"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

S/659/62/008/000/018/028
I048/I248

AUTHORS: Kalikhman, V.L., Umanskiy, Ya.S., and Chirikov, N.V.

TITLE: A study of the appearance and growth of diffusion porosity during the evaporation of the volatile component from some nickel-based alloys

SOURCE: Akademiya nauk SSSR. Institut metallurgii, Issledovaniya po zharoprochnym splavam. v.8. 1962. 127-131

TEXT: Equations for calculating the size and amount of submicro diffusion pores in metals and alloys from small-angle x-ray scattering data are derived. These equations were used to calculate the diffusion porosity of Ni-26.9% Mn and Ni - 27.6% Zn alloys. The alloy specimens (foil 30 microns thick) were heated in vacuo to 800-1100°C to evaporate the more volatile component. The pore size increased at first with increasing time at the elevated temperature, reached a maximum and decreased thereafter. The pores could be classified into two groups according to size; the maximum sizes are 400 angstrom in the first and 1500 angstrom in the second group.

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S/659/62/008/000/018/028
I048/I248

A study of the appearance and growth...

It is assumed that the growth of the pores is an autocatalytic process during the first stages of evaporation; the rate of growth decreases with time during to the exhaustion of the vacancy sources within the alloy. The fraction of diffusion porosity in the total porosity amounts to 18-20% in the specimens subjected to evaporation at 800°C and decreases with both time and increasing temperature. There are 4 figures.

Card 2/2

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

UMANSKIY, Ya.S.; CHIRIKOV, N.V.

Correction for the divergence in small-angle X-ray scattering. Fiz. met. i metalloved. 16 no.3:480-481 S '63. (MIRA 16:11)

1. Moskovskiy institut stali i splavov.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

UMANSKIY, Ya.S.; CHIRIKOV, N.V.

Chromatic error for low-angle scattering of X rays. Fiz. met. i metalloved. 18 no.4:635-637 O '64. (MIRA 18:4)

1. Moskovskiy institut stali i splavov.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

UMANSKIY, Ya.S.; CHIRIKOV, N.V.

Certain errors during the use of the small-angle scattering of X rays. Zav. lab. 30 no.11:1357-1360 '64 (MIRA 18:1)

1. Moskovskiy institut stali i splavov.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

L 1628-66 EWT(m)/EWP(t)/EWP(b) IJP(c) JD/JW/JG

ACCESSION NR: AP5021945

UR/0126/65/020/002/0310/0313
620.183.48

AUTHOR: Umanskiy, Ya. S.; Chirikov, N. V.

TITLE: Concentration inhomogeneities in deformed copper-aluminum and copper-beryllium alloys

SOURCE: Fizika metallov i metallovedeniye, v. 20, no. 2, 1965, 310-313

TOPIC TAGS: concentration inhomogeneity, deformed alloy, dissolved atom segregation, small angle scattering, X ray scattering, scattering angle, activation energy, packing defect

ABSTRACT: Segregations of dissolved atoms form on packing defects in between extended partial dislocations; all the previous studies of this effect have been performed after deformation. Therefore, it was of interest to investigate the effect of deformation. In this connection, on the basis of the findings of Cahn and Davies (Phil.Mag., 1960, 5, 59, 1119), who investigated small-angle X-ray scattering for foil having the composition Cu + 15 at.% Al, deformed 70% and tempered at 200 and 250°C, the authors calculated the activation energies of the

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L 1628-66

ACCESSION NR: AP5021945

formation of segregations. The calculations were based on the assumption that the segregations have roughly identical dimensions and that an equal intensity of small-angle X-ray scattering corresponds to their equal number, i.e. all the systems are in identical state. This assumption was verified for the alloy Cu + 2.4 % wt. Be. If the systems are in identical state, the curves of small-angle X-ray scattering must be of the same type. A formula is derived for the time needed by a system to attain a given j-th state and, on this basis, on comparing the time τ_{1j} of attaining one and the same state j of the system, i.e. one and the same intensity of small-angle X-ray scattering for some scattering angle at different temperatures, the activation energy may be calculated from the formula

$$Q_j = k\frac{T_1T_2}{T_2-T_1}\ln\frac{\tau_{2j}}{\tau_{1j}}. \qquad (1)$$

where k is the gas constant. The different states of a system succeed each other and correspond to the succeeding stages of the formation of segregations. Thus, for the 1st, 2nd, and 3rd j states the activation energies proved to be 13, 20, and 34 kcal/mole, respectively. The increase in activation energy in time reflects

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L 1528-66

ACCESSION NR: AP5021945

4

the physical nature of the process. Cold deformation is accompanied by the appearance of excess vacancies, rise of a stress gradient, increase in the concentration of dislocations, and, under certain conditions, increase in the concentration of packing defects. On the formation of concentration inhomogeneities owing to diffusion relaxation the lattice will repair itself. Since different types of defects disappear at different rates and the mechanism of their participation in the diffusion (and hence also the activating energy) differs, the change in the relative concentration of different defects will lead to a change in the activation energy. The role played by different defects in diffusion in deformed metals may, in its turn, be evaluated according to the activation energy of the process. Orig. art. has: 3 figures, 2 tables, and 3 formulas.

ASSOCIATION: Moskovskiy institut stali i splavov (Moscow Institute of Steel and Alloys)

SUBMITTED: 30Sep64 ENCL: 00 SUB CODE: MM, SS

NO REF SOV: 001 OTHER: 009

Card 3/3

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

UMANSKIY, Ya.S.; CHIRIKOV, N.V.

Concentration inhomogeneity in deformed copper-aluminum and copper-beryllium alloys. Fiz. met. i metalloved. 20 no.2 310-313 Ag '65. (MIRA 18:9)

1. Moskovskiy institut stali i splavov.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

SMIRENSKIY, Georgiy Mikhaylovich, inzh.; CHIRIKOV, Nikolay Gavrilovich, inzh.; ARTEMENKO, Mikhail Pavlovich; SHASHKOV, S.A., kand. tekhn.nauk, red.

[Foundations on short pilings in housing construction; practices of the "Riazan'zhilstroi" Trust] Fundamenty na korotkikh svaiakh v zhilishchnom stroitel'stve; iz opyta tresta "Riazan'zhilstroi." Moskva, Gosstroiizdat, 1963. 40 p. (MIRA 17:7)
1. Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu. 2. Nachal'nik tekhnicheskogo otdela tresta "Ryazan'zhilstroy" (for Smirenskiy). 3. Upravlyayushchiy trestom "Ryazan'zhilstroy" (for Chirikov). 4. Glavnyy inzhener tresta "Ryazan'zhilstroy" (for Artemenko).

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRIKOV, P.V.

CHIRIKOV, P.V.

Emery wheel for trueing, sharpening and cutting saw teeth. Rats. i izobr. predl. v stroi. no.103:7-8 '54. (MLRA 8:11)
(Saws) (Emery wheels)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRIKOV, T.V.

"Phosphoric Anhydride as Assimilated by Plants from Sparingly Soluble Soil Phosphates," Dok. AN, 42, No. 9, 1943.

K.K. Gedroitz All-Union Inst. of Fertilizers, Agricul. and Soil. Sci. c1943-.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRIKOV, V.I.

SEREBRYAKOV, G.I., inzhener; CHIRIKOV, V .I.inzhener.

Automatic temperature regulator for raw water after preheating in silica removal devices. Elek.sta. 28 no.1:77 Ja '57. (MLRA 10:3)

(Boilers) (Automatic control)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

ACCESSION NR: AP4042210 S/0020/64/157/002/0388/0391

AUTHOR: Vaynshteyn, E. Ye.; Chirkov, V. I.; Vinogradov, A. P., Academician

TITLE: The structure of x-ray $K\beta_5$ —lines emitted by titanium in its oxides ($TiO_{0.85}$ - $TiO_{1.20}$)

SOURCE: AN SSSR. Doklady*, v. 157, no. 2, 1964, 388-391

TOPIC TAGS: x ray emission lines, titanium monoxide, x ray spectrum, fine structure

ABSTRACT: The purpose of this study was to investigate the fine structure of x-ray $K\beta_5$ -line emitted by titanium in specimens which correspond to titanium monoxide composition. X-ray studies were conducted on six samples of the following compositions: $TiO_{0.850}$; $TiO_{0.912}$; $TiO_{1.020}$; $TiO_{1.072}$; $TiO_{1.178}$; $TiO_{1.191}$. In addition Ti spectrum was studied in nitride close to stoichiometric composition, which similar to titanium monoxide has the NaCl type structure. The temperature during studies was 80 - 100 C. The results of experiments are shown in Figures 1 and 2 of the enclosure. The position of $K\beta_5^{III}$ band in the titanium spectrum in all compositions remains essentially constant. The greatest differences in the

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ACCESSION NR: AP4042210

structure of K_{β_5} band of titanium in lower oxides, corresponding to different intervals of changes of index n, are associated with the difference of the relative intensity of band components. "The authors express their gratitude to S. M. Airy and Ya. V. Vasil'yev for preparation of specimens and L. I. Perevalova for the help with the experimental part". Orig. art. has: 4 figures and 1 table.

