

NEWBIE CLAY

Welcome to Clay!

**Important information you need about ceramics
as you begin your clay journey**



AMACO

NEWBIE CLAY

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What is clay?

Ceramic clay comes from the ground. It's dug or mined and mixed with water to make the material you're using. Like any natural product, there can be variations between batches. Clay can be different colors depending on the minerals present in the clay deposit.

Although clay can be dug from the ground and made into ceramic pottery, you'll most likely want to purchase clay from a ceramic supplier. Most potters buy clay pre-mixed and packaged for ease. Prepared clays are made for specific purposes and effects.

Clay comes in many different colors and textures, and what works well for one technique or finished effect may not work as well for another. Some clays are smooth, and great for tableware, while a clay that has sand or grog (ground up fired clay) added to it and feels rough might be better for sculpture or large pieces.

Broadly all natural clays fall into one of the following categories:

Red earthenware or terra cotta is a low-fire clay that is high in iron (which is why it's a red-brown color).

How is clay turned into ceramics?

Ceramic clays need to be fired (baked) in a kiln (a special oven) to become hard and permanent. Firing temperatures for ceramics range from 1800°F (1000°C) to greater than 2400°F (1320°C). At these temperatures, the clay is transformed from a fragile material that will disintegrate into mush if it gets wet, to the hard, rock-like material we call ceramics. Whether it's made in a mold, thrown on a wheel, or

How do I set up a studio?

There are some things to take into consideration when planning a space for clay.

Many people set up studios in a garage or barn, some

Ball clay is highly plastic (or malleable) and light buff or cream in color, commonly used in most commercial clays.

Fire clay is beige or buff, more gritty than Ball clays or earthenware, but can be fired to higher temperatures without deforming. Fire clays are frequently added to sculpture clays or clays that need to be more heat resistant.

Kaolin (or porcelain) is very white high-fire clay but has low plasticity. Pure kaolins are beautiful but can be very difficult to use for throwing or hand-building.

Most prepared clays are made up of one or more of these four types of clay, plus other additives to improve the workability and adjust the firing temperature. They won't have these designations on the package, but will be described by color (white, buff, brown, red, or black), firing temperature, or name.

Plasticity describes how flexible and capable of being manipulated a clay is. A clay with low plasticity is described as short.

modeled by hand, if it's made of clay and fired in a kiln it's all ceramics.

A home oven is not hot enough to fire ceramic clays, and unfired clay will disintegrate when in contact with water, so you must find a way to fire your clay pieces, whether at a school, pottery shop, local potter, or in your own kiln.

use a patio, a basement, or a cement floored multi-purpose room. The space and equipment you use depends on the kind and scale of ceramic pieces you plan to make.

Choose a location with surfaces (floor and table) that can be cleaned with water, to prevent dust from becoming airborne. Airborne clay dust can cause respiratory issues.

Besides your work area, you'll need to plan for storage for work in process and drying, clay and tools, and other equipment.

You'll need water for cleaning tools and dampening clay, but buckets of water can be used if a sink isn't readily accessible. If you have a sink be careful that clay and glaze don't go down the drain as they can clog plumbing.

Is clay toxic?

Most ceramic clay in moist form is non-toxic, however, the silica in dry clay dust can cause damage to the lungs over time if inhaled.

How do I pick which clay to use?

Before buying clay you'll need to check the limitations of the kiln you'll be using. If your pieces will be fired by someone else find out what temperature or **cone** they fire to, as they may have clay recommendations

Low-fire or high-fire clay?

Clays are also categorized by "low-fire" and "high-fire". Whether you choose low-temperature firing or high-temperature firing depends on how you will use the finished ceramics. In ceramics, the firing temperature of a clay or glaze is referred to by Cone.

"Low-fire" ceramics is roughly from 1700° to 2000°F (900°-1130°C). Low-fire ceramics generally have a wider range of colors and finishes available and are less costly to fire. Low-fire clays may be more porous than high-fire clays after firing, but can be used for tableware if glazed properly.

