"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

SOV/137-59-3-6721

Development of Methods of Measuring the Surface Tension on Phase Boundaries

the melt at various current densities, as well as its wetting during changes in temperature, electrolyte composition, and changes in the material of the A. It is noted that all of the M's described permit polarizing the electrodes with a direct current in the course of the experimental electrolysis processes. Examples illustrating the M's described are presented.

Yu. L.

Card 3/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014446

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BURAKOV, M.K.; REMPEL', S.I.

Low-frequency bitration. Changes in the boundary impedance in the course of bitration. Zhur. fiz. khim. 39 no.9:2265-2269 S '65. (MIRA 18:10)

1. Ural'skiy lesotekhnicheskiy institut.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014446

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

32-8-21/61

AUTHORS: Rempel', S.I., and Yur'yeva, L.V.

TITLE: A Method for Determining Interphase Tensions. (Metod issledovaniya mezhfaznogo natyazheniya).

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 8, pp. 934 - 936 (USSR.).

ABSTRACT: For the measurement of surface tensions on the boundary between molten metal and molten salt (or slag) X-ray radiation may be used, but this is not possible in the case of molten light metals whose density little differs from the density of their molten salts. Research works in this field by A.N.Frumkin, member of the Academy, (electrocapillary curve), as well as the works by S.V.Karpachev and A.G. Stromberg (electrocapillary phenomena) are here called "uninteresting" for industry.

This paper gives a method for investigating the dependence of the interphase tension on current density, temperature and structure of the electrolyte (or the slag) at high temperatures. A disk which is systematically counterbalanced, is fastened on the boundary between the molten metal and the electrolyte. By a rod the disk is connected with the measuring apparatus. The material of which the disk is made has to be adapted to every individual case. For a magnesium melt, e.g., a porcelain disk, fastened to an iron rod, can be used. For aluminum in a cryolite-alumina melt a disk of molten magnesium oxide or silican carbide is recommended. For measurements in the movable part of the appa-

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32-8-21/61

A Method for Determining Interphase Tensions.

ratus the use of an ion- or electron-tube with mechanical steering is provided. The paper gives a scheme of the proposed apparatus and examples of relevant research works. (4 illustrations).

ASSOCIATION Forest Engineering Institute of the Ural. (Uralskiy lasotekhnicheskiy institut).

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Card 2/2

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPEL', S. I., KHODAK, L . P., and Kuznetsov, S. I.

"The Effect of Periodic Charging of Raw Material on the Energy Regime of and Electrolytic Bath. p. 144.

in book, Collection of Studies in the Metallurgy of Heavy Nonferrous Metals. Sverdlovsk, 1957, 168pp. (Series: ITS Trudy, vyp. 1, Inst. metallurgii, Ural'skiy filial, Sverdlovsk, Acad. Sci. USSR)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014446

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

KHODAK, L.P.; REMPEL', S.I.; KUZNETSOV, S.I.

Effect of batch burdening of raw materials on electrolytic bath power conditions. Trudy Inst. met. UFAN SSSR no.1:144-148 '57. (MIRA 11:9)

(Aluminum--Electrometallurgy) (Thermoelectricity)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014446

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPEL, S. I.

1-4E2c
1-4E3d
1-4E4j
1-RMJ
1-JWM

Addition of a radioactive alloy to molten metal. R. B. Popov and S. I. Rempel. U.S.S.R. 102,235, Mar. 25, 1956. The alloy contg. the radioactive component is wrapped in several layers of paper and then suspended in the molten metal. This procedure is used in *electrolytic production of Al* to det. the ratio of current consumed to the yield of metal. The radioactivity of the metal is compared with the radioactivity of the radioactive alloy. M. [illegible]

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NS

PMK

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014446

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

Rempel, S. I.

PHASE I BOOK EXPLOITATION

327

Sushkov, Akim Ivanovich; Troitskiy, Ivan Alekseyevich; Eydenzon, Moisey Aronovich
Metallurgiya legkikh metallov (Metallurgy of Light Metals) Sverdlovsk, Metallurgizdat, 1957. 510 p. 6,000 copies printed.

Eds.: Khodak, L.P., Candidate of Technical Sciences, Ivanov, A.I., Engineer, Rempel', S.I., Doctor of Technical Sciences, Professor; Ed. of Publishing House: Luchko, Yu.V.; Technical Ed.: Zef, Ye.M.

PURPOSE: This is a textbook for technikum students taking courses in the metallurgy of aluminum and magnesium; it may also be useful to production engineers.

COVERAGE: The book presents the theoretical and practical sides of the metallurgy of aluminum and magnesium. Both electrolytic and thermal reduction methods are treated. The authors also discuss the production of raw materials used in the electrolytic method: alumina, anhydrous chlorides and fluorides, and carbonaceous materials. Part I, with the exception of Chapters II, III, and VI, was written by Sushkov, A.I.; Part II, by Eydenzon, M.A.; and Chapters II, III, and VI, by Troitskiy, I.A. The authors express their appreciation to the following personalities for help in compiling the volume: Forsblom, G.V., Candidate of Technical

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Sciences; and to Chemodanov, V.S., Gerasimov, V.Ya., Vyvdenko, V.G., Isupov, P.V., all employees of the Ural'skiy ordena Lenina alyuminiyevyy zavod (Urals Order of Lenin Aluminum Plant). There are 21 references, all Soviet.

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24(0); 5(4); 6(2) PHASE I BOOK EXPLOITATION SOV/2215

Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii imeni D.I. Mendeleyeva

Referaty nauchno-issledovatel'skikh rabot; sbornik No. 2 (Scientific Research Abstracts; Collection of Articles, Nr 2) Moscow, Standartgiz, 1958. 139 p. 1,000 copies printed.

Additional Sponsoring Agency: USSR. Komitet standartov, mer i izmeritel'nykh priborov.

Ed.: S. V. Reshetina; Tech. Ed.: M. A. Kondrat'yeva.

PURPOSE: These reports are intended for scientists, researchers, and engineers engaged in developing standards, measures, and gages for the various industries.

COVERAGE: The volume contains 128 reports on standards of measurement and control. The reports were prepared by scientists of institutes of the Komitet standartov, mer i izmeritel'nykh priborov pri Sovete Ministrov SSSR (Commission on Standards, Measures, and Measuring Instruments under the USSR Council of Ministers). The participating institutes are: VNIIM - Vsesoyuznyy nauchno-issledovatel'skiy metrologii imeni D.I. Mendeleyeva (All-Union Scientific Research Institute of Metrology imeni D.I. Mendeleyev) in Leningrad; Sverdlovsk branch of this institute; VNIIK - Vsesoyuznyy nauchno-issledovatel'skiy institut Komiteta standartov, mer i izmeritel'nykh priborov (All-Union Scientific Research Institute of the Commission on Standards, Measures, and Measuring Instruments), created from MGIMIP - Moskovskiy gosudarstvennyy institut mer i izmeritel'nykh priborov (Moscow State Institute of Measures and Measuring Instruments) October 1, 1955; VNIIFTRI - Vsesoyuznyy nauchno-issledovatel'skiy institut fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy (All-Union Scientific Research Institute of Physicotechnical and Radio-engineering Measurements) in Moscow; KhGIMIP - Khar'kovskiy gosudarstvennyy institut mer i izmeritel'nykh priborov (Khar'kov State Institute of Measures and Measuring Instruments); and NGIMIP - Novosibirskiy gosudarstvenyy institut mer i izmeritel'nykh priborov (Novosibirsk State Institute of Measures and Measuring Instruments). No personalities are mentioned. There are no references.

