"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

TURKIN, A.N., inzh.; IZMALKOV, Yu.G., inzh.; KHAKHULIN, N.Ye., inzh.; TYUTIN, Ye.V., inzh.

Use of hydraulic clutches as direct controllers of once-through boilers. Elek. sta. 35 no.6:28-32 Je '64. (MIRA 18:1)

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137-58-4-6745D

Translation from: Referativnyy zhurnal. Metallurgiya, 1958. Nr 4. p 64 (USSR)

AUTHOR Izmanova, T.A.

TITLE: Effects of Alloying Elements on the Content and Mobility of Hydrogen in Steel (Vliyaniye legiruyushchikh elementov na sod-erzhaniye i podvizhnost' vodoroda v stali)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Technical Sciences, presented to the Tsentr. n.-i. in-t chernoy metallurgii (Central Scientific Research Institute for Ferrous Metallurgy), Moscow 1957

ASSOCIATION: Tsentr. n.-i. in-t chernoy metallurgii (Central Scientific Research Institute for Ferrous Metallurgy), Moscow

1. Hydrogen--Mobility 2. Alloys--Effectiveness--Applications
3. Steel--Processes

Card 1/1

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

IZMANOVA, T.A. KLYACHKO, Yu.A.

Hydrogen in certain iron alloys. Khim.nauka i prom. 2 no.4:528-529 '57 (MIRA 10:11)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.

(Hydrogen) (Iron alloys)

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

133-6-8/33

AUTHORS: Klyachko, Yu.A. (Dr.Tech.Sci.) and Izmanova, T.A.

TITLE: The influence of alloying elements on the content and mobility of hydrogen in steel. (Vliyaniye legiruyushchikh elementov na soderzhaniye i podvizhnost' vodoroda v stali).

PERIODICAL: "Stal'" (Steel), 1957, No.6, pp.507-511 (USSR).

ABSTRACT: The results of a study of the content and mobility of hydrogen in binary and ternary iron alloys are described. Alloys, prepared in a high frequency furnace, of the following systems were studied: Fe-C; Fe-Si-C (with 0.12-0.14% of Mn); Fe-Mn-C (with 0.1% of Si); Fe-Zr-C and Fe-Ti-C (with 0.1% Si and 0.1% Mn). The percentage composition of alloys and their initial hydrogen content are given. The alloys were tested in a forged and cast hardened state. The form of ingots is shown in Fig.1. The determination of hydrogen was carried out by the vacuo-melting method. Experimental results are given in the form of graphs. On the basis of the results obtained it is concluded that alloying elements have a substantial influence on the content and mobility of hydrogen in steel. The content of hydrogen in steel under the same smelting conditions depends on the nature and quantity of alloying elements. According to their influence alloying elements can be

Card 1/2

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The influence of alloying elements on the content and mobility of hydrogen in steel. (Cont.) 133-6-8/33

divided on "hydrogen retaining", i.e., increasing hydrogen content in metal (Ti, Zr, C and Mn) and those which have no substantial influence on hydrogen content in metal (Si). The mobility of hydrogen in steel decreases on alloying with every one of the elements investigated, the most effective being hydrogen retaining elements. Plastic deformation and heating for this purpose lead to a substantial decrease of the amount of hydrogen in steels not containing hydrogen retaining elements, and to an insignificant one - in the presence of these elements. The amount of hydrogen evolved at low temperatures (calculated on 100 g of metal) depends on the weight of the metal sample, the smaller the sample, the higher the amount of the evolved hydrogen. There are 6 figures and 9 references, including 5 Slavic.

ASSOCIATION: TsNIIChM.

AVAILABLE: Library of Congress

Card 2/2

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

5(2) SOV/32-25-4-3/71

AUTHORS: Klyachko, Yu. A., Izmanova, T. A.

TITLE: Methods of Determining Hydrogen Depending on the Chemical Composition and Structure of Steel (Metody opredeleniya vodoroda v zavisimosti ot khimicheskogo sostava i struktury stali)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 4, pp 396-398 (USSR)

ABSTRACT: The most used methods for the hydrogen determination in metals employ a heating or melting of the metal in the vacuum. To determine the application possibilities of these methods for the determination of hydrogen in steels cast samples were examined in the present case after quenching in water. The total content of H_2 in the samples was determined after the vacuum melting (VM); the content of hydrogen was then examined by heating in the vacuum (HV), and the kinetics of the hydrogen precipitation was examined for a storing of samples) under mercury at room temperature. The following statements were made: In steels with Ti, V, and Mn with a content of more than 0.5% C, a reduced hydrogen content was ascertained by the HV method (represented graphically in figures a and b) which also applies to carbon-

Card 1/2

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Methods of Determining Hydrogen Depending on the Chemical Composition and Structure of Steel

aceous (more than 0.5% C) steels (Fig v) so that these types of steel can only be analyzed by the VM method. Steels containing Nb and Ni (with any content of C) as well as aluminum- and chrome-containing steels (with low content of C) give good results in the hydrogen analysis by the HV method. In alloys with martensite structure, the martensite disintegrates at the temperatures of HV and the formation of a ferrite and carbide phase can take place; this increases the mobility of the hydrogen, and results in better precipitation. For alloys with "movable" hydrogen a storing of samples under mercury is therefore recommended unless the hydrogen analysis is done immediately after the preparation of the samples. There are 4 figures and 6 references, 5 of which are Soviet.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii (Central Scientific Research Institute of Iron Metallurgy)

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

KLYACHKO, Yu.A.; IZMANOVA, T.A.

Method of determining hydrogen, as dependent on the chemical composition and the structure of steel. Trudy kom.anal.khim. 10:175-182 '60. (MIRA 13:8)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii, Moskva.
(Steel--Hydrogen content) (Hydrogen--Analysis)

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

IZMANOVA, T.A.; KLYACHKO, Ye.A.; LARICHEV, N.S.

Control of the operation of instruments used in the analysis of gases in metals. Trudy kom.anal.khim. 10:267-269 '60.
(MIRA 13:8)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii, Moskva.
(Gases in metals) (Chemical apparatus)

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

S/137/62/000/004/077/201
A052/A101

AUTHORS: Gel'fer, Ya. M., Izmanova, T. A.

TITLE: Determination of diffusion coefficients of hydrogen in steel at various alloying additions at indoor temperature

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 4, 1961, 4, abstract 4I31 ("Sb. tr. Tsentr. n.-i. in-t chernoy metallurgii," no. 19, 110 - 116)

TEXT: The diffusion coefficients D of hydrogen in the investigated steels were calculated by experimental data (RZhM, no. 11, 1957, 21133). The boundary-value problem of the theory of diffusion has been solved, where D is found for H diffusion from a sample having the form of a cylinder of 2l height and R radius at a given initial concentration and with a mass exchange on butts and side surface satisfying the boundary conditions of 3rd kind. The solution of the problem $\partial C/\partial t = D\,[\partial^2 C/\partial r^2 + (1/r)(\partial C/\partial r) + \partial^2 C/\partial z^2]$ is sought for in the form $C(r,z,t)/C_0 - [C'(r,t)/C_0](C''(z,t)/C_0)$, where $C'(r,t)$ and $C''(z,t)$ are the concentrations in the same point of an unlimited cylinder and unlimited plate by the intersection of which a cylinder of finite dimensions is formed. In the obtained

Card 1/2

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KLYACHKO, Yu.A.; IZMANOVA, T.A.; BUYANOV, N.V.; TULEPOVA, I.V.; SUKHOVA, N.P.

Spectrochemical method of analyzing nonmetallic inclusions in steel. Sbor. trud. TSNIICHM no.24:82-86 '62. (MIRA 15:6)
(Steel--Inclusions) (Nonmetallic materials--Spectra)

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L 14415-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD/HM/JG

ACCESSION NR: AP3004562 S/0032/63/029/008/0923/0924

AUTHOR: Klyachko, Yu. A.; Imanova, T. A.; Chistyakova, Ye. M.

TITLE: Gas determination in sheet molybdenum

SOURCE: Zavodskaya laboratoriya, v. 29, no. 8, 1963, 923-924

TOPIC TAGS: molybdenum, sheet molybdenum, gas determination, oxygen, hydrogen, nitrogen, carbon monoxide, vacuum-melting method, hydrocarbon

ABSTRACT: Because poorly reproducible results are encountered in gas determination in sheet molybdenum 2—3 mm thick, an analytical method has been developed for determining oxygen, hydrogen, nitrogen, and carbon monoxide in such molybdenum by the vacuum-melting method. About 30% iron or nickel is alloyed with the molybdenum sample to lower its melting point to 1650C. To drive off moisture and adsorbed gases, the sample is preheated at 200—250C for 15—20 min in a special quartz extension of the vacuum furnace. Without contact with the air the sample is then immediately analyzed at 1700C by the vacuum-melting method. The preheating at 250C prevents hydrocarbon formation by the reaction of water vapor with molybdenum carbide and thus improves the reproducibility of results. Orig. art. has: 2 tables and 1 figure.

ASSOCIATION: Central Scientific Research Inst. of Ferrous Metallurgy

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

ACCESSION NR: AP4005078 S/0032/63/029/012/1425/1427

AUTHOR: Klyachko, Yu. A.; Izmanova, T. A.; Chistyakova, Ye. M.

TITLE: Determination of the oxygen, hydrogen, and nitrogen contents in tungsten, niobium, and tantalum

SOURCE: Zavodskaya laboratoriya, v. 29, no. 12, 1963, 1425-1427

TOPIC TAGS: tungsten, niobium, tantalum, oxygen determination, vacuum melting, tantalum carbides, tungsten carbides, niobium carbides, nitrogen determination, hydrogen determination, vacuum fusion method

ABSTRACT: Because the conventional vacuum-fusion method with iron fluxing bath for determining oxygen, hydrogen, and nitrogen in metals is not reliable in the case of tungsten, niobium, tantalum, and their carbides, a new procedure, applicable to these metals, was developed. For tungsten, tantalum, and niobium, the iron fluxing bath is replaced by cobalt, nickel, and nickel, respectively. The use of cobalt and nickel as fluxing metals provides higher fluidity of the melts and quantitative evolution of the gases to be determined. The concentration of the analyzed metals in the melts should not exceed 30%. The

Card 1/2

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ACCESSION NR: AP4005078

fluxing baths are degassed at 1900C for 10—15 min, and liberation of the gases is carried out at 1750—1800C. With the nickel fluxing bath, oxygen is determined with a relative error of 2% in niobium and 5% in tantalum. The procedure is also applicable for the determination of the gases in the carbides of these metals. Orig. art. has: 4 tables.

ASSOCIATION: Tsentral'ny*y nauchno-issledovatel'skiy institut chernoy metallurgii (Central Scientific Research Institute of Ferrous Metallurgy)

SUBMITTED: 00	DATE ACQ: 19Dec63	ENCL: 00
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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

KUNIN, L.L.; IZMANOVA, T.A.; LARICHEV, N.S.

Apparatus for determining the amount of hydrogen separated during the conservation of specimens. Sbor. trud. TSNIICHM no.31:110-113 '63. (MIRA 16:7)

(Metallurgical analysis--Equipment and supplies)
(Gases in metals--Analysis)

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

KLYACHKO, Yu.A.; IZMANOVA, T.A.; CHISTYAKOVA, Ye.M.

Determination of gases in tungsten. Sbor. trud. TSNIICHM no.31: 133-134 '63. (MIRA 16:7)
(Tungsten--Analysis) (Gases in metals--Analysis)

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

TIMOSHENKO, N.N.; IZMANOVA, T.A.; CHISTYAKOVA, Ye.M.