Mid-range or High-fire ceramics are more durable and suitable for tableware. Mid-range has the advantage of bright colors along with some of the more unusual effects of high-fire. There are many commercial glazes available for mid-range. High fire clays and glazes are the most durable but also the most expensive

If you have a potter's wheel you'll need space around it and access to water for clean-up.

If you have a kiln you'll need to have non-flammable flooring and space around the kiln, as well as some method of venting the vapors from the kiln. Most electric kilns need specialized electrical wiring.

If possible your studio location should be protected from freezing, as freezing can damage unfired clay and some ceramic-related materials like liquid wax.

Always clean work surfaces, including floors, with water (a wet sponge or damp mop will work) to avoid creating dust.

or restrictions for you. If you're using your own kiln find out the limitations of the kiln and decide what you'd like to try within that firing range.

to fire and have limited commercial glazes available. Mid-range is roughly from 2000° to 2260°F (1150° to 1260°C), High-fire is roughly 2220°F and up (1250°C and up).

Using the wrong clay or glaze in firing can be disastrous. Low-fire clay fired over its recommended range can melt and cause glazes to run, damaging your kiln and other work. High-fire clays fired to low-temperatures will be very porous and liable to chip or break.



What are cones?

Clay and glazes are broadly categorized as “low-fire” and “high-fire” but the specific firing measurement is referred to in **cones**.

Pyrometric cones (simply called cones) are ceramic materials made into triangular bars which bend at a specific amount of **heat work** (time and temperature). Cones are used in firings to show the heat work in the kiln, and are used as a shorthand reference to temperature and time in firing.

Low-Fire is cone 08 to 04. (Cone 04 is higher than cone 08)

Mid-Range is cone 4 to 7.

High-fire is cone 8 to 12.

In most ceramic firing, Cone 08 (read as oh-eight) is the lowest firing temperature and Cone 12 is the highest. The zero in front of the low-fire cone numbers is very important. It can be compared to the minus sign in using negative numbers. The difference in temperature from cone 05 to cone 5 is 279° F (137° C)

Be sure to match your clay temperature range to your glaze temperature range, and both to the actual firing temperature you will be using.

In some kilns, you must place cones and periodically check on them through a peephole to know when the firing is complete.

Some electric kilns have a “sitter” in which a small cone is placed. When the cone bends the kiln shuts off.

Computerized kilns don't use actual cones in firing, but the heat work is part of the computer calculations. Even if using a computerized kiln, it is recommended placing a “witness” cone (a single cone that corresponds to your target heat work) in the kiln so you know that the kiln fired correctly.

Watch our video on [Pyrometric Cones](#):



The zero in front of the low-fire cone numbers is very important. It can be compared to the minus sign in using negative numbers.

MAKING THINGS WITH CLAY

Do I need to prepare my clay before use?

Before you begin forming your clay, wedge (or knead) it to push out any air pockets and compress the clay. If throwing on the wheel, wedging also helps align the clay particles to make throwing easier.

Take a piece of clay and push it firmly on a clean canvas or wood surface. Be careful not to wedge air INTO the clay, as air pockets can cause cracking in firing.

Keep wet clay wrapped in plastic so it stays damp. Wedge scraps to reuse.

What is the best work surface for clay?

Wood, cement board, or canvas make excellent work surfaces for clay. Smooth linoleum countertops are easy to clean, but clay may stick. Putting your project

Watch our short video on [Wedging Clay](#):



on a small wood or canvas-covered board makes it easy to move and work on. Always clean your work surfaces with a wet sponge.

How do I form clay?

Clay can be modeled by hand, used in a mold, thrown on a pottery wheel, or machined. The easiest way to form something out of clay is using your bare hands and pinching the clay. Clay forms can be built with coils (ropes) of clay pressed together and smoothed, with slabs rolled with a rolling pin or slab roller, thrown (spun) on a pottery wheel, or pressed into a mold.

