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 ploythylene (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.

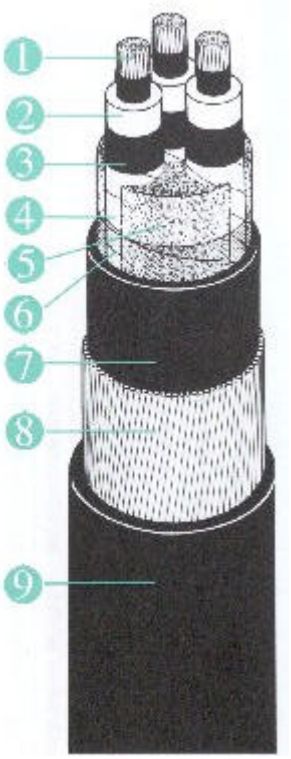
5.LAYING UP
Three cores laid up with polypropylene string fillers to form a compact circular cable, and bound with tape.

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).



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Constructional Data

Cross-sectional area mm²	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 mm²	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 mm²	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

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Ratings Data

Cross-sectional area mm²	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

BASEC
BRITISH APPROVALS SERVICE FOR CABLES

Certificate No:
017/006/090
Issue No: 7

Certificate of Product Approval

Licensee:
Prysmian Cables & Systems Ltd

Chickenhall Lane, Eastleigh, SO50 6YU, Hampshire, United Kingdom

Factory:
Oak Road

Wrexham Industrial Estate, Wrexham, LL13 9PH, Clwyd, United Kingdom

Standard:
BS 7835:2007 Incorporating Corrigendum No.1

Description:
Medium voltage power cables up to 33kV with LSHF sheathing

Details:
Stranded circular copper or aluminium class 2 conductors. XLPE insulation. Bonded or strippable semi-conducting insulation screen. Copper tape and/or copper wire screened. Extruded inner sheath. Aluminium round wire armoured (single-core cables). Galvanised steel round wire armoured (3-core cables). LTS1, halogen free, low smoke extruded outer sheath. Voltage ratings: : 3.8/6.6 (7.2)kV, 6.35/11(12)kV, 8.7/15 (17.5)kV, 12.7/22 (24)kV and19/33 (36)kV Range

Materials:
Insulation XLPE, Sheath LTS 1

Brand Name:
N/A

Origin Mark:
PRYSMIAN (W)

Permissible Approval Marks:

BASEC name | BASEC roundel

Signed for and on behalf of
BASEC Group Ltd

Kieran O'Brien Date: 20/07/2023

Date of original issue: 06/02/2020

Check BASEC website to verify validity.

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BSF079 Issue 5 (20-03-2023)

UKAS PRODUCT CERTIFICATION 0004

Expiry date:
11/08/2026

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Type(s) and Range(s) of Approval

Table / Clause	Code Designation	Conductor Class	Range of Cores	Min Nominal Size -sqmm	Max Nominal Size - sqmm
N/A	N/A	Class 2	1	70	1000
N/A	N/A	Class 2	3	70	300

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