

Steps in Creating Cast-Iron Art

1) Mold

To make cast-iron art, cast-iron artists use a *mold* that is the exact shape and size of the art being created. The *mold* is the container into which liquid cast-iron is poured. It creates the shape of the art when the liquid hardens into a solid. Whether the mold is being made from *plasticine*, *wax*, or the most commonly used material, *direct-carve sand*, the mold is essentially the artwork and the basis for the completed cast-iron art.

2) Heat

In order to create iron to cast into any shape, size or pattern, different materials must be heated together at an extremely high temperature. The heating process changes the combination of materials from a *solid* to a *liquid form*. To heat the materials, a fire is made inside a *cupola*, the materials are added, and the lid is closed. The mixture is heated to approximately 2,800 degrees Fahrenheit. During the heating process, the hole (called a "tap") through which the liquid cast-iron will be poured is sealed to keep the liquid cast-iron from escaping as it melts.

3) Melt

Cast-iron is created by heating together a very specific combination of materials. The first material used to make cast-iron is *limestone*. The second material is *coke*, and the final material needed for the combination is *scrap iron*. When these three materials are heated inside the cupola at approximately 2,800 degrees F, they become a *liquid*.

4) Pour

When the three materials in the *cupola* form a *liquid*, they are ready to be poured. At this point, the cast-iron artists take a sharp pointed instrument called a "stoker" and poke or "tap" through the hole in the *cupola*. A pitcher that has been placed beneath the hole (or "tap") is then filled with the hot, melted *liquid* cast-iron. The artists take the pitcher of melted cast-iron and very carefully fill the molds.

5) Cool

After the *molds* are filled with liquid cast-iron, the air temperature helps cool the liquid back into a *solid*. Once the molds have cooled enough for the cast iron artists to handle, the *molds* are cracked to reveal the finished piece of cast-iron art.

Cast-Iron Art Vocabulary

Coke – Coal that has had its composition changed as a result of being heated to approximately 2,000 degrees Fahrenheit.

Cool – to lose heat.

Cupola – a shaft-like furnace with an opening at the top, which can be closed with a lid.

Direct-carve sand - a mixture of tightly compacted sand and resin into which an image can be carved.

Limestone – a sedimentary rock made of compressed shells, sand, and tiny fossils.

Liquid – able to flow and take the shape of a container.

Melt - lose its distinct outline or shape; blend gradually.

Mold - a container into which liquid is poured to create a given shape when it hardens into a solid.

Pour – to make liquid stream or flow.

Plasticine – a putty-like modeling material.

Scrap-iron – recycled cast-iron and/or iron parts and pieces.

Solid - of definite shape and volume.

Wax - Also called beeswax. A solid, yellowish, non-glycerin substance akin to fats and oils. Wax is secreted by bees, has a malleable texture when warm and melts at about 145 degrees Fahrenheit. Employed in making candles, models, casts, ointments, etc., and used by bees in constructing honeycomb.