

Quantum PEEK

Category : Polymer , Thermoplastic , Polyketone , Polyetheretherketone (PEEK)

Material Notes:

Information provided by Quantum Advanced Engineering Plastics

Order this product through the following link:

http://www.lookpolymers.com/polymer_Quantum-PEEK.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.32 g/cc	1.32 g/cc	ASTM D792
Water Absorption	0.10 %	0.10 %	ASTM D570
Water Absorption at Saturation	0.50 %	0.50 %	ASTM D570

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	110	110	ASTM D785
Hardness, Rockwell R	126	126	ASTM D785
Hardness, Shore D	87	87	ASTM 2240
Tensile Strength	96.5 MPa	14000 psi	ASTM D638
Elongation at Break	20 %	20 %	ASTM D638
Tensile Modulus	3.45 GPa	500 ksi	ASTM D638
Flexural Strength	172 MPa	25000 psi	ASTM D790
Flexural Modulus	3.79 GPa	550 ksi	ASTM D790
Compressive Strength	117 MPa	17000 psi	ASTM D695
Compressive Modulus	3.45 GPa	500 ksi	ASTM D695
Shear Strength	53.1 MPa	7700 psi	ASTM D732
Izod Impact, Notched	0.854 J/cm	1.60 ft-lb/in	ASTM D256
Coefficient of Friction	0.40	0.40	

Thermal Properties	Metric	English	Comments
CTE, linear	46.8 $\mu\text{m/m-}^{\circ}\text{C}$	26.0 $\mu\text{in/in-}^{\circ}\text{F}$	ASTM D696
Thermal Conductivity	0.251 W/m-K	1.74 BTU-in/hr-ft ² -°F	ASTM C177
Melting Point	332 $^{\circ}\text{C}$	630 $^{\circ}\text{F}$	ASTM D3417

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	182 °C	360 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	160 °C	320 °F	ASTM D648
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	ASTM D257
Dielectric Constant	3.3	3.3	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	18.9 kV/mm	480 kV/in	ASTM D149
Dissipation Factor	0.0030	0.0030	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Descriptive Properties	Value	Comments
FDA Compliance	yes	

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