

- 1. N.I. Dashkevich, V.D. Belov, S.P. Pavlinich, A.V. Fadeev, P.V. Alikin.**
Cast blades made of intermetallic titanium for modern gas turbine engines.

It is shown that in conditions PJSC «Ufa Engine Industrial Association» on melting and casting plant with copper water-cooled crucibles Consarc using technology developed by National University of Science and Technology «MISIS» it is possible to manufacture qualitative castings of blades of high-pressure compressor and low-pressure turbine of gas-turbine engines made of intermetallic titanium alloys by system Ti—Al.

Herewith preparing of alloys of primary metals and ligatures is possible only in arc vacuum furnace.

Key words: blades production, titanium intermetallic, gating system, refractory shell, modeling.

- 2. A.V. Trapeznikov, D.V. Ogorodov, D.A. Popov, S.I. Pentyukhin.**
Gas porosity etalons. X-ray inspection of castings produced from Al—Cu—Mg aluminum alloys.

Increased requirements to the quality of shaped castings made of aluminum alloys used in aviation, involves performing a number of control operations, including non-destructive testing methods. One of those methods is the control of castings using x-ray. In FSUE «VIAM» was developed scale x-ray standards gas porosity of the castings from the series of aluminum alloys of the system Al—Cu—Mg (alloys type «solid solution»). The article shows that such standards make it possible to determine their quality by comparing the reference x-ray with x-ray any specific shapes of serial casting of aluminum alloys of the type «solid solution» without destroying casting fillet samples for testing. The work is done in the framework of the comprehensive directions 8.4.: High-strength corrosion-resistant weldable magnesium and cast aluminum alloys for the new generation aerospace technic («Strategic directions of development of materials and technologies of their reprocessing for the period till 2030»).

Key words: Casting of aluminum alloys, internal defects, shrinkage porosity, crystallization rate.

- 3. F.G. Lovshenko, G.F. Lovshenko, I.A. Lozikov.** Theory and technology of obtaining mechanically alloyed nanostructural modifying ligatures for the production of chrome bronze.

The high effectiveness of the application of reaction mechanical alloying is theoretically substantiated and experimentally confirmed, for the production of nanocrystal modifying ligatures, the use of which simplifies the technological process of production of chromium bronzes, and also increases their complex of physical — mechanical and operational properties.

Key words: The theory and technology of production, mechanical alloying, nanocrystal modifying ligatures, chromium bronzes, composition, structure, properties.

- 4. E.A. Usoltsev, E.L. Furman, I.E. Furman, A.O. Ovchinnikova.**
Reclamation of molding materials for investment casting.

In this paper, we studied the possibility of reclamation of molding materials, as well as the possibility of using reclaimed materials in foundry.

Key words: precision casting, investment casting, regeneration of molding materials.

5. K.G. Semenov. Protective-cover fluxes for smelting of low-alloy nickel alloys in induction sources.

Metallurgical features of melting low-alloyed nickel alloys for casting blanks and shaped casting from low-alloy nickel alloys are considered. Technological criteria of deoxidation of nickel alloys with the help of complex deoxidizers are given. Variants of protective-coating fluxes providing deep deoxidization and refining of the melt of nickel alloys are considered. Variants of flux compositions are proposed, instead of combating bottle or window glass, more efficient, technologically and convenient to use.

Key words: Nickel low alloyed alloys, melting, furnaces, gas content, deoxidation, refining, protective coating fluxes.

6. I.Melnikov. 80th anniversary of HWS-Sinto, Germany — the worldwide leader in foundry mechanical engineering.

The article is devoted to the 80th anniversary of the German company HWS-Sinto, the producer of foundry equipment for Green Sand and V-Process molding. It highlights the milestones of the company development from 1937 to the present state as world leader in foundry mechanical engineering. The article describes Seiatsu and V-Process molding technologies, and demonstrates their widespread acceptance by the leading foundries of the world.

Key words: Foundry mechanical engineering, Seiatsu, V-Process, modernization of foundry production, import substitution of castings, innovative molding technologies.

7. Index of articles published in the journal «Russian Foundryman» in 2017