

Three Core Armoured Power Cable 19/33kV

STANDARD: AS/NZS 1429.1

RATED VOLTAGE: 19/33 (36) 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

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
50	0.387	0.494	0.143	17000	0.828	15.7	0.873	0.0976
70	0.268	0.342	0.131	16000	0.929	17.6	0.672	0.0862
95	0.193	0.247	0.125	14000	1.02	19.3	0.586	0.0801
120	0.153	0.196	0.120	13000	1.10	20.9	0.538	0.0753
150	0.124	0.159	0.116	12000	1.18	22.4	0.501	0.0713
185	0.0991	0.128	0.112	11000	1.28	24.3	0.466	0.0671
240	0.0754	0.0978	0.108	10000	1.39	26.5	0.434	0.0629
300	0.0601	0.0788	0.104	9600	1.51	28.6	0.407	0.0595
400	0.0470	0.0629	0.0995	8700	1.66	31.5	0.382	0.0548

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
50	201	203	7.1	7.3
70	244	250	10.0	10.1
95	290	300	13.6	10.1
120	327	342	17.1	10.1
150	364	385	21.4	10.1
185	407	435	26.4	10.1
240	465	503	34.3	10.1
300	515	564	42.9	10.1
400	573	637	57.2	10.1

19/33kV 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
3MV050C33HS	50	8.0	25.3	29/0.85	65.9	3.15	79.2	9484	11	1430	950
3MV070C33HS	70	8.0	27.1	40/0.85	69.9	3.15	83.6	10849	15	1500	1000
3MV095C33HS	95	8.0	28.7	40/0.85	73.5	3.15	87.4	12152	20	1570	1050
3MV120C33HS	120	8.0	30.2	40/0.85	76.9	3.15	91.0	13329	25	1640	1090
3MV150C33HS	150	8.0	31.7	40/0.85	80.2	3.15	94.6	13597	25	1700	1140
3MV185C33HS	185	8.0	33.5	40/0.85	84.3	3.15	98.9	16248	25	1780	1190
3MV240C33HS	240	8.0	35.7	40/0.85	89.2	3.15	104.2	18557	25	1880	1250
3MV300C33HS	300	8.0	37.8	40/0.85	93.9	3.15	109.2	21022	25	1970	1310
3MV400C33HS	400	8.0	40.7	40/0.85	100.4	3.15	116.2	24379	25	2090	1390