

Flash Firing PMC+

by Toshihide Ueeda

I've discovered that it is possible to fire PMC in as little as one minute! This is possible with any version of Precious Metal Clay, but I usually use PMC+. The concept will be familiar to metalsmiths because fusing is a process that can be done with conventional fine silver sheet and wire. The idea is simply to heat a sample to a point just above its melting point, a temperature technically called liquidus. At this point the surface of the form becomes fluid and starts to flow. If several elements are brought to this point simultaneously, the metal flows between the parts and mingles. When the heat is removed and the metal solidifies, the result is a bonded unit.

- 1 The first step is to dry the PMC object completely. Allow the piece to sit for several hours, warm it with a hair dryer or heat it in a slow oven.
- 2 Next, set the piece on a soldering pad and heat it with a torch. Propane, butane or acetylene torches will all work. Heat the piece slowly to drive off any remaining moisture and continue heating until the PMC binder ignites.
- 3 At this point you can bring the torch closer to the work, moving it around slowly to distribute heat over the piece. The piece should be a bright glowing red color at this point.
- 4 Continue heating and watch closely for the moment when the surface melts. Metalsmiths call this "sweating" because the metal almost appears wet. Instantly move the torch around the surface — the goal is to keep the melt zone as thin as possible. This process always involves a slight loss of surface detail, and the longer the surface is molten, the more detail will be sacrificed.
- 5 Turn the work over with tweezers and heat the reverse. I try to insure that about 70% of the surface has become molten for at least a split second.
- 6 One of the advantages of this process is that there is no shrinkage. The space that was originally occupied by water and binder is now slightly porous, as shown here in a cutaway view of a fired piece.

