

CAPE WATCH est. 1962

TOOLS & JEWELLERY SUPPLIES

COPPER ETCHING

This Chloride mixture works best when it's fresh. The more you use it, the slower it will etch, and the shallower the etch will be. A fresh bath of etching solution will create a faster, cleaner etch, while older solution can take several hours and can cause graininess and blurring. Keep etching solution covered whenever you are not using it to help keep it fresh. Use a pyrex dish with a lid to keep my current batch of solution in. This Chloride mixture will also leach into the air and corrode your tools if you do not keep it lidded when not in use!

RECIPE:

To form the basic stock etching solution, distilled water is added in the ratio 2 parts water to 1 part ferric chloride solution in a solution strength of 42° Baume. Add the crystals to the water * contained in a Pyrex or plastic container and mix with a plastic spoon.

MARKING:

Resist sticks better on clean metal with a slightly rough surface, so give your copper a good rubbing with scotch brite or steel wool.

Protect the back of the metal.

Start by painting a thin layer of resist over the back of the copper, then when it dries cover it with masking tape. Use an old brush to spread the resist, clean it with rubbing alcohol when you are done

Use a metal nib pen to draw the resist onto the copper. Fill a little cup with the resist, dip the pen in and draw it on. It's a little thicker than ink, so it takes a little getting used to. As you are drawing the design, the resist will start to dry and gum up the pen. Keep a little cup of rubbing alcohol handy, and when the resist starts to dry on the pen, dip it in the alcohol and wipe it clean on an old rag.

Use a marker to mark out the borders of the design. This resist dries really fast, so just let it dry for 15 minutes or so and it is ready to go in the etching bath.

ETCHING PROCESS:

Pour your etching solution into the plastic tub. Use a big plastic container with a lid, because you can just put on the lid to store the solution.

When using the chloride solution, the copper needs to be suspended design side down in the etching bath. To do this, I just put a long strip of tape across the back of the piece, then place it in the etching bath just below the surface, with the ends of the tape attached to either side of the tub.

Depending on how deep an etch you want and how fresh your solution is, etching can take half an hour to three or four hours. Just be sure to check the piece every so often. Just pick up one end of the tape and lift the piece out of the bath. It helps to give the surface of the copper a little rinse with water once in a while too. Remove the resist. Once you have a deep enough etch on your copper, remove it from the etching bath, take it to the sink and rinse it off. Take a cotton ball and saturate it with rubbing alcohol and rub off the resist. Once the resist is off, it's a good idea to scrub the copper with some soap and scotch brite. Sometimes the residue of the etching solution will continue to etch the metal even after you remove it from the etching bath. To prevent this, you can scrub the metal with ammonia to neutralize the etching solution. If you have a torch, I would recommend annealing and pickling the copper just to make sure it's completely clean.

You now have an etched piece of copper that is ready to be cut, formed, and finished in any way you like.

SAFETY PRECAUTIONS:

- USE PROTECTIVE EYE WEAR , & CLOTHING DO NOT DIGEST
- Wear rubber or latex gloves and use in well ventilated area.