Automatic determination of gases in steel by means of the exhalograph EA-1. Zav. lab. 31 no.9:1068-1069 '65. (MIRA 18:10)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii imeni Bardina.

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VOINOV, S.G.; KOSOV, L.F.; MOROZENSKIY, A.I.; SAVEL'YEV, D.F.; SHALIMOV, A.G.; KALINNIKOV, Yu.S.; SHATUNOV, S.F.; KIREYEV, B.A.; OKHAPKIN, S.I.; DAVYDOVA, L.N.; IZMANOVA, T.A.

Refining a 100-ton open-hearth heat with a liquid synthetic slag in the ladle. Stal' 24 no.7:599-604 Jl '64. (MIRA 18:1)

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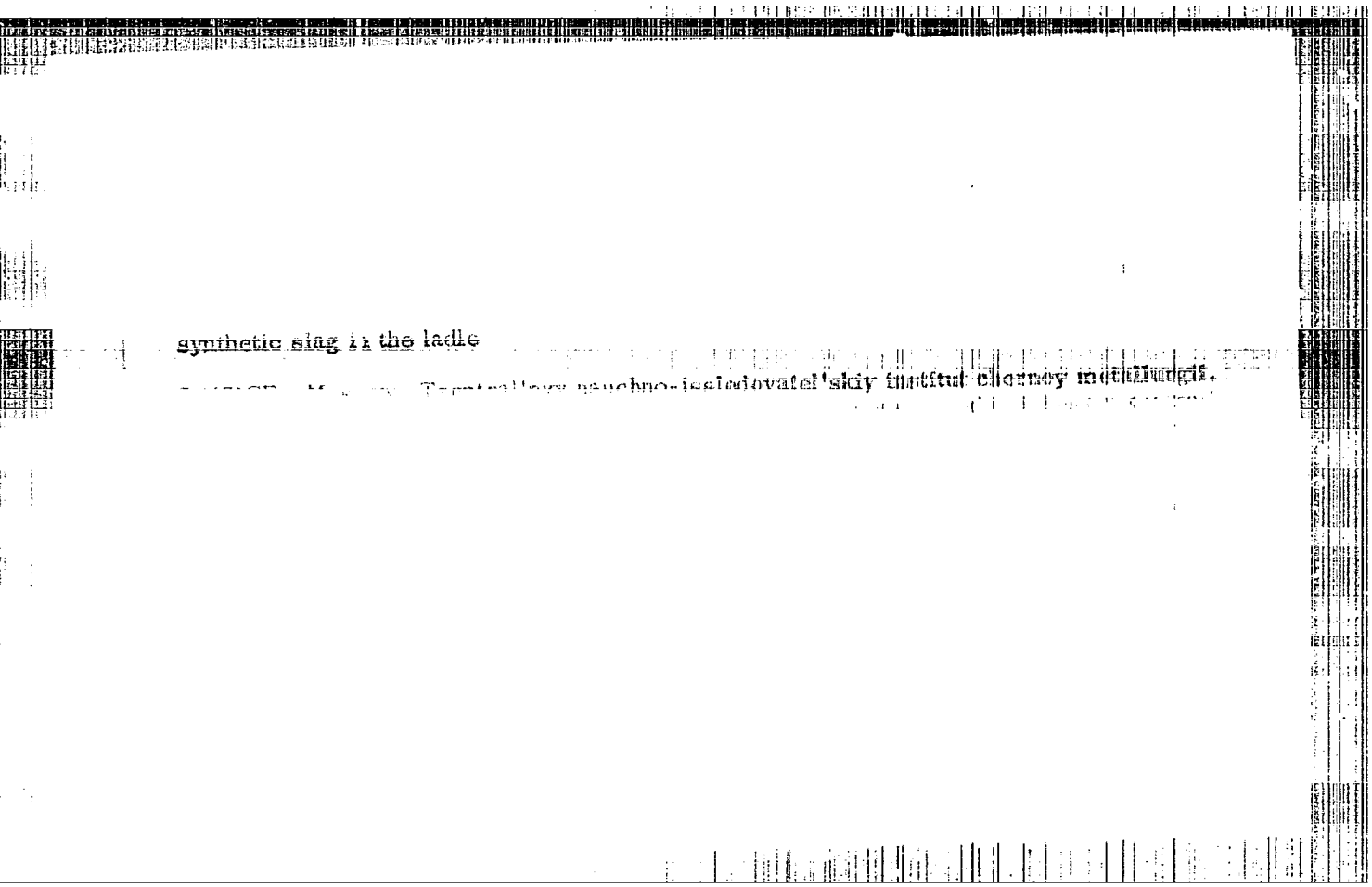

synthetic slag in the ladle

[illegible] Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.

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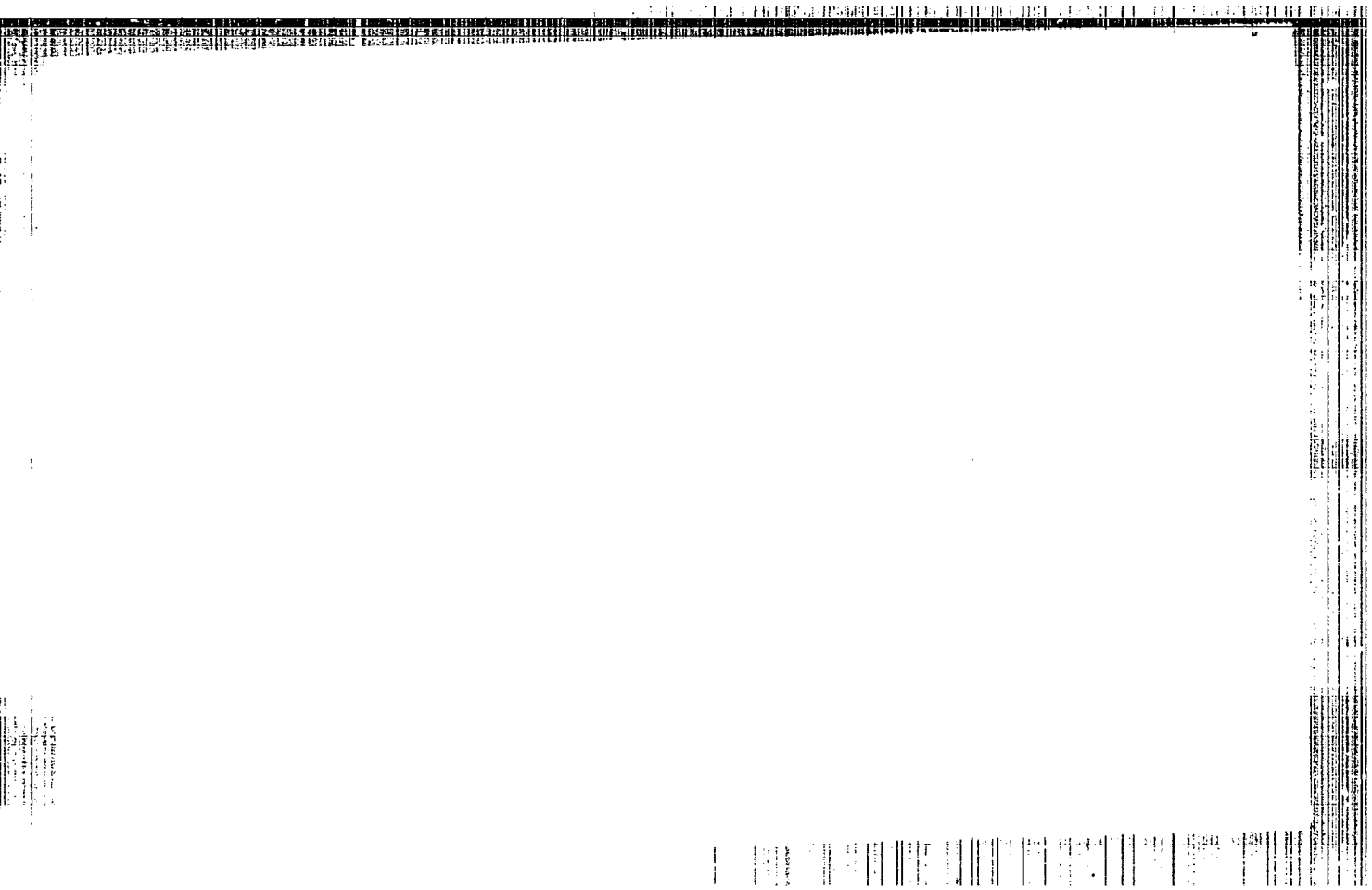

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

Ivanov, I. N.

L 17595-65 EWT(d)/EWT(m)/EWP(c)/EWA(d)/EWP(v)/T-2/EWP(t)/EWP(k)/EWP(b)/EWP(l)
ACCESSION NR AM4046730 BOOK EXPLOITATION Pf-4 MJW/JD/ S/
MLK

Samarin, A. M., ed. (Corresponding member, Academy of Sciences, U.S.S.R.) 8+1

Steel production; handbook (Staleplavil'noye proizvodstvo; spravochnik), t. 2., Moscow, Izd-vo "Metallurgiya", 1964, 1039 p. illus., biblio., tables. Errata slip inserted. 5,850 copies printed.

TOPIC TAGS: steel, open-hearth furnace, quality control, refractory

TABLE OF CONTENTS [abridged]: 14

Part 8. Thermal engineering
Ch. XV. Fuel and its combustion in an open-hearth furnace (N. I. Ivanov) -- 535
Ch. XVI. Mechanics of furnace gases in open-hearth furnaces (G. M. Glinkov) -- 554
Ch. XVII. Heat transfer in an open-hearth furnace (S.S. Magidson) -- 575
Ch. XVIII. Thermal operation of an open-hearth furnace (Ye. A. Kapustin) -- 603
Ch. XIX. Auxiliary thermal equipment in steel production (B. G. Turovskiy) -- 617

Card 1/3

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Part 9. Thermal processes
Ch. XX. Automatic control and regulation of thermal processes in steel production (A. P. Kopelovich, A. P. Sinchuk, and M. A. L'vov) -- 630
Ch. XXI. Evaporative cooling of open-hearth furnaces (S. M. Andon'yev) -- 720
Ch. XXII. Hot cooling of open-hearth furnaces (A. I. Tyurin) -- 745
Ch. XXIII. Boilers of open-hearth furnaces (A. I. Berezhinskiy) -- 754
Ch. XXIV. Cooling and cleaning converter gases (A. I. Berezhinskiy) -- 778
Ch. XXV. Supplying steelmaking shops with compressed air (G. A. Timoshko) -- 793
Ch. XXVI. Supplying steelmaking shops with oil (G. A. Timoshko) -- 807
Part 10. Methods of quality control and testing
Ch. XXVII. Chemical analysis (P. Ya. Yakovlev) -- 818
Ch. XXVIII. Spectral analysis (N. N. Sorokina) -- 840
Ch. XXIX. Melting and delivered quality control of steel (M. I. Vinograd) -- 851
Ch. XXX. Mechanical testing of metals (P. G. Timoshuk) -- 868
Ch. XXXI. Analysis of gases in metals and alloys (L.I.Kunin, T. Ya. Izmaaova, and Ye. M. Chistyakova) -- 887
Ch. XXXII. Determining nonmetallic inclusions and carbides (M. M. Shapiro) -- 897

