

Magnet Wire

Insulated Single Conductor

PUR

The conductor, copper or aluminium, is insulated with crosslinked polyurethane that forms an even, seamless coating over the conductor.

PUR can be supplied, in various diameters with one (1) or two (2) coatings normally designated PUR1 and PUR2.

APPLICATIONS

- Radio Frequency coils
- Relay Coils
- Measuring Instruments
- Small Motors
- Solenoids
- Small transformers
- Miniature coils using ultra fine wire

PROPERTIES

- Temperature Index on Copper 130°C (Class B)
- Excellent dielectric strength heat shock of >140°C
- Very low dissipation factor, remaining reasonably constant at high frequencies or under humid conditions
- No mechanical or chemical stripping required
- Able to be manufactured with very close diameter limits

LIMITATIONS

- Insulation properties downgraded over 200°C
- Prone to hydrolysis if used in hermetic systems or encapsulations when in the presence of cellulosic materials or moisture
- Prolonged contact with aggressive solvents e.g. ketones, alcohol, may cause enamel softening
- Adequate ventilation required when tinning or soldering

AVAILABILITY

- Size range 0.050 to 1.60mm
- Insulation builds Grades 1 (single), 2 (heavy) and 3 (triple)

PES

The PES is manufactured in a similar manner to PUR, however a small amount of polyimide is added to the enamel so that the temperature index is improved without reducing the solderability.

APPLICATIONS

- Encapsulated Coils
- Relay Coils
- Small Motors
- Solenoids
- Transformers
- As a Solderable base for heat bond enamel

PROPERTIES

- Temperature Index on Copper 155°C (Class F)
- Thermoplastic flow temperature not less than 230°C
- Solderable at 375°C
- Good resistance to solvents
- Excellent dielectric strength heat shock of >175°C
- No mechanical or chemical stripping required
- Resistant to hydrolysis and performs well when encapsulated

LIMITATIONS

- Insulation properties downgraded over 210°C

AVAILABILITY

- Size range 0.050 to 1.25mm
- Insulation builds Grades 1 (single), 2 (heavy) and 3 (triple)



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PEI

PEI is a polyester imide coated wire that is the most common wire used in Australia today for the electric motor repair

APPLICATIONS

- High Performance Motors
- Large relays
- Any application where periodic exposure to temperatures up to 200°C occurs.
- Transformers
- Choke Coils

PROPERTIES

- Temperature Index on Copper 155°C (Class F)
- Thermoplastic flow temperature not less than 320°C
- Smooth Glossy surface finish
- Chemically very stable, resists extraction with R22, methanol trichloroethylene and perchlorethylene
- Performs well in hermetically sealed coils when properly dried
- Excellent stability with a heat shock of not less than 205°C.
- Good resistance to abrasion
- Good flexibility and adhesion to the conductor
- Very low dissipation factor that is minimally affected in humid conditions

LIMITATIONS

- The insulation may craze if brought in contact with highly polar solvents
- It is recommended that coils be stress relieved for 10 minutes at 180°C

AVAILABILITY

- Size range 0.050 to 4.50mm
- Insulation builds Grades 1 (single), 2 (heavy) and 3 (triple)

PEI-AI

PEI-AI is a polyester imide coated wire that has an additional overcoat of polyamide-amide enamel. The wire is suitable for continuous operation in temperatures of 200°C.

APPLICATIONS

- High Temperature Motors
- Transformers
- Refrigeration equipment (sealed units)
- Ballasts & Choke Coils

PROPERTIES

- Temperature Index on Copper 200°C (Class H)
- Continuous operating temperature of 200°C
- High resistance to overload and burnout
- 1500 Volt Spike Resistant
- Tough surface that withstands automated winding abuse
- Excellent chemical and moisture resistance, particularly in hermitic applications

AVAILABILITY

- Size range 0.050 to 4.50mm
- Insulation builds Grades 1 (single), 2 (heavy) and 3 (triple)



Magnet Wire

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PAI

PAI is a polyamide-imide enamel wire that is suitable for use in 220°C applications

APPLICATIONS

- High Temperature Motors
- Transformers
- Refrigeration equipment (sealed units)
- Ballasts & Choke Coils

PROPERTIES

- Temperature Index on Copper 220°C (Class C)
- High resistance to overload and burnout
- Excellent chemical and moisture resistance, particularly in hermetic applications
- Continuous operating temperature of 220°C
- Tough smooth slippery surface

AVAILABILITY

- Size range 0.050 to 4.50mm
- Insulation builds Grades 1 (single)