



**Carbon/Carbon Composite Grades
Typical Physical Properties**

Material Grade			CCP-130-12	CCP-140-12	CCP-145-12	CCP-147-12	CCP-149-12	CCP-152-12	CCP-160-HW
Fabric Type			12K Twill	12K Twill	12K Twill	12K Twill	12K Twill	12K Twill	Plain
Density	g/cm ³		1.35	1.45	1.48	1.47	1.57	1.52	1.52
Flexural Strength	psi MPa	⊥	10,500 72.4	14,058 96.9	15,634 107.8	18,033 124.3	20,795 143.4	21,664 149.4	21,466 147.9
Flexural Modulus	ksi GPa	⊥	3,400 23.4	5,504 37.9	5,806 40.0	5,770 39.8	6,231 43.0	8,734 60.2	4,973 34.3
Tensile Strength	psi MPa	//	6,100 42.1	11,557 79.7	12,514 86.3	11,720 80.8	13,430 92.6	15,586 107.5	12,060 83.2
Tensile Modulus	ksi GPa	//	5,700 39.3	7,718 53.2	7,926 54.6	12,282 84.7	13,496 93.1	9,685 66.8	23,240 160.2
Interlaminar Shear Strength	psi MPa		760 5.2	1,026 7.1	1,320 9.1	1,310 9.0	1,520 10.5	1,910 13.2	2,031 14.0
Compressive Strength	psi MPa	//	7,050 48.6	9,580 66.1	14,300 98.6	14,100 97.2	17,300 113.3	19,500 134.4	11,300 77.9
Thermal Conductivity	W/mK W/mK	// ⊥	30 6	31 6	31 6	31 6	32 7	32 7	31 6
CTE (20 – 1,000°C)	x 10 ⁻⁶ /K x 10 ⁻⁶ /K	// ⊥	0.5 7.0	0.5 7.0	0.5 7.0	0.5 7.0	0.5 7.0	0.5 7.0	0.5 7.0
Electrical Resistivity (25°C)	μΩm	//	34	35	35	34	33	31	N/A
Maximum Sizes	inches		0.125 X 48 X 120"	1.5 X 50 X 100" 1.5 X 63 X 63"	1.5 X 50 X 100" 1.5 X 63 X 63"	1.25 X 48 X 52"	1.25 X 48 X 52"	1.5 X 50 X 100" 1.5 X 63 X 63"	1.25 X 48 X 52"

Notes:

1) // Parallel to Fiber Axis, ⊥ Perpendicular to Fiber Axis.