

# Your Guide to



# From New Mexico Clay

## ***Welcome to COPPRclay™!***

[COPPRclay™](#) is easily sculpted, molded, carved and formed, and becomes solid copper when fired. Your imagination and just a few simple tools will allow you to create solid copper pieces—jewelry to sculptures and everything in between!

## ***Working with COPPRclay™***

COPPRclay™ is just that: a clay. Like clay, it's highly workable but it also dries quickly. You'll notice the clay stiffening and cracking when it begins to dry. Some tips to keep in mind:

- Keep COPPRclay™ refrigerated until you're ready to use it and in between sessions.
- Rub a dab of olive oil on your hands before you begin working with the clay.
- While working the clay, refresh it periodically with a small amount of water using a spray bottle or brush.
- Wrap pieces that you are not currently working on in plastic and place to the side.
- Avoid using tools that absorb water.

When not in use, keep the clay tightly wrapped in plastic and place the wrapped piece in a sealed plastic bag for added protection. Store all unopened packages (as well as opened packages) of **COPPRclay™** in a refrigerator when not in use. Note: After prolonged exposure to air, **COPPRclay** will develop a black surface. Scrape away this black layer until you reach the useable clay, which will be unaffected and ready to use.

## ***Making Slip***

Slip will quickly become one of your favorite tools for working with **COPPRclay™**, and it's easy to make. Simply mix tiny pieces of clay (filings, small dried or wet pieces, etc.) with water (we recommend distilled water for a longer shelf-life) until you reach a toothpaste consistency. Keep your slip stored in a [sealed container](#). Note: Slip will last for about one week, so make only enough for your immediate need.

## ***Drying the Clay***

Once you've finished your piece, you will need to dry the clay before firing it. Gently place the piece on a warming surface such as a coffee mug warmer or the top of a kiln (be careful to keep pieces away from the kiln's vents); an inexpensive vegetable dehydrator works well, too. Once dry, you'll notice the clay is leather hard, making it very easy to add finishing touches such as filing, drilling, sanding and carving. Once **COPPRclay** is fired, it's much more difficult to finish, so take advantage of this pre-fired stage to do as much of your detailed finishing work as possible.

## ***Firing***

To reduce oxidation, the piece(s) must be surrounded by activated carbon during firing. Firing **COPPRclay™** is a two-step process that uses low heat to vaporize the binder, then high heat to sinter the alloy.

1. Spread 1" of [activated carbon granules](#) on the bottom of a [stainless steel firing container](#).

2. Place the piece on top of the layer; if firing two or more pieces, leave at least 1/2" between pieces, more if the pieces are large.
3. Pour more activated carbon granules on top of the pieces until the container is full, making sure there is a 1/2" layer of granules on top of the pieces. Again, if you are firing many pieces in layers, make sure there is at least 1/2" of space between the vertical layers as well.
4. Put the stainless steel lid on the firing container and place it in the kiln on stilts to allow good heat circulation.  
 Note: Front-loading kilns are cooler in the front near the door, so the front of your firing container will be cooler than the other sides. Compensate for this by placing the pieces closer to the sides and back of the firing container, making sure you leave at least 1" of space between the pieces and the front of the firing pan. If you have a top-loading kiln, there's no need to adjust.

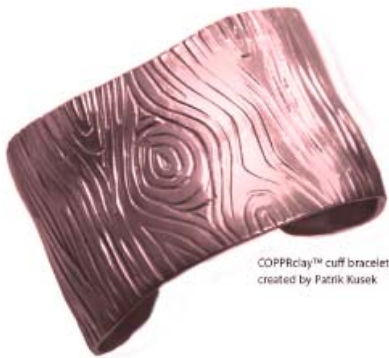
**Firing Thin Pieces:** For pieces that are 6 cards (3mm) thick or less, fire according to the following program: Ramp at full speed to 1650°F (900°C), and hold for 2 hours. Total firing time (including warm-up) will be between 2 1/2 and 5 hours.

**Firing Thick Pieces:** For pieces that are thicker than 6 cards (3mm), or if you plan to apply enamel, fire according to the following program (this firing schedule will also work for thin pieces):

Ramp at full speed to 1650°F (900°C), and hold for 3 1/2 hours. Total firing time (including warm-up) will be about 4 hours.

## Finishing

Once fired, the COPPRclay™ piece is a solid piece of metal. As with other metals, it can be sawn, drilled, sanded, patinaed or soldered using traditional jewelry tools and materials. Keep in mind that many finishing techniques will be easier to perform at the dried, pre-fired stage.



## Safety

The binder in COPPRclay™ is non-toxic, and no toxic fumes will be present during firing. Though rare, it is possible for some individuals to experience some sensitivity to COPPRclay™. We recommend wearing a dust mask while working with the activated carbon. Please see an MSDS for COPPRclay online at [copprclay.com](http://copprclay.com)



## COPPRclay and BRONZclay comparison

	<b>COPPRclay</b>	<b>BRONZclay</b>
<b>Shrinkage</b>	Approximately 20%	Approximately 20%
<b>Activated carbon</b>	Coconut shell only	Coconut shell Coal-based
<b>Recommended firing schedule for ANY thickness (up to 10mm for BRONZclay)</b>	Ramp: Full Temperature: 1700°F (927°C) Hold time: 3 hours Total firing time: ~ 3½ hours	Ramp: 250°F (139°C) per hour Temperature: 1550°F (843°C) Hold time: 3 hours Total firing time: ~9 hours
<b>Thick firing schedule (1.75mm to 10mm thick)</b>	Ramp: Full Temperature: 1650°F (899°C) Hold time: 3 ½ hours Total firing time: ~4 hours	Ramp: 250°F (139°C) per hour Temperature: 1550°F (843°C) Hold time: 3 hours Total firing time: ~9 hours  <i>Note: For pieces thicker than 10mm the ramp temperature needs to be lowered.</i>
<b>Thin firing schedule (less than 1.75mm thick)</b>	Ramp: Full Temperature: 1650°F (899°C) Hold time: 2 hours Total firing time: ~2 ½ hours	Ramp: 500°F (278°C) per hour Temperature: 1550°F (843°C) Hold time: 2 hours Total firing time: ~ 5 hours

Prices as of May 15 2009

Product	1-2 Pack rate	3-5 Pack rate	6-9 Pack rate	10+ and Certified Pack rate
BRONZclay & COPPRclay 100-gram packages	\$19.98	\$18.98	\$18.50	\$17.98
BRONZclay & COPPRclay 200-gram packages	\$35.98	\$34.50	\$32.98	\$31.98