

Quadrant EPP Semitron® ESd 520HR PAI, static dissipative, extruded (ISO Data)

Category : Polymer , Thermoplastic , Polyamide-imide (PAI)

Material Notes:

Semitron ESd 520HR has an industry first combination of electrostatic dissipation (ESd), high strength and heat resistance. This new ESd material is ideal for making nests, sockets and contactors for test equipment and other device handling components in the semiconductor industry

Order this product through the following link:

http://www.lookpolymers.com/polymer_Quadrant-EPP-Semitron-ESd-520HR-PAI-static-dissipative-extruded-ISO-Data.php

Physical Properties	Metric	English	Comments
Density	1.58 g/cc	0.0571 lb/in ³	ISO 1183-1
Moisture Absorption at Equilibrium	2.6 %	2.6 %	50% RH
Water Absorption at Saturation	4.6 %	4.6 %	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	73	73	
Hardness, Shore D	90	90	
Ball Indentation Hardness	250 MPa	36300 psi	ISO 2039-1
Tensile Strength	83.0 MPa	12000 psi	at Break (NYP); ISO 527-1/-2
Elongation at Break	3.0 %	3.0 %	ISO 527-1/-2
Tensile Modulus	5.50 GPa	798 ksi	ISO 527-1/-2
Flexural Strength	105 MPa	15200 psi	
Compressive Strength	42.0 MPa	6090 psi	ISO 604
	@Strain 1 %	@Strain 1 %	
	80.0 MPa	11600 psi	ISO 604
	@Strain 2 %	@Strain 2 %	
	145 MPa	21000 psi	ISO 604
	@Strain 5 %	@Strain 5 %	
Charpy Impact Unnotched	2.00 J/cm ²	9.52 ft-lb/in ²	ISO 179-1/1eU
Charpy Impact, Notched	0.400 J/cm ²	1.90 ft-lb/in ²	ISO 179-1/1eA

Thermal Properties	Metric	English	Comments
CTE, linear	35.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	19.4 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@ Temperature 23.0 - 100 $^{\circ}\text{C}$	@ Temperature 73.4 - 212 $^{\circ}\text{F}$	
Thermal Conductivity	0.340 W/m-K	2.36 BTU-in/hr-ft ² - $^{\circ}\text{F}$	
Maximum Service Temperature, Air	250 $^{\circ}\text{C}$	482 $^{\circ}\text{F}$	Continuous
Deflection Temperature at 1.8 MPa (264 psi)	280 $^{\circ}\text{C}$	536 $^{\circ}\text{F}$	ISO 75-1/-2
Glass Transition Temp, Tg	280 $^{\circ}\text{C}$	536 $^{\circ}\text{F}$	DSC, 20 $^{\circ}\text{C}/\text{min.}$; ISO 11357-1/-2
Flammability, UL94	V-0	V-0	
Oxygen Index	48 %	48 %	ISO 4589-1/-2

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.0e+10 - 1.0e+12 ohm-cm	1.0e+10 - 1.0e+12 ohm-cm	IEC 60093
Surface Resistivity per Square	1.0e+10 - 1.0e+12 ohm	1.0e+10 - 1.0e+12 ohm	IEC 60093

Compliance Properties	Metric	English	Comments
3A-Dairy	No	No	
European Food 1935/2004	No	No	
FDA	No	No	
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)	Unacceptable	Unacceptable	
Alkalies, Weak	Limited	Limited	
Chlorinated Solvents	Acceptable	Acceptable	
Conductive / Static Dissipative	Yes	Yes	
Continuous Sunlight	Limited	Limited	

Chemical Resistance Properties <i>Hot Water / Steam</i>	Metric <i>Limited</i>	English <i>Limited</i>	Comments
Hydrocarbons - Aliphatic	Acceptable	Acceptable	
Hydrocarbons - Aromatic	Acceptable	Acceptable	
Inorganic Salt Solutions	Acceptable	Acceptable	
Ketones, Esters	Acceptable	Acceptable	

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