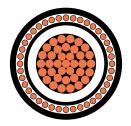




MEDIUM VOLTAGE CABLES

Copper 19/33 kV - Single core heavy duty screened unarmoured





Application

Electricity distribution or sub-transmission networks cable typically used as primary supply to Commercial, Industrial and urban residential networks. Suitable for high fault level systems rated up to 10kA/1sec. Higher fault current rated constructions are available on request.

Approved by all major power Utilities and industrial customers in Australia.

Behaviour in flame and fire:

PVC or LSOH outer sheath exceeds the requirements of IEC 60332-1.

Temperature range

Minimum installation temperature: 0°C Maximum operating temperature: +90 °C Minimum operating temperature: -25°C

Minimum bending radius

Installed cables: 12D (PVC only)

15D (HDPE)

During installation: 18D (PVC only)

25D (HDPE)

Resistance to

Chemical exposure: Accidental Mechanical impact: Light (PVC only)

Heavy (HDPE)

Water exposure: XLPE - Spray

EPR - Immersion/Temporary coverage

Solar radiation and

weather exposure: Suitable for direct exposure.

Cable design

Conductor:

Plain circular compacted copper

Conductor screen:

Extruded semi-conductive compound, bonded to the insulation and applied in the same operations as the insulation.

Insulation:

Cross Linked Polyethylene (XLPE) - standard Ethylene Propylene Rubber (EPR) - alternative

Insulation screen:

Extruded, semi-conductive compound

Metallic screen:

Plain annealed copper wire: nominal 10kA for 1 second. See table next page.

Sheath:

Black 5V-90 polyvinyl chloride (PVC) - standard Orange 5V-90 PVC inner plus black high density polyethylene (HDPE) outer - alternative Low smoke zero halogen (LSOH) - alternative

Installation conditions

In free air In duct In trench

In ground with protection

All sizes and values without tolerances are reference values. Specifications are for product as supplied by Prysmian Group: any modification or alteration afterwards of product may give different result. The information contained within this document must not be copied, reprinted or reproduced in any form, either wholly or in part, without the written consent of Prysmiar Group. The information is believed to be correct at the time of issue. Prysmian Group reserves the right to amend this specification without prior notice. This specification is not contractually valid unless specifically authorised by Prysmian Group





MEDIUM VOLTAGE CABLES

Physical & electrical characteristics

Copper 19/33 kV – Single core heavy duty screened unarmoured													
Product o	code: 1CCUX33H	ID					, ,						
Nominal conductor area mm²		50	70	95	120	150	185	240	300	400	500	630	
Nominal conductor diameter mm		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		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
Approx cable diameter mm		34.4	36.2	37.9	39.5	40.9	42.9	45.1	47.8	51.5	54.8	58.7	
Approx mass kg/100m		165	210	240	270	300	340	400	465	560	675	815	
Max pulli on condu	ing tension actor kN	3.5	4.9	6.7	8.4	11	13	17	21	25	25	25	
Max pulling tension on stocking grip kN		3.5	4.6	5.0	5.5	5.9	6.4	7.1	8.0	9.3	10	12	
Min bending radius* during installation mm		620	650	680	710	740	770	810	860	930	990	1060	
Min bending radius* set in position mm		410	430	460	470	490	510	540	570	620	660	700	
Max conductor resistance, dc @ 20°C Ohm/km		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		0.494	0.342	0.247	0.196	0.159	0.127	0.0976	0.0785	0.0624	0.0500	0.0404	
Inductance, trefoil touching mH/km		0.515	0.478	0.454	0.436	0.422	0.407	0.391	0.378	0.365	0.352	0.340	
Inductive reactance, trefoil touching @ 50Hz Ohm/km		0.162	0.150	0.143	0.137	0.133	0.128	0.123	0.119	0.115	0.110	0.107	
Zero seq. impedance @ 20°C & 50 Hz Ohm/km		0.783+ j0.0989	0.550+ j0.0881	0.475+ j0.0815	0.435+ j0.0762	0.406+ j0.0723	0.381+ j0.0681	0.358+ j0.0638	0.343+ j0.0601	0.330+ j0.0566	0.320+ j0.0530	0.312+ j0.0499	
Capacitance, phase to earth µF/km		0.139	0.155	0.170	0.183	0.196	0.212	0.231	0.254	0.284	0.312	0.344	
Min insulation resistance @ 20°C MOhm.km		18,000	16,000	15,000	14,000	13,000	12,000	11,000	9,900	8,800	8,000	7,200	
Electric stress at conductor screen kV/mm		4.07	3.85	3.67	3.55	3.46	3.36	3.26	3.16	3.06	2.99	2.93	
Charging current @ rated voltage & 50 Hz A/phase/km		0.831	0.923	1.02	1.09	1.17	1.26	1.38	1.52	1.70	1.86	2.06	
Short circuit rating	Phase conductor kA, 1 sec	7.2	10.0	13.6	17.2	21.5	26.5	34.3	42.9	57.2	71.5	90.1	
	Metallic screen kA, 1 sec	7.1	10	10	10	10	10	10	10	10	10	10	
Contin- uous current rating	In ground, direct buried A	205	250	295	335	370	420	480	535	605	675	750	
	In ground, in singleway ducts A	200	235	275	310	340	375	425	470	520	575	630	
	In free air, unenclosed & spaced from wall A	220	275	335	380	430	490	575	655	750	855	970	

The cables described 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 are for XLPE cables only. *Increased radius required for HDPE and nylon incorporating designs.