Yustova, Ye. N. (VNIIM). On the Accuracy of Conventional Calibrations of Colorimeters for Three Colors and Four Chromaticities 110

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APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014446

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPEL', S.I.; YUR'YEVA, L.V.

Method for investigating interphase tension. Zav. lab. 23 no.8:934-936 '57. (MLRA 10:11)

1. Ural'skiy lesotekhnicheskiy institut.
(Surface tension)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014446

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPEL',S.I.; POPOV,R.B.

Determination of current-yield dependence in industrial aluminum-producing electrolyzers. Dokl. AN SSSR 103 no.1:107-108 Jl'55. (MLRA 8:10)

1. Predstavleno akademikom A.N.Frumkinym.
(Aluminum--Electrometallurgy)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014446

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPEL, S. I.

Automatic control and regulation of the composition of pulp by radioactive radiation. S. I. Rempel and R. B. Popov. *Tsvetnye Metally* 1956, No. 10, 47-53.—The γ-radiation of Cs^{134} and Co^{60} is used to control the water content of pulp. For the optimum thickness of the layers of pulp absorbing the γ-radiation the values 8 cm. for Cs^{134} and 0.4 cm. for Co^{60} are detd. The transmitted γ-radiation is measured by an ionization counter which triggers an elec. control app. E. Gora

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

Rempel, S. I.

Determination of yield of aluminium in industrial electrolytic plants. S. I. Rempel and R. B. Popov (*Dokl. Akad. Nauk SSSR*, 1955, 103, 107—108).—Alloy containing ^{60}Co or ^{95}Zr (1—2 mcurie) is added to the molten Al at the cathode, and the sp. activity of samples of Al tapped off is determined after passage of known amounts of current. The amount of Al produced is given by $Q = Q_A n_A/n$, where Q_A is the amount of alloy added, and n_A and n are the sp. activities of the alloy and the sample, respectively.

R. Truscoe.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPEL', S.I.; POPOV, R.B.

Radioactive radiation used in the automatic control and regulation of pulp composition. TSvet. met. 29 no.10:47-54 O '56. (MLRA 9:12)

1. ULTI (for Rempel') 2. Vsesoyuznyy alyuminiyevo-magniyevyy institut (for Popov).
(Radioactive substances--Industrial applications)
(Ural Mountain region--Aluminum--Metallurgy)
(Automatic control)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

USSR.

The Causes of Anodic Overvoltage and Its Connection with Current Efficiency. S. I. Rempel' and L. P. Khodak (*Zhur. Priklad. Khim.*, 1954, 27, (10), 1125–1128).—[In Russian]. R. and Kh. reply to criticisms of their work (*ibid.*, 1953, 26, 931; *Doklady Akad. Nauk S.S.S.R.*, 1950, 75, 853) made by Abramov *et al.* in their book "Teoreticheskie Osnovy Elektrometallurgii Alyuminiya" ("Theoretical Foundations of the Electrometallurgy of Aluminium"), Moscow, 1953.

—G. V. E. T.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPEL, S. I.

3

USSR

Mechanism of the origin of overvoltage on a carbon anode in cryolite aluminum oxide melts. S. I. Rempel and L. P. Khodak. *J. Appl. Chem. U.S.S.R.* 26, 857-65(1953) (Engl. translation).—See *C.A.* 48, 5689g. H. L. H.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPEL, S. I.

USSR/ Metallurgy - Chemical technology

Card 1/1 Pub. 22 - 29/46

Authors : Rempel', S. I., and Popov, R. B.

Title : Determination of aluminum output by the current in industrial electrolyzers

Periodical : Dok. AN SSSR 103/1, 107-108, Jul 1, 1955

Abstract : A method for measuring the metal output of industrial electrolyzers by determining their current consumption for a certain period of time, is derived. By stabilizing the conditions of measuring the specific activity of the alloy and Al samples from the baths, the authors established the direct proportionality between the concentration of the radioactive isotope in the alloy and in the metal and their specific activity. The degree of reduction of the specific activity of the metal sample taken from the bath compared with the activity of the alloy introduced into the bath serves as a measure of the solution of the alloy with pure Al already in the bath.

Institution : .....

Presented by : Academician A. N. Frumkin, April 1, 1955

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

Rempel, S.I.

2527 Mechanism of Occurrence of Overvoltage at Carbon Anode in the Electrolyte Production of Aluminum. S. I. Rempel and L. P. Khodak. Henry Brutcher, Altadena, Calif., Translation no. 3391, 15 p. (From Zhurnal Prikladnoi Khimii, v. 26, no. 9, 1953, p. 931-940.)
Previously abstracted from original. See item 5245, v. 3, Apr. 1954.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPEL, S. I.

USSR

Reference gas electrode for measurements in cryolite-alumina fusions. S. I. Rempel, N. A. Anisheva, and L. P. Khodak. *Doklady Akad. Nauk S.S.S.R.* 97, 859-62 (1954).—The use of an O-C gas electrode as the reference electrode to be used in fused cryolite-alumina systems was discussed. Measurements were made on 2 C and one Al electrode. One C electrode was immersed in the electrolyte and the other C and the Al electrodes were in perforated corundum crucibles which were suspended in the bath. The upper parts of the two C electrodes were in const. contact with a mixt. of CO and CO_2. The p.d. between the reference gas electrode and the anode depended on the chem. potentials of the O on the electrodes and did not depend directly on the alumina concn. in the electrolyte.

J. Rovtar Leach

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPEL 24S8

600

1. KARPACHEV, S.: REMPEL', S.: IODAN, Ye.

2. USSR (600)

"The Overvoltage of Hydrogen in a Certain Fused Electrlyte," Zhur. Fiz. Khim, 13, no.8, 1939. Sverdlovsk, Ural'sk Physico-Technological Institute, Laboratory of Electrochemistry. Received 26 January 1939.

9. [redacted] Report U-1615, 3 Jan. 1952.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPEL, A. N. Engineer

Cand. Tech. Sci.

Dissertation: "Influence of certain Additions on the Properties of Electric Insulating Materials Based on Mullite-Cordierite Mixtures."

23 Feb. 49

Moscow Order of Lenin Chemicotechnological

1st imeni D.I. Mendeleyev

SO Vecheryaya Moskva
Sum 71

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

RAMPEL', A. M., [illegible]

"Influence of Certain Additions on the Properties of Electric Insulating Materials Based on Mullite-Cordierite Mixtures." Thesis for degree of Cand. Technical Sci. Sub 28 Feb 49, Moscow Order of Lenin Chemicotechnological Inst imeni D. I. Mendeleyev.

Summary 82, 18 Dec 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1949. From Vechernyaya Moskva, Jan-Dec 1949.

