11/11 kV Three-Core Paper Insulated Lead-Sheathed Armoured Cable

CABLE DESCRIPTION

Three-core belted paper insulated cable, manufactured to AS1026 and AS/NZS 1972.

APPLICATION

High voltage feeder cable used in power reticulation throughout the mine. Suitable as primary supply for mines and industrial networks.

Note: A 12.7/22 kV XLPE cable can be used as an alternative – the higher temperature rating generally allows a reduction in cable size, with consequent savings in cost, size and weight.

APPROVALS
AS/NZS 1972

BEHAVIOUR IN FLAME & FIRE
No fire performance

MAX OPERATING TEMPERATURE
+65°C

MIN OPERATING TEMPERATURE
0°C

FLEXIBILITY
Rigid

INSTALLATION CONDITIONS
Free air / Duct / Buried direct

CHEMICAL EXPOSURE
Very good / Frequent

MECHANICAL IMPACT
Very heavy

WATER EXPOSURE
Immersion / Temporary coverage

SOLAR RADIATION & WEATHER
Suitable for direct exposure

CABLE CONSTRUCTION

1. **Conductor:** Compacted shaped plain annealed copper conductor with semiconductive tape screen.
2. **Insulation:** Impregnated paper tape insulated (numbered), overall paper tape belt insulated.
3. **Inner sheath:** Lead alloy.
4. **Bedding:** Bitumen-impregnated paper and textile tape.
5. **Armour:** Galvanised steel wire armour, designed to provide not less than 50% conductance of the power conductor.
6. **Outer sheath:** PVC (red).

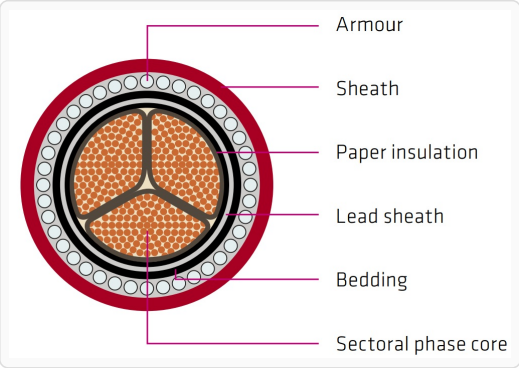


Fig. 1 – Cable cross-section construction

DIMENSIONAL & MECHANICAL CHARACTERISTICS

Conductor Area (mm²)	Conductor Shape	Nominal Overall Diameter (mm)	Approx. Cable Mass (kg/100m)	Min. Installed Bend Radius (mm)
16	Circular	47.6	551	570
25	Circular	49	632	590
35	Circular	50.3	673	600
50	Sector	53	748	640
70	Sector	56.3	873	680
95	Sector	60	1021	720
120	Sector	62.1	1122	750
150	Sector	65.1	1268	780
185	Sector	69.9	1542	840
240	Sector	74.8	1793	900
300	Sector	79.8	2119	960
400	Sector	86.3	2505	1040
500	Sector	92.2	3003	1110

AnHui Feichun Special Cable Co., Ltd

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CURRENT RATING & ELECTRICAL CHARACTERISTICS

Area (mm²)	Current Rating (A)			Resistance (Ω/km)		Inductance (mH/km)	Capacitance (μF/km)	Star Reactance (Ω/km)	Volt Drop (mV/A/m)
	In Air	In Ground	In Ducts	DC	AC				
16	61	75	67	1.15	1.35	0.398	0.165	0.125	2.35
25	79	96	86	0.727	0.856	0.344	0.212	0.108	1.49
35	95	115	102	0.524	0.617	0.323	0.242	0.102	1.08
50	120	143	126	0.387	0.456	0.292	0.29	0.092	0.805
70	149	176	154	0.268	0.316	0.28	0.328	0.088	0.568
95	182	211	185	0.193	0.228	0.27	0.367	0.085	0.421
120	208	240	210	0.153	0.181	0.264	0.398	0.083	0.345
150	236	270	239	0.124	0.147	0.255	0.435	0.08	0.29
185	269	303	269	0.0991	0.118	0.25	0.474	0.078	0.246
240	318	353	313	0.0754	0.091	0.242	0.525	0.076	0.205
300	362	396	351	0.0601	0.073	0.238	0.573	0.075	0.181
400	419	450	398	0.047	0.059	0.234	0.642	0.073	0.162
500	481	509	456	0.0366	0.047	0.229	0.715	0.072	0.149

Note: All sizes and values without tolerances are reference values. For rating derating factors under non-standard installation conditions, please consult our technical department.

PRODUCT SIZE SUMMARY – 13 CONFIGURATIONS

Conductor Size	Conductor Shape	Core Count	Conductor Material
16 mm²	Circular	3-core	Copper
25 mm²	Circular	3-core	Copper
35 mm²	Circular	3-core	Copper
50 mm²	Sector	3-core	Copper
70 mm²	Sector	3-core	Copper
95 mm²	Sector	3-core	Copper
120 mm²	Sector	3-core	Copper
150 mm²	Sector	3-core	Copper
185 mm²	Sector	3-core	Copper
240 mm²	Sector	3-core	Copper
300 mm²	Sector	3-core	Copper
400 mm²	Sector	3-core	Copper
500 mm²	Sector	3-core	Copper

TYPICAL APPLICATIONS

- High voltage feeder cables for underground and open-cut mines
- Primary power supply for industrial networks
- Power reticulation throughout mine sites
- Buried direct, in-duct and free-air installation
- Substation and switchroom feeder connections
- Legacy paper-insulated cable replacement / extension

ORDERING INFORMATION

Please specify: Conductor Size (mm²) • Conductor Shape • Cable Length (m) • Reel/Drum requirements • Quantity

Custom conductor sizes, sheath colours and voltage classes are available on request – contact our engineering team for a tailored quotation.

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