



# BS 6724 Copper Conductor Single Core AWA LSZH BASEC 0.6/1kV Cable



Eland Product Group: A9A

## APPLICATION

Single core LSZH cable with aluminium wire armour (AWA). Power and auxiliary fixed wiring cables for use in power networks, underground, outdoor and indoor applications and for use in cable ducting. For installation where fire, smoke emission and toxic fumes create a potential threat to life and equipment.

## CHARACTERISTICS

**Voltage Rating** U<sub>o</sub>/U  
0.6/1kV

**Temperature Rating**  
Fixed: -20°C to +90°C

**Minimum Bending Radius**  
Fixed: 6 x overall diameter

## CONSTRUCTION

**Conductor**  
Class 2 stranded copper conductor

**Insulation**  
XLPE (Cross-Linked Polyethylene)

**Bedding**  
LSZH (Low Smoke Zero Halogen)

**Armour**  
AWA (Aluminium Wire Armour)

**Sheath**  
LSZH (Low Smoke Zero Halogen)

**Core Identification**  
● Brown

**Sheath Colour**  
● Black

## CABLE THIRD-PARTY ACCREDITATIONS



Cables are tested and accredited by BASEC, The British Approvals Service for Cables

## STANDARDS

BS 6724, IEC/EN 60502-1, EN 60228,

Low Smoke Zero Halogen according to IEC/EN 60754-1/2, IEC/EN 61034-2  
Flame Retardant according to IEC/EN 60332-1-2, IEC/EN 60332-3-24 Cat C

## 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 is compliant with European Regulation EN 50575, the Construction Products Regulation.



This cable meets the requirements of the Low Voltage Directive 2014/35/EU and 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™.



KM 634267





## DIMENSIONS

| ELAND PART NO. | NO. OF CORES | NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup> | NOMINAL THICKNESS OF INSULATION mm | NOMINAL OVERALL DIAMETER mm |         | NOMINAL WEIGHT kg/km | CW GLAND | WRAPAROUND CLEATS |
|----------------|--------------|--|------------------------------------|-----------------------------|---------|----------------------|----------|-------------------|
|                |              |  |                                    | Under Armour                | Overall |                      |          |                   |
| A9AWA1050LSZH  | 1            | 50   | 1                                  | 12.7                        | 17.5    | 800                  | 20       | CC7               |
| A9AWA1070LSZH  | 1            | 70   | 1.1                                | 14.7                        | 20.2    | 960                  | 25       | CC8               |
| A9AWA1095LSZH  | 1            | 95   | 1.1                                | 16.6                        | 22.3    | 1240                 | 25       | CC9               |
| A9AWA1120LSZH  | 1            | 120  | 1.2                                | 18.5                        | 24.2    | 1510                 | 25       | CC10              |
| A9AWA1150LSZH  | 1            | 150  | 1.4                                | 20.8                        | 27.4    | 1900                 | 32       | CC11              |
| A9AWA1185LSZH  | 1            | 185  | 1.6                                | 23.2                        | 30      | 2320                 | 32       | CC12              |
| A9AWA1240LSZH  | 1            | 240  | 1.7                                | 26                          | 32.8    | 2930                 | 32       | CC14              |
| A9AWA1300LSZH  | 1            | 300  | 1.8                                | 28.6                        | 35.6    | 3580                 | 40       | CC16              |
| A9AWA1400LSZH  | 1            | 400  | 2                                  | 32.4                        | 40.5    | 4600                 | 40       | CC16              |
| A9AWA1500LSZH  | 1            | 500  | 2.2                                | 36                          | 44.2    | 5770                 | 50S      | CC18              |
| A9AWA1630LSZH  | 1            | 630  | 2.4                                | 40                          | 48.8    | 7250                 | 50       | CC20              |
| A9AWA1800LSZH  | 1            | 800  | 2.6                                | 45.6                        | 55.4    | 9381                 | 63S      | -                 |
| A9AWA11000LSZH | 1            | 1000   | 2.8                                | 50.6                        | 60.6    | 11540                | 63S      | -                 |

## CONDUCTORS

### 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                          |    | Circular Compacted |    | Shaped |    | Annealed Copper Conductor                       |
|  | Cu                                | Al | Cu                 | Al | Cu     | Al | Plain Wires                                     |
| 50   | 19                                | 19 | 6                  | 6  | 6      | 6  | 0.387   |
| 70   | 19                                | 19 | 12                 | 12 | 12     | 12 | 0.268   |
| 95   | 19                                | 19 | 15                 | 15 | 15     | 15 | 0.193   |
| 120  | 37                                | 37 | 18                 | 15 | 18     | 15 | 0.153   |
| 150  | 37                                | 37 | 18                 | 15 | 18     | 15 | 0.124   |
| 185  | 37                                | 37 | 30                 | 30 | 30     | 30 | 0.0991  |
| 240  | 37                                | 37 | 34                 | 30 | 34     | 30 | 0.0754  |
| 300  | 61                                | 61 | 34                 | 30 | 34     | 30 | 0.0601  |
| 400  | 61                                | 61 | 53                 | 53 | 53     | 53 | 0.047   |
| 630  | 91                                | 91 | 53                 | 53 | 53     | 53 | 0.0283  |
| 800  | 91                                | 91 | 53                 | 53 | -      | -  | 0.0221  |
| 1000   | 91                                | 91 | 53                 | 53 | -      | -  | 0.0176  |

