

MEDIUM VOLTAGE CABLES

Physical & electrical characteristics

Aluminium 3.8/6.6kV – Three core heavy duty screened armoured										
Product code: 3CALX6HDA										
Nominal conductor area mm ²	25	35	50	70	95	120	150	185	240	
Nominal conductor diameter mm	6.1	7.1	8.1	9.8	11.5	12.9	14.2	16.0	18.1	
Nominal insulation thickness mm	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.6	
Approx cable diameter mm	45.3	49.4	51.9	56.0	60.2	63.3	66.6	70.7	78.1	
Approx mass kg/100m	290	370	415	480	555	605	670	740	940	
Max pulling tension on conductors kN	3.8	5.3	7.5	11	14	18	23	25	25	
Max pulling tension on stocking grip kN	3.8	5.3	7.5	11	13	14	16	18	21	
Max pulling tension on amour wires kN	8.3	9.8	11	13	15	16	18	21	25	
Min bending radius* during installation mm	820	890	930	1010	1080	1140	1200	1270	1410	
Min bending radius* set in position mm	540	590	620	670	720	760	800	850	940	
Max conductor resistance, dc @ 20°C Ohm/km	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	
Conductor resistance, ac @ 90°C & 50 Hz Ohm/km	1.54	1.11	0.822	0.568	0.411	0.325	0.265	0.211	0.162	
Inductance mH/km	0.394	0.375	0.360	0.332	0.317	0.307	0.298	0.287	0.279	
Inductive Reactance, @ 50Hz Ohm/km	0.124	0.118	0.113	0.104	0.0994	0.0964	0.0937	0.0901	0.0876	
Zero seq. impedance @ 20°C & 50 Hz Ohm/km	4.48+ j0.0766	3.39+ j0.0709	2.46+ j0.0664	1.70+ j0.0577	1.26+ j0.0531	1.09+ j0.0502	1.05+ j0.0477	1.01+ j0.0442	0.967+ j0.0420	
Capacitance, phase to earth µF/km	0.266	0.296	0.324	0.372	0.420	0.458	0.496	0.545	0.584	
Min insulation resistance @ 20°C MOhm.km	9,900	8,800	8,000	6,900	6,100	5,600	5,100	4,600	4,300	
Electric stress at conductor screen kV/mm	2.00	1.94	1.90	1.84	1.80	1.78	1.76	1.73	1.65	
Charging current @ rated voltage & 50 Hz A/phase/km	0.317	0.353	0.387	0.444	0.501	0.547	0.592	0.650	0.697	
Short circuit rating	Phase conductor kA, 1 sec	2.4	3.3	4.7	6.6	9.0	11.3	14.2	17.5	22.7
	Metallic screen kA, 1 sec	2.5	3.3	4.6	6.6	8.9	10	10	10	10
Contin-uous current rating	In ground, direct buried A	110	130	155	190	225	255	285	325	375
	In ground, in singleway ducts A	95	110	130	160	190	215	240	275	320
	In free air, unenclosed & spaced from wall A	105	125	145	180	225	260	300	340	405

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.