

Stainless Steel Lost Wax Casting

Some products are peculiar in shape and cannot be produced by processes such as pipe bending when producing stainless steel products. To produce this irregularly shaped (hollow or solid inside) product, a stainless steel casting process with wax, sand and liquid material filling is used. This process is called stainless steel investment casting.

The [benefits of stainless steel investment casting](#)

Compared with other casting methods or other metal forming processes, stainless steel precision castings generally use lost wax investment casting. Stainless steel investment casting has several benefits:

Can improve the utilization of materials

Investment casting can significantly reduce the processing volume of the product, saving processing time and the consumption of processing tools. Scrap stainless steel materials can be recycled: almost all of the casting risers and scrap stainless steel castings in the foundry are reused, which can greatly improve the utilization rate of stainless steel materials. Taking the CA6140 ordinary lathe as an example, when 64 kinds of 74 parts are used in investment casting, the material utilization rate can reach 81.72%, and some parts can reach 100%. When using the forging method to produce interphase parts, the material consumption is 2.8 times that of casting parts.

Precise size and smooth surface

The main features of stainless steel investment castings are: high dimensional and geometric accuracy, and good surface roughness. At present, the dimensional accuracy of stainless steel investment castings can exceed $\pm 0.005\text{cm/cm}$, and the surface roughness can reach 0.63-1.25 microns (equivalent to 7-8 microns)

Can be cast in shape

Complex stainless steel parts Investment casting can cast stainless steel parts with very complex shapes. For example, it can cast stainless steel castings with

a wall thickness of 0.5mm and weights as small as 18kgs. It is also possible to cast a complete stainless steel part instead of several parts welded or assembled, and reduce the weight of the part. Therefore, investment casting can greatly improve the similarity between the blank and the final part, which brings great convenience to the structural design of the part.

Unlimited stainless steel grades

Since stainless steel casting is a custom service for all types of stainless steel components, different grades of the same part can be customized. In the case of stirrups, at the beginning of the sampling process, our customer had some doubts about the performance of CG8M stainless steel and 2205 duplex stainless steel for casting. Therefore, Jccasting offers several samples with two grades for our customers to check, and all are the same size. Therefore, this casting method brings great convenience to our customers when it is difficult to decide the casting grade.