

GLAZING 101

WHAT WE'LL COVER

- what is a glaze
- what we have in the studio
- why we have it
- how we fire it
- demonstration of glazing and decorative techniques

WHAT IS A GLAZE

- glaze is a vitreous (melted glass) substance fused on to the surface of pottery to color, decorate or waterproof an item
- they are complex mixes of ground minerals and materials in a liquid suspension
- for a better understanding of their chemistry check out Google - chemical composition of glaze

WHAT WE HAVE IN THE STUDIO

- there is a good selection of cone 5/6 Laguna brand glazes that can be applied to bisque ware
- they can be layered but not mixed together



HOW TO USE THE GLAZE WALL

- the tiles illustrate how our cone 5/6 glazes perform on Speckled Buff or B-Mix clay with one, two or three coats of brushed on glaze - sometimes two coats are all you need
- three coats of brushed on glaze is considered equivalent to a dipped glaze
- the tiles show how the glazes perform when layered with other glazes
 - be as adventurous as you want on the interior or on flat pieces but be very thoughtful about layering on the exterior**
- shows how the glaze “breaks” over textures
- they also show different glaze finishes such as gloss, matte, opaque or transparent



CONE 5/6 GLAZES



Glossy Black, Dynasty Red,
Emeraude, Wax resist



Mystery, White, Flambe Blue, Ochre



Agate, White



Flambe Blue and Wheat



Emeraude,
Golden Green



Mystery III green
Woo Blue, Black



Dynasty Red, Emeraude,
White, Wheat, Wax Resist w/
black underglaze



Golden Green
Robins Egg



Woo Blue, Dynasty Red, Emeraude, White



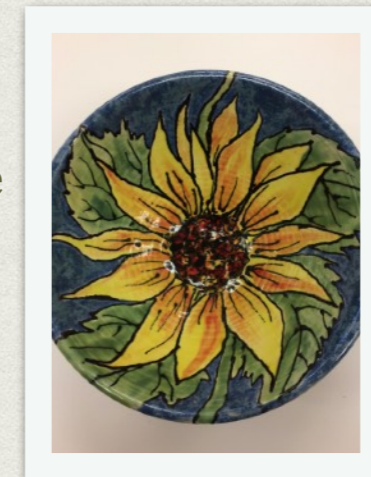
Ochre and Robins Egg

STROKE AND COAT GLAZES

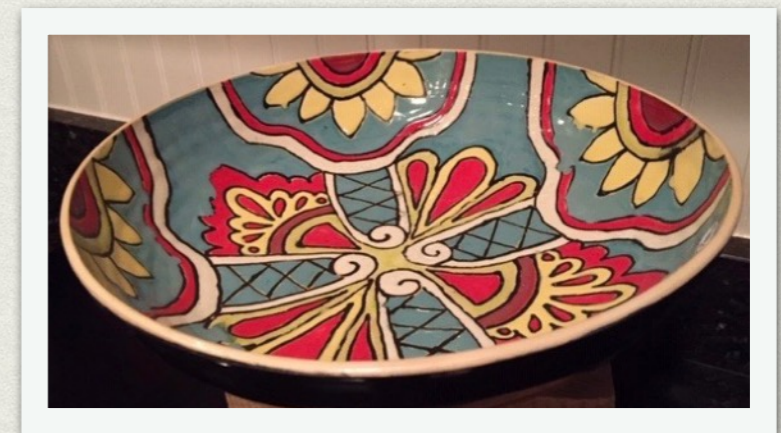
- these are low fired glazes and offer a broader range of bright colors. They can be fired at cone 5/6 (glaze firing) or at 04/05 (bisque firing). Refer to green binder on glaze table to see outcomes at different firing temperatures. Where and how these get fired is important.
- can be applied directly to bisque ware or over a neutral light colored glaze
- multiple coats determine intensity of color
- water color washes to opaque coverage
- can be mixed together to blend colors
- club stocks a very limited selection
members purchase their own



water color layers
over white cone 5/6 glaze



water color
layers
beside
Flambe Blue
background



good example where stroke and coat
would have been a better choice
cone 5/6 glazes ran outside wax resist lines

