

Microfond bresciana is a skilled company producing steel components of complex shape through investment casting (lost wax process) and M.I.M. (Metal Injection Moulding) Technology.

Although parts produced with these two methods have similar properties process phases are quite different: in Fact

Investment casting (Lost wax) process phases are:

- 1) Mould construction to inject wax patterns
- 2) Injection of wax patterns through hydraulic presses
- 3) Assembly of wax patterns on wax clusters
- 4) Wax clusters dip in a binder
- 5) Cluster stuccoing with refractory to become a ceramic shell
- 6) Dewaxing through autoclave
- 7) Ceramic shell firing
- 8) Molten metal pouring into shells
- 9) Ceramic shell knock-out
- 10) Parts cut from the steel shell and finishing

Metal Injection Moulding phases are:

- 1) Mould construction to mould green parts
- 2) Moulding of green body parts (metal powder and plastic compound)
- 3) Catalytic thermal debinding to erase plastic compound
- 4) Final sintering

Advantages

Investment casting (lost wax process) or MIM tech is often the best choice and solution when:

- A) Complex shape needed
- B) Welding process are to be avoided
- C) Shapes, geometries and dimensional reproducibility
- D) Surface accuracy (*Ra*: 3,2 max)
- E) Wide range of steel alloys
- F) High alloys waste are to be avoided a

