

BS6622/BS7835 Single Core Armoured 11kV XLPE Stranded Copper Conductor

CABLE CHARACTERISTICS



Bending radius $r=15D$

CABLE DESCRIPTION

1.CONDUCTOR

Compact circular stranded copper 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

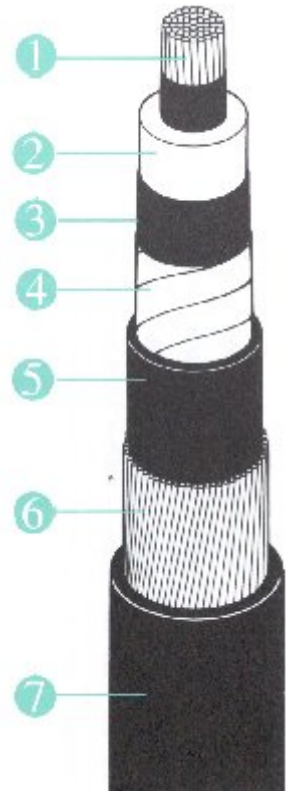
Extruded black polyvinyl chloride (PVC) or Low Smoke Zero Halogen (LSOH) compound is supplied as standard. Alternative materials may be provided if specified.

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).



BS6622/BS7835 Single Core Armoured 11kV XLPE Stranded Copper Conductor

Constructional Data

Cross-sectional area mm ²	Minimum average thickness of insulation mm	Nominal diameter over insulation mm	Nominal thickness of PVC/LSOH bedding mm	Nominal number and diameter of armoured wires no/mm	Nominal thickness of PVC/LSOH oversheath mm	Nominal overall diameter of cable mm
50	3.4	17.0	1.2	39/1.6	1.8	27.7
70	3.4	18.8	1.2	42/1.6	1.9	29.7
95	3.4	20.5	1.2	45/1.6	1.9	31.4
120	3.4	22.0	1.2	47/1.6	2.0	33.1
150	3.4	23.3	1.2	40/2.0	2.1	35.4
185	3.4	25.1	1.2	43/2.0	2.1	37.2
240	3.4	27.3	1.2	46/2.0	2.2	39.8
300	3.4	29.6	1.2	49/2.0	2.3	42.3
400	3.4	32.3	1.2	53/2.0	2.4	45.2
500	3.4	35.2	1.3	46/2.5	2.5	49.5
630	3.4	38.6	1.4	50/2.5	2.6	53.3
800	Please refer to	our technical	department	for further	information	-
1000	Please refer to	our technical	department	for further	information	-

Installation Data

Cross-sectional area mm ²	Approximate cable weight kg/m	Nominal drum length m	Minimum bending radius mm	Nominal internal diameter of ducts mm
50	1.3	1000	450	100
70	1.6	1000	450	100
95	1.9	1000	500	100
120	2.2	500	500	100
150	2.6	500	550	100
185	3.0	500	600	100
240	3.6	500	600	100
300	4.3	500	650	100
400	5.2	300	700	100
500	6.5	300	750	100
630	7.9	300	800	100
800	Please refer	to our technical	department for	further information
1000	Please refer	to our technical	department for	further information

BS6622/BS7835 Single Core Armoured 11kV XLPE Stranded Copper Conductor

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
50	387	494	138	512	252	0.5
70	268	343	130	366	288	0.58
95	193	248	123	276	323	0.65
120	153	196	118	229	353	0.71
150	124	159	117	197	380	0.76
185	99.1	128	112	169	416	0.83
240	75.4	98	109	146	460	0.92
300	60.1	80	105	131	506	1.01
400	47	64	101	119	561	1.12
500	36.6	51	99.8	112	619	1.24
630	28.3	42	96.5	105	698	1.37
800	Please refer	to our technical	department	for	further	information
1000	Please refer	to our technical	department	for	further	information

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
50	220	220	250	6.8	-
70	270	260	310	9.8	Typically
95	320	305	375	13.3	less
120	360	340	430	17.2	then
150	410	375	490	21.2	1kA
185	455	410	550	26.6	-
240	520	460	650	34.9	-
300	580	500	740	43.8	-
400	650	530	840	57.3	-
500	710	570	930	72.3	-
630	760	620	1040	91.2	-
800	Please refer to	our technical	department for	further information	-
1000	Please refer to	our technical	department for	further information	-

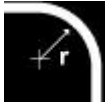
Current Rating Conditions:

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.

