

General Information

Chemical Designation:	<i>Polycarbonate PC 1000 is a transparent thermoplastic that exhibits extraordinary impact resistance and strength. Commonly known as Lexan or Hyzod, this material exhibits excellent electrical properties. Its visual clarity, low moisture absorption rate and good chemical resistance make it an extremely versatile as an engineering material and allows it to be used in a multitude of industrial applications.</i>
<i>Polycarbonate</i>	
Fillers:	<i>Polycarbonate PC 1000 is a mechanical grade material available in several sizes of rod and sheet. When polished, it has a light transmittance of approximately 88% and is stress relieved making it ideal for close tolerance machined parts. Machined with conventional metal working equipment, tolerances to +/- .001 can be achieved with experience.</i>
<i>Unfilled</i>	
Color:	
<i>Transparent</i>	
Specific Gravity:	
1.2	

Technical Information

Specification	Test	Value	Units
Specific Gravity, 73°F	D792	1.2	-
Tensile Strength @ Yield, 73°F	D638	10,500	psi
Tensile Modulus of Elasticity, 73°F	D638	320,000	psi
Tensile Elongation (at break), 73°F	D638	100	%
Flexural Strength, 73°F	D790	13,000	psi
Flexural Modulus of Elasticity	D790	350,000	psi
Shear Strength, 73°F	D732	9,200	psi
Compressive Strength – Ultimate			psi
Compressive Strength at 2% Deformation	D695		psi
Compressive Strength at 10% Deformation	D695	11,500	psi
Deformation Under Load			%
Compressive Modulus of Elasticity, 73°F	D695	300,000	
Compressive Strength to Laminate (Modulus)			psi
Compressive Strength to Laminate (Yield)			psi
Compressive Strength to Laminate (Ultimate)			psi
Hardness, Durometer (Shore "D" scale)	D2240	D80	
Hardness, Rockwell (Scale as noted)	D785	M75 (R126)	Rockwell M
Izod Impact, Notched @ 73°F	D256 Type A	1.5	ft.lbs/in. of notch
Coefficient of Friction (Dry vs Steel) Static	PTM55007		
Coefficient of Friction (Dry vs Steel) Dynamic	PTM55007	-	
Maximum Static Bearing Load (P)	PTM55007		psi
Maximum Unlubricated No Load Bearing Velocity (V)	PTM55007		ft/minute
Maximum Limiting PV (Unlubricated)	PTM55007	-	psi x ft/min.
Wear Factor "K" x 10-10	PTM55010	-	Cubic in.-min/ft.lbs.hr
Sand Wheel Wear/Abrasion Test			UHMW=100
Minimum Mating Surface Hardness			Rockwell (Brinnell)
Coefficient of Linear Thermal Expansion	E-831(TMA)	3.9	in/in/°F x 10-5
Coefficient of Thermal Expansion // to Laminates	E-831(TMA)	3.9	in/in/°F x 10-5
Coefficient of Thermal Expansion I to Laminates	E-831(TMA)	3.9	in/in/°F x 10-5
Softening Point			°F
Heat Deflection Temperature 264 psi	D648	290	°F
Embrittlement Temperature			°F Min.
Continuous Service Temperature in Air		250	°F Max.
Short Term Service Temperature			°F Max.
Tg-Glass Transition (Amorphous)	D3418	293	°F
Melting Point (Crystalline) Peak	D3418	N/A	°F
Thermal Conductivity	F433	1.29	BTU-in/(hr/ft2°F)
Dielectric Strength Short Term	D149	400	Volts/mil
Surface Resistivity	D257	>1013	ohm/cm
Volume Resistivity	D257		ohm/cm
Dielectric Constant, 106 Hz	D150	3.17	
Dissipation Factor, 106 Hz	D150	0.0009	
Flammability @ 3.1mm(1/8 in.) UL94	UL94	HB	
Arc Resistance			seconds
Water Absorption, Immersion 24 Hours	D570 (2)	0.2	%
Water Absorption, Immersion Saturation	D570 (2)	0.4	%
Machinability Rating		1	1=easy, 10=difficult
Rod Diameter Availability (Off the Shelf)		.062-6.0	inches
Sheet Thickness Availability (Off the Shelf)		.062-2.5	inches
Characteristics / Attributes		High Impact Strength / Easily Machined / Clarity	

Thank you for your interest in our materials. All statements, technical information and recommendations presented are in good faith, based upon tests believed to be reliable and practical field experience. Poly-Tech is not responsible for its accuracy or completeness. It is our recommendation and the customer's responsibility to determine the suitability of any material for any given application.