

# MICROFUSION

The Microfusion Kiln From Jen-Ken Kilns  
User Directions and Operation Sheet



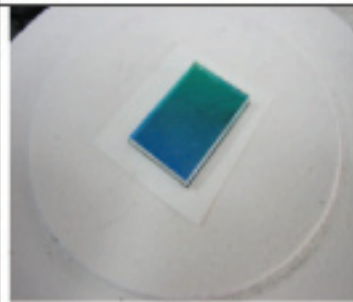
Use your own all metal interior microwave oven. The interior must be at least 8" tall inside, with a minimum 3" space from the top of the microwave interior to the top of the kiln. Microwave should be at least 1000 watts for best results. We recommend **NOT** using the same microwave for food preparation and kiln fusing.



Remove the glass tray and turntable from the microwave before placing the kiln inside. Place the kiln on the included kiln posts inside the microwave to keep the kiln above any protruding mechanisms associated with the turntable, (as shown above) and to keep the firing surface level.



Mix glass kiln wash with water and apply several thin coats on the base to protect the firing area on the base. Allow to dry completely before use. Add shelf paper cut larger than the piece to be fired on top of the kiln washed base. **Never fire glass directly on an unprotected base or the glass will stick.**



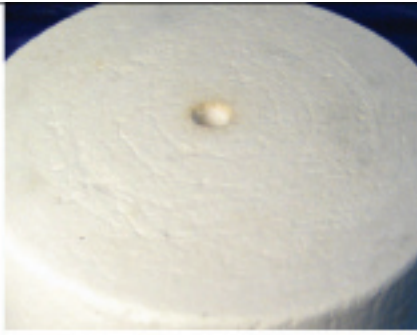
Shelf paper may cause a little burning smell as the binder in the paper burns off, and is only good for one firing. Use a new piece of shelf paper each time.



Place the pieces of glass onto the base area. Two layers of glass works well. Three layers requires some trial and error to accomplish successfully. Making the middle layer with smaller pieces of glass helps. An example of this is placing clear on bottom, small dichroic pieces in the middle, and clear on top.



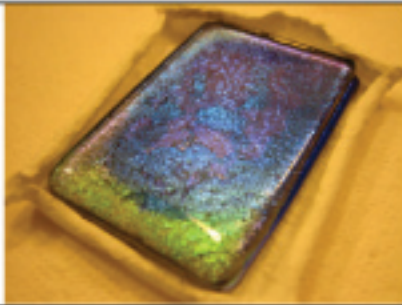
Place the base into the microwave oven. Then place the top of the kiln onto the base. To become more familiar with your kiln, several test firings are suggested. If using a microwave with less than 1000 watts of power, try a 4 minute firing. As needed, add 30 seconds on successive firings until you achieve your desired results.



The hole in the top glows orange when the kiln is at fusing temperatures. It may take a few attempts to figure out the ideal firing times, usually between 4 to 7 minutes. After the initial 4 minutes, take the kiln out of the microwave and set on a non-flammable rack to cool. Do not open the kiln for 30 minutes. The fiber module could cool too quickly and thermal shock the kiln body.

Carefully remove the kiln wearing gloves. The outside does not get very hot on quick firings, however heat resistant gloves of leather, suede or Kevlar are recommended for safety. Do not look at the piece and then immediately add time, thinking it will be done in another minute or two. Let the unit cool for 30 minutes and simply fire again. If you open the kiln while it is cooling your project, the inside heat coating, and the kiln could be harmed by the cool air rushing in.

Do not leave the kiln in the microwave! The heat that builds inside the kiln transfers over time and will heat up the inside of the microwave oven. Remove the kiln and place it on a metal trivet or an elevated 6" x 6" ceramic tile. Do not place on wood, formica, plastic, or stone. The kiln needs air space under it to prevent heat from transferring through the bottom of the kiln. Let cool 30 minutes before opening.



