

## How do I electroform multiple objects at once?

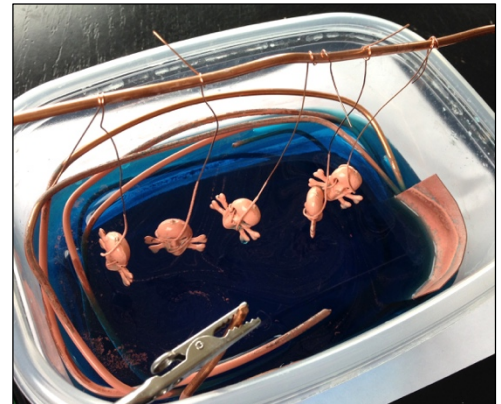
With the E3 Duo™ controller you can plate multiple pieces at once. This controller goes up to 2A in current and so you can electroform about 2-12 charms at once depending on the size of the pieces. It helps if the pieces are relatively the same size and shape.

If you only have a few pieces to electroform you can plate them together in the same beaker. Attach each prepared object to its own wire, and then twist all the wire ends together so they share a common stem (think of leaves growing on a tree branch). Position the objects away from each other so they don't touch each other or the copper anode coil during electroforming. If the pieces are small, you might try starting the current at 1A and then lower the current to .50 or lower depending on the size of the pieces.



Another way to plate multiple pieces is to wire each piece onto a common copper rod so that all of the pieces are positioned in a row suspended from the rod. Rest the rod over a rectangular shaped vessel lined with a copper anode (sheets or wire). This will allow you to form individual pieces at once on a large scale.

1. Use a glass or plastic container that is long and deep enough for the pieces to be lined up next to each other and submerged. Place heavy copper wire or sheet copper around the inside edges of the container. Place a copper rod lengthwise across the top of the container. Fill the container with copper electroforming solution.
2. After your pieces are prepared and coated with varnish and conductive paint, attach a wire to each piece and hang them from the copper rod to suspend the pieces over the container.
3. Make sure to attach the red lead of the controller to the anode wire (wire surrounding inside of container) and the black lead clips onto the end of the long copper rod. Turn the power on and dial the current up to 2A and lower the rod with pieces attached into the container.



4. The pieces should start plating quickly along the row. Adjust the current down if you see a lot of grainy copper building up on the wires. Let the pieces plate for 3 or more hours depending on how heavy you want to plate them.
5. Hint: Graphite and silver conductive paints react slightly differently depending on the current and size and shape of pieces. The skull charms in the photo were coated with with graphite paint with success. However, silver conductive paint is not a water based paint and may be a good option when electroforming a large batch of pieces when it will take the current longer to reach the surface area of all of the pieces. The silver paint will withstand sitting in solution longer than graphite without fear of flaking off when you need a robust paint for multiples.