

# MAGNESOL® U-180

# MAGNESOL® UN-180

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## Properties

**Magnesol® U-180** has the following characteristics:

- thermal index of 180°C,
- heat resistance particularly with respect to cut-through and heat shock,
- good solderability at 390°C, and excellent solderability at 410°C,
- good chemical resistance

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## Insulation

**Magnesol® U-180** is a solderable polyurethane enameled copper wire.

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## Application

**Magnesol® U-180** is recommended for the following applications:

- connection without stripping,
- automatic connection in solder bath at 390°C,
- automatic process,
- use of twisting devices,
- special thermal resistance
- thermal stress after winding,
- productivity

Main uses are found in relays, transformer, television and car components micro motors and low range motors.

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## Production range

The standards are:

Diameter : 0.02 to 1 mm

Thickness : Grade 1, Grade 2 and Grade 3 on request.

Color : natural

This product can be ordered with a polyamide overcoat under the trademark:

**Magnesol® U-180** which is specially adapted for high speed process (NEMA MW83, IEC 603 17-55).

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## Characteristics

**Magnesol® U-180** fulfills the requirements of the following specifications:

IEC 603 17-51

NEMA MW82

**Magnesol® U-180** has an official approval by UL, class 180.

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# MAGNESOL<sup>®</sup> U-180

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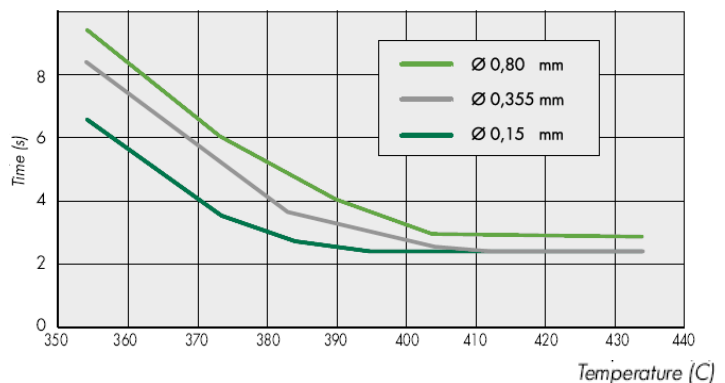
### MAGNESOL<sup>®</sup> U-180

Valeurs typiques d'un fil <b>Magnisol<sup>®</sup> U-180</b> mesurées selon les normes CEI 60 851		Typical values for a <b>Magnisol<sup>®</sup> U-180</b> sample according to IEC 60 851 standards	
Diamètre du conducteur Diamètre sur émail Isolation de base	0,450 0,483 Polyuréthane	Conductor Diameter Overall Diameter Basecoat	
<b>Principales caractéristiques</b>		<b>Main characteristics</b>	
Indice de température	<b>180°C</b>	Thermal index	
Durée de vie de 5000 h à	<b>200°C</b>	5000 h life test	
Choc thermique	<b>200°C</b>	Heat shock	
Thermoplasticité	<b>250°C</b>	Cut through temperature	
Tension de claquage	<b>≥ 1,5 IEC values</b>	Breakdown voltage	
Flexibilité	<b>15 % + 1 diam.</b>	Flexibility	
Tangente Delta	<b>≥ 160°C</b>	Tangente Delta	
Resistance aux agents chimiques	<b>Good</b>	Chemical resistance	
Résistance à l'abrasion	<b>≥ 1,5 IEC values</b>	Resistance to abrasion	
Soudabilité	<b>390°C, 3 sec.</b>	Soderability	

*These values are for information only.*

Typical values from a  
Magnisol<sup>®</sup> U-180 sample, Grade  
1.

Examples of solderability times according to the temperature. Method IEC 60 – 851



# MAGNESOL<sup>®</sup> U-180 MAGNESOL<sup>®</sup> UN-180

## Thermal endurance graph- Temperature index

MAGNESOL<sup>®</sup> U-180, without impregnation  
Nominal diameter 0,400 mm  
Increase in diameter  
due to the insulation 0,034 mm  
Test voltage 400 V

