

STEP BY STEP – SEA CUCUMBER: METAL CLAY WITH RESIN INLAY

By Ann Davis

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Sea Cucumber
Metal clay with resin inlay.
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What you need

- Flex® wire
- Flex® tube
- Flex® wire or string
- Flex® clay
- The silver leaf and gluepage of your jewelry
- Flex®
- One half ounce (14.17 grams, 0.50 ounces) #20 hardware
- Small amount of resin with 1:2:1 ratio of resin to
- Flex®
- Viewing window with clear adhesive
- Double sided mounting tape

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If you have ever wanted to add more color to your work, here's your chance in a great way to go. It's easy to use, requires little equipment, and the great news is jewelry to make is truly fantastic. I encourage you to give color a try in your work. So please, let your imagination wander. After all, it's your chance to make them.

The inspiration for this piece comes from many years ago when we lived in Nairobi, Kenya. My husband Howard surprised me with scuba diving lessons for my birthday. We drove down-country to Malindi, a quiet little town on the coast, right by the national underwater park. Here in a sort of extraterrestrial wonderland, you

could walk out onto the reef from the beach for almost a mile at low tide. From the shore, people far out on the reef looked like they were walking on water. But the best diving was a few miles out by boat. The Indian Ocean is warm, and the sea's abundance in this fairytale realm is awe inspiring. The second day out while I still stuck close to the instructor, Howard ventured further away with other more experienced divers. On the boat speeding back into shore, he had a story to tell about the most beautiful sea cucumber he had ever seen. I begged him to help me find it the next day. Sure enough he was able to take me to the very spot and there on an outcropping of the reef I gazed in rapt silence at one of the most beautiful creatures nature has to offer. It was about a foot tall, red, with black spots and the most glorious golden fronds extended from the top like a crown, as if it were king of all it surveyed. I'll always remember that day under the ocean, as the gentle motion of the water rocked us too and fro. It was not just a life changing experience, it was the stuff dreams are made of.

If you have ever wanted to add more color to your work, then epoxy resin is a great way to go. It is easy to use, no extra skills are required, and the jewel tones it imparts to PMC are truly fantastic. I encourage you to give color a try in your work. So dream, let your imagination wander: after all, it's your dreams stuff is made from.

Skill level intermediate/advanced

What you need:

- PMC III lump form
- PMC III slip
- PMC III paste in syringe

- PMC + sheet
- Fine Silver bezel wire 28 gauge 1/8" width optional
- Pin back
- 650 Easy Silver Paste solder
- Torch
- Epoxy resin colors - black, ruby, thick hardener, #30 hardener
- Small squeeze bottles with #18 gauge needle tips
- Kiln
- Vibrating tumbler with stainless steel shot



Step 1

I always start with a sketch of the object I want to create. Using colored pencils, I try to render it as close as possible to the size and color of the finished object.



Make the cookie cutter

Step 2

Measure a length of the silver bezel wire to go all around your drawing just as you would for a real bezel, overlapping the ends. I use fine silver because I don't like to deal with fire scale, but sterling will work fine too. Snip the two overlapping wires with your wire cutters, both at the same time. That gives you a perfect finished length and also makes for a bit of spring in the bezel, so the ends will stay together without using binding wire.



File both ends flat with a small flat file, fit together so they are flush, then solder. This wire is very delicate so I always use easy solder.

Place a small amount of paste solder on the outside of the bezel and use cross-locking tweezers to hold the piece. I also use a small combination butane torch/wax-polisher for small projects because of its convenience. Just brush the flame back and forth over the seam and the solder will run in a few seconds. If you can do this on the inside of the bezel it will pull the solder down into the seam for a nice clean bond. As you can see, this is a very easy way of making a lot of cookie cutters quickly. I like to keep a 'library' of cookie cutter shapes.



Make the cookie

Step 3

Roll your PMC III lump to a slab 4 cards thick. I like to work on a sheet of plain paper for this because I want it to dry quickly. Once it is rolled, you can texture it by drawing or impressing. Here I have used one of my own designs from an etched plate and pressed in two-part silicone molding material to make a stamp.

When you have a design you like, position your cookie cutter over the best part and press down through the slab. Then, just like making real cookies, peel away the outer waste clay and quickly return to its pack before it dries. Pull the cookie cutter up and make sure the sides of the

slab are nice, smooth and standing up straight. Let it set till its fairly dry and handleable. Now is the time to either take a small file to smooth the edges or run a damp finger around the outside.

Make the bezel

Step 4



While the 'cookie' is drying you can take your PMC+ sheet and begin to cut the bezel from it. You can use the fine silver bezel as a template. If you have a long enough piece of PMC you may only have to make one cut, but we are going to overlap, so smaller strips are OK. Cut enough strips to go around the outside.

Make sure that you cut each and every strip the same width. It's very important that the bezel once fired is the same height all around the cookie so the resin will not run out!



Step 5

Go around the outside of the cookie with slip, attaching the bezel strips as you go. Overlap each strip a few millimeters and secure with slip. Set on a flat surface and press the bezel firmly onto the cookie, working your way around until it's attached evenly all over. Now take a fine brush and deposit a very thin line of slip around the inside of the bezel once or twice. This is to insure there are no unseen pinholes in the piece. Even a hole so tiny you probably couldn't see it in a normal piece can be an escape hole for the resin!