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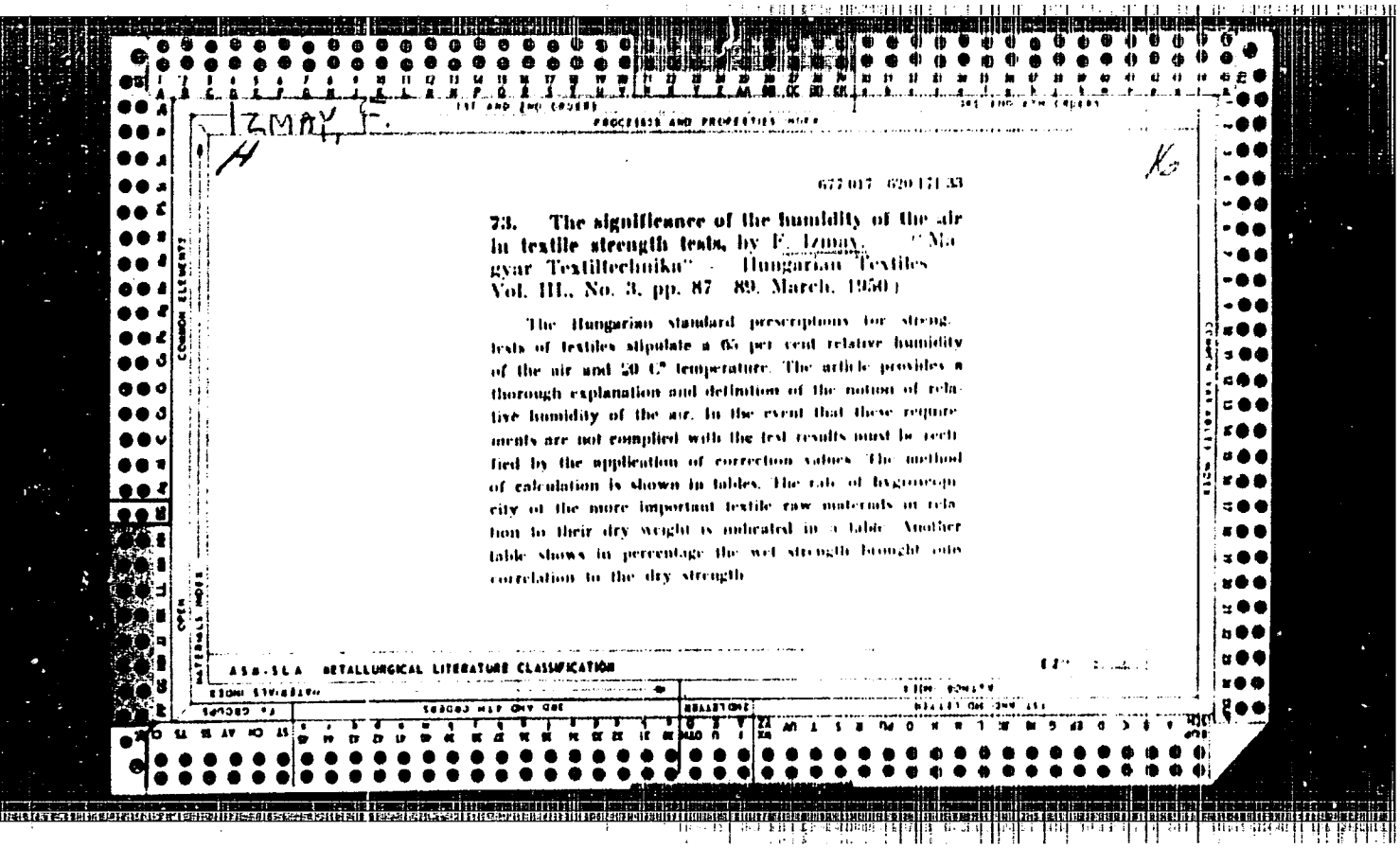

677.017 : 620.171.33

73. The significance of the humidity of the air in textile strength tests, by F. Izmay. ("Magyar Textiltechnika" — Hungarian Textiles Vol. III., No. 3, pp. 87–89, March, 1950.)

The Hungarian standard prescriptions for strength tests of textiles stipulate a 65 per cent relative humidity of the air and 20° C. temperature. The article provides a thorough explanation and definition of the notion of relative humidity of the air. In the event that these requirements are not complied with the test results must be rectified by the application of correction values. The method of calculation is shown in tables. The rate of hygroscopicity of the more important textile raw materials in relation to their dry weight is indicated in a table. Another table shows in percentage the wet strength brought into correlation to the dry strength.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

IZMAY, F.

"The new method of examination for waterproof textiles" p. 138; "The 'for better quality' movement" p. 142, (MAGYAR TEXTILTECHNIKA, No. 5, May 1953, Budapest, Hungary)

SO: Monthly List of East European Accessions, L.C., Vol. 2, No. 11, Nov. 1953, Uncl.

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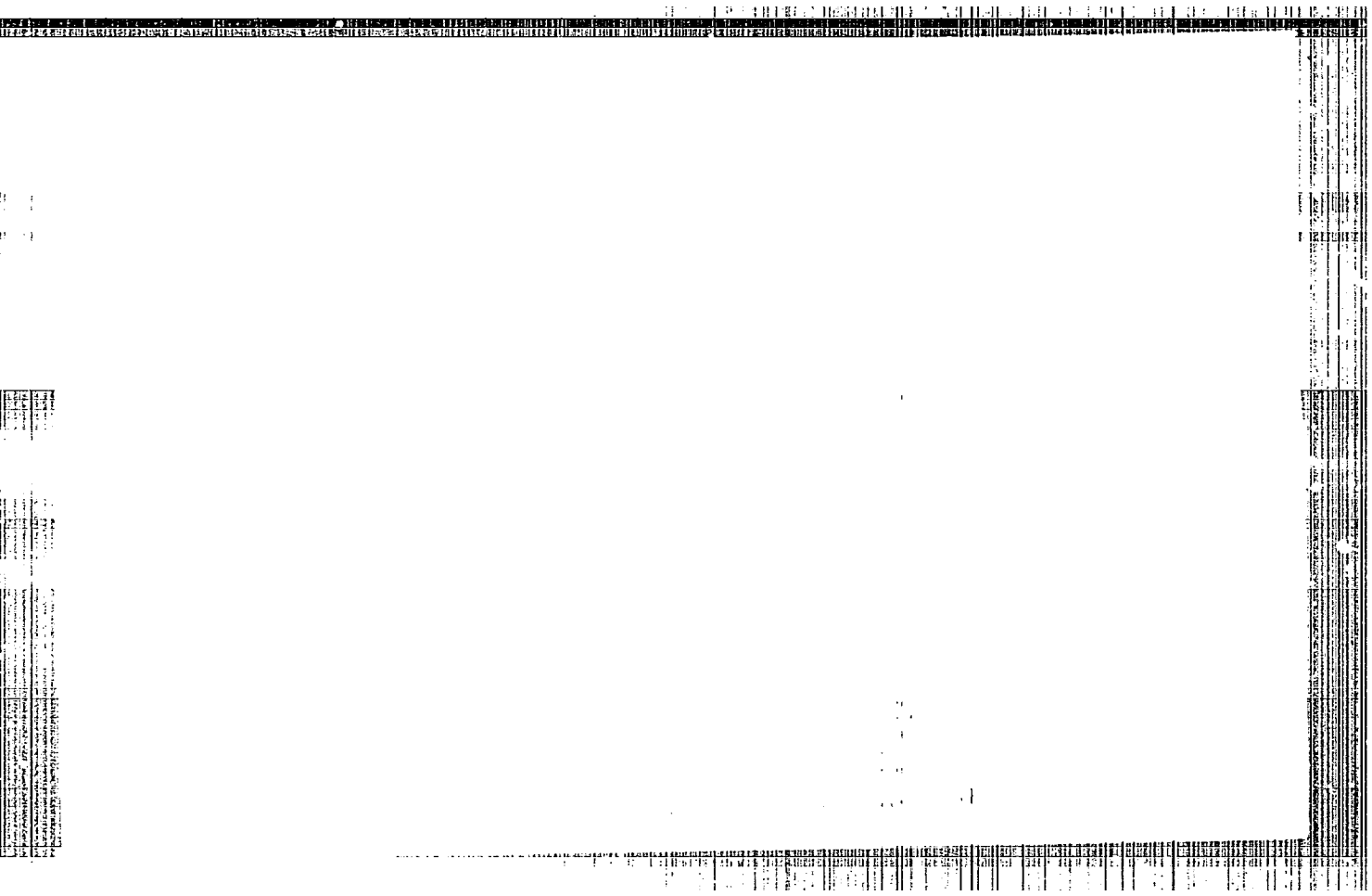

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4091. Theory and methods for testing the wear of cloth and the results of tests obtained by the Textile Research Institute on the abrading apparatus. F. Iman and F. Bessó. *Magyar. Textilip.*, 1954, No. 2, 61-4, No. 3, 87-91; *Hungarian Tech. Abs.*, 1954, 6, No. 4, 126-7 abs. 82. *J. Text. Inst.*, 1955, 46, 550A. Cloth abrasion tests conducted over a period of several years proved that the most suitable method consists in abrading cloth with cloth in a manner which ensures identical abrading areas for both strips to be tested. On the abrading apparatus of the (Hungarian) Textile Research Institute, the stretching of cloth on the cylinder and the pressure of the cylinders against each other are adjustable; the alternating motion is 100/sec and a fan is used as an exhaust for the cloth and lint formed during abrasion. 664427

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

110. **Influence of various pretreatments upon the swelling of hemp fibres.** F. Izmay, J. Kralik. *Magyar Textiltechnika*. 1955, No. 7, pp. 217–220, 6 figs., 3 tabs.

The authors studied the changes in the swelling ability of hemp fibres after the following treatments: (1) Boiling with soap and soda ash. (2) Kier boiling with caustic soda. (3) Non-corrosive bleaching with sodium chlorite. (4) Kier boiling and bleaching with sodium chlorite. (5) acid hydrolysis. (6) impregnation with basic copper carbonate against microbiological degradation. In each case an increase in the swelling ability could be observed which indicates that the swelling of the bast fibres is not caused primarily by the pectins. With the gradual removal of the pectin substances the intercapillary voids within the fibres increase, the structure of the fibres become looser thereby increasing the accessability. In case of untreated bast fibres it can be assumed that the capillaries of the fibres are closed or at least narrowed by the swelling pectins thereby preventing further water absorption after the initial swelling. The X-ray photographs taken in a dry state also indicate loosened fibre structure. This explains the fact that although the greater part of the strongly swelling pectins has been removed during the treatments, the remaining bast cellulose swells to a far greater extent than the initial bast fibre containing pectins in large quantities. The degree of swelling was measured by a new microscopic method.

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116. Test methods for tarpaulins. P. Kumay. *Magyar Textiltechnika* 1955, No. 9, pp. 328–330, 3 fig., 1 tab.

Methods of testing the water permeability of tarpaulins are not satisfactory because: (a) The surface of the tarpaulin and the impregnating agent with which it is treated does not remain smooth, the tarpaulin creases and if not properly impregnated the impregnating substance breaks up and falls out. (b) In practice a water column higher than 200 mm never occurs since the tarpaulin never sags more than 200 mm. (c) A few drops of water appearing on the dry side can not determine the effectiveness of impregnation. More recently tests have been carried out by clamping a 25 × 25 cm specimen rolled into a tube-like shape on a crossing apparatus, twisting it at first in one sense and then in the other through 2 × 360 degrees. This is repeated ten times. Subsequently the specimen is turned through 90 degrees and the whole procedure repeated. The water pressure obtained by a Mariotte's flask remains constant in spite of decreasing water level. The Mariotte's flask is lifted by a motor at a speed of 100 mm per min., stopping when a level of 200 mm has been reached. Water volumes permeating the tarpaulin in 10, 20, 30, *etc.* minutes are recorded. For 30 minutes permeability is high, thereafter it decreases due to the swelling of the yarns.

