BS5467 Copper Conductor SWA 0.6/1kV

BS5647, IEC 60502-1
BS EN/IEC 60332-1-2

Application

Multi-core PVC cable with steel wire armour (SWA). Primarily designed for fixed external wiring for energy supply.
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	PVC (Polyvinyl Chloride)
Armour	SWA (Steel Wire Armour)
Sheath	PVC Polyvinyl
Voltage Rating (Uo/U)	600/1000V
Temperature Rating Fixed:	-25°C to +90°C
Minimum Bending Radius	1.5mm2 to 16mm2 - Fixed: 6 x overall diameter 25mm2 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

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Premier Part No	No of Cores	Nominal Cross Section mm²	Nominal Insulation Thickness mm²	Nominal Diameter Under Armour mm²	Nominal Diameter Overall mm²	Nominal Weight kg/km	CW/BW LSOH Glands metric
21002X001.5	2	1.5	0.6	7.3	12.1	302	20s
21002X002.5	2	2.5	0.7	8.5	13.6	345	20s
21002X004	2	4	0.7	9.4	14.7	410	20s
21002X006	2	6	0.7	10.5	15.9	499	20
21002X010	2	10	0.7	12.3	18.0	648	20
21002X016	2	16	0.7	14.3	20.4	978	20
21002X025	2	25	0.9	14.7	21.0	1290	25
21002X035	2	35	0.9	16.8	23.3	1500	25
21002X050	2	50	1.0	19.0	25.8	1890	25
21002X070	2	70	1.1	22.0	29.0	2450	32
21002X095	2	95	1.1	25.1	33.1	3300	32
21002X120	2	120	1.2	27.9	36.1	4020	40

Premier Part No	No of Cores	Nominal Cross Section mm²	Nominal Insulation Thickness mm²	Nominal Diameter Under Armour mm²	Nominal Diameter Overall mm²	Nominal Weight kg/km	CW/BW LSOH Glands metric
21003X001.5	3	1.5	0.6	7.8	12.6	330	20
21003X002.5	3	2.5	0.7	9.2	14.1	390	20s
21003X004	3	4	0.7	10.0	15.3	464	20s
21003X006	3	6	0.7	11.2	16.6	568	20
21003X010	3	10	0.7	13.1	19.5	866	20
21003X016	3	16	0.7	15.3	21.6	1152	25
21003X025	3	25	0.9	18.9	23.6	1800	25
21003X035	3	35	0.9	21.3	25.7	2230	32
21003X050	3	50	1.0	21.7	28.5	2490	32
21003X070	3	70	1.1	25.2	32.2	3290	32
21003X095	3	95	1.1	28.8	37.0	4440	40
21003X120	3	120	1.2	32.0	40.4	5470	40
21003X150	3	150	1.4	35.9	45.5	6930	50s
21003X185	3	185	1.6	40	49.8	8350	63s
21003X240	3	240	1.7	44.9	55.1	10400	63s
21003X300	3	300	1.8	49.8	60.2	12600	63s
21003X400	3	400	2.0	55.8	66.6	14600	75s

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Premier Part No	No of Cores	Nominal Cross Section mm²	Nominal Insulation Thickness mm²	Nominal Diameter Under Armour mm²	Nominal Diameter Overall mm²	Nominal Weight kg/km	CW/BW LSOH Glands metric
21004X001.5	4	1.5	0.6	8.5	13.3	365	20s
21004X002.5	4	2.5	0.7	9.9	15.0	438	20
21004X004	4	4	0.7	11.0	16.4	532	20
21004X006	4	6	0.7	12.3	19.7	764	20
21004X010	4	10	0.7	14.5	21.1	1013	25
21004X016	4	16	0.7	17.0	23.4	1360	25
21004X025	4	25	0.9	21.0	26.1	2160	32
21004X035	4	35	0.9	23.6	28.6	2690	32
21004X050	4	50	1.0	25.0	32.0	3130	32
21004X070	4	70	1.1	29.5	37.7	4500	40
21004X095	4	95	1.1	33.3	41.7	5600	50s
21004X120	4	120	1.2	37.5	47.1	7400	50
21004X150	4	150	1.4	41.6	51.4	8780	50
21004X185	4	185	1.6	46.4	56.6	10630	63s
21004X240	4	240	1.7	52.6	63.0	13390	63
21004X300	4	300	1.8	58	68.8	16290	75s
21004X400	4	400	2.0	65.4	78.1	19800	90

