

Getting Started With OneFire Sterling PMC™

OneFire Sterling PMC™
has a silver purity of 96%.
It can be legally marked
as sterling after firing.



Welcome to the
exciting world of
Precious Metal Clay

 **MITSUBISHI MATERIALS
TRADING CORPORATION**

<http://www.mmtc.co.jp/en/products/pmc.html>

Congratulations!

If this is your first exposure to Precious Metal Clay, you're in for some excitement. If you are familiar with fine silver clay, prepare to be impressed by the great workability and impressive strength of OneFire Sterling PMC™. For those with experience, the instructions are simple: everything you know about working with metal clay holds true here. Use the same carving and modeling tools, the same techniques, and the same construction methods as with other clays. Wipe tools with a damp cloth when switching between clays, and reserve brushes, sandpaper, and sanding sticks for each type. Fine silver and silver alloy clays can be combined and fired together.

The Science

OneFire Sterling PMC™ combines microscopic particles of metals in the proportions of approximately 96% silver with 4% copper. The metal powders are mixed with water and a nontoxic binder to create a material that can be worked as easily as modeling clay. Objects can be made with simple tools, then they are dried and sometimes refined further. The pieces are then fired in a kiln to burn away the binder and fuse the particles into solid metal. The result has properties very similar to cast sterling silver. It can be polished, soldered, and patinaed just like any other precious metal.

Tools and Work Area

One of the great things about OneFire Sterling PMC™ is the fact that you can use it almost anywhere. Choose a comfortable location with good lighting and you're all set. Modeling tools can be as simple as rubber stamps, children's toys, cookie cutters and toothpicks. Avoid aluminum foil and aluminum tools, but otherwise anything goes! You'll find that you will discover the tools you want as you go along. A basic starter kit will include a needle tool, a rolling pin, a couple small paintbrushes and a craft knife. You'll want a roll of plastic wrap, a small cup for water, and olive oil or mold release. A piece of plastic, glass or ceramic tile makes a good work surface.

Working with Fresh Clay

The most obvious way to use OneFire Sterling PMC™ is to form it while it is most malleable. Fresh from the package, the clay is ready to use and can be rolled to make sheets of whatever thickness you need. Press the soft clay against textures for dynamic effects. Soft clay can be rolled into rods and tapers, curled, twisted, and joined. To combine parts, sweep a damp brush across the joint several times. For larger joints, make a paste by adding water to OneFire Sterling PMC™. Mix small bits of dry clay or the dust created by sanding. Spread this slip onto the joint and allow it to dry. Use several coats if needed.

Working with Dry Clay

OneFire Sterling PMC™ can be worked in its dry, unfired state. The typical approach is to do some forming while the clay is soft, then allow it to dry so it can be handled easily. At this point, edges can be sanded smooth, holes can be drilled, textures deepened and parts added.

OneFire Sterling PMC™ is especially good for carving. Use knives, gravers, or miniature gouges to incise designs. The clay carves easily, but if you make a mistake, simply press fresh clay into the groove, allow it to dry, then carve it again.

To join dry parts, dampen them slightly, brush on a small amount of slip and press the parts together. The slip acts like mortar between bricks and makes a smooth joint when dry.

Firing

Allow work to dry completely before firing by leaving it exposed to air, placing in a warm spot or using a dehydrator. Set pieces on a firing shelf, or for pieces of irregular shape, on refractory wool or vermiculite. Heat at full ramp, ideally toward the back of the kiln where the heat is uniform.

1600–1650° F (870–900° C) for one hour

Finishing

OneFire Sterling PMC™ can be filed, sanded, tumbled and polished using traditional jewelry techniques. Filings and scraps can be sent for refining just like other precious metals. Use liver of sulfur or a proprietary oxidizer to develop a dark patina. Because OneFire Sterling PMC™ has a high silver content, it does not create firescale.

Rehydrating

If OneFire Sterling PMC™ dries out, or if you decide before firing that you want to start over, grind the clay into small pieces (a coffee mill reserved for this works well) and gradually add clean water. Roll the stiff clay as thin as possible to force the water into the clay. Repeat, adding water sparingly as needed until the clay is ready to use.

Special Techniques

Artists with advanced metalsmithing skills will find that this material works well with all traditional techniques. It can be soldered with any grade of silver solder. It also invites enameling, keum-boo, stonesetting, and plating. Simply put, there is no technique in the metalsmiths' arsenal that cannot be done on OneFire Sterling PMC™.

Health and Safety

Like all other forms of PMC, OneFire Sterling PMC™ contains no toxic chemicals. It has been extensively tested to insure that there are no harmful ingredients. Though rare, it is possible for some individuals to experience skin rash or itchiness after contact with PMC™. If you have a reaction, discontinue use and consult a doctor. Use care to avoid burn injury. Do not ingest. Keep out of reach of children. Wash hands after use.

Alloy Specifications

The legal definition of sterling is ... a silver alloy containing at least 925 parts per thousand silver. The addition of more silver creates a sterling alloy that can be fired without the need for activated carbon.