



Cu(Al) 12.7/22 kV – Single Core Heavy Duty Screened Unarmoured MV CABLE

APPLICATION:

Cables for electricity distribution networks are commonly employed as the main power supply for commercial, industrial, and urban residential grids. They are suitable for high fault-level systems with a rating of up to 10kA/1sec.

CABLE STRUCTURE:

Conductor:

Stranded compacted conductor(copper or aluminum)

Semi-conductive conductor screen:

Extruded cross-linked compound

Insulation: XLPE

Semi-conductive insulation screen:

Extruded hand strippable semi-conductive cross-linked compound

Metallic screen:

Copper wire screen

(nominal 10kA for 1 second)

Outer sheath:

PVC. Optional: HDPE, halogen-free, flame-retardant, plus termite protection (nylon, double brass tape or chemical additive).

STANDARDS:

Product:

AS/NZS 1429.1

Electric cables - Polymeric insulated

For working voltages 1.9/3.3 (3.6) kV up to and including 19/33 (36) kV

Conductor:

AS/NZS 1125

Conductors in insulated electric cables and flexible cords

Insulation & Sheath:

AS/NZS 3808

Insulating and sheathing materials for electric cables

TECHNICAL DATA:

Rated volatge:

12.7/22 kV

Temperature range:

Minimum installation temperature: 0°C

Maximum operating temperature: +90°C

Minimum operating temperature: -25°C

Fault level:

Up to 10kA for 1 sec

Bending radius:

Installed cables:

12D (PVC) 15D (HDPE)

During installation:

18D (PVC) 25D (HDPE)

CERTIFICATES:

We hold SAA certifications for our product categories. Additionally, we possess authoritative certifications recognized in other countries and regions.





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Physical Character Sheet (AL Conductor)

Nominal conductor area	Nominal insulation thickness	Diameter over insulation	Number of screen wires and diameter of screen wires	Overall Diameter	Approx. weight	Maximum pulling tension	Minimum Bending Radius During installation	Minimum Bending Radius Installed
mm ²	mm	mm	nb x mm ∅	mm	kg/km	kN	mm	mm
1 × 50	5.5	20.5	23/1.35	28.9	984	2.5	520	350
1 × 70	5.5	22.0	32/1.35	30.6	1200	3.5	550	370
1 × 95	5.5	23.6	43/1.35	32.4	1500	4.8	590	390
1 × 120	5.5	25.2	48/1.35	34.0	1700	6.0	610	410
1 × 150	5.5	26.5	48/1.35	35.5	1800	7.5	640	430
1 × 185	5.5	28.3	48/1.35	37.3	1950	9.3	670	450
1 × 240	5.5	30.5	48/1.35	39.7	2200	12	710	480
1 × 300	5.5	32.7	48/1.35	42.2	2450	15	750	500
1 × 400	5.5	35.8	48/1.35	45.5	2800	20	810	540
1 × 500	5.5	39.0	48/1.35	48.9	3250	25	880	590
1 × 630	5.5	42.9	48/1.35	53.0	3857	25	950	630

Electrical Data Sheet (AL Conductor)

Nominal conductor area	Max. conductor DC resistance at 20°C	Conductor AC resistance at 50Hz and 90°C	Inductive reactance at 50Hz and 90°C	Min insulation resistance at 20°C	Current rating at core temp. 90°C in ground	Current rating at core temp. 90°C in air
mm ²	Ohm/km	Ohm/km	Ohm/km	MOhm/km	A	A
1 × 50	0.641	0.821	0.151	14000	160	170
1 × 70	0.443	0.568	0.14	13000	195	210
1 × 95	0.320	0.410	0.133	11000	230	255
1 × 120	0.253	0.325	0.128	10000	260	295
1 × 150	0.206	0.265	0.124	9700	290	330
1 × 185	0.164	0.211	0.119	8900	330	380
1 × 240	0.125	0.161	0.115	8100	380	445
1 × 300	0.100	0.130	0.111	7300	425	515
1 × 400	0.0779	0.102	0.108	6500	485	595
1 × 500	0.0606	0.079	0.104	5900	545	690
1 × 630	0.0469	0.063	0.101	5300	615	795



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Physical Character Sheet (CU Conductor)

Nominal conductor area	Nominal insulation thickness	Diameter over insulation	Number of screen wires and diameter of screen wires	Overall Diameter	Approx. weight	Maximum pulling tension	Minimum Bending Radius During installation	Minimum Bending Radius Installed
mm ²	mm	mm	nb x mm ∅	mm	kg/km	kN	mm	mm
1 × 35	5.5	19.2	24/1.35	27.6	1150	2.5	500	330
1 × 50	5.5	20.5	34/1.35	29.1	1400	3.5	520	350
1 × 70	5.5	22	48/1.35	30.6	1850	4.9	550	370
1 × 95	5.5	23.6	48/1.35	32.4	2150	6.7	590	390
1 × 120	5.5	25.2	48/1.35	34.0	2450	8.4	610	410
1 × 150	5.5	26.5	48/1.35	35.5	2750	11	640	430
1 × 185	5.5	28.3	48/1.35	37.3	3100	13	670	450
1 × 240	5.5	30.5	48/1.35	39.7	3721	17	710	480
1 × 300	5.5	32	48/1.35	42.2	4350	21	750	500
1 × 400	5.5	35.8	48/1.35	45.5	5247	25	810	540
1 × 500	5.5	39.0	48/1.35	48.9	6336	25	880	590
1 × 630	5.5	42.9	48/1.35	53.0	7730	25	950	630

Electrical Data Sheet (CU Conductor)

Nominal conductor area	Max. conductor DC resistance at 20°C	Conductor AC resistance at 50Hz and 90°C	Inductive reactance at 50Hz and 90°C	Min insulation resistance at 20°C	Current rating at core temp. 90°C in ground	Current rating at core temp. 90°C in air
mm ²	Ohm/km	Ohm/km	Ohm/km	MOhm/km	A	A
1 × 35	0.524	0.6680	0.158	16000	175	185
1 × 50	0.387	0.4940	0.151	14000	205	220
1 × 70	0.268	0.3420	0.14	13000	250	270
1 × 95	0.193	0.2470	0.133	11000	295	330
1 × 120	0.153	0.1960	0.127	10000	335	375
1 × 150	0.124	0.1590	0.123	9700	370	425
1 × 185	0.0991	0.1270	0.119	8900	415	485
1 × 240	0.0754	0.0970	0.115	8100	480	565
1 × 300	0.0601	0.0780	0.111	7300	535	645
1 × 400	0.0470	0.0620	0.108	6500	600	740
1 × 500	0.0366	0.0504	0.104	5900	670	845
1 × 630	0.0283	0.0390	0.101	5300	740	960