Thermalex® 200

Magnet Wire / Winding Wire

PRODUCT DATA SHEET

NEMA MW 74-C

Class 200 - Copper - Round Conductors - Polyester (THEIC-modified) coated magnet wire / winding wire.

APPLICATION

THERMALEX 200® is an excellent choice for all fine wire film insulations of class 200 or below except in applications where solderability is required. The product exhibits very good burnout (overload) resistance along with excellent thermal properties and chemical resistance.

THERMALEX 200® magnet wire / winding wire offers excellent properties with regard to termination. It accepts insulation-piercing terminals, hot staking and direct flame welding.

THERMALEX 200® is recommended for but not limited to the following applications:

- Bobbin wound coils
- Continuous operation coils
- DC motors
- Encapsulated coils
- Fractional and integral horsepower motors
- Small appliance and power tools
- Sub-fractional instrument and servo-motors

ENGINEERING HIGHLIGHTS

1. THERMAL CLASSIFICATION

THERMALEX 200® is class 200 when measured in accordance with the ASTM D2307 test method. Heat shock resistance meets 220°C.

2. THERMOPLASTIC FLOW

Thermoplastic flow or cut-through temperature of THERMALEX 200® is in the 365°C range; well above maximum process conditions found in molded coil work, trickle impregnation processes and standard pre-heat varnish cycles specified for normal Class 130, 155, 180 and 200 systems.

3. WINDABILITY

The flexibility and excellent adhesion properties of the THERMALEX 200® magnet wire film are more than adequate for all but the most severe fine wire winding applications.

4. ELECTRICAL

Thermalex 200® magnet wire insulation exhibits high dielectric strength.

5. CHEMICAL

The solvent resistance properties of THERMALEX 200® are suitable for most Class 105, 130, 155, 180 and 200 varnishes, encapsulation materials, and treating resins.

6. NORMAL AVAILABILITY

- Round Copper Sizes:
  33-46 AWG, Single Build
  33-46 AWG, Heavy Build

Please consult Magnet Wire Marketing for additional size (including metric) and build information.

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Performance data is representative of 36 AWG heavy build copper. **

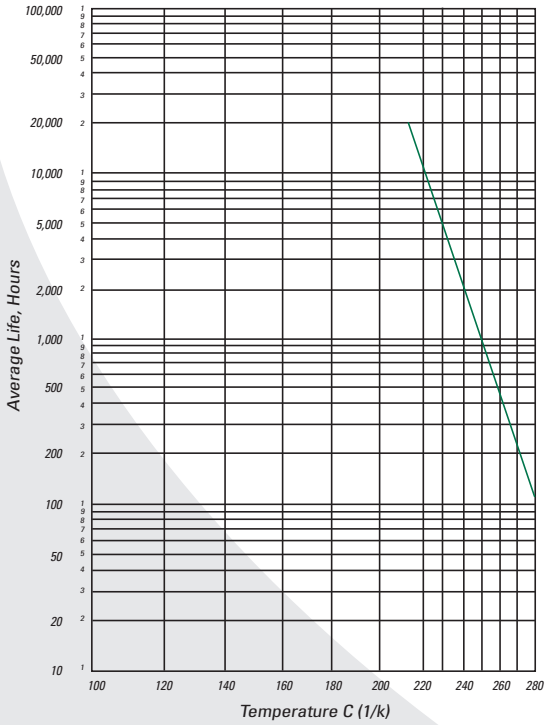
THERMAL PROPERTIES

HEAT SHOCK RESISTANCE
TYPICAL PERFORMANCE: 20%, 1XD @ 220°C, no cracks
REQUIRED PERFORMANCE: 20%, 3XD @ 220°C†, no cracks

THERMAL STABILITY
TYPICAL PERFORMANCE: 212°C
REQUIRED PERFORMANCE: 200°C minimum†

THERMOPLASTIC FLOW
TYPICAL PERFORMANCE: 365°C
REQUIRED PERFORMANCE: 300°C†

18 AWG Heavy Build Copper Thermalex 200® Thermal Stability



PHYSICAL PROPERTIES

ADHESION AND FLEXIBILITY
TYPICAL PERFORMANCE: 20%, 1XD, no cracks
REQUIRED PERFORMANCE: 20%, 3XD, no cracks†

CONDUCTOR ELONGATION
TYPICAL PERFORMANCE: 28%
REQUIRED PERFORMANCE: 20% minimum†

ELECTRICAL PROPERTIES

CONTINUITY
TYPICAL PERFORMANCE: 1 fault/100 feet
REQUIRED PERFORMANCE: 5 faults/100 feet†

DIELECTRIC BREAKDOWN VOLTAGE

RATED TEMPERATURE
TYPICAL PERFORMANCE: 5,000 volts, avg.
REQUIRED PERFORMANCE: 1,950 volts, minimum†

ROOM TEMPERATURE
TYPICAL PERFORMANCE: 6,800 volts, avg.
REQUIRED PERFORMANCE: 2,600 volts, minimum†

** The values shown represent typical average results and are not intended to be used as design data or specification limits.
† Requirements of NEMA MW 1000; Section MW 74-C.

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