



## Ceramic Terms

**Ash** – Residue from the burning of leaves, straw, hay or other matter often used as the primary ingredient in some high fire glazes. Popularized by non-Western cultures, it has become a convenient source for glazes that appear oriental.

**Bisque (or biscuit)** – Unglazed ware that has been fired to a temperature sufficient to harden but not mature the body. This firing is usually followed by another at a higher temperature for the glaze. The purpose of the first firing is to harden the green ware enough so that additional work can be performed.

**Bone China** – A hard, translucent white ware made by the English from a soft paste porcelain developed in the 18th century. The body contains up to 50 percent bone ash and is not very plastic; it also tends to warp.

**Casting** – A process of forming clay objects by pouring a clay slip into a hollow plaster mold and allowing it to remain long enough for a layer of clay to thicken on the mold wall. After a sufficient hardening, the puddle of slip in the center of the mold is poured off, the mold is opened, and the clay object is removed. It is allowed to dry and then fired. This method allows for the creation of numerous forms from a single mold. Also referred to as slip casting or solid casting.

**Ceramics** – (1) Objects made of clay and formed by the application of heat; (2) the art, field, study or technique of producing such articles; and (3) in art and archaeology, high-fired, usually vitrified, cooking and serving utensils and art objects (as distinct from pottery).

**China Paint** – See Enamel.

**Clay** – A malleable material made from decomposing rock. Generally free of vegetable matter, this material often contains other impurities that affect color and firing temperatures. Clay is classified into various types, such as ball clays, fire clays, and slip clays.

**Coiling** – A hand method of forming clay by building up the walls with ropelike rolls of clay and then smoothing over the joints. This method leaves imperfections in the surface that attest to a hand-built genesis. Variations include ring building, spiral coiling, and segmental coiling. It is the oldest method of vessel production, predating the invention of the potter's wheel.

**Colorant** – A chemical element that contributes to a mixture. Unglazed, low-fired pottery is colored chiefly by carbon, iron and manganese, whereas a broader range of colors is possible with glazes.

**Crackle Glaze** – A glaze containing minute cracks in the surface. The cracks are decorative and occur when the body and glaze surface cool at different rates. Rubbing additional glaze into the crevices accentuates the effect.

**Eggshell** – Porcelain Translucent, thin-walled porcelain often made by slip casting.

**Enamel** – Pigments that fuse at approximately 750°C which are applied after the glaze firing temperature of enamels permits the use of a far wider and often more saturated range of colors than is possible with pigments that require higher firing temperatures. Sometimes referred to as a china paint, on-glaze decoration, or overglaze enamel.

**Firing** – Method of hardening soft clay bodies by heating.

Firing Temperatures: (all temperatures are approximate)

Cones 022-15: 605° to 1435°C

Cone 07: 990°C (low-fire earthenware matures)

Cone 02: 1125° (earthenware matures)

Cone 9: 1285°C (stoneware matures)

Cone 13: 1350° (porcelain matures)

**Glaze** – A liquid suspension of finely ground minerals that is applied by brushing, pouring, dipping, or spraying on the surface of bisque-fired ceramic ware. After drying, the ware is fired to the temperature at which the glaze ingredients will melt together to form a glassy surface coating. This coating may be translucent or opaque, colored or not colored, smooth or textured, shiny or mat, depending upon its composition and the temperature to which it was fired.

**Glaze Fire** – A firing liquid cycle to the temperature at which glaze materials will melt to form a glasslike surface coating. This is usually at the point of maximum body maturity and is considerably hotter than the bisque fire. Also referred to as a ghost fire.

**Greenware** – Ceramics that have been formed but not yet fired.

**Kiln** – An enclosed or partially enclosed structure for firing ceramic materials. Types of kilns may be labeled on the basis of their construction or firing characteristics.

**Luster** – A type of metallic decoration thought to have been discovered in Egypt and further developed in Iran during the ninth through the fourteenth centuries. A mixture of metallic salt, resin, and bismuth nitrate is applied to a glazed piece, which is then reduction fired at a low temperature (the temperature, however, must be sufficient to melt the metal and leave a thin layer on the decorated portions)

**Mat Glaze** – A glaze with no gloss but pleasant to the touch, not to be confused with an incompletely fired glaze.

**Maturity** – The temperature or time at which clay or a clay body develops the desirable characteristics of maximum nonporosity and hardness or the point at which glaze ingredients enter into complete fusion, developing a strong bond with the body, a stable structure, a maximum resistance to abrasion, and a pleasant surface texture.

