

Add rich texture by water etching metal clay

by Patrik Kusek

*W*ax resists, which are typically used by potters, are re-purposed for use by metal clay artists. If you can use a paintbrush, then you can have a custom design etched into PMC. Water etching will give you deep rich textures that will be eye catching in any application. Water etching works exceptionally well on 3 dimensional designs such as beads or other hollow forms because the texture can be drawn to create a continual pattern around the form. In addition, because you can control the depth of the etched design, you can create multiple level textures which add yet another layer of nuance to your jewelry design. If you are thinking about adding a splash of color to your work, water etching provides the perfect canvas for enameling, colored resins, or even other less traditional methods like using Prisma color pencils!



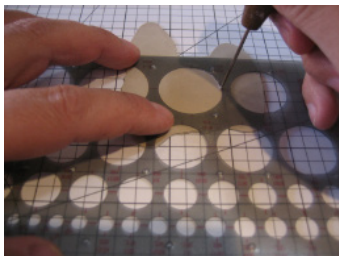


By using every day objects like ping-pong balls, we can shape the metal clay to form the domed pendant. First, we'll start off by making a basic half lentil shape.

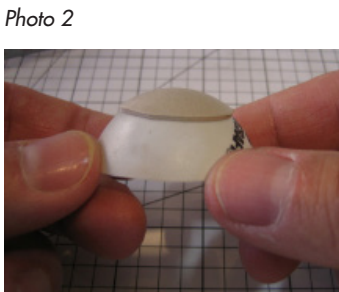
Construct the front of the pendant



(photo 1) Roll out a lump of clay using the blue graduated slats (equal to 2 cards thick).

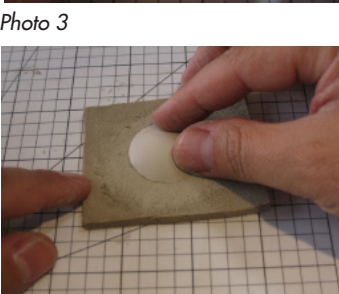


(photo 2) Using an ellipse template and a needle tool, cut a circle into the PMC to create the front of the pendant. In this case I used a 1 1/4 inch template.



(photo 3) Lubricate a half ping pong ball. Place the circle of PMC onto the face of the pin pong ball. Press securely to insure adequate contact between the clay and the ball, making sure there are no gaps.

Set aside to dry in a food dehydrator or on a mug warmer.



(photo 4) In a circular motion, using a medium grade sanding sponge, sand the dome flat so that the edges come to a clean sharp edge.

(Photo 5) This edge should come to a razor sharp point.

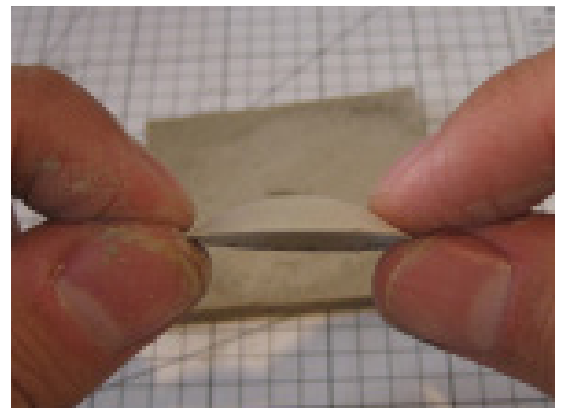


Photo 2

Photo 3

Photo 4

Photo 5

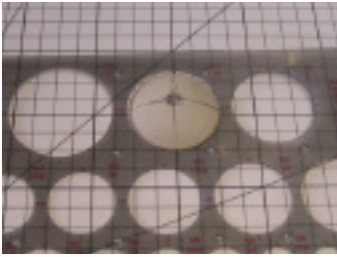


Photo 6

(photo 6) Use the template to find the center of the pendant. Use pencil marks to indicate the top, bottom, left and right of the pendant. Using a flexible ruler, connect the marks to make the cross hairs. Where the cross hairs intersect will be the center of the pendant.

