

# Single Core Al 19/33kV XLPE Insulated HD Cu Screened PVC Sheathed

STANDARD: AS/NZS 1429.1

RATED VOLTAGE: 19/33 (36) kV

FAULT LEVEL: Up to 10kA for 1 sec or to customer requirements

IMPULSE VOLTAGE: 95kV

TEMPERATURE RANGE:

In continuous operations Max. conductor temp 90°C

Lowest cable temperature during installation: -10°C and below 0°C special precautions 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 semi-conductive cross-linked compound

METALLIC SCREEN:

Circular copper wires with non-hygroscopic binder tape

OUTER SHEATH:

Black PVC as standard. HDPE, halogen free, flame retardant, termite protection in the form of nylon, double brass tape or chemical additive also available.



Product Code	Conductor size mm <sup>2</sup>	Nominal insulation thickness mm	Diameter over insulation mm	Number & nom. diameter of screen wires no./mm	Overall Diameter mm	Mass (approx.) kg/km	Maximum pulling tension kN	Minimum Bending Radius	
								During installation mm	Installed mm
1MV050A33HP	50	8.0	25.3	23/1.35	33.2	1250	2.5	600	400
1MV070A33HP	70	8.0	27.1	32/1.35	35.8	1500	3.5	640	430
1MV095A33HP	95	8.0	28.7	43/1.35	37.5	1800	4.8	680	450
1MV120A33HP	120	8.0	30.2	48/1.35	39.1	2000	6.0	700	470
1MV150A33HP	150	8.0	31.7	48/1.35	40.7	2100	7.5	730	490
1MV185A33HP	185	8.0	33.5	48/1.35	42.6	2300	9.3	770	510
1MV240A33HP	240	8.0	35.7	48/1.35	45.0	2550	12	810	540
1MV300A33HP	300	8.0	37.8	48/1.35	47.2	2800	15	850	570
1MV400A33HP	400	8.0	40.7	48/1.35	50.3	3150	20	910	600
1MV500A33HP	500	8.0	44.5	48/1.35	54.4	3800	25	980	650
1MV630A33HP	630	8.0	47.9	48/1.35	58.1	4400	25	1050	700

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## Electrical Data

Product Code	Conductor size	Max. 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
1MV050A33HP	50	0.641	0.822	0.152	17000	0.828	15.7	1.19	0.0976
1MV070A33HP	70	0.443	0.568	0.142	16000	0.929	17.6	0.837	0.0868
1MV095A33HP	95	0.320	0.411	0.135	14000	1.02	19.3	0.615	0.0806
1MV120A33HP	120	0.253	0.325	0.130	13000	1.10	20.9	0.518	0.0759
1MV150A33HP	150	0.206	0.265	0.126	12000	1.18	22.4	0.471	0.0718
1MV185A33HP	185	0.164	0.211	0.121	11000	1.28	24.3	0.429	0.0676
1MV240A33HP	240	0.125	0.161	0.117	10000	1.39	26.5	0.390	0.0634
1MV300A33HP	300	0.100	0.129	0.113	9600	1.51	28.6	0.365	0.0600
1MV400A33HP	400	0.0778	0.101	0.108	8700	1.66	31.5	0.343	0.0552
1MV500A33HP	500	0.0605	0.0797	0.105	7700	1.86	35.4	0.326	0.0527
1MV630A33HP	630	0.0469	0.0630	0.102	7100	2.04	38.8	0.313	0.0495

## 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 rating on the conductor during 1 sec at initial temp. 90°C	Short circuit current rating of the screen 1 sec.
mm <sup>2</sup>	A	A	A	kA	kA
50	162	174	150	4.7	4.9
70	197	217	182	6.6	6.8
95	233	261	213	9.0	9.1
120	264	300	242	11.4	10.2
150	293	338	267	14.2	10.2
185	330	386	299	17.5	10.2
240	377	450	339	22.7	10.2
300	421	510	376	28.4	10.2
400	474	587	419	37.8	10.2
500	531	673	467	47.3	10.2
630	590	766	510	59.6	10.2