UNDERGLAZES

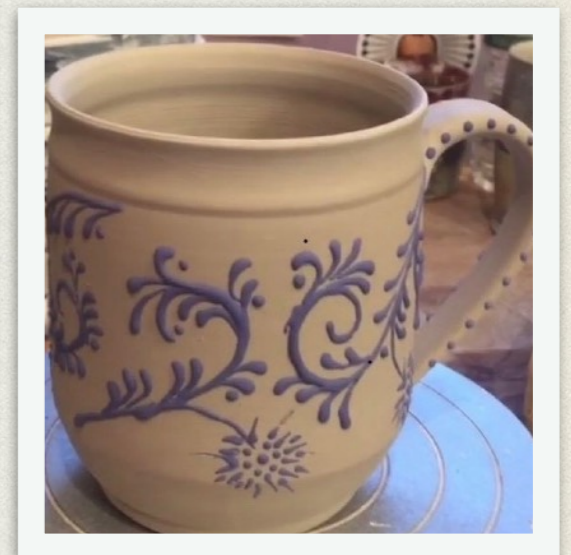
- these are specially formulated slips with colorants added
- applied to greenware or bisque ware
- they stay in place - will not run (melt) when fired
- good for detailed imagery and sgraffito
- can be used from water color to opaque coverage
- need a clear or transparent glaze for food safety



Detailed, controlled application



Good for Sgraffito



Add to slip

**HF-9 clear is recommended for cone 5/6 (\$3 for 8 oz)
or members purchase their own low fire clear glaze**

SLIP

- applied to wet or leather hard clay - **not** bisque ware
- colored slip or contrasting clay
- slip trailing
- dimensional decoration

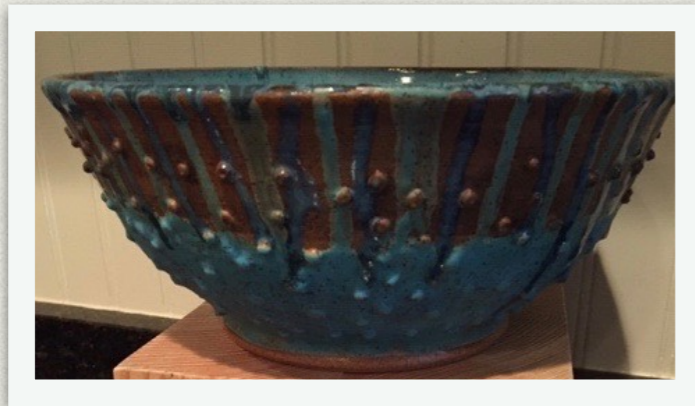


WASHES

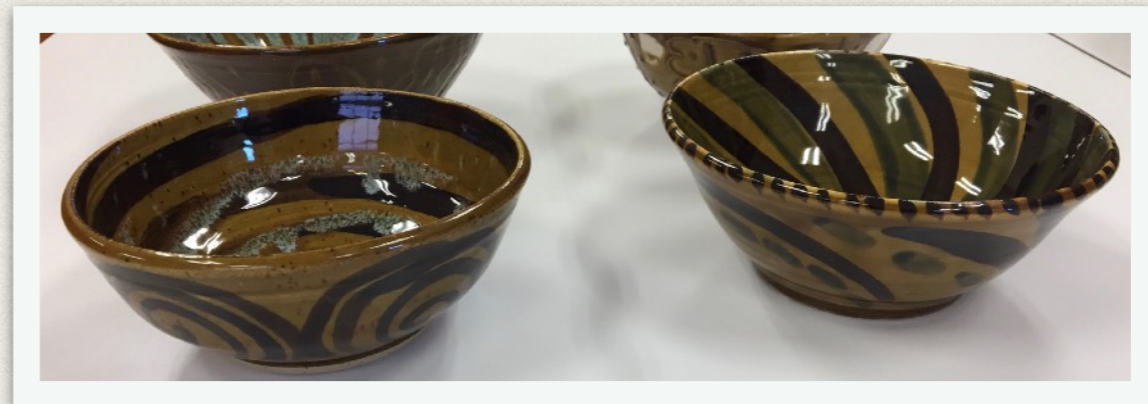
Washes are metallic glaze colorants which are formulated for ease of use and versatility. We use a 50% solution.