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

IVAY, F.

IVAY, F. Methods of examining canvas. p. 323.

No. 9, Sept. 1955.
MAGYAR TEXTILTECHN IKA.
TECHNOLOGY
Budapest, Hungary

So: East European Accession, Vol. 5, No. 5, May 1956

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

[illegible], F. Effect of various preparations on the swelling [illegible] Bemp fibers. p. 247. MAGYAR [illegible]. Budapest. Vol. 11, no. 7, July 1955.

SOURCE: East European Accessions List ([illegible]) [illegible] Vol. [illegible], no. [illegible], [illegible]

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

HAJMASY, Tibor; IZMAY, Ferenc

Questions relating to the theory and testing of the serviceability of textiles. Magy textil 14 no.9:415-426 S '62.

1. Textilipari Kutato Intezet.

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

HAJMASY, Tibor; IZMAY, Ferenc

Testing durability properties of fabrics. Magy textil 15 no.7: 301-306 Jl '63.

1. Textilipari Kutato Intezet.

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

IZMAY, Ferenc; SZEKELY, Andras

Testing nonwoven textiles. Magy textil 16 no. 4:171-173 Ap '64.

1. Research Institute of the Textile Industry, Budapest.

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

HAJMASY, Tibor; IZMAY, Ferenc

Correlations between physical characteristics of synthetic fibers and properties of the more important fabrics made of those synthetic fibers. Magy textil 17 no.3:97-105 Mr '65.

1. Research Institute of Textile Industry, Budapest.

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

IZMAYLOV, A. Lt. Col. and MUSIYENKO, A. Lt. Col. of Tech. Serv.

"Sovetskaya Aviatsiya v 1938-1940 Gody" (Soviet Aviation in 1938-1940), Vest. Vozd. Flota, No.3, pp 65-75, 1953

Summary of article D 399975

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

IZMAYLOV, A., podpolkovnik

Heroic deeds, life and combat training. Av. i kosm. 47 no.10:90-91 O '64. (MIRA 17:10)

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

IZMAYLOV, A.; BELOTSERKOVSKIY, L.

Work experience of the commission on labor protection. Metallurg 8 no.10:34-35 O '63. (MIRA 16:12)

1. Chlen komissii okhrany truda Azerbaydzhanskogo truboprokatnogo zavoda (for Izmaylov). 2. Starshiy inzh. otdela tekhniki bezopasnosti Azerbaydzhanskogo truboprokatnogo zavoda (for Belotserkovskiy).

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

ZHAROV, Fedor Ivanovich, general-leytenant aviatsii v zapase;
IZMAYLOV, A.A., red.; CHPAYEVA, R.I., tekhn. red.

[Explcits of Red Airmen] Podvigi Krasnykh letchikov. Moskva, Voenizdat, 1963. 118 p. (MIRA 16:6)
(Russia--Air force)

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

IZMAYLOV, A. A., Candidate of Med Sci (diss) -- "Surgical complications of brucellosis". Baku, 1959. 35 pp (Azerb State Med Inst im N. Narimanov), 220 copies (KL, No 21, 1959, 119)

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

KHARITONOV, Aleksandr Dmitriyevich; IZMAYLOV, A.A., podpolkovnik red.

[The legendary ice route] Legendarnaia ledovaia trassa. Moskva, Voenizdat, 1965. 79 p. (MIRA 18:12)

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

KOCHERGIN, S.M.; VYAGELEVA, G.Ye.; ISMAYLOV, A.I., doktor tekhn. nauk, retsenzent; DANILOVA, V.V., red.

[Electrodeposition of metals in ultrasonic fields] Elektroosazhdenie metallov v ul'trazvukovom pole. Moskva, Vysshaia shkola, 1964. 110 p. (MIRA 18:1)

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

AUTHOR MOLOTKOVSKIY G.Kh., IZMAYLOV A.F.

TITLE Chlorophyll and Ascorbic Acid Content and Catalase Activity in the Leaves of Certain Weeping Forms of Arboreous Plants in Connection With the Polarity Phenomenon. 20-5-62/67

(Soderzhaniye khlorofilla, askorbinovoy kisloty i aktivnost' katalazy v list'yakh nekotorykh plakuchikh form drevesnykh rasteniy v svyazi s yavleniyem polyarnosti -Russian)

PERIODICAL Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 5, pp 1165-1167 (U.S.S.R.)

Received 7/1957 Revelued 8/1957

ABSTRACT When studying the influence exercised by gravity on the polarization of plants the authors cultivated them in an upside-down position. They were able to observe interesting changes of morphological polarity. Their aim was to explain the type of metabolism in the branches of the hanging forms, i.e. of woody plants with a naturally disturbed polarity of the aerial parts. For this purpose the concentrations of the substances mentioned above were determined at three different levels, i.e. at the base, in the middle and at the top of branches; This was done in both the hanging and the normal forms of the following plant species: ash-tree, willow, Sophora japonica, Forsytnia and Caragana. When analyzing the chlorophyll concentrations found (tabl.1) it can be seen that they rise towards the top of the branches. The chlorophyll content is lower in young leaves. In the hanging varieties of plants the chlorophyll contents is lower than in normal ones. Furthermore a considerable difference was observed between different plant species. Quite similar conditions were in the case of the ascorbic acid

Card 1/2

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

S/144/61/000/001/001/004
E032/E514

9,3140 (2301, 1140, 1141)

AUTHOR: Izmaylov, A.F., Senior Scientist

TITLE: Calculation of the Magnetic Field due to Plane Circuits

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, 1961, No.1, pp.8-20

TEXT: Expressions are derived for the scalar magnetostatic potential of a circuit consisting of sections of straight lines. The derivation is limited to plane linear circuits in vacuum. Following S. I. Kurenev (Refs.3 and 4) the current I is replaced by a magnetic shell of density $I/4\pi$ = const. and the scalar magnetostatic potential φ is determined from the well-known formula:

$$\varphi = -\frac{I}{4\pi}\int_S \frac{\partial}{\partial n}\left(\frac{1}{\rho}\right) dS \qquad (1)$$

The reciprocal of the distance ρ between the source and the point of observation, the first of which $Q(r_o, \Theta_o, \alpha_o)$ lies on the shell S and the second A (r, Θ, α) lies outside the shell, depends on these six coordinates and is given by

Card 1/6

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S/144/61/000/001/001/004
E032/E514

Calculation of the Magnetic Field due to Plane Circuits

$$= \frac{1}{r} \sum_{n=0}^{\infty} \left(\frac{r_0}{r}\right)^n P_n(\cos\gamma), \quad r_0 < r;$$

$$\frac{1}{\rho} = (r^2 + r_0^2 - 2rr_0\cos\gamma)^{-\frac{1}{2}} \qquad (2) \qquad (2)$$

$$= \frac{1}{r_0} \sum_{n=0}^{\infty} \left(\frac{r}{r_0}\right)^n P_n(\cos\gamma), \quad r_0 > r;$$

$n = 0, 1, 2, 3, \ldots$

where $$\cos\gamma = \cos\theta \cos\theta_0 + \sin\theta \sin\theta_0 \cos(\alpha - \alpha_0), \qquad (3) \qquad (3)$$

$$P_n(\cos\gamma) = \sum_{m=0}^{n} \frac{(n-m)!\,2}{(n+m)!\,\delta_m} P_n^m(\cos\theta_0) P_n^m(\cos\theta) \cos m(\alpha - \alpha_0). \qquad (4)$$

(4)

In these expressions, P_n is the Legendre polynomial, P_n^m is the associated Legendre function and $\delta_m = 2$ when $m = 0$ and $\delta_m = 1$ when $m \neq 0$. Fig.1 shows the meaning of the other symbols employed.

Card 2/6

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

S/144/61/000/001/001/004
E032/E514

Calculation of the Magnetic Field due to Plane Circuits

where

where

$$I_n^m = \cos^{n+1}\alpha_k \int_{-\alpha_k}^{\alpha_k} \frac{\cos m\alpha_0}{\cos^{n+1}\alpha_0} d\alpha_0 + \sin^{n+1}\alpha_k \int_{\pi-\alpha_k}^{\pi-\alpha_k} \frac{\cos m\alpha_0}{\sin^{n+1}\alpha_0} d\alpha_0, \quad (10)$$

$$\left.\begin{aligned} I_{n1}^m &= \int_{-\alpha_k}^{\alpha_k} \cos^n\alpha_0 \cos m\alpha_0 d\alpha_0, \\ I_{n2}^m &= \int_{\alpha_k}^{\pi-\alpha_k} \sin^n\alpha_0 \cos m\alpha_0 d\alpha_0. \end{aligned}\right\} \quad (11)$$

The series given by Eq.(8) is uniformly convergent outside a sphere of radius d and centre at the origin. The series given by Eq.(9) converges inside a concentric sphere whose radius is equal to half of the smaller side of the rectangle (Fig.1). The analytical formulae obtained are applied to two special cases. The first of these consists in the determination of the parameters of a device consisting of two rectangular circuits which should have the

Card 4/6

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

IZMAYLOV, A. I.

Izmaylov, A. I.

"Stratum roentgenological investigations (tomography and tomofluorography) in the clicic for lung diseases." Chair of Roentgenology, Kazan 'State Inst for the Advanced Training of Physicians. Kazan', 1956. (Dissertation for the Degree of Candidate in Medical Science.)

Knizhnaya letopis'
No. 15, 1956. Moscow.

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

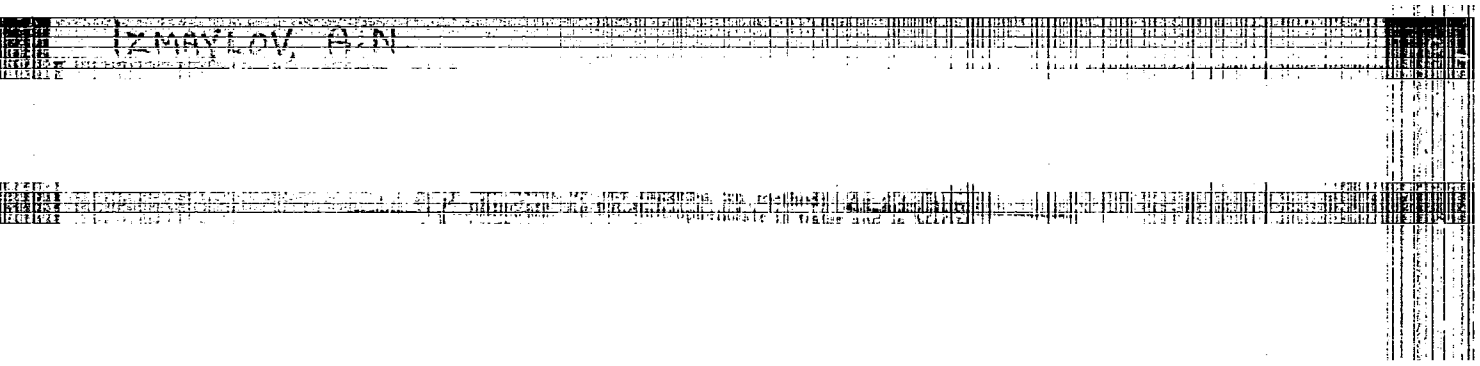
SIGAL, I.Z.; IZMAYLOV, A.I.

