

6381Y / BS 6004 PVC Cable



Eland Product Group: **A1F**

APPLICATION

Flexible single core insulated and sheathed PVC cable.
Suitable for DC power supplies on Telecoms equipment and power applications where flexibility is required.

CONSTRUCTION

Conductor

Class 5 flexible copper conductor to BS EN 60228 (previously BS 6360)

Insulation

PVC (Polyvinyl Chloride) Type T11 according to BS 7655

Sheath

PVC (Polyvinyl Chloride) Type 6 according to BS 7655

CABLE STANDARDS

1.5mm² to 35mm²: generally to BS 6004
50mm² and above: 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)

1.5mm² to 35mm²: 450/750V
50mm² and above: 600/1000V

Temperature Rating

Flexed: -15°C to +70°C

Minimum Bending Radius

Up to 50mm²: 3 x overall diameter
Above 70mm²: 4 x overall diameter

Sheath Colour (Insulation Colour)

● Blue (Blue) ● Grey (Grey) ● Green/Yellow (Green/Yellow)

Special colours to order

DIMENSIONS

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm ²	NOMINAL THICKNESS OF INSULATION mm	NOMINAL THICKNESS OF SHEATH mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
A1FY*0015	1	1.5	0.9	0.8	4.91	38
A1FY*0025	1	2.5	0.9	0.8	5.35	49
A1FY*004	1	4	1	0.9	6.25	71
A1FY*006	1	6	1.1	0.9	7.6	101
A1FY*010	1	10	1.2	1.1	8.56	152
A1FY*016	1	16	1.2	1.1	9.75	215
A1FY*025	1	25	1.4	1.1	11.5	307
A1FY*035	1	35	1.4	1.1	12.5	405
A1FY*050	1	50	1.4	1.4	15.1	580
A1FY*070	1	70	1.4	1.4	16.95	769
A1FY*095	1	95	1.6	1.5	19.1	1008
A1FY*120	1	120	1.6	1.8	21.6	1282
A1FY*150	1	150	1.8	1.8	23.4	1571
A1FY*185	1	185	2	1.8	25.5	1895
A1FY*240	1	240	2.2	1.8	28.5	2435
A1FY*300	1	300	2.4	2.0	31.2	3050
A1FY*400	1	400	2.6	2.1	35.3	4035

Eland Part No. shown above designate the sheath colour and insulation colour (). For each colour substitute * for a colour code as listed below.
e.g. A1FYBL/BL0015 = 1.5mm² Blue (Blue)

Colour Codes

COLOUR	Blue (Blue)	Grey (Grey)	Green/Yellow (Green/Yellow)
CODE	BL/BL	GR/GR	GY/GY

CONDUCTORS

Class 5 Flexible Copper Conductors

NOMINAL CROSS SECTIONAL AREA mm ²	MAXIMUM DIAMETER OF WIRES IN CONDUCTOR mm	MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C
		Plain Wires ohms/km
1.5	0.26	13.3
2.5	0.26	7.98
4	0.31	4.95
6	0.31	3.3
10	0.41	1.91
16	0.41	1.21
25	0.41	0.78
35	0.41	0.554
50	0.41	0.386
70	0.51	0.272
95	0.51	0.206
120	0.51	0.161
150	0.51	0.129

NOMINAL CROSS SECTIONAL AREA mm ²	MAXIMUM DIAMETER OF WIRES IN CONDUCTOR mm	MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C	
		Plain Wires ohms/km	
185	0.51	0.106	
240	0.51	0.0801	
300	0.51	0.0641	
400	0.51	0.0486	

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

ELECTRICAL CHARACTERISTICS

Current Carrying Capacity

NOMINAL CROSS SECTIONAL AREA mm ²	REFERENCE METHOD A (ENCLOSED IN CONDUIT IN THERMALLY INSULATING WALL ETC) Amps		REFERENCE METHOD B (ENCLOSED IN CONDUIT ON A WALL OR IN TRUNKING ETC) Amps		REFERENCE METHOD C (CLIPPED DIRECT) Amps		REFERENCE METHOD F (IN FREE AIR OR ON A PERFORATED CABLE TRAY HORIZONTAL OR VERTICAL) Amps				
	2 Cables Single-Phase AC or DC	3 or 4 Cables Three-Phase AC	2 Cables Single-Phase AC or DC	3 or 4 Cables Three-Phase AC	2 Cables Single-Phase AC or DC flat or touching	3 or 4 Cables Three-Phase AC flat and touching or trefoil	Touching			Spaced by One Diameter	
							2 Cables Single-Phase AC or DC flat	3 Cables Three-Phase AC flat	3 Cables Three-Phase AC trefoil	2 Cables Single-Phase AC or DC or 3 Cables Three-Phase AC flat	Horizontal
1.5	14.5	13.5	17.5	15.5	20	18	-	-	-	-	-
2.5	20	18	24	21	27	25	-	-	-	-	-
4	26	24	32	28	37	33	-	-	-	-	-
6	34	31	41	36	47	43	-	-	-	-	-
10	46	42	57	50	65	59	-	-	-	-	-
16	61	56	76	68	87	79	-	-	-	-	-
25	80	73	101	89	114	104	131	114	110	146	130
35	99	89	125	110	141	129	162	143	137	181	162
50	119	108	151	134	182	167	196	174	167	219	197
70	151	136	192	171	234	214	251	225	216	281	254
95	182	164	232	207	284	261	304	275	264	341	311
120	210	188	269	239	330	303	352	321	308	396	362
150	240	216	300	262	381	349	406	372	356	456	419
185	273	245	341	296	436	400	463	427	409	521	480
240	321	286	400	346	515	472	546	507	485	615	569
300	367	328	458	394	594	545	629	587	561	709	659
400	-	-	546	467	694	634	754	689	656	852	795

