

# 33kV Cable

Eland Product Group **A9M**

## Application

Power cables for power networks, underground and in cable ducting.

## Standards

BS6622

## Technical Data

### Conductor

Class 2 stranded plain copper conductor to BS EN 60228:2005 (previously BS6360)

### Conductor Screen

Semi-conducting material

### Insulation

XLPE (Cross-Linked Polyethylene)  
Type GP8 to BS7655

### Insulation Screen

Semi-conducting material

### Metallic Screen

Individual and overall copper tape screen to BS6622

### Filler

PETP (Polyethylene Terephthalate) fibres

### Separator

Binding tape

### Bedding

PVC (Polyvinyl Chloride) Type TM1 to BS7655

### Armouring

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

### Sheath

PVC (Polyvinyl Chloride) Type TM1 to BS7655

### Sheath Colour

Red or Black

### Voltage Rating

19000/33000V

### Temperature Rating

0°C to +90°C

### Minimum Bending Radius

Single Cores: 15 x overall diameter  
Three Cores: 12 x overall diameter

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

## Dimensions

Eland Part Number	No. of Cores x Nominal Cross Sectional Area	Nominal Diameter			Nominal Weight
		Under Armour	Over Armour	Overall	
	# x mm <sup>2</sup>	mm			kg/Km
A9M33KV01070*	1 x 70	32.6	36.6	41.0	2300
A9M33KV01095*	1 x 95	34.3	38.3	42.9	2650
A9M33KV01120*	1 x 120	35.9	39.9	44.5	3000
A9M33KV01150*	1 x 150	37.5	42.5	47.3	3500
A9M33KV01185*	1 x 185	39.3	44.3	49.3	4000
A9M33KV01240*	1 x 240	41.7	46.7	51.7	4650
A9M33KV01300*	1 x 300	44.2	49.2	54.4	5450
A9M33KV01400*	1 x 400	47.3	52.3	57.7	6350
A9M33KV01500*	1 x 500	50.5	55.5	61.1	7600
A9M33KV01630*	1 x 630	54.2	59.2	65.0	9150
A9M33KV01800*	1 x 800	60.5	65.5	71.6	11100
A9M33KV011000*	1 x 1000	65.0	70.0	76.5	13400
A9M33KV03050*	3 x 50	65.1	71.4	78.2	9150
A9M33KV03070*	3 x 70	68.8	75.1	82.1	10300
A9M33KV03095*	3 x 95	72.6	78.9	86.1	11600
A9M33KV03120*	3 x 120	76.3	82.6	90.0	12800
A9M33KV03150*	3 x 150	79.3	85.6	93.2	14050
A9M33KV03185*	3 x 185	83.4	89.7	97.5	15650
A9M33KV03240*	3 x 240	88.8	95.1	103.3	18200
A9M33KV03300*	3 x 300	93.9	100.2	108.8	21100
A9M33KV03400*	3 x 400	100.8	107.1	116.1	24200

\*Eland Part Numbers shown above designate the sheath colour (\*). For each colour substitute \* for either BK (black) or RD (red).

## Electrical Characteristics

### Copper Conductors (Insulated Armoured Cables to BS 6622)

#### Current Carrying Capacity (amperes)

No. of Cores x Nominal Cross Sectional Area # x mm <sup>2</sup>	Continuous Current Rating in Ground Amps:		Continuous Current Rating in Ducts Amps		Continuous Current Rating in Air Amps	
	Trefoil	Flat	Trefoil	Flat	Trefoil	Flat
1 x 70	270	280	260	270	310	370
1 x 95	320	335	305	325	375	460
1 x 120	360	380	340	370	430	530
1 x 150	410	430	375	410	490	600
1 x 185	455	485	410	460	550	690
1 x 240	520	560	470	540	650	820
1 x 300	580	640	500	610	740	940
1 x 400	650	730	530	690	840	1100
1 x 500	710	830	570	780	930	1280
1 x 630	760	940	620	890	1040	1480
1 x 800	810	1060	660	990	1140	1690

**Copper Conductors (Insulated Armoured Cables to BS 6622)****Current Carrying Capacity (amperes)**

No. of Cores x Nominal Cross Sectional Area # x mm <sup>2</sup>	Continuous Current Rating in Ground Amps:		Continuous Current Rating in Ducts Amps		Continuous Current Rating in Air Amps	
	Trefoil	Flat	Trefoil	Flat	Trefoil	Flat
1 x 1000	860	1170	690	1090	1230	1900
3 x 50	210	210	180	180	220	220
3 x 70	250	250	215	215	270	270
3 x 95	300	300	255	255	330	330
3 x 120	340	340	290	290	380	380
3 x 150	380	380	330	330	430	430
3 x 185	430	430	370	370	490	490
3 x 240	500	500	430	430	570	570
3 x 300	540	540	470	470	650	650
3 x 400	600	600	530	530	740	740

**Conductors****Class 2 stranded Conductors for Single Core and Multi-Core cables**

1	2	3	4	5	6	7	8
Nominal Cross Sectional Area mm <sup>2</sup>	Minimum Number of Wires in the Conductor						Maximum Resistance of Conductor at 20°C
	Circular		Circular Compacted		Shaped		Plain Annealed Copper Conductor  Plain Wires ohms/Km
	Cu	Al	Cu	Al	Cu	Al	
70.00	19	19	12	12	12	12	0.2680
95.00	19	19	15	15	15	15	0.1930
120.00	37	37	18	15	18	15	0.1530
150.00	37	37	18	15	18	15	0.1240
185.00	37	37	30	30	30	30	0.0991
240.00	37	37	34	30	34	30	0.0754
300.00	61	61	34	30	34	30	0.0601
400.00	61	61	53	53	53	53	0.0470

Table in accordance with BS EN 60228:2005 (previously BS6360)

<b>Air Temperature</b>	25°C	30°C	35°C	40°C	45°C	50°C	55°C
<b>Correction Factor</b>	1.00	0.96	0.92	0.88	0.83	0.78	0.73
<b>Ground Temperature</b>	10°C	15°C	20°C	25°C	30°C	35°C	40°C
<b>Correction Factor</b>	1.03	1.00	0.97	0.93	0.89	0.86	0.82
<b>Ground Thermal Resistivity</b>	0.9	1.0	1.2	1.5	2.0	2.5	3.0
<b>Correction Factor</b>	1.06	1.04	1.00	0.92	0.82	0.74	0.68
<b>Depth of Laying m</b>	0.80	1.00	1.25	1.50	1.75	2.00	2.50
<b>Correction Factor</b>	1.00	0.97	0.95	0.94	0.93	0.91	0.90

The information contained within this datasheet is for guidance only. When selecting accessories such as cleats, glands, etc please note that actual cable dimensions may vary due to manufacturing tolerances.