COOL TOOLS

March 20, 2017

We recently updated our EZ960 firing instructions (https://www.cooltools.us/v/vspfiles/assets/images/Artice_EZ960_Instructions.pdf) and our Gemstone Firing Guide (see below) to accommodate those artists that are firing the metal clay for extended hold times. The original firing schedule for EZ960 has not changed:

1675°F for 2 hours
1700°F for 1 Hour
1725°F for 15 minutes

However, we have added to this schedule:
1675°F for 3 or 4 hours - recommended for bending post-firing

We have found through experience, trial and error, and then testing with a pyrometer, that most kilns are firing properly and at the stated temperatures. There are some kilns, however, that can or do fire somewhat lower than what the digital display states. This can be due to several reasons (age and use of the kiln being one of them). Regardless, and because of lower firing temperatures, some artists have experienced, when bending post-firing, cracking and even breakage of their Sterling Silver pieces after firing at the recommended firing times and temperatures. By testing with a pyrometer, we have found that these problems are due to an under-firing kiln. That being the case, for those artists who wish to bend the metal post-firing, we recommend firing for 3 or 4 hours at the 1675°F temperature. This longer firing time, as simple as it is, has proven to be an excellent insurance policy to ensure the clay is completely sintered, and then, can withstand the additional rigors of bending post-firing- this is especially true for underperforming kilns or for those that may have experienced cracking or breakage when bending.
Having said that, the next question was, logically, “what about co-firing cubic zirconia and lab created gemstones at this temperature (1675°F) for the longer hold time of 4 hours?” Can they take the heat for an additional 2 hours? Well, we tested every color and type of cz and lab created gemstone in our inventory, and the answer is…. if the gemstone can tolerate 2 hours at 1675°F (open shelf, no carbon), it can tolerate 4 hours at 1675°F (open shelf, no carbon). One exception being the golden topaz - it turned slightly darker, but it did not burn, nor did it change in the quality of the hue.
We have updated our Gemstone Firing Guide (https://www.cooltools.us/v/vspfiles/assets/images/Article-Gemstones_In_Metal_Clay.pdf) to reflect this new data. Also see below photos of the gemstones, before and after their 1675°F firing on an open shelf for 4 hours.
All of this is good news for those who wish to co-fire gemstones with EZ960 using the technique that Lis-el Crowley pioneered and uses to her advantage - forming and firing the clay flat, and then bending the metal around a mandrel post-firing to create adjustable rings and cuff bracelets.

Alan Rein, Owner
Cool Tools

Cubic Zirconia

Fired Open Shelf - 1675°F – 4 hours

Labs & Natural Gemstones

Fired Open Shelf - 1675°F – 4 hours