

# Low Voltage Aluminium LSZH 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 with LSZH sheathing for internal installations.

## CHARACTERISTICS

**Voltage Rating** Uo/U  
0.6/1kV

### Minimum Bending Radius during installation

95mm<sup>2</sup>: 8 x overall diameter  
185mm<sup>2</sup>: 9 x overall diameter  
300mm<sup>2</sup>: 10 x overall diameter

## 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

LSZH (Low Smoke Zero Halogen)

### Sheath Colour

● Orange

## STANDARDS

BS 7870-3-50, BS 7870-1, IEC/EN 60228

Flame retardant according to IEC/EN 60332-1-2,  
IEC/EN 60332-3-24

Low Smoke according to IEC/EN 61034-1/2

## THE CABLE LAB<sup>®</sup>

AN ISO/IEC 17025 AND IECEE CBTL ACCREDITED FACILITY

Our world-class testing facility assures the quality and compliance of this cable through a continuous and rigorous testing regime.



## SUSTAINABILITY COMMITMENT

We are on a journey to Net Zero.

We've committed to near-term emissions reductions and a net-zero target with the Science Based Targets initiative and we're a signatory to the United Nations Global Compact Sustainable Development Goals.

Learn more about embodied carbon and our carbon emissions reduction actions, our comprehensive recycling services, and wider ESG activities for sustainable operations at: [www.elandcables.com/company/about-us/esg-sustainability](http://www.elandcables.com/company/about-us/esg-sustainability)



## REGULATORY COMPLIANCE

This cable meets the requirements of the RoHS Directive 2015/65/EU and Reach Directive EC 1907/2006. RoHS compliance has been tested and confirmed by The Cable Lab<sup>®</sup>.





## DIMENSIONS

| ELAND PART NO. | NO. OF CORES | NOMINAL CROSS SECTIONAL AREA<br>mm <sup>2</sup> | MINIMUM AVERAGE THICKNESS OF INSULATION<br>mm | MINIMUM THICKNESS OF INSULATION AT ANY POINT<br>mm | MINIMUM AVERAGE THICKNESS OF OUTER SHEATH<br>mm | MINIMUM THICKNESS OF OUTER SHEATH AT ANY POINT<br>mm | NOMINAL OVERALL DIAMETER<br>mm | NOMINAL WEIGHT<br>kg/km |
|----------------|--------------|---|---|--|---|--|--------------------------------|-------------------------|
| A1S3095-LSOH   | 3            | 95  | 1.1   | 0.89   | 2.1   | 1.68   | 36                             | 1980                    |
| A1S3185-LSOH   | 3            | 185   | 1.6   | 1.34   | 2.5   | 2.02   | 46                             | 3520                    |
| A1S3300-LSOH   | 3            | 300   | 1.8   | 1.52   | 2.8   | 2.28   | 56                             | 4810                    |
| A1S4095-LSOH   | 4            | 95  | 1.1   | 1.05   | 2.2   | 2.1  | 36                             | 2300                    |
| A1S4185-LSOH   | 4            | 185   | 1.8   | 1.65   | 2.65  | 2.55   | 48                             | 4200                    |
| A1S4300-LSOH   | 4            | 300   | 1.9   | 1.8  | 3.25  | 3.1  | 60                             | 6100                    |

## CONDUCTORS

| NOMINAL CROSS SECTIONAL AREA<br>mm <sup>2</sup> | MAXIMUM DC RESISTANCE PHASE CONDUCTOR AT 20°C<br>ohm/km | MAXIMUM DC RESISTANCE NEUTRAL/ EARTH CONDUCTOR AT 20°C<br>ohm/km | MAXIMUM AC RESISTANCE CONDUCTOR AT 90°C<br>ohm/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 EN 60228

## CONCENTRIC NEUTRAL/EARTH CONDUCTOR

| NOMINAL CROSS SECTIONAL AREA<br>mm <sup>2</sup> | APPROX. NO. OF WIRES | NOMINAL DIAMETER OF WIRES<br>mm | APPROX. LENGTH OF LAY<br>mm |
|---|----------------------|---------------------------------|-----------------------------|
| 95  | 22                   | 1.85                            | 250                         |
| 185   | 41                   | 1.85                            | 300                         |
| 300   | 41                   | 1.85                            | 440                         |

## ELECTRICAL CHARACTERISTICS

| NOMINAL CROSS SECTIONAL AREA<br>mm <sup>2</sup> | NOMINAL REACTANCE AT 50Hz<br>ohms/km | NOMINAL VOLTAGE DROP<br>mV/A/m | ZERO PHASE SEQUENCE RESISTANCE<br>ohms/km | ZERO PHASE SEQUENCE REACTANCE<br>ohms/km | SHORT CIRCUIT RATING FOR 1 SECOND<br>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<br>mm <sup>2</sup> | NOMINAL INTERNAL DIAMETER DUCTS<br>mm | CURRENT RATING<br>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.

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.