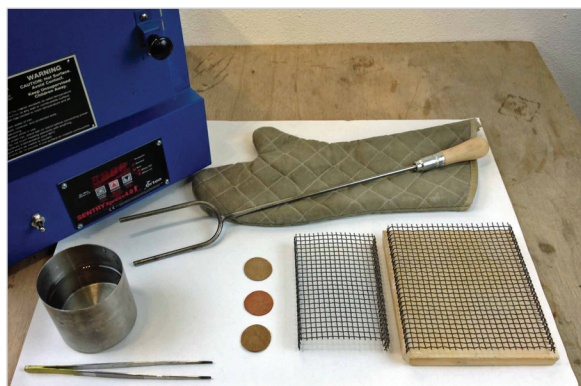


Open-Air Firing Option for Base Metal Clays

original testing done by Martha Biggar;
original web publication on www.creativefire.com



Open-Air Kiln Firing Is Feasible & Fast

Though usually fired in carbon to help prevent firescale, some base metal clays can be fired openly on a kiln shelf and quenched afterward. Firing time is significantly reduced, and quenching removes much of the firescale that may form.

Please Note: This optional firing technique has been tested on pieces about 1mm (four cards) thick and 2" in diameter. To start, we recommend that you fire one piece at a time to gauge how your kiln performs and adjust the time and temperature settings needed for the pieces you fire. Also note that multiple pieces require more time to quench; this can increase the formation of firescale during the process.

Materials Needed

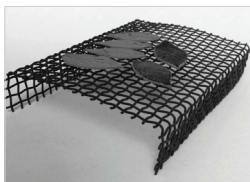
- Stainless steel screen or shelf for kiln
- Long steel tweezers
- Heat-resistant gloves
- Enameling fork
- Safety glasses (#3 green-tinted IR lenses are recommended for working with red-hot metals and open kiln elements)
- Kiln
- Heat-proof surface
- Steel container with water for quenching
- Brass brush
- Pickle (if needed)

Preparing Your Pieces

Prepare pieces just as you do for carbon-embedded firing; they should be completely dry and finished or textured to the extent your designs allow.

Firing Your Pieces

1. Preheat your kiln to the desired temperature and set hold time (see firing chart on reverse side).
2. Arrange the pieces on the stainless steel screen.
3. When the kiln reaches set temperature, open the kiln door and use the enameling fork to position the screen inside the kiln.



⚠ Caution! Always wear heat-resistant gloves and the appropriate safety glasses when working with a hot kiln.

- The kiln temperature will drop while the door is open; allow the kiln to come back up to full set temperature.
- Stay close to the kiln during the firing process; you will need to remove the screen and pieces promptly when hold time has been reached.
- As soon as firing is complete, use the enameling fork to remove the firing shelf and place it on the heat-proof surface. Using the long tweezers, pick up each piece and place them in the water to quench. **Please Note:** Keep the heat-proof surface and quench water as close to the firing area as possible.

⚠ **Caution!** Quenching may cause the water to spatter; take care to avoid being scalded. **Never** quench hot metal in pickle; the acid solution can spatter and cause burns.
- The thermal shock of quenching will dislodge most of the firescale that may have formed on the surface of the pieces. If necessary, the pieces can be placed in pickle after quenching to remove any remaining firescale. If desired, use a brass brush to scrub firescale from the pieces as needed.

Firing Chart

Clay Type	Max. Temp.	Hold Time
BRONZclay™ FASTFire BRONZclay™	1540°F (838°C)	30 mins.
COPPRclay™	1750°F (954°C)	30 mins.

Safety Precautions

As always, when working with kilns and hot metal, be safety conscious. Always wear heat-resistant gloves and a pair of the appropriate kiln safety glasses. Keep all flammable materials well away. We recommend that you wear closed-toe shoes and tie back long hair to keep it safely out of the way. Please read the SDS for this product (available online on the product page for this product).

The Research Continues . . .

As is the legacy for metal clay since it was first introduced, those who use these materials continue to experiment, research and share their findings about metal clay design and processes. This new firing process is expected to evolve over time as we (and you) continue to challenge and widen the horizons of know-how for working with these materials.



Test pieces after quenching.