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Attaching Parts

There are several ways to attach findings, settings, and other elements to objects made of PMC®. The choice of which method to use depends on the materials, the shape of the part, and the skills and preference of the maker.

PMC GUILD

Soldering

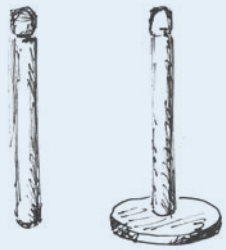
The strongest and most attractive joint will be made with a silver alloy in a process technically called "silver brazing" but more commonly known as silver soldering. Any of the three grades (Easy, Medium, and Hard) can be used, but the highest melting, Hard Solder, is preferred because it remains somewhat "thick" when molten. By contrast, Easy Solder is "watery" at flow temperature and therefore penetrates the metal clay.

Advantages

- Quick
- Controllable
- Strong

Disadvantages

- Requires a torch, flux and solder
- Takes a bit of practice to learn



NO **YES**

The post on the left has very little surface area, and is not recommended for this type of solder. The post on the right, with its large pad, is made for this.

Low-Temperature Solder

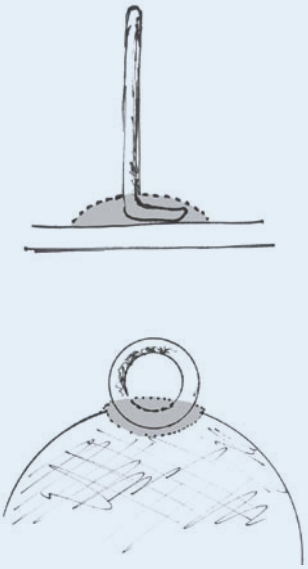
An alloy of tin and silver (approx. 96/4%) can also be used to join parts. This solder is not as strong as true silver solder, but if the joint is properly prepared the result can be a sound and practical joint. Trade names are "Stay-Brite," "TIX," and "SolderFast." To insure a strong bond it is important to provide generous surface contact, as shown here. The solder is available as a wire or as a powder that is premixed with flux. This version is convenient but messier than the wire-and-flux version.

Advantages

- Quick
- Acceptably strong

Disadvantages

- Requires a torch
- Not appropriate for all joints



In both of these examples, slip or oil paste curls around and over the attaching part to lock it into place.

Firing in Place—Single Firing

A. Fine Silver

If the parts are made of fine silver, they will usually fuse to the PMC® without special efforts. Press the part into position and reinforce the joint with slip. Fire at any of the recommended time and temperature schedules.

B. Sterling (including Argentium® Silver)

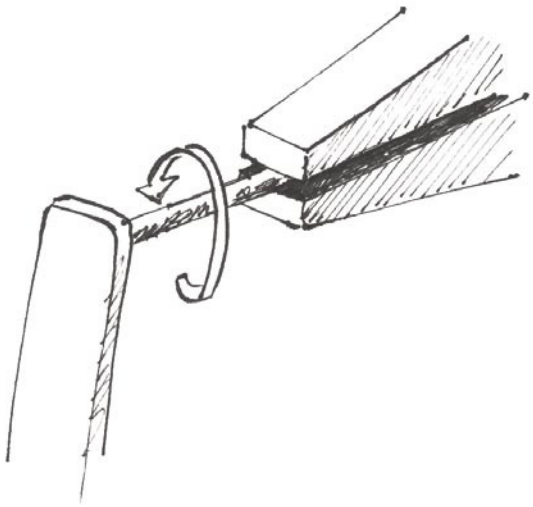
Prepare the element by creating a layer of fine silver on the surface before attaching it. To do this, heat the part until it darkens, then quench it in commercial pickle, vinegar, or lemon juice. Rinse in water and repeat five times. This process leaches copper out of the alloy, leaving a thin layer of fine silver.

An element prepared like this might bond to metal clay during firing, but a strong joint cannot be guaranteed through that alone. Arrange for a mechanical grip, a way for the PMC® to curl around the parts so it can't become loose. In the case of a wire, this might be an L-shaped bend or filed grooves that are buried in the metal clay. When securing the jump ring, be sure that the clay reaches inside the loop so the wire is entirely embedded. It makes sense to hide the opening of the ring at the same time. Sterling parts should not be heated above 1300°F (700°C) because the alloy becomes brittle.

Firing in Place—Double Firing

If you want to add a fine silver or sterling element to fired PMC®, the first step is to be sure the work is clean. If it has been tumbled, patinated, or worn, fire-clean it by heating to around 1000°F (540°C) for a few minutes. Quench in water or allow to air cool.

Apply a generous amount of syringe, thick slip, or oil-enhanced slip to the part and press it firmly against the fired metal piece. Allow this to dry completely, then fire no higher than 1250°F (680°C) and hold for at least an hour. The extended time is needed to ensure that the fresh clay penetrates and fuses with the solid metal.



After Firing

With the exception of #2, Low-Temp Solders, all the methods described above leave the applied element in a softened state called "annealed." This is an unavoidable result of holding fine silver or sterling at the temperatures needed for soldering and fusing. In many cases, there is nothing you can do about it. In the case of a straight wire (for instance an earring post), it is possible to reharden the wire by twisting it. Grasp the tip of the wire firmly in pliers and twist the wire three or four complete turns.