-brush washes on greenware, bisque or over/under glazes

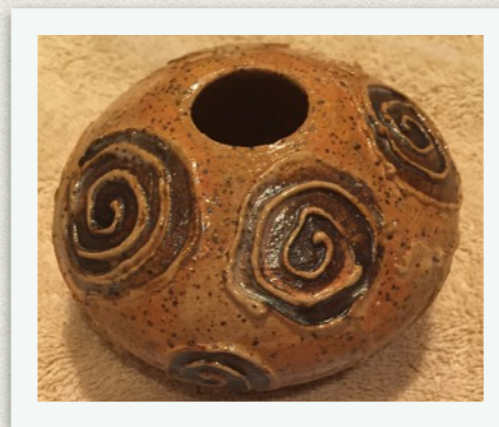
-be careful not to contaminate glazes



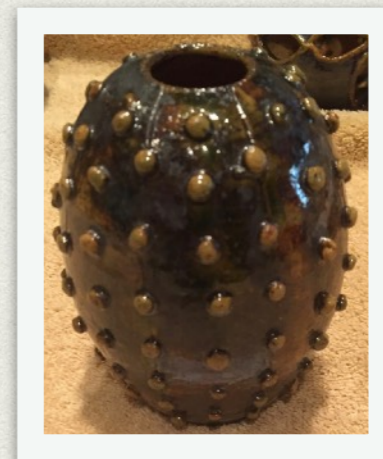
-can be brushed, sponged
or spattered
-can be wiped off (bisque only)
to highlight low areas
-require a clear glaze
for food safety
unless applied under a glaze.



various washes under Golden Green transparent glaze



rutile and iron



manganese
and copper

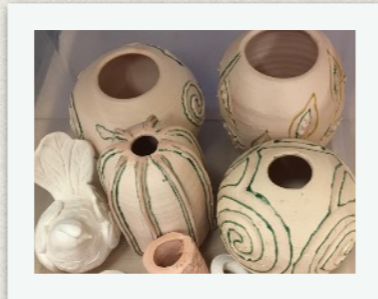
WAX RESIST

protective or decorative

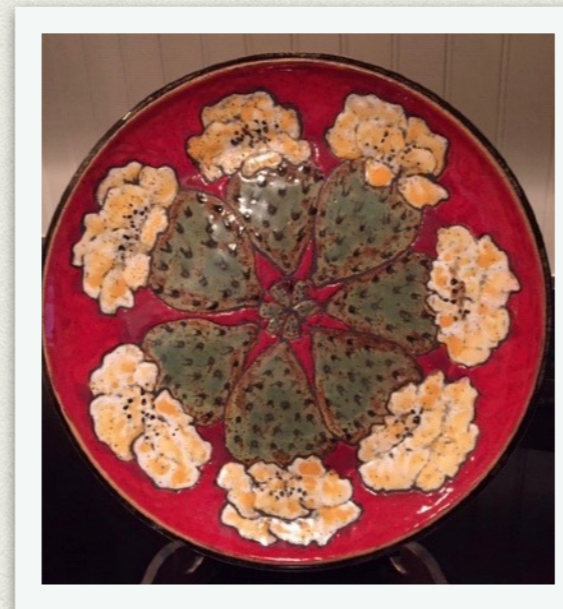
can be used as a design element
to control the flow of glaze, protect clay from glaze or protect
glazed areas from additional glazes

- required on the base of all pieces that are dipped
- provides a barrier to keep glazes from running
apply with a brush or applicator bottle/tips
- be careful not to contaminate your work
or other pieces and shelves

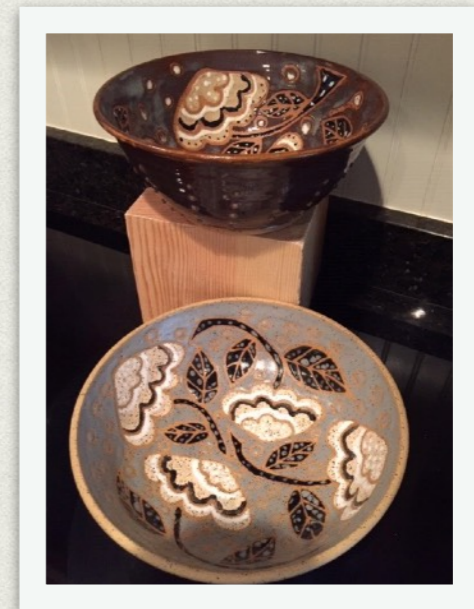
used to
define design
and
expose bare clay



