



Terra Sigillata

CONTEMPORARY TECHNIQUES

by Rhonda Willers

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Cover image: Rhonda Willers' stoneware sample test tile set, fired in a naborigama front chamber wood firing kiln to cone 10 in reduction with a heavy wood ash coating. Column 1: Grolleg kaolin base terra sigillata; Column 2: OM 4 ball clay base terra sigillata; Column 3: Cedar Heights Redart base terra sigillata; Row 1: 2 teaspoons titanium dioxide; Row 2: 2 teaspoons chromium oxide; Row 3: 1 teaspoon cobalt carbonate; Row 4: 2 teaspoons crocus martis.

Contents

ACKNOWLEDGMENTS	V
FOREWORD by Pete Pinnell	VIII
INTRODUCTION	X
CHAPTER 1: Connections Between Historical and Contemporary Terra Sigillata	1
CHAPTER 2: Terra Sigillata Basics	13
TRY IT LIKE: Meredith Brickell, Shama Sam Gibsh	
CHAPTER 3: Making Terra Sigillata	23
PROCESS: Making Terra Sigillata, Siphoning Terra Sigillata, Measuring Specific Gravity, Ball Milling	
TRY IT LIKE: Margaret Hayden, Adrienne Eliades	



MAGGIE JASZCZAK

CHAPTER 4: Creating Colors: Blending Base Terra Sigillatas and Adding Colorants	41
PROCESS: Blending Base Terra Sigillatas, Adding Colorants, Line Blends	
TRY IT LIKE: Lisa Buck, Mark Arnold, Lauren Sandler, Courtney Murphy, Marty Fielding, Rebecca Zweibel, David Eichelberger	
CHAPTER 5: Application Practice	65
PROCESS: Light Terra Sigillata Over Dark Terra Sigillata, White Terra Sigillata with Carvings on a Red Clay Body	
TRY IT LIKE: Liz Zlot Summerfield, Gunyoung Kim, Joanna Poag, Casey Whittier, Kari Radasch, Mark Pharis	
CHAPTER 6: Enhancing the Surface of Terra Sigillata	81
PROCESS: Mixing and Applying Washes, Applying Patinas After the Bisque Firing	
TRY IT LIKE: Noah Riedel, Joseph Pintz, Vered Binyamini, Ronan Peterson, Jeremy Randall, Nathan Murray, Sarah Blitz	
CHAPTER 7: Exploring Firing Temperatures	107
TRY IT LIKE: Marjorie Wade, Maggie Jaszczak, Didem Mert, Matt Kelleher	
CHAPTER 8: Experimenting: Flaws Becoming Possibilities and Other Unconventional Uses	121
PROCESS: Sanding Terra Sigillata	
TRY IT LIKE: Amanda Salov, Walter Auer, Aisha Harrison, Alex Kraft, Jerilyn Virden	
APPENDIX	135
Appendix 1A: Recipes	135
Appendix 1B: Artist Recipes	139
Appendix 2: Artist Directory	145
Appendix 3: Resources	146
Appendix 4: Safety	149
Appendix 5: Bibliography	150
About the Author	151
About the Photographer	151
Index	152

The background of the image is a corkboard with a textured, brown surface. In the upper right, several brushes with light-colored bristles and wooden handles are fanned out. To the left, a dark blue, textured object, possibly a palette or a piece of fabric, is partially visible. In the foreground, three circular, flat objects, likely palettes or brushes, are arranged horizontally. They are painted in different colors: green, red, and yellow, and each has a small hole in the center. The overall scene suggests a workspace for art or craft.

Chapter 5
**APPLICATION
PRACTICES**

In the past, deciding when and how to apply terra sigillata was rather fixed; one must apply it before the bisque firing, and it should be burnished between layers. If a historically-inspired use of terra sigillata is desired, then the application process should follow traditional approaches. Presently, the use of terra sigillata expands beyond the traditional method. When the burnished sheen and water-tight qualities are unnecessary, terra sigillata can be used for its waxy, skin-like coating, making an effective base surface that highlights sensitive mark making created during the object's forming stages.

Because of the fine particle size and lack of a fusing layer, terra sigillata, when used alone, best adheres to the clay body when applied before the bisque firing. However, terra sigillata can be applied after the bisque firing or after multiple firings, but different processes and materials are needed to successfully adhere the terra sigillata to the form.

Other considerations for application methods include: desired surface qualities, structure and scale of the piece, and overall fragility of the unfired piece.

