

Performance Polymers IPS II PPL-A1050 PEKK (Polyetherketoneketone) Branched Standard Grade

Category : Polymer , Thermoplastic , Polyketone , PEKK, Unreinforced

Material Notes:

Amber pellets; neat resin Information provided by Infinite Polymer System II.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Performance-Polymers-IPS-II-PPL-A1050-PEKK-Polyetherketoneketone-Branched-Standard-Grade.php

Physical Properties	Metric	English	Comments
Density	1.28 g/cc	0.0462 lb/in ³	ASTM D792
Water Absorption	<= 0.20 %	<= 0.20 %	24 hr; ASTM D570
Linear Mold Shrinkage	0.0050 cm/cm	0.0050 in/in	
Melt Flow	40 g/10 min @Load 8.40 kg, Temperature 360 °C	40 g/10 min @Load 18.5 lb, Temperature 680 °F	
Crystallinity	0.00 %	0.00 %	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	86	86	ASTM D785
Tensile Strength at Break	90.0 MPa	13100 psi	ASTM D638
Elongation at Break	80 %	80 %	ASTM D638
Modulus of Elasticity	3.40 GPa	493 ksi	ASTM D638
Flexural Yield Strength	138 MPa	20000 psi	ASTM D790
Flexural Modulus	3.40 GPa	493 ksi	ASTM D790
Compressive Yield Strength	103 MPa	14900 psi	ASTM D695
Poissons Ratio	0.45	0.45	
Shear Modulus	1.17 GPa	170 ksi	Calculated
Izod Impact, Notched	0.500 J/cm @Thickness 3.17 mm	0.937 ft-lb/in @Thickness 0.125 in	ASTM D256
Gardner Impact	>= 36.2 J	>= 26.7 ft-lb	
Coefficient of Friction	0.186	0.186	ASTM D1894

Coefficient of Friction, Static Mechanical Properties	0.285 Metric	0.285 English	ASTM D1894 Comments
Thermal Properties	Metric	English	Comments
CTE, linear	77.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	42.8 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	Below glass transition temp; ASTM D696
Thermal Conductivity	0.250 W/m-K	1.74 BTU-in/hr-ft ² -°F	ASTM C177
Melting Point	306 °C	583 °F	DSC
Maximum Service Temperature, Air	250 °C	482 °F	UL Continuous Use Temp.
Deflection Temperature at 1.8 MPa (264 psi)	141 °C	286 °F	ASTM D648
Glass Transition Temp, Tg	155 °C	311 °F	DSC
Flammability, UL94	V-0	V-0	
NBS Smoke Density	<= 10	<= 10	
Oxygen Index	40 %	40 %	ASTM D2863

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+16 ohm-cm	1.00e+16 ohm-cm	ASTM D257
Surface Resistance	2.00e+16 ohm	2.00e+16 ohm	ASTM D257
Dielectric Constant	3.3 @Frequency 1000 Hz	3.3 @Frequency 1000 Hz	ASTM D150
Dielectric Strength	23.6 kV/mm	599 kV/in	ASTM D149
Dissipation Factor	0.0040 @Frequency 1000 Hz	0.0040 @Frequency 1000 Hz	ASTM D150

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