

1. **Dibrov I.A.** Address to readers of the magazine.

2. **Belov V., Petrovsky P., Fadeev A., Pavlinich S., Alikin P.** Some specialties in production of intermetallid titanium blades for gas turbine engines.

Article focuses on a topical subject in the production of blades for gas turbine power generator. Reviewed by the influence of the mold in the quality of castings.

Keywords: blades TND, turbine engine, titanium intermetallic, mold

3. **Vdovin K., Khabibulin S.** Improvement in technology of production of casted wear parts from steel 10G13L for the crushing mill MPSI-70x23.

Examining the existing mold manufacturing technology for armor, found that their low resistance is observed only in those who have cast defects. By means of computer provides the program LVM FLOW found the cause of the appearance of porosity in the reservation mills of crushing copper ore and proposed a new technology of the production of armor. Cast two types of armor and placed them on the concentrator.

Keywords: casting, armor, mill, operational stability, defects, modeling, steel.

4. **Kotlyagin E.** Production of steel railway castings with V-process at OOO "VKM-Stal".

VKM-Steel Ltd. is one of the few enterprises in the industry of casting production for car-building consumption, where the foundry has been successfully modernized on the basis of the up to the minute German moulding and core-shooting equipment. The introduction of the vacuum moulding line allowed achieving excellent casting quality, which includes production of bogie parts of new type with improved structural behaviour.

Key words: Steel railway castings "frame and bolster", innovative foundry technology of vacuum moulding.

5. **Kulakov B., Dubrovin V., Karpinsky V., Chesnokov A.** Technological aspects in production of castings from titanium alloys.

Chemical activity of titanium and its alloys at high temperatures, specially in liquid stage, creates difficulties in production of castings made of such high-perspective material. The article describes methods for reduction of interaction at high temperatures between titanium and carbon, nitrogen, oxygen, and other refractory materials.

Key words: titanium alloys, castings, chemical activity, alpha layer.

6. **Brojtman O., Ioffe M., Shevtshenko D.** Degree of molding sands compacting is a key factor of the mold's quality which ensures casting quality.

It is proposed to use numerical modeling of molding sand stressed-deformed state during the compacting process for further prognosis of most important structure-dependent properties of the ready-to-use mold such as density, conductivity, gas permeability. Such investigations allow controlling molds manufacturing process to ensure required level of their physico-chemical properties, as well as improve accuracy of metal casting simulation due to taking into account the non-uniform distribution of these properties in the mold's body.

Key words: molding sands structure, compacting, stressed-deformed state, numerical simulation, metal casting mold properties, conductivity, gas permeability, density.

7. **Leushin I.O., Ulyanov V.A., Leushina L.I.** Methodology for the probability of gas defects formation in investment steel casting.

This paper addresses the proprietary methodology for evaluating the possibility of formation of gas-related defects in investment steel castings – on the basis of shell mold material's gas generation potential. The developed methodology is used to prove that shell mold low-temperature firing is preferable to the basic technology.

Key words: investment casting, gas-related defect, gas permeability, gas generation value, shell material's gas generation potential.

8. **Stepashkin Y., Kvasha F., Nuraliev F., Romashkin V.** Complex material for defects prevention - metal penetration defect for iron castings.

Developed additive mixture into the core to prevent defects, such as porosity in the production of complex iron castings using the process produced by cold-box process or pep-set - process. Comparative trials of the developed additives «Weinseal 1-35», firms Huttenes-Albertus. By results of tests the conclusion that antipunching new material effect identical to that of imported additives «Weinseal 1-35».

Key words: Defects, punching, additives, rods tests, antipunching effect.

9. Grachev A., Leushina L., Ulyanov V. Thermostatting of shell molds in investment casting.

This paper addresses thermostatting of shell molds in investment casting as a means of lowering the mold's cooling rate after its pouring with a metal melt; this results in a more complete utilization of the waste heat of the poured shell mold to prevent: arising of thermal stresses; deformation of thin-wall castings; formation of hot tears.

Key words: investment casting, shell mold, thermostatting, reflector-screen, deformation, hot tear, heat exchange by radiation

10. Ri E., Ri H., Zhivetiev A., Mysik R. Sulitsin A. Influence of small additions of components on the character of their distribution in structural components of Cu - Sn system alloys.

The research results on modification influence on distribution of Cu, Sn and different modifying elements in α -solid solution, eutectoid and electron compounds of variable composition are submitted. It is found that Ca reduces oxygen content in α -solid solution and eutectoid, but Zr, and especially Al, B and Ti add dissolved oxygen into the melt or in the form of elements oxides. Modification influences essentially the character of distribution of the main components and modifiers in various structural parts of tin bronze increasing liquation process of Sn and causes formation of isolated electron compounds of variable composition with modifying elements and oxygen.

Key words: modifier, liquation, solid solution, eutectoid, electron compounds, solubility.

11. Shalevskaya I. The implementation of environmental monitoring of objects and processes foundry through touch and locally-regional networks.

Article focuses on enhancing environmental monitoring facilities of enterprises foundry. To implement operational ekomonitoring objects and processes of foundry proposed to organize monitoring of environmental parameters using a distributed wireless network, the lower level of which form of subscriptions, wireless sensor networks, which relay the data monitoring subscribers interworking.

Keywords: ekomonitoring foundry, wireless sensor networks, local-regional network, subscriber system.

12. Chalikova K. The extender for the model composition of the MVS-3A.

In this paper the problem of increasing the strength of the model composition with air MVS-3A. We now that with the addition of air is reduced linear shrinkage, but also decreases the strength. In order to improve the property, it was proposed to introduce various extenders into the model mass and identify the component works best in this composition.

Keywords: model composition, strength, filler component, extender.

13. Davydov N. Spiritual world of orthodox cast icons. Copper plate with the image of Jesus Christ. Excerpt from the book.

The book is dedicated to the art of church copper casting – production of crosses and icons. The article contains information concerning the production of castings and reviews symbols and basics of the established iconographic and figurative structure of these shrines.