This two layer piece was fired for 5 minutes and 30 seconds. It fused well, with nicely rounded edges.

All of these earrings were fired at the same time in the kiln. While these were firing, another batch was being cut and planned out.

### MicroFusion Firing Rules:

- Using only a larger size (8" high inside) all metal interior microwave oven.
- Remove kiln immediately from the microwave oven, when the firing is complete.
- Use gloves to remove the kiln from the microwave oven.
- Do not fire more than 10 minutes max. The microwave needs to cool down inside from the heat the kiln generates.
- Do not fuse for 8 minutes, then add 2 more, then 1 more. Remove kiln and let it cool down after each firing. Then you can add more time.
- Use only in a safe, low traffic area.
- Keep away from children and pets.
- Do not use the same microwave for food and kiln.

Maximum firing temperature:  
1650 F / 900 C

## **Important Delphi Extended Directions And Safety Warnings**

- A 1000 to 1200 Watt microwave is recommended for use with the Microfusion Microwave Kiln. Do NOT use microwave ovens with plastic interiors. Use only microwaves with metal interiors. A metal interior will make a ringing metallic sound when tapped with the finger.
- Follow ALL microwave manufacturers' safety instructions, especially those referring to ventilation and dedicated plug instructions.
- Do not use an extension cord to plug your microwave into an outlet when using this kiln. Extension cords will affect the electrical currents. Also, electrical currents are not consistent, please be aware that this will also affect fusing times.
- Microwave needs to be free of food and other debris before use with the Microfusion Microwave Kiln.
- Clean the microwave thoroughly after each use with a household cleanser recommended by the microwave oven manufacturer.
- The interior of the Microfusion Microwave Kiln and its contents can reach temperatures up to 1650°F, which is extremely hot. Temperatures this high can cause serious bodily harm and property damage if not handled properly. Keep kiln away from children and pets while fusing and cooling.
- Prolonged heating of the Microfusion Microwave Kiln can cause damage to the interior of the kiln and microwave. Do not exceed 10 minutes of continuous fusing/heating time.
- A minimum 3” clearance must be maintained between the ceiling of the microwave and the top of the kiln.
- DO NOT use a self-lubricated style cutter or oil while cutting any glass to be used in the Microfusion Microwave Kiln. After cutting glass to the desired shape, clean and dry with a lint free cloth. If using fusing glue to hold your glass project in place, make sure the glue is completely dry before firing.
- Do not leave the Microfusion Microwave Kiln unattended while in use.
- Use at your own risk and follow all recommendations and common sense safety precautions.

## After Firing

- Using heat resistant gloves, remove the whole kiln from the microwave oven. Set on a heat resistant pad. The area around the Microfusion Microwave Kiln should be free of clutter and in a safe location. DO NOT allow to cool under an overhead cabinet. DO NOT block the opening at the top of the Microfusion Microwave Kiln.
- Do not remove lid at this time. Removing lid will cause thermal shock, resulting in possible damage to project and kiln.
- Leave the lid on and allow your fused piece to cool for 30 minutes; it could be longer depending on the thickness of the project. You will be tempted to open the lid and look at your piece, please do not, as this can be dangerous and will result in cracked projects.
- Do not reuse the kiln until it has cooled completely for at least 30 minutes. Continuous use without cooling can cause damage to the kiln. Do NOT attempt to speed the cooling process with a fan or other device, allow kiln to cool slowly.
- Your fused project must cool completely before removing from the kiln. This can take up to 40-50 minutes.

### Trouble Shooting

Problem: Cracked glass in the kiln during firing

Solution: Clean and dry glass thoroughly. Make sure glass being used has the same Coefficient of Expansion (COE)

Problem: After glass project cools, fused project cracks

Solution: Cool more slowly. After removing the kiln from the microwave, leave the lid on for at least 30 minutes in an area free of drafts.

Problem: Fused project has sharp edges

Solution: Use a glass file to remove burrs or refire adding an extra 30 seconds until you get the desired results.

