



**Hadar Jacobson**

Art in Metal Clay

[hadarjacobson@gmail.com](mailto:hadarjacobson@gmail.com) • [www.hadarjacobson.com](http://www.hadarjacobson.com)

## Instruction Manual for Hadar's Clay™ Friendly Bronze™ and One-fire Mokume-gane Sampler

March 2014



## Why Friendly Bronze?

Hadar's Clay Friendly Bronze has been developed for two reasons: 1. to simplify the firing process (it can be fired in one phase only); 2. a mid-fire bronze clay is necessary for creating mokume-gane patterns. Those objectives cannot be achieved at high-fire schedule.

Friendly Bronze is a mid-fire clay. It can be combined with Friendly Copper and Pearl Grey Steel XT (included in the sampler) in one piece to create mokume-gane patterns.

Friendly Bronze is suitable both for beginners and for experienced users of base metal clay.

Hadar's Clay Friendly Bronze is the same as the other varieties of Hadar's Clay in terms of shelf life, storage, toxicity, mixing, consistency, etc. (see the [Instruction Manual for Hadar's Clay](#)). It does not contain allergenic ingredients such as nickel.

## Color

Friendly Bronze is similar in color to Brilliant Bronze.

## Shrinkage

Friendly Bronze shrinks 15% by volume. Rings shrink 1.5 sizes.

## Compatibility

Compatible with Friendly Copper and Pearl Grey Steel XT. Not compatible with Quick-fire Copper.

## Firing Schedule

For best results use coconut shell carbon and a round stainless steel pet dish.

Friendly Bronze, on its own and in combination with Friendly Copper and Pearl Grey Steel XT is fired in one phase at mid-fire schedule.



## One-Phase Schedule

### Brick kiln

Ramp at  
1800°F/1000°C per hour to 1510°F/820°C  
Hold for 2:00 hours.

### Muffle kiln

Ramp at 1400°F/778°C per hour to  
1560°F/850°C  
Hold for 2:00 hours.



## Post-firing treatment

Friendly Bronze on its own does not require any treatment.

Mokume-gane pieces should be sanded smooth and treated with Baldwin's Patina to highlight the contrast between the colors.

You can find instructions for mokume-gane designs in my books: *Patterns of Color in Metal Clay* and *Metal Clay Practice*.

For detailed instructions for Hadar's Clay see the general [Instruction Manual for Hadar's Clay](#), available on the right-hand pane of [Hadar's Blog](#).

