**Investment Casting Process**

Pattern Injection → Mold Assembly → Shell Building → Drying → Dewax (Autoclave) → Dewax (FlashFire) → Mold Preheat → Casting → Shell Removal → Cut Off → Finishing → Completed Part

**Today’s Industry**

Investment casting is a $12 Billion industry, with the US accounting for nearly half of the world’s total production.

Companies range from privately owned foundries with sales of less than $500,000 to multinationals producing several billion dollars of product per year.

Industry Infrastructure is multi-tiered, with a diverse supply:
- Equipment Manufacturers
- Direct Material Manufacturers
- Service Provides and System Integrators

**Career Opportunities**

- The industry is led by engineers at all professional levels, from entry level college graduates to chief executive officers.
- Engineers from nearly every discipline can find employment in the investment casting industry.
- The industry is also a major employer of non-degreed skilled labor.
- Investment casting opportunities can virtually be found in every state.
- The Investment Casting Institute is committed to the sustainability of the industry, and is therefore here to help you find your place in the industry.

**Let Us Help You Start an Exciting Career!**

- The Investment Casting Institute will post your resume for its 245 members to review for internships and permanent job opportunities.
- After completing an internship, a student can apply for a scholarship through the ICI.
- The ICI offers students networking opportunities at a variety of events where students can meet industry professionals.
- The ICI highlights top students and their schools every December in INCAST Magazine, the world’s only monthly magazine dedicated to the industry.
- The Institute offers a number of publications, training programs and the world’s only certification program to help you get your career off on the right foot.

**The Investment Casting Institute**
136 Summit Avenue
Montvale, NJ 07645-1720
Ph. (201) 573-9770
Fax (201) 573-9771
ici@investmentcasting.org
www.investmentcasting.org
Investment casting is a metal forming process first used in ancient Egypt and China. Also known as the “Lost Wax” process, investment casting has played a crucial role in modern manufacturing since the development of the first turbine engine.

This process provides:
- High quality surface finish
- Exotic, high performance, high temperature alloys
- Net shape or near net complex shapes and configurations – minimizing or eliminating machining, assembly and costs

Investment Casting Process

**Wax Pattern Manufacture**

- To produce an investment casting, wax is fashioned into the desired shape of the finished product either through injection of wax into a mold, 3D printing or hand fabrication, resulting in a “pattern.”
- Typically, multiple wax patterns are assembled onto a wax sprue, forming what is often called a tree or a cluster.

**Dewax and Casting**

- Once cool, the shell is removed by either mechanical or chemical means.
- The parts are cut off and finished for end use.

Markets Served by Investment Casting

- Aerospace and Defense
- Transportation
- Power Generation
- Oil and Gas Exploration
- Orthopedic Implants & Medical Equipment
- Food Processing Equipment
- Fine Art and Jewelry
- And much more!