ASSOCIATION: Institut neorganicheskoy khimii Sibirskogo otdeleniya Akademii nauk SSSR (Institute of Inorganic Chemistry Siberian Branch Academy of Sciences SSSR)

SUBMITTED: 28Feb64 ENCL: 02

SUB CODE: OP NO REF SOV: 002 OTHER: 006

Card 2/4

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

ENCLOSURE: 01

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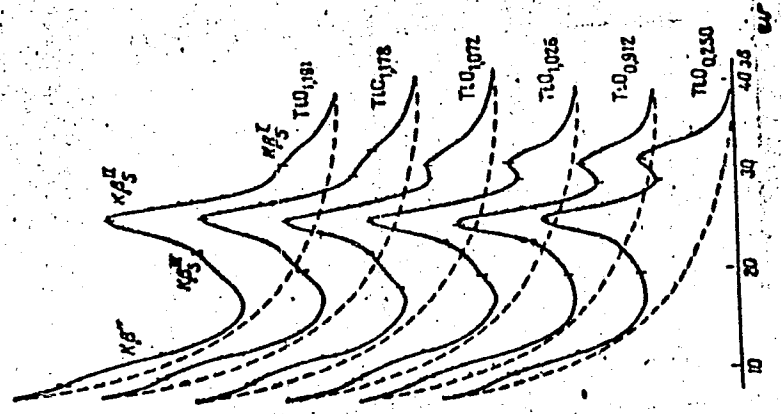

Fig. 1. The structure of the last K_β-emission bands of Ti in lower oxides (experimental curves).

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ACCESSION NR: AP4042210

ENCLOSURE: 02

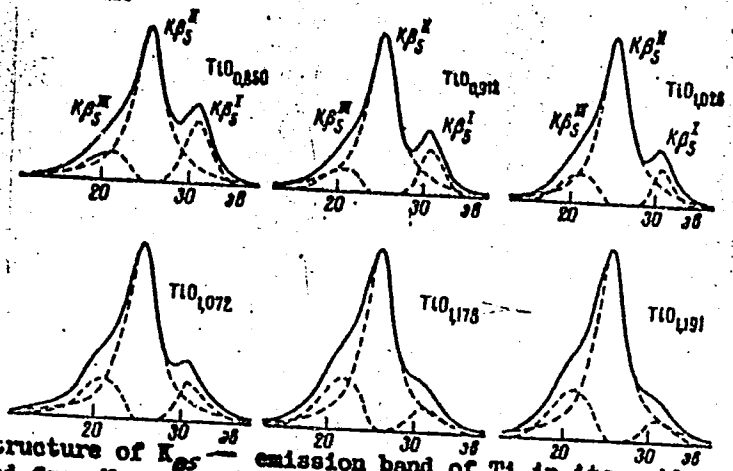

Fig. 2. Fine structure of $K_{\beta 5}$ — emission band of Ti in its oxides after removal of the background from K_{β_1} – line and after reduction to the same scale (according to the integral intensity of K_{β_1} -line). Dotted lines indicate components of the band.

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CR

4

Surface hardening with high frequency current by the Vologdin method. V. T. Chirikov. *Avtotraktornoe Pelo* 1939, No. 2-3, 20-5; cf. *C. A.* 33, 3699[4].—Before surface hardening with high-frequency currents the proper structure must be obtained by heat-treatment. Microstructures of various objects after high-frequency hardening indicate that the size of the pearlite grains and the width of the ferrite lattice are the chief factors influencing the quality of the hardened layer. Coarse-grained pearlite and ferrite gave a lower hardness than fine-grained structure. The application of the Vologdin method is illustrated with data on the hardening of crankshafts of steel 1045.

B. Z. Kamich

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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PROCESSES AND PROPERTIES INDEX

9

Ch

Nitrocementation of steels. V. Chirikov. *Novosti Tekhniki* 1940, No. 3-4, 27-9.—Nitrocementation was carried out at 600, 650, 725, 775, 830 and 880° with cementing steels and noncementing medium-C steels and mixts. of pyrolysis gases of various compns. obtained from kerosine and NH_3 in different proportions. At temps below the crit. points (600-700°) the absorption of C is very slow, while the surface becomes austenitic and enriched with N. Mixts. contg. 30% NH_3 and 70% cementing gas were found best. Treatment with such mixts. for 90 min. at 600-700° produced a nitrocemented layer of 0.1 mm. thickness and a surface scale consisting of ε- and γ'-phases and having a high brittleness. For nitrocementation at 820-830° the layer thickness reached 0.2-0.3 mm. after 90 min. and 0.4-0.5 mm. after 3-4 hrs. The specimens which were hardened directly after nitrocementation had a structure of austenite and martensite needles. The amt. of austenite increased with the thickness of the nitrocemented layer and the duration of nitrocementation. Specimens of small cross sections can be cooled in air to give a Rockwell hardness of 54-60.

B. Z. K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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9

CA

New chromium-manganese steel. V. Chirikov and E. Malinkina. *Vestnik Tekhniki* 1940, ~~No. 10, 15-17.~~ — The steel ZIS 20X3 contg. C 0.18-0.25, Mn 0.3-0.6, Cr 2.7-3.3, S 0.03 and P 0.04% was investigated with a view toward utilizing it as a substitute for the Cr-Ni steel 3312 and Cr-Mn-Mo steel 18KhGM. The steel was tested in pinions of automobiles and gave satisfactory results. At present the following method of treatment is used: forging at 1200-1250°, normalization at 900 ± 10° (hardness after normalization 4.2-4.6 mm.), carburizing at 900-920, hardening from the carburizing furnace to 850-860° in oil and tempering at 200-220° for 90 min. H. Z. K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRIKOV, V. T.

The nitro-cementation of cutting tools from high-speed steel and its substitutes, Moskva, Gos. nauch.-tekhn. izd-vo mashinostroit. lit-ry, 1942. 34 p. (50-40141)

TN734.C5

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRIKOV, V. T., YAKHONIN, N. Y., GARASHCHENKO, A. F., Engineers

*"Nitro-Cementation and Cyaniding", Stanki I Instrument, 14, No. 4-5, 1943.

BR-52059019.

*Excerpts from their reports:

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

PROCESSES AND PROPERTIES INDEX

9

CA

Use of chromium-manganese-titanium steel 18KhGT for cemented automobile gears. V. I. Pryadilov, V. T. Chirikov, and A. B. Shevelev (Stalin Auto Works, Moscow). *Avtomobil'naya Prom.* 1946, No. 11/12, 11-15.—In this steel the Cr and Ni contents were reduced to 1.0-1.4 and up to 0.3%, resp. It is alloyed with 0.05-0.15% of Ti and contains no Mo or V. The purpose of the Ti is to induce small grain structure and to prevent overheating during cementation. This steel is cheaper, requires little or no scarce alloying metals, and fully equals the costlier Cr-Ni steels. Test data are quoted. M. Hosch

METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRIKOV, V. T., Engineer

"Nitriding of Cutting Tools and Automobile Parts." Sub 18 Dec 47, Moscow Automotive Mechanics Inst

Dissertations presented for degrees in science and engineering in Moscow in 1947

SO: Sum No. 457, 18 Apr 55

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRIKOV, V. T.

Nov/Dec 1948

USSR/Steel, Chromium-manganese
Gears

"Use of Chrome-manganese-titanium 18KhGT Steel for Case-hardened Auto Gears," V. I. Pryadilov, V. T. Chirikov, A. Ye. Shevelev, 4 pp

"Avtomobil'naya Promyshlennost'" No 11/12

Detailed technical discussion of chemical composition of 18KhGT steel, metallurgical properties, grain and temperability, mechanical properties and microstructure after heat treatment, effect of microstructure after heat treatment, effect of protracted soaking during case-hardening on resistance to excess heating, technological properties, and why 18KhGT steel is superior for auto parts.

