

NEMA MW 74-C

Class 200 Copper –Round Conductors – Polyester (THEIC-modified) Coated Magnet Wire / Winding Wire.

APPLICATION

THERMALEX 200® is a logical choice for all fine wire film insulations of class 200 or below except in applications where solderability is required. It exhibits very good burnout (overload) 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 consideration in the following applications:

- Fractional and integral horsepower motors
- DC motors
- Power tools

ENGINEERING HIGHLIGHTS

1. THERMAL CLASSIFICATION

THERMALEX 200® is class 200 when measured in accordance with the ASTM D 2307 test method. Heat shock resistance exceeds 220°C.

2. THERMOPLASTIC FLOW

Thermoplastic flow or cut-through temperature of THERMALEX 200® is in the 365°C plus 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. AVAILABILITY

THERMALEX 200® magnet wire is normally available in round copper sizes 36 through 46 AWG, single and heavy builds.

Please refer additional questions on availability to Essex Magnet Wire Marketing personnel.



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

THERMAL PROPERTIES

THERMOPLASTIC FLOW

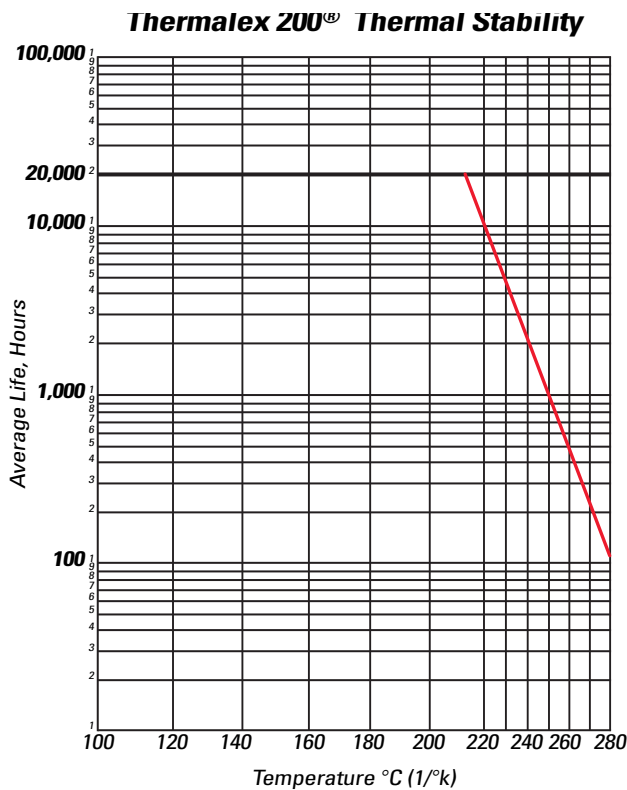
TYPICAL PERFORMANCE: 365°C
REQUIRED PERFORMANCE: 300°C†

HEAT SHOCK RESISTANCE

TYPICAL PERFORMANCE: No cracks, 20%,1x @ 220°C
REQUIRED PERFORMANCE: 20%,3x @220°C†

THERMAL STABILITY

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



Graph is representative of 18 AWG Heavy Build

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

DIELECTRIC BREAKDOWN VOLTAGE

ROOM TEMPERATURE

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

RATED TEMPERATURE

TYPICAL PERFORMANCE: 5000 volts, avg.
REQUIRED PERFORMANCE: 1,950 volts, minimum†

CONTINUITY

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

* Tests not indicated as NEMA are Essex Standards

** The values shown represent typical average results and are not intended to be used as design data or specification limits.

† Requirements of NEMA MW 74-C



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