

Corona Guard[®] Magnet Wire

The Solution for Inverter Driven Motors

General description

CORONA GUARD[®] magnet wire has been designed to be used in inverter driven motors; it also offers excellent windability characteristics, including a low coefficient of friction and a high scrape resistance.

CORONA GUARD[®] insulation increases the insulation life when used in an inverter duty environment; it also has an excellent high temperature resistance, high adherence and flexibility properties, excellent lubricity and scrape resistance.

All these properties are in addition to the excellent characteristics of POLYTERMACON/AI[®] magnet wire, which forms the basis for CORONA GUARD[®]. It is manufactured in Heavy build insulation and is offered with a Copper conductor.

The CORONA GUARD[®] magnet wire is recommended for use in electrical equipment with a thermal class of up to 200 °C.

Specifications

UL Designation	Thermal class (°C)	NEMA MW-1000
PICK 220	200 Cu	MW 35

Meets the requirements set forth in the following standards:

- NMX-J-482
- NEMA MW 1000, MW 35
- IEC 317-13
- Magnekon tests for Pulse Resistance and Voltage Endurance
- UL recognition under file E102627

Characteristics

- Very suitable for inverter driven motors, as well as high speed winding and hard insertion processes
- Low coefficient of friction
- High scrape resistant
- Excellent concentricity
- Very resistant to high temperatures
- High resistance to electrical overloads
- Very high dielectric strength
- Highly resistant to heat shock
- Highly resistant to thermoplastic flow
- Resistant to solvents

Range of gauges

Insulation build	AWG	mm
Heavy	13 - 30	1.825 – 0.250

Typical applications:

CORONA GUARD[®] magnet wire is specially intended, but not limited to, inverter driven motors, in combination with high speed winding machines and hard insertion processes.

TYPICAL TEST VALUES FOR CORONA GUARD® HEAVY 18 AWG WIRE

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

TEST	SPECIFICATION (ANSI / NEMA MW 1000) MW 37	TEST METHOD	TYPICAL RESULTS
Electrical			
Pulse Resistance Test (s)	Not specified	Magnekon	60000
Continuity (faults)	≤ 5 @ 1500 V	NEMA	0 @ 3000 V
Pinhole (faults)	Not specified	JIS C3003	0
Dielectric strength (VAC)	≥ 5700	NEMA	13500

Mechanical			
Scrape resistance (g)	Average of 3 measurements @ 0 °C, 120 °C and 240 °C, ≥ 1150	NEMA	1750
Adherence and Flexibility	No cracks when elongated 20%, wrapped around a 3d mandrel	NEMA	No cracks
Elongation (%)	≥ 32	NEMA	40
Dynamic coefficient of friction	Not specified	1000 g weight	0.033
Twisted pair pull (lb)	Not specified		6.0
Springback (°)	≤ 58	NEMA	54

Chemical			
Solubility	Not soften sufficiently to expose the bare conductor	NEMA	Passes

Thermal			
Thermoplastic flow (°C)	≥ 300	NEMA	390
Heat shock	No cracks @ 20%, 3d, ½ hour, 220 °C	NEMA	No cracks