

**Ketron® PEEK-HPV****Polyetheretherketone; PTFE, Graphite, and Carbon Fiber Filled Bearing Grade**

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.

MECHANICAL PROPERTIES	ENGLISH VALUES	COMMENTS	METRIC VALUES
Specific Gravity	1.44	ASTM D792	1.44
Tensile Strength, psi	11000	ASTM D638	76 MPa
Tensile Modulus, psi	850000	ASTM D638	5,861 MPa
Elongation, %	2	ASTM D638	2 %
Flexural Strength, psi	27500	ASTM D790	190 MPa
Flexural Modulus, psi	1100000	ASTM D790	7,585 MPa
Compressive Strength, psi	26700	ASTM D695, 10% Def.	184 MPa
Compressive Modulus, psi	1000000	ASTM D695	6,895 MPa
Hardness, Rockwell M	85	ASTM D785	85
Izod Impact (Notched), ft-lb/in	0.7	ASTM D256 Type A	37 J/m
Coefficient of Friction, Dynamic	0.21	Dry vs. Steel, PTM55007	0.21
Limiting PV, psi-fpm	35000	PTM55007	1.2 MPa-m/sec
k (wear) factor, 10 ⁻¹⁰ in ³ -min/lb-ft-hr	100	PTM55007	100 10 ⁻¹⁰ in ³ -min/lb-ft-hr
THERMAL PROPERTIES	ENGLISH VALUES	COMMENTS	METRIC VALUES
Coefficient of Thermal Expansion, 10E-4/°F	0.17	ASTM E831 (TMA)	0.31 10 ⁻⁴ /K
Deflection Temperature 264 psi, °F	383	ASTM D648	195 °C
Melting Point (Crystalline) Peak, °F	644	ASTM D3418	340 °C
Tg-Glass Transition (Amorphous), °F	289	ASTM D3418	143 °C
Continuous Service in Air (Max), °F	482	Without Load	250 °C
Thermal Conductivity, BTU-in/hr-ft ² -°F	1.7		0.24 W/m-K
ELECTRICAL PROPERTIES	VALUES	COMMENTS	METRIC VALUES
Surface Resistance, Ohm/Square	10000	EOS/ESD S11.11	10000 Ohm/Square
CHEMICAL PROPERTIES	ENGLISH VALUES	COMMENTS	METRIC VALUES
Water Absorption Immersion, 24 hr., %	0.05	ASTM D570	0.05 %
Water Absorption Immersion Sat, %	0.3	ASTM D570	0.3 %
Acids, Weak (acetic, dilute HCl)	3	Acceptable Service	3
Acids, Strong (conc. HCl or sulfuric)	2	Limited Service	2
Alkalies, Weak (dilute NaOH)	3	Acceptable Service	3
Alkalies, Strong (conc. NaOH)	3	Acceptable Service	3
Hydrocarbons, Aromatic (toluene)	3	Acceptable Service	3
Hydrocarbons, Aliphatic (gasoline)	3	Acceptable Service	3
Ketones, Esters (acetone)	3	Acceptable Service	3
Ethers (diethyl ether, THF)	3	Acceptable Service	3
Chlorinated Solvents (methylene chloride)	3	Acceptable Service	3
Alcohols (methanol, anti-freeze)	3	Acceptable Service	3
Inorganic Salt Solutions (NaCl, KCl)	3	Acceptable Service	3

Continuous Sunlight	3	Acceptable Service	3
Steam	3	Acceptable Service	3
COMPLIANCE	ENGLISH VALUES	COMMENTS	METRIC VALUES
Flammability, UL94 (5=V-0; 4=V-1; 3=V-2; 1=HB)	5 (V-0)	UL94	5
FDA (1=Yes)	0	Not Compliant	0
USDA (1=Yes)	0	Not Compliant	0
NSF (1=Yes)	0	Not Compliant	0
3A-Dairy (1=Yes)	0	Not Compliant	0
Canada AG (1=Yes)	0	Not Compliant	0
USP Class VI (1=Yes)	0	Not Compliant	0

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