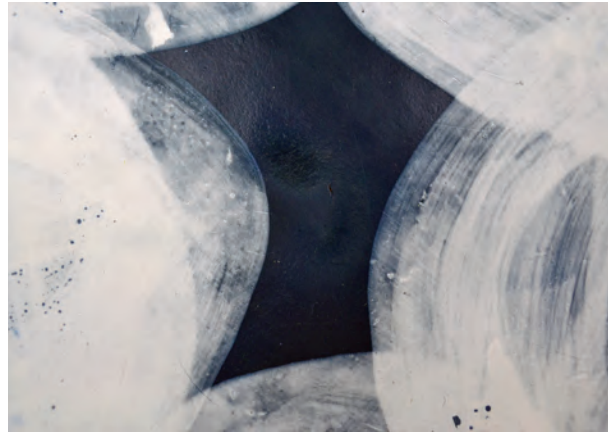
LEATHER HARD AND BONE DRY

Applying terra sigillata by brushing or dipping at the leather hard state naturally encourages, or creates, the waxy burnished-like sheen without the burnishing process. However, because there is elevated moisture content in the clay, the terra sigillata sits on the surface rather than being absorbed by the clay surface. This results in a less opaque covering of terra sigillata. This could be an interesting application when a semi-translucent layering effect is desired.

At the bone dry state, when clay is the driest before the bisque firing, the brushed or dipped terra sigillata is more deeply absorbed into the clay's outer surface, allowing more layers of terra sigillata to be built up, thereby creating a more uniform and opaque surface. This stage of clay is also when the clay is at its most fragile state, and care must be given when applying the terra sigillata.

HOW MANY LAYERS?

Traditional terra sigillata application process advises no more than three brushed layers of terra sigillata be applied, otherwise flaking and peeling become more likely after the bisque firing. This suggestion assumes the terra sigillata has a specific gravity of 1.15. If the terra sigillata



Basic White Terra Sigillata thinly layered over Rhonda's Blue/Black Terra Sigillata to create depth and translucency.

is thinner, with a specific gravity of 1.10, more layers will need to be applied to reach an opaque surface or to create visual depth with multiple colored layers, and conversely, if the specific gravity is closer to 1.20, then fewer layers should be applied to avoid peeling terra sigillata. If the terra sigillata is thinner, with the lower specific gravity or more watery composition, single brushed on layers of terra sigillata will result in translucency, which is both potentially disappointing or advantageous depending on your goals for the surface of your piece.

APPLICATION FOR TRANSLUCENT EFFECTS

The translucent quality of terra sigillata can be used to your advantage in a variety of ways. Often terra sigillatas appear very flat because of their opaque, flat nature. Thinner application layers allow a depth of color to be created by allowing colors from below to filter through layers above.

TIMING AND PACE OF APPLICATION

Because terra sigillata is often applied at the most fragile state of clay, bone dry, it is important to consider the overall fragility of your piece. To avoid cracking in the application process, aim to apply the terra sigillata as quickly and as evenly as possible regardless of the application method (brush, dip, or spray). Thinner clay forms are at greater risk of cracking during the terra sigillata application process. If one area of the piece becomes over-saturated with terra sigillata, it will likely cause cracking in the piece due to the difference in moisture content throughout the piece. In your beginning

USEFUL SUPPLIES FOR APPLYING TERRA SIGILLATAS



- a) Hake-style brush (soft bristles)
- b) Duster brush
- c) Stiff bristled brushes
- d) Dotters (top) and carving tools (bottom)
- e) Needle tool
- f) Prepared colored terra sigillata test tiles
- g) Variety of stamps

stages of working with terra sigillata, consider practicing the application process on pieces of lesser preciousness.

SOFT VERSUS STIFF BRISTLE BRUSHES

When brushing on terra sigillata, remember that it reflects a history of its application because it has no glass formers, or flux, to melt away marks. A stiff bristle brush will leave brush marks, and these could be considered a distraction, or they could be used to enhance the textural qualities of the terra sigillata surface. A soft bristle brush will be less likely to leave brush marks, but some soft bristle brushes leave hairs behind in the application process and these too will remain as surface marks in the fired terra sigillata. Burnishing the terra sigillata after application can remove the unwanted marks, but you may not want to invest in the time and energy of burnishing, so finding the right brushes for your application preferences can keep your application process moving along.

RHONDA'S BLUE/BLACK TERRA SIGILLATA

OM 4 Ball Clay Base Terra Sigillata. . . ½ cup

Newman Red Base Terra Sigillata. . . ½ cup

Add: Cobalt Carbonate 2 teaspoons*

Cobalt Oxide 1 teaspoon*

Colorants amounts are based on 1 cup of blended base terra sigillata (½ cup OM 4 ball clay base terra sigillata + ½ cup Newman Red base terra sigillata).

BASIC WHITE TERRA SIGILLATA

Grolleg Kaolin Base Terra Sigillata . . 1 cup

Add: Zircopax 1 teaspoon*

Use 1 teaspoon of Zircopax for 1 cup of liquid terra sigillata.



Application effect of a single layer of Rhonda's Blue/Black Terra Sigillata.

