

## 6181Y / BS 6004 Cable



Eland Product Group: A1Y

### APPLICATION

Fixed installation in dry or damp areas for domestic and light industrial wiring. Also used in connection to (smart)meters.

### CHARACTERISTICS

**Voltage Rating** Uo/U  
300/500V

**Temperature Rating**  
Fixed: -15°C to +70°C

**Minimum Bending Radius**  
Up to 6mm<sup>2</sup> - Fixed: 3 x overall diameter  
10mm<sup>2</sup> to 25mm<sup>2</sup> - Fixed: 4 x overall diameter

### CONSTRUCTION

**Conductor**  
1mm<sup>2</sup> to 2.5mm<sup>2</sup>: Class 1 solid copper conductor  
4mm<sup>2</sup> to 25mm<sup>2</sup>: Class 2 stranded copper conductor

**Insulation**  
PVC (Polyvinyl Chloride)

**Sheath**  
PVC (Polyvinyl Chloride)

**Insulation Colour**  
● Blue ● Brown

**Sheath Colour**  
● Grey

### CABLE THIRD-PARTY ACCREDITATION

**We supply BASEC approved products**  
Cables are tested and accredited by BASEC, The British Approvals Service for Cables

### STANDARDS

BS 6004, EN 60228

Flame Retardant according to IEC/EN 60332-1-2

### THE CABLE LAB<sup>®</sup>

AN ISO/IEC 17025 AND IECEE CBTL ACCREDITED FACILITY

Our world-class testing facility assures the quality and compliance of this cable through a continuous and rigorous testing regime.



### SUSTAINABILITY COMMITMENT

We are on a journey to Net Zero.

We've committed to near-term emissions reductions and a net-zero target with the Science Based Targets initiative and we're a signatory to the United Nations Global Compact Sustainable Development Goals.

Learn more about embodied carbon and our carbon emissions reduction actions, our comprehensive recycling services, and wider ESG activities for sustainable operations at: [www.elandcables.com/company/about-us/esg-sustainability](http://www.elandcables.com/company/about-us/esg-sustainability)



### REGULATORY COMPLIANCE

This cable is compliant with European Regulation EN 50575, the Construction Products Regulation.



This cable meets the requirements of the Low Voltage Directive 2014/35/EU, the RoHS Directive 2015/853/EU and Reach Directive EC 1907/2006. RoHS compliance has been tested and confirmed by The Cable Lab<sup>®</sup>.



## DIMENSIONS

ELAND PART NO.	NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	NOMINAL DIAMETER OF CONDUCTOR mm	NOMINAL THICKNESS OF INSULATION mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
A1YGR/*0010	1	1.13	0.6	4.1	28
A1YGR/*0015	1.5	1.38	0.7	4.6	34
A1YGR/*0025	2.5	1.76	0.8	5.3	49
A1YGR/*0040	4	2.5	0.8	6.1	75
A1YGR/*0060	6	3	0.8	6.7	99
A1YGR/*010	10	3.85	1	8.1	155
A1YGR/*016	16	4.8	1	9.3	225
A1YGR/*025	25	5.9	1.2	11.1	340

\*Designates the sheath colour. For each Eland Cables part number replace with the colour code as listed below e.g. A1YGR/BL0010 = 1mm<sup>2</sup> Blue

## COLOUR CODES

COLOUR	Blue	Brown
CODE	BL	BR

## CONDUCTORS

### Class 1 Solid Conductors for Single Core and Multi-Core Cables

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C ohms/km	
	Circular, Annealed Copper Conductors	
	Plain Wires	Metal-Coated Wires
1	18.1	18.2
1.5	12.1	12.2
2.5	7.41	7.56

The above table is in accordance with EN 60228

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

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	MINIMUM NO. OF WIRES IN CONDUCTOR mm						MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C ohms/km	
	Circular		Circular Compacted		Shaped		Annealed Copper Conductor	
	Cu	Al	Cu	Al	Cu	Al	Plain Wires	Metal-Coated Wires
4	7	-	6	-	-	-	4.61	4.7
6	7	-	6	-	-	-	3.08	3.11
10	7	7	6	6	-	-	1.83	1.84
16	7	7	6	6	-	-	1.15	1.16
25	7	7	6	6	6	6	0.727	0.734

The above table is in accordance with EN 60228

## ELECTRICAL CHARACTERISTICS

### Current Carrying Capacity

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	REFERENCE METHOD A (ENCLOSED IN CONDUIT IN THERMALLY INSULATING WALL ETC) Amps		REFERENCE METHOD A (ENCLOSED IN CONDUIT IN THERMALLY INSULATING WALL ETC) Amps		REFERENCE METHOD C (CLIPPED DIRECT) Amps		REFERENCE METHOD F (IN FREE AIR OR ON A PERFORATED CABLE TRAY ETC HORIZONTAL OR VERTICAL ETC) 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	3 or 4 Cables Three-Phase AC	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	Horizontal	Vertical
1	11	10.5	13.5	12	15.5	14	-	-	-	-	-
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

Ambient temperature: 30°C

Conductor operating temperature: 70°C

The above table is in accordance with Table 4D1A of the 18th Edition of IEE Wiring Regulations BS7671 and IEC 60364-5-52.

### VOLTAGE DROP

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	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, F and G (clipped direct, on tray or in free air)			Reference Methods A and B enclosed in conduit or trunking)			Reference Methods C, F and G (clipped direct, on tray or in free air)											
					Cables Touching			Cables Spaced*			Cables touching, Trefoil			Cables touching, Flat			Cables spaced*, Flat					
1	44	44			44			44			38			38			38					
1.5	29	29			29			29			25			25			25					
2.5	18	18			18			18			15			15			15					
4	11	11			11			11			9.5			9.5			9.5					
6	7.3	7.3			7.3			7.3			6.4			6.4			6.4					
10	4.4	4.4			4.4			4.4			3.8			3.8			3.8					
16	2.8	2.8			2.8			2.8			2.4			2.4			2.4					
25	1.75	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
		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	0.15	0.25	1.55	1.50	0.32	1.55

Conductor operating temperature: 70°C

r = Resistive Component

x = Reactive Component

z = Impedance Value

\* Spacings larger than one cable diameter will result in larger volt drop.

### DE-RATING FACTORS

For Ambient Air Temperatures other than 30°C

AMBIENT TEMPERATURE	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C
DE-RATING FACTOR	1.03	1.00	0.94	0.87	0.79	0.71	0.61	0.50

The information contained within this datasheet is for guidance only and is subject to change without notice or liability. All the information is provided in good faith and is believed to be correct at the time of publication. When selecting cable accessories, please note that actual cable dimensions may vary due to manufacturing tolerances.