



Metal salts can be pretty, but to make them really elegant they can also be decorated. Some of the best of these are decorated with glass fired on the surface, a process which is called enameling.

We used to think of enamel as an oil-based paint which dries to a hard, glossy surface. When we looked in the dictionary, however, the first definition was "a glassy substance applied by fusion to the surface of a metal". This enameling process has been used for centuries, and we were surprised to see how many of the salts in our collection are really glass on metal.

We became interested in enameling when we found a "do-it-yourself" book on the topic. It describes in detail all the meticulous work you need to do to successfully put a coating of glass on a metal surface. You need a great deal of patience and a lot of time to get respectable results. If you have artistic talent, your creation can become a work of art, as are many of the old enameled objects in museums around the world.

To start your venture, you need to plan your materials. The best metal for your base is gold, because it will not tarnish or corrode. Silver or copper are more affordable, but the final salt (you are making a salt, aren't you?) should be gold-plated after the work is complete to prevent tarnish. Next you need formulas for colored glasses that will melt before the metal does. The colors cannot be made by mixing primary shades, like you do with paint. Each one needs its own special formula, which will be different depending on whether the color is to be transparent or opaque. If you are going to do cloisonné work, you need thin metal strips for soldering to the base shape. Here again you need to be sure that neither the strips nor the solder will melt when you fuse the glass in the design. Now you can get to work.

The first step is to make a small glob of glass for each color. A small piece of each glob should be ground to a coarse powder, which is sifted to remove any large pieces and washed with water to remove the real fine material. The resulting "frit" is what you will apply to the metal. This can be sifted onto the work or made into a paste.

The most common form of enameling on metal salts is cloisonné. The colors are contained in little cells, which are outlined by fine wires. You cut and bend little pieces of wire in the shapes needed to form your design. Each cell is put in place and fastened there with a solder that will not melt at the firing temperature. If you were making a flat piece, you might eliminate the soldering, but since your salt is not flat, the wires must be fastened. You can use simple shapes for the background, and can make the shapes of birds, flowers, or even a picture of Aunt Susie for the principal motif.



Cloisonné cells - note that you can see the ends of the wires

Once your wires are soldered in place, you clean your salt-to-be very

carefully, apply a base coat of clear glass frit and fire it. Now you carefully fill in each cell with the proper color, and do a second firing. You must repeat this several times to get a good depth in each cell, and to fill in any voids or air bubbles. If you are doing oriental style cloisonné, you should continue the filling and firing until the enamel is

above the tops of the cells. The surface will then be ground smooth. After a final buffing and gold plating, your salt is finished. You will have the satisfaction of having made an original work of art, and will have gained an understanding why reasonably-priced enameled pieces come only from countries where the labor cost is very low.

We learned a lot by looking at our enameled salts through a magnifying glass. There are many levels of quality for cloisonné pieces. The finest ones are the Russian silver salts made before the Russian revolution. On these the silversmiths made the cells using flattened strips with a serrated edge, so that each cell has a beaded look. They did not fill the cells completely, because the surface could not be ground flat or else the "beading" would be destroyed. Some pieces were given an extra firing to put shading on the colors in the individual

cells. Look carefully the next time you see a Russian silver salt, and appreciate all the artistry that went into it.

Enameled silver salts are being made in Russia today, and their quality is good, but the elaborate hand work of the past is missing. They are not colisonné because the cells are not made from individual wires, though they have high-quality enameling. You can tell this because there are no wire ends visible. We have seen modern Russian salts on sale in a museum gift shop for \$30-40; the older ones bring ten times that price when you find them.

The next best cloisonné salts we have seen are from the orient. These are made by filling the cells completely and then grinding the surface smooth. They are all hand work , with individual cells formed with wires or strips. The appearance varies considerably - the best ones have small cells with a lot of detail and few flaws on the surface. The cruder ones have lots of background, which is easy to make, and relatively few designs. Some are not gold plated, so that the exposed surface of the wires will tarnish with age. Here again, the magnifying glass shows a lot of tiny air bubbles and specks of dirt if the work is lower quality.

We have seen some cloisonné salts of inferior quality, where the wires are small and there are only one or two coats of enamel. The colors are not carefully applied, so that some of the cells have a little of the color from a neighbor. These are still hand made, but they look like sloppy work when compared to traditional pieces. We also have an imitation cloisonné salt, like the one shown in H&J 1986. Here the design is pressed into the surface rather than being built up with wires. The colors look like paint rather than glass, but the shape and design resemble the more expensive handmade pieces.

If you don't want to build up individual cells from wire, you can make your enameled salt the champlevé type. For one-of-a-kind pieces, the cells are carved or acid etched into the surface to hold the glass frit. For quantity production, metal is stamped out with cells already it. The modern Russian silver salts and the French enamel salts like the one shown are this type of



Old Russian Silver Salt









construction. You still need to fill each cell carefully by hand, and make repeated fillings and firings to build up the needed depth. Gold-plating is required if you want to avoid tarnish.

A great deal has been written about enameled ware, much of it about museum pieces dating from the 14th to the 19th century. The books on more recent work show the enameled pieces as works of art. In all the places we looked, however, we did not find a single open salt pictured or even mentioned. We all know they exist, but nobody has paid any attention. When you finish making yours, maybe you can write a book on the subject.

If you would like to see better pictures of the salts we have been describing, we have prepared the following table showing where to find some of the various types in the H&J and Smith books:

Type of Salt	H&J Reference	Smith Reference
Old Russian Silver	2022	137-5-1 & 3, 179-3-1 & 3, 256-5-1
Modern Russian Silver	2009 2026	160-1-1 312-1-3
Oriental Cloisonné	1988-1999 and others on page 100	87-4-1, 87-4-2 127-6-3
Small Wire Cloisonné		256-5-3
French Enamel Champlevé	2016-2020	127-6-2, 131-1-3, 179-4-1
Imitation Cloisonné	1986	

We hope that you will look closely at any enameled salts you have or ones that you see and imagine the work that has gone into them. If you have several to compare, you can understand why some should be more expensive than others. And we hope that you are lucky enough to have a few of the better ones in your collection to admire.

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References: "Enameling - Principles and Practice", by Kenneth F. Bates "The Art of Enameling", by Margaret Seeler "5000 Open Salts", by William Heacock and Patricia Johnson 10 books, "Open Salts Illustrated", by Alan B. And Helen B. Smith