L 39559-66
ACC NR: AP6[illegible]

strength or varies [illegible]
transfer is given by [illegible]
magnetic field, the [illegible] ... reasing the [illegible]
Orig. art. has: [illegible]

SUB CODE: 20 / SUBM DATE [illegible]

Card 2/2

L 35890-66 EWT(l)/EWP(e)/EWP(m)/ EWT(m)/T-2/EWP(t)/ETI/EWP(k) IJP(c) JD/HW
ACC NR: AP6010869 SOURCE CODE: UR/0115/66/000/002/0033/0034

AUTHOR: Novikov, I. I.

ORG: none

TITLE: Resistance to motion and heat exchange in a pipe with a turbulent flow of an electroconducting liquid in a cross magnetic field

SOURCE: Izmeritel'naya tekhnika, no. 2, 1966, 33-34

TOPIC TAGS: magnetohydrodynamics, turbulent flow, heat exchange

ABSTRACT: The length of the initial pipe segment, under turbulent magnetohydrodynamic flow conditions, is given by: $l_0 \approx \frac{Re}{Ha^2} D$, where Re and Ha are taken with respect to the pipe diameter. The same formula holds true for the laminar flow, which may be due to the fact that the initial formulas are approximate. The above

Card 1/2 UDC: 532.501.312 + 536.248

L 35890-66
ACC NR: AP6010869

formula is valid for the cases of strong magnetic fields, with large Ha^2/Re ratio. Under stabilized-flow conditions, i.e., with $x \geq l_0$, the pipe resistance factor is given by: $c = a' \left(\frac{Ha}{Re}\right)^{\frac{2m}{1+m}}$, where a' is a constant; the pipe heat-exchange factor is given by: $Nu \approx \varphi(Pr)\, Re^{\frac{1-m}{1+m}}\, Ha^{\frac{2m}{1+m}}$. Orig. art. has: 17 formulas.

SUB CODE: 20 / SUBM DATE: none / ORIG REF: 002

Card 2/2 *llb*

L 38973-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD

ACC NR: AP6013366 SOURCE CODE: UR/0370/66/000/002/0131/0136

AUTHOR: Novikov, I. I. (Moscow); Pol'kin, I. S. (Moscow); Kasparova, O. V. (Moscow)

ORG: none

TITLE: Effect of oxygen on β-phase decomposition kinetics in VT15 titanium alloy

SOURCE: AN SSSR. Izvestiya. Metally, no. 2, 1966, 131-136

TOPIC TAGS: titanium alloy, oxygen, metal phase system / VT15 titanium alloy

ABSTRACT: Since an admixture of oxygen, which is an α stabilizer, should have a pronounced effect on the stability of the supercooled β phase in titanium alloys, it appeared of interest to determine the influence of oxygen on the decomposition of the β phase in the thermally hardened titanium alloy VT15 containing 0.08, 0.16, 0.34, and 0.53% O_2. The decomposition kinetics were studied by means of metallographic and dilatometric analyses and hardness measurements. The start of an increase in hardness was taken as the start of separation of the α phase. As the oxygen content of the alloy increases, the supercooled β phase becomes less stable, and the incubation period of α-phase separation is shortened at all temperatures; the α-phase formations become more and more dispersed, and there is a rise in the temperature of transition from uniform decomposition throughout the volume of the β grains to localized decomposition starting at the grain and subgrain boundaries. Oxygen decreases

 UDC: 669.295

L 38973-66
ACC NR: AP6013366

the amount of ω phase in VT15 alloy, raises the temperature corresponding to the maximum volume decrease in isothermal holding of the supercooled β phase, and has only a very slight effect on the incubation period of ω-phase formation. The subgrain boundaries in VT15 alloy appear during the decomposition of the β phase in the 350-550°C range, and as the oxygen content increases, the subgrains show up in the majority of β grains. Orig. art. has: 6 figures and 1 table.

SUB CODE: 11/ SUBM DATE: 10Aug64/ ORIG REF: 001/ OTH REF: 003

Card 2/2

L 11695-66 EWT(1)/...

ACC NR: AP6019572 SOURCE CODE: UR/0115/66/000/004/0015/0020

AUTHOR: Novikov, I. I. (Corresponding member AN SSSR) 41 B

ORG: none

TITLE: Laws of translational-rotational flow of a viscous incompressible liquid

SOURCE: Izmeritel'naya tekhnika, no. 4, 1966, 15-20

TOPIC TAGS: liquid flow, viscous fluid, incompressible fluid, laminar boundary layer, turbulent boundary layer, rotational flow

ABSTRACT: This is a continuation of an earlier study (Trudy VMA, 1945) of the flow of an ideal liquid in a cylindrical tube, and deals with flow of a viscous incompressible liquid in devices such as centrifugal nozzles, cyclone separators, centrifugal refrigerators, and similar apparatus where individual liquid particles or jets move along helical lines. The transition from the ideal liquid to the viscous one is accounted for by deriving equations for the conditions in either a laminar or a turbulent boundary layer. Expressions for the tube resistance coefficient are obtained for both types of boundary layer. The existence of an upper limit of translational velocity in translational-rotational motion, first demonstrated in the author's earlier paper, is demonstrated for a viscous incompressible liquid and is shown to be equal in the latter case to the velocity of propagation of long low-amplitude centrifugal waves. Orig. art. has: 25 formulas.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 002

Card 1/1 af UDC: 532.5

L 43725-65 EWT(l)/EWT(m)/EPF(c)/EPF(n)-2/EWP(j)/EEC(b)-3 Pc-4/Pr-4/Pu-4
ACCESSION NR: AP5008509 IJP(c) MM/RM S/0207/64/000/006/0119/0121

AUTHOR: Novikov, I. I. (Novosibirsk); Sheludyakov, Ye. P. (Novosibirsk)

TITLE: Experimental determination of the speed of sound in saturated vapors of benzene, carbon tetrachloride, and diethyl ether

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 6, 1964, 119-121

TOPIC TAGS: sound velocity, saturated vapor, benzene vapor, carbon tetrachloride vapor, diethyl ether vapor

ABSTRACT: The article reports on the measurement of the speed of sound in saturated vapors of liquids having low surface tension. These measured values were also compared with the values calculated by using the theoretical formula. The measurements were carried out by the standing wave method on improved equipment described elsewhere in the literature. The measurements in benzene were made in the 90—215°C temperature range, in carbon tetrachloride in the 70—262°C, and in diethyl ether in the 25—190°C temperature range. The value obtained for the speed of sound in benzene is in satisfactory agreement with the published data, but for diethyl there is a deviation of 8% between the experimental and published (theoretically calculated) value, probably due to the different degree of purity of the ether.

Card 1/2

L 43725-65
ACCESSION NRP AP5008509

0

The differences between the experimental and calculated values lie within the limits of experimental error. The comparison of experimental and calculated values was made for temperatures sufficiently removed from critical temperatures at which the theoretical formula is rigorously correct. Nevertheless, there is good agreement even at temperatures higher than those referred to in this study. Orig. art. has: 2 figures, 1 table, and 1 formula.

ASSOCIATION: none

SUBMITTED: 20Jun64 ENCL: 00 SUB CODE: GP,OC

NO REF SOV: 006 OTHER: 001

mc
Card 2/2

L 16986-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AT6024908 (A,N) SOURCE CODE: UR/2981/66/000/004/0015/0020

AUTHOR: Grushko, O. Ye.; Novikov, I. I.; Semenov, A. Ye.

ORG: none

TITLE: Hot cracking of alloys of the Al-Cu-Li-Mn system

SOURCE: Alyuminiyevyye splavy, no. 4, 1966. Zharoprochnyye i vysokoprochnyye splavy (Heat resistant and high-strength alloys), 15-20

TOPIC TAGS: hot cracking, aluminum alloy, copper containing alloy, lithium containing alloy, manganese containing alloy, cadmium containing alloy, CRACK PROPAGATION

ABSTRACT: The effect of composition on the hot cracking, elongation, and linear shrinkage of alloys (in the solid-liquid state) of the systems Al-Li, Al-Cu-Li, and Al-Cu-Li-Mn, and also of VAD23 industrial alloy was studied. In the Al-Li system, the maximum hot cracking is displayed by the alloy containing 0.1% Li; on the whole, the dependence of hot cracking on composition is qualitatively the same as in other eutectic-type binary systems. In the ternary Al-Cu-Li alloys, hot cracking decreases with rising lithium content; the higher the copper content, the stronger the influence of the lithium admixture. In alloys of the quaternary system Al-Cu-Li-Mn, lithium decreases the hot cracking, but manganese increases it considerably by affecting the plasticity in the solid-liquid state. In VAD23 alloy, similar changes in the content of

Card 1/2

L 46966-66 EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) JD/WW/JG/JH
ACC NR: AT6024926 (A,N) SOURCE CODE: UR/2981/66/000/004/0170/0174

AUTHOR: Semenov, A. Ye.; Novikov, I. I.; Zolotarevskiy, V. S.; Mamin, A. S.

