

36/69 (72.5) kV COPPER CONDUCTOR WITH CORRUGATED ALUMINIUM SHEATH IEC 60840 STANDARD

APPLICATION :

Preferably used for urban networks. Suitable for use in duct, trays and direct burial in ground.

Advantages :

Perfect radial moisture barrier and excellent earth fault current carrying capacity.

Max. Conductor Temperature :

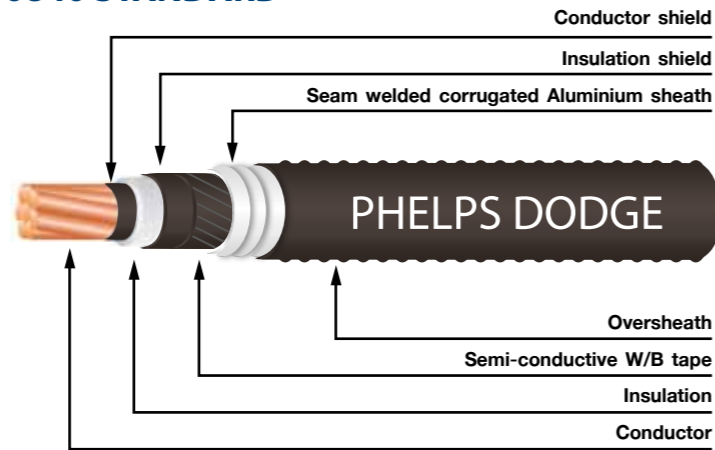
90 °C

AC TEST VOLTAGE :

90 kV (30 minutes)

REFERENCE STANDARD :

IEC 60840



CONSTRUCTION :

- Conductor : Round compact stranded or Milliken conductor
- Conductor shield : Semi-conducting tape and/or extruded semi-conducting cross-linked polyethylene
- Insulation : Cross-linked polyethylene
- Insulation shield : Semi-conducting cross-linked polyethylene
- Longitudinal water blocking layer : Semi-conductive water blocking tape
- Metallic shield and radial water barrier : Seam welded corrugated Aluminium sheath
- Oversheath : Black PE (ST-7)

Cable Construction

| Nominal cross-sectional area mm ² | Diameter of Conductor (Approx.) mm | Diameter over insulation (Approx.) mm | Nominal thickness of Al sheath mm | Nominal thickness of oversheath mm | Overall diameter (Approx.) mm | Cable weight (Approx.) kg/km | Standard packing m |
|---|---------------------------------------|--|--------------------------------------|---------------------------------------|----------------------------------|---------------------------------|-----------------------|
| 150 | 14.2 | 44.5 | 1.5 | 2.9 | 70 | 4,740 | 1,000/R |
| 185 | 15.8 | 45.0 | 1.5 | 2.9 | 71 | 5,090 | 1,000/R |
| 240 | 18.2 | 45.5 | 1.5 | 2.9 | 71 | 5,600 | 1,000/R |
| 300 | 20.3 | 47.5 | 1.5 | 3.0 | 74 | 6,320 | 1,000/R |
| 400 | 23.0 | 49.0 | 1.5 | 3.1 | 76 | 7,210 | 1,000/R |
| 500 | 26.0 | 53.0 | 1.6 | 3.2 | 80 | 8,570 | 1,000/R |
| 630 | 29.9 | 56.5 | 1.6 | 3.3 | 84 | 10,220 | 1,000/R |
| 800 | 33.8 | 60.5 | 1.8 | 3.5 | 89 | 12,340 | 500/R |
| 1,000 | 39.8 | 66.5 | 1.9 | 3.6 | 96 | 14,830 | 500/R |
| 1,200 | 43.0 | 70.0 | 2.0 | 3.7 | 100 | 16,790 | 500/R |
| 1,000(M) | 39.1 | 67.0 | 2.0 | 3.6 | 96 | 14,890 | 500/R |
| 1,200(M) | 42.2 | 70.0 | 2.0 | 3.7 | 100 | 16,700 | 500/R |
| 1,400(M) | 45.7 | 73.5 | 2.1 | 3.9 | 104 | 18,960 | 500/R |
| 1,600(M) | 48.8 | 77.5 | 2.2 | 4.0 | 109 | 21,260 | 500/R |
| 1,800(M) | 51.6 | 80.5 | 2.2 | 4.1 | 112 | 23,240 | 500/R |
| 2,000(M) | 54.7 | 83.5 | 2.3 | 4.2 | 115 | 25,590 | 500/R |
| 2,500(M) | 61.1 | 90.0 | 2.5 | 4.4 | 123 | 30,910 | 400/R |

