

Vinyl Resist Water Etching (hydro-abrasion), and Underglaze Application

1. Vinyl can be cut by hand or using a digital cutter. A cut vinyl resist has been applied to the bone-dry porcelain tile. The interior details are then hydro-abraded (water etched).
2. Underglaze is applied to the outside of the vinyl resist.
3. The vinyl resist is removed.
4. The vinyl allows the tile to be etched and a crisp underglaze line applied.

NCECA 2018 Cut it Out Handouts



Vinyl Resist on Bisque for Glaze Application

1. Vinyl can be cut by hand or using a digital cutter. This vinyl resist will be applied to the bisque tile.
2. The vinyl is masked with a low tack tape and applied to the piece as a resist.
3. The masking is removed and the tile is ready to glaze.
4. Glaze is applied to the exposed clay.
5. The vinyl is removed immediately after the glaze is applied.
6. The tile is then fired to cone 6 in an electric kiln. Vinyl resist can be used on bone dry or bisqued clay for hydro abrasion (water etching), underglaze or glaze application.

Preparing Vinyl

I use a Klic-N-Kut die cutter that comes with its own software and can easily cut paper, vellum, vinyl, cardstock, craft foam, fabric and more. With the Make the Cut software .jpg images can easily be imported and converted into traceable files. I will often scan sketches directly from my sketchbook and clean them up in photoshop before turning them into vinyl.

When using vinyl as a resist, it is important to peel it off after the glaze has been applied. The vinyl will burn out in the glaze firing but will leave behind discoloration. Some artists use tape, contact paper, or full sheet label material to make resist stickers. These materials must dry before being removed.

Designing Vinyl:

- Files for the vinyl cutter must be vector files. Some cutters such as the Klic-N-Kut allow you to simply drag and drop a jpg into the Make the Cut software (the software then converts the image to cut able lines).
- Adobe Illustrator is useful if you want more control or need to make vectors files . Other programs (such as Corel Draw) can be used but these instructions will focus on Illustrator.
- Text may be laid out in Illustrator,
 - Once your text is laid out make sure to select all and set the stroke (or line weight) to .001
 - Save the AI file (or similar vector file) to a flash drive and bring them to the Fab Lab.
- Text and images may be brought into Illustrator from photoshop.
 - When I scan a drawing, I bring it into Photoshop and use the Stamp Filter to make the lines dark and thick. Tip: You can use the Stamp Filter multiple times on the darkest thickest settings to increase the line weight even further.
 - When saving in Photoshop, make sure the file is the actual size that you want your vinyl to be. Save your file as a Photoshop file (.psd), close Photoshop
 - Select your file and open with Illustrator. A dialogue box will appear, choose to convert Layers to Objects.
 - Go to Select menu – select all, go to Object menu - select expand, make sure that only the object box is checked, hit ok
 - Go to Select menu – select all, go to the fill and select none, go to the stroke and enter .001
 - Save your file as an illustrator file (.ai).
- Most cutter programs will accept Adobe Illustrator files and JPGS.

Cutting

You are now ready to load your files:

- There are many You Tube tutorial that can help you navigate setting up and calibrating your cutter.

Weeding and Application

- Once the vinyl is cut you will have to weed the vinyl.
- Weeding is removing the unwanted vinyl off the backing so that only your text or graphic is left. It is helpful to use an Exacto blade to remove unwanted vinyl. For small text or detail work it is also good to cut the unwanted vinyl into sections. Make sure not to cut through the backer paper only the vinyl.
- Once the vinyl is weeded it is now time to apply application tape to prepare the vinyl to be applied.
- How to weed, mask and apply vinyl: <https://www.youtube.com/watch?v=XdsLyLu3y8E>

Links to cutters and materials

I use the Klic-N-Kut Zing Air with a 14 in cutting width:

<http://knkusa.com/shop/knk-zing-air/>

Other cutters:

<https://knkusa.com/>

<https://www.silhouetteamerica.com/>

<https://home.cricut.com/>

<http://www.rolanddga.com>

Supplies and Materials

- Oracle 631 matt finish removable wall vinyl:
<http://www.uscutter.com/ORACAL-631-Exhibition-Cal-Vinyl-24-x-10-Yard-Roll>
- Application tape or masking (there are many types of application tape: I like this medium tack tape from GreenStar. Application tape allows you to apply designs that are composed of multiple parts.
<http://www.uscutter.com/GreenStar-Layflat-Classic-Transfer-Tape-Medium-Tack-Assorted-Widths>
- Miscellaneous: Exacto Knife, Scissors, Squeegee or Green Sherill Rib, Wax, Brushes, Glaze and Underglaze

Artist Using Similar Techniques

Shalya Marsh: <http://www.shalyamarsh.com>

Kip Okrongly: <http://www.kipokrongly.com>

Naomi Clement: <https://naomiclement.com>

Kelly Lynn Daniels: <http://www.kellylynndaniels.com>

Matt Ziemke: <http://www.mattziemke.com>

David Bolton: <http://www.davidwbolton.com>

Andrew Gilliatt: <http://www.andrewgilliatt.com>

Chris Picket: <http://www.chrispickettceramics.com>

Helpful Articles:

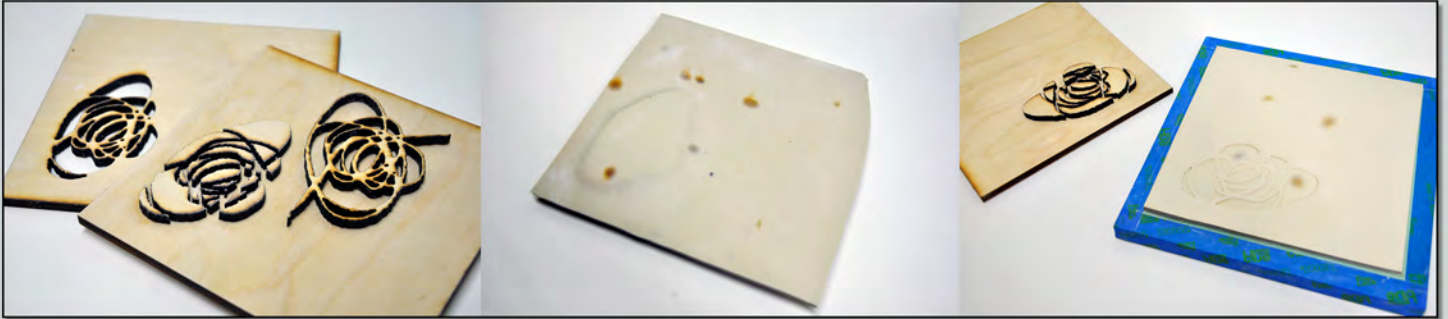
<http://ceramicartsdaily.org/pottery-making-techniques/ceramic-glazing-techniques/creating-cool-glaze-patterns-with-vinyl-stencils/>

<http://ceramicartsdaily.org/clay-tools/decorating-tools/new-tools-new-possibilities-in-decorating-ceramic-art/>



Vinyl Resist on Bisque for Two Glaze Application

1. Vinyl can be cut by hand or using a digital cutter. This vinyl resist will be applied to the bisque tile.
2. The vinyl is masked with a low tack tape and applied to the piece as a resist.
3. Glaze is applied to the exposed clay.
4. Wax resist is applied to the tile and allowed to dry, then the vinyl is removed.
5. A second glaze is applied to the tile. Because the first glaze was waxed the two glazes stay side by side but do not overlap.
6. The tile is then fired to cone 6 in an electric kiln.



Laser Cut Molds for Pressing

1. Laser cut press molds are used to emboss textures and patterns into clay.
2. A clay slab is laid over the mold and pressure is applied to imprint the texture.
3. The wooden mold is used to trim the tile to size. The mold is then flipped onto a board and removed leaving the stamped pattern or texture.



Laser Cut Molds for Draping

1. The drape mold is placed over a bucket; a clay slab is laid over the mold and pressure is applied to cutout using a wet sponge and a red rib to add compression. The more pressure is applied the more the clay will bulge out the opening.
2. The mold is then flipped onto a board and the wooden mold is used to trim the tile to size.
3. The wooden mold is removed to reveal the draped form.