ORG: none

TITLE: Effect of manganese and zirconium on the hot cracking of alloys of the Al-Mg-Zn system

SOURCE: Alyuminiyevyye splavy, no. 4, 1966. Zharoprochnyye i vysokoprochnyye splavy (Heat resistant and high-strength alloys), 170-174

TOPIC TAGS: manganese containing alloy, zirconium containing alloy, aluminum zinc alloy, magnesium containing alloy, brittleness

ABSTRACT: The object of the work was to determine the effect of Mn and Zr on the hot cracking of alloys of the Al-Mg-Zn system containing various Mg/Zn ratios. The introduction of Mn into the alloys was found to cause a substantial increase in their hot cracking because of an expansion of the temperature range of brittleness, a decrease of the elongation per unit length, and an increase in linear shrinkage. Addition of 0.12-0.25% Zr to alloys of aluminum with magnesium, zinc, and manganese increases their resistance to the formation of crystallization cracks because of a narrowing of the brittleness range and an increase in elongation per unit length in this range. It is recommended that a high Zr content be used in the filler wire in welding Al-Mg-Zn-type alloys, and that the Mn content of these alloys be maintained close to the

Card 1/2

L 08298-67 EWT(m)/EWP(w)/EWP(t)/ETI/EWP(k) IJP(c) JD/HW/JH
ACC NR: AP6031720 (A) SOURCE CODE: UR/0370/66/000/005/0107/0110

AUTHOR: Novikov, I. I. (Moscow); Novik, F. S. (Moscow); Indenbaum, G. V. (Moscow)

ORG: none

TITLE: Plastic deformation of alloy in solid-liquid condition

SOURCE: AN SSSR. Izvestiya. Metally, no. 5, 1966, 107-110

TOPIC TAGS: aluminum alloy plastic deformation, solid liquid state deformation, aluminum copper silicon alloy, alloy phase diagram, aluminum base alloy, solid state, liquid stato, ductility, tensile strength, elongation

ABSTRACT: The effect of quantity of liquid phase on the ductility of aluminum alloy containing 2% copper and 2% Si has been investigated. Specimens 5 mm in diameter, homogenized at 0.92 melting temperature and electrolytically polished, were subjected to tensile test in the temperature interval between solidus and liquidus. Above the solidus temperature, the binary eutectic (α + Si) begins to melt and appears as liquid phase on grain boundaries causing embrittlement of alloy. From the solidus temperature to 560C, the amount of binary eutectic changes insignificantly, there is little liquid phase between grains, no sliding along grain boundaries develops and the elongation has approximately zero value. At 570C, the melting of binary eutectic is

Card 1/2 UDC: 669.715'3'782

ACC NR: AP6036441 SOURCE CODE: UR/0370/66/000/006/0101/0109

AUTHOR: Novikov, I. I. (Moscow); Shashkov, D. P. (Moscow)

ORG: none

TITLE: The effect of melting and annealing conditions on the brittle-to-plastic transition temperature of metallic compounds

SOURCE: AN SSSR. Izvestiya. Metally, no. 6, 1966, 101-109

TOPIC TAGS: intermetallic compound, brittle compound, ductile compound, brittleness ductility transition temperature, gas impurity effect, annealing, metal melting

ABSTRACT: Cast specimens of Al_3Mg_2 (37.3% Mg), $CuAl_2$ (53.45% Cu), and Cu_3Si (8.6% Si) compounds melted in air, in a vacuum of $5 \cdot 10^{-4}$ mm Hg, or in air with an air-steam mixture passed through the melt (to obtain compounds with various gas contents) were subjected to bend tests at temperatures of up to 600C. All compounds were found to have a very narrow (only several degrees) temperature of transition from brittle to ductile behavior; specimens melted with air-steam passed though the melt had the highest transition temperature (about 650C for Cu_3Si) and the highest microhardness. Vacuum-melted compounds had the lowest transition temperature (about 500C for Cu_3Si) and the lowest microhardness. Regardless of the melting conditions, the room-temperature microhardness of the grain boundaries was 20—40% higher than that of the grains, which can be explained by the segregation of gas impurities along the

 UDC: 539.4.015/019

ACC NR: AP6036441

grain boundaries. The grain-boundary microhardness of specimens annealed at various temperatures gradually decreased with increasing annealing temperatures, and with annealing at transition temperatures, became equal to the grain microhardness. This showed that the transition from brittle to ductile behavior of the investigated compounds was associated with the resorption of gas impurities. The harmful effect of gas impurities on the ductility and grain-boundary microhardness was confirmed by annealing the compounds in air and in vacuum. The transition temperature and grain-boundary microhardness increased with prolonged annealing in air due to a higher content of absorbed gas impurities, but decreased with prolonged vacuum annealing, which lowered the content of gas impurities. Orig. art. has: 7 figures and 1 table.

SUB CODE: 11,13/SUBM DATE: 25Dec64/ ORIG REF: 008/ OTH REF: 001/ ATD PRESS: 5108

Card 2/2

ACC NR: AP7002863 (N) SOURCE CODE: UR/0149/66/000/006/0110/0115

AUTHOR: Novikov, I. I.; Shashkov, D. P.

ORG: Department of Metal Science of Non-Ferrous, Rare and Radioactive Metals, Moscow Institute of Steel and Alloys (Moskovskiy institut stali i splavov. Kafedra metallovedeniya tsvetnykh, redkikh i radioaktivnykh metallov)

TITLE: The inherent and the impurity brittleness of metallic compounds

SOURCE: IVUZ. Tsvetnaya metallurgiya, no. 6, 1966, 110-115

TOPIC TAGS: metal compound, single crystal compound, polycrystal compound, ~~metal compound~~ brittleness, ~~brittleness-ductility transition~~, INTERMETALLIC COMPOUND, PHASE TRANSITION

ABSTRACT: In a general case, it can be assumed that metallic and intermetallic compounds have inherent and volume and boundary impurity brittleness. Experimental data show that gas impurity segregations along grain boundaries, which cause the boundary impurity brittleness, play an exceptionally important role in the brittle failure of compounds. To determine the nature of the brittle-to-plastic transition of metallic compounds without boundary impurity brittleness, high-purity single crystal and polycrystal (the latter obtained by the levitation melting of the former) iron, cobalt, nickel and manganese silicides were subjected to tension and bend tests and electric conductivity measurements at temperatures up to 800C. The transition of the polycrystalline compounds through the temperature threshold of impurity brittleness with heating was found to be associated with desorption of the

 UDC: 539.5.015/019

ACC NR: AP7002863

gas impurities along the grain boundaries. NiSi, MnSi, FeSi, and CoSi single crystal compounds had brittle-to-plastic transition temperatures of 630, 810, 920 and 950C, respectively, compared with 900, 1140, 1240 and 1310C for polycrystalline compounds of the same composition. The difference is explained by the absence of boundary impurity brittleness in the single crystal compounds. The brittle-to-plastic transition of metallic compounds, as well as the observed drop in the electric conductivity which accompanied it, are explained by the disappearance of oriented interatomic bonds. The embrittling action of gas impurity segregations along the grain boundaries is explained by the formation of additional oriented bonds within the near-boundary zone of crystals. Hence, both the inherent and the impurity brittleness can have an identical, in principle, nature resulting from the existence of oriented interatomic bonds. Orig. art. has: 5 figures and 1 table.

SUB CODE: 11, 20/ SUBM DATE: 05Jul66/ ORIG REF: 010/ OTH REF: 004

Card 2/2

ACC NR: AP7002704 SOURCE CODE: UR/0115/66/000/012/0025/0028

AUTHOR: Novikov, I. I.

ORG: none

TITLE: Specific heat capacity in the critical point

SOURCE: Izmeritel'naya tekhnika, no. 12, 1966, 25-28

TOPIC TAGS: specific heat, critical point

ABSTRACT: General and simple considerations are set forth from which an inference can be made that the isochoric specific heat of any substance, in the critical point, is infinity. Three examples are examined which show that by comparing mathematical series which represent thermodynamic quantities at some points of equal-temperature phase-equilibrium curve, the fact that the isobaric specific heat is equal to infinity can be easily proven. A similar approach is used for the isochoric specific heat. The temperature T at the phase-equilibrium points is represented as a power series of $v - v_c$ and $s - s_c$, where v is volume and s entropy; subscript c stands for critical. It is further proven that the isochoric specific heat and all its derivatives turn into infinity at the critical point. Orig. art. has: 35 formulas.

