

## Types of Products Manufactured with Investment Casting

Many products are made with investment **casting**, especially those that are made with metal. Some products include jewelry, plumbing and pipe fixtures, parts for automobiles, lock parts, turbine parts, hand tools and many others.



Gold jewelry is made using investment casting.

## Resources

### Information:

- <http://www.custompartnet.com/wu/investment-casting>
- [http://www.efunda.com/processes/metal\\_processing/invest\\_casting.cfm](http://www.efunda.com/processes/metal_processing/invest_casting.cfm)
- [http://www.stccasting.com/Investment\\_Casting.asp](http://www.stccasting.com/Investment_Casting.asp)
- [http://www.wtec.org/loyola/rp/fh10\\_03.gif](http://www.wtec.org/loyola/rp/fh10_03.gif)

### Pictures:

- <http://ncgemfest.com/images/ultimate-jewelry-to-create-smile-on-women-face.jpg>
- [http://www.stccasting.com/Investment\\_Casting03.asp](http://www.stccasting.com/Investment_Casting03.asp)
- <http://www.castingquality.com/>

### QUESTIONS? COMMENTS?

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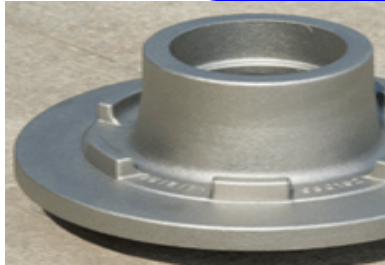
## Investment Casting



Michelle Karker



# INVESTMENT CASTING



Many different kinds of metals can be used in investment casting. This part for a car was made using iron.

## Types of Raw Material:

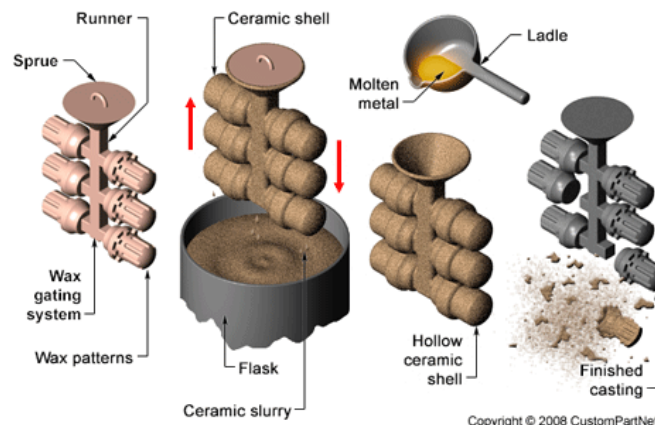
There is a wide range of **raw materials** that can be used with investment **casting**, mostly **metals**. Some include: steel, aluminum, copper, nickel, gold, cast iron, lead, zinc, tin, and titanium.

These raw materials are most commonly used in investment casting because they are high strength, have a good finish and therefore make a good product.

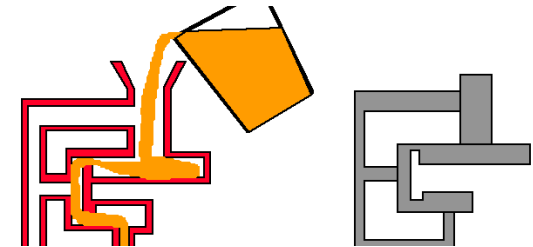
## How investment casting works:

1. Wax is used to make a mold for the product.
2. The wax is coated in a layer of sand.
3. The sand coated wax is placed in an oven to melt away the wax, forming an empty **ceramic** mold.
4. Molten metal is poured into the **ceramic** mold, which is a process called **molding**.
5. The ceramic mold is broken off to reveal the product. It can be broken off using **grinding**, which is the **finishing process**.

Pattern Tree   Shell-Making   Investment Casting   Casting



Intricate metal parts can be made using investment casting.



## Advantages Of Investment Casting:

- Can make intricate patterns and designs (often seen on jewelry)
- Many different options for **raw materials**
- Forms high strength products
- High accuracy, good finish
- No need for extra machining due to high accuracy