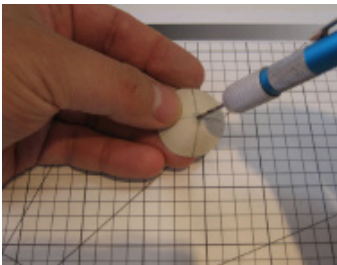


Photo 7

(photo 7) Make a hole in the center of the dome using a small hand drill.

(photo 8) Use a craft knife to slowly carve out "chips", shaping the drill hole into a broken star-like shape. The size of the shape will be dependant on the size of the stone that will "peek through" the hole.



Photo 8

Construct the back of the pendant

Roll out and dry another piece of PMC 2 cards thick.

(photo 9) To create the back of the pendant, lay the half dome on the dried sheet of PMC and trace the outline of the dome. Although the dome seems like a perfect circle, minor changes in the circle shape will occur during the sanding process, so be sure to make register marks on the inside of the circle and the inside of the dome to ensure a proper fit.

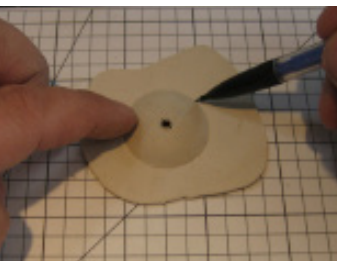


Photo 9

(photo 10) Using a craft knife, cut out the circle shape and sand the edges to ensure a perfect fit.

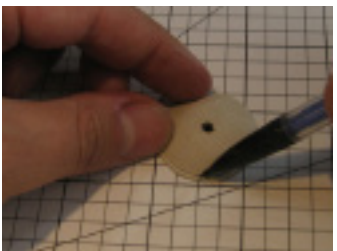


Photo 10



Photo 11

Test fit and refine pieces of pendant

(photo 11) Bevel the edges on the inside of the back of the pendant by using a file or sharp craft knife.

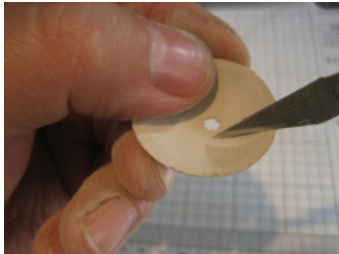


Photo 12

(photo 12) Repeat the beveling process on the inside of the dome. I prefer to use a craft knife for this process, however using a craft knife in this manner requires practice. If you are having difficulties using the craft knife, a good set of files will also work well.

Check the fit of the two pieces by dry fitting them using the register marks for proper alignment.

Proper fit is achieved when the back piece drops snugly into the inside of the dome piece.

If proper fit is not achieved, make any necessary adjustments by filing away more clay on the inside of the dome or inside of the back of the pendant.

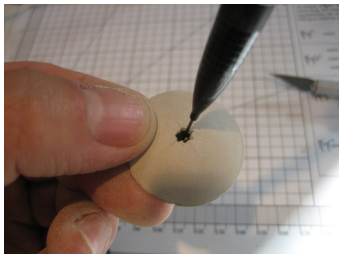


Photo 13

(photo 13) To ensure proper alignment of the stone on the inside of the pendant, dry assemble the front and back of the pendant. Mark on the inside of the pendant by using a mechanical pencil with lead extended at least 1/4 of an inch. Mark the spot where the stone will be placed by putting the lead of the pencil through the hole in the front of the pendant and marking the inside of back of the pendant.

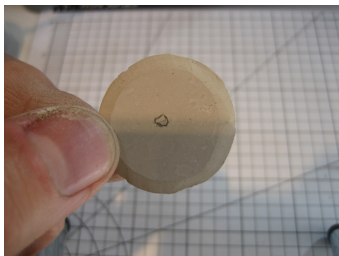


Photo 14

(photo 14) Use this mark to attach a bezel set stone.

