

Quadrant EPP Duratron® PAI T4503 Compression Molded, Polyamide-imide, Electrical Grade (ASTM Product Data Sheet)

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

Material Notes:

Order this product through the following link:

http://www.lookpolymers.com/polymer_Quadrant-EPP-Duratron-PAI-T4503-Compression-Molded-Polyamide-imide-Electrical-Grade-ASTM-Product-Data-Sheet.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.40 g/cc	1.40 g/cc	ASTM D792
Water Absorption	0.35 %	0.35 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	1.7 %	1.7 %	Immersion; ASTM D570(2)

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	80	80	ASTM D785
Hardness, Rockwell M	119	119	ASTM D785
Hardness, Shore D	90	90	ASTM D2240
Tensile Strength	124 MPa	18000 psi	ASTM D638
Elongation at Break	5.0 %	5.0 %	ASTM D638
Tensile Modulus	3.45 GPa	500 ksi	ASTM D638
Flexural Strength	165 MPa	24000 psi	ASTM D790
Flexural Modulus	4.14 GPa	600 ksi	ASTM D790
Compressive Strength	124 MPa	18000 psi	10% Def.; ASTM D695
Compressive Modulus	2.41 GPa	350 ksi	ASTM D695
Shear Strength	124 MPa	18000 psi	ASTM D732
Izod Impact, Notched	0.801 J/cm	1.50 ft-lb/in	ASTM D256 Type A
Coefficient of Friction, Dynamic	0.30	0.30	Dry vs. Steel; QTM55007
K (wear) Factor	1010 x 10 ⁻⁸ mm ³ /N-M	500 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr	QTM 55010
Limiting Pressure Velocity	0.140 MPa-m/sec	4000 psi-ft/min	4:1 safety factor; QTM 55007

Thermal Properties	Metric	English	Comments
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Thermal Properties	Metric 27.0 μm/m-°C	English 15.0 μin/in-°F	Comments
CTE, linear	@Temperature -40.0 - 149 °C	@Temperature -40.0 - 300 °F	ASTM E831
Thermal Conductivity	0.259 W/m-K	1.80 BTU-in/hr-ft ² -°F	ASTM F433
Maximum Service Temperature, Air	260 °C	500 °F	Long Term
Deflection Temperature at 1.8 MPa (264 psi)	278 °C	532 °F	ASTM D648
Glass Transition Temp, Tg	275 °C	527 °F	ASTM D3418
Flammability, UL94	V-0	V-0	1/8 inch (Estimated Rating)

Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	>= 1.00e+13 ohm	>= 1.00e+13 ohm	EOS/ESD S11.11
Dielectric Constant	4.2	4.2	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	23.6 kV/mm	600 kV/in	Short Term; ASTM D149
Dissipation Factor	0.031	0.031	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	

Compliance Properties	Metric	English	Comments
3A-Dairy	No	No	
Canada AG	No	No	
FDA	No	No	
NSF	No	No	
USDA	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	

Chemical Resistance Properties <i>Chlorinated Solvents</i>	Metric <i>Acceptable</i>	English <i>Acceptable</i>	Comments
Conductive / Static Dissipative	No	No	
Continuous Sunlight	Limited	Limited	
Hot Water / Steam	Limited	Limited	
Hydrocarbons - Aliphatic	Acceptable	Acceptable	
Hydrocarbons - Aromatic	Acceptable	Acceptable	
Inorganic Salt Solutions	Acceptable	Acceptable	
Ketones, Esters	Acceptable	Acceptable	

Descriptive Properties	Value	Comments
Machinability	6	1-10, 1=Easier to Machine

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