



Casting Material: Carbon Steel BS3146 CLA 1

Type CLA1 is a British carbon steel for investment casting manufacture process only. There are three steel grades: Grade A, Grade B and Grade C.

BS 3146-1 Specification for Investment Castings in metal; Part 1: Carbon and low alloy steels

BS3146 Type CLA 1 Casting Chemical Requirements Composition:

Grade	Carbon %	Silicon %	Manganese %	Nickel %	Chromium %	Molybdenum %	Copper %	Sulphur %	Phosphorus %
A	0.15-0.25	0.2-0.6	0.4-1.0	0.4	0.3	0.1	0.3	0.035	0.035
B	0.25-0.35	0.2-0.6	0.4-1.0	0.4	0.3	0.1	0.3	0.035	0.035
C	0.35-0.45	0.2-0.6	0.4-1.0	0.4	0.3	0.1	0.3	0.035	0.035

Ni/Cr/Mo/Cu total amount shall not exceed 0.80%.

In our experience, the Ni/Cr/Mo/Cu is necessary to promote the tensile strength. when we compare those steel grade with EN10293 and ISO 3755, the tensile strength requirement is higher much than same yield strength steel grade.

BS3146 Type CLA 1 Casting Mechanical Properties at Ambient Temperature:

Steel	Tensile Strength MPa, min	0.2% Proof Stress Mpa, min	Elongation, A %, min
Grade A	430	195	15
Grade B	500	215	13
Grade C	540	245	11

$$1\text{MPa} = 1\text{ N/MM}^2$$

Ambient temperature is taken as 23 ± 5 °C

BS3146 Type CLA 1 Casting Hardness:

Grade	Hardness (HB)
Grade A	121-174
Grade B	143-183
Grade C	163-207





BS3146 Type CLA 1 Casting Heat treatment process: the final heat treatment shall consist of normalizing, normalizing and tempering or hardening and tempering at suitable temperatures to give the mechanical properties.

Similar Steel:

BS 3146	Nf A32-054	DIN	ISO 3755	USA	BS3100	BS970	EN 10293
Grade A	XC18	GS45 1.0446	230-450	C1020/A732 1A IC1020	A1	050A22	GE240
Grade B	XC32	GS52 1.0551	270-480	C1030/A732 2A 2Q IS1030	A2	06032	GE300
Grade C	XC42M	GS60 1.0553	340-540	C1040/ A732 3A 3Q IS1040	A3	060A42	GE300

Manufacture Process: Precision Lost Wax Investment Casting.

SERVICE IN QINGDAO CASTING QUALITY INDUSTRIAL

- I SAND CASTING
- I INVESTMENT CASTING
- I SHELL CASTING
- I PERMANENT MOLD CASTING
- I CNC MACHINING

As a professional casting manufacture, Qingdao Casting Quality Industrial pay much attention to the quality and technology, our products are much more casting and forging parts. We are mainly do Sand Casting, Investment Casting (Lost Wax Casting or Precision Casting) and Die Casting .Today, its products are marketed globally through many countries.

Our Services

Casting Quality focus on Metal Parts industry, we provide professional service in Metal Casting field.

1. Sand Casting
2. Investment Casting
3. Shell Casting
4. CNC Machining
5. CAD Design
6. Tools/Mold Design

Many buyers from all over the world purchase products from China. But do you know the quality of products in China? Maybe you only pay the surface and price, but the inner quality is lost.

Housing Casting Design in Solidworks



What makes Casting Quality the best?

Innovation

Our engineers are more than just designers....they're pioneers. Our team use CAD/CAM to do the simulation of casting parts .Through the advanced technology, we can know the weight and structure. We also visited so many factories to know their difference and improve our products every year.

Quality

We're obsessed with quality. Casting Quality constantly strives to exceed our customers' expectations in durability and performance. In fact, we will control the whole process from the original material to the finished parts , include the technology .Uniquely-designed Quality Control System focuses on ensuring four product goals: 1) Eligible Chemistry , 2) Hardness 3) Property and 4) Affordable Pricing. The result is the best casting products value in the industry.

Service

We're in Qingdao,China, It has convenient transportation of road and sea. Courteous service is part of who we are, and we do it better than anyone in the industry. With Casting Quality you can expect friendly, knowledgeable, and prompt customer service.

Fulfillment

Shipping orders complete and on-time is of paramount importance to our customers. We will count the delivery date and result before accept your order. Casting Quality consistently ranks as one of the best in speed of delivery and fill rates.

Sand Casting

Sand casting is divided into many types: GREEN SAND CASTING, RESIN SAND CASTING AND SODIUM SILICATE BONDED SAND CASTING. Green sand casting is the lowest cost method to get a product, whose surface finish is not good too. Resin sand casting will get a good surface and precision dimensions, so it is widely used in automobile industry.

Casting Quality Industrial mainly cast Gray Iron, Ductile Iron, Malleable Iron, Wear Resistant Cast Iron, Carbon Steel, Stainless Steel, Brass/Bronze and Aluminum.

Unit weight range from 100g to 20tons.



Investment Casting

As highly versatile casting process, Investment Casting has for some time been perceived as a comparatively expensive process. But when compared to alternative processes which require extensive welding or machining, an investment cast component can often dramatically reduce overall part production costs.

Casting Quality Industrial would adapt three investment casting methods to reach our clients' quality requirement: Water Glass (Colloidal Silica-sodium), Silica Sol technology; or Colloidal Silica-sodium Silicate Compound. Water Glass technology is the worst quality but cheapest. Silica Sol technology is the best quality but most expensive. We will analyze the usage and drawings tolerance to choose an economic method.

Unit weight range from 1g to 100Kgs.





Centrifugal Casting

Centrifugal Casting mainly produce the pipes or pipe figure products , such as ductile iron pipe , cast iron soil pipe , glass roller , Furnace Roller and radiant



Lost Foam Casting

Lost-foam casting (LFC) is a type of evaporative-pattern casting process that is similar to investment casting except foam is used for the pattern instead of wax. This process takes advantage of the low boiling point of foam to simplify the investment casting process by removing the need to melt the wax out of the mold. Casting Quality Industrial only supply ductile iron or steel parts by lost foam casting method, such as valve body, impeller, pipe fittings, electrode and simply figure parts .



Die Casting

Die casting is a metal casting process that is characterized by forcing molten metal under high pressure into a mold cavity. Die Casting is generally use to make aluminum and zinc alloy parts.



Permanent Casting

permanent casting and low pressure casting, Casting Quality only used to make aluminum castings, permanent casting can get a better surface and dimensions than sand castings, low pressure casting can get a stably structure which are suitable to the endure pressure parts.





Valve & Fittings



Marine Fittings



Automobile Parts



Accessories

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