"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASECHKIN, V.S.

BARDYSHEV, I.I., doktor khimicheskikh nauk.

Textbook on the technology of wood extracts ("Technology of wood extracts." V.S.Vasechkin. Reviewed by I.I.Bardyshev). Der. i lesokhim.prom. 3 no.7:29 Jl '54. (MLRA 7:7)
(Wood-Chemistry)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASECHKIN, Yu. V., Candidate Tech Sci (diss) -- "Investigation of systems of rolling and glueing plywood tubing". Leningrad, 1959. 17 pp (Min Higher Educ USSR, Leningrad Order of Lenin Forestry Engineering Acad im S. M. Kirov), 150 copies (KL, No 26, 1959, 125)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASECHKIN, Yu.V.

New practices in gluing the sections of veneer pipes and their economic effecgiveness. Nauch. trudy LTA no.97:105-109 '62.
(MIRA 17:2)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

KULIKOV, Valentin Anatol'yevich, dots., kand. tekhn. nauk; VASECHKIN, Yuriy Vasil'yevich, dots., kand. tekhn. nauk; MIKHAYLOV, A.N., dots., kand. tekhn. nauk, retsenzent; SHEYDIN, I.A., kand. tekhn. nauk, retsenzent; KIRILLOV, N.M., dots., kand. tekhn. nauk, otv. red.; VASIL'YEVA, N.V., red.

[Technology of the production of gluing materials and slabs; laboratory manual for the students of the faculty of mechanical technology of wood] Tekhnologiia proizvodstva kleenykh materialov i plit; posobie k laboratornym rabotam (dlia studentov fakul'teta mekhanicheskoi tekhnologii drevesiny). Leningrad, Vses. zaochnyi in-t, 1963. 83 p. (MIRA 17:12)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

MIKHAYLOV, Aleksey Nikolayevich, dots., kand. tekhn. nauk; SHVARTSMAN, G.M., st. nauchn. sotr., kand. tekhn. nauk, retsenzent; NEKHAMKIN, N.O., kand. tekhn. nauk, dots., retsenzent; VASECHKIN, Yu.V., dots., kand. tekhn. nauk, otv. red.; FILONENKO, K.D., red.

[Role of pressure in the technological process of the production of gluing materials; lecture in the course "Technology of the production of gluing materials and boards" for students of the Faculty of the Mechanical Technology of Wood] Rol' davleniia v tekhnologicheskom protsesse izgotovleniia kleenykh materialov; lektsiia po kursu "Tekhnologiia proizvodstva kleenykh materialov i plit" dlia studentov fakul'teta mekhanicheskoi tekhnologii drevesiny. Leningrad, Vses. zaochnyi lesotekhn. in-t, 1964. 34 p. (MIRA 18:3)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

MIKHAYLOV, Aleksey Nikolayevich, dots., kand. tekhn. nauk;
VASECHKIN, Yu.V., dots., kand. tekhn.nauk, retsenzent;
KOBLIKOVA, A.G., dots., kand. tekhn.nauk, otv. red.;
BEZGODOVA, L.V., red.

[Ways for improving the technology and technique of veneer gluing; lectures in the course "Technology of the production of gluing materials and slabs" for the students of the faculty of mechanical technology of wood] Puti sovershenstvovaniia tekhnologii i tekhniki skleivaniia fanery; lektsiia po kursu "Tekhnologiia proizvodstva kleenykh materialov i plit" (dlia studentov fakul'teta mekhanicheskoi tekhnologii drevesiny). Leningrad, Vses. zaochnyi lesotekhn. in-t, 1964. 53 p. (MIRA 17:12)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

KAROV, Z.G.; PEREL'MAN, F.M., dr. khimicheskikh nauk; VASECHKO, R.F.

Solubility and some other physical and chemical properties of the K_2SO_4—K_2MoO_4—H_2O system at 25°C. Uch. zap. Kab.-Balk. gos. un. no.10:237-246 '61. (MIRA 17:6)

1. Starshiy prepodavatel' Kabardino-Balkarskogo gosudarstvennogo universiteta.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

GMYRYA-NOVI, V.A.; KOVTUN, A.P.; LUK'YANOVA, O.N.; VASECHKO, T.V.

Induced potentials in the auditory area of the cerebral cortex in trace conditioned reflexes. Zhur. vys. nerv. deiat. 12 no.4: 670-678 Jl-Ag '62. (MIRA 17:11)

1. Bogomoletz Institute of Physiology, Ukrainian Academy of Sciences, Kiev.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

GMYRYA-NOVI, V.A. [Hmyria-Novi, V.A.]; LUK'YANOVA, O.N. [Luk'ianova, O.M.]; VASECHKO, T.V.

Characteristics of evoked potentials of the auditory regions of the cerebral cortex. Fiziol. zhur. [Ukr.] 11 no.6:717-722 N-D '65. (MIRA 19:1)

1. Laboratoriya vysshey nervnoy deyatel'nosti Instituta fiziologii im. A.A. Bogomol'tsa AN UkrSSR, Kiyev. Submitted August 15, 1964.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

POPELEK, Milan, inz.; VASEK, Jaroslav, inz.

Typical schemes for mine working in the Ostrava-Karvina coal-field. Uhli 5 no. 12:407 D '63.

1. Vedecko-vyzkumny uhelny ustav, Ostrava-Radvanice.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASEK, Jaroslav, inz.; POPEK, Milan, inz.; SKRICEK, Jiri

Problems of mechanization of low seam mining in the Ostrava-Karvina coalfield. Uhli 6 no. 8:270-272 Ag '64.

1. Scientific Institute of Coal Research, Ostrava-Radvanice.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

POPEK, Milan, inz.; SUCHANEK, Josef, inz.; VASEK, Jaroslav, inz.; PAVLONKA, Frantisek, inz.

Within 31 workdays 118,327 tons of coal extracted at the May 1 mine. Uhli 6 no.11:386-389 N '64.

1. Scientific Research Institute of Coal, Ostrava-Radvanice (for all except Pavlonka). 2. May 1 mine (for Pavlonka).

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

POPEK, Milan, inz.; VASEK, Jaroslav, Inz.

Mining thin coal seams by cutter loaders. Uhli 7 no.3:50-53 '65.

1. Scientific Research Institute, Ostrava-Radvanice.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASEK, J., inz.; JEDLICKA, J., inz.

Main methods of calculating the rolling pressure in hot rolling and comparison of the results with measured values; discussion. Hut listy 18 no.4:268-273 Ap '63.

1. Fakulta banskeho strojnictvi, Vysoka skola banska, Ostrava (for Vasek).

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASEK, V.

Experiments with decreased doses in lumbar anesthetics with simultaneous intrathecal injection of vitamin B_1 and ephedrine. Lek. listy 6 no.13:400-402 1 July 1951. (CLML 20:11)

1. Of the Obstetric-Gynecological Clinic of Palacky University in Olomouc (Head -- Docent V. Vasek, M.D.).

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASEK, Vladimir, Doc., Dr.

Problems of menstruation disorders. Cesk. gyn. 19 no.3: 145-154 May 55.

1. UPMD v Praze-Podoli, reditel: prof. MUDr. J. Trapl, nositel Radu Republiky.
(MENSTRUATION DISORDERS
current concepts)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASEK, Vl., Doc., MUDr. s kolektivem spolupracovniku

Selection of antibiotics in the treatment of internal inflammatory gynecological diseases. Cesk. gyn. 21 no.4:233-238 June 56.

1. UPMD Praha, reditel prof. Dr. Trapl, nositel Radu republiku.
(GYNECOLOGICAL DISEASES, therapy,
antibiotics (Cz))
(ANTIBIOTICS, therapeuticuse,
gyn. dis. (Cz))

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASEK, Vladimir, Doc., Dr.

Organization of care for women with inflammation of internal reproductive organs. Cesk. gyn. 22/36 no.1-2:96-101 Feb 57.

1. UPMD Praha-Podoli. Reditel prof. MUDr. Jiri Trapl.
(ADNEXITIS, ther.
indic. (Cz))

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

HENZL, Milan; VASEK, Vladimir, doc.

Effect of vaccination on the course of phagocytosis in adnexitis. Cesk. gyn. 25[39] no. 1/2:127-132 Mr '60.

1. Ustav pro peci o matku a dite, Praha-Podoli, reditel prof. dr. J. Trapl.

(ADNEXITIS immunol.)
(VACCINATION)
(PHAGOCYTOSIS)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASELY, Karel

A paravesical foreign body. Cesk. gyn. 24[38] no.5:385-387 June 59.

1. III. por. klinika KU v Praze, prednosta prof. dr. R. Peter, doktor lekarskych ved.

(ABDOMEN, for. bodies
paravesical, hair clip introduced through vagina (Cz))

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VAVENDOVÁ, V.

Application of azeotropy for the characterization of certain compounds. H. Melichar, O. Krejčová, and V. Vašendová (Masaryk Univ., Brno, Czech.). *Sborník Československé Pracovní Konf. Anal. Chemiků* 1, 273-8(1952)(Pub. 1953). —The azeotropic lowerings ΔT of the b.p. were detd. for binary mixts. of H_2O with a series of hydrocarbons (2-methylbutane, pentane, 2-methylpentane, 3-methylpentane, hexane, benzene, heptane, 2,2,4-trimethylpentane, toluene, *p*-xylene, α-pinene, limonene, naphthalene, and caryophyllene), alcs. (EtOH, *iso*-PrOH, PrOH, *tert*-BuOH, *iso*-BuOH, BuOH, isopentanol, pentanol, hexanol, heptanol, *iso*-octanol, octanol, linalool), phenyl ethers (Me, Et, Pr, Bu, methylpropenyl, methylnaphthyl, and diphenyl ether), and salicylate esters (Me, Et, Bu, Am). When b.p. is plotted vs. ΔT, each class of compds. falls on a smooth curve. The closer the type of cohesive forces of the mol. to that of H_2O, the smaller is ΔT. The closer the b.p. is to that of H_2O, the larger is ΔT (within a given class). ΔT in alcs. decreases in the order tertiary, secondary, primary, but the branching of hydrocarbons has no effect. The azeotropic lowering can be used in qual. analysis to characterize a compd. in a more specific way than by the b.p.

H. Newcombe

(2)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENEVA, O. M.: Master Med Sci (diss) -- "The dynamics of morphological changes in subdermally transplanted tissues of placenta, spleen, and thyroid gland, under experimental conditions (On the problem of tissue therapy)". Khabarovsk, 1958. 24 pp (Khabarovsk State Med Inst), 220 copies (KL, No 7, 1959, 128)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, A.A.

Virological studies in the focus of tick-borne encephalitis in territory of the southwest part of Irkutsk Province. Trudy Irk. NIIEM no. 7:48-57 '62 (MIRA 19:1)

1. Iz otdela Zabolevaniy s prirodnoy ochagovost'yu Irkutskogo nauchno-issledovatel'skogo instituta epidemiologii i mikrobiologii.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, A.P.

COUNTRY	:	USSR
CATEGORY	:	Pharmacology and Toxicology. Cholinergic Agents
ABS. JOUR.	:	RZhBiol., No. 5 1959, No. 23143
AUTHOR	:	Vasenin, A. P.
INST.	:	Ivanovsk Medical Institute
TITLE	:	Armine, a New Myotic Drug in Ophthalmological Practice
ORIG. PUB.	:	Sb. nauchn. tr. Ivanovsk. med. in-ta, 1957, vyp. 13, 340-343
ABSTRACT	:	No abstract

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, A.P.

Mechanism of the action of cyclodialysis in patients with glaucoma. Vest.oft. no.4:21-24 '61. (MIRA 14:11)

1. Kafedra glaznykh bolezney (zav. - prof. T.I. Samsonova) Ivanovskogo gosudarstvennogo meditsinskogo instituta.
(GLAUCOMA) (CYCLODIALYSIS)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, A.P.

Pilocarpine and pyrophos in glaucoma. Vest.oft. no.6:27-32 '61.
(MIRA 14:12)

1. Kafedra glaznykh bolezney (zav. -- prof. T.I. Samsonova) Ivanovskogo meditsinskogo instituta.
(GLAUCOMA) (PILOCARPINE) (PARASYMATHOMINETICS)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASKNIN, Aleksandr Yermolayevich ; PERFIL'YEV,V.P., redaktor; STRUKOV, A.N., redaktor; KHELEMSKAYA,L.M., tekhnicheskiy redaktor

[The mechanization of loading and unloading work in the postal service] Mekhanizatsiia pogruzochno-razgruzochnykh rabot v pochtovykh predpriiatiiakh. Moskva, Gos. izd-vo lit-ry po voprosam sviazi i radio, 1955. 45 p. (MLRA 9:2)
(Loading and unloading) (Postal service)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, A.Ye.

Mechanizing internal transportation system in the department of mail transportation. Vest.sviazi.16 no.2:21-22 F '56. (MLRA 9:7)

1.Glavnyy inzhener Moskovskogo upravleniya perevozki pochty.
(Postal service)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, A. YE.

BARANOV, Pavel Aleksandrovich; URYUPIN, German Mikhaylovich; VASENIN, A.Ye., otvetstvennyy redaktor; SALITAN, L.S., redaktor; BERESLAVSKAYA, L.Sh., tekhnicheskiy redaktor

[Railroad mail cars] Pochtovye vagony. Moskva, Gos. izd-vo lit-ry po voprosam sviazi i radio, 1957. 443 p. (MLRA 10:6)
(Railway mail service--Cars)

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VASENIN, A. Ye

6(0) PHASE I BOOK EXPLOITATION SOV/2800

USSR. Ministerstvo svyazi. Tekhnicheskoye upravleniye

Novyye razrabotki po organizatsii pochtovoy svyazi; informatsionnyy sbornik (New Developments in the Organization of Postal Communication; Collection of Informational Articles) Moscow, Svyaz'izdat, 1958. 166 p. (Series: Tekhnika svyazi) Errata slip inserted. 8,600 copies printed.

