Stratasys PC

Polycarbonate

Stratasys

Message:

Production-Grade Thermoplastic for Fortus 3D Production Systems
A true industrial thermoplastic, 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 on a Fortus® 3D Production System is 5-60 percent stronger than a part made on previous FDM® systems. It also has superior mechanical properties to ABS and a number of other thermoplastics. When combined with a Fortus system, PC gives you Real Parts™ for conceptual modeling, functional prototyping, manufacturing tools, and end-use-parts.

General Information			
Features	Durable		
	Good Chemical Resistance		
	Good Sterilizability		
	Good Strength		
	High Heat Resistance		
	High Impact Resistance		
Uses	Aerospace Applications		
	Automotive Applications		
	Industrial Applications		
	Industrial Parts		
	Medical/Healthcare Applications		
	Prototyping		
UL File Number	E345258		
Appearance	White		
Processing Method	3D Printing, Fused Filament Fabrication (FFF)		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.20	g/cm³	ASTM D792
Thickness - Layer Capability	127.0 to 330.2	µm	
Volume Resistance [1]	6.0E+13 to 2.0E+14	ohms	ASTM D257
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale)	115		ASTM D785
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus [2] (3.18 mm)	2280	MPa	ASTM D638
Tensile Strength [3] (3.18 mm)	67.6	MPa	ASTM D638
Tensile Elongation [4] (Break, 3.18 mm)	5.0	%	ASTM D638
Flexural Modulus [5]	2230	MPa	ASTM D790
Flexural Strength [6]	104	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**

Notched Izod Impact (23°C)	53	J/m	ASTM D256A
Unnotched Izod Impact (23°C)	320	J/m	ASTM D256
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	138	°C	
1.8 MPa, Unannealed	127	°C	
Glass Transition Temperature	161	°C	DMA
Vicat Softening Temperature	139	°C	ASTM D1525
CLTE - Flow	6.8E-5	cm/cm/°C	ASTM E831
Electrical	**Nominal Value**	**Unit**	**Test Method**
Dielectric Strength	14 to 15	kV/mm	ASTM D149
Dielectric Constant [7]	2.80 to 3.00		ASTM D150
Dissipation Factor [8]	5.0E-4 to 6.0E-4		ASTM D150
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating	HB		UL 94
NOTE			
1.	All Electrical Property values were generated from the average of test plaques built with 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 vs. vertical orientation.		
2.	Type I, 5.1 mm/min		
3.	Type I, 5.1 mm/min		
4.	Type I, 5.1 mm/min		
5.	Method I (3 point load), 1.3 mm/min		
6.	Method I (3 point load), 1.3 mm/min		
7.	All Electrical Property values were generated from the average of test plaques built with 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 vs. vertical orientation.		

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Recommended distributors for this material

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