



# N2XS(FL)2Y 18/30 (36)kV Cable



Eland Product Group: A9X

## APPLICATION

Medium voltage power cables for distribution networks and generation units, suitable for external installation including in buried cable ducts. UV Resistant.

## CHARACTERISTICS

**Voltage Rating**  $U_0/U$  (Um)  
18/30 (36)kV

**Test Voltage:**  
63kV AC 50Hz (5 mins)

**Temperature Rating**  
-20°C to +60°C  
Permissible Conductor Operating Temperature: +90°C  
Permissible Short Circuit Temperature up to 5 sec: 250°C

**Minimum Bending Radius**  
15 x overall diameter

## CONSTRUCTION

**Conductor**  
Class 2 Stranded Copper

**Conductor Screen**  
Semi-conductive material

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

**Insulation Screen**  
Semi-conductive material (bonded)

**Longitudinal Waterblocking**  
Semi-conductive swellable tape

**Screen**  
Copper wires and copper tape

**Longitudinal Waterblocking**  
Swellable Tapes

**Radial Waterblocking**  
Al/PET (Aluminium /Polyester) Tape bonded to sheath

**Outer Sheath**  
MDPE (Medium Density Polyethylene)

**Sheath Colour**  
● Red ● Black

## STANDARDS

IEC 60502-2, IEC 60228,  
UV Resistant: ISO 4892-3  
Water Resistant: EN 60529  
Abrasion and Tear Resistance: EN 60229-4.1  
Impact rated to: AG2 EN 60364-5.51

## THE CABLE LAB<sup>®</sup>

AN ISO/IEC 17025 AND IECCE 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> |        | NOMINAL CONDUCTOR DIAMETER<br>mm | NUMBER WIRES CONDUCTOR<br>mm | NOM. THICKNESS SEMI-CON. LAYER |             | NOMINAL INSULATION THICKNESS<br>mm | MINIMUM INSULATION THICKNESS<br>mm | NOMINAL DIAMETER OVER INSULATION<br>mm |
|-----------------|--------------|-------------------------------------------------|--------|----------------------------------|------------------------------|--------------------------------|-------------|------------------------------------|------------------------------------|----------------------------------------|
|                 |              | Conductor                                       | Screen |                                  |                              | INNER<br>mm                    | OUTER<br>mm |                                    |                                    |                                        |
| A9XFL30KV1050** | 1            | 50                                              | 16     | 8.10                             | 10 x 2.62                    | 0.50                           | 0.40        | 8.00                               | 7.10                               | 25.1                                   |
| A9XFL30KV1070** | 1            | 70                                              | 16     | 9.70                             | 14 x 2.62                    | 0.50                           | 0.40        | 8.00                               | 7.10                               | 26.7                                   |
| A9XFL30KV1095** | 1            | 95                                              | 16     | 11.4                             | 19 x 2.62                    | 0.50                           | 0.40        | 8.00                               | 7.10                               | 28.4                                   |
| A9XFL30KV1120** | 1            | 120                                             | 16     | 12.7                             | 19 x 2.97                    | 0.50                           | 0.40        | 8.00                               | 7.10                               | 29.7                                   |
| A9XFL30KV1150** | 1            | 150                                             | 25     | 14.5                             | 19 x 3.20                    | 0.50                           | 0.40        | 8.00                               | 7.10                               | 31.5                                   |
| A9XFL30KV1185** | 1            | 185                                             | 25     | 15.9                             | 27 x 2.62                    | 0.50                           | 0.40        | 8.00                               | 7.10                               | 32.9                                   |
| A9XFL30KV1240** | 1            | 240                                             | 25     | 18.6                             | 48 x 2.62                    | 0.50                           | 0.40        | 8.00                               | 7.10                               | 35.6                                   |
| A9XFL30KV1300** | 1            | 300                                             | 25     | 20.7                             | 61 x 2.62                    | 0.50                           | 0.40        | 8.00                               | 7.10                               | 37.7                                   |
| A9XFL30KV1400** | 1            | 400                                             | 35     | 23.5                             | 61 x 2.97                    | 0.50                           | 0.40        | 8.00                               | 7.10                               | 40.5                                   |
| A9XFL30KV1500** | 1            | 500                                             | 35     | 26.5                             | 61 x 3.29                    | 0.50                           | 0.40        | 8.00                               | 7.10                               | 43.5                                   |
| A9XFL30KV1630** | 1            | 630                                             | 35     | 30.2                             | 61 x 3.80                    | 0.50                           | 0.40        | 8.00                               | 7.10                               | 47.7                                   |

