

Material Portrait

PBT natural

PBT

PBT natural is a material of the PBT type. High dimensional stability and low creep, good electrical insulating properties.

Properties

Advantages

- High dimensional stability and low creep
- Good electrical insulating properties
- Good chemical resistance
- Low moisture absorption

Processing

Like other engineering thermoplastics, PBT natural can be machined using all conventional cutting methods (sawing, turning, drilling, milling, planing, grinding).

Unreinforced grades can be machined with HSS tools; glass-fibre reinforced or filled grades require carbide tools. Good cooling via chip removal is important to avoid softening or smearing of the surface caused by heat build-up.

Typical Applications

PBT natural is mainly used wherever the properties listed above are required, including in electrical industry, vehicle construction, mechanical engineering.

- Electrical Industry
- Vehicle Construction
- Mechanical Engineering

Typical Properties

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- Good electrical insulating properties
- Good chemical resistance
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Typical Industries

- Electrical Industry
- Vehicle Construction
- Mechanical Engineering

	Test Method	Unit	Value
General Properties			
Density	DIN EN ISO 1183-1	g / cm ³	1.30
Water absorption	DIN EN ISO 62	%	0.25
Flammability (Thickness 3 mm / 6 mm)	UL 94		HB / HB
Mechanical Properties			

	Test Method	Unit	Value
Yield stress	DIN EN ISO 527	MPa	60
Elongation at break	DIN EN ISO 527	%	50
Tensile modulus of elasticity	DIN EN ISO 527	MPa	2.500
Ball indentation hardness	DIN EN ISO 2039-1	MPa	130
Thermal Properties			
Melting temperature	ISO 11357-3	°C	225
Thermal conductivity	DIN 52612-1	W / (m * K)	0.27
Thermal capacity	DIN 52612	kJ / (kg * K)	1.50
Coefficient of linear thermal expansion	DIN 53752	10 ⁻⁶ / K	145
Service temperature, long term	Average	°C	-30 ... 120
Service temperature, short term (max.)	Average	°C	150
Heat deflection temperature	DIN EN ISO 75, Verf. A, HDT	°C	67