

PC

APPLICATIONS

PC (polycarbonate) is widely used in automotive, aerospace, medical and many other applications. PC offers accuracy, durability and stability, creating strong parts that withstand functional testing. A PC part manufactured FDM Production System is 5 to 60 percent stronger than a part made on previous FDM systems. It also has superior mechanical properties to ABS and a number of other thermoplastics. PC gives you parts for conceptual modeling, functional prototyping, manufacturing tools and end-use-parts.

Mechanical Properties ¹	Test Method	English	Metric
Tensile Strength (Type 1, 0.125", 0.2"/min)	ASTM D638	9,800 psi	68 MPa
Tensile Modulus (Type 1, 0.125", 0.2"/min)	ASTM D638	330,000 psi	2,300 MPa
Tensile Elongation (Type 1, 0.125", 0.2"/min)	ASTM D638	5%	5%
Flexural Strength (Method 1, 0.05"/min)	ASTM D790	15,100 psi	104 MPa
Flexural Modulus (Method 1, 0.05"/min)	ASTM D790	324,000 psi	2,200 MPa
IZOD Impact, notched (Method A, 23°C)	ASTM D256	1 ft-lb/in	53 J/m
IZOD Impact, un-notched (Method A, 23°C)	ASTM D256	6 ft-lb/in	320 J/m

Thermal Properties ²	Test Method	English	Metric
Heat Deflection (HDT) @ 66 psi	ASTM D648	280°F	138°C
Heat Deflection (HDT) @ 264 psi	ASTM D648	261°F	127°C
Vicat Softening	ASTM D1525	282°F	139°C
Glass Transition (Tg)	DMA (SSYS)	322°F	161°C
Melting Point	-----	Not Applicable ³	Not Applicable ³

Electrical Properties ⁴	Test Method	Value Range
Volume Resistivity	ASTM D257	2.0x10 ¹⁴ - 6.0x10 ¹³ ohms
Dielectric Constant	ASTM D150-98	3.0 - 2.8
Dissipation Factor	ASTM D150-98	.0006 - .0005
Dielectric Strength	ASTM D149-09, Method A	360-80 V/mil

Other ²	Test Method	Value Range
Specific Gravity	ASTM D792	1.2
Flame Classification	UL94	HB
Coefficient of Thermal Expansion	ASTM E831	3.8 ⁻⁰⁵ in/in/°F
Rockwell Hardness	ASTM D785	R115
UL File Number	-----	E345258

1- Build orientation is on side long edge.
2- Literature value unless otherwise noted.

3 - Due to amorphous nature, material does not display a melting point.
4 - All electrical property values were generated from the average of test plaques built with default part density (solid).