Premier Part No	No of Cores	Nominal Cross Section mm²	Nominal Insulation Thickness mm²	Nominal Diameter Under Armour mm²	Nominal Diameter Overall mm²	Nominal Weight kg/km	CW/BW LSOH Glands metric
21005X001.5	5	1.5	0.6	9.7	14.3	410	20s
21005X002.5	5	2.5	0.7	11.7	16.1	470	20
21005X004	5	4	0.7	13.0	17.8	710	20
21005X006	5	6	0.7	14.5	20.0	876	25
21005X010	5	10	0.7	17.2	22.9	1165	25
21005X016	5	16	0.7	20.0	26.6	1742	32
21005X025	5	25	0.9	24.7	31.5	2323	32
21005X035	5	35	0.9	27.8	34.8	2932	40
21005X050	5	50	1.0	32.4	40.4	4192	50s

Premier Part No	No of Cores	Nominal Cross Section mm²	Nominal Insulation Thickness mm²	Nominal Diameter Under Armour mm²	Nominal Diameter Overall mm²	Nominal Weight kg/km	CW/BW LSOH Glands metric
21007X00.15	7	1.5	0.6	10.2	15.2	470.0	20
21007X002.5	7	2.5	0.7	12.3	17.1	600.0	20
21007X004	7	4	0.7	13.6	19.1	81.0	20

Premier Part No	No of Cores	Nominal Cross Section mm²	Nominal Insulation Thickness mm²	Nominal Diameter Under Armour mm²	Nominal Diameter Overall mm²	Nominal Weight kg/km	CW/BW LSOH Glands metric
21012X001.5	12	1.5	0.6	13.7	19.4	780	20
21012X002.5	12	2.5	0.7	16.3	22.4	1000	25

Premier Part No	No of Cores	Nominal Cross Section mm²	Nominal Insulation Thickness mm²	Nominal Diameter Under Armour mm²	Nominal Diameter Overall mm²	Nominal Weight kg/km	CW/BW LSOH Glands metric
21019X001.5	19	1.5	0.6	16.2	22.2	1000	25
21019X002.5	19	2.5	0.7	19.9	26.6	1540	32

Premier Part No	No of Cores	Nominal Cross Section mm²	Nominal Insulation Thickness mm²	Nominal Diameter Under Armour mm²	Nominal Diameter Overall mm²	Nominal Weight kg/km	CW/BW LSOH Glands metric
21027X001.5	27	1.5	0.6	20.0	26.7	1500	32
21027X002.5	27	2.5	0.7	24.0	30.7	1950	32

Premier Part No	No of Cores	Nominal Cross Section mm²	Nominal Insulation Thickness mm²	Nominal Diameter Under Armour mm²	Nominal Diameter Overall mm²	Nominal Weight kg/km	CW/BW LSOH Glands metric
21037X001.5	37	1.5	0.6	22.3	29.0	1800	32
21037X002.5	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 mm²	Min. No. of Wires in Conductor Circular	Circular Compacted	Shaped	Max. Resistance of Conductor at 20°C Ohms /km
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				

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Current Carrying Capacity

Nominal Cross Sectional Area mm²	Clipped Direct		Free Air or Perforated Tray		Direct in Ground	
	Single Phase 2 core AC or DC	Three Phase 3 or 4 core	Single Phase 2 core AC or DC	Three Phase 3 or 4 core	Single Phase 2 core AC or DC	Three Phase 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 temperture 20°C

Conductor opertating remperture 90°C

Notes.

1.Where a conductor operates ata 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.

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Voltage Drop

Nominal Cross Sectional Area mm°2	Two Core DC	Two Core Single Phase AC mV/A/m			Three or Four Core Three Phase AC 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 temperture 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.