

Single Core Power Cable 3.8/6.6kV

STANDARD: AS/NZS 1429.1

RATED VOLTAGE: 3.8/6.6 (7.2) kV

FAULT LEVEL: Up to 10kA for 1sec or to customer requirements

IMPULSE VOLTAGE: 95kV

TEMPERATURE RANGE:

In continuous operation Max. conductor temp 90°C.

Lowest cable temperature during installation: -10°C and

below 0°C special precaution must be taken.

BENDING RADIUS:

During installation: 18 x D. When installed: 12 x D (PVC sheathed cables)

D = Overall diameter of cable



DESIGN

CONDUCTOR:

Stranded, round and compacted copper complying with AS/NZS 1125

SEMI-CONDUCTIVE CONDUCTOR SCREEN:

Extruded cross-linked compound

INSULATION:

XLPE complying with AS/NZS 3808

SEMI-CONDUCTIVE INSULATION SCREEN:

Extruded hand strippable cross-linked compound

METALLIC SCREEN:

Circular copper wires

OUTER SHEATH:

Black PVC. PE, halogen free, flame retardant, termite protection in the form of nylon, double brass tape and chemical additive also available.

Other colours available on request

3.8/6.6kV Single Core Copper Conductor

Product code	Conductor size	Nominal thickness of insulation	Diameter over insulation	Number & Nominal Diameter of Screen Wires	Overall diameter (approx.)	Mass (approx.)	Maximum pulling tension	Minimum bending radius	
								During installation	Installed
	mm ²	mm	mm	no./mm	mm	kg/km	kN	mm	mm
1MV035C06HP	35	2.5	13.1	24/1.35	20.8	917.6	2.5	370	250
1MV050C06HP	50	2.5	14.3	34/1.35	22.5	1190	3.5	410	270
1MV070C06HP	70	2.5	16.1	30/1.70	25.2	1608	4.9	450	300
1MV095C06HP	95	2.5	17.7	38/1.52	26.5	1882	6.7	480	320
1MV120C06HP	120	2.5	19.2	48/1.35	28.2	2135	8.4	510	340
1MV150C06HP	150	2.5	20.7	48/1.35	29.4	2409	11	530	350
1MV185C06HP	185	2.5	22.5	48/1.35	31.3	2778	13	560	380
1MV240C06HP	240	2.6	24.9	48/1.35	33.4	3342	17	600	400
1MV300C06HP	300	2.8	27.4	48/1.35	36.1	3959	21	650	430
1MV400C06HP	400	3.0	30.7	48/1.35	39.6	4805	25	710	480

Electrical Data

Conductor size	Maximum conductor DC resistance at 20°C	Conductor AC resistance at 50Hz and 90°C	Inductive reactance at 50Hz and 90°C	Insulation resistance at 20°C	Charging current per phase	Dielectric loss per phase	Zero sequence resistance at 20°C	Zero sequence reactance at 50Hz
mm ²	Ω/.km	Ω/.km	Ω/.km	MΩ.km	A/.km	W/.km	Ω/.km	Ω/.km
35	0.524	0.668	0.133	8400	0.345	5.24	1.04	0.0724
50	0.387	0.494	0.128	7500	0.385	5.86	0.759	0.0677
70	0.268	0.342	0.120	6500	0.446	6.78	0.534	0.0597
95	0.193	0.247	0.113	5800	0.499	7.59	0.456	0.0547
120	0.153	0.196	0.109	5200	0.550	8.35	0.416	0.0514
150	0.124	0.159	0.105	4800	0.600	9.12	0.388	0.0482
185	0.0991	0.128	0.102	4400	0.660	10.0	0.363	0.0454
240	0.0754	0.0981	0.0981	4100	0.708	10.8	0.341	0.0427
300	0.0601	0.0792	0.0962	4000	0.725	11.0	0.326	0.0414
400	0.0470	0.0632	0.0929	3800	0.762	11.6	0.313	0.0388

Current Ratings

Conductor size	Current rating at core temp. 90°C in ground	Current rating at core temp. 90°C in air	Current rating at core temp. 90°C in underground ducts	Max. short-circuit current on the conductor during 1sec at initial temp. 90°C	Short circuit current rating of the screen 1sec
mm ²	A	A	A	kA	kA
35	177	178	161	5.0	5.2
50	208	214	187	7.1	7.2
70	251	268	223	10.0	10.1
95	296	321	260	13.6	10.2
120	332	367	290	17.1	10.2
150	368	413	320	21.4	10.2
185	410	469	354	26.4	10.2
240	464	542	397	34.3	10.2
300	512	612	436	42.9	10.2
400	567	696	479	57.2	10.2