BS 6622 XLPE PVC 12.7/22kV Cable

Eland Product Group: A9M

APPLICATION

Medium voltage PVC power cables for power networks, underground and in cable ducting.

CHARACTERISTICS

Voltage Rating Uo/U (Um)
12.7/22 (24) kV

Temperature Rating
Fixed: 0°C to +90°C
Initial temperature at S.C.C for metallic screen: 80°C
Maximum conductor temperature during S.C: 250°C

Minimum Bending Radius
Fixed: 15 x overall diameter

CONSTRUCTION

Conductor
Class 2 stranded copper

Conductor Screen
Semi-conductive XLPE (Cross-Linked Polyethylene)

Insulation
XLPE (Cross-Linked Polyethylene)

Insulation Screen
Semi-conductive XLPE (Cross-Linked Polyethylene)

Metallic Screen
Individual or collective overall copper tape screen

Filler
PET (Polyethylene Terephthalate) fibres

Separator
Binding tape

Bedding
PVC (Polyvinyl Chloride)

Armour
Single core: AWA (Aluminium Wire Armoured)
Multi-core: SWA (Steel Wire Armoured)

Sheath
PVC (Polyvinyl Chloride)

Sheath Colour
● Red ● Black

STANDARDS

BS 6622, IEC/EN 60228

Flame Retardant according to IEC/EN 60332-1-2

THE CABLE LAB®

AN ISO/IEC 17025 AND IECEE CBTL ACCREDITED FACILITY

Our world-class testing facility assures the quality and compliance of this cable through a continuous and rigorous testing regime.

SUSTAINABILITY COMMITMENT

We are on a journey to Net Zero.

We've committed to near-term emissions reductions and a net-zero target with the Science Based Targets initiative and we're a signatory to the United Nations Global Compact Sustainable Development Goals.

Learn more about embodied carbon and our carbon emissions reduction actions, our comprehensive recycling services, and wider ESG activities for sustainable operations at: www.elandcables.com/company/about-us/esg-sustainability

REGULATORY COMPLIANCE

This cable meets the requirements of the RoHS Directive 2015/65/EU and Reach Directive EC 1907/2006. RoHS compliance has been tested and confirmed by The Cable Lab®.

DIMENSIONS

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm²	NOMINAL INSULATION THICKNESS mm	NOMINAL OUTER SHEATH THICKNESS mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
A9M22KV01070*	1	70	5.5	2.1	33.6	1717
A9M22KV01095*	1	95	5.5	2.1	34.9	2013
A9M22KV01120*	1	120	5.5	2.2	36.5	2318
A9M22KV01150*	1	150	5.5	2.2	38.1	2646
A9M22KV01185*	1	185	5.5	2.3	39.8	3048
A9M22KV01240*	1	240	5.5	2.3	42.2	3688
A9M22KV01300*	1	300	5.5	2.5	46.2	4515
A9M22KV01400*	1	400	5.5	2.6	49	5430
A9M22KV01500*	1	500	5.5	2.7	52.8	6593
A9M22KV01630*	1	630	5.5	2.8	57.7	8162
A9M22KV01800*	1	800	5.5	2.9	62	10092
A9M22KV03070*	3	70	5.5	3.1	64	6986
A9M22KV03095*	3	95	5.5	3.2	67.2	8072
A9M22KV03120*	3	120	5.5	3.4	72.4	10002
A9M22KV03150*	3	150	5.5	3.5	76.1	11266
A9M22KV03185*	3	185	5.5	3.6	79.7	12665
A9M22KV03240*	3	240	5.5	3.8	85.5	15126
A9M22KV03300*	3	300	5.5	3.9	90.9	17436
A9M22KV03400*	3	400	5.5	4.2	97.1	20706

* Designates the sheath colour. For each Eland Cables part number replace with the colour code as listed below e.g. A9M22KV01050RD = 50mm² Red

