Pfluon PEEK Magnet Wire

Pfluon PEEK R&D Center

Distribution in Europe by:
BIEGLO GmbH
Bahrenfelder Straße 242
22765 Hamburg

Distribution in USA by:
BARplast LLC
22136 Westheimer PKY #329
Katy, TX 77450, United States

Why PEEK Single Layer Wire?

- High dielectric strength, even under 240°C
- High PDIV (Partial Discharge Inception Voltage) due to less defects than enamel solutions
- Superior bonding and adhesion between PEEK cap layer and underlying conductor, reducing the risk of delamination even after being wound tortuously
- Tight bend radii for magnet wire's hairpin winding
- 10% more space for copper wire slot fill
- High remaining toughness under exposure to 240°C

PEEK Flat Magnet Wire

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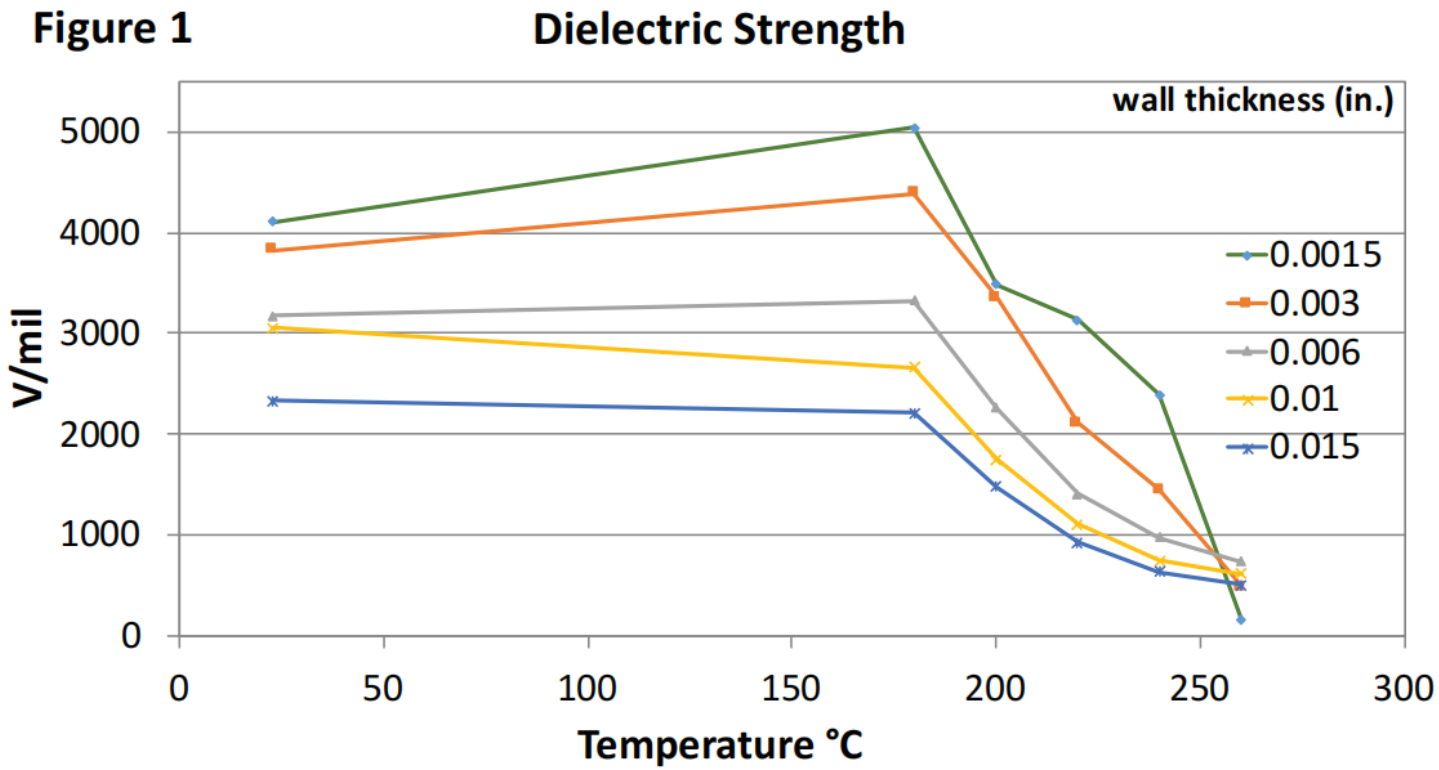
PEEK Dielectric Strength (vs. Temperature)

- Dielectric strength under 240°C: 6000 Volts
- Still very high under high temperature
- Easy to meet 800 Volts requirement



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Pfluon PEEK Solutions

Adhesion:

Pfluon PEEK is customized for strong bonding with conductors.

Dielectric Strength & PDIV:

Pfluon PEEK offers high breakdown voltage and partial discharge inception voltage (PDIV).

High-Temperature Aging:

After long-term exposure to 240 °C, Pfluon PEEK retains high elongation, preventing brittleness and delamination.

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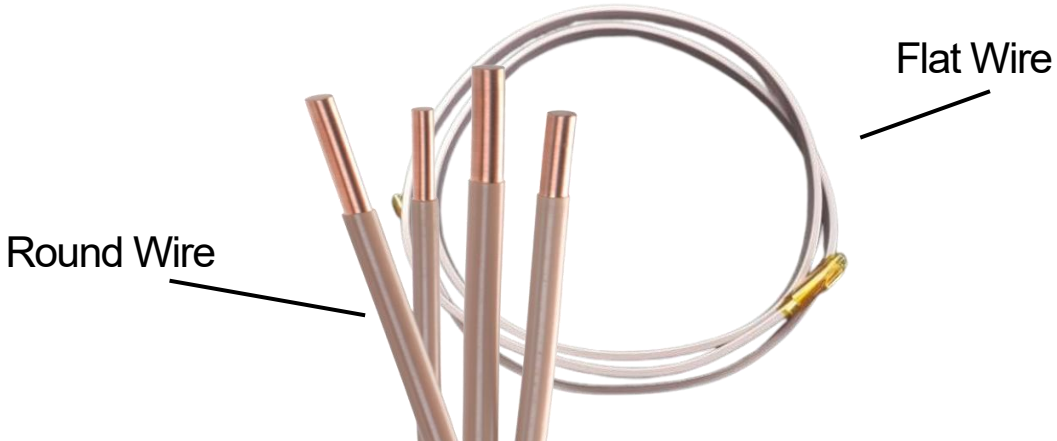

Pfluon PEEK Solutions

PEEK Wire Extrusion Solutions:

Conductor Surface Treatment:

To improve adhesion, Pfluon recommends roughening the conductor surface (copper, steel, aluminum) by sputtering nanometer-sized metal particles before extrusion.

Crystallinity Control:

Crystallinity (ideally 26–29%) affects electrical properties, bend radius, chemical resistance, and delamination. Low crystallinity improves adhesion at room temperature, but may lead to post-crystallization and brittleness at 240 °C.

Extrusion Output & Melt Breakage:

With strong rheology expertise, Pfluon provides accurate recommendations for molecular weight and maximum extrusion speed.

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