SUB CODE: 20 / SUBM DATE: 25Aug66 / ORIG REF: 004

Card 1/1 UDC: 536.63

ACC NR: AM6018586 Monograph UR

Novikov, Il'ya Izrielovich

Hot cracking of nonferrous metals and alloys (Goryachelomkost' tsvetnykh metallov i splavov) Moscow, Izd-vo "Nauka", 1966. 298 p. illus., biblio. 3,500 copies printed.

TOPIC TAGS: alloy composition, nonferrous metal, alloy, brittleness, intergranular corrosion, tensile test, brittleness

PURPOSE AND COVERAGE: This book is intended for engineers-researchers, production engineers, metallurgists, foundry engineers, and welding specialists. It may also be useful to senior students of schools of higher education, who specialize in metallurgy and machine-building. The book deals with problems of hot brittleness and susceptibility of metals and alloys to brittle integranular failures caused by the presence of liquid phase at grain boundaries, which often occurs during casting and welding, and may also occur during high-temperature treatment under pressure, heat treatment, and operation of parts made of heat-resistant alloys. The effect of alloy composition and structure on their strength, ductility, and linear shrinkage in solid-liquid state is discussed as well as the nature of hot cracks and

Card 1/6 UDC: 669.2/8:621.746.76:621.791.01

methods applied to reduce hot brittleness. The book contains data on the effect of chemical composition on hot brittleness of binary or multicomponent alloys with an aluminum, magnesium or copper base, and also includes data on testing the resistance to the formation of hot cracks of nonferrous alloys used in Soviet and non-Soviet countries.

TABLE OF CONTENTS:

ACC NR: AM6018586

Card 3/6

ACC NR: AM6018586

Card 4/6

ACC NR: AM6018586

Card 5/6

ACC NR: AM6018586

References -- 292

SUB CODE: 13, 11/ SUBM DATE: 30Dec65/ ORIG REF: 209/ OTH REF: 115/

Card 6/6

GUTNIK, M.A.; BORISOV, L.F.; NOVIKOV, I.K.; SPASSKIY, N.N.; OVCHINNIKOV, A.N.; STOLYAROV, A.B.; KLAVIR, A.V.; GALKINA, V.I.; SHALFEYEV, V.I.

Overall mechanization of decorative grinding and polishing operations. Prom. energ. 17 no.9:6-8 S '62. (MIRA 15:8)
(Grinding machines)

NOVIKOV, I. K.

"Organization of the Training-Educational Work in USSR Schools," Organizatsiya Uchebno-Vospitatel'noy Raboty v Shkole, pp 86-102, 1950

Translation M-672, 27 Jul 55

S/164/62/000/001/004/
D041/D113

AUTHORS: Novikov, I.K., Engineer; Mukhina, T.N., Candidate of Technical Sciences; Shereshevskiy, I.S., Engineer

TITLE: Ceramic materials as heat carriers in high-temperature processes

PERIODICAL: Khimicheskoye mashinostroyeniye, no. 1 [illegible], 1962

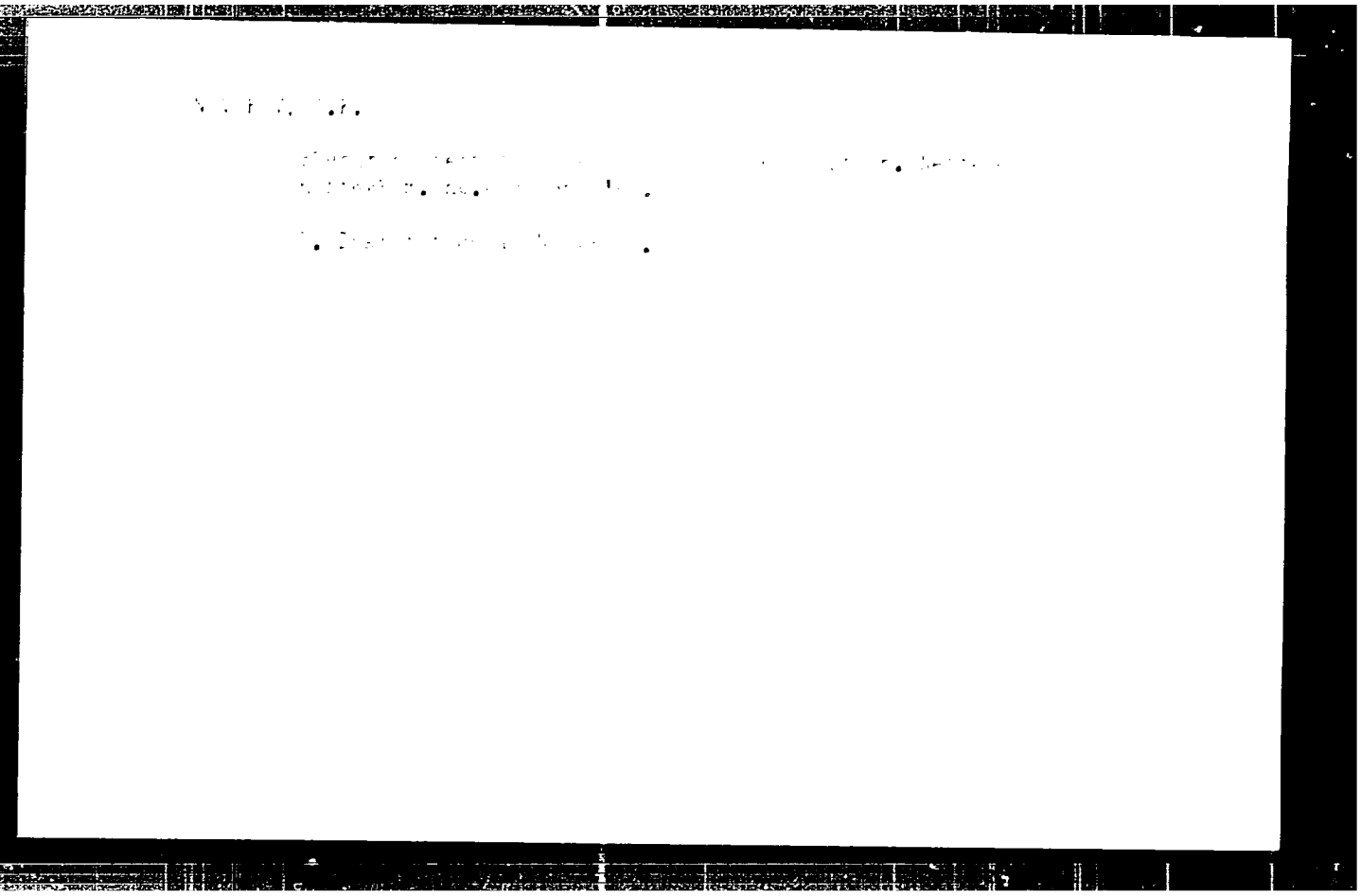
TEXT: The article contains a detailed description of experimental investigations conducted with a wide range of materials in order to determine the best heat carriers for high-temperature processes. Laboratory and industrial tests were conducted and the following results obtained: The best ceramic heat carriers should be made of finely-ground material, baked and sintered. For medium temperatures such materials would include: chamotte (based on refractory clay and chamotte), mullite and kaolin with baking temperatures of 1400°C, 1450°C, and [illegible]°C respectively, and the "Uralit" ceramic material; for high temperatures -

Card 1, 2

corundum (based on pure aluminum oxide), mullite-corundum (based on aluminum and silicon oxides), and carborundum-aluminum-oxide [illegible] are borundum, 40-50% high-aluminum-oxide, 10-14% Chasov-Yar clay [illegible] temperatures of 1700°C, 1620-1650°C, and 1400°C respectively. Mullite compositions (softening temperature - 1 C -1760°C) have a high mechanical stability and are relatively cheap. The use of mullite or [illegible] heat carriers with an addition of zirconium dioxide and oxides of other rare earth elements is also recommended. Good results were obtained with granules of Al_2O_3 with an addition of 5-30% ZnO. There are 4 figures, 3 tables, and 11 references: 5 Soviet-bloc and 6 non-Soviet-bloc. The four English-language references are: C.L. Norton, "I.Amer.Ceram.Soc.", v.29, no.7, 1946; M. Kilpatrick, "Petrol Process", no. 6 [illegible] wood, "Petrol Process" no. 12, 1954; F.P. Hepp, "Ind.Eng.Chem.", v. 1949, pp 25-31.

PAUKSHTEL', B.F.; NOVIKOV, I.K.; GAL'PER, Kh.T.

Results of the organization of an anesthesiological service in Mogilev Province. Zdrav. Bel. 9 no.2:62 F'63. (MIRA 16:7)
(MOGILEV PROVINCE—ANESTHESIA)



APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137430003-9"

L 62194-65 EWT(m)/EPF(c)/EWP(j)/EWA(c) Pc-4/Pr-4 JAJ/RM

ACCESSION NR: AP5015885 UR/0080/65/038/006/1332/1337
66.092.193

AUTHOR: Novikov, I. K.

