

Three 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

12.7/22kV Three 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
3MV035C22HP	35	5.5	19.1	20/0.85	54.3	3023	7.4	980	650
3MV050C22HP	50	5.5	20.3	29/0.85	57.0	3655	11	1030	680
3MV070C22HP	70	5.5	22.1	40/0.85	61.2	4629	15	1100	730
3MV095C22HP	95	5.5	23.7	40/0.85	64.9	5553	20	1170	780
3MV120C22HP	120	5.5	25.2	40/0.85	68.3	6421	25	1230	820
3MV150C22HP	150	5.5	26.7	40/0.85	71.8	7377	25	1290	860
3MV185C22HP	185	5.5	28.5	40/0.85	75.9	8626	25	1370	910
3MV240C22HP	240	5.5	30.7	40/0.85	81.0	10496	25	1460	970
3MV300C22HP	300	5.5	32.8	40/0.85	85.8	12462	25	1550	1030
3MV400C22HP	400	5.5	35.7	40/0.85	92.5	15181	25	1670	1110
3MV500C22HP	500	5.5	39.5	40/0.85	106.6	19454	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 ²	Ω/km	Ω/km	Ω/km	MΩ.km	A/km	W/km	Ω/km	Ω/km
35	0.524	0.668	0.138	15000	0.646	32.8	2.12	0.0917
50	0.387	0.494	0.131	14000	0.710	36.1	1.49	0.0851
70	0.268	0.342	0.120	12000	0.805	40.9	1.06	0.0745
95	0.193	0.247	0.115	11000	0.888	45.1	0.990	0.0691
120	0.153	0.196	0.110	10000	0.966	49.1	0.950	0.0649
150	0.124	0.159	0.107	9200	1.04	53.0	0.921	0.0613
185	0.0991	0.128	0.103	8500	1.14	57.7	0.896	0.0577
240	0.0754	0.0981	0.0991	7700	1.25	63.5	0.873	0.0541
300	0.0601	0.0792	0.0961	7100	1.36	68.9	0.858	0.0512
400	0.047	0.0633	0.0919	6400	1.50	76.4	0.845	0.0471
500	0.0373	0.0518	0.0900	5700	1.70	86.2	0.836	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 ²	A	A	kA	kA
35	173	167	5.0	5.1
50	204	200	7.1	7.3
70	250	249	10.0	10.1
95	298	301	13.6	10.1
120	339	346	17.1	10.1
150	380	393	21.4	10.1
185	429	449	26.4	10.1
240	496	527	34.3	10.1
300	559	602	42.9	10.1
400	634	694	57.2	10.1
500	697	766	71.5	10.1