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

F

J

5157. MAGNETIC PUSHER FOR DIRECT DETERMINATION OF OXYGEN IN COAL. Dryvan Rempel, EA and BAbushkin, SA (Zavodskaya Lab. (Factory Lab.), 1950, vol. 16, 238; abstr. in chem. abstr., 1950, vol. 44, 7041). The combustion boat is readily moved inside the tube by means of a glass enclosed piece of iron moved by sliding a horseshoe magnet along the outside of the tube.

CA

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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BC

A-3

Concentration polarisation in fused salts. S. KARPATSCHEV and S. REMPEL (J. Phys. Chem. Russ., 1936, 8, 134—136).—The existence of concn. polarisation in fused electrolytes is shown by a comparison of the current–potential curves of fused KCl + LiCl with and without stirring.— E. R.

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Concentration polarization in molten salts. S. Karpachev and S. Rempel. *J. Phys. Chem.* (U. S. S. R.) 8, 434-6(1936).—Graphical data are given for the relation of potential to c. d. for a lead anode in the molten eutectic KCl-LiCl.

F. H. Rathmann

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

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Electrode polarization in the course of cathodic deposition of heavy metals from fused electrolytes. S. Karpachev and S. Rempel. *J. Phys. Chem.* (U. S. S. R.) 11, 144-8(1938).—The cathode potentials of Cd in $CdCl_2$, Pb in $PbCl_2$ and Tl in TlCl (all molten) are independent of the c. d. between 0 and 300 amp. per sq. dm. An explanation is advanced for the absence of polarization. H. C. P. A.

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3RD AND 4TH ORDERS

Karpachev, S., Rempel, S., and Sesyunin, A. RAPID DETERMINATION OF MOISTURE IN UNBAKED BRICK. *Zavodskaya Lab.*, 5, 1225-26 (1936). — The H_2O content is proportional to the electric resistance. Apparatus is described.

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1ST AND 2ND ORDERS

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7

Rapid determination of lead in tin plate. S. Kempel. *J. Applied Chem.* (U. S. S. R.) 10, 1632-4 (in English 1635) (1937). Dissolve 0.1-0.2 g. of the sample in 5 cc. of HNO_3 (d. 1.4) by heating on a water bath. Transfer the soln. to a Pt crucible and add 25 cc. of water. Electrolyze at 80°, with 2 amp. (c. d. approx. 2 amp./sq. in.), adding water from time to time to cover the anode surface, until the electrolyte has become alk. to litmus paper. Wash, dry and weigh the crucible. The accuracy of the method is 0.02-0.05%, and the duration one hr. Cu promotes the accuracy of the method and Fe (small amt.) does not interfere. A. A. Podgorny

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APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014446

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REMPEL', S.

"Studies of the Anode Overvoltage in Melted Mixtures of Cryolite and Aluminium Oxides," Zhur. Fiz. Khim., 23, No. 4, 1949. Inst. Chem. Metallurgy, Ural Affil., Acad. Sci., -c1949-. Mbr., Lab. Electrochemistry,

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPEL, S.

Karpachev, S., Rempel, S., and Sesyunin, A. RAPID DETERMINATION OF MOISTURE IN ENRAGED BRICK. *Zavodskaya Lab.*, 5, 1225-26 (1936). The H_2O content is proportional to the electric resistance. Apparatus is described.

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1ST AND 2ND ORDERS

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Anodic overvoltage in molten mixtures of cryolite and aluminum oxide. S. Karpachev, S. Rempel, and F. Iordan. *Zhur. Fiz. Khim.* 23, 422-7(1949). In a cell "graphite | tech. cryolite at 1050-1100° | anode" the potential E of the anode depends on c.d. i according to $E = a + b \log i$ between 7 and 1300 milliamp./sq. cm. When the anode is of electrode C, b is 0.76 ± 0.02; also when Al_2O_3 is added to cryolite (which presumably contained some Al_2O_3), b is 0.35 and 0.27 for a graphite and a Pt anode, resp. The overvoltage on C cannot be explained by oxidation of C to CO_2. J. J. Bikerman

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BC

A-1

Electrode polarization in the course of cathodic deposition of heavy metals from fused electrolytes. S. Karpatschev and S. Rostov. (J. Phys. Chem. Russ., 1939, 21, 146—[illegible]).—The cathode potentials of Cd in $CdCl_2$, Pb in $PbCl_2$, and Tl in TlCl (all molten) are independent of the c.d. between 0 and 300 amp. per sq. dm. An explanation is advanced for the absence of polarization. J. J. B.

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B-I-9

Rapid determination of moisture in unbaked brick. S. KARPATSCHEV, S. REMPEL, and A. SESJUNIN (Zavod. Lab., 1936, 5, 1225—1226).—The H_2O content $\propto \kappa$. R. T.

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19

Rapid determination of moisture in unbaked brick. S. Karpachev, S. Reppel and A. Scayunin. *Zavodskaya Lab.* 5, 1225-6(1936).—The H_2O content is proportional to the elec. resistance. App. is described. B. C. A.

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9

Rapid Determination of Lead in Tin Solder. S. Reppel (*Zhurnal Prikladnoi Khimii* (*J. Applied Chem.*), 1937, **10**, (5), 932–935).—[In Russian.] The alloy (0·1–0·2 grm.) is dissolved in 5 c.c. of HNO_3 (*d* 1·4), the solution is diluted to 25 c.c., and the Pb deposited as PbO_2 in a Pt dish, using current at 5 amp./dm.^{2} and keeping the solution at 90° C. The results are accurate to ± 0·02–0·05%, and the analysis can be completed in 1 hr.—N. A.

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APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014446

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REMPEL', G.G.

Concerning an ore indication of the intrusions in the Noril'sk region. Inform. sbor. NIIGA no.31:65-66 '62. (MIRA 16:12)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014446

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

KIREYEVA, M.V.; LEONT'YEVA, I.A.; REMPEL', P.S.

Thermodynamic investigation of certain reactions taking place in a furnace during the oxidizing roasting of chromite charges. Zhur. prikl. khim. 36 no.9:2079-2082 D '63.
(MIRA 17:1)

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ANTIPIN, Lev Nikolayevich; VAZHENIN, Sergey Filippovich; REMPEL', S.I., red.; EL'KIND, L.M., red.izd-va; ISLENT'YEVA, P.G., tekhn. red.

[Electrochemistry of fused salts] Elektrokhimiia rasplavlennykh solei. Moskva, Metallurgizdat, 1964. 355 p. (MIRA 17:3)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014446

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REMPEL' S.I.

MAYRANOVSKIY, S.G.

5(4) PHASE I BOOK EXPLOITATION SOV/2216

Soveshchaniye po elektrokhimii. 4th, Moscow, 1956.

Trudy...; [sbornik] (Transactions of the Fourth Conference on Electrochemistry; Collection of Articles) Moscow, Izd-vo AN SSSR, 1959. 868 p. Errata slip inserted. 2,500 copies printed.
Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye khimicheskikh nauk.

Editorial Board: A.N. Frumkin (Resp. Ed.) Academician, O.A. Yesin, Professor; S.I. Zhdanov (Resp. Secretary), B.N. Kabanov, Professor, S.I. Zhdanov (Resp. Secretary); B.N. Kabanov, Professor, Ya. M. Kolotyrkin, Doctor of Chemical Sciences; V.V. Losev, P.D. Lukovtsev, Professor; Z.A. Solov'yeva; V.V. Stender, Professor; and G.M. Florianovich; Ed. of Publishing House: N.G. Yegorov; Tech. Ed.: T.A. Prusakova.