PA 12T34

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRIKOV, V.T.

Efficiency, Industrial

Methods for raising the quality and increasing labor productivity in the production of case-hardened gears. Avt.trakt.prom., no. 7, 1952.

MONTHLY LIST OF RUSSIAN ACCESSIONS, LIBRARY OF CONGRESS, NOVEMBER 1952. UNCLASSIFIED.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRIKOV, V. T.

"Theory and Practice of Cementation of Steel Parts," Podshipnik, No.7, 1952

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRIKOV, V.T.

Regulation of the cyaniding process. Podshipnik '53, No.3, 19-25. (MLRA 6:3)
(CA 47 no.19:9889 '53)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRIKOV, V. T.

"Increasing strength and durability of cemented motor-car gears wheels" a paper presented at International Conference on Fatigue of Metals, London, Sep. 56.

DSI. No. 103

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRIKOV, V.T.

1.

PHASE I BOOK EXPLOITATION SOV/1558

Moscow. Dom nauchno-tekhnicheskoy propagandy im. F.E. Dzerzhinskogo

Sovremennyye splavy i ikh termicheskaya obrabotka (Contemporary Alloys and Their Heat Treatment) Moscow, Mashgiz, 1958. 329 p. 12,000 copies printed.

Additional Sponsoring Agency: Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSFSR.

Ed. (Title page): Yu. A. Geller, Doctor of Technical Sciences; Ed. (Inside book): V.V. Rzhevinskiy, Engineer; Tech. Ed.: B.I. Model'; Managing Ed. for Literature on Metal Working and Tool Making; E.D. Beyzel'man, Engineer.

PURPOSE: The book is intended for engineering and technical personnel of heat-treatment shops and test laboratories of machine-building plants.

COVERAGE: This collection of 28 articles, compiled by 33 authors, aims to acquaint the reader with modern practice in the heat treatment of steels. The authors are primarily concerned with the development of various types of structural, tool, and heat-resistant steels and with the use of their alloying elements. Materials-handling equipment is described at some length. The treatment of alloys, particularly those of titanium, also comes within the scope of the collection. The book is thoroughly diagrammed, and a good deal of the material is shown in graphical form. Among the problems dealt with are the minimization of deformations, the introduction of the automatic control of heat-treating equipment, together with fully mechanized tool manufacture, and the optimum proportions of different alloying elements. There are numerous tables and drawings. Bibliographic listings placed at the end of chapters are predominantly Soviet. The articles comprising this collection are reports delivered at a conference held in the Scientific and Technical Propaganda House imeni F.E. Dzerzhinskiy in Moscow.

Contemporary Alloys and Their Heat Treatment SOV/1558

Perel'man, Ye. G. Proper Selection of Steels for Case-hardened Parts 93

Chirikov, V.T. Initial Data for Selecting Regimes for the Carburizing and Heat Treatment of Case-hardened Parts 104

Kalinin, A.T. A Modern Carburizing Agent for Gas Carburizing and Cyaniding 116

Rakhmatdt, A.G., O.N. Meshcherinova, and V.V. Zikiyev. Properties and Heat Treatment of Boron-alloyed Spring Steels 132

Geller, Yu. A. Improvements in the Composition and Heat Treatment of Tool Steels 149

Volkov, A.M. An Investigation of E1603 Low-Alloy Steel as a Material for Cutting Tools 171

Ivanov, A.G. New Types of High-speed Steel 175

Golovin, G.F. Hardening and Tempering of High-speed Steels With Induction Heating 178

Card 4/6

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

SOV/123-59-15-59775

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1959, Nr 15, p 125 (USSR)

AUTHORS: Chirikov, V.T., Moiseyeva, M.I.

TITLE: Nitrocementation With Triethanolamine and Its Field of Application

PERIODICAL: Tekhnol. podshipnikostroyeniya, 1958, Nr 17, pp 107 - 113

ABSTRACT: A comparative test of steels of the grades 20, 20KhZ, 12Kh2N4A and 18KhGT subjected to nitrocementation (NC), solid and gas cementation and liquid cyaniding on the Shkoda-Savin machine at a load of 4.5 kg with cooling, showed at 3,000 revolutions of the disc that the highest resistance to wear for all the steels is obtained after NC. NC in shaft furnaces with triethanolamine (TEA) was studied. The cracking of TEA at a temperature of 500°C gives a gas of the following components (in %): CH_4 - about 20; CO - about 30; H_2 - about 30; NCN - about 20. It is recommended to add TEA in the following quantities (drops per minute):

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SOV/123-59-15-59775

Nitrocementation With Triethanolamine and Its Field of Application

Furnace	Initial hours	Following hours
Ts 35 and Ts 60	80	20
Ts 90 and Ts 105	120-180	40 - 60

The ideal temperature of NC for the steel grades 10, 20Kh, 18KhGT, 20KhZF, 20Kh2NA and ShKh15 is 860°C. The layer of NC at a temperature of 860°C and soaking up to 10 hours after hardening consists of austenite and martensite; if soaking takes place more than 10 hours or if more TEA is added, carbon nitrides will appear, particularly in steels containing carbide-forming components. A refining of the steel before NC (for the steel grade ShKh 15 annealing) results in a more favorable shape and arrangement of the carbon nitrides. Steels which are alloyed with carbide-forming components maintain, after NC, oil-hardening and cold treatment (-75°C for 1 hour), R_C 50 up to an annealing temperature of 400 - 450°C. For the manufacture of heat-resisting bearings it is recommended to use the steel grades Kh4V4F, Kh4V6F, Kh4V9F with a C-content of approximately 0.30% after NC. In order to obtain these steels with a hardness of R_C 25 - 31, which would facilitate their machining by cutting, they receive a refining treatment consisting of hardening at a temperature of 1,050°C and subsequent annealing at 680°C for 6 hours. After NC at 860°C and oil hardening 1,150°C with a thrice repeated annealing at 550°C for one hour

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SOV/123-59-15-59775

Nitrocementation With Triethanolamine and Its Field of Application

the R_C of the core is approximately 48, which excludes a punching of the NC layer. The hardness of the NC layer for steel of the Kh4VF grade under these conditions is approximately R_C 55. 7 figures.

S.A.V.

Card 3/3

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CHIRIKOV, V.T.

P.4

PHASE I BOOK EXPLOITATION SOV/3220

25(5)

Vsesoyuznyy nauchno-issledovatel'skiy institut po normalizatsii v mashinostroyenii

Novoye v tekhnologii mashinostroyeniya (New Developments in Machine Designing) Moscow, Mashgiz, 1959. 222 p. (Series: Its: Trudy, vyp. 1) Errata slip inserted. 5,500 copies printed.

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

Ed.: G.B. Lur'ye, Doctor of Technical Sciences, Professor; Ed.: L.G. Prokof'yeva; Tech. Ed.: A.F. Uvarova; Managing Ed. for Literature on Machine Building and Instrument Construction: N.V. Pokrovskiy, Engineer.

PURPOSE: This book is intended for engineers and technicians in machine-building plants, design and planning enterprises, and scientific research organizations for machine-building technology. It may also be used by aspirants and students of advanced courses in Institutions of Higher Education and technical schools for machine building.

COVERAGE: The collection contains 10 articles which describe the theoretical

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and experimental work by the All-Union Scientific Research Institute for Normalization in Machine-Building (formerly VNIITMASh), carried out in 1956-1957 to investigate new equipment designs and progressive technique for manufacturing machine parts in different branches of general machine building: hydraulic equipment building, textile- and sewing-machine manufacturing, etc. The article by N.Ye. Chernis which discusses a system of machine fitting using "Universal fixture attachments" (copyrighted in the Soviet Union by V.S. Kuznetsov and V.S. Ponomarev under Nr. 75777), may be of special interest. References accompany each article.

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New Development in Machine Designing SOV/3220

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SIDOROV, I.A., inzh.; CHIRIKOV, V.T., kand.tekhn.nauk

Case hardening of fluted rollers. Trudy VNIINMASH no.1:212-223 '59. (MIRA 13:5)

(Case hardening) (Spinning machinery)

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CHIRIKOV, V. T.

