ANN DAVIS STUDIO

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STEP by STEP

Event Horizon Bracelet

Unexpected inspiration leads to a combination of lampwork and electroforming.

BY ANN DAVIS

Do you ever think, as an artist, how you get from here to there? From idea to finished piece? Sometimes you just have to lay back, enjoy the way the artistic mind makes unlikely connections, bends time and

space, and comes up with it's own kooky brand of ah-ha moments.

As a great fan of physics and string theory, I'm always trying to think outside the box, or the event horizon, to give the process a little sexier name. You know, that imaginary edge of the bubble where time stands still around a black hole. For me, that way of thinking increasingly means using non traditional materials for the construction of jewelry.

For example, roaming through the pet supply store one afternoon, I was thinking about jewelry (I'm always thinking about jewelry) and I came across a terrarium full of chameleons, you know, the little creatures that put on a changing color show right before your eyes. They were maneuvering slowly around their space, their eyes going all wonky in different directions like little telephoto lenses. They climbed on stringy looking branches that reminded me of decaying tree roots in an ancient rain forest.

The texture of this stringy material was really tantalizing. It reminded me of some of my heavily electroformed pieces but it was bulkier than anything I had ever done. The hunt was on! I got that crazy giddy feeling that comes to an artist when you know something good is about to happen. I immediately tracked the stuff down in the store, took some home and started playing with it. It has the texture and feel of extruded foam with a wire core, perfect for bending into any shape just like jewelry wire. Since I had been consciously trying to think outside the event horizon, my first finished piece had to be the event horizon, complete with escaping Hawking energy(escaping quantum energy particles) in the form of red glass beads(I mean, that stuff has got to be hot right? So the beads had to be red).

And lo, my artistic vision came into being, something out of nothing—just like those quantum particles! These things are always such a surprise. Often I laugh when my mind presents me with the finished piece. I have to make what? OK then. That feeling of delight, sometimes serious, sometimes goofy, is what fuels me as an artist. I'm always searching for that moment of ah-ha.

So if you throw a chameleon into a black hole, it comes out a bracelet!

My creative equation: Changing (eyeballs)+decay(rain forest)+physics(strings)+jewelry(bracelet)=black hole= Event Horizon.

Skill level: Advanced

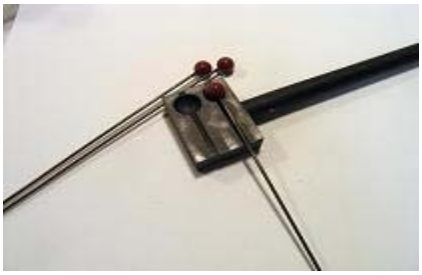
What you need:

- Soft Italian glass
- Mandrels 1/16"
- Lampworking torch
- Small bead or marble mold
- Flukers's Bend-A-Branch, large
- Two part epoxy putty or paste usually found in the plumbing section
- Wire cutters large enough to cut through the mandrel
- Electro conductive paint
- Electroforming setup

- Flex shaft
- Small drill bit
- Liver of Sulphur or other patination agent
- Old toothbrush
- Dishwashing liquid

Step 1


For this project I made 16 small glass beads on the end of the mandrel. I used 1/16” mandrels, just under 2mm. You need something thin but not bendy so you can wear the piece. Since I wanted the beads to be identical, I also used a round bead mold that makes 9mm beads, which is approximately 6/8 of an inch.


Don’t dip your mandrel in release! You want the bead to fuse with the end of the mandrel. For those of you (and don’t we all) who have experienced “stuck” beads, you know that a bead without release will never come off! Make enough beads to go around your project. I used very short leftover ends of mandrels that I would have otherwise thrown away. To make the glass fit the mold, do a thin round of glass on the end of the mandrel and then check it in the mold to see if you have enough. If using a marble mold or a small bead mold, just stick it in gently and move it around slowly. That will have the effect of marvering it in the round shape. If it doesn’t fill the mold (and my first round never does) then add another round of glass or make even dots around your gather and melt them in. Remember to put glass on the top end of the mandrel. Test the glass in the mold again. Keep gently spinning the mandrel between your fingers just like you do in the flame to keep the glass even as it marvers in the mold. If you get a little too much glass on your rod and it won’t fit in the mold, you can always pinch some off with your tweezers. After making a couple you will get into the rhythm of it and it will go pretty quickly. Anneal those beads!

Step 2

Measure your wrist, most bracelets are 7 to 8 inches. Since it is an enclosed bangle make sure it will go over your hand. Measure the Bend-A- Branch and cut with wire cutters. Form the branch into a bracelet shape pushing it together at the ends until it touches as tightly as possible. I had to try several ways to secure the connection which was difficult because you couldn't solder the wire core without melting the foam. I finally had success with two part epoxy putty, the kind used for plumbing. It's widely available and nicely malleable. Mix up enough putty to secure the ends of the bracelet together. Use a spare piece of the branch to texture the putty so it looks like an integral part of the bracelet. When it's electroformed, you shouldn't be able to tell where the connection is. I used a large rubber band around the bracelet to hold the ends together while the putty sets, just to make sure the connection would be as solid as possible. Let it set. There were no specific directions on the package of putty, so I let mine set overnight just to be sure.

Step 3

Use a marker and make dots around the bracelet where you want the mandrels to attach. I wanted them to be even so I measured them carefully. Next take your flex shaft and a drill bit the size of the mandrels and drill holes where the dots are. You only need to drill a hole down to the wire core. Don't drill out the other side or you will end up having to patch your holes.

Step 4

Take your annealed beads on the mandrels and cut them into short lengths with a wire cutter. Mine including the beads were about ¾" long. Measure and cut carefully until you have all the mandrels cut. I

made mine all the same length but you could certainly vary it if you like.

Step 5

Use two-part epoxy cement to cement the mandrels into the holes around the bracelet. I like the 5- minute setting kind but anything that will form a strong waterproof bond will do. Let it all set up.

Step 6

 Paint the bracelet with two coats of electro conductive paint, making sure to get into all the crevices. You don't need to paint the mandrels, they are conductive, but do make sure to have your paint touch the mandrels so you won't have any little holes in your piece. Let the whole thing dry. I usually give it each coat an hour or more in front of a fan. I have found from teaching that one of the main reasons for failure to plate well is that the paint wasn't allowed to dry.

Step 7

Now you are ready to electroform. For my bigger pieces I use a two-gallon fish tank with about a gallon of electroforming solution in it. I run two large pieces of copper along the sides for the anodes. Hang the bracelet horizontally in the tank. If you hang it vertically it probably won't plate on the sides as I found the first time I tried it. Make the connection and set the rectifier for ½ to 1 volt. Leave it for at least 4 hours. By hanging it sideways, you also get the wonderful granulation on the ends of the mandrels where the beads are attached. This will continue to grow the longer you leave it. When you are satisfied with the look, remove it from the solution and immediately wash it in running water. I usually go over each piece with an old toothbrush and dishwashing liquid so make sure all of the solution is washed off because it will tarnish the piece badly if left on. Check the granules for any sharp edges with your finger. If you find any just file them down gently.

Step 8

Patinate with liver of sulphur. I like to warm the piece up with hot water and then dip my brush into the fresh patinating solution and dab it on a little at a time. I keep the water running in the sink so that I can rinse to stop the patinating action as soon as I see the color change that I want. Once the color is right, I again use a toothbrush with a little dish soap to make sure all the liver of sulphur is off. Dry with a soft towel. Enjoy!