

Attribute	Specification / Typical Value	Standard / Notes
Product Name	Biaxial Carbon Fiber Fabric	$\pm 45^\circ$ fiber orientation
Fiber Type	PAN - based Carbon Fiber (T300, T700, or equivalent)	Aerospace/industrial grade
Weave Architecture	Biaxial ($\pm 45^\circ$ warp/weft)	Provides high shear & torsional strength
Yarn/Tow Count	3K / 6K / 12K	3K most common for balanced performance
Areal Weight	200 g/m ² - 600 g/m ²	Typical choices: 200, 240, 300 g/m ²
Fabric Thickness	0.25 mm - 0.6 mm	Varies by GSM & weave tightness
Roll Width	1000 mm / 1270 mm / 1500 mm	Custom widths available
Roll Length	25 m - 50 m per roll	Custom lengths on request
Resin Compatibility	Epoxy, Vinyl Ester, Polyester, Phenolic	Suitable for hand lay- up, RTM, vacuum infusion
Fiber Volume Content	$\geq 60\%$	ASTMD3171
Tensile Strength (0° / 90°)	≥ 3400 MPa	ASTMD3039 (fiber only)
Tensile Modulus (0° / 90°)	≥ 230 GPa	High stiffness
Flexural Strength	≥ 500 MPa	ASTMD790
Interlaminar Shear Strength	≥ 75 MPa	ASTMD2344
Compressive Strength	≥ 450 MPa	ASTMD695
Density	1.76 g/cm ³	PAN - based fiber
Thermal Stability	Up to 180° C (dry); $120 - 180^\circ$ C with resin	Resin - dependent
Coefficient of Thermal Expansion	$-0.5 \times 10^{-6} / ^\circ$ C (in - plane)	Near - zero expansion
Electrical Conductivity	Conductive in - plane	EMI/RFI shielding
Moisture Absorption	$< 0.2\%$ (24h immersion)	ASTMD570
UV Resistance	Requires UV - stable resin coating	Bare fiber degrades under UV
Surface Finish	Dry fabric (standard); prepreg available	Prepreg options on request
Certifications	ISO 9001, RoHS, REACH compliant	Certificates & COA on request
Applications	Sporting goods, marine, automotive, wind energy, civil structures	Ideal for shear - critical, torsion load uses