

# RZ1-K XLPE LSZH Flexible Cable



Eland Product Group: A9R

## APPLICATION

For installation where fire, smoke emission and toxic fumes create a potential threat to life and equipment. A flexible power and control cable designed for fixed applications. Manufactured with flexible conductors in order to facilitate installations with sinuous courses.

## CHARACTERISTICS

**Voltage Rating** U<sub>0</sub>/U  
0.6/1kV

**Temperature Rating**  
-15°C to +90°C

**Minimum Bending Radius**  
5 x overall diameter

## CONSTRUCTION

### Conductor

Class 5 flexible copper conductor

### Insulation

XLPE (Cross-Linked Polyethylene)

### Sheath

LSZH (Low Smoke Zero Halogen)

### Core Identification

3 core: ● Green/Yellow ● Blue ● Brown

4 core: ● Green/Yellow ● Brown ● Black ● Grey

5 core: ● Green/Yellow ● Blue ● Brown ● Black ● Grey

7 core: ● Black with ○ White numbers

### Sheath Colour

● Green

● Black available on request

## STANDARDS

IEC 60502-1, EN 60228

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

Low Smoke Zero Halogen according to IEC/EN  
60754-1/2, 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](https://www.elandcables.com/company/about-us/esg-sustainability)



## 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, the RoHS Directive 2015/85/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<br>SECTIONAL AREA<br>mm <sup>2</sup> | NOMINAL THICKNESS<br>OF INSULATION<br>mm | NOMINAL OVERALL<br>DIAMETER<br>mm | NOMINAL<br>WEIGHT<br>kg/km |
|----------------|--------------|----------------------------------------------------|------------------------------------------|-----------------------------------|----------------------------|
| A9R01025LS     | 1            | 2.5                                                | 0.7                                      | 5.2                               | 45                         |
| A9R01040LS     | 1            | 4                                                  | 0.7                                      | 5.8                               | 61                         |
| A9R01060LS     | 1            | 6                                                  | 0.7                                      | 6.35                              | 80                         |
| A9R0110LS      | 1            | 10                                                 | 0.7                                      | 7.25                              | 120                        |
| A9R0116LS      | 1            | 16                                                 | 0.7                                      | 8.3                               | 174                        |
| A9R0125LS      | 1            | 25                                                 | 0.9                                      | 9.95                              | 258                        |
| A9R0135LS      | 1            | 35                                                 | 0.9                                      | 11.15                             | 349                        |
| A9R0150LS      | 1            | 50                                                 | 1                                        | 12.75                             | 484                        |
| A9R0170LS      | 1            | 70                                                 | 1.1                                      | 14.8                              | 676                        |
| A9R0195LS      | 1            | 95                                                 | 1.1                                      | 16.9                              | 885                        |
| A9R01120LS     | 1            | 120                                                | 1.2                                      | 18.9                              | 1124                       |
| A9R01150LS     | 1            | 150                                                | 1.4                                      | 20.95                             | 1393                       |
| A9R01185LS     | 1            | 185                                                | 1.6                                      | 23.9                              | 1655                       |
| A9R01240LS     | 1            | 240                                                | 1.7                                      | 26.2                              | 2214                       |
| A9R01300LS     | 1            | 300                                                | 1.8                                      | 28.3                              | 2697                       |
| A9R01400LS     | 1            | 400                                                | 2                                        | 31.4                              | 3389                       |
| A9R01500LS     | 1            | 500                                                | 2.2                                      | 37.4                              | 4776                       |
| A9R01630LS     | 1            | 630                                                | 2.4                                      | 42.7                              | 6276                       |
| A9R02015LS     | 2            | 1.5                                                | 0.7                                      | 8.2                               | 94                         |
| A9R02025LS     | 2            | 2.5                                                | 0.7                                      | 9.2                               | 122                        |
| A9R02040LS     | 2            | 4                                                  | 0.7                                      | 10.3                              | 165                        |
| A9R02060LS     | 2            | 6                                                  | 0.7                                      | 11.3                              | 216                        |
| A9R0210LS      | 2            | 10                                                 | 0.7                                      | 13.2                              | 319                        |
| A9R0216LS      | 2            | 16                                                 | 0.7                                      | 16.4                              | 503                        |
| A9R03015LS     | 3+E          | 1.5                                                | 0.7                                      | 8.6                               | 108                        |
| A9R03025LS     | 3+E          | 2.5                                                | 0.7                                      | 9.5                               | 144                        |
| A9R03040LS     | 3+E          | 4                                                  | 0.7                                      | 10.7                              | 198                        |
| A9R03060LS     | 3+E          | 6                                                  | 0.7                                      | 12                                | 263                        |
| A9R0310LS      | 3+E          | 10                                                 | 0.7                                      | 13.8                              | 405                        |
| A9R0316LS      | 3            | 16                                                 | 0.7                                      | 17.3                              | 638                        |
| A9R0325LS      | 3            | 25                                                 | 0.9                                      | 20.9                              | 938                        |
| A9R0335LS      | 3            | 35                                                 | 0.9                                      | 23.5                              | 1255                       |
| A9R0350LS      | 3            | 50                                                 | 1                                        | 31.5                              | 1730                       |
| A9R0370LS      | 3            | 70                                                 | 1.1                                      | 35.7                              | 2422                       |
| A9R04015LS     | 4+E          | 1.5                                                | 0.7                                      | 9.3                               | 129                        |
| A9R04025LS     | 4+E          | 2.5                                                | 0.7                                      | 10.3                              | 175                        |
| A9R04040LS     | 4+E          | 4                                                  | 0.7                                      | 11.7                              | 243                        |
| A9R04060LS     | 4+E          | 6                                                  | 0.7                                      | 13                                | 328                        |
| A9R0410LS      | 4+E          | 10                                                 | 0.7                                      | 15.2                              | 498                        |
| A9R0416LS      | 4            | 16                                                 | 0.7                                      | 19.7                              | 783                        |
| A9R0425LS      | 4            | 25                                                 | 0.9                                      | 23.2                              | 1168                       |



