



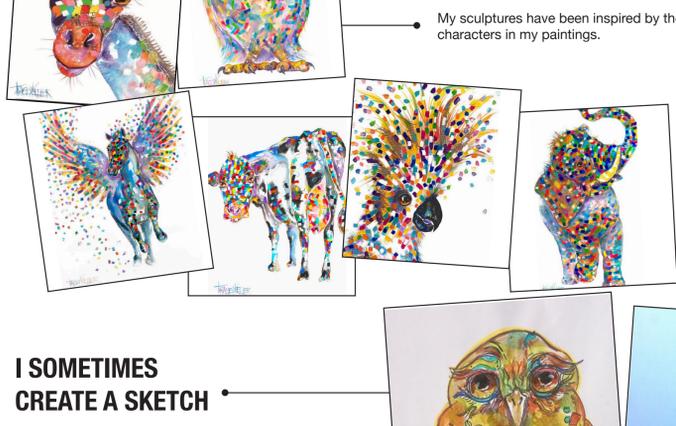
**TRACEY KELLER**  
bronze sculptures

# The Journey to Bronze via the LOST WAX TECHNIQUE

There are many, many steps involved in creating a bronze. I use the ancient technique called **THE LOST WAX TECHNIQUE**. This method of casting dates back thousands of years to ancient Egypt, Greece and Rome. It is still the best method for capturing exquisite detail, however, it is a long, painstaking process that takes weeks to produce one piece.

## IT ALL STARTS WITH AN IDEA

My sculptures have been inspired by the many characters in my paintings.



## I SOMETIMES CREATE A SKETCH



## I CREATE THE MAQUETTES

I normally use an oil based clay for my maquettes, and tediously create all the detail and embellishments.



This maquette is very fragile, and it is the perfect representation of what we want the bronze to be shaped from.

## PAINTING THE ENTIRE MAQUETTE WITH 4 LAYERS OF SILICON

To ensure all the detail and intricacies of my sculpture is maintained, I painstakingly cover the entire maquette in a silicon. I need to be very very careful here, since the silicon has to go into every nook and cranny of the sculpture. I will sometimes use an air gun to softly guide the silicon into the grooves.

I normally brush a thin coat of silicon, blow it with the blower to remove any air bubbles, and let it dry. I normally put 4 or 5 coats of this and it takes about 5 days. Here is layer one of the silicon process..



## CREATION OF A MOTHER MOULD

After the 5 coats of silicon has dried, it's time to create the mother mould. The mother mould is what holds the shape for the flimsy silicon. Its made out of a fibreglass type of material and it causes the mould to be rigid. It is made of two parts so the mould can be opened to release the maquette.

## OPENING THE MOTHER MOULD AND REMOVING THE ORIGINAL SCULPTURE

Then we open the mould and separate it. And then gently take the original clay out, and close the mould back.



## POURING IN WAX

Then it's time to pour in the wax. Again, this is a very time consuming venture. First you pour a small thin amount of wax and you roll it all around the mould. Then slowly add more wax, and more wax until it is full.



## REMOVAL OF THE WAX SCULPTURE FROM THE MOULD

Once the wax is cool, then its ready to open the mould, and pull out the wax. Then we clean and tool the wax model so it is as perfect as the original sculpture.



## FIRST SLURRY COATING

Now its time to prepare it for the "slurry" process. So you make what is called "gates" that will support the wax model, and also allow a passage for all of the wax to melt out of. Oh, and it's also a funnel for the bronze.

Then to the slurry room with liquid ceramic. This slurry hardens and this ensures all of the details are maintained.



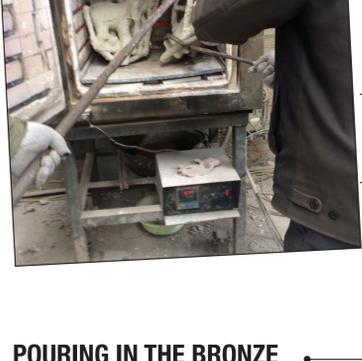
## ADDING SAND TO THE SLURRY

Immediately after I have dipped the piece into the slurry, we throw soft sand all over the piece. Let it dry for a day, and repeat it for 5 days until the ceramic builds up and is thick. This ceramic shell carries the shape for the bronze to be poured into.



## FIRING THIS IN THE KILN

Time to put it in a kiln so that the wax melts out of the mould. That's why it is called **THE LOST WAX TECHNIQUE**. Then after that that mould is now hallow. A ceramic shell.



## POURING IN THE BRONZE

And its' time for the molten bronze at 2100 degrees. And it's poured into the mould and let harden and cool for over a day.



## BREAKING THE MOULD

This is the fun bit - time to use a jackhammer and smash it open!! OK, maybe not that violent...but it is carefully broken open.



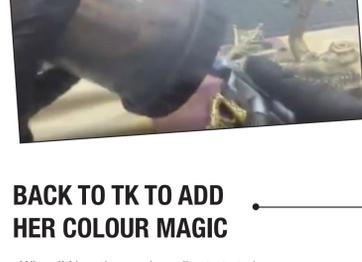
## SANDBLASTING AND PERFECTING THE BRONZE

After the mould has been broken away from the bronze, the next step is to sandblast any stubborn pieces of ceramic off the bronze. Then... Since these pieces are intricately detailed, find grinders are used to remove unwanted metal, and then even more refined and smaller tools are used to recreate the subtle surface textures that match the original sculpture.



## APPLYING A SPECIAL UV COATING TO PROTECT AND STOP OXIDISATION.

In order to enhance the textures of each sculpture, the first step is to patina the bronze. This is created by applying a special blend of chemicals, pigments and application techniques. Then a coat of UV protective lacquer is sprayed on to enhance and preserve the patina.



## BACK TO TK TO ADD HER COLOUR MAGIC

Whew!! Now the magic really starts to happen when TK adds her signature colour to the bronze. To ensure the bronze sculpture actually accepts the colour, they are again heated using a heat gun programmed to over 500 degrees celsius. The painting process can take days. When TK is finally happy with it, it's back to the booth for another protective coat and bake and **WE.ARE.DONE!** WHEW!!



## ... AND HERE ARE SOME FINISHED PRODUCTS!

