

Tutorial: Relief Electro-Etched Design using a Vinyl Resist



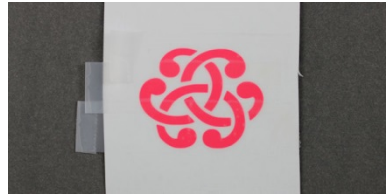
In this tutorial the negative space of the background will be etched into the metal and the positive space of the design will be left untouched above the background.

Materials required:

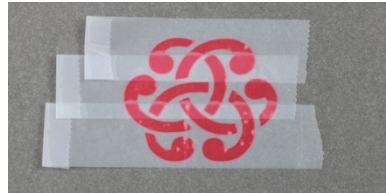
- Vinyl resist mask of the design for the front of the pendant
 - Pendant blank
 - Scotch Magic™ tape
 - Heavy duty aluminum foil
 - Clear contact paper
 - Jump ring for bail
1. Prepare the pendant blank by scrubbing it well, and wiping it with alcohol. Do not bother to smooth the edges at this time. The edges will be etched and will need to be smoothed in a later step.
 2. Weed the parts of the mask that are to be etched using a dental pick, needle, or sharp pointed tweezers. In this tutorial it is the negative space of the background that needs to be weeded.



3. Place a short strip of Scotch Magic™ tape over the design and burnish it to the vinyl. It may take more than one strip of tape to cover the design. If so, overlap the strips of tape slightly.



4. Carefully peel the backing paper away from the vinyl exposing the sticky side of the vinyl design. Make sure the design comes away with the tape and does not stay stuck to the backing paper.



5. Center the design on the pendant blank and burnish it to the metal.



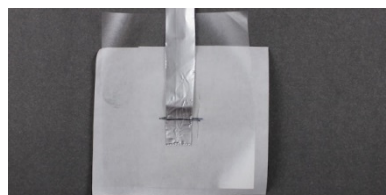
6. Carefully peel the tape away from the design, making sure the design stays on the metal and does not come off with the tape. If multiple strips of tape were used remove them in the opposite order in which they were applied.



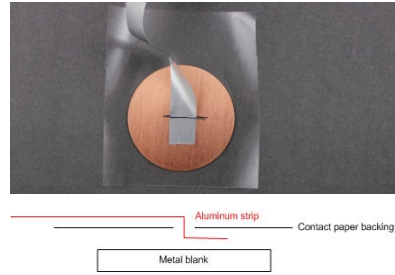
7. Cut a piece of contact paper slightly larger than the metal, and an inch taller. Cut a horizontal slit in the center of the contact paper. The slit must be slightly wider than the strip of aluminum foil but narrower than the width of the metal.



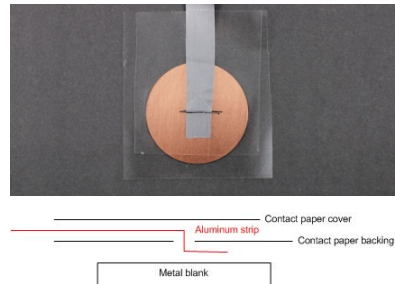
8. Remove the backing from the contact paper. Slip about half an inch of the aluminum strip through the slit from the non-sticky side to the sticky side, and stick the end of the aluminum strip to the sticky side below the slit. (For the photo, I set it down on the backing paper so it would not stick to my background.)



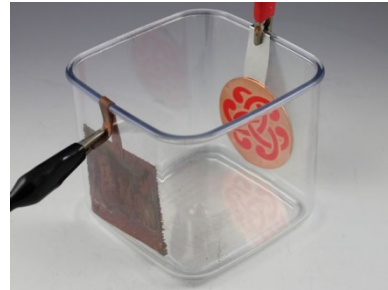
9. Turn the metal blank over so the design is on the bottom and place it on the saved backing paper. Apply the contact paper to the back of the metal blank with the extra inch being on the top of the metal blank, and burnish it to the metal.



10. Cut another piece of contact paper approximately the same size as the first piece and place it on top of the first piece of contact paper. Make sure this second piece completely covers the aluminum strip from below the slit to the top edge of the first piece of contact paper.



11. Hang the package on the edge of the tank by the strip of aluminum foil, and clamp it in place with the red alligator clip from the power supply. Add the electrolyte to the tank until it completely covers the pendant blank, but do not allow it to touch the aluminum strip. Hang a copper cathode on the other side of the tank and connect it to the black alligator clip from the power supply.



12. Lift the package out of the electrolyte and inspect the etching every 10 or 15 minutes. If a deeper etch is desired, hang the package back into the tank and let the etching continue. When the desired depth of etch has been reached remove the package from the tank, rinse it, and dry it.

13. Punch a 1.8mm hole in the top of the pendant for the jump ring bail. Be careful you don't punch the hole too close to the edge.



14. Optional: Dome the pendant using a mushroom former in a hydraulic press.

15. Attach the jump ring bail. Burnish in a tumbler with stainless steel shot and Super Sunshen for 30 minutes.