Additional Sponsoring Agency: USSR. Ministerstvo svyazi. Tsentral'nyy nauchno-issledovatel'skiy institut.

Resp. Ed.: A. Ye. Vasenin; Ed.: R.A. Kaz'mina; Tech. Ed.: K. G. Markoch.

PURPOSE: This book is intended for post office workers.

COVERAGE: This collection of articles discusses efforts of the Central Scientific Research Institute of Communications

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to organize and mechanize work processes in postal service establishments. It describes the organization of postal functions and ways to determine the efficiency of mechanized operations. Some articles discuss future development of the postal service. No personalities are mentioned. There are no references.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

New Developments SOV/2800

Barsuk, V. A. Method of Determining the Efficiency of Mechanized Parcel Sorting 130

Kostromina, A. G., and N. D. Nosonovich. System of Organizing and Mechanizing Production Processes for Expediting Periodicals in Large Postal Service Establishments

AVAILABLE: Library of Congress (HE 6237 .R85)

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JG/mmh
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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, Aleksandr Yermolayevich; LAMM, I.A., otv.red.; KAZ'MINA, R.A., red.; MARKOCH, K.G., tekhn.red.

[Mechanization of transportation in postal establishments] Mekhanizatsiia transportnykh operatsii v pochtovykh predpriiatiiakh. Moskva, Gos.izd-vo lit-ry po voprosam sviazi i radio, 1959. 53 p. (MIRA 12:8)
(Russia--Postal service)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, A.Ye.

Automatic continuous lines for the processing of mail. Vest. sviazi 19 no.11:18-20 N '59. (MIRA 13:8)

1. Nachal'nik laboratorii avtomatizatsii i mekhanizatsii pochtovykh predpriyatiy TSentral'nogo nauchno-issledovatel'skogo instituta svyazi.
(Postal service--Equipment and supplies)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VAYNBERGER, Isaak Matveyevich; VASENIN, Aleksandr Yermolayevich; IZRAILIT, Lev Abramovich; RZHETSKIY, Dmitriy Borisovich; SPORIUS, Eduard Alekseyevich; TIKHONOV, Vasiliy Fedorovich; FAYNSHTEYN, Vladimir Maksovich; LAM, I.A., otv. red.; SAKHAROV, Ye.D., red.

[Mechanication and automation of mail processing operations] Mekhanizatsiia i avtomatizatsiia obrabotki pochty; informatsionnyi sbornik. Moskva, Izd-vo "Sviaz'," 1964. 77 p. (MIRA 17:6)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

5201* Influence of Rb and Cs Ions on the Process of the Electrodeposition of Cu. Vliianie ionov rubidiia i tseziia na protsess elektrovazhdeniia medi. (Russian.) S. V. Gorbachev and B. M. Vasenin. *Zhurnal Fizicheskoi Khimii*, v. 28, no. 11, Nov. 1954, pp. 1529-1534.

Polarization, current density, effective activation energy in relation to concentration of Cs_2SO_4 and $PbSO_4$. Graphs, table. 5 ref.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

5200* Influence of Sodium Ions on the Process of the Electrodeposition of Cu. Vlianie ionov natriia na protsess elek-

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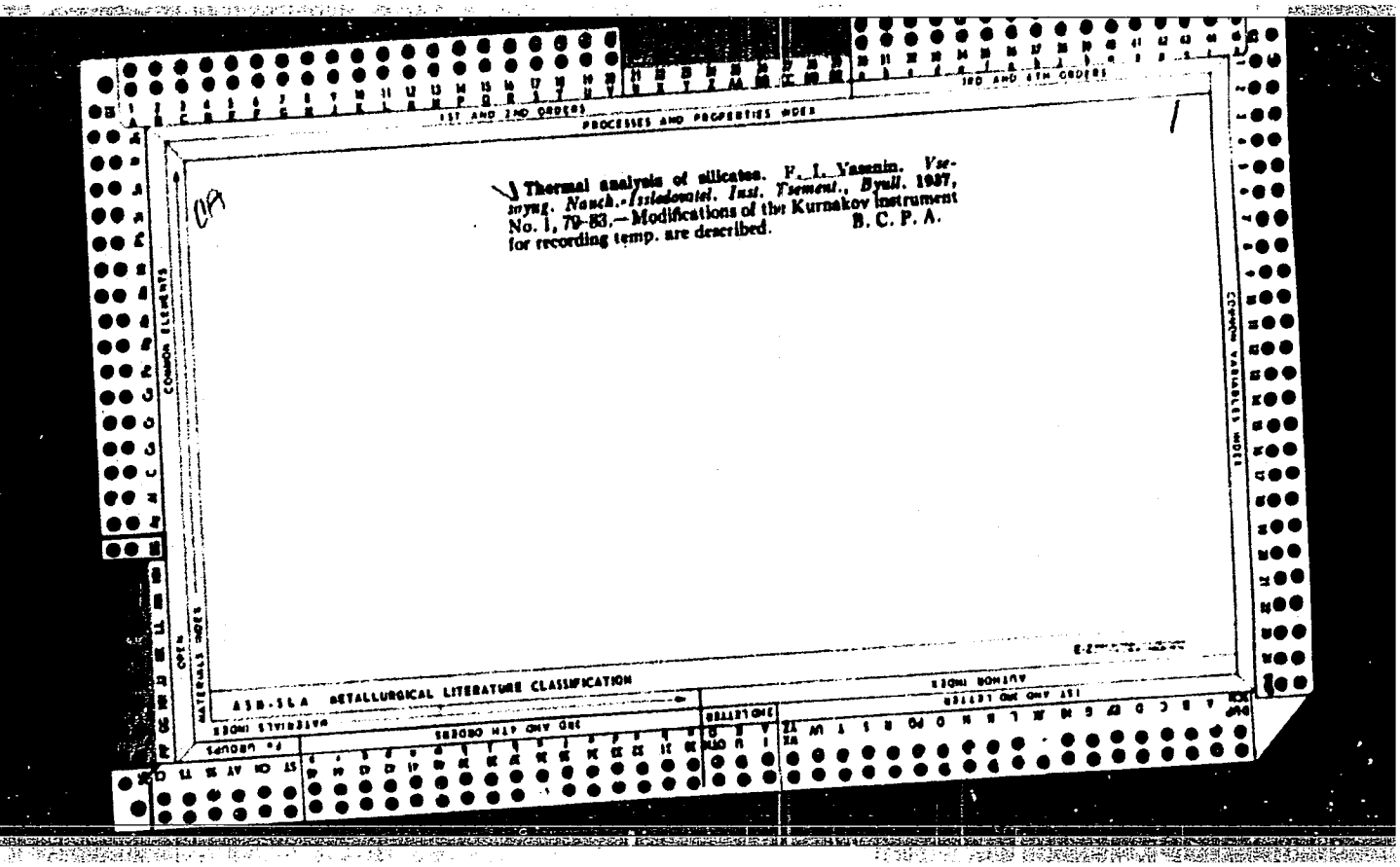
"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6



Thermal analysis of silicates. F. I. Vasenin. *Vsesoyuz. Nauch.-Issledovatel. Inst. Tsvetmet., Byull.* 1957, No. 1, 79–83.—Modifications of the Kurnakov instrument for recording temp. are described. B. C. P. A.

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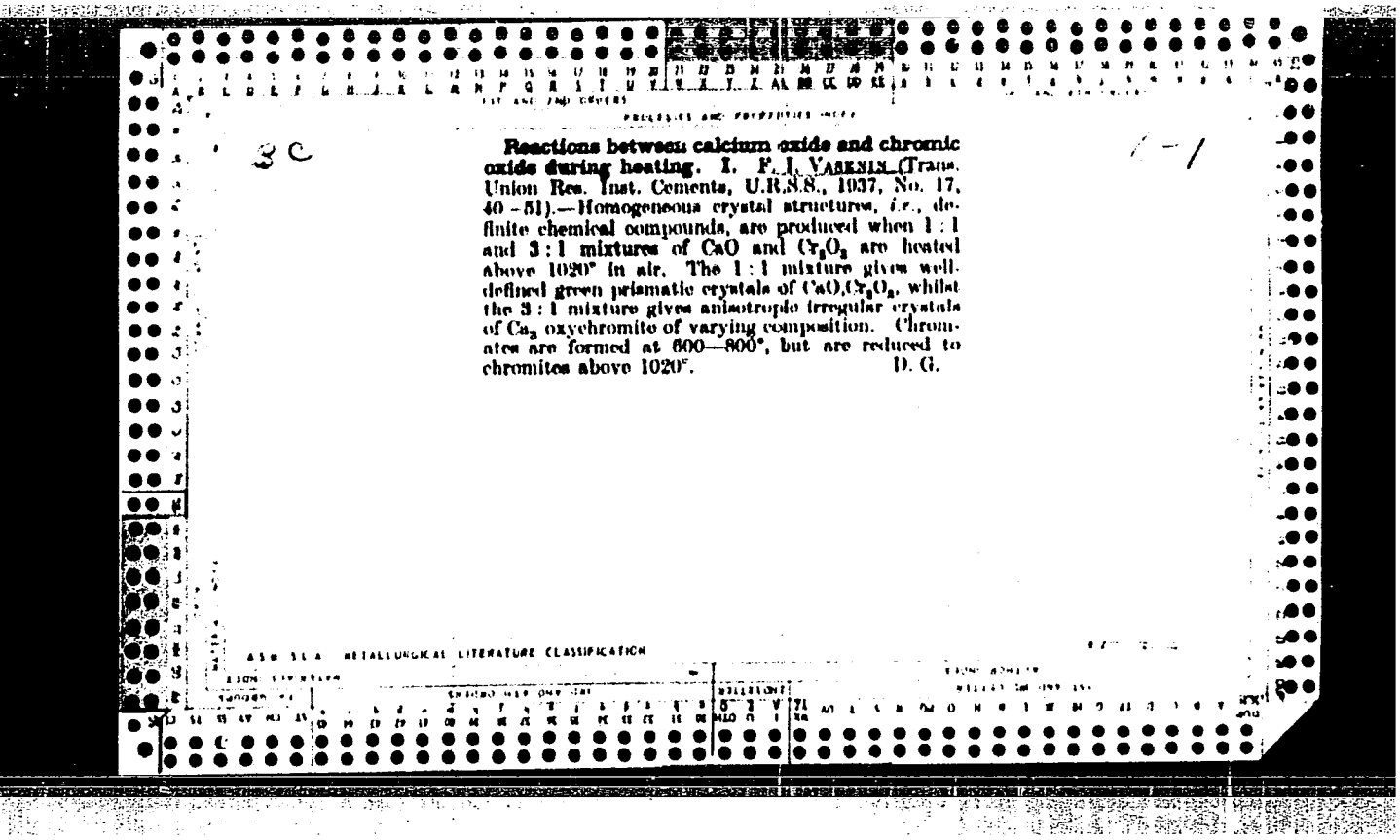

Reactions between calcium oxide and chromic oxide during heating. I. F. J. VARRENIS (Trans. Union Res. Inst. Cements, U.R.S.S., 1937, No. 17, 40–51).—Homogeneous crystal structures, *i.e.*, definite chemical compounds, are produced when 1 : 1 and 3 : 1 mixtures of CaO and Cr_2O_3 are heated above 1020° in air. The 1 : 1 mixture gives well-defined green prismatic crystals of CaO,Cr_2O_3, whilst the 3 : 1 mixture gives anisotropic irregular crystals of Ca_3 oxychromite of varying composition. Chromates are formed at 600—800°, but are reduced to chromites above 1020°. D. G.

