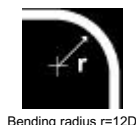


# BS6622/BS7835 Three Core Armoured 11kV XLPE Stranded Copper Conductors

## CABLE CHARACTERISTICS



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## CABLE DESCRIPTION

### 1.CONDUCTOR

Compact circular stranded copper conductor complying with BS6360 Class 2.

### CONDUCTOR SCREEN

Extruded semi-conducting compound bonded to the insulation and applied in the same operation as the insulation.

### 2.INSULATION

Extruded cross-linked polyethylene (XLPE) suitable for operation at a conductor temperature of 90°C.

### 3.INSULATION SCREEN

Extruded semi-conducting compound applied in the same operation as the insulation. Cold strippable screens are supplied as a standard but fully bonded screens may be provided if specified.

### 4.METALLIC SCREEN

copper tapes applied overlapped to provide an earth fault current path.

### 5.LAYING UP

Three cores laid up with polypropylene string fillers to form a compact circular cable, and bound with tape.

### 6.TAPE BINDER

### 7.SHEATH

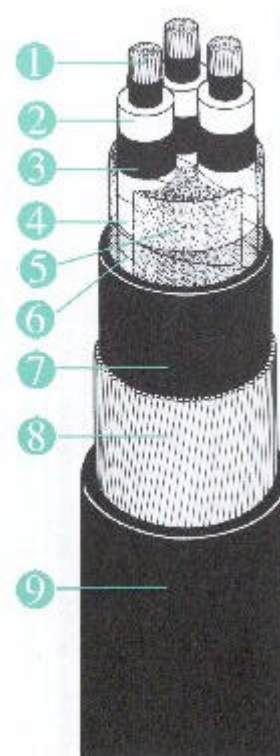
Extruded black polyvinyl chloride (PVC) or Low Smoke Zero Halogen (LSOH) compound is supplied as standard. Alternative materials may be provided if specified.

### 8.ARMOURING

Single layer of galvanised circular steel wires.

### 9.OVERSHEATH

Extruded black polyvinyl chloride (PVC) or Low Smoke Zero Halogen (LSOH) compound is supplied as standard. Alternative materials may be provided if specified  
e.g medium density polyethylene (MDPE).



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## Constructional Data

| Cross-sectional area<br>mm <sup>2</sup> | Minimum average thickness of insulation<br>mm | Nominal diameter over insulation<br>mm | Nominal thickness of PVC/LSOH bedding<br>mm | Nominal number and diameter of armoured wires<br>no./mm | Nominal thickness of PVC/LSOH oversheath<br>mm | Nominal overall diameter of cable<br>mm |
|-----------------------------------------|-----------------------------------------------|----------------------------------------|---------------------------------------------|---------------------------------------------------------|------------------------------------------------|-----------------------------------------|
| 50                                      | 3.4                                           | 17.0                                   | 1.4                                         | 50/2.5                                                  | 2.6                                            | 53.1                                    |
| 70                                      | 3.4                                           | 18.8                                   | 1.4                                         | 54/2.5                                                  | 2.7                                            | 57.1                                    |
| 95                                      | 3.4                                           | 20.5                                   | 1.5                                         | 59/2.5                                                  | 2.8                                            | 61.2                                    |
| 120                                     | 3.4                                           | 22.0                                   | 1.6                                         | 62/2.5                                                  | 3.0                                            | 65.0                                    |
| 150                                     | 3.4                                           | 23.3                                   | 1.6                                         | 65/2.5                                                  | 3.1                                            | 68.0                                    |
| 185                                     | 3.4                                           | 25.1                                   | 1.7                                         | 70/2.5                                                  | 3.2                                            | 72.3                                    |
| 240                                     | 3.4                                           | 27.3                                   | 1.8                                         | 61/3.15                                                 | 3.4                                            | 79.0                                    |
| 300                                     | 3.4                                           | 29.6                                   | 1.9                                         | 65/3.15                                                 | 3.6                                            | 84.5                                    |
| 400                                     | 3.4                                           | 32.3                                   | 2.0                                         | 70/3.15                                                 | 3.8                                            | 90.9                                    |

