

Technical Data Sheet Perlon®

Perlon® (Polyamide 6, PA 6)

Perlon® – historical brand name for polyamide 6 (PA 6), originally for synthetic fibres

Typical Properties

- Good toughness
- Good sound damping properties
- Vibration damping
- High abrasion resistance
- High mechanical strength
- Good impact strength
- Good weldability
- Good machinability
- Good sliding properties
- High moisture absorption, dependent on temperature and humidity

Typical Industries

- Textile and fibre technology (historical origin)
- Bakery and confectionery
- Meat, fish and poultry processing
- Mechanical and plant engineering
- Aerospace
- Food industry

	Test Method	Unit	Value
General Properties			
Density	DIN EN ISO 1183-1	g / cm ³	1.14
Moisture absorption	DIN EN ISO 62	%	3.0
Flammability (thickness 3 mm / 6 mm)	UL 94		HB / HB
Mechanical Properties			
Yield stress	DIN EN ISO 527	MPa	80
Elongation at break	DIN EN ISO 527	%	50
Tensile modulus	DIN EN ISO 527	MPa	3200
Notched impact strength	DIN EN ISO 179	kJ / m ²	3
Shore hardness	DIN EN ISO 868	scale D	82
Thermal Properties			
Melting temperature	ISO 11357-3	°C	220
Thermal conductivity	DIN 52612-1	W / (m * K)	0.23
Specific heat capacity	DIN 52612	kJ / (kg * K)	1.70
Coefficient of linear expansion	DIN 53752	10 ⁻⁶ / K	90
Long-term service temperature	Average	°C	-40 ... 85

	Test Method	Unit	Value
Short-term max. service temperature	Average	°C	160
Heat deflection temperature	DIN EN ISO 75, Method A, HDT	°C	75
Electrical Properties			
Dielectric constant	IEC 60250		3.9
Dissipation factor (50 Hz)	IEC 60250		0.02
Volume resistivity	DIN EN 62631-3-1	Ω * cm	10 ¹⁵
Surface resistivity	DIN EN 62631-3-2	Ω	10 ¹³
Dielectric strength	IEC 60243	kV / mm	20

Perlon® is a registered trade name coined in 1938 by IG Farben (inventor Paul Schlack) for the first German polyamide 6 synthetic fibre – the German counterpart to American Nylon. The name remains an actively registered trademark and is used here purely as a historically established designation for polyamide 6 (PA 6), without reference to any specific trademark owner. The values stated are typical average values for unreinforced natural PA 6; 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 deviate somewhat depending on the semi-finished product, grade and degree of crystallisation.