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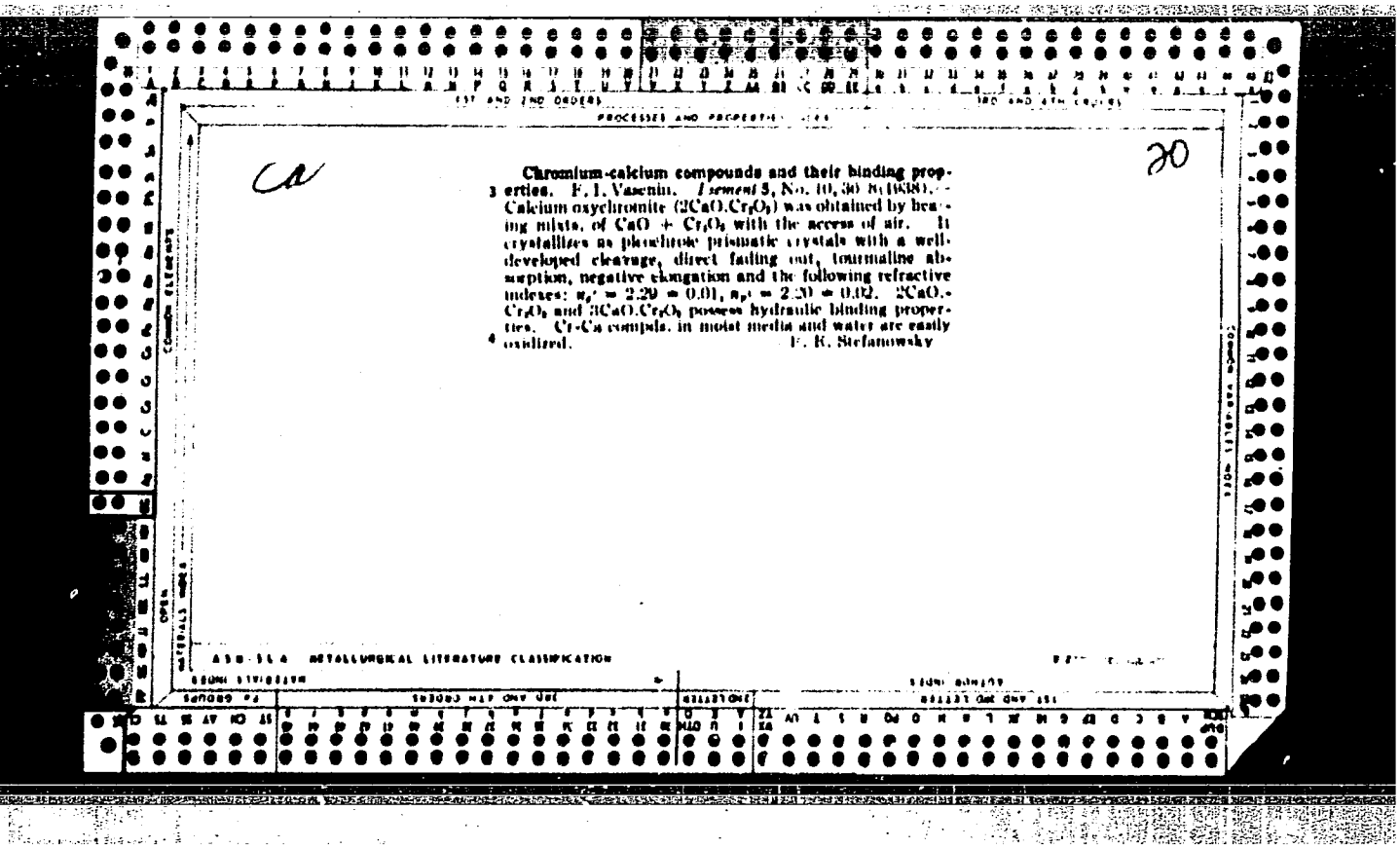

Ca

20

Chromium-calcium compounds and their binding properties. F. I. Vasenin. *Tsement* 5, No. 10, 30–8 (1938).—Calcium oxychromite ($2CaO.Cr_2O_3$) was obtained by heating mixts. of $CaO + Cr_2O_3$ with the access of air. It crystallizes as pleochroic prismatic crystals with a well-developed cleavage, direct fading out, tourmaline absorption, negative elongation and the following refractive indexes: $n_g' = 2.20 \pm 0.01$, $n_p = 2.30 \pm 0.02$. $2CaO.Cr_2O_3$ and $3CaO.Cr_2O_3$ possess hydraulic binding properties. Cr-Ca compds. in moist media and water are easily oxidized. F. R. Stefanowsky

A53-51A METALLURGICAL LITERATURE CLASSIFICATION

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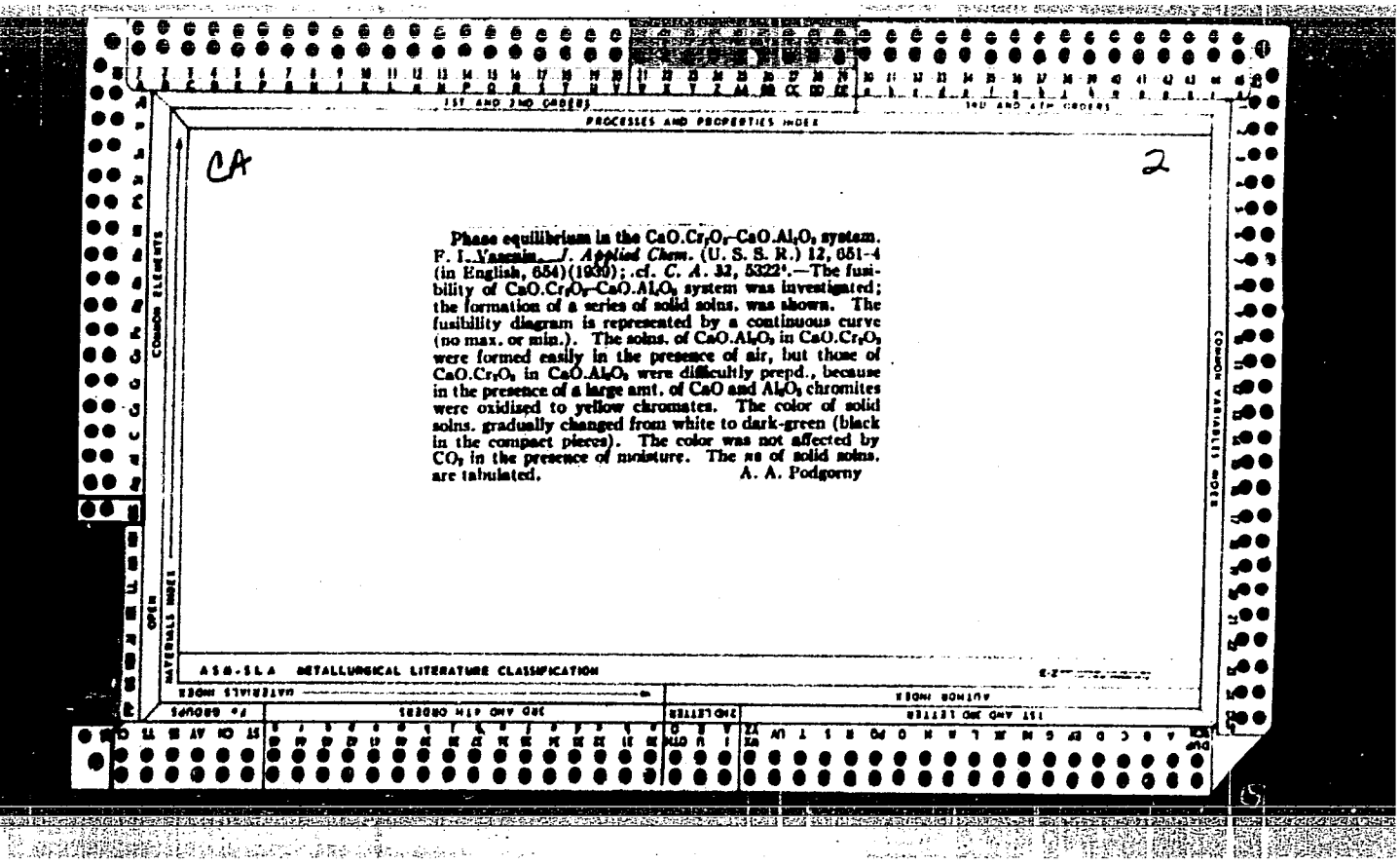

CA 2

Phase equilibrium in the $CaO.Cr_2O_3$–$CaO.Al_2O_3$ system. F. I. Yasenin. *J. Applied Chem.* (U. S. S. R.) 12, 651–4 (in English, 654)(1939); cf. *C. A.* 32, 5322⁴.—The fusibility of $CaO.Cr_2O_3$–$CaO.Al_2O_3$ system was investigated; the formation of a series of solid solns. was shown. The fusibility diagram is represented by a continuous curve (no max. or min.). The solns. of $CaO.Al_2O_3$ in $CaO.Cr_2O_3$ were formed easily in the presence of air, but those of $CaO.Cr_2O_3$ in $CaO.Al_2O_3$ were difficultly prepd., because in the presence of a large amt. of CaO and Al_2O_3 chromites were oxidized to yellow chromates. The color of solid solns. gradually changed from white to dark-green (black in the compact pieces). The color was not affected by CO_2 in the presence of moisture. The ns of solid solns. are tabulated. A. A. Podgorny

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A.P.S

Equipment & Apparatus

Device for automatically and evenly raising the temperature of electric kilns. F. I. VASSILIK. *Zavodskaya Lab.*, 9 [8] 927 (1940); *Khim. Referat. Zhur.*, 4 [3] 66 (1941).—This device is used to regulate and raise the temperature of electric muffles in a predetermined manner. It is particularly useful for thermal analysis. It consists of a drum upon which is wound a resistance wire which gradually increases from 1 to 2.5 mm. in diameter and a sliding contact. The drum is turned by a small one-phase reversible motor geared to a worm. When it is desired to keep the temperature of the muffle constant, the sliding contact is broken.
M.Ho.

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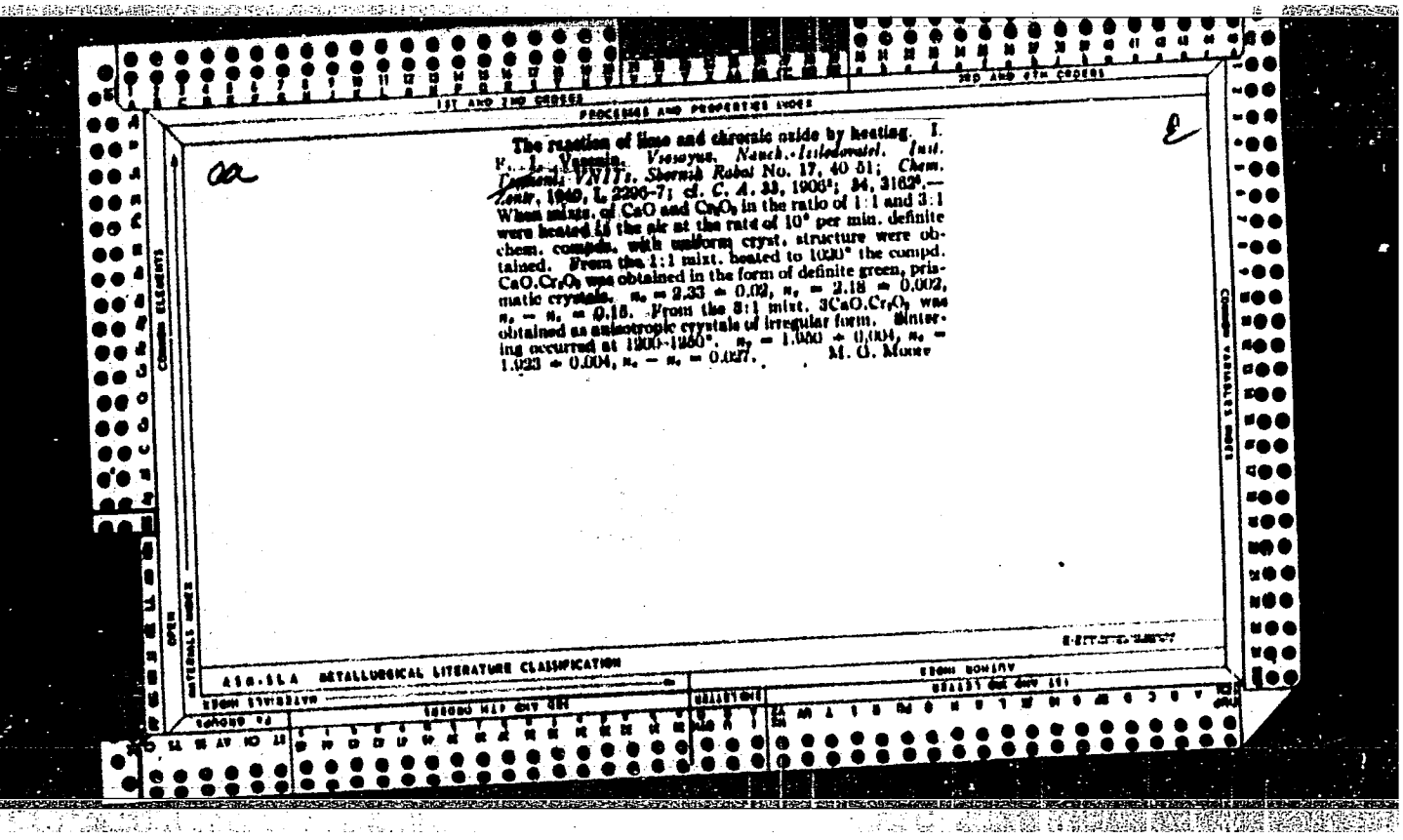
1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS



