

Property	Typical Specification	Standard / Notes
Product Name	Carbon Fiber Panel & Veneer	Solid panel or thin veneer sheet
Construction	Pultruded Panel / Prepreg Laminate / Vacuum Infusion	Select per dimensional & performance needs
Fiber Type	3K Twill / 3K Plain Weave / UD (1K - 12K optional)	Toray® T300/T700 or equivalent
Resin System	Epoxy (standard) / High-TG Epoxy / Vinyl Ester	UV-stabilized options available
Thickness Range	Panels: 1 mm - 25 mm Veneers: 0.2 mm - 1.0 mm	Custom thickness ± 0.1 mm tolerance
Standard Panel Sizes	500×500 mm, 500×1000 mm, 1000×1000 mm, 1200×2400 mm	Custom cut-to-size available
Surface Finish	Glossy / Matte / Textured / Brushed	One- or two-sided finish
Fiber Volume Content	$\geq 60\%$	ASTM D3171
Density	1.55 g/cm ³ (± 0.05)	Lightweight compared to metal
Tensile Strength	≥ 600 MPa	ASTM D3039
Tensile Modulus	≥ 60 GPa	ASTM D3039
Flexural Strength	≥ 500 MPa	ASTM D790
Flexural Modulus	≥ 55 GPa	ASTM D790
Interlaminar Shear Strength	≥ 60 MPa	ASTM D2344
Compressive Strength	≥ 450 MPa	ASTM D695
Coefficient of Thermal Expansion	$-0.5 \times 10^{-6} / ^\circ\text{C}$	Near-zero in-plane expansion, ASTM E228
Operating Temperature	-40 ° C to +120 ° C	Short-term to 150 ° C available
Thermal Conductivity	6 - 10 W/m • K	In-plane, ASTM E1530
Fire Resistance	UL 94 V-0 option	Flame-retardant resin systems
Water Absorption	$\leq 0.2\%$ (24 h, ASTM D570)	Low moisture uptake
Electrical Conductivity	Conductive in-plane / Insulating through-thickness	EMI/RFI shielding capability
Surface Resistivity	$10^3 - 10^6 \Omega$	ESD-safe option
Bonding Compatibility	Epoxy, acrylic, polyurethane adhesives	Surface prep recommended
Cutting & Machining	CNC, waterjet, laser, saw	Debris control & PPE required
Certifications	ISO 9001:2015, RoHS, REACH, MSDS	Third-party test reports available
Typical Applications	Architectural cladding, marine interiors, automotive trim, instrumentation	Wall panels, dashboards, veneers for laminates, decorative inserts

