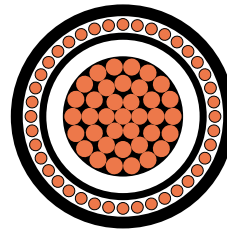


**MEDIUM VOLTAGE CABLES**
**Copper 1.9/3.3 kv – Single core light duty screened unarmoured**

**Application**

Electricity distribution network cable typically used as primary supply to Commercial, Industrial and urban residential networks. Suitable for low fault level or fast fault clearing cable systems.

**Approvals**

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  
 15D (HDPE)  
 During installation: 18D  
 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 options:  
 Cross Linked Polyethylene (XLPE)  
 Ethylene Propylene Rubber (EPR)

Insulation screen:  
 Extruded, semi-conductive compound  
 Cold strippable

Metallic screen:  
 Plain annealed copper wire: nominal 3kA for 1 second.  
 See table next page.

Sheath options:  
 Black 5V-90 PVC  
 Orange 5V-90 PVC – inner plus black high density polyethylene (HDPE) outer.  
 Low smoke zero halogen (LSOH)

**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 Prysmian 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 1.9/3.3 kV – Single core light duty screened unarmoured														
Product code: 1CCUX3LD														
Nominal conductor area mm <sup>2</sup>	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	19.6	20.7	22.3	24.0	25.4	26.8	28.6	31.0	33.5	37.2	40.9	45.2	
Approx mass kg/100m	65	75	90	110	135	160	190	225	280	340	430	535	675	
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	1.3	1.5	1.7	2.0	2.3	2.5	2.9	3.4	3.9	4.8	5.8	7.1	
Min bending radius* during installation mm	340	350	370	400	430	460	480	510	560	600	670	740	810	
Min bending radius* set in position mm	220	230	250	270	290	310	320	340	370	400	450	490	540	
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	0.0983	0.0794	0.0635	0.0513	0.0419	
Inductance, trefoil touching mH/km	0.448	0.428	0.409	0.377	0.359	0.344	0.333	0.322	0.312	0.303	0.296	0.290	0.285	
Inductive reactance, trefoil touching @ 50Hz Ohm/km	0.141	0.134	0.128	0.118	0.113	0.108	0.105	0.101	0.0981	0.0953	0.0930	0.0911	0.0896	
Zero seq. impedance @ 20°C & 50 Hz Ohm/km	1.66+ j0.0717	1.46+ j0.0669	1.32+ j0.0622	1.20+ j0.0540	1.13+ j0.0498	1.09+ j0.0461	1.06+ j0.0438	1.03+ j0.0413	1.01+ j0.0388	0.995+ j0.0367	0.982+ j0.0352	0.973+ j0.0340	0.965+ j0.0331	
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	71.5	90.1
	Metallic screen kA, 1 sec	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Continuous Current Rating	In ground, direct buried A	145	175	205	250	295	335	375	425	490	550	620	695	780
	In ground, in singleway ducts A	145	170	200	240	285	320	360	400	455	510	570	640	715
	In free air, unenclosed & spaced from wall A	145	170	205	260	315	365	415	475	560	645	750	860	990

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.