**Overglaze** – Color applied on top of other glazes and containing coloring oxides or ceramic stains, a flux, and some type of binder. The fluxes are necessary to allow the color to melt into the harder glaze beneath. The lower temperatures at which most overglazes are fired (about cones (016-013) allow the use of colorants that are unstable at higher temperatures.

**Porcelain** – A hard, high-fired, nonabsorbent clay body that is white and translucent.

**Pottery** – (1) Low-fired, nonvitrified objects including cooking, serving, and storage vessels (as distinct from high-fired ceramics) and (2) an enterprise within the ceramics field concerned with the manufacture of such products.

**Production Pottery** – Machine-made ceramics produced in large number of uniform shapes. Machines do most of the decorating and glazing too, although some pieces may be hand decorated. Hand decoration implies a more artistic (and thus expensive) product, but this is not always the case.

**Raku** – Earthenware that originated in Japan and is associated with the tea ceremony. Raku ware is prepared in a unique way. The glazed, preheated bisque is placed in a red-hot kiln with long handled tongs. The glaze matures in fifteen to thirty minutes, and the ware is withdrawn and cooled immediately. Upon ignition of the material, incomplete combustion is created by shutting off the oxygen, thereby creating excess carbon that affects the clay and glazes in various ways.

**Salt Glaze** – A glaze developed by throwing salt into a hot kiln. The salt vaporizes and combines with the silica to form sodium silicate, a hard, glassy glaze.

**Sgraffito** – Decoration achieved by scratching through a colored slip or glaze to show the contrasting body color underneath.

**Single Fire** – A firing cycle in which normal bisque and glaze firings are combined. The advantages are a great saving of fuel and labor and development of a stronger bond between body and glaze.

**Slab Construction** – A hand-building method in which forms are created by joining the flat pieces of clay. The pieces are thinned or flattened with a rolling pin or flat roller.

**Slip** – Clay combined with water to a fluid consistency either for a slip casting, for joining parts, such as a handle, to a vessel, or for decorating the surface of wet or leather hard ware. Slip may be colored. Also referred to as slip clay or slurry.

**Stain** – Sometimes a single coloring oxide, but usually a combination of oxides plus alumina, flint and a fluxing compound. The purpose is to form a stable coloring agent not likely to be altered by the actions of the glaze or heat. While stains are employed as glaze colorants, their chief use is as overglaze and underglaze decorations and body colorants.

**Stoneware** – A high-fire ware (above cone 6) with slight or no absorbency. It is usually gray in color but may be tan or slightly reddish. Stoneware is similar in many respects to porcelain, the chief differences being increased plasticity and the color, which is a result of iron and other impurities in the clay.

**Studio Pottery** – Handcrafted wares created by an individual or a small number of potters; opposite of production pottery. While pieces are all one-off in nature, they may be made in large quantities.

**Terra cotta** – (1) an earthenware body, unglazed, usually red, relatively coarse and porous, and low fired; and (2) sculptural or architectural articles made from such an earthenware body.

**Throwing** – The process of making a symmetrical, circular clay object rotating on a wheel. Centrifugal force and the pressure of the potter's hands control the form into which the plastic clay is squeezed/moved. On drying, a thrown form may be turned or trimmed on a lathe or the original wheel to get a smoother surface or to modify the profile.

**Underglaze** – Colored decorating applied to the raw or bisque ware before the glaze coating.

**Vitreous** – Pertaining to the hard, glassy, and nonabsorbent quality of a body or glaze.

**Wheel** – A pivoted device capable of sustained rotation (usually by means of a flywheel) upon which a potter builds a vessel. The wheel uses centrifugal force to produce high rotation speed that aid in shaping the clay piece into its final form. May be driven mechanically (by kicking or turning with a stick) or electrically. Also referred to as a potter's wheel.

**Whiteware** – Ceramics that are essentially white or creamy in color. Refers to low-fire white earthenware adopted from commercial uses to those of the studio potter.

Source: Lynn, Martha Dexler; *Clay Today: Contemporary Ceramists and Their Work*; 1990 by Museum Associates, Los Angeles County Museum of Art