

Parameter	Specification	Standard / Notes
Product Name	Square Carbon Fiber Tube	Common keyword for B2B SEO
Material	100% Carbon Fiber (T300 / T700) + Epoxy Resin	Toray, Mitsubishi fiber
Fiber Weave Type	3K Twill / Plain / Unidirectional (UD) Surface	Decorative or structural surface
Manufacturing Process	Pultrusion / Roll-Wrapping / Autoclave Molding	Customizable
Outer Dimension	10 × 10 mm to 100 × 100 mm	Custom sizes available
Wall Thickness	1.0 mm - 5.0 mm	Tolerance ± 0.1 mm (machined)
Length	1000 mm - 3000 mm	Custom cutting available
Density	1.50 - 1.60 g/cm ³	ASTM D792
Tensile Strength (Longitudinal)	≥ 600 MPa	ASTM D3039
Tensile Modulus	≥ 60 GPa	ASTM D3039
Flexural Strength	≥ 650 MPa	ASTM D790
Flexural Modulus	≥ 68 GPa	ASTM D790
Compressive Strength	≥ 450 MPa	ASTM D695
Shear Strength	≥ 75 MPa	ASTM D2344
Surface Finish	Glossy / Matte Clear Coat / Painted / PU Coated	UV-resistant available
Thermal Expansion Coefficient	$\leq 2.0 \times 10^{-6} / ^\circ\text{C}$	TMA Tested
Service Temperature	-40 ° C to +180 ° C	Depends on resin system
Electrical Conductivity	Conductive / Insulative (on request)	Custom resin matrix available
Fire Resistance	Optional UL94-V0 Epoxy	For aerospace, battery casing, etc.
Surface Resistance (Flatness)	≤ 0.15 mm/m	For gantry frames, automation uses
Straightness Tolerance	≤ 0.2 mm/m	For long tubes and linear rail support
Bonding Compatibility	Epoxy glue, mechanical joints, aluminum inserts	Standard adhesive compatibility
Connector Options	CNC aluminum sleeve, bolt-joint, rivet-lock	For B2B modular systems
Certifications Available	ISO 9001, RoHS, REACH, Material Test Report	Upon request
Applications	Drones, Robotics, CNC Frames, Industrial Equipment	Structural & lightweight usage
Customization	Section size, layup angle, surface, MOQ-based	

Parameter	Specification	Standard / Notes
Packaging	drilling, logo	
	Bubble wrap + PVC cover + reinforced box or crate	Export-safe packaging