

# Ceramic College

## Notes for wood firing on 9 & 10 June

### Kiln Notes

The kiln usually takes up to 200 pots to fill it, usually a mixture of domestic-ware and sculpture, so please bring 30 to 40 pieces each, I can't guarantee to fit everything in but the more pots we have to choose from the better the stack. A range of sizes and shapes always works out best.

There are 3 special areas - firebox, throat and bagwalls that are especially rich, so make some special pieces for those areas. The kinds of forms that work best here are smallish and with narrow openings like bottles, vases or lidded pots, and even better if they can lay on their sides with shell wadding.

Your clay choice is important, with two main approaches that work well. White stoneware type clays that then have flashing or darker slips applied, or buff stoneware clays with white slips applied. If not sure then try making work out of both types! Below is a breakdown of different options:

Clay type	Good slip choices	When to apply
White stoneware	Flashing - 1:1:1 & Bauer	dip/pour at leather or spray on bisque
examples - Primo SB15, Primo Cream Stoneware, Macs Whitestone, Pot White	Terracotta Terra Sigilatta	paint or dip multiple coats on leather or bone dry
	Effect - Crackle	dip/pour on bone dry
Buff Stoneware	Flashing - Rahu & Bauer	dip/pour at leather or spray on bisque
examples - Macs Buff, Pot Blush, Pot Coarse Grog, Pot Medium Grog, Primo Red Brown Stoneware, Primo Warm Buff Sculpture, Primo Wood Brown Stoneware	Effect - Crackle	dip/pour on bone dry
	Effect - Porcelain Hakeme	paint on leather hard
Porcelain or similar (without slip are prone to carbon trapping)	Flashing - 1:1:1 & Bauer	dip/pour at leather or spray on bisque
examples - Pot Silk, Primo High Fired Porcelain, Primo PW20, Macs White	Terracotta Terra Sigilatta	paint or dip multiple coats on leather or bone dry

The kiln will be soda glazed, which brings these slips to life. As for glazing, most of which is probably only on the insides of vessels, any normal stoneware glaze will work. I will have these slips and a range of glazes available for those who want to slip and glaze on Saturday morning (or if you can make it on Friday that is also fine by me). It is best if you can slip and glaze your work prior to the workshop as it will speed up the loading process. I'll have a spray gun set up if you want to spray slips or glazes on any bisqued pots as well.

## Slip Notes

The main difference between a salt or soda firing and any other regular firing is the degree of interaction between the kiln atmosphere and the clay. Not only is the firing in reduction (which activates the iron oxide in clays far more than in an oxidised firing) but the sodium in the salt or soda is actively melting the surface of the clay into a glaze. This process emphasises what's in the clay and any clay slip that is applied on top.

Small variations in alumina, silica, iron, calcite, feldspar and colourants in the clay/slip combined with the random nature of the way the sodium vapour cloud moves through the kiln results in a range of surface effects — from a light blushing to a rich orange peel glaze.

Broadly speaking the idea of applying a slip to your pot is to create a richer surface than what just the clay alone can give you. The three main categories are: flashing, colour and effect.

### 1. Flashing

These are applied as thin dips or pours at leather hard (can be sprayed on bisque). Make up to a milk consistency

1:1:1		Old 1:1:1	
NZ China Clay	46	NZ China Clay	33
FX Ball Clay	20	Hyde Ball Clay	33
Nepheline Syenite	33	Nepheline Syenite	33
Yellow Ochre	1		

Bauer	
NZ China Clay	42
FX Ball Clay	42
Nepheline Syenite	6
Zirconium Silicate	10

Rahu Flashing	
NZ China Clay	60
Nepheline Syenite	30
Zirconium Silicate	10

### 2. Colour

#### Terracotta Terra Sigillata

Any terracotta clay will work - make into a cream consistency, add a few drops of sodium silicate and stir, wait for the heavy clay particles to settle to the bottom and use the thin watery sigillata on top. Apply on leather hard or bone dry

Black Line	
China Clay	30
Ball Clay	20
Nepheline Syenite	30
Talc	10
Silica	10
Black Stain	30

Green/Blue	
NZ China Clay	20
FX Ball Clay	20
Nepheline Syenite	50
Soda Feldspar	10
Silica	5
Chrome	1
Cobalt Carb	1.5
Titanium Dioxide	0.5
Rutile	1

Make up to a milk consistency, apply on leather, dry or spray on bisque

### 3. Effect

These slips are designed to provide both a texture and a colour.

#### Crackle

NZ China Clay	66
Nepheline Syenite	33

Make up to a cream consistency and apply at bone dry (only on one side of piece)

#### White Crackle (apply the same as Crackle)

NZ China Clay	50
Fire Clay	50

#### Porcelain Hakeme

Primo High Fired Porcelain	90
Zirconium Silicate	10

Dry out porcelain, crush, add Zirconium, slake with water to stiff cream and add sodium silicate to slightly deflocculate to brushing consistency (a matter of feel!) Other high firing porcelains will also work. Apply with vigour and a coarse brush on leather hard.

## Glazes

Here are a couple of reliable glazes that I use all the time

#### White Limestone (Satin)

Potash Feldspar	36
China clay	23
Dolomite	13
Whiting	15
Silica	4
Zirconium silicate	9

#### Celadon (Glossy)

Potash Feldspar	23.81
China Clay	23.81
Whiting	23.81
Silica	23.81
Talc	4.76
Red Iron Oxide	0.4
Total	100.4