

Unfired Finishes



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Unit 4

Project Requirements

Produce one functional or decorative art piece that is at least 4" in width or height and no larger than 12" in width or height using unfired finish techniques. If it is a functional piece, the application must be on the outside of the item to avoid potential toxic exposure from the materials used.

The art piece may be either purchased greenware or a hand-constructed piece created by the member. Judging will primarily be on the quality of unfired finish application.

- Enter the Unfired Finishes Hand Constructed class if the exhibit item was made by the member.
- Enter the Unfired Finishes Purchased Greenware/Bisqueware class if the exhibit item was purchased by the member.

Basic Information

Unfired Finishes are finishes you apply to your pottery once it has been bisque fired. These finishes allow you to create highly detailed decoration to your pieces. Underglazes are ceramic pigments suspended in a liquid medium, similar to paint, used for detailed decoration on pottery and put through a firing process, while oxides and stains are raw metallic compounds and pre-fired pigments used for coloring. Underglazes are applied to leather-hard, bone-dry, or bisque-fired clay, often before a final clear coat glaze. Unfired Finishes are applied to bisque-fired clay only.

Oxides are single metallic compounds, like iron or cobalt, used for washes and stains to highlight texture, while stains are pre-fired and more stable, making them more predictable for a wide range of colors. Wax can be used in a variety of ways with unfired finishes. Apply wax on bottoms of pieces to prevent any glaze from sticking to the kiln shelf during firing. Waxing can create a clean, unglazed ring on the bottom of the piece. Wax resist can be used to create designs by painting a pattern onto the bisque-fired piece. The glaze will not stick to the waxed areas, allowing the original clay color to show through after firing.

For a non-glazed piece, a clear coat, spray sealer, or varnish can be applied to bisqueware to add a protective finish. Or you may choose to clear coat glaze your piece to provide a finish as well. A transparent glaze will provide a glassy, non-porous finish, which can also make it waterproof and food-safe.



Unfired Finishes

- Are commonly referred to as stains, paints, or wax resists.
 - Are usually restricted to decorative pieces.
 - Are more suitable for earthenware bisque but some may be applied to porcelain.
 - Require only one bisque firing, with the exception of pieces that are to be glazed inside to hold liquid (vases, pitchers, planters).
 - Are best applied on highly detailed utility pieces that are bisque fired to cone 05, or to decorative pieces bisque fired to cone 06.
 - Are forgiving. If you do not accomplish what you wish, the unfired finishes may be fired away. You then can remove residue and resume staining your piece.
 - Are usually polished or sealed with a fixative (follow manufacturer's suggestions).
- Metallics produce a "metal like" appearance. Types of unfired metallics are:
 - Powder
 - Oil base
 - Wax base
 - Varnish base
 - Water base
 - Lusters are translucent which produce an iridescent sheen when applied over opaque colors or to bisqueware.
 - Chalk produces a china painted porcelain look. It should be applied over sealed earthenware or polished porcelain.
 - Gold Leaf is gold beaten into an extremely thin sheet. It is applied with an adhesive, usually to bisqueware.
 - Sculpture paste or powder may be mixed with opaque stain for a color build-up technique. It is more suitable for earthenware.

Types of Most Common Unfired Finishes

- Opaque is a water base stain that you are unable to see through (solid coverage).
- Translucent is used for antiquing, rouging, high lighting, shadowing and simulating china painting. Types of translucent stains are:
 - Water base
 - Oil base



Unfired Finishes Technique List

In the unfired finishes chart below, put the date when you learned the skills. Place a check mark in the column of skills you would like to learn. Discuss skills you would like to learn with your leader. She/he will be able to give you hints on how to achieve your goals. You may also want to research these techniques with the help of your leader.

Ceramic Knowledge and Goals Checklist	New skills I have learned	Skills I want to learn or improve
Altering the greenware pattern for a specific event.		
Application of water-base opaque stain.		
Application of water-base translucent (antiquing) stain.		
Application of oil-base translucent (antiquing) stain.		
Application of pearl stain.		
Application of metallic stain.		
Application of lustres stain.		
Chalk technique.		
Gold leafing technique.		
Dry brush technique.		

Unfired Finishes Technique List

Ceramic Knowledge and Goals Checklist	New skills I have learned	Skills I want to learn or improve
Wet brush technique.		
Simulating China paint technique.		
Rouging technique.		
Veiling technique.		
Stencil technique.		
Advanced human eye technique.		
Advanced animal, fowl and reptile eye technique.		
Advanced brush stroke technique.		
Norwegian Rosemaling technique.		
Design work.		

Unit 4 – Unfired Finishes Opaque Stain Project 1

Basic Information

Project 1 is a lesson in opaque stain application. Senior members must combine two techniques (ex. antiquing over opaque stain). Repeating members of Unit 4 must indicate a progressive learning situation in their records. This piece will be considered as one of your required pieces. Learning projects are usually not entered in competition. Be sure to include pictures of this activity in your record book.

