



# NA2XS(F)2Y XLPE MDPE 8.7/15 (17.5) kV Cable



Eland Product Group: C9XA

## APPLICATION

Medium Voltage Aluminium MDPE power distribution cable with particular application in wind energy installations. Longitudinally sealed cables for aid protection against water ingress.

## CHARACTERISTICS

**Voltage Rating** U<sub>0</sub>/U  
8.7/15 (17.5) kV

## CONSTRUCTION

### Conductor

Class 2 stranded Aluminium

### Conductor Screen

Semi-conductive extruded XLPE (Cross-linked Polyethylene)

### Insulation

XLPE (Cross-linked Polyethylene)

### Insulation Screen

Semi-conductive extruded XLPE (Cross-linked Polyethylene)

### Longitudinal Waterblock

Semi-conductive water swelling tape

### Metallic Screen

Copper Wires and Tape

### Longitudinal Waterblock

Non-conductive water swelling tape

### Sheath

MDPE (Medium Density Polyethylene)

### Sheath Colour

● Black

## STANDARDS

IEC 60502-2, EN 60228

UV Resistant: ISO 4892-3

Abrasion and Tear Resistant: EN 60229-4.1

Impact rated to: AG2 EN 60364-5.51

## 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 mm <sup>2</sup> | NOMINAL DIAMETER OF CONDUCTOR mm | INSULATION mm     |                       | METALLIC SCREEN                       |                          | NOMINAL OUTER DIAMETER OF CABLE mm | NOMINAL WEIGHT kg/km | MAXIMUM PULLING FORCE kN | MINIMUM BENDING RADIUS m |
|----------------|--------------|--|----------------------------------|-------------------|-----------------------|---------------------------------------|--------------------------|------------------------------------|----------------------|--------------------------|--------------------------|
|                |              |  |                                  | Nominal thickness | Nominal diameter over | Nominal cross section mm <sup>2</sup> | Nominal diameter over mm |                                    |                      |                          |                          |
| C9XAF15KV1050  | 1            | 50   | 8.25                             | 4.5               | 18.5                  | 16                                    | 22.6                     | 28.1                               | 720                  | 1.5                      | 0.42                     |
| C9XAF15KV1070  | 1            | 70   | 9.5                              | 4.5               | 19.7                  | 25                                    | 23.8                     | 29.4                               | 890                  | 2.1                      | 0.44                     |
| C9XAF15KV1095  | 1            | 95   | 11.3                             | 4.5               | 21.5                  | 35                                    | 25.6                     | 31.2                               | 1100                 | 2.85                     | 0.47                     |
| C9XAF15KV1120  | 1            | 120  | 12.5                             | 4.5               | 22.7                  | 50                                    | 26.8                     | 32.4                               | 1330                 | 3.6                      | 0.49                     |
| C9XAF15KV1150  | 1            | 150  | 14.2                             | 4.5               | 24.4                  | 50                                    | 28.5                     | 34.1                               | 1440                 | 4.5                      | 0.51                     |
| C9XAF15KV1185  | 1            | 185  | 15.8                             | 4.5               | 26.0                  | 50                                    | 30.1                     | 35.7                               | 1580                 | 5.55                     | 0.54                     |
| C9XAF15KV1240  | 1            | 240  | 17.9                             | 4.5               | 28.1                  | 50                                    | 32.2                     | 37.8                               | 1780                 | 7.2                      | 0.57                     |
| C9XAF15KV1300  | 1            | 300  | 20.0                             | 4.5               | 30.2                  | 50                                    | 34.3                     | 39.9                               | 1990                 | 9                        | 0.60                     |
| C9XAF15KV1400  | 1            | 400  | 22.9                             | 4.5               | 33.1                  | 50                                    | 37.2                     | 42.8                               | 2300                 | 12                       | 0.64                     |
| C9XAF15KV1500  | 1            | 500  | 25.7                             | 4.5               | 36.4                  | 50                                    | 40.7                     | 46.3                               | 2710                 | 15                       | 0.69                     |
| C9XAF15KV1630  | 1            | 630  | 29.3                             | 4.5               | 40.3                  | 50                                    | 44.6                     | 50.3                               | 3190                 | 18.9                     | 0.75                     |
| C9XAF15KV1800  | 1            | 800  | 33.0                             | 4.5               | 44.4                  | 50                                    | 48.7                     | 54.6                               | 3780                 | 24                       | 0.82                     |
| C9XAF15KV11000 | 1            | 1000   | 38.0                             | 4.5               | 49.4                  | 50                                    | 53.7                     | 60.0                               | 4510                 | 30                       | 0.90                     |

