

Mitsubishi Chemical Advanced Materials Ketron® 1000 IM Injection Molded Unfilled Polyetheretherketone (ASTM Product Data Sheet)

Categories: Polymer; Thermoplastic; Polyketone; Polyetheretherketone (PEEK); Polyetheretherketone, PEEK, Unreinforced

- Material Notes:**
- 1 Excellent chemical resistance
 - 1 Very low moisture absorption
 - 1 Inherently good wear and abrasion resistance
 - 1 Unaffected by continuous exposure to hot water or steam

Quadrant Engineering Plastic Products is now Mitsubishi Chemical Advanced Materials.

Physical Properties	Metric	English	Comments
Specific Gravity	1.31 g/cc	1.31 g/cc	ASTM D792
Water Absorption	0.10 %	0.10 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	0.50 %	0.50 %	ASTM D 570(2)

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	107	107	ASTM D785
Hardness, Rockwell R	127	127	ASTM D785
Hardness, Shore D	88	88	ASTM D2240
Tensile Strength	110 MPa	16000 psi	ASTM D638
Elongation at Break	40 %	40 %	ASTM D638
Tensile Modulus	4.14 GPa	600 ksi	ASTM D638
Flexural Strength	159 MPa	23000 psi	ASTM D790
Flexural Modulus	4.14 GPa	600 ksi	ASTM D790
Compressive Strength	138 MPa	20000 psi	10% Def.; ASTM D695
Compressive Modulus	2.93 GPa	425 ksi	ASTM D695
Izod Impact, Notched	0.21 J/cm	0.40 ft-lb/in	ASTM D256 Type A
Coefficient of Friction, Dynamic	0.32	0.32	Dry vs. Steel; QTM55007
K (wear) Factor	755 x 10 ⁻⁹ mm ³ /N-M	375 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr	QTM 55010
Limiting Pressure Velocity	0.298 MPa-m/sec	8500 psi-ft/min	4:1 safety factor; QTM 55007

Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	>= 1e+13 ohm	>= 1e+13 ohm	ASTM D257
Dielectric Constant	3.3 @Frequency 1e+6 Hz	3.3 @Frequency 1e+6 Hz	ASTM D150
Dielectric Strength	18.9 kV/mm	480 kV/in	Short Term; ASTM D149
Dissipation Factor	0.003 @Frequency 1e+6 Hz	0.003 @Frequency 1e+6 Hz	ASTM D150

Thermal Properties	Metric	English	Comments
CTE, linear	46.8 µm/m-°C @Temperature -40.0 - 150 °C	26.0 µin/in-°F @Temperature -40.0 - 302 °F	ASTM E831
Thermal Conductivity	0.252 W/m-K	1.75 BTU-in/hr-ft ² -°F	ASTM E1530-11
Melting Point	340 °C	644 °F	Crystalline, Peak; ASTM D3418
Maximum Service Temperature, Air	249 °C	480 °F	Long Term
Deflection Temperature at 1.8 MPa (264 psi)	160 °C	320 °F	ASTM D648
Flammability, UL94	V-0 @Thickness 3.17 mm	V-0 @Thickness 0.125 in	Estimated Rating



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