

Short description of Material:

This extruded polyamide has good strength, impact resistance and damping behaviour. Due to its production method, it has higher moisture absorption and is less dimensionally stable and wear resistant than cast polyamide.

Colours: natural, black

Application examples:

- wheels
- bearings
- gears
- hammer heads
- cover strips

Mechanical values

		dry / humid	
Density	ISO 1183	1,14	g / cm ³
Yield stress	ISO 527	70 / 45	MPa
Elongation due to tearing	ISO 527	50 / 180	%
Modulus of elasticity resulting from tensile test	ISO 527	2.700 / 1.800	MPa
Modulus of elasticity resulting from bending test	ISO 178	2.500 / 1.400	MPa
Flexural strength	ISO 178	130 / 40	MPa
Impact strength ¹⁾	ISO 179	o.B.	kJ/m ²
Notched-bar impact strength	ISO 179	> 3 / o.B.	kJ/m ²
Ball indentation hardness H _{358/30}	ISO 2039-1	160 / 70	MPa
Creep rate stress at 1% elongation ²⁾	DIN 53 444	> 8	MPa
Sliding friction coefficient against steel (dry running) ³⁾	—	0,38 / 0,42	—
Sliding wear against steel (dry running) ³⁾	—	0,23	µm/km

Thermal values

Melting temperature	ISO 3146	+ 218	°C
Thermal conductivity	DIN 52 612	0,23	W/(K·m)
Specific thermal capacity	—	1,7	J/(g·K)
Coefficient of linear expansion ⁴⁾	—	8 - 9	10 ⁻⁵ ·K ⁻¹
Operating temperature range (long-term) ⁵⁾	—	- 30 / + 100	°C
Operating temperature range (short-term) ⁵⁾	—	+ 140	°C
Fire behaviour	UL 94	HB	—

Electrical values

Dielectric constant ⁶⁾	IEC 250	3,7 / 7	—
Dielectric loss factor ⁶⁾	IEC 250	0,031 / 0,3	—
Specific volume resistance	IEC 93	10 ¹⁵ / 10 ¹²	Ω·cm
Surface resistance	IEC 93	10 ¹³ / 10 ¹⁰	Ω
Dielectric strength	IEC 243	50 / 20	KV/mm
Creep current resistance	IEC 112	KA 3c / KA 3b	—

Miscellaneous data

Moisture absorption in normal climate until saturated	DIN 53 715	3,0	%
Water absorption until saturated	ISO 62	10,0	%

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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