

FOSECO: High reactive binders systems in the theory and practice.

New binders developed, with main advantage to increase production rate while reducing cycle time, amine consumption and therefore reduction of it's emission and smell.

Key words: *binder system, amine process.*

New Foundry shop at JSC «AAK «Progress», Arseniev

Experience of complete renovation of foundry shop based on No Bake technology and equipment delivered by the company IMF, Italy.

Key words: foundry renovation, No Bake technology.

Soshkin V.E. Selection of isothermal and exothermal inserts for gating systems of steel castings. Presentation of insulation and exothermal inserts for gating systems of castings providing big heat release during oxidation process while contacting with liquid metal in the riser which prevents creation of shrinkage cavities.

Key words: isothermal and exothermal inserts.

Knustad O. Inmould inoculation for Nodular iron

Description of inmould inoculation process of iron in order to receive nodular iron. Advantages and disadvantages of the process. Recommendations for efficient use of inmould inoculation process.

Key words: nodular iron, inmould inoculation.

Chernishov E.A., Evlampiev A.A., Guseva O.B., Hmelev N.V., Mikhailov S.V. Analysis of the mould gas mode and diagnosis of defects formation in the critical steel castings. Specified conditions which eliminates possibility of gas defects creation in the castings. Detailed analysis of gas pressure increasing cause in the different areas of the mould after pouring and measures to obtain normal gas mode in the mould. Some examples of gas defects in the castings.

Key words: foundry mould, gas mode, gas pressure, casting, gas defects, diagnosis.

Panov A.G., Beylis L.M., Anikeev V.V., Nikitin V.I. Control of the cupola cast iron crystallization for the production of the molds castings

There are the results of the refining - modifying treatment test of the molten cupola gray cast iron by the barium-calcium-strontium carbonates in the article. As a results of the developed technology with the application of material *БСК -2*, the flow-ability of the cast iron melts increases, micro and macro structure homogeneity of matrix and graphite of castings increases as well.

Key words: modify, refining-modifying material БСК-2, cupola, cast iron mold

Suyundikov M.M. Determination of foam-ceramic filters surface installed in gating system.

In article questions of definition of the area of the filters established in channels pouring gate are considered. The filters intended for effective clearing of metals should not brake strongly a stream melt and by that to break the installed mode cast forms. By carrying out of special experiments and the analysis of recommendations in foreign references it is established, That the filter inevitably makes variations to a mode cast and only at fundamental importances of parities of the areas of the filter and the narrowest section pouring gate begins possible to achieve the closest throughput of systems with the filter and without it. It is shown, that at installation of the filter in pouring gate expense can be restored system by an increase of the general pressure and the area of narrow section of system.

Key words: ceramik foam filter, running system, flow resistance, ratio of filter area to runner minimum area.

Popov S.A., Zheltobruhov E.M., Mamina L.I. Baranov V.N. Bezrukih A.I. Correction of

foundry defects in the art castings, done by lost wax technology.

Described methods of defects correction (holes, contraction, underfilling) in the art castings, done by lost wax method.

Key words: defects, holes, contraction, underfilling, art castings, lost wax.

Chorhyi A.A., Chorhyi V.A., Solomonidina S.I., Durina T.A. Method of getting building construction element of the furnace, using casting.

New method of getting building construction element of the furnace by using casting of “metal-non metal” type is described (patent RU 2398652C1). This type of casting allows quick end easy maintenance repair end charge of some part of furnace in heating equipment.

Key words: construction, furnace, firepooreses, form, effect, steel, cast iron, aluminium.

Zaharov A.V., Shekotihin S.P. Multichannel wave dispersion radiography spectrometer CPM-35

New domestic spectrometer CPM-35 for radiography- fluorescence analysis of metal, coke, slag and other materials with high production rate, reliability and comfort for personnel.

Key words: spectrometer, quick analysis.

Afonaskin A.V., Bistrov M.V., Churkin B.S., Pol V.B., Brusnicin S.V. Technology of synthetic iron melting with determination of carbonic equivalent during melting

Some particularities to receive synthetic iron for critical castings. Outline to determine carbonic equivalent, which gives possibility to efficiently control process of inoculation and iron quality.

Key words: charge, crucible, slag, lining, carbonic equivalent, crystallizer.

Kovtun A.I., Chernishova U.P., Semistenov D.A., Hohlov U.U. Analysis of aluminum-ferrum ligature manufacturing processes by arc remelting

Aluminum-ferrum ligature used for burdening during production of Al alloys in order to increase mechanical, technological and service properties of parts made of these alloys. In production ligatures with content of ferrum 10, 20, 45%. Description of way to receive of aluminum-ferrum ligature by arc remelting of chips alloying addition. Present method gives reduction of process labour-intensiveness, increases output with reduction of process self cost and keeping good quality in accordance with requirements of DIN EN 575-1995 and GOST 53777-2010.

Key words: Ligature, aluminum, ferrum, microstructure, metallographic analysis, alloying addition, arc remelting.

Koltygin A.V., Plisetskaya I.V. Effect of low-calcium addition on fluidity of magnesium alloys ML5 alloy was investigated with the addition of calcium to determine the influence of small additions of calcium (about 0.2% wt.) on the fluidity of the alloy. The fluidity of the spiral sample was measured, as well as simulation of casting and solidification of the spiral probe on fluidity in the software package ProCast using the properties of the alloy, calculated on the basis of thermodynamic ProCast, when adjusting the data for its viscosity. It was established that the addition of a magnesium alloy type ML5 small amount of calcium leads to increased fluidity of the alloy, compared with the alloy ML5 without calcium supplementation of about 10%. In this case, the alloy ML5 with the addition of calcium increases the equilibrium and nonequilibrium solidification temperature range. The results of simulation are comparable to field experiments.

Key words: magnesium alloy, calcium, fluidity, ProCast, strength, equilibrium and nonequilibrium crystallization, Mg-Al-Zn, the spiral probe

Kovtunov A.I., Semistenov D.A., Khokhlov Y.Y., Chermashentseva T.V.

Heat conditions of the porous aluminum formation by filtration through a water-soluble salts. Existing methods of production porous aluminum have great lacks: unstable porosity and low

productivity of process. Offered method of porous aluminum formation which use granules of

water-soluble salts provides the ability to control the pore size and adequately high productivity of the process. The influence of heat process conditions on the penetration depth of the melt in the granular filling and properties of the formed foam aluminum are investigated in the paper.

Key words: porous aluminum, water-soluble salts, filtration, granules,