



## Alloy Steel Silica Sol Investment Auto Casting

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### Product Description

#### Alloy Steel Castings

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#### Common Alloyants In Alloy Steel

Strictly speaking, every steel is an alloy, but not all steels are called “alloy steels”. The simplest steels are iron (Fe) alloyed with carbon (C) (about 0.1% to 1%, depending on type). However, the term “alloy steel” is the standard term referring to steels with other alloying elements added deliberately in addition to the carbon. Common alloyants include manganese (the most common one), nickel, chromium, molybdenum, vanadium, silicon, and boron. Less common alloyants include aluminum, cobalt, copper, cerium, niobium, titanium, tungsten, tin, zinc, lead, and zirconium.

Alloying elements are added in alloy steel castings to achieve certain properties in the material. As a guideline, alloying elements are added in lower percentages (less than 5%) to increase strength or hardenability, or in larger percentages (over 5%) to achieve special properties, such as corrosion resistance or extreme temperature stability. Manganese, silicon, or aluminum are added during the steel making process to remove dissolved oxygen, sulfur and phosphorus from the melt.

The following is a range of improved properties in alloy steel castings (as compared to carbon steels): strength, hardness, toughness, wear resistance, corrosion resistance, hardenability, and hot hardness. To achieve some of these improved properties the metal may require heat treating.

Some of these find uses in exotic and highly-demanding applications, such as in the turbine blades of jet engines, in spacecraft, and in nuclear reactors. Because of the ferromagnetic properties of iron, some steel alloys find important applications where their responses to magnetism are very important, including in electric motors and in transformers. The usages and applications for alloy steel castings span a huge variety of industries and types of cast parts.

Material:Alloy Steel

Technique:Silica Sol Investment Casting

Gross Weight:0.5KG

Application Area:Automobile

Product Name:Alloy Steel Part

Anti-Rust:with anti-rust water

Heat treatment:As Cast,ls

Fire, Tempering, Annealing, Quenching, Carburizing, Permeability, Thermal Refining, Hardening are available.





Ningbo Zhiye Mechanical Components Co.,Ltd.

### Aluminum and Stainless steel casting metal products

Material Capabilities	Aluminum alloy A360,A380,A390,ADC-12,ADC-10,brass, copper, brozen, steel, Iron, stainless steel
Manufacture Process	Process/Secondary Maching/Surface Finish
Process	Sand casting/gravity casting/investment casting/lost wax casting
Secondary Machining	CNC turning/milling/drilling/grinding/assembly to Packing
Surface Finish	Chrome plating/sandblastin/painting/anodizing/powdercoating/electrophoresis etc
Tolerance	0.01mm

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Maximum Ton	1800T (From 200T to 1800)
Application	Communication equipments/mechanical equipments/Auto Parts/ Automation machine/medical device/industrial machine/automobile/electric appliance/and other industries etc





Technical	investment casting and CNC Machining
Material	stainless steel , carbon steel , alloy steel
Material Grade	GB, ASTM , AISI , DIN , BS, JIS, NF
Weight	10g~50kg
Accuracy	casting tolerance CT6-CT7, machining tolerance ISO2768-mk
Surface Roughness	up to Ra0.7~Ra3.2
Applied software	ProE (.igs , .stp) , Auto CAD , PDF, Jpeg, Jpg, Png
Production capacity	more than 1500MT per year

Heat Treatment	anneal,quenching,normalizing,carburizing, polishing, plating, painting
Machining Equipment	CNC center , CNC machines, turning machines, drilling machines , milling machines, grinding machines
Measuring Tool	CMM , Projector, pneumatic micrometer, magnetic powder inspection, vernier caliper, depth caliper, micrometer, pin gauge, thread gauge , height gauge
QC system	100% inspection before shipment
MOQ	500kg
Lead Time	sample fast , lot production depends on customers' request
Certification	ISO9001:2015
Payment Terms	T/T , L/C, D/P , D/A
Shipment Terms	FOB , CFR, CIF