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ELAND  
CABLES

| ELAND PART NO. | NO. OF CORES | NOMINAL CROSS SECTIONAL AREA<br>mm <sup>2</sup> | NOMINAL THICKNESS OF INSULATION<br>mm | NOMINAL OVERALL DIAMETER<br>mm | NOMINAL WEIGHT<br>kg/km |
|----------------|--------------|-------------------------------------------------|---------------------------------------|--------------------------------|-------------------------|
| A9R0435LS      | 4            | 35                                              | 0.9                                   | 26.2                           | 1573                    |
| A9R0450LS      | 4            | 50                                              | 1                                     | 31.2                           | 2178                    |
| A9R0470LS      | 4            | 70                                              | 1.1                                   | 34.8                           | 3055                    |
| A9R0495LS      | 4            | 95                                              | 1.1                                   | 39.7                           | 3985                    |
| A9R04120LS     | 4            | 120                                             | 1.2                                   | 44.6                           | 5086                    |
| A9R04150LS     | 4            | 150                                             | 1.4                                   | 49.8                           | 6294                    |
| A9R04185LS     | 4            | 185                                             | 1.6                                   | 54.9                           | 7534                    |
| A9R04240LS     | 4            | 240                                             | 1.7                                   | 62.3                           | 10034                   |
| A9R05015LS     | 5            | 1.5                                             | 0.7                                   | 12.0                           | 150                     |
| A9R05025LS     | 5            | 2.5                                             | 0.7                                   | 13.15                          | 204                     |
| A9R05040LS     | 5            | 4                                               | 0.7                                   | 14.5                           | 286                     |
| A9R05060LS     | 5            | 6                                               | 0.7                                   | 16.1                           | 387                     |
| A9R0510LS      | 5            | 10                                              | 0.7                                   | 18.1                           | 598                     |
| A9R0516LS      | 5            | 16                                              | 0.7                                   | 21.3                           | 931                     |
| A9R0525LS      | 5            | 25                                              | 0.9                                   | 25.4                           | 1407                    |
| A9R0535LS      | 5            | 35                                              | 0.9                                   | 28.4                           | 1091                    |
| A9R0550LS      | 5            | 50                                              | 1                                     | 34.3                           | 2654                    |