PURPOSE: This book is intended for chemical and electrical engineers, physicists, metallurgists and researchers interested in various aspects of electrochemistry.

COVERAGE: The book contains 127 of the 138 reports presented at the Fourth Conference on Electrochemistry sponsored by the Department of Chemical Sciences and the Institute of Physical Chemistry, Academy of Sciences, USSR. The collection pertains to different branches of electrochemical kinetics, double layer theories and galvanic processes in metal electrodepositon and industrial electrolysis. Abridged discussions are given at the end of each division. The majority of reports not included here have been published in periodical literature. No personalities are mentioned. References are given at the end of most of the articles.

Pomenko, A.S., T.M. Abramova and I.L. Gankina (Institut fizicheskoy khimii AN USSR-Institute of Physical Chemistry AS UkrSSR). Mechanism of the Corrosion of Iron, Magnesium, Zinc and Aluminum With the Aid of Heavy Oxygen Isotopes 299

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APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014446

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPEL, S. I.

Determination of the current efficiency of industrial aluminum cells by means of radioactive indicators. S. I. Rempel and R. B. Popov. *Tsvetnye Metally* 19[illegible], No. 3, 60-8; cf. *C.A.* 50, 2323c.—A mixt. contg. Al with Co^{60}, Zr^{95}, In^{112} or other elements is added to the Al bath. From the given wt. of the added mixt. Q_i the amt. of the metal in the bath $Q_m = Q_{im}/n_m$, where n_i and n_m are the specific activity of the original mixt. and that of the bath after complete mixing, resp. I. Bencowitz

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPEL', S.I.; POPOV, R.B.

Radioactive tracer method for determining the yield based on current consumption in industrial electrolytic aluminum production. TSvet. met.29 no.3:50-58 Mr '56. (MLRA 9:7)
(Aluminum--Electrometallurgy)(Radioactive tracers--Industrial applications)

REMPEL', S.I.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014 5

940* (Gas Reference Electrode for Measurement in Cryolite-Alumina Melts.) Gazovyi elektrod sravneniia dlia izmereniii v krioliito-glinozemnykh rasplavakh. S. I. Rempel', N. A. Anisheva, and L. P. Khodak. *Doklady Akademii Nauk SSSR*, v. 97, no. 5, Aug. 11, 1954, p. 859-862.
Variation of potential of O-C electrode during variation in current strength. Diagram, graph. 5 ref.

G1

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Rempel, S. I.

3

Mechanism of the anodic overvoltage in the electrolysis of cryolite-alumina melts. S. I. Rempel and L. P. Khodak. *Doklady Akad. Nauk* ~~S.S.S.R. 75, 633-6(1950).~~ — The theories ascribing the high potential E of C anodes at high c.d., observed in the electrolysis of solns. of Al_2O_3 in fused Na_3AlF_6, to accumulation of O_2 to a high partial pressure (e.g. Pearson and Waddington, *C.A.* 42, 8074*g*) and subsequent oxidation of the C anode by O_2 as a secondary, purely chem. (not electrochem.) process, are contradicted by oscillographic observations of the change of the anode potential E after interruption of the polarizing current. These detns. show potentials of well over 1 v. to persist for several sec.; the quantity of electricity discharged in a fall of E from 1.5 to 1.34 v. shows the amt. of electrochemically active O to be thousands of times the amt. calcd. for the gas phase. With increasing c.d., E of a fresh nonpolarized C anode increases exponentially, whereas it remains practically const. for a long time when the c.d. is lowered from 0.7 to 0.3 amp./sq. cm. Thus, E cannot be detd. by the partial pressure of gaseous O_2. Inasmuch as C does interact chemically with O_2 (~ 950°), the C-O_2 electrode cannot be considered as a gas electrode analogous to the C-Cl_2 electrode where there is no chem. interaction between C and Cl_2. Under a const. c.d., oscillograms of E often show a max. In the light of the known facts on the combustion of C, the most probable effect of the discharge of oxygenated anions on C is the formation of intermediate C-O compds. at the surface of C. Bond regrouping processes in this surface compd. are relatively slow, and the final stage is decompn. of the intermediate products and desorption of gaseous C oxides. At low c.d., discharge takes place at the most active points, where O is most strongly bound. Accordingly, at low c.d., the decompn. potential, 0.98 v., is very close to the reversible potential of $Al_2O_3 + 3\,C \rightleftarrows 2\,Al + 3\,CO$. With the discharge extending, at higher c.d., to a point of lower heat of adsorption, it will take place at increasingly higher potentials, and the more loosely held O ions will pass into the electrolyte at a higher E. It is the stability of the surface oxides formed at high c.d. and high E which accounts for the practical absence of a change of E on lowering the c.d. The slow process is the decompn. of the intermediate surface C—O compds., as is known from combustion of C. It is not the stage of discharge of anions and of formation of the adsorption complexes.

N. Thon

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1951

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REMPEL, S. I.

4

Mechanism of the origin of overvoltage on a carbon anode in cryolite aluminum oxide melts. S. I. Rempel and L. P. Khodak. *Zhur. Priklad. Khim.* 26, 931-40(1953); cf. *C.A.* 43, 6519e.—A detailed discussion supported by many references to the work of others and to exptl. data obtained by the authors in this and previous publications are presented to refute the theory of Drossbach (*C.A.* 30, 4095[2]) and his "followers" that a C anode in an Al_2O_3 bath is a reversible O electrode. The specific capacity of the double layer on a "fresh" C electrode is 15-20 microfarads/sq. cm. During and after electrolysis it is appreciably greater. It is concluded that neither concd. polarization nor retardation of the discharge reaction are primary factors of appreciable overvoltage. The discharge of O-contg. ions on a C electrode results in the formation of "chemisorbable C-O complexes" and not free O. The low rate of decompn. of these complexes and the heterogeneity (energy) of the C surface cause the increase of the anodic potential with the increase in c.d., i.e. the primary cause of overvoltage on a C anode is the low rate of formation of gaseous C oxides from the complexes and their subsequent desorption from the surface of the anode.

I. Bencowitz

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REMPEL', S.I.; ANISHEVA, N.A.; KHODAK, L.P.

Gaseous comparison electrode for measurements in cryolite - alumina melts. Dokl. AN SSSR 97 no.5:859-862 Ag '54. (MLRA 7:10)

1. Institut khimii i metallurgii Ural'skogo filiala Akademii nauk SSSR. Predstavleno akademikom A.N.Frumkinym.
(Alumina) (Cryolite) (Electrodes, Gas)

REMPEL', S.I.; KHODAK, L.P.

Causes of anodic overvoltage and its connection with the current efficiency. Zhur.prikl.khim. 27 no.10:1123-1128 O '54. (MLRA 7:11)

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1. Institut khimii i metallurgii Ural'skogo filiala Akademii nauk SSSR.
(Overvoltage)

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REMPEL', S. I.

USSR/ Chemistry - Physical chemistry

Card 1/1 : Pub. 22 - 27/48

Authors : Rempel', S. I.; Anisheva, N. A.; and Khodak, L. P.

