

Imidikon[®] Magnet Wire

General description

IMIDIKON[®] magnet wire offers the best available thermal class in the market. The insulation is a Polyimide resin, which has excellent thermal, chemical and hermetic characteristics,

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

The IMIDIKON[®] magnet wire with a copper conductor is recommended for use in electrical equipment with a thermal class of up to 240 °C.

Specifications

Meets the requirements set forth in the following standards:

- NEMA MW 1000, MW 16
- IEC 60317-7

Characteristics

- Excellent thermal class
- 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
- Great resistance to solvents

Range of gauges

Insulation build	AWG	mm
Single	14 - 38	1.628 - 0.101
Heavy	14 - 30	1.628 - 0.255

Principal applications:

AUTOMOTIVE

- Alternators
- Starter motors

ELECTRIC MOTORS

- Fractional
- Hermetic (Refrigeration)*
- Traction
- DC Field Coils
- Submersible Pump motors

GENERAL APPLICATIONS

- In applications where a higher thermal class (240 °C) is needed

TYPICAL TEST VALUES FOR AN IMIDIKON® HEAVY 18 AWG WIRE

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

TEST	SPECIFICATION (ANSI / NEMA MW 1000) MW 16-C	TEST METHOD	TYPICAL RESULTS
Electrical			
Dielectric Strength	≥ of 5700 V	NEMA	12800 V
Continuity	≤ 5 discontinuities per 100 feet @ 1500V	NEMA	0 (Zero)
Mechanical			
Elongation	Minimum of 32%	NEMA	38%
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 (°)	≤ 58	NEMA	54°
Unidirectional Abrasion	Average of 3 measurements @ 0°, 120° and 240°; ≥ 1150 grams	NEMA	960 grams
Chemical			
Resistance to Solvents	Immersion for 24 hours, after heating to 125 °C Naphtha Toluene Ethylic Alcohol 5% Sulfuric Acid Perchlorethylene 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 @ 240 °C	ASTM	240 °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	≥ 300 °C	NEMA	Avg. of 450

* Under specific requirement