

Mitsubishi Chemical Advanced Materials Ketron® HPV PEEK High Pressure Velocity Polyetherether Ketone (ASTM Product Data Sheet)
Categories: Polymer; Thermoplastic; Polyketone; Polyetheretherketone (PEEK)

Material Notes: This bearing grade of extruded Ketron PEEK offers the lowest coefficient of friction and best machinability of all Ketron grades. It is ideal for low wear, high PV parts that require chemical resistance.

- 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	1.44 g/cc @Temperature 22.8 °C	1.44 g/cc @Temperature 73.0 °F	ASTM D792
Water Absorption	0.050 %	0.050 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	0.30 %	0.30 %	ASTM D570
Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	85	85	ASTM D785
Tensile Strength	75.8 MPa @Temperature 22.8 °C	11000 psi @Temperature 73.0 °F	ASTM D638
Tensile Strength at 150°C (300°F)	8.27 MPa	1200 psi	ASTM D638
Tensile Strength at 65°C (150°F)	62.1 MPa	9000 psi	ASTM D638
Elongation at Break	2.0 %	2.0 %	ASTM D638
Tensile Modulus	5.86 GPa @Temperature 22.8 °C	850 ksi @Temperature 73.0 °F	ASTM D638
Flexural Strength	190 MPa @Temperature 22.8 °C	27500 psi @Temperature 73.0 °F	ASTM D790
Flexural Modulus	7.58 GPa @Temperature 22.8 °C	1100 ksi @Temperature 73.0 °F	ASTM D790
Compressive Strength	138 MPa @Strain 10.0 %, Temperature 22.8 °C	20000 psi @Strain 10.0 %, Temperature 73.0 °F	ASTM D695
Compressive Modulus	3.45 GPa @Temperature 22.8 °C	500 ksi @Temperature 73.0 °F	ASTM D695
Shear Strength	68.9 MPa @Temperature 22.8 °C	10000 psi @Temperature 73.0 °F	ASTM D732
Izod Impact, Notched	0.374 J/cm	0.700 ft-lb/in	ASTM D256 Type A
Coefficient of Friction, Dynamic	0.21	0.21	Dry vs. Steel; QTM 55007
K (wear) Factor	201 x 10 ⁻⁸ mm ³ /N-M	100 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr	QTM 55010
Limiting Pressure Velocity	0.701 MPa-m/sec	20000 psi-ft/min	4:1 safety factor; QTM 55007
Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	<= 10000 ohm	<= 10000 ohm	EOS/ESD S11.11
Thermal Properties	Metric	English	Comments
CTE, linear	30.6 µm/m-°C @Temperature -40.0 - 149 °C	17.0 µin/in-°F @Temperature -40.0 - 300 °F	ASTM E831
Thermal Conductivity	0.245 W/m-K	1.70 BTU-in/hr-ft ² -°F	ASTM F433
Melting Point	340 °C	644 °F	Crystalline, Peak; ASTM D3418
Maximum Service Temperature, Air	250 °C	482 °F	Long Term
Deflection Temperature at 1.8 MPa (264 psi)	195 °C	383 °F	ASTM D648
Flammability, UL94	V-0 @Thickness 3.17 mm	V-0 @Thickness 0.125 in	Estimated Rating
Compliance Properties	Metric	English	Comments
3A-Dairy	No	No	
Canada AG	No	No	
FDA	No	No	
NSF	No	No	
USDA	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)	Acceptable	Acceptable	
Alkalies, Weak	Acceptable	Acceptable	
Chlorinated Solvents	Acceptable	Acceptable	
Conductive / Static Dissipative	Yes	Yes	
Continuous Sunlight	Acceptable	Acceptable	
Hot Water / Steam	Acceptable	Acceptable	
Hydrocarbons - Aliphatic	Acceptable	Acceptable	
Hydrocarbons - Aromatic	Acceptable	Acceptable	
Inorganic Salt Solutions	Acceptable	Acceptable	
Ketones, Esters	Acceptable	Acceptable	

Descriptive Properties

Color		Natural	
Machinability		7	1-10, 1=Easier to Machine



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