

**76/132 (145) kV COPPER CONDUCTOR WITH COPPER WIRE SHIELD AND LEAD SHEATH
IEC 60840 STANDARD**

APPLICATION :

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

Advantage :

Perfect radial moisture barrier. Excellent sulfide, oil and chemical resistance. Increase earth fault current carrying capacity by added copper wire shield.

Max. Conductor Temperature :

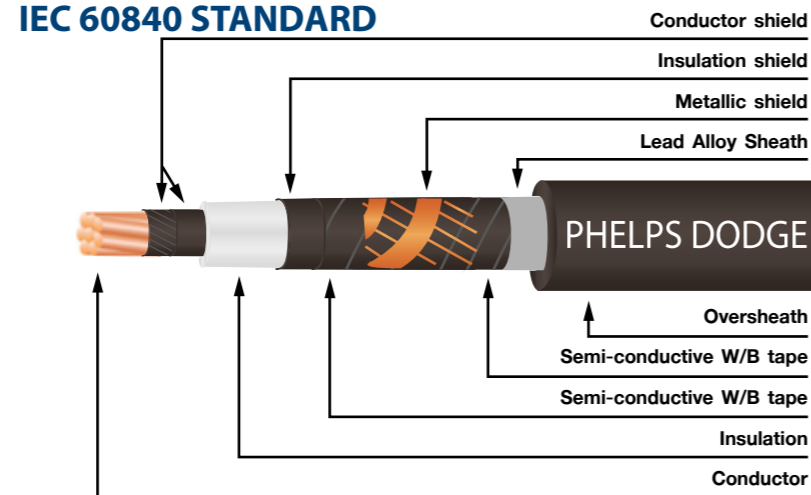
90 °C

AC TEST VOLTAGE :

190 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 : Annealed uncoated copper wire with copper contact tape
- Longitudinal water blocking layer : Semi-conductive water blocking tape
- Metallic Shield and moisture barrier : Lead alloy 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 area of copper wire shield mm ²	Nominal thickness of lead sheath mm	Nominal thickness of oversheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Standard packing m
240	18.2	54.5	135	2.1	3.1	74	11,270	1,000/R
300	20.3	55.5	135	2.1	3.1	75	11,940	500/R
400	23.0	56.5	135	2.1	3.2	76	12,745	500/R
500	26.0	59.0	125	2.2	3.2	79	14,260	500/R
630	29.9	64.0	115	2.3	3.4	84	16,565	500/R
800	33.8	68.0	110	2.4	3.5	88	19,015	500/R
1,000	39.8	75.0	95	2.5	3.7	96	22,240	500/R
1,200	43.0	78.0	85	2.6	3.8	99	24,610	500/R
1,000(M)	39.1	75.0	90	2.5	3.7	97	22,385	500/R
1,200(M)	42.2	78.5	80	2.6	3.8	101	24,760	500/R
1,400(M)	45.7	83.0	70	2.7	3.9	105	27,615	400/R
1,600(M)	48.8	86.0	65	2.7	4.0	109	29,615	400/R
1,800(M)	51.6	88.5	55	2.8	4.1	112	32,395	400/R
2,000(M)	54.7	92.0	45	2.9	4.2	115	35,190	300/R
2,500(M)	61.1	99.0	20	3.1	4.5	123	41,775	300/R

(M) is Milliken conductor

R=Packing in reel

**76/132 (145) kV COPPER CONDUCTOR WITH COPPER WIRE SHIELD AND LEAD SHEATH
IEC 60840 STANDARD**

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 ≥0.5xDe	Flat ≥0.5xDe	Trefoil 1 m	Flat 1 m	Trefoil 1 m	Flat 1 m
240	0.0754	11,860	603	676	432	451	416	431
300	0.0601	10,910	688	775	485	509	470	487
400	0.0470	9,670	792	902	549	579	533	554
500	0.0366	8,600	911	1,045	620	658	605	632
630	0.0283	8,070	1,047	1,211	698	748	689	723
800	0.0221	7,420	1,185	1,387	775	840	773	816
1,000	0.0176	6,810	1,332	1,577	851	933	859	913
1,200	0.0151	6,440	1,427	1,703	900	995	916	977
1,000(M)	0.0176	6,760	1,408	1,637	900	973	902	951
1,200(M)	0.0151	6,410	1,525	1,783	962	1,047	971	1,027
1,400(M)	0.0129	6,220	1,648	1,936	1,027	1,125	1,043	1,108
1,600(M)	0.0113	5,930	1,755	2,075	1,081	1,192	1,104	1,178
1,800(M)	0.0101	5,690	1,850	2,199	1,128	1,250	1,160	1,241
2,000(M)	0.0090	5,450	1,948	2,328	1,176	1,311	1,215	1,304
2,500(M)	0.0072	5,140	2,139	2,578	1,270	1,429	1,326	1,430

(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).