

C. THE PROCESS OF DECORATING TILES

1) Introduction to the process of working.

As a ceramist knows, many procedures for decorating plates and jars are the same for tiles. As I work mainly with tiles, we shall deal with tiles first; this information will also be referred to later in the book, when dealing with plates and jars but without completely repeating what has already been said. Please keep in mind that I live and work in Spain and some of the products such as the glaze-base Siglo XVII that I talk about might not be readily available outside Spain. What makes it good is that it is slightly off white, which takes away the industrial look that many white bases have. There are seven stages of preparing and decorating tiles; the following photos show the last five, as they are not needed for the first two, a bisque tile and a tile with the glaze-base. The first two photos comply to both decorating in blue and with colors and are followed by six, three showing the stages in blue and three with colors.



The drawing marked on with wood ash



The outlines painted



**Following Stages – Blue
First shade**



Second shades



Third fired

Following Stages – Color



First colors



Second colors



Third fired

D. THE GLAZE-BASE

1) Introduction to glazes

WARNING: Many glazes and stains can be toxic or give off poisonous fumes. When you buy your materials, be sure to know what they contain and the appropriate precautions to take when using them. Wear a mask and gloves when working with chemicals and make sure the room you are in is well ventilated. Great care is needed when there is the danger of inhaling fumes or using a spray that contaminates the air.

The Majolica Method is a base glaze (herein called glaze-base) made with tin oxide and developed for its whiteness and opacity. When bought it is powder; it is mixed with water and laid over tiles, plates and jars that have been bisque fired. This surface is decorated with colored glazes; the glaze-base and decoration are fired together; when fired they fuse and integrate to form a shiny glaze that accentuates the colors and leaves a smooth, vitrified, unbroken surface, so you cannot feel or see different levels.

2) The glaze-base.

There are a variety of glaze-bases, each producing a different look and texture. Traditionally lead oxide was used; it is now illegal due to health reasons and tin oxide is now the main ingredient for glazes.

IN-GLAZE: Is when the glaze-base and decoration are fired together. This is the Majolica Method.

ON-GLAZE: Is when the glaze-base is fired, then decorated and fired again. This is also known as enamel decorating.

There are many different types of glaze-bases made up with different formulas and textures, matte, semimatte and crackle, etc. and all can be purchased ready-made. Application in both methods can be made by spraying, painting, burnishing, dipping, pouring, etc., depending on your desired results, and the thickness of the glaze depends on the amount of water added and needed. The glaze-base I most use has an offwhite tone, with not too much shine. This helps to achieve an antique look.

See Glossary: Glazes - On-glaze

3) Glaze-base preparation

- Fill an ordinary bucket halfway up with water, add the glaze-base, which is powder and mix them. The best way is to buy a long, industrial, metal whisk that can be used with an electric drill or it can be done by hand; wearing plastic gloves, press out all the lumps and stir. Continue adding glaze-base and water until you have a bucketful with a thick, creamy texture, thoroughly mixed.
- The prepared glaze-base is kept in a container, designed as part of a table, which is used for storing and working. Across the container, from side to side, lay two long, strong, flat bars of wood. They should be far enough apart to balance the sieve. The sieve can be an ordinary wooden one, metal or rotary.
- Pour the mixture into the sieve and press it through into the storage container. Discard any solid bits that cannot be broken up and are left in the sieve. When finished, clean and wash the sieve well. Scrape up the glaze-base that has fallen around the container and onto the boards. Put it into the box where you keep the dirty glaze-base; it can be cleaned and used again.

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Note: Sieves: You need three, a rotary sieve for large quantities of glaze-bases; they come with changeable plaques with different sizes of mesh, a normal sieve for quick jobs and a small one for colors, these two do not have changeable mesh. The small one for colors is made in two pieces; a funnel and sieve, and this makes passing the liquid into narrow bottles or jars very easy. For a glaze-base use a mesh of 80.

E. PUTTING DESIGNS ONTO THE GLAZE-BASE

1) Drawings: Preparations for marking designs onto a tile.

