

# H07RN-F AD8 EN 50525-2-21 Flexible Rubber Cable



## APPLICATION

These cables are designed to provide high flexibility and have the capacity to withstand weather, oil/grease, mechanical and thermal stresses. Applications include handling equipment, mobile power supplies, worksites, stage and audio visual equipment, port areas and dams. Also for use in drainage and water treatment, cold environments and severe industrial environments. AD8 rated and suitable for installation in buried ducts.

## CHARACTERISTICS

### Voltage Rating Uo/U

450/750V Suitable for 1kV in fixed application.

### Temperature Rating

Fixed: -30°C to +90°C

Flexed: -15°C to +90°C

### Minimum Bending Radius

Fixed: 4 x overall diameter

Flexed: 6 x overall diameter

## CONSTRUCTION

### Conductor

Class 5 flexible copper conductor

### Insulation

EPR (Ethylene Propylene Rubber)

### Sheath

PCP (Polychloroprene)

### Core Identification

1 core: ● Black

2 core: ● Blue ● Brown

3 core: ● Green/Yellow ● Blue ● Brown

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

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

6 core and above: ● Black with ○ White numbers

● Green/Yellow

### Sheath Colour

● Black

## STANDARDS

EN 50525-2-21, EN 60228

Flame Retardant according to IEC/EN 60332-1-2

Water Resistant according to AD8

UV Resistant

## 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)



SCIENCE  
BASED  
TARGETS

**BUSINESS  
AMBITION FOR 1.5°C**



## 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 SECTIONAL AREA<br>mm <sup>2</sup> | NOMINAL THICKNESS OF INSULATION<br>mm | NOMINAL OVERALL DIAMETER<br>mm | NOMINAL WEIGHT<br>kg/km | A2 GLANDS<br>Brass | A2PL GLAND<br>Plastic |
|----------------|--------------|---|---------------------------------------|--------------------------------|-------------------------|--------------------|-----------------------|
| A6G10015       | 1            | 1.5   | 0.8                                   | 5.8                            | 52                      | 20/16              | 20S                   |
| A6G10025       | 1            | 2.5   | 0.9                                   | 6.5                            | 67                      | 20/16              | 20S                   |
| A6G1004        | 1            | 4   | 1                                     | 7.4                            | 92                      | 20/16              | 20S                   |
| A6G1006        | 1            | 6   | 1                                     | 8.1                            | 119                     | 20S                | 20S                   |
| A6G1010        | 1            | 10  | 1.2                                   | 9.8                            | 185                     | 20S                | 20S                   |
| A6G1016        | 1            | 16  | 1.2                                   | 11.35                          | 258                     | 20                 | 20                    |
| A6G1025        | 1            | 25  | 1.4                                   | 13.3                           | 375                     | 25                 | 20                    |
| A6G1035        | 1            | 35  | 1.4                                   | 14.6                           | 485                     | 25                 | 25                    |
| A6G1050        | 1            | 50  | 1.6                                   | 17.2                           | 669                     | 25                 | 25                    |
| A6G1070        | 1            | 70  | 1.6                                   | 19.35                          | 892                     | 32                 | 32                    |
| A6G1095        | 1            | 95  | 1.8                                   | 22.2                           | 1160                    | 32                 | 32                    |
| A6G1120        | 1            | 120   | 1.8                                   | 24.3                           | 1436                    | 32                 | 32                    |
| A6G1150        | 1            | 150   | 2                                     | 25.9                           | 1748                    | 40                 | 40                    |
| A6G1185        | 1            | 185   | 2.2                                   | 29.7                           | 2142                    | 40                 | 40                    |
| A6G1240        | 1            | 240   | 2.4                                   | 31.5                           | 2698                    | 50S                | 50S                   |
| A6G1300        | 1            | 300   | 2.6                                   | 36.5                           | 3348                    | 50                 | 50S                   |
| A6G1400        | 1            | 400   | 2.8                                   | 40.4                           | 4293                    | 50                 | 50                    |
| A6G1500        | 1            | 500   | 3                                     | 42.6                           | 5262                    | 50                 | 50                    |
