

TEACHING THE SCIENCE OF FOUNDRY TECHNOLOGIES THROUGH NEW METHODS IN CONNECTION WITH MANUFACTURING ENTERPRISES

Madaminov Baxrom Mirodiljonovich

Senior lecture (PhD) Fergana Polytechnic Institute

Department of mechanical engineering technology

bahrom.madaminov.1989@mail.ru

Karimov Sarvarbek Farxodjon o'g'li

Fergana Polytechnic Institute

Abstract: This article discusses the role of castings, their types, production in the engineering industry.

Key words: Casting, forging, mechanical processing, hammering

In the rapidly expanding automobile sector, foundry technological science, which is taught in higher education, plays a significant role. A thorough analysis of advanced international educational experiences and the development of socio-pedagogical and didactic elements of adaptation to the conditions of educational institutions are required for the comprehensive changes carried out in our nation's educational system.

Today, it is relevant to consider the teaching of foundry technologies in the technical education process as an important factor in the formation of the scientific world. Because casting technologies play an important role in every field of education of our time.

Casting is an industry that deals with obtaining shaped (shaped) outlines or details by pouring liquid metal into a special mold that resembles a sketch or detail. After hardening, the metal mold retains its shape. The resulting rough cast is called. Casting is the process of preparing a mold that reproduces the shape of the casting, pouring molten metal into it, and separating the mold. In the process of metal crystallization and solidification, the mechanical and operational properties of castings are formed. By casting, various castings can be obtained with mass from a few grams to 300 tons, length from several cm to 20 m, wall thickness from 0.5 to 500 mm. For example, cylinder blocks, pistons, crankshafts, gearboxes and covers, gears, machine frames, rolling mill frames, turbine blades.

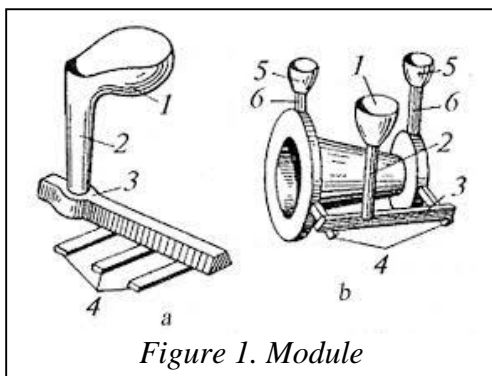


Figure 1. Module

Casting technology uses a variety of techniques, including centrifugal casting, soluble models, metal molds, shell molds, and sand molds.

Zagotovka (ingot) for the machine-building sector is produced in foundries. The liquefied metals of a specific chemical composition are placed into molds of a specific form in the foundry in order to crystallize zagotovka into the required size and shape. During crystallization, the liquid metal precisely duplicates the dimensions and shape of the mold cavity. Then,

zagotovkas go through mechanical processing.

Cast iron, steel, and non-ferrous metal alloys can be produced using foundries in a variety of combinations and with the desired distinctive shapes. Castings' excellent operational and mechanical qualities guarantee their widespread application in industry. Castings (zagotovka) of simple and complex shapes that cannot be created by other technological procedures can be prepared by pouring. Car body pieces, for instance, are frequently cast. Getting castings that are almost the same size and shape as the finished item, which considerably decreases cutting, is a crucial casting task.

In conclusion, it can be said that in teaching the science of foundry technology, it is necessary to bring it into direct connection with production enterprises, because students can make conclusions by seeing the production process with their own eyes. Worldview and attitude towards science will change.

References

1. Information from the internet
2. I.Nosirov. Materialshunoslik.-T.: «O‘zbekiston» 2002.
3. V.A.Mirboboyev. Konstruktion materiallar texnologiyasi.-T.: «O‘qituvchi» 2004

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