



Prometheus™ Bronze Clay



Working with **Prometheus™ Bronze Clay** is very easy and similar to working with silver metal clay, polymer clay, modelling paste or ceramic clay.

Wet Stage

- **Prometheus™ Bronze Clay** does not usually stick to fingers or to work surfaces. However, oiling your fingers and the working surface lightly with Olive Oil can be helpful and will not harm the clay.
- Remove the clay from its packaging and place it on a clean work surface or wax paper. Use fingers, rollers, spatulas, clay shapers, craft knives, tooth picks and other tools to shape, texture, or even turn it on a potter's wheel. You can texture the clay with a variety of rubber stamps, texture mats, leaves, paper and many other interesting textures.
- When you start to work with the clay straight out of the packet it is known as "The Wet Stage". Try to not remain at this stage for too long. As you work just be aware that the clay will begin drying as it is exposed to the air. Although **Prometheus™ Bronze Clay** is slower to dry than most metal clays, it does air dry and if you detect any cracks appearing on the surface as you work, apply water immediately using a brush or spray bottle. This will rehydrate the clay. Fill any cracks with a little paste. To make paste, mix a little clay with a few drops of water until it is the consistency of thick yoghurt.
- To join two pieces together, dampen the areas that will touch and add a little paste. If the two pieces are dry, wet the touching points with a brush, and apply paste to create a secure bond.
- Store any unused clay in a plastic zip lock bag to prevent it from drying out. Immediately place any off-cuts in a zip lock bag whilst you're working, always make sure it is tightly closed. If you will not be working with the clay for a while, put the sealed plastic bag in a jar with a well fitting lid. Placing a wet sponge in the bottom of the jar will help maintain your clay in a good hydrated condition until you next work with it. If you decide to store the clay over a longer period of time, check the sponge for moisture regularly and add water if needed.

Drying

- Before firing **Prometheus™ Bronze Clay**, you do need to dry it completely. Using a hair dryer or placing the finished piece on top of a kiln works well. Hot-plates or food dehydrators also work well.
- To check if the clay is completely dried, put the hot clay (straight from the drying source) onto a mirror. After 10-20 seconds, move it and check for any condensation on the mirror. This test is especially important for larger, thick pieces. If the piece is not completely dry, it may crack, break or bubbles may appear on the surface after firing.
- We don't recommend fast drying large pieces, as it may cause cracks to appear. For larger pieces we recommend leaving them at room temperature for a few hours at least. They can then be completely dried using moderate heat.

Dry Stage

Although dried **Prometheus™ Bronze Clay** is strong, you do still need to take care when working with it. You can carve designs on the surface, file it, grind it or drill holes with hand or rotary tools and engravers. To join dried pieces, dampen the joining points with a brush and apply paste. After completing your design, it is easy to remove scratches, dents or uneven surfaces, using sand papers and sanding sponges. Remember.... it is a lot easier to do the finishing at the dry stage rather than wait until after you have fired the clay!

Firing Prometheus™ Bronze Clay

- Firing **Prometheus™ Bronze Clay** is similar to firing silver clay but there are small differences. There are 3 different firing methods that can be used with **Prometheus™ Bronze Clay**. The Wrapping method, the Conventional method and the Activated Carbon method.
- With all firing methods we recommend the following;
- (*)Use gloves, tongs, paddle and safety glasses when loading and unloading a kiln. Think about where you are going to put hot pieces before you take them out.
- (**) Test your kiln's accuracy by firing a small piece of clay. Electric kilns may show slight variations, due to their temperature control systems. Depending on your test results, you may raise the firing temperature by up to 5%

