



LEHIGH VALLEY PLASTICS

We Shape The Industry

Nylon 101, Unfilled, Type 66 nylon, extruded

MECHANICAL PROPERTIES	ENGLISH VALUES	COMMENTS	METRIC VALUES
Specific Gravity	1.15	ASTM D792	1.15
Tensile Strength, psi	12000	ASTM D638	83 MPa
Tensile Modulus, psi	425000	ASTM D638	2,930 MPa
Elongation, %	50	ASTM D638	50 %
Flexural Strength, psi	15000	ASTM D790	103 MPa
Flexural Modulus, psi	450000	ASTM D790	3,103 MPa
Shear Strength, psi	10000	ASTM D732	69 MPa
Compressive Strength, psi	12500	ASTM D695, 10% Def.	86 MPa
Compressive Modulus, psi	420000	ASTM D695	2,896 MPa
Hardness, Rockwell M	85	ASTM D785	85
Hardness, Rockwell R	115	ASTM D785	115
Hardness, Durometer, Shore D Scale	80	ASTM D2240	80
Izod Impact (Notched), ft-lb/in	0.6	ASTM D256 Type A	32 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	80	QTM 55010	80 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	0.55	ASTM E831 (-40°F to 300°F)	0.99 10 ⁻⁴ /K
Deflection Temperature 264 psi, °F	200	ASTM D648	93 °C
Melting Point (Crystalline) Peak, °F	500	ASTM D3418	260 °C
Continuous Service in Air (Max), °F	210	Long Term	99 °C
Thermal Conductivity, BTU-in/hr-ft ² -°F	1.7	ASTM F433	0.24 W/m-K
ELECTRICAL PROPERTIES	VALUES	COMMENTS	METRIC VALUES
Dielectric Strength, Short Term, Volts/mil	400	ASTM D149	16 kV/mm
Surface Resistance, Ohm/Square	1E+13	Lower Limit; EOS/ESD S11.111E+13 Ohm/Square	
Dielectric Constant, 1 MHz	3.6	ASTM D150	3.6
Dissipation Factor, 1 MHz	0.02	ASTM D150	0.02
CHEMICAL PROPERTIES	ENGLISH VALUES	COMMENTS	METRIC VALUES
Water Absorption Immersion, 24 hr., %	0.3	ASTM D570(2)	0.3 %
Water Absorption Immersion Sat, %	7	ASTM D570(2)	7 %
Acids, Weak (acetic, dilute HCl)	2	Limited Service	2
Acids, Strong (conc. HCl or sulfuric)	1	Unacceptable	1
Alkalies, Weak (dilute NaOH)	2	Limited Service	2
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)	2	Limited Service	2
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)	3 (V-2)	UL94; 1/8 inch	3
FDA (1=Yes)	1	Compliant	1

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