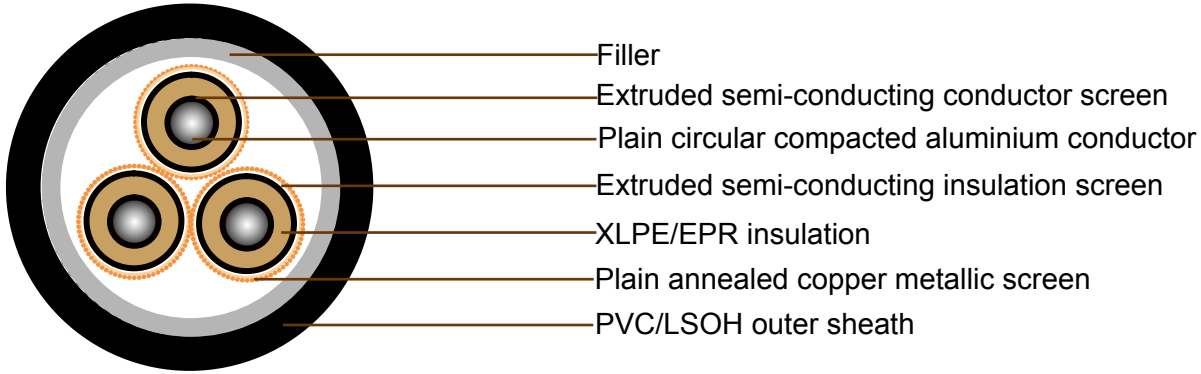
3.8/6.6kV Three Core Individual Screened & PVC Sheathed (Al Conductor)

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 diaelectric stress	Current Ratings		
							Unenclosed In Air	Unenclosed In Air	Unenclosed In Air
mm^2	Ohm/km	Ohm/km	Ohm/km	MegOhm.km	µF x km	kV x mm	A	A	A
35	0.868	1.11	0.12	8700	0.278	1.92	122	137	114
50	0.641	0.822	0.115	7800	0.309	1.87	95	166	137
70	0.443	0.569	0.106	6800	0.353	1.82	185	193	176
95	0.32	0.41	0.101	6000	0.4	1.77	222	238	198
120	0.253	0.325	0.0976	5500	0.439	1.74	257	270	225
150	0.206	0.265	0.0948	5100	0.477	1.72	293	306	254
185	0.164	0.211	0.0923	4700	0.518	1.7	333	342	292
240	0.125	0.162	0.0896	4300	0.561	1.62	390	394	331
300	0.1	0.13	0.0885	4100	0.582	1.5	447	447	378

Cable Parameter

LIGHT DUTY

Sectional Area of Conductor	Nom. Conductor Diameter	Nom. Insulation Thickness	Nom. Diamete Over insulation	Screen Area on Each core	No. and Diamter of Screened Wires	Nom. Diamete Over Screened Wires	Nom. Overall Diameter	Approx. mass
mm^2	mm	mm	mm	mm^2	no x mm	mm	mm	kg/100m
35	6.9	2.5	13	6.8		14.5	39.5	123
50	8.1	2.5	14.2	6.8		15.6	42.1	141
70	9.6	2.5	15.8	7.9		17.3	45.9	174
95	11.4	2.5	17.5	8.5		18.9	49.6	209
120	12.8	2.5	18.9	9.1		20.5	53.2	241
150	14.2	2.5	20.3	9.6		21.9	56.4	276
185	15.7	2.5	21.8	10.2		23.5	60.1	320
240	18	2.6	24.3	10.8		26.1	66.2	392
300	20.1	2.8	27	11.9		29.0	72.7	473

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 diaelectric stress	Current Ratings		
							Unenclosed In Air	Unenclosed In Air	Unenclosed In Air
mm^2	Ohm/km	Ohm/km	Ohm/km	MegOhm.km	µF x km	kV x mm	A	A	A
35	0.868	1.11	0.12	8700	0.278	1.92	122	137	114
50	0.641	0.822	0.115	7800	0.309	1.87	95	166	137
70	0.443	0.569	0.106	6800	0.353	1.82	185	193	176
95	0.32	0.41	0.101	6000	0.4	1.77	222	238	198
120	0.253	0.325	0.0976	5500	0.439	1.74	257	270	225
150	0.206	0.265	0.0948	5100	0.477	1.72	293	306	254
185	0.164	0.211	0.0923	4700	0.518	1.7	333	342	292
240	0.125	0.162	0.0896	4300	0.561	1.62	390	394	331
300	0.1	0.13	0.0885	4100	0.582	1.5	447	447	378
400	0.0778	0.102	0.0857	3900	0.613	1.39			

Cable Parameter

HEAVY DUTY

Sectional Area of Conductor	Nom. Conductor Diameter	Nom. Insulation Thickness	Nom. Diamete Over insulation	Screen Area on Each core	No. and Diamter of Screened Wires	Nom. Diamete Over Screened Wires	Nom. Overall Diameter	Approx. mass
mm^2	mm	mm	mm	mm^2	no x mm	mm	mm	kg/100m
35	6.9	2.5	13	7.9	14 x 0.85	16.3	40.5	140
50	8.1	2.5	14.2	10.8	19 x 0.85	17.5	43.1	170
70	9.6	2.5	15.8	15.3	27 x 0.85	19.1	46.8	210
95	11.4	2.5	17.5	20.4	36 x 0.85	20.8	50.8	270
120	12.8	2.5	18.9	22.7	40 x 0.85	22.2	54.1	305
150	14.2	2.5	20.3	22.7	40 x 0.85	23.6	57.3	340
185	15.7	2.5	21.8	22.7	40 x 0.85	25.1	60.8	385
240	18	2.6	24.3	22.7	40 x 0.85	27.6	66.6	465
300	20.1	2.8	27	22.7	40 x 0.85	30.3	72.8	550
400	23	3	30.3	22.7	40 x 0.85	33.6	80.3	660