



get to grips with METAL CLAY

Metal clays have been available to the public since the mid-1990s. Developed in Japan, bronze and copper clays are now available in addition to silver and gold clays. This issue we look at the range of bronze clays on the market.

Bronze Clay

Bronzclay™ and Fast Fire

Bronzclay™ American scientist Bill Struve was the first person to develop bronze clay, which comes in lump form. He launched his brand in 2008 named Bronzclay™. This clay is very strong and has a long firing schedule. It needs to be buried in activated carbon and fired in a kiln for upwards of three hours. It has lovely working properties and remains somewhat flexible in the dry stage. It is also great to carve. Bill Struve launched his new Fast Fire Bronzclay™ in July 2010, which has a shorter firing schedule whilst retaining all the qualities artists enjoyed about the original Bronzclay™.

Shrinkage of Bronzclay™ is 17%-20%, package sizes 30g, 100g, 200g.



Single Stage Firing Schedule for Bronzclay™: Buried in activated carbon, ramp 121°C to 843°C, hold for three hours.

Shrinkage of Fast Fire Bronzclay™ is 5%-10%, package sizes 30g, 100g, 200g. Single Stage Firing Schedule for Fast Fire Bronzclay™: Buried in activated coconut carbon, ramp 829°C to 829°C, hold for one hour.

Hadar's Clay™ Bronze American artist Hadar Jacobson launched a bronze clay powder in December 2009 and has continued to develop the formula, increasing the varieties of bronze clays she sells. Because Hadar's clays come in powder form rather than ready mixed clay, artists can mix up as much as they require making it very economical to use and extending the shelf life.

Hadar has also found some differences in the success of firing depending on whether the kiln used is a brick or muffle construction. The Paragon SC2 kiln which is the most commonly used by metal clay artists is a muffle type.

Hadar's Clay™ Smart Bronze

This is a copper alloy with a 24K gold colour. Shrinkage is 23.5%, pack size – 50g powder. Single stage firing schedule: ramp at 778°C to 799°C (muffle) or 776°C (brick), hold for two hours. Thicker pieces may require pre-firing. Always make test pieces before firing your creations.

Hadar's Clay™ Quick Fire Brilliant

Brilliant This is bronze with a golden colour. Hadar's Clay™ Traditional (Flex) Brilliant is a gold colour and most suitable for making flexible clay.

Shrinkage is 28.5%, pack sizes – 50g and 100g powder Two Stage Firing.

Firing schedule first step: Pre-fire on stove top or in the kiln at 538°C (brick) or 593°C (muffle) with pieces resting on carbon but not covered by it.

Second step – Cover with carbon, ramp at full speed to 793°C (brick) or 821°C (muffle) and hold for two hours.



Hadar's Clay™ Traditional (Flex)

Brilliant This is most suitable for making flexible clay and is a yellow colour.

Shrinkage is 15%, pack size – 100g powder. Two Stage Firing: Firing schedule first step – Pre-fire on stove top or in the kiln at 538°C (brick) or 593°C (muffle) with pieces resting on carbon but not covered by it.

Second step – Cover with carbon, ramp at full speed to 793°C (brick) or 821°C (muffle) and hold for two hours.

Hadar's Clay™ Quick Fire Bronze XT

This is a high-fire version of Quick Fire Bronze. It can be fired at a much higher temperature than Quick Fire Bronze, allowing it to be fired together with some of the other varieties of Hadar's clay. It is a dark bronze colour. Shrinkage – 15%, pack sizes – 50g and 100g powder.

Two Stage Firing - Firing schedule first step - Pre-fire on stove top or in the kiln at 538°C (brick) or 593°C (muffle) with pieces resting on carbon but not covered by it. Second step – Cover with carbon, ramp at full speed to 927°C (brick) or 971°C (muffle) and hold for two hours.