LIGHT TERRA SIGILLATA OVER DARK TERRA SIGILLATA (FIGURE 5.1)

Begin by brushing on a single layer of dark terra sigillata, like Rhonda's Blue/Black Terra Sigillata, with a soft bristle brush. Allow this layer to dry to the touch, lightly rub and burnish the surface, only a couple of gentle swipes of your hand are necessary. Next, apply a layer of light colored terra sigillata—a Grolleg kaolin base terra sigillata is used in this example. The darker layer will be semi-visible beneath the lighter terra sigillata layer.

Using marking tools, such as a manicurist dotting tool or a needle tool, begin making designs. The dotting tool can be used to make dots as intended or it can be used to only lightly carve the terra sigillata. A miniature loop carving tool creates variable lines and shapes that carve through both layers of terra sigillata revealing the clay layer below.

Process

Figure 5.1





The needle tool, used like a pencil, scratches the surface allowing delicate line and hatch-like marks to be made through the terra sigillata layers. A duster brush is used to remove the tiny clay burrs from the carving process. The resulting exterior surface has layered values and scales of marks. I use many of the same tools on the interior. A standard pottery tool kit's wooden modeling tool is used to age a stripe of white terra sigillata. After the initial bisque

firing, the Rhonda's Blue/Black Terra Sigillata darkens and becomes more apparent through the carvings and marks.

WHITE TERRA SIGILLATA WITH CARVINGS ON A RED CLAY BODY (FIGURE 5.2)

Apply a layer of white terra sigillata over the entire surface of the red clay form. Using a needle tool,

Process

MISHIMA

Inlaying slip, stain, or colored clay into incised lines on the surface of the clay.

FAUX-MISHIMA

Inlaying stain, slip, or terra sigillata into incised lines on a wax layer.

gently carve lines on the surface to reveal the red clay body below.

On the interior, a miniature loop carving tool is used to create variable lines, revealing the red clay body below. Use a

duster brush to remove tiny clay burrs that were created during mark making.

needle tool, carve surface design and marks into the wax. Brush on another layer of terra sigillata—I used Rhonda's Blue/Black Terra Sigillata. Use a dry towel or dry sponge to wipe away the excess terra sigillata, being careful not to wipe away the wax or damage your carvings. The wax burns away in the firing process and leaves the delicate drawing adhered to the terra sigillata.

DIPPING PIECES IN TERRA SIGILLATA

Quickly dipping pieces into terra sigillata works for smaller, more durable forms. Avoid dipping pieces with delicate edges, thin walls, or overall awkward handling as they are more likely to be deteriorated by the terra sigillata. If you dip pieces into terra sigillata, have a container that is deep and wide enough to contain the necessary amount of terra sigillata to cover the form completely. Allow the piece to fully dry between dips to increase your success.

FAUX MISHIMA DRAWINGS ON TERRA SIGILLATA (FIGURE 5.3)

Apply a layer of white terra sigillata over the entire form. Apply wax resist over the surface and wait to dry. Using a

Figure 5.2



SPRAYING TERRA SIGILLATA

Spraying terra sigillata is a great way to build up light layers. As with all application methods, an awareness of the overall moisture level of the piece is critical to avoid unnecessary cracking of the form. With this method, you can easily layer multiple terra sigillatas and create faux atmospheric or spray paint-like effects on the surface. If you spray too quickly or spray too many layers, the terra sigillata may drip down the surface of the form and these drip marks will stay intact, unless additional work is done to remove them.

Figure 5.3



NON-TRADITIONAL APPROACHES TO TERRA SIGILLATA APPLICATION

Because bone-dry clay is very fragile, it is not always an ideal stage for application of terra sigillata, and other methods of application can be used to apply terra sigillata after the bisque firing. Flux wash layers and slips with added flux allow terra sigillata to fuse to the clay form after the initial bisque firing. Some artists intentionally apply terra sigillata in unconventional ways, which produces a wide range of effects, which are discussed in later chapters.



Try it like...LIZ ZLOT SUMMERFIELD

When Liz Zlot Summerfield is asked how she chooses between terra sigillata and underglaze, she says, "Terra sigillata is synonymous to panty hose, and underglaze (engobes or slips) is synonymous to tights. The difference lies in the varying degrees of opacity vs. translucency." Learning from Margaret Bohls at the University of Minnesota-Twin Cities, Liz came to terra sigillata as a means to stretch herself. Her specialty utilitarian objects provide an exterior canvas for terra sigillatas with glazed interiors.

- *Clay Type:* Earthenware
- *Firing Method:* Cone 03, electric

RECIPE

LIZ'S LOW-TECH TERRA SIG (WHITE BASE)

Water 3000 grams
(12½ cups)

XX Sagger Ball Clay. 500 grams

Sodium Silicate 25 grams

For Color(s):

Add: Mason Stain 1 teaspoon*

*Colorant amount is based on using ½ cup of liquid terra sigillata.