To start, make your work a thickness between ¼" (6.35mm) and 1" (2.54cm). Pieces which are too thin will be fragile and fall apart, while pieces that are too thick will take a long time to dry and may shatter in firing. Don't fire anything which is built solid and is more than 2" (5.08cm) thick.

If making tiles, keep them relatively small (under 6" or 15.24cm) and turn them while drying to prevent warping and cracking.

If forms are hollow make sure there is a hole to allow airflow and prevent water from being trapped in the clay.

Clay has memory. Bending a slab or form one way and back may result in the piece warping when fired, so make a plan of action before starting.

Learn more about clay forming techniques in our FREE [Ceramics 1 Curriculum](#) and [Ceramics 2 Curriculum](#) lessons we provide on [AMACO Classroom](#). While these projects are targeted more towards students, the techniques are those used by everyday professional and hobby potters in their own studios!

Find free lessons and project ideas at
[AmacoClassroom.com](https://www.amaco.com)



How do I join one piece of clay to another?

When joining two pieces of clay, scratch or “score” the surfaces to be joined and use either a very small amount of water (maybe with some white vinegar added) or a small amount of slip, which is clay and water mixed to make a liquid. This is also known as

“**slip and score**”. Clay joins best when the pieces to be joined are the same softness and are no more than leather hard. Trying to join wet clay to bone-dry clay is likely to result in the pieces falling apart, no matter how much slipping or scoring is done.

What are leather hard clay and bone-dry clay?

As clay dries the state of the clay is referred to by different names. All unfired clay is called Green or Greenware.

Wet Clay - Clay that is fresh from the bag, is generally just called wet. Another term that may be used when talking about wet clay is whether it is plastic or not.

Plasticity refers to how flexible a clay or clay body is.

Leather-hard Clay - This is the state of clay between wet and dry. The clay still contains moisture and is cool to the touch but can no longer be formed or impressed with texture. This is the best time to cut, carve, and join clay parts together. The term leather-

hard comes from leather: a leather belt is stiff enough to hold its shape and can also bend.

Bone-dry Clay - refers to clay that is as dry as it can be but not yet bisque fired. Bone dry clay is very fragile, so be gentle in handling unfired dry ware. If you're not sure if your piece is bone-dry or bisque, dab it with a bit of water. Bisque will absorb water quickly, but water will sit on the surface of bone-dry clay for a moment.

Note: Underglazes can be applied at any stage from slightly less than wet to bone dry and even after bisque or first firing.

How do I store clay?

To set aside a work in progress to come back to later, wrap tightly with plastic to prevent the clay from drying out. Unused clay should also be wrapped tightly in plastic to prevent it from drying out. Our video [Storing Clay in the Classroom](#) demonstrates different techniques for storing clay that can be used in both a classroom studio and a personal studio.

Scraps, both wet and dry, can be reused. Place dry scraps in a bucket with water until it makes a thick slip, then dry on a plaster or concrete slab, or a canvas-covered board and wedge. Until fired, clay can be reused. Our video [Recycling Clay in the Classroom](#) demonstrates different techniques for recycling clay that can be used in both a classroom studio and a personal studio.



Drying

It's very important to allow your clay to dry slowly and evenly before bisque firing. Ware that's dried too fast or unevenly (whether because of uneven thicknesses or airflow) is prone to cracking or warping. Keep the ware lightly covered in plastic while it dries, and maybe turn pieces over or elevate them to allow them to dry on all sides. Once they're mostly dry they can be left uncovered to finish drying. Handles, spouts,

and other thinner appendages tend to dry more quickly than thicker areas and the body of a pot, so care should be taken to ensure they dry at the same rate.

Make sure the ware is completely dry before bisque firing by touching it to your cheek - if it's at all cool it will need to dry more.

