

# Regarding Clay & Ceramics

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When firing ceramic pottery, many ceramic technicians use pyrometric cone to ensure that they achieve a specific temperature to mature a glaze. Often an unsuccessful firing happens when pieces are too thick, when pieces have not been attached properly (with the "slip score and weld method before the piece is beyond leather hard), or when there is air pockets that trap steam. Also, pieces will blow up when they are fired before becoming bone dry.

The clay is most workable when it is in the wet, fresh, plastic stage. The second stage is leather hard; if the clay gets any harder than leather hard, any attached parts will come off during the firing. When clay is completely dry, with no moisture left (the clay will no longer be cold to the touch), it is chalky and considered bone dry. It needs to be bone dry in order to be safely fired.

Clay usually falls into three categories: Earthenware, which is not fired high enough for the particles to fuse (vitrify), Stoneware, which is fired to higher temperatures (the particles fuse together), and Porcelain, which is white and hard and fired very hot. Porcelain is very smooth and does not contain grog, which is made of small particles of fired clay added to the clay body to add texture and reduce shrinkage.

When a clay piece is finished and not yet fired, it is known as greenware; when it has been fired in the first firing (the bisque fire) it becomes bisque ware, and when it has had glaze applied it is known as glaze ware.

Often when hand building a work of art, an artist will use many methods to complete it. It may be built from coils, slabs, pinch, or formed on molds. A template may be used as a pattern for achieving specific shapes. In order to ensure the piece has no air pockets, the clay should be well wedged to prepare a homogenous clay body. This is especially important when a potter is planning on throwing the piece (working on the potter's wheel).

When decorating the surface of a piece, several methods may be used. Underglaze is applied before the piece has become bone dry, and is a good choice when a layered effect is desired because colors applied atop one another do not melt and run together. Underglaze must never be applied on bisque ware. Likewise, glaze may never be applied to greenware, for it will trap steam and destroy the piece in the bisque fire. Glaze may never be applied to the bottom (foot) of the piece because it will stick to the kiln shelf.

When creating a successful and pleasing sculpture or functional pottery, it is important to know how to manipulate the elements and principles of art and design. The piece must always have a sense of balance, whether symmetrically or asymmetrically. If it is not balanced, it will have a disturbing, awkward quality. Sometimes repeated units of design create patterns; other times lines may lead the eye around the piece to create a feeling of rhythm and movement. It may contain one particular area of emphasis that stands out and demands attention. The lines and shapes can be used in such a way as to convey emotion. Vertical lines are bold and stable, while horizontal lines have a feeling of rest. Short, jagged lines are "nervous"; while large curvilinear lines are graceful. Angular, diagonal lines are powerful and dynamic.

The artist can use the elements in such a way as they all work together to give the piece a sense of belonging or unity. Several values (lights and darks of one color) add variety, while space gives the illusion of distance, and a strong contrast (difference between elements) makes for an interesting effect. Surfaces may be smooth or contain texture, whether creating form (three dimensional) or painting on a surface, artists must know how to use the elements to communicate their ideas in a visual manner.