

POLYCARBONATE (PC)

KEY FEATURES

- High Impact Resistance
- Abrasion and UV Protective Surfaces
- Compliance with Flammability Ratings of Major Building Codes
- High Light Transmittance
- Effective Insulating Material
- Excellent Weatherability

DESCRIPTION

Polycarbonate (PC) plastics are a naturally transparent amorphous thermoplastic. The raw material allows for the internal transmission of light nearly in the same capacity as glass. Polycarbonate polymers are used to produce a variety of materials and are particularly useful when impact resistance and/or transparency are a product requirement (e.g. in bullet-proof glass). Polycarbonate also has very good heat resistance and can be combined with flame retardant materials without significant material degradation. Polycarbonate plastics are engineering plastics in that they are typically used for more capable, robust materials such as in impact resistant “glass-like”

TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
Physical	Chemical Designation				
	Filler				
	Density		g/cm ³	1.2	D792
Mechanical	Tensile Modulus	@ 73 °F	PSI	345,000	D638
	Tensile Strength @ Yld	@ 73 °F	PSI	9,000	D638
	Tensile Strength @ Brk	@ 73 °F	PSI	19,500	D638
	Shear Strength	@ 73 °F	PSI		
	Elongation @ Yld	@ 73 °F	%		
	Elongation @ Brk	@ 73 °F	%		
	Flexural Modulus	@ 73 °F	PSI	345,000	D790
	Flexural Strength	@ 73 °F, 5% strain	PSI	13,500	D790
	Compressive Modulus	@ 73 °F	PSI		
	Compressive Strength	@ 73 °F	PSI	12,500	D695
	Izod (charpy) Impact Strength	@ 73 °F	ft-lbs/in	12-16	D256
	Rockwell Hardness	@ 73 °F	M (R) Scale		
	Coefficient of Friction	Static			

TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
Thermal	Vicat Softening Point		°F		
	Melting Temperature		°F		
	Heat Deflection Temperature	@ 66	°F	280	D648
	Heat Deflection Temperature	@ 264	°F	270	D648
	Service Temperature	Intermittent	°F		
	Service Temperature	Long Term	°F		
	Coefficient of Thermal Expansion		in/in/°F	3.75*10 ⁻⁵	D696
	Specific Heat		BTU/lb-°F		
	Thermal Conductivity		BTU-in/hr-ft ² -°F	1.35	C177
Other	Moisture Absorption	@ 24 hrs, 73 °F	%	0.15	D570
	Moisture Absorption	@ Saturation, 73 °F	%		
	Flammability	UL 94			
	Food Grade				
	Relative Cost			\$\$	

*The data stated above are typical values intended for reference and comparison purposes only.

*The data should not be used as a basis for design specifications or quality control.

*The information is provided as a guide to the best of our knowledge and given without obligation or liability.

*Testing under individual application circumstances is recommended.