

Property	Typical Value / Range	Test Standard / Notes
Material	High-strength carbon fiber (e.g. Toray T300 / T700) + epoxy	Unidirectional + 3K twill / plain weave
Outer Tube Diameter	12 mm - 50 mm	Custom sizes available
Inner Tube Diameter	Varies by section (matched clearance)	Tolerance ± 0.05 mm
Wall Thickness	0.8 mm - 2.5 mm	Uniform per section or tapered
Collapsed Length	300 mm - 1000 mm	Custom design optional
Extended Length	Up to 3000 mm or custom	Depends on number of sections
Sections	2 to 6 sections (nested design)	Overlap 80 - 120 mm recommended per section
Locking Mechanism	Twist lock / Flip clamp / Button snap	Nylon / Aluminum / Stainless options
Weight	~180 - 650 g (depending on size & length)	Lightweight advantage
Surface Finish	Matte / Glossy / Natural 3K twill	UV-resistant coating available
Tensile Strength (0°)	≥ 800 MPa	ASTM D3039
Tensile Modulus	≥ 85 GPa	ASTM D3039
Flexural Strength	≥ 700 MPa	ASTM D790
Thermal Stability	-40 ° C to +150 ° C	Long-term operating temperature
Density	1.55 - 1.65 g/cm ³	ASTM D792
Connection Compatibility	Threaded insert / Aluminum base / Clamp fitting	CNC machining available
Corrosion Resistance	Excellent (non-metallic structure)	Ideal for marine/outdoor use
Vibration Dampening	High	Suitable for camera rigs, antennas, sensors
Electrical Conductivity	Semi-conductive or insulated options	Surface resistivity customizable
UV Resistance	Optional anti-UV coating	Outdoor durability >5 years
Manufacturing Method	Roll-wrapped and precision-machined	Ensures strength & dimensional accuracy
Applications	Tripods, drone booms, sensor masts, flagpoles, camera sliders	Telescopic strength + portability
Certifications	RoHS / REACH / ISO 9001 / MSDS on request	Export-ready documentation
Customization	Logo printing / Threading / CNC cutting	OEM & ODM supported