

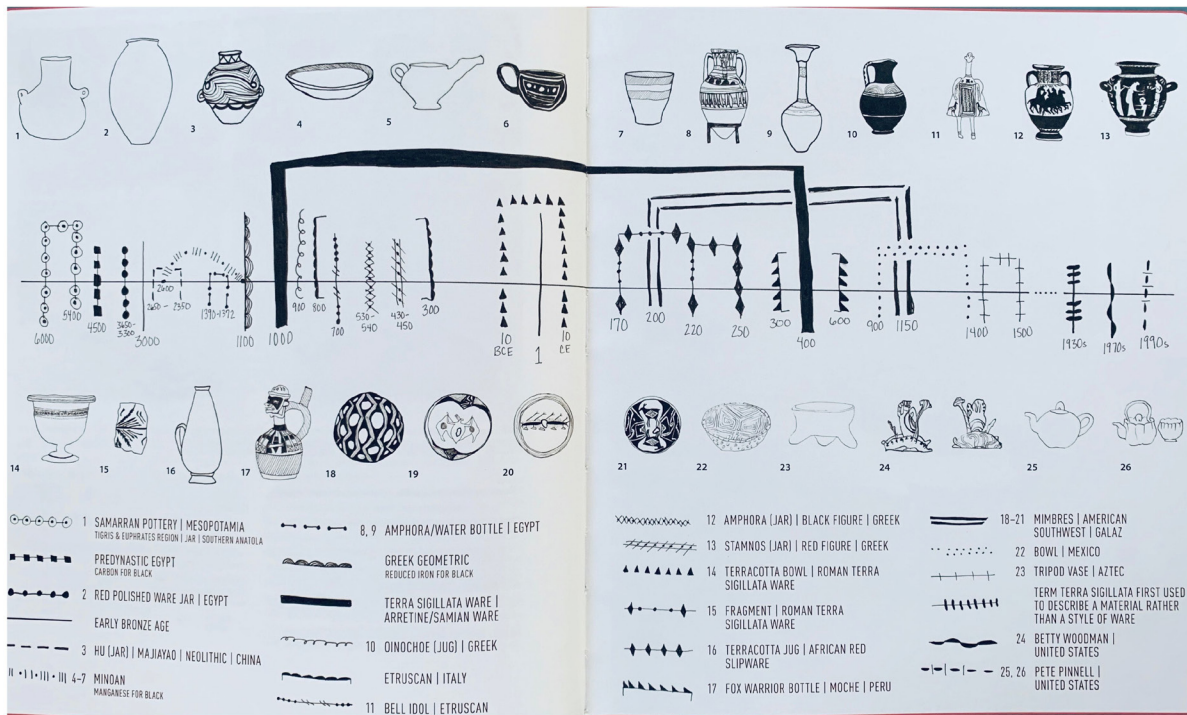
Terra Sigillata

Terra Sigillata, being the most ancient means of bringing color, enhancing and sealing a clay surface, is a remarkable technique that is being viewed today through contemporary eyes and exploration.

Christy discovered “Terra Sig” in college studying Greek pottery and followed it into more modern times as it was primarily used in low fire applications.

For those of you who are interested in pursuing this method further into today’s vernacular, it is highly recommended that you purchase **“Terra Sigillata - Contemporary Techniques”** by Rhonda Willars. It provides an historical overview, as well as technical information on how to make, mix, and apply terra sigillatas.

Much of what is shared here has come from this book. Previously Christy mixed her “Sig” following the Val Cushing method using SHMP: Sodium Hexametaphosphate (Calgon). She tried the base formula in the Rhonda Willars book using Sodium Silicate and compared with Darvan 811 as recommended for red clay and found it to be easier, very reliable and faster.



Terra Sigillata was universally discovered around the world. Terra Sigillata is made with very fine-grain clays, lots of water, and a small amount of deflocculant to disperse the fine particles putting them into suspension. The slurry is then allowed to settle for 12-24 hours and the super-fine particles are siphoned off.

Traditionally the clays used were red (iron-bearing). Repeated levigation would produce even finer particles and the deflocculant used (metallic salts, an alkaline source) often added more shine/gloss to the finish. Achieving the vibrant red and black coloration was controlled by the firing; oxidation produced the vibrant red and reduction produced the black. The black was a result of the finest particles with greater additions of alkali and once reduced, formed a gloss that trapped the carbon and wouldn’t re-oxidize even when returned to an oxidizing atmosphere.

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Today's techniques benefit from the ancients and allow us to fire at various temperatures and with a variety of firing methods ... pit, smoke, electric and reduction.

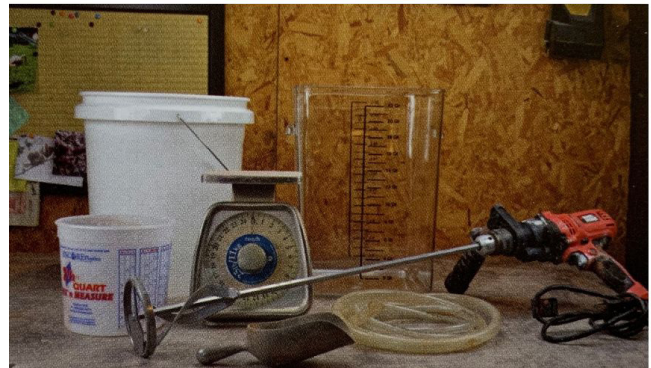
Again, if you want to explore any or all of these methods - please invest in a copy of the book: "Terra Sigillata - Contemporary Techniques" by Rhonda Willers.

This handout focuses on firing in an electric kiln at 2 firing temperatures: ^04 and ^6.