BS6622/BS7835 Three Core Armoured 11kV XLPE Stranded Copper Conductors

CABLE CHARACTERISTICS



Bending radius $r=12D$

CABLE DESCRIPTION

1.CONDUCTOR

Compact circular stranded copper 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 a 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.LAYING UP

Three cores laid up with polypropylene string fillers to form a compact circular cable, and bound with tape.

6.TAPE BINDER

7.SHEATH

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

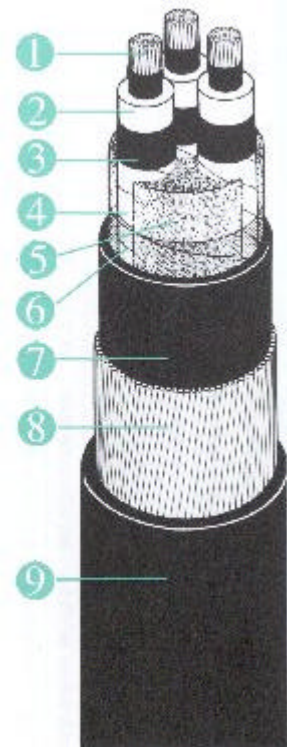
8.ARMOURING

Single layer of galvanised circular steel wires.

9.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).



BS6622/BS7835 Three Core Armoured 11kV XLPE Stranded Copper Conductors

Constructional Data

Cross-sectional area mm ²	Minimum average thickness of insulation mm	Nominal diameter over insulation mm	Nominal thickness of PVC/LSOH bedding mm	Nominal number and diameter of armoured wires no./mm	Nominal thickness of PVC/LSOH oversheath mm	Nominal overall diameter of cable mm
50	3.4	17.0	1.4	50/2.5	2.6	53.1
70	3.4	18.8	1.4	54/2.5	2.7	57.1
95	3.4	20.5	1.5	59/2.5	2.8	61.2
120	3.4	22.0	1.6	62/2.5	3.0	65.0
150	3.4	23.3	1.6	65/2.5	3.1	68.0
185	3.4	25.1	1.7	70/2.5	3.2	72.3
240	3.4	27.3	1.8	61/3.15	3.4	79.0
300	3.4	29.6	1.9	65/3.15	3.6	84.5
400	3.4	32.3	2.0	70/3.15	3.8	90.9

Installation Data

Cross-sectional area mm ²	Approximate cable weight kg/m	Nominal drum length m	Minimum bending radius mm	Nominal internal diameter of ducts mm
50	5.5	750	650	100
70	6.4	500	700	100
95	7.5	500	750	100
120	8.6	500	800	100
150	9.6	450	850	125
185	11.2	450	900	125
240	14.2	450	950	125
300	16.5	350	1050	125
400	19.7	300	1100	125

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
50	387	494	115	506	260	0.52
70	268	343	108	360	298	0.60
95	193	248	102	268	334	0.67
120	153	196	98.8	220	365	0.73
150	124	159	96.2	186	392	0.78
185	99.1	128	93.1	158	430	0.86
240	75.4	98	90.0	134	476	0.95
300	60.1	80	87.4	119	524	1.05
400	47.0	64	84.9	106	580	1.16

BS6622/BS7835 Three Core Armoured 11kV XLPE Stranded Copper Conductors

Ratings Data

Cross-sectional area mm ²	Current Ratings			Short circuit ratings	
	Laid direct 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 per core kA
50	210	180	220	6.8	-
70	255	215	270	9.8	-
95	300	255	330	13.3	Typically
120	340	290	375	17.2	Less
150	380	330	430	21.2	Then
185	430	370	490	26.6	1kA
240	490	425	570	34.9	-
300	540	470	650	43.8	-
400	590	520	700	57.3	-

Current Ratings Conditions:

Ground Temperature	15°C
Ambient temperature (air)	25°C
Depth of burial	0.8m
Thermal resistance of soil	1.2°C m/W