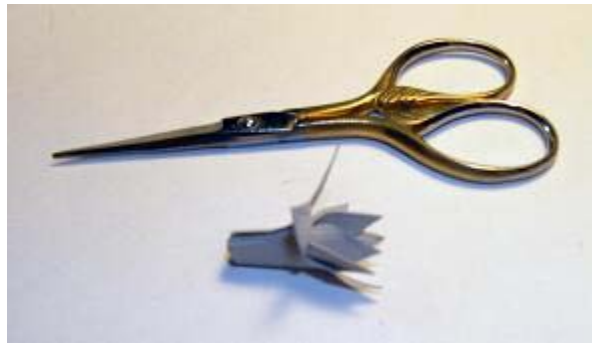
Let dry. Clean up any fingerprints or marks around the outside of the bezel until it's nice and neat and clean. Now turn the piece over and paint two coats of slip on the back of the whole thing. This final step ensures there are no escape holes. Let the piece dry completely

The first time I tried this technique I was unaware of the tenacity of the resin. It just wants to run everywhere!! I ended up with a silver piece embedded in a pool of resin. Not exactly what I wanted. But lesson learned.

Make the topknot

Step 6

Take a piece of PMC+ sheet about 1"x1½" and cut out the top in a zigzag pattern. Apply slip to the topside of the straight edge and roll the piece up. Pinch together with your fingers. Gauge how tall you want it to stand up and trim the bottom if necessary. Attach with slip to the top of the piece, carefully arranging the fronds in a pleasing manner. Let dry. Prop up if necessary.



Step 7

Once the piece is good and dry, take your syringe of PMC III and pipe the little tentacles around it. First apply a dot of slip, then make three dots -- big, medium, then a small one on top of the others. Go all around and let dry. Fire to the PMC+ schedule, at 1470' for 30 minutes. The small fronds might need to be propped up in the kiln. After firing place the piece in the tumble polisher and tumble for several hours, or even overnight like I do for a really nice finish. Make sure you use only rounded or nugget-shaped stainless steel media because the pins will scratch.



Mix the resin

Step 8



It's best for the resin application to immobilize your piece. Take the piece and tape it sticky side up to a piece of cardboard. If you will be

using a toaster oven for this part, tape it to a small baking tray. I use my small kiln to set the resin because of the timer and the convenience.

Take the black opaque resin color and mix 10cc with 5cc of clear thick hardener. Stir slowly to mix, trying not to introduce any air bubbles. Most resins made for jewelers have a special additive to release trapped air, but bubbles and pin holes can still happen.

Take the ruby transparent resin color and mix 10cc with 5cc of the clear thick hardener. Stir slowly to mix and then add 4 drops of the #30 hardener additive. That will make it super viscous so it will retain its shape. Stir that in slowly. You can feel when it becomes thicker, it only takes about half a minute.

Pour each mix into a small plastic squeeze bottle and attach a #18 gauge needle. You now have a 'pot life' of about 45 minutes to work before the mixtures start to set. But there are always things that come up, so if the dog runs through the house with muddy feet or the school calls with sick kids, just take a piece of aluminum foil and make a snug cap for the needles and put the bottles in the freezer. The resin will stay in there and be useable for weeks. You can defrost it by setting it out for about 5-10 minutes depending on the warmth of your room.

Step 9



With a steady hand -- I always have my elbow or wrist balanced on the table -- begin to fill the piece with the ruby transparent. Go around the perimeter inside of the bezel first making sure the resin flows along the bezel and touches it. Work slowly, go with the flow. As you are filling, try to keep the needle touching the work and the resin flowing out of the needle, so the opening is always under resin. That helps immensely in keeping out air bubbles. Fill the inside next with the red but don't fill it all the way to the top. Leave just a millimeter or two because we are going to add some black.

Take the black opaque and hold it up over a piece of paper, squeezing gently until a drop appears. Then touch the paper and apply it. This will give you an idea of how big your dots will be. It also charges the needle and brings the resin to the opening. Now with the resin at the opening, insert the tip of the needle into the ruby resin touching the bottom of the piece, squeeze gently until you see a small dot. Stop squeezing but don't release pressure or it could draw the resin back up through the needle like a straw. Remove the tip slowly upwards. You will now have a very round dot in the red resin. If the dot isn't big enough, you can poke the dot with the needle and squeeze again, inflating it. It will hold its shape because we used the # 30 hardener additive. Repeat for other dots along the piece until you have a pleasing design. Now take your ruby resin and carefully insert the tip into the ruby between the dots and squeeze gently till you see the level rise to the top of the bezel. You can do this in several places and the resin will eventually level out.



Cure the resin by carefully placing it in a kiln or toaster oven and setting it for 120' for two hours. My small kiln heats up so quickly that by the time the pyrometer checks itself, it has risen up 20 or 30 degrees so I have to set it at 80' for 2 hrs to keep it from overheating, which will ruin the resin, causing blisters and bubbles. If you like, you can let it cure at room temperature of no less than 72' for 24 hrs but the full cure takes 3 days, and the manufacture recommends not touching before then. You can see why the heat cure is preferable!

Step 10

Attach the pin back to the piece by using clear 2 part jewelers fast epoxy. Since the fronds stick out in front, they will probably prevent it from lying flat, so I use a roll of clay to prop it up on. Let cure for about an hour and you are done. Enjoy!

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