FUSED DEPOSITION MODELING

Polycarbonate (Triton PC)

High-Performance Engineering Thermoplastic for Demanding Applications



Polycarbonate (PC) is an exceptional engineering thermoplastic renowned for its superior impact strength, heat resistance, and dimensional stability. With an impressive heat deflection temperature up to 144 °C and outstanding toughness, PC delivers dependable performance for functional prototypes, end-use parts, and manufacturing tooling that require the highest levels of mechanical integrity and thermal stability. Triton PC is made from SABIC LEXAN polycarbonate resin for Stratasys Fortus printers. It has a glass transition temperature of 160 °C and holds its shape to 138 °C under a 0.45 MPa load, for prototypes, housings and tooling in warm service.

BUILD VOLUME	LEAD TIME	LAYER HEIGHT	TOLERANCE
914 × 610 × 914 mm	**2-4 business days**	**0.25 mm**	**±0.25 mm or ±0.3%, whichever is greater**

MECHANICAL PROPERTIES

Triton PC delivers the strength and stiffness of polycarbonate for functional prototypes, housings and tooling.

Triton PC values come from flat (XY) samples printed on a Fortus 400mc at 0.33 mm layers and tested to ISO standards, so they are not directly comparable with the ASTM values for Stratasys PC, which are measured on edge (XZ) and upright (ZX) on a Fortus 900.

PROPERTY	VALUE	TEST STANDARD
Tensile Strength, Break (XY)	**49.5 MPa**	ISO 527
Tensile Modulus (XY)	**1950 MPa**	ISO 527
Elongation at Break (XY)	**3.7 %**	ISO 527
Flexural Strength (XY)	**78 MPa**	ISO 178
Flexural Modulus (XY)	**1910 MPa**	ISO 178

THERMAL PROPERTIES

Triton PC has no specific melting point; it softens gradually over a wide temperature range around its glass transition, measured by DSC. Heat deflection is measured at 0.45 MPa on flat samples to ISO 75.

PROPERTY	VALUE	TEST STANDARD
HDT @ 0.45 MPa / 66 psi (XY)	**138 °C**	ISO 75
Glass Transition Temperature (Tg)	**160 °C**	DSC

PHYSICAL PROPERTIES

Triton PC is specified by its density, measured to ISO 1183.

PROPERTY	VALUE	TEST STANDARD
Density	**1.2 g/cm³**	ISO 1183

ELECTRICAL PROPERTIES

Surface resistance above 10^{13} Ω/sq makes Triton PC an electrical insulator for housings and insulating features.

PROPERTY	VALUE	TEST STANDARD
Surface Resistance	**> 10^{13} Ω/sq**	IEC 60093

CHEMICAL PROPERTIES

Triton PC has no chemical ratings of its own; the table shows the Stratasys PC ratings.

Chemical ratings are screening guidance; confirm them with application-specific testing before production release.

Supplier data for Stratasys PC

CHEMICAL	STRATASYS RATING
Alcohol / ethanol	**Good**
Windshield washer fluid	**Good**
Deionized water	**Good**
Weak acids (pH 3-6)	**Good**
Weak bases (pH 8-10)	**Good**
Aliphatic hydrocarbons (e.g. propane, butane)	**Limited**
Aromatic hydrocarbons (e.g. benzene)	**Limited**
Esters	**Limited**
Petroleum fuels	**Limited**
Motor oil	**Limited**
Transmission fluid	**Limited**
Petroleum greases	**Limited**
Brake fluid	**Limited**
Antifreeze / engine coolant	**Limited**
Strong bases (pH > 10)	**Limited**
Strong acids (pH < 3)	**Poor**
Ketones (e.g. MEK, acetone)	**Poor**
Halogenated hydrocarbons (e.g. CFCs)	**Poor**
Phenols	**Poor**
Silicone greases and oils	**Poor**

MANUFACTURING

Colours & finishes	**White or black; support removal, surface finishing, painting and threading**