

BS6622/BS7835 Single Core Armoured 33kV XLPE Stranded Copper Conductor

CABLE CHARACTERISTICS



Bending radius $r=15D$

CABLE DESCRIPTION

1.CONDUCTOR

Compact circular stranded copper conductor complying with BS EN 60228 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 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.BEDDING

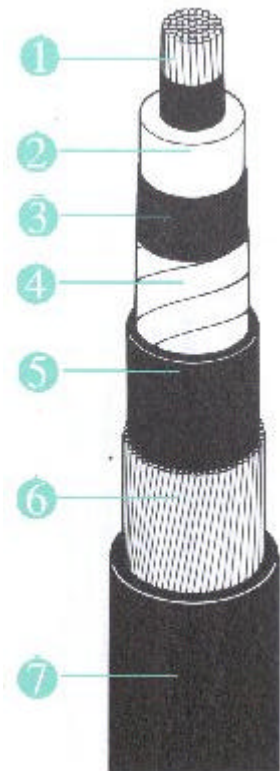
Extruded black polyvinyl chloride (PVC) or Low Smoke Zero Halogen (LSOH) compound is supplied as standard. Alternative materials may be provided if specified.

6.ARMOURING

Single layer of circular aluminium wires.

7.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).



THORNE &
DERRICK
INTERNATIONAL

Thorne & Derrick
+44 (0) 191 410 4292
www.powerandcables.com

BS6622/BS7835 Single Core Armoured 33kV XLPE Stranded Copper Conductor

Constructional Data

| Cross-sectional area mm ² | Minimum average thickness of insulation mm | Nominal thickness of PVC/LSOH bedding mm | Nominal number and diameter of armoured wires no/mm | Nominal thickness of PVC/LSOH oversheath mm | Nominal overall diameter of cable mm |
|---|---|---|--|--|---|
| 70 | 8 | 1.2 | 2.0 | 2.2 | 41.5 |
| 95 | 8 | 1.2 | 2.0 | 2.3 | 43.5 |
| 120 | 8 | 1.2 | 2.0 | 2.3 | 45.0 |
| 150 | 8 | 1.3 | 2.5 | 2.4 | 47.5 |
| 185 | 8 | 1.3 | 2.5 | 2.5 | 49.5 |
| 240 | 8 | 1.3 | 2.5 | 2.5 | 51.5 |
| 300 | 8 | 1.4 | 2.5 | 2.6 | 54.5 |
| 400 | 8 | 1.4 | 2.5 | 2.7 | 57.5 |
| 500 | 8 | 1.5 | 2.5 | 2.8 | 62.0 |
| 630 | 8 | 1.5 | 2.5 | 2.9 | 66.0 |
| 800 | 8 | 1.6 | 2.5 | 3.1 | 71.0 |
| 1000 | 8 | 1.7 | 2.5 | 3.2 | 75.5 |

Installation Data

| Cross-sectional area mm ² | Approximate cable weight kg/m | Nominal drum length m | Nominal internal diameter of twin wall ducts mm |
|---|----------------------------------|--------------------------|--|
| 70 | 2.3 | 500 | 100 |
| 95 | 2.6 | 500 | 100 |
| 120 | 3.0 | 500 | 100 |
| 150 | 3.5 | 500 | 100 |
| 185 | 3.9 | 500 | 100 |
| 240 | 4.5 | 500 | 100 |
| 300 | 5.3 | 500 | 100 |
| 400 | 6.3 | 250 | 100 |
| 500 | 7.5 | 250 | 100 |
| 630 | 9.1 | 250 | 125 |
| 800 | 11.2 | 250 | 125 |
| 1000 | 13.6 | 250 | 125 |

Electrical Data

| Cross-sectional area mm ² | Maximum DC resistance of conductor at 20°C μOhms/m | Maximum AC resistance of conductor at 90°C μOhms/m |
|---|---|---|
| 70 | 268.0 | 342 |
| 95 | 193.0 | 247 |
| 120 | 153.0 | 196 |
| 150 | 124.0 | 159 |
| 185 | 99.1 | 127 |
| 240 | 75.4 | 97.4 |
| 300 | 60.1 | 78.3 |
| 400 | 47.0 | 62.2 |
| 500 | 36.6 | 49.7 |
| 630 | 28.3 | 40.0 |
| 800 | 22.1 | 33.1 |
| 1000 | 17.6 | 28.3 |

BS6622/BS7835 Single Core Armoured 33kV XLPE Stranded Copper Conductor

Ratings Data

| Cross-sectional area mm ² | Current Ratings | | | Short Circuit Ratings | |
|---|------------------------|------------------------------------|---------------------|--|---|
| | Laid in ground Amps | Drawn into twin wall ducts Amps | Laid in air Amps | One second short circuit rating of conductor kA | One second short circuit rating of armour kA |
| 70 | 265 | 245 | 315 | 10.0 | 12.8 |
| 95 | 315 | 290 | 380 | 13.6 | 13.6 |
| 120 | 355 | 320 | 435 | 17.2 | 14.1 |
| 150 | 395 | 350 | 490 | 21.5 | 18.8 |
| 185 | 445 | 385 | 555 | 26.5 | 19.6 |
| 240 | 505 | 430 | 640 | 34.3 | 20.4 |
| 300 | 560 | 470 | 725 | 42.9 | 21.7 |
| 400 | 625 | 515 | 825 | 57.2 | 22.9 |
| 500 | 685 | 560 | 930 | 71.5 | 25.0 |
| 630 | 750 | 595 | 1045 | 90.1 | 26.7 |
| 800 | 810 | 635 | 1145 | 114.5 | 28.8 |
| 1000 | 855 | 675 | 1240 | 143.1 | 30.8 |

Current Rating Conditions:

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

Single core cables in trefoil, bonded and earthed at both ends.



**THORNE &
DERRICK**
INTERNATIONAL

Thorne & Derrick
+44 (0) 191 410 4292
www.powerandcables.com