Material: Polyethylenterephtalate +lubricants

Short description of Material:

A partially crystalline thermoplastic with high hardness, stiffness and mechanical strength as well as good creep resistance. Through the additve of a special, homogeneously distributed solid lubricant, PET-GL has improved sliding prperties and better wear resistance than regular PET.

Application examples:

- Precision bearings
- Switching wheels
- Cams
- highly loaded bushings
- insulators

Colours: light grey

		Dry / Humid	
Mechanical values			
Density	ISO 1183	**1,38**	g/cm³
Yield stress	ISO 527	**75** / **-**	MPa
Elongtion due to tearing	ISO 527	**5** / **-**	%
Modulus of elasticity resulting from tensile test	ISO 527	**3.230** / **-**	MPa
Modulus of elasticity resulting from bending test	ISO 178	**-** / **-**	MPa
Flexural strength	ISO 178	**-** / **-**	MPa
Impact strength[1)]	ISO 179	**23** / **-**	KJ/m²
Notched-bar impact strength	ISO 179	**10** / **-**	KJ/m²
Ball indentation hardness $H_{358/30}$	ISO 2039-1	**-** / **-**	MPa
Creep rate stress at 1% elongation[2)]	DIN 53 444	**-**	MPa
Sliding friction coefficient against steel (dry running)[3)]	-	**0,2** / **-**	-
Sliding wear against steel (dry running)[3)]	-	**0,1**	µm/km
Thermal values			
Melting temperature	ISO 3146	**+245**	°C
Thermal conductivity	DIN 52 612	**0,23**	W/(K*m)
Specific thermal capacity	-	**-**	J/(g*K)
Coefficient of thermal expansion[4)]	-	**6**	10^{-5}*K^{-1}
Operating temperature range (longterm)[5)]	-	**-20** / **+110**	°C
Operating temperature range(short-term)[5)]	-	**+160**	°C
Fire behaviour	UL 94	**HB**	-
Electrical values			
Dielectric constant[6)]	IEC 250	**3,6** / **-**	-
Dieelectric loss factor[6)]	IEC 250	**0,008** / **-**	-
Specific volume resistance	IEC 93	**10^{16}** / **-**	Ω
Surface resistance	IEC 93	**10^{14}** / **-**	Ω*cm
Dieelctric strength	IEC 243	**-** / **-**	KV/mm
Creep current resistance	IEC 112	**CTI 600**	-
Miscellaneous data			
Moisture absorption in normal climate until saturated	DIN 53 715	**0,2**	%
Water absorption until saturated	ISO 62	**0,5**	%

[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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