

# FR-N20XA8E-AR 12/20kV Cable

## Gen to NF C 33-226 - AL/XLPE/MDPE



Eland Product Group: A9X

### CHARACTERISTICS

**Voltage Rating** U<sub>o</sub>/U  
12/20 (24)kV

**Temperature Rating**

Maximum conductor operating temperature: 90°C  
Initial temperature at S.C.C for metallic screen: 80°C  
Maximum conductor temperature during S.C: 250°C

**Minimum Bending Radius**

20 x overall diameter

### CONSTRUCTION

**Conductor**

Class 2 stranded Aluminium

**Conductor Screen**

Extruded Inner Semi Conductor (Bonded Type)

**Insulation**

XLPE (Cross-Linked Polyethylene)

**Insulation Scree**

Extruded Inner Semi Conductor (Strippable Type)

**Waterblocking**

Semi Conductive Longitudinal Waterblocking Tape

**Aluminium Tape**

Applied Longitudinally

**Sheath**

MDPE (Medium Density Polyethylene)

**Sheath Colour**

● Black

### STANDARDS

Gen to NF C 33-226, IEC 60502-2, EN 60228  
Halogen free to IEC/EN 60754-1  
Water resistant to AD7  
UV resistant to ISO 4892

### 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 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 SCREEN CROSS SECTIONAL AREA<br>mm <sup>2</sup> | NOMINAL CONDUCTOR SCREEN THICKNESS<br>mm | NOMINAL INSULATION THICKNESS<br>mm | NOMINAL INSULATION SCREEN THICKNESS<br>mm | NOMINAL SHEATH THICKNESS<br>mm | NOMINAL OVERALL DIAMETER<br>mm | NOMINAL WEIGHT<br>kg/km |
|-----------------|--------------|-------------------------------------------------|--------------------------------------------------------|------------------------------------------|------------------------------------|-------------------------------------------|--------------------------------|--------------------------------|-------------------------|
| A9XANF20KV01050 | 1            | 50                                              | 15                                                     | 0.6                                      | 4.5                                | 0.7                                       | 1.7                            | 25.8                           | 614                     |
| A9XANF20KV01070 | 1            | 70                                              | 17                                                     | 0.6                                      | 4.5                                | 0.7                                       | 1.8                            | 27.6                           | 731                     |
| A9XANF20KV01095 | 1            | 95                                              | 18                                                     | 0.6                                      | 4.5                                | 0.7                                       | 1.8                            | 29.1                           | 833                     |
| A9XANF20KV01120 | 1            | 120                                             | 19                                                     | 0.6                                      | 4.5                                | 0.7                                       | 1.9                            | 30.7                           | 953                     |
| A9XANF20KV01150 | 1            | 150                                             | 20                                                     | 0.6                                      | 4.5                                | 0.7                                       | 1.9                            | 32.9                           | 1090                    |
| A9XANF20KV01185 | 1            | 185                                             | 21                                                     | 0.6                                      | 4.5                                | 0.7                                       | 2                              | 34                             | 1212                    |
| A9XANF20KV01240 | 1            | 240                                             | 22                                                     | 0.6                                      | 4.5                                | 0.7                                       | 2.1                            | 36.6                           | 1440                    |
| A9XANF20KV01300 | 1            | 300                                             | 24                                                     | 0.6                                      | 4.5                                | 0.7                                       | 2.1                            | 39                             | 1674                    |
| A9XANF20KV01400 | 1            | 400                                             | 26                                                     | 0.6                                      | 4.5                                | 0.7                                       | 2.3                            | 41.9                           | 2027                    |
| A9XANF20KV01500 | 1            | 500                                             | 28                                                     | 0.6                                      | 4.5                                | 0.7                                       | 2.4                            | 45.1                           | 2411                    |
| A9XANF20KV01630 | 1            | 630                                             | 31                                                     | 0.7                                      | 4.5                                | 0.7                                       | 2.5                            | 50                             | 3010                    |
| A9XANF20KV01800 | 1            | 800                                             | 34                                                     | 0.7                                      | 4.5                                | 0.7                                       | 2.6                            | 55                             | 3718                    |

