

Magnekon Amidikon®

Magnet Wire

Description

AMIDIKON® magnet wire offers excellent winding characteristics and thermal class.

The insulation is a polyamide-imide resin, which has excellent dielectric, thermal, chemical and hermetic characteristics.

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

The AMIDIKON® 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		NEMA MW-1000
	Cu	Al	
PAI 200	200 °C	220 °C	MW 35
	200 °C	220 °C	MW 36
	200 °C	220 °C	MW 73

Specifications

Meets the requirements set forth in the following standards:

- NMJ-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

Typical 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



Technical Data

Amidikon® 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 @ 1500 V	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 2 times 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	Not softened sufficiently to expose the bare conductor.	
	Naphtha		Passes
	Toluene		Passes
	Ethyl Alcohol		Passes
	5% Sulfuric Acid		Passes
	Perchloroethylene		Passes
Xylene	Passes		
Solubility	Not softened sufficiently 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, 3 times diameter and 1 hour at 250 °C.
Thermoplastic Flow	≥ 350 °C	NEMA	Average of 425 °C.

* Under specific requirement