Casting Braided Steel

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CASTING BRAIDED STEEL

By Dai SENSEI

Before I start, I use silicon plugs for the tubes and my own silicon rectangular molds, plus small cable ties from your local $2 shop. The plugs are just under 1" long, made by simply drilling holes the size of the outer diameter of the tubes in a piece of wood.

After soaking in BLO as a release agent, I pour silicon in, and when set, pull them out. These can also be used for plugging ends of tubes when gluing in to timber blanks etc.

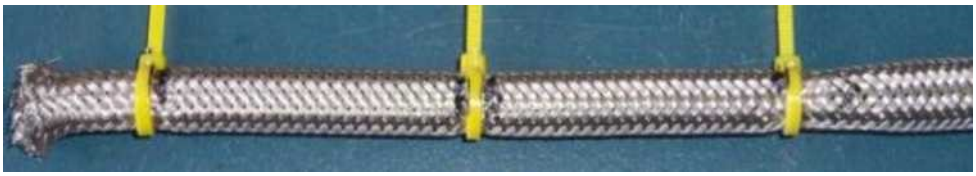
Basically I do 2 SS sleeves at a time. I black the tubes then add my silicon plugs at each end and a joiner in the middle.

The SS cable has a rubber tube insert that needs to be removed. The best way to do this is with an "easy out" in the rubber tube, and holding the cable at the same end, then simply pull it out.

I then slip a long length of the SS over the tubes and use a small cable tie on the silicon at one end as close to the tube as possible to fix the tubes.

I then use a tie the other end whilst stretching the cable.

Lastly I use another tie in the middle. I can find the silicon under the SS because it is white, but also it deflects under pressure of the tie. Timber plugs can be used, but you must then transfer marks exactly where the plugs are as you can't locate them once you are in the SS. I also mark the outside of the SS where I can see the end of the tubes, it helps to see the cut-off point after casting.



I also mark the cutoff point on the cable just longer than the mold so it will hold in place in the mold with minimal holders.

I then cut off the cable ties ends and trim the excess SS using the edge of my grinder.

Then I place it in my mold ready for casting. I locate the cable tie locks at the bottom, to keep the SS off the bottom of the mold, and small match sticks or similar against the ties on the sides where necessary.

I do not cast under pressure, just pour the resin whilst on my band saw bench. I then switch on my band saw for a few minutes to help vibrate the bubbles out. After leaving overnight to set, I have a double blank ready for processing (not turning yet).

I then cut the middle and ends with a hacksaw, as far away from the tubes as possible, all you are doing is trying to expose the silicon plugs.

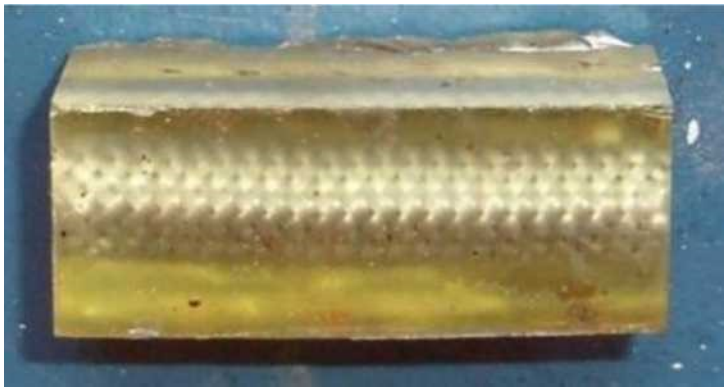
I have a bent tipped scratch awl that is perfect for removing the plugs.

To trim the blanks roughly to size I have found the best thing is a continuous diamond blade on a drop grinder, holding the blanks in a 2-way vice. This allows an initial cut; then very fine slither cuts until the brass is exposed (or very close). As the vise is not fixed in position, it also allows me to cut at an angle that is visually close to 90 degrees to the tube (often my tubes end up not quite square to the cast).

I then grind the ends flush with my wet grind. This keeps the cable cool and polish them beautifully. I use a simple timber block with a hole to slide it on the wet grind bar and an old bolt of suitable size to hold the sleeve. I rock the blank back and forth (rotating the block) on the grinder pushing it at the same time against the side face.

You can see the actual cable is intact and polished square and true.

After a quick file with a round file to remove any remaining burrs or resin, your blank is now ready to turn.



I turn them and sand through the grits to 12000 micromesh, finally polishing with a plastic polish from auto suppliers to give the ultimate shine (just like any resin blank).