



TDS Rev 3.0

Technical Data Sheet: CarbonX™ Carbon Fiber Ultem™ PEI 3D Printing Filament

Physical Properties	Standard	Unit	Typical Value
Density	ISO 1183	g/cc	1.31

Mechanical Properties	Standard	Unit	Typical Value
Tensile Strength, Break	ISO 527	MPa	145
Tensile Modulus	ISO 527	MPa	7700
Tensile Elongation, Break	ISO 527	%	1.5
Flexural Strength	ISO 178	MPa	120
Flexural Modulus	ISO 178	MPa	7500

Thermal Properties	Standard	Unit	Typical Value
Glass Transition Temperature (Tg)	DSC	°C	217
Deflection Temperature at 0.45 MPa (66psi)	ISO 75	°C	205

Electrical Property	Standard	Unit	Typical Value
Surface Resistance	ASTM D257	Ohm/sq	>10 ⁹

Printed Specimen Conditions
Printer: Open Source FDM/FFF
Nozzle: 0.4mm
Layer Height: 0.25mm
Infill: 100%, +/- 45°
Extrusion Temp: 385°C
Bed Temp: 140°C
Specimen Orientation: XY Flat

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