

All about Roman Gold

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Because gold is one of the most expensive materials that we get to use on porcelain painting, it is important to learn how to use it properly. There are several types of gold. We are discussing Roman gold on the following lines:

The pad:

This is gold in the most common form and the easiest that we can find to purchase. It is also the gold with one of the highest gold content, 38%. It comes as a flat round hard dark brown surface on a glass slab, it is solid and dry.

It needs to be mixed with an oil to make it creamy. I prefer pure lavender oil (which keeps the gold workable for a longer time) but gold facilitator can also be used.

The gold is prepared for use by adding a drop of the lavender oil on just part of the pad. With a plastic knife or a stainless steel spatula reserved for this gold and not having been used for anything else; work on it until the liquid enters the gold and you obtain a cream, brownish in color and thick enough to paint with like a honey consistency.

To conserve the gold pad from dust, put it back inside the box under the plastic cap as when you purchased it.

To save the gold that you have left on the spatula and the brush, use these two methods:

Put some lavender oil inside a clean/new and reserved for this gold small jar. Clean your spatula in it as much as you can, using the glass neck to remove as much gold as you can. This is also used to clean the brushes inside the lavender oil to remove most of the gold. Then you can conserve the brush inside a metal box where you have added some gauze blotter saturated with lavender oil. This will keep your brush humid and ready to use the next time. After many uses and when the residue of gold from the brush and from the spatula has settled at the bottom of the jar, you can recuperate and use this gold when all essence has evaporated. I use this sometimes to do a first coat.

The second method is putting the brush through a hole in a jar cap upside down with the hairs close but not in, the lavender oil inside the jar. Make sure that no air goes in to avoid evaporation and to ensure that your brush stays always humid and subtle.

There is myth about warming the glass slab which would help soften the gold that has dried. It will work for a first while but then the gold becomes dryer and dryer as you do this and the gold will be harder and harder to soften, so I would not recommend it.

The cream:

Roman gold comes also in a **cream form**, inside a little opal jar mostly in a 1/8 oz container. The gold cream is quite thick and looks like tar or dark sticky molasses. To use this gold, the best way is to first mix it a few times to make sure no gold particles have deposited at the bottom. You need a porcelain well covered box that you will keep for this purpose. You pick up a little bit of this cream, put it in the porcelain well, add a drop of lavender or any proper solvent like gold facilitator and with the spatula mix it well to obtain a mixture that resembles honey. If it is too liquid, you have added too much lavender, either wait for it to evaporate or add some more of the cream gold.

Fluxed or unfluxed:

These Roman gold come also fluxed or unfluxed except for the powder form one.

To understand how this works, think as flux being the glue that sticks to the porcelain. When it says UNFLUXED it means that the gold has NO FLUX, NO glue that adhere it to the glazed white porcelain. What it will do if you apply to the virgin porcelain and fire it, it will rub off and disappear the minute you try to burnish it. But if this UNFLUXED gold was used over fired color however, it will stay on since the color that was fired has flux (the glue that binds both).

If the pat of gold or the cream jar is not identified as UNFLUXED, it means IT IS FLUXED. The manufacturers just do not need to put it on the label as this gold may be used over some colors or technique or on white porcelain, they do however have to put it on the UNFLUXED one.

The reason some use this unfluxed gold over color is because sometimes the fluxed gold over color if unfired properly or too high might crackle, so to stay safe always lower your temperature when firing fluxed gold over fired color. It will not crackle if you use unfluxed gold over fired color.

Fluxed Roman gold is best used over virgin porcelain. You can also paint it over fired colors but you need to lower the temperature on the next fire. It is best not to use Fluxed gold over a large fired color area as the surface will be overfluxed and the gold will just sink in, crack and loose its luster. It is okay to use it to do scrolls or lines as their surface is not large enough to see cracks. I have found that I prefer using fluxed gold over base for gold whenever possible over a color background. Not knowing what reaction certain colors will have on the gold, it is best to test fire each or use base for gold where you want to add your gold design.

Unfluxed gold can be applied over fired fluxed color and even over another fired gold coat, like liquid bright gold or Roman gold as these two will have had already the flux that binds it to the porcelain. I found that there is not much advantage in using the unfluxed versus fluxed. On the contrary, fluxed gold used over color can save you the expense of having two separate golds and two separate sets of brushes etc.

Other forms of Roman Gold:

These golds we have just discussed are the most common form of Roman gold but you also have some burnishing gold that comes in liquid and ready to apply from a bottle. This gold can come in 25%, 30%, 32% or more. I get the 32% from Heraeus Co., Germany through Joerg Kugelmeier and this is the one I prefer to use.

Burnishing gold 32%:

This gold comes in a brown bottle with a narrow neck. The gold particles might have settled at the bottom so you need to stir them up quite a bit. I use a glass stick to blend all the particles with the liquid. I do the same as with the cream gold. I pick up a bit of it and put it on the porcelain gold well. I DO NOT ADD ANY LAVENDER OR OTHER LIQUIDS at this point. I use it as is from the bottle. This gold has been mixed with a solvent that evaporates and dries pretty fast on the porcelain. Once you have used all the gold on the porcelain well, THEN you can add a drop of lavender to get the rest of it that has dried of. When you find that the gold inside the bottle has thicken THEN you can add a drop of lavender oil to the bottle and mix it stir it with the glass stick. Do not add too much lavender or you will have a gold that has very little gold in it and will fire a purplish color.

