In free air, unenclosed & spaced from wall A	145	175	210	265	320	365	415	470	555	630	725	945

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.