TITLE: Electrothermophoric pyrolysis of hydrocarbon stock for the purpose of obtaining olefins and acetylene

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 6, 1965, 1332-1337

TOPIC TAGS: electrocracking, olefin, acetylene, petroleum cracking, hydrocarbon conversion, pyrolysis

ABSTRACT: A method is proposed for converting petroleum stock into lower olefins and acetylene by means of microdischarges arising during the continuous motion of carbon packing in a dense layer between electrodes supplied with alternating current. The technique differs from earlier ones in that a packing moving in a continuous flow between stationary electrodes is used. It permits a continuous conversion in column-type vertical reactors. The intensity of the microdischarges depends on the quality and fractional composition of the carbon packing, [illegible]

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137430003-9"

obtained in a reactor with a high discharge density. Electrothermophoric cracking of

Card 1/2

L 62194-65

ACCESSION NR: AP5015885

butane at 120 V showed that the concentration of unsaturated hydrocarbons increases with decreasing contact time and increasing voltage at the electrodes. Electrothermophoric cracking of liquid petroleum stock produces a gas in which the content of olefins and hydrogen is higher than that of the gas obtained by cracking gaseous hydrocarbon stock. This is apparently due to the fact that liquid hydrocarbons, which consist of long paraffin chains, undergo cracking more readily than do propane and butane molecules. Orig. art. has: 3 figures and 3 tables.

ASSOCIATION: Novokyubyshevskiy filial NIISS (Novokuybyshev Branch, NIISS)

SUBMITTED: 09Dec63 ENCL:00 SUB CODE: FP, OC

NO REF SOV: 005 OTHER: 003

NOVIKOV, I.M., gornyy inzh.

Improving the parabolic bunker. Gor. zhur no.7:76-77 Jl '61.
(MIRA 15:2)

1. Novo-Troitskoye rudoupravleniye, Stalinskaya obl.
(Ore handling---Equipment and supplies)

NOVIKOV, I.M.; SAPRONOV, V.A.; ONISHENKO, Z.V.; SIMAKOVA, F.P.; BEL'SKAYA, Yu.R.; BALASHOVA, T.L.; Prinimali uchastiye: KALINICHENKO, V.M.; LITVINENKO, L.A.

Granulation of butadiene-styrene and natural rubber in the Dniepropetrovsk Rubber Tire Plant. Kauch. i rez. 22 no.12: 44-48 D '63. (MIRA 17:9)

1. Dnepropetrovskiy shinnyy zavod (for all except Kalinichenko, Litvinenko). 2. Dnepropetrovskiy filial Nauchno-issledovatel'skogo instituta shinnoy promyshlennosti (for Kalinichenko, Litvinenko).

ACC NR: AT6012692

AUTHOR: Goncharov, V. V.; [illegible]; [illegible]; Novikov, I. M.; Yegorenkov, P. M.; [illegible]; Frolov, I. I.; [illegible]; Pushnin, B. T.; Fishevskiy, V. K.; [illegible]; Frolov, A. I.; [illegible]; Goncharov, L. A.

ORG: State Committee on the Use of Atomic Energy, [illegible], Institute of Atomic Energy im. I. V. Kurchatov, Moscow (Gosudarstvennyy komitet po ispol'zovaniyu atomnoy energii SSSR, Institut atomnoy energii)

TITLE: Experience in operation of the [illegible] materials

SOURCE: Moscow. Institut atomnoy energii. Soobshcheniya, no. 991, [illegible] plavitsya reaktora [illegible] IVEL i materialov, [illegible]

TOPIC TAGS: [illegible] material, nuclear reactor [illegible]

ABSTRACT: The authors [illegible] Kurchatov Institute of Atomic Energy and intended for the [illegible] and materials [illegible] [illegible]

Card 1/2

ACC NR: AT6036961

struction and the var[illegible] duction. II. Operat[illegible] reactor. a) Fuel burn[illegible] fuel assemblies. c) [illegible] tion system of the reac[illegible] loop for fuel element [illegible] c) Intermediate (secon[illegible] e) water purification [illegible] for the graphite stacks [illegible] loop installations. [illegible] materials. [illegible] has been in operation since [illegible], and its power was increased from the initial [illegible] MW. [illegible] reactor has 3 loop channels with [illegible] acteristics of the reactor at different power ratings are tabulated. [illegible] tributions to the adjustment of the MR reactor were made by I. Ye. Alekseyev, [illegible] Alekseyev, S. N. Bezichev, A. P. Bugayenko, Yu. I. Kovalev, V. K. Lebedev, A. V. Rotankov, V. D. Rusov, N. V. Sarychev, Ye. S. Chernorotov, and Yu. A. Sulkov. Orig. art. has: 13 figures and 6 tables.

SUB CODE: SUBM DATE: 00/ ORIG REF: 001

Card 2/2

NOVIKOV, I.M. (Frunze)

Model maternity hospital. Fel'd. i akush. 21 no.10:38-40 O '56.
(MLRA 9:12)
(FRUNZE--HOSPITALS, GYNECOLOGIC AND OBSTETRIC)

NOVIKOV, I.M. (Frunze)

Feldsher V.T.Peredreev's recollections of his work before the Revolution. Fel'd. i akush. 22 no.11:8-10 N '57. (MIRA 11:2)
(PEREDREEV, VASILII TROFIMOVICH, 1887-)
(ASIA, CENTRAL--PUBLIC HEALTH)

NOVIKOV, I.M.

For further improvement in public health services in Kirghizia.
Fel'd. i akush. 23 no.2:53-55 F '58. (MIRA 11:3)
(KIRGHIZISTAN--PUBLIC HEALTH)

NOVIKOV, I.M.

Health centers in the Donets Basin. Sov.zdrav. 1[illegible] no.[illegible]: 49-50 '59. (MIRA [illegible])
(DONETS BASIN--INDUSTRIAL HYGIENE)

NOVIKOV, I.M. (Stalino)

At medical stations of Donets Basin mines. Fel'd. i akush. 24 no.7:31-35 Jl '59. (MIRA 12:10)
(DONETS BASIN--MINERS--[illegible])

S/148/60/000/003/009/018
A161/A029

AUTHORS: Kuz'min, Yu.M.; Novikov, I.N.; Rogel'berg, I.L.

TITLE: Changes of Mosaic Block Dimensions in Cold-Rolled Nickel in Annealing

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. - Chernaya metallurgiya, 1960, No. 3. pp 96 - 99

TEXT: An investigation is described, in which the mean size of mosaic blocks of cold-rolled polycrystalline nickel was measured roentgenographically after annealing at different temperatures. Nickel (99.05 Ni) was remelted and deoxidized by carbon. The composition of obtained ingots was: 0.1%C; 0.022% Fe; 0.003% Cu; 0.001% Mg; 0.004% Si, and below 0.001% Pb, Sn, Sb and Bi (remainder nickel). The ingots were rolled hot, then cold, to 0.8 mm; annealed in salt bath; the surface pickled in undiluted nitric acid. Roentgenograms were made in a КРОС -1 (KROS-1) inverse camera, in copper radiation, with 30-kv voltage on the tube and 10-ma current. Two 0.8 mm diameter diaphragms spaced 40 mm were used to reduce the line width, and a nickel specimen annealed at 700°C was employed for reference; the roentgenograms were photometered with a МФ-4 (MF-4) photometer. The mean mosaic block size was determined by harmonic analysis of the shape of the

Card 1/3

Changes of Mosaic Block Dimensions in Cold-Rolled Nickel in Annealing

curve (Ref. 8). The results of the harmonic analysis of one measurement series is shown (in Fig. 2) in the form of decomposition coefficients A_n from the harmonic order n. The mean block size at different temperatures of annealing was found by the tangent of the incline angle of the tangents at n=0, and (as seen from the figure) was 0.23; 0.15; 0.22 and 0.09 in the state after rolling, and after annealing at 300, 400, and 600°C. A dependence with three periods was found: a considerable growth of blocks up to 300°C; a decrease at 400 and 500°C; a rapid growth from 500°C up. The recrystallization point of the studied nickel is 505°C. The peculiar decrease is most probably caused by the polygonization phenomenon (Ref. 7). There are 3 figures and 9 references: 3 Soviet, 4 English, 1 German, 1 French.

