



PSU 1000 (Quadrant)

Polysulfone, unfilled, extruded

Physical Properties	Metric	English	Comments
Specific Gravity	1.24 g/cc	0.0448 lb/in ³	ASTM D792
Water Absorption	0.3 %	0.3 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	0.6 %	0.6 %	Immersion; ASTM D570(2)

Mechanical Properties

Hardness, Rockwell M	82	82	ASTM D785
Hardness, Rockwell R	128	128	ASTM D785
Hardness, Shore D	80	80	ASTM D2240
Tensile Strength, Ultimate	70.3 MPa	10200 psi	ASTM D638
Elongation at Break	30 %	30 %	ASTM D638
Tensile Modulus	2.69 GPa	390 ksi	ASTM D638
Flexural Modulus	2.76 GPa	400 ksi	ASTM D790
Flexural Yield Strength	103 MPa	15000 psi	ASTM D790
Compressive Strength	89.6 MPa	13000 psi	10% Def.; ASTM D695
Compressive Modulus	2.59 GPa	375 ksi	ASTM D695
Shear Strength	62.1 MPa	9000 psi	ASTM D732
Izod Impact, Notched	0.694 J/cm	1.3 ft-lb/in	ASTM D256 Type A

Electrical Properties

Surface Resistivity per Square	Min 1e+013 ohm	Min 1e+013 ohm	EOS/ESD S11.11
Dielectric Constant	3.14	3.14	1MHz; ASTM D150
Dielectric Strength	16.7 kV/mm	425 V/mil	Short Term; ASTM D149
Dissipation Factor	0.0008	0.0008	1MHz; ASTM D150

Thermal Properties

CTE, linear 68°F	55.8 µm/m-°C	31 µin/in-°F	(-40°F to 300°F); ASTM E831
Thermal Conductivity	0.259 W/m-K	1.8 BTU-in/hr-ft ² -°F	ASTM F433
Maximum Service Temperature, Air	149 °C	300 °F	Long Term
Deflection Temperature at 1.8 MPa (264 psi)	171 °C	340 °F	ASTM D648
Glass Temperature	190 °C	374 °F	ASTM D3418
Flammability, UL94 (Estimated Rating)	HB	HB	1/8 inch

Qualitative Processing Properties

Compliance - FDA	Compliant	
Machinability	3	1-10, 1=Easier to Machine
Service in Alcohols	Acceptable	
Service in Aliphatic Hydrocarbons	Limited	
Service in Aromatic Hydrocarbons	Unacceptable	
Service in Chlorinated Solvents	Unacceptable	
Service in Ethers	Limited	
Service in Ketones	Unacceptable	
Service in Strong Acids	Unacceptable	
Service in Strong Alkalies	Unacceptable	
Service in Sunlight	Limited	
Service in Weak Acids	Acceptable	
Service in Weak Alkalies	Acceptable	

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