used to expose bare clay
excess glaze is wiped or scraped off wax



mixed with underglaze to define
design and control the flow of glaze



used to define design and
expose bare clay

CLEAR GLAZES

clear or transparent glazes are desirable to make a piece water tight and food safe

heavy application can make colors murky

-use only one to two coats max

different outcomes on different clays

-creamy off white on B-Mix clays

and caramel/oatmeal color on Speckled Buff

Studio options

HF-9 best choice over underglazes available for \$3 per 8 oz

Kitten Clear - available for dipping or brushing

both have gloss finishes

Low fire clear - members buy their own

Matte or Satin finishes - members buy their own



GREENWARE VS BISQUE WARE

Greenware is the term given to clay objects when they have been shaped but have not yet been **bisque** fired pieces are very fragile at this stage

Bisque ware has been fired to cone 05 - unglazed pottery



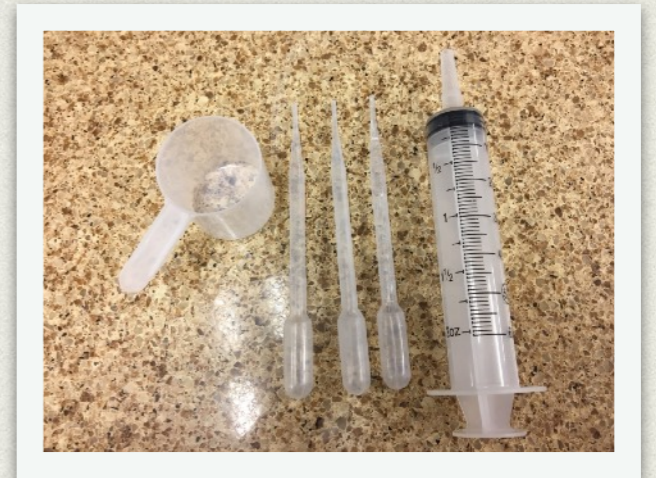
remember clay shrinks and changes color

TOOLS FOR APPLICATION

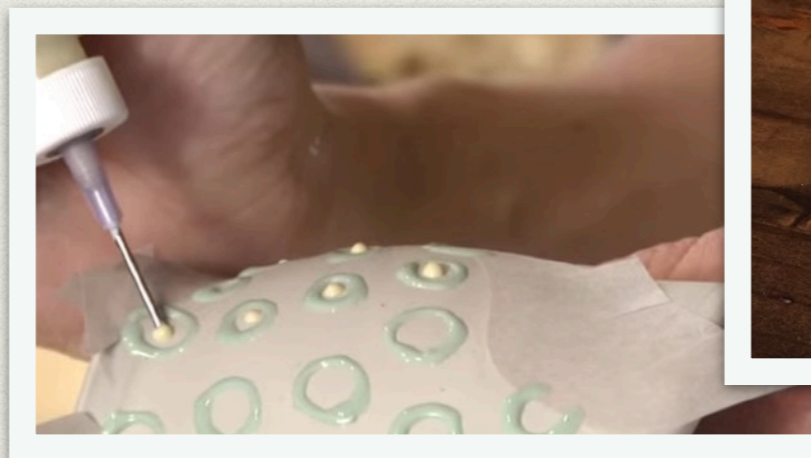
- brushes
- sponges
- applicators
- slip bulbs



Brushes and Sponges



Pipettes, Syringes and Scoops



Applicator bottles, piping tips and slip trailing bulbs

BRUSHES AND SPONGES



dedicate a brush for wax resist
 coat the bristles with soap before use
 and clean up with hot soapy water after use



CB-618	=8 Soft Fan	9.50
CB-624	=4 Glaze Fan	11.75

BRUSHING

1



use tile samples to determine
-how many coats you want
-how glaze combinations will behave

