Liedtke Kunststofftechnik
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Technical Data Sheet

PA 12 natural

PA 12

Typical Properties

- Low water absorption
- Excellent stress cracking resistance
- Good impact strength, even at low temperatures

Typical Industries

- Mechanical and plant engineering
- Automotive industry
- Textile industry

	Test Method	Unit	Value
General Properties			
Density	DIN EN ISO 1183-1	g / cm³	1.02
Water absorption	DIN EN ISO 62	%	0.8
Flammability (thickness 3 mm / 6 mm)	UL 94		HB / HB
Mechanical Properties			
Tensile strength	DIN EN ISO 527	MPa	50
Elongation at break	DIN EN ISO 527	%	200
Tensile modulus	DIN EN ISO 527	MPa	1800
Notched impact strength	DIN EN ISO 179	kJ / m²	20.0
Ball indentation hardness	DIN EN ISO 2039-1	MPa	100
Shore hardness	DIN EN ISO 868	scale D	78
Thermal Properties			
Melting temperature	ISO 11357-3	°C	178
Thermal conductivity	DIN 52612-1	W / (m * K)	0.3
Specific heat capacity	DIN 52612	kJ / (kg * K)	1.7
Coefficient of linear expansion	DIN 53752	10^{-6} / K	100
Long-term service temperature	Typical value	°C	-50 ... 80
Short-term service temperature (max.)	Typical value	°C	140
Heat deflection temperature (Method A)	DIN EN ISO 75	°C	50
Electrical Properties			
Dielectric constant	IEC 60250		3.8

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	Test Method	Unit	Value
Dielectric dissipation factor (50 Hz)	IEC 60250		0.04
Volume resistivity	IEC 60093	Ω * cm	10^{15}
Surface resistivity	IEC 60093	Ω	10^{13}
Comparative tracking index (CTI)	IEC 60112		600
Dielectric strength	IEC 60243	kV / mm	26

PA 12 absorbs only little moisture compared with other polyamides. Should the material nonetheless absorb moisture, toughness increases while the tensile modulus decreases; in thick-walled parts this mainly affects the surface layer, while the core remains largely unaffected. The short-term maximum service temperature applies only to applications with very low mechanical load over a few hours. The long-term maximum service temperature is based on the thermal ageing of the plastic through oxidation, which results in a decrease of the mechanical properties. In thick-walled parts, oxidation at high temperatures affects only the surface layer. The minimum service temperature is largely determined by possible impact loading in use; the values stated relate to low impact stress. The values stated are average values, confirmed by continuous statistical testing. They serve merely as information about our products and are intended as an aid to material selection. We do not thereby provide a legally binding assurance of specific properties or suitability for particular purposes. As the properties also depend on the dimensions of the semi-finished products and the degree of crystallisation, the actual property values of a specific product may deviate somewhat from the values stated.

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