Through the looking glass: looking through glass on metal –

A Cloisonne Enameling Workshop by Barbara Kruger

Barbara Kruger gave a 3-5 week workshop on How to Do Cloisonne Enameling: June 9, 23, 30 July 7 and Aug 4. She introduced participants to cloisonné designs, incorporating closed cells, and/or open-wired patterns of wire on fine silver, and then, to the application and firing washed transparent enamels to add color to the design.

Enameling is a technique, or process, of fusing grains of glass powder onto metal under high temperature conditions (via a Kiln or torch).

The participants received kits created by Barbara Kruger, Diane Angus and Elaine Grayson. The kits contained 5 pre-washed transparent enamels, a fine silver disc that was already domed and counter enameled, a bottle with distilled water, a spray bottle with Klyr-fire and distilled water, an eye dropper, a cloisonné wire strip (1') – .999 fine silver, (Rio Grande 102200) 0.40" by .005", a paint brush with a narrow tip, a small plastic pallet, a small plastic cup (s) to hold water, a trivet and a proper mask 3M 8233 (OSHA N100) (Rio Grande 201-654) for sifting. Green glasses were available for use at the kiln. The participants also received a handout with step-by-step instructions, exemplar designs, and materials to create their own design.

Enamels come in many forms: powder, liquid, paint, string, and lump. Enamels may be transparent, opaque or opalescent. Transparent enamels are best used on a shiny, or textured surface of fine silver or gold. The color of the fired enamel changes with the metal and whether the metal is uncoated, coated with a clear flux, or with background white.

Enamel expands as it is fired and contracts as it cools, each time it is heated or fired. When selecting an enamel to use, it is important to consider the metal you select as a platform, since the metal you choose must expand and contract more rapidly than the glass. The colors are best with transparent enamels on fine silver.

Until recently (10-20+ years ago) most enamels contained lead: some like Japanese enamels still do. Now, Thompson enamels and Ball enamels (UK) are only unleaded. Leaded transparent enamels typically have the best colors.

Enamel powders can be sifted. A proper mask should be used when sifting. Typical sifters produce 80 mesh grains of enamel. The enamel on the back of a piece (counter-enamel), and the first layer of enamel on the front (before the cloisonne wires are applied) are often sifted onto the chosen metal piece. In the Cloisonne workshop,

sifting flux on the front of the pre-domed and counter enameled piece was the first step.

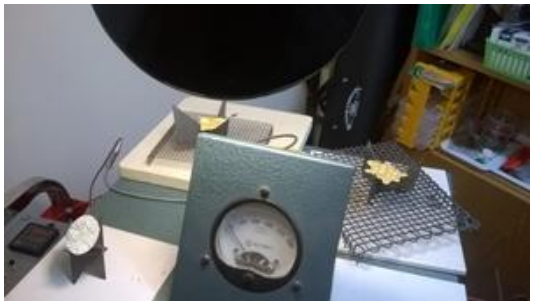
For Cloisonne, especially with transparent enamels, the “fines” from the ground enamels are removed. The participants received already pre-washed enamels to use. They should be kept wet.

Light colors should be applied first. Once a darker color is applied applying a lighter color will not lighten the darker color.

Participants were asked to create a design before the workshop, but were permitted to use, or modify, a sample design or, to create a quick free form design on the spot.

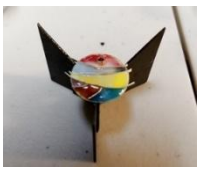
Participants created the wire design, shaped, cut and placed the cut wires on the design, and then transferred it to the fluxed enamel disc.

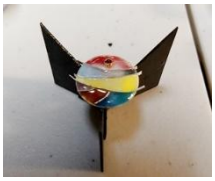
Once the wires were applied to the fluxed enamel front, the piece was fired in the kiln to attach/fuse the wires to the piece. Cloisonne enamel is typically fired at 1400 - 1450 degrees F. Firing temperatures control the surface of the enamel.



Tips: Green googles are put on before approaching the kiln (to reduce likelihood of cataracts). It’s best to keep your hand on fork and be prepared to remove piece and put on tile to cool.

Once the pattern of wires are set on the front of the piece, “wet packing is the process used to apply wet washed enamels to the metal with a fine paint brush. Multiple thin layers of enamel are applied and fired. Some techniques for blending colors were touched upon.





Tip: It’s best to avoid getting enamel on the tops of the cloisonne wires. (It makes for easier clean-up and finishing.)

There are several ways to finish the enameling: The piece is smoothed with either alundum stoning, diamond stick filing, or via the Jool Tool; with finer and finer grit split - lap discs. It is important that the piece is level with no divots and that the wires are clean! A glass brush used under running water helped clean the piece(s). The last step is the final firing to create a shiny surface on the cloisonne enamel piece.

The master pieces created at the workshop were quite nicely done and attractive. With a creative group, as NMC participants are, the application of color didn’t stick to any

rules. While color is often the same (or shaded) within a closed cloisonné cell, several used open wire designs with shading.

Here are some of the participants and some examples of the participants' work.

The figure to the left shows work from week one, with the pieces fluxed, wires applied, and some colors wet-pack applied. The figure to the right shows

work from week 2 for some (Elaine's cat), Diane's and Sue's pieces in the middle of the top row above on the right, a week one piece from June on the bottom left, and on the middle right next to Elaine's cat is a piece by Anne (bear), and Maureen (loops) are seen above on the far right. The figure to the left show work from sessions 3-5. The bottom right shows Sumate's two pieces. On the top middle is Jim's piece from week two and below it to the right in the second row is June's piece from week two. Anne's bear on the left from week 2-3 shows some subtle shading.

Finished pieces that show nice use of color, shading and interesting use of line are seen in the piece by Sandra (waves) as shown on the left, the piece by Jim (sea creature or earthquake) on the right, and Sue's piece (desert scene) on the far right.

Barbara Kruger's finished pieces are below on the right. The set on the immediate right uses the same colors as in the kit. The set on the far right show more shading. Barbara brought new techniques from her recent workshop with Linda Darty to the last session. Ask her about it. Our motto "Each one teach one" means she'll show you how.