

## What Happened in the Firing?

Great results are always what we hope for when opening the kiln after firing, but sometimes it just doesn't happen. Figuring out what happened can be difficult, but these tips might help answer some common questions.



Many gloss glazes look matte (left) when underfired.



Same glaze: the left bowl had thinner application and 14 hours firing. The right bowl had thicker application and faster firing (9 hours).



Some glazes look okay underfired a little (on left), but create different effects when reaching their full temperature. (Sample Amaco glaze photos from Arts & Activities magazine, February 2015.)



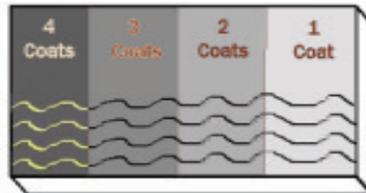
The same glaze can look different when applied on different clay bodies. Iron in the darker clay (left) reacted with the glaze and changed its color.



Some glazes that contain iron can change color if fired twice. The extended heat work changes the color and sometimes the surface too.

### That's why we recommend witness cones for every firing.

How thick or thin you apply glazes can make a difference in the fired results! When trying a new glaze, always experiment with your application style to see where you get the best results. Your "two brushed coats" may actually be the same thickness as someone else's "three coats." We recommend making test tile strips from your clay, with some smooth and some texture-y areas, so you can see how the glaze works with your clay and your style.



### How Much Do I Need for ...?

These are general guidelines for estimating how much clay and glaze you'll need for projects at home, in the classroom, or in your studio.



2 square feet = one 4oz jar  
 [18 4x4" tiles -or- 8 6x6" tiles]  
 1 pint = (4) 4oz jars  
 1 gallon = 8 pints



A ball of clay the size of an average-ish apple, so you can hold it in both hands cupped, is about 1 pound. As you can see on the Wiziwig ribs page, 1 pound is enough to make a mug or similar-sized piece.  
 [ One block of Georgies clay = 25 lbs.  
 Two blocks = 1 box = 50 lbs. ]

## When Clay and Glazes

### F\*R\*E\*E\*Z\*E



First off, don't panic! Nothing has happened that the raw materials have not experienced a thousand times in their geologic history. With a little TLC, they'll be just fine and usable. First let the frozen clay or glaze thaw out, then follow these steps.

**CLAY:** You'll notice that your clay is wetter (therefore softer) than normal. That's because there are two kinds of water in clay: one is the physical water we add during production. The second kind is chemical water, bound into the molecules of the raw materials. Freezing draws out the chemical water and combines it with the physical water. As the clay thaws, the ice crystals form open space in the clay, so it's no longer de-aired. You will need to wedge your clay before use. If you want to dry it out more, take it out of the plastic bags the night before you plan to use it.

**GLAZE:** Once thawed, stir your glaze well. The fired qualities of the glaze remain intact; the fired color results will not change. You may notice that the solid particles in the glaze settle to the bottom faster. Sometimes the organic gums that suspend the particles, making the glaze easier to brush on, lose their potency after freezing. To fix the settling issue we recommend Amaco's "Gum Solution." It's a handy staple to have!  
 AM41371N..... Pint .....\$5.09

### Weight & Volume Conversion

From	To	Multiply by
Dry Ounce .....	Grams.....	28.35
Pounds.....	Kilograms.....	.4536
Grams .....	Ounces .....	.0353
Kilograms .....	Pounds .....	2.2046
US Pint .....	Liters.....	.4732
Liquid Ounce.....	Cubic Cm.....	29.573
Liter .....	US Pint.....	2.1132