



PC-ABS FDM

PC-ABS (polycarbonate-ABS) is one of the most widely used industrial thermoplastics. PC-ABS offers the most desirable properties of both materials – the superior strength and heat resistance of PC and the flexibility of ABS. PC-ABS blends are commonly used in automotive, electronics and telecommunications applications. Additionally, a PC-ABS part manufactured on a Fortus® 3D Printer is 5-60 percent stronger than a part made on previous FDM® systems. PC-ABS gives you conceptual modeling, functional prototyping, manufacturing tools and production parts.

MECHANICAL PROPERTIES ¹	TEST METHOD	ENGLISH	METRIC
Tensile Strength (Type 1, 0.125", 0.2"/min)	ASTM D638	5,900 psi	41 MPa
Tensile Modulus (Type 1, 0.125", 0.2"/min)	ASTM D638	278,000 psi	1,900 MPa
Tensile Elongation (Type 1, 0.125", 0.2"/min)	ASTM D638	6%	6%
Flexural Strength (Method 1, 0.05"/min)	ASTM D790	9,800 psi	68 MPa
Flexural Modulus (Method 1, 0.05"/min)	ASTM D790	280,000 psi	1,900 MPa
IZOD Impact, notched (Method A, 23 °C)	ASTM D256	3.7 ft-lb/in	196 J/m
IZOD Impact, un-notched (Method A, 23 °C)	ASTM D256	9 ft-lb/in	481 J/m

THERMAL PROPERTIES ²	TEST METHOD	ENGLISH	METRIC
Heat Deflection (HDT) @ 66 psi	ASTM D648	230 °F	110 °C
Heat Deflection (HDT) @ 264 psi	ASTM D648	205 °F	96 °C
Vicat Softening Temperature	ASTM D1525	234 °F	112 °C
Glass Transition Temperature (Tg)	DMA (SSYS)	257 °F	125 °C
Coefficient of Thermal Expansion	-----	4.10 ⁻⁰⁵ in/in/°F	-----
Melting Point	-----	Not Applicable ³	Not Applicable ³

ELECTRICAL PROPERTIES ⁴	TEST METHOD	VALUE RANGE
Volume Resistivity	ASTM D257	2.0x10 ¹⁴ - 4.4x10 ¹³ ohm-cm
Dielectric Constant	ASTM D150-98	2.9 - 2.7
Dissipation Factor	ASTM D150-98	.0035 - .0032
Dielectric Strength	ASTM D149-09, Method A	340 - 90 V/mil





PC-ABS



PRODUCTION-GRADE FDM THERMOPLASTIC FROM GoProto

At the core:

Advanced FDM Technology

FDM (fused deposition modeling) technology works with engineering-grade thermoplastics to build strong, long-lasting and dimensionally stable parts with the best accuracy and repeatability of any 3D printing technology. These parts are tough enough to be used as advanced conceptual models, functional prototypes, manufacturing tools and production parts.

OTHER ²	TEST METHOD	VALUE
Specific Gravity	ASTM D792	1.10
Density	ASTM D792	0.0397 lb/in ³
Rockwell Hardness	ASTM D785	R110

SYSTEM AVAILABILITY	LAYER THICKNESS CAPABILITY	SUPPORT STRUCTURE	AVAILABLE COLORS
Fortus 450m™	0.010 inch (0.254 mm)	Soluble Supports	<input checked="" type="checkbox"/> Black <input type="checkbox"/> White

The information presented are typical values intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. End-use material performance can be impacted (+/-) by, but not limited to, part design, end-use conditions, test conditions, etc. Actual values will vary with build conditions. Tested parts were built on Fortus 400mc™ @ 0.010" (0.254 mm) slice. Product specifications are subject to change without notice.

The performance characteristics of these materials may vary according to application, operating conditions, or end use. Each user is responsible for determining that the Stratasys material is safe, lawful, and technically suitable for the intended application, as well as for identifying the proper disposal (or recycling) method consistent with applicable environmental laws and regulations. Stratasys makes no warranties of any kind, express or implied, including, but not limited to, the warranties of merchantability, fitness for a particular use, or warranty against patent infringement.

¹Build orientation is on side long edge.

²Literature value unless otherwise noted.

³Due to amorphous nature, material does not display a melting point.

⁴All 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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