Brushes and supplies you may need to purchase:

- A variety of sizes of detail nylon brushes or stiff bristle brushes. Brush selection depends on the technique to be used.
- A soft to medium ox hair brush. Keep it away from your other brushes if used with oil base antique. Mark this brush to indicate it is to be used with oil base stain only.
- Solvent
- Fixative (sealer)

Unit 4 – Unfired Finishes Opaque Stain Project 1

Brushing Technique

1. Pour a small amount of color onto a plastic paint palette or small plastic container.
2. Thin the color, with water, to a canned milk consistency.
3. Load a nylon brush tip with a small amount of color. Never load your brush with any more color than you can apply in a few seconds. Stains dry very quickly. If too much color is in your brush, and it dries, it will leave ripples.
4. The stain must be brushed out to create a smooth finish.
5. Overlap each time you reload your brush with the same color. Some colors may require two coats when using this form of application.
6. Seal the stain by polishing with a soft cloth or by using a (gloss or matte) fixative. Read the manufacturer's suggestions.
7. Dry and clean your work well each time you change colors.
8. Wash the brushes with soap and water. Never let the stain dry in the brushes.

Scrub Technique

1. Load your stiff bristle brush tip with a small amount of color and scrub the color into the piece until smooth. Overlap each time you refill your brush with the same color.
2. Before changing color on your work, be sure the bare bisque is not showing in the area in which you are working. Re-apply color if it is needed.
3. When the figurine piece is finished and you are satisfied with the application, add any intricate details or patterns if desired.
4. Seal the stain by polishing with a soft cloth or by using a (gloss or matte) fixative. Read manufacturer's suggestions.
5. Clean brushes with soap and water. Never let the stain dry in the brushes.
6. First year members may stop here or continue if they prefer.

Unit 4 – Unfired Finishes Opaque Stain Project 1

Oil Base Antiquing Technique

1. Apply a thin coat of dark brown antiquing over the entire stained piece using a soft to medium ox hair brush. The antiquing should be applied evenly. Let dry for a few minutes. Do not let it dry overnight.
2. You will need some pieces of t-shirt material and a pair of gloves. The t-shirt material will be used for rubbing the antiquing onto your piece. Another piece may be needed for the final "clean up."
3. Wrap one piece of t-shirt material around your index finger and moisten the cloth with the antiquing solvent. Hold your piece in your hand with your gloves on. Using the side part of your covered finger, wipe away the antiquing. Start from the top of the piece, and with one swipe, work your way to the bottom. Do not go deep inside detail areas that your cloth did not reach. This will give a natural shadowing effect. Change the moist antiquing cloth to a clean area often.
4. Once you have antiqued the piece, go over the piece once again with a clean moist antiquing cloth for the final cleaning. The colors under the antiquing should be bright and not muddy.
5. Seal the piece with a spray of fixative (gloss, matte, or porcelain). Apply fixative lightly two or three times. Over (heavy) application will make your piece cloudy.
6. Clean brush in mineral spirits, or petroleum base solvent, and then with soap and water.

Water Base Antiquing Technique

1. Using an ox hair brush, apply a thin coat of dark brown antiquing over the entire piece. Let dry for a few minutes. Do not let it dry overnight.
2. Wipe away antiquing with a damp sponge, from top to bottom in one swipe. Rinse the sponge with each swipe. Change the water often.
3. Colors under the antiquing should be bright and not muddy.
4. Seal the piece with a fixative.
5. Clean brush with soap and water.

Unit 4 – Unfired Finishes Advanced Brushstrokes Project 2

Basic Information

Brushstrokes are the marks your brush makes when you paint. On ceramics, different strokes help you create:

- Textures
- Shadows
- Outlines
- Soft blends
- Decorative designs

First year members will use a tile for this learning experience. Repeating members and seniors may use any plain surface piece. This project will be considered as one of your required pieces. Learning projects are usually not entered in competition. Be sure to include pictures of this activity in your record book. You will learn more new ceramic terms from your leader and/or the glossary. Keep accurate notes as you proceed. Here are some basic types of brushstrokes you can experiment with.

1. Line Stroke

What it does: Makes lines for outlining, shapes, or details.

How to do it:

- Use a small detail brush
- Light pressure = thin line
- Harder pressure = thicker line

Try it: Make a “skinny line → thick line → skinny line” without lifting your brush.

2. Flat Wash

What it does: Fills in big areas smoothly.

How to do it:

- Use a flat or round brush
- Paint in the same direction
- Keep your brush wet

Try it: Paint a smooth square—no streaks!

3. Gradient (Fade)

What it does: Makes one color fade into lighter color.

How to do it:

- Start with darker paint on one side
- Use a damp brush to spread it out
- Keep blending until it fades

Try it: Make a “dark-to-light” bar.

4. Dry Brush

What it does: Makes rough, textured strokes for wood, fur, grass, etc.

How to do it:

- Put paint on your brush
- Wipe most of it off
- Drag lightly across the tile

Try it: See how many different textures you can make.

5. Stippling (Dotting)

What it does: Adds dots to make shadows or texture.