PHASE I BOOK EXPLOITATION SOV/5291

Soveshchaniye po kompleksnoy mekhanizatsii i avtomatizatsii tekhnologicheskikh protsessov v mashinostroyenii. 2d, Moscow, 1956

Avtomatizatsiya mashinostroitel'nykh protsessov. t. III: Obrabotka rezaniyem i obshchiye voprosy avtomatizatsii (Automation of Machine-Building Processes. v. 3: Metal Cutting and General Automation Problems) Moscow, Izd-vo AN SSSR, 1959. 296 p. (Series: Its: Trudy, t. 3) 4,700 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut mashinovedeniya. Komissiya po tekhnologii mashinostroyeniya.

Resp. Ed.: V. I. Dikushin, Academician; Ed. of Publishing House: V. A. Kotov; Tech. Ed.: I. P. Kuz'min.

PURPOSE: This collection of articles is intended for technical personnel concerned with the automation of the machine industry.

COVERAGE: This is Volume III of the transactions of the Second Conference on the Full Mechanization and Automation of Manufacturing Processes in the Machine Industry, held September 25-29, 1956. The transactions have been published in three volumes. Volume I deals with the hot pressworking of metals, and volume II, with the actuation and control of machines. The present volume deals with the automation of metal machining and work-hardening, and with general problems encountered in automation. The transactions on the automation of metal-machining processes were published under the supervision of F. S. Demyanok and A. M. Karatygin, and those on the automation of work hardening processes, under the supervision of E. A. Satel' and M. O. Yakobson. No personalities are mentioned. There are no references.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

S/137/62/000/012/063/085
A006/A101

AUTHORS: Chirikov, V. T., Krupennikov, V. S., Moiseyeva, M. I.

TITLE: Low-carbon chrome-tungsten carburizing heat-resistant steels

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 12, 1962, 130, abstract 12I801 ("Tr. N.-i. i eksperim. in-ta podshipnik. prom-sti, 1960, 1 (21), 3 - 14)

TEXT: The authors studied heat-resistant steel grades 10 X4 B 19 Φ (10Kh4V19F), 15 X 4 B 8 Φ (15Kh4V8F), 15X 4 B 18Φ (15Kh4V18F) and 3X 2B 8 (3Kh2V8). It is recommended to use the aforementioned carburizing steels for deforming and cutting tools, rings, heat-resistant bearings and other parts operating at up to 400°C. The following optimum content of components is recommended (in %): C 0.2 - 0.3, V 1, W 10 - 18, Cr 4. An increase of the indicated C amount raises the hardness of the part core as a result of the martensite transformation of austenite during the tempering process. A reduction of the C amount < 0.15% in steel containing > 18% W, leads to dispersion hardening of the core at high-temperature tempering, and to losses in ductility. Best results are obtained

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by the heat treatment of the investigated steels according to the following conditions: carburizing at 930 - 1,050°C to a depth determined by the purpose of the part; quenching from 1,150 - 1,250°C; triple tempering at 500 - 600°C depending upon the W and C content in the steel.

M. Bronfin

[Abstracter's note: Complete translation]

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BAYKOV, S.P., kand. tekhn. nauk; BELENKO, I.S., kand. tekhn. nauk; BELKOV, S.F., inzh.; BELYANCHIKOV, M.P., inzh.; BERNSHTEYN, I.L., inzh.; BOGORODITSKIY, D.D., inzh.; BOLONOVA, Ye.V., kand. tekhn. nauk; BROZGOL', I.M., kand. tekhn.nauk; VLADIMIROV, V.B., inzh.; VOLKOV, P.D., kand. tekhn. nauk; GERASIMOVA, N.N., inzh.; ZHUKHOVITSKIY, A.F., inzh.; KABANOV, M.F., inzh.; KANEVTSOV, V.M., kand. tekhn. nauk; KOLOTENKOV, I.V., inzh.; KONDRAT'YEV, I.M., inzh.; KUZNETSOV, I.P., kand. tekhn. nauk; L'VOV, D.S., kand. tekhn. nauk; LYSENKO, I.Ya., kand. tekhn. nauk; MAKAROV, L.M., inzh.; OLEYNIK, N.D., inzh.; RABINER, Ye.G., inzh.; ROZHDESTVENSKIY, Yu.L., kand. tekhn. nauk; SAKHON'KO, I.M., kand. tekhn. nauk; SIDOROV, P.N., inzh.; SPITSYN, N.A., prof., doktor tekhn. nauk; SPRISHEVSKIY, A.I., kand. tekhn. nauk; CHIRIKOV, V.T., kand. tekhn nauk; SHEYN, A.S., kand. tekhn. nauk; NIBERG, N.Ya., nauchnyy red.; BLAGOSKLONOVA, N.Yu., inzh., red. izd-va; SOKOLOVA, T.F., tekhn. red.

[Antifriction bearings; manual] Podshipniki kacheniia; spravochnoe posobie. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 828 p. (MIRA 15:2)
(Bearings (Machinery))

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24551

S/182/61/000/008/002/005
D038/D113

1.1710

AUTHORS: Ivanov, P.A.; Chirikov, V.T.

TITLE: Hot extrusion of carburized steel parts

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, no. 8, 1961, 5-8

TEXT: The present work is a supplementary research to an earlier investigation by one of the authors (Ref. 6: P.A. Ivanov, Kuznechno-shtampovochnoye proizvodstvo, no. 11, 1960) on a new technological process in which carburizing and hot plastic deformation are combined. It is stated that the grain growth, during high-temperature carburizing, becomes considerably finer and better in texture during subsequent pressure working. The depth of carburizing is expressed thus: $h = 285 \exp\left(-\frac{7280}{T}\right)\sqrt{\tau}$, (1), where h is the depth of the carburized layer in mm, T is the absolute carburizing temperature, and τ is the soaking time per hour. According to the formula (1) a 2.3 hr soaking time at 1100°C instead of a 16 hr one at 930°C was sufficient for carburizing in a 2 mm deep layer. A lubricant on a benzene and propylene polymer base mixed with graphite is advocated. It is claimed that the new

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24551

Hot extrusion of carburized steel parts

S/182/61/000/008/002/005
D038/D113

process would eliminate lengthy production processes, and could be used for the continuous mass production of various carburized steel parts such as ball bearing rings, certain automobile parts, etc. There are 4 figures, 1 table, and 7 references: 5 Soviet and 2 English references. The two references to English language publications read as follows: P.M. Unterweiser, "What controls are needed for accelerated carburizing?", Iron Age, No. 3, Vol. 183, 1959; H.N. Ipsen, "High temperature carburizing", Metallurgia, No. 354, 1959.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

S/182/62/000/004/003/006
D038/D113

18.1110

AUTHORS: Ivanov, P.A. and Chirikov, V.T.

TITLE: Testing steels for strength at high deformations

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, no. 4, 1962, 4-6

TEXT: Annealed specimens of 15Г (15G), 18ХГТ (18KhGT) and 3 experimental steels were tested for uniaxial compression. The best approximation to the linear compression diagram was obtained by upsetting cylindrical specimens provided with oil-filled face grooves. The curves of true stress were plotted during compression. The final equation for calculating the deformation is given:

$$\sigma = \frac{P}{f_o}(1 - \varepsilon), \qquad (6)$$

where σ is the compression stress; P - the pressure; f_o - the flowing area

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of the cross section of the specimen, and ε - the degree of deformation. The adherence to the linear diagram of the strained state should serve as a basis for plotting the diagram of true stresses in conformity with the compression energy diagrams. It is concluded that several important characteristics can be derived by uniaxial tests on cylindrical specimens. There are 2 figures and 2 tables.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

S/775/62/002/000/003/011

AUTHOR: Chirikov, V. T.

TITLE: A scheme for the sequence programming of hot-deformation and chemical- and heat-treatment operations in an automatized production line.

SOURCE: Avtomatizatsiya protsessov mashinostroyeniya. t. 2: Goryachaya obrabotka metallov. Moscow, Izd-vo AN SSSR, 1962, 152-157.

