

Level 3- Glaze technical assignment

Assignment: Make 20 very small vessels on the wheel. You need to test 5 base glazes with choice of 3 colorants per base glaze. You will need to research 1 textual glaze, and 1 crystalline glaze to test.

You need:

5 base glazes with 3 different colorants – 15 test tiles (1 glaze per test tile)

1 textual glaze-1 test tile

1 crystalline glaze- 1 test tile

3 researched glazes- 3 test tiles

Test tile green ware due _____

Assignment due _____

Critique _____

Glaze- a glassy coating melted in place on a ceramic body, which may render the body smooth, non-porous, and of a desired color or texture

Silica- Most important glass-forming oxide. The basis for all useful glazes

Flux- Added to silica compounds to lower the melting point of a glaze. Feldspars, silicates, and frits are used.

Alumina- Refractory element, which strengthens the glaze and increases viscosity

The raw materials of glazes are either rocks or minerals such as silica and feldspar, which have been ground up to a fine powder, or they are materials, which have been prepared by precipitation or other chemical methods, and are supplied in the form of fine dry powder. When the various ingredients of the glaze have been combined and mixed with water, it is applied to the ware by brushing, dipping, or spraying.

Most earthy materials are in the form of oxides. OXIDE:
Chemical combination of any element with oxygen. (e.g. SiO₂). After a glaze has been heated and fused all of the elements are in oxide form, (even if they weren't to begin with.) The study of glazes is simpler if the glaze is considered in its final fired for rather than its unfired condition.

The glaze oxides are categorized according to function: Fluxes (Lead, Sodium, Potassium, Calcium, etc.); Stiffeners (Alumina); Glass-formers (silica).

TEST TILES

Glazes are usually tried out on small test tiles. Some sort of impressed texture on the face of the tile will give valuable information as to how the glaze will behave on rough surfaces. Test tiles can be horizontal or vertical; tiles that stand will test for the flow of glazes. It is advisable to bisque-fire test tiles before applying test glazes, especially if this procedure is used in the product for which the test is rehearsal. There are several ways of applying glaze will reveal more information you may want on the back of the test tile i.e. temperature, firing atmosphere, clay body, and amount of colorant oxide.

The make a series of color tests of the base glaze, the base gaze must be carefully weighed out in dry 100gram batches, then the coloring oxide is added to that mixture. If you are to add 3% Black Copper Oxide then the total weight of the glaze will be 103 grams (100 grams base glaze, 3 grams oxide). Water is added to bring the mixture to the proper application consistency. Stir glaze and sieved through a screen, which will help to thoroughly mix and remove any large impurities.