## ELECTRICAL CHARACTERISTICS

| NOMINAL CROSS SECTIONAL AREA<br>mm <sup>2</sup> | MAXIMUM CONDUCTOR DC RESISTANCE<br>AT 20 °C<br>Ω/Km | MAXIMUM CONDUCTOR AC RESISTANCE<br>AT OPERATING TEMP. AND 50HZ<br>Ω/Km | CAPACITANCE<br>μF/Km | CHARGING CURRENT<br>A/Km | DIELECTRIC LOSSES<br>W/Km | REACTANCE<br>AT 50 HZ<br>ohm/km | CONDUCTOR S.C.C FOR 1 SEC<br>KA | SCREEN S.C.C FOR 1 SEC<br>KA | CURRENT RATING<br>A |                  |
|-------------------------------------------------|-----------------------------------------------------|------------------------------------------------------------------------|----------------------|--------------------------|---------------------------|---------------------------------|---------------------------------|------------------------------|---------------------|------------------|
|                                                 |                                                     |                                                                        |                      |                          |                           |                                 |                                 |                              | Laid in ground      | Laid in free air |
| 50                                              | 0.641                                               | 0.822                                                                  | 0.207                | 0.78                     | 37.43                     | 0.133                           | 4.72                            | 1.08                         | 175                 | 182              |
| 70                                              | 0.443                                               | 0.5682                                                                 | 0.232                | 0.876                    | 42.06                     | 0.126                           | 6.61                            | 1.23                         | 216                 | 227              |
| 95                                              | 0.32                                                | 0.4106                                                                 | 0.256                | 0.966                    | 46.36                     | 0.120                           | 8.98                            | 1.3                          | 258                 | 275              |
| 120                                             | 0.253                                               | 0.3248                                                                 | 0.278                | 1.049                    | 50.36                     | 0.116                           | 11.34                           | 1.37                         | 297                 | 318              |
| 150                                             | 0.206                                               | 0.2647                                                                 | 0.313                | 1.18                     | 56.62                     | 0.110                           | 14.17                           | 1.44                         | 329                 | 360              |
| 185                                             | 0.164                                               | 0.211                                                                  | 0.327                | 1.233                    | 59.18                     | 0.108                           | 17.48                           | 1.52                         | 377                 | 415              |
| 240                                             | 0.125                                               | 0.1613                                                                 | 0.364                | 1.374                    | 65.97                     | 0.104                           | 22.68                           | 1.59                         | 423                 | 493              |
| 300                                             | 0.1                                                 | 0.1296                                                                 | 0.402                | 1.516                    | 72.75                     | 0.100                           | 28.35                           | 1.73                         | 474                 | 568              |
| 400                                             | 0.0778                                              | 0.1016                                                                 | 0.441                | 1.662                    | 79.80                     | 0.097                           | 37.79                           | 1.88                         | 547                 | 659              |
| 500                                             | 0.0605                                              | 0.0801                                                                 | 0.487                | 1.838                    | 88.24                     | 0.094                           | 47.24                           | 2.02                         | 615                 | 774              |
| 630                                             | 0.0469                                              | 0.0635                                                                 | 0.56                 | 2.113                    | 101.45                    | 0.092                           | 59.52                           | 2.24                         | 720                 | 892              |
| 800                                             | 0.0367                                              | 0.0515                                                                 | 0.635                | 2.394                    | 114.92                    | 0.088                           | 75.59                           | 2.45                         | 815                 | 1028             |

Laying conditions at trefoil formation are as below:

- Soil thermal resistivity 100 °C.Cm/Watt
- Burial depth 0.8 m
- Ground temperature 20 °C
- Air temperature 30 °C
- Frequency 50 Hz

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.