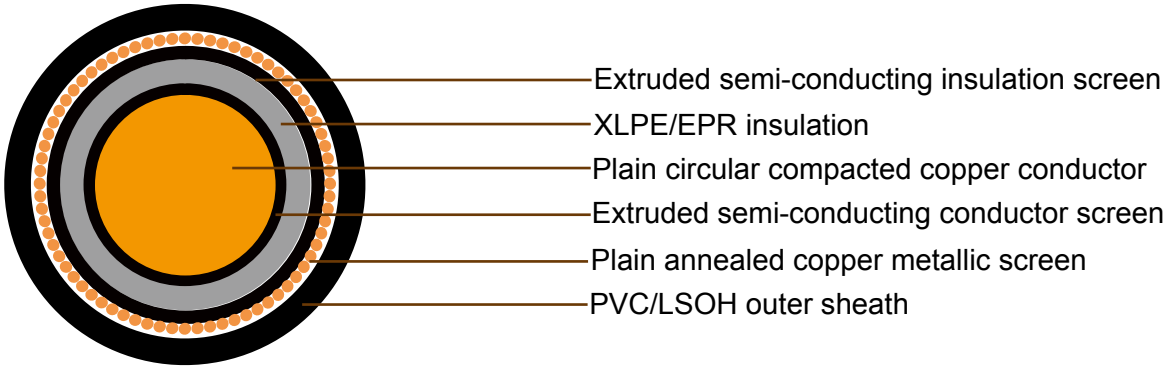
3.8/6.6kV Single Core Screened & PVC Sheathed (Cu Conductor)

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 copper 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 and 90°C			Insulation resistance at 20°C	Conductor to screen capacitance	Maximum diaelectric stress	Current Ratings		
		Trefoil or Flat touching	flat spaced	Trefoil touching	flat touching	flat spaced				Unenclosed In Air	Buried Direct	Buried In Ducts (c)
mm^2	Ohm/km	Ohm/km	Ohm/km	Ohm/km	Ohm/km	Ohm/km	MegOhm.km	µF x km	kV x mm	A	A	A
16	1.15	1.47	1.47	0.155	0.170	0.216	11000	0.221	2.06	106	116	111
25	0.727	0.927	0.927	0.146	0.161	0.207	9700	0.248	1.99	138	148	141
35	0.524	0.668	0.668	0.142	0.157	0.203	8700	0.276	1.93	167	178	169
50	0.387	0.494	0.494	0.135	0.150	0.196	7800	0.308	1.87	205	214	203
70	0.268	0.342	0.342	0.130	0.145	0.191	6900	0.352	1.82	252	258	244
95	0.193	0.247	0.247	0.120	0.135	0.181	6000	0.404	1.77	303	314	287
120	0.153	0.196	0.195	0.113	0.128	0.174	5400	0.447	1.74	349	346	325
150	0.124	0.160	0.159	0.110	0.125	0.171	5000	0.486	1.72	400	389	365
185	0.0991	0.128	0.127	0.107	0.122	0.168	4600	0.530	1.69	455	435	407
240	0.0754	0.0982	0.0973	0.103	0.119	0.164	4200	0.576	1.61	536	501	466
300	0.0601	0.0792	0.0781	0.102	0.117	0.163	4000	0.597	1.49	616	562	523
400	0.0470	0.0632	0.0618	0.0982	0.113	0.159	3800	0.627	1.38	727	649	595

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
16	4.8	2.5	11	15.9	28 x 0.85	12.4	17.9	53
25	5.8	2.5	12	17.6		13.6	19.1	65
35	6.8	2.5	13	17.6		14.5	20.0	76
50	8	2.5	14.1	17.6		15.6	21.1	90
70	9.6	2.5	15.7	17.6		17.3	22.8	110
95	11.5	2.5	17.6	17.6		18.9	24.4	140
120	13.1	2.5	19.2	17.6		20.5	26.0	160
150	14.5	2.5	20.6	17.6		21.9	27.4	190
185	16.1	2.5	22.2	17.6		23.5	29.2	230
240	18.5	2.6	24.9	17.6		26.1	31.8	290
300	20.7	2.8	27.6	17.6		29.0	34.9	350
400	23.6	3	30.9	17.6		32.1	38.2	440

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 and 90°C			Insulation resistance at 20°C	Conductor to screen capacitance	Maximum diaelectric stress	Current Ratings		
		Trefoil or Flat touching	flat spaced	Trefoil touching	flat touching	flat spaced				Unenclosed In Air	Buried Direct	Buried In Ducts (c)
mm^2	Ohm/km	Ohm/km	Ohm/km	Ohm/km	Ohm/km	Ohm/km	MegOhm.km	µF x km	kV x mm	A	A	A
16	1.15	1.47	1.47	0.155	0.170	0.216	11000	0.221	2.06	106	116	111
25	0.727	0.927	0.927	0.146	0.161	0.207	9700	0.248	1.99	138	148	141
35	0.524	0.668	0.668	0.142	0.157	0.203	8700	0.276	1.93	167	177	167
50	0.387	0.494	0.494	0.135	0.150	0.196	7800	0.308	1.87	209	215	200
70	0.268	0.342	0.342	0.130	0.145	0.191	6900	0.352	1.82	254	258	236
95	0.193	0.247	0.247	0.120	0.135	0.181	6000	0.404	1.77	306	312	271
120	0.153	0.196	0.195	0.113	0.128	0.174	5400	0.447	1.74	352	341	303
150	0.124	0.160	0.159	0.110	0.125	0.171	5000	0.486	1.72	398	383	334
185	0.0991	0.128	0.127	0.107	0.122	0.168	4600	0.530	1.69	449	425	362
240	0.0754	0.0982	0.0973	0.103	0.119	0.164	4200	0.576	1.61	526	484	411
300	0.0601	0.0792	0.0781	0.102	0.117	0.163	4000	0.597	1.49	600	541	453
400	0.0470	0.0632	0.0618	0.0982	0.113	0.159	3800	0.627	1.38	700	618	509

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
16	4.8	2.5	11	15.9	28 x 0.85	14.3	18.4	54
25	5.8	2.5	12	24.4	43 x 0.85	15.3	19.4	72
35	6.8	2.5	13	34.4	24 x 1.35	17.3	21.4	93
50	8	2.5	14.1	48.7	34 x 1.35	18.4	22.5	120
70	9.6	2.5	15.7	68.1	30 x 1.70	20.7	25	160
95	11.5	2.5	17.6	68.1	30 x 1.70	22.6	26.9	190
120	13.1	2.5	19.2	68.7	48 x 1.35	23.5	27.6	215
150	14.5	2.5	20.6	68.7	48 x 1.35	24.9	29	245
185	16.1	2.5	22.2	68.7	48 x 1.35	26.5	30.8	275
240	18.5	2.6	24.9	68.7	48 x 1.35	29.2	33.7	335
300	20.7	2.8	27.6	68.7	48 x 1.35	31.9	36.6	400
400	23.6	3	30.9	68.7	48 x 1.35	35.2	40.2	500