PC (Polycarbonate) (FDM)

a Stratasys Material

RAPID TOOLING, BUILT TO ENDURE

PC offers accuracy, durability and stability, producing strong parts that can withstand functional testing. Combines the agility of 3D printing with the reliability of the most widely used industrial thermoplastic.

Mechanical Properties [1]	Test Method	Result
Tensile Strength (Type 1, 0.125”, 0.2”/min)	ASTM D638	57MPa • 8,300 psi
Tensile Modulus (Type 1, 0.125”, 0.2”/min)	ASTM D638	1,944 MPa • 282,000 psi
Tensile Elongation (Type 1, 0.125”, 0.2”/min)	ASTM D638	4.8%
Flexural Strength (Method 1, 0.05”/min)	ASTM D790	89 MPa • 13,000 psi
Flexural Modulus (Method 1, 0.05”/min)	ASTM D790	2,006 MPa • 291,000 psi
IZOD Impact, notched (Method A, 23°C)	ASTM D256	73 J/m • 1.4 ft-lb/in
IZOD Impact, un-notched (Method A, 23°C)	ASTM D256	877 J/m • 16.4 ft-lb/in

Thermal Properties [2]	Test Method	Result
Heat Deflection (HDT) @ 66 psi, 0.125” unannealed	ASTM D648	138°C • 280°F
Heat Deflection (HDT) @ 264 psi, 0.125” unannealed	ASTM D648	127°C • 261°F
Vicat Softening Temperature (Rate B/50)	ASTM D1525	139°C • 282°F
Glass Transition (Tg)	DMA (SSYS)	161°C • 322°F

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Electrical Properties [3]	Test Method	Result
Volume Resistivity	ASTM D257	6.0x10e13 • 2.0x10e14 ohm-cm
Dielectric Constant	ASTM D150-98	2.8 - 3.0
Dissipation Factor	ASTM D150-98	.0005 - .0006
Dielectric Strength	ASTM D149-09, Method A	80-360 V/mil

Other [2]	Test Method	Result
Specific Gravity	ASTM D792	1.2
Flame Classification	UL94	HB
Coefficient of Thermal Expansion	ASTM E831	3.8x10e-05 in/in/°F
Rockwell Hardness	ASTM D785	R115

[1] Build orientation is on side long edge.
[2] Literature values unless otherwise noted.
[3] All Electrical Property values were generated from the average of test plaques built with the default part density (solid). Test plaques were 4.0 x 4.0 x 0.1 inches (102 x 102 x 2.5 mm) and were built both in the flat and vertical orientation. The range of values is mostly the result of the difference in properties of test plaques built in the flat v s. vertical orientation.