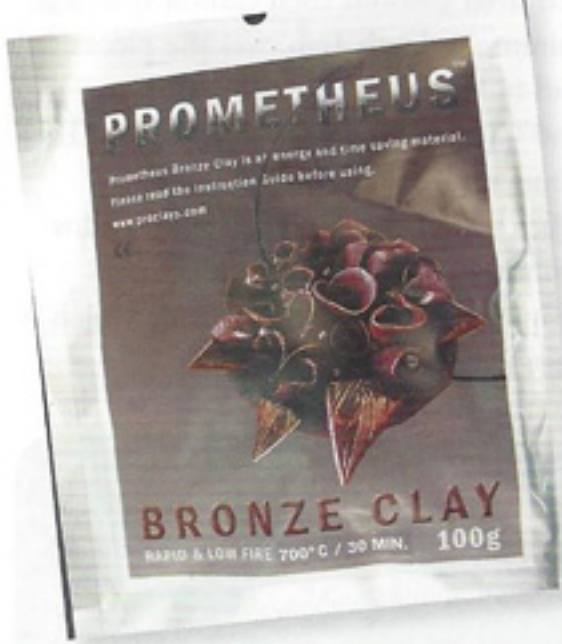
Hadar's Clay™ Rose Bronze

This is a pink coloured bronze. Shrinkage – 10%, pack size – 50g powder. Two Stage Firing - Firing schedule first step - Pre-fire on stove top or in the kiln at 538°C (brick) or 593°C (muffle) with pieces resting on carbon but not covered by it. Second step – Cover with carbon, ramp at full speed to 927°C (brick) or 971°C (muffle) and hold for two hours.

Hadar's Clay™ White Bronze

This is a silver coloured bronze. Shrinkage is 10%, pack sizes – 50g and 100g powder.

Single stage firing: Cover with carbon, ramp at full speed to 676°C (brick), 718°C (muffle), hold for two hours. Pieces weighing less than 100g can be held for one and a half hours.



Prometheus™ Bronze Clay

Prometheus™ brand bronze clay was developed in Turkey. This bronze clay has a shorter, lower temperature firing schedule without the need for activated

carbon. It still needs a kiln to fire it for best results. Prometheus™ bronze clay is available as lump clay and in syringe form.

Shrinkage – 6%-8%, pack sizes – 100g and 200g lump clay, 10g syringe.

Firing method one: Put the piece into a kiln, which has been pre-heated to 820°C, then fire for 30 minutes. Quench in water immediately after firing and pickle in an acid solution to remove oxidation.

Firing method two: First stage - open shelf firing in a pre-heated kiln at 500°C for 10 minutes or with a gas torch to burn the binder off. Second stage firing - Place the pieces on 3cm of activated coconut carbon in the bottom of a stainless steel container at least 1.5cm apart. Fill the container with carbon covering the pieces and fire in a pre-heated kiln at 820°C for one hour.

This bronze can also be torch fired for five to ten minutes although this can result in significant oxidation which can be difficult to remove.

Creative Bronze Clay

The PMC Studio in the UK launched Creative Bronze clay in October 2011. This is made in Turkey by the same manufacturer as Prometheus Bronze clay and works the same way. Shrinkage is 6%-8%, pack sizes – 20g, 50g and 100g, 10g syringe. Single Stage Firing: Preheat the kiln to 800°C. Tightly wrap or cover the pieces in kiln blanket, put into the kiln and fire for 30 minutes. Remove from the kiln immediately after firing and quench in water, then pickle to remove oxidation.

With a torch for a minimum of seven minutes but for best results, kiln fire. It can also be fired buried in carbon.

Noble Clay™ Bronze Dark,

Hard and Soft Versions

Noble Clay™ Bronze Dark was launched in 2012 and is available in both lump clay and powder form. It is a dark bronze colour when polished. The Hard and Soft versions give differences in working consistency but the end product is the same.

Shrinkage is 10%-14%, pack sizes – 55g, 110g, 220g and 330g lump clay. 55g and 110g for powder.

Two Stage Firing: First stage – place the item on 2cm of activated coconut carbon in a stainless steel container and fire at 530°C until the binder burns off.

