

Polytermacon SC[®] Magnet Wire

General description

The POLYTERMACON SC[®] magnet wire is made with an enamel based on solderable polyesterimide resins, with a top coat of thermoplastic cement with excellent properties, such as solderability and thermal resistance

This product is manufactured in two insulation builds, Type 1 and Type 2, as well as to special requirements, and is offered with a Copper conductor.

The POLYTERMACON SC[®] magnet wire is recommended for use in electrical equipment with a thermal class of up to 180 °C.

Principal applications:

- TV yokes
- Single-phase motors
- Three-phase motors
- Universal motors
- Magnetic switches

Specifications

UL Designation	Thermal class (°C)	NEMA MW-1000
PSC 180	180	N/A

Meets the requirements set forth in the following standards:

- JIS C 3003
- NEMA MW 1000, MW 74 for base properties
- NEMA MW 1000, MW 102 for bond coat properties

Characteristics

- High bond resistance
- Bondable with heat
- Directly solderable
- Excellent resistance to heat
- Low coefficient of friction

Range of gauges

Insulation build	AWG	mm
Type 1	24 - 37	0.511 – 0.110
Type 2	24 - 37	0.511 – 0.110

TYPICAL TEST VALUES FOR A POLYTERMACON SC® TYPE 1, 24 AWG WIRE

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

TEST	SPECIFICATION (ANSI / NEMA MW 1000) (a)	TEST METHOD	RESULT
Electrical			
Dielectric Strength	≥ 7000 V	NEMA	11760 V
Continuity	≤ 25 discontinuities per 100 feet	NEMA	8
Mechanical			
Elongation	Minimum of 30%	NEMA	33%
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	Passes
Springback		NEMA	
Unidirectional Abrasion	Average of 3 measurements @ 0°, 120° and 240°; ≥ 330 grams	NEMA	400 grams
Bond Strength (lb)	≥ 30 for 18 AWG	NEMA (b)	≥ 30 for 24 AWG
Chemical			
Solderability	Maximum 5 seconds immersion time @ 480°C		Passes
Thermal			
Thermal Stability	20,000 hours @ 200 °C	ASTM	180 °C
Heat Shock	Without elongation, rolled 10 turns around a mandrel 3 times the diameter of the wire, before heating for ½ hour @ 200 °C	NEMA	Passes
Thermoplastic Flow	≥ 250 °C	NEMA	324 °C
Cement heat test	No separation must appear between the turns of a coil with a 0.5 kg weight applied after baking for 30 minutes @ 150°C		Passes

(a) Based on NEMA MW 77

(b) Based on NEMA MW 102