

Литье металлов



Презентация

На тему: «Литье металлов»

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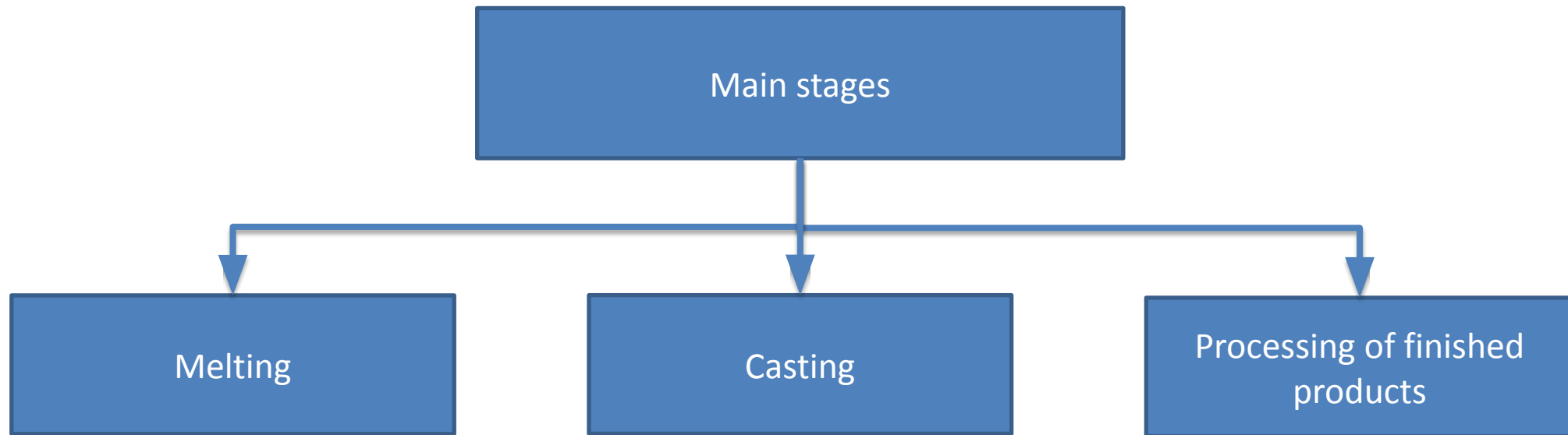
Специальность машиностроение

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- Casting, as a method of processing metals and their alloys, has been used for a long time. The first cast metal objects were found by archaeologists a long time ago. They date back to 10-15 millennia BC, and the first items of artistic casting 3 (Egypt) and 2 (China) millennia BC...

Main stages of production.

- The metal casting process includes the following steps.



Плавка



MELTING is the heat treatment of a CHARGE in a MELTING FURNACE to separate metals from IT.

CHARGE is the material that enters the smelting process. It can be ore, ingots, defective products and remnants from production.

Melting

The ore, often with other ingredients, is heated in a melting furnace and melted, resulting in the removal of non-metallic components from it. Then the resulting metal is cleaned. The particles of one or more metals entering for melting are loaded into special melting furnaces, brought to a liquid homogeneous mass under the influence of high temperature, which is cast into molds to produce ingots.

Melting



When melting metals and alloys, the following protective covers are used to protect melts from saturation with oxygen and other gases from the environment, as well as for the upper thermal insulation of melts:

- Charcoal
- boric acid
- calcium chloride
- sodium chloride
- potassium chloride
- barium chloride

(chlorine-based substances)

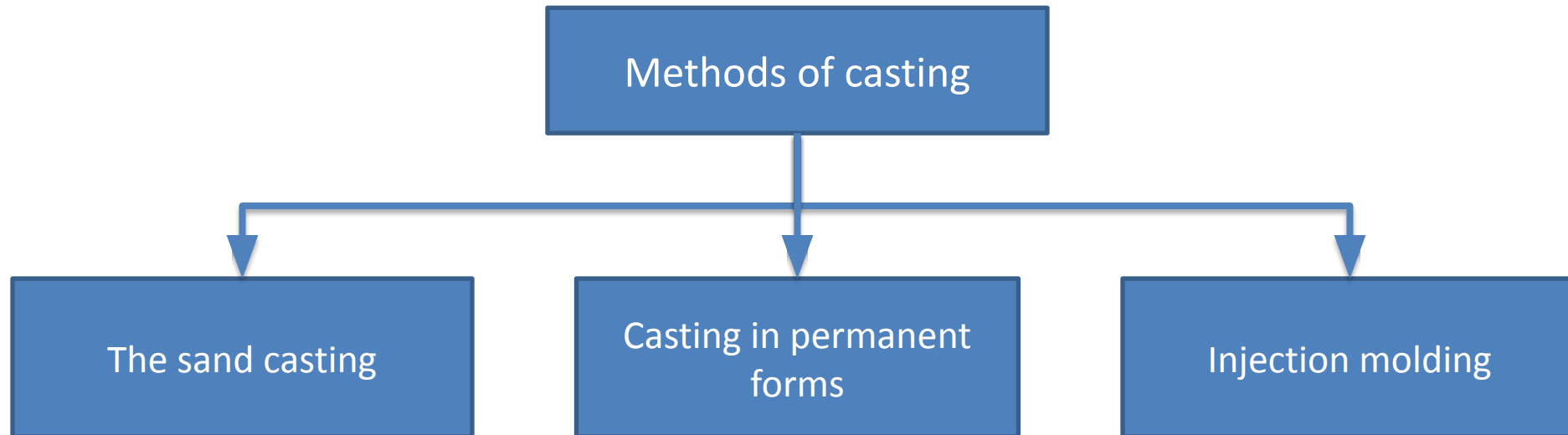
Casting



CASTING is a technological process in which molten metal is poured into molds, where it solidifies, taking their shape. This technology of metal processing has been known since ancient times . Currently, casting is a complex technological process in which production automation is widely used.

Casting

In modern production, the following types of casting are distinguished.



The sand casting



First, wooden templates are made, and sand forms are based on them. After that, the molten metal is poured into the sand mold, which gradually solidifies . When the resulting cast is removed, the mold is destroyed.

Injection molding

- The most promising method of casting is considered to be injection molding. The metal is poured at a high speed, so that all the cavities are well filled, and the casting is quite dense. The disadvantage of this method is the formation of air bubbles in the casting, but thanks to advances in science and technology, these defects are minimized. When casting under pressure, high-quality castings with a clean surface are obtained.



Processing of finished products

- After production, cast metal products are given a marketable appearance, most often cast art, namely, sanded and cleaned. They also remove industrial chemicals that are no longer needed.
- Products are covered with protective solutions that protect the new product from corrosion.

