

Magnekon Soldacon®

Magnet Wire



A Viakable Company

Description

The SOLDACON® magnet wire is manufactured by applying an enamel based on polyurethane resins, giving the wire excellent properties, such as solderability and low losses at high frequencies.

This product is manufactured in three insulation builds – Single, Heavy and Triple, and is offered in either Copper or Aluminum conductors.

The SOLDACON-N® magnet wire with either a copper or aluminum conductor is recommended for use in electrical equipment with a thermal class of up to 180 °C.

UL Designation	Thermal Class	NEMA MW-1000
SPH 180 *	180 °C	MW 82
SPH 155 *	155 °C	MW 79
SP 155	155 °C	MW 79
SE 155	155 °C	MW 79
SE 130	130 °C	MW 75
S 105	105 °C	MW 2

Specifications

Meets the requirements set forth in the following standards:

- NMX-J-496.
- NEMA MW 1000, MW 2, MW 75, MW 79 and MW 82.
- IEC-60317-4, IEC-60317-20 and IEC-60317-51.
- UL recognition under file E102627.

Characteristics

- Solderability without the need to remove the insulating film.
- Presents good resistance to abrasion.
- Excellent dielectric strength.
- Good resistance to heat shock.
- Is compatible with a great number of varnishes and impregnating compounds.
- Low losses at high frequencies.
- Good resistance to humidity.
- Good resistance to solvents.

Range of Gauges

Copper Conductors		
Insulation Build	AWG	mm
Single	8 - 46	3.264 - 0.040
Heavy	8 - 44	3.264 - 0.050
Triple	14 - 40	1.628 - 0.080

Aluminum Conductors		
Insulation Build	AWG	mm
Single	8 - 46	3.264 - 0.040
Heavy	8 - 44	3.264 - 0.050

Principal Applications

AUTOMOTIVE USE

- Field coils.
- Starter motors.
- Regulator coils.
- Horn coils.

ELECTRONICS

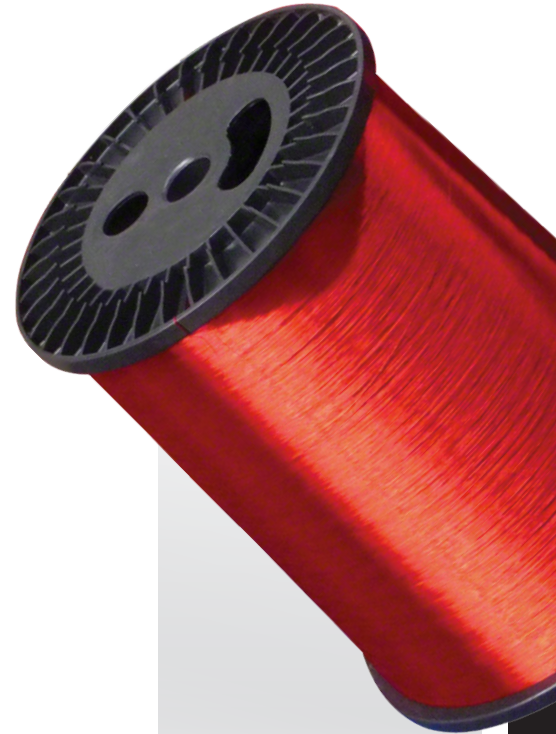
- Different coils for radio frequencies.
- Horizontal output (Fly back) transformers.
- Inductors (Choke).

SPECIAL TRANSFORMERS

- Ballasts.
- Measurement coils.
- Small transformers, electrical machines and controls.

LOW POWER AND FRACTIONAL MOTORS

- Open.



Technical Data

Soldacon® TYPICAL TEST VALUES FOR A SOLDACON® HEAVY 25 AWG WIRE.
Typical values only, not intended to be used as a specification.

Test	Specification (ANSI / NEMA MW 1000)	Test Method	Typical Results
Electrical			
Dielectric Strength	≥ 4740 V	NEMA	9250 V
Continuity	≤ 7 discontinuities per 100 feet @ 1500 V	NEMA	0 (Zero)
Mechanical			
Elongation	Minimum of 28%	NEMA	32%
Adherence and Flexibility	15% sudden jerk, rolled 10 turns around a mandrel 3 times the diameter of the wire, visual inspection, no cracks or exposed conductor.	NEMA	Passed
Springback	≤ 72 °	NEMA	67 °
Unidirectional Abrasion	Average of 3 measurements @ 0°, 120° and 240° with a test weight of 555 grams; ≥ 615 grams.	NEMA	850 grams
Chemical			
Resistance to Solvents	Immersion for 24 hours, after heating to 125 °C	Not softened sufficiently to expose the bare conductor.	
	Naphtha		Passes
	Toluene		Passes
	Ethyl Alcohol		Passes
	5% Sulfuric Acid		Passes
	1% Potassium Hydroxide		Passes
Solderability	Maximum immersion time, 6 seconds @ 390 °C.	NEMA	Passes
Solubility	30 minutes immersion @ 60 °C in Xylene after drying sample for 10 minutes @ 150 °C.	NEMA	Passes
Thermal			
Thermal Stability	20000 hours @ 200 °C	ASTM	155 °C
Heat Shock	20% sudden jerk, rolled 10 turns around a mandrel 3 times the diameter of the wire, before heating for ½ hour @ 175 °C.	NEMA	Passes
Thermoplastic Flow	≥ 200 °C	NEMA	290 °C

* Pinhole free under specific requirement.