

1. **Y.V. Zhuharev, E.I. Udaltsova.** Balasheika moulding sands guarantee the quality of castings.

A brief history of education and development ment", ZAO balasheyskie Sands". Presented those technical characteristics of manufactured sand for foundry.

Key words: Molding sand, formoset mixtures.

2. **M.V. Baranov, A.V. Sulitsin, R.K. Mysik, S.V. Brusnitsyn.** Refining of aluminum alloys during the production of foil billets by combined casting and rolling insallation.

The article deals with issues concerning the preparation of the molten aluminum alloy before casting in a combined casting and rolling process in the foil production. The analysis of data on the content of hydrogen and nonmetallic inclusions in various charge materials for melting alloys was carried out. A comparative analysis of the various stages of the refining process in continuous tanks was performed. The effectiveness of melt refining process in different containers was evaluated. For qualitative preparation for casting molten integrated scheme proposed in the refining furnace with hexachloroethane in processing a stream of argon, which provides high efficiency of removal of hydrogen and nonmetallic inclusions melt. Integrated scheme melt refining furnace with hexachloroethane in an argon stream was proposed. This scheme ensures high efficiency removal of hydrogen and nonmetallic inclusions from the melt.

Key words: aluminum alloy, hydrogen, nonmetallic inclusions, refining, hexachloroethane, argon, flux.

3. **V.A. Grachev, N.D. Turakhodzaev.** Improving the quality of aluminum alloys by means of high-temperature treatment of melt.

The treatment of molten aluminum alloy when in contact with the carbon melt at high temperatures of about 2000°C facilitated reduction of hydrogen and aluminum oxide content in the melt by 40—43% and 50—58% respectively, which is important because hydrogen and aluminum oxide adversely affect the structure and properties of the alloy. Such treatment also contributes to the formation of extremely fine-grained microstructure of aluminum alloy.

Key words: Aluminum alloy, high-temperature treatment, influence on the aluminum alloy structure.

4. **I.A. Dibrov.** About modification of cast iron.

The article describes process kinetics of graphite inclusions behavior during heating and melting of the raw materials and liquid cast iron heat up to 1500°C in induction furnaces. Positive role of not soluble in the melt inclusions in the formation of graphite cast iron microstructure is shown. Nomograph of graphite inclusions size depending on temperature and chemical composition of iron is suggested. The substantiation of range of optimal temperature parameters of liquid cast iron for the effective modification is given.

Key words: modifying, graphite inclusions, equilibrium temperature.

5. **E.B. Ten, O.A. Kol.** Influence of steel casting's surface carburizing on corrosion resistance.

In paper it is study the influence of surface carburization of castings from steel 10Cr19Ni9L on its corrosion resistance. At all first it is show the different degree of surface carburization of castings at molds from mixture with various binding materials. The content of carbon at surface layers at 4—6 time more, than in initial steel.

It are decreased according to deep at internal layers of castings. Because of for inferred rating of castings corrosion resistance was use the method of graphic integration of carburization curves. According to receiving results, the corrosion resistance of the most first carburization layer is only 16% on the base variant. At the limit of carburization layer (1,5—2,5 mm) according to decreasing of carbon content the dates of corrosion resistance of discrete layers and in all casting is increase, but remained lower, than in base variant of casting. In case of on-sided corrosion and admissible wear is 10% from 25 mm casting thickness the corrosion resistance of casting is only 41% from base variant. If admissible wear is the half of casting thickness, the casting corrosion resistance is increase up to 88%.

Key words: stainless steel, send-resin mold, castings, surface carbonization, corrosion resistance.

6. **A.A. Kosovich, T.R. Gilmanshina, S.V. Belyaev, T.A. Bogdanova, E.G. Partyko, P. Yu. Barbitsky.**
Prevention of defects of light alloy wheels.

In work the ways of prevention of the main defects of automobile wheels when using release coating with specified properties are shown. Results of approbation of the developed compositions are presented.

Key words: defects, light alloy wheels, coating, die mould.

7. **I.A. Dibrov.** XIII International Foundry Congress and International Exhibition «Lityo-2017».