The reaction of lime and chromic oxide by heating. I. F. L. Vasenin. *Vsesoyuz. Nauch.-Issledovatel. Inst. Tsemenl. VNITs. Sbornik Rabot* No. 17, 40-51; *Chem. Zentr.* 1949, I, 2296-7; cf. *C. A.* 33, 1906[2]; 34, 3162[6].—When mixts. of CaO and Cr_2O_3 in the ratio of 1:1 and 3:1 were heated in the air at the rate of 10° per min. definite chem. compds. with uniform cryst. structure were obtained. From the 1:1 mixt. heated to 1020° the compd. $CaO.Cr_2O_3$ was obtained in the form of definite green, prismatic crystals. $n_o = 2.33 \pm 0.02$, $n_e = 2.18 \pm 0.002$, $n_o - n_e = 0.15$. From the 3:1 mixt. $3CaO.Cr_2O_3$ was obtained as anisotropic crystals of irregular form. Sintering occurred at 1200-1250°. $n_o = 1.950 \pm 0.004$, $n_e = 1.923 \pm 0.004$, $n_o - n_e = 0.027$. M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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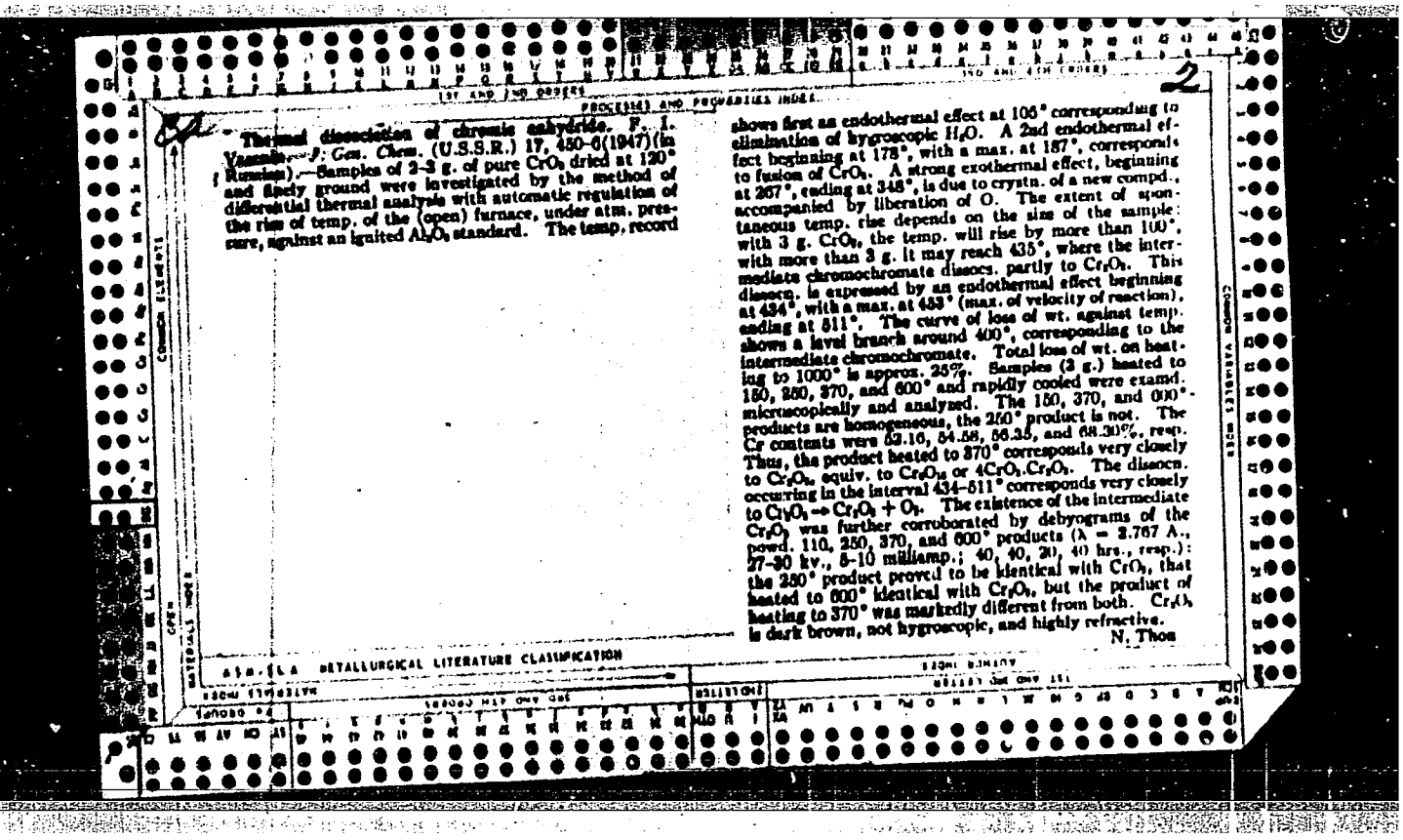

Thermal dissociation of chromic anhydride. F. I. Vasenin. *J. Gen. Chem.* (U.S.S.R.) 17, 450–6(1947)(in Russian).—Samples of 2–3 g. of pure CrO_3 dried at 120° and finely ground were investigated by the method of differential thermal analysis with automatic regulation of the rise of temp. of the (open) furnace, under atm. pressure, against an ignited Al_2O_3 standard. The temp. record shows first an endothermal effect at 105° corresponding to elimination of hygroscopic H_2O. A 2nd endothermal effect beginning at 178°, with a max. at 187°, corresponds to fusion of CrO_3. A strong exothermal effect, beginning at 267°, ending at 348°, is due to crystn. of a new compd., accompanied by liberation of O. The extent of spontaneous temp. rise depends on the size of the sample: with 3 g. CrO_3 the temp. will rise by more than 100°, with more than 3 g. it may reach 435°, where the intermediate chromochromate dissocs. partly to Cr_2O_3. This dissocn. is expressed by an endothermal effect beginning at 434°, with a max. at 453° (max. of velocity of reaction), ending at 511°. The curve of loss of wt. against temp. shows a level branch around 400°, corresponding to the intermediate chromochromate. Total loss of wt. on heating to 1000° is approx. 25%. Samples (3 g.) heated to 150, 250, 370, and 600° and rapidly cooled were examd. microscopically and analyzed. The 150, 370, and 600° products are homogeneous, the 250° product is not. The Cr contents were 52.10, 54.58, 56.35, and 68.30%, resp. Thus, the product heated to 370° corresponds very closely to Cr_2O_5, equiv. to Cr_4O_{10} or $4CrO_3.Cr_2O_3$. The dissocn. occurring in the interval 434–511° corresponds very closely to $Cr_4O_{10} \rightarrow Cr_2O_3 + O_2$. The existence of the intermediate Cr_2O_5 was further corroborated by debyograms of the powd. 110, 250, 370, and 600° products (λ = 2.767 A., 27–30 kv., 5–10 milliamp.; 40, 40, 20, 40 hrs., resp.): the 250° product proved to be identical with CrO_3, that heated to 600° identical with Cr_2O_3, but the product of heating to 370° was markedly different from both. Cr_2O_5 is dark brown, not hygroscopic, and highly refractive.

N. Thon

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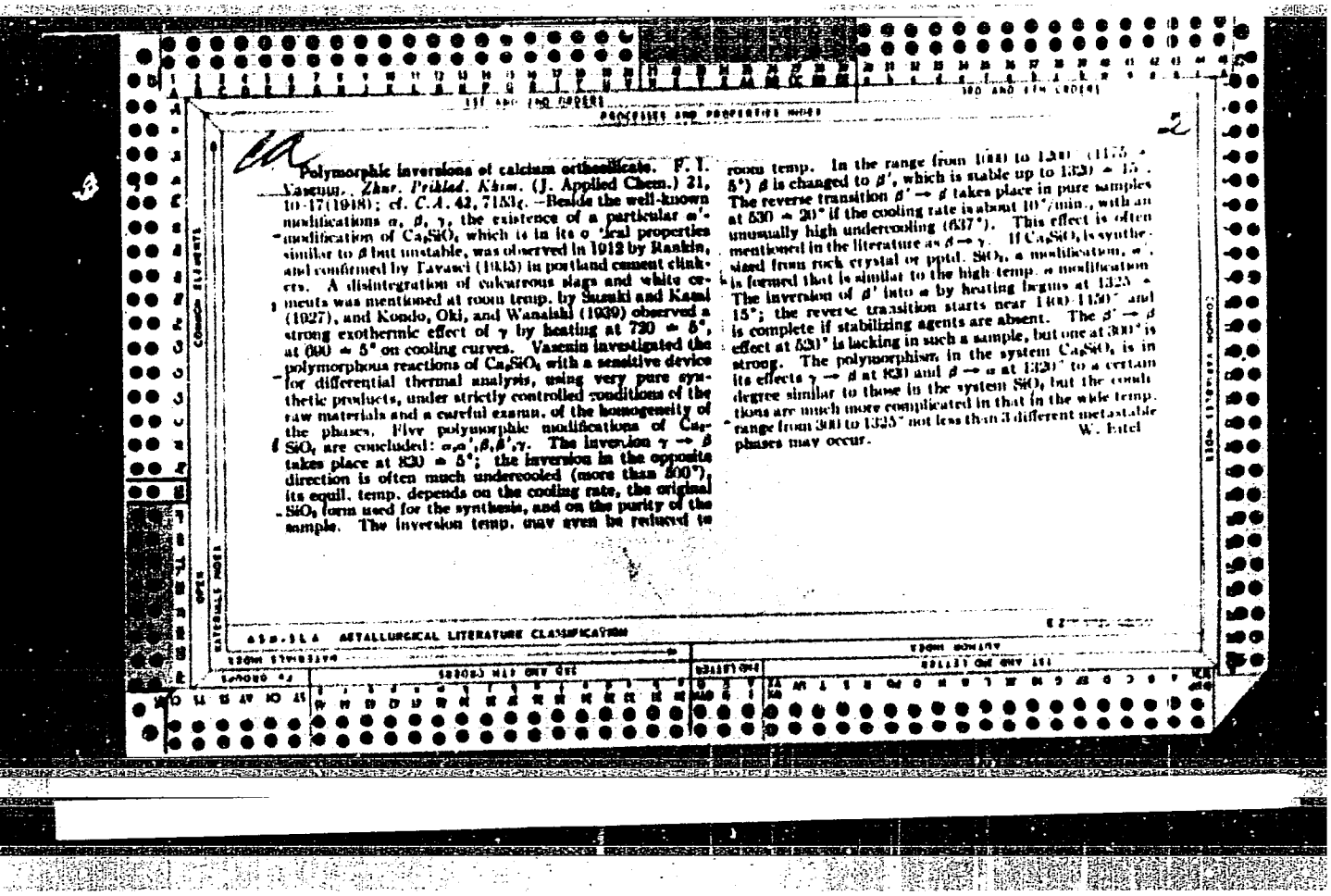

Polymorphic inversions of calcium orthosilicate. F. I. Vasenin. *Zhur. Prikład. Khim.* (J. Applied Chem.) 21, 10-17(1948); cf. *C.A.* 42, 7153c.—Beside the well-known modifications α, β, γ, the existence of a particular α'-modification of Ca_2SiO_4, which is in its optical properties similar to β but unstable, was observed in 1912 by Rankin, and confirmed by Tavasci (1915) in portland cement clinkers. A disintegration of calcareous slags and white cements was mentioned at room temp. by Suzuki and Kanai (1927), and Kondo, Oki, and Wanaiki (1939) observed a strong exothermic effect of γ by heating at 720 ± 5°, at 690 ± 5° on cooling curves. Vasenin investigated the polymorphous reactions of Ca_2SiO_4 with a sensitive device for differential thermal analysis, using very pure synthetic products, under strictly controlled conditions of the raw materials and a careful exam. of the homogeneity of the phases. Five polymorphic modifications of Ca_2SiO_4 are concluded: $\alpha,\alpha',\beta,\beta',\gamma$. The inversion $\gamma \rightarrow \beta$ takes place at 830 ± 5°; the inversion in the opposite direction is often much undercooled (more than 300°), its equil. temp. depends on the cooling rate, the original SiO_2 form used for the synthesis, and on the purity of the sample. The inversion temp. may even be reduced to room temp. In the range from 1080 to 1250° (1150 ± 5°) β is changed to β', which is stable up to 1320 ± 15°. The reverse transition $\beta' \rightarrow \beta$ takes place in pure samples at 530 ± 20° if the cooling rate is about 10°/min., with an unusually high undercooling (637°). This effect is often mentioned in the literature as $\beta \rightarrow \gamma$. If Ca_2SiO_4 is synthesized from rock crystal or ppd. SiO_2, a modification, α, is formed that is similar to the high-temp. α modification. The inversion of β' into α by heating begins at 1325 ± 15°; the reverse transition starts near 1400-1450° and is complete if stabilizing agents are absent. The $\beta' \rightarrow \beta$ effect at 520° is lacking in such a sample, but one at 300° is strong. The polymorphism in the system Ca_2SiO_4 is in its effects $\gamma \rightarrow \beta$ at 830 and $\beta \rightarrow \alpha$ at 1320° to a certain degree similar to those in the system SiO_2, but the conditions are much more complicated in that in the whole temp. range from 300 to 1325° not less than 3 different metastable phases may occur.

W. Eitel

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C. A.

Nature of heat evolution in the synthesis of calcium silicates. F. I. Vasenin. *Zhur. Prikhd. Khim.* 21, 380-95 (1948).—The reactions of mixts. of $2CaCO_3 + SiO_2$, $2CaO + SiO_2$, and $CaO + SiO_2$ were studied by the method of thermal analysis, by use of an app. that simultaneously recorded the following: (1) heating curve of the material; (2) curve of the rise in temp. of the furnace; and (3) differential curve that showed difference between heating of the material and a standard (Al_2O_3). A rapidly occurring exothermal effect was recorded for all mixts.; the effect began at about 1385°. As an aid in studying the nature of this effect, the free CaO in the calcined mixts. was detd. by chem. analysis. All the heating curves showed relatively low reaction rate which increased with rising temp.; this was in agreement with detns. of free CaO. Of the CaO, 52% was bound during the period of the endothermal effect, up to the exothermal point (1385°), and 26% free CaO, remaining after the exothermal effect, reacted with SiO_2 with the absorption of heat. The exothermal effect is not produced by the interaction of the oxides but by a change in the cryst. structure of the silica (formation of cryst. lattice stable at higher temp.). Formation of new lattice starts at 1385 ± 5°.

