

# Champleve Enamel for Night in Navarre

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## Overview

Presented here are several pieces of vitreous enamel done in Champlevè style fired at 1450 degrees Fahrenheit. There is additional documentation that discusses how this design is inspired by Navarre. Please read it!

The following is an overview of the process to create the enamel:

1. A design was created in Adobe Illustrator.
2. That design was applied to the copper disk as a resist for etching.
3. Etching.
4. Cleaning and de-oxidizing the metal.
5. The enamel was packed and the piece placed in the kiln.
6. Polishing.

What follows is some discussion on how Champlevè enamel was created in period.

See associated docs for technical information on the drawing, etching, and enameling process.

## Champlevè Enamel

### Period Information

Champlevé Enamel created in Limoges, France (see book Enamels of Limoges from the Met) began around the 12th century to the 14th century, a break for some time, and then a revival in the 15th century. The

Champlevé enamel is created by engraving cloisens (depressions) in the metal, as opposed to cloisenné enamel, which uses wires to create the shapes. A design is chosen and sketched out onto the metal and the drawing is engraved into it using gravers and other similar tools.

After the grooves are deep enough, opaque glass was ground up, rinsed, and then carefully placed into the grooves. The Europeans seemed to lack the technique to create opaque glasses, and so dug up mosaic tiles from Roman period to grind up and fire.

When the grooves were sufficiently filled with wet enamel, the piece was placed into a kiln where the glass would melt. The excess enamel is ground off using stones and polishing tools, and refired to smooth.

The resultant metal was then polished to a quality luster.

### Our Method - Key Differences

This enamel essentially follows a very similar process. However, the major differences are as follows:

- Acid etching is used instead of engraving for the most part. Engraving is incredibly time consuming and etching fulfills the same purpose, so substituting the methods is simply a matter of convenience.



- Etching also involves the use of transfer paper to apply the design to the metal. We use a heat transfer press and circuit board transfer paper.
- Unlike period enamel, modern enamel comes prepared and pre-sifted in a consistent grain size. Period enamel was done as what's called "lump enamel." The large glass chunks were broken up with a pestel and mortar, then sifted.

As mentioned previously, a lot of the process for enameling is very similar to period Champlevé enamel styles.



## References

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