H01N2-D EN 50525-2-81 Welding Cable

Eland Product Group: A2G

APPLICATION

These cables are used as a connection to welding robots in the automotive industry, shipyards and for manually/automatically operated lines and spot welding. These cables are ideal for use as an interconnecting battery cable or in battery storage systems. The robust cable structure makes them resistant to low and high temperatures, ozone and radiation, oils, acids, fats and petrols.

CHARACTERISTICS

Voltage Rating
100V

Temperature Rating
Fixed: -40°C to +85°C
Flexed: -20°C to +85°C

Minimum Bending Radius
Flexed: 6 x overall diameter

CONSTRUCTION

Conductor
Generally to Class 6 flexible copper conductor

Separator
PET (Polyester Tape)

Sheath
Rubber compound

Sheath Colour
● Black ● Red

STANDARDS

EN 50525-2-81, EN 60228, HD 22.6, VDE 0282-6, BS 638 Part 4

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

THE CABLE LAB®

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

REGULATORY COMPLIANCE

This cable meets the requirements of the Low Voltage Directive 2014/35/EU, the RoHS Directive 2015/65/EU and Reach Directive EC 1907/2006. RoHS compliance has been tested and confirmed by The Cable Lab®.

DIMENSIONS

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm²	NOMINAL THICKNESS OF INSULATION mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
A2G010*	1	10	2	9	146
A2G016*	1	16	2	10	204
A2G025*	1	25	2	11.5	290
A2G035*	1	35	2	12.5	384
A2G050*	1	50	2.2	14.5	535
A2G070*	1	70	2.4	16.5	716
A2G095*	1	95	2.6	18.5	943
A2G120*	1	120	2.8	20.5	1235
A2G150*	1	150	3	23	1556

* Designates the sheath colour. For each Eland Cables part number replace with the colour code as listed below. e.g. A2G010RD = 10mm² Red or A2G010E = 10mm² Black

CORE CODES

COLOUR	Black	Red
CODE	E	RD

CONDUCTORS

Flexible Copper Conductors for Single Core Cables

NOMINAL CROSS SECTIONAL AREA mm²	MAXIMUM DIAMETER OF WIRES IN CONDUCTOR mm	MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C ohms/km
		Plain Wires
10	0.21	1.91
16	0.21	1.21
25	0.21	0.78
35	0.21	0.554
50	0.21	0.386
70	0.21	0.272
95	0.21	0.206
120	0.51	0.161
150	0.51	0.129

UK T 020 7241 8787 | F 020 7241 8700 | sales@elandcables.com | www.elandcables.com
International T +44 20 7241 8740 | F +44 20 7241 8700 | international@elandcables.com

ELECTRICAL CHARACTERISTICS

Current Carrying Capacity

NOMINAL CROSS SECTIONAL AREA mm²	CURRENT RATING FOR SINGLE CYCLE OPERATION OVER A MAXIMUM PERIOD OF 5 MINUTES Amps			
	100%	85%	60%	35%
10	100	103	108	122
16	135	145	175	230
25	180	195	230	300
35	225	245	290	375
50	285	305	365	480
70	355	385	460	600
95	430	470	560	730
120	500	540	650	850
150	580	630	750	980

Ambient Air Temperature: 25°C
Maximum Conductor Temperature: 85°C

The above table is from HD 516 S2:1997

Duty Cycle and Current Carrying Capacity

The current carrying capacity of a welding cable depends on the length of the duty cycle. The duty cycle is the length of time during which a loaded current passes through the cable over an operation period of 5 minutes, expressed as a percentage of that period. For example, if the current is flowing for the whole 5 minutes the duty cycle is 100%, and if the current is flowing for 1 minute the duty cycle is 20%. As conductor temperature varies according to the time in use as well as current, ratings shown are given as a guide.

The permissible loading of the cable for duty cycles other than those shown in the table can be calculated using the following formula: $I = I100 \times \sqrt{100/F}$

Where:
I : is the maximum permissible loading current for the required duty cycle.
I100 : is the maximum permissible loading current for a duty cycle of 100%.
F : is the required duty cycle calculated as a percentage of the 5 minute operation period.

Typical guidance values for different welding processes are as follows:
Fully automatic welding 100%
Semi-automatic welding 65 - 85%
Manual Welding 30 - 60%
Very infrequent or occasional welding 20%

DE-RATING FACTORS

AMBIENT TEMPERATURE	25°C	30°C	35°C	40°C	45°C	50°C	55°C
DE-RATING FACTOR	1.0	0.96	0.91	0.87	0.82	0.76	0.71