

Magnekon Polytermacon-SC®

Magnet Wire



A Viakable Company

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.

| UL Designation | Thermal Class | NEMA MW-1000 |
|----------------|---------------|--------------|
| PSC 180 | 180 °C | N/A |

Specifications

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 |

Principal Applications

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



Technical Data

Polytermacon-SC[®] 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 | Typical Results |
|---------------------------|--|-------------|---------------------|
| 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 |
| Unidirectional Abrasion | Average of 3 measurements @ 0°, 120° and 240°; ≥ 330 grams. | NEMA | 400 grams |
| Bond Strength | ≥ 30 lb for 18 AWG. | NEMA (b) | ≥ 30 lb for 24 AWG. |
| Chemical | | | |
| Solderability | Maximum 5 seconds immersion time @ 480 °C | | Passes |
| Thermal | | | |
| Thermal Stability | 20000 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