

GLAZE OF THE WEEK 15

GLAZES ARE GEMSTONES

- ✓ WHICH ONES WORK TOGETHER
- ✓ PRETTY COUPLINGS
- ✓ ORDER OF ADDITION
- ✓ THE FIRST RULE OF GLAZING

Gems are one of nature's gifts of beauty, highly valued, even spiritual for some people. Yet they are merely rocks with mineral inclusions giving characteristic colors when the rocks were under pressure and heat during the volcanic formation of Earth's crust. With plenty of glassy silica, some water, metal salts, eons of time, coarse rock can be transformed into shining colors, even crystals, in thousands of varieties. Fortunately, early humans discovered that by heating clay (sticky microscopic-sized rocks from stream beds) in a campfire they could make it strong and impermeable to water, useful for food and liquid. Further heating with colored stuff in their soil, they could make a pot even more sturdy and surprisingly beautiful. A pot became vitrified, glazed and lasting. Archeologists love 'em.

Glazes are ground up rocks and minerals which are combined naturally or synthetically to simulate the kind of hard, gemstone covering which we all ooh and aaah over. Considerable chemical thought has gone into making the combinations work reproducibly with the appropriate temperature of firing, timing and amount of oxygen (less or more). Luckily all this has been done already and neatly calculated formulas have been handed down giving the same results, if all goes well. There are gazillion choices and combinations. Treat the glazes as if they really are gemstones, and the results will be satisfying. The following information may help to make choices easier.

Many glazes create a smooth, even finish which is attractive in itself, showing off the form of the piece to its best advantage. Miller White, Mamo, Spodumene, Chun, Nelson's Transparent, G-Black, MacKenzie Celadon, Eggshell, Majolica, Ohata and Reitz Blue are examples. There is a slight variation where drips of the glaze are thicker, and these should be gently scraped off with a wooden tool when dry to keep the finish as smooth as possible. Sometimes drips are desireable though. The clay body makes a big difference. Porcelain allows the base color of the glaze to show to its best advantage; however stoneware clay with iron produces the interesting effect of adding to color to a beige background and iron "freckles". {Please refer to previous chapters for more detail on each glaze.}

Other glazes "break". This means that where thick or thin, where oxidized or reduced in the firing where there are melting patterns, the color changes,

usually from a dark version of the base color to a lighter version, or the color can completely change. These glazes tend to be more fussy about conditions and application. Some have a slightly lower melting point causing the glaze to move and flux over the surface of the pot in the firing.

- Ø **Tenmoku** is one of these. It can be a rich, deep brown with tiny embedded crystals, breaking into amber where very thin, to black flashes on the body.
- Ø **Reds:** Certain copper red glazes like Oxblood turn red when reduced, but the copper is “fugitive”. It can easily revert back to its more colorless form, especially where thin as on the lip of a cup, an interesting variation. This is where it gets re-oxidized. Another red glaze, CR-17 will do the same thing, but the gray is covered by the blue cobalt as insurance that there will be some color. If the pot is broken, one can often see the red glaze under the surface reoxidized glaze.

Copper can also be green depending upon what it is mixed with and how fired. HPG has three greens which have particular break or change patterns:

- Ø **Joe's Green** is a soft, satin light green if it is applied as a very thin coat. The glaze in the bucket should be like skim milk and the pot should be wetted then dipped quickly. Wiping off some excess glaze with a finger is a good idea. On porcelain it is light green with some gray and sometimes pink flashes. On iron rich clay it is also light green, but sometimes dark brown freckles come out from the clay, and sometimes gold specks. Remember though, where thick, it becomes very black.
- Ø **Reitz Green** is just the opposite. It is a rich, jade green where thick, and black where thin. Except for some iron showing through, it is the same on any clay.
- Ø **Turquoise Blue Matte** is turquoise where thin, and black where thick but brown where very thin on iron rich clay. Beware: it can “oxidize” to black upon standing on display. Mixing this glaze with some Mamo creates a soft satin light turquoise finish, successfully used by Patti.

Iron does interesting flips of color.

- Ø **UH Blue** breaks from a cloudy blue into caramel brown.
- Ø **Pete's Cranberry** is blue, with some milky, lighter blue, and it may break into flashes of bright red, like its name. Iron in the clay body brings out the blue.
- Ø **Rutile** is almost opalescent with blue and white specks where reduced, and then breaking into a glossy beige where thin and oxidized.
- Ø **Long Beach Blue** on porcelain is satiny powder blue. On stoneware, the same blue is tempered with edges of brown, brown freckles, and flashes of green. Where thin it is the color of “pond scum”, a light algae green.

- Ø **Shino** is cream colored where thick, coral colored on porcelain, and on dark clay it acquires the orange-red flashing due to reaction with iron.
- Ø **Acero** breaks into rust brown where thin and yellow where thick.
- Ø **Tenmoku** is glossy brown with flashes of black. **Kaki Persimmon** is less glossy, more like a darker **Ohata**, with tiny crystals and some black flashes. **Cecil's Red** is a rich red-brown with some fine crystals.
- Ø **Supin's Class New "F" glaze**, iron with strontium, is bright yellow matte.

