

5 THINGS TO KNOW ABOUT CARBON FIBER

1

Use of Carbon Fiber Projected to Grow

According to [Research And Markets](#), the use of carbon fiber in sports equipment (think: ski poles, tent poles, tennis rackets, bicycle frames, fishing rods) is forecast to grow at a CAGR of 6.92 percent between 2017–2021.

2

90% of Carbon Fiber Supply Comes from 6 Companies

According to a 2010 report from the U.S. Department of Energy, more than 90 percent of the world's carbon fiber supply comes from six companies, including Mitsubishi, Rayon, Zoltek and Toray.

3

Carbon Fiber is Strong and Light

Carbon-fiber is prized for its strength-to-weight ratio.

4

Carbon Fiber's Stiffness Can Be Manipulated

According to [Bicycling magazine](#), carbon-fiber is great for bike construction for two reasons: "First, it's stiffer at lower weight than almost any other material we know of. Second, unlike metal, carbon fiber's stiffness can be finely manipulated; its stiffness properties apply only unidirectionally, or along the long axis of the fibers themselves, so stiffness can be tuned based on how the carbon-fiber composite is oriented, or placed in the mold. That's called anisotropism. Metals, by contrast, are isotropic, exhibiting the same strength and stiffness properties along any axis of the material.

5

Stronger and Lighter than Aluminum Alloy

[Goode](#), which claims to have introduced the first carbon fiber ski pole, says Pure carbon composite poles are about 30% lighter and up to six times stronger than aluminum alloy poles, don't bend, are more durable, and have excellent feel and balance." They also create less wind drag.