

Property	Typical Value / Range	Standard / Notes
Product Type	Carbon Fiber Buffer Tube (Mil-Spec / Commercial-Spec options)	Compatible with AR-15, M4, M16 platforms
Material Composition	High modulus carbon fiber (e.g. T700) + epoxy resin matrix	Aerospace-grade CFRP
Inner Diameter (ID)	1.148 in (29.16 mm) - Mil-Spec 1.168 in (29.67 mm) - Commercial	Per US Mil-Spec / Commercial receiver extension tube sizes
Outer Diameter (OD)	1.148 in - 1.25 in (29.16 - 31.75 mm)	Varies by stock compatibility
Overall Length	7.25 in (184 mm) - Standard AR-style	Custom lengths available
Thread Type	1 3/16"-16 UN3A (Mil-Spec standard thread)	Fits standard AR15/M4 lower receivers
Wall Thickness	1.5 - 2.0 mm	Precision roll-wrapped
Weight	65 - 90 grams (depending on spec)	~60% lighter than aluminum tubes
Surface Finish	Glossy / Matte / Clear-coated Carbon Weave	UV-resistant and wear-resistant
Weave Style	3K Twill / 3K Plain / UD (unidirectional)	Optional outer decorative layer
Tensile Strength	≥800 MPa	ASTM D3039
Tensile Modulus	≥85 GPa	ASTM D3039
Flexural Strength	≥750 MPa	ASTM D790
Impact Resistance	High (non-fracturing under drop or shock loads)	Exceeds standard aluminum tubes
Thermal Stability	-40 ° C to +120 ° C	Continuous operating temp
Corrosion Resistance	Excellent (non-metallic, rust-proof)	Ideal for wet, marine, or humid environments
Electrical Conductivity	Low / Semi-conductive	Improves safety over metal buffer tubes
Compatibility	Fits standard AR stocks, buffer springs, end plates	Mil-spec or Commercial tube options available
Finish Options	Black Carbon, Custom Cerakote (optional)	Branding / logo customization upon request
Manufacturing Process	Roll-wrapped + CNC machined aluminum thread insert	Threaded end reinforced with aluminum or stainless steel collar
Certifications	ISO 9001 / RoHS / REACH / MSDS available on request	Export-ready
Applications	Firearms (AR-15/M4), Tactical Equipment, OEM gun parts	Lightweight, rigid, anti-corrosion upgrade for aluminum tubes