ASSOCIATION: Krasnoyarskiy institut tsvetnykh metallov (Krasnoyarsk Institute of Nonferrous Metals)

SUBMITTED: April 16, 1959

S/148/60/000/003/009/018
A161/A029

Changes of Mosaic Block Dimensions in Cold-Rolled Nickel in Annealing

Figure 2:

Dependence of the decomposition coefficients on the harmonic order for (331) lines

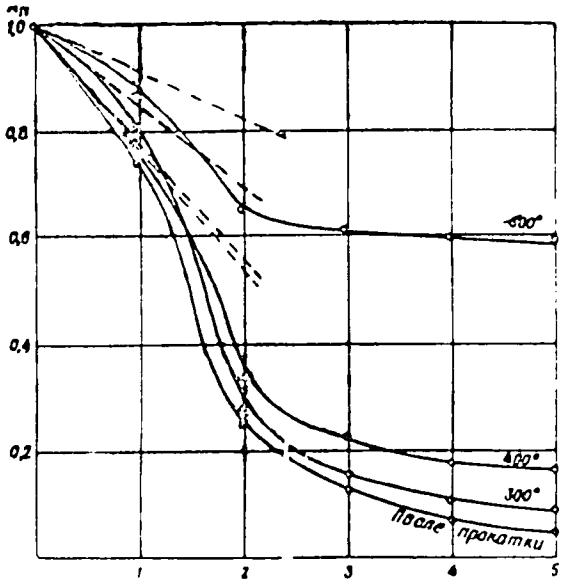


Рис 2. Зависимости коэффициентов разложения от порядка гармоники для линии (331)

Card 3/3

S/153/60/003/005/005/016
B013/B058

AUTHORS: Zavgorodniy, S.V., Novikov, I.N.

TITLE: Autooxidation of p-Diisopropyl Benzene

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1960, Vol. 3, No. 5, pp. 863 - 867

TEXT: The possibility of oxidation of p-diisopropyl benzene, forming in the alkylation of benzene with a propane - propylene mixture in the presence of $BF_3 \cdot H_3PO_4$ into hydrogen peroxides, and subsequent cleavage of the monohydrogen peroxide into p-isopropyl phenol, and of the dihydrogen peroxide into hydroquinone, was studied in this paper. Autooxidation of p-diisopropyl benzene at 85°, 110°, and 130°C in the presence of diisopropyl benzene hydrogen peroxide and manganese resinate with alkaline additions, as well as cleavage of the hydrogen peroxides into corresponding phenols, was studied for this purpose. It was shown that the rate of oxidation of industrial p-diisopropyl benzene depends on its purity. NaOH, KOH, $Ca(OH)_2$ and Na_2CO_3 were used as additions. These materials are

Card 1/3

only little effective in themselves, and have all about the same effect. Their addition (0.5 -1 g per 1 mole of diisopropyl benzene) to the manganese resinate, however, initiates the autooxidation process, and permits a deep-reaching oxidation of the hydrocarbon up to the hydrogen peroxide. Autooxidation becomes specially intensive if p-diisopropyl benzene is preoxidized in the presence of alkaline additions up to a content of 2 - 3% hydrogen peroxide in the solution. Manganese resinate or diisopropyl benzene hydrogen peroxide is subsequently added, and oxidation is continued with the blowing-through of air. Under such conditions, a maximum hydrogen peroxide concentration of 78% was obtained within 44 hours at 110 ± 2°C. The experiments showed that p-diisopropyl benzene dihydrogen peroxide is only precipitated if the hydrogen peroxide concentration in the hydrocarbon solution is higher than 40%. It may be assumed that in the oxidation of p-diisopropyl benzene, monohydrogen peroxide is formed first. Not until this has reached a certain concentration does it begin to oxidize into p-diisopropyl benzene dihydrogen peroxide. The cleavage of the dihydrogen peroxide proceeds most smoothly with concentrated sulfuric acid in ether, the highest hydroquinone yield being obtained here. Strong resinification can be observed with dilute

sulfuric acid. By reproduction of pure dihydrogen peroxide, 96% of p-di-(α,α'-oxy-isopropyl)-benzene was obtained in the form of white needles with a melting point of 140°C. Figs.1 - 3 show the effect of the purity of diisopropyl benzene, temperature, and various admixtures on the rate of oxidation. B.D. Kruzhalov and V.V. Fedorova are mentioned. There are 3 figures, 2 tables and 5 Soviet references.

ASSOCIATION: Voronezhskiy gosudarstvennyy universitet. Kafedra organicheskoy khimii (Voronezh State University. Department of Organic Chemistry)

SUBMITTED: February 17, 1959

S/064/62/000/003/004/007
B110/B101

AUTHORS: Zavgorodniy, S. V., Novikov, I. N., Kryuchkova, V. S., Shatalov, V. P.

TITLE: Production of hydroperoxides of alkyl aromatic hydrocarbons. Their initiating properties in copolymerization of divinyl with styrene

PERIODICAL: Khimicheskaya promyshlennost', no. 3, 1962, 29 - 33

TEXT: The synthesis of hydroperoxides of cyclohexylbenzene (I); p-isopropyl-sec-butylbenzene (II); p-isopropylcyclohexylbenzene (III); p-di-sec-butylbenzene (IV); p-diisopropyl-2-chloro benzene (V) and 1,3,5-triisopropylbenzene (VI) by autoxidation with atmospheric oxygen was studied, as well as their capacity for initiating copolymerization of divinyl with styrene at low temperatures. Oxidation took place in the presence of manganese resinate and alkali: NaOH, $Ca(OH)_2$, Na_2CO_3, K_2CO_3 at 95 - 120°C. It was found that VI is oxidized the most strongly, II and III are oxidized well, but I, especially in the presence of BaO_2, is oxidized only slowly. Increasing the reaction temperature from 110 to 120°C (5 - 6

Card 1/2

mg/mole of manganese resinate, 1 - [illegible] caused faster autoxidation and raised the maximum hydroperoxide concentration of IV; it influenced the oxidation of II and VI and reduced the hydroperoxide concentration of I. In the autoxidation of I (at [illegible], 110, and 120°C) the addition of manganese resinate and boron produced an optimum effect. In the autoxidation of III it is chiefly mono hydroperoxides of α,α-dimethyl-p-cyclohexylbenzyl that arise. II readily forms a mixture of two mono and one dihydroperoxide

X

ZAVGORODNIY, S.V.; NOVIKOV, I.N.; KRYUCHKOVA, V.G.; SHATALOV, V.P.

Preparation of hydroperoxides of alkylaromatic hydrocarbons, and their initiation properties in copolymerization of divinyl with styrene. Khim.prom. no.3:181-185 Mr '62. (MIRA 15:4)
(Hydrocarbons) (Butadiene polymers) (Styrene polymers)

S/079/62/032/009/007/011
I048/I242

AUTHORS: Novikov, I.N., Antonova, A.M., Zhilina, R.I., Furtichova, R.P., Shatalov, V.P., and Zavgor[illegible]

TITLE: Synthesis and autooxidation of isopropylcyclohexylbenzene

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 9, 1962, [illegible]

TEXT: Experiments on the cycloalkylation of isopropylbenzene with cyclohexanol in the presence of sulfuric acid and the oxidation of the product thereof are described. The relative amounts of reagents taken for the alkylation varied from an isopropylbenzene:sulfuric acid mole ratio of 2:3 to 3:1.5 with 1 mole of cyclohexanol. The isopropylbenzene and sulfuric acid were mixed first, the cyclohexanol was added slowly (during 2.5-3 hrs) and the reaction was continued with stirring for another 4-5 hrs. The end of the reaction was indicated by a constant value of the refraction index of the organic phase. The main reaction product was isopropylcyclohexylbenzene; its yield was highest (81.2%) when the reagents were taken

Card 1/3

S/073/63/033/[illegible]
I048/I242

[illegible]nesis and autooxidation...

[illegible] the ratio isopropylbenzene/sulfuric acid/cyclohexanol [illegible] and lowest (48.4%) when this ratio was 3:1.5:1. Variation [illegible] temperature, within the range 10-40°C, had no significant [illegible] yield. The yield of by-products (isopropyldicyclohexylbenzenes, cyclohexene polymers) varied between 10.2 and 23.5%. A [illegible] graphic analysis showed that the isopropylcyclohexylbenzene [illegible] 1:21:63 mixture of the O-, m-, and p-isomers. [illegible] isopropylcyclohexylbenzene was oxidized in air, at 110°C, in the presence of a small amount of an initiator (e.g., 1 wt % isopropylbenzene hydroperoxide) and a small amount of alkali (e.g., 0.1 wt % NaOH); the total yield of hydroperoxides varied between 67.0 and 71.5%, after a reaction time of 28-49 hrs. Among the hydroperoxides separated from the reaction product by extraction with NaOh were: p-isopropylcyclohexylbenzene dihydroperoxide (m.p. 105-106°C) and p-isopropylcyclohexylbenzene monohydroperoxide (m.p. 56-57°C). There are [illegible] figures and 2 tables.

Card 2/3

S/079/62/032/009/007/011
I048/I242

Synthesis and autooxidation...

