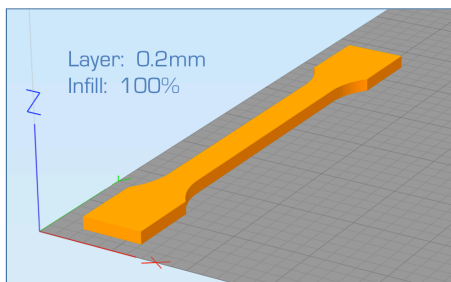# CarbonX™ Carbon Fiber Reinforced PETG 3D Filament

CarbonX™ Carbon Fiber Reinforced PETG [polyethylene terephthalate glycol copolymer] is a high-performance carbon fiber reinforced 3D printing filament. This grade was formulated utilizing high-modulus carbon fiber and premium PETG – making it ideal for applications that require superior stiffness, chemical resistance, and dimensional stability compared to any traditional unfilled FDM/FFF materials. Suitable for use in practically all consumer-grade FDM/FFF printers that have a heated print bed. Made by 3DXTECH® in the USA.

The reported technical data was generated from printed ISO test specimen. The general print parameters utilized are noted below.

- Desktop FDM/FFF Printer
- Nozzle: 0.4mm A2 hardened
- Layer height: 0.2mm
- Infill: 100%, +/- 45°
- Extrusion temp: 240°C
- Bed temp: 65°C
- Bed prep: Hairspray on glass
- Print speed: 50 mm/sec

General Property	Unit	Standard	Typical Value
Density	g/cc	ISO 1183	1.34

Mechanical Property	Unit	Standard	Typical Value
Tensile Strength	MPa	ISO 527	55.5
Tensile Modulus	MPa	ISO 527	4928
Tensile Elongation, Break	%	ISO 527	2.5
Flexural Modulus	MPa	ISO 178	5740
Flexural Strength	MPa	ISO 178	80

Layer: 0.2mm
Infill: 100%

Thermal Property	Unit	Standard	Typical Value
Glass Transition Temperature (Tg)	°C	DSC	80
Heat Distortion Temperature (HDT) @ 0.45MPa	°C	ISO 75	77

Electrical Property	Unit	Standard	Typical Value
Surface Resistivity	Ohm/sq	IEC 60093	$>10^{10}$

Disclaimer: The technical data contained on this data sheet is furnished without charge or obligation and accepted at the recipient's sole risk. This data should not be used to establish specifications limits or used alone as the basis of design. The data provided is not intended to substitute any testing that may be required to determine fitness for any specific use.

Printing Recommendation	Typical Range
Extruder Temperature	230 - 260°C
Bed Temperature	60 - 70°C
Print Speed	50 - 70 mm/sec