

1. **Abramov V.I.** Industrial production of ductile iron at KAMAZ.
Describing phases of implementation of ductile iron production, and also use of different inoculation methods at KAMAZ: inoculation with wire and production of the wire.
Key words: ductile iron, inoculation, wire for inoculation.
2. **Bekh N.I., Krakovsky E.B.** Production of ductile iron castings – very important step in development of KAMAZ.
Describing main reasons of change from malleable iron to ductile iron for production of automobile castings. Presented methods of inoculations, used at KAMAZ. Production of iron castings with vermicular shape of graphite.
Key words: malleable iron, ductile iron, iron with vermicular shape of graphite.
3. **Kovalevich E.V.** Advantages of powder inoculants for production of ductile iron.
Use of powder inoculants with correct chemical and grain size composition allows to produce ductile iron in normal pouring ladles, with assimilation coefficient 90-95% and almost without pyroeffect. Inoculation of iron with small grains powder gives high stability and flexibility of the process. Used of powder inoculants allows to make different mixtures with additions of different elements (Ca, Ba etc.), that gives high strength and plastic properties as cast both with melting in electrical furnaces and cupolas.
Key words: powder inoculants with high degree of assimilation.
4. **Ageev J. A., Shkurkin V. I., Buldigin S. V., Vlasov V. N.** New ligatures and modifiers for production aluminium cast alloys and cast iron foundries.
New compositions and technologies of the ligatures production for impurity doping process of the aluminium cast alloys by copper, nickel and phosphorous and to production foundries with perlite structure of the metal basic of cast iron was developed in PC “SRIM”. New production technologies of the ligatures with strontium and barium were assimilated. New information about magnesium vapor pressure in the quaternary metal melts, containing nickel and copper, to be of interest for developing of the new spheroidizing modifiers compositions of cast iron, was obtained.
Key words: ligature, modifier, aluminium cast alloys, cast iron.
5. **Ivanchikov E.A.** Effective technology for production of ductile iron and iron with vermicular shape of graphite.
Describing different methods for production of ductile iron and iron with vermicular shape of graphite . Indicates main types of inoculants, developed and manufactured by company NPP.
Key words: inoculants, ductile iron and iron with vermicular shape of graphite.
6. **Boldyrev D. A.** Main perspective directions of R&D works in cast iron production at AVTOVAZ.
Describing main present R&D works at AVTOVAZ.
Key words: iron, annealing, micro-inoculation, inoculation, ligature, strengthen, dosing.
7. **Georgadze A.G., Afonaskin A.V.** Desulphurization of iron in a ladle.
We have developed a composition of desulphurization mixture, which allows to eliminate effectively the sulphur from the metal in a short time before it's pouring into a mould.
Key words: desulphurization mixture, phosphide eutectic.
8. **Nikiforov A.P., Gimaletdinov A.L.** Use of ferrosilicobarrium for production of grey and ductile iron.
We developed new inoculants FS65Ba20 to prevent iron castings from "chill" defect; the inoculants is been producing by deep hot pressing of initial components. Delivered as powder with grain size 3 – 10 mm or briquettes 20x30x60 mm.
Key words: "chill" defect in cast iron castings, ferrosilicobarrium.
9. **Andreev V.V.** Perlite iron with vermicular graphite – perspective construction material

for cast iron parts of cylinder-piston group of diesel engines.
Reliable technology for production of iron with vermicular graphite and perlite metal structure at cast, which was implemented at "Ural Diesel-Building Plant" for production of cylinder sleeves for high-forced diesel engines.

Key words: iron with vermicular graphite, perlite metal structure.

10. **Korolyov S.P.** Scientific approach and practical implementation of special methods for spheroidization of graphite in cast iron and changing of silica shape in Al alloys.

Describing special methods for spheroidization of graphite in cast iron and changing of silica shape in Al alloys. Indicated practical implementation of the processes.

Key words: spheroidization of graphite, changing of silica shape in Al alloys.

11. **Vdovin K.N., Shubina M.V.** Creation of compact graphite inclusions in grey iron for lost-foam process.

Shown the possibility to get in cast iron structure after annealing (2 – 4 hours) the small and uniformly distributed inclusions of compact graphite in perlite basis for lost-foam process.

Key words: compact graphite, perlite matrix, lost-foam.

12. **Panov A.G., Chernyavsky M.S., Pimnev D.Yu, Kornienko A.E.** New possibilities of cast iron melt for graphite spheroidisation.

For destruction of hereditary micro spottiness of cast iron melts by the overheating method, the long thermo treatment with heating up to the temperatures above 1650°C is required. As a result there is increased consumption of electrical energy, lining materials, alloy elements and in the case of arc melt – electrodes. An article describing the research results of refining-modifying material BSC-2-US (contains carbonates of barium, calcium and strontium) influence upon characteristics of syntetic cast iron in liquid and solid states. It is shown that ladle and furnase treatment of liquid cast iron by this material increases its micro homogeneity. As a result of the treatment, the flow-ability of molten cast iron increases, and the microstructure homogeneity of cast iron in solid state increases as well.

Key words: iron melts, refining-modifying material BSC-2-US.

13. **Subbotin A.N.** About engineering of foundry shops.

Main directions of works of URALGIPROMEZ. Indicated engineering projects during last 5-6 years.

Key words: foundry shop, engineering.

14. **Kuznetsov S.G.** Last developments of Thermo Fisher Scientific for elementary analysis and determination of inclusions in cast iron.

Presented equipment of company Thermo Fisher Scientific for elementary analysis of alloys, including precious metals.

Key words: spectrometer, equipment for test specimens production.