

Technical Data Sheet Nylon (PA 66)

Nylon (Polyamide 66, PA 66)

Nylon / PA 66 – semi-crystalline engineering thermoplastic, generic name for polyamide 66

Typical Properties

- Good toughness
- High mechanical strength and stiffness
- Good impact strength
- Good weldability
- High abrasion resistance
- Good machinability
- Good sliding properties
- High moisture absorption, dependent on temperature and humidity
- Higher heat deflection temperature than PA 6

Typical Industries

- Vehicle construction
- Mechanical and plant engineering
- Conveying technology & automation
- Electrical engineering and electronics
- Aerospace
- Food industry
- Agriculture & commercial vehicles

	Test Method	Unit	Value
General Properties			
Density	DIN EN ISO 1183-1	g / cm ³	1.14
Moisture absorption	DIN EN ISO 62	%	2.5
Flammability (thickness 3 mm / 6 mm)	UL 94		HB / HB
Mechanical Properties			
Yield stress	DIN EN ISO 527	MPa	85
Elongation at break	DIN EN ISO 527	%	50
Tensile modulus	DIN EN ISO 527	MPa	3400
Notched impact strength	DIN EN ISO 179	kJ / m ²	4
Shore hardness	DIN EN ISO 868	scale D	83
Thermal Properties			
Melting temperature	ISO 11357-3	°C	260
Thermal conductivity	DIN 52612-1	W / (m * K)	0.28
Specific heat capacity	DIN 52612	kJ / (kg * K)	1.60
Coefficient of linear expansion	DIN 53752	10 ⁻⁶ / K	90
Long-term service temperature	Average	°C	-40 ... 100

	Test Method	Unit	Value
Short-term max. service temperature	Average	°C	170
Heat deflection temperature	DIN EN ISO 75, Method A, HDT	°C	100
Electrical Properties			
Dielectric constant	IEC 60250		3.8
Dissipation factor (50 Hz)	IEC 60250		0.015
Volume resistivity	DIN EN 62631-3-1	Ω * cm	10 ¹⁴
Surface resistivity	DIN EN 62631-3-2	Ω	10 ¹³
Dielectric strength	IEC 60243	kV / mm	25

Nylon is the term originally coined by DuPont that has since become the generic name for polyamides; the name was never trademarked and is used internationally as a synonym for polyamide 66 (PA 66), and sometimes for polyamides in general. The values stated are typical average values for unreinforced natural PA 66, researched from common industry manufacturer data; they serve as information about our products and as an aid to material selection. We do not thereby provide any legally binding guarantee of specific properties or suitability for particular purposes. Moisture absorption changes the mechanical properties of polyamides; the values given apply to dry to conditioned material. The actual property values of a given product may vary somewhat depending on manufacturer, semi-finished product form and degree of crystallisation.