



# NR/PS/ELP/00008 19/33kV Graphite Covered MDPE Cable



Eland Product Group: A9M

## APPLICATION

Cable used to distribute three phase AC electrical power supplies at nominal system voltages of 33kV to traction substations on DC electrified lines.

## CHARACTERISTICS

**Voltage Rating** U<sub>0</sub>/U  
19/33kV

**Temperature Rating**  
-25°C to +90°C

### Minimum Bending Radius

15 x overall diameter  
(12 x overall diameter adjacent to joints or terminations provided that bending is carefully controlled by use of former)

## CONSTRUCTION

### Conductor

185mm<sup>2</sup>: Class 1 circular solid aluminium  
300mm<sup>2</sup>: Class 2 compacted circular stranded copper

### Conductor Screen

Extruded semi-conducting XLPE (Cross-Linked Polyethylene), solidly bonded

### Insulation

XLPE (Cross-Linked Polyethylene)

### Insulation Screen

Extruded semi-conductive XLPE (Cross-Linked Polyethylene), strippable

### Bedding Tape

Water swellable semi-conductive tape

### Screen (50mm<sup>2</sup>)

Copper wire screen, helically wound with equalising copper tape

### Separator

Water swellable tape

### Sheath

MDPE (Medium Density Polyethylene) (Graphite Coated)

### Sheath Colour

● Black

## CABLE THIRD-PARTY ACCREDITATION



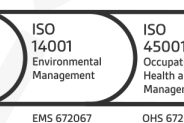
Network Rail (NR) certified and PADS listed as meeting the requirements for installation within their network

## STANDARDS

NR/PS/ELP/00008 (previously RT/E/PS/00008)  
BS 6622, BS 7454, IEC 60502-2, IEC 60840

## 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

FS 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™.





## DIMENSIONS

ELAND PART NO.	NETWORK RAIL PART NO. / PADS	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	NOMINAL THICKNESS OF CONDUCTOR SCREEN mm	NOMINAL THICKNESS OF INSULATION mm	NOMINAL THICKNESS OF INSULATION SCREEN mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
A9M1185ALSOLID	006/122514	1	185	0.9	8	0.9	48.8	2200
A9M1300CUST	006/122511	1	300	0.9	8	0.9	50	4500

## CONDUCTORS

### Class 1 Solid Conductors for Single Core and Multi-Core Cables

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C ALUMINIUM CONDUCTORS, CIRCULAR ohms/km
185	0.164

The above table is in accordance with BS EN 60228 (previously BS 6360)

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

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	MINIMUM NO. OF WIRES IN CONDUCTOR	MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C ohms/km
	Circular Compacted	Annealed Copper Conductor
	Cu	Plain Wires
300	34	0.0601

The above table is in accordance with BS EN 60228 (previously BS 6360)

## ELECTRICAL CHARACTERISTICS

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	CONTINUOUS CURRENT RATING Amps				CAPACITANCE μF/km	INDUCTANCE mH/km		SHORT CIRCUIT RATING FOR 1 SEC kAmps	
	In Ground		In Air			Trefoil	Flat	Conductor	Screen
	Trefoil	Flat	Trefoil	Flat					
185	385	390	435	470	0.205	0.40	0.56	17.1	11
300	640	630	730	780	0.243	0.37	0.53	43.2	11

Permitted current rating of cables is calculated to IEC 287, considering the following data:

Ground Laying Depth	0.7m
Specific Resistance of Ground	1 <sup>o</sup> km/W
Ground Temperature	15°C
Ambient Temperature in Free Air	25°C
Maximum Conductor Temperature	90°C
Conductor Temperature of Short Circuit Current	250°C
Screen Temperature of Short Circuit Current	350°C

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.