



## 12.7/22kV Three Core Individual Screened & PVC Sheathed (Al Conductor)

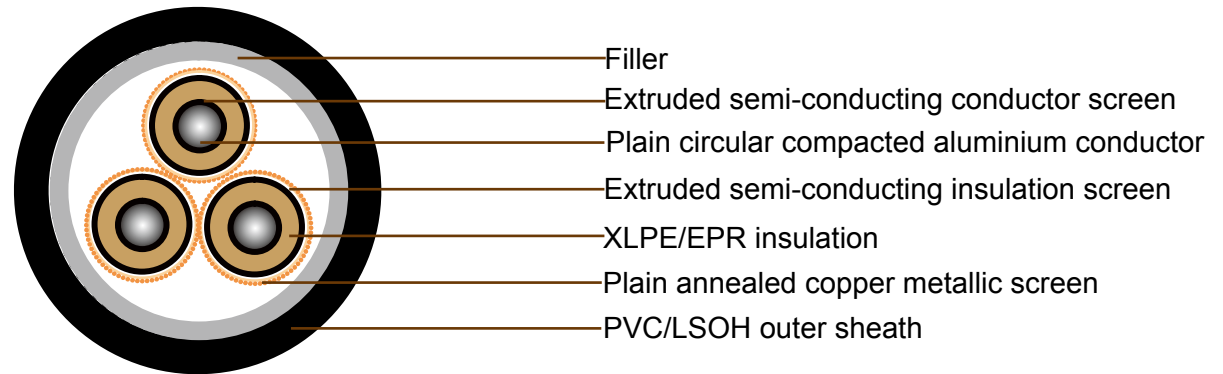
### Application

These cables 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., they are suitable for use in distribution installation, electrical power station , they are applied for installation, outdoors, underground where subject to mechanical damage.

### Standard

AS/NZS 1429.1

### Cable Construction



**CONDUCTOR:** Plain circular compacted aluminium to AS/NZS1125  
Maximum Continuous Operating Temperature: 90°C

**CONDUCTOR SCREEN:** Extruded semi-conducting compound, bonded to the insulation and applied in the same operation as the insulation

**INSULATION:** Cross Linked Polyethylene (XLPE) – standard  
Ethylene Propylene Rubber (EPR) – alternative

**INSULATION SCREEN:** Extruded semi-conducting compound

**METALLIC SCREEN:** Plain annealed copper wire: 3kA for nominal 1 second(LIGHT DUTY)  
Plain annealed copper wire: 10kA for nominal 1 second(HEAVY DUTY)

**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



## Technical Characteristics

### LIGHT DUTY

Nominal conductor area	Maximum Conductor DC resistance at 20°C	Cond. AC resistance at 50Hz and 90°C	Inductive reactance at 50Hz	Insulation resistance at 20°C	Conductor to screen capacitance	Maximum dielectric stress	Current Ratings		
							Unenclosed In Air	Unenclosed In Air	Unenclosed In Air
mm <sup>2</sup>	Ohm/km	Ohm/km	Ohm/km	MegOhm.km	µF x km	kV x mm	A	A	A
35	0.868	1.11	0.14	15000	0.157	3.62	137	132	112
50	0.641	0.821	0.134	14000	0.172	3.47	164	156	134
70	0.443	0.568	0.124	13000	0.192	3.3	203	190	163
95	0.32	0.41	0.117	11000	0.214	3.17	246	227	195
120	0.253	0.325	0.113	10000	0.232	3.08	282	259	221
150	0.206	0.265	0.11	9700	0.25	3.01	319	289	247
185	0.164	0.211	0.106	9000	0.269	2.95	365	328	285
240	0.125	0.161	0.102	8100	0.298	2.87	428	379	330



## Cable Parameter

### LIGHT DUTY

Sectional Area of Conductor	Nom. Conductor Diameter	Nom. Insulation Thickness	Nom. Diameter Over insulation	Screen Area on Each core	No. and Diameter of Screened Wires	Nom. Diameter Over Screened Wires	Nom. Overall Diameter	Approx. mass
mm <sup>2</sup>	mm	mm	mm	mm <sup>2</sup>	no x mm	mm	mm	kg/100m
35	6.9	5.5	19.2	7.4	13 x 0.85	20.1	52.9	208
50	8.1	5.5	20.3	7.9	14 x 0.85	21.3	55.7	236
70	9.6	5.5	21.9	8.5	15 x 0.85	22.8	59.2	273
95	11.4	5.5	23.6	9.1	16 x 0.85	24.5	63.1	318
120	12.8	5.5	25	9.6	17 x 0.85	25.9	66.3	358
150	14.2	5.5	26.4	10.2	18 x 0.85	27.3	69.5	402
185	15.7	5.5	27.9	10.8	19 x 0.85	29.0	73.4	456
240	18	5.5	30.3	11.3	20 x 0.85	31.4	79.0	540



## Technical Characteristics

### HEAVY DUTY

Nominal conductor area	Maximum Conductor DC resistance at 20°C	Cond. AC resistance at 50Hz and 90°C	Inductive reactance at 50Hz	Insulation resistance at 20°C	Conductor to screen capacitance	Maximum dielectric stress	Current Ratings		
							Unenclosed In Air	Unenclosed In Air	Unenclosed In Air
mm <sup>2</sup>	Ohm/km	Ohm/km	Ohm/km	MegOhm.km	µF x km	kV x mm	A	A	A
35	0.868	1.11	0.14	15000	0.157	3.62	137	132	112
50	0.641	0.821	0.134	14000	0.172	3.47	164	156	134
70	0.443	0.568	0.124	13000	0.192	3.3	203	190	163
95	0.32	0.41	0.117	11000	0.214	3.17	246	227	195
120	0.253	0.325	0.113	10000	0.232	3.08	282	259	221
150	0.206	0.265	0.11	9700	0.25	3.01	319	289	247
185	0.164	0.211	0.106	9000	0.269	2.95	365	328	285
240	0.125	0.161	0.102	8100	0.298	2.87	428	379	330
300	0.1	0.13	0.0996	7400	0.327	2.81			
400	0.0778	0.102	0.0951	6700	0.363	2.75			
500	0.0617	0.0819	0.0915	5900	0.407	2.69			



## Cable Parameter

### HEAVY DUTY

Sectional Area of Conductor	Nom. Conductor Diameter	Nom. Insulation Thickness	Nom. Diameter Over insulation	Screen Area on Each core	No. and Diameter of Screened Wires	Nom. Diameter Over Screened Wires	Nom. Overall Diameter	Approx. mass
mm <sup>2</sup>	mm	mm	mm	mm <sup>2</sup>	no x mm	mm	mm	kg/100m
35	6.9	5.5	19.2	7.9	14 x 0.85	22.5	54.7	225
50	8.1	5.5	20.3	10.8	19 x 0.85	23.6	57.4	260
70	9.6	5.5	21.9	15.3	27 x 0.85	25.2	61	310
95	11.4	5.5	23.6	20.4	36 x 0.85	26.9	64.9	370
120	12.8	5.5	25	22.7	40 x 0.85	28.3	68.1	415
150	14.2	5.5	26.4	22.7	40 x 0.85	29.7	71.4	460
185	15.7	5.5	27.9	22.7	40 x 0.85	31.2	74.8	505
240	18	5.5	30.3	22.7	40 x 0.85	33.6	80.2	585
300	20.1	5.5	32.6	22.7	40 x 0.85	36.1	86	685
400	23	5.5	35.4	22.7	40 x 0.85	38.9	92.7	800
500	26.5	5.5	39	22.7	40 x 0.85	42.5	100.8	960