PA 6

POLYAMIDE 6

Material description

PA 6 is a semi-crystalline, non-modified thermoplastic with excellent mechanical properties and yet is favourably priced. Its good wear resistance as well as the optimal combination of high strength, stiffness, toughness, and mechanical damping as well as chemical resistance make this standard grade a universally applicable and important material for industry. Its main area of application is in conveyor technology. Its high moisture absorption can lead to changes in volume and restrictions in the mechanical values and dielectric strength.

Conformities

RoHS, REACH

Physical properties	Test method	Value	Unit
Density	DIN EN ISO 1183-1	1.14	g/cm3
Water absorbtion	DIN EN ISO 62	3	%
Sliding friction		◑	
Abrasion resistance		◑	

Mechanical properties	Test method	Value	Unit
Yield stress	DIN EN ISO 527	80	MPa
Elongation at break	DIN EN ISO 527	>50	%
Tensile modulus of elasticity	DIN EN ISO 527	3200	MPa
Notched impact strength	DIN EN ISO 179	>3	kJ/m2
Shore Hardness D	DIN EN ISO 868	82	

Thermal properties	Test method	Value	Unit
Thermal conductivity	DIN 52612-2	0.23	W/(m*K)
Heat capacity	DIN 52612-1	1.7	kJ/(kg*K)
Coefficient of thermal expansion	DIN 53752	90	10^{-6*K}-1
Operating temperature short term		160	°C
Operating temperature long term		-40 bis 85	°C
Heat deflection temperature	DIN EN ISO 75 / A	75	°C
Flammability	UL 94, 3 mm	HB	

Electrical properties	Test method	Value	Unit
Volume resistivity	IEC 60093	10^{15}	Ω * cm
Surface resistivity	IEC 60093	10^{13}	Ω * cm
Dielectric strength	IEC 60243	20	kV/mm
Comparative tracking index (CTI)	IEC 60112	600	CTI

These technical data have been determined as average values by our suppliers from many individual measurements. In all measurements, the test specimens were tested in the dry state. We pass on the data with reservation. The table does not claim to be complete or correct. Material technology is subject to constant further development. No rights or guarantees can be derived from it. Own tests are necessary because the environmental and operating conditions (humidity, temperature, mechanical forces, radiation and chemicals, etc.) set limits in the application.

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