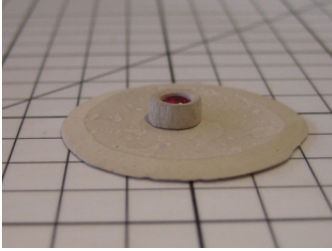


Photo 15

Attach bezel set stone and assemble pendant

(photo 15) Make the bezel set stone. Be sure to check the height of the bezel by test fitting the dome to the back of the pendant. Make any necessary adjustments to the bezel set stone.

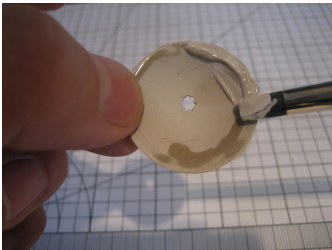


Photo 16

(photo 16) Do one final dry fit to ensure proper alignment, making refinements if necessary. Assemble the piece by adding water first, then paste to the inside of the bevel of the dome. Be sure to use ample paste. Attach the back of the pendant in the usual manner.

(photo 17) Use your fingers to hold the pendant together until it is secure.



Photo 17

Set aside to dry completely. After the clay is dry remember to complete any touch up work needed. Fill in any gaps with fresh clay, sand any spots that need to be sanded and get ready for the water etching process.

Apply the Aftosa Wax Resist

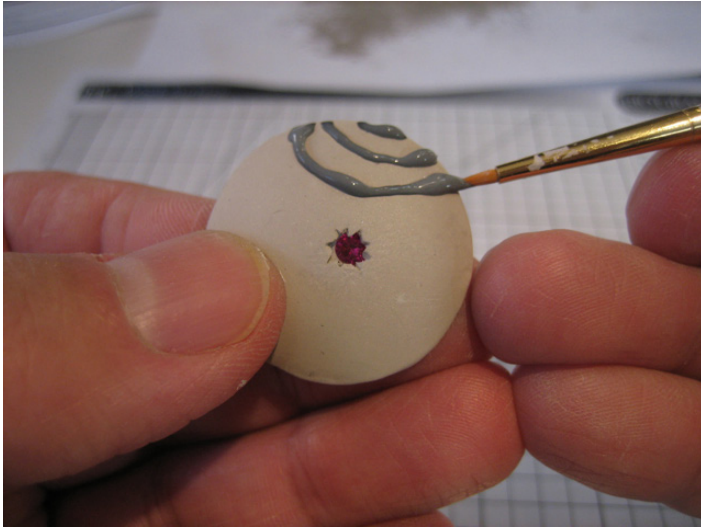


Photo 18

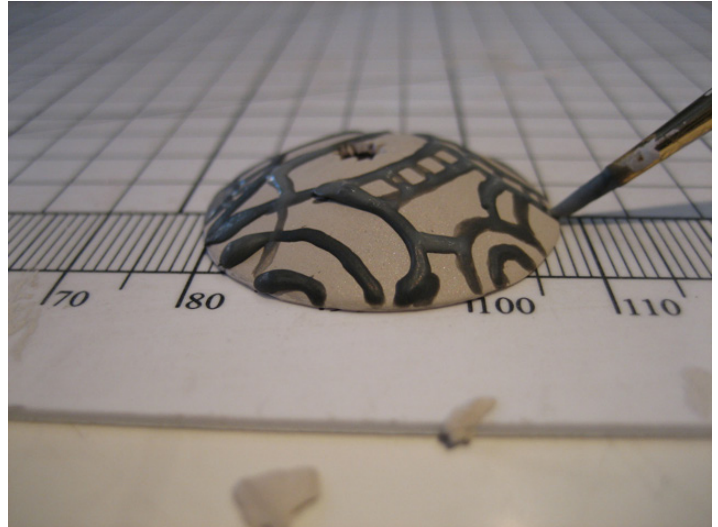


Photo 19

Shake the contents of the Aftosa wax resist until thoroughly mixed.

(photo 18) Use a number 0 brush to apply the wax resist to the surface of the dome.

