



OBTAINING AND EFFICIENCY OF STEEL CASTING IN LOCAL CONDITIONS IN MECHANICAL ENGINEERING

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Annotation

The selection is based on the way they are used, taking into account the variety of casting methods. Of course, as we continue our scientific work, we will focus more on the injection molding method.

Keywords: bearing details, ring, casting method, material, shaft, hardness, content, vacuum, impact viscosity.

Introduction

Currently, a lot of work is being done on an industrial scale. In particular, the area of technology is at the top and the use of every piece of equipment or part in this area is very important. If you go deeper, the production of this equipment is a separate area. One of the foundations of manufacturing is solving problems with castings.

On an industrial scale, there are a number of methods for casting liquid metals or alloys into special casting methods.

Material and Methods

If it is necessary to create internal cavities (holes or pits) in cast iron and steel castings, rods used in conventional molds are used, and for aluminum alloys and magnesium alloys, removable metal rods are used. The casting method makes it possible to increase labor productivity, improve the quality of the casting surface and the mechanical properties of the castings, and reduce the thickness of the casting left for cutting.

The centrifugal casting method is used to produce castings in the form of rotating parts such as pipes, bushings, pulleys, wheels, gears, etc. or vertical axis. The centrifugal forces created by the rotation of the mold, and therefore the liquid metal poured into the mold,



press the metal against the wall of the mold, causing the metal to immediately solidify in the mold.

Results

The results show that there is currently a casting work in progress, but mainly due to the fact that we always have different materials for recycling, different results are always achieved. Naturally, the results will be unsatisfactory at first, but we are approaching the indicators we have chosen. We hope to get closer results soon.



Small cast molds are taken first. In fact, it should be so. This makes the job easier and faster. The composition of the material is processed in this order until it gives the expected results. We then carry out chemical analysis during casting. This makes it much easier to achieve results.

If the results are still costly, we will get help from computer programs. This makes things much faster and, of course, cheap. If the computer calculates data close to the result, it will be easier for us to get the result in practice.





As I mentioned above, the results can be achieved with the help of computer programs. In the future, on the one hand, we will try to do this in practice and in computer programs. We are also looking for software now. Of course, how good it is when everything is systematic.

Discussion

The essence of the injection molding method is that liquid metal is poured into a steel mold under high pressure. The resulting casting is non-porous, surfaceless, clean and transparent, easily fluidized alloys of non-ferrous metals, such as alloys of aluminum, zinc and magnesium, complex shapes, thin-walled, accurate dimensions, with a clean surface and weighing up to 50 kg. The casting method is widely used in the production of castings (castings for aircraft, automobiles, motorcycles and other machine parts).

With the help of a liquid model, a casting is made from an easily liquefiable material - paraffin, stearin, wax, etc. - to obtain a casting by casting. For this, a model standard is made of steel, bronze or brass, which is made by pressing the standard into an easily liquefiable alloy. Anna in this 3-6 ATM mold with liquid paraffin, stearin or wax. filled under pressure, a very accurate model is assembled into a block and connected to the injection system.

Molds made using liquid models are made from difficult to machine and difficult to machine alloys. For example, high-alloy steels are especially important in the production of stellite-type carbide castings and others. Although the method of producing castings using liquid models is complex and the resulting castings are expensive, the use of this method is often justified because the resulting castings are so accurate that there is no need to cut or grind, grind and consist only of polishing.

Conclusion

In the case mold casting method, a two-stage cast model is made from metals such as cast iron, and each step of the model is attached to a metal plate. Using this model, Anna makes a shell cast. A mixture of quartz sand powder is used as the material of the molds, and in cases where it is necessary to form internal cavities in the castings, shell rods prepared on special machines are installed on the molds for the shells. Molds allow casting from any casting alloys. In such molds, the dimensions of the castings are accurate.



Activities for the production of castings from alloys of ferrous and non-ferrous metals. In foundry, non-ferrous alloys of non-ferrous metals, copper, aluminum, magnesium and other non-ferrous metals are most often used.

Foundries use various furnaces to liquefy alloys. The type of furnace depends on which alloy is being liquefied. For example, cast iron is mainly used for liquefaction, cupola, small converters for liquefying steel, small open-hearth furnaces, electric arc furnaces.



Castings have chemical and structural defects such as unevenness, sinking voids, porosity and gas bubbles.

Special cavities are made in the mold, called nibbles, to prevent the formation of funnels. When liquid metal is poured into a mold, it fills the mold and changes into the mold, and a depression is formed in the mold, not in the mold, and the mold is cut out of the mold. To prevent the formation of gas bubbles in the casting, before pouring liquid metal into the mold, special reflectors are added to the mold, which determine the number of gas outlet channels in the mold. The sun track is selected correctly; the casting temperature is set correctly.

In short, top-down injection molding has its place in every industry. Of course, if you go back to today's requirements, speed and accuracy are high. In this case, it is advisable to choose the injection molding method. The reason is that this method is highly accurate.



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