

Low Voltage Aluminium Waveform Cable



Eland Product Group: **A1S**

APPLICATION

A 3 phased shaped aluminium conductor with helical concentric copper neutral/earth conductors for use on IDNO adoptable networks.

CONSTRUCTION

Conductor

Class 1 solid aluminium conductor

Insulation

XLPE (Cross-Linked Polyethylene)

Separator

Binding yarns or tape

Bedding

Rubber

Screen

Copper wires in helical concentric lay

Outer Sheath

PVC (Polyvinyl Chloride)

CABLE STANDARDS

BS 7870-3-40, BS EN 60228



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)

600/1000V

Minimum Bending Radius during Installation (mm)

95mm² - 285mm

185mm² - 375mm

300mm² - 455mm

Sheath Colour

● Black

DIMENSIONS

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm ²	MIN AVERAGE THICKNESS INSULATION mm	MIN THICKNESS INSULATION ANY POINT mm	MIN AVERAGE THICKNESS OUTER SHEATH mm	MIN THICKNESS OUTER SHEATH ANY POINT mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
A1S0395	3	95	1.1	0.89	2.1	1.68	36	1980
A1S03185	3	185	1.6	1.34	2.5	2.02	46	3520
A1S03300	3	300	1.8	1.52	2.8	2.28	56	4810
A1S0495	4	95	1.1	1.05	2.2	2.1	36	2300
A1S04185	4	185	1.8	1.65	2.65	2.55	48	4200
A1S04300	4	300	1.9	1.8	3.25	3.1	60	6100

CONDUCTORS

NOMINAL CROSS SECTIONAL AREA mm ²	MAXIMUM DC RESISTANCE PHASE CONDUCTOR AT 20°C ohms/km	MAXIMUM DC RESISTANCE NEUTRAL/EARTH CONDUCTOR AT 20°C ohms/km	MAXIMUM AC RESISTANCE CONDUCTOR AT 90°C ohms/km
95	0.320	0.320	0.411
185	0.164	0.164	0.211
300	0.100	0.164	0.130

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

CONCENTRIC NEUTRAL/EARTH CONDUCTOR

NOMINAL CROSS SECTIONAL AREA mm ²	APPROX. NO. OF WIRES	APPROX. DIAMETER OF WIRES mm	APPROX. LENGTH OF LAY mm
95	22	1.85	250
185	41	1.85	300
300	41	1.85	440

ELECTRICAL CHARACTERISTICS

NOMINAL CROSS SECTIONAL AREA mm ²	APPROX. REACTANCE AT 50Hz ohms/km	APPROX. VOLTAGE DROP mV/A/m	ZERO PHASE SEQUENCE RESISTANCE ohms/Km	ZERO PHASE SEQUENCE REACTANCE ohms/Km	SHORT CIRCUIT RATING FOR 1 SEC KA
95	0.073	0.25	0.241	0.086	6.6
185	0.073	0.33	0.124	0.077	14.2
300	0.072	0.41	0.084	0.074	22.7

NOMINAL CROSS SECTIONAL AREA mm ²	NOMINAL INTERNAL DIAMETER DUCTS mm	CURRENT RATINGS (A)		
		DIRECT IN GROUND	IN DUCTS	IN AIR
95	70	244	227	232
185	90	353	328	364
300	110	461	429	508

*Buried direct in ground 0.45mtr deep, +15°C ambient, soil thermal resistivity of 1.2°C m/w.