

Quasi-Glass

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EVER WANT TO TRY fiberglassing a tube, but felt it was just too time-consuming, messy and difficult? Let's face it, glassing a round tube with a flat sheet of fiberglass isn't the most enjoyable part of building a rocket. First you have to cut the cloth, taking care not to let it all unravel. Then you need to tack it in place along one edge, then try to tightly wrap the cloth without wrinkling it. Once that's done, you must apply the epoxy, making a huge mess in the process. And as the epoxy slowly cures, you have to babysit the thing and squeegee out those pesky wrinkles. And after that work comes the REALLY fun part: Sanding until your hand goes numb, especially on that annoying seam!

Sure, you can invest in expensive Kevlar socks and a rotisserie machine, which is fine for those who have the time, money and desire, but I'm lazy. When building, say, a typical 4" diameter Level 2-type bird, I want to get the thing finished as quickly as possible. So, I came up with a way to "quasi-glass" tubes with no muss and no fuss. You can do a 6" tube in under 10 minutes, for less than 10 bucks, with no mixing, wrinkles, seams or irate spouses complaining about that icky sticky smelly mess in the garage. You can also do fins, wings and nose cones. The only really tricky part is explaining to the clerk at the drugstore why you are buying plus-sized pantyhose!

What You Need:

- 1) A 3" to 7.5" diameter body tube
- 2) Plus-size pantyhose (1x to 4x depending on tube diameter)
- 3) A pint of Miniwax Polycrylic finish, clear gloss (water soluble)
- 4) A 2" wide foam brush
- 5) 220 grit & 400 grit sandpaper
- 6) 2 pieces of scrap 1x2 lumber over newspaper

Cut the legs off the pantyhose and discard the rest. Roll up one of the legs, then stretch the hose over the tube, taking care not to snag it or make runs. Pull it tight enough that the toe stretches taut and no sags or wrinkles are evident over the tube. Tie a knot in the open end, then stuff the knot inside the tube. Stand the tube up on the scrap lumber, knotted end up, over the spread newspaper. Open the can of Polycrylic and stir until it is a uniform milky white (it will be fairly thin). Dip the brush in the can until it is saturated, then gently brush the mixture from the top down. Do a brush-width at a time, all the way from top to bottom, then start again at the top until you have gone completely around. Rinse out the brush—you can reuse it if you want. Check to make sure there are no wrinkles—if you see any, just pull the knotted end tighter. For a 48" long by 7-1/2" tube, you will have to do it in two halves (the nylon won't stretch that far). Do one end at a time and trim the overlap after it dries.

The initial coat will be dry to the touch in an hour or so. It is a waterproof finish. You will notice the tube feels considerably stronger against crushing. For an even stronger tube, you can add another pantyhose layer. The texture will feel very rough, so LIGHTLY sand the surface until it feels uniformly smooth. It won't smooth out to a glasslike finish, so don't mess it up by trying. A second coat of Polycrylic is recommended; it will dry in a couple of hours. After sanding, the tube is ready for finishing.

Finishing:

I use lightweight spackling to fill the weave. I dilute it slightly with water to a brushable consistency, then lather it on. It dries overnight and sands easily. For added durability, brush on a coat of finishing (or laminating) epoxy. Then apply gray automotive primer and sand smooth.



Quasi-Glass components: Tube, Plus-size pantyhose, 2" foam brush, sandpaper, Miniwax Polycrylic finish



Cut off the legs, then pull the hose tight. Knot the open end and stand the tube up. Apply the Polycrylic top to bottom, pulling wrinkles out as you go by tightening the knotted end. Two coats are sufficient; sand between coats. For added strength, a coat of thin laminating epoxy may be applied.

For larger diameter tubes, there is a cheap alternative to the Rocketman/Giant Leap sock material. Carriff Corp. (800-845-5184; <http://carriff.com>) makes a strong fabric product called Drain Sleeve that is available in a range of sizes from 3" to 24" in diameter. Lowes has this product available in stores or online. I used the 8" diameter sleeve on a 12" PML tube, it took about an hour to complete. Never again will I go back to fiberglass!