

## PA 6 (POLYAMIDE) MATERIAL DATA SHEET

- High mechanical strength, stiffness, hardness and toughness
- Good fatigue resistance
- High mechanical damping ability
- Good sliding properties
- Excellent wear resistance
- Good electrical insulating properties
- Good resistance to high energy radiation (gamma- and X-rays)
- Good machinability

This material offers an optimal combination of mechanical strength, stiffness, toughness, mechanical damping properties and wear resistance. These properties, together with a good electrical insulating ability and a good chemical resistance make PA 6 "general purpose" grade for mechanical construction and maintenance.

PROPERTIES	Test methods	Units	VALUES
Color	-	-	Natural/black
Density	ISO 1183-1	g/cm <sup>3</sup>	1.14
Water absorption at saturation in water of 23°C	ISO 62	%	3
<b>Thermal Properties</b>			
Melting temperature	ISO 11357-3	°C	220
Thermal conductivity at 23°C	DIN 52612-1	W/(K.m)	0.23
Coefficient of linear thermal expansion:			
- average value between 23 and 60°C	-	m/(m.K)	90x 10 <sup>-6</sup>
- average value between 23 and 100°C	-	m/(m.K)	105x 10 <sup>-6</sup>
Thermal capacity	DIN 52612	kJ/(kg.K)	1.7
Max. allowable service temperature in air:			
- for short periods	-	°C	160
- continuously	-	°C	85
Min. service temperature	-	°C	-40
Flammability 1.5 / 3 mm thickness	UL 94	-	HB / HB
<b>Mechanical Properties at 23°C</b>			
Tensile stress at yield	ISO 527	MPa	80
Tensile modulus of elasticity	ISO 527	MPa	3200
Elongation at break	ISO 527	%	50
Impact strength - Notched	ISO 179	kJ/m <sup>2</sup>	3
Shore hardness	ISO 868	D	82
<b>Electrical Properties at 23 °C</b>			
Dielectric constant	IEC 60250		3.9
Volume resistivity	DIN EN 62631-3-1	Ohm.cm	10 <sup>15</sup>
Surface resistivity	DIN EN 62631-3-2	Ohm	10 <sup>13</sup>
Dielectric dissipation factor tan δ: - at 50 Hz	IEC 60250	-	0.02
Comparative tracking index	+ IEC 60112	-	600

Note: 1 g/cm<sup>3</sup> = 1,000 kg/m<sup>3</sup>; 1 MPa = 1 N/mm<sup>2</sup>; 1 kV/mm = 1 MV/m.

The information contained in this technical data sheet cannot be construed as a promise or guarantee of specific properties of our products. Any determination of the suitability of a particular material and part design for any use contemplated by the user is the sole responsibility of the user. The information contained in this technical data sheet is based on present knowledge and may be subject to change without further notice.