ASSOCIATION: Kievskiy politekhnicheskiy institut (The Kiev Polytechnic Institute)

SUBMITTED: August 19, 1961

Card 3/3

NOVIKOV, I.N.; [illegible] S.V.

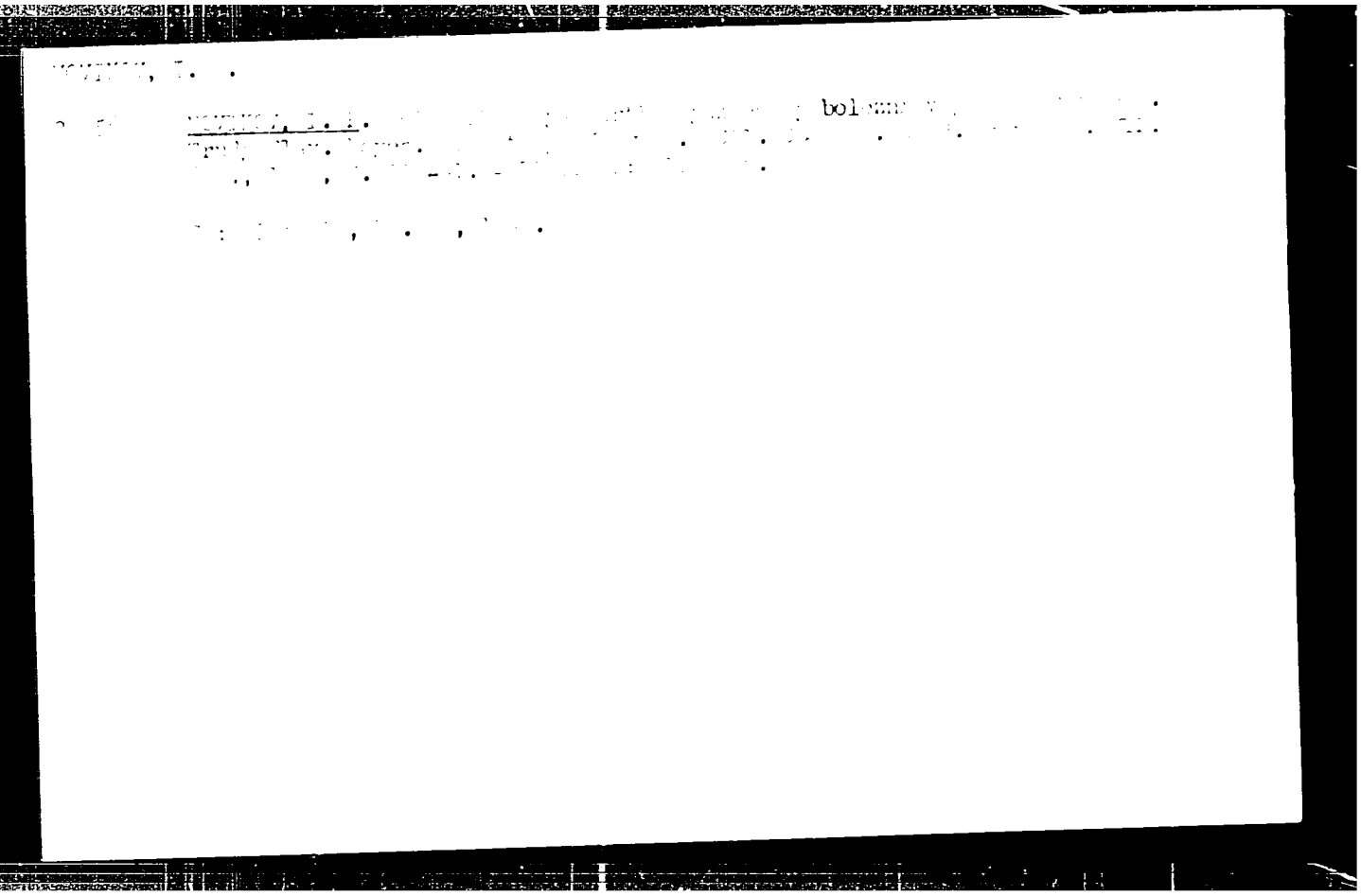
Autoxidation of alkyl benzenes. Vses. khim.obshch. [illegible] no.4:[illegible]
'63. (MIRA 17:4)

1. Kiyevskiy politekhn. [illegible] institut.

NOVIKOV, I.N.; ZAVGORODNIY, S.V.

Autoxidation of p-dicyclohexylbenzene. Dokl.AN SSSR 148 no.4:853-855 F '63. (MIRA 16:4)

1. Kiyevskiy politekhnicheskiy institut. Predstavleno akademikom A.V.Topchiyevym.
(Benzene) (Oxidation)



NOVIKOV, I.P.

Case of unusual distribution of blood vessels in the ligamentum hepatoduodenale. Arkh. anat., Moskva 29 no.4:79-82 July-Aug 1952. (CIML 23:2)

1. Of the Department of Topographic Anatomy and Operative Surgery (Head -- Prof. V. V. Kovanov), First Moscow Order of Lenin Medical Institute.

NOVIKOV, I. P.

Method of therapy of burns. Sovet. med. 17 no. 1:32 Jan 1953. (CIML 24:1)

1. Of Mogilev Oblast Hospital (Head Physician -- Yu. A. Altunin; Head of Division A. I. Doroshevich).

NOVIKOV, I.P.

In memory of S.S. Girgolav. Vest. AMN SSSR 12 no.1:95 '57
(MLRA 10:5)

(GIRGOLAV, SEMEN SEMENOVICH, 1880-1956)

NOVIKOV, I. P., Cand Med Sci-- (diss) "Fascie and Cellular spaces of the thigh." Mos, 1957. 16 pp (1st Mos Order of Lenin Med Inst im I. M. Sechenov), 200 copies (KL, 1-58, 121)

NOVIKOV, I.P.

Practical significance of the fascia and cellular spaces of the thigh [with summary in English]. Khirurgiia 33 no.10:130-137 O '57. (MIRA 11:2)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii (zav. - prof. V.V.Kovanov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova.

(THIGH, dis.
spreading of pathol. processes & infiltration anesth., anat. aspects (Rus))
(ANESTHESIA, LOCAL
infiltration, in thigh surg., anat. aspects (Rus))

NOVIKOV, I.P., kand.med.nauk

Current problems in gastrointestinal pathology. Vest. AMN SSSR 13 no.12:75-80 '58. (MIRA 12:1)
(ALIMENTARY CANAL--DISEASES--CONGRESSES)

NOVIKOV, I.P.

YEGOROV, B.G., prof., NOVIKOV, I.P., kand.med.nauk

Questions of theory, practice, and organization in the rheumatic fever problem. Vest.AMN SSSR 13 no.6 [illegible] 49 '58 (MIRA 11:7)

1. Deystvitel'nyy chlen AMN SSSR (for Yegorov).
(RHEUMATIC, fever
prevention and control (Rus))

YEGOROV, B.G.; NOVIKOV, I.P., kand.med.nauk

Administrative and research activities of the Division of Clinical Medicine of the Academy of Medical Sciences in 1958. Vest.AMN SSSR 14 no.5:70-76 '59. (MIRA 14:5)

1. Deystvitel'nyy chlen AMN SSSR (for Yegorov).
(ACADEMY OF MEDICAL SCIENCES OF THE U.S.S.R.)

NOVIKOV, I.P., kand.med.nauk

Hundred and fiftieth anniversary of the Caucasian Mineral Waters resort area. Vest.AMN SSSR 14 no.8:81-85 '59. (MIRA 12:11)
(MEDICINE)

NOVIKOV, I.P., kand.med.nauk

Problem of acute pneumonias. Vest. AMN SSSR 15 no.9:77-82 '60.
(MIRA 13:11)

(PNEUMONIA)

VASILENKO, V.Kh.; NOVIKOV, I.P.

Activity of a bureau of the Department of Clinical Medicine of the Academy of Medical Sciences of the U.S.S.R. in 1960. Vest. AMN SSSR 16 no.11:75-79 '61. (MIRA 15:2)

(MEDICINE, CLINICAL)

RUDNEV, G.P.; N VIKOV, I.P.

Health protection for man under the conditions in the Far North.
Vest. AMN SSSR 17 no.3:83-89 '62. (MIRA 15:4
(ACCLIMATIZATION--CONGRESSES)

NOVIKOV, I.P.

Dynamics of the development of collateral blood circulation in thrombosis of the femoral artery. Eksper. khir. i anest. no.1: 24-27'63. (MIRA 16:10)

1. Iz Instituta meditsinskoy radiologii (dir. - deystvitel'nyy chlen AMN SSSR prof. G.A.Zedgenidze) AMN SSSR (Konsul'tant - prof. P.N.Mazayev).

(THROMBOSIS) (FEMORAL ARTERY—DISEASES)
(BLOOD—CIRCULATION)

NOVIKOV, I.P.

