

DATASHEET

PSU

PSU is a translucent (non-optical quality) amorphous thermoplastic material, offering a combination of excellent mechanical, thermal, and electrical properties. It often replaces polycarbonate whenever higher temperature resistance, improved chemical resistance, or autoclavability is required.

Applications

- Manifolds
- Distributor Valves
- Medical Equipment Components
- Steam Cleaning Equipment Inserts

Availability

- Colour – Transparent Yellow
- Type – Sheets & Rods
- Regularly produced in a wide variety of thicknesses

Typical Properties

General Properties	Method	Unit	Test Result
Physical Properties			
Colour	-	-	Trans Yellow
Density	ISO 1183-1	g/cm ²	1.24
Water Absorption:			
- After 24h immersion in water of 23°C	ISO 62	mg	0.24
- At saturation in water of 23°C	-	%	0.80
Thermal Properties			
Melting Temperature (DSC, 10°C/min)	ISO 11357 – 1/-3	°C	
Glass Transition Temperature (DSC, 10°C/min)	ISO 11357 – 1/-2	°C	190
Thermal Conductivity at 23°C	-	W/(K.m)	0.26
Coefficient of Linear Thermal Expansion:			
- Average value between 23 and 100°C	-	W/(K.m)	55x10 ⁻⁶
- Average value between 23 and 150°C	-	W/(K.m)	55x10 ⁻⁶
- Average value above 150°C	-	W/(K.m)	70x10 ⁻⁶
Temperature of Deflection Under Load:			
- Method A: 1.8 MPa	ISO 75-1/-2	°C	170
Max Allowable Service Temperature in Air:			
- Continuously: for 5,000 to 20,000h	-	°C	150
Minimum Service Temperature	-	°C	-50
Flammability:			
- According to UL94 (3/6mm thickness)	-	-	HB

Mechanical Properties			
Tension Test:			
- Tensile Strength	ISO 527-1/-2	MPa	88
- Tensile Strain at Yield	ISO 527-1/-2	%	5
- Tensile Strain at Break	ISO 527-1/-2	%	10
- Tensile Modulus of Elasticity	ISO 527-1/-2	MPa	2850
Flexural Test:			
- Flexural Strength	ISO 178	MPa	120
- Flexural Modulus of Elasticity	ISO 178	MPa	
Compression Test:			
- Compressive Stress @ 1/2/5% Nominal Strain	ISO 604	MPa	25/49/101
Charpy Impact Strength - Unnotched	ISO 179-1-1eU	kJ/m ²	No break
Charpy Impact Strength - Notched	ISO 179-1-1eU	kJ/m ²	3.5
Rockwell Hardness	ISO 2039-2	-	89
Dynamic Coefficient of Friction	ISO 7148-2(15)	-	0.5-0.6
Wear Rate	ISO 7148-2(15)	Um/km	6400
Electrical Properties			
Electric Strength	EC 60243-1	kV/mm	30
Volume Resistivity	IEC 60093	Ohm.cm	>10E 14
Surface Resistivity	IEC 60093	Ohm	>10E 13
Relative Permittivity – at 1MHz	IEC 60250	-	3.0
Dielectric Dissipation Factor – at 1 MHz	IEC 60250	-	0.003