

## Quadrant EPP Duratron® PI D7000 PI, unfilled (ISO Data)

Category : Polymer , Thermoplastic , Polyimide, Thermoplastic

### Material Notes:

Duratron D7000 PI – the basic grade within the Duratron PI family – is made from unfilled polyimide resin and provides maximum physical properties and best electrical and thermal insulation. Good performance at elevated temperature (>425 °C) Good chemical resistance Easily machined from a broad range of shapes - rod, sheet, tubular forms High strength, tough and dimensionally stable

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Quadrant-EPP-Duratron-PI-D7000-PI-unfilled-ISO-Data.php](http://www.lookpolymers.com/polymer_Quadrant-EPP-Duratron-PI-D7000-PI-unfilled-ISO-Data.php)

Physical Properties	Metric	English	Comments
Density	1.38 g/cc	0.0499 lb/in <sup>3</sup>	ISO 1183-1
Moisture Absorption at Equilibrium	2.2 %	2.2 %	50% RH
Water Absorption at Saturation	4.0 %	4.0 %	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	95	95	ISO 2039-2
Hardness, Shore D	90	90	
Ball Indentation Hardness	235 MPa	34100 psi	ISO 2039-1
Tensile Strength	115 MPa	16700 psi	at Break (NYP); ISO 527-1/-2
Elongation at Break	4.0 %	4.0 %	ISO 527-1/-2
Tensile Modulus	3.70 GPa	537 ksi	ISO 527-1/-2
Flexural Strength	185 MPa	26800 psi	
Compressive Strength	35.0 MPa	5080 psi	ISO 604
	@Strain 1 %	@Strain 1 %	
	69.0 MPa	10000 psi	
	@Strain 2 %	@Strain 2 %	ISO 604
	145 MPa	21000 psi	ISO 604
	@Strain 5 %	@Strain 5 %	
K Factor (ISO)	12 µm/km	12 µm/km	
Charpy Impact Unnotched	6.50 J/cm <sup>2</sup>	30.9 ft-lb/in <sup>2</sup>	ISO 179-1/1eU
Charpy Impact, Notched	0.450 J/cm <sup>2</sup>	2.14 ft-lb/in <sup>2</sup>	ISO 179-1/1eA

Coefficient of Friction, Dynamic Mechanical Properties	0.30 - 0.50 Metric	0.30 - 0.50 English	Comments
Limiting Pressure Velocity	0.380 MPa-m/sec	10800 psi-ft/min	at 1 m/s unlubricated
	1.04 MPa-m/sec	29700 psi-ft/min	at 0.1 m/s unlubricated

Thermal Properties	Metric	English	Comments
CTE, linear	40.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	22.2 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
	@Temperature 23.0 - 100 $^\circ\text{C}$	@Temperature 73.4 - 212 $^\circ\text{F}$	
Thermal Conductivity	0.220 W/m-K	1.53 BTU-in/hr-ft <sup>2</sup> - $^\circ\text{F}$	
Maximum Service Temperature, Air	240 $^\circ\text{C}$	464 $^\circ\text{F}$	Continuous
Deflection Temperature at 1.8 MPa (264 psi)	355 $^\circ\text{C}$	671 $^\circ\text{F}$	ISO 75-1/-2
Glass Transition Temp, Tg	365 $^\circ\text{C}$	689 $^\circ\text{F}$	DSC, 20 $^\circ\text{C}/\text{min}$ .; ISO 11357-1/-2
Flammability, UL94	V-0	V-0	
Oxygen Index	51 %	51 %	ISO 4589-1/-2

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.0\text{e}+14$ ohm-cm	$\geq 1.0\text{e}+14$ ohm-cm	IEC 60093
Surface Resistivity per Square	$\geq 1.0\text{e}+13$ ohm	$\geq 1.0\text{e}+13$ ohm	IEC 60093
Dielectric Constant	3.4	3.4	IEC 60250
	@Frequency $\geq 100000$ Hz	@Frequency $\geq 100000$ Hz	
Dielectric Strength	28.0 kV/mm	711 kV/in	
Dissipation Factor	0.0060	0.0060	IEC 60250
	@Frequency 100000 Hz	@Frequency 100000 Hz	
Comparative Tracking Index	125 V	125 V	IEC 60112

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	
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	

## Contact Songhan Plastic Technology Co.,Ltd.

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