## Installation Data

| Cross-sectional area<br>mm <sup>2</sup> | Approximate cable weight<br>kg/m | Nominal drum length<br>m | Minimum bending radius<br>mm | Nominal internal diameter of ducts<br>mm |
|-----------------------------------------|----------------------------------|--------------------------|------------------------------|------------------------------------------|
| 50                                      | 5.5                              | 750                      | 650                          | 100                                      |
| 70                                      | 6.4                              | 500                      | 700                          | 100                                      |
| 95                                      | 7.5                              | 500                      | 750                          | 100                                      |
| 120                                     | 8.6                              | 500                      | 800                          | 100                                      |
| 150                                     | 9.6                              | 450                      | 850                          | 125                                      |
| 185                                     | 11.2                             | 450                      | 900                          | 125                                      |
| 240                                     | 14.2                             | 450                      | 950                          | 125                                      |
| 300                                     | 16.5                             | 350                      | 1050                         | 125                                      |
| 400                                     | 19.7                             | 300                      | 1100                         | 125                                      |

## Electrical Data

| Cross-sectional area<br>mm <sup>2</sup> | Maximum DC resistance of conductor at 20°C<br>μOhms/m | Maximum AC resistance of conductor at 90°C<br>μOhms/m | Reactance at 50Hz<br>μOhms/m | Impedance at 50Hz<br>μOhms/m | Maximum capacitance<br>pF/m | Maximum charging current at normal voltage and frequency<br>mA/m |
|-----------------------------------------|-------------------------------------------------------|-------------------------------------------------------|------------------------------|------------------------------|-----------------------------|------------------------------------------------------------------|
| 50                                      | 387                                                   | 494                                                   | 115                          | 506                          | 260                         | 0.52                                                             |
| 70                                      | 268                                                   | 343                                                   | 108                          | 360                          | 298                         | 0.60                                                             |
| 95                                      | 193                                                   | 248                                                   | 102                          | 268                          | 334                         | 0.67                                                             |
| 120                                     | 153                                                   | 196                                                   | 98.8                         | 220                          | 365                         | 0.73                                                             |
| 150                                     | 124                                                   | 159                                                   | 96.2                         | 186                          | 392                         | 0.78                                                             |
| 185                                     | 99.1                                                  | 128                                                   | 93.1                         | 158                          | 430                         | 0.86                                                             |
| 240                                     | 75.4                                                  | 98                                                    | 90.0                         | 134                          | 476                         | 0.95                                                             |
| 300                                     | 60.1                                                  | 80                                                    | 87.4                         | 119                          | 524                         | 1.05                                                             |
| 400                                     | 47.0                                                  | 64                                                    | 84.9                         | 106                          | 580                         | 1.16                                                             |

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## Ratings Data

| Cross-sectional<br>area<br><br>mm <sup>2</sup> | Current Ratings       |                  |             | Short circuit ratings                                    |                                                                            |
|------------------------------------------------|-----------------------|------------------|-------------|----------------------------------------------------------|----------------------------------------------------------------------------|
|                                                | Laid direct in ground | Drawn into ducts | Laid in air | One second short<br>circuit<br>rating of conductor<br>kA | One second short circuit<br>rating of copper tape<br>screen per core<br>kA |
|                                                | Amps                  | Amps             | Amps        |                                                          |                                                                            |
| 50                                             | 210                   | 180              | 220         | 6.8                                                      | -                                                                          |
| 70                                             | 255                   | 215              | 270         | 9.8                                                      | -                                                                          |
| 95                                             | 300                   | 255              | 330         | 13.3                                                     | Typically                                                                  |
| 120                                            | 340                   | 290              | 375         | 17.2                                                     | Less                                                                       |
| 150                                            | 380                   | 330              | 430         | 21.2                                                     | Then                                                                       |
| 185                                            | 430                   | 370              | 490         | 26.6                                                     | 1kA                                                                        |
| 240                                            | 490                   | 425              | 570         | 34.9                                                     | -                                                                          |
| 300                                            | 540                   | 470              | 650         | 43.8                                                     | -                                                                          |
| 400                                            | 590                   | 520              | 700         | 57.3                                                     | -                                                                          |

### Current Ratings Conditions:

|                            |           |
|----------------------------|-----------|
| Ground Temperature         | 15°C      |
| Ambient temperature (air)  | 25°C      |
| Depth of burial            | 0.8m      |
| Thermal resistance of soil | 1.2°C m/W |



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Formerly Pirelli Cables