



How to Cast Glass

Five Methods: [Frit Casting](#) [Lost Wax Casting](#) [Glass Paste Casting](#) [Hot Casting](#) [Sand Casting](#)

Glass casting, or kiln casting, is the method of creating glass sculptures by placing glass into a mold and letting it take the shape inside. There are several techniques you can use to cast glass.

Method
1

Frit Casting

- 1** Fill the mold with frit, which is small pieces of glass.
- 2** Fire the mold in the kiln to a temperature between 1,500 and 1,600 degrees Fahrenheit (820 to 870 degrees Celsius).
- 3** Add more frit and refire the mold. The frit in the mold will settle as it melts, so you will have to add more. Continue adding frit and refiring until the mold is completely filled.
 - Remove the mold from the kiln and soak in water until it cools. Add frit, then return the mold to the kiln.
 - Turn the kiln off and use high temperature gloves to reach in and add frit while the mold is still hot.

Method
2

Lost Wax Casting

- 1** Carve the sculpture, also called the positive form, out of wax.
- 2** Cover the wax form with plaster of Paris to create the mold.
- 3** Melt the wax out of the mold.
- 4** Fire the mold in the kiln so it will be hardened enough, or annealed, to cast glass in.
- 5** Fill the mold with frit, then fire it. Add frit and refire until the mold is full.

Method
3

Glass Paste Casting

- 1** Mix very small frit or glass powder with an adhesive made for creating glass paste. The paste is sometimes called "pate de verre." Be sure to wear a dust mask or respirator to keep from inhaling any of the glass powder.
 - Use glass paste when you want to precisely place different colors inside the mold.
- 2** Apply a thin layer of paste to the mold using a brush or palette knife. Allow it to air dry, dry it with a blow dryer or briefly fire it.
- 3** Add a second layer, tamping it down lightly. The combined thickness of the 2 layers should be 1/8 inch (0.3 cm). Repeat this process until all the areas of the mold are filled.

Fire the mold at temperatures between 1,300 and 1,500 degrees Fahrenheit (705 to 820 degrees Celsius). Turn

4 off the kiln and remove the mold when it is at room temperature.

Method
4

Hot Casting

- 1** Create a mold from ceramic and silica or silica sand, and resin. Carve a design into the mold.
- 2** Don cotton clothing, high temperature gloves, and eye protection sufficient for the temperatures in a furnace.
- 3** Heat glass in a furnace until it reaches a temperature of 2,350 degrees Fahrenheit (1,290 degrees Celsius).
- 4** Pour the glass into the mold and allow it to cool.
- 5** Discard the mold after removing the cooled and hardened glass. Molds are destroyed by hot casting and can't be reused.

Method
5

Sand Casting

- 1** Wear cotton clothing, high temperature gloves, and eye protection sufficient for the temperatures in a furnace.
- 2** Fill a wooden template with silica sand and carve a design into it.
- 3** Ladle molten glass into the mold.
- 4** Drop small objects that can withstand the temperature of the glass onto the top, if desired. Allow the glass to cool, remove it, and discard the mold.

Sources and Citations

- <http://www.glass-fusing-made-easy.com/casting-glass.html>
- <http://www.glass-fusing-made-easy.com/frit-casting.html>
- <http://www.glass-fusing-made-easy.com/hot-casting.html>

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