

Amidikon[®] Magnet Wire

General description

AMIDIKON[®] magnet wire offers excellent winding characteristics and thermal class. The insulation is a Polyamideimide resin, which has excellent dielectric, thermal, chemical and hermetic characteristics.

This product is manufactured in two insulation builds - Single and Heavy.

The AMKDIKON[®] magnet wire with a copper conductor is recommended for use in electrical equipment with a thermal class of up to 220 °C.

UL Designation	Thermal class (°C)	NEMA MW-1000
PAI 200	200 Cu / 220 Al	MW 35
	200 Cu / 220 Al	MW 36
	200 Cu / 220 Al	MW 73

Specifications

Meets the requirements set forth in the following standards:

- NMX-J-482
- NEMA MW 1000, MW 35, MW 36 and MW 73*
- IEC 60317-13
- UL recognition under file E102627

Characteristics

- Excellent performance in high speed winding machines and in processes where insertion and bobbin forming is difficult
- Very low coefficient of friction
- High scrape resistance
- Excellent adherence and flexibility
- Resistant to high temperatures
- High resistance to electrical overloads
- Resistant to R-12, R-22 and R-134 refrigerants used in refrigeration compressors*
- Very high degree of dielectric strength, even in humid conditions

- Highly resistant to heat shock
- Great resistance to thermoplastic flow
- Resistant to solvents

Range of gauges

Insulation build	AWG	mm
Single	14 - 32	1.628 – 0.202
Heavy	22 -27	0.644 - 0.361

Principal applications:

AUTOMOTIVE

- Alternators
- Field coils
- Starter motors
- All types of small motors (windshield wipers, power windows, etc.)

ELECTRONICS

- Coils for color TV yokes.

SPECIAL TRANSFORMERS

- Ballasts and power supplies

DISTRIBUTION TRANSFORMERS

- Dry, 180 °C Class
- In Oil*

LOW POWER AND FRACTIONAL MOTORS

- Open
- Hermetic (refrigeration)*
- Starter coils

MOTORS IN GENERAL

TYPICAL TEST VALUES FOR AN AMIDIKON® HEAVY 24 AWG WIRE

Typical values only, not intended to be used as a specification

TEST	SPECIFICATION (ANSI / NEMA MW 1000) MW 35-C	TEST METHOD	TYPICAL RESULTS
Electrical			
Dielectric Strength	≥ of 2275 V	NEMA	7800 V
Continuity	≤ 5 discontinuities per 100 feet @ 1500V	NEMA	0 (Zero)
Mechanical			
Elongation	Minimum of 28%	NEMA	34%
Adherence and Flexibility	20% sudden jerk, rolled 10 turns around a mandrel 3 times the diameter of the wire, visual inspection, no cracks or exposed conductor	NEMA	No cracks @ 25% elongation and 2X diameter
Springback (°)	≤ 67	NEMA	64°
Unidirectional Abrasion	Average of 3 measurements @ 0°, 120° and 240°; ≥ 770 grams	NEMA	1180 grams
Chemical			
Resistance to Transformer Oil*	≥ 5700 V	NEMA	5900 V
Resistance to Solvents	Immersion for 24 hours, after heating to 125 °C Naphtha Toluene Ethylic Alcohol 5% Sulfuric Acid Perchloroethylene Xylene	Not soften sufficiently to expose the bare conductor	Passes Passes Passes Passes Passes Passes
Solubility	Not soften enough to expose conductor	NEMA	Passes
R-22 Refrigerant Extraction*	≤ 0.25%		0.20%
Thermal			
Thermal Stability	20000 hours @ 200 °C	ASTM	228 °C
Heat Shock	20% sudden jerk, rolled 10 turns around a mandrel 3 times the diameter of the wire, before heating for ½ hour @ 220 °C	NEMA	No cracks @ 20% elongation, 3X diameter and 1 hour at 250 °C
Thermoplastic Flow	≥ 350 °C	NEMA	Avg. of 425

* Under specific requirement