

Single Core 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
- 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



19/33kV Single 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
	mm²	mm	mm	no./mm	mm	kg/km	kN	mm	mm
1MV050C33HP	50	8.0	25.3	34/1.35	33.9	1658.7	3.5	610	410
1MV070C33HP	70	8.0	27.1	48/1.35	35.8	2099.9	4.9	640	430
1MV095C33HP	95	8.0	28.7	48/1.35	37.5	2399.5	6.7	680	450
1MV120C33HP	120	8.0	30.2	48/1.35	39.1	2679.5	8.4	700	470
1MV150C33HP	150	8.0	31.7	48/1.35	40.7	2987.8	11	730	490
1MV185C33HP	185	8.0	33.5	48/1.35	42.6	3389.5	13	770	510
1MV240C33HP	240	8.0	35.7	48/1.35	45.0	3992.5	17	810	540
1MV300C33HP	300	8.0	37.8	48/1.35	47.2	4624.4	21	850	570
1MV400C33HP	400	8.0	40.7	48/1.35	50.3	5495.2	25	910	600
1MV500C33HP	500	8.0	44.5	48/1.35	54.4	6833.0	25	980	650
1MV630C33HP	630	8.0	47.9	48/1.35	58.1	8282.8	25	1050	700
1MV800C33HP	800	8.0	53.1	48/1.35	63.6	10136.6	25	1150	760
1MV10MC33HP	1000	8.0	57.4	48/1.35	68.3	11799.0	25	1230	820

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
mm²	Ω/km	Ω/km	Ω/km	MΩ.km	A/km	W/km	Ω/km	Ω/km
50	0.387	0.494	0.153	17000	0.828	15.7	0.756	0.0982
70	0.268	0.342	0.142	16000	0.929	17.6	0.533	0.0868
95	0.193	0.247	0.135	14000	1.02	19.3	0.458	0.0806
120	0.153	0.196	0.130	13000	1.10	20.9	0.418	0.0759
150	0.124	0.159	0.126	12000	1.18	22.4	0.389	0.0718
185	0.0991	0.127	0.121	11000	1.28	24.3	0.364	0.0676
240	0.0754	0.0976	0.117	10000	1.39	26.5	0.341	0.0634
300	0.0601	0.0785	0.113	9600	1.51	28.6	0.326	0.0600
400	0.0470	0.0625	0.108	8700	1.66	31.5	0.313	0.0552
500	0.0366	0.0500	0.105	7700	1.86	35.4	0.303	0.0527
630	0.0283	0.0404	0.102	7100	2.04	38.8	0.295	0.0495
800	0.0221	0.0336	0.0973	6200	2.31	44.0	0.290	0.0456
1000	0.0176	0.0253	0.0943	5700	2.54	48.2	0.286	0.0428

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
mm²	A	A	A	kA	kA
					
50	207	224	191	7.1	7.3
70	251	277	228	10.0	10.2
95	296	333	267	13.6	10.2
120	333	380	301	17.1	10.2
150	370	428	332	21.4	10.2
185	413	486	367	26.4	10.2
240	469	562	413	34.3	10.2
300	518	633	450	42.9	10.2
400	575	719	496	57.2	10.2
500	634	811	545	71.5	10.2
630	693	907	580	90.0	10.2
800	751	1010	629	114	10.2
1000	829	1150	682	143	10.2