

Ceramic Glazing



What is glaze?

- Glass coating fired onto the surface of the clay
- Ground minerals (silica/glass) in a liquid suspension that will melt when fired high enough.



What are the components of glaze and their function in the glaze?

- Silica - glass
- Alumina - hardness and durability
- Fluxes – aid in melting. This is necessary since silica and alumina have very high melting points
- Oxides/Stains - color.
- Opacifiers - make a glaze more or less transparent

Why use glaze?

The function of glaze is:

- **Non porous** - to seal the pores of the clay (it will hold a liquid)
- **Food Safe** – you can eat or drink out of a piece with a glazed surface
- **Protection** - to create a permanent surface or texture (usually glossy)
- **Decoration** - to provide color

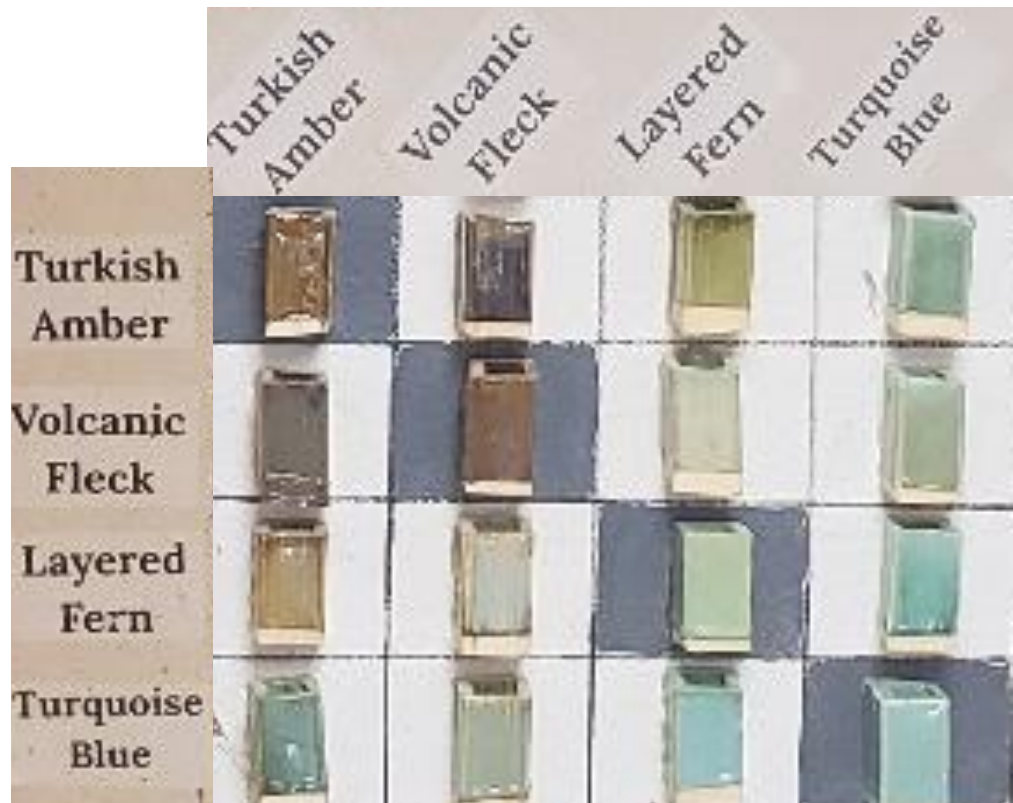
Ways to apply glaze

- Spray
- Dip
- Paint



What does a square with a GREY background mean

Grey = Colors in buckets (dipped in a single color)
Look at these colors first



What does a square with a WHITE background mean

background mean

White = dipped in one glaze and then another
Pay attention to the order



How Do I Glaze

- Pick your color or colors
- Wipe down your bisque ware with a damp sponge
- Stir the bucket of glaze thoroughly
- Dip your piece in the bucket and shake off excess glaze
- If applying a 2nd color, dip into 2nd color shortly after color 1 dries (about 1 min)
- Allow piece to dry and wipe off the bottom and up the sides (pencil rule)
- Thin out glaze at bottom of piece with hand after piece dries completely and rub away any pinholes.
- Place piece on glaze fire rack to be glaze fired

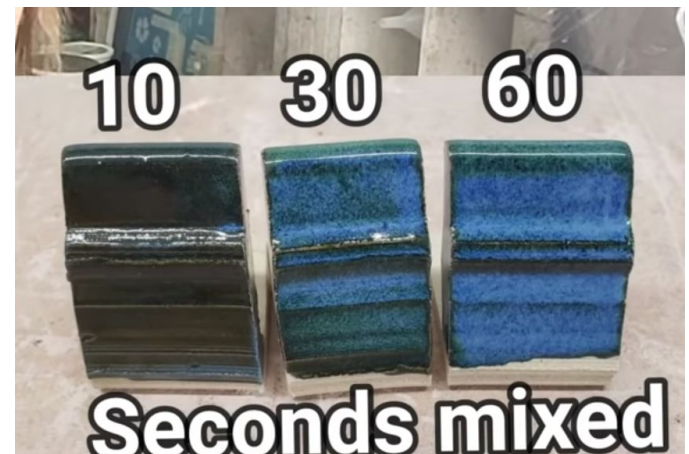
You can control

Beyond your control

Variables

that may affect the outcome of the color

- how wet or dry your piece is before glazing
- how much you stirred the bucket
- how thick or thin the glaze is made
- how thick or thin the glaze is applied
- temperature and location in kiln
- amount of oxygen in the kiln



Not following directions

This will occur for 1 or more of the following reasons:

- Using a runner on your entire piece
- Glaze application too thick
- Not wiping a high enough foot



Properly Glazed (after firing) with a ¼
inch Foot or with no glaze on the
bottom part of a piece



C66 Magic



C61 Jewelry



C64 Electric Ash



C69 Crocus Red

Glaze Defects

Crawling

Crawling is where the molten glaze withdraws into 'islands' leaving bare clay patches. The edges of the islands are thickened and smoothly rounded. In moderate cases there are only a few bare patches of clay, in severe cases the glaze forms beads on the clay surface and drips off onto the shelf. The problem is by far most prevalent where glazes are applied thickly or in too many layers.



