



LEHIGH VALLEY PLASTICS

We Shape The Industry

Delrin® Acetal, homopolymer, unfilled, extruded

MECHANICAL PROPERTIES	ENGLISH VALUES	COMMENTS	METRIC VALUES
Specific Gravity	1.41	ASTM D792	1.41
Tensile Strength, psi	11000	ASTM D638	76 MPa
Tensile Modulus, psi	450000	ASTM D638	3,103 MPa
Elongation, %	30	ASTM D638	30 %
Flexural Strength, psi	13000	ASTM D790	90 MPa
Flexural Modulus, psi	450000	ASTM D790	3,103 MPa
Shear Strength, psi	9000	ASTM D732	62 MPa
Compressive Strength, psi	16000	ASTM D695, 10% Def.	110 MPa
Compressive Modulus, psi	450000	ASTM D695	3,103 MPa
Hardness, Rockwell M	89	ASTM D785	89
Hardness, Rockwell R	122	ASTM D785	122
Hardness, Durometer, Shore D Scale	86	ASTM D2240	86
Izod Impact (Notched), ft-lb/in	1	ASTM D256 Type A	53 J/m
Coefficient of Friction, Dynamic	0.25	Dry vs. Steel, QTM55007	0.25
Limiting PV, psi-fpm	2700	4:1 safety factor; QTM 55007	0.09 MPa-m/sec
k (wear) factor, 10 ⁻¹⁰ in ³ -min/lb-ft-hr	200	QTM 55010	200 10 ⁻¹⁰ in ³ -min/lb-ft-hr
Relative Machinability	1	1-10, 1=Easier to Machine	1
THERMAL PROPERTIES	ENGLISH VALUES	COMMENTS	METRIC VALUES
Coefficient of Thermal Expansion, 10E-4/°F	0.47	ASTM E831 (-40°F to 300°F)	0.85 10 ⁻⁴ /K
Deflection Temperature 264 psi, °F	250	ASTM D648	121 °C
Melting Point (Crystalline) Peak, °F	347	ASTM D3418	175 °C
Continuous Service in Air (Max), °F	180	Long Term	82 °C
Thermal Conductivity, BTU-in/hr-ft ² -°F	2.5	ASTM F433	0.36 W/m-K
ELECTRICAL PROPERTIES	VALUES	COMMENTS	METRIC VALUES
Dielectric Strength, Short Term, Volts/mil	450	ASTM D149	18 kV/mm
Surface Resistance, Ohm/Square	1E+13	Lower Limit; EOS/ESD S11.111E+13 Ohm/Square	1E+13 Ohm/Square
Dielectric Constant, 1 MHz	3.7	ASTM D150	3.7
Dissipation Factor, 1 MHz	0.005	ASTM D150	0.005
CHEMICAL PROPERTIES	ENGLISH VALUES	COMMENTS	METRIC VALUES
Water Absorption Immersion, 24 hr., %	0.2	ASTM D570(2)	0.2 %
Water Absorption Immersion Sat, %	0.9	ASTM D570(2)	0.9 %
Acids, Weak (acetic, dilute HCl)	2	Limited Service	2
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)	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)	2	Limited Service	2
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)	1 (HB)	UL94; 1/8 inch	1
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.