

Three Core Armoured 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

INNER SHEATH:

Black PVC or PE

ARMOUR:

Galvanized steel wires complying with AS/NZS 3863

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 Armoured Copper Conductor

Product code	Conductor size	Nominal thickness of insulation	Diameter over insulation	Number & Nominal Diameter of Screen Wires	Diameter over inner sheath (approx.)	Diameter of steel wires	Overall diameter (approx.)	Mass (approx.)	Maximum pulling tension	Minimum bending radius	
										During installation	Installed
	mm ²	mm	mm	no./mm	mm	mm	mm	kg/km	kN	mm	mm
3MV035C22HS	35	5.5	19.1	20/0.85	52.0	2.5	63.0	6146	7.4	1130	760
3MV050C22HS	50	5.5	20.3	29/0.85	54.7	2.5	65.9	6939	11	1190	790
3MV070C22HS	70	5.5	22.1	40/0.85	58.7	2.5	70.2	8178	15	1260	840
3MV095C22HS	95	5.5	23.7	40/0.85	62.3	2.5	74.0	9322	20	1330	890
3MV120C22HS	120	5.5	25.2	40/0.85	65.7	3.15	79.0	11321	25	1420	950
3MV150C22HS	150	5.5	26.7	40/0.85	69.0	3.15	82.6	12530	25	1490	990
3MV185C22HS	185	5.5	28.5	40/0.85	73.1	3.15	86.9	14111	25	1560	1040
3MV240C22HS	240	5.5	30.7	40/0.85	78.0	3.15	92.2	16399	25	1660	1110
3MV300C22HS	300	5.5	32.8	40/0.85	82.7	3.15	97.2	18718	25	1750	1170
3MV400C22HS	400	5.5	35.7	40/0.85	89.2	3.15	104.2	21962	25	1880	1250

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	1.26	0.0917
50	0.387	0.494	0.131	14000	0.710	36.1	0.987	0.0851
70	0.268	0.342	0.120	12000	0.805	40.9	0.751	0.0745
95	0.193	0.247	0.115	11000	0.888	45.1	0.666	0.0691
120	0.153	0.196	0.110	10000	0.966	49.1	0.569	0.0649
150	0.124	0.159	0.107	9200	1.04	53.0	0.531	0.0613
185	0.0991	0.128	0.103	8500	1.14	57.7	0.495	0.0577
240	0.0754	0.0981	0.0991	7700	1.25	63.5	0.458	0.0541
300	0.0601	0.0792	0.0961	7100	1.36	68.9	0.433	0.0512
400	0.0470	0.0633	0.0919	6400	1.50	76.4	0.406	0.0471

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	171	167	5.0	5.1
50	201	199	7.1	7.3
70	244	246	10.0	10.1
95	290	296	13.6	10.1
120	328	339	17.1	10.1
150	365	381	21.4	10.1
185	408	431	26.4	10.1
240	465	499	34.3	10.1
300	516	560	42.9	10.1
400	573	633	57.2	10.1