PSU

Product Data Sheet

PSU

Polysulphone (unfilled)

PLASTIM
ENGINEERING PLASTICS

PSU is an amorphous high-performance thermoplastic, offering a good combination of mechanical and electrical properties and outstanding hydrolysis, radiation and chemical resistance.

Properties	Test method	Unit	Value
Mechanical			
Tensile strength	ISO 527	MPa	80
Elongation at break	ISO 527	%	10
Modulus of elasticity (tensile)	ISO 527	MPa	2700
Modulus of elasticity (flexural)	ISO 178	MPa	–
Notch impact strength	ISO 179	KJ / m²	3,5
Flexural strength	ISO 178	MPa	120
Compressive stress 5 % strain	ISO 604	MPa	101
Compressive modulus	ISO 604	MPa	–
Shore hardness	ISO 868	D	80
Rockwell hardness	ISO 2039	M	90
Ball indentation hardness	ISO 2039	MPa	115
Thermal			
Melting temperature	ISO 3146	°C	–
Glass transition temperature (Tg)	ISO 11357	°C	–
Thermal conductivity	ISO 22007	W / (m * K)	0,26
Coef. of linear thermal expansion	ISO 11359	10^{-4} / K	–
Long term service temperature	See note *	°C	-0 → 150
Short term service temperature	See note *	°C	-50 → 180
Heat deflection temperature	ISO 75 HDT/A	°C	170
Flammability	UL 94	–	HB
Flammability (oxygen index)	ISO 4589	%	30
Electrical			
Dielectric constant at 1MHz	IEC 60250	10^6 Hz	3
Dissipation factor at 1MHz	IEC 60250	10^6 Hz	0,003
Volume resistivity	IEC 60093	Ω * cm	≥ 10^{14}
Surface resistivity	IEC 60093	Ω	≥ 10^{13}
Dielectric strength	IEC 60243	kV / mm	30
Tracking resistance (CTI)	IEC 60112	V	150
Additional Data			
Density	ISO 1183-1	g / cm³	1,24
Water absorption (saturation)	ISO 62	%	0,85
Humidity absorption (saturation)	ISO 62	%	0,4
Food compliance	EEC	–	Yes
Food compliance	FDA	–	Yes
Coefficient of Friction (pin-on-disk)	ISO 7148-2	–	0,6
Shapes	Rod (20 → 100 Ø)	–	–
Colour	Transparent Yellow		

- **PSU** can withstand repeated autoclaving cycles.

The conditioned material values stated are average test results. The data provides information about our products and offers a guide for material selection. This does not provide an assurance of specific properties or the products suitability for a particular application.

It solely remains the customers responsibility to test and assess the suitability and compatibility of Plastim's products for it's intended applications, processes and uses. The customer undertakes all liability in respect of the application, processing or use of the aforementioned information or product.

* *Long term service temperature are based on the thermal ageing of the polymer by oxidation, resulting in a decrease in mechanical capabilities*

* *Short term service temperature only applies to very low mechanical stress for a very limited time only.*

Properties can vary depending on the raw shape selected and the degree of crystallisation. The actual property values of a finished product may differ from the indicated values stated.