B. Z. K.

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1ST AND 2ND ORDERS

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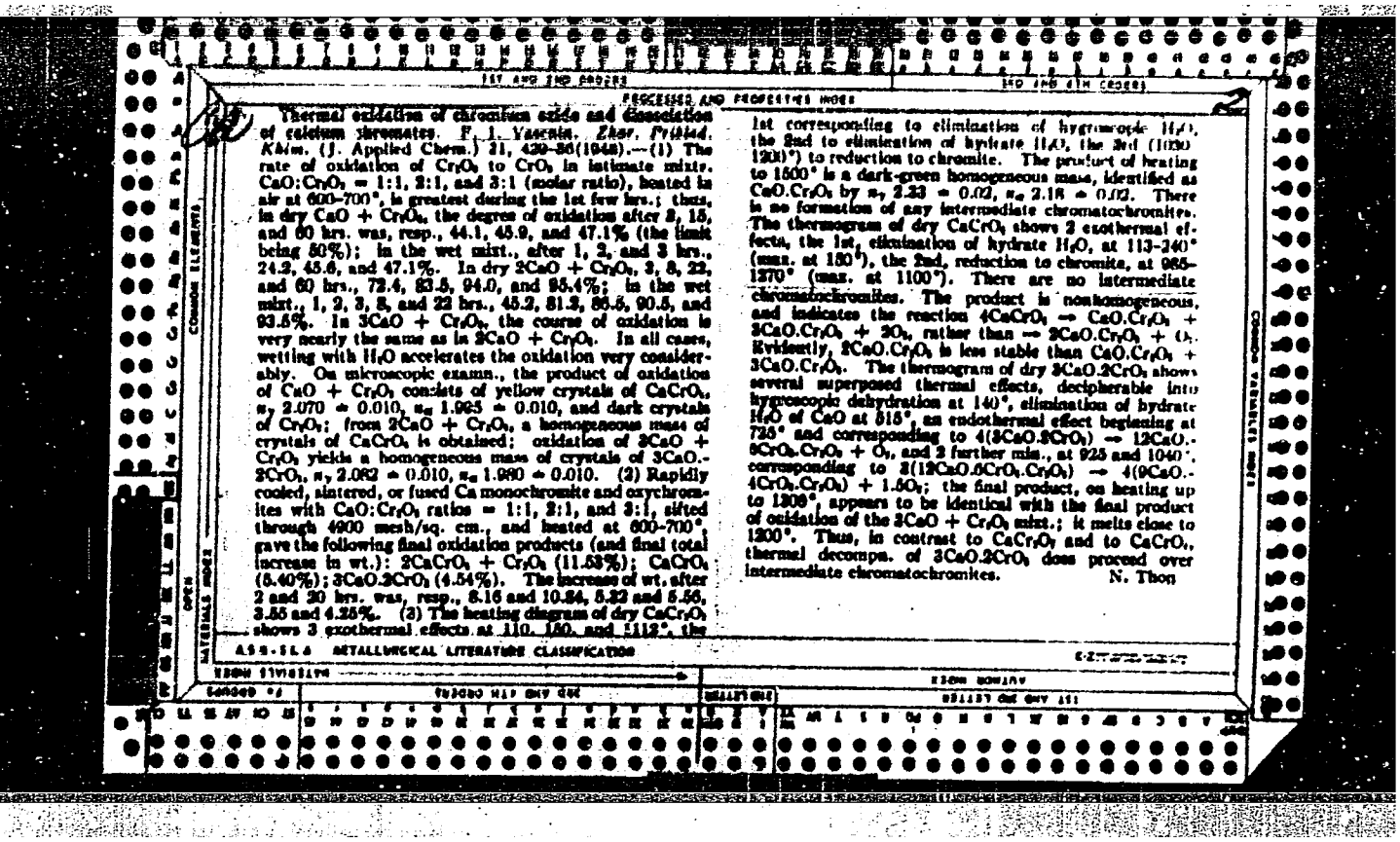

Thermal oxidation of chromium oxide and dissociation of calcium chromates. F. I. Vasenin. *Zhur. Priklad. Khim.* (J. Applied Chem.) 21, 429-36(1948).—(1) The rate of oxidation of Cr_2O_3 to CrO_3 in intimate mixts. $CaO:Cr_2O_3$ = 1:1, 2:1, and 3:1 (molar ratio), heated in air at 600-700°, is greatest during the 1st few hrs.; thus, in dry $CaO + Cr_2O_3$, the degree of oxidation after 3, 15, and 60 hrs. was, resp., 44.1, 45.9, and 47.1% (the limit being 50%); in the wet mixt., after 1, 2, and 3 hrs., 24.2, 45.6, and 47.1%. In dry $2CaO + Cr_2O_3$, 3, 8, 22, and 60 hrs., 72.4, 83.5, 94.0, and 95.4%; in the wet mixt., 1, 2, 3, 8, and 22 hrs., 45.2, 81.2, 86.5, 90.5, and 93.5%. In $3CaO + Cr_2O_3$, the course of oxidation is very nearly the same as in $2CaO + Cr_2O_3$. In all cases, wetting with H_2O accelerates the oxidation very considerably. On microscopic examn., the product of oxidation of $CaO + Cr_2O_3$ consists of yellow crystals of $CaCrO_4$, n_γ 2.070 ± 0.010, n_α 1.995 ± 0.010, and dark crystals of Cr_2O_3; from $2CaO + Cr_2O_3$, a homogeneous mass of crystals of $CaCrO_4$ is obtained; oxidation of $3CaO + Cr_2O_3$ yields a homogeneous mass of crystals of $3CaO.2CrO_3$, n_γ 2.082 ± 0.010, n_α 1.980 ± 0.010. (2) Rapidly cooled, sintered, or fused Ca monochromite and oxychromites with $CaO:Cr_2O_3$ ratios = 1:1, 2:1, and 3:1, sifted through 4900 mesh/sq. cm., and heated at 600-700°, gave the following final oxidation products (and final total increase in wt.): $2CaCrO_4 + Cr_2O_3$ (11.53%); $CaCrO_4$ (5.40%); $3CaO.2CrO_3$ (4.54%). The increase of wt. after 2 and 20 hrs. was, resp., 8.16 and 10.84, 5.32 and 5.56, 3.55 and 4.25%. (3) The heating diagram of dry $CaCr_2O_3$ shows 3 exothermal effects at 110, 150, and 1112°, the 1st corresponding to elimination of hygroscopic H_2O, the 2nd to elimination of hydrate H_2O, the 3rd (1030-1200°) to reduction to chromite. The product of heating to 1500° is a dark-green homogeneous mass, identified as $CaO.Cr_2O_3$ by n_γ 2.23 ± 0.02, n_α 2.18 ± 0.02. There is no formation of any intermediate chromatochromites. The thermogram of dry $CaCrO_4$ shows 2 exothermal effects, the 1st, elimination of hydrate H_2O, at 113-240° (max. at 150°), the 2nd, reduction to chromite, at 985-1270° (max. at 1100°). There are no intermediate chromatochromites. The product is nonhomogeneous, and indicates the reaction $4CaCrO_4 \rightarrow CaO.Cr_2O_3 + 3CaO.Cr_2O_3 + 2O_2$, rather than $\rightarrow 2CaO.Cr_2O_3 + O_2$. Evidently, $2CaO.Cr_2O_3$ is less stable than $CaO.Cr_2O_3 + 3CaO.Cr_2O_3$. The thermogram of dry $3CaO.2CrO_3$ shows several superposed thermal effects, decipherable into hygroscopic dehydration at 140°, elimination of hydrate H_2O of CaO at 515°, an endothermal effect beginning at 725° and corresponding to $4(3CaO.2CrO_3) \rightarrow 12CaO.6CrO_3.Cr_2O_3 + O_2$, and 2 further min., at 925 and 1040°, corresponding to $3(12CaO.6CrO_3.Cr_2O_3) \rightarrow 4(9CaO.4CrO_3.Cr_2O_3) + 1.5O_2$; the final product, on heating up to 1300°, appears to be identical with the final product of oxidation of the $3CaO + Cr_2O_3$ mixt.; it melts close to 1200°. Thus, in contrast to $CaCr_2O_7$ and to $CaCrO_4$, thermal decompn. of $3CaO.2CrO_3$ does proceed over intermediate chromatochromites. N. Thon

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

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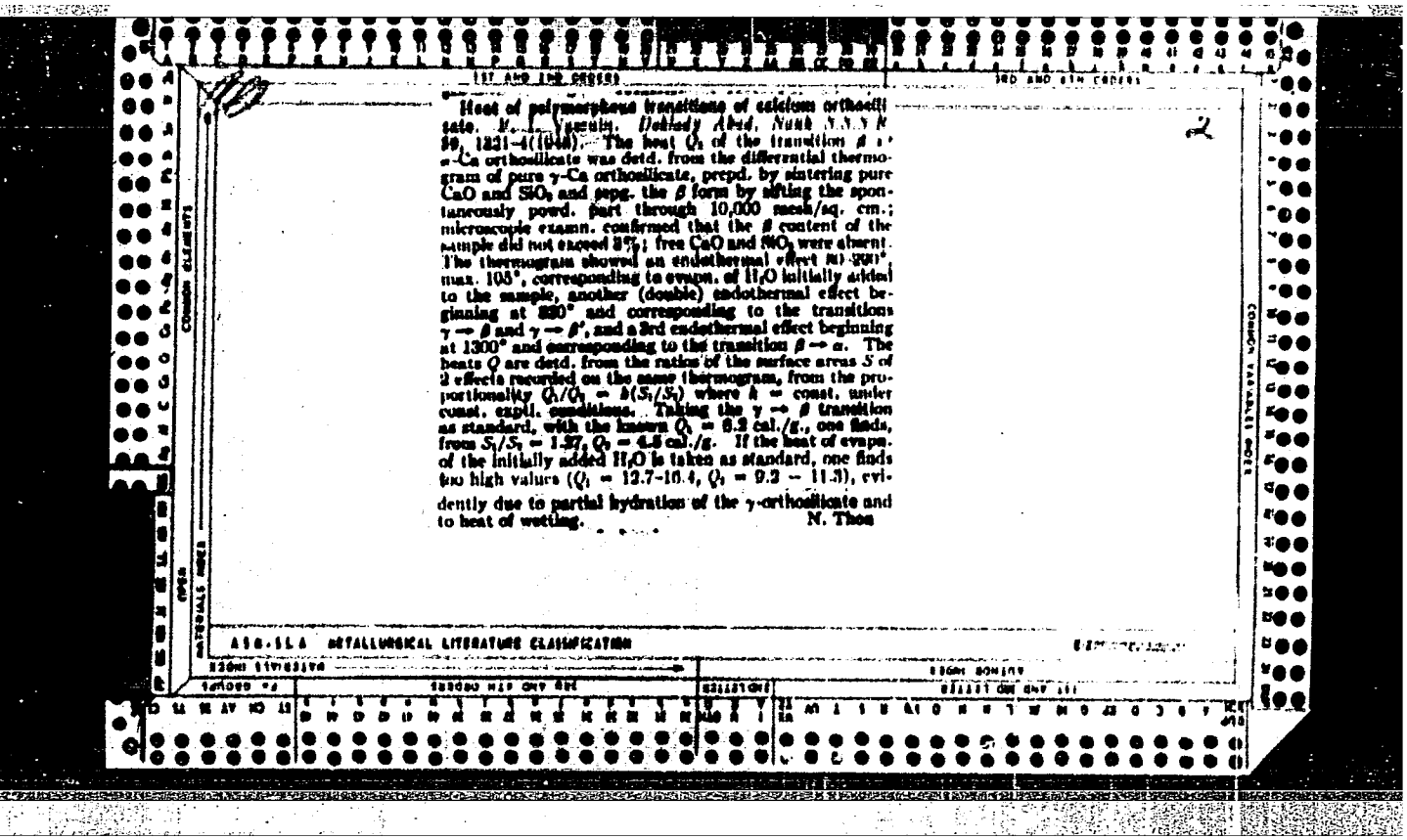

Heat of polymorphous transitions of calcium orthosilicate. M. I. Vasenin. *Doklady Akad. Nauk S.S.S.R.* 59, 1321-4(1948). The heat Q_1 of the transition $\beta \to \alpha$-Ca orthosilicate was detd. from the differential thermogram of pure γ-Ca orthosilicate, prepd. by sintering pure CaO and SiO_2 and sepg. the β form by sifting the spontaneously powd. part through 10,000 mesh/sq. cm.; microscopic examn. confirmed that the β content of the sample did not exceed 3%; free CaO and SiO_2 were absent. The thermogram showed an endothermal effect 80-200°, max. 105°, corresponding to evapn. of H_2O initially added to the sample, another (double) endothermal effect beginning at 320° and corresponding to the transitions $\gamma \to \beta$ and $\gamma \to \beta'$, and a 3rd endothermal effect beginning at 1300° and corresponding to the transition $\beta \to \alpha$. The heats Q are detd. from the ratios of the surface areas S of 2 effects recorded on the same thermogram, from the proportionality $Q_1/Q_2 = k(S_1/S_2)$ where k = const. under const. expti. conditions. Taking the $\gamma \to \beta$ transition as standard, with the known Q_1 = 6.2 cal./g., one finds, from S_1/S_2 = 1.37, Q_2 = 4.5 cal./g. If the heat of evapn. of the initially added H_2O is taken as standard, one finds too high values (Q_1 = 12.7-16.4, Q_2 = 9.2 - 11.3), evidently due to partial hydration of the γ-orthosilicate and to heat of wetting. N. Thon