Liz's Terra Sigillata Making Process

1. Mix deflocculant into warm water, then sift in dry clay.
2. Let sit undisturbed for about 24 hours. The heavy particles sink to the bottom and the lighter particles rise to the top. The terra sigillata is the middle layer.
3. Using a cup, remove the terra sigillata from the jar.
4. Discard the sludge at the bottom.

Liz's Terra Sigillata Application Process

1. On a leather-hard surface, trail earthenware slip to create raised textural patterns.
2. When the piece is bone dry, brush on 3 coats of terra sigillata.
3. Apply underglaze decoration after terra sigillata layers.
4. Add sgraffito marks.
5. After bisque firing, brush clear glaze over the terra sigillata and underglaze creating accents and stripes.



1



2

1 Floral box with brick, 6 in. (15 cm) in height, floral box: earthenware, handbuilt soft slab pots from paper patterns, slip trailed with earthenware clay body on leather hard, 3 coats of terra sigillata and underglaze brushed on, sgraffito, bisque fired, slip-cast brick, clear glaze for stripes, fired to cone 03 in an electric kiln, 2016. 2 Floral butter dish, 6 in. (15 cm) in length, earthenware, handbuilt soft slab pots from paper patterns, slip trailed with earthenware clay body on leather hard, 3 coats of terra sigillata and underglaze brushed on, sgraffito, bisque fired, clear glaze for stripes, fired to cone 03 in an electric kiln, 2016. All photos courtesy of the artist.

Try it like...GUNYOUNG KIM

Gunyoung Kim's psychologically emotional figure sculptures are surfaced with colors that subtly shift at times and at other times, strong bold colors draw attention to specific forms within the sculpture. Desiring a surface that was more suggestive of the human skin, terra sigillatas became the better solution over slips with their ability to maintain detail within her handbuilt figures' faces.

- *Clay Type:* White Earthenware
- *Firing Method:* Cone 02 with china painting to cone 012, electric
- *Terra Sigillata used:* Basic white-base terra sigillata made from OM 4 ball clay
- *Colors:* Adding small amounts of Mason Stain to liquid white base terra sigillata

Spray Application of Terra Sigillata

1. Gunyoung sprays her basic white terra sigillata over the entire sculpture surface.
2. Then she sprays colored terra sigillatas, targeting specific areas of the piece.
3. While the terra sigillata is still moist, she then burnishes the piece using soft plastic (for example: a produce bag).
4. The piece is bisque fired.
5. Next, Gunyoung applies underglazes and glazes.
6. The piece is glaze fired to cone 02.
7. Her final surface treatment involves china painting and applying gold luster.
8. She then fires the piece to cone 012.

1 *Eureka?!*, 25 in. (63.5 cm) in height, white earthenware, handbuilt, sprayed two-colored terra sigillatas, underglaze, china paint, fired to cone 03 in an electric kiln, gold luster, 2015. **2** *Playable*, 47 in (1 m) in height, white earthenware (figures); red earthenware (base), handbuilt, white terra sigillata, colored terra sigillatas, underglaze, glaze, fired to cone 02 in an electric kiln, china paint, gold luster, 2015. *Photo: Amanda Wilkey.* **3** *Shareable*, 44½ in. (1 m) in height, white earthenware, handbuilt, sprayed white terra sigillata, colored terra sigillatas, burnished, underglaze, glaze, fired to cone 02 in an electric kiln, china paint, luster, 2015. *Photos 1, 3: Courtesy of the artist.*



TERRA SIGILLATA :|: Contemporary Techniques

Since the time of iconic Greek Attic Ware and Roman Terra Sigillata, the material of terra sigillata has evolved from traditional practices to contemporary explorations. In *Terra Sigillata: Contemporary Techniques*, ceramic artists, enthusiasts, and students will find process overviews, step-by-step instructions, and contemporary artist profiles to enrich and encourage their own terra sigillata development.

Included in this book:

- Technical information on how to make, mix, and apply terra sigillatas alone or in combination with other materials
- Instructions for making new colors, trouble-shooting or embracing common issues, and ideas for new uses
- Examples of terra sigillatas at all temperature ranges: low-fire, mid-range, and high-fire
- "Try it like" profiles which feature contemporary ceramic artists explaining how they consider, incorporate, and create terra sigillatas



Rhonda Willers earned her master of fine arts degree from the University of Nebraska-Lincoln with post-baccalaureate studies at the University of Massachusetts Dartmouth. Her ceramics education began at the University of Wisconsin-River Falls, where she earned her bachelor of fine arts in Ceramics and Photography. From 2007–18, Willers was a lecturer of art at the same university. Willers lives in rural Wisconsin with her husband and three children where she delights in nature, being a maker and educator, and in the experience of raising a family.



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