Tomographic and anatomical parallels in pulmonary tuberculosis. Kaz.med.zhur. 40 no.5:22-25 S-O '59. (MIRA 13:7)

1. Kurs tuberkuleza (zav. - prof. B.L. Mazur) Kazanskogo meditsinskogo instituta na baze protivotuberkuleznogo dispansera Tatarskoy ASSR, i kafedra rentgenologii i radiologii No.1 (zav. - prof. M.Kh. Fayzullin) Kazanskogo Gosudarstvennogo instituta dlya usovershenstvovaniya vrachey im. V.I. Lenina.
(LUNGS--RADIOGRAPHY) (TUBERCULOSIS)

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6



APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

[illegible], M. ..

Dissertation: "Investigation [illegible]
Dispersibility Mechanism [illegible] Solutions of
Complex Electrolytes."

17/11/50

Moscow Order of Lenin Chemicotechnological
Inst imeni D. I. Mendeleyev.

SO Vecheryaya Moskva
Sum 71

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

PA 196T21

USSR/Electricity - Power, Electric Aug 51
Moscow Regional Power System

"Pledge to Stalin From Personnel of the Electric Power Stations and Distribution Systems of the Ministry of Moscow Regional Power System of the Ministry of Electric Power Stations"

"Elektrichestvo" No 8, pp 3-5

Lists accomplishments of Mosenergo in 1950, e.g., power output of 112.5% of that set by the Five-Year plan, saving of 76 million kw-hr of energy by reducing losses in distribution systems, reduction of the cost of energy produced by steam and elec

196T22

USSR/Electricity - Power, Electric (Contd) Aug 51

Power stations by 19.5 million rubles. Lists 7 pledges for 1951, accompanied by the usual hosannas.

196T22

IVANYLOV, A. V

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

IVANOV, A. V.; GORBACHEV, V. V.

Polarization

Cathodic polarization during deposition of copper from solutions of oxalates and aminoethanols. Zhur. fiz. khim. 26 no. 2. 1952

9. Monthly List of Russian Accessions, Library of Congress, September 1952, Uncl.

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

GORBACHEV, S. V.; IVANOV, A. V.

Polarization (Electricity)

Cathodic polarization during deposition of copper from pyrophosphate solutions. Zhur. fiz. khim. 26 no. 3. 1952

9. Monthly List of Russian Accessions, Library of Congress, September 1952, Uncl.

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

Name	Title of Work	Nominated by
[illegible]	[illegible]	[illegible]

SO: W-30604, 7 July 1954

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

Izmaylov, A. V.

USSR/Chemistry - Physical chemistry

Card 1/1 Pub. 147 - 23/26

Authors : Izmaylov, A. V.

Title : Discussion on methods of investigating the dispersibility of electrolytes

Periodical : Zhur. fiz. khim. 28/1, 179-185, Jan 1954

Abstract : The advantages and disadvantages of numerous methods introduced for the study of electrolyte dispersibility during cathodic deposition of metals are listed. A majority of examples mentioned in this report were found to be of an empirical nature. The quantitative characteristic of electrolyte dispersibility was found to be closely connected with the working method and depends upon the conditions of the experiment. The formulas presented place electrolyte dispersibility in close dependence upon the polarization of the electrode, electrical conductivity of the solution and many other factors. Twenty-eight references : 7-USA ; 2-German; 1-English; 18-USSR (1876-1953).

Institution : The D. I. Mendeleyev Chemical-Technological Institute, Moscow

Submitted : April 9, 1953

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

Izmaylov, A.

USSR/Chemistry - Chemical technology

Card 1/1 Pub. 147 - 6/27

Authors : Izmaylov, A.V., and Gorbachev, S.V.

Title : Dispersibility of complex Cu-electrolytes containing ethanolamines

Periodical : Zhur. fiz. khim. 28/2, 229-235, Feb 1954

Abstract : The effect of concentration and other factors on the dispersibility and distribution of Cu on a Cu-cathode, in complex ethanolamine containing electrolytes, was investigated. The introduction into the electrolyte of a complex forming agent - monoethanolamine and triethanolamine - was seen to increase the dispersibility and better distribution of the metal. Increased temperature decreases the dispersibility of the electrolyte and impairs the distribution of the metal. The effect of the electrode potential on the dispersibility and distribution of the metal is discussed and a direct dependence and parallelism between the dispersibility of the electrolyte and the magnitude of the activation energy was established. Six references: 5-USSR and 1-USA (1923-1952). Diagrams; graphs.

Institution : The D.I. Mendeleyev Chemical-Technological Institute, Moscow

Submitted : April 9, 1953

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

IZMAYLOV, A. V.

USSR/Chemistry - Chemical technology

Card 1/1 Pub. 147 - 7/27

Authors : Gorbachev, S.V., and Izmaylov, A.V.

Title : Dispersibility of complex Cu electrolytes containing sodium pyrophosphate

Periodical : Zhur. fiz. khim. 28/2, 236-239, Feb 1954

Abstract : The dispersibility and distribution of a metal on the surface of an angular cathode, during the deposition of Cu in the presence of pyrophosphate solutions, was investigated. It was established that temperature changes in the case of electrolytes having pyrophosphate additions do not affect the dispersibility and metal distribution on an angular cathode. The magnitude of the electrode potential had a definite opposite effect on the dispersibility and metal distribution. The effect of the concentration, of the introduced complex forming agent ($Na_4P_2O_7$), is explained. An entirely different mechanism of the cathodic process was observed during the Cu-ion discharge from the pyrophosphate electrolytes. Three USSR references (1949-1954). Graphs.

Institution : The D.I. Mendeleyev Chemical-Technological Institute, Moscow

Submitted : April 9, 1953

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

Izmaylov, A. V.

USSR/Chemistry - Physical chemistry

Card 1/1 Pub. 147 - 1/27

Authors : Izmaylov, A. V., and Gorbachev, S. V.

Title : Theory of dispersibility of complex cupric electrolytes

Periodical : Zhur. fiz. khim. 28/9, 1529-1538, Sep 1954

Abstract : Experiments with complex cupric electrolytes showed that the nature of its dispersibility is determined by the mechanism of the cathodic process and type of polarization. The two possible mechanisms of the cathodic process, during cathode separation of metals from solutions of complex compounds, are explained. A definite relation between dispersibility and temperature, cathode potential and concentration of the complex forming agent was established. A theoretical approach toward selection of conditions most favorable for the obtainment of best dispersibility for electrolytes is presented. Sixteen references: 13-USSR; 2-USA and 1-German (1910-1954). Graphs.

Institution : The D. I. Mendeleyev Chemical-Technological Institute, Moscow

Submitted : April 9, 1953

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

IZMAYLOV, A. V.

Mechanism of the anomalous ionic conductance. II. V. Izmailov (Mendeleev Inst. Chem. Technol., Moscow). *Zhur. Fiz. Khim.* 29, 1725-7(1955).—The energy of activation for ionic cond. of acids and alkalies is 750-2930 cal., whereas that for viscosity is 3500 cal.; hence, H^+ and OH^- move to an extent according to the Grotthuss mechanism (Del, *Osnovy Teoret. i Prikpl. Elektrokhim.*, 1937). CH

J. J. Bikerman

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

IZMAYLOV, A.V.

Effect of temperature on the rate of electrochemical processes. (MLRA 10:4)
Zhur. fiz. khim. 30 no.12:2813-2819 D'56.

1. Khimiko-tekhnologicheskiy institut im. D.I. Mendeleyeva, Moskva.
(Electrolysis)

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

IZMAYLOV, A.V.

Dispersibility mechanizm of electrolytic baths. Trudy MKHTI no.24: 348-370 '57. (MIRA 11:6)
(Electroplating)

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

IZMAILOV, A.V., Doc Tech Sci--(diss) "Study of the mechanism of the dispersion ~~property~~ capacity of electrolytic baths." [illegible], 195[illegible]. 3[illegible] with graphs (Min of Higher Education USSR, [illegible] Lenin Chem-Technol Inst [illegible] D.I. [illegible]), [illegible] copies. List of [illegible] works, p 3[illegible] ([illegible]) ([illegible],2[illegible],111)

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

SOV/137-58-9-19574

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 206 (USSR)

AUTHOR: Izmaylov, A.V.

TITLE: Cathodic Polarization in the Deposition of Silver From Cyanide and Iodide Solutions (Katodnaya polyarizatsiya pri osazhdenii serebra iz tsianistykh i yodidnykh rastvorov)

PERIODICAL: Nauchn. dokl. vyssh. shkoly. Khimiya i khim. tekhnol., 1958, Nr 1, pp 23-27

ABSTRACT: To determine the type of cathodic polarization and to study the mechanism of the cathodic process in cyanide and iodide silver-plating electrolytes the method of the effect of temperature on the rate of electrolysis together with the investigation of the variation of viscosity and electrical conductivity with temperature was employed. The conclusion on the complex mechanism of the electrode process is drawn on the basis of the analysis of the relationship of activation energy with the polarization potential (the activation energy was calculated from the slope of the linear relationships log I to 1/T. Depending on the conditions of the electrolysis both concentrational and chemical polarization is possible. The investigations of

Card 1/2

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SOV/137-58-9-19574

Cathodic Polarization in the Deposition of Silver (cont.)

the concentrational polarization by the temperature method coincide with those based on the investigations of the variations of the viscosity of the electrolyte with temperature.

N.O.

1. Silver--Electrodeposition 2. Cathodes--Polarization 3. Cyanides--Applications
4. Iodides--Applications 5. Electrolytes--Performance

Association: Rekomendovana kafedroy fizicheskoy khimii Kazakhskogo tekhnologicheskogo instituta.

Card 2/2

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

SOV/137-58-9-19566

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 205 (USSR)

AUTHOR: Izmaylov, A.V.

TITLE: Cathodic Polarization During the Deposition of Copper From Cyanide and Sulfocyanate Solutions (Katodnaya polyarizatsiya pri osazhdenii medi iz tsianistykh i rodanistykh rastvorov)

PERIODICAL: Nauchn. dokl. vyssh. shkoly. Khimiya i khim. tekhnol., 1958, Nr 1, pp 28-31

ABSTRACT: The type of cathode polarization in cyanide and sulfocyanate copper-plating electrolytes was studied by the method of the effect of temperature on the rate of electrolysis and the method of rapid plotting of polarization curves, together with investigation of the variation in viscosity and electrical conductivity in relation to temperature. With a constant potential difference, the relationship log I to 1/T is expressed by straight lines the slope of which depends on the nature of the complex ion and on the polarization potential of the electrode. The slope of the straight lines yields the values of the activation energy of the electrode process A_{ae} and establishes the effect of the polarization potential on the value of A_{ae}.

Card 1/2

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

SOV/137-58-9-19566

Cathodic Polarization During the Deposition of Copper (cont.)

The assumption is exposed that the segments of the A_{ae} - ΔE curves where a strong relationship between A_{ae} and the polarization is observed indicate a chemical polarization in the given segment; the segments of the curves in which A_{ae} does not vary with the polarization potential and which are located within the 3500-4000 cal range indicate a concentrational polarization. The computation of the activation energy of the viscous flow and of the electrical conductivity produced values close to A_{ae}, verifying the reliability of the data. In the solutions investigated, chemical polarization is the fundamental one, but, depending on the conditions of the electrolysis, various mechanisms of the process of electrolysis with a gradual transition from one to the other are possible.

