

BS 5467 Copper Conductor Single Core AWA PVC BASEC 0.6/1kV Cable



Eland Product Group: **A9S**

APPLICATION

Single core PVC cable with aluminium wire armour (AWA). Power and auxiliary control cables for use in power networks, underground, outdoor and indoor applications and for use in cable ducting.

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

AWA (Aluminium Wire Armour)

Sheath

PVC (Polyvinyl Chloride)

CABLE STANDARDS

BS 5467, BS EN/IEC 60502-1, BS EN/IEC 60332-1-2



The electrical and dimensional properties of this product are measured by the Technical and Quality Assurance department at the Eland Cables laboratory. Cable performance in respect of conductor resistance, construction quality (workmanship), dimensional consistency, and other parameters are verified to published standards and approved product drawings. Conformance to RoHS (Restriction of the use of Hazardous Substances) is determined and confirmed.

CHARACTERISTICS

Voltage Rating (U_o/U)

600/1000V

Temperature Rating

Fixed: -25°C to +90°C

Minimum Bending Radius

25mm² and above - Fixed: 8 x overall diameter

Core Identification

1 core: ● Brown or ● Blue

Sheath Colour

● Black

DIMENSIONS

BS5467 XLPE/PVC/AWA/PVC (Copper)

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm ²	NOMINAL THICKNESS OF INSULATION mm	NOMINAL OVERALL DIAMETER mm		NOMINAL WEIGHT kg/km	BW / CW GLAND	WRAPAROUND CLEATS
				Under Armour	Overall			
A9AWA1050	1	50	1	12.7	17.5	800	20	CC7
A9AWA1070	1	70	1.1	14.7	20.2	960	25	CC8
A9AWA1095	1	95	1.1	16.6	22.3	1240	25	CC9
A9AWA1120	1	120	1.2	18.5	24.2	1510	25	CC10
A9AWA1150	1	150	1.4	20.8	27.4	1900	32	CC11
A9AWA1185	1	185	1.6	23.2	30	2320	32	CC12
A9AWA1240	1	240	1.7	26	32.8	2930	32	CC14
A9AWA1300	1	300	1.8	28.6	35.6	3580	40	CC16
A9AWA1400	1	400	2	32.4	40.5	4600	40	CC16
A9AWA1500	1	500	2.2	36	44.2	5770	50S	CC18
A9AWA1630	1	630	2.4	40	48.8	7250	50	CC20
A9AWA1800	1	800	2.6	45.6	55.4	9381	63S	-
A9AWA11000	1	1000	2.8	50.6	60.6	11540	63S	-

CONDUCTORS

Class 2 Stranded Conductors for Single Core and Multi-Core Cables

NOMINAL CROSS SECTIONAL AREA mm ²	MINIMUM NO. OF WIRES IN CONDUCTOR						MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C
	Circular		Circular Compacted		Shaped		Annealed Copper Conductor
	Cu	Al	Cu	Al	Cu	Al	Plain Wires ohms/km
50	19	19	6	6	6	6	0.387
70	19	19	12	12	12	12	0.268
95	19	19	15	15	15	15	0.193
120	37	37	18	15	18	15	0.153
150	37	37	18	15	18	15	0.124
185	37	37	30	30	30	30	0.0991
240	37	37	34	30	34	30	0.0754
300	61	61	34	30	34	30	0.0601
400	61	61	53	53	53	53	0.047
630	91	91	53	53	53	53	0.0283
800	91	91	53	53	-	-	0.0221
1000	91	91	53	53	-	-	0.0176

The above table is in accordance with BS EN 60228 (previously BS 6360)

