

BS6724 Copper Conductor SWA LSZH 0.6/1kV

BS6724, IEC 60754-1
BS EN 50267-2-1 & BS EN/IEC 61034-1
BS EN/IEC 60332-1-2, BS EN/IEC 60332-3-24



Application

Designed for use in installations where fire, smoke emission and toxic fumes cause risk to life. These cables are steel wire armoured for mechanical protection and are generally used for mains supply electricity. Suitable for external use and direct burial.

Construction

Conductor	Class 2 stranded copper conductor according to BS EN 60228 (previously BS 6360)
Insulation	XLPE Cross-Linked Polyethylene
Bedding	LSZH (Low smoke zero halogen)
Armour	SWA (Steel Wire Armour)
Sheath	LSZH Low smoke zero halogen
Voltage Rating (U ₀ /U)	600/1000V
Temperature Rating Fixed:	-25°C to +90°C
Minimum Bending Radius	1.5mm ² to 16mm ² - Fixed: 6 x overall diameter 25mm ² and above - Fixed: 8 x overall diameter
Core Identification	2 core: Brown Blue 3 core: Brown Black Grey 4 core: Brown Blue Black Grey 5 core: Green/Yellow Brown Blue Black Grey Alternative Core Identification: White cores with Black numbers

Premier Part No	No of Cores	Nominal Cross Section mm ²	Nominal Insulation Thickness mm ²	Nominal Diameter Under Armour mm ²	Nominal Diameter Overall mm ²	Nominal Weight kg/km	CW/BW LSOH Glands metric
23002X001.5	2	1.5	0.6	7.3	12.1	302	20s
23002X002.5	2	2.5	0.7	8.5	13.6	345	20s
23002X004	2	4	0.7	9.4	14.7	410	20s
23002X006	2	6	0.7	10.5	15.9	499	20
23002X010	2	10	0.7	12.3	18.0	648	20
23002X016	2	16	0.7	14.3	20.4	978	20
23002X025	2	25	0.9	14.7	21.0	1290	25
23002X035	2	35	0.9	16.8	23.3	1500	25
23002X050	2	50	1.0	19.0	25.8	1890	25
23002X070	2	70	1.1	22.0	29.0	2450	32
23002X095	2	95	1.1	25.1	33.1	3300	32
23002X120	2	120	1.2	27.9	36.1	4020	40

Premier Part No	No of Cores	Nominal Cross Section mm ²	Nominal Insulation Thickness mm ²	Nominal Diameter Under Armour mm ²	Nominal Diameter Overall mm ²	Nominal Weight kg/km	CW/BW LSOH Glands metric
23003X001.5	3	1.5	0.6	7.8	12.6	330	20
23003X002.5	3	2.5	0.7	9.2	14.1	390	20s
23003X004	3	4	0.7	10.0	15.3	464	20s
23003X006	3	6	0.7	11.2	16.6	568	20
23003X010	3	10	0.7	13.1	19.5	866	20
23003X016	3	16	0.7	15.3	21.6	1152	25
23003X025	3	25	0.9	18.9	23.6	1800	25
23003X035	3	35	0.9	21.3	25.7	2230	32
23003X050	3	50	1.0	21.7	28.5	2490	32
23003X070	3	70	1.1	25.2	32.2	3290	32
23003X095	3	95	1.1	28.8	37.0	4440	40
23003X120	3	120	1.2	32.0	40.4	5470	40
23003X150	3	150	1.4	35.9	45.5	6930	50s
23003X185	3	185	1.6	40	49.8	8350	63s
23003X240	3	240	1.7	44.9	55.1	10400	63s
23003X300	3	300	1.8	49.8	60.2	12600	63s
2300X400	3	400	2.0	55.8	66.6	14600	75s