Clay can be wonderful and exciting. Learning what you can make with clay is a skill that takes practice and perseverance. Sometimes things can go very wrong, but you can learn from them and the next thing you make will be improved. Keep making with clay!



TRANSFORMATION: FIRING

How do I fire my ceramics?

Clay must be fired in a kiln to become ceramic ware, hard and durable. You may be able to find a local person or business who can fire your work for a fee (make sure you know their firing temperature before buying clay and glazes), or you may have other access to a kiln.

Kilns may seem really scary, after all, they're boxes that reach over 2000 degrees Fahrenheit, but they are specially made to be as safe and easy as possible. Kilns should be located and fired according to manufacturer recommendations.

We recommend firing your ware twice. There are two types of firings:

Bisque Firing - The first firing burns out impurities and makes your ware hard.

Before putting your clay in the first firing, or bisque firing, make sure your clay piece is totally dry, or bone-dry. If you're not sure, touch the clay to your cheek. If it is cool to the touch, there is a high possibility there is moisture still in the ware and it is not yet ready to fire.

Bisque firings should be done at slow speed and maybe with a preheat to allow all the water in the clay (even bone dry clay has molecularly bonded water) to escape. Firing greenware (unfired clay) that is still damp or firing it too quickly can result in the ware exploding in the kiln.

Once the ware has been bisque fired, it is ready to apply the glaze.

How do I load a kiln?

For bisque firing (firing raw clay the first time, without glaze) ware can be loaded touching. Pieces can even be stacked 2 or three pieces high as long as they are not resting on fragile rims of bowls or heavier pieces on thinner ones.

For glaze firing (bisque ware with glaze applied) make

Glaze Firing - The second firing where the glaze becomes glassy and hard. A glaze firing may be done at the same (low) cone temperature as the bisque or it may be a much hotter firing, depending on the clay and glazes used.

Always make sure to match your clay to your glaze to your firing temperature! A mismatch can result in unsafe ware or a kiln disaster!

Learn more about firing your kiln with confidence by following along with our [Kiln Basics](#) series where we walk you through everything from kiln safety, how to begin with your kiln, pyrometric cones, loading your kiln, important temperatures, and, of course, how to fire your kiln.



Gas kilns should always be fired with sufficient venting to prevent uncombusted gases from filling workrooms. Even electric kilns should be fired with decent venting. Always put a witness cone in the kiln before firing, even with computerized controllers.

sure that the ware isn't touching, and that kiln shelves have a sufficient coating of kiln wash. Any place where glaze is applied and touching anything else in the kiln (shelf, other ware, or the sides of the kiln), it will STICK.

For low-fire work, ware may be glazed on the base



and supported in the firing on clay and nichrome wire “stilts” to prevent it from sticking to the kiln shelf.

For mid-range or high-fire work, ware can be dry-footed (meaning the part of the foot that touches the shelf is left unglazed), or else special high-fire stilts can be used. Make sure that there is sufficient space around pieces so they are not touching the shelf above, other pieces, or the kiln lid.

For electric kilns, place pieces 1"(2.54cm) from the sides so nothing is touching or too close to the heating elements.

For gas kilns, ensure that the flow of air is not obstructed and no ware is so close to burners that flame is coming in direct contact with ware.

Learn more about firing your bisque and glazed pieces by watching our video [Loading Your Ceramics Kiln for Beginners](#).



Note: Skip ahead to minute 2:30 where we specifically talk about loading glazed ware.



Is glaze the same thing as paint?

Glaze is not like paint.

Glaze is composed of minerals similar in composition to clay that when fired melt into a hard, glass-like surface that helps to seal the clay. The glaze materials are mixed with water and applied to the ware and then fired to melt (flux) and become fused to the clay.

Some glazes are meant to be decorative, rather than functional. Check the labeling of your glaze to ensure it's meant for the purpose you intend (for example, food-safe glazes on the insides of dishes). Some glazes are glossy and shiny, some are dry or matte, some are in between and satiny. Some glazes run while others are stiff.