\*\* replace with sheath colour - RD = Red BK = Black

| NOMINAL CROSS SECTIONAL AREA<br>mm <sup>2</sup> | NUMBER WIRES SCREEN<br>mm | DIAMETER TAPE SCREEN<br>mm | NOMINAL SHEATH THICKNESS<br>mm | MINIMUM SHEATH THICKNESS<br>mm | NOMINAL OVERALL DIAMETER<br>mm | NOMINAL WEIGHT<br>kg/km | MAXIMUM SIDEWALL PRESSURE<br>N/cm <sup>2</sup> | MAXIMUM PULLING TENSION<br>N |
|-------------------------------------------------|---------------------------|----------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------|------------------------------------------------|------------------------------|
| 50                                              | 44 x 0.66                 | 1x0.1x10                   | 2.00                           | 1.40                           | 32                             | 1300                    | 416                                            | 2500                         |
| 70                                              | 44 x 0.66                 | 1x0.1x10                   | 2.00                           | 1.40                           | 34                             | 1500                    | 534                                            | 3500                         |
| 95                                              | 44 x 0.66                 | 1x0.1x10                   | 2.10                           | 1.48                           | 36                             | 1900                    | 668                                            | 4750                         |
| 120                                             | 44 x 0.66                 | 1x0.1x10                   | 2.10                           | 1.48                           | 37                             | 2250                    | 805                                            | 6000                         |
| 150                                             | 71 x 0.66                 | 1x0.1x10                   | 2.20                           | 1.56                           | 39                             | 2500                    | 935                                            | 7500                         |
| 185                                             | 71 x 0.66                 | 1x0.1x10                   | 2.20                           | 1.56                           | 40                             | 3000                    | 1103                                           | 9250                         |
| 240                                             | 71 x 0.66                 | 1x0.1x10                   | 2.30                           | 1.64                           | 43                             | 3500                    | 1299                                           | 12000                        |
| 300                                             | 71 x 0.66                 | 1x0.1x10                   | 2.40                           | 1.72                           | 46                             | 4250                    | 1499                                           | 15000                        |
| 400                                             | 60 x 0.85                 | 1x0.1x15                   | 2.50                           | 1.80                           | 49                             | 5250                    | 1839                                           | 20000                        |
| 500                                             | 60 x 0.85                 | 1x0.1x15                   | 2.60                           | 1.88                           | 52                             | 6250                    | 2123                                           | 25000                        |
| 630                                             | 60 x 0.85                 | 1x0.1x15                   | 2.70                           | 1.96                           | 56                             | 7250                    | 2436                                           | 31500                        |



## ELECTRICAL CHARACTERISTICS

| NOMINAL<br>CROSS<br>SECTIONAL<br>AREA<br><br>mm <sup>2</sup> | CONDUCTOR<br>DC RESISTANCE<br>AT 20°C<br><br>ohms/km | CONDUCTOR<br>DC RESISTANCE<br>AT 75°C<br><br>ohms/km | CONDUCTOR<br>AC RESISTANCE<br>BY MAX TEMP<br><br>ohms/km | CURRENT CARRYING<br>CAPACITY ( A ) |                | REACTANCE<br><br>ohms/km | CHARGING<br>ADMITTANCE<br><br>A/km | CAPACITANCE<br><br>uF/km | S.C.C<br>CONDUCTOR<br>1SEC<br>kA | S.C.C<br>SCREEN<br>1SEC<br>kA | CONDUCTOR<br>LOSSES IN THE<br>GROUND<br><br>kW/km |
|--------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|----------------------------------------------------------|------------------------------------|----------------|--------------------------|------------------------------------|--------------------------|----------------------------------|-------------------------------|---------------------------------------------------|
|                                                              |                                                      |                                                      |                                                          | In Ground<br>20°C                  | In Air<br>30°C |                          |                                    |                          |                                  |                               |                                                   |
| 50                                                           | 0.387                                                | 0.801                                                | 0.497                                                    | 251                                | 279            | 0.20                     | 0.44                               | 0.12                     | 7.15                             | 3.2                           | 31.3                                              |
| 70                                                           | 0.268                                                | 0.555                                                | 0.344                                                    | 306                                | 348            | 0.19                     | 0.41                               | 0.13                     | 10.1                             | 3.2                           | 32.2                                              |
| 95                                                           | 0.193                                                | 0.399                                                | 0.248                                                    | 363                                | 421            | 0.19                     | 0.38                               | 0.14                     | 13.59                            | 3.2                           | 32.7                                              |
| 120                                                          | 0.153                                                | 0.316                                                | 0.196                                                    | 410                                | 483            | 0.18                     | 0.37                               | 0.15                     | 17.16                            | 3.2                           | 32.9                                              |
| 150                                                          | 0.124                                                | 0.160                                                | 0.256                                                    | 449                                | 540            | 0.18                     | 0.36                               | 0.17                     | 21.45                            | 5.0                           | 32.3                                              |
| 185                                                          | 0.0991                                               | 0.205                                                | 0.128                                                    | 503                                | 615            | 0.17                     | 0.35                               | 0.17                     | 26.46                            | 5.0                           | 32.4                                              |
| 240                                                          | 0.0754                                               | 0.156                                                | 0.0980                                                   | 576                                | 718            | 0.17                     | 0.34                               | 0.20                     | 34.32                            | 5.0                           | 32.5                                              |
| 300                                                          | 0.0601                                               | 0.124                                                | 0.0800                                                   | 641                                | 812            | 0.17                     | 0.32                               | 0.21                     | 42.90                            | 5.0                           | 32.9                                              |
| 400                                                          | 0.0470                                               | 0.0974                                               | 0.0640                                                   | 697                                | 904            | 0.16                     | 0.31                               | 0.24                     | 57.20                            | 7.1                           | 31.1                                              |
| 500                                                          | 0.0366                                               | 0.0758                                               | 0.0510                                                   | 768                                | 1011           | 0.16                     | 0.30                               | 0.26                     | 71.50                            | 7.1                           | 30.1                                              |
| 630                                                          | 0.0283                                               | 0.0420                                               | 0.0586                                                   | 850                                | 1030           | 0.15                     | 0.29                               | 0.29                     | 90.09                            | 7.1                           | 30.3                                              |

Derating factor (ground): 1 (Soil thermal resistivity: 1km/W, Depth 0.8m, Flat formation - touching)

Derating factor (air): 1 (Flat formation - touching)