N.O.

1. Copper--Electrodeposition 2. Cathodes--Polarization 3. Electrolytes--Properties
4. Cyanides--Performance 5. Sulphocyanate--Performance 6. Mathematics

ASSOCIATION: REKOMENDOVANIE KAFEDROY FIZICHESKOY KHIMII KAZANSKOGO TEKHNOLOGICHESKOGO INSTITUTA

Card 2/2

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

·5(4).
AUTHOR: Izmaylov, A. V. SOV/153-58-2-20/30

TITLE: Action of Sulfuric Acid on the Process of Electrolytic Copper Separation (Vliyaniye sernoy kisloty na protsess elektroosazhdeniya medi)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 2, pp 118-126 (USSR)

ABSTRACT: The investigation of the mechanism of the cathodic process under review in the presence of sulfuric acid is of both theoretical and practical importance, in particular for electrolytic refining and the galvanoplastics. Le-Blanc (Ref 1) explains the thus arising hyper-polarization by the retarded ion dehydration. The opinions, however, are rather contradictory (Refs 2-5). This may be explained by the complicated mode of the process itself as well as by the methods of investigation which were not quite suitable. It is further important to elucidate the influence exerted by the H_2SO_4 concentration and other factors upon the mechanism of the cathodic process and upon the type of polarization. In order to clarify the latter

Card 1/4

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type and the mechanism, the author investigated the variation of viscosity and electric conductivity with the varying temperature. This was carried out by the method of the temperature action exercised upon the electrolysis rate (Ref 6) and by the method of the rapid plotting of polarization curves (Ref 7). The test methods and the apparatus were described by the author in an earlier paper (Ref 8). a) The action of temperature exercised upon the cathodic polarization in the copper separation from $CuSO_4$-solutions with additions of H_2SO_4 is shown in figure 1. The sharp decrease of polarization with increasing temperature is here the most characteristic one. Yet, the number of active molecules within the electrolyte and the diffusion rate of complex metal ions is increased here. The polarization curves for 0,1 and 0,01 M-$CuSO_4$-solutions (Fig 2) and the temperature coefficient are discussed. The latter varies with the concentration of copper sulfate, the current density and temperature. Figure 4 gives the A_e-quantities calculated from the angle of inclination, i. e. the effective activation energy of the electrodic process. b) It was found that the A_e-quantities were the highest with low polarization potentials in all electrolytes investigated.

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Action of Sulfuric Acid on the Process of Electrolytic Copper Separation

If for each electrolyte a certain quantity of the polarization potential is reached, the A_e-quantities fall down to 8000 cal/mol. A further increase of polarization does scarcely influence the A_e-quantity. Table 1 presents the quantities of the coefficient α which shows the effect exercised by the near electrode field upon the decomposition of the complex ions. It can be seen from figure 5 that the cathodic polarization scarcely depends on its rate of measurement. This indicates that the cathodic polarization for the corresponding electrolyte has, more or less, the character of chemical polarization.

c) The action of the H_2SO_4 concentration exercised upon the velocity of the electrodic process permits the investigation of the nature of the inhibitory process of the electrochemical reaction and the determination of the mode of action of these or those additions exercised upon the electrodic process. Figure 6 shows the influence exercised by the H_2SO_4 concentration upon the cathodic polarization in 1, 0,1 and 0,01 M-solutions of $CuSO_4$. It was found that H_2SO_4 usually inhibits the cathodic process to a considerable extent,

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Action of Sulfuric Acid on the Process of Electrolytic Copper Separation

which is accompanied by increased polarization. Thus, the mechanism of the electrodic process was clarified. According to the conditions of electrolysis different mechanisms and transitions between them are possible. The mechanism of the cathodic process depends both on the concentration of the basic electrolyte and on that of H_2SO_4.

Professor S. V. Gorbachev gave helpful advice. There are 7 figures, 2 tables, and 14 references, 9 of which are Soviet.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskiy institut imeni D. I. Mendeleyeva (Moscow Institute of Chemical Technology imeni D. I. Mendeleyev) Kafedra fizicheskoy khimii (Chair of Physical Chemistry)

SUBMITTED: September 23, 1957

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

5(4)
AUTHOR: Izmaylov, A. V.

TITLE: Investigation of the Influence Exerted by Surface-active Compounds Upon the Kinetics of Copper Electrolytic Deposition From Sulfate Solutions (Issledovaniye vliyaniya poverkhnostno-aktivnykh veshchestv na kinetiku elektroosazhdeniya medi iz sernokislykh rastvorov)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 2, pp 127-134 (USSR)

ABSTRACT: Some colloids and surface-active compounds inhibit, even in small amounts, the ionic discharge and increase considerably the cathodic polarization. According to nature and concentration galvanic precipitate of different form can be obtained (Refs 1-8). In spite of ample practical application both the nature of the mentioned inhibition and the type of the cathodic polarization are not yet clarified in many regards. The author presents a survey of the publications (Refs 9-55). In the present paper the author tried to clarify the nature of the inhibitory influence of additions of thiourea and of a mixture of the latter with black molasses. Furthermore, the quantities

Card 1/3

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Investigation of the Influence Exerted by Surface-Active Compounds Upon the Kinetics of Copper Electrolytically Separated From Sulfate Solutions

molasses, respectively, (Fig 1, Curve 7) the curves are quite different; the variation of A in dependence on the polarization potential is quite a different one than that effected with the chemical, concentration- or phase polarization (Ref 16). In these cases, A is considerably higher than for the basic electrolyte without additions. The diffusion is still forming the inhibitory process. A further increase of the polarization potential reduces the A-quantities down to those being characteristic of the basic electrolyte with the corresponding polarization potential. This means that the most retarded stage of the electrode process apparently passes at the surface of the electrode. The occurrence of a new particular kind of polarization may be explained apparently by the inhibition produced by a dense adsorption layer at the electrode surface consisting of molecules of the added surface-active compound. The author intends to call this type of polarization "adsorption polarization". The increase of activation energy may be explained by an increasing viscosity due to the formation of a viscous film. The influence exercised by the concentration of

Card 3/5

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

SOV/156-58-2-10/48

AUTHOR: Izmaylov, A. V.

TITLE: Several Problems of Kinetics in the Cathodic Processes of Electrolytic Deposition of Metals(Nekotoryye voprosy kinetiki katodnykh protsessov pri elektroosazhdenii metallov)

PERIODICAL: Nauchnyye doklady vysshey shkoly, Khimiya i khimicheskaya tekhnologiya, 1958, Nr 2, pp. 240 - 244 (USSR)

ABSTRACT: As is known, metal ions pass through several stages in electrolysis before they become a part of the crystal lattice of the deposition. Thus the velocity of the process is limited by the slowest stage. In spite of numerous investigations the mechanism of the discharge of cations in solutions of simple salts is still not clear (Ref 1). This mechanism is even less clear for solutions of complex ions. This complicates the control of galvanic processes and the choice of optimum conditions for electrolysis. It was early discovered that with the clarification of the type of cathodic polarization and with the study of the mechanism of the electrolytic process the dependence of the current upon the temperature can be evaluated. In regard to the problem of this paper the author was interested in studying the

Card 1/4

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the indicated solutions at different temperatures and the calculated energies of activation. These data indicate that for solutions 2,3,6,7, and 9 the increase in temperature apparently influences the product $\eta \cdot K$. This indicates that the ion structure is markedly changed with change in temperature. This factor must have some influence upon the quality of the depositions involved. Therefore one should prevent increases of temperature in galvanic cells whose electrolyte structure is thus impaired by change of temperature. On the other hand, however, this is allowed for the following electrolytes: cyanogen-containing copper-plating, silver-plating, cadmium-plating, and tin-plating electrolytes. An increase in temperature is even desirable here, since a greater current density is produced and the productivity increases (Refs 12 - 14).

Professor S.V.Gorbachev gave valuable suggestions and took part in the discussion over the work. There are 3 figures, 1 table, and 15 references, 13 of which are Soviet.

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Several Problems of Kinetics in the Cathodic Processes of Electrolytic Deposition of Metals

SOV/156-58-2-10/48

ASSOCIATION: Kafedra fizicheskoy i neorganicheskoy khimii Chimkentskogo tekhnologicheskogo instituta stroitel'nykh materialov (Chair of Physical and Inorganic Chemistry of the Chimkent Technological Institute for Building Materials)

SUBMITTED: September 16, 1957

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energy for the dissociation of the complex ions. The degree of dissociation can be calculated according to an equation. The author was interested in investigating the relationship between the effective energy of activation of the electrolytic process, the instability constant of each complex ion, and other factors. As is evident from figure 1, the energy of activation is greatest when the polarization potential is lowest. The increase in polarization considerably decreases the energy of activation. Figure 2 shows that for both univalent and divalent ions the quantity K_n decreases when the quantity A_o decreases (A_o is the energy of activation at $\triangle E=0$). From the polarization curves given in figure 3 it follows that for the electrolytes II. and III., and I. and IV., which contain complex ions of like valence but different instability constants, the polarization curves differ (Electrolyte -. = Zn, NaCN, NaOH; II. $CuSO_4$, triethanolamine; III. $CuSO_4$ $Na_2C_2O_4$; IV. CuCN, NaCN, Na_2CO_3).

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Concerning the Relationship Between the Effective Energy SOV/156 58-2-11/48
of Activation of Electrolytic Processes, the Stability of Complex Ions, and
the Valence of Ions Dissociating From the Complex

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

.5(2,4) SOV/153-2-4-18/32

AUTHOR: Izmaylov, A. V.

TITLE: Kinetics of the Electroseparation of Zinc and Cadmium From Solutions of Simple and Complex Salts

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 4, pp 562 - 567 (USSR)

ABSTRACT: The problem mentioned in the title (also with various additions to the electrolyte) is of practical as well as theoretical interest. Despite several investigations in this field, most of the respective problems as well as those of cathodic polarization are unsolved or questionable (Refs 1-9). The paper under discussion aims at obtaining additional data concerning the nature of cathodic polarization in the process mentioned in the title as well as explaining the effect of the nature of the electrolyte and other factors on the mechanism of the cathodic process. For this purpose, the variation of viscosity and elctric conductivity with temperature was investigated in addition to the method of temperature effect on the electrolysis rate (Ref 10) and the method of a rapid plotting of the polarization curves according to A. T. Vagramyan (Ref 11). The

Card 1/4

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effect of the field near the electrode on the discharge mentioned. According to the nature of the suppressing process in the complex cyanogen electrolytes, a variable mechanism of the cathodic process is observed which is brought about by polarization caused chemically or by the concentration. With regard to the acid zinc- and cadmium electrolyte it was found that the activation energy does not depend on the polarization potential. The diffusion rate of the ions to the electrode suppresses the electrochemical process. Thus, concentration polarization occurs. Moreover, the following Soviet names were mentioned in the paper: Yesin, O. A., Titov, P. S., Boldanova, N. N., Gorbachev, S. V., Starostenko, Ye. P., Reyter, V. A., Yuza, V. A. , Poluyan, Ye. S., Nagaryshev, N. A. There are 6 figures, 2 tables, and 17 references, 15 of which are Soviet.

