АНОТАЦІЙНИЙ ЗМІСТ

Bratuta E.G., Kharlampidi D.Kh., Sherstyuk A.V.

A GENERALIZED PERFORMANCES FOR ANALYSIS OF EFFECTIVENESS OF A VAPOUR COMPRESSION REFRIGERATION PLANTS AND HEAT PUMP INSTALLATIONS

A genaralized performances for complex estimate of the influence of thermalphysics properties of working fluids on the energy effectivenes of refrigeration plants and heat pump installations have been found. The calculation investigation of the influence of suction-line/liquid-line heat exchanger in the refrigaration cycle on the energy effectiveness of refrigeration plant and in the wide range of change of the evaporation and condenser temperatures for different refigarants have been taken into account.

Garev A.O., Chernyshov I.S., Babak T.G., Kolesnik S.A.

THE WAYS OF ENERGY CONSUMPTION REDUCTION FOR RECTIFICATION UNIT

The ways of energy consumption reduction for rectification process of homogeneous liquid mixture "water-acetic acid" are discussed. The various approaches of energy saving retrofit are proposed. The heat of top effluent and residue may be used to preheat the feed. The use of top vapour compression (heat pump case) is considered. To optimize the heat recovery the methods of pinch-analysis are used.

Doronina V., Sytnik R., Doronin E.

LITIUMCONTENT THE BLANKET OF GLASS RECEIVED BY THE METHOD ZOL-GEL OF TECHNOLOGY

Reception questions litiumcontents coverings on a surface of glass by a method technology zol-gel are considered. Are studied structure and properties of the modified glasses. Influence of superficial crystallisation on optical properties of glasses is established.

Gryn G.I., Kozub P.A., Sinitskaya A.M., Zherdeva S.U.

RESEARCH OF EXTRACTION PROCESS OF VALUABLE COMPONENTS FROM A SPENT SOLUTIONS OF MANUFACTURE OF SYNTHETIC DIAMONDS

In article results of researches of separation of metals - solvents from solutions in manufacture of synthetic diamonds by means of a carbonate of calcium, a hydrocarbonate of ammonium, a carbonate of sodium and a sodium hydrocarbonate are resulted. According to researches the most expedient reagent for division of nitrates of nickel, manganese and iron is defined. Dependences pH a solution from suspension volume substance which besieges and the fulfilled solution are resulted. During researches it was establish, that process sedimentation nickel and manganese connections is influenced by sequence of addition substance which besieges: the fulfilled solution to substance which besieges or substance which besieges to the fulfilled solution. The structure of a deposit which is received in the course of sedimentation by means of a sodium hydrocarbonate is defined.

Cherkashenko M.V., Krutikov G.A.

SYNTHESIS OF IS FREE PROGRAMMED PNEUMOAGGREGATES

The structure of the pneumoaggregate (PA) with the rational control program of distributors which gives the Possibility to realise effectively the control strategy a multiposition PA with a condition of self-training which solves optimisation problem of the process positioning both behind exactitude, and behind speed is offered.

Nekrasov P.O.

ENZYMATIC FATS GLYCEROLYSIS MECHANISM INVESTIGATION

In presented work it was ascertained that enzyme-catalyzed glycerolysis of fats obeys ping-pong bi-bi mechanism. According to the mechanism scheme the glycerolysis is the complex process which involves three competitive reactions. Computed equilibrium constants gave an opportunity to establish the dominant reaction.

Red'ko A.O.

THERMODYNAMIC PARAMETERS OF GEOTHERMAL ELECTRIC POWER PLANTS WITH A BINARY SUPERCRITICAL CYCLE

The design-theoretical research results of thermodynamic parameters for supercritical cycles of geothermal electric power plants are presented. The numerical results show the 10–13 % increase of cycles thermodynamic effectiveness with application of the ozone-safe freons and their mixtures as working mediums of plants for the geothermal water temperature of 100–130 °C.

Khavin G.

THE TOOL WEAR SIMULATION DURING POLIMER COMPOSITE MATERIALS TURNING

The model of tool corner abrasion for turning of reinforced composite materials is considered. The dependence magnitude of wear has congenital character is supposed. The power low between wear velocity and velocity of contact interaction, and linear low between wear velocity and specific pressure is take place. Using experimental data the empirical relationship between of tools wear and cutting velocity, advance of cutter and cutting depth is obtained. The analyses of these relations are provided.

Chunyayev O.N., Chunyayeva L.O., Asriyan A.A., Bikov A.A.

MODIFICATION OF THE FINAL HEAT TREATMENT OF ALLOYS THAT HAVE BEEN SUBJECTED TO DIFFUSION CARBIDE SURFACE ALLOYING

The technical means of the transition zone strengthening have been studied for alloys that undergo the diffusion carbide surface alloying. Heat treatment processing regiments, which consider the

gradient of chemical composition of the surface-alloyed alloy, and also allow the diminishing of such gradient by means of additional diffusion annealing, have been proposed.