Study of anatomico-functional changes in the lymphatic system in disorders of the peripheral blood supply using the lymphographic method. Eksper.khir. i anest.no.2:3-6'63. (MIRA 16:7)

1. Iz Instituta meditsinskoy radiologii (dir. -deystvitel'nyy chlen AMN SSSR prof. G.A.Zedgenidze)AMN SSSR; nauchnyy konsul'tant - prof. P.N.Mazayev.
(LYMPHATICS--RADIOGRAPHY) (BLOOD--CIRCULATION, DISORDERS OF)

NOVIKOV I. P

18

AFANASYEVA, A.V., BAISHEV, B.T., VORISOV, YU.P., VASILIEVA, V.N., VOYNOV, V.V., ZINOVYEVA, L.A., KAMENETSKIY, SIO., MAKISOV, M.I., MAKISOV, M.M., MAIDEBOR, V.N., NOVIKOV, I.P., SOKOLOVSKIY, E.V., SUSHILIN, V.A., YAKOVLEV, V.P.

Problem of developing oil in the USSR

Report to be submitted for the Sixth World Petroleum Congress Frankfurt, 16-26 June 63

NOVIKOV, I.S., general -direktor tyagi 3-go ranga, nachal'nik.

New cars for the Moscow Metro. Gor.khoz.Mosk. 21 no.4:15-21 Ap '47. (MLRA 6:11)

1. Moskovskiy metropoliten imeni L.M.Kaganovich.
(Moscow--Subways) (Subways--Moscow) (Electric railroads--Cars)

NOVIKOV, I.S.

Work of the Moscow municipal transportation system as reflected in passenger flow data. Gor.khoz.Mosk. 21 no.7:15-20 Jl '47. (MLRA 6:11)
(Moscow--Rapid transit) (Moscow--Transportation, Automotive)
(Transportation, Automotive--Moscow)

1. NOVIKOV, I. S.

2. USSR 600

4. Moscow - Subways

7. New engineering techniques of the Moscow subway, Gor. khoz. Mosk, 23, No. 5, 1949.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

PANEV, G.A.; KUZUB, A.G.; CHUVPYLO, I.I.; KAMARDIN, A.M.; NOVIKOV, I.S.; YAROSHEVSKIY, S.I.; POPOV, N.N., kand. tekhn. nauk

Effect of high temperature heating of the hearth on the operation of a blast furnace. Met. i gornorud. prom. no.2:9-11 Mr-Ap '65. (MIRA 18:5)

LOVTSKAYA, I.N.; KARLINSKAYA, D.Yu.; NOVIKOV, I.Sh.

Formula for oil-resistant spongy rubber goods. Kauch. i rez. 22 no.5:48-49 My '63. (MIRA 16:7)
(Foam rubber)

AUTHOR: Novikov, I.T., Chief and Engineer

TITLE: The Construction of the Kremenchug [illegible] stroitel stvo Kremenchugskoy [illegible]

PERIODICAL: Gidrotekhnicheskoye stroitel stvo, 1959, Nr [illegible] (USSR)

ABSTRACT: The Kremenchugskaya [illegible] the Kremenchug [illegible] has been under construction since 1954, and will be put into operation during the forthcoming 7-Year Plan. After completion, the hydroelectric power plant will have a capacity of 625,000 kw and will form, in connection with other hydroelectric power plants, the united southern electric power system, which will supply Kiyev, Khar'kov, Cherkassy, Poltava, Zhitomir, Chernigov and the neighbouring industrial and agricultural areas. The water reservoir contents 11.5 billion cu meters will not only favorably influence the climate, but will also create the possibility of building up a large irrigation network to supply an area of 3.5 million ha with water. The head length of the power plant covers a distance of 12.6 km; the earthen alluvium dam is 11.3 km long. In 1958, a total of [illegible] cu meters

Card 1/2

The Construction of the Kremenchug [illegible] [illegible]

of concrete and reinforced concrete were utilized. Up to now 60,000 square meters of living space have been built to accomodate the 13,[illegible] workers employed with the power plant construction; it is planned to increase this figure to 90,000 square meters. At present, the administration is trying to find efficient methods and means to decrease construction costs and to shorten the construction terms. There are 6 photographs, 1 graph, 4 diagrams, and 1 table.

ASSOCIATION: Kremenchugzhestroy

Card 2/2

AUTHOR: Novikov, I.T., Minister of Construction of Electric Power Plants of USSR

TITLE: The Development of the Power Engineering of the USSR in the Seven Year Plan, and the Problems of Construction of Hydroelectric Power Plants (Razvitiye energetiki SSSR v semiletnem plane i zadachi gidroenergostroitel'stva)

PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, 1959, Nr [illegible], (USSR)

ABSTRACT: The Ministry of Construction of Electric Power Plants of the USSR was especially created to supervise and coordinate the construction of new, and the further development of already existing, electric power plants. In connection with the 7-Year Plan, the author reviews the achievements in the field of the electrification of the Union, and the future tasks of power engineering. The total electric power output in 1957 was of 209,700,000,000 kilowatt-hours, in 1958 it was 233,000,000,000 and will reach 500-520,000,000,000 kilowatt-hours in 1965. It means that the average yearly output must increase by

Card 1/3

The Development of the Power Engineering of the USSR in the Seven Year Plan, and the Problems of Construction of Hydroelectric Power Plants

11-12% during the next seven years. In September, 1958 the first part of the atomic power plant (100,000 kilowatts) was put into action. Its total output will be of 600,000 kilowatts. In December, 1958 the first three aggregates of the Stalingrad GES were put into action This GES will be the most powerful in the world: its total output will be 2,530,000 kilowatts. The 7-Year Plan foresees a further important development of the thermo-electric power plants mainly in the east of the Union, where the inexpensive opencast production of coal, gas and oil fuel will cut down the cost of construction of these plants by 30%, and the cost of electric current by 50%. The net of electric power lines will be considerably extended, and the world's first power line for the transmission of 400 kilovolt strong direct current will be built. The unification of the electric power systems in the European part of the Union, in Central Siberia and Transcaucasus, and other parts of the Union, will be achieved. The author appeals to all concerned

Card 2/3

SOV [illegible]

The Development of the Power Engineering of the USSR in the Seven [illegible] Plan, and the Problems of Construction of Hydroelectric Power Plants

for the introduction of new construction methods [illegible]
for larger use of prefabricated reinforced concrete in
future constructional plans. The quality of [illegible]
must also be considerably improved.

Card 4/5

NOVIKOV, I.T.

Major standards of power-station construction. Energ.stroi. no.4: 3-8 '59. (MIRA 13:8)

1. Ministr stroitel'stva elektrostantsiy.
(Electric power plants)
(Hydroelectric power stations)

SOV/96-59-5-1/19

AUTHOR: Novikov, I.P. Minister

TITLE: Tasks in the Construction of Thermal Electric Power Stations in 1959-65 (O zadachakh v oblasti stroitel'stva teplovykh elektrostantsiy v 1959-1965 gg)

PERIODICAL: Teploenergetika, 1959, Nr 5, pp 3-7 (USSR)

ABSTRACT: The article opens with a brief general statement about the 21st Congress of the Communist Party of the Soviet Union and the plan for 1959-65. The congress decided that the amount of electric power generated at the end of the 7-year plan should increase to 500 to 520 milliard kWh, which is 2.2 times greater than in 1958. Therefore, in the next seven years it will be necessary to instal new generating capacity to the extent of about 60 million KW. The power stations will operate principally on natural gas, fuel oil and cheap coal. It is planned to increase the proportion of gas and fuel oil in the total fuel output from 31% at the present time, to 51% in 1965; the proportion due to coal will drop from 60 to 43%. As thermal power stations have considerably lower capital costs than hydro-stations, about 50 million kilowatts of the new plant will be installed in thermal

Card 1/7

power stations that is 81 to 83% of the new plant programme. Hydro power stations that are already under construction will be completed and a number of new ones will be started principally in districts with insufficient cheap fuel resources. In recent years power stations of 200 to 600 MW have been built with turbines of 25 to 100 MW and a few of 150 MW. In the next seven years however, it is proposed to construct stations of 1200, 1800 and 2400 MW with turbines ranging from 100 to 300 MW, boilers with outputs of 450 to 900 tons of steam per hour will be installed as units with these turbines. The first 200-MW set has already been made and is being installed at the [illegible].