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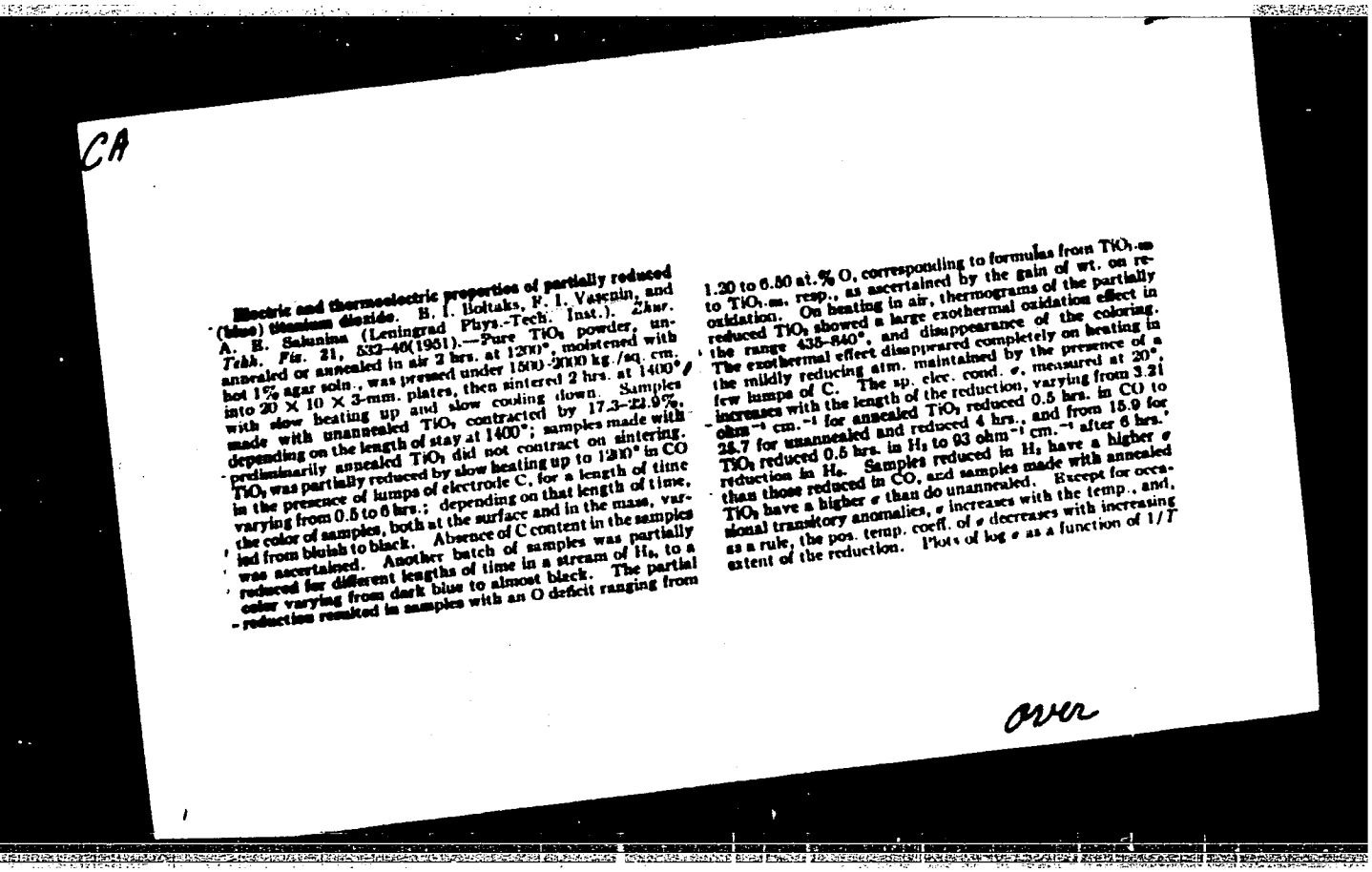

CA

Electric and thermoelectric properties of partially reduced (blue) titanium dioxide. B. I. Boltaks, F. I. Vaspin, and A. E. Saluniina (Leningrad Phys.-Tech. Inst.). *Zhur. Tekh. Fiz.* 21, 532–40(1951).—Pure TiO_2 powder, unannealed or annealed in air 2 hrs. at 1200°, moistened with hot 1% agar soln., was pressed under 1500–2000 kg./sq. cm. into 20 × 10 × 3-mm. plates, then sintered 2 hrs. at 1400°, with slow heating up and slow cooling down. Samples made with unannealed TiO_2 contracted by 17.3–22.9%, depending on the length of stay at 1400°; samples made with preliminarily annealed TiO_2 did not contract on sintering. TiO_2 was partially reduced by slow heating up to 1200° in CO in the presence of lumps of electrode C, for a length of time varying from 0.5 to 6 hrs.; depending on that length of time, the color of samples, both at the surface and in the mass, varied from bluish to black. Absence of C content in the samples was ascertained. Another batch of samples was partially reduced for different lengths of time in a stream of H_2, to a color varying from dark blue to almost black. The partial reduction resulted in samples with an O deficit ranging from 1.20 to 6.80 at. % O, corresponding to formulas from $TiO_{1.98}$ to $TiO_{1.86}$, resp., as ascertained by the gain of wt. on re-oxidation. On heating in air, thermograms of the partially reduced TiO_2 showed a large exothermal oxidation effect in the range 438–840°, and disappearance of the coloring. The exothermal effect disappeared completely on heating in the mildly reducing atm. maintained by the presence of a few lumps of C. The sp. elec. cond. σ, measured at 20°, increases with the length of the reduction, varying from 3.21 ohm^{-1} $cm.^{-1}$ for annealed TiO_2 reduced 0.5 hrs. in CO to 24.7 for unannealed and reduced 4 hrs., and from 15.9 for TiO_2 reduced 0.5 hrs. in H_2 to 93 ohm^{-1} $cm.^{-1}$ after 6 hrs.' reduction in H_2. Samples reduced in H_2 have a higher σ than those reduced in CO, and samples made with annealed TiO_2 have a higher σ than do unannealed. Except for occasional transitory anomalies, σ increases with the temp., and, as a rule, the pos. temp. coeff. of σ decreases with increasing extent of the reduction. Plots of log σ as a function of $1/T$

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are not linear, i.e. the preexponential factor A in $\sigma = A_1 e^{-\Delta E_1/2kT}$ is not temp.-independent; linearity is restored if the temp. dependence of A is taken into account by $\sigma = A_2 T^{-3/2} e^{-\Delta E_1/2kT}$. By the slopes of the tangents, the electron dissocn. energy ΔE_1, around room temp., is less than 0.2 e.v.; ΔE_1 increases with increasing A_1. The thermoelec. e.m.f. α (measured against Cu) is neg. throughout, i.e. all the TiO_2 samples are electronic conductors. Around room temp., α decreases with increasing length of reduction; for samples reduced in CO, α varies from 415 microv./degree for 0.5 hr. to 254 for 4 hrs., and for samples reduced in H_2, from 303 for 0.5 hr. to 63 for 6 hrs. With increasing length of reduction, the temp. coeff. of α passes from neg. (typical for semiconductors) to pos., which corresponds to the concn. n of electrons increasing with the temp. slower than 7%. No Hall effect could be detected; judging by the sensitivity of the app., the Hall const. must be smaller than 2×10^{-2} cc./coulomb, which corresponds to n greater than $(3-4) \times 10^{20}$/cc. and a mobility u of the order of $10^{-1} - 10^{-2}$ cm.^{2}/v. sec. If the effective mass m^* of the electrons in partially reduced TiO_2 were identical with the mass m_0 of the free electron, n (calcd. from the exptl. α) would be $5 \times 10^{18} - 5 \times 10^{19}$/cc., and, with u of the order of 10-100 cm.^{2}/v. sec., σ would be of the order of 10-500 ohm^{-1} cm.$^{-1}$, in agreement with the exptl. data, but then the Hall effect should be easily detectable. This discrepancy indicates a substantially greater n, and, consequently, on account of the high α, the effective mass m^* must of necessity be substantially greater than m_0; this, in turn, corresponds to smaller u, which accounts for the relatively low σ. The ratio m^*/m_0 can be estd. roughly with the aid of a model in which the 2 electrons around the pos. vacancy (produced by the absence of O^{--} in a lattice point) are treated as a He-like atom, with the ionization energy $E = (24 \times 4\pi/\epsilon^2)(m^*/m_0)$ e.v., where ϵ = dielec. const.; E is identified with ΔE = dissocn. energy of impurity electrons. Detns. of ϵ for the original TiO_2 and for reoxidized partially reduced TiO_2, in 1000 hertzes, gave $\epsilon = 87.5$ and 67.5, resp.; assuming, for a TiO_2 sample reduced 0.5 hrs. in CO, $\epsilon = 90$, and with the exptl. $\Delta E_2 = 0.108$ e.v., one finds $m^*/m_0 = 18$, i.e., at any rate, the effective m^* is substantially greater than m_0. "Electrons" of such high m^* are more correctly referred to as polarons, in the sense of the theory of Pekar (cf. P. and Deigen, *C.A.* **43**, 3717*d*). Values of α calcd. with the aid of the estd. m^* agree with the exptl. α only for weakly reduced TiO_2 samples. The observed correlation between A and ΔE, of the type of the Meyer-Neldel (*C.A.* **32**, 2419[3]) linear relation between log A and ΔE, can be interpreted by the known depressing effect of impurities on ϵ of TiO_2, with increasing concn. of impurity centers, i.e. with increasing A, the dielec. const. ϵ decreases, and, consequently, ΔE (which is inversely proportional to ϵ^2) increases.

N. Thon

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

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APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

FD-3196

USSR/Physics - Semiconductors

Card 1/1 Pub. 153-5/28

Author : Vasenin F. I.

Title : Thermoelectric properties of alloys of the antimony-tellurium type

Periodical : Zhur. Tekh. Fiz., 25, No 7, 1190-1197, 1955

Abstract : Study of Sb-Te alloys revealed a slow decrease of thermo-e.m.f., dropping sharply in vicinity of stoichiometric ratio. Powder metallurgy facilitated the production of homogenous Sb-Te alloys with raised thermo-e.m.f. and conductivity. Thermal analysis proved that the m.p. of intermetallic compound is below the m.p. of Sb and equals 612°C. One foreign, one USSR references.

Institution :

Submitted : November 30, 1954

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, F.I.

B-5

USSR/Crystals.

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 18243

Author : F.I. Vasenin, P.F. Konovalov.
Title : Ionization X-ray Study of Bismuth Telluride Structure

Orig Pub : Zh. tekhn. fiziki, 1956, 26, No 7, 1406-1414

Abstract : With a view to investigate the nature of the sign inversion of the thermo-emf, an x-ray study of the structure of the Bi - Te alloy near the stoichiometric composition Bi_2Te_3 was carried out. The thermo-emf was measured before the alloy was pulverized (for preparing samples for x-ray photographing) by the method of compensation. The x-ray photographing was carried out with an ionization installation described previously (RZhKhim, 1955, 9087), Cu radiation with a Ni filter was used. A connection between the inversion of the sign of the thermo-emf and a redistribution of the relative intensity of lines was established. In alloys with the positive thermo-emf,

Card 1/2

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

112-57-8-16887

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1957, Nr 8, p 135 (USSR)

AUTHOR: Vasenin, F. I.

TITLE: From an Operating Experience (Iz opyta raboty)

PERIODICAL: Tr. 1-to soveshchaniya po termografii (Transactions of the First Conference on Thermography), Kazan', 1953, Moscow-Leningrad, Izd-vo AN SSSR, pp 48-52, report 52

ABSTRACT: To eliminate the effect of furnace line-supply voltage fluctuations on the results of a thermographic analysis that employed a differential recording of temperatures of 1,000 to 1,500° C, a third thermocouple was used with a mirror galvanometer that showed the temperature rise in the standard-containing crucible. A smooth uniform temperature rise in the furnace was attained by means of an automatic rheostat with variable-diameter wire consisting of a number of soldered sections. The rheostat drum was driven by a synchronous motor through a worm gear. The same end was attained by a regulating transformer whose slider was controlled by an electric motor through a reduction gear.

A.S.E.

Card 1/1

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

15-1957-3-3137

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 3, p 103 (USSR)

AUTHOR: Vasenin, F. I.

TITLE: Determination of the Nature of Cements by Thermal Analyses (Opredeleniye prirody tsementov metodom termicheskogo analiza)

PERIODICAL: Tr. 1-go soveshchaniya po termografii. Kazan', 1953. Moscow-Leningrad, Izd-vo AN SSSR, 1955, 308-313. Vystupleniya, 313.

ABSTRACT: The differential thermal curves of five samples of Portland cement, very similar among themselves, show two endothermic effects with maximums at 115° to 125° (expulsion of hygroscopic, adsorption, and hydrated water of silica and calcium silicates) and at 540° to 550° (dehydration of the hydrate of lime). If tripoli or sand is added during grinding, the endothermic effect at 540° to 560° disappears and an exothermic effect occurs at 880° to 920°, due to the recrystallization of free alumina. Under such circumstances, the area affecting the dehydration of calcium silicates is increased at the expense of losing the effect of dehydration of lime hydrate, and the maximum of the silicate reaction is

Card 1/2

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

Determination of the Nature of Cements by Thermal Analysis

shifted in the direction of higher temperatures. The thermal curves of alumina and aluminum-silicate cements, rarely distinguished on thermal curves of Portland cement, are very similar to each other in the type and temperature of the effects. They all have one large, complex endothermic effect in the range of 100° to 400°. Against the background of this effect, three deflections are distinguished, reflecting the step-like loss of water combinations which had formed subsidiary cement. The expulsion of combined water occurs in stages at 110° to 130°, 180° to 200°, and 280° to 300°. In samples of cemented aggregate several years old, the separate deflections against the background of the general endothermic effect become faint or disappear entirely. The thermal curves were obtained by heating the samples at the rate of 10°/minute. The sample consisted of 10 grams of powder produced from hardened cement or from concrete. The standard--alumina--was heated to 1300°. All the differential curves were obtained under uniform experimental conditions.