Second stage – items fire at 840°C for varying amounts of time depending on their size and thickness. A minimum firing time for 2mm thick pieces is one hour. Maximum firing time for pieces over 6mm thick is four hours. Always do a test first.

Noble Clay™ Bronze Classic Colour,

Hard and Soft Versions

Noble Clay™ Bronze Classic Colour is available in both lump clay and powder form. This is a classic golden bronze colour when polished. The Hard and Soft versions give differences in working consistency but the end product is the same.

Shrinkage is 10%-14%, pack sizes – 55g, 110g, 220g and 330g lump clay. 55g and 110g for powder.

Two Stage Firing - First stage – place the item on 2cms activated coconut carbon in a stainless steel container and fire at 530°C until the binder burns off.

Second stage – items fire at 840°C for varying amounts of time depending on their size and thickness. A minimum firing time for 2mm thick pieces is one hour. Maximum firing time for pieces over 6mm thick is four hours. Always do a test first.

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Goldie Bronze™ Clay

Goldie Bronze™ clay has been developed in Poland by Waldo Ilowiecki and launched in August 2012. It is a beautiful golden colour after polishing and is very hard and strong, making it great for rings and bangles. It is available in two types of powder – soft and hard. The soft is ideal for working with stamps and textures and is great for capturing fine details. The hard variety is a stiffer clay to work with so is great for things you need to hold their shape like bangles or larger vessels.

Shrinkage is 8% - 11%, pack sizes – 50g and 100g powder.

Two Stage Firing: Stage One – Put a 1cm layer of activated coconut shell carbon in the bottom of a stainless steel box and lay the pieces on top of the carbon at least 1cm apart. Fire at full ramp to 350°C and hold for 30 minutes.

Stage Two – Fill the container with activated coconut shell carbon with a minimum depth of 1cm over the pieces, and full ramp the kiln to 820°C, hold for 40 minutes. For larger or thicker pieces, extend the firing time by an hour.

Goldie Roman Bronze™

This is a golden bronze colour and the clay powder is a bit grainier as it has larger than usual bronze particles. After firing and polishing it has tiny bronze speckles that create a sparkling effect.

Shrinkage is 10%-12%, pack sizes – 50g and 100g powder.

Two Stage Firing - Stage One – Put a 1cm layer of activated coconut shell carbon in the bottom of a stainless steel box and lay the pieces on top of the carbon at least 1cm apart. Fire at full ramp to 350°C and hold for 30 minutes.

Stage Two - Fill the container with activated coconut shell carbon with a minimum depth 1cm over the pieces, and full ramp the kiln to 845°C, hold for one and a half hours.

Goldie de la Rosa Bronze™

This is a pinkish colour after polishing and comes in powder form. Shrinkage is 11%-14%, pack sizes – 50g and 100g powder.

Two Stage Firing - Stage One – Put a 1cm layer of activated coconut



shell carbon in the bottom of a stainless steel box and lay the pieces on top of the carbon at least 1cm apart. Fire at full ramp to 350°C and hold for 30 minutes.

Stage Two - Fill the container with activated coconut shell carbon with a minimum depth 1cm over the pieces, and full ramp the kiln to 935°C, hold for one and a half hours.

Goldie Snow Bronze™

This is a white coloured bronze which comes in powder form. Shrinkage – 16%-30%, pack sizes – 50g and 100g powder. Two Stage Firing - Stage One – Put a 1cm layer of activated coconut shell carbon in the bottom of a stainless steel box and lay the pieces on top of the carbon at least 1cm apart. Fire at full ramp to 350°C and hold for 30 minutes.

Stage Two - Fill the container with activated coconut shell carbon with a minimum depth 1cm over the pieces, and full ramp the kiln to 730°C - 760°C, hold for 1 hour 50 minutes. The temperature used depends on the efficiency of the kiln and smaller kilns will normally require the higher temperature. Do the tests to decide which is best for your kiln. ■

Next issue we'll be looking at the copper clays available.



SEEMORE

Next issue we will be looking at more of the metal clays available, including Copper and Steel clays.

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