

Property	Typical Value / Range	Standard / Notes
Material Type	High modulus carbon fiber (e. g. T300, T700) + epoxy resin	Unidirectional core + 3K twill or plain weave outer layer
Cross-Section Shape	D-profile (flat side + semi-round side)	Custom curvature radius available
Outer Dimensions	Width: 10 - 60 mm; Height: 5 - 30 mm	± 0.05 mm dimensional tolerance
Wall Thickness	1.0 mm - 2.5 mm	Uniform or variable per design
Length	500 mm - 2000 mm	Custom lengths available
Weight	~100 - 500 g (depending on size)	Lightweight design advantage
Surface Finish	Glossy / Matte / Natural carbon finish	UV-resistant optional coating
Carbon Fiber Weave Type	3K twill, 1K plain, or UD	Outer aesthetic layer optional
Tensile Strength (0°)	≥ 800 MPa	ASTM D3039
Tensile Modulus	≥ 85 GPa	ASTM D3039
Flexural Strength	≥ 700 MPa	ASTM D790
Flexural Modulus	≥ 75 GPa	ASTM D790
Compressive Strength	≥ 450 MPa	ASTM D695
Thermal Stability	-40 ° C to +150 ° C	Continuous operating temperature
Density	1.55 - 1.65 g/cm ³	ASTM D792
Electrical Properties	Conductive / Semi-conductive	Custom insulation available
Corrosion Resistance	Excellent (non-metallic)	Ideal for outdoor / marine use
UV Resistance	Available with protective resin or coating	Outdoor life >5 years
Manufacturing Process	Roll-wrapped + CNC precision machining	Ensures dimensional accuracy & wall uniformity
Bonding Compatibility	High	Compatible with epoxy, PU adhesives
Mounting Interface	Flat side for easy bonding / mechanical installation	Ideal for slot or flush-mount applications
Customization Options	Drilling, slotting, thread inserts, labeling	OEM & ODM welcome
Applications	UAV arms, bike components, robotics frames, prosthetics, fixtures	High stiffness + low profile fit
Certifications	ISO 9001, RoHS, REACH, MSDS upon request	Export-ready for EU / US / AU