



Hadar Jacobson

Art in Metal Clay

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Instruction Manual for Hadar's Clay™ Quick-fire (2-phase) Clays



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Introduction

Hadar's Clay™ Quick-fire clays are an older version of Hadar's Clay. They require a long firing schedule which consists of two phases, with a cooling phase in between. Due to the temperature changes, cracks may occur and re-firing may be required.

Hadar's Clay Quick-fire clays have a very long shelf life and nice consistency, are non-toxic, and do not contain allergenic ingredients such as nickel.

Hadar's Clays™ come in the form of powder. The powder is already mixed with a binder and all you have to do is add water. The clay is very forgiving, soft, pliable, and sticks well to itself. It mixes quickly, with no mess.

A video showing how to mix the clay can be seen at:
www.youtube.com/watch?v=IR72HKXsln4

Quick-fire Clays

This group includes:

- Quick-fire Copper
- Quick-fire Bronze
- Quick-fire Brilliant Bronze
- Quick-fire Rose Bronze

Traditional/Flex:

- Copper
- Bronze,
- Brilliant Bronze,
- Rose Bronze
- Pearl Grey Steel



Shrinkage

Tested at 6 cards thickness, Quick fire Copper and Rose Bronze shrink by 25%; rings shrink 1½ sizes. Quick-fire Bronze and Brilliant Bronze shrink by 15%; Rings shrink 1½ sizes.

Compatibility

Quick-fire clays cannot be fired in combination with One-fire clays except for One-fire Low-shrinkage Steel *XT*, Pearl Grey Steel, and White Bronze. In any combination, a 2-phase firing schedule should be used.

Firing Schedules

Here is a general firing schedule which applies to all the Quick-fire clays:

Brick kiln

Ramp at 1800°F/1000°C per hour to 1000°F/538°C

Hold between 1:00 to 2:00 hours

Cool to 450°F/230°C or to room temperature.

Ramp at 1800°F/1000°C per hour per hour to second hold temperature

Hold for 2:00 hours.

Muffle kiln

Ramp at 1800°F/1000°C per hour to 1100°F/593°C (first hold temperature)

Hold between 1:00 to 2:00 hours

Cool to 450°F/230°C or to room temperature.

Ramp at 1800°F/1000°C per hour per hour to second hold temperature

Hold for 2:00 hours.

The table below shows the individual firing schedule for each clay:

Clay	Firing temperature
Quick-fire Copper	1850°F (brick kiln) 1900°F (muffle)
Quick-fire Rose Bronze	1700°F (brick kiln) 1750°F (muffle kiln)
Quick-fire Bronze	1510°F (brick kiln) 1560°F (muffle kiln)
Quick-fire Brilliant Bronze	1460°F (brick) 1510 F (muffle kiln)
Copper with Low-shrinkage Steel XT	1850°F (brick kiln) 1900°F (muffle)
Copper with Bronze/Brilliant Bronze	1510°F (brick kiln) 1560°F (muffle kiln)
Rose Bronze with Pearl Grey Steel	1510°F (brick kiln) 1560°F (muffle kiln)
Bronze/Brilliant Bronze with copper and Pearl Grey Steel (mokume-gane combination)	1510°F (brick kiln) 1560°F (muffle kiln)

Traditional/Flex Clays

Traditional/Flex clays fire the same way as Quick-fire clays. They have a specialized application and are not recommended for beginners. Mixing them with glycerin makes clay that stays flexible after it has been dried. Flexible clay allows you to weave, fold, and knot with dried clay. See instructions for making and using flexible clay in my book [*The Handbook of Metal Clay: Textures and Forms, 2nd edition*](#). To see a demo video clip, go to [youtube.com/artinsilver](https://www.youtube.com/artinsilver), select the Videos tab, and click on the video entitled "Hadar's Clay™ - Mixing Instructions."