2



make sure the glaze is well mixed
shaking does not guarantee it

3



decant reasonable amount
in small container
-you can always add more

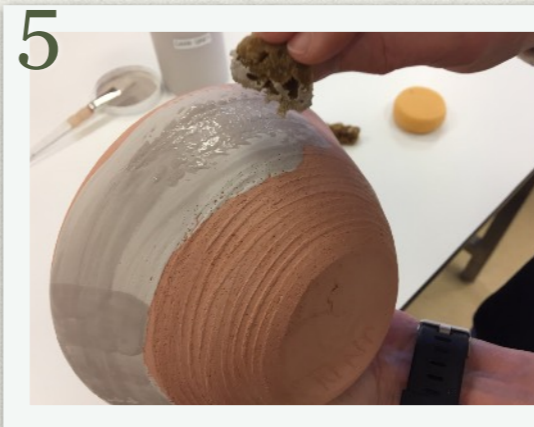
4



generously load your brush
use smooth strokes
in one direction
-add second coat in perpendicular direction
-helps let you know what you've covered

**caution - using a gloss over a matte
is almost guaranteed to run**
**be thoughtful about your glaze choices
and placement on your work**

5



consider sponging third coat
-helps eliminate brush strokes
-lightly layer a contrasting glaze



sponge off
to expose texture/clay

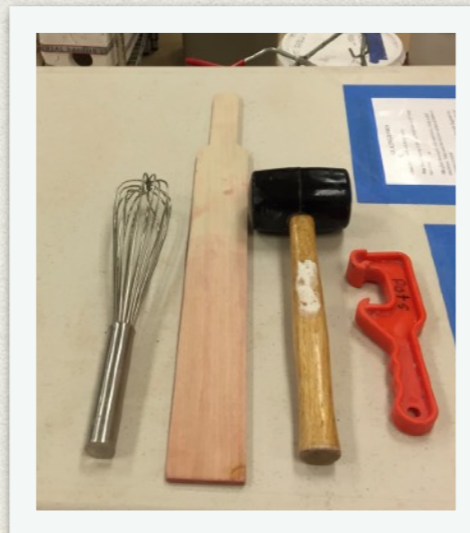
DIPPING

- wax the bottom
- use the right tool and thoroughly mix the glaze

USE THE FINGER TEST TO MAKE SURE
GLAZE IS NOT TOO THICK FOR DIPPING

- dip - one - one thousand
- dip contrasting rim after sheen is gone

**caution - using a gloss
over a matte
is almost guaranteed to run
be thoughtful
about your glaze choices
and
placement on your work**



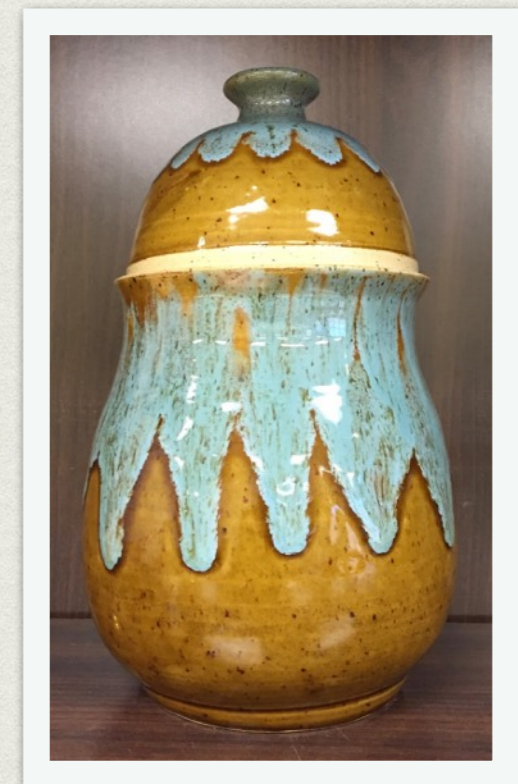
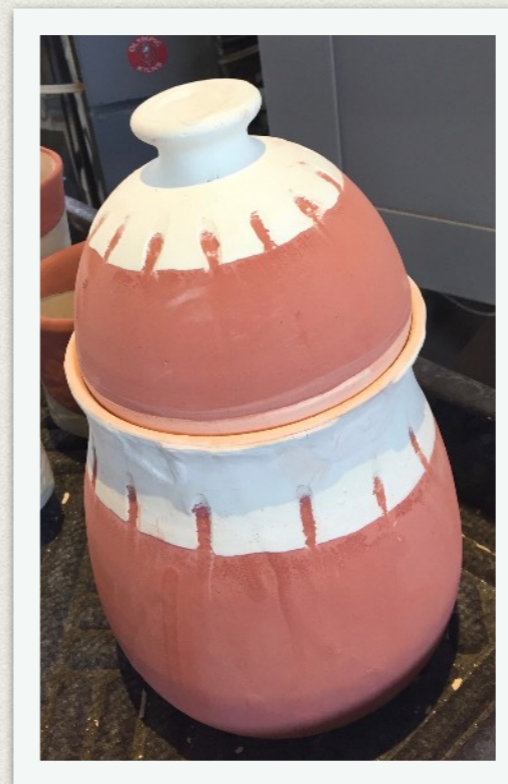
POURING