Transferring a drawing onto a ceramic surface prior to painting is known as pouncing. To pounce a drawing, the outlines of it are pricked with small holes. The drawing is then placed over the surface to be decorated and rubbed with a bag containing a fine powder. The powder goes through the holes, marking the design on the surface. Black vegetable ash is used over a white glaze-base and white industrial talcum powder is used over a red biscuit or a dark color.

Begin by drawing the design you want to use. When designing, you must take into account the sizes and number of tiles needed, remembering that the normal tile is 6x6in. (15x15cm) or 8x8in (20x20cm) Mark with lines where the edges of the tiles fall on the paper and calculate the placing of the design, so they do not cut through important parts, such as the face.

When the design is finished, photocopy it onto tracing paper, to the exact size needed. Having the design on tracing paper allows you to keep the original drawing in perfect condition. It also allows you to pounce the design in reverse and to see exactly where you are placing it in relation to the tiles. The final marking always comes out more clearly when pounced in reverse because the rough side of the tracing paper, caused by the pouncing, is not against the tile

Lay a thin piece of cloth over a hard surface. The cloth should be just thick enough to let the point of the pin go through the paper. Flip the tracing paper with the design so the backside is facing up and lay it on top of the cloth. Pounce holes through the outlines with a pin-pencil; Remember, the smaller the holes and the closer together they are, the better the drawing will come out.

If the drawing is on regular paper, lay it on a piece of cloth and prick the lines of the drawing directly through the paper. When finished, turn it over and lightly sandpaper the back. This helps remove the rough texture that can scratch the base when you mark the design. If the paper is stiff and difficult to prick through, to soften it, rub it with a bar of dry soap. You can also put tracing paper over the drawing, prick through both, and then file down the back as explained. If it does not matter which way round the design is, then sandpapering is not necessary, just use it in reverse.

To make a pin-pencil, you need a thin wooden dowel, like a pencil and a pin. With pliers stick the sharp end of the pin into one end of the wood, then cut off the pin head, remove the pin from the wooden dowel and stick the blunt end firmly back into the hole. Now, you have your pin-pencil and for safety, keep it stuck into a rubber. The best way to make a pin-pencil is with an automatic (mechanical) pencil, using a metal pin with its head cut off in place of the lead. Advantages of this are that you can move the pin in and out to the desired length and when not in use, the pin can be retracted for safer storage.

3) Vegetable-ash bag.

You will need a vegetable-ash bag to mark drawings onto a tile. To make a bag, take a square piece of material and put finely ground vegetable-ash in the center of it, pull up the corners and join them with a rubber band or piece of string.

You should use a material that is strong enough not to break and has a weave that lets the wood-ash pass through; so the lines come out clean and strong.

4) Marking drawings onto tiles

- The drawing has been prepared on transparent paper, with the outlines of the design drawn and pounced and where the edges of the tiles fall is drawn on to it, to make the placing it correctly easier.
- Place the tiles on a flat surface, forming the size and shape of the drawing. You can use a stand, but a flat surface is easier for marking.
- If the design is very big, cut it down to a size that can be used easily on the table where you are working, this design has been cut down into 5 parts of 6 tiles.
- Lay the pounced drawing on top of the tiles, making sure that it is placed correctly and that the smooth side is against the tiles. If you are using a stand, affix the drawing with tape; if you are on a flat surface, put something heavy on the corners to weigh it down.
- Tap your vegetable-ash bag over the pounced lines and rub the surface with it, covering all the holes so

the ash goes through. Lift one corner of the tracing paper to see if it is well marked. Gradually remove the paper, checking continually to see that the lines have come out clearly. If not, rub that part of the design again. When finished, remove the drawing.

- If there is a lot of excess vegetable-ash, blow or brush it off with a large, soft paintbrush making sure not to touch the lines. The ash will burn away when fired, but the cleaner you keep your work while painting, the better and easier to paint.
- Mark and file the drawing, as it can be used again and again. Clean it, the best way is with a large soft eraser but it is hard work; a cloth can be used but is not as good and if the drawing is large, lay it on the floor and clean it with a clean cloth, brush or broom.

