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(To the 65th anniversary of his birth)



1. **A.A. Shatulsky.** About some opportunities and problems of training highly qualified specialists foundry workers in a two-level education system

Annotation. The article presents an analysis of the feasibility of returning to the training of engineers in universities instead of a two-level system of training specialists of foundry workers through bachelor's and master's degrees. The conditions for the implementation of various educational trajectories within the framework of FGOS 2 and FGOS 3++ in the training of specialists in various universities of the Russian Federation in the field of foundry production are considered. The tasks are proposed, the solution of which will improve the quality of training of foundry specialists and make them in demand and competitively capable at enterprises.

Keywords: two-level system, engineers, bachelors, masters

2. **S.P. Pavlinich, A.I. Evdokimov, N.I. Fitsak, V.V. Smirnov.** Features and prospective tasks of training new research-oriented engineering personnel for industry science and production in relation to aircraft engine building

Annotation. The materials of the study of the personnel potential of key strategic programs in the aircraft engine industry are presented, on the basis of which shortcomings are identified and the need to increase the level of engineering personnel in specialized universities is justified. Programs are proposed that allow accumulating scientific, educational and production potential in the process of training highly qualified engineering personnel for branch science and production.

Keywords: engineering personnel, master's degree, branch science, educational program.

3. **V.V. Guseva.** The requirements imposed by the foundry, which in modern conditions of industrial development must be met by an engineer — graduate of a university, on the example of PJSC AK «Rubin»

Annotation. A two-level system of higher education is considered, which instead of engineers graduates bachelors and masters in the specialty «Foundry production». The disadvantages of the two-level system of bachelor's and master's degree training are analyzed on the example of PJSC AK Rubin.

Keywords: two-level system, engineers, bachelors, masters.

4. **G.A. Romanova.** A look at the personnel problems of foundry production in modern conditions

Annotation. Brief information about the personnel policy of LLC «Balashikha Foundry and Mechanical Plant» in the process of its development. In the process of developing the production of castings from non-ferrous light alloys and marketable products, a system of development of educational institutions for the training of workers, engineering and technical specialists and managers is provided. Recommendations for the development of personnel training for foundry production in modern conditions are presented.

Keywords: foundry, personnel, working specialties, engineers, managers, higher educational institutions

5. **L.M. Bistina, V.A. Korovin, M.A. Geyko, I.V. Geyko, P.A. Sluzov, V.K. Sedunov.** Out-of-furnace treatment of molten steel 20X13L in order to improve the quality of castings

Annotation. The main tasks related to processing 20X13L steel melt have been analyzed. The possibility of increasing the physical and mechanical properties of castings made of 20X13L alloy due to the refining-modifying effect caused by interaction of barium, calcium, strontium, sodium and magnesium oxides has been investigated. In addition, presence of vanadium in the mixture due to micro-alloying enhances the quality of castings. Studies of the samples microstructure under various types of melts treatment with complex mixtures have been carried out.

Keywords: melt, refining, modification, 20X13L steel, microstructure, mechanical properties

6. **I.E. Illarionov, A.V. Motkov, A.V. Fedosov.** Reduction of defects in the stack molding of castings by the introduction of foam ceramic filters

Annotation. Determined the applicability of ceramic foam filters in the implementation of stack pouring of steel castings. The analysis of the effect of ceramic foam filters on the types of rejects during stack molding and pouring was carried out. The composition of the binder used in the manufacture of a filter with optimal performance in terms of the level of influence on the volume of nonconforming products under the production conditions of the Rostov Foundry Plant (RLZ) has been determined. A study was made of the chemical composition of the elements of the gating-feeding system formed before and after the passage of the metal through filters made using various binders.

Keywords: stack molding, ceramic foam filter, gating system, burns, earthen shells, mathematical modeling.

7. **A.M. Lazarenkov, M.A. Sadokha, T.P. Kot.** The study of visual working conditions in the foundry

Annotation. The results of the assessment of visual conditions at the workplaces of various sections of foundries in comparison with acceptable values are presented and the necessity of calculating the

estimated illumination at the stage of reconstruction or design of foundries is shown. The necessity of compliance with the required labor protection rules, the development of a set of measures to optimize visual working conditions, and the prevention of occupational diseases is substantiated. The role of timely implementation of preventive measures in ensuring compliance of illumination at the workplaces of foundries with the current standards and the creation of the required visual working conditions of foundry workers is shown.

Keywords: industrial lighting, artificial lighting, lamp, lamp power, foundry, working conditions, workplace, nature of production, labor safety.