## ELECTRICAL CHARACTERISTICS

| NOMINAL CROSS SECTIONAL AREA CONDUCTOR/METALLIC SCREEN mm <sup>2</sup> | MAXIMUM CONDUCTOR DC RESISTANCE AT 20 °C Ω/km | MAXIMUM CONDUCTOR AC RESISTANCE AT 90 °C Ω/km | MAXIMUM METALLIC SCREEN DC RESISTANCE AT 20 °C Ω/km | MAXIMUM METALLIC SCREEN AC RESISTANCE AT 80 °C Ω/km | ELECTRICAL FIELD STRESS kV/mm |            | RESISTANCE Ω/km | CAPACITANCE μF/km | CAPACITANCE REACTANCE Ω/km | CHARGING CURRENT A/km | REACTANCE Ω/km |
|--|---|---|---|---|-------------------------------|------------|-----------------|-------------------|----------------------------|-----------------------|----------------|
|  |   |   |   |   | Conductor screen              | Insulation |                 |                   |                            |                       |                |
| 50/16  | 0.641   | 0.822   | 1.12  | 1.38  | 2.72                          | 1.37       | 2.20            | 0.19              | 17.2                       | 0.51                  | 0.076          |
| 70/25  | 0.443   | 0.568   | 0.72  | 0.89  | 2.63                          | 1.40       | 1.45            | 0.20              | 15.7                       | 0.56                  | 0.070          |
| 95/35  | 0.320   | 0.411   | 0.51  | 0.63  | 2.53                          | 1.45       | 1.04            | 0.23              | 13.9                       | 0.63                  | 0.064          |
| 120/50   | 0.253   | 0.325   | 0.36  | 0.44  | 2.48                          | 1.47       | 0.77            | 0.25              | 12.9                       | 0.67                  | 0.061          |
| 150/50   | 0.206   | 0.265   | 0.36  | 0.44  | 2.42                          | 1.51       | 0.71            | 0.27              | 11.8                       | 0.74                  | 0.057          |
| 185/50   | 0.164   | 0.211   | 0.36  | 0.44  | 2.37                          | 1.53       | 0.65            | 0.29              | 10.9                       | 0.80                  | 0.054          |
| 240/50   | 0.125   | 0.161   | 0.36  | 0.44  | 2.32                          | 1.56       | 0.60            | 0.32              | 9.9                        | 0.88                  | 0.050          |
| 300/50   | 0.100   | 0.130   | 0.36  | 0.44  | 2.28                          | 1.59       | 0.57            | 0.35              | 9.1                        | 0.96                  | 0.048          |
| 400/50   | 0.0778  | 0.102   | 0.36  | 0.44  | 2.24                          | 1.61       | 0.54            | 0.39              | 8.1                        | 1.07                  | 0.044          |
| 500/50   | 0.0605  | 0.0800  | 0.36  | 0.44  | 2.18                          | 1.62       | 0.52            | 0.43              | 7.3                        | 1.18                  | 0.043          |
| 630/50   | 0.0469  | 0.0634  | 0.36  | 0.44  | 2.14                          | 1.65       | 0.51            | 0.49              | 6.5                        | 1.33                  | 0.041          |
| 800/50   | 0.0367  | 0.0512  | 0.36  | 0.44  | 2.11                          | 1.67       | 0.49            | 0.54              | 5.9                        | 1.49                  | 0.039          |
| 1000/50  | 0.0291  | 0.0426  | 0.36  | 0.44  | 2.08                          | 1.69       | 0.48            | 0.61              | 5.2                        | 1.67                  | 0.036          |