Premier Part No	No of Cores	Nominal Cross Section mm ²	Nominal Insulation Thickness mm ²	Nominal Diameter Under Armour mm ²	Nominal Diameter Overall mm ²	Nominal Weight kg/km	CW/BW LSOH Glands metric
23004X001.5	4	1.5	0.6	8.5	13.3	365	20s
23004X002.5	4	2.5	0.7	9.9	15.0	438	20
23004X004	4	4	0.7	11.0	16.4	532	20
23004X006	4	6	0.7	12.3	19.7	764	20
23004X010	4	10	0.7	14.5	21.1	1013	25
23004X016	4	16	0.7	17.0	23.4	1360	25
23004X025	4	25	0.9	21.0	26.1	2160	32
23004X035	4	35	0.9	23.6	28.6	2690	32
23004X050	4	50	1.0	25.0	32.0	3130	32
23004X070	4	70	1.1	29.5	37.7	4500	40
23004X095	4	95	1.1	33.3	41.7	5600	50s
23004X120	4	120	1.2	37.5	47.1	7400	50
23004X150	4	150	1.4	41.6	51.4	8780	50
23004X185	4	185	1.6	46.4	56.6	10630	63s
23004X240	4	240	1.7	52.6	63.0	13390	63
23004X300	4	300	1.8	58	68.8	16290	75s
23004X400	4	400	2.0	65.4	78.1	19800	90

Premier Part No	No of Cores	Nominal Cross Section mm ²	Nominal Insulation Thickness mm ²	Nominal Diameter Under Armour mm ²	Nominal Diameter Overall mm ²	Nominal Weight kg/km	CW/BW LSOH Glands metric
23005X001.5	5	1.5	0.6	9.7	14.3	410	20s
23005X002.5	5	2.5	0.7	11.7	16.1	470	20
23005X004	5	4	0.7	13.0	17.8	710	20
23005X006	5	6	0.7	14.5	20.0	876	25
23005X010	5	10	0.7	17.2	22.9	1165	25
23005X016	5	16	0.7	20.0	26.6	1742	32
23005X025	5	25	0.9	24.7	31.5	2323	32
23005X035	5	35	0.9	27.8	34.8	2932	40
23005X050	5	50	1.0	32.4	40.4	4192	50s

Premier Part No	No of Cores	Nominal Cross Section mm ²	Nominal Insulation Thickness mm ²	Nominal Diameter Under Armour mm ²	Nominal Diameter Overall mm ²	Nominal Weight kg/km	CW/BW LSOH Glands metric
23007X00.15	7	1.5	0.6	10.2	15.2	470.0	20
23007X002.5	7	2.5	0.7	12.3	17.1	600.0	20
23007X004	7	4	0.7	13.6	19.1	81.0	20

Premier Part No	No of Cores	Nominal Cross Section mm ²	Nominal Insulation Thickness mm ²	Nominal Diameter Under Armour mm ²	Nominal Diameter Overall mm ²	Nominal Weight kg/km	CW/BW LSOH Glands metric
23012X001.5	12	1.5	0.6	13.7	19.4	780	20
23012X002.5	12	2.5	0.7	16.3	22.4	1000	25

Premier Part No	No of Cores	Nominal Cross Section mm ²	Nominal Insulation Thickness mm ²	Nominal Diameter Under Armour mm ²	Nominal Diameter Overall mm ²	Nominal Weight kg/km	CW/BW LSOH Glands metric
23019X001.5	19	1.5	0.6	16.2	22.2	1000	25
23019X002.5	19	2.5	0.7	19.9	26.6	1540	32

Premier Part No	No of Cores	Nominal Cross Section mm ²	Nominal Insulation Thickness mm ²	Nominal Diameter Under Armour mm ²	Nominal Diameter Overall mm ²	Nominal Weight kg/km	CW/BW LSOH Glands metric
23027X001.5	27	1.5	0.6	20.0	26.7	1500	32
23027X002.5	27	2.5	0.7	24.0	30.7	1950	32

Premier Part No	No of Cores	Nominal Cross Section mm ²	Nominal Insulation Thickness mm ²	Nominal Diameter Under Armour mm ²	Nominal Diameter Overall mm ²	Nominal Weight kg/km	CW/BW LSOH Glands metric
23037X001.5	37	1.5	0.6	22.3	29.0	1800	32
23037X002.5	37	2.5	0.7	26.9	33.8	2350	40

