



# LEHIGH VALLEY PLASTICS

We Shape The Industry

## Ketron® PEEK 1000 Polyetheretherketone, unfilled, extruded

MECHANICAL PROPERTIES	ENGLISH VALUES	COMMENTS	METRIC VALUES
Specific Gravity	1.31	ASTM D792	1.31
Tensile Strength, psi	16000	ASTM D638	110 MPa
Tensile Modulus, psi	630000	ASTM D638	4,344 MPa
Elongation, %	40	ASTM D638	40 %
Flexural Strength, psi	25000	ASTM D790	172 MPa
Flexural Modulus, psi	600000	ASTM D790	4,137 MPa
Shear Strength, psi	8000	ASTM D732	55 MPa
Compressive Strength, psi	20000	ASTM D695, 10% Def.	138 MPa
Compressive Modulus, psi	500000	ASTM D695	3,448 MPa
Hardness, Rockwell M	100	ASTM D785	100
Hardness, Rockwell R	126	ASTM D785	126
Hardness, Durometer, Shore D Scale	85	ASTM D2240	85
Izod Impact (Notched), ft-lb/in	1	ASTM D256 Type A	53 J/m
Coefficient of Friction, Dynamic	0.4	Dry vs. Steel, QTM55007	0.4
Limiting PV, psi-fpm	8500	4:1 safety factor; QTM 55007	0.30 MPa-m/sec
k (wear) factor, 10 <sup>-10</sup> in <sup>3</sup> -min/lb-ft-hr	375	QTM 55010	375 10 <sup>-10</sup> in <sup>3</sup> -min/lb-ft-hr
Relative Machinability	5	1-10, 1=Easier to Machine	5
THERMAL PROPERTIES	ENGLISH VALUES	COMMENTS	METRIC VALUES
Coefficient of Thermal Expansion, 10E-4/°F	0.26	ASTM E831 (-40°F to 300°F)	0.47 10 <sup>-4</sup> /K
Deflection Temperature 264 psi, °F	320	ASTM D648	160 °C
Melting Point (Crystalline) Peak, °F	644	ASTM D3418	340 °C
Continuous Service in Air (Max), °F	480	Long Term	249 °C
Thermal Conductivity, BTU-in/hr-ft <sup>2</sup> -°F	1.75	ASTM F433	0.25 W/m-K
ELECTRICAL PROPERTIES	VALUES	COMMENTS	METRIC VALUES
Dielectric Strength, Short Term, Volts/mil	480	ASTM D149	19 kV/mm
Surface Resistance, Ohm/Square	1E+13	Lower Limit; EOS/ESD S11.11	1E+13 Ohm/Square
Dielectric Constant, 1 MHz	3.3	ASTM D150	3.3
Dissipation Factor, 1 MHz	0.003	ASTM D150	0.003
CHEMICAL PROPERTIES	ENGLISH VALUES	COMMENTS	METRIC VALUES
Water Absorption Immersion, 24 hr., %	0.1	ASTM D570(2)	0.1 %
Water Absorption Immersion Sat, %	0.5	ASTM D570(2)	0.5 %
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
Continuous Sunlight	2	Limited Service	2
COMPLIANCE	ENGLISH VALUES	COMMENTS	METRIC VALUES
Flammability, UL94 (5=V-0; 4=V-1; 3=V-2; 1=HB)5 (V-0)		UL94; 1/8 inch	5
FDA (1=Yes)	1	Compliant	1

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