

Property	Specification / Typical Value	Standard / Notes
Product Name	3mm Solid Carbon Fiber Rod	Pultruded / Roll- wrapped (depending on application)
Outer Diameter	3.00 mm $\pm$ 0.05 mm	ISO 286-2 (h7 tolerance class available)
Length Options	500 mm, 1000 mm, 1500 mm, 2000 mm, 3000 mm	Custom lengths available
Material	High- Strength Carbon Fiber (T300/T700) + Epoxy Resin	Aerospace grade CFRP
Fiber Orientation	Unidirectional (UD, 0°)	Optional: 0° /90° or quasi- isotropic
Fiber Volume Content	$\geq$ 60%	ASTM D3171
Density	1.50 - 1.60 g/cm ³	ASTM D792
Tensile Strength (Axial)	$\geq$ 1200 MPa	ASTM D3039
Tensile Modulus (Axial)	$\geq$ 70 GPa	ASTM D3039
Flexural Strength	$\geq$ 800 MPa	ASTM D790
Compressive Strength	$\geq$ 700 MPa	ASTM D695
Interlaminar Shear Strength	$\geq$ 60 MPa	ASTM D2344
Surface Finish	Natural Matte or Glossy UV Clear Coat	Optional sanded finish
Thermal Stability	-40 ° C to +120 ° C (continuous use)	Short- term: up to 150 ° C
CTE (Axial)	$\approx 0 \times 10^{-6} / ^\circ \text{C}$	Near- zero thermal expansion
Electrical Conductivity	Electrically Conductive (Axial)	Suitable for EMI/RFI applications
Flame Resistance (Optional)	UL94 V- 0 resin system available	For electronics / aerospace
Water Absorption	$\leq$ 0.1% (24h @ 23 ° C)	ASTM D570
Straightness	$\leq$ 0.2 mm per meter	ISO 13003
Roundness Tolerance	$\pm$ 0.02 mm	Precision grinding available
Applications	UAV arms, kites, RC cars, robotics, composite tooling, 3D printers	High stiffness-to-weight and dimensional stability
Certifications	ISO 9001, REACH, RoHS	Material certificates on request