87/150 (170) kV COPPER CONDUCTOR WITH COPPER WIRE SHIELD AND LEAD SHEATH IEC 60840 STANDARD

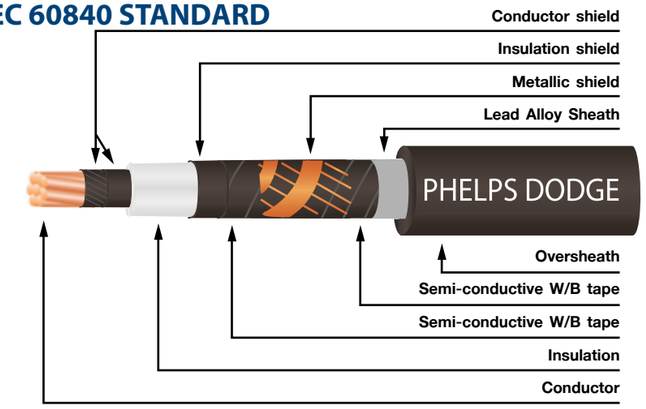
APPLICATION :
Preferably used for urban networks. Suitable for use in duct, trays and direct burial in ground.

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 :
218 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 mm²	Diameter of conductor (Approx.) mm	Diameter over insulation (Approx.) mm	Nominal area of copper wire shield mm²	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	62.0	120	2.3	3.3	82	12,960	500/R
300	20.3	62.0	120	2.3	3.3	82	13,460	500/R
400	23.0	62.5	120	2.3	3.4	83	14,275	500/R
500	26.0	64.0	115	2.3	3.4	84	15,435	500/R
630	29.9	67.0	110	2.4	3.5	88	17,400	500/R
800	33.8	71.0	100	2.5	3.6	92	19,895	500/R
1,000	39.8	78.0	85	2.6	3.8	99	23,180	500/R
1,200	43.0	82.0	75	2.7	3.9	104	25,815	500/R
1,000(M)	39.1	78.5	85	2.6	3.8	100	23,335	500/R
1,200(M)	42.2	82.5	70	2.7	3.9	105	25,975	500/R
1,400(M)	45.7	86.0	65	2.7	4.0	109	28,320	400/R
1,600(M)	48.8	89.0	55	2.8	4.1	112	30,675	400/R
1,800(M)	51.6	93.0	45	2.9	4.3	116	33,765	300/R
2,000(M)	54.7	96.0	35	3.0	4.4	120	36,615	300/R
2,500(M)	61.1	102.5	35	3.1	4.6	127	42,820	300/R

(M) is Milliken conductor

R = Packing in reel

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Electrical Properties and Current Rating (A)

Nominal cross-sectional area mm²	Maximum DC resistance of conductor at 20°C Ω/km	Minimum insulation resistance at 20°C MΩ-km	Current rating in air* (A) Trefoil ≥0.5xD$_e$	Current rating in air* (A) Flat ≥0.5xD$_e$	Current rating direct burial* (A) Trefoil	Current rating direct burial* (A) Flat	Current rating in PE duct in ground* (A) Trefoil	Current rating in PE duct in ground* (A) Flat
240	0.0754	13,460	601	666	432	451	419	434
300	0.0601	12,270	685	765	486	509	472	489
400	0.0470	11,010	790	889	550	579	535	557
500	0.0366	9,680	907	1,032	620	658	608	634
630	0.0283	8,670	1,045	1,201	698	748	690	724
800	0.0221	8,000	1,184	1,376	776	840	775	817
1,000	0.0176	7,330	1,331	1,564	852	933	861	914
1,200	0.0151	7,100	1,426	1,685	903	995	919	980
1,000(M)	0.0176	7,280	1,405	1,623	900	972	902	951
1,200(M)	0.0151	7,070	1,520	1,763	964	1,047	972	1,028
1,400(M)	0.0129	6,690	1,644	1,919	1,028	1,124	1,043	1,108
1,600(M)	0.0113	6,380	1,752	2,058	1,083	1,192	1,107	1,180
1,800(M)	0.0101	6,270	1,846	2,174	1,132	1,251	1,162	1,242
2,000(M)	0.0090	6,010	1,944	2,302	1,181	1,312	1,220	1,307
2,500(M)	0.0072	5,540	2,118	2,547	1,257	1,419	1,320	1,427

(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).