

PC12

Description: General purpose medium viscosity Polycarbonate. Available in clear and custom Colors.

<i>Typical Properties</i>	<i>ASTM Test Method</i>	<i>Units</i>	<i>Value</i>
GENERAL			
Specific Gravity	D 792		1.21
Density	D 792	lb/in ³	0.044
Specific Volume	D 792	in ³ /lb	23
Mold Shrinkage	D 955	in/in	0.055-0.075
24 Hours		%	0.15
Equilibrium		%	0.35
Melt Flow Rate at 300°C/1.2-kg Load	D 1238	g/10 min	12
Melt Flow Rate at 260°C/5.0-kg Load	D 1238	g/10 min	
OPTICAL			
Transmittance at 0.125-in Thickness	D 1003	%	
Haze at 0.125-in Thickness	D 1003	%	
Refractive Index	D 542		
UV Cut-Off Wavelength		nm	
MECHANICAL			
Tensile Stress at Yield	D 638	lb/in ²	9,000
Tensile Stress at Break	D 638	lb/in ²	10,400
Tensile Elongation at Yield	D 638	%	6
Tensile Elongation at Break	D 638	%	140
Tensile Modulus (1mm/min)	D 638	lb/in ² x10 ³	360
Flexural Stress at 5% Strain	D 790	lb/in ²	12,600
Flexural Modulus	D 790	lb/in ² x10 ³	330
Impact Strength			
Notched Izod 0.100-in Thickness, 73°F	D 256	ft-lb/in	
Notched Izod 0.125-in Thickness, 73°F	D 256	ft-lb/in	14
Notched Izod 0.250-in Thickness, 73°F	D 256	ft-lb/in	
Notched Izod 0.125-in Thickness, -20°F	D 256	ft-lb/in	
Unnotched Izod 0.125-in Thickness, 73°F	D 4812	ft-lb/in	
Unnotched Izod 0.125-in Thickness, -40°F	D 4812	ft-lb/in	
Instrumented Impact, Total Energy	D 3763		
0.125-in Thickness, 15 mph, 3-in Clamp			
73°F		ft-lb	46
-20°F		ft-lb	43
Rockwell Hardness (M Scale)	D 785	M Scale	75
(R Scale)		R Scale	118

THERMAL			
Vicat Softening Temperature, 50N; 50k/h	D 1525	°C/°F	145/293
Deflection Temperature, Unannealed:	D 648		
0.250-in Thickness, 264 psi		°C/°F	132/270
0.250 –in Thickness, 66 psi		°C/°F	136/277
Coefficient of Linear Thermal Expansion	D 696/E 831	in/in/°F	3.85E-05
Thermal Conductivity	C 177	Btu-in	1.39
Specific Heat	D 2766	Btu (lb°F)	0.28
Relative Temperature Index at 1.5mm Thickness:	(UL746B)		
Electrical		°C/°F	
Mechanical with Impact		°C/°F	
Mechanical without Impact		°C/°F	
FLAMMABILITY			
Oxygen Index	D 2863	%	26
UL94 Flame Class:	(UL 94)		
0.75mm (0.031-in) Thickness		Rating	
1.5mm (0.059-in) Thickness		Rating	
2.0mm (0.079-in) Thickness		Rating	
2.5mm (0.098-in) Thickness		Rating	
3.0mm (0.118-in) Thickness		Rating	
4.4mm (0.173-in) Thickness		Rating	
6.0mm (0.236-in) Thickness		Rating	
ELECTRICAL			
Volume Resistivity (Tinfoil Electrodes)	D 257	ohm-cm	1E+16
Surface Resistivity	D 257/ (IEC 93)	ohm	1E+15
Dielectric Strength (Short Time under Oil at 73°F, 0.062-in Thickness)	D 149	V/mil	750
Dielectric Strength	(IEC 243)	V/mil	
Dielectric Const. (Tinfoil Electrodes):	D 150		
60 Hz			3
1 Mhz			2.9
Dissipation Factor (Tinfoil Electrodes):	D 150		
60 Hz			0.0009
1 Mhz			0.01
Arc Resistance:	D 495		
Stainless Steel Electrodes		s	11
Tungsten Electrodes		s	120
WEATHERABILITY			
UV Light Exposure and Hot Water	(UL 746C)		
Immersion Tests		Rating	

The values shown are typical values that have been obtained using test bars molded from laboratory samples and are not intended for specification purposes. These values are for natural colors only. Addition of pigments may alter some values. Inasmuch as Polymer Solutions has no control over the use to which others may put the material, it does not guarantee that the same results as those described herein will be obtained. Each user of the material should make his own test to determine the material's suitability for his own particular use. Statements concerning possible or suggested uses of the materials described herein are not to be construed as constituting a license under any Polymer Solutions patent covering such use or as recommendations for use of such materials in the infringement of any patent. These are products with estimated physical property profiles. Actual values will need to be determined upon production of material.