Class 2 Stranded Copper Conductors for Single & Multi-Core Cables

Nominal Cross Sectional Area mm ²	Min. No. of Wires in Conductor			Max. Resistance of Conductor at 20°C Ohms /km
	Circular	Circular Compacted	Shaped	
1.5	7	6		12.1
2.5	7	6		7.41
4	7	6		4.61
6	7	6		3.08
10	7	6		1.83
16	7	6		1.15
25	7	6	6	0.727
35	7	6	6	0.524
50	19	6	6	0.387
70	19	12	12	0.268
95	19	15	15	0.193
120	37	18	18	0.153
150	37	18	18	0.124
185	37	30	30	0.0991
240	37	34	34	0.0754

In accordance with BS EN 60228

Current Carrying Capacity

Nominal Cross Sectional Area mm ²	Clipped Direct		Free Air or Perforated Tray		Direct in Ground	
	Single Phase	Three Phase	Single Phase	Three Phase	Single Phase	Three Phase
	2 core AC or DC	3 or 4 core	2 core AC or DC	3 or 4 core	2 core AC or DC	3 or 4 core
1.5	27	23	29	25	25	21
2.5	36	31	39	33	33	28
4	49	42	52	44	43	36
6	62	43	66	56	53	44
10	85	73	90	78	71	58
16	110	94	115	99	91	75
25	146	124	152	131	116	96
35	180	154	188	162	139	115
50	219	187	228	197	164	135
70	279	238	291	251	203	167
95	338	289	354	304	239	197
120	392	335	410	353	271	223
150	451	386	472	406	306	251
185	515	441	539	463	343	281
240	607	520	636	546	395	324
300	698	599	732	628	446	365
400	787	673	847	728		

Air ambient temperature 30°C

Ground ambient temperature 20°C

Conductor operating temperature 90°C

Notes.

1. Where a conductor operates at a temperature exceeding 70°C it must be ascertained that the equipment connected to the conductor is suitable for the conductor operating temperature (see reg. 512.1.2 of the 17th edition of the IEE wiring regs.)

2. Where cables in this table are connected to equipment or accessories designed to operate at a temperature not exceeding 70°C, the current ratings given in the equivalent table for 70°C thermoplastic insulated cable (Table 4D4A) must be used (see regs 523.1 of the 17th edition of the IEE wiring regs.)

Information provided in accordance with table 4E4A of the 17th Edition of IEE wiring regs.

Voltage Drop

Nominal Cross Sectional Area mm ²	Two Core		Two Core			Three or Four Core		
	DC		Single Phase AC			Three Phase AC		
			mV/A/m			mV/A/m		
1.5	31		31			27		
2.5	19		19			16		
4	12		12			10		
6	739		7.9			6.8		
10	407		4.7			4		
16	2.9		2.9			2.5		
			r	x	z	r	x	z
25	1.85	1.85	0.160	1.900	1.600	0.140	1.650	
35	1.35	1.35	0.155	1.350	1.150	0.135	1.150	
50	0.98	0.99	0.155	1.000	0.860	0.135	0.870	
70	0.67	0.67	0.150	0.690	0.590	0.130	0.600	
95	0.49	0.5	0.150	0.520	0.430	0.130	0.450	
120	0.39	0.4	0.145	0.420	0.340	0.130	0.370	
150	0.31	0.32	0.145	0.350	0.280	0.125	0.300	
185	0.25	0.26	0.145	0.290	0.220	0.125	0.260	
240	0.195	0.2	0.140	0.240	0.175	0.125	0.210	
300	0.155	0.16	0.140	0.210	0.140	0.120	0.185	
400	0.12	0.13	0.140	0.190	0.115	0.120	0.165	

Conductor operating temperature 90°C

r = resistive component

x = reactive component

z = impedance value

The above table is in accordance with Table 4E4B of the 17th edition of the IEE wiring regs.

For cable having conductors of 16mm² or less cross sectional area their inductances can be ignored and (mV/A/m)r values only are tabulated.

For cable having conductors greater than 16mm² cross sectional area the impedance values are given as (mV/A/m)z together with the resistive component (mV/A/m)r and the reactive component (mV/A/m)x.

The information contained within this data sheet is for guidance only.
 Cable and gland sizes are nominal and may vary according to different manufacturer's tolerances.
 Every possible effort is made to ensure that the Information contained in this data sheet is correct.
 However, we reserve the right to change the information or specification at any time in the light of technical developments or revisions.
 References to or extracts from British Standards, current IEE regulations or other regulatory bodies should be verified with these organisations.