

Polysulfone

(PSU)

KEY FEATURES

- Autoclave Resistance
- High Temperature Performance
- Excellent Electrical Properties
- Excellent Hydrolytic Stability
- Good Chemical Resistance
- High Strength and Rigidity
- Superior Resistance to Creep
- FDA and NSF Compliant

DESCRIPTION

Polysulfone is a transparent engineering plastic known for its chemical resistance, rigidity, high-temperature performance, and its ability to operate in an autoclave environment. Polysulfone is FDA and NSF compliant and holds its excellent mechanical properties over a wide range of temperatures.

TYPICAL PROPERTY VALUES

Physical	Properties	Condition	Units	Value	ASTM Test
	Density		g/cm ³	1.24	D792
	Chemical Designation			PSU	
	Filler				

Mechanical	Properties	Condition	Units	Value	ASTM Test
	Tensile Modulus	@ 73 °F	PSI	375,000	D638
	Tensile Strength	@ 73 °F	PSI	10,200	D638
	Shear Strength	@ 73 °F	PSI	9,000	D732
	Elongation @ Yld	@ 73 °F	%		
	Elongation @ Brk	@ 73 °F	%	30	D638
	Flexural Modulus	@ 73 °F	PSI	400,000	D790
	Flexural Strength	@ 73 °F	PSI	15,000	D790
	Compressive Modulus	@ 73 °F	PSI	375,000	D695
	Compressive Strength	@ 73 °F, 10% strain	PSI	13,000	D695
	Izod (Charpy) Impact Strength	@ 73 °F	ft-lbs/in	1.3	D256
	Rockwell Hardness	@ 73 °F	M (R) Scale	120	D785
	Coefficient of Friction	Static			
	Coefficient of Friction	Dynamic, 40PSI, 50 FPM		0.37	D3702
	Wear (K) Factor		in ³ -min/ft-lbs-hr		
Limiting PV		psi-fpm			

Thermal	Properties	Condition	Units	Value	ASTM Test
	Heat Deflection Temperature	@ 66 PSI	°F	358	D648
	Service Temperature	Long Term	°F	285	
	Heat Deflection Temperature	@ 264 PSI	°F	345	D648
	Service Temperature	Intermittent	°F	340	
	Thermal Expansion (CLTE)		in/in/°F	3.1*10 ⁻⁵	D696
	Specific Heat		BTU/lb-°F		
Thermal Conductivity		BTU-in/hr-ft ² -°F			

Electrical	Properties	Condition	Units	Value	ASTM Test
	Surface Resistivity		ohms/square		
	Volume Resistivity		ohm-cm	5.0*10 ¹⁶	D257
	Dielectric Constant	50% RH		3.1	D150
	Dielectric Strength	@ 60 Hz, 73 °F	V/mil	425	D149
Dissipation Factor	@ 60 Hz, 73 °F		0.001	D150	

Other	Properties	Condition	Units	Value	ASTM Test
	Moisture Absorption	@ 24 hrs, 73 °F	%	0.3	D570
	Moisture Absorption	@ Saturation, 73 °F	%		
	Flammability	UL 94		V-0	
	Food Grade			Y	
Relative Cost			\$\$\$		

• The data stated above are typical values intended for reference and comparison purposes only.
• The data should not be used as a basis for design specifications or quality control.

• The information is provided as a guide to the best of our knowledge and given without obligation or liability.
• Testing under individual application circumstances is recommended