

Short description of Material:

This extruded polyamide has good hardness, stiffness and wear resistance but worse impact resistance. The properties of PA 66 are comparable to PA 6 G, however PA 66 absorbs more moisture and is less dimensionally stable.

Application examples:

- Component parts with a higher demand for dimensional stability and/or higher loads.

Colours: black

Mechanical values		dry / humid	
Density	ISO 1183	1,35	g/cm ³
Yield stress	ISO 527	160 / -	MPa
Elongation due to tearing	ISO 527	3	%
Modulus of elasticity resulting from tensile test	ISO 527	11.000 / -	MPa
Modulus of elasticity resulting from bending test	ISO 178	- / -	MPa
Flexural strength	ISO 178	- / -	MPa
Impact strength ¹⁾	ISO 179	50 / -	kJ/m ²
Notched-bar impact strength	ISO 179	6	kJ/m ²
Ball indentation hardness H _{358/30}	ISO 2039-1	240 / 200	MPa
Creep rate stress at 1% elongation ²⁾	DIN 53 444	40	MPa
Sliding friction coefficient against steel (dry running) ³⁾	—	0,45 / 0,5	—
Sliding wear against steel (dry running) ³⁾	—	-	µm/km
Thermal values			
Melting temperature	ISO 3146	+ 255	°C
Thermal conductivity	DIN 52 612	0,30	W/(K·m)
Specific thermal capacity	—	1,5	J/(g·K)
Coefficient of linear expansion ⁴⁾	—	2 - 3	10 ⁻⁵ ·K ⁻¹
Operating temperature range (long-term) ⁵⁾	—	- 30 / + 120	°C
Operating temperature range (short-term) ⁵⁾	—	+ 180	°C
Fire behaviour	UL 94	HB	—
Electrical values			
Dielectric constant ⁶⁾	IEC 250	3,7	—
Dielectric loss factor ⁶⁾	IEC 250	0,02	—
Specific volume resistance	IEC 93	10 ¹⁴ / 10 ¹³	Ω·cm
Surface resistance	IEC 93	10 ¹³ / 10 ¹²	Ω
Dielectric strength	IEC 243	60 / 30	KV/mm
Creep current resistance	IEC 112	CTI 475	—
Miscellaneous data			
Moisture absorption in normal climate until saturated	DIN 53 715	1,5	%
Water absorption until saturated	ISO 62	5,5	%

¹⁾: Measured with a pendulum impact testing machine 0,1 DIN 51 222
²⁾: Tension resulting in 1% total elongation after 1.000 h
³⁾: against steel, hardened and ground, P = 0,05 MPa, V = 0,6 m/s, t = 60 °C near running surface
⁴⁾: For a temperature range of + 23 °C to + 60 °C
⁵⁾: Experience values established with finished parts that are not under any stress in heated air, depending on the type and form of heat exposure, short-term = max. 1 h, long-term = months
⁶⁾: at 10⁶ Hz

w.b. = without breakage
 1 MPa = 1 N/mm²
 1 g/cm³ = 1.000 kg/m³
 1 kV/mm = 1 MV/m

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