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## Fiberglass wing-tube sockets.

Even though there are commercially available wing-tubes with sockets, there are sometimes a need to make sockets to some special tubes. I have used this method to make sockets for tubes (both alum. and carbon) from 10 to 30mm in diameter. The most important issues when making sockets is firstly that they are able to get off the tube when the epoxy is hardened and secondly that the fit to the tube is good. I solve these two issues by wrapping the tube in a very thin plastic foil, it's sold as a foil to wrap meat in when cooking in the stove. This foil is very thin and it's got a smooth surface so it does not stick to the tube. The process is shown as a series of pictures with comments.

**Please do as myself and wear protective gloves (preferably vinyl) to avoid getting epoxy on fingers, it's messy and bad for you health !!**



The tube is present and a piece of plastic-foil is cut. Make the foil big enough to extend a few cm longer along to the tube than the length of the socket to be made, and to reach 2 rounds around the tube. Use small pieces of tape to hold the foil onto the tube, try to avoid wrinkles.



The foil is wrapped onto the tube and the fiberglass is ready. The size of the fiberglass is of course dependant on the size of the socket to be made, I usually use cloth with weight of 50-100g/m<sup>2</sup>. With this type of cloth 2-3 rounds should be suitable. Try it out with the cloth you have available to find the number of layers needed. If the tube is of small diameter, a lighter cloth is needed to be able to wrap it around the tube.



Start by brushing some epoxy onto the foil covered tube. Let the fiberglass lay flat on a plastic sheet and set the tube (with epoxy) down onto one edge of the fiberglass. It's best to wrap the fiberglass around the tube in the same direction as the plastic-foil. Then start to brush the fiberglass onto the tube, using just a little bit of epoxy. Too much epoxy and it becomes a real mess.



When the fiberglass is wrapped all around, work with it to tighten it onto the tube. Take care to avoid wrinkles. Look for spots which is not wet'ed out with epoxy and add some more if necessary. Finally use a paper-towel to wipe off excessive amount of epoxy, the surface shall not be shiny from epoxy.



Place the tubes up against the wall until it the epoxy is dry, if possible in a room with above average temperature. Remove the tape that holds the plastic-foil onto the tube and pull the sockets off the tube. The plastic-foil will stick to the inside of the sockets and can be removed by grabbing one end and twisting and pulling.



Voila !!

Clean the ends of the tube and glue them into the wings or wherever they will go.