### Investment Casting/Lost Wax Casting:

We are specialized in investment casting process,as known as lost wax casting or silica sol casting,as a professional investment casting foundry in Ningbo,China. we focus on casting parts quality,our precision investment casting parts have below four aspects:

Sharp detail	The casting parts have net-near sharp,which can save material & machining cost a lot
Nice surface	Have nice surface smoothness,the investment casting part's surface roughness can reach Ra 6 (Or Ra 250 Micro inch)
Casting tolerance	Have fine dimension accuracy, for critical dimension can reach CT5-CT6 grade,for routine (or normal) dimension,can reach CT6-CT7 grade
Nice straightness	We pay attention to straightness and flatness of casting parts,we use press,fixture and gauge to do the straightening operation

### Casting Flow:

1.Mold and Pattern Making	A mold is built to customer-provided specifications. Cold wax is then injected into the mold to create a wax pattern/prototype that will hold precise dimensional requirements in the final casting
2. Pattern Assembly	The wax patterns are assembled onto the sprue.
3. Dipping and Coating	Successive layers of ceramic and stucco are applied to the sprue assembly to form a hard shell.
4. De-waxing	The molds are flash-fired to remove the wax and sprue materials and then heated to 1800° and

and Firing	placed on a sand bed, ready for pouring
5. Casting	Molten metal, up to 3000°, is poured into the hollow mold and then cooled.
6. Knockout	The ceramic shell is broken off, and the individual castings are cut away.
7. Finishing	Excess metal is removed, surfaces are finished, and castings are heat treated.
8. Testing and Inspection	Castings undergo thorough testing and inspection to ensure that they meet dimensional tolerances and specifications.
9. Packing and Shipping	Castings are securely packaged for shipping to the customer.

Investment casting also called silica sol casting, lost wax casting, precision casting. Material is stainless steel, carbon steel, alloy steel. Standard of GB, ASTM, AISI, DIN, BS, JIS, NF. Our main material grade is 1.4408, CF8, CF8M, 4140, SS304, SS316, 40Cr, 42CrMo, etc.

#### Advantages of Investment Casting:

1. Large application. Not limit to size, thickness and structure, all can produce by casting. Flexible mode of production. Our casting parts mainly use for Pump & Valve industry, agricultural machinery, construction machinery, food machinery, marine hardware, auto parts, etc.
2. A wide range of materials can be used. Extensive use of used metals and renewable resources.
3. Castings have certain dimensional accuracy, small processing margins, the processing time and the metal material are saved.
4. Low cost, good comprehensive economic performance. Low energy, material consumption and cost.



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### Quality Control Documents:



Order review



Make process file



Material report



Processing inspection record



Full dimension  
insprection record



Three coordinate  
inspection report

### Q: Why choose China NingboZhiye Mechanical Components Co.,Ltd.? Any advantages?

A: The answer is Yes. There are 5 advantages.

(1) MUTUAL BENEFIT: Our offer will be reasonable, our price will be cheaper in the same quality.

(2) CUSTOMIZE: We can make the product as your request, Shape and Quality can meet your request.

(3) OEM: (1)Laser Print your Logo. (2)Design your packing box.

(4) MIX ORDER: We accept mix order, different model and small quantity order.

(5) AFTER SERVICE: Can re-back the off-test product or ask back the payment when get the off-test goods and judged off-test by the third testing party .

### Q: Can I order one piece for sample to test the quality?

A: Yes, We recommend to check the sample before order. Please order the sample in our retail store.

**Q: May I have your catalogue and price list for trial order in MOQ quantity?**

A: We mainly produce the product follow the customer drawings . And all our products were shown on <https://www.zhiyecasting.com>, please have a detailed looking and choose the interested models in our site.

**Q: If I want cheaper quality, can you produce?**

A: Yes, just send us your quality details, such as the material, what cheaper parts instead etc, we will do that as your request and calculate the price.

**Q: If I order big quantity, what's the good price?**

A: Please send the details enquiry to us, such as the Item Number, Quantity for each item, Quality request, Logo, Payment Terms, Transport method, Discharge place etc. We will make the accurate quotation to you as soon as possible.