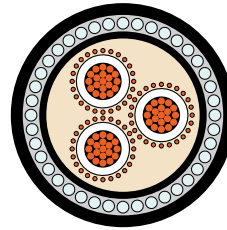


**MEDIUM VOLTAGE CABLES**
**Copper 3.8/6.6 kV – Three core light duty screened armoured**

**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 (PVC only)  
 15D (HDPE)  
 During installation: 18D (PVC only)  
 25D (HDPE)

**Resistance to**

Chemical exposure: Accidental  
 Mechanical impact: Heavy (Armoured)  
 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 3kA for 1 second.  
 See table next page.

Armouring:  
 Galvanised steel wires

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

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 3.8/6.6 kV – Three core light duty screened armoured										
Product code: 3CCUX6LDA										
Nominal conductor area mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	
Nominal conductor diameter mm	6.1	7.0	8.2	9.8	11.5	12.9	14.3	16.1	18.2	
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	45.4	49.2	51.8	55.8	60.2	63.4	66.8	70.8	78.0	
Approx mass kg/100m	340	435	490	580	695	790	900	1040	1340	
Max pulling tension on conductors kN	5.3	7.4	11	15	20	25	25	25	25	
Max pulling tension on stocking grip kN	5.3	7.4	9.4	11	13	14	16	18	21	
Max pulling tension on amour wires kN	8.3	9.7	11	13	15	16	18	21	25	
Min bending radius* during installation mm	820	890	930	1000	1080	1140	1200	1270	1400	
Min bending radius* set in position mm	540	590	620	670	720	760	800	850	940	
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	
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	0.0986	
Inductance mH/km	0.393	0.377	0.360	0.332	0.317	0.304	0.295	0.286	0.278	
Inductive Reactance, @ 50Hz Ohm/km	0.124	0.118	0.113	0.104	0.0994	0.0954	0.0927	0.0899	0.0875	
Zero seq. impedance @ 20°C & 50 Hz Ohm/km	3.46+ j0.0764	3.26+ j0.0713	3.12+ j0.0662	3.00+ j0.0577	2.72+ j0.0531	2.50+ j0.0493	2.47+ j0.0467	2.29+ j0.0441	2.13+ j0.0418	
Capacitance, phase to earth µF/km	0.267	0.293	0.325	0.372	0.420	0.459	0.499	0.548	0.588	
Min insulation resistance @ 20°C MOhm.km	9,700	8,800	8,000	6,900	6,100	5,500	5,100	4,600	4,300	
Electric stress at conductor screen kV/mm	2.00	1.95	1.90	1.84	1.80	1.78	1.75	1.73	1.65	
Charging current @ rated voltage & 50 Hz A/phase/km	0.319	0.350	0.388	0.444	0.501	0.548	0.595	0.654	0.702	
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	3.0	3.0	3.0	3.0	3.3	3.5	3.5	3.8	4.0
Continuous current rating	In ground, direct buried A	140	170	200	245	290	325	365	410	465
	In ground, in singleway ducts A	125	140	170	205	240	280	310	350	405
	In free air, unenclosed & spaced from wall A	140	160	190	230	290	335	380	430	510

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.