Title : Comparison gas-electrode for measurements of cryolite-alumina fusions

Periodical : Dok. AN SSSR 97/5, 859-862, August 11, 1954

Abstract : The characteristics of various gas comparison-electrodes, used for the measurement of cryolite-alumina fusions, are analyzed. The oxygen-carbon electrode is considered to be the most stable comparison electrode and because of its high accuracy is best recommended for measurements of cryolite-alumina fusions. Means of securing composition constancy of the gaseous mixture surrounding the comparison electrode and to prevent anode gases from falling into the gas mixture, are described. Five USSR references (1944-1953). Graph; drawing.

Institution : Acad. of Sc. USSR, Ural Branch, Institute of Chemistry and Metallurgy

Presented by : Academician A. N. Frumkin, April 3, 1954

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REMPEL', S. I.

USSR/Chemistry - Aluminum Production Technology Sep 53

"Mechanism of Overvoltage Formation at the Carbon Anode in Cryolite - Aluminum Hydroxide Melts," S. I. Rempel', L. P. Khodak

Zhur Prik Khim, Vol 26, No 9, pp 931-940

The carbon electrode of the aluminum electrolysis cell cannot be regarded as a reversible gas(oxygen) electrode. The principal cause of overvoltage at this type of electrode is delayed formation of gaseous carbon oxides from chemosorption complexes and retarded desorption of these oxides from the surface of the electrode.

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PA 194T13

USSR/Chemistry - Alkali Chlorides as Solvents Oct 51

"The Voltage Series for Heavy Nonferrous Metals and Their Sulfides in Melted Chlorides of Alkali Metals," S. I. Rempel', I. N. Ozeryannaya, Inst of Phys of Metals, Ural Affiliate, Acad Sci USSR, Sverdlovsk.

"Zhur Fiz Khim" Vol XXV, No 10, pp 1181-1185

Verified applicability of Cl and metal reference electrodes for detn of electrode potentials and emf of chem circuits in melts. Results of measurements support feasibility of B. P.

194T13

USSR/Chemistry - Alkali Chlorides as Solvents (Contd) Oct 51

Artamanov's method for prepn of reversible Cl electrode. Values of emf obtained for $Pb/PbCl_2/Cl_2$ circuit correspond closely to values obtained by other authors. In order of decreasing voltage for molten equimol mixtures of KCl and NaCl a + 690-700°, metals and sulfides under study correspond to sequence Zn, ZnS, FeS, Fe, Co, Cu, Pb, Ag, PbS, Ni_3S_2, Bi, Ni, Cu_2S, and CoS + . Results obtained with Cl reversible reference electrode coincide with those obtained with Pb reference electrode reversible with respect to cation.

194T13

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014446

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPEL', S.I., MALKOVA, YE.I.

Electrochemistry

Discharge potentials of some anions in a molten equimolecular mixture of potassium and sodium chlorides. Zhur. prikl. khim., 25, No. 5, 1952.

Monthly List of Russian Accessions, Library of Congress, August 1952. UNCLASSIFIED.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPEL', S.I.; KHODAK, L.P.

Mechanism of the formation of overvoltage on the carbon anode in cryolite-alumina melts. Zhur.prikl.khim. 26 no.9:931-940 S '53. (MLRA 6:10)
(Electrodes) (Cryolite) (Alumina)

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CA

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Mechanism of the anodic overvoltage in the electrolysis of cryolite-alumina melts. S. I. Rempel and I. P. Khodak. *Doklady Akad. Nauk S.S.S.R.* **75**, 835-5(1950).—The theories ascribing the high potential E of C anodes at high c.d., observed in the electrolysis of solns. of Al_2O_3 in fused Na_3AlF_6, to accumulation of O_2 to a high partial pressure (e.g. Pearson and Waddington, *C.A.* **42**, 8074g) and, subsequent oxidation of the C anode by O_2 as a secondary, purely chem. (not electrochem.) process, are contradicted by oscillographic observations of the change of the anode potential E after interruption of the polarizing current. These detns. show potentials of well over 1 v. to persist for several sec.; the quantity of electricity discharged in a fall of E from 1.5 to 1.34 v. shows the amt. of electrochemically active O to be thousands of times the amt. calcd. for the gas phase. With increasing c.d., E of a fresh nonpolarized C anode increases exponentially, whereas it remains practically const. for a long time when the c.d. is lowered from 0.7 to 0.3 amp./sq. cm. Thus, E cannot be detd. by the partial pressure of gaseous O_2. Inasmuch as C does interact chemically with O_2 (~ 950°), the C-O_2 electrode cannot be considered as a gas electrode analogous to the C-Cl_2 electrode where there is no chem. interaction between C and Cl_2. Under a const. c.d., oscillograms of E often show a max. In the light of the known facts on the combustion of C, the most probable effect of the discharge of oxygenated anions on C is the formation of intermediate C-O compds. at the surface of C. Bond regrouping processes in this surface compd. are relatively slow, and the final stage is decompn. of the intermediate products and desorption of gaseous C oxides. At low c.d., discharge takes place at the most active points where O is most strongly bound. Accordingly, at low c.d. the decompn. potential, 0.98 v., is very close to the reversible potential of $Al_2O_3 + 3C \rightarrow 2Al + 3CO$. With the discharge extending, at higher c.d., to a point of lower heat of adsorption, it will take place at increasingly higher potentials, and the more loosely held O ions will pass into the electrolyte at a higher E. It is the stability of the surface oxides formed at high c.d. and high E which accounts for the practical absence of a change of E on lowering the c.d. The slow process is the decompn. of the intermediate surface C—O compds., as is known from combustion of C. It is not the stage of discharge of anions and of formation of the adsorption complexes. N. Thon

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4

CA

Nature of the anions discharged at the anode in the electrolysis of cryolite-alumina melts. S. I. Rempel (Ural Branch Acad. Sci. U.S.S.R., Sverdlovsk). *Doklady Akad. Nauk S.S.S.R.* 76, 411-14(1951).—The back e.m.f. E of an industrial Al electrolytic cell was measured over 3 hrs. before appearance of the anode effect, at const. c.d. Over that period E increased by 0.4 v. from 1.8 to 2.2 v. That this variation is not due to gas evolution at the anode, and a resulting increase of the effective c.d. and of the overvoltage, is demonstrated by the strict constancy of the elec. resistance of the bath (up to 5 min. before the anode effect), and the absence of heat evolution. The variation of E proved to be proportional to the log of the time (τ) remaining before the anode effect, i.e. $E = b \log \tau$. At const. c.d., τ is proportional to the quantity of electricity passed; consequently, E is proportional to the log of the concn. of Al_2O_3 in the electrolyte. The nature of the anions discharged at the anode can be inferred from the numerical value of b. For univalent anions, AlO_2^-, assumed by Mashovets, $b = 2.3\ RT/F$, for bivalent ions O^{--}, assumed by Allmand, Billiter, and others, $b = 2.3\ RT/2F$, and for trivalent ions AlO_3^{---}, assumed by Feslot'ev, $b = 2.3\ RT/3F$. The expt'l. plot gives at 950°, $b = 0.242 = 2.3\ RT/F$, i.e. the decision is in favor of univalent anions AlO_2^- which are discharged according to $2\ AlO_2^- \rightarrow Al_2O_3 + {}^1/_2O_2 + 2e^-$. N. Thon

