

# Three Core Power Cable 12.7/22kV

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



## 12.7/22kV Three 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
3MV050A22HP	50	5.5	20.3	19/0.85	57.0	2620	7.5	1030	680
3MV070A22HP	70	5.5	22.1	27/0.85	61.2	3161	11	1100	730
3MV095A22HP	95	5.5	23.7	36/0.85	64.9	3738	14	1170	780
3MV120A22HP	120	5.5	25.2	40/0.85	68.3	4216	18	1230	820
3MV150A22HP	150	5.5	26.7	40/0.85	71.8	4653	23	1290	860
3MV185A22HP	185	5.5	28.5	40/0.85	75.9	5223	25	1370	910
3MV240A22HP	240	5.5	30.7	40/0.85	81.0	6021	25	1460	970
3MV300A22HP	300	5.5	32.8	40/0.85	85.8	6838	25	1550	1030
3MV400A22HP	400	5.5	35.7	40/0.85	92.5	8006	25	1670	1110
3MV500A22HP	500	5.5	41.8	40/0.85	106.0	10245	25	1920	1280

## 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	0.131	14000	0.710	36.1	2.32	0.0851
70	0.443	0.568	0.120	12000	0.805	40.9	1.62	0.0745
95	0.320	0.411	0.115	11000	0.888	45.1	1.20	0.0691
120	0.253	0.325	0.110	10000	0.966	49.1	1.05	0.0649
150	0.206	0.265	0.107	9200	1.04	53.0	1.00	0.0613
185	0.164	0.211	0.103	8500	1.14	57.7	0.961	0.0577
240	0.125	0.161	0.0991	7700	1.25	63.5	0.922	0.0541
300	0.100	0.130	0.0961	7100	1.36	68.9	0.897	0.0512
400	0.0778	0.102	0.0919	6400	1.50	76.4	0.875	0.0471
500	0.0617	0.0818	0.0900	5700	1.70	86.2	0.859	0.0452

## Current Ratings

Conductor size	Current rating at core temp. 90°C in ground	Current rating at core temp. 90°C in air	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	kA	kA
50	158	155	4.7	4.8
70	194	193	6.6	6.8
95	231	233	9.0	9.1
120	263	269	11.3	10.1
150	295	305	14.2	10.1
185	334	350	17.5	10.1
240	387	411	22.7	10.1
300	436	470	28.4	10.1
400	500	547	37.8	10.1
500	555	610	47.3	10.1