## CONDUCTORS

Class 5 Flexible Copper Conductors for Single Core and Multi-Core Cables

| NOMINAL CROSS SECTIONAL AREA<br>mm <sup>2</sup> | MAXIMUM DIAMETER OF WIRES IN CONDUCTOR<br>mm | MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C<br>ohms/km |
|-------------------------------------------------|----------------------------------------------|----------------------------------------------------|
|                                                 |                                              | Plain Wires                                        |
| 2.5                                             | 0.26                                         | 7.98                                               |
| 4                                               | 0.31                                         | 4.95                                               |
| 6                                               | 0.31                                         | 3.3                                                |
| 10                                              | 0.41                                         | 1.91                                               |
| 16                                              | 0.41                                         | 1.21                                               |
| 25                                              | 0.41                                         | 0.78                                               |
| 35                                              | 0.41                                         | 0.554                                              |
| 50                                              | 0.41                                         | 0.386                                              |
| 70                                              | 0.51                                         | 0.272                                              |
| 95                                              | 0.51                                         | 0.206                                              |
| 120                                             | 0.51                                         | 0.161                                              |
| 150                                             | 0.51                                         | 0.129                                              |
| 185                                             | 0.51                                         | 0.1                                                |
| 240                                             | 0.51                                         | 0.0801                                             |
| 300                                             | 0.51                                         | 0.0641                                             |
| 400                                             | 0.51                                         | 0.0486                                             |
| 500                                             | 0.61                                         | 0.0384                                             |
| 630                                             | 0.61                                         | 0.0287                                             |

The above table is in accordance with EN 60028



## ELECTRICAL CHARACTERISTICS

| NO. OF CORES                              | NOMINAL CROSS<br>SECTIONAL AREA<br>mm <sup>2</sup> | CURRENT CARRYING CAPACITY<br>Amps |                  | MAXIMUM DC RESISTANCE<br>AT 20oC<br><br>Amps |
|-------------------------------------------|----------------------------------------------------|-----------------------------------|------------------|----------------------------------------------|
|                                           |                                                    | In Air at 40°C                    | In Earth at 35°C |                                              |
| RZ1-K LSZH Cable - 1 Core                 |                                                    |                                   |                  |                                              |
| 1                                         | 2.5                                                | 29                                | 36               | 17.624                                       |
| 1                                         | 4                                                  | 38                                | 46               | 10.932                                       |
| 1                                         | 6                                                  | 49                                | 58               | 7.288                                        |
| 1                                         | 10                                                 | 68                                | 77               | 4.218                                        |
| 1                                         | 16                                                 | 91                                | 100              | 2.672                                        |
| 1                                         | 25                                                 | 116                               | 128              | 1.723                                        |
| 1                                         | 35                                                 | 144                               | 154              | 1.224                                        |
| 1                                         | 50                                                 | 175                               | 183              | 0.852                                        |
| 1                                         | 70                                                 | 224                               | 224              | 0.601                                        |
| 1                                         | 95                                                 | 271                               | 256              | 0.455                                        |
| 1                                         | 120                                                | 314                               | 302              | 0.356                                        |
| 1                                         | 150                                                | 363                               | 342              | 0.285                                        |
| 1                                         | 185                                                | 415                               | 383              | 0.234                                        |
| 1                                         | 240                                                | 490                               | 442              | 0.177                                        |
| 1                                         | 300                                                | 563                               | 500              | 0.142                                        |
| 1                                         | 400                                                | 823                               | 464              | 0.108                                        |
| 1                                         | 500                                                | 946                               | 525              | 0.085                                        |
| 1                                         | 630                                                | 1088                              | 596              | 0.064                                        |
| RZ1-K LSZH Cable - 2 Core                 |                                                    |                                   |                  |                                              |
| 2                                         | 1.5                                                | 24                                | 27               | 29.374                                       |
| 2                                         | 2.5                                                | 33                                | 36               | 17.624                                       |
| 2                                         | 4                                                  | 45                                | 46               | 10.932                                       |
| 2                                         | 6                                                  | 57                                | 58               | 7.288                                        |
| 2                                         | 10                                                 | 79                                | 77               | 4.218                                        |
| 2                                         | 16                                                 | 105                               | 100              | 2.672                                        |
| RZ1-K LSZH Cable - 3 Core Including Earth |                                                    |                                   |                  |                                              |
| 3                                         | 2.5                                                | 33                                | 36               | 17.624                                       |
| 3                                         | 4                                                  | 45                                | 46               | 10.932                                       |
| 3                                         | 6                                                  | 57                                | 58               | 7.288                                        |
| 3                                         | 10                                                 | 79                                | 77               | 4.218                                        |
| 3                                         | 16                                                 | 105                               | 100              | 2.622                                        |
| RZ1-K LSZH Cable - 3 Core                 |                                                    |                                   |                  |                                              |
| 3                                         | 16                                                 | 87                                | 82               | 2.672                                        |
| 3                                         | 25                                                 | 110                               | 106              | 1.723                                        |
| 3                                         | 35                                                 | 137                               | 129              | 1.224                                        |
| 3                                         | 50                                                 | 167                               | 152              | 0.852                                        |
| 3                                         | 70                                                 | 246                               | 178              | 0.603                                        |
| RZ1-K LSZH Cable - 4 Core Including Earth |                                                    |                                   |                  |                                              |
| 4                                         | 1.5                                                | 20                                | 23               | 29.374                                       |
| 4                                         | 2.5                                                | 26                                | 30               | 17.624                                       |
| 4                                         | 4                                                  | 36                                | 38               | 10.932                                       |
| 4                                         | 6                                                  | 46                                | 48               | 7.288                                        |
| 4                                         | 10                                                 | 65                                | 64               | 4.218                                        |
| RZ1-K LSZH Cable - 4 Core                 |                                                    |                                   |                  |                                              |
| 4                                         | 16                                                 | 87                                | 82               | 2.672                                        |
| 4                                         | 25                                                 | 110                               | 106              | 1.723                                        |



