

Property	Specification / Typical Value	Standards / Notes
Product Name	Carbon Fiber Octagonal Tube	8-sided composite structural tubing
Material Composition	High-strength Carbon Fiber (T300/T700) + Epoxy Resin	Aerospace-grade fiber, epoxy or vinyl ester matrix
Outer Width (Flat-to-Flat)	10 mm - 100 mm (customizable)	Measured across opposite flats of octagon
Wall Thickness	1.0 mm - 6.0 mm	Custom thicknesses available
Length	500 mm - 3000 mm standard Up to 6000 mm on request	Cut-to-length services available
Shape Type	Regular Octagonal Cross-section	Symmetrical 8-sided profile
Weave Options	Twill 3K, Plain, UD (Unidirectional), Hybrid	Functional + decorative layers
Surface Finish	Matte / Glossy / Raw CFRP	Optional UV-resistant coating
Manufacturing Method	Roll-Wrapped / Compression Molded / Pultruded	Depending on precision and strength requirement
Tensile Strength	≥ 600 MPa	ASTM D3039
Tensile Modulus	≥ 70 GPa	ASTM D3039
Flexural Strength	≥ 500 MPa	ASTM D790
Compressive Strength	≥ 450 MPa	ASTM D695
Density	$\sim 1.5 - 1.6$ g/cm ³	Lightweight and rigid
Thermal Resistance	-40 ° C to +120 ° C (standard) Up to 180 ° C optional	Heat stable for most industrial environments
Corrosion Resistance	Excellent - Anti-chemical, anti-saltwater	Suitable for marine and outdoor use
Electrical Conductivity	Conductive (standard) Non-conductive (custom)	EMI shielding options available
Joint Compatibility	Compatible with clamps, bonded epoxy joints, inserts	Ends can be drilled or cut
Finish Tolerance	± 0.1 mm outer width / ± 0.05 mm thickness	CNC finish available
Customization Options	Size, thickness, weave pattern, surface color, resin type	OEM & ODM accepted
Certifications	ISO 9001 / RoHS / REACH / ASTM Test Reports	Third-party test data on request
Common Applications	High-torque structural systems, RC arms, UAV booms, camera rigs, industrial robotics	Ideal for applications requiring octagonal grip or alignment