GROW it™
RAPID PROTOTYPING & MANUFACTURING

PC-ABS

Polycarbonate-ABS (PC-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 Production System is 5-60 percent stronger than a part made on previous FDM systems. When combined with a Fortus system, PC-ABS gives you 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	5,900 psi	41 Mpa
Tensile Modulus (Type 1, 0.125”, 0.2”/min)	ASTM D638	278,000 psi	1,917 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	1,931 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
Typical achievable tolerance	-	+/- .005 1st in.; +/- .001 every in. after	+/- .127 1st cm; +/- .025 every cm after

Thermal Properties[3]	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	ASTM D1525	234°F	112°C
Coefficient of Thermal Expansion	-	4.10 E -05 in/in/°F	-
Glass Transition Temp (Tg)	DMA (SSYS)	257°F	125°C
Melt Point	-	Not Applicable[2]	Not Applicable[2]

Other[3]	Test Method	Value
Specific Gravity	ASTM D792	1.2
Tensile Modulus (Type 1, 0.125”, 0.2”/min)	ASTM D792	0.0397 lb/in^2
Tensile Elongation (Type 1, 0.125”, 0.2”/min)	UL94	HB (0.0335", 0.85 mm)
Flexural Strength (Method 1, 0.05”/min)	ASTM D785	R110
Flexural Modulus (Method 1, 0.05”/min)	IEC 60112	35.0 kV/mm
IZOD Impact, notched (Method A, 23°C)	IEC 60250	3.1
IZOD Impact, un-notched (Method A, 23°C)	IEC 60250	3.0

→ See reverse for color options and system availability.

The information presented are typical values intended for reference and comparison purposes only. They should not be used for design specifi cations 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 specifi cations are subject to change without notice.

[1]Build orientation is on side long edge. [2]Due to amorphous nature, material does not display a melting point. [3]Literature value unless otherwise noted.

PC-ABS

System Availability	Layer Thickness Capacity	Support Structure	Available Colors
Fortus 360mc	0.010 inch (0.254 mm)	Soluble Supports	Black
Fortus 900mc	0.007 inch (0.178 mm)		

[2]0.005 inch (0.127 mm) layer thickness not available for Fortus 900mc

At the core:
Advanced FDM Technology

Fused Deposition Modeling (FDM) is the industry's leading additive manufacturing technology. FDM systems use a wide range (the largest choice of options in the industry) of thermoplastics with advanced mechanical properties so your parts can endure high heat, caustic chemicals, sterilization, and high impact applications.

Real Accuracy

Because thermoplastics are environmentally stable, part accuracy (or tolerance) doesn't change with ambient conditions or time. This enables FDM parts to be among the most dimensionally accurate.

Get your benchmark on the future of manufacturing

Low Cost. Accurate. High Strength. The best way to see the advantages of a FDM part is to have your own model built on one of our many FDM systems. Get your parts at www.growit3d.com.

About GROWit

GROWit™ is a privately held additive manufacturing company located in Irvine, California, dedicated to improving design through engineering and rapid prototyping. We strive to be at the cutting edge, bringing both knowledge and resources directly to customers. With our team of engineers, we help guide customers to the process that best suits their specific application, without holding a bias to a specific platform or technology.

Why do we call ourselves GROWit? Due to the layer-by-layer nature of rapid prototyping, a part often looks like it is growing within the machine – just like a plant grows from the ground. Rather than using the terms "building" or "fabricating", the term "growing" is commonly used within the industry; thus the origin of our name, GROWit.

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