

Quadrant EPP Quadrant PSU unfilled, extruded (ISO Data)

Category : Polymer , Thermoplastic , Polysulfone (PSU)

Material Notes:

Quadrant 1000 PSU is a slightly yellow, translucent (non-optical quality) amorphous thermoplastic material, offering a combination of excellent mechanical, thermal and electrical properties. It often replaces polycarbonate whenever higher temperature resistance, improved chemical resistance or autoclavability is required High maximum allowable service temperature in air (150°C continuously) Good hydrolysis resistance (suitable for repeated steam sterilization) High strength and stiffness over a wide temperature range Good dimensional stability Physiologically inert (suitable for food contact) Very good resistance against high energy radiation (gamma- and X-rays) Good electrical insulating and dielectric properties

Order this product through the following link:

http://www.lookpolymers.com/polymer_Quadrant-EPP-Quadrant-PSU-unfilled-extruded-ISO-Data.php

Physical Properties	Metric	English	Comments
Density	1.24 g/cc	0.0448 lb/in ³	ISO 1183-1
Moisture Absorption at Equilibrium	0.30 %	0.30 %	50% RH
Water Absorption at Saturation	0.80 %	0.80 %	
Outgassing - Total Mass Loss	0.49 %	0.49 %	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	89	89	ISO 2039-2
Hardness, Shore D	80	80	
Ball Indentation Hardness	115 MPa	16700 psi	ISO 2039-1
Tensile Strength	88.0 MPa	12800 psi	at Yield; ISO 527-1/-2
Elongation at Break	10 %	10 %	ISO 527-1/-2
Elongation at Yield	5.0 %	5.0 %	ISO 527-1/-2
Tensile Modulus	2.85 GPa	413 ksi	ISO 527-1/-2
Flexural Strength	120 MPa	17400 psi	
Compressive Strength	25.0 MPa	3630 psi	ISO 604
	@Strain 1 %	@Strain 1 %	
	49.0 MPa	7110 psi	ISO 604
	@Strain 2 %	@Strain 2 %	
	101 MPa	14600 psi	ISO 604

Mechanical Properties	@Strain 5 % Metric	@Strain 5 % English	Comments
K Factor (ISO)	6400 µm/km	6400 µm/km	
Charpy Impact Unnotched	NB	NB	ISO 179-1/1eU
Charpy Impact, Notched	0.350 J/cm ²	1.67 ft-lb/in ²	ISO 179-1/1eA
Coefficient of Friction, Dynamic	0.50 - 0.60	0.50 - 0.60	

Thermal Properties	Metric	English	Comments
CTE, linear	55.0 µm/m-°C	30.6 µin/in-°F	
	@Temperature 23.0 - 100 °C	@Temperature 73.4 - 212 °F	
Thermal Conductivity	0.260 W/m-K	1.80 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	150 °C	302 °F	Continuous
Deflection Temperature at 1.8 MPa (264 psi)	170 °C	338 °F	ISO 75-1/-2
Glass Transition Temp, Tg	190 °C	374 °F	DSC, 20°C/min.; ISO 11357-1/-2
Flammability, UL94	HB	HB	
Oxygen Index	30 %	30 %	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	3.0	IEC 60250
	@Frequency >=100000 Hz	@Frequency >=100000 Hz	
Dielectric Strength	30.0 kV/mm	762 kV/in	
Dissipation Factor	0.0010	0.0010	IEC 60250
	@Frequency 100000 Hz	@Frequency 100000 Hz	
Comparative Tracking Index	150 V	150 V	IEC 60112

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

<small>FDA</small> Compliance Properties	<small>Yes</small> Metric	<small>Yes</small> English	<small>only natural</small> Comments
USP Class VI	No	No	

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

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