



Material data sheet PA 6 ivory

Chemical Designation: Polyamide 6
 DIN-abbreviation: PA 6
 Colour / Fillers: ivory opaque
 Density: 1,14 g/cm³

Data generated directly after machining
 (standard climate Germany).

Main features

- high toughness
- electrically insulating
- high strength
- good machinability
- resistant to many oils, greases and fuels
- good wear properties
- good weldable and bondable
- good slide and wear properties

Target Industries

- mechanical engineering
- aircraft and aerospace technology
- electronics
- food technology
- automotive industry

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	3300	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: span 64 mm, norm specimen. 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x 10 x 50 mm, modulus range between 0,5 and 1% compression. 5) For Charpy test: support span 64 mm, norm specimen. n. b. = not broken
Tensile strength	50 mm / min	79	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm / min	78	MPa	DIN EN ISO 527-2	
Elongation at yield	50 mm / min	4	%	DIN EN ISO 527-2	
Elongation at break	50 mm / min	130	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min, 10 N	100	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min, 10 N	2900	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	24/41/86	MPa	EN ISO 604 3)	
Compression modulus	5 mm / min, 10 N	2700	MPa	EN ISO 604 4)	
Impact strength (Charpy)	max. 7,5 J	n. b.	kJ/m ²	DIN EN ISO 179-1eU 5)	
Notched impact strength (Charpy)	max. 7,5 J	7	kJ/m ²	DIN EN ISO 179-1eA	
Shore hardness	D	79		DIN EN ISO 868	





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thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		45	°C	DIN EN ISO 11357 1)	1) Found in public sources. 2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		221	°C	DIN EN ISO 11357	
Service temperature	short term	160	°C	2)	
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60 °C, long	12	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	13	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.6	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.37	W/(K*m)	ISO 22007-4:2008	

electrical properties	parameter	value	unit	norm	comment
surface resistivity	Silver electrode, 23 °C, 12% r.h.	10 ¹⁴	Ω	DIN IEC 60093 1)	1) Specimen in 20 mm thickness 2) Specimen in 1 mm thickness
volume resistivity	Silver electrode, 23 °C, 12% r.h.	10 ¹⁴	Ω*cm	DIN IEC 60093	
Dielectric strength	23 °C, 50% r.h.	31	kV/mm	ISO 60243-1 2)	
Resistance to tracking (CTI)	Platin electrode, 23 °C, 50% r.h., solvent A	600	V	DIN EN 60112	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	0.3 / 0.6	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 2) (+) limited resistance 3) – poor resistance 4) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
Resistance to hot water/bases		(+)		- 2)	
Resistance to weathering		-		- 3)	
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10 4)	

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