

**Short description of Material:**

Amorphous high performance plastic with good mechanical strength and stiffness as well as good creep resistance over a wide temperature range. Additionally, PSU has a high long term operating temperature, good dimensional stability and is hydrolysis resistant.

**Application examples:**

- spools
- sight glasses
- gasket rings
- equipment housings
- insulating joints

**Colours:** natural (honey yellow, translucent)

**Mechanical values**

		dry	
Density	ISO 1183	1,24	g / cm <sup>3</sup>
Yield stress	ISO 527	75	MPa
Elongation due to tearing	ISO 527	> 50	%
Modulus of elasticity resulting from tensile test	ISO 527	2.500	MPa
Modulus of elasticity resulting from bending test	ISO 178	2.700	MPa
Flexural strength	ISO 178	106	MPa
Impact strength <sup>1)</sup>	ISO 179	o.B.	kJ/m <sup>2</sup>
Notched-bar impact strength	ISO 179	4	kJ/m <sup>2</sup>
Ball indentation hardness H <sub>358/30</sub>	ISO 2039-1	150	MPa
Creep rate stress at 1% elongation <sup>2)</sup>	DIN 53 444	22	MPa
Sliding friction coefficient against steel (dry running) <sup>3)</sup>	—	0,40	—
Sliding wear against steel (dry running) <sup>3)</sup>	—	-	µm/km

**Thermal values**

Melting temperature	ISO 3146	-	°C
Thermal conductivity	DIN 52 612	0,26	W / (K · m)
Specific thermal capacity	—	1	J / (g · K)
Coefficient of linear expansion <sup>4)</sup>	—	5 - 6	10 <sup>-5</sup> · K <sup>-1</sup>
Operating temperature range (long-term) <sup>5)</sup>	—	- 40 / + 160	°C
Operating temperature range (short-term) <sup>5)</sup>	—	+ 180	°C
Fire behaviour	UL 94	V - 0	—

**Electrical values**

Dielectric constant <sup>6)</sup>	IEC 250	3,0	—
Dielectric loss factor <sup>6)</sup>	IEC 250	0,002	—
Specific volume resistance	IEC 93	10 <sup>17</sup>	Ω · cm
Surface resistance	IEC 93	10 <sup>17</sup>	Ω
Dielectric strength	IEC 243	30	KV/mm
Creep current resistance	IEC 112	KA 1 / CTI 150	—

**Miscellaneous data**

Moisture absorption in normal climate until saturated	DIN 53 715	0,40	%
Water absorption until saturated	ISO 62	0,80	%

<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 1.000 h

<sup>3)</sup>: against steel, hardened and ground, P = 0,05 MPa, V = 0,6 m/s, t = 60 °C near running surface

<sup>4)</sup>: For a temperature range of + 23 °C 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> = 1.000 kg/m<sup>3</sup>  
 1 kV/mm = 1 MV/m

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