(photo 19) Be sure to add enough of the Aftosa wax resist to create a thick, tall design. It may require several coats. Be sure to let each coat dry before applying the next coat. Ensure even application of wax, checking that there are no areas of thin wax. Areas of thin wax may scrub off during the etching process exposing the clay beneath, so to ensure proper etching, make sure lines have enough wax coverage.

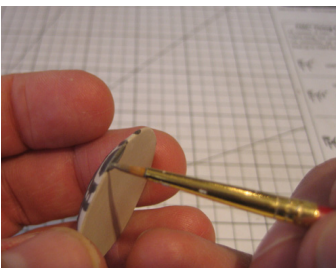


Photo 20

(photo 20) If desired, apply the Aftosa wax resist to the back of the pendant and bezel.

Once the application of the design is completed, set aside to dry for at least 2 hours. Depending on the amount of moisture and humidity, it may require over night to dry completely.

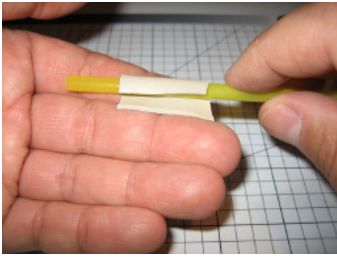


Photo 21

Make and attach bail to back of pendant

(photo 21) Make the bail of the pendant by rolling out a strip of PMC 2 cards thick and approximately 3/4 inches wide, and long enough to wrap around a straw. Wrap piece around the straw, cut and secure the ends and set aside to dry.



Photo 22

(photo 22) Once the bail is dry, file each of the ends. Clean up the bail by sanding smooth.

(photo 23) File one side of the bail flat. Sand only enough of the bail so that it lays flat against the back of the pendant. (photo 23 detail)

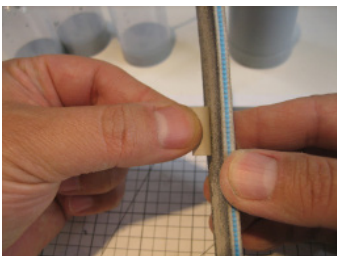


Photo 23

Using paste, attach the bail to the back of the pendant and set aside to dry.

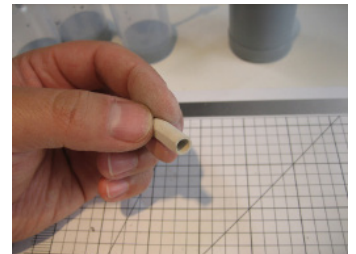
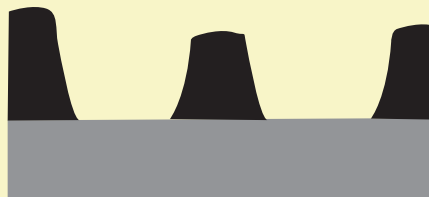


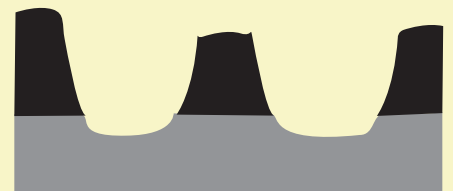
Photo 23 detail

Water Etching troubleshooting

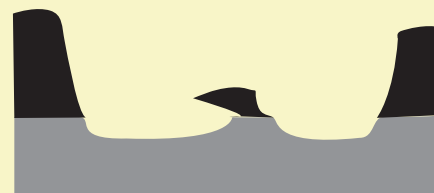
The diagrams to the right show correct application and two common issues to watch for. The black part is the wax resist and the grey is the PMC.