| A6G1630        | 1            | 630   | 3                                     | 47.2                           | 6790                    | 63S                | 63S                   |
| A5G02010       | 2            | 1   | 0.8                                   | 8.1                            | 94                      | 20S                | 20S                   |
| A5G02015       | 2            | 1.5   | 0.8                                   | 9                              | 120                     | 20S                | 20S                   |
| A5G02025       | 2            | 2.5   | 0.9                                   | 10.7                           | 173                     | 20S                | 20S                   |
| A5G02040       | 2            | 4   | 1                                     | 12.3                           | 239                     | 20                 | 20                    |
| A5G02060       | 2            | 6   | 1                                     | 13.8                           | 313                     | 25                 | 25                    |
| A5G0210        | 2            | 10  | 1.2                                   | 18.6                           | 563                     | 32                 | 25                    |
| A5G0216        | 2            | 16  | 1.2                                   | 21.7                           | 830                     | 32                 | 32                    |
| A5G0225        | 2            | 25  | 1.4                                   | 25.8                           | 1211                    | 40                 | 40                    |
| A5G03010       | 3            | 1   | 0.8                                   | 8.74                           | 117                     | 20S                | 20S                   |
| A5G03015       | 3            | 1.5   | 0.8                                   | 9.68                           | 147                     | 20S                | 20S                   |
| A5G03025       | 3            | 2.5   | 0.9                                   | 11.48                          | 123                     | 20                 | 20                    |
| A5G03040       | 3            | 4   | 1                                     | 13.2                           | 297                     | 25                 | 25                    |
| A5G03060       | 3            | 6   | 1                                     | 14.78                          | 390                     | 25                 | 25                    |
| A5G0310        | 3            | 10  | 1.2                                   | 19.9                           | 705                     | 32                 | 32                    |
| A5G0316        | 3            | 16  | 1.2                                   | 23.31                          | 1031                    | 32                 | 32                    |
| A5G0325        | 3            | 25  | 1.4                                   | 27.7                           | 1512                    | 40                 | 40                    |
| A5G0335        | 3            | 35  | 1.4                                   | 30.2                           | 1907                    | 50S                | 50S                   |
| A5G0350        | 3            | 50  | 1.6                                   | 35.8                           | 2651                    | 50                 | 50S                   |
| A5G0370        | 3            | 70  | 1.6                                   | 40.1                           | 3484                    | 50                 | 50                    |
| A5G0395        | 3            | 95  | 1.8                                   | 46.4                           | 4594                    | 63S                | 63S                   |
| A5G04010       | 4            | 1   | 0.8                                   | 9.63                           | 142                     | 20S                | 20S                   |
| A5G04015       | 4            | 1.5   | 0.8                                   | 10.63                          | 180                     | 20S                | 20S                   |
| A5G04025       | 4            | 2.5   | 0.9                                   | 12.6                           | 260                     | 20                 | 20                    |
| A5G04040       | 4            | 4   | 1                                     | 14.6                           | 336                     | 25                 | 25                    |
| A5G04060       | 4            | 6   | 1                                     | 16.4                           | 449                     | 25                 | 32                    |
| A5G0410        | 4            | 10  | 1.2                                   | 21.8                           | 833                     | 32                 | 32                    |
| A5G0416        | 4            | 16  | 1.2                                   | 25.4                           | 1138                    | 40                 | 40                    |
| A5G0425        | 4            | 25  | 1.4                                   | 30.7                           | 1714                    | 50S                | 50                    |