When you are ready to use the gold and open the bottle, clean the glass stick with alcohol and stir the gold, scraping the bottom and stirring it clockwise and counter clockwise for a few minutes to make sure that all the gold particles that have settled to the bottom of the bottle are well mixed and well blended with the liquid the manufacturer has added.

If you have a porcelain gold well put some of that gold from the stick in the well, if you do not have a well, use the brush to get some of that gold from the glass stick. The glass stick will have some of that gold left after you have used it all. Put some lavender oil in a sterile jar and wash off that gold inside with the lavender. The gold from the glass stick and the gold from your brushes when you clean them in that lavender will settle at the bottom of that jar and eventually you will have enough gold there that you'll be able to use again when all the lavender will evaporate.

Paint your scrolls or whatever you need with your brushes. When you are through, wash off the gold on your brushes with the same lavender you used for the glass stick. Then detach the quill brush tips and lay them inside a tin box. But before, put some sterile gauze inside the tin box and soak it with lavender oil and put your brush tips between the gauze so that they stay humid at all times and ready for the next use. Someone also said to wrap your brush with cellophane paper but I find that it will dry and stick to the brush if left there for too long.

Please mark the tin box that the brushes are for 32% gold, do the same to the jar with the lavender. That way you will always use those brushes and that lavender strictly for that gold. Keep everything together for the next use and separately from anything else.

These golds, the same as Roman gold need to be burnished after fire.

Little hint and trick:

To save on gold coats, sometimes you are best to use a first coat of liquid bright gold, fire it, then apply over it a coat of Roman Gold. This way you have the look of a two gold coats without the expense.

Ceronic gold 45%:

This gold has all the properties as any Roman gold except it is richer and contains 45% pure gold. It is one the most expensive gold to buy but it also gives the best results. One coat is usually enough to cover a good area. It is also nicer to etch and to paint over.

The powder:

Roman gold comes also in **powder form** and is the purest of the gold you can use. This one **IS** the most expensive since it has more than 85% gold particles. You need only one coat with it. This powder is prepared by mixing it the same way you would any color. I use fat oil and or pure spirit of gum turpentine to a creamy consistency before applying it.

The brushes : I use mostly quill brushes with detachable handles from Joerg Kugelmeier. This way, they can be stored in a small metal box. I also use a special brush for scrolls which obeys really well all those curves without having to lift it. It is a 20/0 Monogram brush from Princeton that I sell. I find this brush really works the best for me when I scroll.

Firing:

All of these gold can be fired as high as cone 014 (1485F) although ideally 017, 018 (1312F) is fine as most often gold has been added at the last fire. Use caution when picking up the piece out of the kiln. Do not touch the gold with your bare hands, we have oils and acidity in our skin, and this might stain or discolor the gold. Instead use a clean rag to pick up your piece and burnish it as soon as possible to avoid stains. Once it has been burnished it, there is less danger of this.

Burnishing:

All of these mat golds need to be burnished when it comes out of the kiln. When it comes out of the kiln, the gold seems mat or cloudy and it has a small greyish film over it. It needs to be burnished to get that lustre we all love. To burnish you need the finest Silica sand, baking soda, tooth paste, fine fibreglass fabric or fibreglass burnishing brush stick. Some people say that it is better that the piece is still warm to be burnished. I find there is absolutely no difference, so I wait until it is completely cooled.

I prefer to burnish it using sand and my finger wrapped in a soft cotton cloth moistened with warm water, I pick up a bit of the sand and very gently I rub the sand against the gold in soft circle motions. I pick up more sand as I go along. The sand needs to be the finest silica or it will scratch the gold. If unsure of your sand use a wet cotton ball and baking soda. For the smaller or hard to reach surface to burnish, I use a cotton swab, moisten with a bit of sand or baking soda. Do not scrub hard or you will scratch the surface and remove some of the gold. When the entire surface has been polished, you can

see the lustrous sheen come to life. Rinse the piece thoroughly to remove any particles of sand when you are finished and pat it dry. Make sure no grain of sand is left behind or it will mar your piece if fired again.

If you use fibreglass, make sure you work over a newspaper or over a garbage pail to collect all those little glass fibers that break off when using this method. Also make sure to protect your hands. When one of those glass fibers gets under your skin, it is pretty irritant and annoying.

Applying gold:

The area to paint has to be thoroughly cleaned first with alcohol or acetone to remove those greasy finger marks. When applying gold over a large surface use a larger brush and wide strokes and make sure you have complete coverage of the surface. The strokes have to feel sticky and have a hold (tooth) to it to get a better bond between the gold and the porcelain. The strokes sometimes will show after firing which can mean that there was not enough gold on your brush or different thickness of application was applied. To remedy this, you can also apply Roman gold with a high density sponge, the same you do for a background color, to make a smoother surface but of course, this demands a lot of gold. There will be a lot of wasted gold left over in the sponge, so the smaller the sponge the better. You can save the gold in the sponge by wrapping it in cellophane.

