Soldering Argentium® Silver, by Cynthia Eid

Just as one needs to make a mental adjustment about soldering tactics when switching between traditional sterling and gold, it is necessary to use a different approach when soldering Argentium Sterling. The most important thing to remember with Argentium Silver is to forget about trying to heat the whole piece of metal at once, or trying to have all the solder flow at once. If you have experience with soldering gold, you may find that they conduct the heat similarly, and that the same approach to heating the metal and solder works for both gold and Argentium Silver. The following is a summation of my approach:

Give the whole piece an overall heating, then start at one area and heat along the seam – I usually use a back and forth movement with the torch over a 1/2 to 1" area. When that solder flows, move to the adjacent area and heat until that flows, then move to the next area, etc. You'll find that the first area takes the most time then each subsequent area takes less time. With a 1" diameter piece, I find that the solder flows as fast as I can turn the soldering turn-table. A larger piece moves more slowly.

As we know, there are many 'right ways' to do something. Some people use lots of tiny bits of solder close together. My method is perhaps more impatient – I use big pieces of wire solder, placed far apart. When I recently tested gel flux, I appliqué soldered 1" lengths of wire to sheet using a single piece of wire solder (1/8" long) at one end of each 1" wire. In all cases, the solder successfully flowed along the entire length of the seam.

I have heard reports of Argentium Silver solders not melting completely. I think this usually happens because the flame is too small and the person is heating tentatively, resulting in the lowest temperature components of the solder flowing before the entire piece of solder flows. If this happens, it is pointless to keep heating in hopes of having the entire piece of solder flow. Clean up the excess solder and heat with a larger flame and more boldness next time. (Note: I have personally rarely experienced Argentium Silver solders to flow incompletely.)

It is important to wait a few moments after finishing soldering before touching or moving the piece. It is beneficial to cool flat pieces on a flat surface (I slide my flat pieces onto a steel plate to cool). Air-cool flat pieces completely as quenching warps the metal.

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