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Subject: : Paflyfish General Forum

Topic: : Graphite Rod differences

Re: Graphite Rod differences

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URL:

Mainly on account of never owning the latest and greatest graphite technologies, I don't have any personal experience.

That said, I've heard the same thing. And it makes sense from a materials standpoint, but is very likely highly brand/model dependent.

First, a general rule of all materials, including graphite and resins, is the stronger you make something, the less ductility/toughness it can have (i.e. it's more brittle). The definition of "high modulus" is stronger. For instance, diamond is the hardest/strongest material on earth. But it's also not tough at all. Hit it with a hammer, and the hammer wins, resulting in diamond dust!

To make matters worse, higher modulus graphite allows a rod maker to make a rod lighter without sacrificing the speed of the action. They do this by thinning the walls, and perhaps stiffening the resin. The higher stiffness allows you to have the stiffer rod with less material. But in addition to being more brittle, the thinner walls further lower the damage tolerance, i.e. a little nick has a greater effect.

That said, a maker could take it the other way too. Even if the graphite is more brittle, you could soften the resin, allowing the graphite to supply more of the stiffness. Then you could add MORE sheets of thinner graphite, even crosshatching the directions. The result would be a rod that probably would have similar action and weight as previous rods, but is more damage tolerant and nearly indestructible. i.e. an improved Ugly Stick.

There are always trade-offs. I always say, picture a see-saw. You can gain one at the expense of the other, and pick your balance point. Newer, modern materials don't change the fundamental trade off. They raise the fulcrum a little.