

## Chemical Designation

PA 6 C (Cast polyamide 6)

## Colour

black opaque

## Density

1.13 g/cm<sup>3</sup>

## Fillers

solid lubricant

Data generated directly after machining  
(standard climate Germany).

## Main features

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

## Target Industries

- mechanical engineering

Mechanical properties	parameter	value	unit	norm	comment
Tensile strength	50mm/min	76	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b
Modulus of elasticity (tensile test)	1mm/min	3200	MPa	DIN EN ISO 527-2	(2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	76	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
Elongation at yield (tensile test)	50mm/min	14	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break (tensile test)	50mm/min	18	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
Flexural strength	2mm/min, 10 N	103	MPa	DIN EN ISO 178	(2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	3100	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5mm/min, 10 N	18/34/75	MPa	EN ISO 604	(3)
Compression modulus	5mm/min, 10 N	2500	MPa	EN ISO 604	(4)
Impact strength (Charpy)	max. 7,5J	n.b.	kJ/m <sup>2</sup>	DIN EN ISO 179-1eU	(5)
Notched impact strength (Charpy)	max. 7,5J	4	kJ/m <sup>2</sup>	DIN EN ISO 179-1eA	
Shore hardness	D	79		DIN EN ISO 868	
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		45	°C	DIN EN ISO 11357	(1)
Melting temperature		218	°C	DIN EN ISO 11357	(2)
Service temperature	short term	130	°C		(2)
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60°C, long.	11	10 <sup>-5</sup> K <sup>-1</sup>	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	12	10 <sup>-5</sup> K <sup>-1</sup>	DIN EN ISO 11359-1;2	
Specific heat		1.7	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.38	W/(K*m)	ISO 22007-4:2008	
Electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 <sup>14</sup>	Ω	DIN IEC 60093	
volume resistivity		10 <sup>14</sup>	Ω*cm	DIN IEC 60093	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.2 / 0.3	%	DIN EN ISO 62	(1) Ø ca. 50mm, h=13mm
Resistance to hot water/ bases		(+)	-	-	(2) (+) limited resistance
Resistance to weathering		-	-	-	(3) - poor resistance
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	(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.

