

Property	Specification / Typical Value	Standard / Notes
Product Name	Carbon Fiber Tube Connectors	Also referred to as: Joint Fittings / Couplers / Clamps / Joints
Material Type	CNC-Machined Aluminum Alloy / Stainless Steel / Carbon Composite	Material selected based on strength and corrosion needs
Surface Finish	Anodized (Black/Silver) / Powder Coated / Matte Carbon Finish	Improves corrosion and wear resistance
Connector Type	Internal Sleeve / External Clamp / Hinged Locking Clamp / Quick Release	Based on application and load requirements
Compatible Tube Shapes	Round / Square / Rectangular / D-Shaped / Oval	Custom profiles available
Compatible Tube Sizes	ID Range: 6 mm - 100 mm	Precision-fit for metric and imperial carbon tubes
Tolerance (Fit)	± 0.05 mm	Ensures secure fit with minimal play
Fastening Mechanism	Set Screw / Bolt Lock / Adhesive Bonding / Snap Lock	Can be single or multi-screw design
Load Bearing Capacity	≥ 600 N (varies by type and size)	Tested per ASTM D7264 / D695
Weight	From 20g to 300g	Depending on size and material
Operating Temperature	-40° C to +120° C	Suitable for most outdoor and industrial uses
Corrosion Resistance	High	Especially aluminum alloy 6061-T6 or 7075-T6 with anodized finish
Durability Rating	>10,000 Connection Cycles	For mechanical clamping types
Installation Method	Manual Fastening / Allen Key / Quick Clamp	No special tools required unless bonded
Color Options	Black / Silver / Custom Anodizing Available	Based on project branding or visibility needs
Resin Compatibility	Compatible with epoxy bonding for permanent installations	Use with structural adhesives
Customization Available	CNC design, laser marking, angle joints, multi-connector hubs	OEM support, batch design service
Certifications	ISO 9001 / RoHS / REACH / ASTM Compliance	Third-party test reports available upon request
Typical Applications	UAV/Drone Frame Assembly, Telescoping Tubes, Tripods, Camera Rigs, Aerospace	Enables strong, lightweight, modular structure