Ambient temperature: 30°C
 Conductor operating temperature: 70°C

The above table is in accordance with Table 4D1A of the 17th Edition of IEE Wiring Regulations.

Voltage Drop

NOMINAL CROSS SECTIONAL AREA mm ²	2 CABLES DC mV/A/m	2 CABLES SINGLE-PHASE AC mV/A/m									3 OR 4 CABLES THREE-PHASE AC mV/A/m											
		Reference Methods A and B (enclosed in conduit or trunking)			Reference Methods C and F (clipped direct, on tray or in free air)						Reference Methods A and B (enclosed in conduit or trunking)			Reference Methods C and F (clipped direct, on tray or in free air)								
					Cable Touching			Cable Spaced*						Cable Touching Trefoil		Cable Touching Flat		Cable Spaced* Flat				
1.5	29.0	29.0			29.0						25.0			25.0		25.0		25.0				
2.5	18.0	18.0			18.0						15.0			15.0		15.0		15.0				
4	11.0	11.0			11.0						9.5			9.5		9.5		9.5				
6	7.3	7.3			7.3						6.4			6.4		6.4		6.4				
10	4.4	4.4			4.4						3.8			3.8		3.8		3.8				
16	2.8	2.8			2.8						2.4			2.4		2.4		2.4				
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25	1.75	1.80	0.33	1.80	1.75	0.20	1.75	1.75	0.29	1.80	1.50	0.29	1.55	1.50	0.175	1.50	1.50	0.25	1.55	1.50	0.32	1.55
35	1.25	1.30	0.31	1.30	1.25	0.195	1.25	1.25	0.28	1.30	1.10	0.27	1.10	1.10	0.17	1.10	1.10	0.24	1.10	1.10	0.32	1.15
50	0.93	0.95	0.30	1.00	0.93	0.19	0.95	0.93	0.28	0.97	0.81	0.26	0.85	0.80	0.17	0.82	0.80	0.24	0.84	0.80	0.32	0.86
70	0.63	0.65	0.29	0.72	0.63	0.185	0.66	0.63	0.27	0.69	0.56	0.25	0.61	0.55	0.165	0.57	0.55	0.24	0.60	0.55	0.31	0.63
95	0.46	0.49	0.28	0.56	0.47	0.18	0.50	0.47	0.27	0.54	0.42	0.24	0.48	0.41	0.16	0.43	0.41	0.23	0.47	0.40	0.31	0.51
120	0.36	0.39	0.27	0.47	0.37	0.175	0.41	0.37	0.26	0.45	0.33	0.23	0.41	0.32	0.155	0.36	0.32	0.23	0.40	0.32	0.30	0.44
150	0.29	0.31	0.27	0.41	0.30	0.175	0.34	0.29	0.26	0.39	0.27	0.23	0.36	0.26	0.15	0.30	0.26	0.23	0.34	0.26	0.30	0.40
185	0.23	0.25	0.27	0.37	0.24	0.17	0.29	0.24	0.26	0.35	0.22	0.23	0.32	0.21	0.145	0.26	0.21	0.22	0.31	0.21	0.30	0.36
240	0.18	0.195	0.26	0.33	0.185	0.165	0.25	0.185	0.25	0.31	0.17	0.23	0.29	0.16	0.145	0.22	0.16	0.22	0.27	0.16	0.29	0.34
300	0.145	0.16	0.26	0.31	0.15	0.165	0.22	0.15	0.25	0.29	0.14	0.23	0.27	0.13	0.14	0.19	0.13	0.22	0.25	0.13	0.29	0.32
400	0.105	0.13	0.26	0.29	0.12	0.16	0.20	0.115	0.25	0.27	0.12	0.22	0.25	0.105	0.14	0.175	0.105	0.21	0.24	0.10	0.29	0.31

Conductor operating temperature: 70°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 4D1B 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.