How to do it:

- Use any small brush
- Tap the tip onto the clay

Try it: Make a dark dotted area → slowly fade it out into fewer dots.

Unit 4 – Unfired Finishes Advanced Brushstrokes Project 2

6. Pull Stroke

What it does: Makes leaf, petal, or hair shapes.

How to do it:

- Press hard at the start
- Then lift your brush to a point

Try it: Make a row of leaves or teardrop shapes.

7. Feather Stroke

What it does: Soft, light strokes for feathers, eyebrows, fur.

How to do it:

- Use a slightly dry brush
- Flick your brush outward

Try it: Make 5–6 short strokes that angle in different directions.

8. Scumbling

What it does: Creates a cloudy, mottled look.

How to do it:

- Dab your brush in small circles or taps.

Try it: Make a cloudy patch and build layers.

Other advanced brush strokes may include:

- Teardrop
- Curved teardrop
- Eyebrow
- "C" (forward and backward)
- "S" (forward and backward)
- Leaf stroke
- Thick and thin strokes
- Long and short strokes
- Design work combining different strokes.

Steps

This project will be considered as one of your required pieces. Learning projects are usually not entered in competition. Be sure to include pictures of this activity in your record book. You may complete the skill of your choice on a plain piece, tile or figurine.

Brushes you may use:

- Sable or Nylon Round brush (sized to fit brush strokes)
- Sable or Nylon Square Shader brush (sized to fit brush strokes)
- Sable or Nylon Liner brush (sized to fit brush strokes)
- Sable or Nylon Detail brush (sized to fit brush strokes)

1. Select suitable greenware or bisqueware (small figurine, vase or plate) or make a piece using the slab techniques from Unit 2.
2. Prepare a work area with suitable covering.
3. Follow the safety rules.
4. If working with greenware, clean your greenware as outlined. Initial and date the bottom of your piece. Bisque-fire your piece to the correct cone.
5. On your tile or piece of bisqueware, practice any of the advanced brushstrokes to create an original design on your piece.
6. Have the piece fired to the proper cone if necessary.

Keep accurate notes as you proceed.

Brush Types and Brushstrokes Illustrated

<p>Cat's Tongue (Filbert)</p>  <p>-blending, natural petal shapes -strokes with soft rounded edges</p>	<p>Fan Brush</p>  <p>-blending, texturing, softening -great for grass & foliage</p>
<p>Angular Shader</p>  <p>-sharp edges, tight shading -floating, curved strokes</p>	<p>Triangular Brush</p>  <p>-3-sided color loading -continuous borders, multi-colored petals & leaves</p>
<p>Dagger Brush</p>  <p>-long varied strokes, ribbons -borders, marbling effects</p>	<p>Square Shaders</p>  <p>-decorative strokes, sharp edges -blends & floats color, blocks</p>
<p>Natural Hair Deerfoot Stippler</p>  <p>-stippling, textures, foliage -fur on animals & clothing</p>	<p>Filbert & Square Comb</p>  <p>-special texture effects, multiple lines (hair, grass, wood graining)</p>
<p>Round Pointed Brush</p>  <p>-decorative stroke work, broad lines, thick to thin lines</p>	<p>Glaze Brush</p>  <p>-broad square strokes -float & blend color, basecoat, glaze</p>
<p>Script Brush</p>  <p>-extra long stroke work, extra long lines & scrolling</p>	<p>Liner Brush</p>  <p>-extra thin lines, small strokes -creating finest details, writing</p>

Unit 4 – Unfired Finishes Exhibit Piece

Basic Information

Fantastic! You have completed projects 1 and 2. You are ready to create your exhibit piece. Your functional or decorative art piece should be at least 4" in width or height and no larger than 12" in width or height using unfired finish techniques. The item may be either made or purchased and completed with your preferred method of unfired finishes, fired to completion with a clear glaze coat if necessary or finished with a fixative sealant. The skills learned in this unit are:

- Opaque stain application
- Making advanced brush strokes

Suggestions

1. Before choosing your piece, and if you have the opportunity, go to several ceramic studios to see what is available.
2. Refer to websites and ceramic publications for technique ideas.
3. You may want to change your piece by alternating the design of the greenware.
4. Be sure to stay within your unit medium (unfired finishes).
5. Keep accurate notes as you proceed.

Steps

- 1 Select suitable greenware or bisqueware (small figurine, vase or plate) or make a piece using techniques from units 1, 2, 7, 8, or 9.
- 2 Follow the cleaning steps.
- 3 Decide on the technique you wish to achieve.
- 4 Complete your ceramics e-record.
- 5 Evaluate your piece, using the guideline.

Guidelines for Judging Your Project

- Finish is suitable to use (Do not use unfired finishes on dishes or cups meant for food.)
- Shows no brush marks
- Stain detail work and color enhance basic design
- Color combinations are pleasing and appropriate to the item
- Items needing to be sealed may be sprayed, brushed on, or rubbed
- Colors under antiquing should be bright and clear
- Any stenciled design should be sharp

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