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4

The electrolytic recovery of iron sulfate in the presence of titanium sulfate. II. K. Ya. Grachev and S. I. Rempel. *J. Applied Chem.* (U. S. S. R.) 10, 1355-63 (in French 1363)(1937); cf. Shcherbakov and G., C. A. 31, 6975[1].—The reduction was carried out in a 2-compartment cell with a clay or an asbestos diaphragm. The H_2SO_4 formed in the anolyte with the clay diaphragm had d. 1.4, with the asbestos diaphragm, 1.45. Nineteen references. A. A. Podgorny

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Electrolytic reduction of iron sulfate in the presence of titanium sulfate. K. Ya. Grachev and S. I. Remper. *Trudy Ural. Ind. Inst. im. Kirova* **1938**, No. 6, 52-63; *Khim. Referat. Zhur.* **1**, No. 11-12, 84-5(1938); cf. C. A. **32**, 1584[6]; **33**, 6724[8].—The cells were divided by means of a diaphragm into 2 parts with different solns. (catholyte Ti soln., anolyte H_2SO_4). By means of this method the H_2SO_4 and the reduced solns. can be obtained separately. Ordinary tech. Pb was used for electrodes. The expts. were performed in porcelain or glass battery jars having a capacity of 1500-500 ml. One series of the expts. was performed with porous clay diaphragms, and the other with asbestos diaphragms. The exptl. soln. was similar to the ordinary plant soln. differing from it only by a smaller content of bivalent Fe. The exptl. methods of both expts. are described. The influence of the cathodic c. d. on the yield, the influence of the strength of the anodic acid on the max. value of the yield, and the optimum temp. for the expt. were investigated. The sulfates of Fe and of Ti (when present together with a sep. supply of H_2SO_4 and of the reducing soln.) can be reduced electrolytically with success and economically. Sufficient data are given for the construction of a semicom. plant.

W. R. Henn

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

Thyratron thermoregulator for electric furnaces. S. I. Rempel. *Zavodskaya Lab.* 7, 1053-6(1938). Construction and operation details. Chas. Blanc

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3RD AND 4TH ORDERS

BC

B-I-10

[illegible] rapid determination of water in wood. [illegible] (Zavod. Lab., [illegible], 7, 312—314).—[illegible] of wood is assessed from its [illegible], [illegible] for measurement of which is described. R. T.

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3RD LETTER

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

Polarographic Determination of Hydrogen-Ion Concentration During Fused-Salt Electrolysis. (In Russian.) S. I. Reinpel. *Doklady Akademii Nauk SSSR* (Reports of the Academy of Sciences of the USSR) new ser., v. 74, Sept. 11, 1950, p. 331-333.

Results of investigation showed that the discharge of hydrogen in molten salts is determined on the basis of the rules of polarography of aqueous solutions. Method of investigation is described, data are tabulated and charted.

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CA

2

Polarographic determination of the hydrogen-ion concentration in melts. S. I. Rempel (Ural Branch Acad. Sci. U.S.S.R., Sverdlovsk). *Doklady Akad. Nauk S.S.S.R.* 74, 331-3(1950).—In cathodic polarization of a Mo electrode and a C anode, in fused carnallite at 735 ± 2°, with a Mg 70-Pb 30% alloy as reference electrode, the satn. current intensity I was proportional to the H_2O content of the melt, i.e. to its H-ion concn. Reduction of the original H_2O content of the fused carnallite, 0.03%, to 0.01%, by bubbling HCl gas, reduced I to ½. The current-potential curve satisfies the diffusion wave equation $E = E_{1/2} - (RT/nF) \ln i/(I - i)$ if the potential E is corrected for the H_2 overvoltage on Mo in fused carnallite, $\eta = 2.3\ (RT/F) \log i$ (C.A. 34, 4070); with the corresponding η deducted from the measured E, the plot of $\log i/(I - i)$ as a function of E (corr.) gives a straight line with the slope 0.207, in good agreement with $2.3\ RT/F = 0.200$ (at 735°). Consequently, the H of the H_2O dissolved in fused carnallite is present in the form of H^+ ions. The intercept of the plot gives for the discharge potential of H_2, 1.81 v. above the potential of the Mg electrode, in fair agreement with the 1.49 v. value of the potential of Mg on the H scale. N. T.

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3RD AND 4TH ORDERS

Ca

Apparatus for rapid determination of the moisture content of wood by electrical means. S. I. Rempel. Zavodskaya Lab. 7, [illegible]-16 (1938).—A modification of the method of Suits and Dunlop (C. A. 20, 1214) is described.

Chas. Blanc

COMMON ELEMENTS

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Fe GROUPS

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BC

B1

7

Nature of the anions discharged at the anode in the electrolysis of cryolite-alumina melts. S. I. Rempel (*C.R. Acad. Sci., U.R.S.S.*, 1951, 78, 411—414).—Measurements of the rate of increase of the reverse e.m.f. suggest that the anion is AlO_3', and that Al_2O_3 dissociates as follows: $2Al_2O_3 \rightarrow Al_2O_3 \rightarrow Al^{3+} + 3AlO_3'$. R. Truscoe.

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3RD AND 4TH ORDERS

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BC

A-1

Thyratron thermoregulator. S. I. Rempel (Zavod. Lab., 1938, 7, 1048—1056).—Apparatus is described. R. T.

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F+ GROUPS

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B

4691* The Nature of Anions Discharged at the Anode During Electrolysis of Cryolite-Alumina Melts. (In Russian.) S. I. Rempel. *Doklady Akademii Nauk SSSR* (Reports of the Academy of Sciences of the USSR), new ser., v. 76, Jan. 21, 1951, p. 411-414.

Results of experimental and theoretical investigations are charted and discussed. They are of importance in electrolytic production of metallic Al.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

A

C

32-C. **The Nature of Anions Discharged at the Anode During Electrolysis of Cryolite-Alumina Melts.** (In Russian.) S. I. Rempel. *Doklady Akademii Nauk SSSR* (Reports of the Academy of Sciences of the USSR), new ser., v. 76, Jan 21, 1951, p. 411-414.

Results of experimental and theoretical investigations that are of importance in electrolytic production of metallic Al. (C23, Al)

A50-51A METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014446

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPEL', V.M.

Canning green peppers without removing seed core. Kons. i ov. prom. 14 no.8:17-18 Ag '59. (MIRA 12:9)

1.Zagotovitel'noye upravleniye Chernovitskogo oblpotrebsoyuza. (Pepper)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

S/032/60/026/008/022/046/XX
B020/B052

AUTHORS: Kalinina, A. A., Smirnova, M. G., and Rempen, G. A.

