

## Prometheus Base Metal Clay – Achieving Firing Success

Understanding processes and pitfalls when firing base metal clay is essential to achieving success and positive outcomes. **Working with base metal clay is very different to working with silver metal clay.**

**Why choose base metal clay?** As well as the lovely range of base metal clay colours available, the most obvious reason is price. The cost of base metal clay in comparison to silver metal clay, is very attractive.

As with precious metal clays, base metal clays (copper, bronze, steel) **\*sinter** under their melting temperature.

**"sinter refers to a process of heating clay to a specific temperature in order to fuse its particles together."**

For simplicity here, we will only compare firing fine silver metal clay and firing base metal clay.

Fine silver metal clay (comprised fine silver powder, organic binder, water) is uncomplicated and sinters at the manufacturers recommended temperature on an open kiln shelf.

Conversely, the copper content in the base metal clays means they need to be fired in an atmosphere that eliminates oxygen from interacting or interfering with the sintering process. Oxidisation is the "intruder" in the sintering process. The easiest way to exclude oxidisation in the firing set up, is to use activated carbon which absorbs oxygen. Lack of oxygen during firing allows base metals to sinter and fuse properly.

Another firing consideration is that some base metal clay formulas contain a mix of powdered metals and alloys which may melt at a different temperature.

Manufacturers devote substantial time and effort into determining the best firing schedule and technique for each of their formulas.

We recommended firing any new base metal clays you may be trying, using the manufacturer's current recommended firing method and schedule.

We have supplied links to a variety of Prometheus base metal clay videos, in the hope that they will be helpful, BUT please bear in mind that many are 5+ years old and firing instructions, formulas, methods, recommendations and other information may have changed.

Kiln temperatures, times or even ancillary equipment used in the firing process are all variables that could influence outcomes. Before firing your beautiful, intricate creations, we strongly recommend firing simple test pieces to determine an optimal firing schedule for your kiln and equipment.

Even though working with base metal clays can be challenging in comparison to working with silver metal clay, the beautiful results that can be achieved with base metal clays are well worth the effort.

Bearing the challenges in mind, it is little surprise that manufacturers (aiming for the most favourable firing outcomes) now discourage torch firing base metal clays.

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