



MANUFACTURING CORPORATION

- Plastics Machining
- Spring Energized Seals
- Rotary Lip Seals

Material Data Sheet

Material: PC 1000 Polycarbonate | Amorphous Polycarbonate

PC 1000 machine grade polycarbonate (PC) is a transparent amorphous thermoplastic which offers very high impact strength and high modulus of elasticity. The material has a 290°F (145°C) heat deflection temperature at 264 psi, absorbs very little moisture and resists acidic solutions. These properties, in addition to good electrical characteristics, make PC 1000 machine grade polycarbonate stock shapes an excellent choice for electrical/electronic applications. Its strength, impact resistance and transparency also make it an ideal material for certain transparent structural applications such as sight glasses and windows. PC 1000 machine grade polycarbonate is stress relieved making it ideal for close tolerance machined parts. Our stock shapes are produced from polycarbonate resins which meet the requirements of ASTM D 3935. A food grade polycarbonate that is compliant with FDA and Canada AG regulations is available upon request.

Mechanical Properties	Test Method ASTM	Value	Units
Specific Gravity, 73°F	D792	1.2	
Tensile Strength, 73°F	D638	10,500	psi
Tensile Modulus of Elasticity, °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, 73°F	D790	350,000	psi
Shear Strength, 73°F	D732	9,200	psi
Compressive Strength, 10% Deformation, 73°F	D695	11,500	psi
Compressive Modulus of Elasticity, 73°F	D695	300,000	psi
Hardness, Rockwell, Scale as noted, 73°F	D785	M75 (R126)	
Hardness, Durometer, Shore "D" Scale, 73°F	D2240	D80	
Izod Impact (notched), 73°F	D256 Type A	1.5	ft-lb/in of notch
Coefficient of Friction (Dry vs. Steel) Dynamic	QTM 55007		
Limiting PV (with 4:1 safety factor applied)	QTM 55007		ft.lbs./in. ² min
Wear Factor "k" x 10 ⁻¹⁰	QTM 55010		in. ³ -min/ft.lbs.hr
Thermal Properties			
Coefficient of Linear Thermal Expansion (-40°F to 300°F)	E-831 (TMA)	3.9 x 10 ⁻⁵	in/in./°F
Heat Deflection Temperature 264 psi	D648	290	°F
TG-Glass transition (amorphous)	D3418	293	°F
Melting Point (Crystalline) peak	D3418	N/A	°F
Continuous Service Temperature in Air (Max.) (1)		250	°F
Thermal Conductivity	F433	1.3	BTU-in/hr-ft ² -°F
Electrical Properties			
Dielectric Strength, Short Term	D149	400	Volts/mil
Surface Resistivity	EOS/ESD S11.11	>10 ¹³	ohm/square
Dielectric Constant, 106 Hz	D150	3.17	
Dissipation Factor, 106 Hz	D150	0.0009	
Flammability @ 3.1 mm (1/8 in.)	UL 94	HB	
FDA Compliant		No	

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*The values shown in these and the following charts are typical, average properties. Actual values may differ due to variations in resin formulations and processing methods. These values are obtained from sources believed to be reliable, including the resin manufactures, converters and other published sources. However, they should not be used for specification or design purposes. Above information is provided by Quadrant EPP.