TEXT: The VNIPP and the Laboratory for Pressure Forming of the IMash (Institute of the Science of Machines), AS USSR, have investigated the problem of the sequence programming of the operations of cementation (CC), hot deformation (HD), and quench-hardening (QH), of parts made of low-C steel. The sequence adopted produces a fine-grain steel structure and, incidentally, affords promise of a significant increase in CC temperature and, hence, a reduction in CC time. The advantages of surface-hardened low-C steel in comparison with hard high-C steels are listed and explained: Smaller losses in metal, easier machining, better control of microstructure. CC can be accelerated by increasing CC temperature (data tabulated), provided that the growth in grain size occasioned by the high-T CC is counteracted by a reduction in grain size by HD immediately following the CC.

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Thus, a single heating serves CC, HD, and QH. Inasmuch as the grain size depends on the degree of HD, and the HD, in turn, depends on the change in shape effected, the shape of the billet and of the operative surfaces of the pressure tool must be chosen to achieve the desired microstructure everywhere. Specific example: Ball-bearing races (BBR) made of ШХ-15 (ShKh-15) steel. This steel is ordinarily forged at 1,050°C; upon QH it exhibits an objectionable large-grain martensitic structure (microphoto). A finer structure is achieved by heating to only 930° in a neutral gas atmosphere to prevent surface decarbonization and oxidation; however, QH immediately after HD produces an acicular martensitic structure. A crystal-line martensitic structure with uniformly-distributed spheroidal excess carbides is achieved by post-deformation cooling to 550°, heating to 820°, final QH, and low-T temper. Good results are attained by an inclusion of these requirements in a line-type programming. The HD of the cemented parts results in the formation of a fine-grain troostite-sorbite structure in the core, replacing the large-grain and macro-acicular structure existing there. The structure of the cemented surface layer subjected to HD is somewhat less favorable (details explained and microphotos shown). The use of naturally-fine-grain steels is preferred, since the carbide net-work and the size of the austenitic grains is more dispersed in them than in the cemented layer of a large-grain steel. A batch of experimental BBR was made of the eminently suitable, case-hardenable, fine-grain steel 18ХГТ (18KhGT). In a

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first stage the parts were cemented to 1.5 mm at 1,050°C, reheated to 930° for profile rolling, and subjected to quick oil quench. The carburized layer acquired a finely-acicular martensitic microstructure (R_C 62), the core a fine-grain low-C martensitic structure (R_C 46). There are 4 figures, 1 (unnumbered) table, and 5 Russian-language Soviet references.

ASSOCIATION: None given.

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L 55968-65 EWT(d)/EWT(m)/EWP(w)/EWP(c)/EWA(d)/EWP(v)/EPR/T/EWP(t)/EWP(k)/

ACCESSION NR: [illegible]

SOURCE: [illegible] ya mashinostroyeniya. Svodnyy [illegible]

AUTHORS: [illegible] Borodina, M. I.

TITLE: The influence of nitrogen case hardening on the quality of bearings

CITED [illegible] konstrukt., tekhnol. in-ta [illegible] no. [illegible]

TOPIC TAGS: nitrogen, case hardening, bearing, carbon, carbon[illegible]

TRANSLATION: Data on the working quality improvement after nitrogen [illegible] of bearing parts made of steel ShKh15 are presented. These data [illegible] of this process as compared with the method used abroad, involving [illegible] neutral atmospheres obtained from endothermic gas. A method for [illegible] process of nitrogen case hardening was developed. This method may produce nitrogen case hardened layers 0.05 to 3.00 mm thick on the [illegible] of rings and rollers made of steel ShKh15. Such layers contain a [illegible] tration of carbon and nitrogen which does not form the brittle [illegible] 25 illustrations. 5 tables. Bibliography 5 entries.

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

15

CA

CHIRIKOV, YU. F.

Increasing the coefficient of activity of physiologically acid nitrogen fertilizers by liming. F. V. Turchin and Yu. F. Chirikov. *Chemisation Socialistic Agr.* (U. S. S. R.) 8, No. 8, 40-50(1930).—Addns. of $CaCO_3$ to physiologically acid N salts, like $(NH_4)_2SO_4$, NH_4Cl or NH_4NO_3, increase the efficiency of these in acid soils. Large quantities of phosphate act in a manner similar to lime. On acid soils these salts decrease the coeff. of phosphate utilization by plants. When the physiologically produced acid is neutralized by $CaCO_3$ on podzol soils the phosphate content of the plants increases. J. S. Joffe

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CA CHIRIKOV, YU. F.

Methods of determining absorption capacity of carbonate soils. S. N. Aleshin and Yu. F. Chirikov. *Chemisation Socialistic Agr.* (U. S. S. R.) 1939, No. 8, 38-9.—The Gedroiz K_2CO_3 method is modified by coagulating the org. matter extd. The modification is carried out as follows: Place 5-10 g. of air-dry soil in a 300-cc. Erlenmeyer flask, add 250 cc. of 0.1 *N* K_2CO_3, shake for 1 hr., and allow to stand for 24 hrs. Siphon off the supernatant liquid and add to 50-cc. aliquots 60 cc. of 0.1 *N* HCl, and heat the soln. to boiling. The excess acid ppts. the org. matter and the supernatant clear liquid can be back-titrated with alkali with either phenolphthalein or bromocresol purple as indicator. The differences in titrations give the K_2CO_3 used to sat. the exchange complex. J. S. J.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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CHIRIKOV, YU. F.

CA

11 D

Diurnal course of ethereal oil formation in mint. Yu. F. Chirikov. *Doklady Akad. Nauk S.S.S.R.* 73, 405-7 (1950).—The formation of the oil occurs only during the day and is accompanied by formation of acids. The mere detn. of oil content does not reflect the true situation because of variation of the state of hydration of the plant.

G. M. Kosolapoff

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRIKOV, Yu. F.

"Effect of Surrounding Conditions on the Formation of Essential Oils in Mint Leaves." Cand Biol Sci, Moscow Agricultural Academy imeni K. A. Timiryazev, Moscow, 1954. (RZhBiol, No 4, Feb 55)

SO: Sum. No. 631, 26 Aug 55-Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14).

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dynamic analysis of the results indicates that ethynyl acetate forms directly from C_2H_2 and the dimer of AcOH, whereas vinyl acetate forms from C_2H_2 and monomeric AcOH.

G. M. Kosolapoff

FLID, R.M.; KRASOTKIN, A.Ye.; SHPICHINETSKAYA, L.S.; CHIRIKOVA, A.V.; BELYY, A.P.; BARATS, M.I.; KRUPTSOV, B.K.; BELYANINA, Ye.T.

Effect of alcaline admixtures on catalytic oxidation of primary alcohols to aldehydes. Khim.nauk i prom. 3 no.5:683 '58.

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova.
(Alcohol) (Oxidation) (Catalysts)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRIKOVA, A. V. Cand Chem Sci -- (diss) "Studies in the field of the gas-phase synthesis of vinyl acetate." Mos, 1959. 10 pp (Min of Higher Education USSR. Mos Inst of Fine Chem Technology im M. V. Lomonosov), 150 copies (KL, 41-59, 103)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

5(3) SOV/156-59-1-29/54

AUTHORS: Flid, R. M., Basova, R. V., Chirikova, A. V.

TITLE: The Kinetics of the Catalytic Synthesis of Vinyl Acetate in the Presence of Zinc Aluminate (Kinetika kataliticheskogo sinteza vinilatsetata v prisutstvii alyuminata tsinka)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 1, pp 117-119 (USSR)

ABSTRACT: Previous works of the authors (Refs 1 and 2) suggested the possibility of a selective synthesis of vinyl acetate. Different from industrial production a surplus of acetylene was not used but the ratio C_2H_2 : CH_3COOH was equal to or less than 1, whereby the capacity of the contact mechanism is much increased and the separation of vinyl acetate is facilitated. The kinetics was investigated in the temperature interval 230-270° . In the first test run the acetylene partial pressure was varied and the acetic acid partial pressure maintained constant. In the second test run $p_{C_2H_2}$ = const. and p_{CH_3COOH} variable. The tabulated data show that the reaction depends neither on the partial pressure of acetylene nor on

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SOV/156-59-1-29/54

The Kinetics of the Catalytic Synthesis of Vinyl Acetate in the Presence of Zinc Aluminate

that of acetic acid. Therefore the reaction rate can be described by a second order kinetic equation: $U = K \cdot p_{C_2H_2} \cdot p_{CH_3COOH}$.

