

Property	Specification / Typical Value	Standard / Notes
Product Name	Twill Weave Carbon Fiber Sheet	Also: Carbon Fiber Twill Panel
Weave Style	2×2 Twill (standard) / 2×1 Twill / 3×1 Twill	Visual diagonal pattern; stronger drape than plain
Fiber Type	3K Carbon Fiber (3,000 filaments per tow)	Toray® T300/T700 or equivalent
Resin Matrix	Epoxy (standard) / High-TG Epoxy / Vinyl Ester	UV-stabilized options available
Manufacturing Method	Compression Molding / Vacuum Infusion / Autoclave	Ensures smooth surface and uniform thickness
Thickness Range	0.3 mm - 10 mm	Typical: 0.5 mm, 1 mm, 2 mm, 3 mm, 5 mm
Standard Sizes	200 × 300 mm, 400 × 500 mm, 500 × 1000 mm, 1000 × 1000 mm, 1200 × 2400 mm	Custom cut-to-size upon request
Surface Finish	Glossy / Matte / Semi-Matte	One- or two-sided finish
Fiber Volume Content	≥ 60 %	ASTM D3171
Density	1.55 g/cm³ (± 0.05)	Lightweight & stiff
Tensile Strength	≥ 600 MPa	ASTM D3039
Tensile Modulus	≥ 60 GPa	ASTM D3039
Flexural Strength	≥ 500 MPa	ASTM D790
Flexural Modulus	≥ 50 GPa	ASTM D790
Interlaminar Shear Strength	≥ 60 MPa	ASTM D2344
Compressive Strength	≥ 450 MPa	ASTM D695
Glass Transition Temperature (Tg)	≥ 120 ° C	Up to 180 ° C with high-TG options
Coefficient of Thermal Expansion	-0.5 × 10 ⁻⁶ /° C (in-plane)	ASTM E228
Thermal Conductivity (in-plane)	6 - 10 W/m • K	ASTM E1530
Water Absorption	≤ 0.2 % (24h immersion)	ASTM D570
Electrical Conductivity	Conductive (in-plane) / Insulating (through thickness)	EMI/RFI shielding potential
Fire Retardant Option	UL 94 V-0 (upon request)	For electronics & aerospace
Machinability	CNC, waterjet, laser, sawing	Dust control & PPE required
Adhesive Compatibility	Epoxy, acrylic, polyurethane adhesives	Surface cleaning recommended
Protective Film	PE film (optional)	Prevents scratches during handling
Certifications	ISO 9001:2015, RoHS, REACH, SGS	Test reports available upon request

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Applications	Aerospace panels, automotive trim, sporting goods, UAV fairings, marine interiors	Decorative & structural use