

Termacon-N[®] Magnet Wire

General description

The TERMACON-N[®] magnet wire is made with insulating enamels based on polyester resins and applying a Polyamide (Nylon) coat over this base coat. This product combines the Polyester and Polyamide's excellent properties of resistance to abrasion and handling, as well as a great resistance to high temperature and solvents, in addition to its great dielectric strength, which remains unaltered at high temperatures.

This product is offered with a conductor, and is manufactured in two insulation builds - Single and Heavy.

The TERMACON-N[®] magnet wire with a copper conductor is recommended for use in electrical equipment with a thermal class of up to 180 °C.

| Designation | Thermal class (°C) | NEMA MW-1000 |
|-------------|--------------------|--------------|
| TN 155 | 155 | MW 24 |
| TN 180 | 180 | MW 76 |
| TNE 180 | 180 | MW 76 |
| TNE 200 | 200 | -- |

Specifications

Meets the requirements set forth in the following standards:

- NMX-J-487
- NEMA MW 1000, MW 24 and MW 76
- UL recognition under file E102627

Characteristics

- High degree of dielectric strength
- Great resistance to organic solvents
- Excellent adherence of insulation to conductor
- Compatible with a great variety of encapsulating varnishes
- Highly resistant to heat shock

Range of gauges

| Insulation build | AWG | mm |
|------------------|---------|---------------|
| Single | 14 - 34 | 1.628 – 0.160 |
| Heavy | 8 - 44 | 3.264 – 0.050 |

Principal applications:

AUTOMOTIVE

- Alternators
- Regulator coils
- Field coils
- Horn coils

SPECIAL TRANSFORMERS

- Measurement coils

LOW POWER AND FRACTIONAL MOTORS

- Open

DISTRIBUTION TRANSFORMERS

- Dry

MOTORS IN GENERAL

TYPICAL TEST VALUES FOR A HEAVY-BUILD TERMACON-N® 18 AWG

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

| TEST | SPECIFICATION (ANSI / NEMA MW 1000) | TEST METHOD | RESULT |
|-------------------------|---|--|--------------------------------------|
| Electrical | | | |
| Dielectric strength | ≥ 5,125 V | NEMA | 10300 V |
| Continuity | ≤ 5 discontinuities per 100 feet @ 1500 V | NEMA | 0 (Zero) |
| Mechanical | | | |
| Elongation | Minimum of 32% | NEMA | 40% |
| Adherence & Flexibility | 20% sudden jerk, rolling wire 10 times around mandrel 3 times the diameter of the wire, visual inspection, no cracks or visible bare copper | NEMA | Passes |
| Springback | ≤ 58° | NEMA | 50° |
| Unidirectional abrasion | Average of 3 measurements @ 0°, 120°, and 240° with a test weight of 882 grams, result ≥ 980 grams | NEMA | 1330 g |
| Chemical | | | |
| Resistance to Solvents | Immersion for 24 hours, after heating to 125 °C Naphtha Toluene Ethylic Alcohol 5% Sulfuric Acid | Not soften sufficiently to expose the bare conductor | Passes Passes Passes Passes |
| Thermal | | | |
| Thermal stability | 20000 hours @ 180 °C | ASTM | 180°C |
| Heat shock | 20% sudden jerk, rolling wire 10 times around mandrel 3 times the diameter of the wire before heating ½ hour @ 200°C | NEMA | Passes |
| Thermoplastic flow | ≥ 225 °C | NEMA | 280°C |