The above table is in accordance with EN 60228



## ELECTRICAL CHARACTERISTICS XLPE/LSZH/AWA/LSZH

### Current Carrying Capacity

| NOMINAL CROSS SECTIONAL AREA<br>mm <sup>2</sup> | REFERENCE METHOD C<br>(CLIPPED DIRECT)<br>Amps |                                   | REFERENCE METHOD F<br>(IN FREE AIR OR ON A PERFORATED CABLE TRAY, HORIZONTAL OR VERTICAL)<br>Amps |                              |                                 |                              |            |                          |            |                              |      |
|---|--|-----------------------------------|---|------------------------------|---------------------------------|------------------------------|------------|--------------------------|------------|------------------------------|------|
|   | TOUCHING                                       |                                   | TOUCHING  |                              |                                 | SPACED BY ONE CABLE DIAMETER |            |                          |            |                              |      |
|   | 2 Cables Single-Phase AC or DC Flat            | 3 or 4 Cables Three-Phase AC Flat | 2 Cables Single-Phase AC or DC Flat   | 3 Cables Three-Phase AC Flat | 3 Cables Three-Phase AC Trefoil | 2 Cables DC                  |            | 2 Cables Single-Phase AC |            | 3 or 4 Cables Three-Phase AC |      |
| Horizontal                                      |  |                                   |   |                              |                                 | Vertical                     | Horizontal | Vertical                 | Horizontal | Vertical                     |      |
| 50  | 237  | 220                               | 253   | 232                          | 222                             | 284                          | 270        | 282                      | 266        | 288                          | 266  |
| 70  | 303  | 277                               | 322   | 293                          | 285                             | 356                          | 349        | 357                      | 337        | 358                          | 331  |
| 95  | 367  | 333                               | 389   | 352                          | 346                             | 446                          | 426        | 436                      | 412        | 425                          | 393  |
| 120   | 425  | 383                               | 449   | 405                          | 402                             | 519                          | 497        | 504                      | 477        | 485                          | 449  |
| 150   | 488  | 437                               | 516   | 462                          | 463                             | 600                          | 575        | 566                      | 539        | 549                          | 510  |
| 185   | 557  | 496                               | 587   | 524                          | 529                             | 688                          | 660        | 643                      | 614        | 618                          | 574  |
| 240   | 656  | 579                               | 689   | 612                          | 625                             | 815                          | 782        | 749                      | 714        | 715                          | 666  |
| 300   | 755  | 662                               | 792   | 700                          | 720                             | 943                          | 906        | 842                      | 805        | 810                          | 755  |
| 400   | 853  | 717                               | 899   | 767                          | 815                             | 1137                         | 1094       | 929                      | 889        | 848                          | 797  |
| 500   | 962  | 791                               | 1016  | 851                          | 918                             | 1314                         | 1266       | 1032                     | 989        | 923                          | 871  |
| 630   | 1082   | 861                               | 1146  | 935                          | 1027                            | 1528                         | 1474       | 1139                     | 1092       | 992                          | 940  |
| 800   | 1170   | 904                               | 1246  | 987                          | 1119                            | 1809                         | 1744       | 1204                     | 1155       | 1042                         | 978  |
| 1000  | 1261   | 961                               | 1345  | 1055                         | 1214                            | 2100                         | 2026       | 1289                     | 1238       | 1110                         | 1041 |

Ambient temperature: 30°C

Conductor operating temperature: 90°C

Notes

1. Where a conductor operates at a temperature exceeding 70°C it must be ascertained that the equipment connected to the conductor is suitable for the conductor operating temperature (see Regulation 512.1.2 of the 18th Edition of IEE Wiring Regulations).
2. Where cables in this table are connected to equipment or accessories designed to operate at a temperature not exceeding 70°C, the current ratings given in the equivalent table for 70°C thermoplastic insulated cables (Table 4D3A) must be used (see Regulation 523.1 of the 18th Edition of IEE Wiring Regulations).

