

BARREL-PIT FIRING

Fire to reach between 900 and 1350 F

Firing NOTES:

- Pots on bottom get darker
- Cool spots will cause a lot of black on the pots surface
- Salts and baking soda yield yellow-orange
- Flat surfaces can be more dramatic than round/curved
- Smaller pieces are recommended

Surface Treatment

OXIDE WASH

Place to begin trials-mix with 1 pint of water

½ t copper carb	lt green, turquoise
¼ t copper oxide	dark green, blacks
¼ t chrome oxide	leaf green, opaque
1/8 – ¼ t cobalt carb	lt blue, transparent
1/8 or less cobalt oxide	dark blue, blacks
½ - 1 t red iron oxide	tan, brick red, brown
¼ - ½ t black iron oxide	opaque tan, brick red, brown
1/8 – ½ t manganese dio	brown toward purple

Try yellow ochre in a thick wash

Apply stains, washes to pots before or after bisque for a “controlled” background.

- 50-50 copper carb – red iron oxide. Brush on, sometimes offers halos on white clay or white slip.
- 10% salt and water solution – soak fabric, string or sisal twine dried and tied onto the surface. Could give green, black, brown or maroon colored line patterns
- Thin delicate pieces can be placed in a wire cage/basket to protect them from wood and other pots.
- Duncan VELVET underglazes – apply to bisque ware (or Greenware)
- Soak vermiculite in copper carb, ferric chloride, salt
- Can put wet clay on surface, hold close to surface to resist reduction, etc.
+++put salt, Iron copper on the inside of the slab, let dry and then tie it onto the mother pot.
- Mix vermiculite with sawdust to lesson the black affect of plain sawdust

MAGIC DUST Atmosphere enhancer (do not sprinkle directly on the pot)

1 part copper carb
2 parts table salt

Warning: Wear a mask, protective goggles, long sleeves and pants when sprinkling Magic Dust. Copper is a respiratory tract irritant. Repeated inhalation of dust can cause sinus congestion, ulceration, and perforation of the nasal septum. Contact with eyes can cause conjunctivitis, discoloration, and ulcers on the cornea. It can also irritate and discolor the skin. Wash immediately.

Constructing the Pit (barrel or fire ring)

Charlie Riggs Process – stacking the barrel/pit

- 12" deep pit
- line 6" of bottom with coarse sawdust
- criss cross with 1x2's to cover sawdust
- cover wood with 12" layer of sawdust
- place pots on next
- sprinkle with –
 - copper carb
 - copper sulfate
 - salts
 - steel wool
 - copper wire
- keep salt off surface of ware
- stack more criss cross wood
- start fire in several places with newspaper and torch
- let burn until only ash left
- when pots are cool to touch, remove and wash
- polish with paste wax for shine and seal

The pit is built of **hard brick** stacked on a sand base. You can configure whatever size you need with the bricks and then use old kiln shelves to cover it up.

Put saw dust in the bottom with a couple smaller pieces of wood and then arrange my pieces on top of this. Sprinkle copper sulfate crystals, bought from a hardware store as "Root Kill," and table salt around the pieces, on top of the sawdust. Then fill in with more sawdust till the pieces are covered by about 2". More copper sulfate and salt. Then loosely place pieces of wood. Generous seasoning with lighter fluid and light. I keep adding wood to get a good flame going and then maintain this for about 2 hours, sometimes I will add a bit more sawdust or more chemicals as the urge strikes. Let the flames die out so you have glowing embers around the pots and cover with the kiln shelves and allow the kiln gods to do their magic. It all depends upon the firing how long it takes to finish firing out the rest of the wood and sawdust and then cool enough to allow you to open it up.

All my surfaces are extremely smooth, burnished but not extremely shiny. I have found that highly textured surfaces don't blend the best with the vagaries of smoke firings. My best colorations have come from my hottest firings. I have gotten pieces with lots of reds, grays, greens, yellows, browns, whites, and aquas. **You can also stain terra sig and brush that on greenware before the bisque** to add another dimension to the coloration. Afterwards I wax with Min-Wax, a floor paste wax.

Post Firing

1. Remove the ash from the interior of the pots.
2. Do not wash the pots. You do not want salt deposited on the surface to permeate the body of the piece. Pit fired pots are decorative, not functional.

3. Carefully shake off or wipe any ash residue adhering to the surface. Single edge razor blades or credit cards are useful tools in removing carbon or wire fragments that stick to the pot. Be careful not to scratch the delicate surface.
4. The pit site should be cleaned and left as natural as you found it. Remember ashes are very caustic. Wear a mask.
5. Pots need to be treated to prevent or retard absorption of water from the atmosphere. The salt in the pit fired clay will react with water vapor and corrode the surface of the pot.

For treatment of burnished or terra sigillata pots I like to apply two layers of Johnson's or Butcher's Floor Paste Wax for a semi-gloss sheen. Use a soft shoe brush or cotton cloth to bring out the shine. When first applied, the wax will seem to streak and discolor the surface. This will vanish in a few hours. The wax odor will persist for about a week.

If a more reflective surface is desired, I use Future Acrylic Floor Finish diluted with water to a 25% acrylic solution.

I also use Future, Watco Clear Liquid Wood Wax, or Jasco Silicon Grout Sealer on rough or unpolished textured surfaces.

Color Chart (Possible effects on clay)

Combustibles and Chemicals	Expected coloration on cone 018-014 bisque
Hardwood sawdust	Black, dark gray
Hardwood coals	Black, smoky gray, blue-grays
Cow pies from grass fed cows	Gun metal black, jet black, golden yellows
Cow pies from grain fed cows	Dark greens, grays, blacks, browns
Driftwood	Blue-grays, aqua shades, gray-blacks
Seaweed roots	Browns, rust, honey
Kelp leaves	Yellow, orange, peach
Kelp pods	Orange, brown
Saline grown leaves, twigs, grass	Golden yellows, greens
Table salt	Orange, yellows
Sea salt	Salmon, orange, yellow, gold, peach
Copper carbonate	Green, black, maroon, reds
Cobalt carbonate	Blues
Ferric chloride	Iron reds, yellows, oranges