

Casting Carbon Fiber

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The International Association of Penturners



Casting Carbon Fiber for Pen Kits

By theidlemind of IAP - David Best

I was asked to put some carbon on some tubes and cast them.

Okay, carbon fiber is cool and we've seen a lot of neat carbon fiber, fiberglass, and kevlar pens lately. I've cast a few and figured I would give a quick primer on how I do it, that works for me.



Warning: Safety First. Wear a mask when cutting these fibers. You do not want this in your lungs.

Cut them when the sun light is shining through your shop window and you will see uncountable fiber dust in the air.

Begin by preparing the tubes from the kit.

You *might* think that you don't need to paint your tubes, but you won't find out until after you cast them.

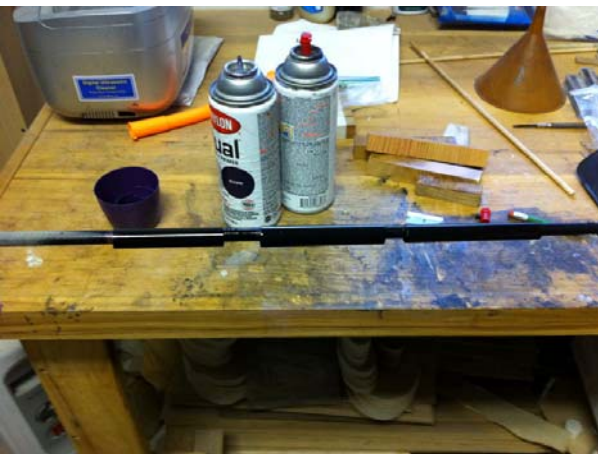
First, scuff the tubes with sandpaper.



Then hang them on a high end painting jig.



Spray tubes, making sure you have covered them well.



Then let them thoroughly dry.



Next put the Carbon fiber on the kit tubes.

I buy my fiber from Soller Composites <http://www.solarcomposites.com/>

I have found that the 1/2" sleeve is the only size I need. It will fit anything from a Slim to a Majestic.

They have lots of other neat things like Kevlar, Colored Fiberglass, Fiberglass/Carbon blends and are very good people to give your money too.

Here's a sampling of some of their products.



So, notice the fuzzy ends? I don't know how to prevent that so I cut mine long so that I have a nice, tight wrap on my finished blank. You will trim the ends after you glue them to the tube. And don't use your wife's scissors.

I always test fit mine before mixing my clear epoxy. You don't want to glue it and find you have fuzzies on your tube.



The stuff comes in a roll and is like a Chinese handcuff. Pull on it and it won't turn loose, push on it and it will bunch up and release.



Remember to wear your mask when you cut it.

I HIGHLY recommend wearing gloves at this point.

You will use quite a bit of epoxy in this step, but it needs to dry CRYSTAL CLEAR. I buy mine from http://woodenwonderstx.com/ZC_WoodenWonders/

It's a good idea to plug the ends of the tubes with dental wax, Play-Doh or whatever you prefer to use.

Now mix the epoxy and roll your tube in it so it has a fairly thick coat all over it. (Wearing gloves?)



Push your fiber tube so that it expands in diameter and shortens in length, slide the tube in and then pull the fiber tight.

You should see epoxy squeeze out of the fiber.

Using your fingers, slick the epoxy down so that you have a smooth coat on it. I usually take the epoxy all the way to the end to help prevent fuzzy ends. It makes it harder to trim but less stuff floating in the air.

It doesn't need to completely coat it but you want it smooth with no air bubbles.

If you use less epoxy, that's okay too, the resin will finish the job.

You want to make sure the fiber is fastened to the blank. Resin has a way of shrinking and pulling the things you cast.

Right now is a good time to decorate your tubes with watch parts or coins if you want.

When finished with this set them aside to dry.

When they are dry you can take your scissors and trim the fuzzy ends of the fiber.

You are still wearing your mask?

I trim the fiber to within about 3/16" or 3 or so millimeters, whichever standard you use.

Now you just cast them.

I have used Resin Savers molds, they save resin.

My favorite molds are from Fred at <http://www.luv2turn.com/siliconemold.html> and I call them "Money Saver" molds because one mold will fit A BUNCH of different tubes.

I use Silmar Polyester Resin and use all the standard casting techniques.

The big molds pictured have cast everything from Slims to Long Clickers to Zens.
The small mold pictured is the executive mold and I have no idea what tubes I just cast in it, Shock Absorber pen maybe?



- ☐ Heat the resin
- ☐ pour slowly from one end
- ☐ vibrating the table
- ☐ work the bubbles out
- ☐ sometimes a pressure pot



Next day pop them out of the molds.



Turn them, polish and assemble your kit.



So that's all there is to it. I lost a bunch of material learning to do this.
Hopefully this will make the learning curve easier for someone.

I've gained a LOT of knowledge on the www.penturners.org site, maybe I've given a little back.

Let me know how your carbon casting goes. And definitely let me know if you have an easier/better way.



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