COLOUR CODES

COLOUR	Red	Black
CODE	RD	BK

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ELECTRICAL CHARACTERISTICS

Single Core Cables

NOMINAL CROSS SECTIONAL AREA mm²	MAXIMUM CONDUCTOR DC RESISTANCE AT 20 °C Ω/Km	MAXIMUM CONDUCTOR AC RESISTANCE AT OPERATING TEMP. AND 50HZ Ω/Km	CAPACITANCE µF/Km	CHARGING CURRENT A/Km	DIELECTRIC LOSSES W/Km	REACTANCE AT 50 HZ ohm/km	CONDUCTOR S.C.C FOR 1 SEC KA	CURRENT RATING A	
								Laid in ground	Laid in free air
70	0.268	0.3421	0.209	0.833	42.32	0.137	10.02	276	306
95	0.193	0.2466	0.227	0.905	45.96	0.132	13.59	328	366
120	0.153	0.1957	0.246	0.982	49.86	0.126	17.17	369	418
150	0.124	0.159	0.268	1.069	54.30	0.122	21.46	411	468
185	0.0991	0.1275	0.288	1.151	58.45	0.118	26.47	449	530
240	0.0754	0.0977	0.321	1.281	65.06	0.113	34.34	508	611
300	0.0601	0.0786	0.353	1.41	71.65	0.111	42.93	547	675
400	0.047	0.0625	0.388	1.551	78.77	0.107	57.23	597	753
500	0.0366	0.0501	0.434	1.733	88.07	0.103	71.54	647	834
630	0.0283	0.0404	0.498	1.986	100.89	0.100	90.14	697	921
800	0.0221	0.0336	0.553	2.205	112.06	0.097	114.47	741	1002

Multicore Cables

NOMINAL CROSS SECTIONAL AREA mm²	MAXIMUM CONDUCTOR DC RESISTANCE AT 20 °C Ω/Km	MAXIMUM CONDUCTOR AC RESISTANCE AT OPERATING TEMP. AND 50HZ Ω/Km	CAPACITANCE µF/Km	CHARGING CURRENT A/Km	DIELECTRIC LOSSES W/Km	REACTANCE AT 50 HZ ohm/km	CONDUCTOR S.C.C FOR 1 SEC KA	CURRENT RATING A	
								Laid in ground	Laid in free air
70	0.268	0.3422	0.25	0.833	42.32	0.116	10.02	264	277
95	0.193	0.2467	0.272	0.905	45.96	0.112	13.59	312	331
120	0.153	0.196	0.295	0.982	49.86	0.107	17.17	355	380
150	0.124	0.1593	0.321	1.069	54.30	0.103	21.46	396	429
185	0.0991	0.1279	0.346	1.151	58.45	0.100	26.47	445	486
240	0.0754	0.0982	0.385	1.281	65.06	0.096	34.34	510	565
300	0.0601	0.0794	0.424	1.41	71.65	0.093	42.93	569	639
400	0.047	0.0636	0.466	1.551	78.77	0.090	57.23	634	721

Laying conditions at trefoil formation are as below:

-Soil thermal resistivity 100 °C.Cm/Watt

-Burial depth 0.8 m

-Ground temperature 20 °C | Air temperature 30 °C | Frequency 50 Hz

DE-RATING FACTORS

AIR TEMPERATURE °C	25	30	35	40	45	50	55
DE-RATING FACTOR	1.00	0.96	0.92	0.88	0.83	0.78	0.73

GROUND TEMPERATURE °C	10	15	20	25	30	35	40
DE-RATING FACTOR	1.03	1.00	0.97	0.93	0.89	0.86	0.82

GROUND THERMAL RESISTIVITY km/W	0.9	1.0	1.2	1.5	2.0	2.5	3.0
DE-RATING FACTOR	1.06	1.04	1.00	0.92	0.82	0.74	0.68

DEPTH OF LAYING m	0.80	1.00	1.25	1.50	1.75	2.00	2.50
DE-RATING FACTOR	1.00	0.97	0.95	0.94	0.93	0.91	0.90

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