From the tabulated experimental data obtained at different temperatures (230°, 250°, 270°) $E = 22{,}000 \pm 600$ cal was calculated as activation energy. There are 3 tables and 2 Soviet references.

ASSOCIATION: Kafedra tekhnologii osnovnogo organicheskogo sinteza Moskovskogo instituta tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Chair of Technology of Basic Organic Synthesis of the Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov)

SUBMITTED: July 4, 1958

Card 2/2

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

5(3) SOV/80-32-3-34/43

AUTHORS: Flid, R.M., Chirikova, A.V.

TITLE: On the Possibility of a Catalytical Gas-Phase Synthesis of Vinylacetate at the Stoichiometric Ratio of the Reaction Components (O vozmozhnosti provedeniya gazofaznogo katalitycheskogo sinteza vinilatsetata pri stekhiometricheskom sootnoshenii komponentov reaktsii)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol XXXII, Nr 3, pp 660-663 (USSR)

ABSTRACT: The synthesis of vinylacetate in the gaseous phase by catalysts in the molar ratios $C_2H_2 : CH_3COOH = 1 : 1$ and $1 : 2$ is investigated here. Optimum results were obtained at temperatures of 270-275°C. The volume rate was 250-300 l per liter of catalyst and hour. The degree of conversion of acetic acid is 30% and of acetylene 60% at a selectivity of 96-98%. The output per 1 liter of catalyst and hour is 6-7 times higher than that of the present methods. The molar ratio 1 : 2 gives better and more constant results.

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SOV/80-32-3-34/43

On the Possibility of a Catalytical Gas-Phase Synthesis of Vinylacetate at the Stoichiometric Ratio of the Reaction Components

There are 3 tables and 4 references, 3 of which are Soviet and 1 American.

SUBMITTED: July 5, 1957

Card 2/2

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

80673

S/153/60/003/02/26/034
B011/B006

5.1190
5.3200

AUTHORS: Flid, R. M., Chirkova, A. V., Raskina, G. V., Basova, R. V.

TITLE: Investigation in the Field of the Catalytic Synthesis of Vinyl Acetate in the Vapor Phase

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1960, Vol. 3, No. 2, pp. 343-351

TEXT: The authors investigated the thermodynamics of the catalytic reaction of acetylene and acetic acid and found that two parallel reactions take place, i.e. monomeric acetic acid reacts with acetylene to give vinyl acetate, while dimeric acetic acid and acetylene form ethylidene diacetate. The direction of the reaction is determined by the relative amounts of monomer and dimer contained in the acetic acid. ZnO on Al_2O_3 was used as catalyst. It is shown in Table 8 that the activity of the catalyst is all the greater, the lower the roasting temperature of the latter was. Catalysts roasted at 400° have the highest activity. The authors proved that catalytic synthesis of vinyl acetate in the vapor phase using molar ratios of C_2H_2: CH_3COOH = 1:1 and 1:2 is possible. Zinc acetate on

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30673

Investigation in the Field of the Catalytic Synthesis of Vinyl Acetate in the Vapor Phase

S/153/60/003/02/26/034
B011/B006

activated carbon was used as catalyst (Tables 1 and 4). Optimum conditions for the process are 270-275°C, a total rate of flow of 250-300 l/l cat · h. The degree of conversion attained under these conditions amounts to 30% of the acetic acid (Table 6), 60% of the acetylene (Table 5) at a selectivity of 96-98%. The efficiency of one liter of the catalyst per time unit is 6 to 7 times as great as that hitherto attained. The process can also be carried out in a pseudo-liquid state over a ZnO/Al_2O_3 catalyst. Respective experiments were made using a column designed by the NIOPIK (Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley (im. K. Voroshilova), Scientific Research Institute of Organic Semifinished Materials and Dyes (imeni K. Voroshilov)). A method for preparing this catalyst is suggested. The authors studied the kinetics of vinyl acetate synthesis over ZnO/Al_2O_3 at 230°C and 270°C. The kinetics of this reaction is expressed by an equation of second order, i.e. $w = kP_{C_2H_2} \cdot P_{CH_3COOH}$. The activation energy is E = 22,000 ± 600 cal/mole. This paper was read at the Vsesoyuznaya

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

Investigation in the Field of the Catalytic Synthesis of Vinyl Acetate in the Vapor Phase

S/153/60/003/02/26/034
B011/B006

Konferentsiya "Puti sinteza iskhodnykh produktov dlya polucheniya vysokopolimerov" (All-Union Conference "Ways of Synthesizing Initial Materials for the Preparation of High Polymer Substances"), held at Yaroslavl', from September 29 to October 2, 1958. There are 8 tables and 6 references, 5 of which are Soviet.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M. V. Lomonosova (Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov). Kuskovskiy khimicheskiy zavod (Kuskovskiy Chemical Plant)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

TOPIC TAGS: copolymerization, butene, 1,3-butadiene,

ABSTRACT: In recent years interest has been directed toward

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ACCESSION NR AP5001516

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

SERAFIMOV, L.A.; TIMOFEYEV, V.S.; MOZZHUKHIN, A.S.; POPOVA, L.M.; CHIRIKOVA, Z.P.; TYURIKOV, I.D.

Study and calculation of the rectification process of multicomponent mixtures by the separated vapors of the components. Khim. prom. 41 no.1:42-45 Ja '65. (MIRA 18:3)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

BUGLOV, Ye.D. [Buhlou, IA.D.]; CHIRKOVA, G.N. [Chyrkova, H.M.]; YERMOLENKO, I.N. [IArmolenka, I.M.]; STAKHOVSKIY, Ye.V. [Stakhouski, E.V.].

Biological properties of preparations obtained on the basis of oxycellulose. Vestsi AN BSSR Ser. fiz.-tekh. nav. no.1:55-60 '64 (MIRA 17:7)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

PHASE I BOOK EXPLOITATION RUM/3783

Cluj, Transylvania. Institutul Politehnic

Lucrări ştiinţifice (Scientific Works) Cluj, Intreprinderea Poligrafica, 1959. 637 p. Errata slip inserted. No. of copies printed not given. No contributors mentioned.

PURPOSE: This book is intended for mathematicians, physicists, chemists, and civil and mechanical engineers.

COVERAGE: The book consists of 59 papers by Rumanian specialists on problems in science and technology, particularly mathematics, physics, chemistry, metallurgy, civil and mechanical engineering. Summaries in Russian and French or German are given at the end of each article. Some of the articles are accompanied by references. No personalities are mentioned. At the back of the book there are 23 references, all Rumanian.

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Card 10/11

Chirila A.

22

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRIL, C.
SURNAME (in caps); Given Names

Country: Rumania

Academic Degrees: -not given-

Affiliation: -not given-

Source: Bucharest, Stiinta si Tehnica, No 6, Jun 1961, pp 43.

Data: "A New Plant for Our Country. Benincasa cerifera."

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

ZAMFIR, C., dr., medic emerit; CHIRILA, C., dr.; JULEA, C., dr.

Etiopathogenetic factors in hypertensive diseases in the metallurgical industry. Med. intern. 14 no.4:567-576 My '62.

(HYPERTENSION) (OCCUPATIONAL DISEASES)
(INDUSTRIAL MEDICINE) (METALLURGY) (EXERTION) (HEAT)
(STRESS) (NOISE) (AIR POLLUTION)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

Chirila, Cornelia

CHIRILA, Cornelia CONSTANTINESCU - continued RUMANIA

Student

School of Pharmacy, Bucharest. (Facultatea de Farmacie)

Bucharest, Farmacia, Revista a Uniunii Societatilor de Stiinte Medicale din RPR, No 10, Vol X, Oct 62, pp 613-618.

"Study of the Distribution of Saponosides in Various Native Plants Belonging to the Scrophularicoae Family."

GEORGESCU, Maria, Student, School of Pharmacy, Bucharest.

NICOLAE, Felicia, Student, School of Pharmacy, Bucharest.

NICOLESCU, Veturia, Student, School of Pharmacy, Bucharest.

~~2 of 2~~

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIPILA, I.

CHIPILA, I. Quality improvement of prefabricated parts from reinforced concrete. p. 3.

