

## The quick firing, user friendly copper clay!

Art Clay Copper is a clay material that you can use to make a wide range of pieces, these may include jewellery, art design models or sculptures. Art Clay Copper can be fired in an electric kiln without the restrictions of activated carbon or cumbersome containers.

Early testing has also shown amazing results with Art Clay Copper fired using a butane torch. This additional firing option now opens the door for many more people to work with Art Clay Copper.

The shorter firing time of 30minutes allows for Copper Clay to be used or taught as a single day class or workshop. Reduced firing time also takes away the anxiety of damage to expensive kilns caused by very long, hot firings.

## Safety Issues

Wash hands well after using the product

Projects will be very hot after they have been fired. Use proper heat resistant equipment when moving pieces to and from your kiln or firing area. Never ever place hot pieces on flammable surfaces.

If the product comes into contact with eyes or mouth, rinse well with running water to prevent irritation.

Some people may have a sensitivity to copper. The severity can vary from individual to individual. A typical, very minor reaction is a light green tinge to skin that has had prolonged contact with copper. This is a natural reaction between copper and the metals in your body.

Always consider wearing a dust mask when sanding Art Clay Copper.

If you do have an extreme sensitivity to copper, working and wearing items made from the product may induce an allergic reaction. If in doubt, please seek qualified medical advice.

Please follow the written instructions carefully. Do not use this product for any other purpose, other than those appropriate for metal clay.

## Recommended Tools

Tools that are recommended for all other Metal Clay are also perfect for Art Clay Copper. We strongly recommend that a separate set of tools is kept for each specific medium, to avoid cross-contamination between different metals. If this is not possible it is very important to thoroughly clean all tools in between use. Never reuse sanding paper, polishing paper or nail files with different metals.

## Standard Tools

Portable, sturdy work surface

Thin, non stick surface (Teflon)

Rolling Tool (Acrylic Roller or Cool Roller are good choices)

Spacers

Small Paintbrushes

Straws

Measuring Tool (Ruler or Tape)

Craft Knife

Tissue Blade

Small File Set

Toothpicks or Needle Tool

Burnishing Tool/s

Tweezers

Rubber Block

Firing Equipment

Copper Tongs for Pickling Agent

Pickling Agent (Sparex)

# Specialty Tools

Silicone or Rubber Tipped Shaping Tools (Clay Shapers)

Clay Sculpting Tools

Rubber Stamps

Texture Sheets

Ceramic Scraper

Magnifying Glass or Lens

Shape Cutters - Makins/Kemper

Patinas - Liver of Sulphur, Baldwins

Specifically shaped brushes

Gemstone setting tools/burs

Mandrels - Ring or Bracelet

Hand Drill - Pin Vise

Engraving Tools

Clay Extruder - Makins Ultimate Clay Extruder

Embossers - Ball Tools

Tumbler

Dremel or other electric burnishing/polishing tool

## Tips and Techniques for Art Clay Copper

The percentage of copper in Art Clay Copper in the clay state is 90%. The balance is made up of moisture and organic binder. Plan for a shrinkage rate of 10%.

To join layers together, seal seams, fill scratches, attach bails, embed items etc it is possible to make paste out of Art Clay Copper mixed well with a small amount of water. The paste can be applied as needed and dried thoroughly before firing.

Store Art Clay Copper in a zip lock bag. Place the Clay in the Zip Lock Bag, remove air and then place into another air tight container. A glass jar or Tupperware type container works well. Place a moistened sponge or towel in the air tight container - PLEASE NOTE - NOT in the Zip Lock Bag.

After the Art Clay Copper package has been opened - the surface of the Art Clay Copper will naturally start to oxidize and the colour will darken if left in the air. If you see a darkened surface, scrape off the layer and use the remainder to make your project.

Store your Art Clay Copper indoors at a moderate temperature and out of direct sunlight. DO NOT REFRIGERATE

## Tips and Techniques - Continued

Condition and Tools, Moulds, Cutters or Textures with olive oil.

Keep a separate set of tools for your Art Clay Copper - as you should for any other specific metal clay, in order to minimize cross contamination.

Contamination can alter the properties of your projects and produce some surprising and often unpleasant results.

If you are very sensitive to copper, we suggest protecting your hands with a conditioning agent or "Gloves in a Bottle". We suggest wearing also suggest wearing a mask when sanding, especially if you have any breathing afflictions, like asthma.

If needed, reconstitute Art Clay Copper with plain water.

Add colour to fired pieces using Liver of Sulphur or by flash - heating with a hand held butane torch.