| 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 | A2 GLANDS<br>Brass | A2PL GLAND<br>Plastic |
|----------------|--------------|---|---------------------------------------|--------------------------------|-------------------------|--------------------|-----------------------|
| A5G0435        | 4            | 35  | 1.4                                   | 33.4                           | 2204                    | 50S                | 50                    |
| A5G0450        | 4            | 50  | 1.6                                   | 39.6                           | 3029                    | 50                 | -                     |
| A5G0470        | 4            | 70  | 1.6                                   | 44.9                           | 4121                    | 63                 | -                     |
| A5G0495        | 4            | 95  | 1.8                                   | 51.9                           | 5361                    | 63                 | -                     |
| A5G04120       | 4            | 120   | 1.8                                   | 55.3                           | 6546                    | -                  | -                     |
| A5G04150       | 4            | 150   | 2.0                                   | 60.8                           | 8095                    | -                  | -                     |
| A5G04185       | 4            | 185   | 2.2                                   | 65.7                           | 9652                    | -                  | -                     |
| A5G04240       | 4            | 240   | 2.4                                   | 75.7                           | 12614                   | -                  | -                     |
| A5G05015       | 5            | 1.5   | 0.8                                   | 11.8                           | 206                     | 20                 | 20L                   |
| A5G05025       | 5            | 2.5   | 0.9                                   | 14                             | 297                     | 25                 | 25                    |
| A5G05040       | 5            | 4   | 1                                     | 16.2                           | 422                     | 25                 | 25                    |
| A5G05060       | 5            | 6   | 1                                     | 18.2                           | 567                     | 32                 | 32                    |
| A5G0510        | 5            | 10  | 1.2                                   | 24                             | 1010                    | 40                 | 40                    |
| A5G0516        | 5            | 16  | 1.2                                   | 28.2                           | 1400                    | 40                 | 40                    |
| A5G0525        | 5            | 25  | 1.4                                   | 33.9                           | 2096                    | 50S                | 50                    |
| A5G0535        | 5            | 35  | 1.4                                   | 37.2                           | 2700                    | 50                 | 50                    |
| A5G0550        | 5            | 50  | 1.6                                   | 44                             | 3730                    | 63S                | 63S                   |
| A5G0570        | 5            | 70  | 1.6                                   | 48                             | 5033                    | 63                 | -                     |
| A5G0595        | 5            | 95  | 1.6                                   | 53.2                           | 6271                    | 63                 | -                     |
| A5G07015       | 7            | 1.5   | 0.8                                   | 15.13                          | 315                     | 25                 | 25                    |
| A5G07025       | 7            | 2.5   | 0.9                                   | 17.6                           | 445                     | 25                 | 32                    |
| A5G1215        | 12           | 1.5   | 0.8                                   | 18.2                           | 493                     | 25                 | 32                    |
| A5G1225        | 12           | 2.5   | 0.9                                   | 21.4                           | 702                     | 32                 | 32                    |
| A5G1915        | 19           | 1.5   | 0.8                                   | 22.1                           | 710                     | 32                 | 32                    |

## 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<br>IN CONDUCTOR<br>mm | MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C |
|---|---|---|
|   |   | ohms/km                                 |
| 1   | 0.21  | 19.5                                    |
| 1.5   | 0.26  | 13.3                                    |
| 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  | 0.106                                   |
| 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 60228

## ELECTRICAL CHARACTERISTICS (1mm<sup>2</sup> to 2.5mm<sup>2</sup>)

### Current Carrying Capacity and Mass Supportable

| NOMINAL CROSS SECTIONAL AREA<br>mm <sup>2</sup> | CURRENT CARRYING CAPACITY<br>Amps |                      | MAXIMUM MASS SUPPORTABLE BY TWIN FLEXIBLE CABLE<br>(See Regulations 522.7.2 and 559.6.1.5 of the 17th Edition of IEE Wiring Regulations)<br>kg |
|---|-----------------------------------|----------------------|--|
|   | Single-Phase AC or DC             | Three-Phase AC or DC |  |
| 1   | 10                                | 10                   | 5  |
| 1.5   | 16                                | 16                   | 5  |
| 2.5   | 25                                | 20                   | 5  |