TITLE: News in Brief

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 8, p. 949

TEXT: A rapid method was developed for the analysis of fluxing agents. It is based upon the fusion of a weighed-in portion of a fluxing agent with a borax-potassium-sodiumcarbonate mixture, the photocolorimetric determination of silicon after the reduction of the silicon-molybdenum complex by thiourea against molybdenum blue, and the decomposition of the fluxing agent by an HF-, HNO_3-, and H_2SO_4 mixture. The totality of the oxides of trivalent metals were determined by back-titration of the Trilon B excess by an iron chloride solution in the presence of salicylic acid. Iron was photocolorimetrically determined in the form of a sulfosalicylate complex, and aluminum was calculated from the difference. Calcium and magnesium were successively titrated by Trilon B in the presence of chrome dark blue. Calcium is determined in the presence of magnesium,

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S/137/63/000/001/006/019
A006/A101

AUTHOR: Rempey, Yoda

TITLE: A method of obtaining high-strength copper and iron base alloys using iron powder

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1963, 33, abstract 1G210 P

TEXT: Soft-steel electrodes are placed into a closed-type electric furnace lined with basic neutral or acid refractory materials; Cu and Fe are rapidly melted using Fe and Cu powders as a charge. To the high-temperature Cu and Fe alloy produced, one or more metals are added in the following percentages: Ni 1 - 40, Cr 1 - 20, Co 1 - 20, Mn 0.2 - 30, Al 0.2 - 10.

V. Mit'kin

[Abstracter's note: Complete translation]

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PROCESSES AND PROPERTIES INDEX

DEFECTS IN ROLLED STEELS. Z. Romport. (Banyaszati es Kohaszati Lapok, 1950, vol. 5, Sept., pp. 513-517). In Hungarian. The defects which occur in rolled steels are discussed particularly as regards conditions in Hungary. About 22% of these are such that they are detected during the shaping and such pieces are scrapped; the most serious of the hidden defects is lamination in boiler plates. A serious difficulty is that the steel is not always gripped properly by the rolls, particularly in the case of tool steels which are rolled at lower temperatures than ordinary mild steel. Further reasons for defective material are: (1) Material adhering to the rolls; (2) inaccurate assembly and alignment of roll stands; and (3) incorrect roll calibration. In Hungary forged steel rolls are used for roughing stands and cast iron and steel rolls for the finishing stands. The supply of rolls has improved in Hungary, but it is still not satisfactory. Good results have been obtained there with cast steel rolls containing C 0.6-0.7% and Cr 1-2%. Incorrect heating also causes defects in rolled sections. Decarburization is particularly intensive in

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621.914.12.001.61

52. **Defects in rolled steel**, by Z. Remport. ("Banyaszati es Kohaszati Lapok" — *Hungarian Journal of Mining and Metallurgy*, Vol. V (LXXXIII), No. 9, pp. 513-517, Sept., 1950).

Two groups of defects are dealt with in this study. The first group comprises deficiencies in the operation of rolling out, which render impossible the production of rolled bars. In order to prevent this, the biting of the bars can be promoted by the use of sand, and excessive sticking can be avoided by lubricating with oil or by cooling. The defects embraced in the second group may be observed in the finished product. About 50 per cent of the defects are due to deficient processing in the rolling trains, as, for instance, rolling in of foreign matter, incorrect tolerances, surface imperfections, etc. In order to eliminate these defects the quality of bearings, the dressing of the rolls and the selection of the materials for the rolls must be made with the greatest care. Forged steel rolls are used for roughing down, whereas for finishing (1) grey casting rolls are used for rolling shaped sections, and (2) chilled or alloyed steel rolls are utilized for merchant bars. (The alloys generally contain 0.6 to 0.7 per cent C and 1.0 to 2.0 per cent Cr). With chilled rolls the selection of the most adequate surface hardness is of decisive importance. Actual plant experience showed that by observing the necessary regulations scrap was reduced by one third in the course of a year and a half.

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3RD AND 4TH ORDERS

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H

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BANYASZATI ES KOHASZATI LAPOK —
HUNGARIAN JOURNAL OF MINING
AND METALLURGE
Vol. V (LXXXIII). — 1950
No. 9, Sept.

Report 669.11-12

Signs of detections in rolled steel. .... pp. 513-517

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

L 16649-66 EWP(w)/T/EWP(t)/EWP(k) JD/HW

ACC NR: AP6008886 SOURCE CODE: HU/0014/65/098/004/0148/0156

AUTHOR: Remport, Zoltan (Doctor)

ORG: none

TITLE: Anisotropy of the mechanical properties of coarse-rolled plate

SOURCE: Kohaszati lapok, v. 98, no. 4, 1965, 148-156

TOPIC TAGS: metal rolling, tensile strength, impact strength, elongation, flow characteristic, carbon, flat plate, crystal anisotropy

ABSTRACT: Relations between some mechanical properties (such as elongation, tensile strength, flow characteristics, and impact strength) and the parameters of rolling were investigated in coarse-rolled plates. The effects were also affected by the composition of the plate. The carbon content was found to exert the greatest influence, followed by such relatively minor factors as rolling ratio, rolling temperature, and type of subsequent working. A diagram was derived with the aid of which the relations between carbon content and degree of anisotropy are correlated. Orig. art. has: 17 figures and 11 tables. [JPRS]

SUB CODE: 11, 13 / SUBM DATE: none / ORIG REF: 006 / OTH REF: 001

Card 1/1 vmb UDC: 621-412/413:621.944.12:539.22

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPORT, Zoltan

Sheet thickness measurement experiments by radioisotopes. Koh lap 91 no.12:559-564 D '58.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPORT, Zoltan

Testing the brittleness of steel plates. Gep 15 no.7:287-294 Jl '63.

1. Dunai Vasmu-Lorinci Hengermuve, Budapest.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPORT, Zoltan, dr.

Anisotropy of mechanical properties of rolled plates. Koh lap 98 no.4:148-156 Ap '65.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014446

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPORT, Zoltan, okl.kohomernok; PALVOLGYI, Arpad, okl.kohomernok

Experiences from the percussion testing of rough sheets.
Koh lap 94 no.12:541-547 D '61.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014446

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPORT, Zoltan

Comparison of calculations concerning the cooling of steel blocks. (To be contd.) Koh lap 95 no.8:356-359 Ag '62.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPORT, Zoltan

Comparison of methods for calculating cooling of steel blocks, (Continuation). Koh lap 95 no.9:385-392 S '62.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0014446

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMFORT, Z.

Experiments with radioisotopes in measuring the thickness of sheets. p.559

KOHASZATI LAPOK. (Magyar Banyaszati es Kohaszati Egyesulet)
Budapest, Hungary
Vol. 13, no. 12, Dec. 1958

Monthly List of East European Accessions (EEAI) LC., Vol. 8, no.7, July 1959
Uncl.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

REMPORT, Zs.

The system hydrogen peroxide-acetic acid. E. Pungor, J. Trompler, Zs. Remport and E. Schulek (*Acta chim. hung.*, 1956, 8, 321—333).—The rate of formation of peracetic acid in the system H_2O_2–acetic acid was measured as a function of acetic acid concn. and of temp. The rates of dipole association and dissociation were also examined and both found to be equally low. (13 references.) J. S. C.

chem

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PM

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

Remport, Zs.

15. Studies on the hydrogen peroxide—acetic acid system. (In German) E. Pungor, I. Trompler, Zs. Remport, E. Schulek. *Acta Chimica Academiae Scientiarum Hungaricae.* Vol. 8, 1956, No. 4, pp. 321—333, 3 figs., 6 tabs.