- for oversized pieces or interiors consider pouring
 - support piece on sticks over large clean container
 - use measuring cup and pour over piece
 - return excess to bucket



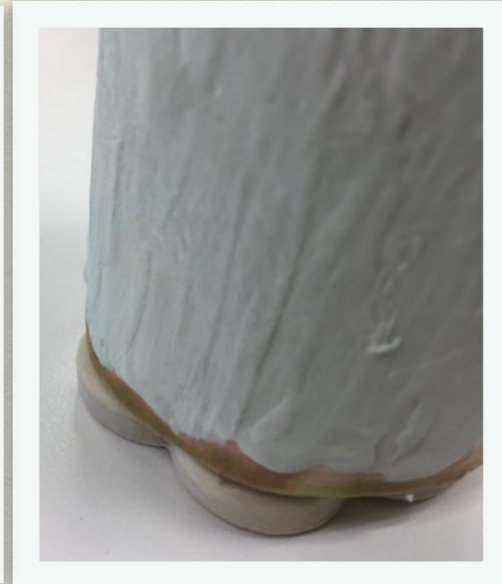
GLAZING WORKSHEETS

Necessary information for the
kiln committee and
for your personal file



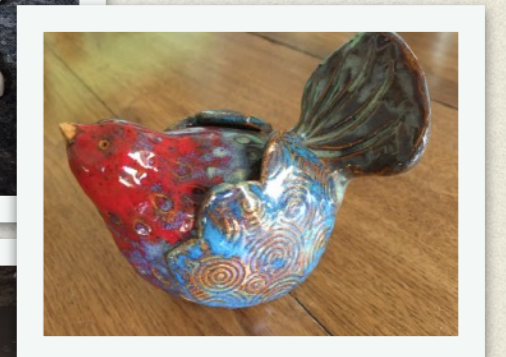
take a before and after picture with your smartphone
***New, bright green sheets will denote cone 05 glazes
to be fired with the bisque ware**

COOKIES AND PROTECTING OUR KILNS



be thoughtful about where the glaze has contact and how much glaze you have on your piece

CHOOSE THE RIGHT SUPPORT



a bare bottom is best!

CLEAN UP

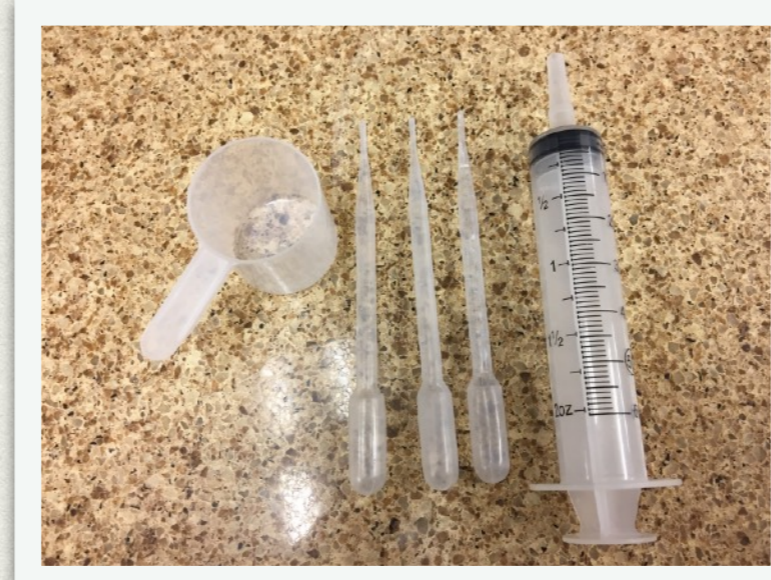
- thoroughly rinse clean any equipment or surface
- sponge first then wipe with clean microfiber cloth