Glaze can be applied several ways, most usually with a brush but some glazes are meant to be applied by dipping, pouring, or sponging.

Glazes must be fired in a kiln to the appropriate temperature. Usually, glaze is applied to ceramics that have been through a first (or bisque) firing.

Glaze melts and can flow when fired, so any detailed applications will probably look mushy and will interact with the glaze underneath. In other words, you can't use glaze like paint because it melts and flows. If you want to make detailed images on your clay you will want to use underglaze.

What is underglaze?

Underglaze is liquid clay with colorants added to it. Since they are made of the same materials as clay they do not melt like a glaze and remain in place when fired.

Underglazes (also called slips or engobes) can be applied to unfired clay (greenware) and to fired clay (bisque ware).

When applied according to the manufacturer's directions underglazes are opaque and can be used for detailed imagery. Underglazes require a food-safe approved clear or translucent glaze applied and fired over them to become sealed and food-safe.

How do I know which glazes to buy?

Make sure to match the firing temperature of your glazes to the firing temperature of your clay.

Apply cone 05 glazes on cone 05 or low-fire clay.

Apply cone 5-6 glazes on cone 5-6 or mid-fire clay

Apply cone 10 glazes on cone 10 or high-fire clay

Once you know what temperature you're firing at, all you need to do is choose the color you want!

For beginners, we recommend the Amaco Celadon line for cone 5 to 6 firings, or the Amaco Teacher's Palette and Teacher's Palette Light for cone 06 to 04 firings. All colors in these series are food-safe, mixable within each series, and come in a variety of colors. Celadons are transparent and work best on white clay,

but can be used with other clays. Teacher's Palette glazes work well on any low-fire clay, red or white. They are opaque colors that can be mixed for custom shades, and are stiff enough to stay where they're applied.

If you're using underglazes you will want to use a clear glaze like HF-9 Zinc-Free Clear (for cone 5 and up) or LG-10 Clear Transparent (for cone 05-04) over the underglazes. You can find more about selecting a clear glaze on our [Clear Glaze Decision Tree](#).

Make sure to match the firing temperature of your glazes to the firing temperature of your clay.



Why is the glaze in the jar a different color than it says on the label?

The color before firing and the color after firing may be completely different. Glazes are made of minerals and oxides, and the interaction of those materials and the heat of the kiln can change them drastically from the raw form to the fired result.

For example, this means that the blue glaze may be lilac in the jar, the yellow glaze may be black before firing, and the green glaze might be yellow, red, pink, black, or green before it's fired.

Is glaze toxic?

The main ingredients in glaze are much the same as the ingredients for clay, though with more metals to create colors and special surfaces. Glaze in its raw form can be hazardous from dust (which can be inhaled and cause damage over time) but also from some raw materials in the wet form if not handled correctly.

The Art and Creative Materials Institute, Inc. (ACMI) is an international association of about 200 art, craft and creative material manufacturers which seeks to promote safety in art and creative products through its certification program. ACMI-certified product seals (AP Approved Product and CL Cautionary Labeling) indicate that these products have been evaluated by a qualified toxicologist and are labeled in accordance with federal and state laws.



CL Seal - Glazes with the CL seal can be safely used by people ages 13 and older, they should not be used by children 12 or under. They should be handled with care by all ages.

The best practices for glazing safely are to keep food and beverages well away from your glazing area and to clean up thoroughly after glazing with water. Ingesting and/or inhaling glaze materials is an unhealthy practice. Always thoroughly wash your hands of all glaze.

Once fired, most glazes are safe for food surfaces. Look for the food-safe label on commercial glazes, and fire according to the directions on the jar. We recommend using a single food-safe glaze on surfaces that will come in contact with food or beverages.



AP Seal - Glazes with an AP seal are rated for use by people of all ages

Toxic / non-toxic refers to the unfired glaze.