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

Kinetics of the Electroseparation of Zinc and Cadmium 207/133-2-4-18/32
From Solutions of Simple and Complex Salts

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskiy institut imeni D. I. Mendeleyeva, Kafedra fizicheskoy khimii (Moscow Institute of Chemical Technology imeni D. I. Mendeleyev, Chair of Physical Chemistry)

SUBMITTED: December 7, 1958

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viscosity and electric conductivity with temperature. The methods and the apparatus had been described earlier (Refs 12,13). There is a linear dependence of all electrolytes investigated in the case of a polarization potential ΔE in coordinates

$\lg I - \frac{1}{T}$. The inclination angle of the straight line depends on the nature of the electrolyte and the potential. The values of the effective activation energy computed from this angle are shown in figure 2 and table 1. The linear dependence mentioned is preserved over a wide range of polarization potentials. The author determined the values of coefficient α with various ΔE from the experimental values of the activation energy A. According to the electrolysis conditions (polarization potential and degree of current density), a variable mechanism of the cathodic process of lead separation can be observed. This is caused by chemical or concentration polarization. The results obtained prove that the mechanism mentioned is characterized by concentration polarization in lead separation from stannate solutions. Moreover, the following Soviet names were mentioned

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

Kinetics of Electroseparation of Lead and Tin From Solutions of Simple and Complex Salts SOV/153-2-4-19/32

in the paper: Tubyshkina, Z. A., Kovalenko, P. N., Kovalev, A. T., Sotnikova, V. M., Kadaner, L. I., Morshak, F., Kheyfets (this spelling according to the bibliography, Kheyfits according to the text, p 568), N., Solokhina, V. G., Gorbachev, S. V. There are 3 figures, 2 tables, and 16 references, 15 of which are Soviet.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskiy institut imeni D. I. Mendeleyeva, Kafedra fizicheskoy khimii (Moscow Institute of Chemical Technology imeni D. I. Mendeleyev, Chair of Physical Chemistry)

SUBMITTED: December 7, 1958

Card 3/3

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

IZMAYLOV, A.V.

Kinetics of nickel electrodeposition from sulfuric acid solutions. Izv.vys.ucheb.zav.; khim.i khim.tekh. 2 no.5:741-744 '59. (MIRA 13:8)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni D.I. Mendeleyeva kafedra fizicheskoy khimii.

(Nickel plating)

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

MAKOLKIN, Ivan Afanas'yevich; SHMELEV, Boris Aleksandrovich;
IZMAYLOV, A.V., doktor khim. nauk, retsenzent;
KARAPET'YANTS, M.Kh., doktor khim. nauk, retsenzent;
MISHCHENKO, K.P., doktor khim. nauk, retsenzent;
FEDOROVA, T.P., red.; BARANOV, Yu.V., tekhn. red.

[Collection of examples and problems in physical and colloid chemistry] Sbornik primerov i zadach po fizicheskoi i kolloidnoi khimii. Moskva, Rosvuzizdat, 1963. 181 p.
(MIRA 16:4)
(Chemistry, Physical--Problems, exercises, etc.)

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

IZMAYLOV, A.V.; DANILOVA, N.N.

Protection of aluminum and its alloys against the action of the aggressive substances in the food industry. Izv.vys.ucheb.zav.; pishch.tekh. no.5:98-100 '63. (MIRA 16:12)

1. Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy promyshlennosti, kafedra fizicheskoy i kolloidnoy khimii.

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

IZMAYLOV, A.V.; CHERNYSHEVA, N.P.

Behavior of tin--manganese alloy coatings in the food substances of the meat and dairy industry. Izv.vys.ucheb.zav.; pishch.tekh. no.5:101-104 '63. (MIRA 16:12)

1. Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy promyshlennosti, kafedra fizicheskoy i kolloidnoy khimii.

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6"

"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

IZMAYLOV, A. V.; DANILOVA, N. N.; SHILOVA, G. Z.

Protective coatings for nonferrous metals and alloys used in the food industry equipment. Izv. vys. ucheb. zav.; pishch. tekh. no. 2: 88-90 '64. (MIRA 17:5)

1. Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy promyshlennosti, kafedra fizicheskoy i kolloidnoy khimii.

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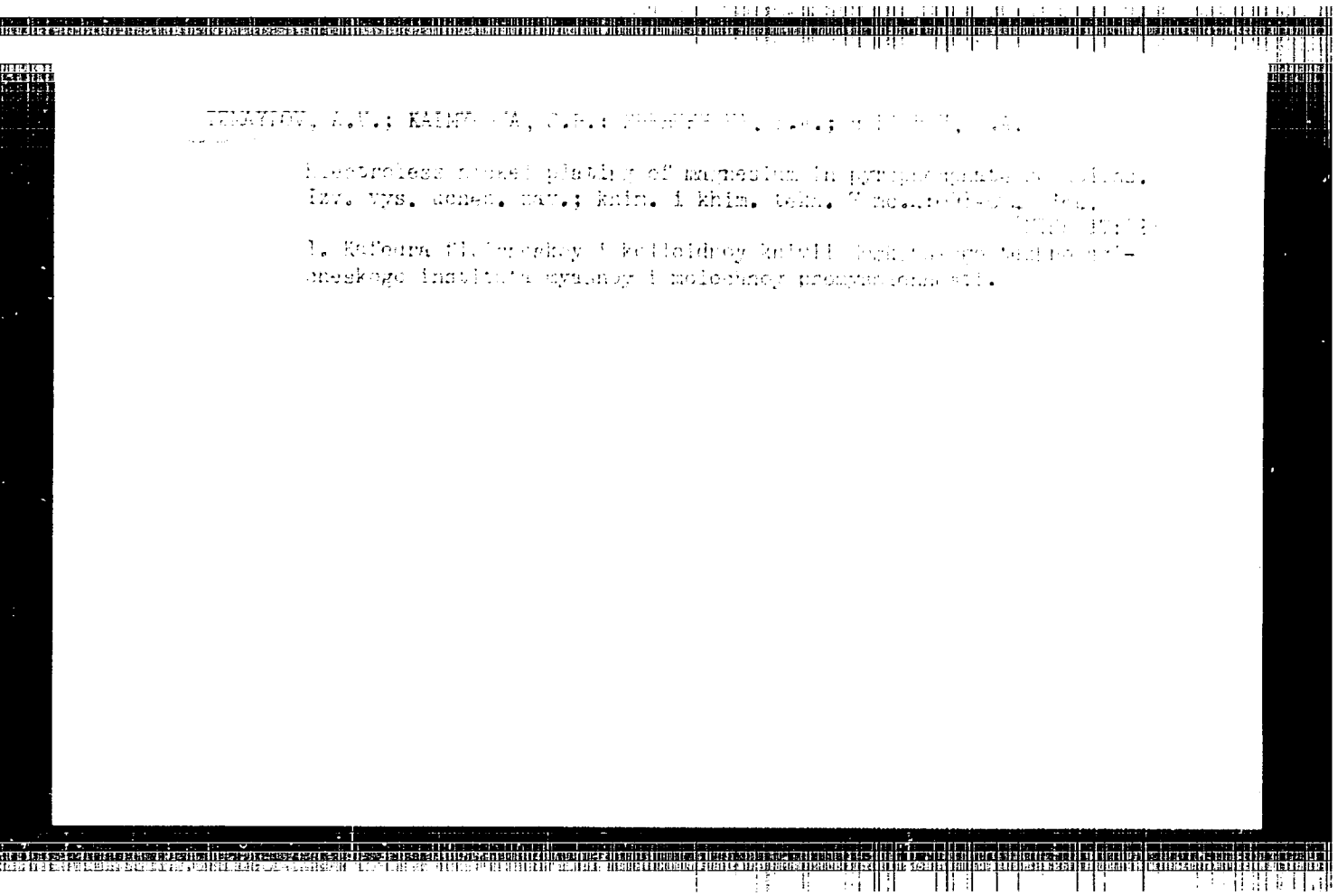

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

IZMAYLOV, A.V.; CHERNYSHEVA, N.F.

Effect of surface-active substances on cathodic polarization during the deposition of a tin-manganese alloy from halide electrolytes. Izv. vys. ucheb. zav.; khim. i khim. tekh. 7 no.3: 456-459 '64. (MIRA 17:10)

1. Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy promyshlennosti, kafedra fizicheskoy khimii.

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ACCESSION NR: AP5011368 JD/HM UR/0365/65/001/002/0238/0239
620.197.6
621.357.7

AUTHOR: Atanasyants, A. G.; Izmaylov, A. V.; Balashov, A. A.; Savel'yeva, V. N.

TITLE: Deposition of metallic platings on welded products of titanium and its alloys

SOURCE: Zashchita metallov, v. 1, no. 2, 1965, 238-239

TOPIC TAGS: titanium alloy, titanium, metal deposition, nickel plating, copper plating, electroplating

ABSTRACT: A technique recommended for preparation of high quality copper platings on welded articles of titanium or its alloys is described in detail. It consists of the following steps: 1. mechanical removal of the sinter (only for gas welded samples); 2. degreasing with organic solvents; 3. etching at 70°C for up to 30 min in a solution containing (vol. %): conc. HF-5, conc. H_2SO_4-35, and H_2O-60; 4. copper plating at 20°C for 2 min at a current density of 1-2 A/100 cm^2 in a solution containing (g/l): $CuSO_4 \cdot 5H_2O$-250, conc. H_2SO_4-50, and conc. HF-50, up to complete

Card 1/2

Card 2/2

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

L 22459-66 EWT(m)/EWP(t) IJP(c) JD/JG

ACC NR: AP6006405 SOURCE CODE: UR/0413/66/000/002/0146/0146

AUTHOR: Izmaylov, A. V.; Savel'yeva, V. N.

ORG: none

TITLE: Electrolytic method of depositing a tin-molybdenum melt. Class 8, no. 178258

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1966, 146

TOPIC TAGS: tin alloy, electrodeposition, electrolyte, metal deposition, molybdenum alloy

ABSTRACT: This Author Certificate describes an electrolytic method of depositing a tin-molybdenum alloy. In order to produce a fine-crystalline structure for the alloy, the electrolysis is made from an electrolyte of the following compositions, (in grams per liter): ammonium molybdate, 40-60; sodium stannate, 10-20; sodium pyrophosphate, 40-80; sodium bicarbonate, 10-40; hydrazine sulfate, 1-3. [LD]

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

ACC NR: AP6030632 SOURCE CODE: UR/0413/66/000/016/0129/0129

INVENTOR: Izmaylov, A. V.; Shuvakhina, L. A.

ORG: none

TITLE: Method of chemical deposition of nickel-phosphorus alloys. Class 48, No. 185178

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966, 129

TOPIC TAGS: nickel alloy, phosphorus alloy, nickel phosphorus alloy, chemical deposition

ABSTRACT: An Author Certificate has been issued for a method of chemical deposition of nickel-phosphorus alloys from a sulfate solution. To obtain a firm cohesion of the coating with such metals as lead, tin, magnesium, zinc, cadmium, and antimony, the process is carried out in a solution of the following composition (in g/l): 25—35 nickel sulfate, 15—20 sodium hypophosphate, 50—75 diethanolamine, and 25—30 ammonium fluoride at temperatures of 85—95C and pH of 8.5—9.5. [Translation] [NT]

SUB CODE: 07/ SUBM DATE: 04Feb64/

Card 1/1 UDC: 621.793.3:669.248'779

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

ATANASYANTS, A.G.; IZMAYLOV, A.V.; BELASHOV, A.A.; SAVEL'YEVA, V.N.

Metal plating of welded objects of titanium and its alloys. Zashch. met. 1 no.2:238-239 Mr-Ap '65. (MIRA 18:6)

1. Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy promyshlennosti.