Solutions containing acetic acid, purified by distillation, in different concentrations (20, 40, 60, 80 and 90%) were prepared and the properties of the hydrogen peroxide-acetic acid systems were investigated at 50 and 73° C. The rate of peroxy-monoacetic acid formation was determined as a function of the acetic acid concentration and of the temperature. The reaction kinetic effects of the dipole associations were investigated. In a solution containing peroxy-monoacetic acid and hydrogen peroxide. Experimental data obtained proved that the rates of dipole dissociation and dipole association were very low compared to the corresponding solutions containing sulphuric acid. These phenomena were attributed to the occurrence of reactions leading to complex formation.

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REMPORT-HORVATH, Z

Distr: 4E2c/4E4j

Ethylenediaminetetraacetate (EDTA) titration of zinc in brass and bronze, and of cobalt in the presence of copper. E. Koros and Z. Remport-Horvath (L. Eötvös Univ., Budapest). *Chemist Analyst* ~~45, 91-2~~ (1957). —Procedures for the EDTA titration of Zn in Cu soln., Zn and Cu in brass, Zn in bronze, and Co and Cu in a single sample with Xylenol Orange (I) as indicator at pH 4.5 to 6.0 are described. Use of I avoids the usual cyanide masking and demasking of the heavy metals. Cu interference is obviated by reduction with ascorbic acid and pptn. of Cu(I) iodide or thiocyanate, which need not be filtered off. Both Cu and Zn can be detd. successively by addn. of iodide and titration of the free I with thiosulfate followed by EDTA titration of Zn. For brass, prior soln. in HNO_3 is followed by EDTA titration. For bronze, Sn and Pb are sepd. as metastannic acid and $PbSO_4$, resp., prior to titration. Co and Cu in a single sample are detd. by iodometric titration of the Cu and EDTA titration of Co on a 2nd aliquot of the soln. B. M. B.

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REMPORTNE HORVATH, Zsuzsa

Application of hypobromite-oxidized cellulose, oxycellulose in analytical chemistry. Kem tud kozl 20 no.3:327-336 '63.

1. Eotvos Lorand Tudomanyegyetem, Szervetlen es Analitikai Kemiai Tanszek, Budapest.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

L 63182-65

ACCESSION NR: AT5021752 HU/2502/64/041/01-/0161/0166

AUTHOR: Lasztity, Alexandra(Lastiti, A.)(Budapest); Remport-Horvath,(Remport-Khorvat, Zh.)(Budapest)

TITLE: Comparison of various cellulose-base ion exchangers for the collection of traces of inorganic ions

SOURCE: Academia scientiarum hungaricae. Acta chimica, v. 41, no.1-2, 1964, 161-166

TOPIC TAGS: cellulose, ion, ion exchange, phosphate

ABSTRACT: [English article] Carboxymethylcellulose, cellulose phosphate, and diethylaminoethylcellulose were compared as to their efficiency of retaining inorganic ions, in relation to the efficiency of hypobromite-oxidized cellulose. The latter was superior in its retaining ability for heavy-metal ions from aqueous and organic-solvent solutions. Cellulose phosphate operated at the lowest pH among all types investigated. Diethylaminoethylcellulose retained both cations and anions under certain

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L 63182-65

ACCESSION NR: AT5021752

experimental conditions. Orig. art. has: 3 tables, 2 figures.

ASSOCIATION: Institute of Inorganic and Analytical Chemistry, L. Eotvos University, Budapest.

SUBMITTED: 14Jan64 ENCL: 00 SUB CODE: OC,GC

NR REF SOV: 000 OTHER: 004 JPRS

MLR

Card 2/2

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001444

EXCERPTA MEDICA Sec 11 Vol.11/7 O.R.L. July 58

1222. PROJECTION OF MASTOID ANTRUM AND SIGMOID SINUS OF NEWBORNS WITH REGARD TO DIAGNOSTIC PUNCTURE OF ANTRUM - Projekce antrum mastoideum a sinus sigmoides u novorozence se zřetelem k diagnostické punkci antra - Rems J. and Mulač A. Klin. Nemocí Úsních, Nosních a Krčních, Anat. Ústav Lék. Fak. UK, Plzeň - ČSL. OTOLARYNG. 1957, 6/6 (338-344) Tables 2 Illus. 2

On the basis of 200 observations, a topographic relation of projection of mastoid antrum and sigmoid sinus to the auricle of foetus and newborn is described. It was ascertained that: (1) In the foetus and immature and mature newborn the projection of the antrum reaches beyond the retroauricular sulcus by its back (82%). (2) Roughly in 18% the whole antrum is anterior to the retroauricular sulcus; for the most part it is caused by the rapid development of the auricle, sometimes by the persistence of the antrum on the lower stage of the development. (3) The most suitable place for puncture of the antrum lies 2 mm. above the point of intersection of retroauricular sulcus and spinomeatal line (line of communication between spina nasalis anterior and the upper border of external auditory meatus); simultaneously, the trocar points slightly forward. (4) Using the way mentioned above, the piercing of the sigmoid sinus is out of the question. (XI, 1)

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REMS, Josef (Przska 6, Plzen.)

Neurilemmoma of external nose. Cesk. otolar. 8 no.3:140-143 June 59.

1. Klinika nemoci usnich, nosnich a krcnich lekarske fakulty Karlovy university se sidlem v Plzni, prednosta prof. dr. F. Kotyza.

(NEURILEMMOMA, case reports
nose (Cz))
(NOSE, neoplasms
neurilemmoma, case report (Cz))

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REMS, J.

Methods of examining the esophagus. Cesk. otolaryng. 11 no.6:332-335 D '62.

(ESOPHAGUS) (ESOPHAGOSCOPY)

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DÖRFL, J.; REMS, J.

On the vascular supply of the ear ossicles. Cesk. otolaryng. 14 no.4:243-246 Ag '65.

1. Anatomicky ustav (prednosta prof. dr. J. Kos) a klinika nemoci usnich, nosnich a krcnich (prednosta prof. dr. F. Kotyza) lekarske fakulty Karlovy University v Plzni.

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REMS, J.

Our preliminary experiences with succinylcholine iodide (VUFB) before endotracheal anesthesia. Cesk. otolar. 9 no.3:176-179 Je '60.

1. Klinika nemoci usnich, nosnich a krcnich fakulty vseobecneho lekarstvi University Karlovy se sidlem v Plzni, prednosta prof. dr. F. Kotyza.
(SUCCINYCHOLINE ther.)
(ANESTHESIA INTRATRACHEAL)

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REMS, Josef; MULAC, Albin

Projection of mastoid antrum & sigmoid sinus of newborn with relation to diagnostic puncture of antrum. Cesk. otolar 7 no.6:338-344 Dec 57.

1. Klinika nemoci usnich, nosnich a krcnich, prednosta prof. Dr F. Kotyza Anatomicky ustav lekarske fakulty UK, pob. v Plzni, prednosta doc. Dr J K Kos. J. R., A. M., Plzen, Prazskay 6.

(MASTOID

projection of mastoid antrum & sigmoid sinus of newborn with relation to diag. puncture of antrum (Cz))

(TEMPORAL BONE,

same)

(INFANT, NEWBORN, physiol.

same)

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REMS, M.

Technical repair service under new conditions. PTT zbor 16 no.4:94-96 Ap '62.

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