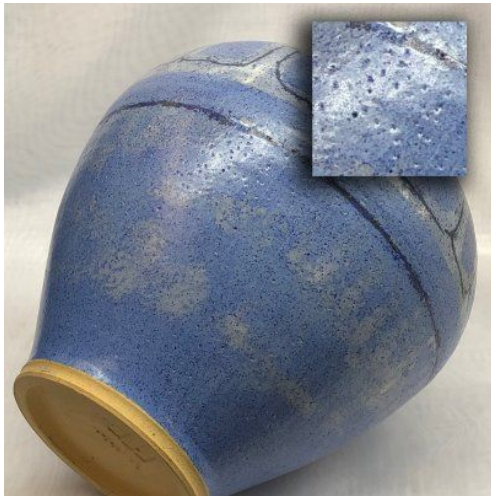
Cracks in the glaze surface before firing is a good indicator that your glaze application is too thick and may crawl



Glaze Defects cont.

Pitting and Pinholing:

A glaze defect where tiny holes are present in the fired glaze surface caused by gases escaping from the clay body during the firing cycle. Wiping a piece with a damp sponge can help prevent some pinholes. Thicker layers of glaze pinhole more than thinner ones. Sometimes pinholing is unavoidable as kiln cooling times, glaze ingredients, and clay bodies can also be the cause.



Glaze Defects Cont.

Blistering

Blisters and blebs are usually the result of either an excessively thick application of glaze, insufficient drying of the piece between glazing and firing, or both.



Other Questions

Can I paint glaze on?

- Yes, but you will need 2-3 coats. If not painted properly the glaze may appear streaky. Glaze may also bleed or blur slightly

Before firing



After firing
notice painted on squiggly line and how it
blurred and blended



Other Questions cont.

Can I use glaze and acrylic paint?

- Yes, but first you must glaze your piece (wiping off areas you intend to paint), then glaze fire your piece, and lastly paint with acrylics AFTER all firing is done. Paint can not go in the kiln.

This pot was glazed and the glaze was wiped off of the eyes. It was then glaze fired. After firing the acrylic paint was added. Notice the difference in finishes. The paint is not as glossy as the glaze.

*note, we have 2 matte glazes and all others have a glossy finish



Other Questions cont.

Can I melt glass in the bottom of my piece?

- Yes, first glaze piece, then add glass to inside of piece, then place on the rack to be glaze fired. The glass and glaze will both melt during firing.

-You CAN NOT add glass to a piece with a hole or cracks in the bottom. The glass will run out of the piece and all over the kiln

-Glass will be more visible with lighter colored glazes underneath

-Glass is decorative and NOT to be used for food



Remember to wipe off the bottom and up the sides of your piece before placing it on the shelf to be glaze fired



Before you glaze:

Make sure your piece is dry

Sponge off any dust or oils from the surface of your piece

Determine what color or colors you would like to use

Stir the bucket or buckets of glaze thoroughly

When Glazing:

Dip your piece quickly

If you are painting on glaze, paint 2-3 coats

Allow your piece time to dry in between layers or coats of glazes

After Glazing:

Clean up work area and tongs (if used)

Close bucket and replace lid

Wipe up spilled and dripped glaze

Wipe glaze off the bottom of your piece

Wipe glaze off the bottom sides of your piece (¼ inch)

Place your piece on the rack labeled “Ready for glaze fire”

Glaze vs Paint

What's the difference?

Glaze	Paint
Applied to bisqueware	Applied to bisqueware
Permanently adheres to the surface of piece (glass like coating)	May chip or peel over time (acrylics are plastic based)
Food Safe	Not food safe
Needs to be fired a 2 nd time (after applying glaze)	Is complete once paint dries
Changes color in kiln	What you see is what you get
Colors run and drip	Colors stay where they are placed
Limited to certain colors	(almost) Limitless color options
Mixing colors is not an option (layering is)	You may mix colors (always add the darker color to the lighter color)
If you mess up while applying glaze, it can be washed off and dipped again – must dry first	Cannot be washed off, mistakes may possibly be painted over (or sanded off)
Most glazes produce a high gloss (we have 2 matte glazes)	Somewhat matte/can apply clear gloss coating (mod podge: located near the paint)
Able to melt glass in the bottom during glaze fire (not food safe)	Melting glass is not an option
The bottom and ¼ inch up the side of your piece MUST be wiped off completely	Paint can be applied to the bottom
Underneath lids must also be wiped off	Paint can be anywhere on lid
Can be dipped or painted on (dipping will give better results)	Must be painted on
Usually stains clothes	Almost always Stains clothes
Additional Notes	Additional Notes
Piece must be completely dry before glazing	
Glaze bucket must be thoroughly stirred	
Dip must be quick	
After drying, thin out glaze with dry brush or hand	
It is recommended that you do not double dip an entire piece	
NEVER use a runner on the bottom half of a piece	
If the glaze is cracking on the surface of your piece, it is too thick. Wash off and start over when dry	

and don't forget...

