

# 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 aluminium 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
50	0.641	0.822	0.141	14000	0.710	36.1	1.19	0.0851
70	0.443	0.568	0.131	12000	0.805	40.9	0.837	0.0752
95	0.320	0.411	0.125	11000	0.888	45.1	0.615	0.0698
120	0.253	0.325	0.121	10000	0.966	49.1	0.518	0.0655
150	0.206	0.265	0.117	9200	1.04	53.0	0.471	0.0619
185	0.164	0.211	0.113	8500	1.14	57.7	0.429	0.0583
240	0.125	0.161	0.109	7700	1.25	63.5	0.390	0.0546
300	0.100	0.130	0.105	7100	1.36	68.9	0.365	0.0517
400	0.0779	0.102	0.101	6400	1.50	76.4	0.343	0.0475
500	0.0606	0.0799	0.0986	5700	1.70	86.3	0.326	0.0457
630	0.0469	0.0633	0.0955	5100	1.87	95.1	0.313	0.0430
800	0.0367	0.0512	0.0918	4500	2.14	108	0.303	0.0397
1000	0.0291	0.0379	0.0891	4100	2.35	119	0.296	0.0374
1200	0.0247	0.0323	0.0875	3800	2.51	128	0.292	0.0335

## 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
50	162	171	147	4.7	4.9
70	197	214	181	6.6	6.8
95	233	258	212	9.0	9.1
120	263	296	238	11.3	10.2
150	293	334	263	14.2	10.2
185	329	382	294	17.5	10.2
240	376	445	336	22.7	10.2
300	419	505	371	28.4	10.2
400	472	582	415	37.8	10.2
500	528	667	459	47.3	10.2
630	586	759	508	59.5	10.2
800	647	863	550	75.6	10.2
1000	728	997	606	94.5	10.2
1200	768	1050	637	113	10.2

## 12.7/22kV Single Core Aluminium 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
1MV050A22HP	50	5.5	20.3	23/1.35	27.9	966.4	2.5	500	330
1MV070A22HP	70	5.5	22.1	32/1.35	30.4	1212.3	3.5	550	370
1MV095A22HP	95	5.5	23.7	43/1.35	32.2	1479.6	4.8	580	390
1MV120A22HP	120	5.5	25.2	48/1.35	33.8	1663.9	6.0	610	410
1MV150A22HP	150	5.5	26.7	48/1.35	35.4	1787.2	7.5	640	420
1MV185A22HP	185	5.5	28.5	48/1.35	37.3	1948.8	9.3	670	450
1MV240A22HP	240	5.5	30.7	48/1.35	39.6	2177.5	12	710	480
1MV300A22HP	300	5.5	32.8	48/1.35	41.9	2411.4	15	750	500
1MV400A22HP	400	5.5	35.7	48/1.35	45.0	2743.8	20	810	540
1MV500A22HP	500	5.5	39.5	48/1.35	49.1	3356.4	25	880	590
1MV630A22HP	630	5.5	42.9	48/1.35	52.7	3879.4	25	950	630
1MV800A22HP	800	5.5	48.1	48/1.35	58.3	4577.4	25	1050	700
1MV10MA22HP	1000	5.5	52.4	48/1.35	62.9	5632.0	25	1130	750
1MV12MA22HP	1200	5.5	55.6	48/1.35	66.3	6345.0	25	1190	800