

# BS6622 AWA Single Core 19/33kV (36)kV

Armoured single core XLPE insulated PVC outer sheath - medium voltage power cable



## Application

Electric cable with copper conductors, semi conductive conductor screen, XLPE insulation, semi conductive insulation screen, copper tape metallic screen of each core, PVC bedding, aluminium wires armour (AWA) and PVC outer sheath. For energy networks where mechanical stresses are expected. Suitable for underground installation or in ducts.

## Construction

|                          |  |
|--------------------------|--|
| <b>Conductor</b>         | : Class 2 stranded copper conductor according to BS EN 60228.                      |
| <b>Conductor screen</b>  | : Semi conductive XLPE (cross linked polyethylene)                                 |
| <b>Insulation</b>        | : XLPE, cross linked polyethylene Type GP8 (BS7655)                                |
| <b>Insulation screen</b> | : Semi conductive XLPE (cross linked polyethylene)                                 |
| <b>Metallic screen</b>   | : Individual or collective overall copper tape screen (BS6622)                     |
| <b>Filler</b>            | : PET (polyethylene Terephthalate)   |
| <b>Separator</b>         | : Binding tape   |
| <b>Bedding</b>           | : PVC (polyvinyl chloride) type MT1 (BS7655)                                       |
| <b>Armour</b>            | : AWA, aluminium wire armoured   |
| <b>Sheath</b>            | : PVC (polyvinyl chloride) type MT1 (BS7655)                                       |
| <b>Marking text</b>      | : E.g. "BS6622 AWA Single core 1x25 mm <sup>2</sup> 19/33 kv IEC60502-2 year xxxm" |
| <b>Rated voltage</b>     | : 19/33 kV   |

## Outer Sheath Colours

**Available colours** : Red or Black\*

\*other colours available on request

## Standards applied

|                     |                 |
|---------------------|-----------------|
| IEC60502-2, BS 6622 | Cable design    |
| IEC60332-1          | Flame Retardant |

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## Installation recommendations

Minimum Bending Radius : 15xD\*  
 Permissible operating temp. of conductor : 0°C - 90°C

\*12xD possible where bends are positioned adjacent to a joint or termination provided that the bending is carefully controlled by the use of a former.

## Range and Dimensions

| Article Code       | Number of Cores | Cross-Section mm <sup>2</sup> | Nominal Diameter |                |            | Approx. Weight kg/km |
|--------------------|-----------------|-------------------------------|------------------|----------------|------------|----------------------|
|                    |                 |                               | Under armour mm  | Over armour mm | Overall mm |                      |
| P14B01C070BAK**11  | 1               | 70                            | 32.6             | 36.6           | 41.0       | 2300                 |
| P14B01C095BAK**11  | 1               | 95                            | 34.4             | 38.3           | 42.9       | 2650                 |
| P14B01C120BAK**11  | 1               | 120                           | 35.9             | 39.9           | 44.5       | 3000                 |
| P14B01C150BAK**11  | 1               | 150                           | 37.5             | 42.5           | 47.3       | 3500                 |
| P14B01C185BAK**11  | 1               | 185                           | 39.3             | 44.3           | 49.3       | 4000                 |
| P14B01C240BAK**11  | 1               | 240                           | 41.7             | 46.7           | 51.7       | 4650                 |
| P14B01C300BAK**11  | 1               | 300                           | 44.2             | 49.2           | 54.4       | 5450                 |
| P14B01C400BAK**11  | 1               | 400                           | 47.3             | 52.3           | 57.7       | 6350                 |
| P14B01C500BAK**11  | 1               | 500                           | 50.5             | 55.5           | 61.1       | 7600                 |
| P14B01C630BAK**11  | 1               | 630                           | 54.2             | 59.2           | 65.0       | 9150                 |
| P14B01C800BAK**11  | 1               | 800                           | 60.5             | 65.5           | 71.6       | 11100                |
| P14B01C1000BAK**11 | 1               | 1000                          | 65.0             | 70.0           | 76.5       | 13400                |

\*\* BK for Black and RD for Red outer sheath; example P14B01C070BAKBK11 or P14B01C070BAKRD11

## Electrical characteristics / current carrying capacity

| Number of Cores | Cross-Section mm <sup>2</sup> | Continuous current rating |      |               |      |             |      |
|-----------------|-------------------------------|---------------------------|------|---------------|------|-------------|------|
|                 |                               | In ground Amps            |      | In ducts Amps |      | In air Amps |      |
|                 |                               | Trefoil                   | Flat | Trefoil       | Flat | Trefoil     | Flat |
| 1               | 70                            | 270                       | 280  | 260           | 270  | 310         | 370  |
| 1               | 95                            | 320                       | 335  | 305           | 325  | 375         | 460  |
| 1               | 120                           | 360                       | 380  | 340           | 370  | 430         | 530  |
| 1               | 150                           | 410                       | 430  | 375           | 410  | 490         | 600  |
| 1               | 185                           | 455                       | 485  | 410           | 460  | 550         | 690  |
| 1               | 240                           | 520                       | 560  | 470           | 540  | 650         | 820  |
| 1               | 300                           | 580                       | 640  | 500           | 610  | 740         | 940  |
| 1               | 400                           | 650                       | 730  | 530           | 890  | 840         | 1100 |
| 1               | 500                           | 710                       | 830  | 570           | 780  | 930         | 1280 |
| 1               | 630                           | 760                       | 940  | 620           | 890  | 1040        | 1480 |
| 1               | 800                           | 810                       | 1060 | 660           | 990  | 1140        | 1690 |
| 1               | 1000                          | 860                       | 1170 | 690           | 1090 | 1230        | 1900 |

## De-rating factors

|                                 | 25   | 30   | 35   | 40   | 45   | 50   | 55   |
|---------------------------------|------|------|------|------|------|------|------|
| Air temperature °C              |      |      |      |      |      |      |      |
| De-rating factor                | 1.00 | 0.96 | 0.92 | 0.88 | 0.83 | 0.78 | 0.73 |
| Ground temperature °C           | 10   | 15   | 20   | 25   | 30   | 35   | 40   |
| De-rating factor                | 1.03 | 1.00 | 0.97 | 0.93 | 0.89 | 0.86 | 0.82 |
| Ground Thermal resistivity km/W | 0.9  | 1.0  | 1.2  | 1.5  | 2.0  | 2.5  | 3.0  |
| De-rating factor                | 1.06 | 1.04 | 1.00 | 0.92 | 0.85 | 0.74 | 0.68 |
| Dept of laying mtr              | 0.8  | 1.00 | 1.25 | 1.50 | 1.75 | 2.00 | 2.50 |
| De-rating factor                | 1.00 | 0.97 | 0.95 | 0.94 | 0.93 | 0.91 | 0.90 |

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