



Nylon 66 natural

Chemical Designation

PA 66 (Polyamide 66)

Colour

ivory opaque

Density

1.15 g/cm³

Data generated directly after machining (standard climate Germany).

Mechanical properties	parameter	value	unit	norm		comment
Modulus of elasticity (tensile test)	1mm/min	3500	MPa	DIN EN ISO 527-2	1)	(1) For tensile test: specimen type 1b
Tensile strength	50mm/min	85	MPa	DIN EN ISO 527-2		(2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	84	MPa	DIN EN ISO 527-2		(3) Specimen 10x10x10mm
Elongation at yield	50mm/min	7	%	DIN EN ISO 527-2		(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break	50mm/min	70	%	DIN EN ISO 527-2		(5) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10 N	110	MPa	DIN EN ISO 178	2)	n.b. = not broken
Modulus of elasticity (flexural test)	2mm/min, 10 N	3100	MPa	DIN EN ISO 178		(6) Specimen in 4mm thickness
Compression strength	1% / 2% / 5% 5mm/min, 10 N	20/35/81	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		
Ball indentation hardness		175	MPa	ISO 2039-1	6)	
Thermal properties	parameter	value	unit	norm		comment
Glass transition temperature		47	°C	DIN EN ISO 11357	1)	(1) Found in public sources.
Melting temperature		258	°C	DIN EN ISO 11357		(2) Found in public sources.
Service temperature	short term	170	°C		2)	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.	12	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2		
Specific heat		1.5	J/(g*K)	ISO 22007-4:2008		
Thermal conductivity		0.36	W/(K*m)	ISO 22007-4:2008		
Electrical properties	parameter	value	unit	norm		comment
Specific surface resistance		10 ¹⁴	Ω	DIN IEC 60093		
Specific volume resistance		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)	(1) Ø ca. 50mm, h=13mm
Resistance to hot water/ bases		(+)		-	2)	(2) (+) limited resistance
Resistance to weathering		-		-	3)	(3) - poor resistance
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	4)	(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.