Just Plain Easy Glazing

The best glazing technique is the use of one simple glaze. This is the “first rule” of glazing. Let the shape of the pot speak for itself and just put a durable coating on it. If one of the non-breaking glazes is used, one good dip or pour of the whole piece is enough. All that is needed is a clear finish on the inside to seal a teapot or cup and a thin coat of clear glaze on the bottom outside where it is not waxed. A “breaking” glaze does not need any other glaze to make a statement because the inherent variation makes its own random patterns on the piece, and nicely delineates a carved design.

Pleasing Combinations

It is exciting to experiment with combinations, and to consider how brilliant one’s little pot can become as it is taken out of the kiln. However, some glazes are not a good match because neither does much for the other. The result is dull. Some are a very poor match because they both flux too much and melt right off the pot, spoiling the end point of a long process, especially on a vertical surface. Certain glazes are quite “runny”, they melt and flux earlier than the stable glazes. This can tend to push the first glaze down onto the kiln shelf, or give extra “feet” to the pot that could be undesirable.

{Please refer to the attached chart which lists most of the runny glazes at HPG.}

It is not recommended to use a thick application of glaze, nor double dipping the whole pot in one glaze, then a second glaze. The clay body can not absorb all of this glaze and excess will melt off the pot in the firing. Best is to dip part of the pot in one glaze, then another part (like top or bottom) in the second glaze. The slight overlap might become interesting and yet not be too thick.

Another suggestion is to trail or brush an accent glaze on top of the first glaze, keeping this application high up on the piece. Brian Molmen finds that the order of addition of the accent glaze might be important in some cases. If an early melting glaze like Toshiko Orange is used as a design or

trail under a stable glaze like Ohata, its tendency to run is minimized and it will come through to the surface of Ohata in a golden trail.

Some glaze combinations have never been tried, and are left to be discovered by YOU. There is an infinite variety possible. HPG has 30 plus glazes and six clay bodies. Get to the point where you can make some small tests for yourself. The surface makes a difference. If the pot has a vertical surface, the glaze tends to spread out down the pot. On a plate, glazes will tend to pool, especially if very thick. Here are some of the combinations that usually work pretty well as accents on white or dark clays.

- Ø Clear glazes with oxides or ceramic stain underglaze designs, or slips.
- Ø Clear glazes with Tenmoku, Royal Blue, CR 17, Oxblood, UH Blue, Pete's Cranberry. (Not all at once, please.)
- Ø Clear glazes with G-Black makes a bright blue color.
- Ø Miller White with cobalt oxide à lavender; Oribe à soft green
- Ø Miller White with Royal Blue, UH Blue, Tenmoku, CR-17, or Ohata
- Ø Miller White with Nelson's Transparent or Chun à clear pearly gray. With Etsuko's Green or Apple Green à a lovely clear green tracing
- Ø Mamo with oxides, Tenmoku, or Ohata; with G-Black? Long Beach Blue??
- Ø Ohata, Tenmoku, G-Black with trails of Miller White, UH Blue, Toshiko Orange, CR-17; with Pete's Cranberry??
- Ø Rachel's Black with Miller White, UH Blue, Henderson's Turquoise; Turquoise Matte?
- Ø Shino with Oribe, G-Black, Tenmoku or Ohata; Turquoise Matte?
- Ø Kaki Persimmon with Toshiko Orange, G-Black; with Miller White or Pete's Cranberry?
- Ø MacKenzie Celadon with UH Blue sometimes makes lavender where there is an overlap.....at least Shelle gets this result sometimes. MacKenzie and Ohata are good together, for example, bottom of cup MacKenzie, top half Ohata.

Be thinking about what you want to do with your pot as you are trimming and putting the piece on the bisque shelf. Is this going to be functional in a particular way: for tea, a bowl for cereal, a bowl for serving fruit or stew, for flowers, a plant, a vessel for drinking, or something for cooking. Consider the shape: is it rounded, squared off, incised with a decoration, tall and slender, wide and flat?

Next, what are the sorts of colors do you prefer: blues or browns, clear and colorless, subtle shades, bright and contrasting, shiny or matte finish, tricky, letting some of the clay body show? Do you like to draw figures or designs? Do you like to carve? For food and beverages a durable smooth surface is required, one which cleans up well, does not have cracks in the surface

which can harbor bacteria and feels smooth on the lips when drinking from the cup.

Keep a small notebook to sketch the shapes sizes and make notes about glazing. This really helps if something works and you want to repeat it the next time. Another way to teach yourself about how glazes work is to make some very small cups, like sake cups, using your clay body, or use any flattened piece of clay as a test. After bisqueing, glaze each one with a different HPG glaze that seems interesting to you. Test some combinations, half and half, with some overlap, or use brush strokes or trails to see what happens. Take notes.

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