

DUNG / WOOD FIRING

Fire reaches approx 900 F

Maria Martinez

- Stack pots on raised metal grates
- Wood under grates
- Cover pots with dry cow dung
- Sheet metal to form a shell, will increase temperature
- When mature, smother ware with finely ground dung and sawdust to reduce
- She carefully monitors this stage so no smoke escapes and to prevent flame ups.
- Cool

DUNG Firing

bisque 012-09 to keep the burnished surface.

1. dig a hole about 18"-2 ' deep with a ledge about 1/2 way or more down that will hold a grate to sit the pots on.
2. start a fire on the bottom and let the coals build up. you can line the pots along the edge of the pit to dry them out and preheat.
3. when there is a good bed of coals, place the grate on the ledge put pots on the grate upside down.
4. cover with dung so the pile is a foot or two above ground level. Lean metal sheets on top and sides. Maria Martinez used old license plates. I have used metal siding scraps
5. wait for the fire to ignite on the surface (sometime two or more hours of smoldering)
6. cover with ash when the fire is dying down. This helps blackness.

Metal Box Kiln with dung



Some members of Southwest Native American tribes utilize a sheet metal box as the ware chamber in another closed kiln firing method.

- clear the ground and dig a very shallow pit
- place 4 to 6 large tin cans upright in the pit (this will act as legs to elevate the ware chamber).
- Place tinder and kindling around and between the cans.
- Put the bottom of the sheet metal box on top of the cans
- Set dry ware in the box
- Tightly cover the box with a lid
- Wire grill laid on the floor of the empty box can protect the ware from sudden heat changes.
- Place dry cow manure pies around and over the box.
- Stack split pieces of wood around the whole mount

- Ignite the tinder on all sides
- The fire should burn for about an hour
- Will reach ^015 (1454 F) or higher

To reduce the ware, the stacking and firing procedure is the same. When the fire is burning strongly, smother the entire mound with dry, crumbled manure and then let the fire die out. Traditionally, horse manure is used for reduction, but any easily crumbled manure will do. For best results, it is important that no smoke escape from the fire.

You could even try very low temp glazes in this chamber.

Cow Pies Serve three functions: when dry they easily burn to earthenware temperatures. They impart various colors on their own when they burn: blacks, greens, grays, browns. They cover the ware with a clinging yet easily removable ash. This ash blanket promotes a local reduction atmosphere necessary for copper reds.

artificial dung

smolders and heats like the real thing

- Mix 1 part wheat paste
- 2 parts ball clay
- Add enough water to form a slurry
- Add medium sawdust until the mixture crumbles
- Pat large handfuls of it into pies and let them dry thoroughly before use.



Black on Black Pots

Maria Martinez began creating pottery in 1908. Maria, with the help of her family, continued to create superior pottery until 1970.

In 1919, Maria and Julian, her husband, completed their first black on black pot; a finish they developed by smoking their red slipped surface black. In their first attempts, they polished their painted avanyu, leaving the background matte. Later, in 1921, their technique was revised. After Maria burnished the pot's entire surface, Julian painted the rough slip onto the polished surface, creating a design. This technique allowed for more detail. The pottery they created was thick walled and unusable as a water container.

The firing processes that Maria used later in her career began by setting up an iron grill. Under this grill, wood was stacked in three layers along with twigs. Above, burner plates were placed and covered with long strips of tin, ensuring that no flame came in contact with the pots above. The pots were stacked upside down and spaced so that none touched each other on the first layer. The top layer, reserved for plates, rested carefully on the very edges of the pots below. This was necessary to obtain even color throughout. The logs were soaked with kerosene, providing a quick, even fire.

Around the perimeter, army mess trays and license plates were stacked vertically, leaving air spaces at the corners as well as around the four sides. Tin strips were placed across the pile and more metal plates covered the top of the stack. The pile was typically 3 feet across and 3 feet wide. Before license plates, Maria used potsherds to cover her pottery.

Dung chips were placed around the outer edges of the pile, leaving air spaces. A cornmeal offering was given before lighting the fire. Once the fire was lit, the air holes were covered with tin-can lids. The temperature was kept less than 650 degrees Celsius in order to ensure a rich black finish. Higher temperatures resulted in a less desirable gunmetal gray finish. After the "kiln" burned for about forty minutes, ash was placed all around to prevent air from entering, creating a reduction atmosphere. Dry, fine horse manure was dumped over the top to smother the fire, keeping carbon inside. Maria preferred manure from horses that ingested grass rather than hay because it was more carbonaceous, producing a richer black. Finally, the metal was removed to cool the fire and more ash was thrown on to prevent re-ignition. The

entire process was complete in roughly two hours. This technique and finish spread quickly, and by 1925, potters from San Ildefonso were all producing pottery of this style.