

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.

CONSTRUCTION

Conductor

185mm²: Class 1 circular solid aluminium to BS EN 60228 (previously BS 6360)

300mm²: Class 2 compacted circular stranded copper to BS EN 60228 (previously BS 6360)

Conductor Screen

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

Insulation

XLPE (Cross-Linked Polyethylene)

Insulation Screen

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

Bedding Tape

Water swellable semi-conducting tape

Screen (50mm²)

Copper wire screen, helically wound with equalising copper tape

Separator

Water swellable tape

Sheath

MDPE (Medium Density Polyethylene) Type TS2 (Graphite Coated)

CABLE STANDARDS

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



The electrical and dimensional properties of this product are measured by the Technical and Quality Assurance department at the Eland Cables laboratory. Cable performance in respect of conductor resistance, construction quality (workmanship), dimensional consistency, and other parameters are verified to published standards and approved product drawings. Conformance to RoHS (Restriction of the use of Hazardous Substances) is determined and confirmed.

CHARACTERISTICS

Voltage Rating (U_o/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)

Sheath Colour

● Black

DIMENSIONS

ELAND PART NO.	NETWORK RAIL PART NO. / PADS	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm ²	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 ²	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 ²	MINIMUM NO. OF WIRES IN CONDUCTOR	MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C
	Circular Compacted	Annealed Copper Conductor
	Cu	Plain Wires ohms/km
300	34	0.0601

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

ELECTRICAL CHARACTERISTICS

NOMINAL CROSS SECTIONAL AREA mm ²	CONTINUOUS CURRENT RATING				CAPACITANCE μF/km	INDUCTANCE mH/km		SHORT CIRCUIT RATING FOR 1 SEC kAmps	
	In Ground Amps		In Air Amps			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 according to IEC 287, considering the following data:

Ground Laying Depth	0.7m
Specific Resistance of Ground	1 ^Ω /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.