

# H01N2-E 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. 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**  
Extra flexible type Table B.2  
Generally to Class 6 flexible copper conductor

**Separator**  
PET (Polyester Tape)

**Sheath**  
Rubber compound

**Sheath Colour**  
● Black

## STANDARDS

EN 50525-2-81, HD 22.6, VDE 0282-6, EN 60228

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

## ISO/IEC 17025 LABORATORY TESTED

This product is subject to the Quality Assurance protocols of The Cable Lab®, an ISO/IEC 17025 accredited cable testing laboratory. Testing includes vertical flame, conductor resistance, tensile & elongation, and dimensional consistency, verified to published standards and approved product drawings.



## REGULATORY COMPLIANCE

This cable meets the requirements of the Low Voltage Directive 2014/35/EU and the RoHS Directive 2011/65/EU. RoHS compliance has been tested and confirmed by The Cable Lab® as meeting the requirements of the BSI RoHS Trusted Kitemark™.





## DIMENSIONS

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	NOMINAL THICKNESS OF INSULATION mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
A2GE120G	1	120	1.8	18.5	1195
A2GE150G	1	150	1.8	21.3	1485

## CONDUCTORS

### Flexible Copper Conductors for Single Core Cables

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	MAXIMUM DIAMETER OF WIRES IN CONDUCTOR mm	MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C ohms/km
		Plain Wires
120	0.21	0.161
150	0.21	0.129

## ELECTRICAL CHARACTERISTICS

### Current Carrying Capacity

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	CURRENT RATING FOR SINGLE CYCLE OPERATION OVER A MAXIMUM PERIOD OF 5 MINUTES Amps			
	100%	85%	60%	35%
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%

The above table is in accordance with HD 516: 52

## DE-RATING FACTORS

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

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.