### Voltage Drop

| NOMINAL CROSS SECTIONAL AREA<br>mm <sup>2</sup> | DC OR SINGLE-PHASE AC<br>mV/A/m | THREE-PHASE AC<br>mV/A/m |
|---|---------------------------------|--------------------------|
| 1   | 46                              | 40                       |
| 1.5   | 32                              | 27                       |
| 2.5   | 19                              | 16                       |

Conductor operating temperature: 60°C

## ELECTRICAL CHARACTERISTICS (4mm<sup>2</sup> and above)

### Current Carrying Capacity

| NOMINAL CROSS SECTIONAL AREA<br>mm <sup>2</sup> | 60°C CONDUCTOR OPERATING TEMPERATURE<br>Amps           |                      |  | 85°C CONDUCTOR OPERATING TEMPERATURE**<br>Amps         |                               |  |
|---|--|----------------------|--|--|-------------------------------|--|
|   | Single-Phase AC or DC                                  |                      | Three-Phase AC or DC                       | Single-Phase AC or DC                                  |                               | Three-Phase AC or DC                       |
|   | 1 Two Core Cable, With or Without Protective Conductor | 2 Single Core Cables | 1 Three Core, Four Core or Five Core Cable | 1 Two Core Cable, With or Without Protective Conductor | 2 Single Core Cables Touching | 1 Three Core, Four Core or Five Core Cable |
| 4   | 30   | -                    | 26   | 41   | -                             | 36   |
| 6   | 39   | -                    | 34   | 53   | -                             | 47   |
| 10  | 51   | -                    | 47   | 73   | -                             | 64   |
| 16  | 73   | -                    | 63   | 99   | -                             | 86   |
| 25  | 97   | -                    | 83   | 131  | -                             | 114  |
| 35  | -  | 140                  | 102  | -  | 192                           | 140  |
| 50  | -  | 175                  | 124  | -  | 240                           | 170  |
| 70  | -  | 216                  | 158  | -  | 297                           | 216  |
| 95  | -  | 258                  | 192  | -  | 354                           | 262  |
| 120   | -  | 302                  | 222  | -  | 414                           | 303  |
| 150   | -  | 347                  | 255  | -  | 476                           | 348  |
| 185   | -  | 394                  | 291  | -  | 540                           | 397  |
| 240   | -  | 471                  | 343  | -  | 645                           | 467  |
| 300   | -  | 541                  | 394  | -  | 741                           | 537  |
| 400   | -  | 644                  | -  | -  | 885                           | -  |
| 500   | -  | 738                  | -  | -  | 1017                          | -  |
| 630   | -  | 861                  | -  | -  | 1190                          | -  |

Ambient temperature: 30°C

Conductor operating temperature: 60°C / 85°C

The above table for 60°C conductor operating temperature is in accordance with Table 4F1A of the 18th Edition of IEE Wiring Regulations BS7671 and IEC 60364-5-52

\*\* 85°C Table is in accordance with Table 4H2A of the 16th Edition of IEE Wiring Regulations.

The current ratings tabulated are for cables in free air but may also be used for cables resting on a surface. If the cable is to be wound on a drum on load the ratings should be reduced in accordance with NOTE 2 below and for cables which may be covered, NOTE 3 below.

#### 2. Flexible cables wound on reeling drums

The current ratings of cables used on reeling drums are to be reduced by the following factors:

a) Radial type drum

ventilated: 85%  
unventilated: 75%

b) Ventilated cylindrical type drum

1 layer of cable: 85%  
2 layers of cable: 65%  
3 layers of cable: 45%  
4 layers of cable: 35%

A radial type drum is one where spiral layers of cable are accommodated between closely spaced flanges; if fitted with solid flanges the ratings given above should be reduced and the drum is described as non-ventilated. If the flanges have suitable apertures the drum is described as ventilated.

