Material: LiNNOTAMHiPERFORMANCE 612

Licharz engineering plastics

Short description of Material:

This polyamide mixture is static cast from caprolactam and laurinlactam. Compared to pure LiNNOTAM it has better impact and shock resistance as well as less moisture absorption. This material is also characterised by its improved creep resistance and higher elasticity.

Application examples:

- Gears
- Geared bars
- Pinions
- Castors with long downtimes
- Supporting disc

Colours: black, natural

Mechanical values		**Dry / Humid**	
Density	ISO 1183	**1,12**	g/cm³
Yield stress	ISO 527	**80 / 55**	MPa
Elongtion due to tearing	ISO 527	**55 / 120**	%
Modulus of elasticity resulting from tensile test	ISO 527	**2.500 / 1.500**	MPa
Modulus of elasticity resulting from bending test	ISO 178	**2.800 / 1.800**	MPa
Flexural strength	ISO 178	**135 / 55**	MPa
Impact strength[1)]	ISO 179	**o.B.. / o.B..**	KJ/m²
Notched-bar impact strength	ISO 179	**>12 / o.B..**	KJ/m²
Ball indentation hardness $H_{358/30}$	ISO 2039-1	**140 / 100**	MPa
Creep rate stress at 1% elongation[2)]	DIN 53 444	**>15**	MPa
Sliding friction coefficient against steel (dry running)[3)]	-	**0,36 / 0,42**	-
Sliding wear against steel (dry running)[3)]	-	**0,12**	µm/km
Thermal values			
Melting temperature	ISO 3146	**+220**	°C
Thermal conductivity	DIN 52 612	**0,23**	W/(K*m)
Specific thermal capacity	-	**1,7**	J/(g*K)
Coefficient of thermal expansion[4)]	-	**7-8**	10^{-5}*K^{-1}
Operating temperature range (longterm)[5)]	-	**-40 / +105**	°C
Operating temperature range(short-term)[5)]	-	**160**	°C
Fire behaviour	-	**HB**	-
Electrical values		-	
Dielectric constant[6)]	IEC 250	**3,7 / -**	-
Dieelectric loss factor[6)]	IEC 250	**0,03 / -**	-
Specific volume resistance	IEC 93	**10^{15} / 10^{12}**	Ω
Surface resistance	IEC 93	**10^{13} / 10^{12}**	Ω*cm
Dieelctric strength	IEC 243	**50 / 20**	KV/mm
Creep current resistance	IEC 112	**CTI 600**	-
Miscellaneous data			
Moisture absorption in normal climate until saturated	DIN 53 715	**1,9**	%
Water absorption until saturated	ISO 62	**5,8**	%

[1)] Measured with a pendulum impact testing machine 0,1 DIN 51 222

[2)] Tension resulting in 1% total elongtion after 1.000h

[3)] Against steel, hardened and ground
P = 0,05 Mpa; V = 0,6m/s; t = 60 °C near runing surface

[4)] For a temperature range of + 23 °C up 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 10^6 Hz

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

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