OIL BASED CLAYS

Plastilina is a wax and oil based modeling material used by sculptors for modeling. The main ingredients are wax, oil, and clay flour which is used as a binder. All Plastilina is produced hot, and then cooled and extruded into shapes that will eventually be available for sale. Plastilina can also be referred to as plastiline, plasticium, and plasticine.

Plastilina is used as a modeling material only and can not be fired in any way. Plastilina cannot be made permanent. A mold of plaster or rubber must be made to obtain a finished piece.

One disadvantage of Plastilina is that there is not way to make the material permanent; so be prepared to make a mold and cast or have a mold made. A great advantage of this material is that it may be stores and worked over long periods without hardening; changes, additions or corrections are easily made.

Although the material is permanently pliable due to its wax and oil content, it will dry out of become stiff after a number of plaster molds have been made over the material or after it has been used over natural wood armatures. After a long period of time, the pole may seep out and evaporate, causing dryness.

There are basically three groups of Plastilina: professional grade, school grade and industrial grade.

The **professional grade** commonly contains sulfur, to make the smoother more homogenous texture required by professionals. Example: Professional Plastiline. (Prima is a professional grade Plastilina that contains no sulfur.)

The **school grade** or amateur grade material does not contain sulfur and tends to be stiffer and harder to model with the fingers. School grade material comes in a variety of colors and is used in claymation field movie production and advertising. Example: Klean Klay.

The **industrial grade** material is usually very hard and needs to be heated prior to use. This type of material is most commonly used by designers in the automotive field for car models. The large auto companies use batch lots in large quantities of 2000 pounds or more, and the materials is so hard it cannot be modeled at room temperature. Example: J-88.

SULFUR - Clay containing sulfur can not be used with most rubber molds without some form of separation, such as shellac, between the Plastilina and the rubber. It is recommended that a separator coat be used in all cases as a precaution. This separator is not usually necessary, however, with the non-sulfur professional grade material.

Guide to Plastilinas

Because hardnesses vary from one Plastilina manufacturer to the next, TCS has rated the clays in one chart (1 = softest; 10 = hardest) to help you choose.

1 Klean Klay Soft, Italian Soft, Davincic Soft
2 Roma #1, Italian Medium, Davinici Firm
3 Klean Klay Medium, Chavant Profession Plastiline
4 Roam #2 Italian Hard
5 Chavant Le Beau Touche, Chavant NSP Soft
6 Roma #3, Chavantt Le Beau Touche HM
7 CM - 50
8 Roma #4, Chavant NSP Medium
9 Chavant NSP Hard
10+ Chavant J-88, P - 40 Deaired & J-525

For this class we are going to be using Klean Klay which is a non-sulphur clay.

POTTERY CLAYS (Water-based, Kiln-Fire Clays)

Pottery clays are often used by sculptors to make sculptures that will be molded. Silicone rubber mold making materials are often used because polyurethanes are inhibited (will not cure) by the presence of moisture. Polyurethane mold making materials can be used if the clay has been thoroughly dried or fired.

It is also often used to make clay walls and dams for mold making. It is used for this purpose because it is a relatively cheap, easily sculpted material. Water based clay, however, can not be used with polyurethane mold materials because polyurethanes are inhibited (will not cure) when in contact with moisture therefore Silicone rubber mold making materials are often used.

Some water-based clays contain “grog”. Grog (also called firesand) is a type of pre-fired clay that has been ground and screened to a specific particle size. Grog is used in pottery and sculpture to add a gritty, rustic texture called “tooth”; it also also reduces shrinkage and promotes even drying. It also adds structural strength to hand-built and thrown pottery.

For a kiln fire clay for exterior use specific characteristics must be met including appropriate firing temperature.

AIR-DRY CLAYS (Water-based, Non Kiln-Fire Clays)

Air-dry or non-firing clays (also known as self-hardening or air-hardening) do not need to be fired in a kiln and are generally ceramic clay body formulas with a natural additive, such as cornstarch, to make them hard. They are not meant to replace kiln-fired ceramic clay, cannot be used to produce functional ware and cannot be left outside exposed to the elements. Pieces make using these clays are items for display only. The material should not be fired in a ceramic kiln under any circumstanced. It is porous and cannot hold liquid unless sealed on the inside surface with something like Envirotex.

After a finished piece has dried and has been sealed, it can be decorated with acrylic, oil, latex, watercolor or spray paints. You can also use wood stains, colored waxes or clothes dyes. (Water-based clay shrinks due to evaporation of moisture)

Cracking - This is a common effect when the material is applied too thinly against a stiff armature or is dried too fast, especially in thin areas or at acute angles. The cracks can be filled with new material and sanded when dry.

Drying correctly - The material should be dried extremely slowly for best effect. This may be done by placing a damp cloth over the piece and drying it at room temperature slowly and evenly. It is not recommended that the material be placed in the sun, in an over or by a radiator to hasten drying. Remember to allow the piece to dry thoroughly before sealing or applying patina (coloring).
With tiles and relief models, it is best to place the piece on a bread drying rack exposing the bottom areas to air, then place a damp cloth on the outer surface so the piece can dry slowly to avoid warping.