

# Galvanic Etching Checklist

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Please note that this is ONLY a checklist – not a complete tutorial. Be sure you understand the process, procedure and safety before etching. Your resist should already be applied to the metal.

- Find an appropriate size container – be sure both pieces of metal will be at least ½” below the surface of the bath (narrower is good, so less distance, less mordant required and less to store).
- Use the appropriate bath for the metal being etched:
  - Copper sulfate for copper/copper alloys (1C copper sulfate: 4C water)
  - Copper nitrate for silver (1C copper nitrate: 4C water)
- Attach a copper wire/strip to the metal being etched – either with tape or by drilling holes and hanging the metal being etched
- Use an appropriate cathode (copper for etching copper alloys in copper sulfate and stainless steel for etching silver in copper nitrate).
- Place both pieces of metal in the bath facing each other and equal distance apart.
- Make sure the power to the rectifier is off
- Attach the “+” lead to the sheet of metal being etched (anode)
- Attach the “-“ lead to the facing sheet of metal (cathode)
- Turn the volts to minimum and the amps to maximum
- Turn the power on to the rectifier – both amps and volts should read “0.00”
- Since we want to control the amperage and let the voltage adjust, the indicator light should be on for the “C.C.” or constant current, but will usually start out on the “C.V.” or constant voltage side. To change it over to the C.C. indicator light and set the proper amperage at the same time, turn the VOLTS coarse adjustment voltage knob up until the amps read approximately 3.5-4
- Immediately, turn the CURRENT coarse adjustment current knob DOWN until the amperage reads about 2-2.5. The light should switch over when you make this adjustment.
- Check etch every 5-10 minutes - use a feather or soft paintbrush to gently clean off residue accumulating on your etching piece so etching will be a more even and consistent surface. Always turn off the rectifier before handling the leads.