A ventilated cylindrical cable drum is one where layers of cable are accommodated between widely spaced flanges and the drum and end flanges have suitable ventilating apertures.

3. Where cable may be covered or coiled up whilst on load, or the air movement over the cable restricted, the current rating should be reduced.

It is not possible to specify the amount of reduction but the table of rating factors for reeling drums can be used as a guide.

## CURRENT CARRYING CAPACITY (IN DUCT)

| NOMINAL CROSS SECTIONAL AREA<br>mm <sup>2</sup> | SINGLE CORE  |  | 1 TWO CORE CABLE *,<br>SINGLE PHASE A.C. OR D.C.<br>A | 1 THREE CORE CABLE*,<br>THREE PHASE A.C.<br>A |
|---|--|--|---|---|
|   | Three Cables, Three Phase A.C.<br>In Individual Ducts In Ground<br>Laid Horizontal And Spaced<br>A | Three Cables, Three Phase A.C.<br>Trefoil Formation, In One Duct In<br>Ground<br>A |   |   |
| 1.5   | 23   | 21   | 23  | 19  |
| 2.5   | 31   | 27   | 30  | 25  |
| 4   | 40   | 35   | 39  | 32  |
| 6   | 49   | 44   | 49  | 41  |
| 10  | 67   | 59   | 66  | 55  |
| 16  | 85   | 77   | 86  | 72  |
| 25  | 110  | 100  | 111   | 93  |
| 35  | 133  | 121  | 136   | 114   |
| 50  | 163  | 150  | 168   | 141   |
| 70  | 198  | 184  | 207   | 174   |
| 95  | 233  | 217  | 245   | 206   |
| 120   | 268  | 251  | 284   | 238   |
| 150   | 304  | 287  | 324   | 272   |
| 185   | 340  | 323  | 364   | 306   |
| 240   | 397  | 379  | 428   | 360   |
| 300   | 448  | 429  | -   | -   |
| 400   | 519  | 500  | -   | -   |
| 500   | 583  | 565  | -   | -   |
| 630   | 663  | 645  | -   | -   |

\* With or without protective conductor  
Current Carrying Capacity Based On: CEI-UNEL 35026  
Conductor Operating Temperature: 90°C  
Ground Temperature: 20°C  
Depth Of Lay: 0.8m  
Soil Thermal Resistivity: 1.5K.m/W

## FOR AMBIENT GROUND TEMPERATURES OTHER THAN 20°C

| AMBIENT TEMPERATURE<br>°C | 10   | 15   | 25   | 30   | 35   |
|---------------------------|------|------|------|------|------|
| DE-RATING FACTOR          | 1.07 | 1.04 | 0.96 | 0.93 | 0.89 |

FOR DEPTHS OTHER THAN 0.8m

|                  |      |     |      |      |
|------------------|------|-----|------|------|
| DEPTH<br>m       | 0.5  | 0.8 | 1    | 1.2  |
| DE-RATING FACTOR | 1.02 | 1   | 0.98 | 0.96 |

FOR SOIL THERMAL RESISTIVITY OTHER THAN 1.5K.M/W

Single Core

|                              |      |      |     |     |      |
|------------------------------|------|------|-----|-----|------|
| THERMAL RESISTIVITY<br>K.m/W | 1    | 1.2  | 1.5 | 2   | 2.5  |
| DE-RATING FACTOR             | 1.08 | 1.05 | 1   | 0.9 | 0.82 |

Multi Core

|                              |      |      |     |      |      |
|------------------------------|------|------|-----|------|------|
| THERMAL RESISTIVITY<br>K.m/W | 1    | 1.2  | 1.5 | 2    | 2.5  |
| DE-RATING FACTOR             | 1.06 | 1.04 | 1   | 0.91 | 0.84 |

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.