Physical properties PSU LSG

Properties	Test methods	Units	Values
Colour	-	-	Transparent Yellow
Density	ISO 1183 -1	g/cm3	1.24
Water absorption: - after 24h immersion in water of 23°C - at saturation in water of 23°C	 ISO 62 -	 % %	 0.80
Wear rate	ISO 7148 -2	µm/km	6400
Dynamic Coefficient of Friction	ISO 7148 -2	-	0.5-0.6
Thermal Properties			
Glass transition temperature	DMA	°C	190
Thermal conductivity at 23°C	-	W/(K.m)	0.26
Coefficient of linear thermal expansion: - average value between 23 and 100°C - average value between 23 and 150°C - > 150°C	 - - -	 µm/(m.K) µm/(m.K) µm/(m.K)	 55 55 70
Temperature of deflection under load: - method A: 1.8 MPa	 ISO 75 -1/-2	 °C	 170
Max. allowable service temperature in air: - continuously: for. min. 20'000 h	 -	 °C	 150
Min. service temperature	-	°C	-50
Flammability: - „Oxygen Index“ - according to UL 94 (3 mm thickness)	 ISO 4589 -1/-2 -	 % -	 30 HB
Mechanical Properties at 23°C			
Tension test: - tensile strength - tensile strain (elongation) at yield - tensile strain (elongation) at break - tensile modulus of elasticity	 ISO 527 -1 -2 ISO 527 -1 -2 ISO 527 -1 -2 ISO 527 -1 -2	 MPa % % MPa	 88 5.00 10 2850
Shear Strength	ASTM D732	MPa	62
Compression test: - compressive stress at 1 / 2 / 5% nominal strain	 ISO 604	 MPa	 25 / 49 / 101
Flexural test: - flexural strength - flexural modulus of elasticity	 178 178	 MPa MPa	 120 -
Charpy impact strength - unnotched	ISO 179-1/1eU	kJ/m²	no break
Charpy impact strength - notched	ISO 179-1/1eA	kJ/m²	3.5
Rockwell M hardness	ISO 2039-2	-	89
Electrical Properties at 23°C			
Electrical strength	IEC 60243 -1	kV/mm	30
Volume resistivity	IEC 62631 -3 -1	Ohm.cm	10E13
Surface resistivity	ANSI/ESD STM 11.11	Ohm/sq.	10E12
Dielectric constant at 1 MHz	IEC 62631 -2 -1	-	3.00
Dissipation factor at 1 MHz	IEC 62631 -2 -1	-	0.0010

Note: 1 g/cm³ = 1000 kg/m³; 1 Mpa = 1 N/mm²; 1 kV/mm = 1 MV/m.

NYP: there is no yield point

This table is a valuable help in the choice of a material. The data listed here fall within the normal range of products properties, but they should not be used to establish material specification limits nor used alone as the basis of design.

PSU LSG

PSU LSG stock shapes exhibit a combination of great mechanical, thermal and electrical properties, and excellent hydrolysis and chemical resistance. As a bio-compatible, USP and ISO 10993-1 Compliant material that is sterilizable by means of steam, dry heat, ethylene oxide, plasma, and gamma irradiation, PSU LSG components are often favored for applications such as manifolgs, steam cleaning eyuipment inserts, and distributor valves in the medical, pharmaceutical, and biotechnology markets.

BBC Cellpack Technology
Cellpack AG
Anglikerstrasse 99
CH-5612 Villmergen

Phone +41 56 618 14 28
Fax +41 56 621 00 21
technology@cellpack.com
technology.cellpack.com

State: 28.03.2022