

# BS 7835 XLPE LSZH 12.7/22kV Cable



Eland Product Group: A9M

## APPLICATION

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

## CHARACTERISTICS

**Voltage Rating** U<sub>o</sub>/U (Um)  
12.7/22 (24) kV

**Temperature Rating**  
Fixed: 0°C to +90°C

### Minimum Bending Radius

Single core - Fixed: 15 x overall diameter  
3 core - Fixed: 12 x overall diameter

(Single core 12 x overall diameter and 3 core 10 x overall diameter where bends are positioned adjacent to a joint or termination provided that the bending is carefully controlled by the use of a former)

## 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

LSZH (Low Smoke Zero Halogen)

### Armour

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

### Sheath

LSZH (Low Smoke Zero Halogen)

### Sheath Colour

● Red ● Black

## STANDARDS

BS 7835, IEC/EN 60228

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

## ISO/IEC 17025 LABORATORY TESTED

This product is subject to the Quality Assurance protocols of The Cable Lab®, an ISO/IEC 17025 accredited cable testing laboratory. Testing includes vertical flame, conductor resistance, tensile & elongation, and dimensional consistency, verified to published standards and approved product drawings.



8578



F5 672069



EMS 672067



OHS 672066

## REGULATORY COMPLIANCE

This cable meets the requirements of the RoHS Directive 2011/65/EU. RoHS compliance has been tested and confirmed by The Cable Lab® as meeting the requirements of the BSI RoHS Trusted Kitemark™.



KM 634267





## DIMENSIONS

ELAND PART NO.	NUMBER OF CORES	NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	MINIMUM THICKNESS mm		NOMINAL THICKNESS OF SEMI CONDUCTIVE LAYER mm		NOMINAL DIAMETER mm		NOMINAL WEIGHT kg/km
			Insulation	Outer sheath	Inner	Outer	Over Insulation	Overall	
A9M22KV01050*	1	50	4.85	1.40	0.50	0.80	21.30	32	1500
A9M22KV01070*	1	70	4.85	1.48	0.50	0.80	23.00	34	1800
A9M22KV01095*	1	95	4.85	1.48	0.50	0.80	24.60	36	2100
A9M22KV01120*	1	120	4.85	1.56	0.50	0.80	26.00	37	2500
A9M22KV01150*	1	150	4.85	1.56	0.50	0.80	27.70	40	2750
A9M22KV01185*	1	185	4.85	1.64	0.50	0.80	29.30	41	3100
A9M22KV01240*	1	240	4.85	1.72	0.50	0.80	31.80	45	4000
A9M22KV01300*	1	300	4.85	1.80	0.50	0.80	34.00	47	4600
A9M22KV01400*	1	400	4.85	1.88	0.50	0.80	36.70	50	5600
A9M22KV01500*	1	500	4.85	1.96	0.50	0.80	39.70	53	6750
A9M22KV01630*	1	630	4.85	2.04	0.50	0.80	44.00	58	8200
A9M22KV03050*	3	50	4.85	2.20	0.50	0.80	21.30	61	5800
A9M22KV03070*	3	70	4.85	2.28	0.50	0.80	23.00	65	6800
A9M22KV03095*	3	95	4.85	2.44	0.50	0.80	24.60	69	8000
A9M22KV03120*	3	120	4.85	2.52	0.50	0.80	26.00	74	9700
A9M22KV03150*	3	150	4.85	2.68	0.50	0.80	27.70	78	10900
A9M22KV03185*	3	185	4.85	2.76	0.50	0.80	29.10	81	12250
A9M22KV03240*	3	240	4.85	2.84	0.50	0.80	31.80	87	14500
A9M22KV03300*	3	300	4.85	3.00	0.50	0.80	34.00	93	16900
A9M22KV03400*	3	400	4.85	3.24	0.50	0.80	36.70	100	20200
A9M22KV03500*	3	500	4.85	3.40	0.50	0.80	39.70	107	24000

\* Designates the sheath colour. For each Eland Cables part number replace with the colour code as listed below e.g. A9M22KV01050RD = 50mm<sup>2</sup> Red

## COLOUR CODES

COLOUR CODE	Red	Black
	RD	BK



Click here for more information:  
[elandcables.com](http://elandcables.com) [BS 7835 XLPE LSZH 12.7/22kV Cable](#)

## CONDUCTORS

Class 2 Stranded Conductors for Single Core and Multi-Core Cables

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	NOMINAL DIAMETER OF CONDUCTOR	NOMINAL SHORT CIRCUIT CURRENT AT 1 SECOND kA	CONDUCTOR DC RESISTANCE AT 20 °C Ω/km	CONDUCTOR DC RESISTANCE AT 20 °C Ω/km
50	8.10	7.15	0.387	0.497
70	9.70	10.01	0.268	0.344
95	11.40	13.59	0.193	0.248
120	12.70	17.16	0.153	0.196
150	14.50	21.45	0.124	0.160
185	15.90	26.46	0.0991	0.128
240	18.60	34.32	0.0754	0.098
300	20.70	42.90	0.0601	0.080
400	23.50	57.20	0.0470	0.064
500	26.50	71.50	0.0366	0.0510
630	30.20	90.09	0.0283	0.0420

## ELECTRICAL CHARACTERISTICS

Current Carrying Capacity

NUMBER OF CORES	NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	CURRENT CARRYING CAPACITY A		CONDUCTOR LOSSES IN THE GROUND kW/km
		In ground (20 °C)	In air (30 °C)	
1	50	250	279	31.10
1	70	304	347	31.80
1	95	361	420	32.30
1	120	407	483	32.47
1	150	445	540	31.68
1	185	498	614	31.74
1	240	569	718	31.73
1	300	633	813	32.10
1	400	686	904	30.10
1	500	756	1011	29.10
1	630	820	1030	28.20
3	50	210	206	65.75
3	70	256	257	67.63
3	95	307	313	70.12
3	120	349	360	71.62
3	150	392	410	73.76
3	185	443	469	75.36
3	240	513	553	77.37
3	300	576	635	79.60
3	400	650	731	81.12
3	500	-	-	-



## 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

The information contained within this datasheet is for guidance only and is subject to change without notice or liability. All the information is provided in good faith and is believed to be correct at the time of publication. When selecting cable accessories, please note that actual cable dimensions may vary due to manufacturing tolerances.