

# Traditional Handcrafted Bronze

Traditional bronze is an alloy of tin and copper. Both these metals are inherently soft, but when mixed, or alloyed, they become much harder.

Nowadays, the same result is achieved by mixing silicon with the copper, tin being almost a 'precious' metal.

## The Original 'Pattern'

The 'pattern' or the original piece to be copied can be of virtually any subject, an artist's original sculpture, a piece of fruit or an old sculpture.



## The Rubber Mould

Using a very high quality silicon polymer, the original pattern is covered. This then forms the master for as many copies as may be needed. Great care is taken to copy the tiniest details.

## The Wax Pattern

A pattern is prepared in wax, using the rubber mould. The quality of the wax determines the degree of detail that can be reproduced. Again different grades of wax may be needed even within the same piece.

## Wax Fettling

Any imperfections within the wax are repaired and any areas where the wax has 'flashed' are cleaned.



## Wax Tree

The wax patterns are 'gated', ie provided with a cylinder of wax through which the molten metal will enter the mould.

When it is ready the finished object often resembles a tree.

## A Ceramic Shell

The original ceramic coating or shell is now carefully created, built up by dipping and re-dipping the wax tree alternately into a mineral slurry then into graded ceramic powders.

Several layers are built up - each being allowed to dry thoroughly.





### **Dewaxing**

Once it is dry the ceramic shell is placed in a kiln to melt the wax. The wax is collected and re-used for future wax trees. The ceramic shell is now hollow, the vacant space inside representing the original pattern.

### **Melting the Bronze**

The bronze is melted, an alloy of copper and silicon with traces of other metals. The entire crucible needs to be at exactly the right temperature and fluidity when the liquid is poured.

### **Removing the Shell**

About half an hour after 'the pour', the shell can be removed to reveal the bronze. The bronze itself has contracted slightly, thus detailed areas tend to grip the ceramic shell.

### **Finishing the Bronze**

Where the wax tree had branches, the piece now has bronze branches which need to be removed, the cut faces smoothed and, if necessary, chased to match the surrounding texture.



### **Patinating the Bronze**

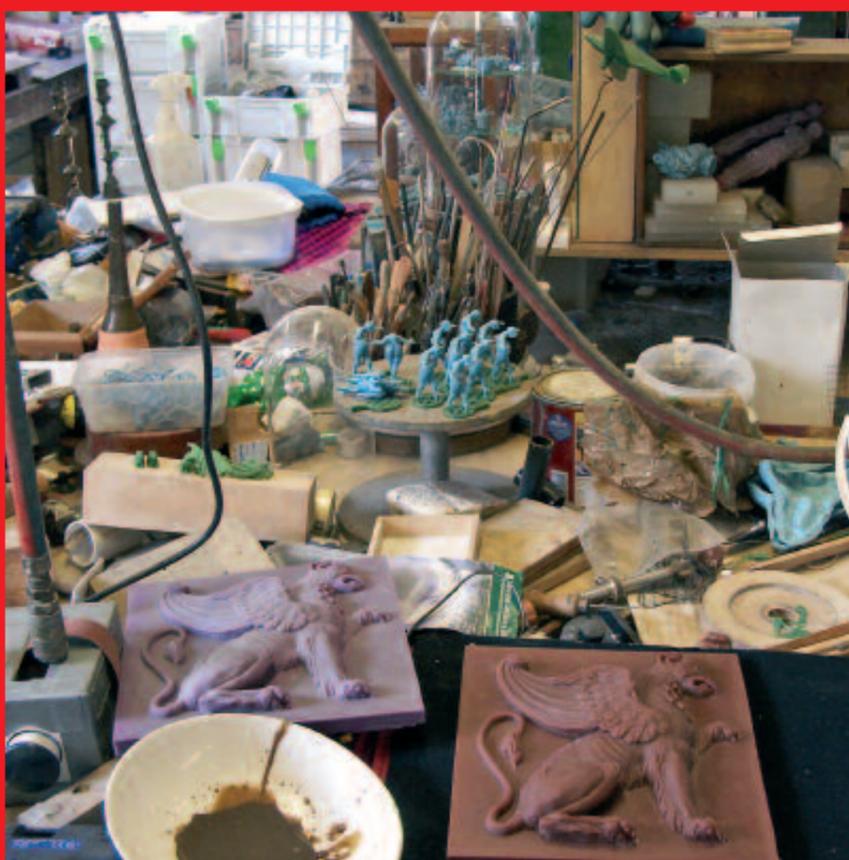
The final touches involve polishing or patinating, which can produce a variety of finishes. There are many secret recipes involved to patinate the bronze. The art of the patineur, involves sensitivity to the subject and traditional patineurs would never reveal their recipes. Much research, involving the most unlikely processes has been carried out to produce the richness of variety available to the contemporary bronze artist.



# Dinsdale Petch



# Running Dog Bronze



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