Property	Specification / Typical Value	Standard / Notes
Product Name	Carbon Fiber Z- Profile	Pultruded or molded CFRP
Material Composition	100% Carbon Fiber (T300/T700) + Epoxy Resin	Aerospace/industrial grade fiber and matrix
Manufacturing Process	Pultrusion / Compression Molding	Ensures uniform cross- section and fiber alignment
Section Geometry (Legs & Web)	Leg A × Leg B × Web Height: 10–200 mm in 1 mm increments	Custom profiles available
Wall Thickness (t)	1.0 mm – 10 mm	Uniform 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 per meter	ISO 5286- 2 for pultruded FRP
Density	1.55 g/cm³	ASTM D792
Tensile Strength (Longitudinal)	≥900 MPa	ASTM D3039
Tensile Modulus	≥70 GPa	ASTM D3039
Flexural Strength	≥600 MPa	ASTM D790
Flexural Modulus	≥60 GPa	ASTM D790
Interlaminar Shear Strength	≥60 MPa	ASTM D2344
Coefficient of Thermal Expansion	≈0 × 10^{-6}/° C (in- plane)	ASTM E228
Service Temperature Range	-40 ° C to +120 ° C	Short- term 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 and aerospace
Electrical Conductivity	Conductive in- plane	EMI/RFI shielding potential
Corrosion Resistance	Excellent (non- metallic)	Ideal for marine or chemical environments
Certifications	ISO 9001:2015, RoHS, REACH, MSDS	Test reports available upon request
Typical Applications	Structural channels, mounting rails, architectural trim, machine guards	Where high stiffness- to- weight and precise Z- section needed