

Insulating Material for Extrusions

Information to be used as a guideline only.

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FEP

Excellent chemical and weather resistance, relatively flexible, anti-static, dirt-repellent, non-abrasive, hardly flammable, very age resistant, almost universal chemical stability.

Temperature range:
-100 C to + 205 C (permanent)

FEP insulated wires are used in environments with extreme chemical, thermal and mechanical stress. Exceptional dielectric properties allow very thin insulation layers (space-saving wiring). Thanks to its frequency stability, FEP is suitable for moving coils.

TPE interlaced

TPE is a sturdy TP elastomer with very good electrical and thermal properties, high mechanical strength and flexibility, oil-resistant, resistant to most acids and alkalis, halogen-free and thus environment friendly.

Temperature range:
-30 C to +90 C (permanent)
up to +120 C (for max. 10 minutes)
up to +300 C (for max. 10 seconds, contact with soldering iron)

Especially for test leads which are used under high mechanical stresses over a wide temperature range.

Poly Vinyl Chloride (PVC)

Good electrical properties with medium to good flexibility and good age resistance.

Temperature range:

-10 C ... +70 C (permanent, fully flexible)

-10 C ... +80 C (only type HK18-H)

-30 C ... +70 C (only high current wires)

Universally used for measurement conductors and wiring with medium mechanical stress and a good cost benefit ratio.

Silicone

Silicone provides good chemical and age resistance, high impact value, maximum elongation and tears strength; it is halogen-free and thus environment-friendly.

Temperature range:

-80°C to +150°C (permanent steam-resistance)

to +250°C (several hours)

to +300°C (temporary, contact with soldering iron)

Used, e.g. for making up maximum flexibility test leads, wiring very flexible parts. An important safety feature is the silicone ash produced after burning which continues to insulate the wires in the event of a fire. This can mean the continued function of electrical installations in industrial plants.

Wire Insulation Characteristics

	PVC	Polyethylene		Polypropylene	TFE & FEP
		Solid	Foam		
Temperature Range	-55°C - 155°C	-60°C - 80°C	-60°C - 80°C	-20°C - 105°C	-70°C - 250°C
Voltage Breakdown	Good	Excellent	Poor	Excellent	Good
Capacitance	Fair	Excellent	Excellent	Excellent	Excellent
Insulation Resistance	Good	Excellent	Excellent	Excellent	Excellent
Abrasion Resistance	Good	Good	Poor	Excellent	Excellent
Non-Flammability	Very Good	Poor	Poor	Poor	Excellent
Weather Resistance	Excellent	Excellent	Excellent	Excellent	Excellent
Solder Resistance	Good	Poor	Poor	Good	Excellent
Flexibility	Good	Fair	Good	Poor	Fair