When painting lines, it is best that the gold has a little bit more lavender to flow easier, but make sure it is not too liquid or all you will have is a purple stain.

Cleanliness and careful handling around gold.

Gold is expensive and delicate. You need to learn the basic elements to avoid contamination and spoiling this expensive product. It needs to be manipulated with care and sterile surrounds to keep the best possible duration of pure gold.

The porcelain must be meticulously cleaned. Try cleaning with acetone to remove the residues of grease or fingerprints that can mar the gold application. Gold stains or gold errors on the porcelain need to be removed several times with alcohol or saliva to make sure you will not end up with some purple fired stains. These fired stains can be erased with a special gold eraser. Make sure you do not rub too much and scratch the glaze that is why it is better to wipe out thoroughly clean before firing. If you think you cleaned it, go back again and again. I find spit is the best cleaner.

The brushes, the boxes, the spatulas need to be reserved for each specific gold and strictly for that and only that. You must not mix golds unless they come from the same source and is the same recipe and the same gold content. Keep separate small containers for each type of gold and each brush and identify them.

When applying Roman gold, apply it over white porcelain, fired colors or base for gold etc.... never apply it over unfired color, unless you are very sure of your hand and that the two applications do not touch. When I use fat oil in my paintings, I wait until this application is completely dry which is quite fast, and then I apply the gold around it or near it if need be but never over it.

Etching gold:

These golds can also be burnished and etched into a much more sheen design with the help of an agate stone burnisher. This stick has to be handled with great care and with a sure hand. This is used to create a highly polished design. Make sure you do not press hard or you will scratch the surface too deeply. A wayward scratch in your burnished gold can sometimes be corrected with toothpaste or a silver polishing rag.

Note 1: Once you etch the gold you can no longer go back, so extreme precaution needs to be applied here. You have to go slow and always on the same direction when drawing per example a leaf. Do not over do it.

Note 2: Do not wear jewelry in your hands or wrist when burnishing gold or you might scratch it unnecessarily and these marks will not come off.

Note 3: make sure you clean thoroughly any gold smear on the porcelain or it will fire purple spots

Other golds and their uses

Liquid bright gold.

This gold comes in a common form of a very tiny bottle and is very liquid and dark brown; it is similar to a luster that will fire to a very high gloss. Contrary to the Roman gold, this gold does not require stirring. At the contrary, the impurities that can spoil your piece deposits at the bottom, so use only the liquid above it and use it in a thin coat.

Liquid bright gold can become contaminated by turpentine or many oils, causing it to become blotchy and black. Use only pure lavender oil or gold essence to clean the brushes or to thin it.

Liquid bright gold can be used also in several ways.

A coat of it can serve as a base for UNFLUXED GOLD.

A coat of it can serve as a base for FLUXED GOLD as well.

A coat of it over a fired coat of I-Relief, will give it texture and will make it mat.

You can paint with it over fired colors.

If you would like a matt gold look without the expense, use liquid bright gold over a fire yellow brown smooth coat and fire it again at a lower temperature.

You can use it for writing or for contouring a design.

A drop of it can help a black ground coat of color to fire and stay on without chipping. Sometimes black tends to chip after fire.

White gold

It is exactly the same as Roman Gold except it fires a pale silvery gold

Green Gold

It is exactly the same as Roman Gold except it fires a greenish gold

Liquid Platinum

It is exactly the same as Liquid Bright gold except it fires bright platinum

Burnishing Platinum

It is exactly the same as Roman Gold except it fires a mat platinum

Several ways to work with Roman gold:

- 1) You can gold paint a surface, fire it, burnish it and etch forms with stencils



- 2) You can paint with Roman gold a shape or a silhouette, fire, burnish it and then pen with color all the details



- 3) You can paint a surface with Roman gold, shape or silhouette, fire it, burnish it and then paint over it with colors and re-fire it; some prefer not to burnish it before painting on it as this gives the colors more tooth. I prefer to burnish it so I do not have to worry where I put my fingers. When painting on gold is applied, some 30% of the color is absorbed into the gold, so the colors have to be brighter and applied a bit thicker or dryer or you can also paint two coats between fires. Make sure not to put your fingers on the unburnished gold or you might have a stain on it

later on. Use some transparent film to protect the area you are not painting if it is a large area.



- 4) You can paint a large surface with Roman gold, fire it, burnish it then etch a complete landscape or design over it.



- 5) You can paint scroll lines over fired colors and over base for gold making intricate designs.



- 6) You can paint a surface with a color ground, fire it and paint with gold flowers or landscapes etc...over the color. When doing this make sure you lower the next fire temperature or your gold might crack if you used the fluxed gold.



You will find many, many more uses for Roman gold as listed here and you will always get beautiful results if you keep in mind that GOLD needs to be treated with a lot of carefulness, cleanliness and respect and it will in return give you much joy when coming out of the kiln.

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I have spent many hours and many tries and failure to work with gold. Feel free to use the information I gathered through my experiences for your own personal use or to give it to your students. But please have the courtesy to name the source.