MAKING TERRA SIGILLATA

YOU WILL NEED -

- Clear Mixing Container
- Drill with a Mixer attached
- Raw Clay
- Sodium Silicate
- Water
- Gram/Pound Scale
- Extra buckets
- Hose to siphon - clear plastic tubing 3/8"-5/8" diameter



RECIPE

BLENDER BATCH -

- Water 3 cups (800ml)
- Clay (dry) 400 grams
- Deflocculant..... a few small drops

YIELD: about 500 grams of Terra Sigillata

5-GALLON BUCKET BATCH -

- Water 28lbs (3¹/₃ gallons)
- Clay (dry) 14lbs
- Deflocculant 1/4 cup

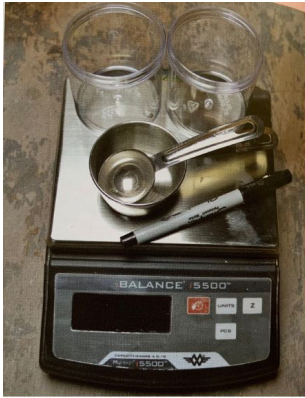
YIELD: about 2 gallons of Terra Sigillata



Sodium Silicate was used as the deflocculant. It was noted that Darvan 811 may be superior when used with red clay, but in a side by side test mixing Red Art Terra Sig, the results were identical.

Allow to settle for 12-24 hours - Your settled buckets will look like the above image. There is very little pure water on top. Siphon down to the heavy sediment which you will throw away.

TESTING YOUR TERRA SIGILLATA



YOU WILL NEED -

- Gram Scale
- Clear Container
- Marking Pen



1. In your clear container, measure and mark 100 grams of water. Simply make a line to indicate the volume of 100 grams of water.
2. Next, measure the same volume of your siphoned Terra Sig into the clear container and weigh.
3. You are aiming for a weight of 110-120 grams, giving you a specific gravity of 1.1-1.2.
4. When you have the correct specific gravity, you are ready to use your Terra Sig.

We have made our Terra Sigillata with 5 different clays as a test and comparison. The most common clays are Red Art, EPK Kaolin, and OM4 Ball Clay - we added C Red Clay and Grolleg Kaolin. All have been fired to ^04 and ^6 in an electric kiln. Our test tiles are made of Timberline Sculpture Clay, which has a heavy grog and produces texture. You might want to consider using a smooth clay body to improve your results.

APPLICATION OF TERRA SIGILLATA

Application of Terra Sig is creating a thin layer by brushing with soft brushes. Most of us will prefer a Hake brush. To achieve a uniform application, you want to apply 3 coats - alternating each layer perpendicular (90°) to the previous layer. Many contemporary artists choose not to burnish the Terra Sigillata, but historically the Terra Sig was burnished with a smooth stone, the back of a spoon, or ... as Christy prefers ... use your finger sleeved in a plastic bag - quick and efficient.



Many clays can be used with varying results. Georgies will start carrying Red Art, OM4 & EPK Terra Sigillata in 4oz and Pints.

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WASHES AND PATINAS

Washes and Patinas offer fired options that can alter the color and texture when applied either under or over the top of the Terra Sig. Washes in this context are fluxes mixed with water. Washes are most often used in low-fire and mid-range firing. They are unnecessary in high-fire firing. These fluxes are the powerful alkali melters of the low-fire pantheon: Boron in the form of Borax (didn't try it but you could also try Boric Acid), Soda in the form of Soda Ash, and Lithium in the form of Lithium Carbonate.

To mix these into a solution, you want to use **BOILING** water as the crystals need to dissolve and form a more consistent solution.

Recommended concentrations are 3:1 or 6:1. Christy chose a 3:1 solution for the most drama ... 1 Tablespoon of each Flux to 3 Tablespoons of boiling water.

BORAX -
EPK



SODA ASH -
RED ART



LITHIUM CARB -
OM4



Under/Over Washes at Cone 6 using
EPK, C Red Art & OM4



Under/Over Washes at Cone 04

BORAX



SODA ASH



LITHIUM CARB



Under/Over Washes at Cone 6 using
Grolleg Sigillata

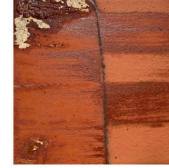
BORAX -C RED



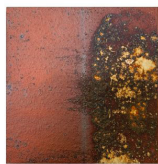
SODA ASH-C RED



LITHIUM-C RED



Under/Over Washes at Cone 04



Under/Over Washes at Cone 6

As you can see from the ones that were done, each of these low temperature melters will perform differently with each unique material and temperature.

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FAUX-MISHIMA

These tiles were done on bisque rather than greenware, which is why you see some lifting of the Terra Sig.

EPK Kaolin - OM4 Ball Clay - Red Art - Grolleg - C Red Clay at Cone 6 (top row) Cone 04 (bottom row). Premium Wax Resist was applied over the top of Terra Sigillata and a needle tool was used to scratch a design. IP205 Autumn Foliage was applied and then wiped back.



ADDING COLOR TO YOUR TERRA SIGILLATA

Grolleg Sigillata was used for this test because it is the whitest clay.

TO 1 CUP OF SIGILLATA ADD:

- 1 Tbsp Titanium Dioxide
- 1 Tbsp Titanium + 1 Tbsp MA6485
- 1 Tbsp MA6485 + 1 Tbsp MA6242
- 1 Tbsp MA6376
- The Red leaf is C Red Sigillata

Mason Stains:

MA6485 - Titanium Yellow

MA6242 - Bermuda Green

MA6376 - Robin's Egg Blue

CONE 04



CONE 6

