

GEHR Plastics PSU Polysulfone

Category : Polymer , Thermoplastic , Polysulfone (PSU)

Material Notes:

Polysulfone shows great thermal stability. It possesses a high mechanical strength, very good dielectric properties and hydrolysis resistance and a high radiation resistance. PSU has a low notch impact strength. Properties: high impact strength, high strength and rigidity, very good dimensional stability, high chemical stability, high resistance to all kinds of radiation, self-extinguishing, repeated sterilization, not weather resistant. Applications include parts for microwave ovens, blow dryers, parts for humidifiers, food industry, pump wheels, insulators, and medical industry.

Order this product through the following link:

http://www.lookpolymers.com/polymer_GEHR-Plastics-PSU-Polysulfone.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.24 g/cc	1.24 g/cc	ISO 1183
Water Absorption	0.30 %	0.30 %	ISO 62

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	86	86	DIN 53505
Ball Indentation Hardness	147 MPa	21300 psi	ISO 2039
Tensile Strength at Break	6.00 MPa	870 psi	ISO 527
Tensile Strength, Yield	70.0 MPa	10200 psi	ISO 527
Elongation at Break	>= 50 %	>= 50 %	ISO 527
Modulus of Elasticity	2.48 GPa	360 ksi	ISO 527
Flexural Strength	106 MPa	15400 psi	3.5%; ISO 178
Charpy Impact Unnotched	NB	NB	ISO 179
Coefficient of Friction	0.40	0.40	DIN 53375

Thermal Properties	Metric	English	Comments
CTE, linear	56.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ @Temperature 20.0 $\text{Å}^\circ\text{C}$	31.1 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ @Temperature 68.0 $\text{Å}^\circ\text{F}$	DIN 53752
Thermal Conductivity	0.250 W/m-K	1.74 BTU-in/hr-ft $\text{Å}^2\cdot\text{Å}^\circ\text{F}$	DIN 52612
Maximum Service Temperature, Air	160 $\text{Å}^\circ\text{C}$	320 $\text{Å}^\circ\text{F}$	

Thermal Properties <small>(ISO 75)</small>	Metric	English	ISO 75 Comments
Deflection Temperature at 1.8 MPa	174 Å°C	345 Å°F	
Minimum Service Temperature, Air	-100 Å°C	-148 Å°F	
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+13 ohm-cm	>= 1.00e+13 ohm-cm	VDE 0303
Surface Resistivity per Square	>= 1.00e+14 ohm	>= 1.00e+14 ohm	VDE 0303
Dielectric Constant	3.0 @Frequency 1.00e+6 Hz	3.0 @Frequency 1.00e+6 Hz	DIN 53483
Dielectric Strength	17.0 kV/mm	432 kV/in	VDE 0303
Dielectric Loss Index	0.0060 @Frequency 1.00e+6 Hz	0.0060 @Frequency 1.00e+6 Hz	DIN 53483

Descriptive Properties	Value	Comments
Acid Resistance	yes	
Aromatic Resistance	yes	
Bondability	yes	
CKW Resistance	limited	
Color	Natural	
Hydrocarbonate Resistance	yes	
Hydroxide Resistance	yes	
Ketone Resistance	yes	
Physiological indifference according	yes	
Resistance Against Hot Water	yes	
UV Stabilization	no	

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