Card 2/2

Ye. P.V.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, N.

Reorganizing wages in the retail trade. Sov.torg. no.6:11-15 Je '57. (MLRA 10:8)
(Retail trade) (Wages)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, N.

Prepare for the change-over to a shortened workday.
Obshchestv.pit. no.12:1-2 D '59. (MIRA 13:4)

1. Nachal'nik otdela truda i zarabotnoy platy Ministerstva torgovli RSFSR.
(Hours of labor)
(Restaurants, Lunchrooms, etc.--Employees)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, N.

"Economics of commerce." Reviewed by N.Vasenin. Sov. torg. 36 no.11:44-46 N '62. (MIRA 16:1)

(Retail trade)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, N.

Indices of labor productivity. Sov. torg. 36 no.4:23-25 Ap '63. (MIRA 16:5)

(Retail trade--Labor productivity)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

BEK-KAZAROV, P.T., dots.; VASENIN, N.I.; KAMINSKIY, Ya.A., dots.; ORLOV, G.F., dots.; PASHKOV, B.I., dots.; SEREBRYAKOV, S.V., prof.; FEL'DMAN, I.M., dots.; STARCHAKOVA, I.I., red.; MAMONTOVA, N.N., tekhn. red.

[The organization and techniques of trade]Organizatsiia i tekhnika torgovli. [By]P.T.Bek-Kazarov i dr. Moskva, Gostorgizdat, 1962. 464 p. (MIRA 16:2)

1. Nachal'nik otdela truda i zarabotnoy platy Ministerstva torgovli RSFSR (for Vasenin).

(Commerce)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, Nikolay Ivanovich; ZHARENKOV, Ye.V., red.; EL'KINA, E.M., tekhn. red.

[Wages for the workers of state commerce]Oplata truda rabotnikov gosudarstvennoi torgovli. Moskva, Gostorgizdat, 1962. 66 p. (MIRA 16:3)

(Wages) (Russia—Commerce)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

FOMIN, Georgiy Yakovlevich; V[illegible]ENIN, N.I., red.; [illegible]'YUSHIN, A.P., red.

[Work and wages in state commerce; collection of regulatory materials] Trud i zarabotnaia plata v gosudarstvennoi torgovle; sbornik rukovodiashchikh materialov. Izd.3., perer. Moskva, Ekonomika, 1964. 302 p. (MIRA 17:8)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, R.M.

Vasenin, R.M. -- "The Effect of Ions of Alkali Metals on the Process of the Electrodeposition of Copper." Cand Chem Sci, Moscow Chemoco-technological Inst, Moscow 1953. (REFERATIVNYY ZHURNAL -- KHIMIYA No 1, Jan 54)

Source: SUM 168, 22 July 1954

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, V.M.

Chem Abs, v. 48, 1-10-54 Electrochemistry

Chem 6 (3)

Polarization for the deposition of copper from solutions of simple salts. S. V. Gorbachev and V. M. Vasenin (D. I. Mendeleev Chem.-Technol. Inst., Moscow). *Zhur. Fiz. Khim.* 27, 201-7(1953); cf. *C.A.* 46, 10970d.—The cathodic polarization, ΔE, of Cu in 0.05–0.1 M $CuSO_4$ at a const. c.d., I, had a min. near 60°; the region 0°–90° was investigated. This effect was not due to hydrolysis of $CuSO_4$ since a min. (although less pronounced) of ΔE was observed also in 0.1 M $CuSO_4$ + 0.02 M H_2SO_4. At a const. ΔE, the curves of log I against $1/T$ (T was abs. temp.) showed a max. each (at T_m). If I_m was the max. value of I and $\tau = T_m/T$, the equation $\log (I/I_m) = 3n[\log \tau - 0.4343(\tau - 1)]$ was approx. valid. The av. no., n, of atoms in a crystal nucleus was 30–150 depending on T and ΔE. Thus, the polarization was due to retardation of growth of a new phase. J. J. Bikerman

AF 7-27-54

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

Chem Abs, v. 48
1-10-54
Electrochemistry

B
2

— The possibility of calculating the potentials of zero charge. R. M. Vasenin (D. I. Mendeleev Inst. Chem.-Technol., Moscow). *Zhur. Fiz. Khim.* 27, 878-88(1953).—The potential ϵ of zero charge (i.e. of the electrocapillary max.) for different metals are a linear function of the work function φ (computed preferably from the photoelec. effect); the best approximation is $\epsilon = -4.25 + 0.86\varphi$. Thus, 4.25 v. would be the p.d. between *N* H electrode and an imaginary metal whose $\varphi = 0$. If the ϵ's are found from the electrocapillary max. in molten salts, the equation $\epsilon = -4.2 + 0.77\varphi$ results. The standard electrode potentials *E* are not a definite function of φ but are not far from a curve $E = -4.25 + 0.204\,e^{0.7\varphi}$ v. The p.d. due to the ionic double layer can be calcd. from *E* and ϵ. J. J. Bikerman

6/8/54
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APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASILIY, B.V.

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
Gorbachev, S.V. Khomutov, N. Ye. Izmaylov, A.V. Starostenko, Ye.P. Vasenin, B.V. Zhuk, N.P.	"Investigations in the Field of the Kinetics of Electrochemical Reactions"	Moscow Chemicotechnological Institute imeni D.I. Mendeleyev

SO: W-30604, 7 July 1954

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, R.M.

USSR/Chemistry - Electrodeposition

Card 1/1 Pub. 147 - 19/26

Authors : Gorbachev, S. V., and Vasenin, R. M.

Title : Effect of potassium ions on the copper electrodeposition process

Periodical : Zhur. fiz. khim. 28/1, 135-146, Jan 1954

Abstract : The polarization of a Cu electrode during Cu deposition in the presence of potassium ions of various concentrations, introduced in the form of K_2SO_4, was investigated. A connection between the phase-polarization and other forms of polarization and the gradual conversion of the phase polarization into concentrational was observed during an increase in the potential which occurs during constant potassium ion concentration and during increase in potassium ion concentration at a constant potential. The effect of K^+ on the activation energy of concentrational polarization is explained. The current density in all instances, with exception of high temperatures or low potentials, was found to be decreasing under the effect of K_2SO_4. Twenty-one references : 20-USSR and 1-German (1917-1953). Graphs; drawings.

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

Submitted : April 10, 1953

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, R.M.

MINDOVICH, Ye.Ya.

Some remarks on the article of R.M.Vasenin "Possibilities of calculating zero-charge potentials." Zhur.fiz.khim. 28 no.4:757-759 Ap '54. (MLRA 7:8)

1. Politekhnicheskiy institut, Kafedra fizicheskoy khimii, Gdan'sk (Pol'sha)
(Potential, Theory of) (Electrochemistry)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, R. M.

USSR/Chemistry - Physical chemistry

Card 1/1 Pub. 147 - 18/27

Authors : Vasenin, R. M.

Title : In answer to the comments by E. Ya. Mindovich (Discussion)

Periodical : Zhur. fiz. khim. 28/9, 1672-1675, Sep 1954

Abstract : The comments made by E. Ya. Mindovich regarding the report entitled, "About the Possibility of Calculating Zero Charge Potentials", are rebutted by the author (R. M. Vasenin). Facts are presented showing that the value and sign of an electrode surface-charge is determined by the relative position of the normal electrode-potential and the potential of the zero charge. Examples supporting these facts are listed. In rebutting the comments the author points out that a normal electrode potential of Ni is more positive than the electrode potential of Cd. Fifteen references: 14-USSR and 1-USA (1928-1954). Table.

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

Submitted : March 20, 1954

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

Vasenin, R. M.

USSR/ Chemistry - Electrodeposition

Card 1/1 Pub. 147 - 13/25

Authors : Gorbachev, S. V., Vasenin, R. M.

Title : The effect of lithium ions on the process of Cu electrodeposition

Periodical : Zhur. fiz. khim. 28/10, 1795-1803, Oct 1954

Abstract : The conversion of phase polarization into concentrational and chemical polarization was established experimentally during the study of cathodic polarization during Cu deposition in the presence of lithium ions. The effect of Li_2SO_4 concentrations and temperature on cathodic polarization, during Cu deposition in the presence of Li-ions, is explained. The dependence of the current density upon the concentration of the foreign electrolyte was investigated in the presence of Li-ions. The increase in the rate of the electrode process in the presence of Li ions was found to be connected with the structural changes in the hydrate shell of the reacting ion caused by the hydration of the foreign cations. Nine USSR references (1930-1954). Table; graphs.

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

Submitted : February 21, 1954

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

USSR/ Chemistry - Physical chemistry

Card :

Authors :

Title :

Periodical : Zhur. fiz. khim., [illegible]

Abstract :

Submitted : April 20, 1954

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, R.M.

USSR/Chemistry -- Physical chemistry

Card 1/1 : Pub. 147 - 8/22

Authors : Vasenin, R. M., and Gorbachev, S. V.

Title : Effect of Na-ions on the Cu electrodeposition process

Periodical : Zhur. fiz. khim. 28/11, 1922-1927, November 1954

Abstract : A study of cathodic polarization during Cu deposition in the presence of Na-ions revealed a smooth transformation of the phase polarization into concentrational, followed by an increase in the applied potential. Results obtained by adding a certain amount of Na-ions into the copper sulfate solution are described. The relation between the increase in the rate of the electrode process and the degree of Cu-ion hydration, which takes place under the effect of secondary cation hydration, is explained. The thermal dependence of viscosity and electrical conductivity of the solutions was investigated and the results are tabulated. Six USSR references (1930-1954). Table; graphs.

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

Submitted : February 21, 1954

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, R.M.

USSR/Chemistry - Physical chemistry

Card 1/1 : Pub. 147 - 9/22

Authors : Gorbachev, S. V., and Vasenin, R. M.

Title : Effect of Rb and Cs-ions on the Cu electrodeposition process

Periodical : Zhur. fiz. khim. 28/11, 1928-1934, November 1954

Abstract : Experiments were conducted to determine the effect of Rb and Cs-ions on the cathode process of Cu-deposition. The effect of Rb and Cs salt addition to the solution on the electrode polarization and current density is explained. The increase in the effective activation energy, observed during the increase in cesium sulfate concentration, reaches a maximum only at low potentials and high addition-concentrations. The relation between the secondary cation concentration, at which the rate of origination of metal crystallites is equal to the rate of feeding and discharge of metal ions, and the nature of the secondary cation, is discussed. Five USSR references (1943-1954). Tables; graphs.

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

Submitted : February 21, 1954

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

USSR/Chemistry - Metallurgy

Card 1/2 : Pub. 147 - 10/27

Authors : Vasenin, R. M., and Gorbachev, S. V.

Title : Effect of alkali-metal ions on the Cu electrodeposition process

Periodical : Zhur. fiz. khim. 28/12, 2156-2169, Dec 1954

Abstract : The factors which must be taken into consideration during the study of the effect of foreign cations on the Cu electrodeposition process are discussed. It was found that the attraction intensity of ions depends upon their deformability in the electrical field of the electrode. An increase in the ion electron polarization coefficient is followed by an increase in the reaction energy between the ion and the metal surface which in turn increases the cathode polarization and reduces the current density. Foreign cations of greater hydration energy and low polarization coefficient increase the rate of the electrode process. It was established that the effective activiation energy of

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

Zhur. fiz. khim. 28/12, 2156-2169, Dec 1954 (Additional Card)

Card 2/2

Abstract : concentrational polarization is the linear function of the electron polarization coefficient which in turn depends upon the polarizability of the foreign cation. Twenty-two USSR references (1930-1954). Tables; graphs

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

Submitted : February 21, 1954

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VOK'FKOVICH, Seman Isaakovich, akademik; VASENIN, R.M., redaktor izdatel'-stva; POLIVANOVA, Ye.B., tekhnicheskiy redaktor

[Chemistry in agriculture] Khimiia i sel'skoe khoziaistvo. Moskva, Izd-vo Akademii nauk SSSR, 1956. 87 p. (MLRA 9:8)
(Agricultural chemistry)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, R.M.

USSR/Physical Chemistry - Electrochemistry B-12

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 3952

Author : Vasenin R.M.
Title : Dependence of Overvoltage on Electrode Material

Orig Pub : Zh. fiz. khimii, 1956, 30, No 3, 629-638

Abstract : The author expounds the notion concerning the decisive influence of magnitude and sign of the potential of double ionic layer upon kinetics of processes of electrolytic evolution and ionization of hydrogen and oxygen. There is proposed an empirical equation which formulates a quantitative correlation between hydrogen over voltage η, values of double ionic layer potentials and metal-hydrogen bond energy. In the opinion of the author the notions advanced by him explain the known empirical regularities that correlate the η of hydrogen with quantities which characterize the nature of the electrode metals, including also with the potentials of zero

Card 1/2

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

USSR/Physical Chemistry - Electrochemistry B-12

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 3952

charge of metals, electron emission work, compressibility and atomic radii. On the basis of an analysis of experimental data reported in the literature, there is noted the existence of a certain correlation between η of oxygen and the double ionic layer potential of oxygen electrode.

Card 2/2

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, R.M.

Concentration dependence of the diffusion coefficient of organic substances in polymers. Vysokom.soed. 2 no.6:851-856 Je '60. (MIRA 13:6)

1. Moskovskiy tekhnologicheskiy institut legkoy promyshlennosti.
(Polymers) (Diffusion)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

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VASENIN, R.M.

