

Quadrant EPP Techtron® PPS unfilled, extruded (ISO Data)

Category : Polymer , Thermoplastic , Polyphenylene Sulfide (PPS) , Polyphenylene Sulfide (PPS), Unreinforced, Extruded

Material Notes:

This unfilled polyphenylene sulfide based material is ideal for structural applications in corrosive environments or as a PEEK replacement at less demanding temperatures. Very good dimensional stability (minimal moisture absorption and a low coefficient of linear thermal expansion), combined with easy machinability to close tolerances, make Techtron 1000 PPS very well suited for precise tolerance machined components. This material is generally not used for wear applications Very high maximum allowable service temperature in air (220°C continuously, up to 260°C for short periods of time) High mechanical strength, stiffness and creep resistance, also at elevated temperatures Excellent chemical and hydrolysis resistance Excellent wear & frictional behaviour Very good dimensional stability Physiologically inert (suitable for food contact) Excellent resistance to high energy radiation (gamma- and X-rays) Good UV-resistance Inherent low flammability Good electrical insulating and dielectric properties

Order this product through the following link:

http://www.lookpolymers.com/polymer_Quadrant-EPP-Techtron-PPS-unfilled-extruded-ISO-Data.php

Physical Properties	Metric	English	Comments
Density	1.35 g/cc	0.0488 lb/in ³	ISO 1183-1
Moisture Absorption at Equilibrium	0.030 %	0.030 %	50% RH
Water Absorption at Saturation	0.10 %	0.10 %	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	100	100	ISO 2039-2
Hardness, Shore D	84	84	
Ball Indentation Hardness	205 MPa	29700 psi	ISO 2039-1
Tensile Strength	102 MPa	14800 psi	at Yield; ISO 527-1/-2
Elongation at Break	12 %	12 %	ISO 527-1/-2
Elongation at Yield	3.5 %	3.5 %	ISO 527-1/-2
Tensile Modulus	4.00 GPa	580 ksi	ISO 527-1/-2
Flexural Strength	155 MPa	22500 psi	
Compressive Strength	39.0 MPa	5660 psi	ISO 604
	@Strain 1 %	@Strain 1 %	
	77.0 MPa	11200 psi	ISO 604
	@Strain 2 %	@Strain 2 %	
	122 MPa	17700 psi	

Mechanical Properties	Metric @Strain 5 %	English @Strain 5 %	ISO 604 Comments
K Factor (ISO)	70 µm/km	70 µm/km	
Charpy Impact Unnotched	NB	NB	ISO 179-1/1eU
Charpy Impact, Notched	0.200 J/cm ²	0.952 ft-lb/in ²	ISO 179-1/1eA
Coefficient of Friction, Dynamic	0.40 - 0.60	0.40 - 0.60	

Thermal Properties	Metric	English	Comments
CTE, linear	60.0 µm/m-°C @Temperature 23.0 - 100 °C	33.3 µin/in-°F @Temperature 73.4 - 212 °F	
Thermal Conductivity	0.300 W/m-K	2.08 BTU-in/hr-ft ² -°F	
Melting Point	280 °C	536 °F	DSC, 10°C/min.; ISO 11357-1/-3
Maximum Service Temperature, Air	220 °C	428 °F	Continuous
Deflection Temperature at 1.8 MPa (264 psi)	115 °C	239 °F	ISO 75-1/-2
Flammability, UL94	V-0	V-0	
Oxygen Index	44 %	44 %	ISO 4589-1/-2

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.0e+14 ohm-cm	>= 1.0e+14 ohm-cm	IEC 60093
Surface Resistivity per Square	>= 1.0e+13 ohm	>= 1.0e+13 ohm	IEC 60093
Dielectric Constant	3.0 @Frequency >=100000 Hz	3.0 @Frequency >=100000 Hz	IEC 60250
Dielectric Strength	18.0 kV/mm	457 kV/in	
Dissipation Factor	0.0020 @Frequency 100000 Hz	0.0020 @Frequency 100000 Hz	IEC 60250
Comparative Tracking Index	125 V	125 V	IEC 60112

Compliance Properties	Metric	English	Comments
3A-Dairy	No	No	
European Food 1935/2004	No	No	

Compliance Properties	Metric	English	Comments
USP Class VI	No	No	

Chemical Resistance Properties	Metric	English	Comments
Acids, Strong (pH 1-3)	Limited	Limited	
Acids, Weak	Acceptable	Acceptable	
Alcohols	Acceptable	Acceptable	
Alkalies, Strong (pH 11-14)	Acceptable	Acceptable	
Alkalies, Weak	Acceptable	Acceptable	
Chlorinated Solvents	Acceptable	Acceptable	
Continuous Sunlight	Limited	Limited	
Hot Water / Steam	Acceptable	Acceptable	
Hydrocarbons - Aliphatic	Acceptable	Acceptable	
Hydrocarbons - Aromatic	Acceptable	Acceptable	
Inorganic Salt Solutions	Acceptable	Acceptable	
Ketones, Esters	Acceptable	Acceptable	

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