Food-safe / non-food-safe refers to the fired glaze.

How do I apply and fire glaze?

Most commercial glazes are applied with a brush. Some glazes can be applied by dipping, pouring, or sponging.

To brush a commercial glaze use a soft long-bristled brush and “float” the glaze onto the ware, reloading the brush often. Apply 3 fluid coats, allowing glaze to dry between each coat. If dipping your glaze, hold the ware in the glaze bucket long enough to build up a thick coating of glaze (usually 3-5 seconds depending on the glaze. Raw dry glaze usually should be about 1.3 - 1.5 mm thickness). Amaco dipping glazes come with instructions on mixing and applying.

When glazing make sure to either dry-foot your pieces -- leave the part of the clay that will touch the kiln shelf unglazed -- or put the piece on a stilt or bisque “cookie” that will hold it up off the kiln shelf. If you use commercial stilts make sure they are rated for the temperature to which they will be fired. If the bottom

of a piece is glazed and rests on the kiln shelf during firing it will probably be permanently glazed to the shelf. Check your kiln manual for more information on loading and firing your pieces.

Learn more about applying glazes by watching our video on the [Top 5 Glaze Tips & Tricks](#).



How will I know how my glazes will turn out?

It's highly recommended to make test tiles whenever trying a new clay or glaze. Test tiles can be as simple as a small slab of clay or can be small cups. Create your test tiles of the same clay and textures you'll use in your finished pieces, and fire on the same schedule as you'll fire the future pieces. Find more about test tiles in our video on [Test Tiles](#).



PROBLEMS AND SOLUTIONS

How do I fix cracks?

Depending on when or how a piece cracks it can be repaired. Clay can crack because:

- It's too thin
- It dried unevenly
- Two pieces of different dryness are attached (wet clay to leather hard)
- Two pieces were not slipped and scored well when attached
- Water was left in the bottom of a thrown piece
- The piece has thick and thin areas

Figuring out why a piece cracked is important for preventing cracking in the future. If a crack is minor it can be repaired with Bisque-Fix or a similar ceramic mending product. Mix the Bisque-Fix well, and use a tool to press it into the crack. Clean the outside surface around the seam and fire the piece normally. Clean tools thoroughly with water immediately after use.

Sometimes a piece may crack in half, and it's best to start over. Trying to mend a piece with a large crack will most likely end with the mend not holding. When your work cracks in the greenware or bisque stage, be aware that the crack will likely worsen in the glaze firing. It may be time better spent making a new piece than mending one.

My glaze is a little dry in the jar

If some of your glazes need to be rehydrated, here are some methods you can do to rehydrate them: If your glaze is thick but you can still get it on a brush, we suggest using it as is. If it is too thick to brush, add a small amount of DISTILLED water AND an equal amount of Amaco Gum Solution, no more than a Tablespoon per pint, and mix well.

If your glaze is completely dried out or hard, it may not be possible to make it liquid again, but some people like to break the hardened glaze into chunks and sprinkle it on a still wet base glaze (something matte works best) for a sprinkle or confetti effect.

My glaze is stinky or turning black

If you have mold growing in your glaze, or the glaze has an unpleasant odor you can add a few drops of bleach to kill the bacteria. Bacteria generally won't

affect the chemical composition of the glaze, but it can look and smell unpleasant and may shorten the life of the brushing agent in your glaze.

My glaze is dry or crusty after firing

Double-check the firing temperature of your glaze and make sure it matches the kiln firing temperature. Remember that the zero in front of the cone number is very important and that there is a large temperature difference between cone 05 (low-fire) and cone 5 (mid-range to high-fire). And if you're using a

computerized kiln controller you should still use a witness cone (the target temperature) in each firing to ensure your kiln is firing accurately.



My glaze is blotchy or not the color I expected

Though too much glaze can run off the pot or pit, too little glaze can look patchy, uneven, and a bland color.

