

Property	Specification / Typical Value	Standard / Notes
Product Name	Carbon Fiber I- Beam	Pultruded or molded CFRP profile
Material Composition	100% Carbon Fiber (T300/T700) + Epoxy Resin	Aerospace/industrial grade fiber & matrix
Section Height (H)	20 mm - 200 mm	Custom heights in 1mm increments
Flange Width (B)	10 mm - 100 mm	Custom widths available
Web Thickness (tw)	1.0 mm - 10 mm	Uniform or tapered
Flange Thickness (tf)	1.0 mm - 10 mm	Thickness tolerance ± 0.1 mm
Length	Up to 3000 mm continuous	Cut-to-length service
Dimensional Tolerance	± 0.1 mm	ISO 2768- m general tolerances
Straightness	≤ 0.3 mm/m	ISO 5286- 2 tolerance for pultruded profiles
Density	1.55 g/cm ³	ASTMD792
Tensile Strength	≥ 900 MPa	ASTMD3039
Tensile Modulus	≥ 70 GPa	ASTMD3039
Flexural Strength	≥ 600 MPa	ASTMD790
Flexural Modulus	≥ 60 GPa	ASTMD790
Interlaminar Shear Strength	≥ 60 MPa	ASTMD2344
Moment of Inertia (Ix)	500 - 20,000 mm ⁴	Calculated per cross- section
Section Modulus (Zx)	50 - 2,000 mm ³	Calculated per cross- section
Coefficient of Thermal Expansion	$\sim 0 \times 10^{-6}$ /° C	ASTME228
Service Temperature Range	-40 ° C to +120 ° C	Short- term up to 150 ° C
Surface Finish	Matte or Gloss UV- resistant clear coat	One- or two- sided finish
Fire Resistance (optional)	UL 94 V- 0 epoxy system available	For electronics & aerospace
Electrical Conductivity	Conductive in- plane	EMI/RFI shielding potential
Corrosion Resistance	Excellent (non- metallic)	Ideal for marine/chemical environments
Certifications	ISO 9001, RoHS, REACH, MSDS	Test reports available upon request
Typical Applications	Structural beams, machine frames, drone spars, robotic arms	Where high stiffness- to- weight and precise cross- section needed