ELECTRICAL CHARACTERISTICS XLPE/PVC/AWA/PVC

Current Carrying Capacity

NOMINAL CROSS SECTIONAL AREA mm ²	REFERENCE METHOD C (CLIPPED DIRECT)		REFERENCE METHOD F (IN FREE AIR OR ON A PERFORATED CABLE TRAY, HORIZONTAL OR VERTICAL)								
	TOUCHING		TOUCHING			SPACED BY ONE CABLE DIAMETER					
	2 Cables Single-Phase AC or DC Flat Amps	3 or 4 Cables Three-Phase AC Flat Amps	2 Cables Single-Phase AC or DC Flat Amps	3 Cables Three-Phase AC Flat Amps	3 Cables Three-Phase AC Trefoil Amps	2 Cables DC Amps		2 Cables Single-Phase AC Amps		3 or 4 Cables Three-Phase AC Amps	
Horizontal						Vertical	Horizontal	Vertical	Horizontal	Vertical	
50	237	220	253	232	222	284	270	282	266	288	266
70	303	277	322	293	285	356	349	357	337	358	331
95	367	333	389	352	346	446	426	436	412	425	393
120	425	383	449	405	402	519	497	504	477	485	449
150	488	437	516	462	463	600	575	566	539	549	510
185	557	496	587	524	529	688	660	643	614	618	574
240	656	579	689	612	625	815	782	749	714	715	666
300	755	662	792	700	720	943	906	842	805	810	755
400	853	717	899	767	815	1137	1094	929	889	848	797
500	962	791	1016	851	918	1314	1266	1032	989	923	871
630	1082	861	1146	935	1027	1528	1474	1139	1092	992	940
800	1170	904	1246	987	1119	1809	1744	1204	1155	1042	978
1000	1261	961	1345	1055	1214	2100	2026	1289	1238	1110	1041

Ambient temperature: 30°C
 Conductor operating temperature: 90°C

- Notes
- 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 Regulation 512.1.2 of the 17th Edition of IEE Wiring Regulations).
 - 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 cables (Table 4D3A) must be used (see Regulation 523.1 of the 17th Edition of IEE Wiring Regulations).

The above table is in accordance with Table 4E3A of the 17th Edition of IEE Wiring Regulations.

Voltage Drop

NOMINAL CROSS SECTIONAL AREA mm ²	TWO CORE CABLE DC	REFERENCE METHOD C & F (CLIPPED DIRECT, ON TRAY OR IN FREE AIR)														
		2 Cables Single-Phase AC mV/A/m						3 or 4 Cables Three-Phase AC mV/A/m								
		Touching			Spaced*			Trefoil and Touching			Flat and Touching			Flat and Spaced*		
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
50	0.980	0.990	0.210	1.000	0.980	0.29	1.00	0.860	0.180	0.870	0.840	0.250	0.88	0.840	0.330	0.90
70	0.670	0.680	0.200	0.710	0.690	0.29	0.75	0.590	0.170	0.620	0.600	0.250	0.65	0.620	0.320	0.70
95	0.490	0.510	0.195	0.550	0.530	0.28	0.60	0.440	0.170	0.470	0.460	0.240	0.52	0.490	0.310	0.58
120	0.390	0.410	0.190	0.450	0.430	0.27	0.51	0.350	0.165	0.390	0.380	0.240	0.44	0.410	0.300	0.51
150	0.310	0.330	0.185	0.380	0.360	0.27	0.45	0.290	0.160	0.330	0.310	0.230	0.39	0.340	0.290	0.45
185	0.250	0.270	0.185	0.330	0.300	0.26	0.40	0.230	0.160	0.280	0.260	0.230	0.34	0.290	0.290	0.41
240	0.195	0.210	0.180	0.280	0.240	0.26	0.35	0.180	0.155	0.240	0.210	0.220	0.30	0.240	0.280	0.37
300	0.155	0.170	0.175	0.250	0.195	0.25	0.32	0.145	0.150	0.210	0.170	0.220	0.28	0.200	0.270	0.34
400	0.115	0.145	0.170	0.220	0.180	0.24	0.30	0.125	0.150	0.195	0.160	0.210	0.27	0.200	0.270	0.33
500	0.093	0.125	0.170	0.210	0.165	0.24	0.29	0.105	0.145	0.180	0.145	0.200	0.25	0.190	0.240	0.31
630	0.073	0.105	0.165	0.195	0.150	0.23	0.27	0.092	0.145	0.170	0.135	0.195	0.24	0.175	0.230	0.29
800	0.056	0.090	0.160	0.190	0.145	0.23	0.27	0.086	0.140	0.165	0.130	0.180	0.23	0.175	0.195	0.26
1000	0.045	0.092	0.155	0.180	0.140	0.21	0.25	0.080	0.135	0.155	0.125	0.170	0.21	0.165	0.180	0.24

Conductor operating temperature: 90°C

r = Resistive Component
x = Reactive Component
z = Impedance Value

* Spacings larger than one cable diameter will result in a larger voltage drop.

The above table is in accordance with Table 4E3B of the 17th Edition of IEE Wiring Regulations.

For cables having conductors of 16mm² or less cross sectional area their inductances can be ignored and (mV/A/m)r values only are tabulated. For cables 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 above paragraph is extracted from Appendix 4 of the 17th Edition of IEE Wiring Regulations.