EAGLE PERFORMANCE PLASTICS
Custom Machined Plastic Components

POLYSULFONE (PSU)

KEY FEATURES

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

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

	Properties	Condition	Units	Value	ASTM Test
Physical	Chemical Designation			PSU	
	Filler				
	Density		g/cm^3	1.24	D792
Mechanical	Tensile Modulus	@ 73 °F	PSI	375,000	D638
	Tensile Strength @ Yld	@ 73 °F	PSI	11,800	D638
	Tensile Strength @ Brk	@ 73 °F	PSI	11,800	D638
	Shear Strength	@ 73 °F	PSI		
	Elongation @ Yld	@ 73 °F	%		
	Elongation @ Brk	@ 73 °F	%	50	D638
	Flexural Modulus	@ 73 °F	PSI	375,000	D790
	Flexural Strength	@ 73 °F	PSI	18,500	D790
	Compressive Modulus	@ 73 °F	PSI	245,000	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		

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TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
Thermal	Vicat Softening Point		°F		
	Melting Temperature		°F		
	Heat Deflection Temperature	@ 66	°F	358	D648
	Heat Deflection Temperature	@ 264	°F	345	D648
	Service Temperature	Intermittent	°F	340	
	Service Temperature	Long Term	°F	285	
	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	Surface Resistivity		ohms/square		
	Volume Resistivity		ohm-cm	$5.0*10^{16}$	D257
	Dielectric Strength		V/mil	425	D149
	Dielectric Constant	@ 60 Hz, 73 °F 50% RH		3.1	D150
	Dissipation Factor	@ 60 Hz, 73 °F		0.001	D150
Other	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.