

1. **Kolesnikov M., Mukhametzyanova G.** Modernization of press — unit parts for the hot chamber injection molding machine.

In the hot chamber injection molding machine to reduce the wear of the baling chamber and to increase the reliability of the press—units the compression chamber, which is lower than the intaking passage, is formed extended, and on top of the punch an additional compression ring and a sliding seal for lubrication are set.

Key words: press-unit, compression rings, press-piston, plunger, sleeve pressing chamber.

2. **Stantschek L., Vanko B., Batyshev A., Batyshev K.** Structure and properties of castings from alloys AlSi7Mg0,3.

The article describes the results investigation of structure and properties Al-Si castings which produced by method casting with crystallization under pressure.

Key words: structure, casting, heat treatment.

3. **Sokolov, S. Golanov, K. Nikitin.** The peculiarities of application of lost waxes based on synthetic materials during the production of blade models for gas turbine engines using investment casting.

The possibility of replacing lost waxes based on carbamide by wax Remet GTW and Remet GTS for production of blade models is shown. The optimal parameters of models pressing without formation of any defects are chosen.

Key words: investment casting, lost wax, filler, carbamide

4. **Napalkov V., Makhov S., Popov D., Pozdnyakov F.** Modification of cast grain and primary silicon aluminium alloys.

Examined the influence of various factors on the grain refining of aluminum alloys: structural and dimensional factor, the peritectic reaction, concentrational undercooling. Determined areas of grain refining of aluminum alloys and silicon crystals of hypereutectic alloys. Proposed a mechanism for modifying grain of cast aluminum alloys and primary silicon of hypereutectic alloys.

Key words: grain refinement, grain, primary silicon, aluminium alloy, structure, melt, grain refining, crystallization, microstructure.

5. **Kolesnikov M., Mukhametzyanova G., Astashchenko V., Sunagatova E.** Mechanism and kinetics of wear metal wires hot chamber die casting machines.

The causes of kinetics of wear metal wires hot chamber die casting machines zinc alloys. Increasing resistance is achieved by using parts metal wires die steel CI — 22 in the embodiments of electroslag and electron beam melting, and after nitrogen hardening and boring.

Key words: press- knot, metal wires, run-out, steel, intermetallic compounds, zinc alloy, the solubility in the melt foundry, microhardness.

6. **Taranenko N.** Model of the first stage foaming of polystyrene at creation the polystyrene model.

In article is offered the physical and mathematical model of the first stage foaming of polystyrene at creation the polystyrene models for castings molding on burned-out models. Such model allows to estimate previously as foaming time at the first stage of foaming polystyrene, and other parameters process of preliminary foaming of granules polystyrene.

Key words: polystyrene models for castings molding on burned-out models, time foaming.

7. **Filbert L., Ivanitskaya A.** The article considers the conceptual basis for the formation of the foundry's innovation management system.

Theoretical and practical problems of improving the effectiveness of innovation are proposed for decision on the basis of the functional structure of the business represented by seven basic (root) functionals. The

organic relationship between marketing and innovation functionals has been identified, the place and role of marketing and innovation potentials have been determined. Problematic blocks demanding priority consideration have been identified within the general scheme of innovation development.

Key words: innovative activity, functional structure of innovative business, innovative potential.

8. **Petrushin N.V., Ospennikova O.G., Rassokhina L. I., Bityutskaya O.N.** The casting nickel-based superalloy of new generation VZHL21 with polycrystalline structure.

Using computer-aided design and comprehensive experimental studies designed composition of high tech casting Nickel-based superalloy VZHL21 with intermetallic – carbide hardening having high complex of service properties after heat treatment. Alloy intended for manufacturing blades and other components with polycrystalline structure of gas turbine engines and energy plants.

Key words: Nickel-based superalloy low-density with polycrystalline structure, details of gas turbine engines and energy plants.