Towards the end of the 7-year plan it is proposed to instal the first turbo-generator of 500 to 600 MW having boilers of 1800 tons per hour with super-high steam conditions. A list is then given of the main power stations that will be constructed and extended. The actual numbers of sets of different outputs are stated in Table 1 with their steam temperatures and

Tasks in the Construction of Thermal Electric Power Stations in 1959-65

pressures It is proposed to build more combined heat and electric power stations in cities and industries, particularly in connection with a number of oil refineries. The heating-load peaks will be covered by special peak-load water-heating boilers. It is intended that the output of heat in regional heat and electric power stations in 1965 should be about 300 million megakilocalories, against the 105 million megakilocalories generated in 1958. The total output of heat and electric power generating turbines to be installed in 1959-65 is 16 to 17 million kW. It should be noted that the construction of district-heating systems is lagging behind the introduction of heat-supply turbines, which is leading to excessive fuel consumption. During the 7-year plan it is proposed to construct a number of atomic power stations in regions with insufficient fuel and hydro-electric resources Various types of reactors will be installed in them and studied to find the most suitable types. A most important task in atomic electric power generation is to reduce the cost of generating electricity Upon this depends the

Tasks in the Construction of Thermal Electric Power Stations in 1959-65

rate and scope of future development of atomic power stations. In the next seven years several small and medium power stations located near main gas pipe lines will have gas-turbines with unit outputs of 25 to 50 MW and later 100 MW. The first gas-turbine installation of 25 MW, designed for an inlet gas temperature of 700°C and an overall efficiency of 29% at rated load, will be manufactured in 1960. Furthermore, the manufacture of a 50-MW gas turbine with an initial gas temperature of 800°C and a gross overall efficiency of 33.5% is also scheduled for 1960. The use of high steam conditions and large sets has considerable economic effect in the operation of power stations. Thus, on changing from current steam conditions of 90 atm and 500°C to steam conditions of 130 atm and 565°C, the specific fuel consumption is reduced by 12 to 14%, whilst the use of steam conditions of 240 atm and 580°C gives a further economy of 4 to 6%. According to preliminary calculations

Tasks in the Construction of Thermal Electric Power Stations in 1959-65

by the design institute Teploelektroproyekt' the specific consumption of conventional fuel per kilowatt hour generated (grams of fuel/kWh) varies with the steam conditions and type of set as shown in Table 2. Also, by using large sets and automatic control systems the staff required in power stations per kWh generated should be more than halved during the 7-year plan In the next 7-year plan it is proposed to build a number of outdoor-type (see photo p 6) thermal-electric power stations. Some stations of this type operating on gas fuel are under construction in the south of the country. When operating experience has been gained in the south, this type of construction may be applied in other parts of the country It should be possible to simplify the fuel-handling arrangements in pulverised-fuel-fired stations. Existing fuel stores are over-large and complicated Simpler equipment such as scraping machines and bulldozers will be used also wide-belt conveyors with belts up to 2 metres wide An important factor in reducing the cost of power station construction is the use of natural

Tasks in the Construction of Thermal Electric Power Stations in 1959-65

gas and oil fuel for which the fuel-handling arrangements are relatively cheap More attention will have to be paid to providing cheap water supply at power stations It is most important to cut the cost and improve the rate of construction of power stations Costs are appreciably lower when boiler-turbine units are used. Power station construction may be cheapened by making greater use of prefabricated structural units and by rationalising the preparation of pipework and boiler auxiliaries Erection is easier and quicker if large items of plant are delivered to the site in large pre-assembled blocks, preferably pre-assembled by the manufacturers In particular the erection of boilers can be greatly speeded up in this way The Soviet works have almost completely discontinued such preassembly work and the author disagrees strongly with this policy of the manufacturers The time required for preparatory work for construction should be reduced from about 28 months to

Tasks in the Construction of Thermal Electric Power Stations in 1959-65

about 12 months. As a result of all the various measures proposed the construction time of a large thermal power station, which is now 45 to 47 months, should be cut by 12 to 18 months in the case of stations burning coal and by 18 to 26 months in the case of stations burning gas and fuel oil. It is quite possible to achieve this result but it will demand a great deal of effort. There is 1 figure and 2 tables.

ASSOCIATION: Ministerstvo Stroitel'stva Elektrostantsiy SSSR (Ministry of Power Station Construction of the USSR)

Card 7/7

SOV/98-59-7-1/22

8(6), 14(6)

AUTHOR: Novikov, I. T., Minister for Construction of Power Stations

TITLE: Tasks Facing Constructors of Power Stations in the Light of Resolutions Passed by the June Plenum of the CC of the CPSU

PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, 1959, Nr 7, pp 1 - 3 (USSR)

ABSTRACT: The June Plenum of the CC discussed in detail the resolutions of the XXI Party Congress in the field of technical progress, the fulfillment and overfulfillment of the Seven Year Plan being the most important task facing the country in its evolution to Communism. During the first year of the plan the rate of electrification of the country was speeded up considerably, and in 1965 the annual expenditure on the provision of electric energy is scheduled to be 6 bill. rubles, as opposed to 2.6 billion in 1958. In addition, the estimated cost of the new electric power stations earmarked for the Seven Year Plan has been cut due to the use of more modern construction methods, and the funds thus saved used for the cons-

Card 1/3

SOV/98-59-7-[illegible]

Tasks Facing Constructors of Power Stations in the light of Resolutions Passed by the June Plenum of the [illegible] of the CPSU

truction of more power stations. In order to provide for a further reduction in cost, in 1958 Khrushchev proposed that the choice of the type of power used should be based on technical and economic considerations, and that hydroelectric stations [illegible] be made to be more economical than those based on thermal power. In the interests of modernization and automation various measures should be taken, the main one being the use of combined ferro-concrete in large prefabricated blocks of up to 500 t., and also the integration of the construction and technological processes. Mechanization is already fairly advanced (97% in some cases), but there are certain serious exceptions. Most GES function on automatic lines, and the automation of the construction process is the next step. In the field of electrical equipment, too, the position leaves much to be desired, and although in many respects Soviet turbines are superior to foreign ones, there are many faults in this [illegible]

Card 2/3

Tasks Facing Constructors of Power Stations in the Light of Resolutions Passed by the June Plenum of the CC of the CPSU

of the industry, particularly in the field of horizontal variable-pitch hydro-electric turbines and the sphere of electrical supplies, which frequently are not up to the required standard. The preface ends with a repetition of its initial appeal for the over-fulfillment of the Seven Year Plan in the fight to overtake capitalism.

Card 3/3

NOVIKOV, I.T.; SMIRNOV, A.D., red.; BORUNOV, N.I., tekhn.red.

[Electrification of the U.S.S.R. is an important factor in building the economic and technological foundation of communism] Elektrifikatsiia SSSR - vazhneishii faktor sozdaniia material'no-tekhnicheskoi bazy kommunizma. Moskva, Gos.energ.izd-vo, 1960. 68 p. (MIRA 14:3)

(Electrification)

NOVIKOV, I.T.

V.I.Lenin and the electrification of the country.
Teploenergetika no.4:3-4 Ap '60. (MIRA 13:8)

1. Ministr stroitel'stva elektrostantsiy SSSR.
(Electrification)

NOVIKOV, I.

Lenin's plan for the country's electrification is in operation. Sots. trud 5 no.4:22-30 Ap '60. (MIRA 13:9)

1. Ministr stroitel'stva elektrostantsiy SSSR.
(Electrification)

NOVIKOV, I.T.

From the plan of the State Commission for the Electrification of Russia on to the complete electrification of the country. Teploenergetika 7 no. 12:3-7 D '60. (MIRA 14:1)

1. Ministr stroitel'stva elektrostantsiy SSSR.
(Electrification)

NOVIKOV, I.T.

Decisive stage. Nauka i zhizn' 27 no. 4:3-5 Ap '60. (MIRA 14:5)

1. Ministr stroitel'stva elektrostantsiy SSSR.
(Electrification)

NOVIKOV, I.T.

Basic objectives of power engineering. Gidr.stroi. 30 no.1:11-14 Ja '60. (MIRA 13:5)

1. Ministr stroitel'stva elektrostantsiy.
(Hydroelectric power stations)
(Electric power plants)

NOVIKOV, I.T.

Let's carry out the decisions of the July Plenum of the Central Committee of the CPSU. Gidr. stroi. 30 no.9:1-3 S '60.
(MIRA 13:9)

1. Ministr stroitel'stva elektrostantsiy.
(Hydraulic engineering)

NOVIKOV, I.T.

Lenin's plan for the electrification of Russia. Gidr. stroi. 31 no. 12:5-15 D '60. (MIRA 14:4)

1. Ministr stroitel'stva elektrostantsiy.
(Electric power plants—Design and construction)

NOVIKOV, I.T.

Power engineering and the building of cities. Elek.sta. 31 no.7:2-4 Jl '60. (MIRA 13:8)
(Electric power) (Cities and towns)

NOVIKOV, Ignatiy Trofimovich, red.

[Power of the U.S.S.R.] Energetika SSSR; sbornik statei. Moskva, Gos.energ.izd-vo, 1961. 378 p. (MIRA 15:8)
(Electrification)