Vol. 8, no. 361, Dec, 1956
CONSTRUCTORUL
TECHNOLOGY
RUMANIA

So: East European Accession, Vol. 6, No. 5, May 1957

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

GROSARU, Gheorghe; CHIRILA, Ion; DOGARU, Oprea; GANEA, Nicolae

Telegram from builders of the Site of the Chemical Fertilizer Concern, Turnu Magurele, to Comrade Gheorghe Gheorghiu-Dej, Central Committee of the Rumanian Workers' Party, on the occasion of finishing the work of construction-assembling at the Sulfuric Acid Plant. Constr Buc no.756:1 4 July '64.

1. Secretary of the Party Committee (for Grosaru).

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRILA, L.

[illegible]

RUMANIA

MD

Department of Physiopathology, Institute for Medicine and Pharmacy, Bucharest (Catedra de Fisiopatologie, [illegible]).

Bucharest, [illegible], Vol [illegible], Sep-Oct [illegible], pp [illegible].

"Contributions to the Clinical and Functional [illegible] Exposed to Vesicular Dust."

[illegible], Natalie, MD, Department of Physiopathology, Institute for Medicine and Pharmacy, Bucharest.

[illegible], [illegible], MD, Department of Physiopathology, Institute for Medicine and Pharmacy, Bucharest.

[illegible], [illegible], MD, Department of Physiopathology, Institute for Medicine and Pharmacy, Bucharest.

(1 of 2)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

ILIESCU, C.C., prof.; MIHAILESCU, V.V.dr.; ENESCU, R. dr.; PASTIU, V., dr.; SVETZ,M.dr.; SBENGHE, S.dr.; ARON, L., dr.; CLEJ, V.dr.; MALITCHI, E., dr.; PIRLOG, C.,dr.; RADESCU, R.,dr.; ILIESCU, A., dr.; CHIRILA, O., dr.; CRETU, S.

Natural history of arterial hypertension. Statistical observations on 3800 cases followed up for at least 10 years.
Med inter 15 no. 5:563-571 My '63.

1. Lucrare efectuata la ASCAR, Bucuresti.
(HYPERTENSION)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

GOGALNICEANU, S.; CIOFU, A.; CHIRILA, R.

Iodine microdosing in plants. Studii cerc biochimie 7 no.2:191-193 '64.

1. "N. Balcescu" Agronomic Institute, Bucharest. Submitted September 26, 1963.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

M

Country : RUMANIA
Category: Cultivated Plants. Fruit. Berries.

Abs Jour: RZhBiol., No 11, 1958, No 49110

Author : Chirilei, H.; Paraschiv, M.
Inst : Communist Acad. RPR
Title : Prevention of Fruit Drop in Pear and Apple Trees Before Full Maturity.

Orig Pub: Comun. Acad. RPR, 1956, 6, No 3, 429-436

Abstract: Experiments on 10 pear varieties aged 8-9 years were conducted at the Agricultural Institutes of Daltsescu and Denyas. The branches of the trees were sprayed with water solutions of α-naphthyl-acetic acid and 2, 4-D in a concentration of 10 and 15 mg to 1 liter of water. This spraying of

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

Country : RUMANIA

M

Category: Cultivated Plants. Fruit. Berries.

Abs Jour: [illegible], No 11, 1958, No 49110

fruit trees reduced the fruit drop, lowered the aggregate acidity of the fruit and increased the content of sugars in the fruit. The fruit ripened 10-12 days earlier. -- Ye. T. Zhukovskaya

Card : 2/2

M-158

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRILEI, H; SERBANESCU, E.

Physiological study on maize I.C.A.R. 54 raised under various agro-technical conditions. p. 105.

(BULETIN STINTIFIC. SECTIA DE BIOLOGIE SI STINTE AGRICOLE. Vol. 9, No. 1, Jan/Mar. 1957. Bucuresti, Rumania)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 10, October 1957. Uncl.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRILEI, H.; DOROBANTU, N.; SILE, Elena

Determination of the degree of frost resistance of some new kinds of fall corn by the cytophysiological method. Studii cerc biol veget 12 no.1:99-106 '60. (EEAI 10:1)

1. Comunicare prezentata de N.Salageanu, membru corespondent al Academiei Republicii Populare Romine.
(Rumania--Corn (Maize))

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRILEI, H.

Research on the influence of manganese and copper microelements upon the metabolism of winter wheat A 26. Studii cerc biol veget 12 no.4: 425-432 '60. (EEAI 10:5)

(Wheat) (Copper) (Manganese)
(Trace elements)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRILEI, H.; STEFAN, V.; DOROBANTU, N.; BOTI, D.; CURTICAPEANU, Georgeta; BOTEA, M.

Influence of various fertilizers on the phosphorus absorption and physiological processes in sugar beet plants, as studied by the method of radioactive isotopes. Studii cerc biol veget 14 no.3:277-286 '62.

1. Comunicare prezentata de N. Salageanu, membru corespondent al Academiei R.P.R., membru al Comitetului de redactie si redactor responsabil, "Studii si cercetari de biologie; Seria biologie vegetala."

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

RUMANIA

CHIRILEI, H., Prof Dr [affiliation not given]

"The Thermo-Resistance of Plants."

Bucharest, Stiinta si Tehnica, Vol 15, No 7, Jul 63, pp 44-45.

Abstract: Describes the various species of plants that are resistant to various temperatures, both high and low, and the characteristics determining thermic resistance. Points out the practical and economical importance of knowing the effect of extreme temperatures on plants.
Includes 2 illustrations.

1/1

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRILEI, H.; DOROBANTU,N.; CURTICAPEANU, Georgeta

Influence of magnesium, potasium phosphorus, and nitrogen fertilizers on the physiological processes of maize plants (Zea mays). Studii cerc biol veget 15 no.4:469-477 '63.

1. Comunicare presentata de academician N. Salageanu.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRILEI, H.; STEFAN, V.; DOROBANTU, N.; CURTICAPEANU, Georgeta

Influence of organic and bacterial mineral fertilizers on some physiological processes of corn (Zea mays). Studii cerc biol s. bot 16 no. 4:281-287 '64.

1. Chair of Plant Physilogy, "Nicolae Balcescu" Agricultural Institute.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRILEI, H., prof. univ.

The NO_3^- and NH_4^+ nitrogen in the life of plants. St si Teh Buc 17 no.1:8-9 Ja '65.

1. "N.Balcescu" Agronomic Institute, Bucharest.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

ACC NR: AP7004805 (N) SOURCE CODE: UR/0413/67/000/001/0143/0144

INVENTOR: Chirimanov, E. V.; Vishnyakov, V. A.

ORG: None

TITLE: Sight glass for the faceplate in a diving suit. Class 65, No. 190230

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1967, 143-144

TOPIC TAGS: underwater clothing, measuring apparatus, depth gage

ABSTRACT: This Author's Certificate introduces a sight glass for the faceplate in a diving suit for underwater observations. The unit consists of an illuminator with a cleat. To provide greater convenience in measuring the depth of immersion, a capillary tube hermetically sealed on one end is mounted on the illuminator and has a superimposed scale graduated in meters water gauge.

UDC: 626.025

Card 1/2

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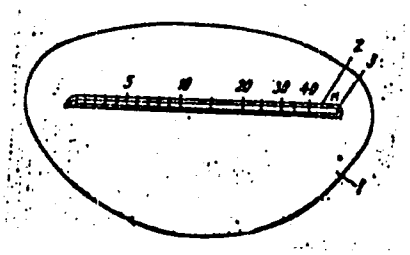
"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

ACC NR: AP7004805



1—illuminator; 2—cleat; 3—tube

SUB CODE: 15/ SUBM DATE: 12Apr65

Card 2/2

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

L 15630-63

ACCESSION NR: AP3000862 S/0286/63/000/002/0051/0051

45

AUTHOR: Bulenkov, S. Ye., Chirimanov, E. V.

TITLE: Helmet for diver's suit Class B 63b, 65b, 10. No. 152808

SOURCE: Byul. izobreteniy i tovarnykh znakov, no. 2, 1963, 51

TOPIC TAGS: diving suit

ABSTRACT: Helmet for a diver's suit having a single viewing glass for both eyes; its distinguishing feature is that in order to equalize the pressure in the cavity of the middle ear with the surrounding pressure when the nose is clamped with the fingers when the diver submerges, the helmet is made [illegible] elastic [illegible], symmetrically located on the front part of [illegible] the viewing [illegible] Orig art. has: 1 figure see Enclosure [illegible] note: complete translation]

Card 1/3

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L 37666-66 EWT(1) SCTB DD

ACC NR: AP6011276 SOURCE CODE: UR/0413/66/000/006/0134/0134

INVENTOR: Vishnyakov, V. A.; Stroganov, V. A.; Tugarinov, P. T.; Chirimanov, E. V.

