

# Single Core Power Cable 12.7/22kV

STANDARD: AS/NZS 1429.1

RATED VOLTAGE: 12.7/22 (24) 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



## 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 <sup>2</sup>	Ω/km	Ω/km	Ω/km	MΩ.km	A/km	W/km	Ω/km	Ω/km
35	0.524	0.668	0.148	15000	0.0646	32.8	1.05	0.0917
50	0.387	0.494	0.143	14000	0.710	36.1	0.756	0.0859
70	0.268	0.342	0.132	12000	0.805	40.9	0.531	0.0758
95	0.193	0.247	0.125	11000	0.888	45.1	0.458	0.0698
120	0.153	0.196	0.121	10000	0.966	49.1	0.418	0.0655
150	0.124	0.159	0.117	9200	1.04	53.0	0.389	0.0619
185	0.0991	0.128	0.113	8500	1.14	57.7	0.364	0.0583
240	0.0754	0.0978	0.109	7700	1.25	63.5	0.341	0.0546
300	0.0601	0.0788	0.105	7100	1.36	68.9	0.326	0.0517
400	0.0470	0.0628	0.101	6400	1.50	76.4	0.313	0.0475
500	0.0366	0.0504	0.0986	5700	1.70	86.3	0.303	0.0457
630	0.0283	0.0408	0.0955	5100	1.87	95.1	0.295	0.0430
800	0.0221	0.0342	0.0918	4500	2.14	108	0.290	0.0397
1000	0.0176	0.0254	0.0891	4100	2.35	119	0.286	0.0374

## 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 <sup>2</sup>	A	A	A	kA	kA
35	176	184	161	5.00	5.1
50	207	220	188	7.1	7.3
70	250	273	227	10.0	10.2
95	296	328	265	13.6	10.2
120	333	375	296	17.1	10.2
150	369	422	326	21.4	10.2
185	411	479	361	26.4	10.2
240	467	555	406	34.3	10.2
300	515	624	445	42.9	10.2
400	571	709	490	57.2	10.2
500	629	800	532	71.5	10.2
630	686	894	580	90.0	10.2
800	742	997	613	114.0	10.2
1000	822	1130	664	143	10.2

## 12.7/22kV 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 <sup>2</sup>	mm	mm	no./mm	mm	kg/km	kN	mm	mm
1MV035C22HP	35	5.5	19.1	24/1.35	26.6	1123.7	2.5	480	320
1MV050C22HP	50	5.5	20.3	34/1.35	28.5	1414.7	3.5	510	340
1MV070C22HP	70	5.5	22.1	48/1.35	30.9	1849.3	4.9	560	370
1MV095C22HP	95	5.5	23.7	48/1.35	32.2	2126.4	6.7	580	390
1MV120C22HP	120	5.5	25.2	48/1.35	33.8	2393.5	8.4	610	410
1MV150C22HP	150	5.5	26.7	48/1.35	35.4	2688.9	11	640	420
1MV185C22HP	185	5.5	28.5	48/1.35	37.3	3075.2	13	670	450
1MV240C22HP	240	5.5	30.7	48/1.35	39.6	3658.8	17	710	480
1MV300C22HP	300	5.5	32.8	48/1.35	41.9	4273.1	21	750	500
1MV400C22HP	400	5.5	35.7	48/1.35	45.0	5119.1	25	810	540
1MV500C22HP	500	5.5	39.5	48/1.35	49.1	6404.6	25	880	590
1MV630C22HP	630	5.5	42.9	48/1.35	52.7	7825.2	25	950	630
1MV800C22HP	800	5.5	48.1	48/1.35	58.3	9634.3	25	1050	700
1MV10MC22HP	1000	5.5	52.4	48/1.35	62.9	11510	25	1130	750