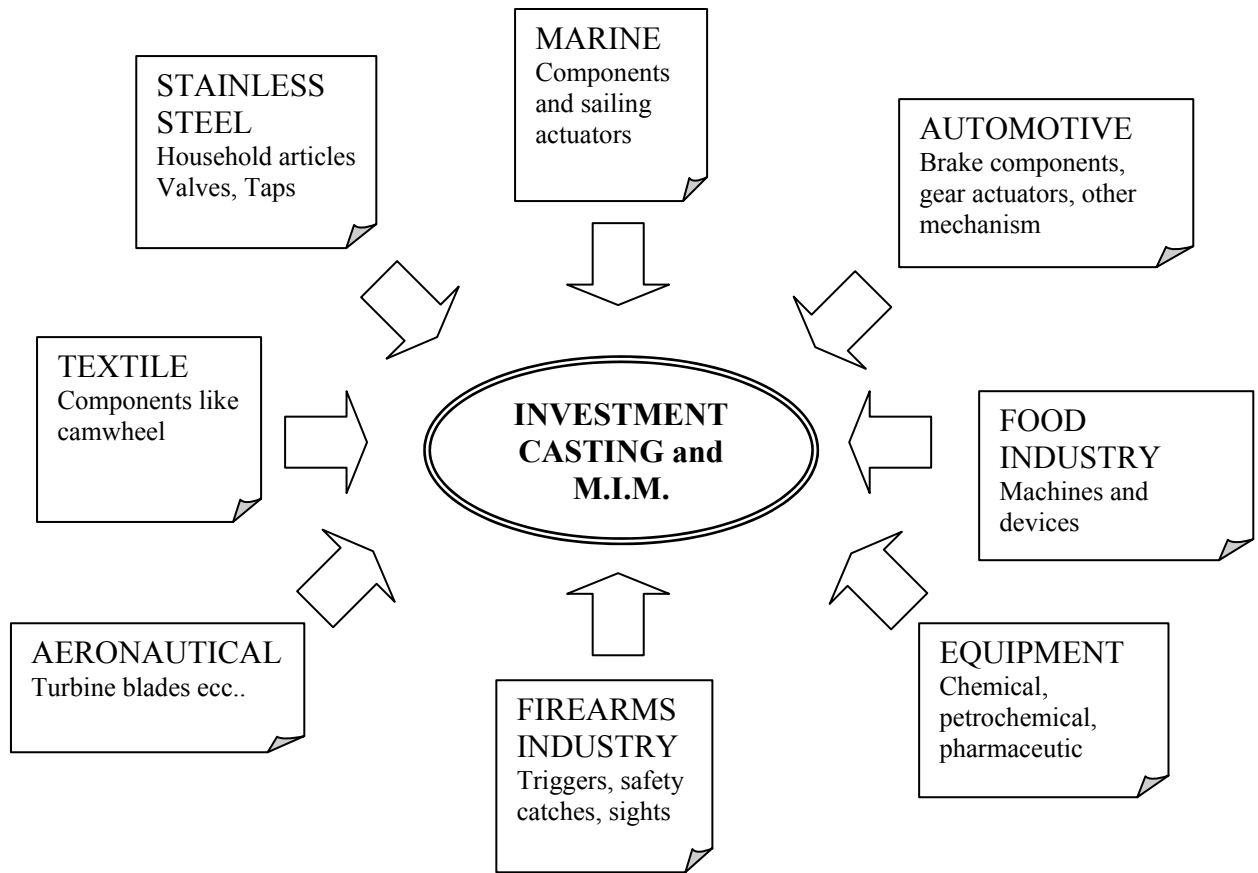
are required

Comparison between investment casting (lost wax process) and M.I.M. (Metal Injection Moulding) technology

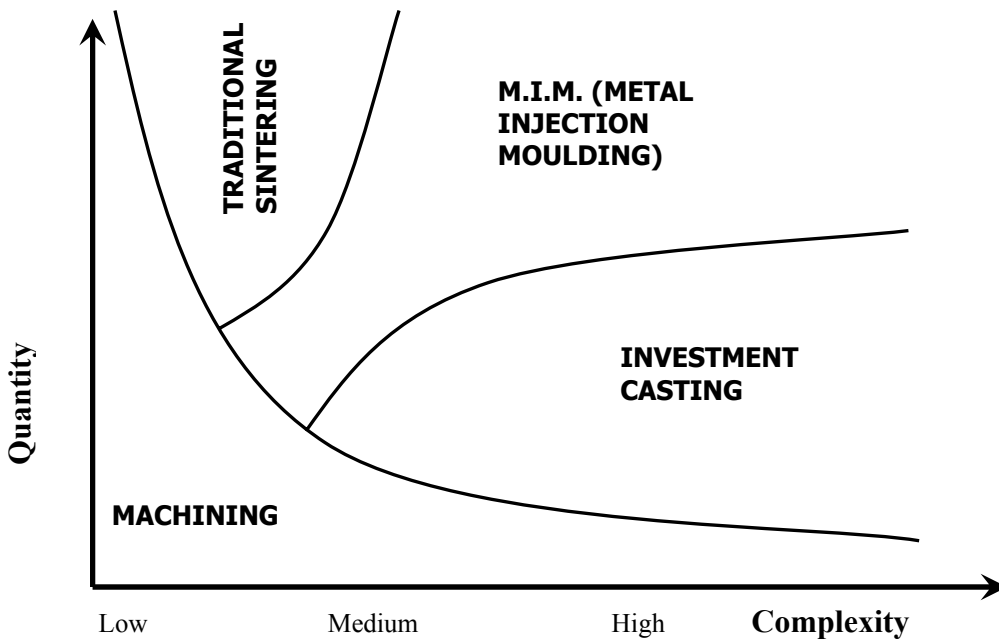
Attribute	Investment casting (Lost wax)	MIM
Precision	± 0.8 % nominal dimension	± 0.5 % nominal dimension
Costs for mould/tooling construction	ex: 2500	ex: 7500
Surface finishing (<i>Ra</i>)	3.2	1.6
Range of alloys	nearly unlimited	minor
Achievable geometrical complexity	medium-high	very high
Weight	5 Kg max	70 grams max

Application fields

Even though investment casting (lost wax process) and M.I.M. (Metal Injection Moulding) were mainly employed for army sector applications, actual production enable Microfond bresciana to supply a wide range of markets and to satisfy all the different project demand



Benchmark



<http://www.microfond.it/>