| NOMINAL CROSS SECTIONAL AREA<br>CONDUCTOR/<br>METALLIC<br>SCREEN<br>mm <sup>2</sup> | INDUCTANCE<br>L<br>mH/km      |                  |                  | INDUCTANCE REACTANCE<br>XL<br>Ω/km |                  |                  | IMPEDANCE<br>Ω/km             |                  |                  |
|---|-------------------------------|------------------|------------------|------------------------------------|------------------|------------------|-------------------------------|------------------|------------------|
|   | 0 <sup>0</sup> 0 <sup>2</sup> | 000 <sup>3</sup> | 000 <sup>4</sup> | 0 <sup>0</sup> 0 <sup>2</sup>      | 000 <sup>3</sup> | 000 <sup>4</sup> | 0 <sup>0</sup> 0 <sup>2</sup> | 000 <sup>3</sup> | 000 <sup>4</sup> |
|   | 50/16                         | 0.43             | 0.73             | 0.62                               | 0.136            | 0.229            | 0.194                         | 0.833            | 0.853            |
| 70/25   | 0.41                          | 0.70             | 0.60             | 0.130                              | 0.221            | 0.188            | 0.583                         | 0.610            | 0.599            |
| 95/35   | 0.39                          | 0.67             | 0.58             | 0.123                              | 0.212            | 0.181            | 0.429                         | 0.462            | 0.449            |
| 120/50  | 0.38                          | 0.66             | 0.56             | 0.119                              | 0.206            | 0.177            | 0.346                         | 0.385            | 0.370            |
| 150/50  | 0.36                          | 0.63             | 0.55             | 0.114                              | 0.199            | 0.172            | 0.288                         | 0.331            | 0.316            |
| 185/50  | 0.35                          | 0.61             | 0.54             | 0.110                              | 0.193            | 0.169            | 0.238                         | 0.286            | 0.270            |
| 240/50  | 0.34                          | 0.59             | 0.52             | 0.106                              | 0.187            | 0.164            | 0.193                         | 0.247            | 0.230            |
| 300/50  | 0.33                          | 0.58             | 0.51             | 0.103                              | 0.181            | 0.161            | 0.165                         | 0.222            | 0.206            |
| 400/50  | 0.31                          | 0.55             | 0.50             | 0.099                              | 0.174            | 0.157            | 0.142                         | 0.201            | 0.187            |
| 500/50  | 0.31                          | 0.54             | 0.49             | 0.096                              | 0.169            | 0.154            | 0.125                         | 0.187            | 0.174            |
| 630/50  | 0.30                          | 0.52             | 0.48             | 0.093                              | 0.163            | 0.151            | 0.113                         | 0.174            | 0.164            |
| 800/50  | 0.29                          | 0.50             | 0.47             | 0.091                              | 0.157            | 0.149            | 0.104                         | 0.165            | 0.158            |
| 1000/50   | 0.28                          | 0.48             | 0.46             | 0.088                              | 0.151            | 0.146            | 0.098                         | 0.157            | 0.152            |

- 2 - Cables in trefoil formation, the distance between cables De  
3 - Cables in flat formation (in the ground), the distance between cables De + 70 mm  
4 - Cables in flat formation (in the air), the distance between cables 2 × De

## CURRENT RATING FOR SINGLE-CORE CABLES – AMPERES

| NOMINAL CROSS SECTIONAL AREA<br>mm <sup>2</sup> | MAXIMUM SHORT CIRCUIT CAPACITY<br>CONDUCTOR<br>kA/sec | MAXIMUM SHORT CIRCUIT CAPACITY<br>METALLIC SCREEN<br>kA/sec | FLAT FORMATION  |           | TREFOIL FORMATION |           | FLAT FORMATION |           | TREFOIL FORMATION |           |
|---|---|---|-----------------|-----------|-------------------|-----------|----------------|-----------|-------------------|-----------|
|   |   |   | CONFIGURATIONS  |           |                   |           |                |           |                   |           |
|   |   |   | SPP; CB         | BOTH-ENDS | SPP; CB           | BOTH-ENDS | SPP; CB        | BOTH-ENDS | SPP; CB           | BOTH-ENDS |
|   |   |   | CABLES IN EARTH |           |                   |           | CABLES IN AIR  |           |                   |           |
| 50/16   | 4.7   | 3.7   | 228             | 227       | 214               | 214       | 235            | 234       | 198               | 198       |
| 70/25   | 6.6   | 5.3   | 280             | 276       | 262               | 261       | 291            | 288       | 245               | 245       |
| 95/35   | 9.0   | 7.1   | 337             | 329       | 315               | 314       | 357            | 349       | 299               | 298       |
| 120/50  | 11.3  | 9.8   | 384             | 369       | 360               | 357       | 411            | 396       | 344               | 342       |
| 150/50  | 14.2  | 9.8   | 433             | 412       | 406               | 402       | 469            | 449       | 393               | 389       |
| 185/50  | 17.5  | 9.8   | 493             | 462       | 460               | 455       | 540            | 511       | 451               | 446       |
| 240/50  | 22.7  | 9.8   | 574             | 527       | 536               | 527       | 639            | 594       | 533               | 525       |
| 300/50  | 28.4  | 9.8   | 651             | 586       | 607               | 595       | 736            | 673       | 612               | 601       |
| 400/50  | 37.8  | 9.8   | 751             | 658       | 700               | 683       | 865            | 774       | 717               | 702       |
| 500/50  | 47.3  | 9.8   | 861             | 734       | 801               | 778       | 1009           | 880       | 836               | 813       |
| 630/50  | 59.5  | 9.8   | 990             | 818       | 917               | 884       | 1184           | 1003      | 976               | 944       |
| 800/50  | 75.6  | 9.8   | 1128            | 899       | 1037              | 992       | 1373           | 1126      | 1125              | 1080      |
| 1000/50   | 94.5  | 9.8   | 1276            | 983       | 1163              | 1103      | 1591           | 1255      | 1290              | 1228      |

SPB – Single Point Bonding; CB – Cross-bonding Both-ends; BE – Both-ends bonding

Laying conditions at trefoil formation are as below:

- Soil thermal resistivity: 1/2.5 k m/W
- Burial depth: 0.7m
- Ground temperature: 20°C | Ambient temperature: 30°C