

Chemical Designation

PA 6 C (Cast polyamide 6)

Colour

ivory opaque

Density

1.13 g/cm³

Fillers

oil

Data generated directly after machining
(standard climate Germany).

Main features

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

Target Industries

- mechanical engineering
- automotive industry
- heavy duty industry

Mechanical properties	parameter	value	unit	norm	comment
Tensile strength	50mm/min	69	MPa	DIN EN ISO 527-2	1)
Modulus of elasticity (tensile test)	1mm/min	2900	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	66	MPa	DIN EN ISO 527-2	
Elongation at yield (tensile test)	50mm/min	8	%	DIN EN ISO 527-2	
Elongation at break (tensile test)	50mm/min	50	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	95	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	2900	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5mm/min, 10 N	19/35/76	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	2700	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	n.b.	kJ/m ²	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7,5J	5	kJ/m ²	DIN EN ISO 179-1eA	
Shore hardness	D	80		DIN EN ISO 868	

Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		48	°C	DIN EN ISO 11357	1)
Melting temperature		218	°C	DIN EN ISO 11357	
Service temperature	short term	170	°C		2)
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60°C, long.	13	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		1.7	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		10 ¹⁴	Ω	DIN IEC 60093	
volume resistivity		10 ¹⁴	Ω*cm	DIN IEC 60093	

Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.2 / 0.4	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		(+)		-	2)
Resistance to weathering		-		-	3)
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	4)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.n. = not broken

(1) Found in public sources.
(2) Found in public sources. Individual testing regarding application conditions is mandatory.

(1) Ø ca. 50mm, h=13mm
(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.