The above table is in accordance with Table 4E3A of the 18th Edition of IEE Wiring Regulations BS7671 and IEC 60364-5-52



## VOLTAGE DROP

| NOMINAL CROSS SECTIONAL AREA<br>mm <sup>2</sup> | TWO CORE CABLE DC | REFERENCE METHOD C & F (CLIPPED DIRECT, ON TRAY OR IN FREE AIR)<br>mV/A/m |       |       |         |      |      |                              |       |       |                   |       |      |                  |       |      |
|---|-------------------|---|-------|-------|---------|------|------|------------------------------|-------|-------|-------------------|-------|------|------------------|-------|------|
|   |                   | 2 Cables Single-Phase AC  |       |       |         |      |      | 3 or 4 Cables Three-Phase AC |       |       |                   |       |      |                  |       |      |
|   |                   | Touching  |       |       | Spaced* |      |      | Trefoil and Touching         |       |       | Flat and Touching |       |      | Flat and Spaced* |       |      |
|   |                   | r   | x     | z     | r       | x    | z    | r                            | x     | z     | r                 | x     | z    | r                | x     | z    |
| 50  | 0.980             | 0.990   | 0.210 | 1.000 | 0.980   | 0.29 | 1.00 | 0.860                        | 0.180 | 0.870 | 0.840             | 0.250 | 0.88 | 0.840            | 0.330 | 0.90 |
| 70  | 0.670             | 0.680   | 0.200 | 0.710 | 0.690   | 0.29 | 0.75 | 0.590                        | 0.170 | 0.620 | 0.600             | 0.250 | 0.65 | 0.620            | 0.320 | 0.70 |
| 95  | 0.490             | 0.510   | 0.195 | 0.550 | 0.530   | 0.28 | 0.60 | 0.440                        | 0.170 | 0.470 | 0.460             | 0.240 | 0.52 | 0.490            | 0.310 | 0.58 |
| 120   | 0.390             | 0.410   | 0.190 | 0.450 | 0.430   | 0.27 | 0.51 | 0.350                        | 0.165 | 0.390 | 0.380             | 0.240 | 0.44 | 0.410            | 0.300 | 0.51 |
| 150   | 0.310             | 0.330   | 0.185 | 0.380 | 0.360   | 0.27 | 0.45 | 0.290                        | 0.160 | 0.330 | 0.310             | 0.230 | 0.39 | 0.340            | 0.290 | 0.45 |
| 185   | 0.250             | 0.270   | 0.185 | 0.330 | 0.300   | 0.26 | 0.40 | 0.230                        | 0.160 | 0.280 | 0.260             | 0.230 | 0.34 | 0.290            | 0.290 | 0.41 |
| 240   | 0.195             | 0.210   | 0.180 | 0.280 | 0.240   | 0.26 | 0.35 | 0.180                        | 0.155 | 0.240 | 0.210             | 0.220 | 0.30 | 0.240            | 0.280 | 0.37 |
| 300   | 0.155             | 0.170   | 0.175 | 0.250 | 0.195   | 0.25 | 0.32 | 0.145                        | 0.150 | 0.210 | 0.170             | 0.220 | 0.28 | 0.200            | 0.270 | 0.34 |
| 400   | 0.115             | 0.145   | 0.170 | 0.220 | 0.180   | 0.24 | 0.30 | 0.125                        | 0.150 | 0.195 | 0.160             | 0.210 | 0.27 | 0.200            | 0.270 | 0.33 |
| 500   | 0.093             | 0.125   | 0.170 | 0.210 | 0.165   | 0.24 | 0.29 | 0.105                        | 0.145 | 0.180 | 0.145             | 0.200 | 0.25 | 0.190            | 0.240 | 0.31 |
| 630   | 0.073             | 0.105   | 0.165 | 0.195 | 0.150   | 0.23 | 0.27 | 0.092                        | 0.145 | 0.170 | 0.135             | 0.195 | 0.24 | 0.175            | 0.230 | 0.29 |
| 800   | 0.056             | 0.090   | 0.160 | 0.190 | 0.145   | 0.23 | 0.27 | 0.086                        | 0.140 | 0.165 | 0.130             | 0.180 | 0.23 | 0.175            | 0.195 | 0.26 |
| 1000  | 0.045             | 0.092   | 0.155 | 0.180 | 0.140   | 0.21 | 0.25 | 0.080                        | 0.135 | 0.155 | 0.125             | 0.170 | 0.21 | 0.165            | 0.180 | 0.24 |

Conductor operating temperature: 90°C

r = Resistive Component

x = Reactive Component

z = Impedance Value

\* Spacings larger than one cable diameter will result in a larger voltage drop.

The above table is in accordance with Table 4E3B of the 18th Edition of IEE Wiring Regulations BS7671 and IEC 60364-5-52

For cables having conductors of 16mm<sup>2</sup> or less cross sectional area their inductances can be ignored and (mV/A/m)r values only are tabulated. For cables having conductors greater than 16mm<sup>2</sup>, cross sectional area the impedance values are given as (mV/A/m)z, together with the resistive component (mV/A/m)r and the reactive component (mV/A/m)x.

The above paragraph is extracted from Appendix 4 of the 18th Edition of IEE Wiring Regulations.

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.