

# TROUBLESHOOTING

## **PRE-FIRE**

### **Clay Feels Too Dry to Roll**

Clay should be conditioned with water and/or a small amount of release agent.

### **Clay is Completely Dry**

Break up into smaller chunks. Put in sealed container with a wet sponge. Allow to soak up the water for two days. Break up again and repeat wetting process until clay returns to workable condition.

### **How do I Fire?**

See **Firing Methods .pdf**

## **POST-FIRE**

### **Heavy Black Residue**

Black residue on the surface is oxide that has developed due to oxygen contacting the surface while the piece is hot. When quenched while very hot, the oxide will pop off the surface of the piece. Very small pieces may remain, but can be easily picked off. If the oxide did not pop off, the piece cooled too much before quenching. Try to reheat to target color and quench again or use pickle to remove the oxide.

### **Light Black Residue**

Black residue throughout the piece is oxide that has developed due to oxygen contacting the metal powders while the piece is hot. If the oxide is thin and throughout the entire piece, the piece contacted oxygen before the metal sintered. Try to fire again and use a bushy flame to reduce the oxygen contacting the piece while firing.

### **Breaks Easily**

The piece is not fully sintered. There are two potential causes; 1) the binders not being burned away completely, 2) the time and/or temperature were not long enough/high enough.

### **Cracks on Edges**

The most common cause of cracks on the edges is a hairline crack prior to firing. When the clay shrinks during firing the pre-existing crack will spread. Ensure the edges are completely sanded during the refining process.

### **Surface Comes Off When Polishing**

The piece is not fully sintered. See **Breaks Easily**

### **Bronze Looks Pink**

When firing with no carbon (torch firing or conventional), copper powder raises to the surface. Brush with a brass brush under water to remove the powder. Super pickle can also be used.