

Quadrant EPP Duratron® PAI T4301 PAI + graphite + PTFE, extruded (ISO Data)

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

Material Notes:

The addition of PTFE and graphite provides higher wear resistance and lower coefficient of friction compared to the unfilled grade as well as a lower tendency to stick-slip. Duratron T4301 PAI also offers excellent dimensional stability over a wide temperature range. This extruded Duratron PAI grade excels in severe wear applications such as non-lubricated bearings, seals, bearing cages and reciprocating compressor parts Very high maximum allowable service temperature in air (250°C continuously) Excellent retention of mechanical strength, stiffness and creep resistance over a wide temperature range Dimensional stability up to 260°C Excellent wear & frictional behaviour (particulary Duratron T4301 & T4501 PAI) Very good UV-resistance Good resistance against high energy radiation (gamma- and X-rays) Inherent low flammability

Order this product through the following link:

http://www.lookpolymers.com/polymer_Quadrant-EPP-Duratron-PAI-T4301-PAI-graphite-PTFE-extruded-ISO-Data.php

Physical Properties	Metric	English	Comments
Density	1.45 g/cc	0.0524 lb/in ³	ISO 1183-1
Moisture Absorption at Equilibrium	1.9 %	1.9 %	50% RH
Water Absorption at Saturation	3.8 %	3.8 %	
Outgassing - Total Mass Loss	1.4 %	1.4 %	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	70	70	ISO 2039-2
Hardness, Shore D	86	86	
Ball Indentation Hardness	200 MPa	29000 psi	ISO 2039-1
Tensile Strength	110 MPa	16000 psi	at Break (NYP); ISO 527-1/-2
Elongation at Break	5.0 %	5.0 %	ISO 527-1/-2
Tensile Modulus	5.50 GPa	798 ksi	ISO 527-1/-2
Flexural Strength	155 MPa	22500 psi	
Compressive Strength	39.0 MPa	5660 psi	ISO 604
	@Strain 1 %	@Strain 1 %	
	72.0 MPa	10400 psi	ISO 604
	@Strain 2 %	@Strain 2 %	
	130 MPa	18900 psi	ISO 604
	@Strain 5 %	@Strain 5 %	

Mechanical Properties K Factor (ISO)	Metric 1.0 µin/km	English 1.0 µin/km	Comments
Charpy Impact Unnotched	4.50 J/cm ²	21.4 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
Coefficient of Friction, Dynamic	0.25 - 0.40	0.25 - 0.40	
Limiting Pressure Velocity	0.690 MPa-m/sec	19700 psi-ft/min	at 1 m/s unlubricated
	1.10 MPa-m/sec	31400 psi-ft/min	at 0.1 m/s unlubricated

Thermal Properties	Metric	English	Comments
CTE, linear	35.0 µm/m-°C @Temperature 23.0 - 100 °C	19.4 µin/in-°F @Temperature 73.4 - 212 °F	
Thermal Conductivity	0.540 W/m-K	3.75 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	250 °C	482 °F	Continuous
Deflection Temperature at 1.8 MPa (264 psi)	280 °C	536 °F	ISO 75-1/-2
Glass Transition Temp, Tg	280 °C	536 °F	DSC, 20°C/min.; ISO 11357-1/-2
Flammability, UL94	V-0	V-0	
Oxygen Index	44 %	44 %	ISO 4589-1/-2

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.0e+13 ohm-cm	>= 1.0e+13 ohm-cm	IEC 60093
Surface Resistivity per Square	>= 1.0e+13 ohm	>= 1.0e+13 ohm	IEC 60093
Dielectric Constant	6.0 @Frequency >=100000 Hz	6.0 @Frequency >=100000 Hz	IEC 60250
Dissipation Factor	0.037 @Frequency 100000 Hz	0.037 @Frequency 100000 Hz	IEC 60250
Comparative Tracking Index	175 V	175 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)	Unacceptable	Unacceptable	
Alkalies, Weak	Limited	Limited	
Chlorinated Solvents	Acceptable	Acceptable	
Continuous Sunlight	Acceptable	Acceptable	
Hot Water / Steam	Limited	Limited	
Hydrocarbons - Aliphatic	Acceptable	Acceptable	
Hydrocarbons - Aromatic	Acceptable	Acceptable	
Inorganic Salt Solutions	Acceptable	Acceptable	
Ketones, Esters	Acceptable	Acceptable	

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