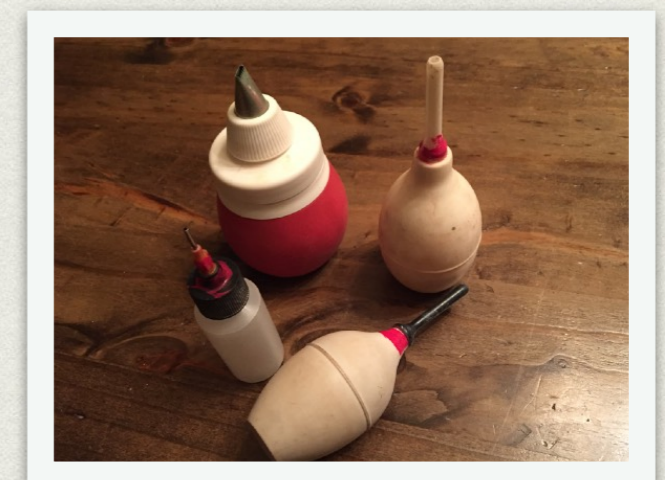
use a brush cleaner
to help remove
glaze or clay



sponge the rims first
return a clean jar to the shelves



thoroughly clean all glaze from
interior and exterior of applicators



thoroughly clean applicators
until clean water pours out

FIRING METHODS

Ceramic work is typically fired twice: **Bisque** fired then **Glaze** fired

BISQUE FIRING - cone 05

- converts greenware to a durable, semi-vitrified clay that is safer to handle and ready for glazing
- also suitable for low fired glazes like Stroke and Coat

GLAZE FIRING - cone 5/6

is where glaze materials are heated sufficiently to melt - forming a glassy surface coating and vitrifying the clay which makes your piece waterproof

Firings take place when the shelves are sufficiently full

If your piece is not on the shelf or identified with a note it will not be fired

OXIDATION KILNS -Electric kilns with programmable controllers are the primary firing method used in this studio

REDUCTION - Gas fired kiln that required a skilled Kiln Master to control the oxygen mix in the kiln throughout the firing process which can take up to 11 hours. Keep an eye out for notices when a reduction firing is planned.

There are a lot of active and complex factors at play during a glaze firing. Not only are the glaze components melting and fusing but the interaction between the clay and the glazes are also in play. Final results can be affected by not only what glaze you use but how you applied it, where a piece is placed in the kiln and how full the kiln load is as well as external temperatures.

Every effort is taken to assure that your work is handled with care but understand that the combination of clay and your construction and/or decorative techniques present many vulnerabilities at the various stages

OOPS - NOW WHAT

- some pieces can't be saved
- caution glaze drips are very sharp and can cut
- “glaze eraser” sanding tool
- “glaze eraser” wheel attachment
- bench grinder - safety orientation required
- dremel tool
 - sand onto a damp cloth
 - a dust mask is recommended
- sand paper
 - protect your eyes
 - clean up after



IS IT FOOD SAFE CAN I PUT IT IN THE OVEN

to be considered “food safe” all surfaces that come into contact with food or beverages must have a smooth, unbroken glassy surface without cracks or rough areas that water, juices or oils can penetrate

- most of the glazes in the POTS studio are food safe
- clays fired at cone 5/6 are considered food safe without glaze since the clay vitrifies at high temperatures
- matte glazes are not as food safe
- crackle glazes and metallic glazes are not food safe
- fired pieces cannot go directly from your fridge/freezer to your oven - thermal shock can shatter your piece

MISCELLANEOUS

- keep an ideas file
- check out Pinterest, Etsy or Google Images
- educate yourself with YouTube or Ceramic Arts Daily tutorials
- POTS members are welcome to use their own glazes but must take special care to protect our kiln equipment as we don't know how these glazes will interact with our studio glazes or with themselves. Cookies and a protective "drip shelf" are recommended when using the glaze for the first time and clear identification and information on your Glaze Worksheet is a must. Pay careful attention when purchasing to determine which cone they are fired at and are they food safe.
- **be considerate when placing pieces on the shelves - don't hog the shelf and always ask a Monitor to reposition pieces on the shelves or to create and identify a new shelf when space is needed**

PRINT OUTS

Sign up to receive (via email) a PDF printout of

- INTRODUCTION TO GLAZING notes
- and
- GLAZING INSTRUCTIONS