The Wrapping Method

- After drying your piece completely, wrap it with one or two layers of paper towel, according to the size of your piece. Larger pieces, for example a 200 g. Piece, will need 3 or 4 layers. Please note that the paper towels vary in thickness so you might want to do some simple tests for the best results. If you use more paper than needed it will produce more smoke but this will not harm your piece. **We do strongly recommend firing your pieces in a well ventilated place as anyone with lung or respiratory problems may be affected by the smoke.**
- Make a larger parcel or package by wrapping the paper towel wrapped piece with a 4 or 5 mm thick fibre blanket – using at least 2 turns. Don't leave any openings. You can pack more than one piece into the same fibre blanket, but make sure each piece is separately wrapped with paper towel. **Always use gloves when working with fibre blanket, avoid breathing in dust by wearing an appropriate dust mask and wash hands after use.**
- (*)When the kiln reaches the target temperature, place the packaged piece/s into the kiln using tongs, long tweezers or firing spatula/paddle. Most kilns are cooler near the front door, so position them close to the back of the heating chamber. Wait for the kiln to come back up to the target temperature and then start timing your firing, as per the firing schedule below.

Large pieces should be put into a cold kiln. Wait for it to reach the target temperature and then start timing the firing. Please note that larger pieces need a longer firing time, as per the firing schedule below.

As every kiln is slightly different, we recommend you do a few trials and keep a detailed kiln log, to create your own specific firing schedule(**). You can fire at higher temperatures, however be aware that this will give you a higher shrinkage rate. At the optimum firing temperature and time, Prometheus™ Bronze Clay only shrinks 7- 9%.

- When the firing is completed, take out the package, place it on a heat proof surface and wait for it to cool down (at least 3-5 minutes) before you unwrap it.

Firing Schedule

Smaller pieces		Larger/thicker pieces	
Firing Temperature	Hold Time	Firing Temperature	Hold Time
700 °C	30 minutes	700 °C	45 minutes
750 °C	20 minutes	750 °C	30 minutes

The Conventional Method*

* Recommended for larger pieces, sculptures etc

Place the dried Prometheus™ Bronze Clay piece/s on stainless steel mesh and place into a kiln that has been preheated to 800 degrees C. Wait for the kiln to get back to the target temperature of 800 degrees C and then start timing your firing for 30 minutes.

When the firing has been completed, remove the piece/s, place on a heat proof surface and allow to cool. Alternatively, if there are no inclusions like gems etc, quench in water. This is the best method for removing fire scale but be aware of the hot water vapour that is created with quenching. To remove any remaining fire scale, place your piece/s in a hot pickling solution until the fire scale disappears. We recommend Scalex Pickling powder. After pickling, Prometheus™ Bronze Clay pieces need to be rinsed well in water and then neutralised in a Bicarbonate of Soda and water solution.

Activated Carbon Method

Prometheus™ Bronze Clay pieces fired using this method take on a more traditional Bronze colour.

This is a 2 step method.

Step 1: Place the dried Prometheus™ Bronze Clay piece/s on stainless steel mesh and place into a kiln that has been pre-heated to 500 degrees C. Fire for 10 minutes, remove from the kiln and place on a heat proof surface. Allow to cool.

Step 2: Pour approximately 3-5mm of activated carbon into the bottom of a stainless steel container (with lid). Place Prometheus™ Bronze Clay piece/s with at least 15mm spaces in between on top of this layer. Fill the container with activated carbon and replace lid. Carefully place the container into a kiln that has been pre-heated to 800 degrees C. Allow the kiln to reach the target temperature again (800 degrees C) and then time it for 60 minutes. When the firing is completed, either leave it to cool down in the kiln or carefully remove it and place it onto a heat proof surface until it has cooled down enough to remove your piece/s.

When Prometheus™ Bronze Clay is combined with Prometheus™ Copper Clay we suggest using the Activated Carbon method but kiln fire at 800 degrees C for 2 hours.

Finishing Prometheus™ Bronze Clay

1. Brush the fired piece with a stainless steel brush. If necessary, to remove any firescale place it in a pickling solution such as Sparex. After pickling with Sparex, Prometheus™ Bronze Clay pieces need to be rinsed well in water and then neutralised in a Bicarbonate of Soda and water solution. An alternative to professional pickling solutions is vinegar and table salt – this works well when mixed together and used warm.
2. After pickling, rinse the piece thoroughly with water and dry. This will give you a warm reddish bronze colour. For other colour variations, you can use different patina solutions.
3. You can polish the piece with a hand held burnisher, polishing papers, a tumbler or polishing motor. Using polishing compounds can give an extra shine to your finished piece.