

1. **A.Korotchenko, A. Zarubin.** Gennady Fedorovich Balandin (the 90th anniversary of birth).
2. **V.A. Skudnov.** Limit state metals.

A review of concepts of limit state metals at all levels of the structure during exploitation of metal products.

Key words: Limit state, strength, plasticity, damage, stress-strain state, behavior.

3. **V.A. Grachev, A.E. Rozen, Ch. G. Pak, V.M. Batrashov.** Development of high-temperature insulating composite material using SHS technology.

The article provides the results of production of ultra-lightweight phosphate high-temperature composite material with porous structure. The properties of developed material are not inferior to composite materials based on mullite-silica fibers. Material is recommended for application as high-temperature isolation at ceramic, metallurgical, glass and machine-building industries.

Key words: composite materials, SHS technology, temperature isolating materials.

4. **E.V. Kovalevich.** Theory and practice of MDS technology for production of ductile cast iron.

Technology of cast iron modification for production of heavy duty cast iron with the spherical shape of graphite is proposed. Technology is called MDS. Modifier used in MDS process should have fractional composition which is kept at the bottom of the ladle by surface tension force of cast iron poured into the ladle. This allows for the absorption of the modifier to 90—95% without the pyroelectric effect and intense smoke emission. MDS modification technology can be used for cast iron, melted in cupola furnaces, electric arc and induction furnaces.

Key words: fraction, modifier, pyroelectric effect, surface tension.

5. **I.E. Illarionov, I.A. Strelnikov.** The application of industrial waste in the compositions of the mixtures for the manufacture of molds.

Currently the need to develop technologies for the treatment of technogenic wastes, it is just as important and in foundries. It is proposed to use the developed formulations for the manufacture of molds.

Key words: technology, waste, molds, components, compositions.

6. **M.A. Shvedov.** Quality cast steel 20GL side frame trolley freight wagons.

The results of the application of new steels fracture parameters to control the quality of castings.

Key words: side frame, mechanical properties, fracture energy criteria, fracture parameters.

7. **E.I. Yarovaya, I.O. Leushin, A.Y. Gusev, M.M. Spasskaya.** Electrochemical method of heat-proof coverings formation on shaped surfaces.

The electrochemical method of shotcrete by refractory compositions of shaped technological capacities of the layer thickness 3—10mm is considered. Hardening of mix is implemented by impact of electric field and pressure of rotated cathode. The time of formation of covers and material consumption decrease.

Key words: Refractory cover, solid electrolyte, electrochemical method of shotcrete

8. **S.D. Ranich, V.E. Haychenko, I.A. Filippova.** Experience of conversion of waste of copper and copper alloys.

Experience of receipt of cast procurements from copper and its alloys by application of electroslag kokilny casting is given in article. As furnace charge any production wastes, including shaving, a porovoloka can be applied. Waste of furnace charge constitutes no more than 5%.

9. **I.A.Dibrov.** International Scientific-Practical Conference «Modern Technologies in Machine-Building and Foundry Industry».
10. **A.Y. Korotchenko.** International conference dedicated to the 90th anniversary of the birth of Gennady F. Balandin.