

BS6622/BS7835 Single Core Armoured 6.6kV XLPE Stranded Aluminium Conductor

CABLE CHARACTERISTICS



Bending radius $r=15D$

CABLE DESCRIPTION

1.CONDUCTOR

Compacted circular stranded Aluminium conductor complying with BS6360 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

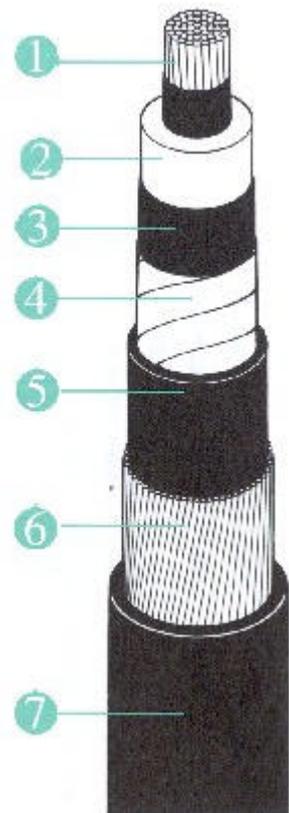
Extruded black polyvinyl chloride (PVC) or Low Smoke Zero Halogen (LSOH) compound is supplied as standard. Alternative materials may be provided if specified.

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).



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Constructional Data

Cross-sectional area mm ²	Minimum average thickness of insulation mm	Nominal area of copper tape screen mm ²	Nominal thickness of PVC/LSOH bedding mm	Nominal number and diameter of armour wires no/mm	Nominal thickness of PVC/LSOH oversheath mm	Nominal overall diameter of cable mm
70	2.5	16.8	1.2	38/1.6	1.8	27.5
95	2.5	18.5	1.2	41/1.6	1.9	29.4
120	2.5	20	1.2	44/1.6	1.9	30.9
150	2.5	21.3	1.2	46/1.6	2.0	32.4
185	2.5	23.1	1.2	40/2.0	2.0	35.0
240	2.6	25.5	1.2	43/2.0	2.1	37.6
300	2.8	28.3	1.2	47/2.0	2.2	40.8
400	3	31.4	1.2	51/2.0	2.3	44.1
500	3.2	34.7	1.3	46/2.5	2.5	49.0
630	3.2	38.6	1.4	50/2.5	2.6	53.3

Installation

Cross-sectional area mm ²	Approximate cable weight kg/m	Nominal drum length m	Minimum bending radius mm	Nominal internal diameter of ducts mm
70	1.0	1000	450	100
95	1.2	1000	450	100
120	1.3	1000	500	100
150	1.5	500	500	100
185	1.7	500	550	100
240	2.0	500	600	100
300	2.4	500	650	100
400	2.8	500	700	100
500	3.4	300	750	100
630	4.1	300	800	100

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	Reactance at 50Hz μOhms/m	Impedance at 50Hz μOhms/m	Maximum Capacitance pF/m	Maximum charging current at normal voltage and frequency mA/m
70	443	568	125	582	371	0.45
95	320	410	119	427	417	0.50
120	253	325	114	344	459	0.55
150	206	265	111	288	494	0.59
185	164	211	109	238	543	0.65
240	125	161	105	193	583	0.7
300	100	130	103	167	602	0.72
400	77.8	102	99.9	143	627	0.75
500	60.5	81.0	99.2	129	654	0.79
630	46.9	64.0	95.5	116	737	0.87

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Ratings Data

Cross-sectional area mm ²	Current Ratings			Short Circuit Ratings	
	Laid in ground Amps	Drawn into ducts Amps	Laid in air Amps	One second short circuit rating of conductor kA	One second short circuit rating of copper tape screen kA
70	210	210	240	6.3	-
95	250	245	295	8.5	Typically
120	280	275	335	11.0	Less
150	315	300	380	13.5	Then
185	355	335	435	17.0	1kA
240	405	380	510	22.3	-
300	455	420	580	28.0	-
400	510	455	670	36.6	-
500	570	500	770	46.2	-
630	640	550	880	58.3	-

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.