

Chemical Designation: Polyamide 6 (cast)

DIN Abbreviation: PA6 G

Colour, Filler: Black
Molybdenum disulphide MoS₂

- Main characteristics:
- Very good machinability
 - Tough and hard
 - UV and weathering resistant
 - Good sliding properties even in dry running conditions
 - Resistant to many oils, greases, diesel, petrol.
 - Not electrically insulating
 - Increased surface hardness

<i>Mechanical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Modulus of elasticity (tensile test)	1mm/min	3200	MPa	DIN EN ISO 527-2	1) (1) For tensile test: specimen type 1b
Tensile strength	50mm/min	82	MPa	DIN EN ISO 527-2	(2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	80	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
Elongation at yield	50mm/min	4	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break	50mm/min	55	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10 N	102	MPa	DIN EN ISO 178	n.b. = not broken
Modulus of elasticity (flexural test)	2mm/min, 10 N	3000	MPa	DIN EN ISO 178	(6) Specimen in 4mm thickness
Compression strength	1% / 2% 5mm/min, 10 N	22 / 38	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	2800	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	4	kJ/m ²	DIN EN ISO 179-1eA	
Ball indentation hardness		170	MPa	ISO 2039-1	6)
<i>Thermal properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Glass transition temperature		43	°C	DIN 53765	1) (1) Found in public sources.
Melting temperature		217	°C	DIN 53765	(2) Found in public sources.
Service temperature	short term	170	°C		Individual testing regarding application conditions is mandatory.
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60°C, long.	11	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	11	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.6	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.33	W/(K*m)	ISO 22007-4:2008	
<i>Electrical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Specific surface resistance		10 ¹⁴	Ω	DIN IEC 60093	
Specific volume resistance		10 ¹⁴	Ω*cm	DIN IEC 60093	
<i>Other properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Water absorption	24h / 96h (23°C)	0.2 / 0.5	%	DIN EN ISO 62	1) (1) Ø ca. 50mm, h=13mm
Resistance to hot water/ bases		(+)		-	2) (2) (+) limited resistance
Resistance to weathering		(+)			3) (3) 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.
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	3)