| NO. OF CORES                              | NOMINAL CROSS SECTIONAL AREA<br>mm <sup>2</sup> | CURRENT CARRYING CAPACITY<br>Amps |                  | MAXIMUM DC RESISTANCE<br>AT 20oC<br><br>Amps |
|-------------------------------------------|-------------------------------------------------|-----------------------------------|------------------|----------------------------------------------|
|                                           |                                                 | In Air at 40°C                    | In Earth at 35°C |                                              |
| RZ1-K LSZH Cable - 4 Core                 |                                                 |                                   |                  |                                              |
| 4                                         | 35                                              | 137                               | 129              | 1.224                                        |
| 4                                         | 50                                              | 167                               | 152              | 0.852                                        |
| 4                                         | 70                                              | 246                               | 178              | 0.603                                        |
| 4                                         | 95                                              | 298                               | 211              | 0.457                                        |
| 4                                         | 120                                             | 346                               | 240              | 0.357                                        |
| 4                                         | 150                                             | 399                               | 271              | 0.286                                        |
| 4                                         | 185                                             | 456                               | 304              | 0.235                                        |
| 4                                         | 240                                             | 538                               | 351              | 0.178                                        |
| RZ1-K LSZH Cable - 5 Core Including Earth |                                                 |                                   |                  |                                              |
| 5                                         | 1.5                                             | 20                                | 23               | 29.374                                       |
| 5                                         | 2.5                                             | 26                                | 30               | 17.624                                       |
| 5                                         | 4                                               | 36                                | 38               | 10.932                                       |
| 5                                         | 6                                               | 46                                | 48               | 7.288                                        |
| 5                                         | 10                                              | 65                                | 64               | 4.218                                        |
| 5                                         | 16                                              | 87                                | 82               | 2.672                                        |
| 5                                         | 25                                              | 110                               | 106              | 1.723                                        |
| 5                                         | 35                                              | 137                               | 129              | 1.224                                        |
| 5                                         | 50                                              | 167                               | 152              | 0.852                                        |

## SHORT CIRCUIT CURRENT CARRYING CAPACITIES

The maximum short-circuit current that a cable can withstand depends on the time of reaction of the protection elements installed in the line. The maximum current-carrying capacity in a short-circuit accident, for a specific type of cable, is the result of multiplying the cross-section of the cable for the values shown in the table below.

| TIME s               | 0.1 | 0.2 | 0.3 | 0.5 | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 |
|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Amps/mm <sup>2</sup> | 452 | 320 | 261 | 202 | 143 | 117 | 101 | 90  | 83  |