

NR/PS/ELP/00008 25/44kV Graphite Covered LSZH Cable



Eland Product Group: **A9M**

APPLICATION

Cable used to distribute three phase a.c. electrical power to 25kV – 0V – 25kV autotransformer systems on AC electrified lines with LSZH sheath for use in tunnels and stations.

CONSTRUCTION

Conductor

Class 2 compacted circular stranded copper conductor according to BS EN 60228 (previously BS 6360)

Conductor Screen

Extruded semi-conductive 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 (83mm²)

Copper wire screen, helically wound with equalising copper tape

Separator

Water swellable tape

Sheath

LSZH (Low Smoke Zero Halogen) graphite coated

CABLE STANDARDS

NR/PS/ELP/00008 (previously RT/E/PS/00008) BS 6622, BS 6234, BS 7454, BS EN/IEC 60502-2, BS EN/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)

25/44kV

Operating Temperature

-25°C to +90°C

Minimum Bending Radius

Fixed: 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
6/187803	0006/187803	1	400	0.9	12	0.5	61	6467

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
400	61	0.0407

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					
400	673	686	816	895	0.26	0.34	0.56	57.2	13.15

Permitted current rating of cables is calculated 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