

1. **A.A. Shumkov, E.V. Matygullina, V.G. Dolgoplov.** Application of high-porous photopolymer models for the manufacture of castings of a complex profile.

The paper presents the results of manufacturing a casting of a complex profile by burning out a highly porous photopolymer model. The technological regimes of layer-by-layer construction of a model for casting and calcining a ceramic shell mold before casting. It has been established that the used geometric parameters of the cellular structure of the model make it possible to preserve the integrity of the ceramic block during the calcination of the form.

Keywords: casting model, photopolymer, rapid prototyping, cellular structure.

2. **Pit Satr.** New Refractory Technology for Melting Iron and Steel Alloys in Coreless Induction Furnaces .

In recent years, suppliers have provided larger and more powerful coreless induction furnaces for melting both iron and steel alloys. Production demands and electrical costs have driven many foundries and steel mills to invest in larger, faster, and more flexible batch melting furnaces. These technological advancements in induction furnaces have put a greater demand on refractory suppliers to provide innovative advancements in both acid and neutral based refractory for these applications. This paper will discuss a new generation of refractories that significantly improves the lining life and therefore reduces total melting costs, while providing consistency in refractory lining performance in coreless induction furnaces

Keywords: Steel, Iron, Coreless Induction Furnace, Refractory, Foundry, Technology, Lining, melting

3. **I.E. Illarionov, Sh.V. Sadetdinov, E.N. Zhirkov.** Sodium borates, as multifunctional additives to furan mixture

The effect of sodium borates on the physical and mechanical properties of the furan mixture was experimentally studied. Found that sodium metaborate, sodium tetraborate, sodium pentaborate increase the strength paranavai mixture of tension, increase vitality, reduce the residual strength, knockout and fall, improve the formability. It is shown that the use of sodium borates as a protective additive to the furan mixture improves the surface quality of castings from magnesium alloys.

Keywords: a furan compound, a borate of sodium, tensile strength, durability, residual strength, work knockout, fall, formability, magnesium alloys.

4. **E.I. Marukovich, V.A. Kharkov, D.A. Meshkov, I.O. Sazonenko.** Obtaining of layered composite materials based on copper and aluminium.

The effect of the chemical composition of protective environment on the basis of melts of halogen salts and oxides on the width and quality of the transition zone of a bimetallic aluminum-copper compound was studied.

Keywords: layered composites, bimetal, copper-aluminum compound, aluminium, casting.

5. **V.N. Sharshin, E.V. Sukhorukova, D.V. Sukhorukov, V.A. Kechin.** The development of new compositions and tin alloys for artistic casting

The results of the development of a group of tin alloys of the Sn—Sb—Cu—In system with an optimal set of technological, strength, environmental and aesthetic properties are produced in the article.

Keywords: tin alloys, alloying elements, technological, strength, environmental and aesthetic properties.

6. **I.A. Filippova.** Public joint stock company KADVI is a high-tech enterprise

A brief history of the company is given. Technological equipment, equipment and products manufactured by the company on the orders of consumers.

Keyword: the structure of the enterprise, products, contact information of the contractor.

7. **A.P. Firstov. Optimization of carbon dioxide consumption in CO₂-process**

An increase in the time of purging liquid-glass mixtures with carbon dioxide leads to a decrease in the quality of the casting.

Keywords: liquid glass, purge, curing depth.

8. **R.D. Farisov, A.V. Bardanov, M.R. Khairullin. Analysis of the operating system of production mass iron casting, detection and elimination of losses on the basis of principles of lean production**

In the production of mass iron casting, optimization of the technological flow of casting production has been carried out on the basis of the principles of lean manufacturing. The real technical condition of the existing equipment and mechanisms has been identified, the compliance of the parameters of the selected technological process with a given accuracy has been determined, and the stability of the technological process has been evaluated. As a result comprehensive work was carried out to improve the entire casting manufacturing process and a positive effect was obtained.

Keywords: lean manufacturing, iron castings, crossfunctional team, optimization, quality tools, improvement.

INFORMATION

Creation of technical Committee (TC) for standardization TC 252 «Foundry»

International Exhibition «GIFA-METEC-THERMOPROCESS-NEWCAST», Dusseldorf, Germany