

Converting Glaze Recipes to Standardized Form

It is wise and practical to convert all glaze recipes to the accepted standardized form, so that the basic materials total 100 and modifiers such as colorants, opacifiers, and suspension agents (bentonite, Macaloid, Veegum-T) are listed below as percentage additions. Once converted, all materials are represented as percentage amounts, making it a simple matter to compare recipes for materials content, to modify the visual attributes of the glaze by changing colorants, opacifiers, etc., and to calculate any batch amount by multiplying the simple basic recipe and the percentage additions. Glaze calculation software will do this conversion for you, but you need to know the math and it's a simple process.

When converting any recipe, consult Appendix II, the Glossary of Ceramic Materials in *Clay: A Studio Handbook* and identify unfamiliar materials. Make a practice of that and you'll soon know all the ceramic materials thoroughly. Total up the weights of raw materials that make up the base glaze exclusive of any opacifiers, colorants, or suspension agents. Divide each raw material amount by this total, *including* opacifiers, colorants, and suspension agents. This calculation tells you what decimal fraction of the total materials in the base glaze each amount represents. Move the decimal point two spaces to the right in each result, and list them as specified above. If you check, you will see that they now total 100. Do the same with the colorants and modifiers and list them below the total as percentage additions.

If you wish to modify the thermochemical behavior of a glaze (firing temperature, gloss or matt surface, thermal expansion, etc.), you would do so by altering the materials in the base recipe only, while the percentages of accessory materials will generally remain constant. On the other hand, if you want to modify color, opacity, suspension behavior, etc., it is possible to do so by manipulating the accessory modifiers only, leaving the base materials constant.

When preparing to mix a large glaze batch, multiply all the basic materials and accessory modifiers by the same number to get the total you want. 10,000 grams of dry mix will make a little more than four gallons of glaze.