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

ANDRIANOV, K.A.; IZMAYLOV, B.A.

Reaction of higher alkylchlorosilanes with ethyl alcohol. Zhur. ob. khim. 35 no.6:1041-1044 Je '65. (MIRA 18:6)

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619410004-6

S/[illegible]/62/011/020
B144/B138

AUTHORS: Andrianov, K. A., Severnyy, V. Y., and Zhdanov, B. A.

TITLE: Telomerization of dimethyl cyclosiloxanes. Communication 5. Reactions with trifunctional compounds

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 2, 1962, 282 - 290

TEXT: Reacting hexamethyl cyclotrisiloxane (I) with organotrichloro silanes at 250°C led to the formation of telomers of the formula $RSi(Cl)_2-[OSi(CH_3)_2]_n-Cl$ in which the degree of telomerization depended on the organic radical R. The activity of $RSiCl_3$ decreased in the order $R = CH_3$, C_2H_5, $CH_2=CH$, C_6H_5. When R was CH_3 or C_2H_5, a 1:2 excess of I effected a reduction of the yield in the telomer with n = 1, a slight increase of the telomers with n = 2 and n = 3, and a sharp increase of the higher telomers. This effect was absent, when the reaction with CH_3SiCl_3 was brought about in two stages with separation of 1,1,3-trichloro-heptamethyl tetrasiloxane. This is attributed to the dependence of the $RSiCl_3$

Card 1/3

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S/[illegible]/[illegible]/[illegible]/[illegible]/[illegible]/020

Telomerization of dimethyl cyclosiloxanes... 8144/[illegible]

SUBMITTED: May 16, 1962

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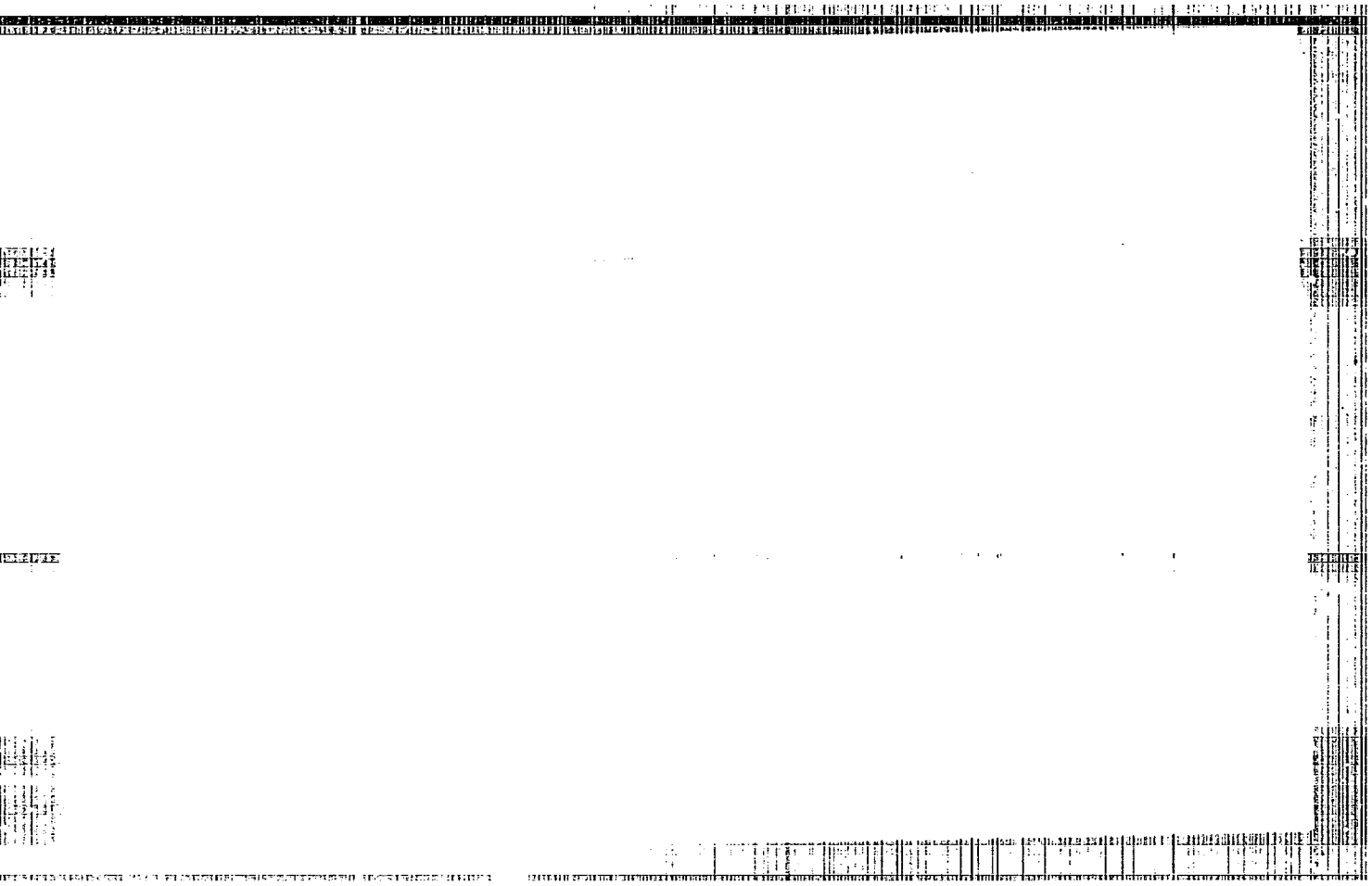

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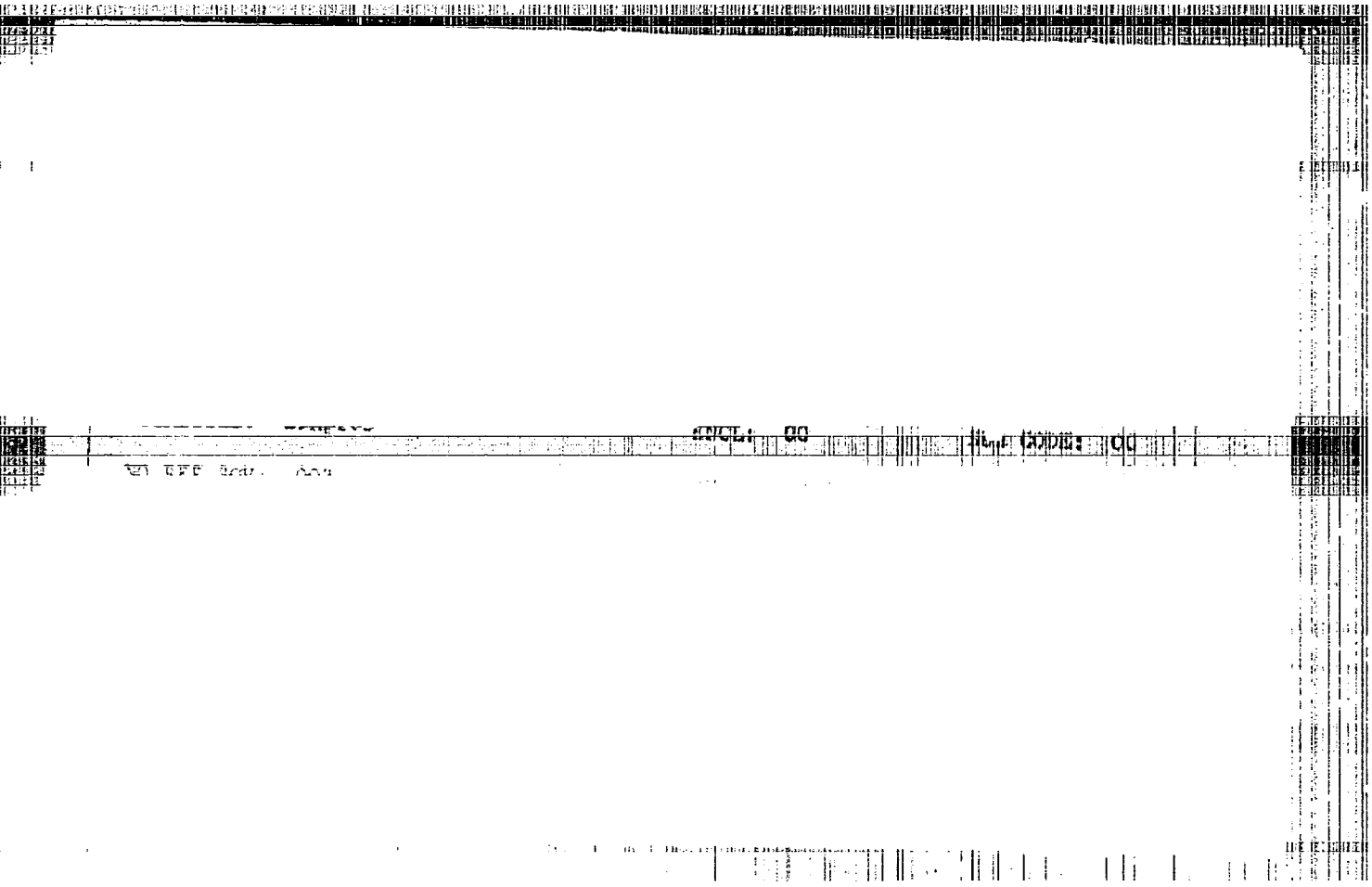

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L 03533-66 EWT(m)/EWP(j)/T IJP(c) RM

ACC NR: AP6007117 (A) SOURCE CODE: UR/0079/66/036/002/0341/0345

AUTHOR: Andrianov, K. A.; Izmaylov, B. A.

ORG: none

TITLE: Hydrolytic polycondensation of higher alkyltrichlorosilanes

SOURCE: Zhurnal obshchey khimii, v. 36, no. 2, 1966, 341-345

TOPIC TAGS: organosilicon compound, polycondensation, hydrolysis

ABSTRACT: Reactions of hydrolytic polycondensation of hexyl-, heptyl-, octyl-, and isononyltrichlorosilane were investigated. The hydrolysis was found to differ considerably from that of lower alkyltrichlorosilanes. Even when carried out in an acid medium, the initial products contained a large number of hydroxyl groups. The reaction is represented as follows:

$$n\mathrm{RSiCl_3} + 3n\mathrm{H_2O} \longrightarrow \underset{\text{(I–IV)}}{[\mathrm{RSiO(OH)}]_n} + 3n\mathrm{HCl}$$

(I) R = C_6H_{13}, $n = 8$; (II) R = C_7H_{15}, $n = 6$; (III) R = C_8H_{17}, $n = 6$; (IV) R = C_9H_{19}, $n = 6$.

The products were polymeric compounds of relatively low molecular weight. In order to achieve a complete condensation of the hydroxyl groups, compounds (I-IV) were distil-

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Card 1/2

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led under a high vacuum; this produced low-molecular three-dimensional rings, silsesquioxanes, which are viscous liquids soluble in benzene, toluene, and ether. The IR spectra of the silsesquioxanes showed the presence of an absorption band at 1125 cm^{-1}, which was attributed to the stretching vibration of the Si-O-Si bond. The experimental data indicate that the higher alkyltrichlorosilanes have a much greater tendency toward intramolecular condensation during hydrolytic condensation than lower alkyltrichlorosilanes, in which hydrolytic condensation also readily occurs intermolecularly. The intramolecular character of the process is attributed to pronounced steric hindrance effects due to bulky radicals; this accounts for the formation of ring structures instead of polymers. Orig. art. has: 3 tables.

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