PC-ISO

Production-Grade Thermoplastic for Fortus 3D Production Systems

PC-ISO™ (polycarbonate-ISO), an industrial thermoplastic, which in its raw state, is biocompatible (ISO 10993 USP Class VI)* and can be gamma or EtO sterilized. PC-ISO is commonly used in food and drug packaging and medical device manufacturing because of the material's strength and medical compatibility. When combined with a Fortus® 3D Production System, PC-ISO gives you parts that can be used for conceptual modeling, functional prototyping and end-use parts.

Mechanical Properties[1]	Test Method	English	Metric
Tensile Strength (Type 1, 0.125", 0.2"/min)	ASTM D638	8,300 psi	57 MPa
Tensile Modulus (Type 1, 0.125", 0.2"/min)	ASTM D638	289,800 psi	2,000 MPa
Tensile Elongation (Type 1, 0.125", 0.2"/min)	ASTM D638	4%	4%
Flexural Strength (Method 1, 0.05"/min)	ASTM D790	13,100 psi	90 MPa
Flexural Modulus (Method 1, 0.05"/min)	ASTM D790	310,400 psi	2,100 MPa
IZOD Impact, notched (Method A, 23°C)	ASTM D256	1.6 ft-lb/in	86 J/m
IZOD Impact, un-notched (Method A, 23°C)	ASTM D256	1 ft-lb/in	53 J/m

Thermal Properties[2]	Test Method	English	Metric
Heat Deflection (HDT) @ 66 psi	ASTM D648	271°F	133°C
Heat Deflection (HDT) @ 264 psi	ASTM D648	260°F	127°C
Glass Transition (Tg)	DMA (SSYS)	322°F	161°C
Vicat Softening	ISO 306	282°F	139°C
Melting Point	----------	Not Applicable[3]	Not Applicable[3]

Electrical Properties[4]	Test Method	Value Range
Volume Resistivity	ASTM D257	$1.5x10^{14}$ - $8.0x10^{13}$ ohms
Dielectric Constant	ASTM D150-98	3.0 - 2.8
Dissipation Factor	ASTM D150-98	.0009 - .0005
Dielectric Strength	ASTM D149-09, Method A	370 - 70 V/mil

Stratasys® | Production Series

Other[2]	Test Method	Value
Specific Gravity	ASTM D792	1.2
Flame Classification	UL 94	HB

System Availability	Layer Thickness Capability	Support Structure	Available Colors
Fortus 380mc™	0.013 inch (0.330 mm)	Breakaway	☐ White
Fortus 400mc™	0.010 inch (0.254 mm)		▩ Translucent Natural
Fortus 450mc™	0.007 inch (0.178 mm)		
Fortus 900mc™			

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.

**It is the responsibility of the finished device manufacturer to determine the suitability of all the component parts and materials used in their finished products.*

[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). 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.*

Stratasys | www.stratasys.com | info@stratasys.com

7665 Commerce Way
Eden Prairie, MN 55344
+1 888 480-3548 (US Toll Free)
+1 952 937-3000 (Intl)
+1 952 937-0070 (Fax)

2 Holtzman St.,
Science Park, PO Box 2496
Rehovot 76124, Israel
+972 74 745-4000
+972 74 745-5000 (Fax)

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At the core: Advanced FDM Technology

Fortus systems are based on Stratasys® FDM® (fused deposition modeling) technology. FDM is the industry's leading additive manufacturing technology, and the only one that uses production-grade thermoplastics, enabling the most durable parts.

Fortus systems use a wide range of thermoplastics with advanced mechanical properties so your parts can endure high heat, caustic chemicals, sterilization and high-impact applications.

No special facilities needed

You can install a Fortus 3D Production System just about anywhere. No special venting is required because Fortus systems don't produce noxious fumes, chemicals or waste.

No special skills needed

Fortus 3D Production Systems are easy to operate and maintain compared to other additive fabrication systems because there are no messy powders to handle and contain. They're so simple, an operator can be trained to operate a Fortus system in less than 30 minutes.

Get your benchmark on the future of manufacturing

Fine details. Smooth surface finishes. Accuracy. Strength. The best way to see the advantages of a Fortus 3D Production System is to have your own part built on a Fortus system. Get your free part at: stratasys.com.