

Chemical Designation

PA 6 (Polyamide 6)

Colour

black opaque

Density

1.19 g/cm³

Fillers

flame retardant (halogen free)

Data generated directly after machining
(standard climate Germany).

Main features

- tested according to EN 45545
- resistant to many oils, greases and fuels
- good slide and wear properties
- high strength
- good machinability

Target Industries

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

Mechanical properties	parameter	value	unit	norm	comment
Tensile strength	50mm/min	78	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b
Modulus of elasticity (tensile test)	1mm/min	4200	MPa	DIN EN ISO 527-2	(1) (2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	78	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
Elongation at yield (tensile test)	50mm/min	4	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break (tensile test)	50mm/min	4	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10 N	124	MPa	DIN EN ISO 178	(2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	3800	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5mm/min, 10 N	27/54/95	MPa	EN ISO 604	(3)
Compression modulus	5mm/min, 10 N	3000	MPa	EN ISO 604	(4)
Impact strength (Charpy)	max. 7,5J	62	kJ/m ²	DIN EN ISO 179-1eU	(5)
Shore hardness	D	82		DIN EN ISO 868	
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		45	°C	DIN EN ISO 11357	(1)
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.	7	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 ¹³	Ω	DIN EN 61340-2-3	
volume resistivity		10 ¹⁴	Ω*cm	DIN EN 61340-2-3	
Other properties	parameter	value	unit	norm	comment
Resistance to hot water/ bases		(+)		-	(1)
Resistance to weathering		-		-	(2)
Flammability	60 sec. Vertical Bunsen Burner test, 25.853 (a) and Appendix F, Part I, para. (a)(1)(i)	+		FAR 25.853	(3)
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	(4)
Flammability		R22 HL1, R23 HL3		-	(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.