The shelf life of Art Clay Copper is 6 months. Please use within this time and as soon as possible after opening any package.

### Drying Art Clay Copper

Dry Art Clay Copper completely after moulding. The dry clay will become as hard as plaster and can be easily drilled, filed and sanded with hand tools and equipment.

Please follow the drying instructions below:

Hair Dryer - Hot Setting - At least 20 minutes

Electric Hot Plate/Coffee Pot Warmer - More than 10 minutes at 148.8C

Toaster Oven - More than 10 minutes at 148.8C

Natural Air Drying - At least 24 hours

When you think your Art Clay Copper piece is dry - place it on a stainless steel plate, mirror or glass plate. Leave for 10 seconds - if you do not see any condensation, drying is complete. If any condensation is present, continue the drying process in 10 minute increments, until the piece is bone dry.

PLEASE NOTE - NEVER dry Art Clay Copper projects over 248.8C or the binder will be destroyed. This will deform the shape of your project during the firing process.

# Firing Art Clay Silver Copper

There are multiple options available when firing Art Clay Copper. This is a new and exciting consideration when compared to the other Copper Clays.

## Kiln Firing Art Clay Copper

Pre-Ramp the Kiln to 970C

Place your project into the preheated kiln at 970C and hold for 30 minutes. Always use safety precautions and proper equipment when placing pieces into or taking pieces out of a kiln.

Remove the red hot pieces with long tongs or long tweezers IMMEDIATELY after firing is complete and quench in cool water.

If you do this most of the oxidized layer will peel off and reveal perfect copper beneath.

**PLEASE NOTE\*\*\*\*\*: If a red hot piece of Art Clay Copper is allowed to cool in the kiln or in the open air after firing, the oxidized layer will be thicker. As the piece cools and contracts, small oxidized bits may be propelled into the surrounding area. If you have fired a piece and do not intend to immediately quench it, cover it immediately with a ceramic fibre blanket until it is cool. This applies to both Kiln and Torch firing.**

Placing your finished piece into a kiln at room temperature - firing it up to the listed temperature at maximum speed - then timing for 10 minutes - is possible but pre heating the kiln method, is recommended.

## Torch Firing Art Clay Copper

Place project no larger than a 50cent piece and 35grams weight on a Fibre Brick and heat with a bushy flame until cherry red. This will be for at least 3-5 minutes, depending on size. Pieces 10grams or less and 1mm and less in thickness can fire for 3 minutes. Pieces up to 25grams and 2.5mm thick, can fire for 5 minutes.

Remove the red hot project with long tongs or long tweezers directly after firing is completed. Immediately quench in cool water, so that most of the oxidized layer peels off to reveal perfect copper beneath.

**Refer to important note above \*\*\*\*\***



## Finishing Art Clay Copper

Technically there are 2 steps to the final finishing of Art Clay Copper: Pickling and Burnishing/Polishing

**Pickling:** Place a fired piece into a solution made with pickling powder and distilled water. We choose to use Sparex as our pickling powder. Heat the pickling solution to hasten the removal of the oxidization. Immerse the project for 15 minutes or until the firescale is gone. Use a polishing point with a Dremel or similar rotary tool to remove any oxidized layers around detailed designs.

**Please always be environmentally responsible and follow the instructions included with the pickling powder - for safe disposal of pickling solution.**

**Burnishing/Polishing:** After firing the piece is pure copper. To enhance its natural lustre, you can finish with a metal brush, burnisher, polishing papers, polishing points or a tumbler.

**NOTE:** Thoroughly clean your tumbler and tumbling media before and after polishing the copper. Use a separate set of burnishing/ brushing and polishing tools so as not to contaminate subsequent projects using any other metal.

## Embellishing Art Clay Copper

Art Clay Copper does have a high kiln firing temperature and not all Metal Clay decorations will be suitable for use with this clay. It is currently not a recommendation to fire cubic zirconia with Art Clay Copper unless you know the stones can handle the time and temperature requirements for firing Art Clay Copper. However small Cubic Zirconia's may be used if you are torch firing your Art Clay Copper project.

Art Clay Copper fires very well with silver clay providing the Art Clay Copper is fired first. It may also need to be pickled to remove any firescale, before adding the silver clay components. Combine **fired** Art Clay Copper with **unfired** silver clay, taking into account silver shrinkage And how the silver clay will attach to the copper during firing. Fire the combination piece using the silver clay firing specifications, pickling the finished item if necessary.

We encourage you to experiment with these new Metal Clays. Testing the boundaries is sure to yield many more design opportunities!