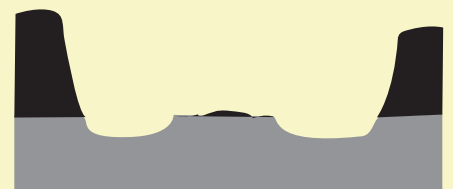
CORRECT: Proper application of resist on PMC



CORRECT: Properly etched clay



Problem: Wax resist has deep undercut, hard to judge clay removal



Problem: Wax resist is too shallow in some areas and will rub off during etching process

Use sponge to remove unwanted clay



Photo 24

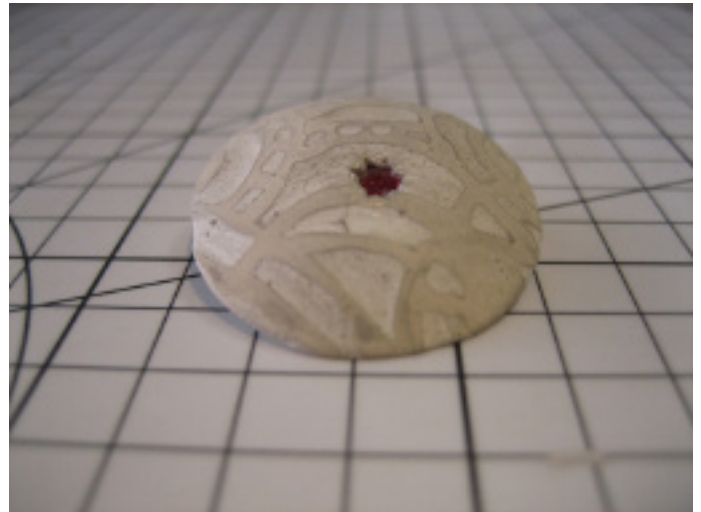


Photo 25

(photo 24) Dip a small sea sponge into clean fresh water. Wring out any excess water. The sponge should be wet, but not dripping wet. This is important as too much water will make the clay soggy. Not enough water will require more firm pressure and might result in rubbing off the wax resist. Remember that this wax resist is water soluble, so finding the proper amount of water will ensure a more successful outcome.

Gently use the sponge to wipe away the clay between the wax resist. Concentrate your efforts in selected areas as opposed to trying to do one big broad swipe, avoiding, when possible, rubbing the wax resist. Make sure to wipe away the clay, then wring out the sponge in fresh water and repeat the process until the desired depth is achieved.

If the clay becomes too wet, the piece will start to lose its shape. If that happens, set the piece aside to dry and resume the etching process after it is dry. If pieces of the wax resist become too thin or chip off, immediately reapply the wax resist and dry. Resume water etching until desired depth is achieved.

Fire according to manufacturer's instructions. Be sure to fire the piece on vermiculite or on a kiln blanket.

Finish and add patina in any method desired.

Supplies

PMC +28 gram package

Aftosa wax resist

(either black or regular)

Tools

Basic PMC Tool Kit

Playing cards

Graduated Slats

Sea Sponge

Bowl of water

Kraft Knife

Drinking Straw

Paint Brush: Number 0

Water Brush

PMC Work Surface

Sanding Sponge Set

Pocket Needle File

Pocket Drill

Vermiculite or Alumina Hydrate

3M Dust and Mist Respirator

Kiln: Item # SC-2 KILN or torch

Tumbler

Food Dehydrator or

Warmer/Dryer



About the Author:

Patrik's experience in the worlds of design and fashion helped shape his creative vision and brand. He is a graduate of the Fashion Institute of Design and Merchandising and The Academy of Art University. He worked as a Fashion Stylist at Macy's San Francisco and was the owner and Creative Director of Wallop Design Group, a graphic design and branding company. He currently is able to pursue his passion as a jewelry artist and instructor. He teaches metal clay workshops in the San Francisco Bay Area and internationally. Patrik is a member of the PMC Guild and is both PMC Guild Certified and Art Clay Certified. He is one of 9 senior instructors for Rio Grande and teaches PMC certification workshops internationally. He was a featured artist on HGTV's "That's Clever." Patrik's work has been published in numerous books and publications. He is also the recipient of the 2007 Saul Bell Award 1st place in PMC. Patrik has also recently been featured in Ornament Magazine.



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