Diffusion coefficient and the nature of the diffusing molecules. Vysokom.soed. 2 no.6:857-863 Je '60. (MIRA 13:6)

1. Moskovskiy tekhnologicheskiy institut legkoy promyshlennosti.
(Diffusion) (Polymers)

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S/190/61/003/005/002/014
B101/B218

AUTHOR: Vasenin, R. M.

TITLE: Adhesive pressure in the diffusion theory of adhesion of polymers

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 5, 1961, 679-685

TEXT: Based on the diffusion theory of S. S. Voyutskiy (Ref. 2: Autogeziya i adgeziya vysokopolimerov (self-adhesion and adhesion of high polymers), Gostekhizdat, M., 1960), the author studied the adhesion of polymers. Mutual diffusion occurs on contact of two polymers. The strength of the resulting adhesion (adhesive pressure) is proportional to the quantity of end groups of diffuse macromolecules and to the depth of their diffusion. The mutual diffusion to depth n_1, n_2 is given by

$$F_{adh} = 0.5N^{2/3}m\nu v\left\{\left[(2 + p_1)\varrho_1/M_1\right]^{2/3}n_1 + \left[(2 + p_2)\varrho_2/M_2\right]^{2/3}n_2\right\} \quad (5),$$

(N = Avogadro number, m = mass of atomic group, ν = collision frequency of the group with neighboring molecules, v = tearing rate, p_1, p_2 = number of

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branchings of the macromolecule, ϱ_1, ϱ_2 = density, and M_1, M_2 = molecular weight of the two polymers). On the strength of the second Fick law, a number of groups diffusing during the time t is calculated from $\partial c/\partial t = D(t)\partial^2 c/\partial x^2$ (6) (D = coefficient of diffusion, c = concentration), and the new variable T is introduced: $dT = K_D(1 - \beta)t^{1-\beta}dt$ (7) ($\beta \neq 1$) so that one obtains: $\partial c/\partial T = \partial^2 c/\partial x^2$ (8). The author derives $c = c_o(1 - x/\sqrt{\pi T})$ (12). For $x = 0.5c$ it follows that $x = (\sqrt{\pi}/2)\sqrt{T}$ (13). From Eq. (7), it follows that $T = K_D t^{1-\beta}$ (14), By substituting (14) in (13) one finds $x = (\sqrt{\pi}/2)\sqrt{K_D t^{1-\beta}}$ (15). Since for a molecule of maximum stretch $x = nl\cos\alpha/2$ (16), $n = \sqrt{\pi K_D t^{1-\beta}}/2l\cos\alpha/2$ (17), Eq. (5) assumes the form $F_{adh} = (N^{2/3}\sqrt{\pi}/4l\cdot\cos\alpha/2)m\nu\left\{\left[(2 + p_1)\varrho_1/M_1\right]^{2/3}\sqrt{K_{D_1}} + \left[(2 + p_2)\varrho_2/M_2\right]^{2/3}\cdot\sqrt{K_{D_2}}\right\} v\cdot t^{(1-\beta)/2}$ (18). In the case of polymers containing only the groups CH_3, CH_2, CH, Eq. (18) is reduced to $F_{adh} = 5.55\nu\left\{\left[(2 + p_1)\varrho_1/M_1\right]^{2/3}K_{D_1}^{1/2}\left[(2 + p_2)\varrho_2/M_2\right]^{2/3}K_{D_2}^{1/2}\right\} vt^{(1-\beta)/2}$ (19),

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and for self-adhesion one obtains

$$F_{self} = 11.1\ \nu\sqrt{[(2+p)c/_M]^{2/3}K_D^{1/2}}\ vt^{(1-\beta)/2} \quad (20).$$

Since experimental data are missing for K_{D_1} and K_{D_2}, the author restricts himself to calculating the strength of self-adhesion from Eq. (20). Fig. 1 shows the result obtained for polyisoprene of varying molecular weight. Here, the author assumed: $\nu = 10^{13}\ sec^{-1}$; $v = 0.445$ cm/sec; $p = 0$; $q = 1$; $\beta = 1/2$ (at 25°C). K_D was set equal to the absolute value of the diffusion coefficient D of the isoprene link in polyisoprene (at 25°C):

$$D = (D_1/n\sigma)(2n - q)/(2n - 2q) \quad (21)$$

(D_1 = diffusion coefficient of methane at 25°C, n = number of C atoms, q = number of double bonds in the molecule, σ = relative cross section of the molecule, γ = constant which, for polyisoprene, is equal to 1). It was found that $K_D = 2 \cdot 10^{-7}\ cm^2/sec^{-3/2}$. A discussion of the calculated values has shown that the adhesive pressure is directly proportional to the 2/3 power of the actual branchings of the molecule, inversely proportional to the same power of the molecular weight, and directly proportional to the

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tearing rate; further, it increases with time following a parabolic law. The curve of Fig. 1 for polyisobutylene shows diffusion as a function of the nature of the polymer. The author thanks S. S. Voyutskiy for discussions B. V. Deryagin is mentioned. There are 4 figures and 14 references: 7 Soviet-bloc and 7 non-Soviet-bloc. The 4 most recent references to English-language publications read as follows: J. Crank, The Mathematics of Diffusion, Oxford, 1956; S. Prager, E. Bagley, F. A. Long, J. Amer. Chem. Soc., 75, 1255, 1953; A. Aitken, R. M. Barrer, Trans. Faraday Soc., 51, 116, 1955; R. J. Kokes, F. A. Long, J. L. Hoard, J. Amer. Chem. Soc., 75, 6142, 1953,

ASSOCIATION: Moskovskiy tekhnologicheskiy institut legkoy promyshlennosti (Moscow Technological Institute of the Light Industry)

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Adhesive pressure ...

Fig. 1: F_{self} as a function of time for polyisoprene of varying molecular weight. Legend: 1) Molecular weight $0.5 \cdot 10^6$; 2) 10^6; 3) $1.5 \cdot 10^6$; 4) $2.0 \cdot 10^6$; 5) $5.0 \cdot 10^6$; 6) polyisobutylene $0.5 \cdot 10^6$; a) $F_{self} 10^{-6}$ dyne·cm^{-2}.

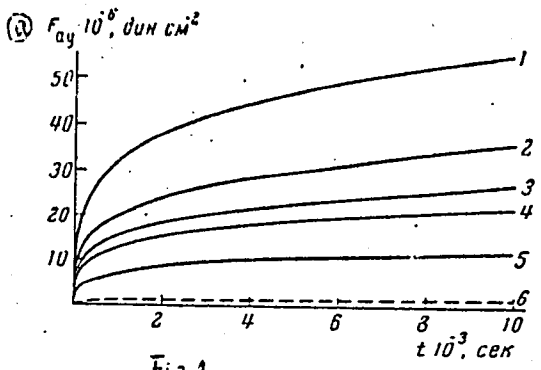

Fig.1

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VASENIN, R.M.

Diffusion coefficient and the nature of diffusing molecules. (MIRA 14:9)
Vysokom.soed. 3 no.8:1220-1223 Ag '61.

1. Moskovskiy tekhnologicheskiy institut legkoy promyshlennosti.
(Diffusion) (Polymers)

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VASENIN, R.M., kand. khim. nauk, dotsent

Some problems of the theory of the adhesion of high polymers. Nauch. trudy MTILP no.26:46-68 '62. (MIRA 17:5)

1. Kafedra fizicheskoy i kolloidnoy khimii Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

ACCESSION NR: AR4042245 S/0081/64/000/008/S019/S019

SOURCE: Ref. zh. Khimiya, Abs. 8S97

AUTHOR: Vasenin, R. M.

TITLE: Work of separation in diffusion theory of adhesion of polymers

CITED SOURCE: Sb. Vy* sokomolekul. soyedineniya. Adgeziya polimerov. M., AN SSSR, 1963, 17-22

TOPIC TAGS: polymer, adhesion, diffusion theory, adhesion diffusion theory

TRANSLATION: Gives a quantitative treatment of the adhesion diffusion theory, based on following positions: autoadhesion and adhesion of mutually soluble polymers is the result of intermolecular interaction of diffusing parts of the molecules; end segments play a basic role in diffusion; work of separation includes not only the expenditure of energy on breaking the adhesional bonds but also the expenditure of energy on elastic deformations of polymer chains. Expressions are obtained

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ACCESSION NR: AR4042245

for the work of separation at small and great depth of interpenetration of macromolecules. The question of the mean value of depth of penetration, that is, of the length of the diffusing part of macromolecule, which is in the surface layer of the other polymer, is considered. Also considered is the change in the coefficient of diffusion caused by the continuous increase in the length of the diffusible part of the macromolecule. It was determined that, depending upon depth of penetration, the relative role of the work of adhesion and that of the work of elastic deformations change. At small depth (time of contact is small), the work of separation is determined only by the work of adhesion, and at great depth, by the work of elastic deformations. The equations derived connect the work of separation with the time of contact of samples, the molecular weight and mobility of molecules (flexibility, branching, nature of substitutes, etc.). At a small depth of penetration, the work of separation is the reciprocal of the molecular weight of the polymer to the 1/3 power, and at great depth, to the 2/3 power. The limit of applicability of equations and the moment of time at which there occurs the change in the mechanism of destruction of adhesion bond are determined. It is a function of the magnitude of the chemical and molecular forces and mobility of the macromolecules.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

ACCESSION NR: AR4042247 S/0081/64/000/008/S019/S019

SOURCE: Ref. zh. Khimiya, Abs. 8S99

AUTHOR: Vasenin, R. M.

TITLE: The role of elastic deformations of polymer chains in adhesion, studied by the separation method

CITED SOURCE: Sb. Vy*sokomolekul. soyedineniya. Adgeziya polimerov. M., AN SSSR, 1963, 12-16

TOPIC TAGS: polymer chain, adhesion, elastic deformation

TRANSLATION: During separation of an adhesional compound formed by means of interpenetration of chains, there occurs straightening of the macromolecules diffusing from one sample of polymer to another, their elastic deformation and extraction or breaking off along chemical bonds. The (amount of) energy necessary for carrying out each of these processes depends on the depth of interpenetration of the macromolecules. It was determined that with a small depth of penetration the work of separation is determined by the energy expended on surmounting intermolecular forces,

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while at great depth, when chains are broken along chemical bonds, by (the energy expended) on elastic deformation of macromolecules. The energy entering in the straightening of chains (elastic deformation) is, at any depth of penetration, less than the remaining component of work of separation. Calculations show that the energy of elastic deformation attains a magnitude of 10^5 to 10^6 erg/cm^2, is equal to the work of separation only in the case when deformation are subjected macromolecules containing in their chains a main valence of 10^5 and more bonds. Therefore it is assumed that as a result of interlacing of chains in the process of deformation, during separation the macromolecules of both samples nearest to the discontinuity are involved, and elastic deformations start to play a decisive role with a smaller depth of penetration. From author's abstract.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

ACCESSION NR: AR4042246 S/0081/64/000/008/S010/S010

SOURCE: Ref. zh. Khimiya, Abs. 8S98

AUTHOR: Vasenin, R. M.; Gromov, V. K.; Vakula, V. L.; Voyutskiy, S. S.

TITLE: Kinetics of the establishment of autoadhesion bond between polymers of different molecular weight

CITED SOURCE: Sb. Vy*sokomolekul. soyedineniya. Adgeziya polimerov. M., AN SSSR, 1963, 52-57

TOPIC TAGS: polymer, autoadhesion bond

TRANSLATION: The method of separation is used to investigate the kinetics of formation bond adhesion of five fractions of polyisobutylene with molecular weights of $0.75 \cdot 10^6$ to $2.4 \cdot 10^6$. Work of separation increases with time of contact by exponential law. The less the molecular weight of the fraction, the faster will the autoadhesion bond will be formed. An increase in the contact temperature has an analogous influence. Experimental data are compared with theoretical curves

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[illegible], K.M., kand. khim. nauk, [illegible]

Kinetics of the sorption of vapors and liquids [illegible].
Nauch. trudy MTILP no.27:76-92 '63. (MIRA 17:11)

1. Kafedra fizicheskoy i kolloidnoy khimii Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, R.M.

Kinetics of the swelling of polymers. Vysokom. soed. 6 no.4: 624-629 Ap '64. (MIRA 17:6)

1. Moskovskiy tekhnologicheskiy institit legkoy promyshlennosti.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, R.M.

Continuous method for the kinetic study of the swelling of polymers. (MIRA 17:10)
Vysokom.soed. 6 no.9:1700-1703 S '64.

1. Moskovskiy tekhnologicheskiy institut legkoy promyshlennosti.

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CHERNOVA, I.V.; VASINKIN, R.M.

Diffusion of alcohols in polyamide. Vysokom.soed. 6 no.9:1704-1707 S '64. (MIRA 17:10)

1. Moskovskiy tekhnologicheskiy institut legkoy promyshlennosti.

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KUZNETSOV, A.R.; VASENIN, R.M.; PAVLOV, N.N.

Kinetics of swelling of SKS-30-1 latex films. Koll. zhur. 26 no.6:692-696 N-D '64 (MIRA 18:1)

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CHALYKH, A.Ye.; VASENIN, R.M.

Diffusion of solvents in polyisobutylene. Vysokom. soed. 7 no.4:586-592 Ap '65. (MIRA 18:6)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858720004-6

VASENIN, R.M.; CHALYKH, A.Ye.; KOBOBKO, V.I.

Moving boundary problem in diffusion in the polymer - solvent systems. Vysokom. soed. 7 no.4:593-600 Ap '65.
(MIRA 18:6)

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