

Woven Carbon Fiber Fabric



Carbon Fiber fabrics offer technical properties that are popular in various applications where its high strength-to-weight ratio is of importance. In addition to its high strength-to-weight ratio, carbon fabrics are thermally and electrically conductive. The term carbon fiber is used interchangeably with graphite. However, carbon fibers and graphite fibers are made and heat treated at different temperatures and have different carbon contents. ACP's carbon fiber products are manufactured with PAN based medium modulus (33-35 MSI) carbon fiber, not graphite. Carbon fiber has the highest specific stiffness of any commercially available fiber and a very high strength in both tension and compression. The carbon fibers have a surface treatment applied to improve matrix bonding and a chemical sizing which serves to protect the fibers during handling. To maximize the fiber properties, we recommend using an epoxy based resin.

Part	Style	Weave	Weight	Thickness	Count (W x F)	Warp Fiber	Fill Fiber
2.4 oz	84	Plain Weave	2.48 oz/yd2	.006"	16 x 16	1K Carbon Standard Modulus PAN	1K Carbon Standard Modulus PAN
2.9 oz	-	Plain Weave	3.00 oz/yd2	.006"	19.1 x 18.8	1K Carbon Standard Modulus PAN	1K Carbon Standard Modulus PAN
3.5 oz	130	Plain Weave	3.74 oz/yd2	.008"	24 x 24	1K Carbon Standard Modulus PAN	1K Carbon Standard Modulus PAN
5.6 oz	282	Plain Weave	5.78 oz/yd2	.009"	12 x 12	3K Carbon Standard Modulus PAN	3K Carbon Standard Modulus PAN
5.6 oz	284	2x2 Twill Weave	5.78 oz/yd2	.013"	12 x 12	3K Carbon Standard Modulus PAN	3K Carbon Standard Modulus PAN
6.2 oz	94933	2x2 Twill Weave	6.20 oz/yd2	.009"	13.1 x 13.3	3K Carbon Standard Modulus PAN	3K Carbon Standard Modulus PAN
10.9 oz		5H Satin Weave	10.90 oz/yd2	.028"	12 x 11.33	6K Carbon Standard Modulus PAN	6K Carbon Standard Modulus PAN
11.2 oz	94910	2x2 Twill Weave	11.14 oz/yd2	.016"	11 x 10.8	6K Carbon Standard Modulus PAN	6K Carbon Standard Modulus PAN
19.75 oz	94940	2x2 Twill Weave	19.44 oz/yd2	.025"	10.7 x 10.2	12K Intermediate Modulus PAN	12K Intermediate Modulus PAN

Fiber	Density	Tensile Strength	Tensile Modulus	Strain to Failure	Specific Tensile Strength	Specific Tensile Modulus	CTE	Decomposition Temp
33MSI	.064 lb/in3	530 ksi	33.5 msi	1.5%	8.33 10 ⁶ in	5.25 10 ⁸ in	-0.33 x 10 ⁻⁶ /°F	6332°F

All the information contained in these properties is believed to be reliable. It is intended for comparison purposes only as each manufactured lot will exhibit variations. The user should evaluate the suitability of each product for their application. We cannot anticipate the variations in all end use and we make no warranties and assume no liability in connection with the use of this information.