

Cast Steel Price Calculator User Manual

This User Guide will teach you how to use our cast steel casting price calculator.

1. Material Grade

Most of alloy cast steel will have the alloy Chrome (Cr), Molybdenum (Mo), Nickel (Ni) and Copper (Cu). These alloy compositions will affect their casting prices directly, so you must input their composition (percentage) into our calculator.

You could search Google to get the chemical composition for your alloy, for example, as for stainless steel 316, you could see its chemical composition is Ni 10.00-14.00, Cr 16.00-18.00, Mo 2.00-3.00. So, you could input our calculator by Ni as 14.00, Cr as 18.00, Mo 3.00.

As for the carbon steel, such as mild steel, medium-carbon steel and high-carbon steel, they do not have certain alloy composition, so you do not need to input any alloy composition, just leave this area as blank.

2. Casting Weight

If you want to get the unit price USD/pcs, then you have to input the unit weight. You may get the unit weight from drawings, after input the unit weight, you need to tell our calculator what unit weight it is. You could choose "Raw casting weight" or "Finish weight".

"Raw casting weight" means the weight for castings before machining, or do not need any machining.

"Finish weight" means the weight for machined casting parts, or the castings after machining process. So, if the castings need further machining works, then the "Finish weight" will be lighter than "Raw casting weight".

Normally, if you get the unit weight from casting drawing, then it should be raw casting weight, but if you get the weight from machining drawing, then it should be the "Finish weight".

If you are not sure about what unit weight you get, then, as our Dandong Foundry's experience, most of them are "Finish weight".

Be careful, this choice will affect the unit weight about 10% or 20%, so you must choose it carefully.

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Why this price calculator can not be used for the castings with unit weight less than 1.0kg?

If the casting unit weight is less than 1.0kg, such as 0.9kg, 0.8kg etc., its raw casting price and machining price will be much higher than the result by this calculator.

If the casting weight is very small, its raw material prices will take small proportion to its price, but the manpower cost will take very high proportion. For example, if its unit weight is 5kg, then one worker can use 10 minutes to grind it, however, if it is only 0.5kg, then one worker may use 5 minutes to grind it, but 10 pcs (total weight 5kg) will use his 50 minutes. In other words, one worker will use 50 minutes to grind total 5kg castings. This is why the smaller castings will need higher manpower costs.

This is only one example. Actually the smaller castings will use higher costs from molding process to machining process.

Therefore, it is difficult to calculate the prices for small castings less than 1.0kg, the machining price must be calculated by the machining process, so have to check the machining drawings.

3. Complexity of Castings

The complexity of the castings will affect their prices. The complex castings will need more materials to make sand cores, and also more works for sand cores making and assembly. Also will cause higher defective rates. All these will affect their prices.

Please choose one as your judgment to the complexity of your casting parts.

"Very Simple" means your casting parts are very simple. Simple shape, no complex inside structures, such as simple plate, rings, balls. Most of counter weights could be taken as very simple.

"Normal" means the casting parts only have one hole or simple inside structure.

"Complex" means the casting parts have complex inside or outside designs, many characters. Not very easy to make.

"Very Complexity" means the casting parts are very complex, choose this carefully, because it will affect the casting prices seriously.

If you are not sure about its complexity, you are better to choose "Normal" or "Complex".

4. Selection of Casting Process

As for the steel castings, there are several different casting processes, or called as casting production methods. The casting processes will affect the casting prices very seriously, choosing

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the suitable casting process will be very important.

If you do not have high requirements to the surface quality and dimensional tolerance, then you could choose the sand casting process, which is the cheapest one. Plus, if your casting part is over 100 kg per piece, then you will have to choose the sand casting process.

If you have certain requirements to the surface quality and dimensional tolerance, you could choose the lost wax investment casting process by water glass material. This casting process is much better than sand casting process, but its price is not low and it can not be used to produce steel castings over 100 kg normally.

If you have very high requirements to the surface quality and very high dimensional tolerance, then you could choose the lost wax investment casting process by silica sol material. This casting process could produce perfect steel castings, however, it can not be used to produce large castings over 50 kg, and its prices are extremely high. Do not choose it as long as you are sure you need it.

For the difference of these casting processes, you could refer to our article [Sand Casting vs. Water Glass Investment Casting vs. Silica Sol Precision Casting](#)

5. Machining Description

Dandong Foundry's casting price calculator could help you to get the machining costs. Of course, the accurate machining cost is very difficult to get unless you are very professional machining engineer, so our calculator is just help you to get the approximate costs.

If you just need raw castings, or the castings do not need further machining, then you should choose "No Machining".

You could check how many positions or surfaces will need machining, if there are many machining positions and surfaces, then you could take it as complex or very complex.

If your casting parts need CNC centers, or very high accurate machining, then you may choose complex or very complex.

If you think there are not many machining positions, or the tolerance is not very high, then you could choose the "Normal Machining".

But please notice that the different machining complexity will affect the machining costs very seriously, so please choose it carefully.

6. Surface Painting and Coating

If you want foundry to paint them or do some certain surface coatings, then you could choose the

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painting method accordingly.

7. Packing and Delivery to Local Seaport

Packing cost means our Dandong Foundry will pack them into fumigation-free plywood crates. We will also deliver them to our local Dalian port, then they will be ready for shipment. This is FOB China terms.

If you want us to pack them and deliver them to the local seaport, then you could choose the options accordingly.

Now, please click the button "**Price Calculation**", then you will see the prices for the casting price, machining price, paint & coating price, packing & delivery cost, and total price.

By the way, the Price Index FG, and RG are only used by us to adjust the prices according to the current material and manpower costs. The exchange rate will be adjusted by us too. So, the users do not need to care about these data.

Please feel free to contact us if you have any question. We will be glad to help you to use our calculator.

Galen Wang.

Manager of Marketing Dept.

LIAONING BORUI MACHINERY CO., LTD
(Dandong Borui & Dandong Foundry)
Tel: 0086-415-6670086
Fax: 0086-415-3356856
Email: sales@iron-foundry.com
Email: galenchina@gmail.com
<http://www.iron-foundry.com>
Address: Donggang, Dandong, Liaoning, China