24
B

ORG: none

TITLE: Diving mask with a single glass face plate. Class 65, No. 180101

SOURCE: Izobreteniya promyshlennyye obraztsy, tovarnyye znaki, no. 6, 1966, 134

TOPIC TAGS: diving, diving mask, UNDERWATER CLOTHING, EYE PROTECTIVE DEVICE

ABSTRACT: This Author Certificate introduces a diving mask with a single glass face plate. For better visibility, the face plate is designed with a cleaner brush to wipe off moisture condensate, which is operated manually from the outside. [LD]

SUB CODE: 15, 13/ SUBM DATE: 31Dec64

UDC: 626.025.2

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BERNADYUK, Z.A.; LEVCHENKO, D.N.; PUSHKAREV, V.P.; CHIRIMANOV, P.A.; KORZH, A.F.; ZHURAVLEV, K.A.; KOVALENKO, N.F.

Petroleum desalting in electro-desalting units in the presence of the OP-10 nonionogenic demulsigying compound. Khim.i. tekh.topl.i masel 5 no.9:31-37 S '60. (MIRA 13:9)

1. Novo-Gor'kovskiy neftepererabatyvayushchiy zavod i Vsesoyuznyy naucnno-issledovatel'skiy institut po pererabotke nefti i polucheniyu iskusstvennogo zhidkogo topliva.
(Petroleum--Refining--Desalting)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

S/081/62/000/022/062/088
B166/B144

AUTHORS: Kupriyanov, N. V., Chirimanov, P. A., Zolotova, O. P., Gracheva, T. A.

TITLE: Production of coumarone-indene resins from pyrolysis products

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1962, 487, abstract 22P75 (Novosti neft. i gaz. tekhn. Neftepererabotka i neftekhimiya, no. 9, 1961, 13-16)

TEXT: To produce coumarone-indene resins, light oil fractions (160-200°C and 160-180°C) were polymerized in four stages (at 20-60°C with $AlCl_3$ as a catalyst): dephenolization with a weak alkali solution, drying with sulfuric acid, polymerization followed by neutralization and washing of the polymerization product, and steam distillation of the solvent. The effects of initial products, catalysts (H_2SO_4, $AlCl_3$) and process temperature (0 - 60°C) on the yield and quality of the resin were studied. The article shows how these resins can be used in the production of

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S/081/62/000/022/062/088
B166/B144

Production of coumarone-indene resins ...

asbestos resin tiles, and it also gives their physicomechanical properties.
[Abstracter's note: Complete translation.]

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

S/191/62/000/003/002/010
B101/B147

AUTHORS: Rastanin, I. V., Kupriyanov, N. V., Chirimanov, P. A., Zolotova, O. P., Gracheva, T. A.

TITLE: Production of indene cumarone resins from products of petroleum pyrolysis

PERIODICAL: Plasticheskiye massy, no. 3, 1962, 3-5

TEXT: On suggestion of the Gosstroy (Gosstroy USSR), research was carried out in 1959-60 for production of indene cumarone resins (ICR) from petroleum by the Vostochnyy uglekhimicheskiy institut (Eastern Institute of Coal Chemistry), Sverdlovsk, the zavod "Neftegaz" ("Neftegaz" Plant) Gor'kiy, and the Institut neftekhimicheskikh protsessov AN AzerbSSR (Institute of Petrochemical Processes AS Azerbaydzhanskaya SSR), Baku. The present paper gives results obtained by the "Neftegaz" Plant. Light oil from petroleum pyrolysis was found to be the best initial material. Other products such as distillation residues yielded ICR of too dark coloring (222-636 of the iodimetric scale). $AlCl_3$ proved to be better than 91% H_2SO_4. It produced brighter ICR with a higher softening point (~ 120°C) and higher yields

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(32-36%). From the light oil fraction (boiling range 166-212°C), the fractions 160-180°C and 160-200°C gave the best yields (35.8 and 39.9%, respectively) with softening points at 112.5 and 111°C, and bright coloring (35 and 35.4 of the iodimetric scale). Optimum polymerization occurred between 40 and 60°C. The process takes place in four stages: (1) Removal of phenols by alkali; (2) dehydration by H_2SO_4; (3) polymerization, neutralization, and washing; (4) distilling-off of the solvent with vapor. Asbestos resin plates, resilience 29.5-42.4 kg·cm/cm^2, hardness 3.04-3.62 kg/mm^2, water adsorption 0.55-0.89%, were produced from ICR with softening point 105-110°C by the Kiyevskiy zavod "Stroyindustriya" (Kiyev "Stroyindustriya" Plant). The plates meet the requirements of BTY (VTU). A floor covered with such plates is being under observation now. ICR produced from petroleum is 60% cheaper than ICR from raw materials of the coal-tar chemical industry. Even with the present price for ICR, the floor with ICR plates is 40% cheaper than boarded floor, and 70% cheaper than inlaid floor (data found by the Institut novykh stroitel'nykh materialov Akademii stroitel'stva i arkhitektury SSSR (Institute of New Building Materials of the Academy of Construction and Architecture USSR)). There are 1 figure and 3 tables.

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CHIRIMANOV, P.A.; ZOLOTOVA, O.P.; GRACHEVA, T.A.; RUSAK, L.A.

Removing pyrolytic light oil from unsaturated hydrocarbons. Neftoper. i neftekhim. no.9:10-13 '63. (MIRA 17:8)

1. Gor'kovskiy zavod "Neftegaz".

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308820011-8

CHIRIMANOV, V.P.

28 (4) S/032/60/026/01/046/052
B010/B009

AUTHORS: 1) Mironenko, Yu. P., 2) Kozlovskiy, S. S., 3) Vopilkin, Ye. A., Vertousov, V. S., Chirimanov, V. P., 4) Ivanyan, A. K.

TITLE: News in Brief

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol 26, Nr 1, pp 118 - 119 (USSR)

ABSTRACT: 1) recommends for continuous pressure measurements the use of spiral feelers of tension-sensitive wire for pressure cells. The pressure cell design with the wire coils is given (Figure), and the manufacturing technology is described. Particularly sensitive pressure cells may be produced from wires with different tension sensitivities, such as constantan (K=2.0) and nickel (K = - 12). 2) reports on apparatus developed by him for measuring the deformability of materials exhibiting a low lengthwise elasticity modulus. The basic scheme of the apparatus is given (Figure), They are designed for loads from 1 to 20 kg. The longitudinal and transversal deformations of the cubic samples are measured by means of micrometer screws with an accuracy up to 0.01 mm in such a way that an electric bulb lights up at the contact between the lamella (attached to the cube

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surface) and the micrometer. 3) report on a mold of St.3 steel for casting ED-6 epoxy resin (Figure) which may be used in place of the glass mold so far used, which had to be discarded after use. The steel mold was polished and chromium-plated and subsequently covered with a 10% polyisobutylene solution in gasoline to prevent an adhesion of the artificial resin to the mold. 4) reports that a vacuum cleaner is being used successfully at the present institute for glass blowing work as well as vacuum filtrations. There are 3 figures and 1 Soviet reference.

ASSOCIATION: 1) Institut yadernoy fiziki Akademii nauk KazSSR (Institute of Nuclear Physics of the Academy of Sciences of the KazSSR). 3) Laboratoriya zavoda (Laboratory of the Plant). 4) Institut geologicheskikh nauk Akademii nauk Armyanskoy SSR (Institute of Geological Sciences of the Academy of Sciences of the Armyanskaya SSR)

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10432-65 EWG(d)/EWG(m)/EWG(k)/EWT(1)/EWT(m)/EPF(c)/EWG(k)-2/EWG(j)-2/EWG(j)

[illegible]

[illegible] A. A., Nash, [illegible]

[illegible] conditions of Ne-[illegible]

[illegible] electronics [illegible]

[illegible]

[illegible] mental investigation [illegible] visible spectra [illegible] lines in gas lasers [illegible] al-pressure ratio and [illegible] ments were conducted [illegible] mirrors (W. W. Rigrod, et al., [illegible] pumped by an UVCh-4, [illegible] power was measured at [illegible] was observed at 0.65 torr. Under [illegible]

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