If your glaze came out blotchy or the color isn't what

you expected we always recommend creating test tiles when trying any new glaze to see if the end results achieve desired effects. You may need to adjust your application to get the best results.

My glaze came out with bumps on it

If your glaze comes out of the kiln and is pitted or bubbly, that is known as pinholing or blistering and can happen for a variety of reasons, and has different solutions depending on the exact cause. Most commonly it's caused by the off-gassing of minerals in the clay body, which can be solved by using a different clay or slowing the rate of heating at the end of the firing. It may be caused by a glaze that's too thick, or over-fired. Other causes of pin-holing are under-firing, over-firing, or glaze interactions (if using 2 or more glazes). Generally, it will require testing to pinpoint the exact cause of the pitting.

Some glazes can develop oolites or ooloids over time, which are calcifications in the glaze. If you're finding small and very hard round bits in a glaze that isn't meant to have a speckle, or if there are bumps in the glaze after firing, they may be oolites. Oolites should be removed from the raw glaze before firing, either by sieving the glaze or by picking them off the dry, unfired ware. Hard dry white bits in the glaze may be flakes of kiln wash that fell onto ware while loading a kiln.

My glaze is missing patches

If your glaze is leaving bare patches, this is known as crawling. Crawling has many causes such as dirty ware (wax, dust, or sometimes even lotion on hands can act as a resist to the glaze), too much glaze, glaze that has poor adhesion, or glaze that has too high of surface tension for the clay or underglaze under it. If your brushing glaze is old or too thick, the Gum Solution within the liquid glaze may need to be refreshed. Add no more than 1 Tablespoon of Gum Solution per pint (and the same amount of distilled water

for a thickened glaze), then blend well. Amaco Gum Solution is available from Amaco glaze distributors or on the Amaco website.

If your Amaco Dipping Glaze is crawling, contact our Tech Support team for assistance. Layering or repeated dipping of PC or Celadon dipping glazes can result in crawling, as can a glaze that is too thin or too thick.



MORE INFORMATION

For more information on using ceramic clay and ideas for projects, visit:

www.amaco.com/resources

<https://www.amacoclassroom.com/kiln-basics>

<https://www.amacoclassroom.com/>

www.facebook.com/people/Amaco-Brent/100012298691522/

www.instagram.com/amacobrent/

[To learn more about clay download the Stages of Clay PDF](#)

For Technical Support, contact:

Email: customercare@amaco.com

Toll-Free: (800) 999-5456

Local: (317) 683-1303



WELCOME TO CLAY! QUICK REFERENCE SHEET

Always clean work surfaces and floors with water (a wet sponge or damp mop) to avoid creating dust.

"Slip" and **"score"** to join clay.
Always join clay of similar moistness.



AP Seal glazes are non-toxic for all ages.
CL Seal glazes are suitable for ages 13 and up.

Stages of clay

Wet fresh from the bag, soft

Leather-hard can be joined or cut, but not quite soft

Bone-dry brittle and ready to bisque

Bisque has been fired once, usually to a low temperature

Glazed has been fired a second time and is complete

Cones: ceramic material that bends with a specific amount of heat work used to measure the interaction of time and temperature in firing. If there's a 0 in front of the number it's a lower cone. The 0 is like a negative sign.

Low-Fire: Cone 08-04
1720°-1950°F (940°-1063°C)

Mid-Range: Cone 5-6
2165°-2235°F (1186°-1225°C)

High-Fire: Cone 8-12
2280°-2383°F (1245°-1306°C)

Always test whenever using a new glaze or clay!

Glaze: ceramic materials that flux or melt in firing to create a hard, glass-like surface.

Underglaze: colored liquid clay used for detailed or painterly decoration. It must have a clear glaze fired over it to be shiny. Memory hack: it's called underglaze because it goes UNDER a GLAZE.

CLAY TAKES PRACTICE, PATIENCE AND PERSEVERANCE
HAVE FUN AND KEEP IT UP!

