

Nylon PA6 (polyamide)

Specimen dry, Room temperature

Properties	Unit	Test Method	PA 6
Mechanical Properties			
Yield stress	Mpa	ISO 527	79
Tensile Strenght	Mpa	ISO 527	80
Elongation at break	%	ISO 527	> 70
Modulus of elasticity in tension	Mpa	ISO 527	3200
Bending Modulus (flexural test)	Mpa	ISO 178	3000
Flexural Strenght	Mpa	ISO 178	110
Charpy Impact strength +23 °C	kJ/m ²	ISO 179/1eU	no break
Charpy notched Impact strenght +23 °C	kJ/m ²	ISO 179/1eA	6
Shore D Hardness	---	ISO 868	82
Ball indentation hardness	N/mm ²	ISO 2039-1	172
Compressive Modulus	Mpa	ISO 604	2400
Compressive stress at 1/2/5% nominal strain ¹	Mpa	ISO 604	25/49/79
Thermal Properties			
Heat distortion temperature, Method A	°C	ISO 75	70
Melting temperature	°C	ISO 3146	220
Glass transition temperature	°C	ISO 3146	---
Max. service temperature for few hours operation	°C	---	170
Service Temperature long term	°C	---	100
Minimum service temperature	°C	---	-40
Thermal coefficient of linear expansion	1/K.10 - 5	DIN 53752	7 - 10
Thermal conductivity Method A	W/(k.m)	---	0,33
Specific heat capacity	J/(g.K)	IEC 1006	1,7
Dielectric Properties			
Dielectric constant at 1MHZ	---	IEC 250	3,5
Dissipation factor tan δ at 1 MHZ	---	IEC 250	0,03
Dielectric strength	KV/mm	IEC 243	25
Volume resistivity	Ω.cm	IEC 93	10 ¹³
Surface resistivity	Ω	IEC 93	10 ¹³
Resistance to Tracking (CTI)	---	DIN EN 60112	---
Additional Data			
Mass density	g/cm ³	ISO 1183	1,13
Moisture absorption at 23 °C, 50% RH	%	ISO 62	3
Water absorption at 23 °C	%	ISO 62	9
Flammability according to UL Standard	---	UL 94	HB
Resistance to wear 2 ²	µm/km	ISO 7148-2	---

¹ (1 mm/mm)

² Ra = 0,35 - 0,45 µm (steel disc), V = 0,3 m/s, p = 3 N/mm², Time > 16 h