F. PREPARING TO DECORATE

1) Introduction

Preparing brushes and colors, you can produce the glaze colors to your taste by mixing various ones together, further on there a list of the colors and how we mix them.

2) Paintbrushes.

Over the centuries brushes have evolved into many different shapes, made up of different types of hair to produce different brush strokes, to leave different textures, and to paint using different techniques and products. The best is squirrel hair, which is made up in many different shapes and sizes. It is expensive but there is also a large selection of good and more economical brushes to choose from. The hair should not be too long and be able to retain paint, to allow for long, strong, smooth lines, suitable for general decoration. A brush should be soft enough to relate to the movements and intensities you are imposing on it to create lines and curves.

Brushes needed.

You will need about eight brushes for painting.

- One large, soft brush for cleaning off any loose, glaze and vegetable-ash from the glaze-base. Do not use this brush for anything else. Make sure it can be washed and is completely dry and clean before using it.
- One large brush with soft hair for painting the edges and borders of the tiles.
- Two size-10 brushes, cut down to a different thickness to form a narrow, flat end; the drawing shows a brush before and after cutting, these are for painting outlines.

Customizing your Brush

Using small, very sharp scissors, cut the paintbrush hair as shown in the drawing. You can see that half of the brush hair is cut away to form a step around the fine center, leaving the thickness you require. The center must have a flat end; cutting the hair down allows the brush to hold paint in the thick part, which then runs through to the thinner part and allows you to make long, smooth strokes. This is very important when painting outlines. For a large picture use one cut with a wide end and paint the delicate details, like faces and hands, with the fine end. Use the narrow brush for small designs of one or two tiles and for plates and pots. Once you have learned the technique of using these brushes you can cut them down to the sizes you prefer.

Brushwork

Brushwork is of great importance in the Majolica Method. Good brushwork shows the movement of the brush strokes that gives form and textures to what is being painted. It also shows the relation of one color over another in creating a third color.

Cleaning your Brush

When you finish working, clean your brushes. Glaze colors can be cleaned off with just soap and water. Do not use them for other types of painting and never leave head down in any liquid, as the hairs get bent. With time they can be corrected, but why waste time?

See Glossary: Blistering and Tiles: Problems.

3) Colors

The following is a list of the colors we use and how we mix them. We have given them names as to literally translate the names of colors is difficult and two firms can use the same name for a different color. The following is a list of the color mixtures we use and the abbreviation in brackets are the substances used by the firms we buy from.

Brown dirty: 1-brown (Ti-Sb-Cr) + 0, 25 oxide Manganese (Mn_2O_3)
Brown outlines: 1-brown-red (Zn-Fe-Cr) + 1-brown dark (Cr-Fe-Mn)
Brown-red: 1-brown-red (Zn-Fe-Cr)
Black: 1-black (Cr-Co-Ni-Mn-Fe)
Blue: 1-blue cobalt (Si-Co, P) + 0, 25-black (Cr-Co-Ni-Mn-Fe)
Blue dark: 1-blue cobalt (Si-Co-P) + 0, 50-black (Cr-Co-Ni-Mn-Fe)
Green copper: 1-green copper oxide (CuO_2)
Green dirty: 1-green (Co-Cr) + 0, 50 yellow (Zr-Si-Pr) + 0, 05 orange (Pb-Sb-Fe)
Green light: 1-yellow (Si-Zr-Pr) + 0,250 green strong (Co-Cr)
Green strong: 1-green strong (Co-Cr)
Manganese: 1- oxide Manganese (Mn_2O_3) + 0, 15 red crimson (Sn, Ca, Cr, Si)
Ochre: 1-orange (Pb-Sb-Fe) + Red strong (Cd, Se)
Purple: 1-red crimson (Sn-Cr)
Red Crimson: 1-red crimson (Sn, Ca, Cr, Si)
Red Strong: 1-red strong
Turquoise: 1-blue turquoise (Si-Zr-V)
Skin Light:: 1-ochre light (Ti-Sb-Cr)
Yellow: 1-yellow strong (Zr-Si-Pr) + 0, 33(Pb-Sb-Fe)
Yellow: 1-yellow lemon (Si-Zr-Pr)

Note: Black and red are modern glaze colors, and were not used in classical Majolica ceramics.

