



LEHIGH VALLEY PLASTICS

We Shape The Industry

Ultem® 1000 PEI, Polyetherimide, unfilled, extruded

MECHANICAL PROPERTIES	ENGLISH VALUES	COMMENTS	METRIC VALUES
Specific Gravity	1.28	ASTM D792	1.28
Tensile Strength, psi	16500	ASTM D638	114 MPa
Tensile Modulus, psi	500000	ASTM D638	3,448 MPa
Elongation, %	80	ASTM D638	80 %
Flexural Strength, psi	20000	ASTM D790	138 MPa
Flexural Modulus, psi	500000	ASTM D790	3,448 MPa
Shear Strength, psi	15000	ASTM D732	103 MPa
Compressive Strength, psi	22000	ASTM D695, 10% Def.	152 MPa
Compressive Modulus, psi	480000	ASTM D695	3,310 MPa
Hardness, Rockwell M	112	ASTM D785	112
Hardness, Rockwell R	125	ASTM D785	125
Hardness, Durometer, Shore D Scale	86	ASTM D2240	86
Izod Impact (Notched), ft-lb/in	0.5	ASTM D256 Type A	27 J/m
Coefficient of Friction, Dynamic	0.42	Dry vs. Steel, QTM55007	0.42
Limiting PV, psi-fpm	1875	4:1 safety factor; QTM 55007	0.07 MPa-m/sec
k (wear) factor, 10 ⁻¹⁰ in ³ -min/lb-ft-hr	2900	QTM 55010	2900 10 ⁻¹⁰ in ³ -min/lb-ft-hr
Relative Machinability	3	1-10, 1=Easier to Machine	3
THERMAL PROPERTIES	ENGLISH VALUES	COMMENTS	METRIC VALUES
Coefficient of Thermal Expansion, 10E-4/°F	0.31	ASTM E831 (-40°F to 300°F)	0.56 10 ⁻⁴ /K
Deflection Temperature 264 psi, °F	400	ASTM D648	204 °C
Tg-Glass Transition (Amorphous), °F	410	ASTM D3418	210 °C
Continuous Service in Air (Max), °F	340	Long Term	171 °C
Thermal Conductivity, BTU-in/hr-ft ² -°F	0.85	ASTM F433	0.12 W/m-K
ELECTRICAL PROPERTIES	VALUES	COMMENTS	METRIC VALUES
Dielectric Strength, Short Term, Volts/mil	830	ASTM D149	33 kV/mm
Surface Resistance, Ohm/Square	1E+13	Lower Limit; EOS/ESD S11.111E+13 Ohm/Square	
Dielectric Constant, 1 MHz	3.15	ASTM D150	3.15
Dissipation Factor, 1 MHz	0.0013	ASTM D150	0.0013
CHEMICAL PROPERTIES	ENGLISH VALUES	COMMENTS	METRIC VALUES
Water Absorption Immersion, 24 hr., %	0.25	ASTM D570(2)	0.25 %
Water Absorption Immersion Sat, %	1.25	ASTM D570(2)	1.25 %
Acids, Weak (acetic, dilute HCl)	3	Acceptable Service	3
Acids, Strong (conc. HCl or sulfuric)	1	Unacceptable	1
Alkalies, Weak (dilute NaOH)	3	Acceptable Service	3
Alkalies, Strong (conc. NaOH)	1	Unacceptable	1
Hydrocarbons, Aromatic (toluene)	1	Unacceptable	1
Hydrocarbons, Aliphatic (gasoline)	2	Limited Service	2
Ketones, Esters (acetone)	1	Unacceptable	1
Ethers (diethyl ether, THF)	3	Acceptable Service	3
Chlorinated Solvents (methylene chloride)	1	Unacceptable	1
Alcohols (methanol, anti-freeze)	3	Acceptable Service	3
Continuous Sunlight	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; 1/8 inch	5
FDA (1=Yes)	1	Compliant	1

IMPORTANT: The information contained herein is believed to be reliable, but no representations, guarantees or warranties of any kind are made as to its accuracy, suitability for particular applications or the results to be obtained therefrom. Lehigh Valley Plastics, Inc. will not be held responsible for the use of this information relative to actual application.