(M) is Milliken conductor

R = Packing in reel

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Electrical Properties and Current Rating (A)

| Nominal cross-sectional area mm ² | Maximum DC resistance of conductor at 20°C Ω/km | Minimum insulation resistance at 20°C MΩ-km | Current rating in air* (A) | | Current rating direct burial* (A) | | Current rating in PE duct in ground* (A) | |
|---|--|--|--------------------------------|-----------------------------|-----------------------------------|-------------|--|-------------|
| | | | Trefoil ≥0.5xD _c | Flat ≥0.5xD _c | Trefoil 1 m | Flat 1 m | Trefoil 1 m | Flat 1 m |
| 150 | 0.124 | 11,850 | 455 | 505 | 335 | 348 | 321 | 331 |
| 185 | 0.0991 | 10,880 | 519 | 579 | 377 | 392 | 362 | 374 |
| 240 | 0.0754 | 9,460 | 610 | 687 | 436 | 455 | 419 | 434 |
| 300 | 0.0601 | 8,850 | 695 | 786 | 490 | 513 | 473 | 490 |
| 400 | 0.0470 | 7,910 | 800 | 913 | 554 | 584 | 538 | 559 |
| 500 | 0.0366 | 7,170 | 917 | 1,054 | 622 | 663 | 610 | 638 |
| 630 | 0.0283 | 6,530 | 1,051 | 1,222 | 697 | 752 | 692 | 728 |
| 800 | 0.0221 | 5,980 | 1,181 | 1,396 | 766 | 839 | 773 | 820 |
| 1,000 | 0.0176 | 5,310 | 1,316 | 1,587 | 828 | 925 | 853 | 915 |
| 1,200 | 0.0151 | 5,010 | 1,398 | 1,707 | 864 | 980 | 903 | 976 |
| 1,000(M) | 0.0176 | 5,270 | 1,379 | 1,641 | 866 | 960 | 889 | 949 |
| 1,200(M) | 0.0151 | 4,980 | 1,482 | 1,782 | 916 | 1,026 | 952 | 1,022 |
| 1,400(M) | 0.0129 | 4,700 | 1,584 | 1,931 | 962 | 1,093 | 1,015 | 1,098 |
| 1,600(M) | 0.0113 | 4,640 | 1,666 | 2,053 | 996 | 1,148 | 1,067 | 1,164 |
| 1,800(M) | 0.0101 | 4,440 | 1,738 | 2,165 | 1,027 | 1,195 | 1,112 | 1,220 |
| 2,000(M) | 0.0090 | 4,250 | 1,808 | 2,279 | 1,052 | 1,241 | 1,155 | 1,277 |
| 2,500(M) | 0.0072 | 3,890 | 1,934 | 2,500 | 1,096 | 1,325 | 1,235 | 1,385 |

(M) is Milliken conductor

***CONDITION :**

1. Ambient air temperature 40°C
2. Ground temperature 30°C
3. Thermal resistivity of soil 1.2 K-m/W
4. Depth of laying 1.0 m
5. Axial spacing between phase cable is 2xOD_{cable} or 2xOD_{duct}
6. Metallic shield and/or sheath bonded at single point or cross-bonded (no sheath circulating current).