4) Preparing and Mixing Glaze Colors

To make up your own glaze colors, mix one portion of color in powder form, which will be the combination of colors needed to produce the desired color, with three portions of transparent glaze. Add water, stir and pass the mixture through a fine sieve. The amounts you make depend on how much you work. For example, when preparing yellow, I use about 1lb (500gm) of yellow and 2 ounces (100gm) of ochre, which makes around 1.2lb (600gm) of color. This is added to 3.6lb (1800gm) of transparent glaze. There are three stages for colors: powder, prepared to use and being used. Keep each state of preparation in different types of jars so they are easily recognizable. The first two should have lids. Mark them with the name of the color and code number. When being used to paint, keep them in small pots, without lids and differently shaped to help distinguish similar colors. Remember to keep stirring the glaze colors you are using. This keeps the water and color from separating, and maintains a consistent density, which helps the color to run well. Water evaporates, so add more if necessary. If your colors do not run well while painting, add a little medium, which is a lubricant liquid. When the colors are left for a long while, they get dry and hard. Add water, leave for a short while so they can integrate, then mix using a looped modeling tool. When mixed and being used, keep stirring the colors with the paintbrush. The more you stir the better the color will run. Be careful - after stirring you will not know the density of the color your brush is carrying, so clean the brush before starting to paint.

Note: Medium is the common name for the lubricant and the technical name is Polyethylene glycol
Colors have their problems. Firms change hands, the products change; they think new colors are needed and stop making the ones you have been using for ten years! So you have to work out new combinations. You try buying from another company but a color with the same name has a different color and quality. When you buy a new color, buy and prepare a small quantity and test it. In the last two years many of the color combinations I use have had to be changed. Now instead of manganese for the outlines I use 50% brown-red + 50% strong brown. Then the firm I have bought colors from for 20 years changed hands and changed their colors and the changing of one color will affect all the colors it is mixed with. The color most affected was ochre; they stopped making it and the nearest one they had was a strong brown. I now buy from another firm but as their ochre is very weak and when painted on top of yellow can hardly be seen it has to be mixed with the strong red instead of crimson.

G. DECORATING

1) Introduction to using colors

Painting the outlines is drawing with your paintbrush. Use your cut down brushes to paint the outlines and any details you think are necessary. Any strong color can be used for outlines but the following five colors are the main ones. Remember, when I talk about colors, they will have been prepared as explained previously, and also that continuously stirring them helps to make the colors run well. This is very important for painting long, smooth strokes.

2) Colors for outlines

These are the five main colors used for outlines;

- **Manganese:** Is a dark brown that has been used throughout the centuries for painting outlines. When fired, it burns away so when using it for outlines, it must be well-mixed and strong.
- **Brown Outlines:** Instead of using manganese we now use 50% brown-red + 50% strong brown
- **Black:** Is a new, hard, industrial color and should be used for designs that need to have an impact, like names, advertisements, instructions, etc.
- **Blue:** One of the oldest colors and often used for designs of one color, but in different shades. For the outlines and extreme dark shading, you need a strong color, so I add a little black.
- **Brown-red:** A good color for outlines. To make it darker, it can be mixed with dark brown or black. Though not an antique color, it is good for very fine lines.

The following are two ways that you can start to paint and they can be applied to all colors.

3) Outlines before colors

First paint the outlines, which have been marked with ash, with long smooth strokes, using the movement of brush strokes to accentuate the drawing and adding to small details to personalize and accentuate it. When the outlines are painted, use a soft brush and dust off any remaining ash as it dirties the look of your work. The next photo shows this stage in the picture on wine.

