

**Short description of Material:**

This polyamide mixture is static cast from caprolactam and laurinlactam. Compared to pure **LiNOTAM** 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
- Pinions
- Castors with long downtimes

**Colours:** black, natural

<b>Mechanical values</b>		<b>Dry / Humid</b>	
Density	ISO 1183	<b>1,12</b>	g/cm <sup>3</sup>
Yield stress	ISO 527	<b>80 / 55</b>	MPa
Elongtion due to tearing	ISO 527	<b>55 / 120</b>	%
Modulus of elasticity resulting from tensile test	ISO 527	<b>2.500 / 1.500</b>	MPa
Modulus of elasticity resulting from bending test	ISO 178	<b>2.800 / 1.800</b>	MPa
Flexural strength	ISO 178	<b>135 / 55</b>	MPa
Impact strength <sup>1)</sup>	ISO 179	<b>o.B.. / o.B..</b>	KJ/m <sup>2</sup>
Notched-bar impact strength	ISO 179	<b>&gt;12 / o.B..</b>	KJ/m <sup>2</sup>
Ball indentation hardness H <sub>358/30</sub>	ISO 2039-1	<b>140 / 100</b>	MPa
Creep rate stress at 1% elongation <sup>2)</sup>	DIN 53 444	<b>&gt;15</b>	MPa
Sliding friction coefficient against steel (dry running) <sup>3)</sup>	-	<b>0,36 / 0,42</b>	-
Sliding wear against steel (dry running) <sup>3)</sup>	-	<b>0,12</b>	µm/km
<b>Thermal values</b>			
Melting temperature	ISO 3146	<b>+220</b>	°C
Thermal conductivity	DIN 52 612	<b>0,23</b>	W/(K*m)
Specific thermal capacity	-	<b>1,7</b>	J/(g*K)
Coefficient of thermal expansion <sup>4)</sup>	-	<b>7-8</b>	10 <sup>-5</sup> *K <sup>-1</sup>
Operating temperature range (longterm) <sup>5)</sup>	-	<b>-40 / +105</b>	°C
Operating temperature range(short-term) <sup>5)</sup>	-	<b>160</b>	°C
Fire behaviour	UL 94	<b>HB</b>	-
<b>Electrical values</b>			
Dielectric constant <sup>6)</sup>	IEC 250	<b>3,7 / -</b>	-
Dielectric loss factor <sup>6)</sup>	IEC 250	<b>0,03 / -</b>	-
Specific volume resistance	IEC 93	<b>10<sup>15</sup> / 10<sup>12</sup></b>	Ω
Surface resistance	IEC 93	<b>10<sup>13</sup> / 10<sup>12</sup></b>	Ω*cm
Dielectric strength	IEC 243	<b>50 / 20</b>	KV/mm
Creep current resistance	IEC 112	<b>CTI 600</b>	-
<b>Miscellaneous data</b>			
Moisture absorption in normal climate until saturated	DIN 53 715	<b>1,9</b>	%
Water absorption until saturated	ISO 62	<b>5,8</b>	%

<sup>1)</sup> Measured with a pendulum impact testing machine 0,1 DIN 51 222

<sup>2)</sup> Tension resulting in 1% total elongation after 1.000h

<sup>3)</sup> Against steel, hardened and ground

P = 0,05 Mpa; V = 0,6m/s; t = 60 °C near running surface

<sup>4)</sup> For a temperature range of + 23 °C up to + 60 °C

<sup>5)</sup> 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

<sup>6)</sup> at 10<sup>6</sup> Hz

w.b. =without breakage

1 Mpa= 1 N/mm<sup>2</sup>

1 g/cm<sup>3</sup>=1.000kg/m<sup>3</sup>

1 kV/mm=1 MV/m