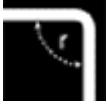


BS7870-4.11 (33kV) Copper Conductor

CABLE CHARACTERISTICS



Bending radius
 $r=20D$

CABLE DESCRIPTION

1.CONDUCTOR

Compact circular stranded copper conductor complying with BS6360 Class 2.

2. CONDUCTOR SCREEN

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

3.INSULATION

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

4.INSULATION SCREEN

Cold strippable screens are supplied as standard but fully bonded screens may be provided if specified.

5.SEMI-CONDUCTING TAPE

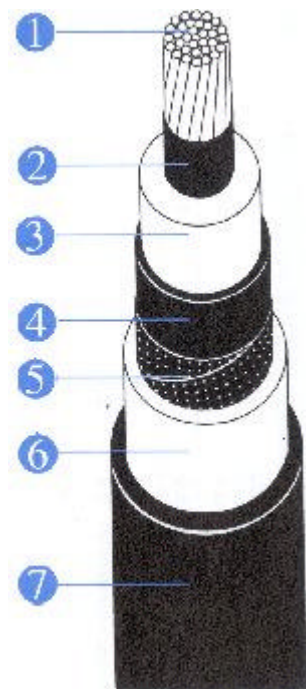
Semi-conducting water swellable tape

6.METAL SHEATH

Lead sheath with bitumen coating.

7.OVERSHEATH

Extruded black medium density polyethylene (MDPE) is supplied as standard.



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Constructional Data

Nominal cross-sectional area mm ²	Approximate thickness of conductor screen mm	Minimum average thickness of insulation mm	Nominal thickness of sheath mm	Minimum average thickness of oversheath mm	Approximate overall diameter mm
120	0.7	8.0	2.2	2.3	43.8
150	0.7	8.0	2.1	2.3	45.0
185	0.7	8.0	2.0	2.3	46.6
240	0.7	8.0	1.9	2.4	49.0
300	0.7	8.0	2.0	2.5	51.7
400	0.7	8.0	2.0	2.6	55.0
500	0.7	8.0	2.1	2.7	58.4
630	0.7	8.0	2.3	2.8	62.6
800	0.7	8.0	2.3	2.9	69.0

Installation Data

Nominal cross-sectional area mm ²	Approximate cable weight Kg/m	Minimum bending radius mm	Nominal internal diameter of ducts mm
120	5.2	900	100
150	5.5	900	100
185	5.9	950	100
240	6.5	1000	100
300	7.5	1100	100
400	8.6	1100	100
500	10.1	1200	100
630	12.1	1300	100
800	14.4	1400	125

Electrical Data

Nominal cross-sectional area mm ²	Approximate capacitance μF/Km	Maximum DC resistance of conductor at 20°C Ohms/Km	Approximate resistance of sheath at 20°C Ohms/Km	Maximum AS resistance of conductor in trefoil formation at 90°C Ohms/Km	Maximum AC resistance flat with 2D between cable centres at 90°C Ohms/Km	Reactance in trefoil formation at 50Hz Ohms/Km	Reactance flat with 2D between cable centres at 50Hz Ohms/Km
120	0.19	0.153	0.85	0.196	0.196	0.138	0.153
150	0.20	0.124	0.86	0.159	0.159	0.134	0.148
185	0.22	0.0991	0.86	0.127	0.127	0.129	0.144
240	0.24	0.0754	0.86	0.0975	0.0971	0.124	0.138
300	0.26	0.0601	0.78	0.0784	0.0779	0.119	0.134
400	0.29	0.047	0.72	0.0622	0.0615	0.115	0.130
500	0.31	0.0366	0.65	0.0497	0.0487	0.111	0.126
630	0.35	0.0283	0.58	0.04	0.0387	0.107	0.121
800	0.39	0.0221	0.50	0.0331	0.0314	0.103	0.117

BS7870-4.11 (33kV) Copper Conductor

Ratings Data

Cross-sectional area mm ²	Current Ratings			Short Circuit Ratings	
	Laid in ground Amps	Drawn into ducts Amps	Laid in air Amps	3 second short circuit rating at lead alloy E sheath kA	1 second short circuit rating of conductor kA
120	370	365	450	4.0	17.2
150	415	410	510	4.0	21.4
185	470	455	585	4.0	26.4
240	540	525	685	4.0	34.3
300	610	585	785	4.0	42.9
400	690	650	905	4.0	57.2
500	775	725	1035	4.0	71.5
630	865	795	1185	4.0	90.1
800	955	865	1335	4.0	114.4

Current Rating Conditions:

Ground Temperature	15°C
Depth of Burial	0.8m
Ambient temperature (air)	25°C
Thermal Resistance of Soil	1.2°C m/W

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