Fourth Stage: Outlines painted

4) Colors before outlines

This is usually used when creating a colored texture. Imagine, for example, that you are painting a castle, which has large spaces of brick wall. Mark on a design and paint only the outlines, no details like windows or doors, then dust off all the ash and paint in the light colors, light brown, light red-brown and green, overlapping them to form shades and colors, to give an idea of the changing colors that bricks have. Then mark on the missing parts of the design over the colors then paint in all the details; bricks, windows, doors, etc. When the outlines are finished, add more colors where necessary.

Note: When I use the word light in relation to a color, I mean exactly the same color but with more water or a lighter stroke.

Blue is the color most used for painting different shades of just one color. However, any color can be used. The following photos show two different colors - blue and brown.

Saint George in six tiles, painted in blue Saint George in twelve tiles, painted in brown

When painting with one color, have four jars, three of the same color but of different intensities, made by adding more water and prepare one with a little more dark brown or black to use for extreme dark shades. The correct way of working is to paint the outline with the very dark shade of the color being used but in both examples shown, I have done the outlines with the brown we prepare for this. I find that the strength of this color accentuates the drawing and seems to reflect the main color, so much so that clients do not realize it is not blue or red-brown. When the outlines are finished, use the lightest shade of the color being used, in the same way you would use a light color and leaving a little of the white glaze-base showing on the left. Over this, on the center and right, using a color of a medium intensity, paint the shadows and give form and shape. Then shade with the third blue, then over this, on the extreme right, use a little of the strongest color especially prepared; this will help accentuate the dimensions. When one stroke of color overlaps another, it will form yet another shade. In this way, overlapping, strength of

color, strength and movement of the brush strokes and the different shades of the paint make the different intensities of just one color completely variable.

Remember. Blue is a dangerous color because it is very strong. When applying the light blue, add a lot of water to it. You must also be careful to not accidentally put paint in a place that is not in the design. The color is so light; you might not see it until after it is fired and this will spoil your work.

6) The relation of overlapping colors

When I use the word *shading* it does not mean, as in many types of painting, a smooth integration of the same color at different intensities. This form of shading can be used in the Majolica Method but it is also created by the overlapping of completely different colors. It is done in two ways, by putting a strong color on top of a lighter color, or the reverse, shading first with the dark color and then painting over it with the light one. The strength depends on the intensity of the colors when used. When fired, a dark color under a light one can be seen, but the dark color appears softer. The effect is reversed for a light color under a darker one. Overlapping two colors always produces a third color. The following list gives you an idea of the colors most commonly used when overlapping. The overlapping of colors not only forms the shading, but also the colors of the object they are portraying, as seen in the grapes in the following photos.

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Colors commonly used for overlapping

When I use the words soft or strong with colors, it is applying to the same color but the soft has more water.

Blue with:

Blue light over shade with dark blue

The blue can then be covered with yellow, purple, and it becomes green

Brown dirty with:

Manganese as the over shade

Brown strong as an over or under shade

Brown-red with:

Manganese as the over shade

Brown strong as the over shade

Brown strong with:

Manganese as the over shade

Brown strong as an over shade, of many colors

Brown strong as an under shade, of many colors

Green dirty with:

Green strong as an over shade

Manganese as an over shade

Brown strong as an over or under shade

Green light with:

Green strong as an over shade

Brown strong as an over or under shade

Ochre with:

Red-brown as the over shade or under shade

Manganese as the over shade

Brown strong as an under or over shade, use lightly.

Purple with:

Manganese as the over shade

Blue dark as an over or under shade

Blue light as an over or under shade

Red with:

Manganese as the over shade

Brown strong as the over shade

Brown-red as the over shade or under shade

Yellow with:

Ochre as the over shade; it is not strong enough for under shade.

Strong brown an under and over shade, for this use it softly, as it is a strong color.

Green copper - paint the yellow first, leaving a little of the white base on the left, and a larger white space on the right. Then with copper green, paint over the space on the right, covering some of the yellow. This will give you 4 tones, white, yellow, green-yellow and green.

Blue shade first with a light blue, then accentuate the darker parts of it with stronger blue. Then cover it all with yellow.